PROJECT TRAFFIC ANALYSIS REPORT

Florida Department of Transportation

District 6

SR 994/SW 200th Street/Quail Roost Drive PD&E Study

From West of SW 137th Avenue to East of SW 127th Avenue

Miami-Dade County, Florida

Financial Management Number: 445804-1-22-01

ETDM Number: 14429

June 2024

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated May 26, 2022, and executed by the Federal Highway Administration and FDOT.

DRAFT

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Prepared for:
Florida Department of Transportation
District 6
1000 NW 111th Avenue
Miami, Florida 33172

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Project Traffic Analysis Report

(FINAL DRAFT)

Prepared for:

Florida Department of Transportation



District Six

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EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Study to address safety, traffic operations, and capacity issues along State Road (SR) 994/SW 200th Street/Quail Roost Drive in southwest Miami-Dade County. The study area spans from just west of SW 137th Avenue to just east of SW 127th Avenue, covering approximately 1.67 miles. The project's goal is to accommodate future travel demand resulting from population and employment growth in the area. Additional objectives of this project include improving the overall safety conditions along the corridor, including emergency evacuation and response times, and enhancing mobility options and multi-modal access.

As of 2022, Miami-Dade County, the most populous county in Florida, had approximately 2.6 million residents. By 2045, the county's population is forecasted to grow by around 33% to reach 3.5 million residents. Between SW 137th Avenue and SW 127th Avenue, the corridor has experienced a 7 percent increase in Annual Average Daily Traffic (AADT) from 2015 to 2019, with traffic volumes climbing from 17,900 to 19,200 vehicles per day. This upward trend in traffic is expected to persist due to population growth and ongoing residential development within infill parcels along the study corridor, such as the Willow Trace development currently under construction.

Safety stands as a top priority for this project, aligning with the Department's Target Zero initiative. This statewide safety endeavor aims to eliminate transportation-related serious injuries and fatalities in Florida entirely. The Department's Target Zero initiative aims to address Florida's average of eight fatalities and 49 serious injuries daily on its roads, often attributed to driver behavior. This effort seeks to adapt the transportation system to better serve drivers frequently involved in accidents leading to serious injuries and fatalities.

Over the 2014-2018 five-year study period, 390 crashes were documented within the project limits. The leading crash types along the corridor were Rear-End (187 crashes), Angle (77 crashes), and Sideswipe (43 crashes). In terms of severity, 65% (254 crashes) were property damage only crashes, 35% (135 crashes) were injury crashes, and less than 1% (1 crash) was fatal. According to FDOT’s 2014–2018 High Crash Lists, several locations along the corridor were identified as high-crash spots/segments. According to the safety review, congestion/lack of capacity and lack of left-turn lanes serve as the probable causes of the safety issues within the corridor. Providing additional capacity and improving intersections along the corridor are anticipated to result in reduced crashes and safety benefits.

The purpose of this Project Traffic Analysis Report is to examine the existing traffic and safety conditions of SR 994 to predict the future operational and safety characteristics of the study corridor for the following scenarios:

- Existing Conditions 2021 for AM & PM Peak Hours
- No Build Alternative 2025 & 2045 for AM & PM Peak Hours
- Build Alternatives 2025 & 2045 for AM & PM Peak Hours
    - Build 1: Includes widening SR 994 to provide a raised median with left-turning opportunities from and onto the side streets while implementing access management enhancements. Additionally, implement several capacity improvements at the signalized intersections of SW 137th Avenue and SW 127th Avenue, and upgrade the stop-controlled intersection of SW 134th Avenue to signal control.
    - Build 2: In addition to the improvements in Build 1, this alternative widens SR 994 from two lanes to four lanes.
    - Build 3: In addition to the improvements in Build 2, this alternative implements additional access management enhancements.

Section 7.4 of this report provides detailed discussion on the Build alternatives, noting that a Transportation Systems Management (TSM) Alternative was initially considered but later discontinued from further analysis. A TSM alternative is defined by FHWA as a set of strategies that focus on operational improvements that can maintain or restore the performance of the existing transportation system before extra capacity is needed. The TSM alternative, focusing on operational improvements without increasing capacity, was excluded due to high right-of-way costs needed to achieve desired level of service D at main study intersections, as estimated in **Section 7.0**. As a result, the TSM alternative was deemed impractical due to its high cost and potential impacts on historic and environmental sites. The analysis covers AM and PM traffic for existing conditions (2021), project opening year (2025), and design year (2045). The No Build Alternative serves as a baseline for comparing traffic patterns and potential improvements associated with the proposed Build Alternatives, all of which include signal timing optimization discussed in detail in **Section 7.1**. The following main projects were included in the alternatives, which are expected to be completed by 2025:

- *Beginning with No Build:* The south leg at the signalized intersection of SW 137th Avenue opens to traffic under Miami-Dade County Project No. 20040343. It was under construction at the beginning of this current effort, but it was approximately opened to

traffic in June 2022. An Intersection Control Evaluation (ICE) was performed for SW 137th Avenue per the guidelines presented by FDOT's Manual on Intersection Control Evaluation (January 2021) for design year 2045 traffic conditions. The purpose of ICE is to "consistently consider multiple context-sensitive control strategies when planning a new or modified intersection." The ICE process is applicable since opening the south leg introduces new vehicle movements at the intersection. Based on the level of traffic demand at this intersection, a 1-lane roundabout was dismissed as a feasible option since it has insufficient capacity for this study intersection. A 2-lane roundabout at this location was considered, but it was also dismissed since the AM and PM v/c ratios were near or above capacity (>1.0). Additionally, the 2-lane roundabout obtained a safety ranking below the intersection's roadway condition in 2045. Upon the Department's approval of the Stage 1 screening, the improvement strategies to be moved to ICE's Stage 2 are the Build 1 and 2 Alternatives.

- *Beginning with No Build:* An exclusive northbound right-turn bay is being constructed at the intersection of SW 127th Avenue under Miami-Dade County Project No. 20180004.

In addition, SW 137th Avenue will be widened by the County to a four-lane roadway by 2045. The intersection traffic control at SW 137th Avenue is to remain as signal control.

Aside from the new signal at SW 134th Avenue, no additional traffic signals are being recommended as part of the Build Alternatives based on the findings of this Project Traffic Analysis Report. A signal warrant analysis performed at the intersection of SW 132nd Avenue per the warrants presented by Chapter 4C of the Manual on Uniform Traffic Control Devices (MUTCD), 2009 edition under this current effort confirmed that a signal is not warranted at this time. The crash pattern of westbound rear-end collisions identified by the crash analysis is expected to be addressed with the placement of a westbound left-turn lane on SR 994 at the intersection, as part of the any of the Build Alternatives.

During the design development of the Build Alternatives, improvements to pedestrian and bicycle users should be considered, such as:

- Improving the continuity and connectivity of sidewalks.
- Providing special emphasis pedestrian markings and pedestrian signals at all signalized intersections.
- Enhancing the pedestrian features at the existing Rectangular Rapid Flashing Beacon

(RRFB) midblock pedestrian crossing just east of SW 132nd Avenue, as necessary. Based on current FDOT Traffic Engineering Manual (TEM) – Chapter 5.2 guidelines, the current traffic control at this crossing concurs with FDOT TEM criteria for an hourly pedestrian/bicyclist crossing of 20 for a Saturday period (3:00 PM to 4:00 PM). However, crossing should be accompanied with following upgrades under any of the alternatives: overhead installation with a refuge island or a raised median. Both alternatives, including No Build require a traffic engineering variation per FDOT TEM Chapter 1.5 since the posted speed limit of SR 994 is 40 MPH, which exceeds the maximum allowed of 35 MPH per FDOT TEM Chapter 5.2.5.2.

From a traffic operational perspective, the following existing traffic conditions are stated for the study corridor:

- Saturated traffic conditions were observed at several key intersections along the corridor:
  - At the signalized intersection of SW 137th Avenue, southbound left-turn movements experienced congestion during both the AM and PM peak hours. It is important to note that when the existing traffic conditions were analyzed, the south leg at SW 137th Avenue was closed to traffic due to construction.
  - At the stop-controlled intersection of SW 134th Avenue, northbound left-turn movements faced saturation during both peak hours.
  - At the stop-controlled intersection of SW 132nd Avenue, the northbound right-turn movement was congested in the AM peak hour, while the westbound left-turn movement experienced congestion in the PM peak hour.
  - At the signalized intersection of SW 127th Avenue, the northbound approach encountered congestion during both peak hours due to single-lane servicing
- For the most part, the traffic activity at the minor unsignalized intersections within the study corridor was low with a few exceptions as further discussed in **Section 3.5**.
- Due to the lack of left-turn lanes on SR 994, eastbound and westbound left-turning vehicles from SR 994 onto the side streets must stop in the travel lane and block other vehicles following behind until motorists find a gap in the opposing traffic stream to complete the turn. This occurred frequently for the westbound left-turn movement at SW 132nd Avenue. Because of the proximity of SW 132nd Avenue to the RRFB midblock pedestrian crossing on SR 994, the westbound queues at SW 132nd Avenue would extend back and block the crossing whenever a vehicle intended to make a left-turn onto the side street.

- During the field reviews, pedestrian and bicyclist activity within the study corridor was low-to-moderate. Additionally, there were no transit buses observed operating along the corridor.

From a traffic safety perspective, the following existing crash conditions are stated for the study corridor:

- *SW 137th Avenue:* Rear-End crashes at the eastbound approach with 29 crashes. Main probable cause is the lack of an eastbound left-turn lane.
- *SW 134th Avenue:* Rear-End crashes at the eastbound, westbound, and northbound approaches with 7, 12, and 6 crashes, respectively. Angle crashes between the northbound approach and the eastbound and westbound approaches with 16 and 10 crashes, respectively. Main probable causes are lack of left-turn lanes on SR 994 and lack of available gaps for northbound traffic to proceed through the intersection.
- *SW 132nd Avenue:* Rear-End crashes at the westbound approach with 27 crashes. Main probable cause is the lack of a westbound left-turn lane.
- *SW 127th Avenue:* Rear-End crashes at the northbound and eastbound approaches with 12 and 9 crashes, respectively. Sideswipe crashes at the northbound approach with 11 crashes. Left-Turn crashes at the westbound approach with 11 crashes. Main probable causes are saturated traffic conditions and lack of a northbound right-turn lane.

It is worth mentioning that aside from the 2016 westbound left-turn fatal crash at SW 132nd Avenue documented by FDOT CAR Online and the 2019 angle fatal crash at SW 134th Avenue documented by Signal Four Analytics, a third fatal crash (westbound left-turn collision) has been documented by Signal Four Analysis for 2021 at SW 134th Avenue per a crash query performed on April 2024 for the study corridor. This crash had not been identified previously by Signal Four Analytics.

Based on the evaluation of the No Build and Build Alternatives, the following concluding statements are presented for the proposed project's opening and design years 2025 and 2045, respectively:

It is essential to consider the timing and type of improvements under each Build alternative to understand the operational results and the changes to traffic patterns that these actions will bring.

In other words, the benefits or decay in operations due to the implementation of the Build Alternatives are not linearly related but influenced by the modifications taking place at such time.

Build 1 includes capacity improvements at SW 137th Avenue and the opening of the south leg to traffic by the 2025 analysis year (the intersection leg actually opened in June 2022). Introduction of the south leg at SW 137th Avenue altered traffic patterns at SW 137th Avenue and SW 134th Avenue. Additionally, a County project to widen SW 137th Avenue from 2 lanes to 4 lanes is expected to be completed by 2030. While this project will improve traffic conditions by 2045, it will not affect conditions in the analysis year 2025. Starting with Build 1, the traffic control at the intersection of SW 134th Avenue will be upgraded to signal control. Additionally, capacity improvements will be implemented at the intersection of SW 127th Avenue. Under Build 2 and 3 alternatives, SR 994 is to be widened from 2 lanes to 4 lanes by FDOT. The primary difference between Build 2 and Build 3 is that Build 3 includes additional access management enhancements, which will divert traffic within the study corridor.

Traffic Operations Benefits:

- *Arterial:* With the implementation of the recommended improvements under the Build conditions, the arterial operations of the study corridor would improve to LOS D or better with increased speeds and lower travel times, as presented in **Tables 23** and **24**. Although all three Build alternatives are expected to significantly improve travel speeds during both the AM and PM peak hours in future years, Builds 2 and 3 are anticipated to provide approximately 3-5 MPH higher speeds when compared to Build 1. With regards to arterial operations, Builds 2 and 3 have similar potential benefits while both being better than Build 1.
- *SW 137th Avenue:* For the opening year 2025, operations at SW 137th Avenue are expected to show some improvement under Build 1. The overall average intersection delay per vehicle is projected to decrease from 119 to 65 seconds during the AM peak hour and from 159 to 121 seconds during the PM peak hour. Despite these improvements, the intersection level of service remains similar to No Build conditions at LOS E or worse. By 2045, further improvements in intersection operations are anticipated due to the widening of SW 137th Avenue. The overall average intersection delay per vehicle is expected to decrease from 217 to 61 seconds during the AM peak hour and from 135 to 79 seconds during the PM peak hour. However, the intersection level of service remains at E for both peak hours.

Although significant operational improvements are anticipated with both Build Alternatives 2 and 3, Build 2 is expected to experience lower vehicular delay. For the opening year 2025, the level of services for both alternatives are projected to be LOS D for the AM peak hour and LOS E for the PM peak hour. The overall average intersection delay per vehicle is 38 seconds for Build 2 and 41 seconds for Build 3 during the AM peak hour. For the PM peak hour, the overall average intersection delay per vehicle is 55 seconds for Build 2 and 65 seconds for Build 3. By year 2045, the intersection level of service improves to LOS D due to the widening of SW 137th Avenue. The overall average intersection delay per vehicle is 38 seconds for Build 2 and 40 seconds for Build 3 during the AM peak hour. For the PM peak hour, the overall average intersection delay per vehicle is 39 seconds for Build 2 and 43 seconds for Build 3.

To highlight the difference in total vehicular delays between Build 2 and Build 3, the total cumulative intersection vehicular delay for 2045 was calculated. For Build 2, the total delay is 36 hours during the AM and PM peak hours each, compared to 38 to 41 hours for Build 3 during the same periods, making Build 2 the better option at the intersection of SW 137th Avenue

- *SW 134th Avenue:* With the implementation of any of the Build alternatives, the overall intersection operation during the AM and PM peak hours is improved to LOS C or better in 2025 and 2045 (from estimated LOS F) as seen in **Tables 27** and **28**. The intersection is upgraded to signal control under the Build alternatives. The overall average intersection delay per vehicle is expected to be 10 to 33 seconds with any of the alternatives. Build 2 and 3 seem to provide better operational benefits when compared to Build 1 with an average vehicular delay of 15 seconds vs. 25 seconds during each peak hour.

- *SW 127th Avenue:* With the implementation of any of the Build alternatives, the overall intersection operation during the AM and PM peak hours is improved to LOS C or better in 2025 and 2045 (from LOS F) as seen in **Tables 29** and **30**. The overall average intersection delay per vehicle is expected to be approximately 35 to 50 seconds with any of the alternatives. Although some intersection movements are expected to operate at LOS E, the vehicular queues are moderate. The overall benefits at this intersection are similar under any of the Build alternatives since the improvements are very similar.

- *Stopped-Control Intersections:* The critical movements at the stop-controlled intersections within the study limits include making a left-turn from the side streets or mainline SR 994. This is due to the lack of left-turning lanes and gaps on SR 994 given only one travel lane in each direction. **Tables 31** and **32** present a summary of the average vehicular delay, 95th percentile queue length, and level of service for all left-turn movements at each intersection for the No Build and Build alternatives. Although there are several left-turning movements expected to operate at LOS F for No Build conditions 2025 and 2045 during the AM and PM peak hours, most of these movements experience short queues. However, the southbound left-turn at SW 130 Avenue and the northbound left-turns at SW 132nd Avenue and SW 133rd Avenue are expected to experience significant queuing by 2045 during the AM peak hour. For No Build 20245, the 95th percentile queue for these movements at SW 130th Avenue, SW 132 Avenue, and SW 133 Avenue are 363, 752, and 506 feet, respectively. The additional roadway widening for SR 994 under Build 2 and 3 is expected to facilitate turning left from these side streets experiencing significant queuing. The vehicular queues for all critical intersection movements are low-to-moderate for Builds 2 and 3 under all scenarios. Builds 2 and 3 are expected to reduce left-turn delay by approximately 50% or more when compared to Build 1. The total vehicular delay for Build 1 is projected to be 131.8 vehicular hours in 2045 for both the AM and PM peak hours, compared to 45.3 vehicular hours for Build 2 and 44.4 vehicular hours for Build 3. Build 3 has a slightly lower delay due to additional access management enhancements compared to Build 2.

Safety Benefits:

Based on the HSM and CMF methodologies crashes are expected to decrease for No Build due to the improvements at SW 137th Avenue, SW 134th Avenue, and SW 127th Avenue per other FDOT and County projects that are being completed by 2045. With the implementation of the Build Alternatives, crashes are expected to further decrease. Based on the HSM methodology, the safety benefits between the Build Alternatives are minimal (a difference of 1.7 crashes per year). The CMF application methodology presents greater safety benefits for the Build 2 and 3 Alternatives when compared to the Build 1 Alternative. Based on the CMF methodology, the four-lane roadway with a raised median option is slightly better than the two-lane roadway with a raised median alternative (with a reduction of 16.5 more crashes per year).

Installing a raised median along an undivided arterial, such as the study roadway, can bring several safety benefits, including:

- **Reduction in Head-On Collisions:** A raised median creates a physical barrier between opposing lanes of traffic, reducing the risk of head-on collisions.
- **Prevention of Left-Turn Crashes:** Raised medians can provide designated areas for left-turning vehicles, reducing the likelihood of conflicts with through traffic and decreasing left-turn crashes.
- **Improved Pedestrian Safety:** Raised medians provide pedestrians with a refuge area when crossing the street. They can cross one direction of traffic at a time, reducing exposure to moving vehicles.
- **Channelization of Traffic:** Raised medians help to guide traffic flow and discourage unsafe maneuvers such as sudden lane changes.
- **Reduced Conflict Points:** By limiting the number of conflict points where vehicles can cross paths, raised medians decrease the likelihood of crashes.
- **Speed Reduction:** Medians can be designed to visually narrow the roadway, which can encourage drivers to reduce speed, enhancing overall safety.

Additionally, safety benefits that can be achieved by widening the road from two lanes to four lanes under Build Alternatives 2 or 3, include the following:

- **Reduced Rear-End Collisions:** Additional lanes can ease congestion and reduce the likelihood of rear-end collisions caused by sudden stops or traffic slowdowns.
- **Decreased Congestion-Related Crashes:** By increasing roadway capacity, widening can help alleviate congestion, reducing the likelihood of crashes caused by congestion-related factors such as sudden lane changes or merging conflicts.
- **Reduced Sideswipe Collisions:** Additional lanes provide more space for vehicles, reducing the chance of sideswipe collisions, especially during lane changes or overtaking maneuvers.
- **Enhanced Passing Opportunities:** With more lanes available, drivers have increased opportunities to pass slower-moving vehicles safely, potentially reducing aggressive passing maneuvers and associated crashes.
- **Decreased Lane Departure Crashes:** Additional lanes provide more space for vehicles, potentially reducing the likelihood of lane departure crashes caused by drifting out of lanes due to narrow roadways.

- **Improved Traffic Flow:** Widening can smooth traffic flow, reducing stop-and-go conditions and the likelihood of crashes associated with abrupt changes in speed.

During the five-year study period, the crash analysis documented a total of 390 crashes. These crashes consisted of 48% (187) rear-end collisions, 30% (117) angle/left-turn collisions, 11% (43) sideswipe collisions, and 5% (18) lane departure collisions. Furthermore, approximately 35% of all crashes resulted in injury, while the majority (65%) resulted in property-damage only crashes. This high percentage of property-damage only crashes indicate incidents related to saturated traffic conditions along the study corridor, attributed to the presence of only one lane in each direction amidst growing traffic.

The improvements proposed under Build Alternatives 2 and 3 will specifically target these crash types to enhance the safety of the study corridor compared to Build Alternative 1.

Overall, widening a two-lane roadway to four lanes can lead to a safer and more efficient transportation corridor by reducing congestion, improving traffic flow, and providing additional space for vehicles to maneuver safely. Similarly, installing a raised median along an undivided arterial can significantly enhance safety for both motorists and pedestrians by reducing conflict points and providing physical separation between opposing traffic flows. These potential benefits are specifically associated with Build Alternatives 2 and 3, rather than Build 1.

Alternative Ranking:

Based on the overall potential operational and safety benefits of a no action alternative, No Build, and Build Alternatives 1, 2, and 3, the alternatives were ranked for operations and safety, each, as presented in **Table 35**. It is clear that a no action alternative is not desirable for the study corridor of SR 994, since it is expected to endure safety and operational deficiencies. The No Build alternative received the lowest ranking of -8 when compared to the other alternatives. Build 1 trails in second place with a ranking of +1. Based on the traffic simulation, Build 1 will experience significant queuing at some of the side streets due to the lack of roadway capacity along SR 994, which is to be provided by the latter alternatives. Build 3 follows with a ranking of +6. Lastly, Build 2 leads with a ranking of +8. Build 2 demonstrates better operational benefits for the entire corridor and at the main study intersections compared to Build 3. The operational benefits for the left-turning movements from/to the side streets at the unsignalized intersections are very similar for both build alternatives. However, other related needs, such as the amount of right-of-way for the

implementation of Build 2 or 3 should be vetted to obtain more differentiation between these two alternatives apart from the operations and safety benefits presented in this report.

Enhancements to Preferred Alternative:

Additionally, the preferred should include a sidewalk with a sidewalk level bicycle lane on each side of the study corridor. The Department is open to considering the inclusion of this multimodal amenity in the PD&E's preferred alternative. Additional details are presented in **Section 8.2**.

Lastly, although the operational and safety analyses included the opening of the south leg at the SW 137th Avenue intersection, a sensitivity analysis was conducted to refine the preferred Build 2 Alternative. This analysis aimed to determine if turning lanes could be reconsidered at the intersections of SW 137th Avenue and SW 134th Avenue, as discussed in **Section 10.0**. The results indicate that both intersections can still maintain a level of service D while implementing the following capacity modifications

At SW 137th Avenue:

- **Eastbound Approach:** Reduce from 2 left-turn lanes to 1 left-turn lane
- **Westbound Approach:** Reduce from 2 right-turn lanes to 1 right-turn lane
- **Northbound Approach:** Reduce from 2 left-turn lanes to 1 left-turn lane
- **Southbound Approach:** Remove right-turn lane to share with through lane

At SW 134th Avenue:

- **Eastbound Approach:** Remove right-turn lane to share with through lane
- **Westbound Approach:** Remove right-turn lane to share with through lane
- **Northbound Approach:** No changes
- **Southbound Approach:** No changes

Additionally, these modifications reduce the need for right-of-way acquisition.

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1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Study to address safety, traffic operations, and capacity issues along State Road (SR) 994/SW 200th Street/Quail Roost Drive in southwest Miami-Dade County. The study area spans from just west of SW 137th Avenue to just east of SW 127th Avenue, covering approximately 1.67 miles, as presented in **Figure 1**. The project aims to widen the corridor to include a raised median with turn lanes, while evaluating the benefits of maintaining the current two-lane configuration versus upgrading to a four-lane roadway. SR 994, known as Quail Roost Drive in the study area, is identified as section 87091000 on the State Highway System. The project's goal is to accommodate future travel demand resulting from population and employment growth in the area.

1.2 RELEVANT STUDIES & PROJECTS

This report references several relevant studies and projects for the study corridor, which are included in **Appendix A**.

Studies:

- *FM No. 443915-1 (2019) – FDOT Resurfacing, Restoration and Rehabilitation Safety Review (RRR) for SR 994 from west of SW 137th Avenue to west of SW 127th Avenue.*
- *FM No. 249726-4 (2017) – FDOT Intersection Qualitative Assessment and Signal Warrant Analysis and Conceptual Design Alternatives Report for SR 994 at SW 134th Avenue. This effort recommended upgrading the stop control intersection of SW 134th Avenue to signal control.*

Projects:

- *FM No. 443907-1 (2023) – FDOT Resurfacing, Restoration, and Rehabilitation Project for SR 994 from east of SW 177th Avenue/Krome Avenue to west of SW 137th Avenue. SR 994 will remain as a two-lane undivided roadway.*
- *FM No. 20040343 (2020) – Miami-Dade County Project for SW 137th Avenue Roadway Improvements. This project will open the south leg of the intersection to traffic by year 2025. South leg is currently under construction. In addition, County Project PW168 will widen SW 137th Avenue from two lanes to four lanes from US 1 to SW 184th Street by 2045 (no plans available yet).*
- *FM No. 20180004 (2020) – Miami-Dade County Project for SW 127th Avenue Roadway Improvements.*

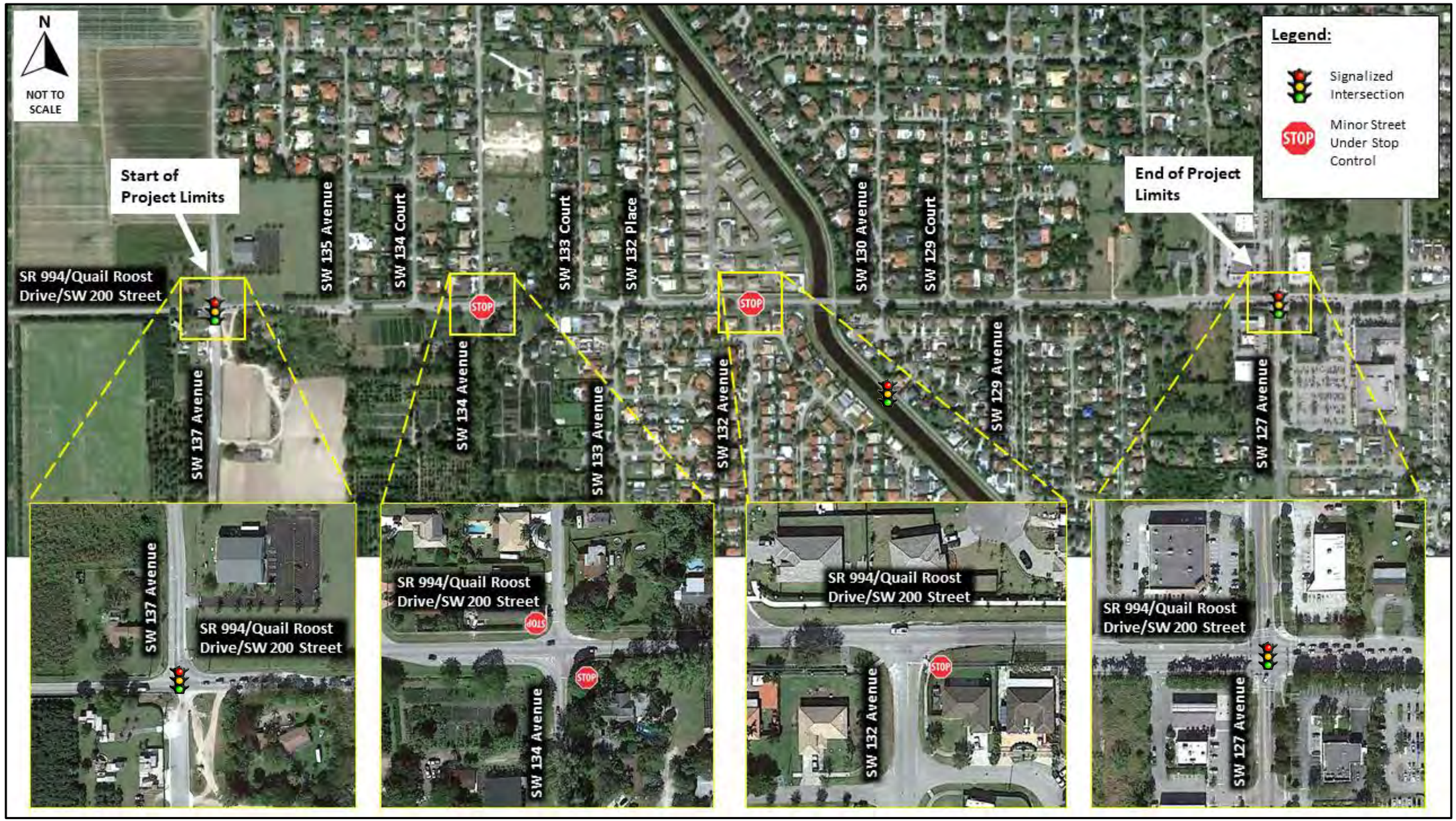

Figure 1: Project Location Map

1.3 AREA OF INFLUENCE

The area depicted in **Figure 1** includes two signalized intersections, SW 137th Avenue and SW 127th Avenue, within one mile of each other along SR 994. Between these intersections, there are 11 minor streets controlled by stop signs (SR 994 is free-flow). Additionally, there is a pedestrian midblock crossing equipped with Rectangular Rapid Flashing Beacons (RRFBs) approximately 450 feet east of SW 132nd Avenue, serving the Black Creek Trail—a pedestrian and bicycle path running from SW 176th Street to US 1. Furthermore, there is one bridge spanning the Black Creek Canal within the project limits, located approximately 300 feet east of SW 132nd Avenue, with the RRFB crossing situated on its east side.

1.4 PURPOSE OF THE PROJECT TRAFFIC ANALYSIS REPORT

The purpose of this document is to examine the existing traffic and safety conditions to predict the future operational and safety characteristics of the study corridor for the following scenarios:

- Existing Conditions 2021 for AM & PM Peak Hours
- No Build Alternative 2025 & 2045 for AM & PM Peak Hours
- Build Alternatives 2025 & 2045 for AM & PM for Peak Hours
    - Build 1: Includes widening SR 994 to provide a raised median with left-turning opportunities from and onto the side streets, while implementing access management enhancements. Additionally, implement several capacity improvements at the signalized intersections of SW 137th Avenue and SW 127th Avenue, and upgrades the stop-controlled intersection of SW 134th Avenue to signal control.
    - Build 2: In addition to the improvements in Build 1, this alternative widens SR 994 from two lanes to four lanes.
    - Build 3: In addition to the improvements in Build 2, this alternative implements additional access management enhancements.

Section 7.4 of this report provides detailed discussion on the Build alternatives, noting that a Transportation Systems Management (TSM) Alternative was initially considered but later discontinued from further analysis. A TSM alternative is defined by FHWA as a set of strategies that focus on operational improvements that can maintain or restore the performance of the existing transportation system before extra capacity is needed. The TSM alternative, focusing on operational improvements without increasing capacity, was excluded due to high right-of-way costs needed to achieve desired level of service D at main study intersections, as estimated in

Section 7.0. As a result, the TSM alternative, relabeled as Build 1, was deemed impractical due to its high cost and potential impacts on historic and environmental sites. The analysis covers AM and PM traffic for existing conditions (2021), project opening year (2025), and design year (2045). The No Build Alternative serves as a baseline for comparing traffic patterns and potential improvements associated with the proposed Build Alternatives, all of which include signal timing optimization discussed in detail in **Section 7.1**.

2.0 PURPOSE AND NEED FOR THE PROJECT

2.1 PURPOSE & NEED

This project's primary goals are to improve safety, traffic operations, and capacity constraints on SR 994 from SW 137th Avenue to SW 127th Avenue, along with the influence areas of these intersections, in unincorporated Miami-Dade County. This is necessary to accommodate projected increased in travel demand resulting from population and employment growth in the corridor. Additionally, the project seeks to achieve the following objectives: 1) overall safety conditions along the corridor, including emergency evacuation and response times, and 2) enhance mobility options and multi-modal access. These project needs are based on specific criteria discussed in subsequent sections.

2.1.1 Capacity/Transportation Demand

This project aims to enhance traffic operations along SR 994 by expanding its capacity to accommodate the projected increase in travel demand driven by population and employment growth in Miami-Dade County. As of 2022, Miami-Dade County, the most populous county in Florida, had approximately 2.6 million residents. By 2045, the county's population is forecasted to grow by around 33% to reach 3.5 million residents. Similarly, employment in the county is expected to rise from 960,000 million workers in 2021 to over 1.8 million workers by 2045. These projections are based on data from the Miami-Dade Transportation Planning Organization's 2045 Long Range Transportation Plan (LRTP).

Between SW 137th Avenue and SW 127th Avenue, the corridor has experienced a 7 percent increase in Annual Average Daily Traffic (AADT) from 2015 to 2019, with traffic volumes climbing from 17,900 to 19,200 vehicles per day. This upward trend in traffic is expected to persist due to population growth and ongoing residential development within infill parcels along the study corridor, such as the Willow Trace development currently under construction.

2.1.2 Safety

Safety stands as a top priority for this project, aligning with the Department's Target Zero initiative. This statewide safety endeavor aims to eliminate transportation-related serious injuries and fatalities in Florida entirely. The Department's Target Zero initiative aims to address Florida's average of eight fatalities and 49 serious injuries daily on its roads, often attributed to driver behavior. This effort seeks to adapt the transportation system to better serve drivers frequently involved in accidents leading to serious injuries and fatalities.

For this Project Traffic Analysis Report, a crash analysis was conducted for the study corridor from SW 137th Avenue to SW 127th Avenue, including the influence areas of these intersections. The crash data for the latest and official 5-year period (January 2014 to December 2018) at the beginning of this study effort was downloaded from the FDOT's Crash Analysis Reporting (CAR) Online and summarized for the study corridor. Over this five-year period, 390 crashes were documented within the project limits. The leading crash types along the corridor were Rear-End (187 crashes), Angle (77 crashes), and Sideswipe (43 crashes). In terms of severity, 65% (254 crashes) were property damage only crashes, 35% (135 crashes) were injury crashes, and less than 1% (1 crash) was fatal. According to FDOT's 2014–2018 High Crash Lists, several locations along the corridor were identified as high-crash spots/segments:

- Spots:
    - SR 994 at SW 137th Avenue
    - SR 994 at SW 134th Avenue
    - SR 994 at SW 132nd Avenue
    - SR 994 at SW 127th Avenue
- Segment:
    - SR 994 from SW 137th Avenue to just west of SW 127th Avenue

According to the safety review, congestion/lack of capacity and lack of left-turn lanes serve as the probable causes of the safety issues within the corridor. Providing additional capacity and improving intersections along the corridor are anticipated to result in reduced crashes and safety benefits.

2.1.3 Modal Interrelationships

There are no existing designated bicycle lanes within the project limits. Sidewalks are noncontinuous and generally located at residential subdivisions along the study corridor. The Black Creek Trail intersects the study corridor just east SW 132nd Avenue. The trail is a 17-mile-

long greenway corridor that connects the Everglades Levee (L-31N Canal) with Black Point Park and Marina in Homestead. There is a pedestrian crossing equipped with RRFBs and pavement markings to facilitate pedestrian/bicycle crossing and alert drivers of the pedestrian traffic, just east of the bridge for access to the Black Creek Trail.

Based on 2010 United States Census Data, approximately 4 percent of the housing units (192 housing units) within the study area are transit-dependent (no vehicle available); in addition, approximately 392 housing units within the study area use public transportation for work. This noted transit-dependent population has a higher propensity to walk, bike, or take transit to access essential services. The SR 994 project is anticipated to improve multi-modal connectivity and mobility options for the transit-dependent population and the overall residential population within the project area by providing continuous bicycle and pedestrian facilities along the entire corridor and improving connectivity to the Black Creek Trail. The feasibility of adding a multimodal facility on both sides of the study corridor was assessed and deemed viable for inclusion in the preferred alternative.

2.1.4 Evacuation Routes and Emergency Services

SR 994 connects directly to two Strategic Intermodal System (SIS) Highway Corridors at SR 997/Krome Avenue (west of the project limits) and SR 821/HEFT (east of the project limits). According to the Florida Division of Emergency Management, both SR 997/Krome Avenue and SR 821/HEFT are designated emergency evacuation routes. SR 997/Krome Avenue additionally provides regional connectivity to US 1, which is a major evacuation route for the Florida Keys. This SR 994 project is anticipated to enhance emergency evacuation capabilities by improving the capacity of the roadway and, thereby, increasing the number of residents that can be evacuated safely during an emergency event and enhancing access from the residential areas along the corridor to designated emergency evacuation routes. Improved traffic operations are also anticipated to decrease emergency response times for emergency response vehicles.

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3.0 EXISTING CONDITIONS

3.1 ROADWAY CONDITIONS

For the most part, the corridor of SR 994 within the study limits consists of two undivided travel lanes and unpaved shoulders on both sides of the roadway. There is, however, curb and gutter present for approximately 500 feet at the eastbound approach of the SW 127th Avenue intersection. No left-turn lanes are present along SR 994, except at the eastbound approach of SW 127th Avenue where the road widens to a four-lane roadway divided by a painted median. SR 994 has a 40 MPH posted speed limit. Throughout the corridor, sidewalks are noncontinuous and generally located at residential subdivisions along the north and south sides of SR 994. No bus stops or designated bicycle lanes are present on SR 994 within the study limits. There is a midblock pedestrian crossing controlled by RRFBs just east of SW 132nd Avenue for access to the Black Creek Trail. Special high emphasis pavement markings are provided at the crossing.

Most of the corridor in the project study limits has a functional classification of urban minor arterial and a context classification C3-R Suburban Residential. However, the section of SR 994 west of SW 137th Avenue, the westernmost 0.1-mile-long segment, has a functional classification of rural major collector and a context classification of C2-R Rural. SR 994 has an access management classification of 4 (generally undeveloped or developing with a non-restrictive median). The recommended signal spacing for a Class 4 is 2,640 feet. No spacing is recommended for full or directional median openings. **Figure 2** presents the existing lane configuration and traffic control at the study intersections within the SR 994 corridor.

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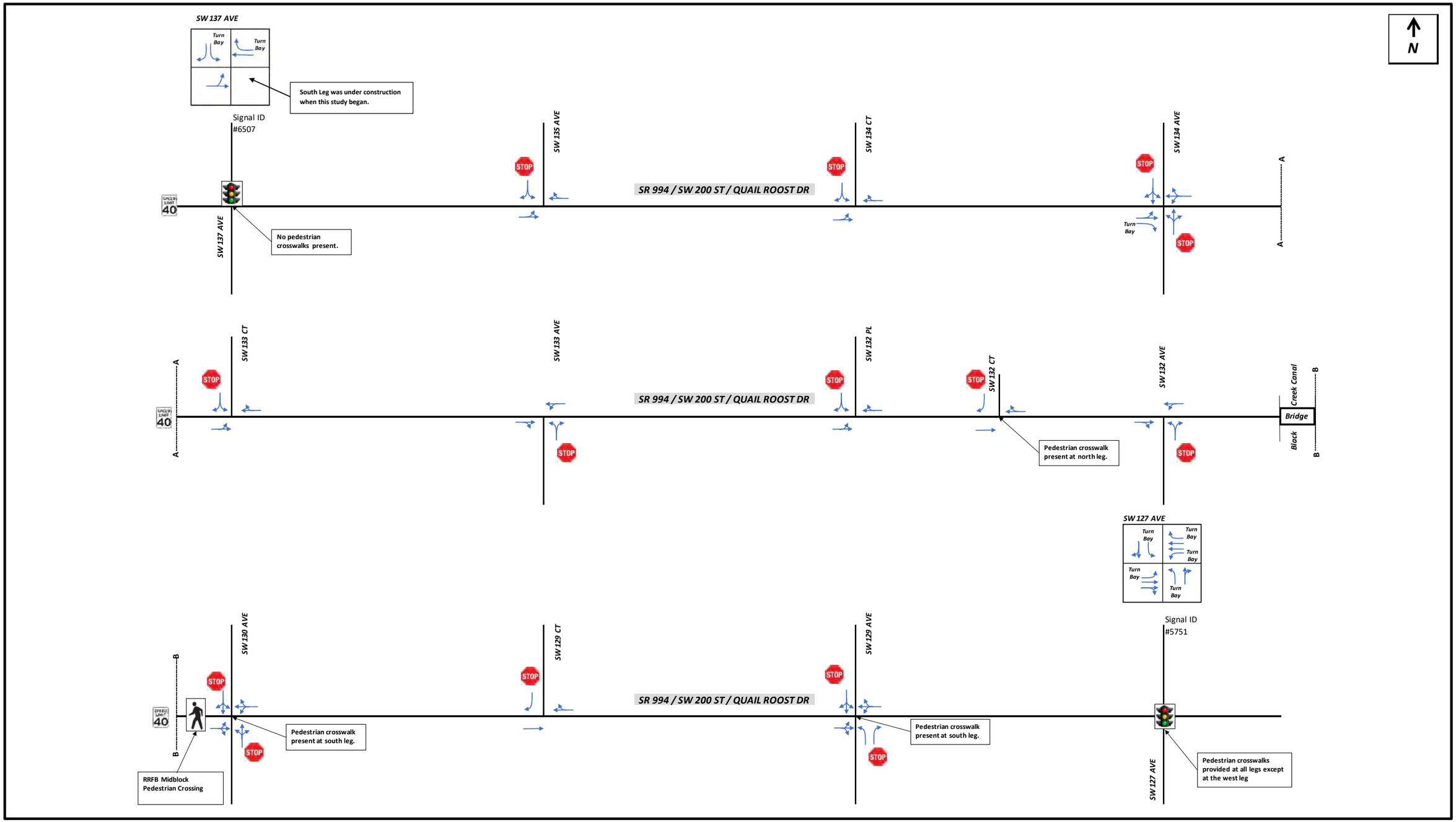

Figure 2. Existing Intersection Lane Configurations & Traffic Controls for Study Corridor

3.2 DATA COLLECTION

As part of this study, vehicular traffic data was obtained from field counts as well as existing traffic data from FDOT available sources. In addition, the data collection included a compilation of vehicular crash history (last five years of official use available) for the study corridor. This information was used in the safety analysis in compliance with applicable standards and included items such as crash type, frequency, severity, and weather, among others. Traffic data was obtained from FDOT's portable and permanent (telemetered) traffic monitoring sites. In addition, 72-hour approach and turning movement counts were collected to analyze current traffic conditions at the signalized and other applicable intersections within the study corridor.

3.3 SEVENTY-TWO (72)-HOUR BI-DIRECTIONAL MACHINE COUNTS

72-Hour bi-directional machine counts were collected on typical weekdays from Tuesday, August 31, 2021, through Thursday, September 2, 2021. Counts were verified for reasonableness against previous FDOT studies (as listed in **Section 1.2**) and FDOT Traffic Count Station No. 87-1116 (SR 994 just west of SW 127th Avenue), adjusted for seasonal variation, and corrected for vehicle axle.

72-hour data was collected at the following main locations:

- SR 994 at SW 137th Avenue
- SR 994 at SW 134th Avenue
- SR 994 at SW 132nd Avenue
- SR 994 at SW 127th Avenue

The traffic data sheets are included in **Appendix B** and the hourly distribution of the traffic volumes are presented in **Figure 3.** The peak traffic periods have been identified in the data sheets included in this appendix. The main intent was to determine the overall peak traffic period for AM and PM for the study corridor.

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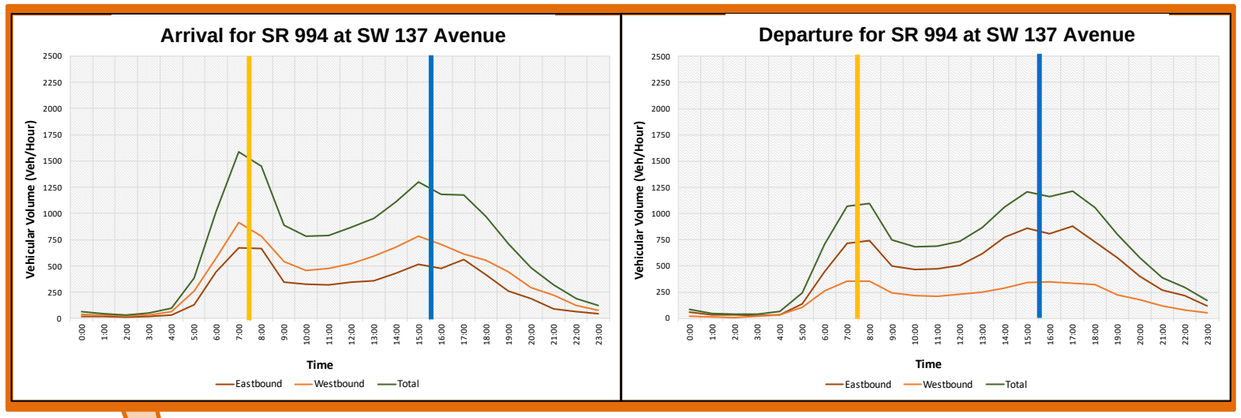

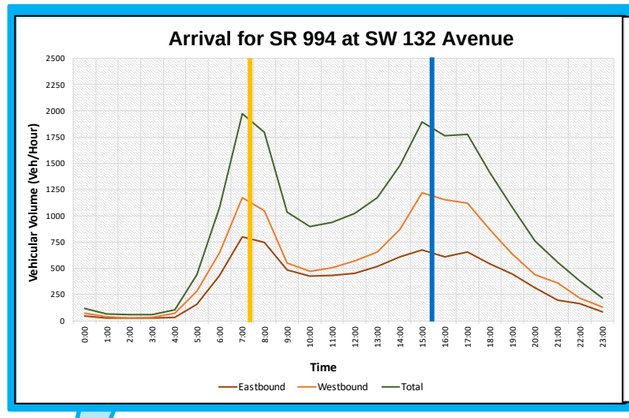

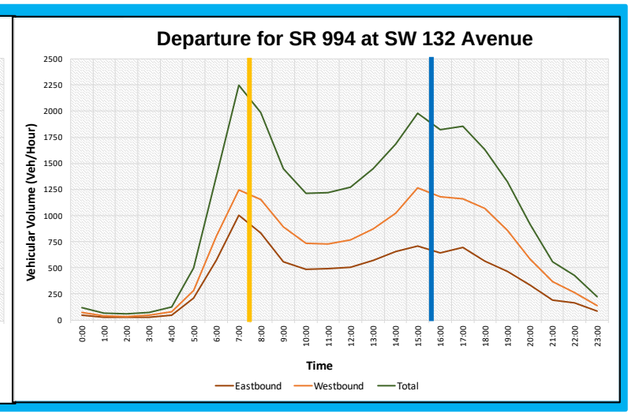



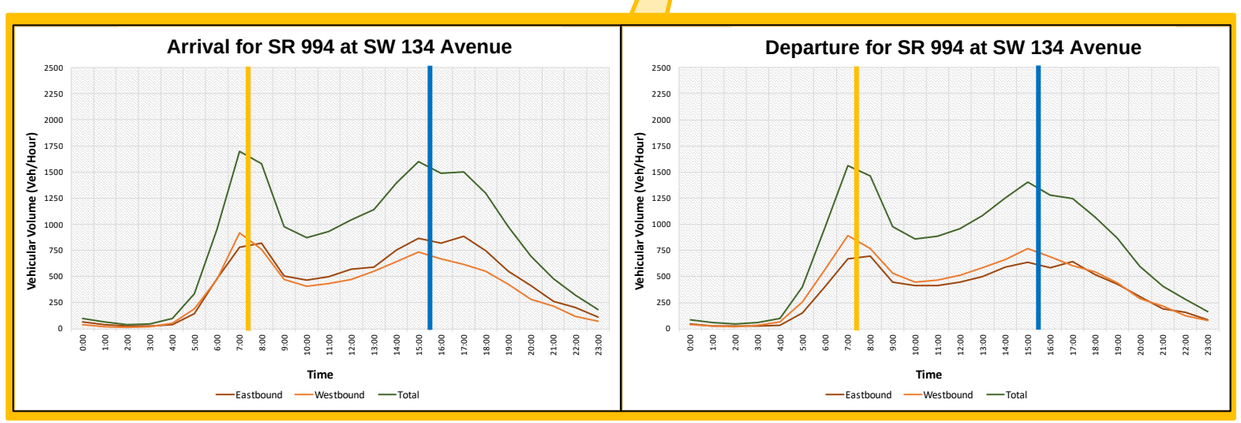

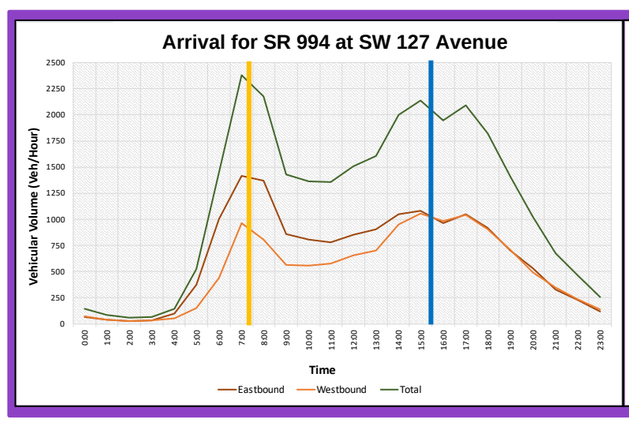

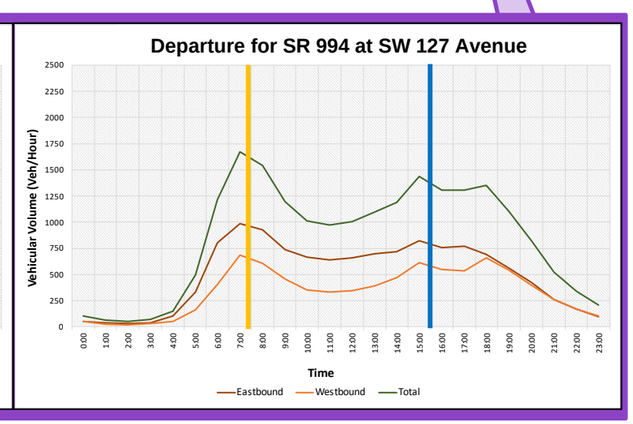

Figure 3. Average Daily Traffic

3.4 SIX (6)-HOUR INTERSECTION TURNING MOVEMENT COUNTS (TMCS)

Six-hour TMCs were collected during a typical commuting day of the week (i.e., Tuesday, Wednesday, or Thursday) from September 8, 2021, to September 14, 2021. The data was recorded in 15-minute intervals. The six-hour data collection period was selected based on a review of the daily traffic volumes for the study corridor. The overall typical AM and PM commuting peak hours were determined to be from 6:30 AM to 9:30 AM and from 3:30 PM to 6:30 PM. The collected data included pedestrian and bicycle counts, as well as heavy vehicle counts, summarized separately by movement. The pedestrian and bicycle counts were very low. The traffic data was collected for the following 12 intersections within the study corridor and is included in **Appendix B**.

1. SR 994 at SW 137th Avenue
2. SR 994 at SW 135th Avenue
3. SR 994 at SW 134th Court
4. SR 994 at SW 134th Avenue
5. SR 994 at SW 133rd Court
6. SR 994 at SW 133rd Avenue
7. SR 994 at SW 132nd Place
8. SR 994 at SW 132nd Avenue
9. SR 994 at SW 130th Avenue
10. SR 994 at SW 129th Court
11. SR 994 at SW 129th Avenue
12. SR 994 at SW 127th Avenue

Based on the TMCs collected at the study intersections, the peak hour for the AM and PM periods were determined to be from 7:30 AM to 8:30 AM and from 3:30 PM to 4:30 PM. Based on a review of the traffic data collected as part of the FDOT RRR Safety Review (completed in 2019), traffic data collected when pursuing this project (in March 2021) and FDOT daily counts 2019 and 2020 from FDOT Count Station No. 87-1116, it was determined that a 3% percent growth rate should be applied to the TMCs collected in late 2021 to account for COVID-19 traffic conditions. It is noted that the 2020 FDOT Synopsis report was from February 11, 2020, and the COVID-19 traffic impact was estimated to have started in March 2020. Subsequently, the TMCs were balanced within +/-10% based on typical industry practice with most balanced within 0% where driveway activity between intersections was less severe.

The AM and PM peak hours adjusted and balanced traffic volumes for 2021 traffic conditions for the study corridor are presented in **Tables 1** and **2** and **Figures 4** and **5**. The two locations where the volumes were not balanced within 0% include the eastbound departure side at SW 137th Avenue due to some unauthorized vehicles using the northbound approach which is under construction, and between SW 129th Avenue and SW 127th Avenue for both eastbound and westbound directions due to a few commercial driveways and a minor street serving a church.

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Table 1. Existing AM Peak-Hour Traffic Volumes (Balanced) for the Study Corridor

Intersection Approach	Movement	2021 Existing - AM Peak Hour Traffic Volumes											
		SW 137 AVE	SW 135 AVE	SW 134 CT	SW 134 AVE	SW 133 CT	SW 133 AVE	SW 132 PL	SW 132 AVE	SW 130 AVE	SW 129 CT	SW 129 AVE	SW 127 AVE
Eastbound	Left	67	0	0	15	4	---	21	---	116	---	4	134
	Thru	386	762	774	650	724	715	777	822	906	918	906	891
	Right	0	---	---	111	---	13	---	12	3	---	8	47
	Appr. Total	*453*	*762*	*774*	*777*	*728*	*728*	*797*	*834*	*1026*	*918*	*918*	*1072*
Westbound	Left	2	---	---	57	---	13	---	67	0	---	19	174
	Thru	396	893	895	796	955	857	858	839	809	823	808	526
	Right	500	4	3	108	10	---	22	---	25	22	2	146
	Appr. Total	*897*	*897*	*898*	*961*	*965*	*870*	*880*	*906*	*833*	*845*	*828*	*847*
Northbound	Left	N/A	---	---	99	---	108	---	40	4	---	35	192
	Thru	N/A	---	---	36	---	---	---	---	0	---	1	197
	Right	N/A	---	---	32	---	82	---	204	0	---	62	315
	Appr. Total	*N/A*	---	---	*167*	---	*191*	---	*244*	*4*	---	*98*	*703*
Southbound	Left	339	11	3	46	4	---	58	---	11	---	6	93
	Thru	2	---	---	42	---	---	---	---	0	---	0	182
	Right	36	4	2	3	6	---	12	---	94	10	2	46
	Appr. Total	*377*	*15*	*5*	*92*	*10*	---	*70*	---	*105*	*10*	*8*	*321*
	Int. Total	*1727*	*1675*	*1677*	*1996*	*1704*	*1789*	*1747*	*1985*	*1968*	*1773*	*1852*	*2944*

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Table 2. Existing PM Peak-Hour Traffic Volumes (Balanced) for the Study Corridor

Intersection Approach	Movement	2021 Existing - PM Peak Hour Traffic Volumes											
		SW 137 AVE	SW 135 AVE	SW 134 CT	SW 134 AVE	SW 133 CT	SW 133 AVE	SW 132 PL	SW 132 AVE	SW 130 AVE	SW 129 CT	SW 129 AVE	SW 127 AVE
Eastbound	Left	41	1	0	0	6	---	0	---	42	---	1	49
	Thru	402	849	856	648	713	711	732	696	716	727	677	630
	Right	0	---	---	210	---	8	---	55	4	---	49	89
	Appr. Total	*443*	*850*	*856*	*858*	*719*	*719*	*732*	*751*	*762*	*727*	*727*	*768*
Westbound	Left	4	---	---	65	---	30	---	174	0	---	22	246
	Thru	373	727	732	632	713	706	730	718	829	837	832	565
	Right	355	5	5	18	12	---	12	---	29	5	5	97
	Appr. Total	*732*	*732*	*737*	*715*	*725*	*735*	*743*	*892*	*858*	*843*	*859*	*908*
Northbound	Left	N/A	---	---	103	---	20	---	25	1	---	8	147
	Thru	N/A	---	---	24	---	---	---	---	0	---	0	198
	Right	N/A	---	---	40	---	22	---	66	1	---	16	169
	Appr. Total	*N/A*	---	---	*167*	---	*41*	---	*91*	*2*	---	*25*	*514*
Southbound	Left	489	7	2	31	6	---	19	---	10	---	4	131
	Thru	3	---	---	23	---	---	---	---	3	---	0	284
	Right	40	5	0	2	2	---	5	---	62	21	2	65
	Appr. Total	*533*	*12*	*2*	*56*	*8*	---	*24*	---	*75*	*21*	*6*	*480*
	Int. Total	*1708*	*1594*	*1595*	*1795*	*1452*	*1496*	*1499*	*1733*	*1697*	*1590*	*1617*	*2671*

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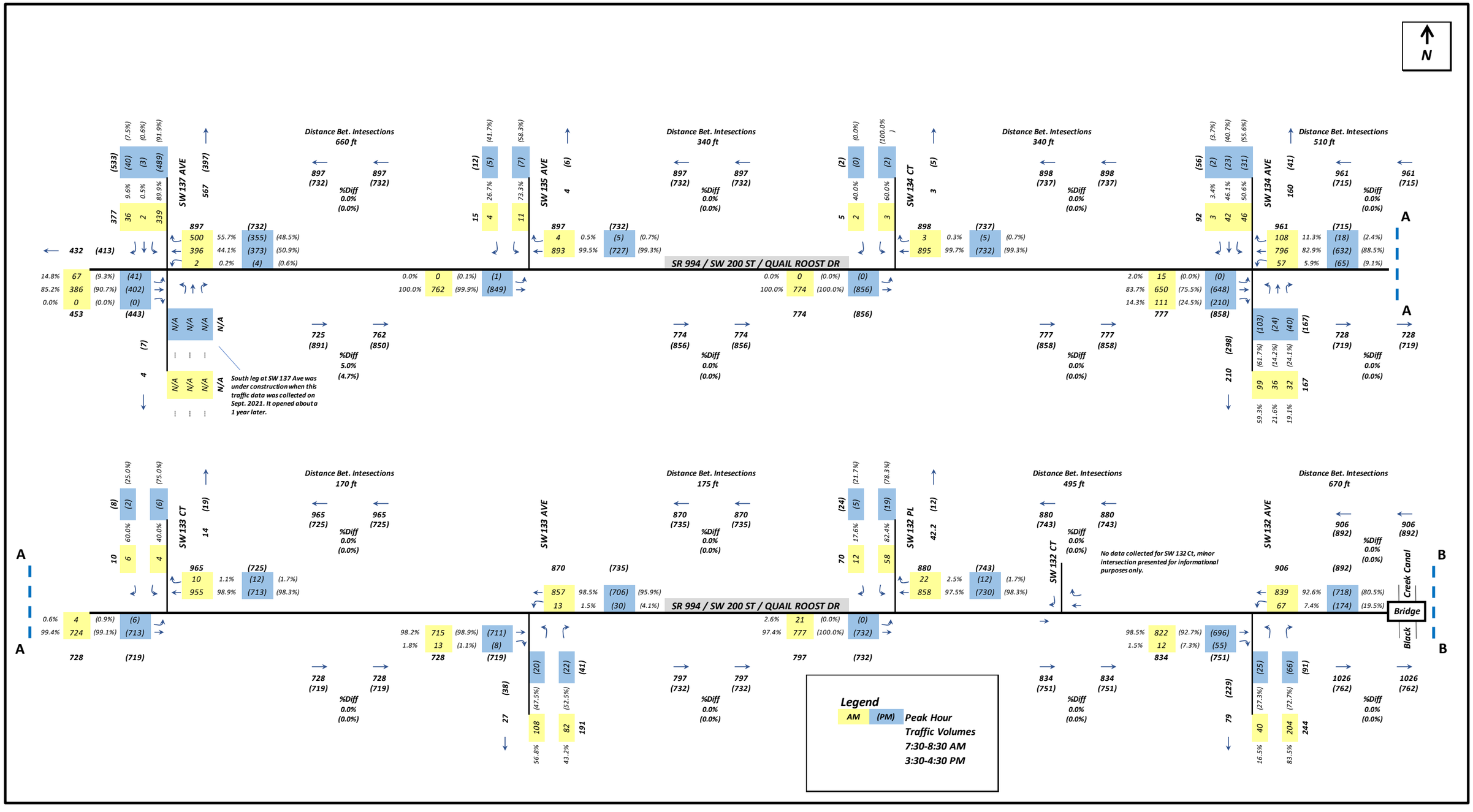


Figure 4. Existing AM & PM Peak-Hour Traffic Volumes (Balanced) for the Study Corridor

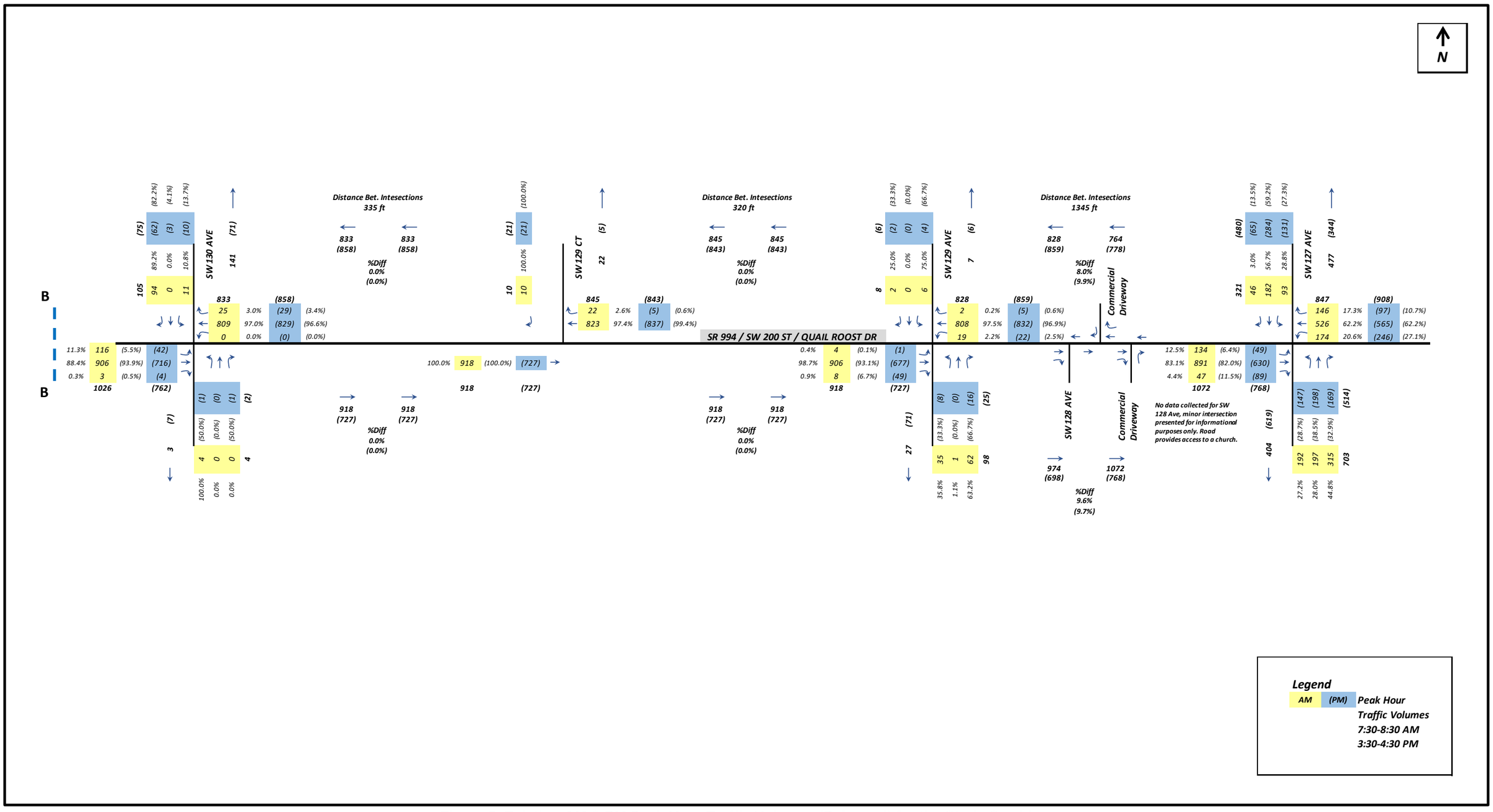
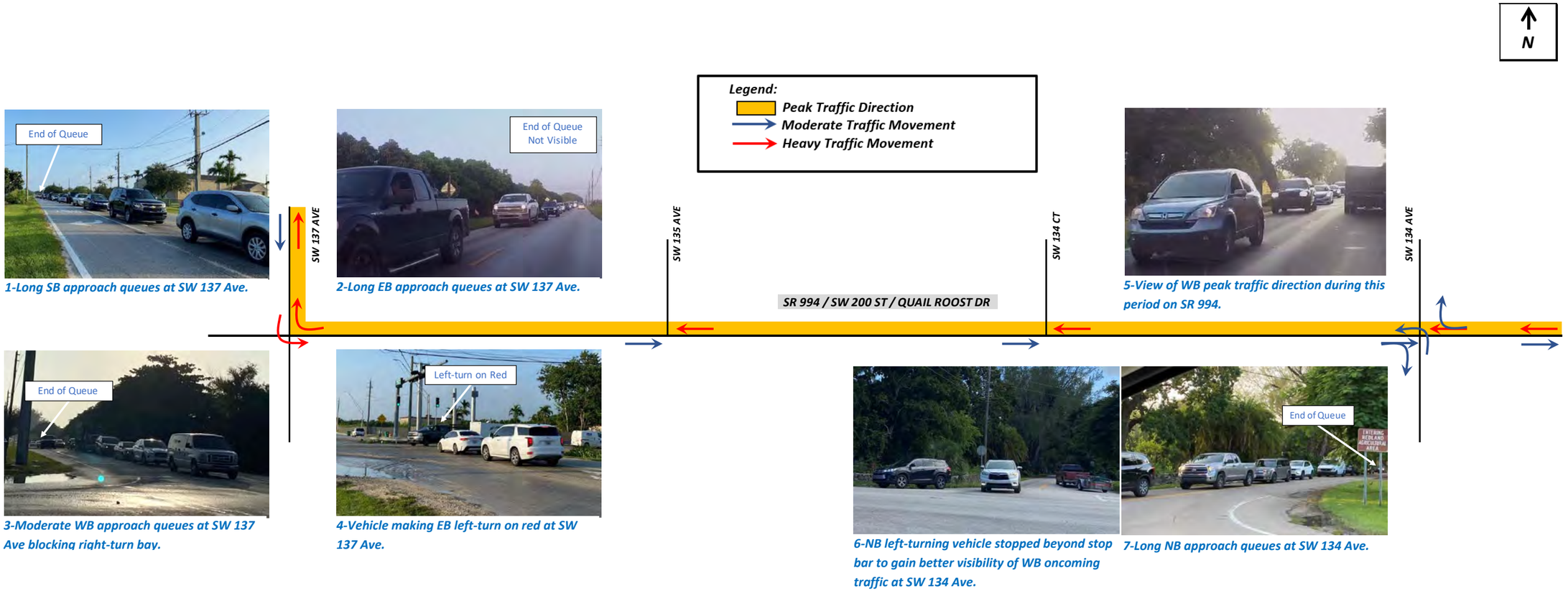


Figure 5. Existing AM & PM Peak-Hour Traffic Volumes (Balanced) for the Study Corridor

3.5 FIELD OBSERVATIONS SUMMARY

Field reviews were performed on Thursday, October 7, 2021, during the peak hours from 7:30 AM to 8:30 AM and from 3:30 PM to 4:30 PM. These times were identified based on the traffic data collection discussed in **Section 3.2**. These assessments were performed to ascertain the overall corridor and intersection specific operations, and site conditions from both traffic and safety perspectives. **Figures 6** through **11** present key observations along the study corridor. Notable observations include:

- Saturated traffic conditions were observed at several key intersections along the corridor:
    - At the signalized intersection of SW 137th Avenue, southbound left-turn movements experienced congestion during both the AM and PM peak hours. .It is worth noting that the south leg at SW 137th Avenue is currently closed to traffic due to construction.
    - At the stop-controlled intersection of SW 134th Avenue, northbound left-turn movements faced saturation during both peak hours.
    - At the stop-controlled intersection of SW 132nd Avenue, the northbound right-turn movement was congested in the AM peak hour, while the westbound left-turn movement experienced congestion in the PM peak hour.
    - At the signalized intersection of SW 127th Avenue, the northbound approach encountered congestion during both peak hours due to single-lane servicing
- For the most part, the traffic activity at the minor unsignalized intersections within the study corridor was low with a few exceptions discussed in the following figures.
- Due to the lack of left-turn lanes on SR 994, eastbound and westbound left-turning vehicles from SR 994 onto the side streets must stop in the travel lane and block other vehicles following behind until motorists find a gap in the opposing traffic stream to complete the turn. This occurred frequently for the westbound left-turn movement at SW 132nd Avenue. Because of the proximity of SW 132nd Avenue to the RRFB midblock pedestrian crossing on SR 994, the westbound queues at SW 132nd Avenue would extend back and block the crossing whenever a vehicle intended to make a left-turn onto the side street.
- During the field reviews, pedestrian and bicyclist activity within the study corridor was low-to-moderate. Additionally, there were no transit buses observed operating along the corridor.



1-Long SB approach queues at SW 137 Ave.

2-Long EB approach queues at SW 137 Ave.

5-View of WB peak traffic direction during this period on SR 994.

3-Moderate WB approach queues at SW 137 Ave blocking right-turn bay.

4-Vehicle making EB left-turn on red at SW 137 Ave.

6-NB left-turning vehicle stopped beyond stop bar to gain better visibility of WB oncoming traffic at SW 134 Ave.

7-Long NB approach queues at SW 134 Ave.

Main Observations (AM Peak Hour):

- ***SW 137th Ave:*** *The EB approach and SB left-turn movement at SW 137th Ave experienced long queues. Not all vehicles cleared the intersection within the first available green. The EB left-turn movement is serviced with a protected/permitted left-turn phase but no turn lane. EB is a single lane approach. During the permitted left-turn phase, EB left-turning vehicles blocked EB thru traffic when waiting for a gap in the opposing WB traffic. The south leg is closed to traffic and under construction. The SB left-turn and WB right-turn movements were high. No long queues were observed for WB right-turning traffic. The SB queues prevented vehicles from reaching the SB right-turn bay at the intersection. Because the WB right-turn bay is short (135 ft), it was easily blocked by the WB thru queues which caused some WB right-turning motorists to drive on the dirt shoulder to bypass the queues in front and access the WB right-turn bay. Some motorists were observed to make the EB left-turn on red.*

- ***SW 134th Ave:*** *The NB approach experienced delay and long queues due to being under stop-controlled and lack of available gaps in the WB through traffic stream during this peak hour. WB is the peak traffic direction on SR 994.*

Figure 6. Field Observations for Study Corridor – AM



1-Long traffic activity at SW 133 Ct.



2-View of WB traffic peak direction on SR 994 during this period.



3-View of existing roadway conditions at SW 132 Ct. No traffic activity observed.



4-Moderate to occasional longer queues at NB approach of SW 132 Ave due to high right-turn volume.

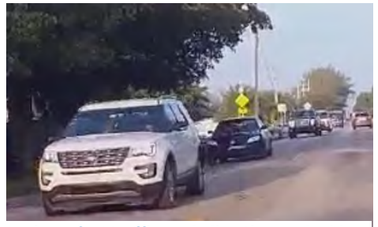


5-View of midblock RRFB pedestrian crossing for the Black Creek Trail just east of SW 132 Ave. No pedestrian or bicyclist activity was observed.

Main Observations (AM Peak Hour):

- *The peak traffic direction on SR 994 changes to EB at SW 132nd Ave due to the high volume of NB right-turning traffic from SW 132nd Ave.*
- *There was queue build-up at the northbound approach of this intersection due to the noticeable volume of right-turning traffic. This is a stop-controlled "T"-intersection with no exclusive right-turn lane.*
- *There is a midblock RRFB pedestrian crossing on SR 994 just east of SW 132nd Ave. The pedestrian and bicyclist crossing activity at this midblock crossing was very low.*
- *The volumes at SW 133rd Ct and SW 132 Court were low.*
- *There was some queue build-up observed on SW 133rd Ave and SW 132nd Pl. Occasionally, left-turning vehicles from the side street onto SR 994 had some difficulty in completing the left-turn due to the continuous traffic on SR 994.*

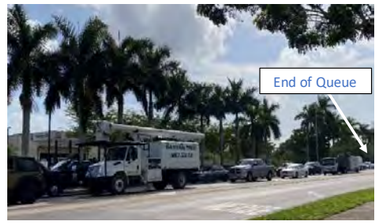
Figure 7. Field Observations for Study Corridor – AM



1-View of EB traffic peak direction on SR 994 during this period.



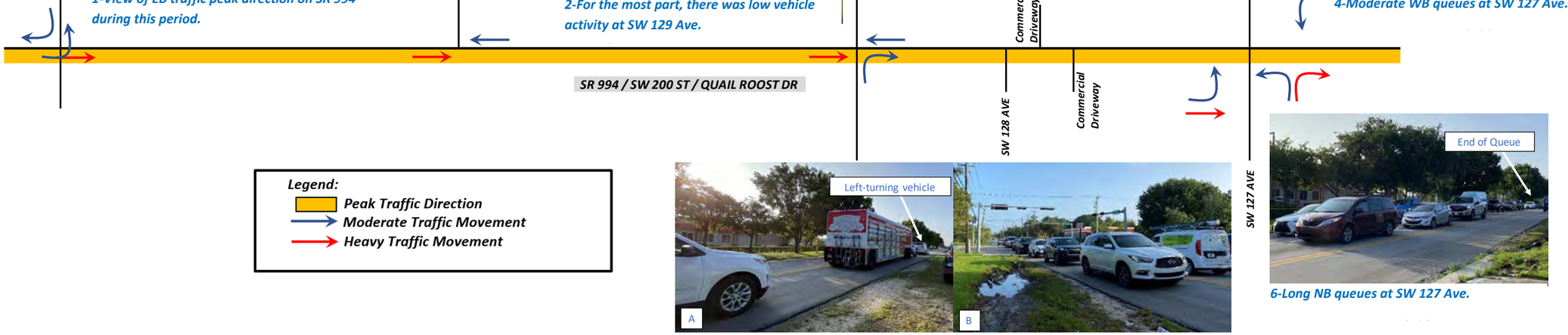
2-For the most part, there was low vehicle activity at SW 129 Ave.



3-Moderate EB queues at SW 127 Ave.



4-Moderate WB queues at SW 127 Ave.



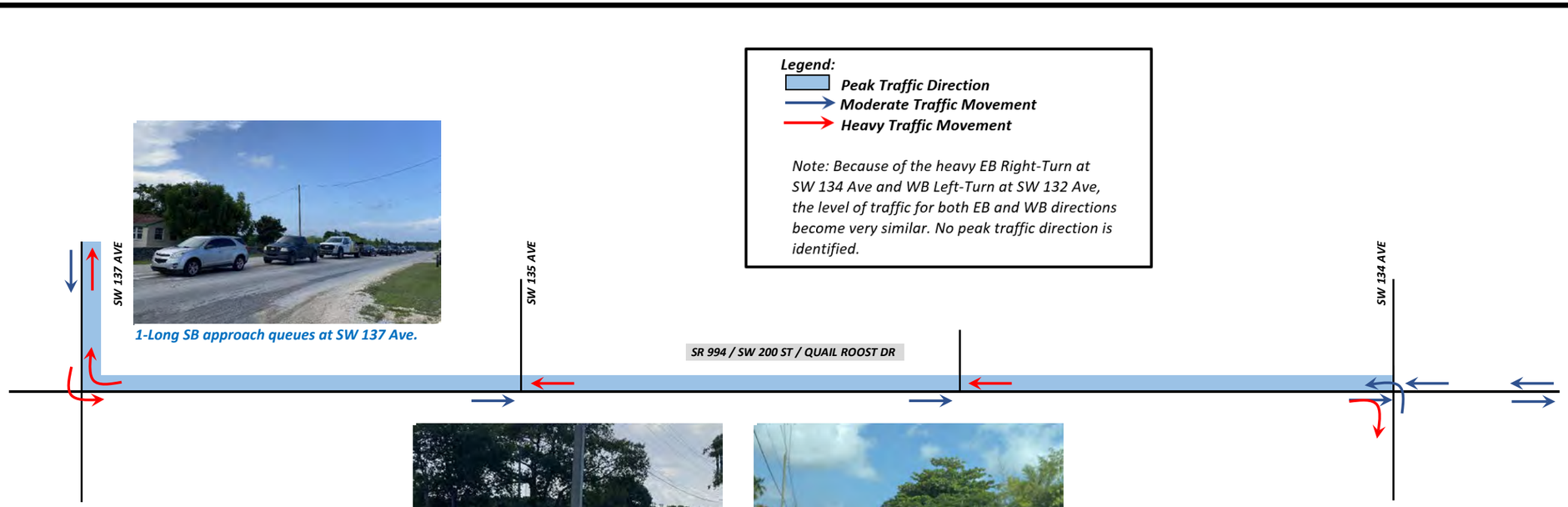
5-(A) A SB vehicle passes the study intersection and stops in travel lane to make a left-turn onto the shopping plaza in the SE corner of the intersection while impeding the flow of SB traffic. (B) SB vehicles queue backed and blocked the study intersection due to vehicle ahead making left-turn.

6-Long NB queues at SW 127 Ave.

Main Observations (AM Peak Hour):

- *The volume of turning traffic from and onto the side streets within the limits shown was low, except for some occasional SB right-turn and EB left-turn traffic at SW 130th Ave and NB right-turn traffic at SW 129th Ave.*
- ***SW 127th Ave:*** *There was a high volume of traffic at this intersection with long NB queues due to the lack of a right-turn lane and high volume of right-turners. The NB approach is serviced by a single lane. Most intersection movements experienced queue build-up. Other observations included:*
  - *Some motorists were observed to stop in traffic and make a SB left-turn across the NB queues to enter the shopping center in the SE corner of the intersection.*
  - *Consistently NB vehicles blocked the south leg crosswalk at the intersection.*
  - *Red light running was observed for SB and WB left-turning vehicles.*
  - *It was observed that WB left-turning vehicles do not yield to pedestrians crossing within the south leg crosswalk.*
  - *Pedestrian crosswalks are present at the north, south, and east legs with pedestrian signals and pushbuttons to cross SW 127th Ave. No pedestrian activity was observed.*

Figure 8. Field Observations for Study Corridor – AM



1-Long SB approach queues at SW 137 Ave.



2-Moderate EB queues at SW 137 Ave.



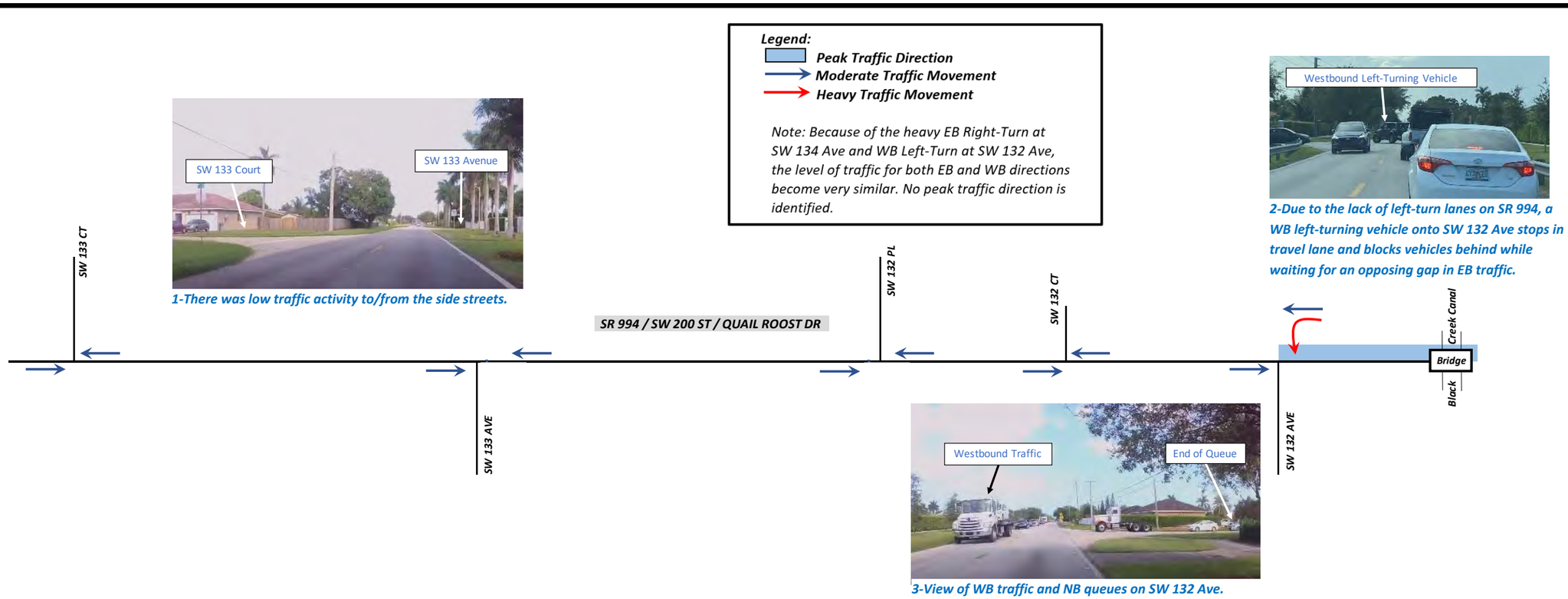
3-View of WB approach traffic at SW 137 Ave. WB right-turning traffic was high. However, it turned easily onto NB SW 137 Ave with minimal delay.

Main Observations (PM Peak Hour):

- ***SW 137th Ave:*** *The EB approach experienced queue build-up but to a lesser extent when compared to AM. The SB left-turn movement experienced long queues and excessive delay. Not all vehicles cleared the intersection within the first available green. The EB left-turn movement is serviced with a protected/permitted left-turn phase and no turn lane. During the permitted left-turn phase, EB left-turning vehicles blocked EB thru traffic when waiting for a gap in the opposing WB traffic. The SB left-turn and WB right-turn movements were high. No long queues were observed for WB right-turning traffic.*

- ***SW 134th Ave:*** *The NB approach experienced delay and queue build-up due to being under stop-controlled and occasional lack of available gaps in the SR 994 traffic stream during this peak hour. The EB right-turn volume was high but turned easily onto SB SW 134th Ave with minimal delay.*

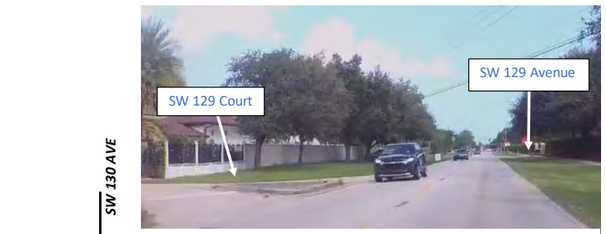
Figure 9. Field Observations for Study Corridor – PM



Main Observations (PM Peak Hour):

- *The peak traffic direction on SR 994 during this period is WB, however past SW 132nd Ave both directions seemed to have similar levels of traffic. This is due to the high number of vehicles making a WB left-turn onto SB SW 132nd Ave. Due to the lack of a WB left-turn lane at SW 132nd Ave, WB left-turning vehicles must stop and wait for a gap in opposing EB traffic while blocking the thru traffic. This causes queue build-up that can extend past the RRFB midblock crossing just east of SW 132nd Ave. The pedestrian and bicyclist crossing activity at this midblock crossing was very low.*
- *The volumes at the side streets presented within these study limits were low.*

Figure 10. Field Observations for Study Corridor – PM



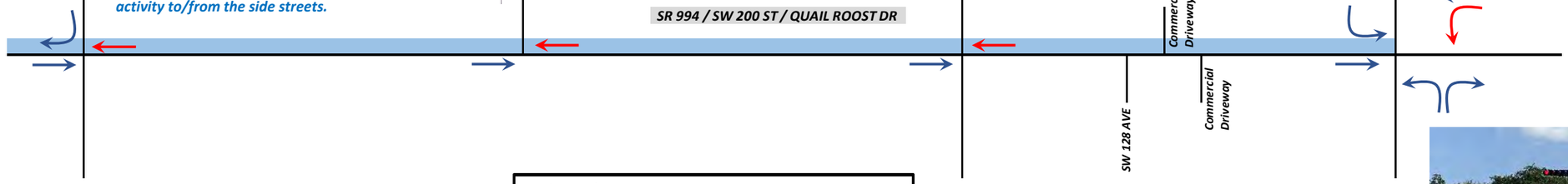
1-For the most part, there was low vehicular traffic activity to/from the side streets.



2-Moderate SB approach queues at SW 127 Ave.



3-Moderate WB approach queues at SW 127 Ave.





4-Moderate EB approach queues at SW 127 Ave.

5-Long NB approach queues at SW 127 Ave. Not all vehicles cleared the intersection within the first available green.

Main Observations (PM Peak Hour):

- *The volume of turning traffic from and onto the side streets within the limits shown was low, except for some occasional SB right-turn at SW 130th Ave.*
- ***SW 127th Ave:*** *Similar to the AM peak hour, there was a high volume of traffic at this intersection with long NB queues since the NB approach is serviced by a single lane. Most intersection movements experienced queue build-up. Other observations included:*
  - *Consistently NB vehicles blocked the south leg crosswalk at the intersection.*
  - *Red light running was observed for NB and WB left-turning vehicles.*
  - *No pedestrian activity was observed at the intersection during the field review.*

Figure 11. Field Observations for Study Corridor – PM Peak Hour

3.6 TRAFFIC FACTORS

The traffic factors to be used to develop volumes consist of the Standard K factors in addition to Directional (D) and Truck (T) factors obtained from the Florida Traffic Online website, nearby telemetry stations, as well as new classification counts from the data collection effort. Standard K and D factors will be used to develop future directional design hour volumes (DDHVs), as presented in **Tables 3** and **4** as obtained from the FDOT's Project Traffic Forecasting Handbook (2019). A K of 9% and a D of 56% were selected for this study which falls between the allowable ranges for an urban arterial such as SR 994. These values were used to develop future traffic volumes as discussed in **Section 7.3.1**.

Table 3. FDOT Standard K Factors

Area Type	Facility Type	K_{std}
Large Urban Areas with Core Freeways	Freeways	8.0-9.0
	Arterials	9.0
Other Urbanized Areas	Freeways	9.0
	Arterials	9.0

Table 4. FDOT Recommended D Factor Ranges

Road Type	Low D	Medium D	High D	Standard Deviation
Urban Freeways	50.4	55.8	61.2	4.11
Urban Arterials	50.8	57.9	67.1	4.60

AADT for existing conditions was determined from the collected 72-hour bi-directional counts by multiplying the Average Daily Traffic (ADT) obtained from the counts by the Seasonal Factor (SF) and Axle Correction Factor (ACF).

$$AADT = ADT \times SF \times ACF$$

The SF and ACF used are 1.01 and 0.98, respectively, since the 72-hour counts were collected in late August and early September. These values were obtained from FDOT 2020 Peak Season Factor Category Report and FDOT 2020 Weekly Axle Factor Category Report. This SF value covers any data collected from August 30 to September 5. The ACF value covers any data collected from January 1 through December 31.

The truck percentages (T factors) were calculated per each intersection movement based on the TMCs collected. The Peak Hour Factors (PHFs) for each study intersection were based on an overall intersection average.

3.7 EXISTING CONDITIONS ANALYSIS

An operational analysis of the study corridor was performed utilizing Synchro, Version 11, to evaluate the performance of existing traffic conditions for the weekday AM and PM peak hours. The operational assessment was performed in accordance with the FDOT's Traffic Analysis Handbook (2021) and consistent with the Highway Capacity Manual (HCM). The operational analysis included intersection and arterial evaluations. The results are based on the HCM 6th Edition, except the arterial analysis which is based on Synchro. In addition, the results for the signalized intersection of SW 137th Avenue are based on the HCM 2000 since latest versions (HCM 6th and 2010) do not support the current signal operation of a leading left-turning arrow for the eastbound direction without an exclusive left-turn bay. For consistency, the results for SW 137th Avenue for future conditions are also based on the HCM 2000.

Intersection geometry (lane assignments), posted speed limits, peak hour turning traffic volumes, truck percentages, PHFs, and signal timing/phase data were coded into the Synchro models. The signal timing and phasing information were obtained from the Miami-Dade County Traffic Signals & Signs Division. The timing/phasing data sheets are included in **Appendix C**. The truck percentages by intersection movement and an overall average PHF by intersection were used in the analysis.

The following guidelines as presented in the FDOT handbook were followed for the Synchro models:

- Lost time adjustment factor should be adjusted to replicate field observed queue lengths, as needed.
- Default gap acceptance factor should be checked and modified to replicate field conditions, as needed.
- All link terminals will extend at least 1,000 feet from the last node to reasonably calculate queueing in the model.
- 95th percentile queue lengths that are tagged with "#" or "m" will be assessed for the extent of queueing problems. The "#" indicates that the volume for the 95th percentile cycle exceeds capacity. The "m" indicates that volume for the 95th percentile queue is metered by an upstream signal.

The following Measures of Effectiveness (MOEs) were generated based on the HCM 6th Edition (except for SW 137th Avenue, HCM 2000 was used) and the Synchro outputs and summarized for the traffic models:

- Intersection:
  - Level of Service
  - Average Vehicle Delay (seconds/vehicle)
- Vehicle Movement:
  - Level of Service
  - Average Vehicle Delay (seconds/vehicle)
  - Volume/Capacity (v/c) Ratio (for signalized intersections only)
  - 95th Percentile Queue (feet)
- Arterial:
  - Level of Service
  - Average Vehicle Speed (miles/hour)
  - Travel Time (seconds)
  - Delay (hours)

The HCM utilizes LOS as the quantitative measure to represent the level of service at an intersection or arterial. The LOS grading criteria ranges from LOS A to LOS F, where LOS A is under-saturated/free-flow conditions and LOS F is over-saturated conditions. The Synchro output sheets are included **Appendix D**.

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3.7.1 Arterial Analysis Results

Based on 2021 traffic data, the study arterial of SR 994 is operating at LOS C or better for both eastbound and westbound directions during the AM and PM peak hours, as presented in **Table 5**. The average vehicle speed for eastbound during the AM and PM peak hours is 21-27 MPH, whereas in the westbound direction for both periods is slightly higher at 28-33 MPH. These speeds are below the 40 MPH posted speed limit of SR 994. The total arterial travel time is 5.5 minutes for eastbound and 3.5 minutes for westbound during the AM and PM peak hours.

Table 5. Existing Operational Results AM & PM for SR 994 Arterial

Dir.	Peak Hour	MOE	EXISTING	Dir.	Peak Hour	MOE	EXISTING
Eastbound	AM	LOS	C	Westbound	AM	LOS	B
		Speed (mph)	21			Speed (mph)	28
		Travel Time (min)	2.6			Travel Time (min)	1.9
	PM	LOS	C		PM	LOS	B
		Speed (mph)	27			Speed (mph)	33
		Travel Time (min)	2.0			Travel Time (min)	1.6
	Total Arterial Travel Time (min)		5.5		Total Arterial Travel Time (min)		3.5

Notes: Summarized results are based on Synchro. Units for speed are miles per hour.

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3.7.2 Intersection Analysis Results

Signalized Intersection of SW 137th Avenue:

At the beginning of this study, the south leg at the four-legged intersection of SW 137th Avenue was under construction and therefore not in operation. As presented in **Table 6**, this intersection is being serviced at LOS B during the AM peak hour. All intersection movements are operating at LOS D or better. Although the southbound left-turn movement is operating at LOS D, it is experiencing long vehicle queues and taking a few signal cycles for vehicles to complete the left-turn onto SR 994 eastbound. This movement is being serviced with a single left-turn lane under protected/permitted phasing. During the PM peak hour, the intersection operation at SW 137th Avenue degrades to LOS C due to the high volume (489 vehicles) of southbound left-turning traffic onto SR 994 eastbound. The southbound left-turn movement is operating at LOS F and over capacity. The assigned green time for this movement is not sufficient to clear the long vehicle queues. All other movements at this intersection are operating at LOS C or better during the PM peak hour.

Signalized Intersection of SW 127th Avenue:

During both the AM and PM hours, the four-legged intersection of SW 127th Avenue is operating at LOS D, as presented in **Table 6**. Most intersection movements are also being serviced at LOS D, except:

- Northbound approach for the AM and PM hours at LOS E or worse.
- Southbound through movement for the PM peak hour at LOS E.

The northbound approach experiences significant queues due to the high volume (315 vehicles) of right turns during the AM peak hour. A single northbound lane services the northbound approach with no exclusive right-turn lane. It takes several signal cycles for a vehicle joining the back of queue to clear the intersection. Although the right-turn volume decreases during the PM peak hour, the northbound through movement is being serviced at LOS E due to the single lane operation and signal progression priority of SR 994 over SW 127th Avenue. Approximately 14% more of the signal cycle is assigned to east/west over north/south. The southbound through movement experiences an increase in delay due to the slightly higher volume during the PM peak hour when compared to the earlier period.

Stop-Controlled Intersection of SW 134th Avenue:

Although the intersection of SW 134th Avenue is stop controlled for north/south, the operational results are presented separately from the rest of the stop-controlled intersections due to being upgraded to signal control in the future analysis as discussed later in this report. As presented in **Table 6**, the through movements on SR 994 are free and not under traffic control. The eastbound and westbound left-turn volumes are low and would block the single through lanes on SR 994 when turning left due to the lack of exclusive left-turn lanes. Based on the HCM methodology, the eastbound and westbound left-turns are serviced at LOS B or better. The critical movements are the northbound and southbound single lane approaches operating at LOS F with excessive delay, except for southbound during the PM peak hour.

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Table 6. Existing Operational Results AM & PM for SW 137th, 134th & 127th Avenues

AM PEAK HOUR
SR 994/QUAIL ROOST DR AT SW 137 AVE (SIGNAL CONTROL)
EXISTING

Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Queue (ft)	v/c	LOS
EBLT	67	*	*	*	*	*
EBT	386	14.6	1.8	383	0.61	B
EBRT	N/A	N/A	N/A	N/A	N/A	N/A
WBLT	N/A	N/A	N/A	N/A	N/A	N/A
WBT	396	13.4	1.5	287	0.45	B
WBRT	500	13.5	1.9	135	0.45	B
NBLT	N/A	N/A	N/A	N/A	N/A	N/A
NBT	N/A	N/A	N/A	N/A	N/A	N/A
NBRT	N/A	N/A	N/A	N/A	N/A	N/A
SBLT	339	40.9	3.9	343	0.80	D
SBT	N/A	N/A	N/A	N/A	N/A	N/A
SBRT	36	24.7	0.2	<25	0.03	C
Int	**1724**	**19.4**	**9.3**			**B**

AM PEAK HOUR
SR 994/QUAIL ROOST DR AT SW 134 AVE (STOP CONTROL)
EXISTING

Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS
EBLT	15	10.9	0.0	<25	0.03	B
EBT	650	0.2	0.0	N/A	N/A	N/A
EBRT	111	0.2	0.0	N/A	N/A	N/A
WBLT	57	9.2	0.1	<25	0.07	A
WBT	796	0.5	0.1	N/A	N/A	N/A
WBRT	108	*	*	*	*	*
NBLT	99	*	*	*	*	*
NBT	36	208.0	9.6	350	0.90	F
NBRT	32	*	*	*	*	*
SBLT	46	*	*	*	*	F
SBT	42	87.4	2.2	380	0.65	F
SBRT	3	*	*	*	*	F
Int	**1995**	**N/A**	**12.2**			****F**

AM PEAK HOUR
SR 994/QUAIL ROOST DR AT SW 127 AVE (SIGNAL CONTROL)
EXISTING

Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS
EBLT	134	25.9	1.0	123	0.36	C
EBT	891	44.3	11.5	564	0.69	D
EBRT	47	*	*	*	*	*
WBLT	174	33.9	1.6	189	0.65	C
WBT	526	32.3	4.7	278	0.36	C
WBRT	146	25.2	1.0	39	0.20	C
NBLT	192	39.9	2.1	196	0.53	D
NBT	197	107.4	15.3	762	1.04	F
NBRT	315	*	*	*	*	*
SBLT	93	50.2	1.3	101	0.71	D
SBT	182	48.4	3.1	276	0.47	D
SBRT	46	*	*	*	*	*
Int	**2943**	**50.9**	**41.7**			**D**

PM PEAK HOUR
SR 994/QUAIL ROOST DR AT SW 137 AVE (SIGNAL CONTROL)
EXISTING

Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS
EBLT	41	*	*	*	*	*
EBT	402	13.9	1.7	263	0.48	B
EBRT	N/A	N/A	N/A	N/A	N/A	N/A
WBLT	N/A	N/A	N/A	N/A	N/A	N/A
WBT	373	14.4	1.5	218	0.43	B
WBRT	355	12.2	1.2	44	0.26	B
NBLT	N/A	N/A	N/A	N/A	N/A	N/A
NBT	N/A	N/A	N/A	N/A	N/A	N/A
NBRT	N/A	N/A	N/A	N/A	N/A	N/A
SBLT	489	81.2	11.0	589	1.01	F
SBT	N/A	N/A	N/A	N/A	N/A	N/A
SBRT	40	26.8	0.3	<25	0.03	C
Int	**1700**	**33.3**	**15.7**			**C**

PM PEAK HOUR
SR 994/QUAIL ROOST DR AT SW 134 AVE (STOP CONTROL)
EXISTING

Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS
EBLT	0	0.0	0.0	N/A	N/A	N/A
EBT	648	0.0	0.0	N/A	N/A	N/A
EBRT	210	0.0	0.0	N/A	N/A	N/A
WBLT	65	9.9	0.2	<25	0.10	A
WBT	632	0.9	0.2	N/A	N/A	N/A
WBRT	18	*	*	*	*	*
NBLT	103	*	*	*	*	F
NBT	24	183.6	8.5	320	0.80	F
NBRT	40	*	*	*	*	F
SBLT	31	*	*	*	*	D
SBT	23	54.3	0.8	250	0.60	D
SBRT	2	*	*	*	*	D
Int	**1796**	**N/A**	**9.7**			****F**

PM PEAK HOUR
SR 994/QUAIL ROOST DR AT SW 127 AVE (SIGNAL CONTROL)
EXISTING

Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS
EBLT	49	24.7	0.3	52	0.15	C
EBT	630	37.5	7.5	413	0.58	D
EBRT	89	*	*	*	*	*
WBLT	246	30.2	2.1	233	0.75	C
WBT	565	27.2	4.3	292	0.38	C
WBRT	97	17.2	0.5	32	0.06	B
NBLT	147	51.2	2.1	157	0.74	D
NBT	198	72.6	7.4	468	0.88	E
NBRT	169	*	*	*	*	*
SBLT	131	49.5	1.8	140	0.70	D
SBT	284	69.2	6.7	458	0.85	E
SBRT	65	*	*	*	*	*
Int	**2670**	**44.0**	**32.6**			**D**

Notes: The following Measures of Effectiveness (MOEs) were generated based on the HCM 6th Edition (except for SW 137th Avenue, HCM 2000 was used). "v/c" indicates volume over capacity; values greater than 1 indicates over capacity. "*" indicates movement is shared. "**" LOS estimated per side street traffic operation, since no intersection delay is computed by the traffic analysis software due to main road being free flow. "N/A" indicates movement does not exist or results are not calculated by Synchro. LOS E and F are highlighted in orange and red, respectively. Although SW 134th Avenue is not signalized, it is presented together with SW 137th Avenue and SW 127 Avenue since it would be under signal control in 2025. All other stop-controlled intersections are presented in the next table.

Stop-Controlled Intersections:

The critical movements at the stop-controlled intersections within the study limits include making a left-turn from the side street or mainline SR 994. **Table 7** presents a summary of the average vehicular delay, 95th percentile queue length, and level of service per movement at each intersection.

During the AM peak hour, the noticeable movements operating at LOS F include the southbound left-turn at SW 130th Avenue with a queue of 132 feet and the northbound left-turns at SW 132nd Avenue and SW 133rd Avenue with 308 feet and 264 feet of queue, respectively. Although there are other movements operating at LOS F during this period, these movements experience short queues.

All intersection movements at the stopped-control intersections during the PM peak hour experience short queues.

Based on a weighted average, left-turning vehicles to and from the side streets within the study corridor take approximately 1.5 minutes to execute their turn during the AM peak hour, with some locations taking longer. During the PM peak hour, this maneuver takes approximately 20 seconds on average. However, at the intersections of SW 133rd Court, SW 132nd Avenue, SW 130th Avenue, and SW 129th Avenue, the left-turning maneuver from the side street onto the SR 994 mainline takes about a minute to execute during the PM peak hour. The cumulative vehicular delay for left-turning movements at the unsignalized intersections within the study corridor is approximately 14 hours during the AM peak hour and 2 hours during the PM peak hour.

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Table 7. Existing Operational Results for Critical Movements at Unsignalized Intersections

	Intersection	Critical Movement	Volume (vph)	Avg Delay (sec/veh)	Avg Delay (veh-hr)	95th % Q (ft)	LOS
AM Peak Hour	SW 135 Ave	SBLT	11	45.1	0.14	~25 ft	E
		EBLT	0	0.0	0.00	~25 ft	A
	SW 134 Ct	SBLT	3	38.2	0.03	~25 ft	E
		EBLT	0	0.0	0.00	~25 ft	A
	SW 133 Ct	SBLT	4	33.7	0.04	~25 ft	D
		EBLT	4	10.3	0.01	~25 ft	B
	SW 133 Ave	NBLT	108	236.4	7.09	264	F
		WBLT	13	9.4	0.03	~25 ft	A
	SW 132 Pl	SBLT	58	108.3	1.74	88	F
		EBLT	21	10.0	0.06	~25 ft	A
	SW 132 Ave	NBLT	40	199.6	2.22	308	F
		WBLT	67	10.2	0.19	~25 ft	B
	SW 130 Ave	NBLT	4	325.6	0.36	~25 ft	F
		SBLT	11	109.4	0.33	132	F
		EBLT	116	11.0	0.35	~25 ft	B
		WBLT	0	0.0	0.00	~25 ft	A
	SW 129 Ave	NBLT	35	148.9	1.45	66	F
		SBLT	6	83.5	0.14	~25 ft	F
		EBLT	2	9.5	0.01	~25 ft	A
		WBLT	19	10.4	0.05	~25 ft	B
		Total	**522**	**98.3**	**14.25**	**N/A**	**N/A**

	Intersection	Critical Movement	Volume (vph)	Avg Delay (sec/veh)	Avg Delay (veh-hr)	95th % Q (ft)	LOS
PM Peak Hour	SW 135 Ave	SBLT	7	32.0	0.06	~25 ft	D
		EBLT	1	9.2	0.00	~25 ft	A
	SW 134 Ct	SBLT	2	38.7	0.02	~25 ft	E
		EBLT	0	0.0	0.00	~25 ft	A
	SW 133 Ct	SBLT	6	52.3	0.09	~25 ft	F
		EBLT	6	10.2	0.02	~25 ft	B
	SW 133 Ave	NBLT	20	33.7	0.19	~25 ft	D
		WBLT	30	9.5	0.08	~25 ft	A
	SW 132 Pl	SBLT	19	34.5	0.18	~25 ft	D
		EBLT	0	0.0	0.00	~25 ft	A
	SW 132 Ave	NBLT	25	69.7	0.48	88	F
		WBLT	174	10.6	0.51	~25 ft	B
	SW 130 Ave	NBLT	1	47.9	0.01	~25 ft	E
		SBLT	10	34.5	0.10	44	D
		EBLT	42	10.3	0.12	~25 ft	B
		WBLT	0	0.0	0.00	~25 ft	A
	SW 129 Ave	NBLT	8	65.4	0.15	~25 ft	F
		SBLT	4	46.1	0.05	~25 ft	E
		EBLT	1	9.7	0.00	~25 ft	A
		WBLT	22	9.3	0.06	~25 ft	A
		Total	**378**	**20.2**	**2.12**	**N/A**	**N/A**

Notes: LOS E and F are highlighted in orange and red, respectively.

3.7.3 Safety Analysis

The crash data for the five most recent and official years (from January 1, 2014 to December 31, 2018) at the time when the scope of services for this study was developed was downloaded from the FDOT's Crash Analysis Reporting (CAR) Online for SR 994/SW 200th Street/Quail Roost Drive (87091000) from 400 feet west of SW 137th Avenue (MP 4.000) to 645 feet east of SW 127 Avenue (MP 5.212).

The police reports for all crashes were downloaded from CAR Online to verify the crash location and update the crash data information such as crash type. Based on the crash data and police reports, crash summaries and collision diagrams were developed for the five-year study period. The crash summaries and CAR Online data for the overall study corridor, and each study intersection, are included in **Appendix E**. The collision diagrams developed are presented as **Figures 12** through **20** (at the end of this section). The overall statistics are presented first, followed by the main findings.

In addition, Signal Four Analytics was used as a supplemental source for the same five-year study period of 2014 to 2018. Signal Four Analytics is "an interactive, web-based system designed to support the crash mapping and analysis needs of the law enforcement, traffic engineering, transportation planning agencies, and research institutions in the state of Florida." The main intent for this supplemental review was to identify any additional crashes along the study corridor. Crashes that were pulled from Signal Four Analytics were compared with crashes from CAR Online and duplicates were removed. In addition, a review of the crash data from Signal Four Analytics was also conducted from January 2019 to September 15, 2021 (latest data available at the time of query), to determine whether the type of crashes identified during the 2014 to 2018 study period are prevalent in the later years and if there have been any crashes resulting in severe injury.

FDOT CAR Online *(2014 to 2018)*

Based on the crash data reviewed, a total of 390 crashes were documented along the study corridor during the referenced five-year period with 58 crashes in 2014, 67 crashes in 2015, 80 crashes in 2016, 88 crashes in 2017 and 97 crashes in 2018, as presented in **Table 8**.

- **Leading Crash Types**: The top four leading crash types along the study corridor were Rear-End with 187 crashes (48%), Angle with 77 crashes (20%), Sideswipe with 43 crashes (11%), and Left-Turn with 40 crashes (10%).

Table 8. FDOT Crash Summary (2014 to 2018) for Study Corridor

Segment/Spot with No Expected Values Available		Number of Crashes					5 Year Total Crashes	Mean Crashes Per Year	%
		Year							
		2014	2015	2016	2017	2018			
CRASH TYPE	Rear End	27	33	38	48	41	187	37.40	47.9%
	Head On	1	1	1	0	2	5	1.00	1.3%
	Angle	10	9	21	22	15	77	15.40	19.7%
	Left Turn	8	7	9	6	10	40	8.00	10.3%
	Right Turn	3	1	1	3	4	12	2.40	3.1%
	Sideswipe	6	8	7	5	17	43	8.60	11.0%
	Backed Into	0	0	0	0	0	0	0.00	0.0%
	Pedestrian	0	0	0	0	1	1	0.20	0.3%
	Bicycle	0	0	0	1	0	1	0.20	0.3%
	Fixed Object	1	6	3	3	5	18	3.60	4.6%
	Other Non-Collisions	1	1	0	0	0	2	0.40	0.5%
	Overturn/Rollover	0	0	0	0	0	0	0.00	0.0%
	Others	1	1	0	0	2	4	0.80	1.0%
	Total Crashes	**58**	**67**	**80**	**88**	**97**	**390**	**78.00**	**100.0%**
SEVERITY	PDO Crashes	35	48	55	54	62	254	50.80	65.1%
	Fatal Crashes	0	0	1	0	0	1	0.20	0.3%
	Injury Crashes	23	19	24	34	35	135	27.00	34.6%
LIGHTING CONDITIONS	Daylight	36	51	65	58	70	280	56.00	71.8%
	Dusk	0	1	0	4	3	8	1.60	2.1%
	Dawn	0	0	1	1	0	2	0.40	0.5%
	Dark	21	15	14	25	23	98	19.60	25.1%
	Unknown	1	0	0	0	1	2	0.40	0.5%
SURFACE CONDITIONS	Dry	44	52	67	78	80	321	64.20	82.3%
	Wet	13	15	13	10	16	67	13.40	17.2%
	Others	1	0	0	0	1	2	0.40	0.5%

- **Pedestrian & Bicycle Crashes**: There was 1 pedestrian crash and 1 bicycle crash documented during the study period. No crash pattern was identified for these crashes.
- **Nighttime and Wet Pavement**: Nighttime and wet/slippery pavement crashes are above the 2014-2018 Districtwide averages: 108 nighttime crashes (28%) reported, which is just below the FDOT District Six's average of 29%; 67 (17%) of the total crashes reported occurred under wet/slippery pavement conditions, which is above the FDOT District Six's average of 12%.
- **Crash Severity**: Based on crash severity, 65% (254 crashes) of all crashes resulted in property damage only crashes, 35% (135 crashes) in injury crashes, and <1% (1 crash) in a fatal crash. The fatal collision was a westbound left-turn crash that occurred at SW 132nd Avenue on Sunday, March 20, 2016, at 8:40 PM during wet pavement conditions. The crash resulted from the westbound left-turning vehicle failing to yield the right-of-way

to oncoming eastbound traffic.

- **Peak Crash Period**: Most crashes, 102 of the 390 crashes (26%), occurred between 6 PM and midnight. This is followed by the peak crash periods of 3:00 PM to 6:00 PM with 91 (23%) crashes and 6:00 AM to 9:00 AM with 85 (22%) crashes which coincide with the traffic s of the study corridor.
- **High Crash Location(s)**: A confidence level analysis was performed for the study corridor that indicates that the frequency of crashes was not abnormally high for the study period. According to the Highway Safety Improvement Program (HSIP), urban locations with a confidence level of 99.95% or higher can be considered to have an abnormally high number of crashes. The study corridor's confidence levels were calculated at 80% or less for each year of analysis. In addition, the Department's high crash lists for segments and intersections were reviewed for the crash period. The following intersections and segments are considered a high crash location:
    - Intersection SW 137th Avenue: MP 4.06 to MP 4.10,
    - Intersection SW 134th Avenue: MP 4.30 to MP 4.36,
    - Intersection SW 132nd Avenue: MP 4.58 to MP 4.59,
    - Intersection SW 127th Avenue: MP 5.05 to MP 5.10,
    - Segment from SW 137th Avenue to east of SW 129th Avenue: MP 4.075 to 4.961.

Signal Four Analytics (2014 to 2021)

Signal Four Analytics identified 97 additional crashes for the study corridor from January 1, 2014, to December 31, 2018, which corresponds to the same crash period used for FDOT CAR Online. These 97 crashes were not reported by FDOT CAR Online. The leading crash type of rear-end collisions presented by Signal Four for 2014-2018 coincides with the FDOT CAR Online findings. For the period from 2019 to 2021 (up to September 15), Signal Four documented 99 crashes in 2019, 71 crashes in 2020 and 55 crashes in 2021 as presented in **Table 9** The main findings as discussed below also mostly coincide with the FDOT CAR Online crash data findings from 2014 to 2018.

- **Leading Crash Types**: The top four leading crash types along the study corridor based on Signal Four (2019 to September 15, 2021) were Rear-End with 91 crashes (40%), Left-Turn with 50 crashes (22%), Sideswipe with 22 crashes (10%) and Other with 33 crashes (28%).
- **Pedestrian & Bicycle Crashes**: There was 1 bicycle crash documented during the three-

year study period.

- **Nighttime and Wet Pavement**: There were 56 (25%) night/dusk/dawn crashes reported during the three-year study period and 27 (12%) crashes reported to have occurred under wet/slippery pavement conditions. Nighttime crashes are lower that the FDOT District Six's average of 28%, however wet pavement crashes do meet the FDOT District Six's average of 12%.
- **Crash Severity**: Based on crash severity, 74% (167 crashes) of all crashes resulted in property damage only crashes, 25% (57 crashes) in injury crashes, and <1% (1 crash) in a fatal crash.
- **Peak Crash Period:** Most crashes occurred between 3:00 PM and midnight.

Table 9. Signal Four Crash Summary (2014 to Sept. 15, 2021) for Study Corridor

Segment/Spot with No Expected Values Available		Number of Crashes							
		Year							
		2014	2015	2016	2017	2018	2019	2020	2021
CRASH TYPE	Rear End	3	7	11	4	9	43	27	21
	Head On	0	1	0	0	0	1	1	1
	Angle	0	0	1	0	2	7	7	5
	Left Turn	1	1	5	4	7	22	15	13
	Right Turn	0	0	1	1	2	2	1	3
	Sideswipe	1	3	3	2	3	12	8	2
	Backed Into	0	0	0	0	0	0	0	0
	Pedestrian	0	1	0	0	0	0	0	0
	Bicycle	0	0	0	0	0	1	0	0
	Fixed Object	0	0	0	0	0	0	0	0
	Others	3	8	4	6	3	11	12	10
	Total Crashes	**8**	**21**	**25**	**17**	**26**	**99**	**71**	**55**
SEVERITY	PDO Crashes	6	18	25	17	25	73	50	44
	Fatal Crashes	0	0	0	0	0	1	0	0
	Injury Crashes	2	3	0	0	1	25	21	11
LIGHTING	Daylight	4	19	17	12	24	80	48	41
	Dark	4	2	8	5	2	19	23	14
	Unknown	0	0	0	0	0	0	0	0
SURFACE CONDITIONS	Dry	7	16	18	15	23	89	62	47
	Wet	0	4	7	2	3	10	9	8
	Others	1	1	0	0	0	0	0	0

Notes: Crashes presented by Signal Four from 2014 to 2018 correspond to additional crashes not reported by FDOT CAR Online data for the same study period. These are not total crashes documented by Signal Four for those years. However, crashes presented by Signal Four from 2019 to 2021 (up to September 15) are total crashes for those years.

Main Findings:

Based on the crash data and collision diagrams analyses, the following is stated:

- Most of the crashes along the study corridor occurred within the influence area of SW 127th Avenue with 142 crashes (36%), followed by SW 134th Avenue with 74 crashes (19%), and SW 137th Avenue with 62 crashes (16%).
- Except for SW 134th Avenue (where angle crashes are predominant), rear-end crashes are the leading crash type for all the study intersections along the study corridor. This pattern is primarily attributed to congestion/lack of capacity and lack of turning lanes. These crashes are mainly documented along SR 994, except at SW 127th Avenue where they are also present along the northbound and southbound intersection approaches.
- Based on the Expected Values Analysis (EVA) conducted for the intersection of SR 994 at SW 127 Avenue, the following crash types and conditions were considered abnormally high:

  At 90th Percentile
  - Wet surface conditions

  At 95th Percentile
  - Left-turn crashes
  - Sideswipe crashes
  - Injury crashes
  - Dark lighting conditions
  - Time periods of 6:00 AM to 9:00 AM and 6:00 PM to midnight

  Note: *No EVA analysis was conducted for the other main intersections of SW 137th Avenue and SW 134th Avenue since these values are not available for these types of intersections.*
- The following crash patterns were identified at the main and minor study intersections:
  - SW 137th Avenue: Rear-End crashes at the eastbound approach with 29 crashes (59% resulting in property damage only). Main probable cause is the lack of an eastbound left-turn lane.
  - SW 134th Avenue: Rear-End crashes at the eastbound, westbound, and northbound approaches with 7, 12, and 6 crashes, respectively (60% resulting in property damage only). Angle crashes between the northbound approach and the eastbound and westbound approaches with 16 and 10 crashes, respectively (65% resulting in property damage only). Main probable causes are lack of left-turn lanes on SR 994 and lack of available gaps for northbound traffic to proceed through the intersection.

- SW 132 Avenue: Rear-End crashes at the westbound approach with 27 crashes (34% resulting in property damage only). Main probable cause is the lack of a westbound left-turn lane.
- SW 130 Avenue: Rear-End crashes at the eastbound approach with 10 crashes (60% resulting in property damage only). Main probable cause is the lack of an eastbound left-turn lane.
- SW 127 Avenue: Rear-End crashes at the northbound and eastbound approaches with 12 and 9 crashes, respectively (81% resulting in property damage only). Sideswipe crashes at the northbound approach with 11 crashes (82% resulting in property damage only). Left-Turn crashes at the westbound approach with 11 crashes (46% resulting in property damage only). Main probable causes are saturated traffic conditions and lack of a northbound right-turn lane.

It is worth mentioning that aside from the 2016 westbound left-turn fatal crash at SW 132nd Avenue documented by FDOT CAR Online and the 2019 angle fatal crash at SW 134th Avenue documented by Signal Four Analytics, a third fatal crash (westbound left-turn collision) has been documented by Signal Four Analysis for 2021 at SW 134th Avenue per a crash query performed on April 2024 for the study corridor. This crash had not been identified previously by Signal Four Analytics.

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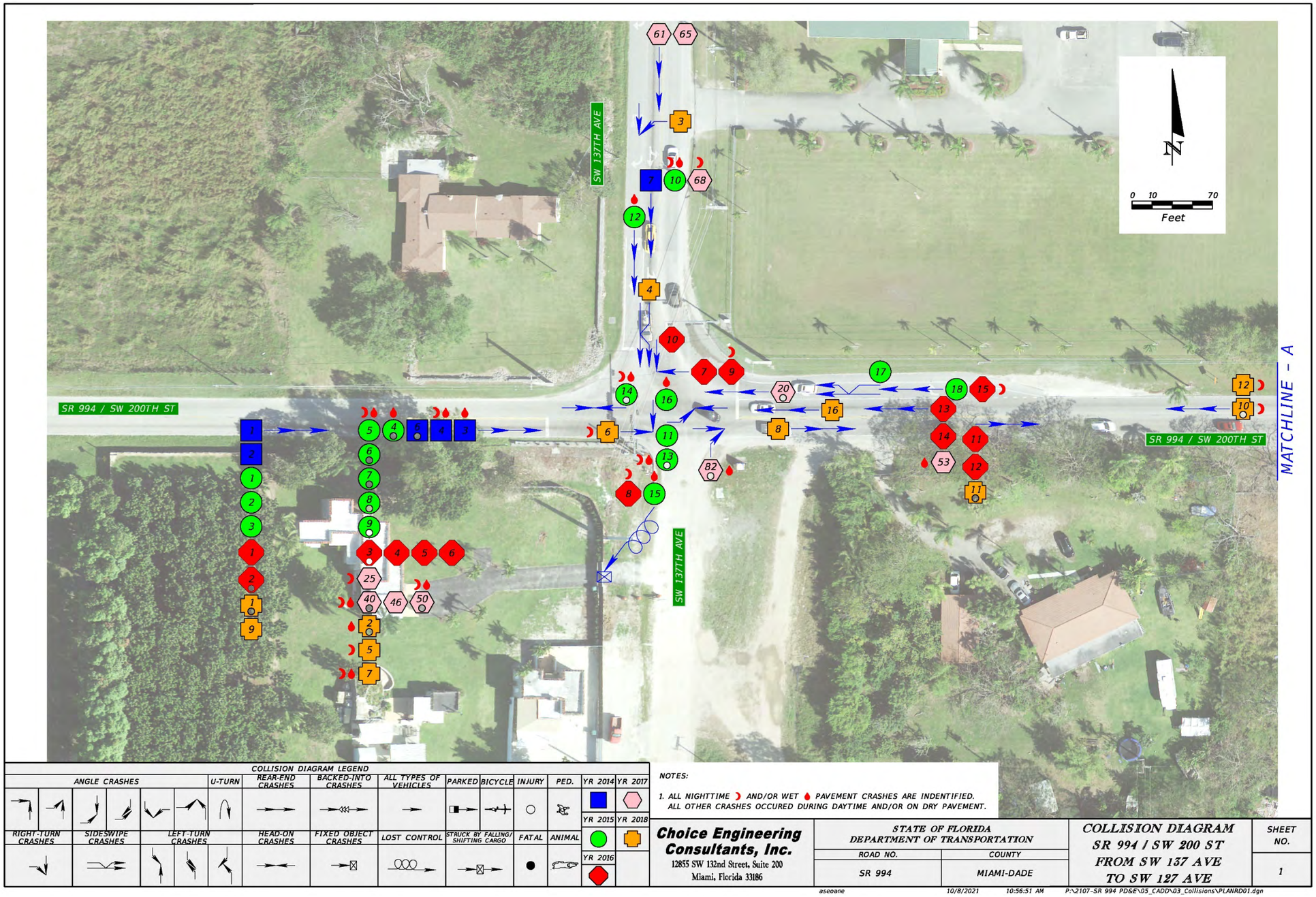


Figure 12. Collision Diagram for Study Corridor (at SW 137th Ave)

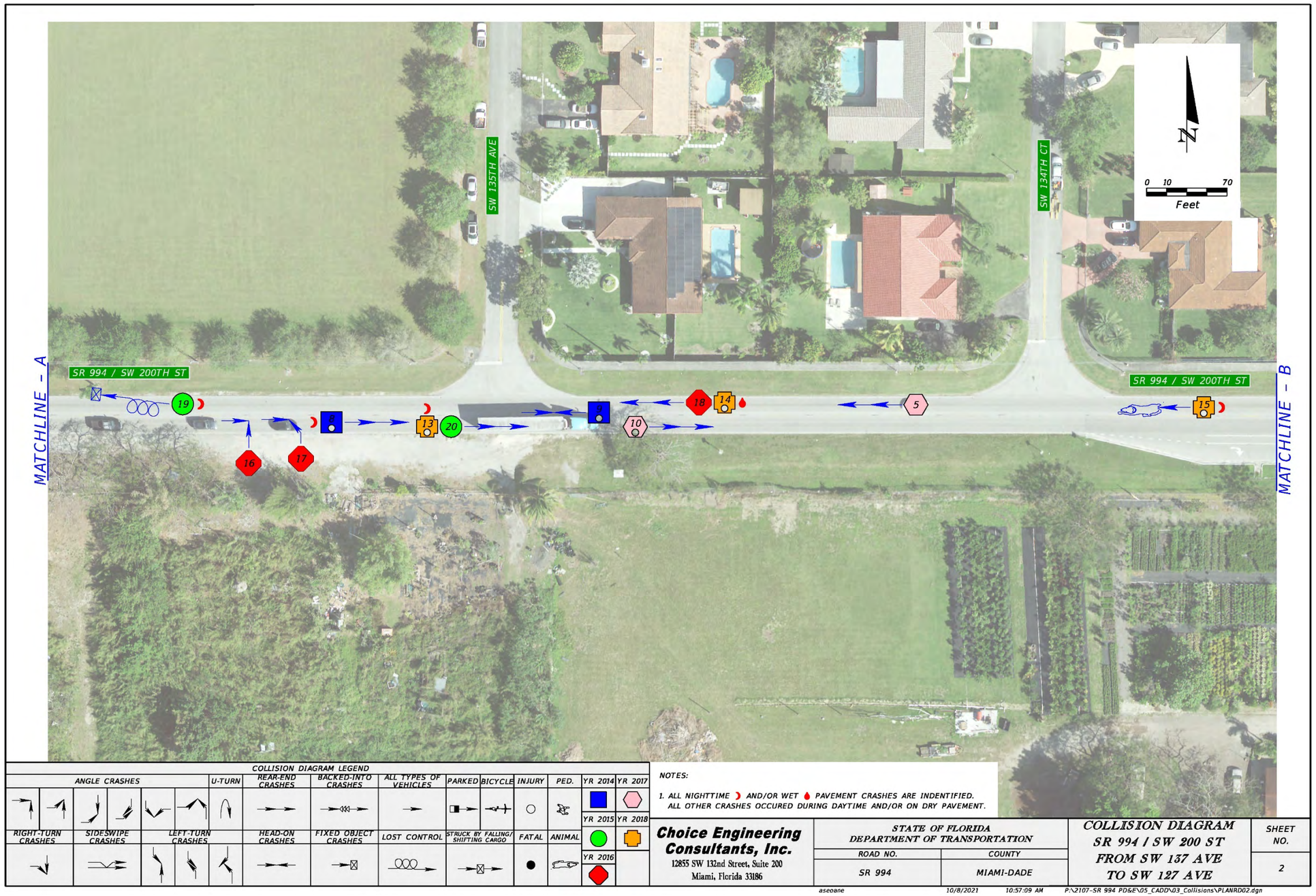


Figure 13. Collision Diagram for Study Corridor (SW 135th Ave to SW 134th Ct)

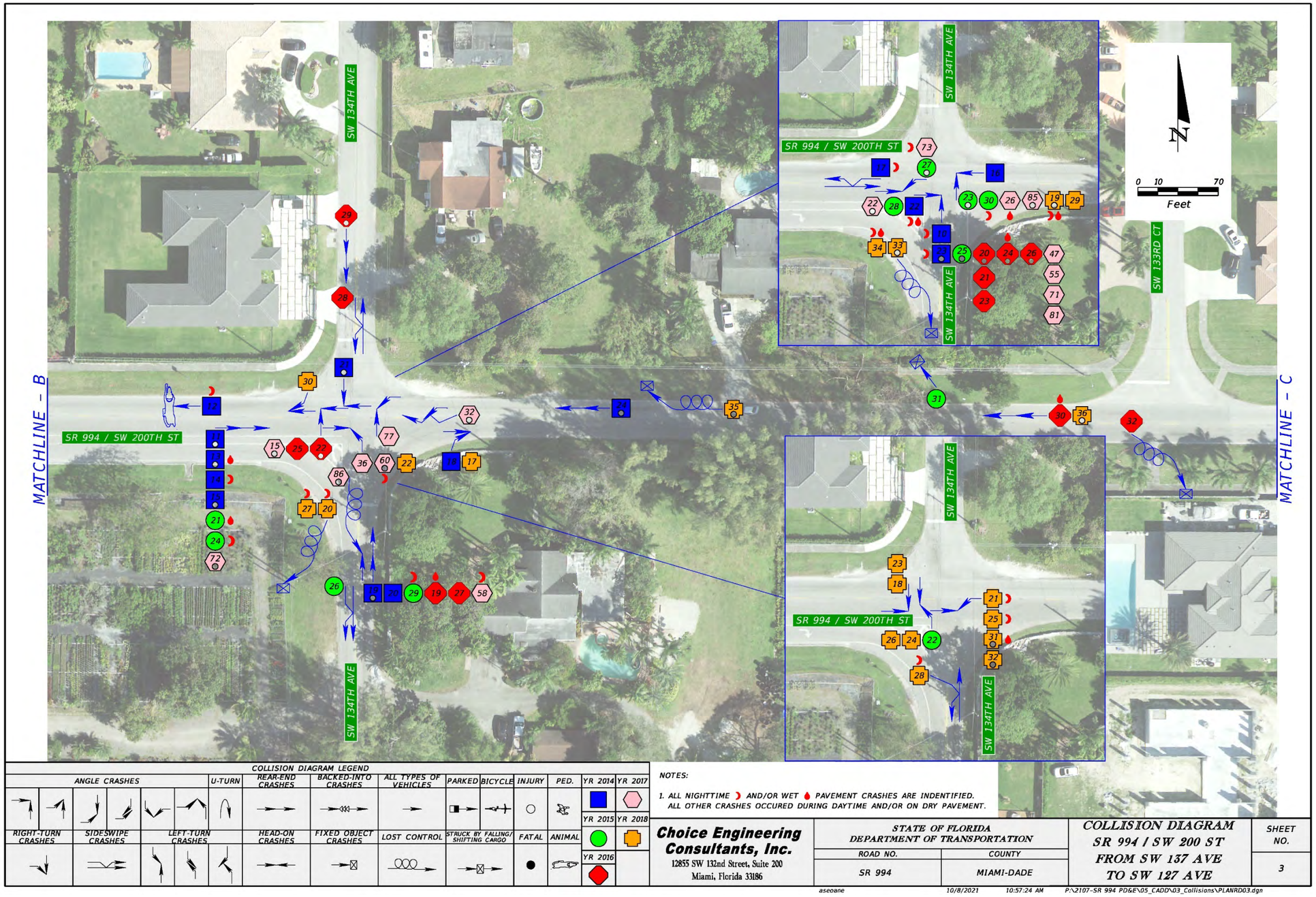


Figure 14. Collision Diagram for Study Corridor (SW 134th Ave to SW 133rd Ct)

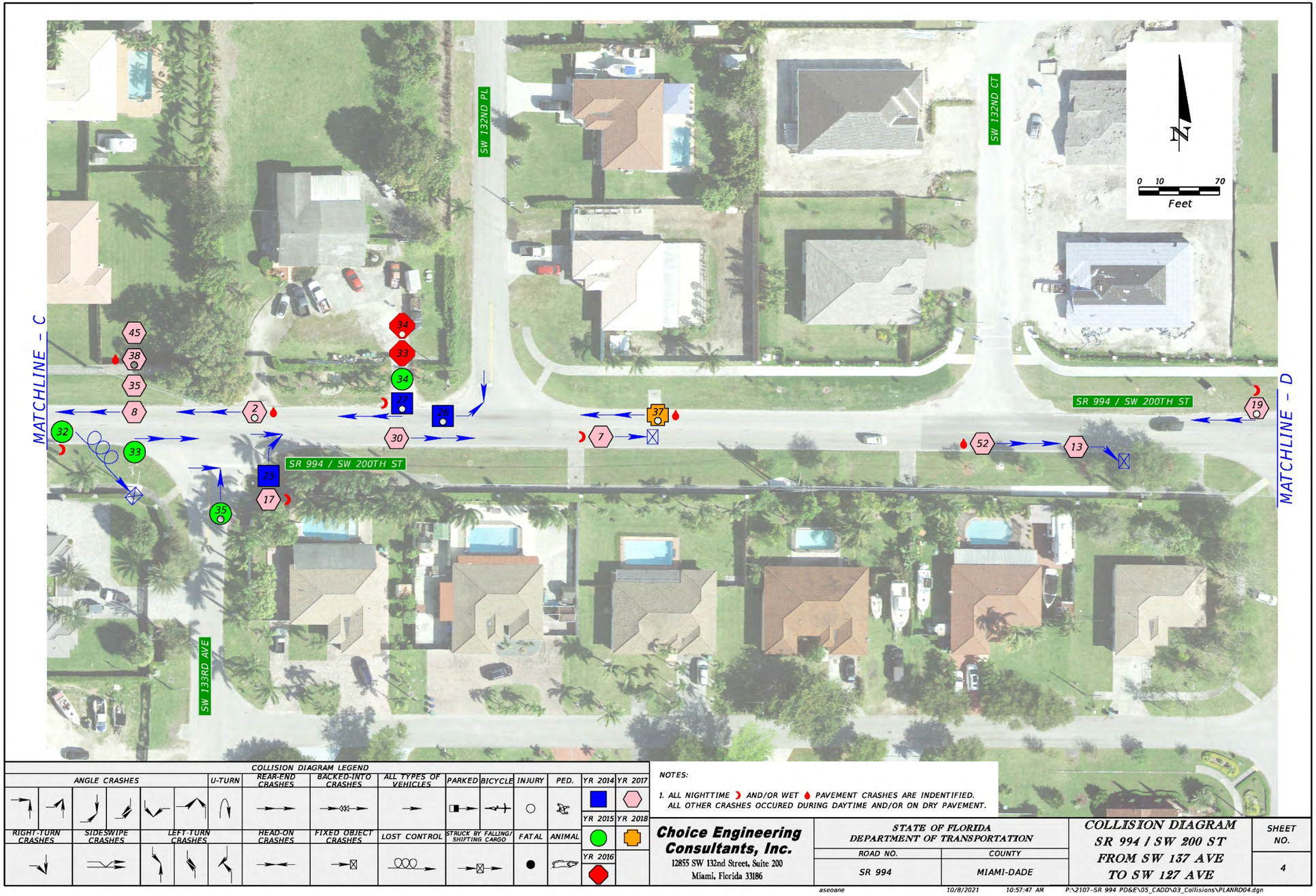


Figure 15. Collision Diagram for Study Corridor (SW 133rd Ave to SW 132nd Ct)

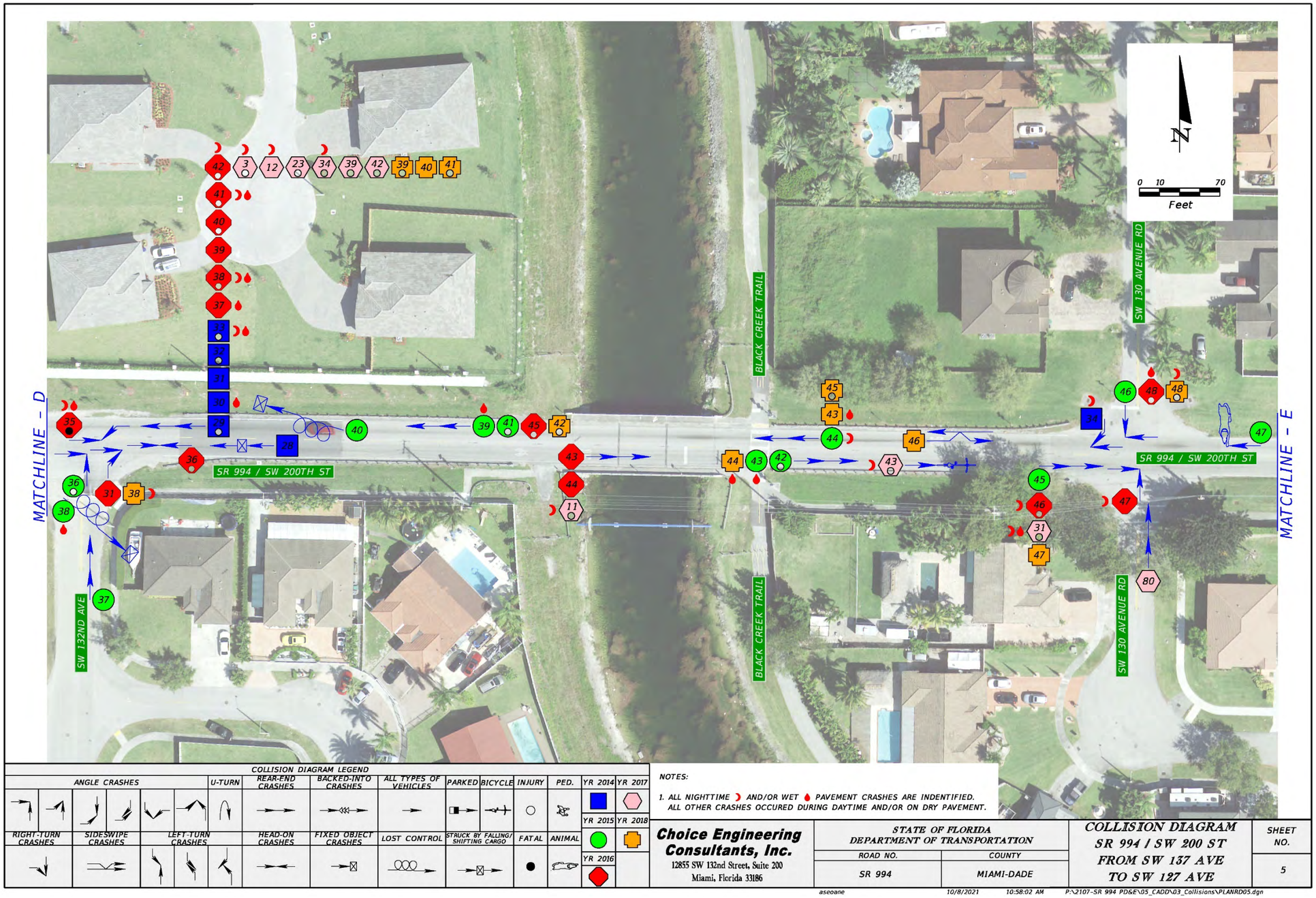


Figure 16. Collision Diagram for Study Corridor (SW 132nd Ave to SW 130th Ave)

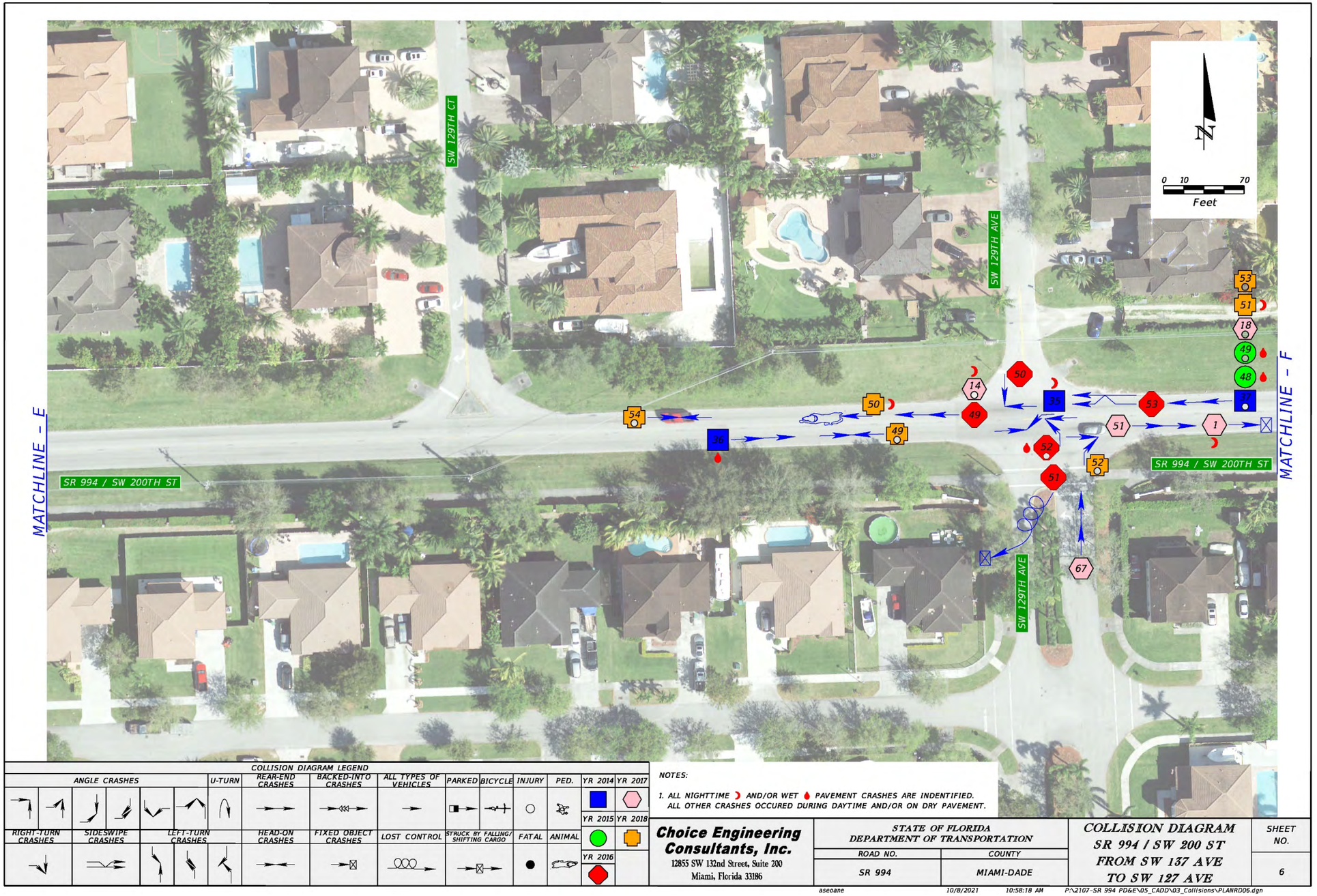


Figure 17. Collision Diagram for Study Corridor (SW 129th Ct to SW 129th Ave)

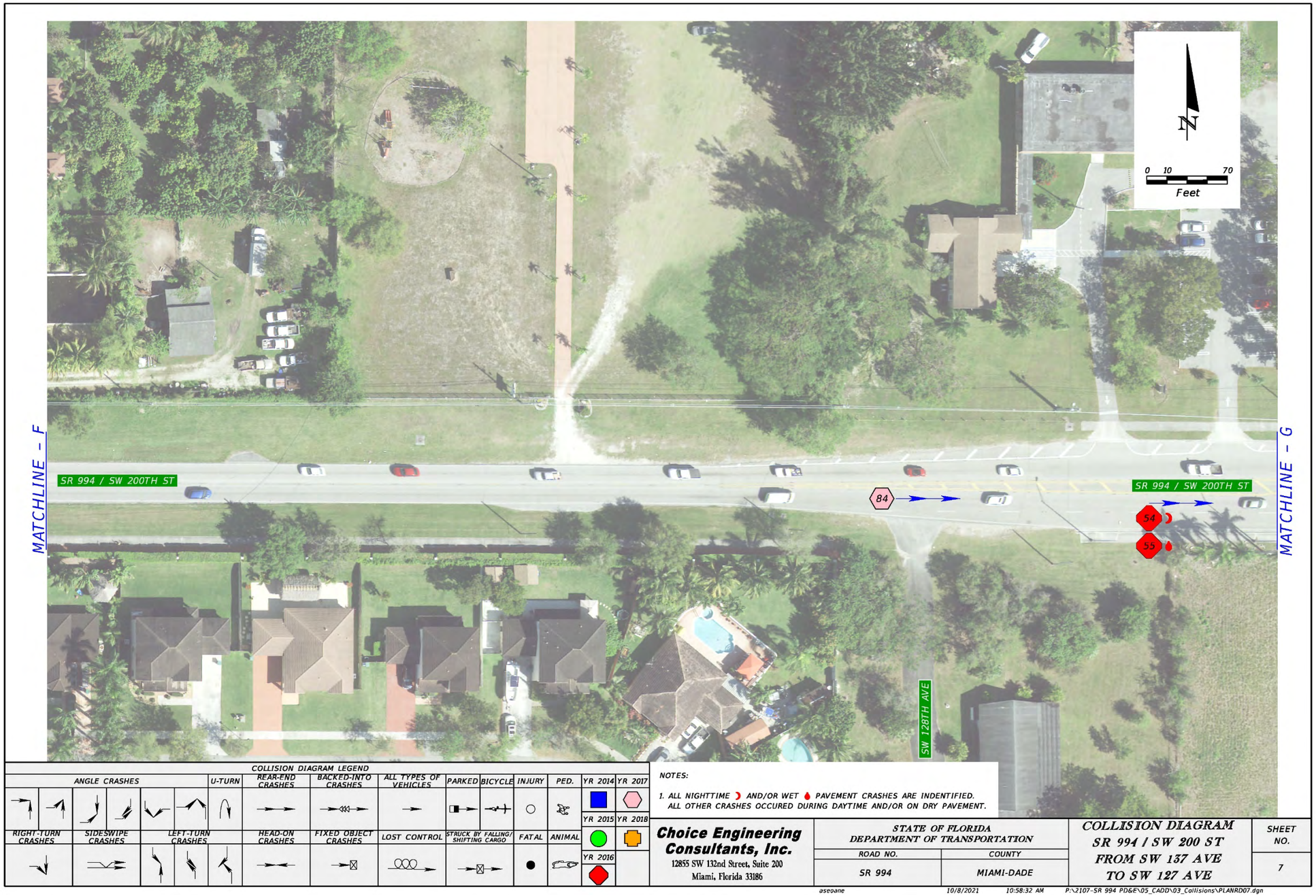


Figure 18. Collision Diagram for Study Corridor (west of SW 127th Ave)

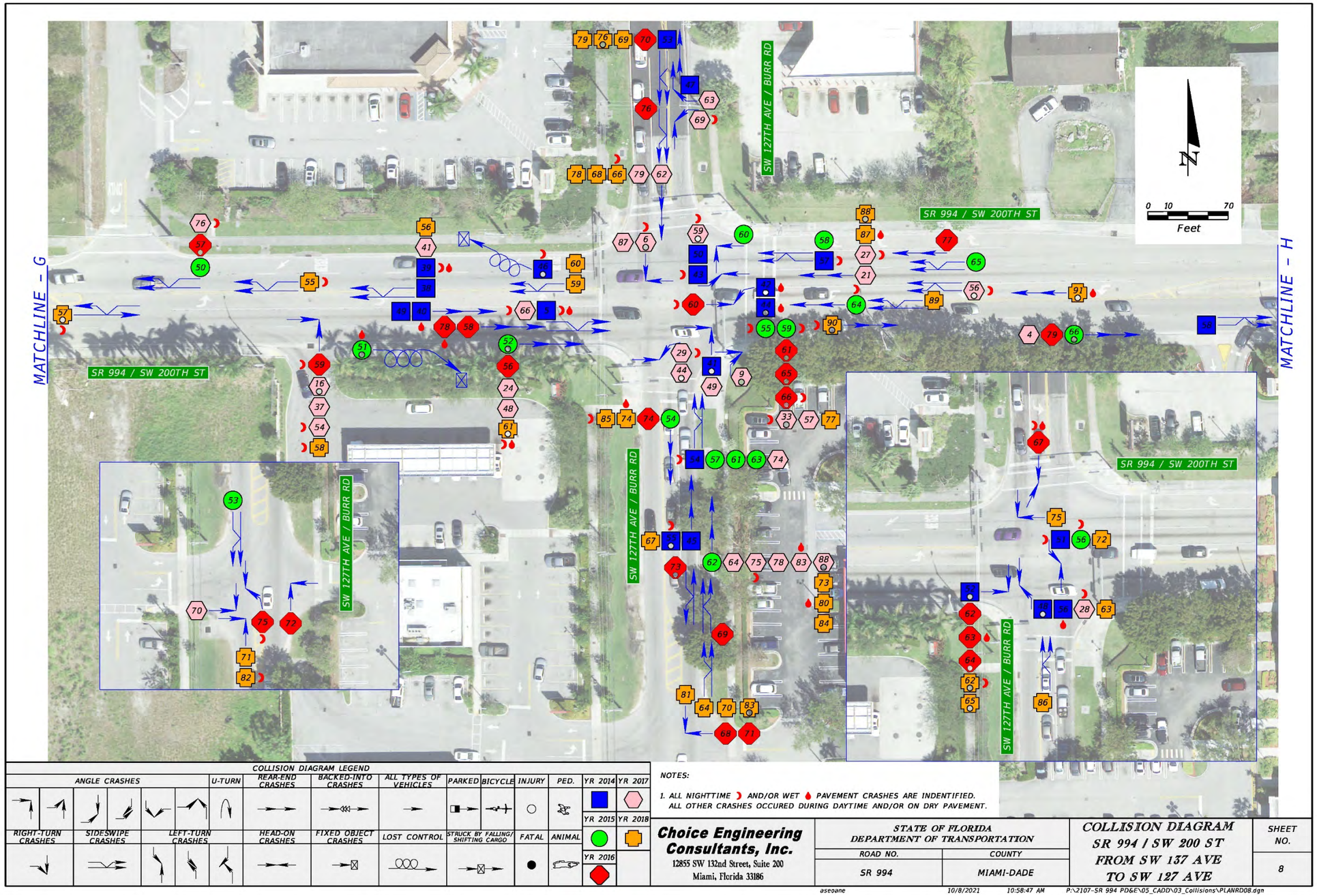


Figure 19. Collision Diagram for Study Corridor (at SW 127th Ave)

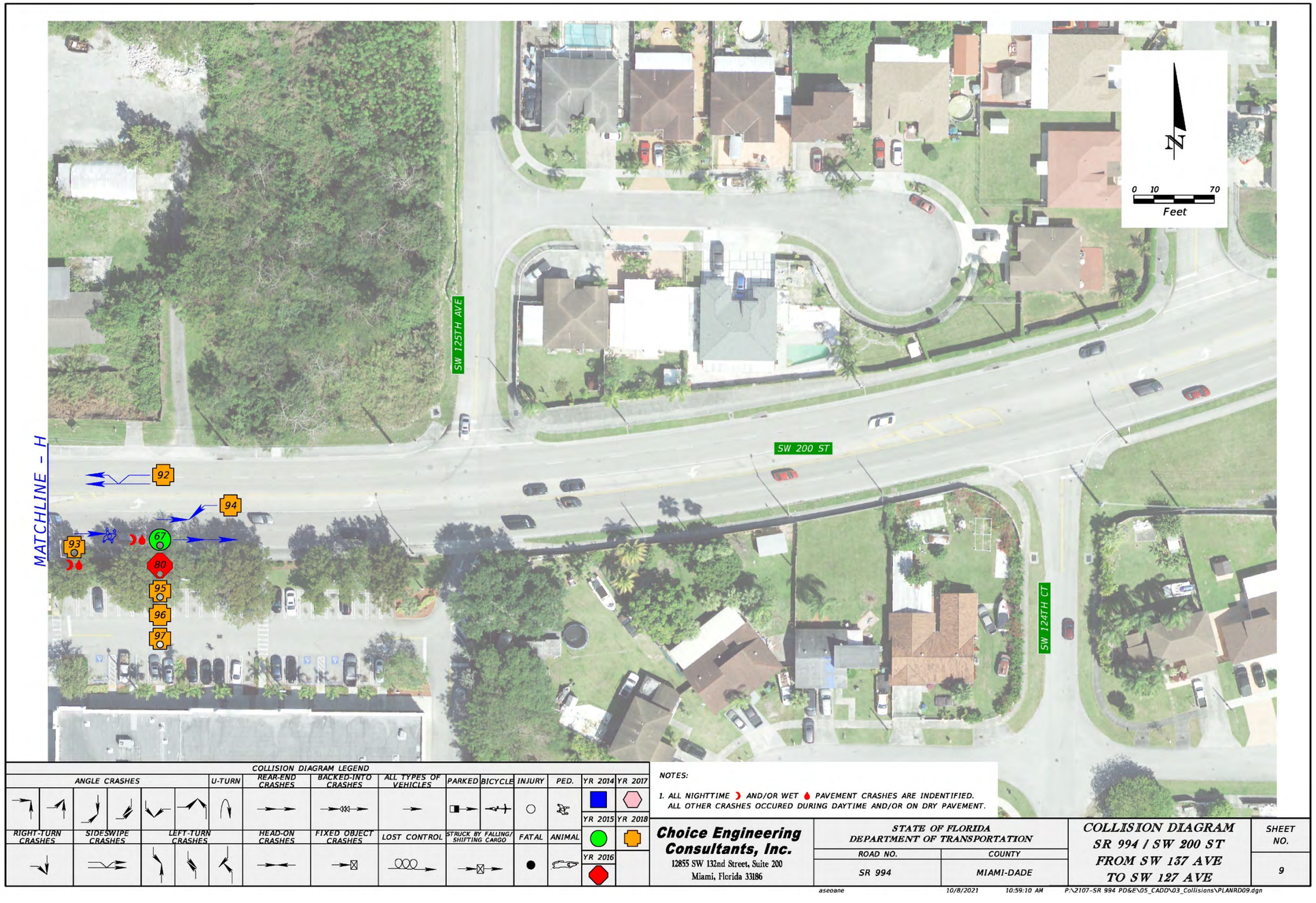


Figure 20. Collision Diagram for Study Corridor (east of SW 127th Ave)

4.0 RRFB MIDBLOCK CROSSING REVIEW

The current midblock RRFB pedestrian crossing on SR 994 east of SW 132nd Avenue was reviewed for the roadway conditions under all three build alternatives. The review was performed by following the guidelines presented in the latest edition of the FDOT's January 2023 Traffic Engineering Manual (TEM) – Chapter 5.2. According to the FDOT TEM Chapter 5.2.5.2, the following factors should be considered when evaluating a RRFB at a midblock crossing:

- Use of flashing beacons shall be limited to the roadways with the following conditions:
  - A marked special emphasis crosswalk.
  - Four (4) or fewer through lanes (both directions).
  - Posted speed limit of 35 MPH or less.
- For locations with five (5) lanes (4-through lanes with a Two-Way Left Turn Lane), a refuge island or raised median may be installed at the center of the roadway to create a two-stage crossing.
- Overhead flashing beacons and RRFB are preferred to be used for locations with four (4) lanes divided or five (5) lane roadways with a median refuge island.
- For locations that do not meet the criteria above, a variation must be submitted to the State Traffic Engineering and Operations Office for review and approval. The variation shall include the following:
  - AADT
  - Sight distance
  - Speed data
  - Supplemental information (including location description and observations)
  - Crash data

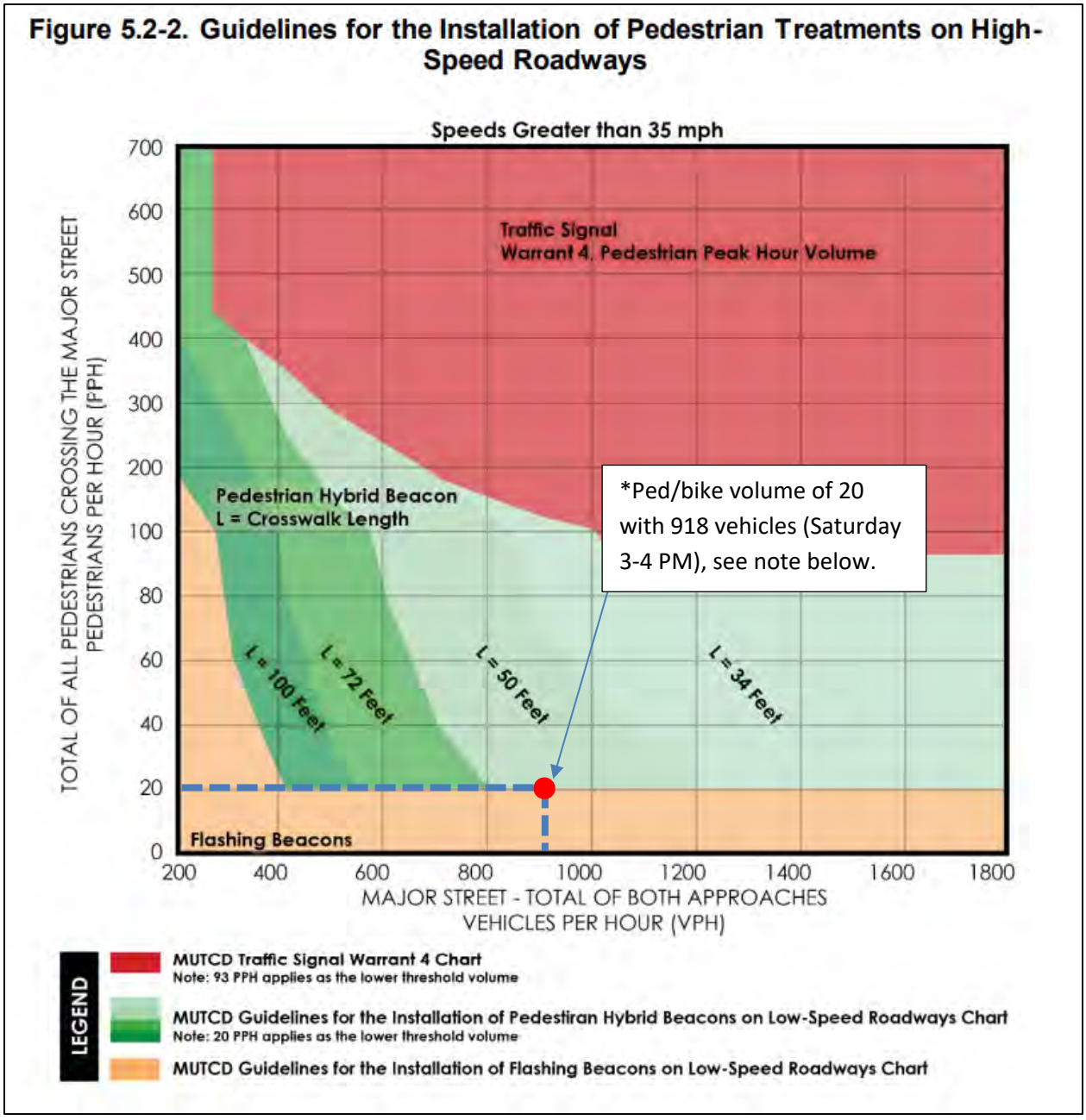
Based on the data presented in **Table 10** and guidelines in **Figure 21** (TEM Figure 5.2-2), the pedestrian midblock crossing on SR 994 east of SW 132nd Avenue concurs with the current traffic control of an RRFB per FDOT TEM criteria for an hourly pedestrian/bicyclist crossing of 20 for a Saturday period (3:00 PM to 4:00 PM). The evaluation was done using a weekday vehicular volume of 918 vehicles, since no Saturday data was collected. However, based on **Figure 22**, the vehicular criteria for a crossing of 20 includes from 200 vehicles to 1,800 vehicles, which should be within the volume range for a Saturday period on SR 994.

In conclusion, the RRFB pedestrian control is warranted based on the data collected, but it should be accompanied with following upgrades under any of the build alternatives: overhead installation with a refuge island or a raised median. This will require a traffic engineering variation per FDOT TEM Chapter 1.5 since the posted speed limit of SR 994 is 40 MPH, which exceeds the maximum allowed of 35 MPH per FDOT TEM Chapter 5.2.5.2.

Table 10: Pedestrian & Bicyclist Counts for RRFB Midblock Crossing

Period		Thursday (11/11/2021)				Saturday (11/6/2021)				SR 994 Weekday Vehicle Volume
From	To	Pedestrian	Bicyclist	Total	%	Pedestrian	Bicyclist	Total	%	
12:00 AM	1:00 AM	0	2	2	9.5%	0	0	0	0.0%	74
1:00 AM	2:00 AM	0	0	0	0.0%	0	0	0	0.0%	39
2:00 AM	3:00 AM	2	0	2	9.5%	0	0	0	0.0%	30
3:00 AM	4:00 AM	0	0	0	0.0%	0	0	0	0.0%	36
4:00 AM	5:00 AM	0	0	0	0.0%	0	0	0	0.0%	73
5:00 AM	6:00 AM	2	0	2	9.5%	0	0	0	0.0%	283
6:00 AM	7:00 AM	0	1	1	4.8%	0	2	2	1.8%	648
7:00 AM	8:00 AM	0	0	0	0.0%	2	13	15	13.5%	871
8:00 AM	9:00 AM	0	0	0	0.0%	0	1	1	0.9%	750
9:00 AM	10:00 AM	0	0	0	0.0%	1	5	6	5.4%	553
10:00 AM	11:00 AM	0	0	0	0.0%	2	8	10	9.0%	470
11:00 AM	12:00 PM	0	0	0	0.0%	1	3	4	3.6%	504
12:00 PM	1:00 PM	2	0	2	9.5%	0	8	8	7.2%	572
1:00 PM	2:00 PM	0	0	0	0.0%	2	4	6	5.4%	654
2:00 PM	3:00 PM	0	0	0	0.0%	0	2	2	1.8%	873
3:00 PM	4:00 PM	1	0	1	4.8%	3	17	20	18.0%	918
4:00 PM	5:00 PM	0	0	0	0.0%	1	9	10	9.0%	853
5:00 PM	6:00 PM	1	1	2	9.5%	0	8	8	7.2%	818
6:00 PM	7:00 PM	3	4	7	33.3%	1	9	10	9.0%	870
7:00 PM	8:00 PM	0	0	0	0.0%	0	9	9	8.1%	637
8:00 PM	9:00 PM	0	2	2	9.5%	0	0	0	0.0%	443
9:00 PM	10:00 PM	0	0	0	0.0%	0	0	0	0.0%	361
10:00 PM	11:00 PM	0	0	0	0.0%	0	0	0	0.0%	220
11:00 PM	12:00 AM	0	0	0	0.0%	0	0	0	0.0%	134
Total		***11***	***10***	***21***	***100.0%***	***13***	***98***	***111***	***100.0%***	***11684***

Note: The pedestrian and bicycle counts were conducted on Thursday, November 11, 2021, and Saturday November 6, 2021. The colors shown by the totals correspond to crossing frequencies with red being the highest and blue the lowest. The total pedestrian and bicyclist volumes observed were significantly higher on Saturday than on Thursday, with most of the activity consisting of bicyclists. On Saturday, the highest pedestrian and bicyclist volumes were observed from 7:00 AM to 8:00 AM and 3:00 PM to 4:00 PM with 15 and 20 pedestrians/bicyclists, respectively. **Table 10** also shows the weekday hourly vehicular volume for SR 944. No vehicular data was collected for Saturday.



Note: *The evaluation was done using a weekday vehicular volume of 918 vehicles, since no Saturday data was collected. However, based on this figure, the vehicular criteria for a crossing of 20 includes from 200 vehicles to 1,800 vehicles, which should be within the volume range for a Saturday period on SR 994.

Figure 21. Guidelines for the Installation of Pedestrian Treatments

5.0 SIGNAL WARRANT ANALYSIS

A summary of the Signal Warrant Analysis performed for the study intersections of SR 994 at SW 134th Avenue and at SW 132nd Avenue is presented in the following sections. The detailed analysis is included in **Appendices F** (SW 134th Avenue) and **G** (SW 132nd Avenue). The purpose of this analysis is to determine whether it is warranted to upgrade the traffic control at these intersections from stop-control to signal control per the warrants presented by Chapter 4C of the Manual on Uniform Traffic Control Devices (MUTCD), 2009 edition. The following nine warrants were evaluated at each intersection:

- **Warrant 1 – Eight-Hour Vehicular Volume:**
    a. Condition A: Intended for application at location where a large volume intersecting traffic is the principal reason to consider installing a traffic control signal.
    b. Condition B: Intended for application at locations where Condition A is not satisfied and where the traffic volume on a major street is so heavy that traffic on a minor street suffers excessive delay or conflict in entering or crossing the major street.
    c. Combination A & B: Intended that Warrant 1 be treated as a single warrant. If Condition A is satisfied, then Warrant 1 is satisfied and analyses of Condition B and the combination of Conditions A and B are not needed. Similarly, if Condition B is satisfied, then Warrant 1 is satisfied and an analysis of the combination of Conditions A and B is not needed.
- **Warrant 2 – Four-Hour Vehicular Volume:** Intended to be applied where the volume of intersecting traffic is the main reason to consider installing a traffic control signal.
- **Warrant 3 – Peak-Hour Vehicular Volume:** Intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street.
- **Warrant 4 – Pedestrian Volume:** Intended for application where a traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street.
- **Warrant 5 – School Crossing:** Intended for application where the fact that schoolchildren cross the major street is the principal reason to consider installing a traffic control signal. For purposes of this warrant, the word “school children” includes elementary through high school students.

- **Warrant 6 – Coordinated Signal System:** Progressive movement in a coordinated signal system sometimes necessitates installing traffic control signals at intersections where they would not otherwise be needed to maintain proposed platooning of vehicles.
- **Warrant 7 – Crash Experience:** Intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal.
- **Warrant 8 – Roadway Network:** Installing a traffic control signal at some intersections might be justified to encourage concentration and organization of traffic flow on a roadway network.
- **Warrant 9 – Intersection Near a Grade Crossing:** Intended for use at a location where none of the conditions described in the other eight warrants are met, but the proximity to the intersection of a grade crossing on an intersection approach controlled by a stop or yield sign is the principal reason to consider installing a traffic control signal.

The MUTCD clearly states that these nine warrants should be viewed as guidelines, not as absolute values. Satisfaction of one or more warrants does not indicate that the traffic signal is necessary. Engineering judgement should be considered when making the final decision whether to install a signal or not. The signal warrant analysis is accompanied by performing qualitative field observations, intersection inventory, traffic data collection, crash analysis, and collision diagrams.

5.1 SR 994 AT SW 134TH AVENUE

A Signal Warrant Analysis was previously performed at the intersection of SW 134th Avenue by the Department in 2017, which concluded that the stop-controlled intersection should be upgraded to traffic signal control. The previous analysis satisfied Warrant 1 (8-hour volume), Warrant 2 (4-hour volume), and Warrant 3 (peak-hour volume). Warrant 7 (crash experience) was not satisfied and Warrants 4 (pedestrian volume), 5 (school crossing), 6 (coordinated signal system), 8 (roadway network) and 9 (grade crossing) were not applicable for the study intersection. The main intent of this current analysis is to determine whether the 2017 recommendation is still warranted. The following is the main information:

- At the study intersection, SR 994 at SW 134th Avenue intersect to form an unsignalized, four-legged intersection. Within the study area, SR 994 (major street) is a two-lane, two-way, undivided roadway that has an east-west orientation and a posted speed limit of 40 MPH. SW 134th Avenue has a north-south orientation and operates under stop-control.

SW 134th Avenue is a two-lane, two-way, undivided roadway with a posted speed limit of 35 MPH. No turn lanes are provided at the intersection, except an exclusive right-turn bay at the eastbound approach.

- Based on the field reviews, the overall level of traffic through the study intersection was relatively moderate to heavy with the peak direction of travel being westbound during both the AM and PM hours. The northbound left-turn volume was relatively moderate during both s; however, vehicles performed the left-turn movement with some delay due to the heavy vehicular volume in the westbound traffic stream. Queue build-up was noted at the northbound approach of the intersection due to the lack of gaps along SR 994 and one lane approach servicing the stopped control left, though, and right-turn movements. The eastbound right-turn was relatively moderate during the AM peak hour, and heavy during the PM peak hour.
- The current operational analysis performed for the intersection per 2021 traffic counts shows the northbound and southbound approaches operating at LOS F and experiencing excessive delay and queue build-up.
- Based on the results of the delay study conducted during a previous Intersection Qualitative Assessment (FPID No. 249726-4-31-01), the longest stopped time was experienced on the northbound approach of the intersection during the AM peak hour with an average stopped time of approximately 4 minutes and a maximum stopped time of approximately 9 minutes. Additionally, the northbound approach experienced a maximum queue of at least 16 vehicles during both the AM and PM hours.
- The current crash analysis (2014-2018) shows a pattern for angle crashes between northbound vehicles versus eastbound or westbound traffic with 16 and 10 crashes, respectively. Main probable causes are lack of left-turn lanes on SR 994 and lack of available gaps for northbound traffic to proceed through the intersection.
- Of the total nine traffic signal warrants analyzed as obtained from Chapter 4C of the MUTCD, three were determined to be applicable [Warrants 1 (8-hr Volume), 2 (4-hr Volume) and 7 (Crash Experience)], and two were satisfied at a 100% volume threshold [Warrants 1 and 2], as presented in **Table 11**.

Table 11. Summary of Signal Warrant Analysis for SW 134th Ave

Warrant	Analysis	Result
Warrant 1 - 8-hr Vehicular Volume	Warrant 1 - Condition B: Use when side street traffic experiences signicant delay. Requirement: Major Street (1 Ln)= 750 vph Minor Street (1 Ln)= 75 vph Results: SR 994 and SW 134 Ave hourly volumes from 6 AM to 8 PM meet these volume requirements.	Satisfied √
Warrant 2 - 4-hr Vehicular Volume	Use when the volume of intersecting traffic is the principal reason to consider installing a traffic signal. Requirement: Major St (1 Ln) 1100 vph or more with Minor St (1 Ln) of at least 80 vph; For Major St w/ less than 1100 vph, Minor St requirement decreases relatively. Results: SR 994 and SW 134 Ave hourly volumes from 6 AM to 8 PM meet these volume requirements.	Satisfied √
Warrant 3 - Peak-Hr Vehicular Volume	Use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor street traffic suffers undue delay when entering or crossing the major street. The MUTCD stipulates that this warrant must only be used for unusual cases such as office complexes, manufacturing plants, industrial complexes or other high-occupancy vehicle facilities that attract or discharge copious amounts of vehicles over a short time. Based on the surrounding land use, this warrant does not apply.	Not Applicable
Warrant 4 - Pedestrian Volume	Use when pedestrians experience excessive delay when crossing major street. Pedestrian activity is very low. This warrant does not apply.	Not Applicable
Warrant 5 - School Crossing	Use when school children are crossing the street. This warrant does not apply since no school children were documented crossing the intersection.	Not Applicable
Warrant 6 - Coordinated Signal System	Use to maintain traffic progression. This warrant does not apply since the nearest signalized intersection of SW 127 Ave is too far to maintain signal progression.	Not Applicable
Warrant 7 - Crash Experience	Although the volume and crash frequency requirements are met, this warrant is not satisfied since no improvements have been already implemented at the intersection which have failed to address crashes.	Not Satisfied x
Warrant 8 - Roadway Network	Use to encourage concentration of traffic flow and when 2 or more major routes intersect. Since SW 134 Ave is not a major route, this warrant does not apply.	Not Applicable
Warrant 9 - Intersection Near a Grade Crossing	Use when in the proximity of a grade crossing. This warrant does not apply since no grade crossings are present at the intersection.	Not Applicable

Note: Although Conditions A and B were both evaluated for Warrant 1, Condition B is the most critical and therefore presented in this table.

Recommendation: Based on a comprehensive review of the findings documented in **Appendix F**, an analysis of the MUTCD Chapter 4C Traffic Signal Warrants, and using engineering judgement, the need for a traffic signal is warranted based on vehicular volume demands, crash data, and excessive delays associated with the southbound and northbound movements. These results are comparable to those obtained in the Intersection Qualitative Assessment (FPID No. 249726-4-31-01) completed in June 2017. Therefore, it is recommended that the Department consider upgrading the stop control at the intersection of SR 994 and SW 134th Avenue to signal control. An Intersection Control Evaluation (ICE), to further evaluate the feasibility of installing a traffic signal at the study intersection, is conducted in **Section 6.1** of this report.

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5.2 SR 994 AT SW 132nd AVENUE

Based on the Signal Warrant Analysis performed at the intersection of SW 132nd Avenue during this current study effort, the following is stated:

- At the study intersection, SR 994 at SW 132nd Avenue intersect to form an unsignalized, three-legged intersection. Within the study area, SR 994 (major street) is a two-lane, two-way, undivided roadway that has an east-west orientation and a posted speed limit of 40 MPH. SW 132 Avenue has a north-south orientation and operates under stop-control. SW 132 Avenue is a two-lane, two-way, undivided roadway with a posted speed limit of 30 MPH. No turn lanes are provided at the intersection.
- Based on field reviews, the overall level of traffic through the study intersection was relatively low to moderate with the peak direction of travel being westbound during the AM and PM hours. The northbound right-turn is heavy during the AM period and moderate during the PM period. The westbound left-turn is low during the AM period but heavy during the PM period. Northbound and westbound vehicles performed the left-turn movement with some delay due to the heavy vehicular volume in the eastbound traffic stream, observed primarily during the PM peak hour.
- The current operational analysis performed for the intersection per 2021 traffic counts shows the northbound approach operating at LOS F and experiencing delay and queue build-up.
- The current crash analysis (2014-2018) shows a pattern for rear-end crashes at the westbound approach with 27 crashes. Main probable cause is the lack of a westbound left-turn lane.
- Of the total nine traffic signal warrants analyzed as obtained from Chapter 4C of the MUTCD, three were determined to be applicable [Warrants 1 (8-hr Volume), 2 (4-hr Volume) and 7 (Crash Experience)], and two were satisfied at a 100% volume threshold [Warrants 1 and 2], as presented in **Table 12**.

Recommendation: Based on a comprehensive review of the findings documented in **Appendix G**, an analysis of the MUTCD Chapter 4C Traffic Signal Warrants, and using engineering judgement, the need for a traffic signal is not warranted based on the crash data which revealed a high number of rear-end crashes and a very low number of crash types susceptible to the correction by a traffic signal control. Rear-end crashes are not mitigated with the installation of a traffic signal control and are estimated to have occurred due to the lack of a westbound left-turn lane from SR 994 onto SW 132nd Avenue.

Table 12. Summary of Signal Warrant Analysis for SW 132nd Ave

Warrant	Analysis	Result
Warrant 1 - 8-hr Vehicular Volume	Warrant 1 - Condition B: Use when side street traffic experiences signicant delay. Requirement: Major Street (1 Ln)= 750 vph Minor Street (1 Ln)= 75 vph Results: SR 994 and SW 132 Ave hourly volumes from 6 AM to 8 PM meet these volume requirements.	Satisfied √
Warrant 2 - 4-hr Vehicular Volume	Use when the volume of intersecting traffic is the principal reason to consider installing a traffic signal. Requirement: Major St (1 Ln) 1100 vph or more with Minor St (1 Ln) of at least 80 vph; For Major St w/ less than 1100 vph, Minor St requirement decreases relatively. Results: SR 994 and SW 132 Ave hourly volumes from 6 AM to 8 PM meet these volume requirements.	Satisfied √
Warrant 3 - Peak-Hr Vehicular Volume	Use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor street traffic suffers undue delay when entering or crossing the major street. The MUTCD stipulates that this warrant must only be used for unusual cases such as office complexes, manufacturing plants, industrial complexes or other high-occupancy vehicle facilities that attract or discharge copious amounts of vehicles over a short time. Based on the surrounding land use, this warrant does not apply.	Not Applicable
Warrant 4 - Pedestrian Volume	Use when pedestrians experience excessive delay when crossing major street. Pedestrian activity is very low. This warrant does not apply.	Not Applicable
Warrant 5 - School Crossing	Use when school children are crossing the street. This warrant does not apply since no school children were documented crossing the intersection.	Not Applicable
Warrant 6 - Coordinated Signal System	Use to maintain traffic progression. This warrant does not apply since the nearest signalized intersection of SW 127 Ave is too far to maintain signal progression.	Not Applicable
Warrant 7 - Crash Experience	Although the volume requirement is met, this warrant is not satisfied since the crash patten identified for rear-ends at the westbound approach of the intersection is no susceptible to correction by the installation of a traffic signal. These crashes can be addressed by providing a left-turn lane.	Not Satisfied x
Warrant 8 - Roadway Network	Use to encourage concentration of traffic flow and when 2 or more major routes intersect. Since SW 132 Ave is not a major route, this warrant does not apply.	Not Applicable
Warrant 9 - Intersection Near a Grade Crossing	Use when in the proximity of a grade crossing. This warrant does not apply since no grade crossings are present at the intersection.	Not Applicable

Note: Although Conditions A and B were both evaluated for Warrant 1, Condition B is the most critical and therefore presented in this table.

6.0 INTERSECTION CONTROL EVALUATION

An Intersection Control Evaluation (ICE) was performed for the study intersections of SR 994 at SW 137th Avenue and at SW 134th Avenue per the guidelines presented by FDOT's Manual on Intersection Control Evaluation (January 2021). The purpose of ICE is to "consistently consider multiple context-sensitive control strategies when planning a new or modified intersection." This is applicable for the intersection of SW 137h Avenue since the south leg is being opened to traffic and introducing new vehicle movements to the intersection. It is also applicable for the intersection of SW 134th Avenue since it is being recommended to upgrade the stop-control condition to signal control per the signal warrant analysis performed in this study effort. Indeed, the study intersection was already recommended for an upgrade to signal control in 2017 per a Department's Signal Warrant Analysis. The following sections present the main findings of the analysis.

It is noted that the ICE analysis for SW 137th Avenue and SW 134th Avenue was performed in the early stages of the Project Traffic Analysis. As a result, the alternative labeled as TSM in the ICE analysis is basically Build 1. The TSM alternative became Build 1 due to not meeting the criteria to be considered a low-cost improvement and maintain the TSM state.

6.1 SR 994 AT SW 137th AVENUE

The ICE activities consist of three stages. **Appendix H** includes the items for stage 1 (screening), which utilizes FHWA's Capacity Analysis for Planning of Junctions (CAP-X) and FHWA's Safety Performance of Intersection Control Evaluations (SPICE). The CAP-X tool intends to evaluate selected types of innovative intersection designs and the SPICE tool conducts a safety analysis. The Stage 1 Screening ICE form was completed first to identify potential control strategies to be advanced. This evaluation consisted of the traffic signal intersection layout as recommended by the County's project (widening SW 137th Avenue to a four-lane roadway), which is expected to be completed by 2045, a two-lane roundabout, and an alternative traffic signal layout as recommended by the Build Alternatives developed under this current study. These control strategies were then further developed through the CAP-X and SPICE forms.

Amongst the 2045 No-Build traffic volume alternatives, the TSM (now Build 1) alternative exhibited the top score in the CAP-X forms with v/c ratios of 0.77 and 0.67 for the AM and PM hours, respectively. Amongst the 2045 Build traffic volume alternatives, the build signalized control intersection, per SR 994 PD&E, exhibited the top score in the CAP-X forms with v/c ratios of 0.76 and 0.65 for the AM and PM hours, respectively. The 2-lane roundabout will not to be

advanced since the AM and PM v/c ratios are near or above capacity (>1.0) when analyzed using the 2045 No Build and Build traffic conditions. Additionally, the 2-lane roundabout obtained a SPICE safety ranking below the intersection's existing condition in 2045.

In conclusion, the project will not proceed to Stage 2 for a preliminary control strategy assessment. This is because there is only one recommended strategy under each scenario. They are as follows:

- SR 994 PD&E TSM Alternative (now Build 1)
- SR 994 PD&E Build Alternative (now Build 2)

The Department approved and signed the Stage 1 Screening on February 24, 2022.

6.2 SR 994 AT SW 134th AVENUE

Stage 1 Screening ICE Form

The ICE activities consist of three stages. **Appendix I** includes the items for stage 1 (screening), which utilizes FHWA's Capacity Analysis for Planning of Junctions (CAP-X) and FHWA's Safety Performance of Intersection Control Evaluations (SPICE). The CAP-X tool intends to evaluate selected types of innovative intersection designs and the SPICE tool conducts a safety analysis. The Stage 1 Screening ICE form was completed first to identify potential control strategies to be advanced. This evaluation consisted of the traffic signal intersection layout as recommended by the FDOT's Signal Warrant Analysis (upgrading intersection to signal control), one-lane and two-lane roundabouts, and an alternative traffic signal layout as recommended by the TSM (now Build 1) and Build (now Build 2) Alternatives developed under this current study. These control strategies were then further developed through the CAP-X and SPICE forms.

Amongst the 2045 No-Build traffic volume alternatives, the 2-lane roundabout exhibited the top score in the CAP-X forms with v/c ratios of 0.53 and 0.46 for the AM and PM hours, respectively. This was followed by the signalized control intersection with the TSM (now Build 1) recommendations with v/c ratios of 0.83 and 0.73 for the AM and PM hours, respectively. Similarly, amongst the 2045 Build traffic volume alternatives, the 2-lane roundabout exhibited the top score in the CAP-X forms with v/c ratios of 0.55 and 0.57 for the AM and PM hours, respectively. This was closely followed by the build signalized control intersection, per SR 994 PD&E, with v/c ratios of 0.57 and 0.58 for the AM and PM hours, respectively. In the SPICE forms, the 1-lane roundabout obtained the top score. However, this strategy is not to be advanced since

the AM and PM v/c ratios are near or above capacity (>1.0) when analyzed using the 2045 No Build and Build traffic conditions. It is also outperformed by the 2-lane roundabout.

In conclusion, the project will proceed to Stage 2 for a preliminary control strategy assessment which intends to help differentiate the remaining control strategies for the build scenario with a more detailed vetting and conceptual designs. The strategies moving to Stage 2 for the intersection of SW 134th Avenue, for the build scenario, are:

- SR 994 PD&E Build Alternative (now Build 2)
- 2-Lane Roundabout Alternative

For the TSM (now Build 1) scenario, the only recommended alternative is the PS&E TSM (now Build 1) alternative. The Department approved and signed the Stage 1 Screening on February 24, 2022.

Stage 2 Preliminary Control Strategy Assessment ICE Form

The Stage 2 Preliminary Control Strategy Assessment is intended to differentiate between the remaining control strategies identified in Stage 1 – included as **Appendix I**. This evaluation consisted of a review of the following items:

- Operational Analysis
- Safety Performance and Anticipated Safety Impacts
- Multimodal Accommodations
- Environmental, Utility, and Right-of-Way Impacts
- Conceptual Designs
- Cost Estimates

In conclusion, it is recommended to the Department that the signalized control condition be implemented at the study location of SR 994/Quail Roost Drive at SW 134th Avenue. This alternative is recommended due to the following findings:

- Based on the operational analysis performed, the roundabout is expected to experience a LOS B with an average control delay of 11 seconds per vehicle during the AM and PM peak hours. The signalized control is expected to experience a LOS C with an average control delay of 21 and 23 seconds per vehicle during the AM and PM peak hours, respectively. It is noted that although the signalized control alternative has a lower LOS

than the roundabout, the difference in average control delay per vehicle is between 10 and 12 seconds. Additionally, all volume to capacity (v/c) ratios for the signalized alternative are below capacity.

- In terms of safety performance, the signalized control alternative is anticipated to have fewer total crashes compared to the roundabout option.
- Regarding multimodal accommodations, the primary distinction between the alternatives is that the signalized control option can accommodate larger vehicles (WB-62) compared to the roundabout (WB-50).
- Based on the utility impacts, both build alternatives propose comparable results. The primary difference between the alternatives is that the roundabout impacts four additional electric poles containing overhead electric cables than the signalized control alternative.
- Considering right-of-way impacts, the signalized control option is favorable, necessitating the acquisition of approximately 278,119 square feet (SF) less land than the roundabout alternative.
- In terms of environmental impacts, both build alternatives propose comparable results and needs. The primary difference between the alternatives is that the roundabout impacts the Talbot House on the southeast quadrant due to the larger footprint which would require Section 106 coordination and an Individual Section 4f document.
- Based on the expected costs of the proposed alternatives, the signalized control is preferable with an expected cost of $1,299,628. The expected cost for the roundabout alternative is $1,931.31, which is approximately $631,693 more than the signalized control strategy.

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7.0 FUTURE TRAFFIC CONDITIONS

7.1 SCENARIOS

The following future scenarios were considered in this current study effort:

- Existing Conditions 2021 for AM & PM Peak Hours
- No Build Alternative 2025 & 2045 for AM & PM Peak Hours
- Build Alternatives 2025 & 2045 for AM & PM Peak Hours
    - Build 1: Includes widening SR 994 to provide a raised median with left-turning opportunities from and onto the side streets, while implementing access management enhancements. Additionally, implement several capacity improvements at the signalized intersections of SW 137th Avenue and SW 127th Avenue, and upgrade the stop-controlled intersection of SW 134th Avenue to signal control.
    - Build 2: In addition to the improvements in Build 1, this alternative widens SR 994 from two lanes to four lanes.
    - Build 3: In addition to the improvements in Build 2, this alternative implements additional access management enhancements.

The analysis periods will include the AM and PM peak hours for the project proposed opening year (2025) and the design year (2045). The following are descriptions of each alternative considered.

No Build Alternative

The No Build Alternative assumes no proposed improvements and serves as the baseline for comparison against the other alternatives. This alternative, however, includes any on-going construction projects and all funded and programmed improvements specified in approved development orders. These improvements were outlined in the FDOT Five-Year Work Program, Miami-Dade Transportation Planning Organization (TPO) cost feasible LRTP, Transportation Improvements Plan (TIP), the transportation element of Local Government Comprehensive Plans (LGCP), or developer-funded transportation improvements specified in approved development orders. The SERPM Cost Feasible 2045 scenario network was used without the widening of SR 994 from SW 137th Avenue to SW 127th Avenue as the No Build network. The following main projects were included in this alternative, which are expected to open to traffic by 2025:

- The south leg at the signalized intersection of SW 137th Avenue opens to traffic under

Miami-Dade County Project No. 20040343. The south leg was under construction at the beginning of this current study effort; however, it was opened to traffic approximately in June 2022.

- An exclusive northbound right-turn bay is being constructed at the intersection of SW 127th Avenue under Miami-Dade County Project No. 20180004.

In addition, SW 137th Avenue will be widened by the County to a four-lane roadway by 2045.

Build Alternatives

The Build 1 Alternative considers improvements such as signal coordination and optimization, adding a raised median, adding auxiliary lanes, adding turning lanes or extending storage bays at intersections, improving turning radii, and providing acceleration/deceleration lanes. The Build 2 Alternative includes the Build 1 improvements plus widening SR 994 from two lanes to four lanes. The Build 3 alternative includes the Build 2 improvements plus further limits possible vehicle conflicts by extending raised medians and eliminating left-turn from the side streets onto SR 994. The median design options follow the requirements presented by Florida Statute 335.199 – Transportation Projects Modifying Access to Adjacent Property. During the design development of the build alternatives, improvements to pedestrian and bicycle users were considered, such as:

- Improving the continuity and connectivity of sidewalks and bicycle paths by providing a Shared-Use Path on each side of the study corridor.
- Providing special emphasis pedestrian markings and pedestrian signals at all signalized intersections. Additionally, closing the box at the intersection of SW 137th Avenue.
- Enhancing the pedestrian features at the existing RRFB midblock pedestrian crossing just east of SW 132nd Avenue, as necessary.

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7.2 FUTURE TRAFFIC PROJECTION METHODOLOGY

7.2.1 SERPM Background

The Southeast Florida Regional Planning Model (SERPM) version 8.511 was used instead of the latest version 8.512 in the development of the travel demand forecasting for this study. The SERPM 8.512 had some issues during the model run and the model could not be completed. The differences between the SERPM 8.511 and 8.512 were checked and there were only some adjustments necessary to the TAZ and Household data for Palm Beach County. The SERPM is a travel demand model based on the Coordinated Travel Regional Activity Based Modeling Platform (CT-RAMP). This is an activity-based, time-of-day model that is capable of forecasting traffic for future years based on various highway, transit, and socioeconomic scenarios. The SERPM was used to develop the 2045 LRTP for the TPO. The 2045 horizon year scenario in this model is based on the TPO approved 2045 Cost Feasible LRTP networks, population, and employment forecasts.

For this study, a one-mile radius buffer, shown in **Figure 22**, was applied to the project section of SR 994 from west of SW 137th Avenue to east of SW 127th Avenue. The following roadways near and within the 1-mile radius buffer were included for review for this forecasting effort:

- SR 994 from Naranja Road to SW 117th Avenue
- Caribbean Blvd from SR 994 to SW 117th Avenue
- SW 184th Street from Naranja Road to SW 117th Avenue
- SW 216th Street from Naranja Road to SW 117th Avenue
- Naranja Road from SW 184th Street to SW 216th Street
- SW 137th Avenue from SW 184th Street to SW 216th Street
- SW 134th Avenue from SR 994 to SW 216th Street
- SW 127th Avenue from SW 184th Street to SW 216th Street
- SW 122nd Avenue from SW 184th Street to SW 216th Street
- SW 117th Avenue from SW 184th Street to SW 216th Street

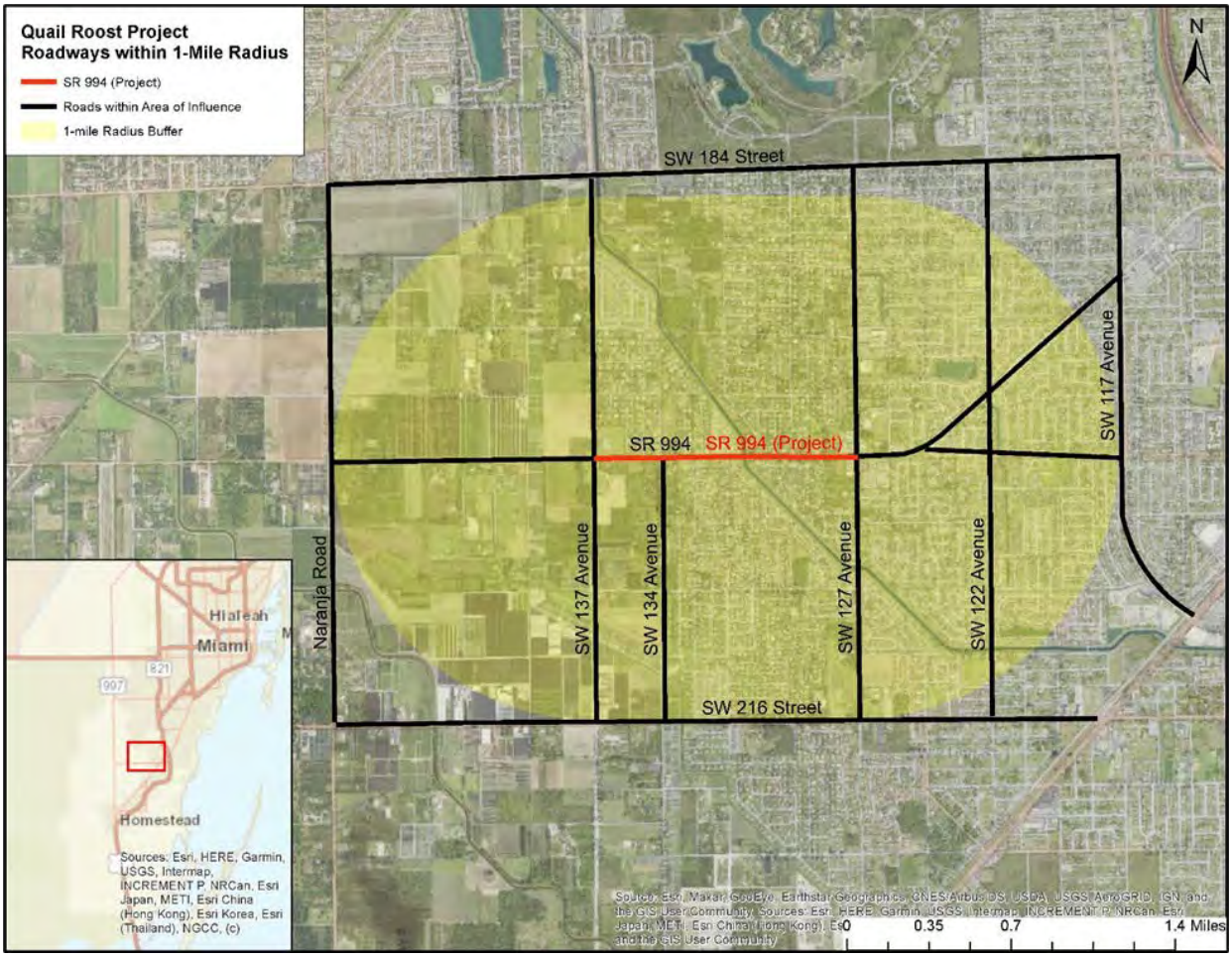

Figure 22. Projects and Roadways within 1-Mile Radius of Study Corridor

7.2.2 Study Traffic Forecast Development

The following steps were performed to develop the 2015, 2025, and 2045 AADTs for this study:

- Within the 1-mile radius of the study, the SERPM data inputs for the years 2015 and 2045 were reviewed, including both the socioeconomic data and the highway network. The zonal structure and the centroid connector loading points were also reviewed to ensure a reasonable distribution of the trips for the study area.
- The Base Year 2015 roadway volumes within the 1-mile radius of the study limits were then estimated using the SERPM. The model volumes generated were compared to traffic counts where available to evaluate the reasonableness of the model validation.
- The Design Year 2045 roadway volumes within the 1-mile radius of the study were then estimated using the SERPM and were adjusted based on the comparison between base year model volumes and counts.

- The Opening Year 2025 volumes for the roadways within the 1-mile radius of the study were developed by interpolating between the year 2015 AADT volumes and the adjusted 2045 AADT volumes.
- The same 2045 "Build" network was used for two runs; one with 2015 and one with 2045 input data, so that the interpolation of their results represents the Opening Year 2025 Build traffic with the project built.

Lastly, the 2015 and 2045 SERPM model output volumes were adjusted for reasonableness following the guidelines presented by the NCHRP Report 765 – Analytical Travel Forecasting Approaches for Project-Level Planning and Design (2014). This report is an update to NCHRP Report 255 – Highway Traffic Data for Urbanized Area Project Planning and Design and describes methods, data sources, and procedures for producing travel forecasts for highway project-level analyses. This is further discussed in **Section 7.2.5**.

7.2.3 Land Use & Socioeconomic Data Review

The existing and adopted 2030 and 2040 land uses within and near the study corridor are graphically depicted in **Figures 23** and **24**. The land use information was obtained from the Miami-Dade County Planning Department. The primary land use within the 1-mile radius of the study corridor is primarily residential with some commercial and institutional uses as well. However, west of SW 137th Avenue there is a vast part of the land use designated as agricultural. The socioeconomic data (SE data) in the SERPM was reviewed for the traffic analysis zones (TAZs) within the 1-mile radius of the study corridor for both the Base Year 2015 and the Design Year 2045 scenarios. As presented in **Table 13**, the growth rates for households, population, and total employment were calculated from the SE data within the 1-mile radius of the study corridor and were compared with the growth rates for Miami-Dade County and the model region (Miami-Dade, Broward, and Palm Beach). The average annual growth for household, population, and employment are 1.4%, 1.2%, and 2.1%, respectively, for the TAZs within the 1-mile radius of the study corridor. These growths are slightly higher when compared to the average annual growth for the Miami-Dade County and the SERPM Region, which ranges from 1.0% to 1.3%."

Table 13. Socioeconomic Data Growth

		Within Study Corridor 1-Mile Radius	Miami-Dade County	SERPM Region (Miami-Dade, Broward, Palm Beach)
Household	2015	7,411	955,425	2,283,407
	2045	10,560	1,306,716	3,027,089
	Annual Growth	1.4%	1.2%	1.1%
Population	2015	25,748	2,629,861	5,805,376
	2045	35,322	3,532,976	7,495,351
	Annual Growth	1.2%	1.1%	1.0%
Employment	2015	2,335	1,318,040	2,992,045
	2045	3,818	1,813,709	3,977,143
	Annual Growth	2.1%	1.3%	1.1%

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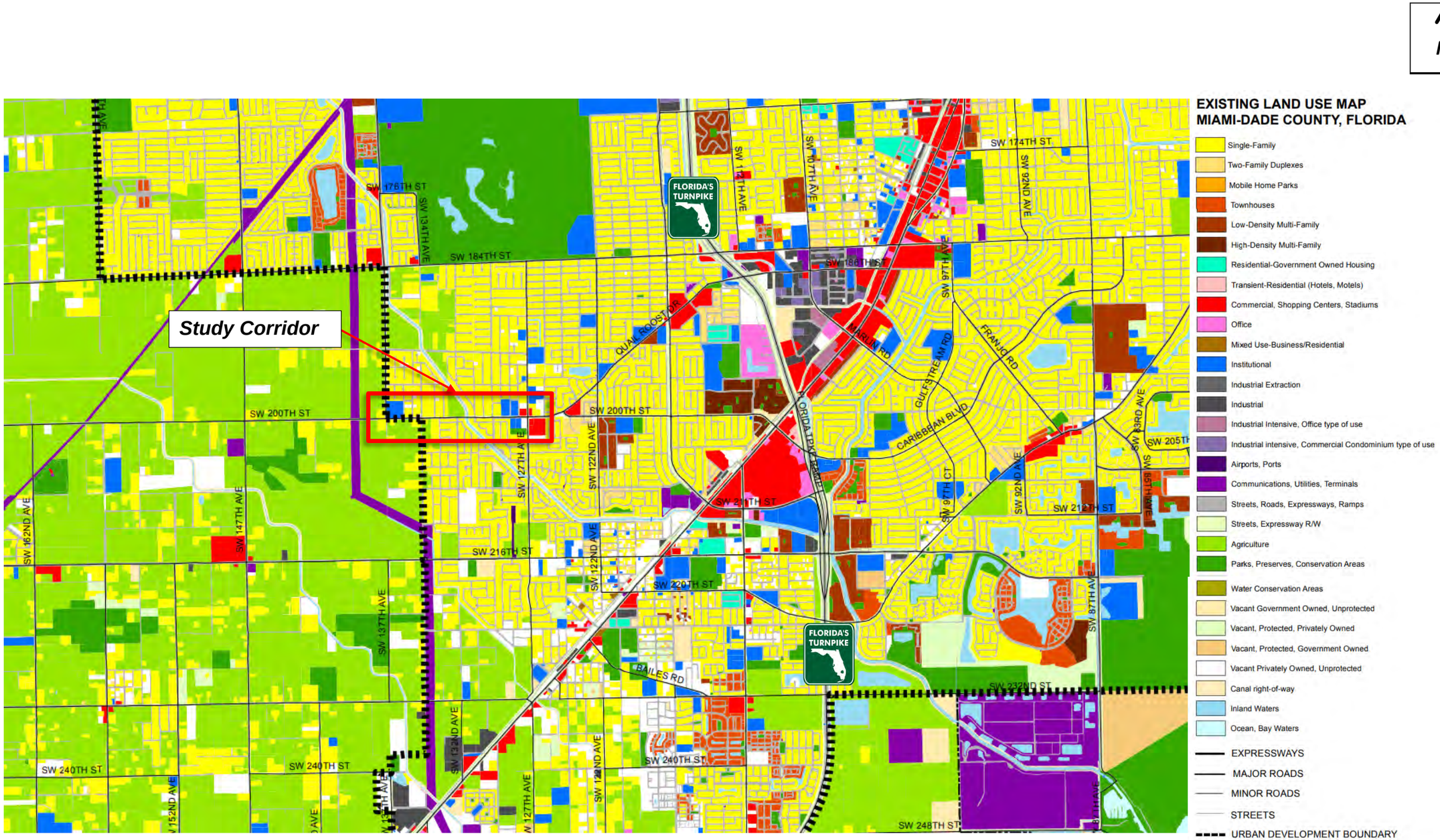

Figure 23. Existing Land Use within/near Study Corridor

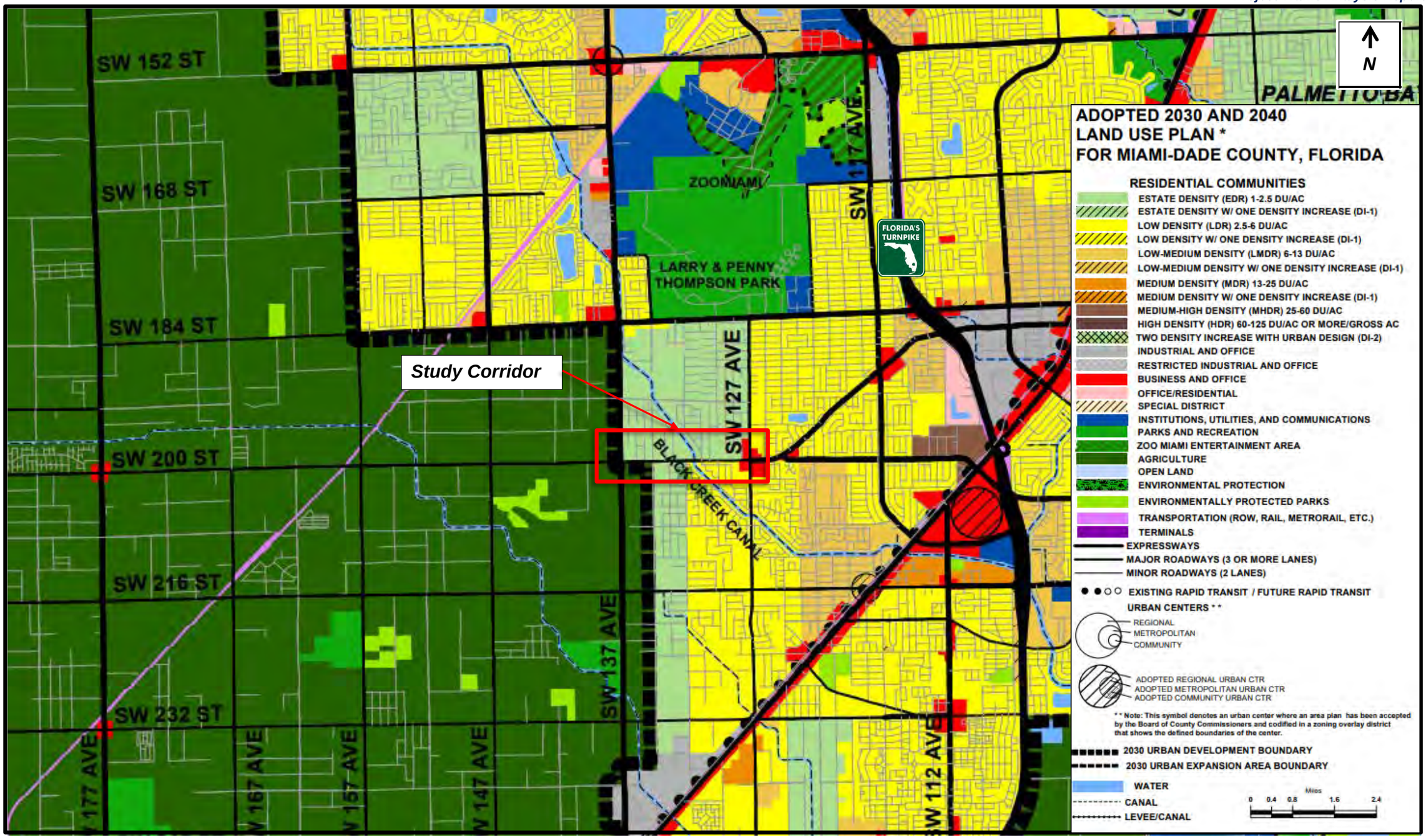

Figure 24. Adopted 2030 & 2040 Land Use within/near Study Corridor

7.2.4 Roadway Characteristics and Network Review

The characteristics for the roadways within the 1-mile radius of the project, as coded in the SERPM networks, were reviewed, and revised. The model network characteristics, including number of lanes, facility type, and posted speed limit, were compared to the FDOT Roadway Characteristics Inventory (RCI) database for consistency. The centroid connectors were then reviewed and revised to ensure that trips within the model are loaded and distributed appropriately, simulating the underlying local roadway system as much as possible. The following changes were made for all networks used for analysis:

- SR 994 from SW 137th Avenue to SR 997 – posted speed limit revised to 45 MPH.
- TAZs 4235 and 4238 – removed the centroid connectors to SW 137th Avenue.
- TAZs 4229, 4230, and 4231 – added centroid connectors to SW 137th Avenue.

The transit routes were also reviewed. There were no transit routes operating along the SR 994 corridor from west of SW 137th Avenue to east of SW 127th Avenue for both the existing year and design year networks.

7.2.5 Base Year Validation & 2021 Traffic Counts Check

The Base Year 2015 model run was evaluated for base year validation conditions within the 1-mile radius of the study corridor. Up-to-date traffic count information was obtained from the Florida Traffic Online (FTO) for comparison to the 2015 information. The 2015 model volumes for the count site links were summarized and compared to the 2015 counts of the Base Year 2015 network coding. The volume/count ratios are shown in **Table 14**. Fifty-nine percent (10 of the 17 sites) of the 2015 FDOT traffic count sites summarized in this table correlated well with the 2015 SERPM model outputs. Nevertheless, the only FDOT traffic count site within the study corridor which is west of SW 127th Avenue indicates that the 2015 SERPM volume is being underestimated by approximately 55%. Efforts were made to address this condition as discussed at the end of this section.

Table 14. Base Year Validation for the Roadways within the 1-Mile Project Radius

Roadway	Count Site	Count Site Description	2015 Traffic Count	2015 SERPM Volume	Volume/Count Ratio
SR 994	871117	1-SR 994/QUAIL ROOST DR, 200' E KROME AVE/SR 997	7,250	6,780	0.94
	999892*	2-SERPM	10,940	10,080	0.92
	871116	3-SR 994/QUAIL ROOST DR, 200' W SW 127 AVE	17,950	8,160	0.45
SW 184th St	878114	4-SW 184TH STREET, 200' WEST OF SW 147TH AVE	12,300	5,840	0.47
	878170	5-SW 184TH ST, 200' WEST OF SW 137TH AVENUE	18,100	17,340	0.96
	877009	6-SW 184TH ST .30 MILE WEST OF SW 117TH AVE	33,000	35,870	1.09
SW 216th St	998126*	7-SERPM	6,190	5,820	0.94
	878188	8-HAINLIN MILL DR, 200' WEST OF 134TH AVE	6,300	6,130	0.97
	999898*	9-SERPM	9,360	10,260	1.10
Naranja Rd	999836*	10-SERPM	13,940	19,130	1.37
	878109	11-SW 147TH AVE, 200' SOUTH OF SW 200 STREET	10,400	18,350	1.76
	878108	12-SW 147TH AVE, 200' SOUTH OF SW 216 STREET	9,000	17,630	1.96
SW 137th Ave	878336	13-SW 137TH AVE, 200' SOUTH OF SW 184TH STREET	10,200	11,550	1.13
SW 127th Ave	878121	14-SW 127TH AVE, 200' SOUTH OF SW 184TH STREET	8,400	13,050	1.55
SW 117th Ave	878218	15-SW 117TH AVE, 200' SOUTH OF 184TH STREET	18,800	16,630	0.88
	877063	16-SW 117TH AVE 200 FT SOUTH OF CARIBBEAN BLVD/200TH ST	11,200	16,930	1.51
	999758*	17-SERPM	14,650	15,860	1.08

Note: * Count was observed in SERPM, but not in the FTO database. 2015 traffic counts correlating well with the 2015 SERPM volumes are highlighted.

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Given the variability and uncertainty that may be introduced when using the single FDOT traffic count station (87-1116) available within the study corridor to adjust the 2015 SERPM base model volumes, a secondary check was performed by comparing the estimated 2021 SERPM model volumes with the collected 2021 traffic counts. The SERPM 2021 model volumes were estimated by interpolating between the Base Year 2015 and the Design Year 2045 model volumes. **Table 15** shows the comparison of the interpolated SERPM 2021 volumes to the 2021 collected counts. Thirty percent (6 of the 20 roadway directions) of the 2021 traffic count sites summarized in this table correlated well with the 2021 SERPM model volume outputs. When comparing the interpolated 2021 model assignment to the 2021 traffic count data, the model is under-assigning traffic volumes by 5% to 64% within the study corridor, depending on the location. The projections are more accurate west of SW 137th Avenue and east of SW 127th Avenue.

Nevertheless, efforts were made to review and refine the SERPM model to improve the base year model validation for the study corridor, including a detailed review of the socioeconomic data and the model network, as previously stated in **Section 7.2.4**. No major discrepancies were found. The model volumes on the parallel roadway facilities were reviewed and no unreasonable volumes were identified.

Due to the complexity of the model and the fact that new travel patterns will be part of the 2045 network due to the SW 137th Avenue extension from the study corridor to the south, as well as the availability of the 2021 counts to adjust unreasonable estimates using the NCHRP 765 method, it was decided to proceed with the model. The difference and ratio methods presented by the NCHRP 765 guidelines were used to adjust the SERPM future year volumes within reasonableness. In addition, to ensure that the future traffic turning volumes for the study corridor accurately represented future traffic conditions, the balanced volumes for all scenarios (No Build and Build for 2025 and 2045 AM and PM) were checked for reasonableness with the 2021 traffic volumes, as discussed in **Section 7.3.1**.

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Table 15. Year 2021 Traffic Counts & SERPM Model Volumes Comparison

Roadway	Location	Direction	2021 Traffic Count	2021 SERPM Volume	Volume/ Count Ratio
Study Corridor – SR 994	West of SW 137th Ave	1-EB	6,350	5,500	0.86
		2-WB	4,950	4,700	0.95
	East of SW 137th Ave	3-EB	10,250	5,300	0.52
		4-WB	9,850	5,500	0.56
	West of SW 134th Ave	5-EB	10,650	5,300	0.50
		6-WB	9,650	5,500	0.57
	East of SW 134th Ave	7-EB	8,600	3,100	0.36
		8-WB	9,150	3,600	0.39
	West of SW 127th Ave	9-EB	11,700	4,500	0.38
		10-WB	10,050	4,900	0.49
	East of SW 127th Ave	11-EB	12,000	10,500	0.88
		12-WB	12,500	10,000	0.80
SW 137th Ave	North of SR 994	13-NB	5,200	8,300	1.59
		14-SB	5,700	7,200	1.26
SW 134th Ave	South of SR 994	15-NB	3,250	2,600	0.80
		16-SB	3,900	2,800	0.71
SW 127th Ave	North of SR 994	17-NB	4,900	5,000	1.02
		18-SB	5,500	5,500	1.00
	South of SR 994	19-NB	10,600	8,000	0.75
		20-SB	7,200	7,700	1.07

Note: 2021 traffic counts correlating well with the 2021 SERPM volumes are highlighted.

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7.3 FUTURE YEAR TRAFFIC FORECAST

In this section, the project traffic volumes are shown in a stick figure format for the different years of analysis. **Figure 25** shows only the forecast adjusted volumes for the SR 994 corridor and the crossing streets which are represented in the SERPM model. These locations include SW 137th Avenue, SW 134th Avenue, and SW 127th Avenue. The growth of traffic volumes between the Design Year 2045 (both No Build Alternative and Build Alternative) and the Opening Year 2025 Build were estimated and compared to the socioeconomic growth. However, for some portions of SR 994, as well as some crossing streets, the 2025 and 2045 volumes are less than the existing counts due to a change in the travel patterns. This redistribution of traffic is caused by the opening of the south leg at the intersection of SW 137th Avenue by year 2025 and the widening of this road to a 4-lane divided by year 2045. Due to this road extension, a redistribution of traffic occurs mainly for southbound SW 137th Avenue which in year 2025 can proceed south along SW 137th Avenue without turning onto SR 994 as in year 2015. This redistribution of traffic patterns decreased some of the volumes for the SR 994 study corridor in the future years, as presented by the SERPM model outputs. In addition, the growth rates based on the two-way total volumes between the existing year and the future year on SR 994 were also double checked for reasonableness and different growth rates were calculated using the variety of methods, such as linear, exponential, and decaying exponential growth rates. Nevertheless, based on this analysis and the outlined methodology used by FDOT, the applied growth rates for the study corridor were found reasonable.

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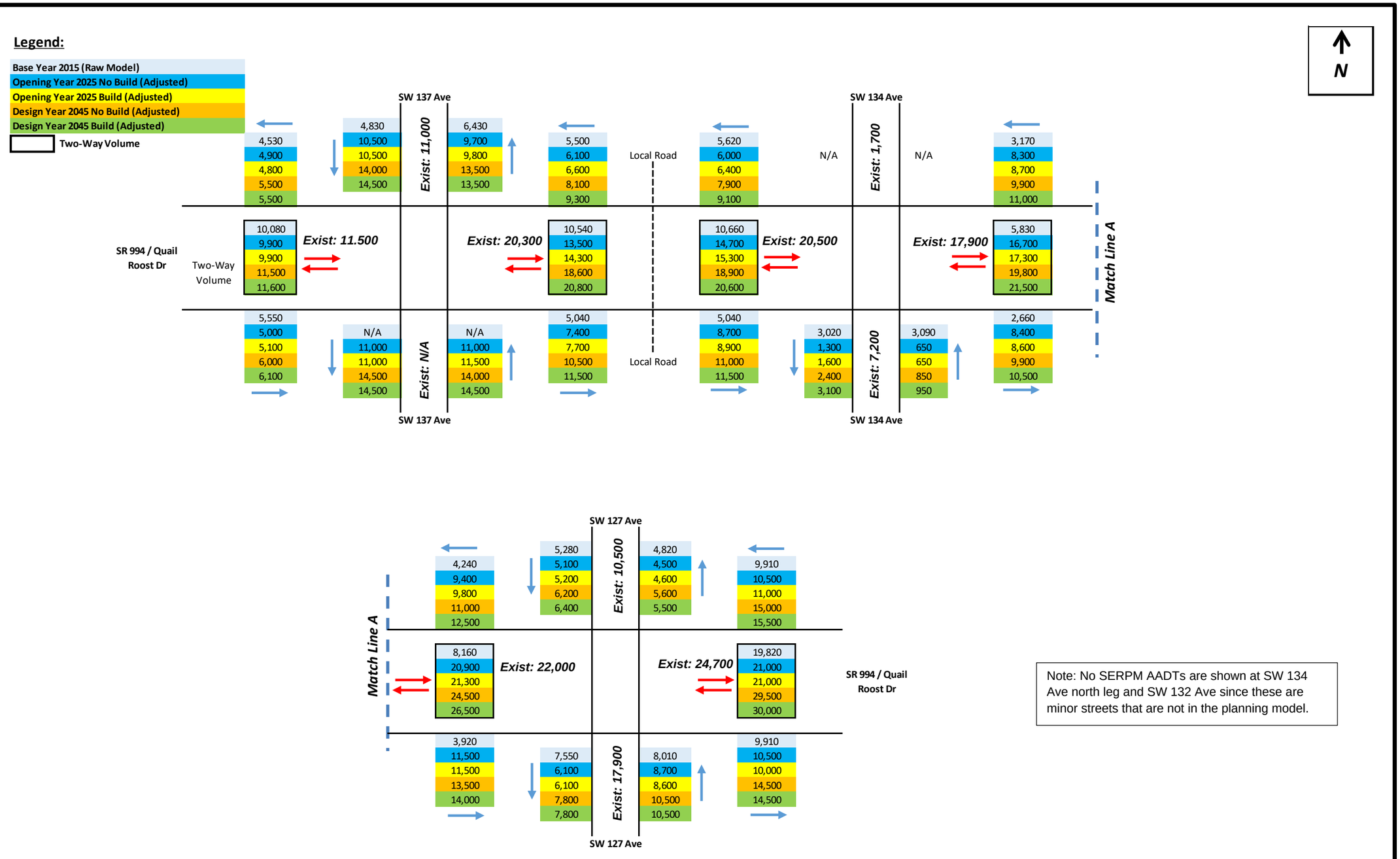

Note: No SERPM AADTs are shown at SW 134 Ave north leg and SW 132 Ave since these are minor streets that are not in the planning model.

Figure 25. 2015 Base, 2025 Opening & 2045 No Build/Build Future AADTs for the Study Corridor

Table 16 presents the adjusted AADTs and growth rates for the study corridor. On average, the growth rates in the AADTs for the study corridor are 1.4% for the No Build Alternative and 1.5% for the Build Alternative in 2045. Only one set of projected AADTs were developed for the Build Alternative. When analyzing the Build Alternatives with the raised median, the future turning movement volumes would be adjusted accordingly due to the median opening modifications necessary to implement the raised median alternative, as needed from a design perspective.

Table 16. 2025 & 2045 AADTs & Estimated Growth Rates for the Study Corridor

Location	Direction	Project Traffic Volumes				Annual Growth Rates	
		2025 No-Build	2025 Build	2045 No-Build	2045 Build	2045 No-Build	2045 Build
west of SW 137 Ave	EB	5,000	5,100	6,000	6,100	1.0%	1.0%
	WB	4,900	4,800	5,500	5,500	0.6%	0.7%
east of SW 137 Ave	EB	7,400	7,700	10,500	11,500	2.1%	2.5%
	WB	6,100	6,600	8,100	9,300	1.6%	2.0%
west of SW 134 Ave	EB	8,700	8,900	11,000	11,500	1.3%	1.5%
	WB	6,000	6,400	7,900	9,100	1.6%	2.1%
east of SW 134 Ave	EB	8,400	8,600	9,900	10,500	0.9%	1.1%
	WB	8,300	8,700	9,900	11,000	1.0%	1.3%
west of SW 127 Ave	EB	11,500	11,500	13,500	14,000	0.9%	1.1%
	WB	9,400	9,800	11,000	12,500	0.9%	1.4%
east of SW 127 Ave	EB	10,500	10,000	14,500	14,500	1.9%	2.3%
	WB	10,500	11,000	15,000	15,500	2.1%	2.0%
SW 127 Ave north of SR 994	NB	4,500	4,600	5,600	5,500	1.2%	1.0%
	SB	5,100	5,200	6,200	6,400	1.1%	1.2%
SW 127 Ave south of SR 994	NB	8,700	8,600	10,500	10,500	1.0%	1.1%
	SB	6,100	6,100	7,800	7,800	1.4%	1.4%
SW 137 Ave north of SR 994	NB	9,700	9,800	13,500	13,500	2.0%	1.9%
	SB	10,500	10,500	14,000	14,500	1.7%	1.9%
SW 137 Ave south of SR 994	NB	11,000	11,500	14,000	14,500	1.4%	1.3%
	SB	11,000	11,000	14,500	14,500	1.6%	1.6%

7.3.1 Future Intersection Volumes

The future intersection volumes were developed in accordance with the procedures outlined in the FDOT Project Traffic Forecasting Handbook (2019). For the three main intersections within the study corridor—SW 137th Avenue, SW 134th Avenue, and SW 127th Avenue—turning movement volumes were generated using TMTOOL. TMTOOL is an Excel-based tool that establishes turning movements by combining base year and projected future year AADT volumes with existing year turning movement counts and growth factors. The TMTOOL worksheets are provided in **Appendix J**.

The AADTs input into TMTOOL included any available historical AADTs, the 2021 AADTs derived from traffic counts, and the AADTs output from the SERPM model. However, no historical AADTs were available for SW 137th Avenue and SW 134th Avenue, and no SERPM AADT was available for the north leg at SW 134th Avenue since it is a minor road not identified in the SERPM model. Historical AADTs for SW 127th Avenue were available due to the FDOT Count Station on SR 994 west of the intersection.

Three growth rates were input into TMTOOL for each intersection: the historical growth rate, the historical plus model growth rate, and the base year to future year model growth rate. A historical growth rate of 1% was determined from a trend analysis using the AADTs from the FDOT Count Station. This 1% historical growth rate was deemed reasonable and therefore applied to all legs at the three main intersections. The historical plus model and base year to future year model growth rates were unique to each intersection leg and applied accordingly. The most appropriate growth rate for each intersection was selected to align better with the forecasted SERPM model AADTs, based on linear growth.

During the PD&E study, additional traffic counts were performed in 2023 at SW 137th Avenue, SW 134th Avenue, SW 132nd Avenue, and SW 127th Avenue due to the opening of the south leg at SW 137th Avenue in 2022. These counts revealed a decrease in traffic flow from southbound SW 137th Avenue to eastbound SR 994, followed by an eastbound right turn onto SW 134th Avenue. Similarly, the westbound right turn at SW 137th Avenue, primarily from SR 994 westbound, and the northbound left-turn movement from SW 134th Avenue also decreased. Traffic conditions for the rest of the study corridor remained very similar to the 2021 conditions.

Given these changes, a 1% annual growth rate was applied to the 2023 traffic counts to determine 2025 turning movement volumes for the intersections at SW 137th Avenue and SW 134th Avenue. This approach was deemed more appropriate than using the 2021 counts, as the 2023 data reflected the opening of the south leg, which led to changes in traffic patterns. These 2025 volumes were then used as the base for determining future turning movement volumes in TMTOOL for these intersections. The 2045 No-Build turning movement volumes for the AM peak hour from TMTOOL for SW 137th Avenue, SW 134th Avenue, and SW 127th Avenue were then input into Excel with the volumes for the other intersections. Since the turning movement volumes for the other intersections were from 2021 counts, an annual 1% growth rate was applied to project these volumes to 2045. This growth rate balanced the volumes throughout the study corridor reasonably. Lastly, the balanced 2025 and 2045 turning movement volumes were compared to the existing 2021 and 2023 counts to ensure any discrepancies in the forecasted volumes were addressed, including justifications for volumes that were decreasing instead of increasing.

The same process was repeated for the 2045 No-Build PM peak hour, No-Build 2025 AM and PM peak hours, and Build 2025 and 2045 AM and PM peak hours. The 2025 and 2045 AM and PM turning movement volumes for the No-Build and Build Alternatives are presented in **Tables 17** through **20** and **Figures 26** through **33**.

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Table 17. 2025 No Build AM & PM Peak-Hour Traffic Volumes for the Study Corridor

Intersection Approach	Movement	2025 No Build - AM Peak Hour Traffic Volumes											
		SW 137 AVE	SW 135 AVE	SW 134 CT	SW 134 AVE	SW 133 CT	SW 133 AVE	SW 132 PL	SW 132 AVE	SW 130 AVE	SW 129 CT	SW 129 AVE	SW 127 AVE
Eastbound	Left	70	1	2	14	4	---	20	---	113	---	2	126
	Thru	401	663	672	626	773	767	847	896	1015	1035	1028	897
	Right	93	---	---	38	---	13	---	15	3	---	5	106
	Appr. Total	***564***	***663***	***673***	***678***	***777***	***780***	***867***	***911***	***1131***	***1035***	***1035***	***1129***
Westbound	Left	201	---	---	74	---	13	---	66	1	---	16	266
	Thru	390	832	834	765	883	802	805	788	771	786	776	498
	Right	245	4	3	50	10	---	17	---	24	21	2	161
	Appr. Total	***836***	***836***	***837***	***889***	***893***	***815***	***822***	***854***	***795***	***808***	***795***	***925***
Northbound	Left	145	---	---	44	---	91	---	34	5	---	29	201
	Thru	417	---	---	18	---	---	---	---	1	---	2	219
	Right	127	---	---	105	---	100	---	235	4	---	56	356
	Appr. Total	***689***	***---***	***---***	***167***	***---***	***191***	***---***	***269***	***10***	***---***	***86***	***776***
Southbound	Left	137	11	6	46	7	---	64	---	16	---	6	104
	Thru	283	---	---	42	---	---	---	---	1	---	1	241
	Right	146	4	2	28	6	---	11	---	78	9	2	50
	Appr. Total	***566***	***15***	***9***	***116***	***13***	***---***	***74***	***---***	***95***	***9***	***9***	***395***
	Int. Total	***2655***	***1514***	***1519***	***1850***	***1683***	***1786***	***1764***	***2033***	***2032***	***1852***	***1926***	***3225***

Intersection Approach	Movement	2025 No Build - PM Peak Hour Traffic Volumes											
		SW 137 AVE	SW 135 AVE	SW 134 CT	SW 134 AVE	SW 133 CT	SW 133 AVE	SW 132 PL	SW 132 AVE	SW 130 AVE	SW 129 CT	SW 129 AVE	SW 127 AVE
Eastbound	Left	43	2	1	20	6	---	1	---	40	---	1	62
	Thru	418	744	750	685	800	802	835	817	880	898	843	725
	Right	87	---	---	51	---	8	---	47	4	---	54	128
	Appr. Total	***548***	***745***	***751***	***756***	***806***	***810***	***836***	***864***	***924***	***898***	***898***	***915***
Westbound	Left	162	---	---	54	---	29	---	155	1	---	19	346
	Thru	338	678	679	623	721	716	740	729	829	840	835	570
	Right	181	5	5	46	12	---	10	---	28	5	5	125
	Appr. Total	***681***	***683***	***684***	***723***	***733***	***745***	***750***	***884***	***858***	***845***	***859***	***1041***
Northbound	Left	138	---	---	35	---	17	---	21	2	---	7	164
	Thru	256	---	---	37	---	---	---	---	1	---	1	208
	Right	148	---	---	90	---	34	---	107	2	---	27	212
	Appr. Total	***542***	***---***	***---***	***162***	***---***	***51***	***---***	***129***	***4***	***---***	***35***	***584***
Southbound	Left	178	7	6	30	10	---	28	---	16	---	6	146
	Thru	501	---	---	23	---	---	---	---	3	---	1	308
	Right	139	5	1	26	2	---	5	---	53	17	2	73
	Appr. Total	***818***	***12***	***6***	***79***	***12***	***---***	***33***	***---***	***73***	***17***	***10***	***527***
	Int. Total	***2589***	***1441***	***1442***	***1720***	***1551***	***1607***	***1619***	***1876***	***1859***	***1761***	***1802***	***3067***

Table 18. 2045 No Build AM & PM Peak-Hour Traffic Volumes for the Study Corridor

Intersection Approach	Movement	2045 No Build - AM Peak Hour Traffic Volumes											
		SW 137 AVE	SW 135 AVE	SW 134 CT	SW 134 AVE	SW 133 CT	SW 133 AVE	SW 132 PL	SW 132 AVE	SW 130 AVE	SW 129 CT	SW 129 AVE	SW 127 AVE
Eastbound	Left	83	1	2	18	5	---	26	---	141	---	3	157
	Thru	450	828	840	774	956	950	1050	1111	1259	1285	1275	1112
	Right	116	---	---	56	---	16	---	18	4	---	7	132
	Appr. Total	***649***	***829***	***842***	***848***	***961***	***966***	***1076***	***1129***	***1404***	***1285***	***1285***	***1401***
Westbound	Left	377	---	---	74	---	16	---	82	1	---	21	333
	Thru	434	1062	1064	974	1104	1003	1006	985	964	983	971	622
	Right	256	5	4	63	12	---	22	---	30	27	3	201
	Appr. Total	***1067***	***1067***	***1068***	***1111***	***1116***	***1019***	***1028***	***1067***	***994***	***1010***	***994***	***1156***
Northbound	Left	181	---	---	66	---	113	---	42	6	---	36	251
	Thru	521	---	---	22	---	---	---	---	1	---	2	274
	Right	165	---	---	131	---	125	---	294	5	---	70	445
	Appr. Total	***867***	***---***	***---***	***219***	***---***	***239***	***---***	***336***	***12***	***---***	***108***	***970***
Southbound	Left	215	13	8	57	9	---	80	---	20	---	7	130
	Thru	353	---	---	42	---	---	---	---	1	---	1	301
	Right	182	5	3	28	7	---	13	---	98	11	3	62
	Appr. Total	***750***	***18***	***11***	***127***	***16***	***---***	***93***	***---***	***119***	***11***	***11***	***493***
	Int. Total	***3333***	***1915***	***1921***	***2305***	***2094***	***2224***	***2196***	***2533***	***2530***	***2306***	***2398***	***4020***

Intersection Approach	Movement	2045 No Build - PM Peak Hour Traffic Volumes											
		SW 137 AVE	SW 135 AVE	SW 134 CT	SW 134 AVE	SW 133 CT	SW 133 AVE	SW 132 PL	SW 132 AVE	SW 130 AVE	SW 129 CT	SW 129 AVE	SW 127 AVE
Eastbound	Left	51	2	1	25	7	---	1	---	50	---	2	77
	Thru	466	930	938	850	994	996	1037	1014	1093	1115	1047	900
	Right	109	---	---	70	---	10	---	59	5	---	66	160
	Appr. Total	***626***	***932***	***939***	***945***	***1001***	***1006***	***1038***	***1073***	***1148***	***1115***	***1115***	***1137***
Westbound	Left	218	---	---	68	---	37	---	194	1	---	24	433
	Thru	361	859	864	779	901	895	925	911	1036	1050	1044	712
	Right	286	6	6	57	15	---	12	---	35	6	6	156
	Appr. Total	***865***	***865***	***870***	***904***	***916***	***931***	***938***	***1105***	***1072***	***1057***	***1074***	***1301***
Northbound	Left	173	---	---	58	---	22	---	27	2	---	9	205
	Thru	319	---	---	46	---	---	---	---	1	---	1	260
	Right	186	---	---	113	---	43	---	134	2	---	33	265
	Appr. Total	***678***	***---***	***---***	***217***	***---***	***64***	***---***	***161***	***5***	***---***	***44***	***730***
Southbound	Left	278	9	7	38	12	---	36	---	20	---	8	183
	Thru	626	---	---	29	---	---	---	---	4	---	1	385
	Right	174	6	1	33	3	---	6	---	67	22	3	91
	Appr. Total	***1078***	***15***	***8***	***100***	***15***	***---***	***42***	***---***	***91***	***22***	***12***	***659***
	Int. Total	***3247***	***1812***	***1817***	***2166***	***1933***	***2002***	***2017***	***2338***	***2317***	***2193***	***2245***	***3827***

Table 19. 2025 Build AM & PM Peak-Hour Traffic Volumes for the Study Corridor

Intersection Approach	Movement	2025 Build - AM Peak Hour Traffic Volumes											
		SW 137 AVE	SW 135 AVE	SW 134 CT	SW 134 AVE	SW 133 CT	SW 133 AVE	SW 132 PL	SW 132 AVE	SW 130 AVE	SW 129 CT	SW 129 AVE	SW 127 AVE
Eastbound	Left	71	---	---	20	31	---	---	---	130	---	3	143
	Thru	519	877	885	823	968	1003	1103	1085	1186	1206	1196	1043
	Right	79	---	---	42	---	17	---	18	5	---	7	120
	Appr. Total	***669***	***877***	***885***	***885***	***999***	***1020***	***1103***	***1103***	***1321***	***1206***	***1206***	***1306***
Westbound	Left	219	---	---	79	---	14	---	70	2	---	18	217
	Thru	379	837	840	765	891	811	814	800	787	805	797	560
	Right	244	5	4	53	11	---	19	---	25	23	3	131
	Appr. Total	***842***	***842***	***844***	***897***	***902***	***825***	***833***	***870***	***814***	***828***	***817***	***908***
Northbound	Left	105	---	---	51	---	91	---	34	5	---	29	168
	Thru	417	---	---	19	---	---	---	---	1	---	2	144
	Right	180	---	---	111	---	100	---	235	4	---	60	235
	Appr. Total	***702***	***---***	***---***	***181***	***---***	***191***	***---***	***269***	***10***	***---***	***91***	***547***
Southbound	Left	178	---	---	65	52	---	---	---	16	---	6	67
	Thru	283	---	---	42	---	---	---	---	1	---	1	156
	Right	97	4	2	28	6	---	11	---	78	9	2	38
	Appr. Total	***558***	***4***	***2***	***135***	***58***	***---***	***11***	***---***	***95***	***9***	***9***	***261***
	Int. Total	***2771***	***1723***	***1732***	***2098***	***1958***	***2036***	***1947***	***2241***	***2240***	***2043***	***2124***	***3022***

Intersection Approach	Movement	2025 Build - PM Peak Hour Traffic Volumes											
		SW 137 AVE	SW 135 AVE	SW 134 CT	SW 134 AVE	SW 133 CT	SW 133 AVE	SW 132 PL	SW 132 AVE	SW 130 AVE	SW 129 CT	SW 129 AVE	SW 127 AVE
Eastbound	Left	43	---	---	26	10	---	---	---	48	---	2	74
	Thru	535	986	990	909	1033	1052	1086	1028	1080	1098	1036	892
	Right	71	---	---	55	---	11	---	59	6	---	60	155
	Appr. Total	***649***	***986***	***990***	***990***	***1043***	***1063***	***1086***	***1087***	***1135***	***1098***	***1098***	***1121***
Westbound	Left	178	---	---	58	---	32	---	167	2	---	21	286
	Thru	327	681	686	625	729	725	752	742	854	868	864	641
	Right	180	6	6	49	13	---	11	---	29	6	5	104
	Appr. Total	***685***	***687***	***692***	***732***	***742***	***757***	***763***	***909***	***885***	***873***	***890***	***1031***
Northbound	Left	87	---	---	41	---	17	---	21	2	---	7	134
	Thru	256	---	---	39	---	---	---	---	1	---	1	138
	Right	214	---	---	96	---	34	---	107	2	---	29	140
	Appr. Total	***557***	***---***	***---***	***176***	***---***	***51***	***---***	***129***	***4***	***---***	***37***	***412***
Southbound	Left	237	---	---	38	30	---	---	---	16	---	7	94
	Thru	501	---	---	23	---	---	---	---	3	---	1	198
	Right	98	5	1	26	2	---	5	---	53	17	2	57
	Appr. Total	***836***	***5***	***1***	***87***	***32***	***---***	***5***	***---***	***73***	***17***	***10***	***349***
	Int. Total	***2727***	***1678***	***1683***	***1985***	***1818***	***1871***	***1854***	***2124***	***2096***	***1989***	***2035***	***2913***

Table 20. 2045 Build AM & PM Peak-Hour Traffic Volumes for the Study Corridor

Intersection Approach	Movement	2045 Build - AM Peak Hour Traffic Volumes											
		SW 137 AVE	SW 135 AVE	SW 134 CT	SW 134 AVE	SW 133 CT	SW 133 AVE	SW 132 PL	SW 132 AVE	SW 130 AVE	SW 129 CT	SW 129 AVE	SW 127 AVE
Eastbound	Left	84	---	---	25	39	---	---	---	162	---	4	179
	Thru	561	1096	1107	1007	1188	1232	1360	1338	1463	1489	1477	1285
	Right	98	---	---	75	---	21	---	22	6	---	8	150
	Appr. Total	***743***	***1096***	***1107***	***1107***	***1227***	***1253***	***1360***	***1360***	***1631***	***1489***	***1489***	***1614***
Westbound	Left	278	---	---	98	---	17	---	88	2	---	22	271
	Thru	413	1069	1072	957	1114	1014	1018	999	984	1006	996	701
	Right	383	6	5	66	13	---	24	---	32	29	3	164
	Appr. Total	***1074***	***1075***	***1077***	***1121***	***1127***	***1031***	***1042***	***1087***	***1017***	***1035***	***1022***	***1135***
Northbound	Left	131	---	---	85	---	113	---	42	6	---	36	210
	Thru	521	---	---	23	---	---	---	---	1	---	0	180
	Right	243	---	---	139	---	125	---	294	5	---	75	294
	Appr. Total	***895***	***---***	***---***	***247***	***---***	***239***	***---***	***336***	***12***	***---***	***111***	***684***
Southbound	Left	292	---	---	81	65	---	---	---	20	---	8	84
	Thru	353	---	---	52	---	---	---	---	1	---	1	195
	Right	121	5	3	35	7	---	13	---	98	11	3	47
	Appr. Total	***766***	***5***	***3***	***168***	***72***	***---***	***13***	***---***	***119***	***11***	***12***	***326***
	Int. Total	***3478***	***2176***	***2187***	***2643***	***2426***	***2523***	***2415***	***2784***	***2780***	***2535***	***2634***	***3759***

Intersection Approach	Movement	2045 Build - PM Peak Hour Traffic Volumes											
		SW 137 AVE	SW 135 AVE	SW 134 CT	SW 134 AVE	SW 133 CT	SW 133 AVE	SW 132 PL	SW 132 AVE	SW 130 AVE	SW 129 CT	SW 129 AVE	SW 127 AVE
Eastbound	Left	51	---	---	33	13	---	---	---	60	---	2	92
	Thru	529	1232	1238	1112	1268	1292	1334	1260	1326	1348	1270	1091
	Right	88	---	---	93	---	13	---	74	8	---	76	193
	Appr. Total	***668***	***1232***	***1238***	***1238***	***1281***	***1305***	***1334***	***1334***	***1394***	***1348***	***1348***	***1376***
Westbound	Left	241	---	---	73	---	40	---	209	2	---	26	357
	Thru	347	877	883	781	912	907	940	927	1067	1084	1080	801
	Right	295	7	7	62	16	---	13	---	37	7	7	130
	Appr. Total	***883***	***884***	***890***	***916***	***928***	***947***	***954***	***1136***	***1106***	***1092***	***1112***	***1289***
Northbound	Left	109	---	---	76	---	22	---	27	2	---	9	168
	Thru	319	---	---	49	---	---	---	---	1	---	1	172
	Right	274	---	---	120	---	43	---	134	2	---	36	175
	Appr. Total	***702***	***---***	***---***	***245***	***---***	***65***	***---***	***161***	***5***	***---***	***46***	***515***
Southbound	Left	379	---	---	49	37	---	---	---	20	---	9	117
	Thru	626	---	---	29	---	---	---	---	4	---	1	247
	Right	123	6	1	33	3	---	6	---	67	22	3	71
	Appr. Total	***1128***	***6***	***1***	***111***	***40***	***---***	***6***	***---***	***91***	***22***	***13***	***436***
	Int. Total	***3381***	***2122***	***2129***	***2510***	***2249***	***2317***	***2294***	***2630***	***2597***	***2461***	***2520***	***3615***

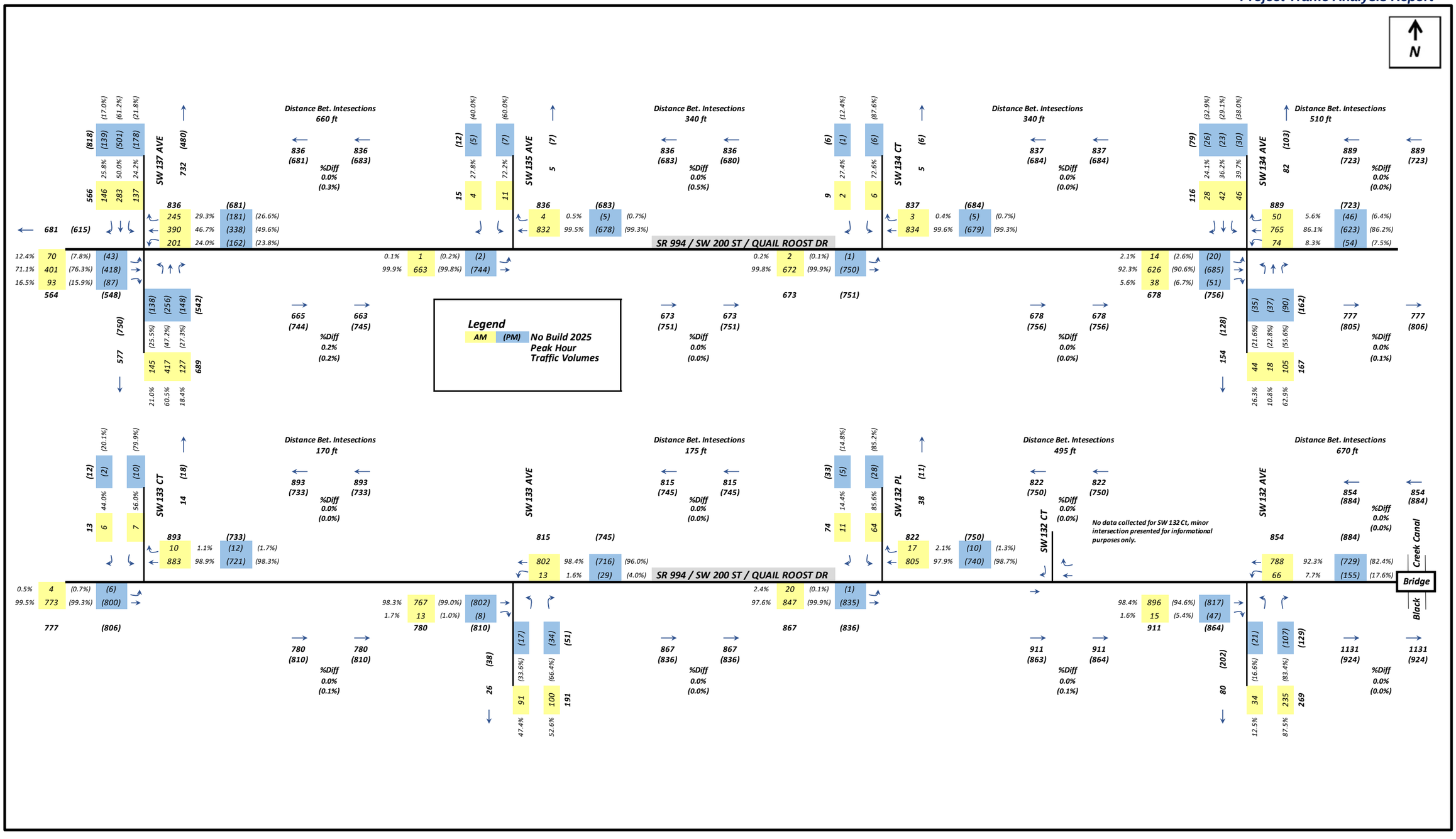


Figure 26. 2025 No Build AM & PM Peak-Hour Traffic Volumes for the Study Corridor

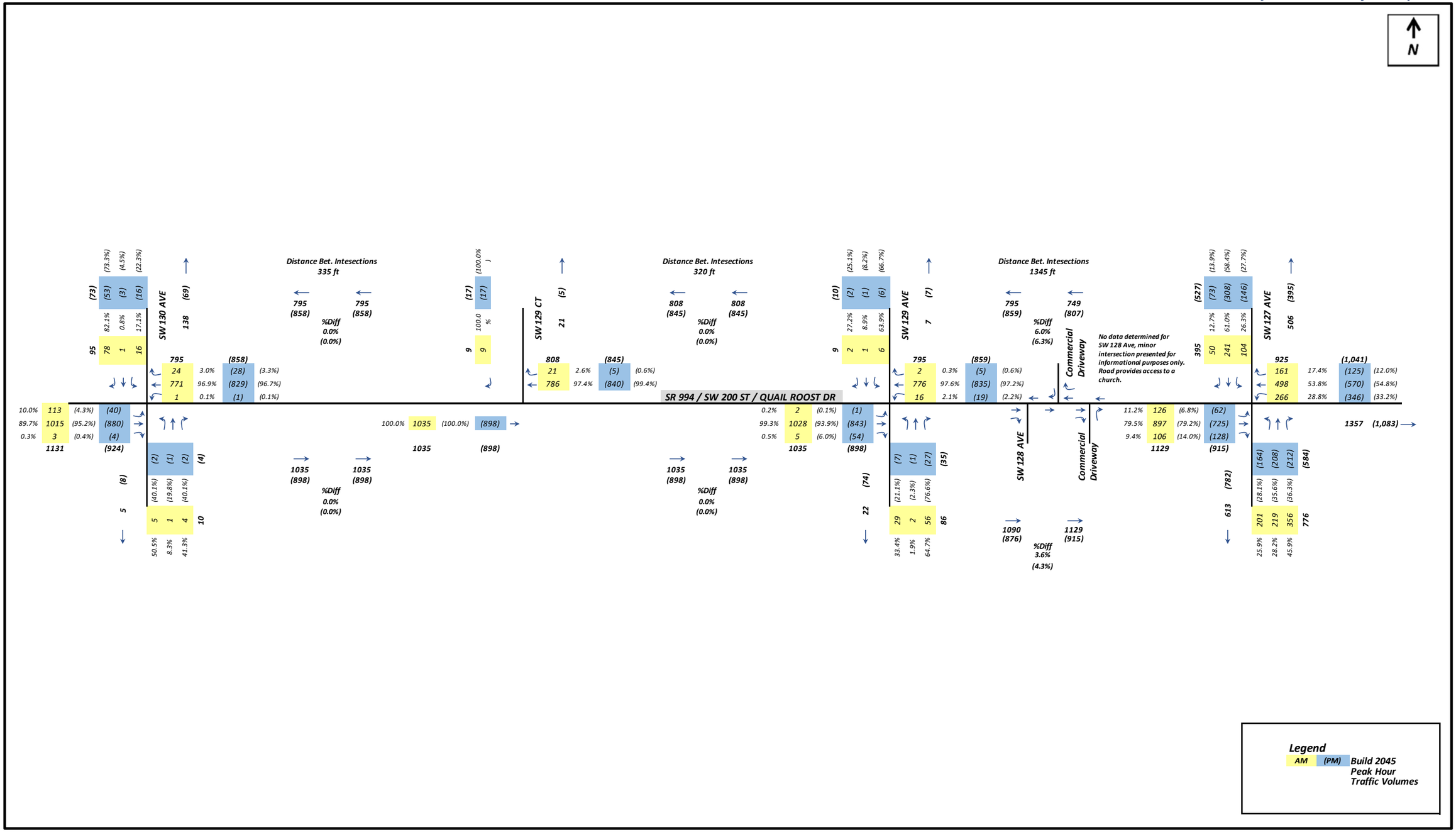


Figure 27. 2025 No Build AM & PM Peak-Hour Traffic Volumes for the Study Corridor

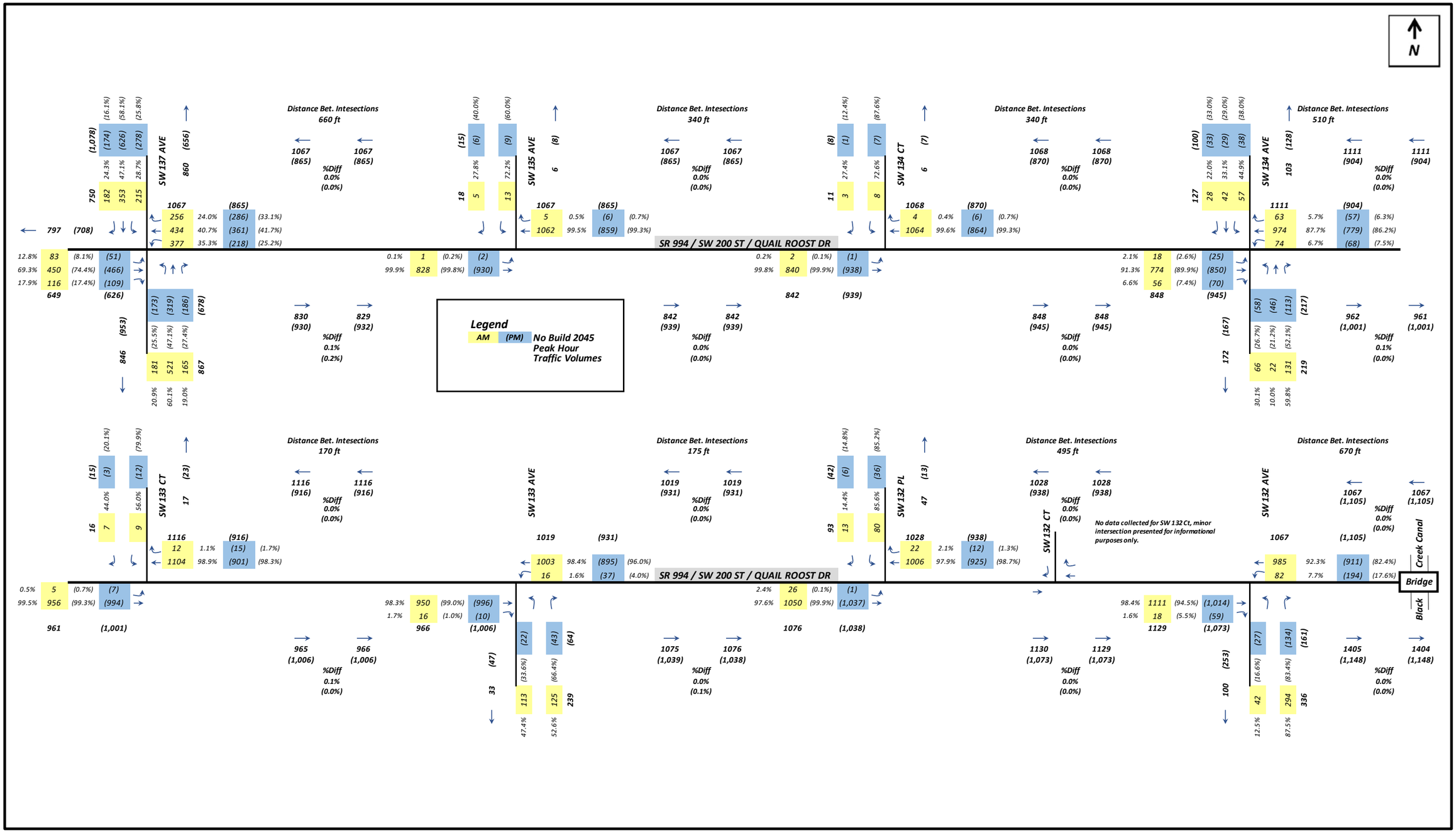


Figure 28. 2045 No Build AM & PM Peak-Hour Traffic Volumes for the Study Corridor

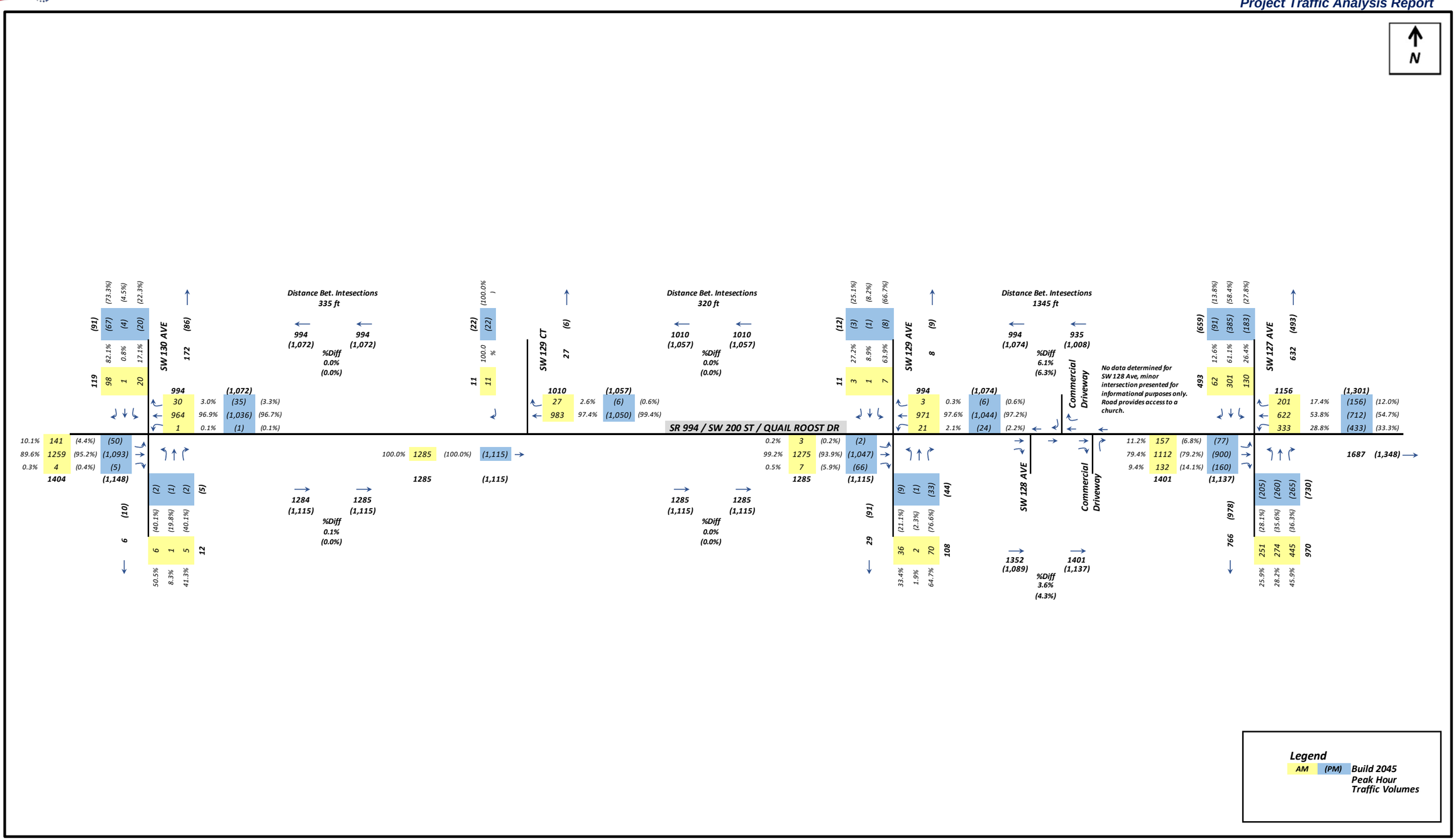


Figure 29. 2045 No Build AM & PM Peak-Hour Traffic Volumes for the Study Corridor

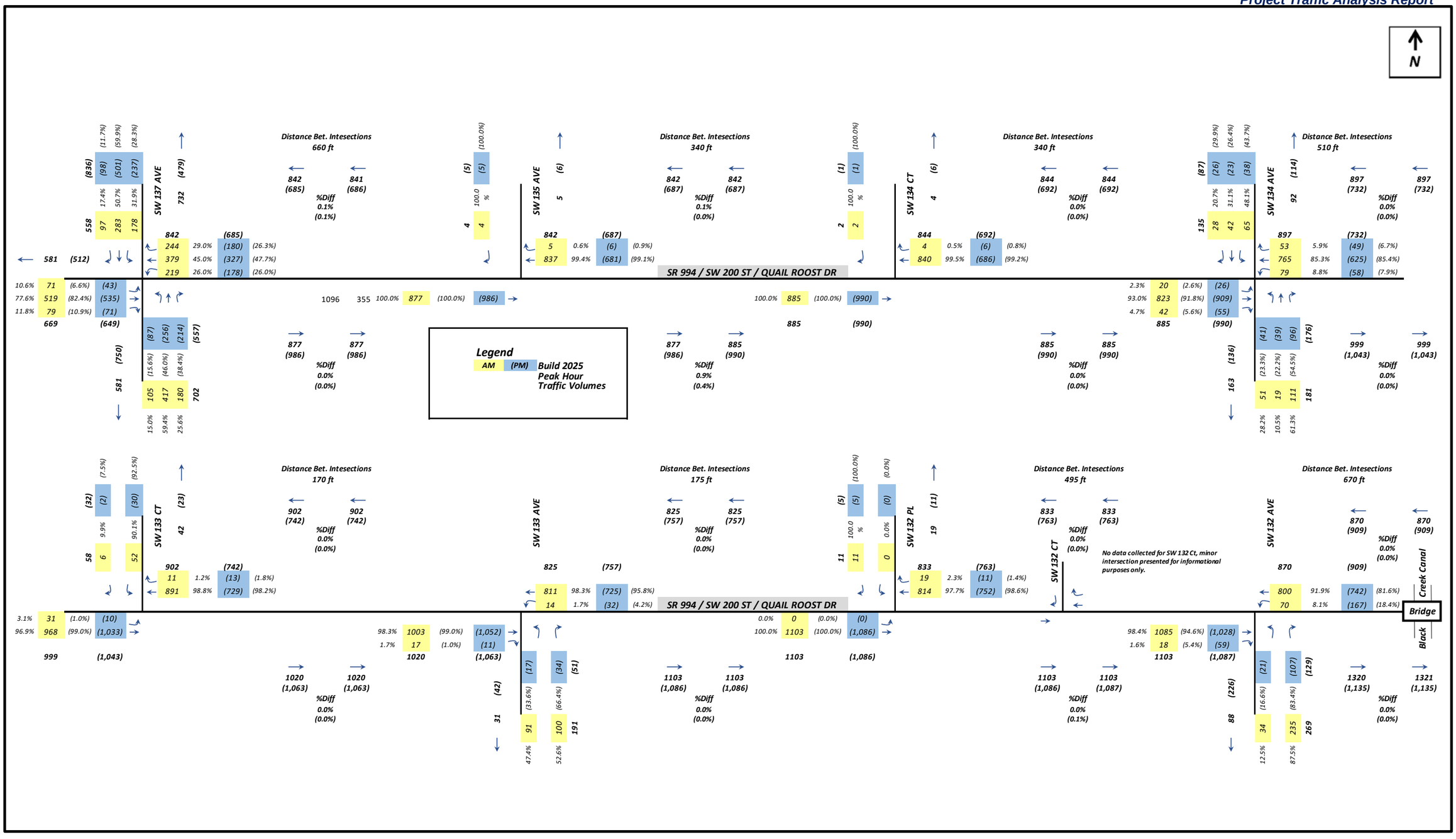


Figure 30. 2025 Build AM & PM Peak-Hour Traffic Volumes for the Study Corridor

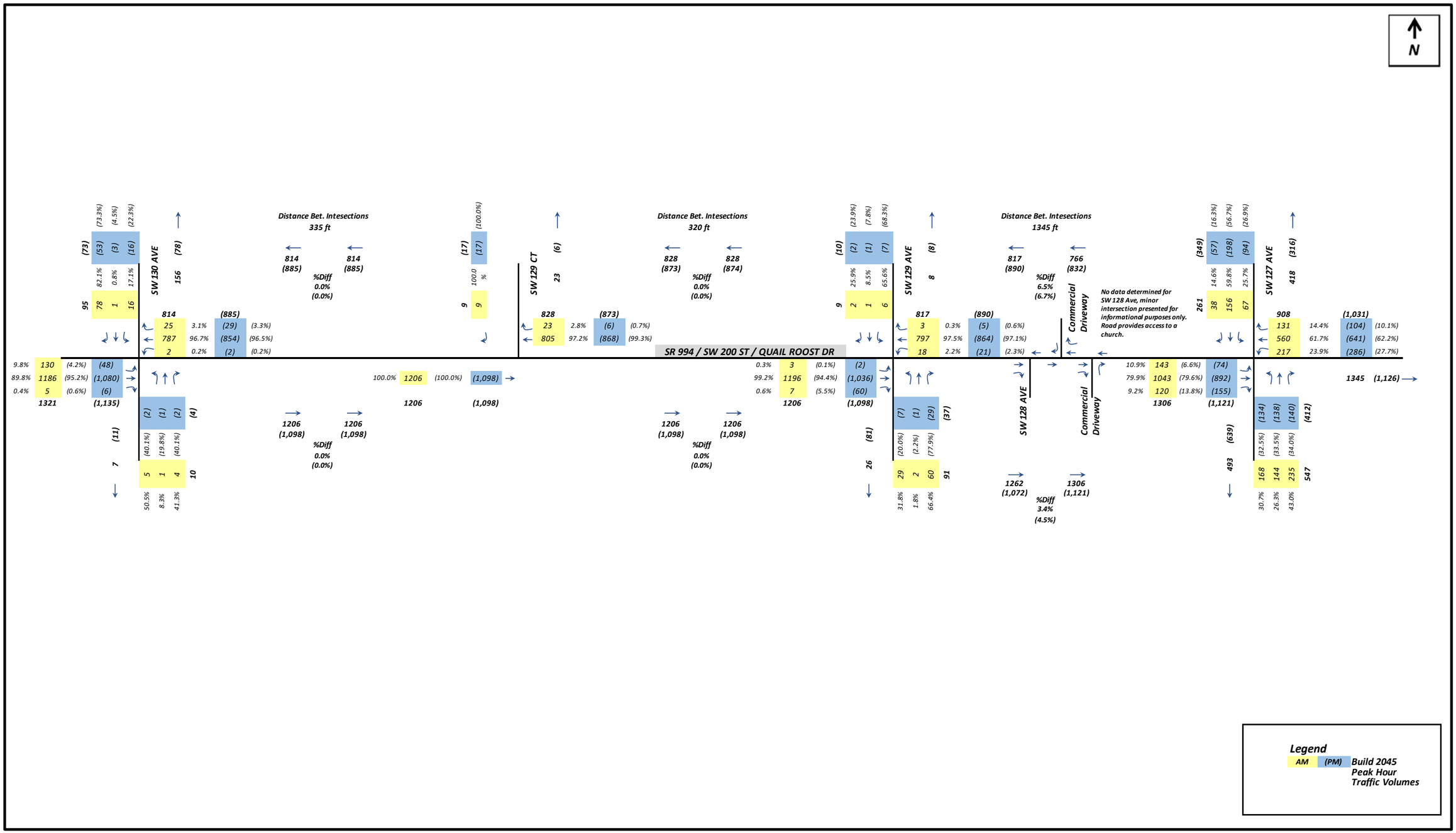


Figure 31. 2025 Build AM & PM Peak-Hour Traffic Volumes for the Study Corridor

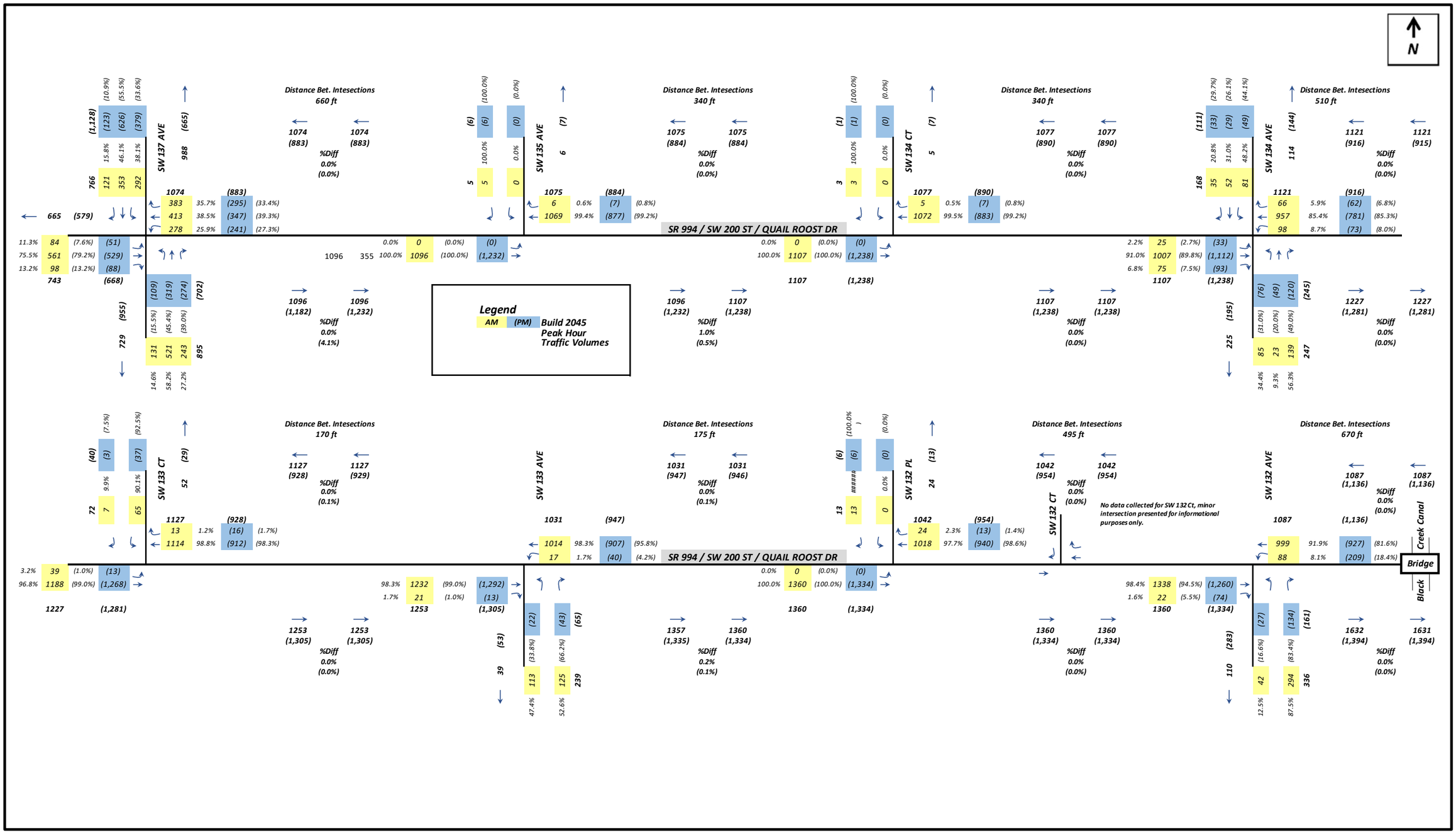


Figure 32. 2045 Build AM & PM Peak-Hour Traffic Volumes for the Study Corridor

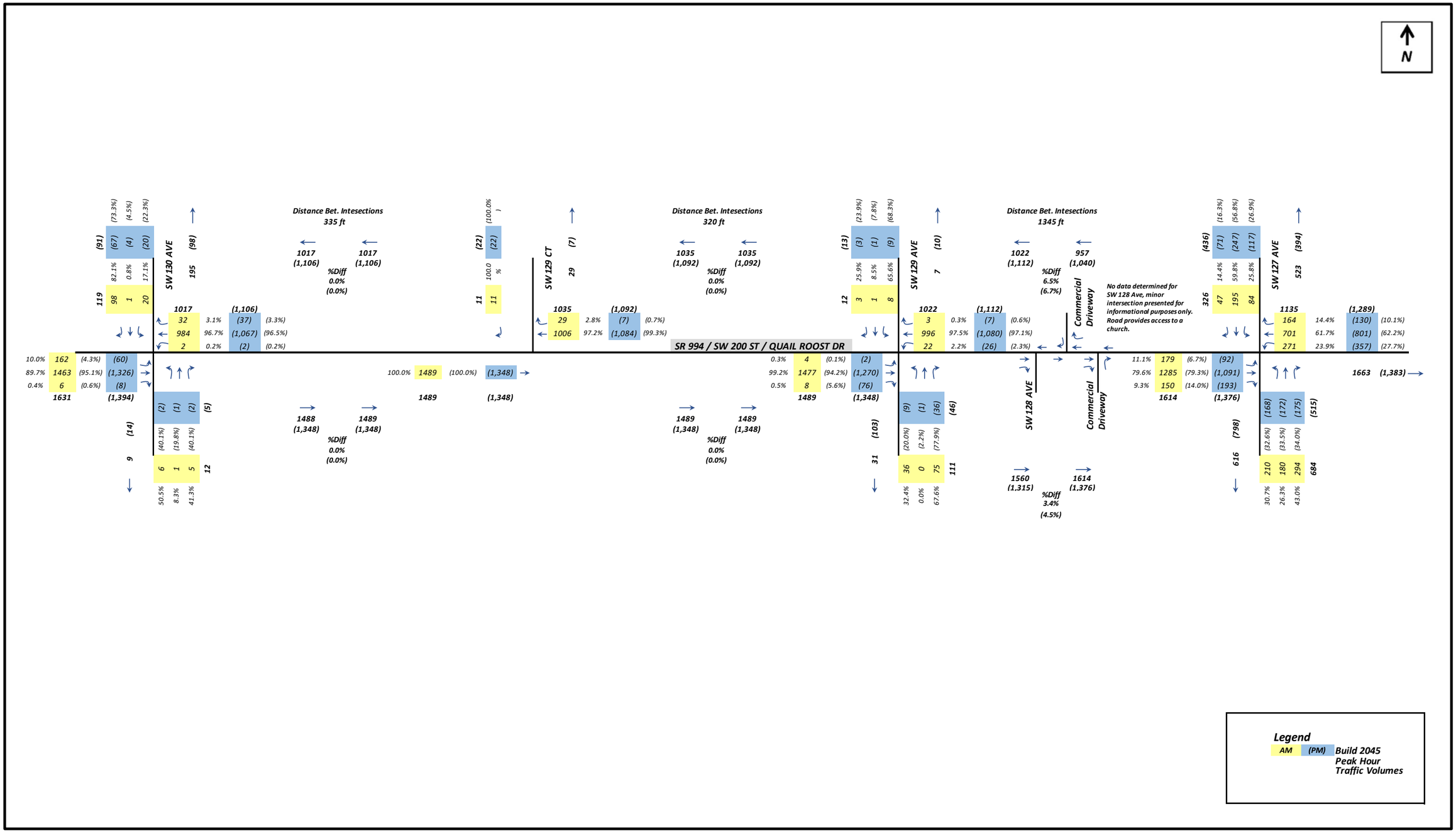


Figure 33. 2045 Build AM & PM Peak-Hour Traffic Volumes for the Study Corridor

7.4 FUTURE OPERATIONAL ANALYSIS

An operational analysis of the study corridor was performed utilizing Synchro, Version 11, to assess and compare the future traffic conditions for the Build Alternatives with the No Build Alternative for the weekday AM and PM peak hours. As done for existing traffic conditions, the operational assessment was performed in accordance with the FDOT's Traffic Analysis Handbook (2021) and consistent with HCM. The operational analysis included intersection and arterial evaluations. The results are based on the HCM 6th Edition, except the arterial analysis which is based on Synchro which mirrors the HCM 2000 reports as noted in the Synchro User Guide Chapter 15. In addition, the results for the signalized intersection of SW 137th Avenue are based on the HCM 2000 since the latest versions (HCM 6th and 2010) do not support the current signal operation of a leading left-turning arrow for the eastbound direction without an exclusive left-turn bay. For consistency, the results for SW 137th Avenue for future conditions are also based on the HCM 2000. The following future scenarios were analyzed for the project proposed opening year (2025) and the design year (2045). Per agreed traffic methodology for this study effort, no interim year was to be analyzed.

- No Build Alternative (2025 & 2045 for AM & PM), includes maintaining the existing lane configuration at the study intersections, except for the following improvements at SW 137th Avenue and SW 127th Avenue:
    - The south leg at the signalized intersection of SW 137th Avenue opens to traffic under Miami-Dade County Project No. 20040343. It opened approximately in June 2022. At the beginning of this current study effort, the south leg was closed to traffic and under construction. The northbound lane configuration includes 1 exclusive left-turn bay and 1 shared through/right-turn lane. The County project also changes the southbound approach lane configuration from one exclusive right-turn bay, one shared through/left-turn lane to 1 exclusive left-turn bay+1 shared through/right-turn lane. In addition, SW 137th Avenue will be widened from US 1 to SW 184th Street to a four-lane roadway by 2045, under Miami-Dade County Project PW168 (no FM number available yet).
    - An exclusive northbound right-turn bay will be constructed at the intersection of SW 127th Avenue under Miami-Dade County Project No. 20180004.

- Build Alternative 1 (2025 & 2045 for AM & PM): includes the same improvements under No Build plus the following:
    - Add a raised median along SR 994 with left-turning opportunities from and onto the side streets, except the following:
        - Restrict the eastbound and southbound left-turn movements at SW 132nd Place. The current volume for this movement is low-to-moderate and is expected to continue the same. This eastbound left-turn movement will be diverted 100% to SW 133rd Court. Based on the adjacent ample roadway grid network, 70% of the southbound left-turn movement will be diverted to the southbound left-turn at SW 133 Court and the remaining 30% to the southbound left-turn at SW 134th Avenue, which is now under signal controlled.
    - For SW 135th Avenue and SW 134th Court: Restrict the eastbound and southbound left-turn movements at SW 134th Court and SW 135th Avenue. The current volumes for these movements are low and are expected to continue the same. These eastbound left-turn movements will be diverted 100% to SW 134th Avenue. Based on the adjacent ample roadway grid network: 60% of the southbound left-turn movement from SW 134th Court will be diverted to the southbound left-turn at SW 134th Avenue and the remaining 40% to the southbound through at SW 134th Avenue, which are now under signal controlled; 60% of the southbound left-turn movement from SW 135th Avenue will be diverted to the westbound left-turn at SW 137th Avenue and the remaining 40% to the southbound left-turn at SW 134th Avenue.
    - For SW 137th Avenue:
        - Dual left-turn bays for the southbound, eastbound, and westbound intersection approaches.
        - Exclusive right-turn bays for the northbound and southbound intersection approaches.
        - An additional right-turn bay for the westbound approach for a total of two right-turns.
    - For SW 134th Avenue:
        - The north/south stop-controlled 4-legged intersection of SW 134th Avenue is upgraded to signal control. A signal warrant analysis completed by the FDOT in 2017 recommended upgrading this intersection to signal control.

The signal warrant analysis completed under this current study effort (refer to **Section 5.1**) confirmed that a traffic signal control is warranted at SW 134th Avenue.

- The proposed lane configuration includes providing exclusive left-turns at all intersection approaches and an exclusive right-turn at the westbound intersection approach.

- Widen SW 132nd Avenue to convert the northbound shared left-turn/right-turn lane to one exclusive left-turn lane and one exclusive right-turn lane.
- For SW 127 Avenue:
  - Additional exclusive left-turn bay for the northbound and westbound intersection approaches for a total of two left-turns.
  - Exclusive southbound right-turn bay.
- Confirmed and modified storage lengths for turn bays, as necessary based on queue build-ups.

- Build Alternative 2 (2025 & 2045 for AM & PM): includes the same improvements under Build 1 plus the following:
  - Widening SR 994 from two-lanes to four-lanes.
    - For the westbound direction, the additional through lane connects to the existing two-lane section just past SW 127th Avenue and continues across the SW 137th Avenue intersection to be merged further downstream.
    - For the eastbound direction, the additional through lane on SR 994 begins at SW 137th Avenue and connects to the existing two-lane section approaching SW 127th Avenue.
  - For SW 137 Avenue,
    - Add lanes on SW 137th Avenue near SR 994, merging downstream past SR 994.
    - Additional exclusive left-turn bay for the northbound intersection approaches for a total of two left-turns.
  - For SW 127 Avenue:
    - Provide an exclusive right-turn bay for the eastbound intersection approach.
    - Although dual northbound left-turns were necessary under Build1, a single exclusive northbound left-turn is necessary for Build 2.

  - Confirmed and modified storage lengths for turn bays, as necessary based on queue build-ups.

- Build Alternative 3 (2025 & 2045 for AM & PM): includes the same improvements under Build 2 plus the following:
  - Restrict the southbound left-turn movement at SW 133rd Court and the northbound left-turn movement at SW 133rd Avenue. The current volumes for these movements are low and are expected to continue the same, except the northbound left-turn at SW 133rd Avenue during the AM peak hour. Nevertheless, the ample roadway grid network also allows the adequate diversion of the northbound left-turn at SW 133rd Avenue. The southbound left-turn movement will be diverted 100% to the right-turn at SW 133rd Court and then to the westbound left-turn at SW 134th Avenue, which is now under signal control. Based on the adjacent ample roadway grid network, 40% of the northbound left-turn at SW 133rd Avenue will be diverted to the northbound left-turn at SW 132nd Avenue and then to the westbound right-turn at SW 134th Avenue, 30% will be diverted to the northbound through at SW 134th Avenue, and the remaining 30% to the northbound left-turn at SW 134th Avenue and then to the westbound right-turn at SW 137th Avenue.

Figures 34 through **43** present the existing, No-Build, and Build Alternative roadway conditions for the study corridor. **Tables 21** and **22** summarize the build volumes for the intersections within the study corridor under each alternative, including diverted traffic volume. All future scenarios included optimizing the intersection splits with some cycle length changes, updating the PHFs to 0.95, and maintaining the same truck percentages as existing traffic conditions.

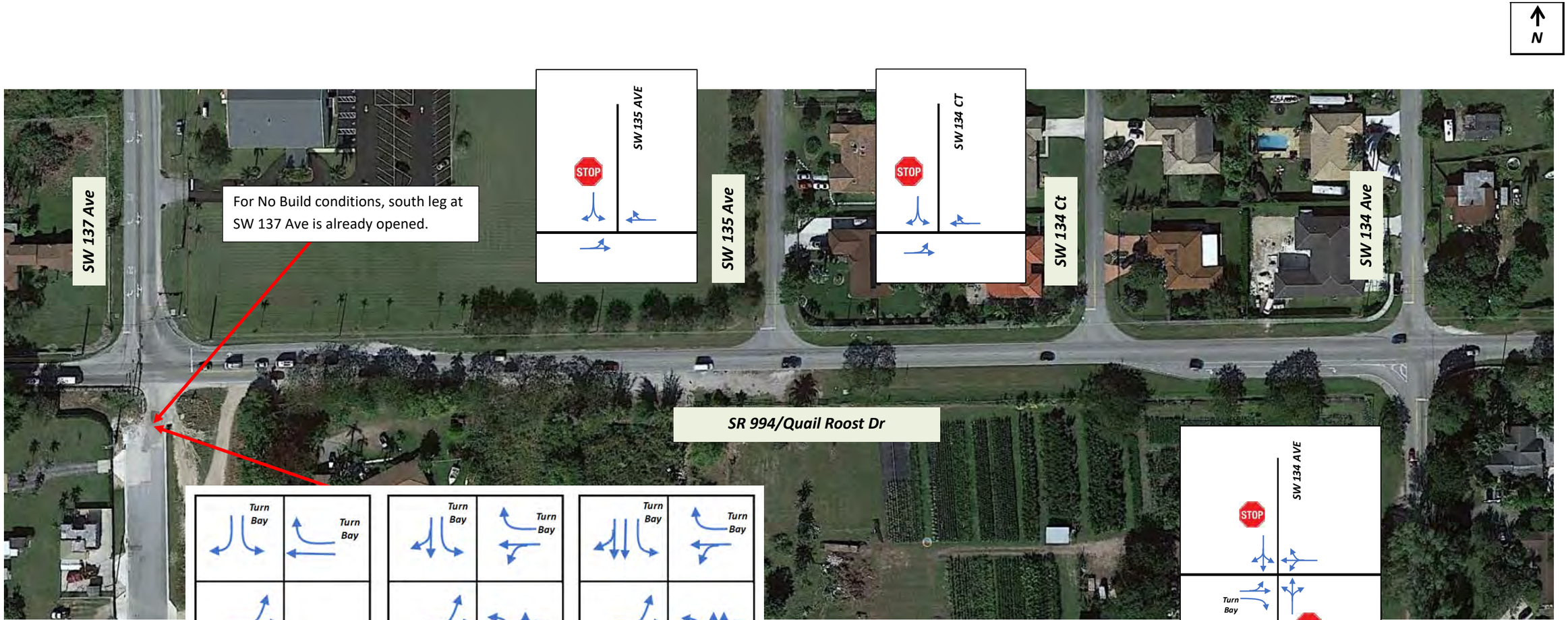
The following Measures of Effectiveness (MOEs) were generated based on the HCM 6th Edition (except for SW 137th Avenue, HCM 2000 was used) and the Synchro outputs and summarized for the traffic models:

- Intersection:
  - Level of Service
  - Average Vehicle Delay (seconds/vehicle)
- Vehicle Movement:
  - Level of Service
  - Average Vehicle Delay (seconds/vehicle)

  - Volume/Capacity (v/c) Ratio (for signalized intersections only)
  - 95th Percentile Queue (feet)
- Arterial:
  - Level of Service
  - Average Vehicle Speed (miles/hour)
  - Travel Time (seconds)
  - Delay (hours)

The HCM utilizes LOS as the quantitative measure to represent the level of service at an intersection or arterial. The LOS grading criteria ranges from LOS A to LOS F, where LOS A is under-saturated/free-flow conditions and LOS F is over-saturated conditions. The Synchro output sheets are included **Appendix K**. It is noted that the intersections of SW 137th Avenue and SW 134th Avenue are coordinated in the east/west direction, while SW 127th Avenue is coordinated in the north/south direction.

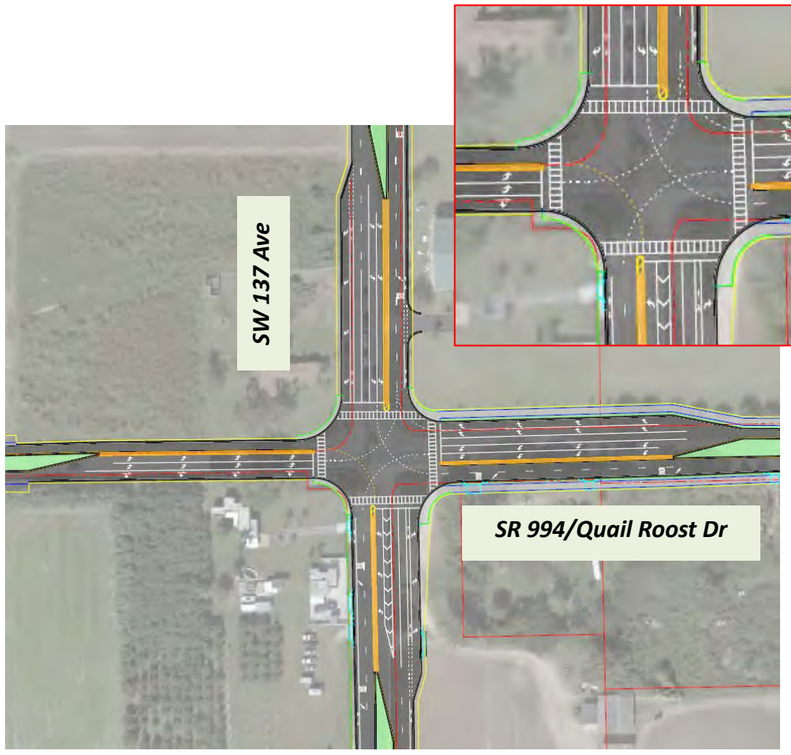
(This area was intentionally left blank.)



County opens south leg at SW 137th Ave in June 2022 and widens SW 137th Ave to 4-lanes by 2045.

Figure 34. Existing & No-Build Alternative Roadway Conditions from SW 137th Ave to SW 134th Ave

Build Alternative 1



EB Approach: Dual lefts and shared thru/right-turn lane.

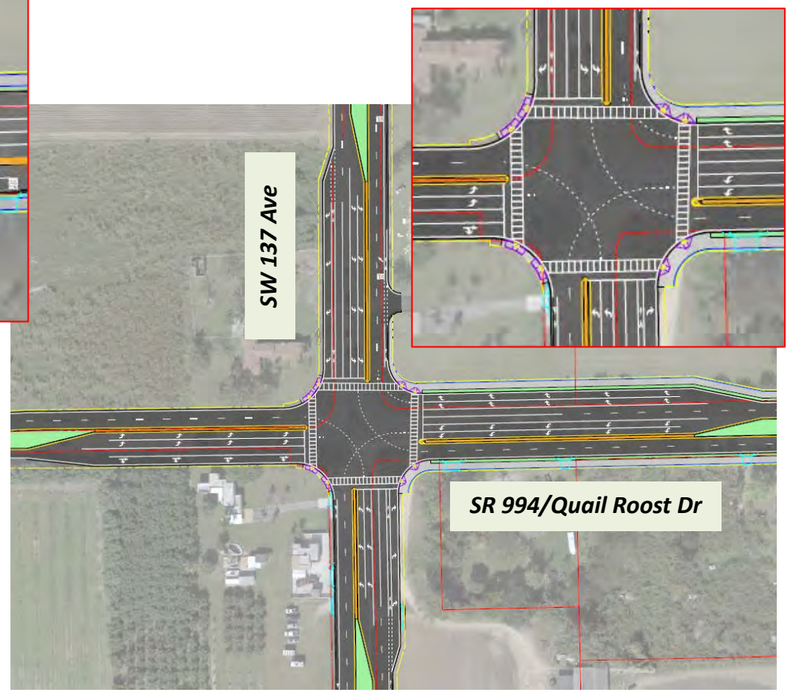
WB Approach: Dual lefts, single thru lane, and dual right-turns.

NB Approach: Single left, dual thru lanes, and single right-turn.

SB Approach: Dual lefts, dual thru lanes, and single right-turn.

Build Alternative 2

Note: Lane geometry differences with previous alternative are indicated in red. Alternatives are cumulative.



EB Approach: Dual lefts, single thru lane, and shared thru/right-turn lane.

WB Approach: Dual lefts, dual thru lanes, and dual right-turns.

NB Approach: Dual lefts, dual thru lanes, and single right-turn.

SB Approach: Dual lefts, dual thru lanes, and single right-turn.

Note: Build 2 adds an exclusive EB thru lane, an additional WB thru lane, and an additional NB left.

Build Alternative 3

N

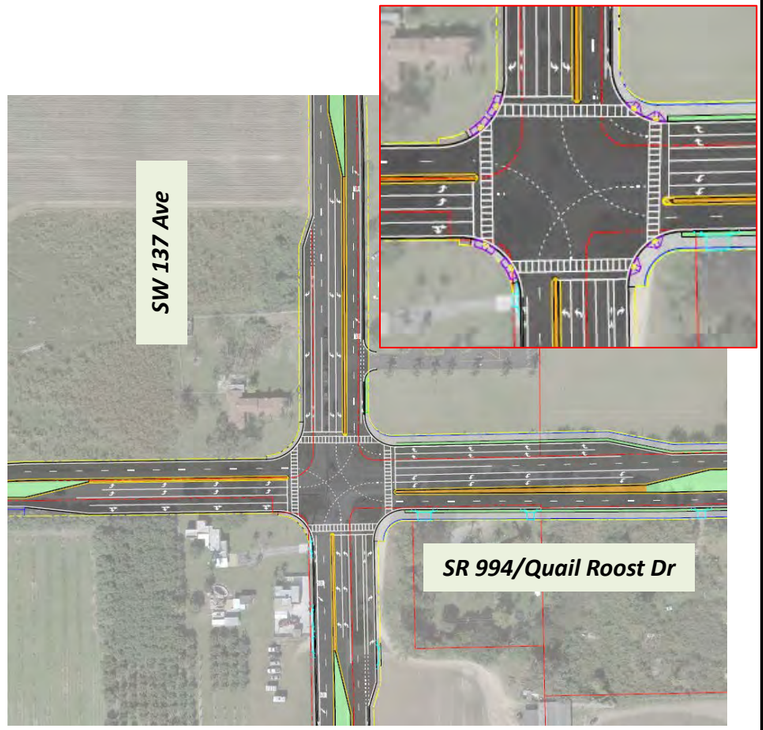
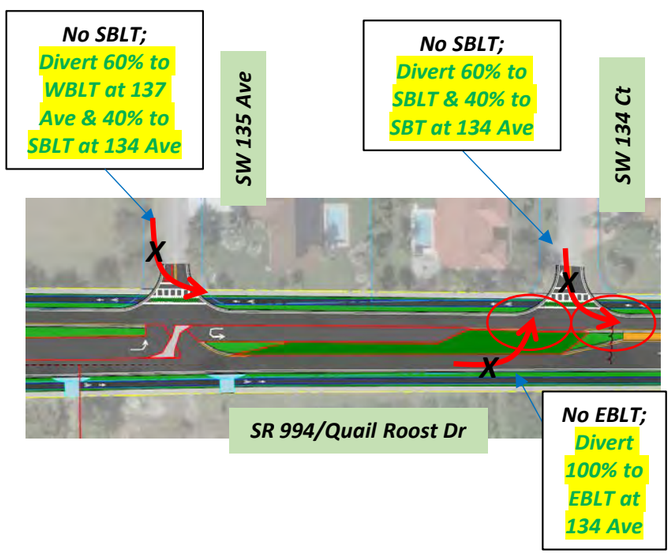


Figure 35. Build Alternative Roadway Conditions at SW 137th Ave

N

Build Alternative 1



EB Approach: Single thru lane. At SW 135 Ave, an exclusive left-turn bay.

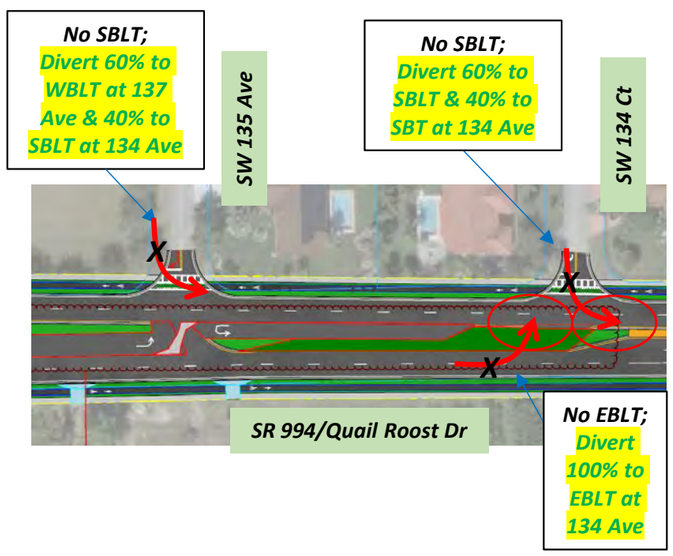
WB Approach: Single shared thru/right-turn lane.

NB Approach: N/A.

SB Approach: Exclusive right-turn lane.

Build Alternative 2

Note: Lane geometry differences with previous alternative are indicated in red. Alternatives are cumulative.



EB Approach: Dual thru lanes. At SW 135 Ave, an exclusive left-turn bay.

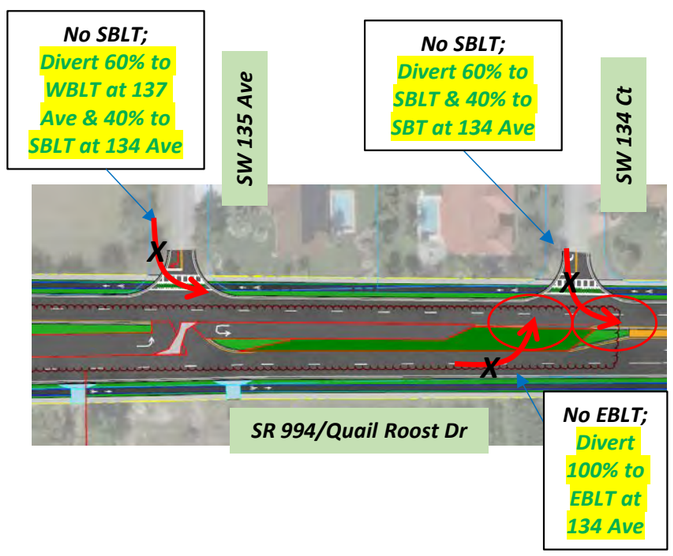
WB Approach: Exclusive thru lane and single shared thru/right-turn lane.

NB Approach: N/A.

SB Approach: Exclusive right-turn lane.

Note: Build 2 adds an additional thru lane in each direction.

Build Alternative 3

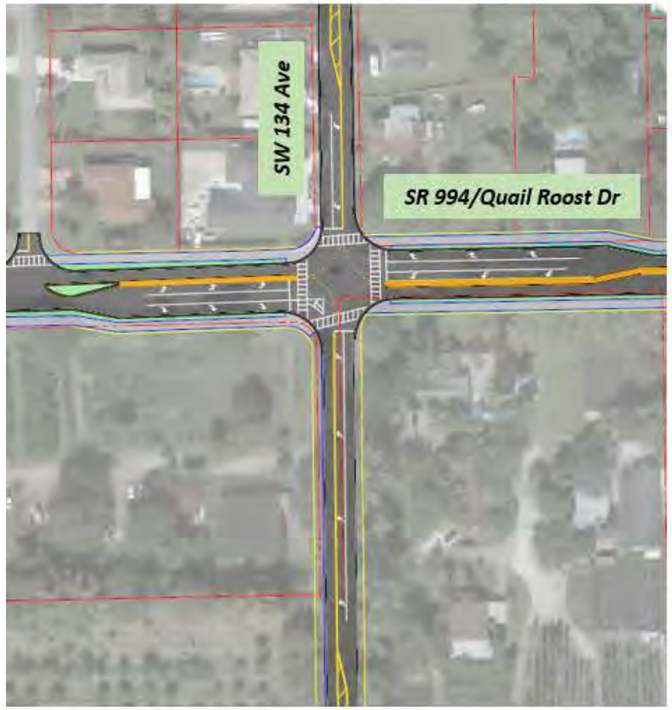


Same as Build 2.

Figure 36. Build Alternative Roadway Conditions at SW 135th Ave & SW 134th Ct

N

Build Alternative 1



EB Approach: Single left, single thru lane, and single right-turn.

WB Approach: Single left, single thru lane, and single right-turn.

NB Approach: Single left and single shared thru/right-turn lane.

SB Approach: Single left and single thru/right-turn lane.

Build Alternative 2

Note: Lane geometry differences with previous alternative are indicated in red.
Alternatives are cumulative.



EB Approach: Single left, dual thru lanes, and single right-turn.

WB Approach: Single left, dual thru lanes, and single right-turn.

NB Approach: Single left and single shared thru/right-turn lane.

SB Approach: Single left and single thru/right-turn lane.

Note: Build 2 adds an additional thru lane in each direction.

Build Alternative 3

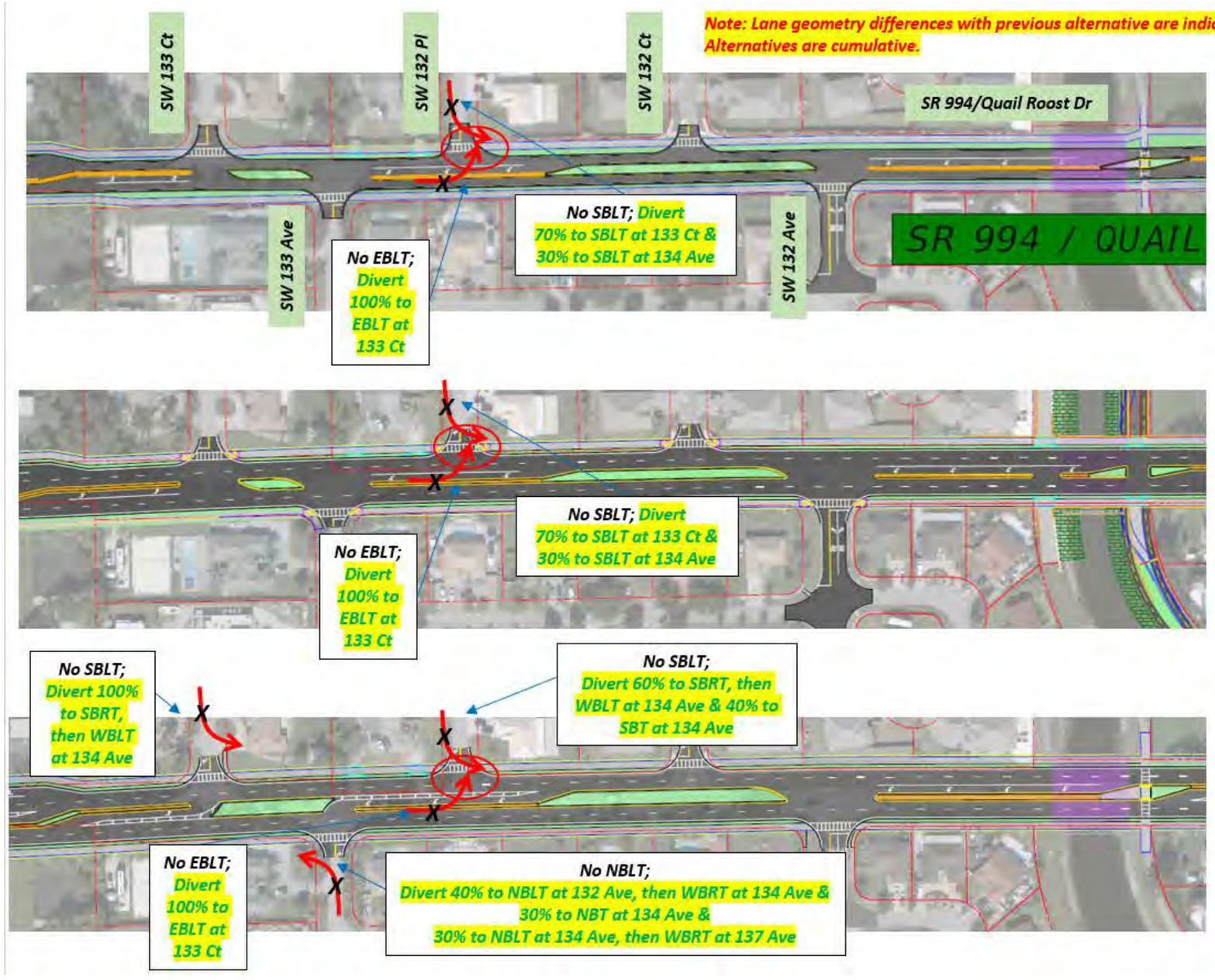


Same as Build 2.

Figure 37. Build Alternative Roadway Conditions at SW 134th Ave



Figure 38. Existing & No Build Alternative Roadway Conditions from SW 133rd Ct to SW 132nd Ave



Build Alternative 1

EB Approach: Single shared thru/right-turn lane. At SW 133 Ct, an exclusive left-turn bay.

WB Approach: Single shared thru/right-turn lane. At SW 132 Ave and SW 133 Ave, an exclusive left-turn bay.

NB Approach: At SW 132 Ave, single right-turn lane and single left-turn lane. At SW 133 Ave, shared right/left-turn lane.

SB Approach: At SW 132 Ct and SW 132 Pl, exclusive right-turn lanes. At SW 133 Ct, shared right/left-turn lane.

Build Alternative 2

Same as Build 1.

Build Alternative 3

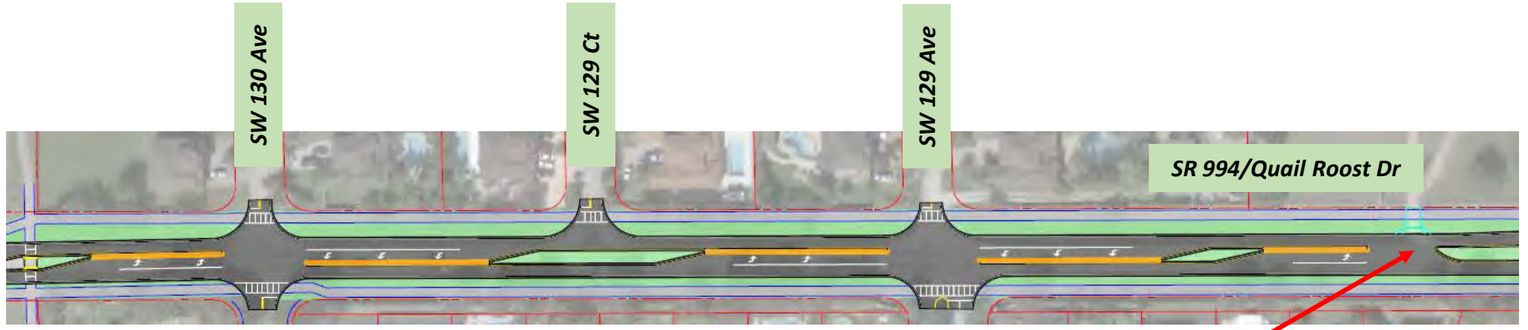
Same as Builds 1 and 2 but SBLT at SW 133 Ct and NBLT at SW 133 Ave are eliminated.

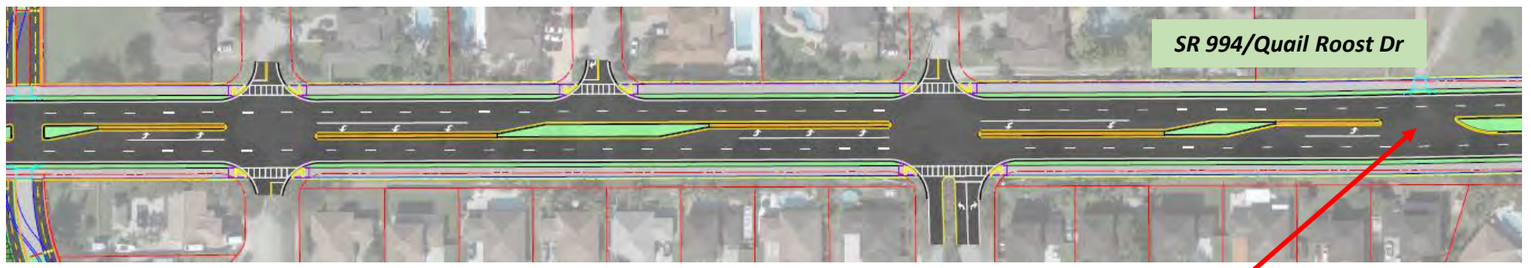
Figure 39. Build Alternative Roadway Conditions from SW 133rd Ct to SW 132nd Ave

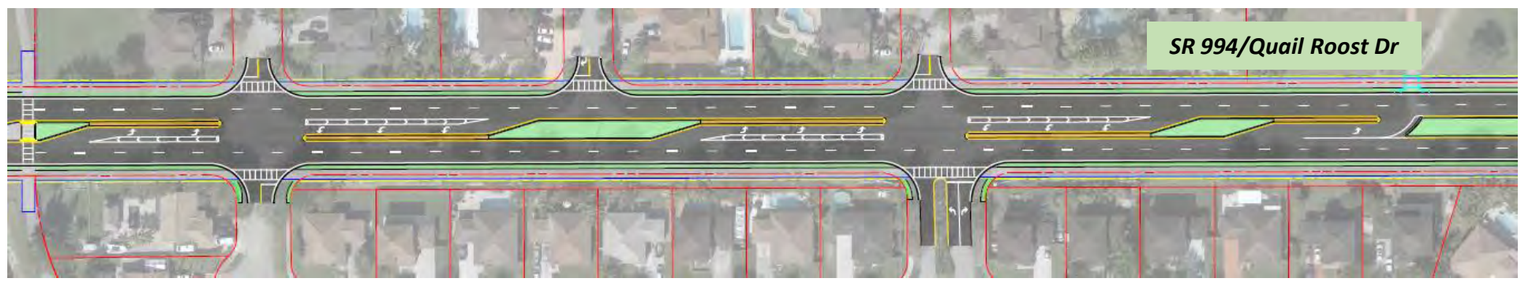


Figure 40. Existing & No Build Alternative Roadway Conditions from SW 130th Ave to SW 129th Ave

Note: Lane geometry differences with previous alternative are indicated in red. Alternatives are cumulative.







N

Build Alternative 1

EB Approach: *Single shared thru/right-turn lane. At SW 130 Ave and SW 129 Ave, an exclusive left-turn bay.*

WB Approach: *Single shared thru/right-turn lane. At SW 130 Ave and SW 129 Ave, an exclusive left-turn bay.*

NB Approach: *At SW 129 Ave, single right-turn lane and single left-turn lane. At SW 130 Ave, shared right/left-turn lane.*

SB Approach: *At SW 129 Ave and SW 130 Ave, shared right/thru/left-turn lane. At SW 129 Ct, exclusive right-turn lane.*

Build Alternative 2

Same as Build 1 but with an additional thru lane in each direction.

Build Alternative 3

Same as Build 2.

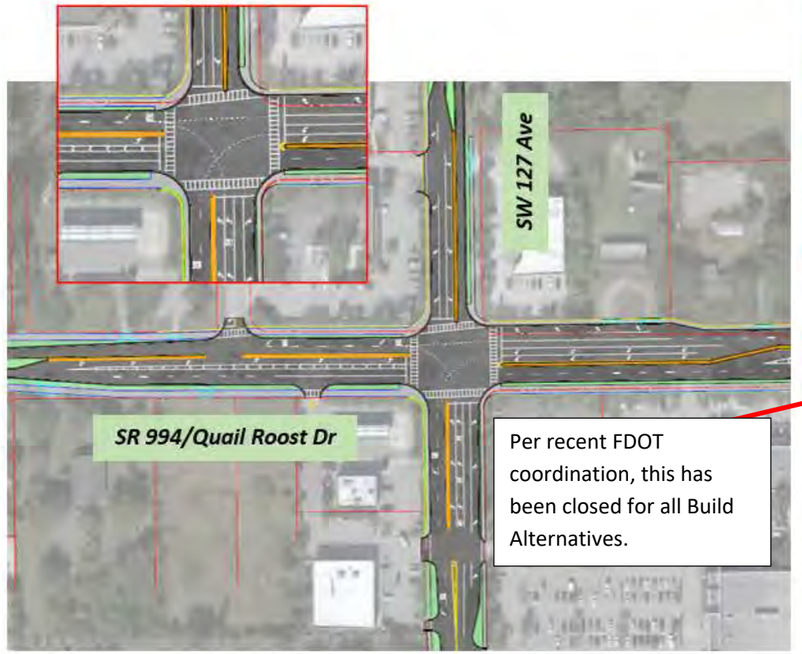
Figure 41. Build Alternative Roadway Conditions from SW 130th Ave to SW 129th Ave



Figure 42. Existing & No Build Alternative Roadway Conditions at SW 127th Ave

N

Build Alternative 1



EB Approach: Single left, single thru lane, and single shared thru/right-turn lane.

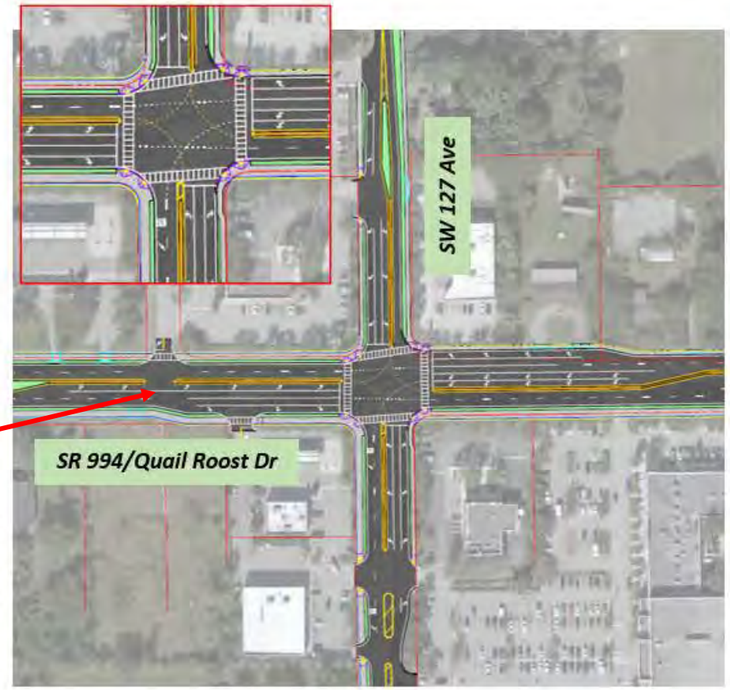
WB Approach: Dual lefts, dual thru lanes, and single right-turn.

NB Approach: Dual lefts, single thru lane, and single right-turn.

SB Approach: Single left, single thru lane, and single right-turn lane.

Build Alternative 2

Note: Lane geometry differences with previous alternative are indicated in red. Alternatives are cumulative.



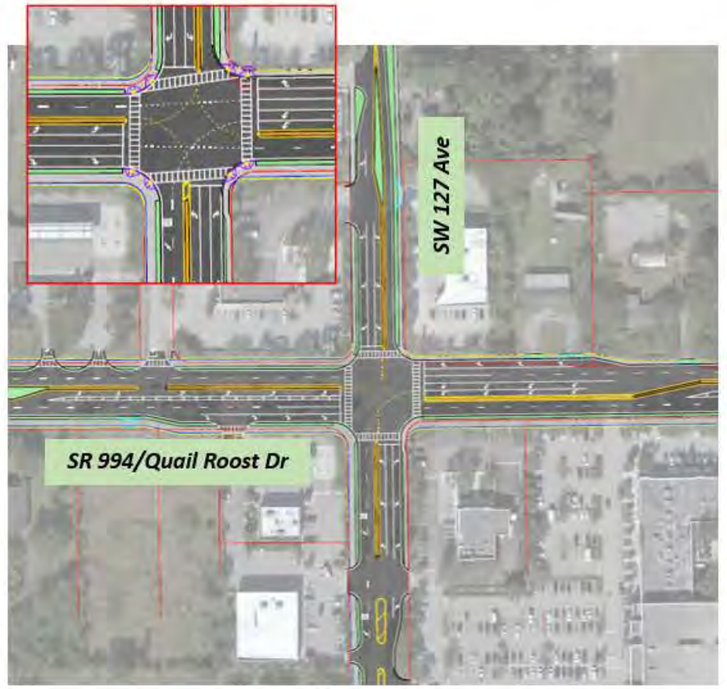
EB Approach: Single left, dual thru lanes, and single right-turn lane.

WB Approach: Dual lefts, dual thru lanes, and single right-turn.

NB Approach: Single left, single thru lane, and single right-turn.

SB Approach: Single left, single thru lane, and single right-turn lane.

Build Alternative 3



Same as Build 2.

Figure 43. Build Alternative Roadway Conditions at SW 127th Ave

Table 21. Build Alternatives 1 & 2 Traffic Volumes AM & PM Peak Hours

Intersection Approach	Movement	2045 Builds 1 & 2 - AM Peak Hour Traffic Volumes											
		SW 137 AVE	SW 135 AVE	SW 134 CT	SW 134 AVE	SW 133 CT	SW 133 AVE	SW 132 PL	SW 132 AVE	SW 130 AVE	SW 129 CT	SW 129 AVE	SW 127 AVE
Eastbound	Left	84	---	---	25	39	---	---	---	162	---	4	179
	Thru	561	1096	1107	1007	1188	1232	1360	1338	1463	1489	1477	1285
	Right	98	---	---	75	---	21	---	22	6	---	8	150
	Appr. Total	***743***	***1096***	***1107***	***1107***	***1227***	***1253***	***1360***	***1360***	***1631***	***1489***	***1489***	***1614***
Westbound	Left	278	---	--	98	---	17	---	88	2	---	22	271
	Thru	413	1069	1072	957	1114	1014	1018	999	984	1006	996	701
	Right	383	6	5	66	13	---	24	---	32	29	3	164
	Appr. Total	***1074***	***1075***	***1077***	***1121***	***1127***	***1031***	***1042***	***1087***	***1017***	***1035***	***1022***	***1136***
Northbound	Left	131	---	---	85	---	113	---	42	6	---	36	210
	Thru	521	---	---	23	---	---	---	---	1	---	---	180
	Right	243	---	---	139	---	125	---	294	5	---	75	294
	Appr. Total	***895***	***---***	***---***	***247***	***---***	***239***	***---***	***336***	***12***	***---***	***111***	***684***
Southbound	Left	292	--	--	81	65	---	---	---	20	---	8	84
	Thru	353	---	---	52	---	---	---	---	1	---	1	195
	Right	121	5	3	35	7	---	13	---	98	11	3	47
	Appr. Total	***766***	***5***	***3***	***168***	***72***	***---***	***13***	***---***	***119***	***11***	***12***	***326***
	Int. Total	***3478***	***2176***	***2187***	***2643***	***2426***	***2523***	***2415***	***2784***	***2780***	***2535***	***2634***	***3760***

Intersection Approach	Movement	2045 Builds 1 & 2 - PM Peak Hour Traffic Volumes											
		SW 137 AVE	SW 135 AVE	SW 134 CT	SW 134 AVE	SW 133 CT	SW 133 AVE	SW 132 PL	SW 132 AVE	SW 130 AVE	SW 129 CT	SW 129 AVE	SW 127 AVE
Eastbound	Left	51	---	---	33	13	---	---	---	60	---	2	92
	Thru	529	1232	1238	1112	1268	1292	1334	1260	1326	1348	1270	1091
	Right	88	---	---	93	---	13	---	74	8	---	76	193
	Appr. Total	***718***	***1232***	***1238***	***1238***	***1281***	***1305***	***1334***	***1334***	***1394***	***1348***	***1348***	***1376***
Westbound	Left	241	---	---	73	---	40	---	209	2	---	26	357
	Thru	347	877	883	781	912	907	940	927	1067	1084	1080	801
	Right	295	7	7	62	16	---	13	---	37	7	7	130
	Appr. Total	***883***	***884***	***890***	***916***	***928***	***946***	***954***	***1136***	***1106***	***1092***	***1112***	***1288***
Northbound	Left	109	---	---	76	---	22	---	27	2	---	9	168
	Thru	319	---	---	49	---	---	---	---	1	---	1	172
	Right	274	---	---	120	---	43	---	134	2	---	36	175
	Appr. Total	***702***	***---***	***---***	***245***	***---***	***64***	***---***	***161***	***5***	***---***	***46***	***515***
Southbound	Left	379	---	---	49	37	---	---	---	20	---	9	117
	Thru	626	---	---	29	---	---	---	---	4	---	1	247
	Right	123	6	1	33	3	---	6	---	67	22	3	71
	Appr. Total	***1128***	***6***	***1***	***111***	***40***	***---***	***6***	***---***	***91***	***22***	***13***	***435***
	Int. Total	***3431***	***2122***	***2129***	***2510***	***2249***	***2316***	***2294***	***2630***	***2597***	***2461***	***2520***	***3614***

Table 22. Build Alternative 3 Traffic Volumes AM & PM Peak Hours

Intersection Approach	Movement	2045 Build 3 - AM Peak Hour Traffic Volumes											
		SW 137 AVE	SW 135 AVE	SW 134 CT	SW 134 AVE	SW 133 CT	SW 133 AVE	SW 132 PL	SW 132 AVE	SW 130 AVE	SW 129 CT	SW 129 AVE	SW 127 AVE
Eastbound	Left	84	---	---	27	39	---	---	---	162	---	4	179
	Thru	560	1093	1096	994	1161	1140	1266	1243	1368	1393	1381	1189
	Right	98	---	---	75	---	21	---	22	6	---	8	150
	Appr. Total	***742***	***1093***	***1096***	***1096***	***1200***	***1161***	***1266***	***1265***	***1536***	***1393***	***1393***	***1518***
Westbound	Left	265	---	---	155	---	17	---	98	2	---	22	271
	Thru	393	1009	1004	889	1094	1107	1063	1000	994	1017	1007	701
	Right	365	6	5	66	13	---	24	---	32	29	3	164
	Appr. Total	***1023***	***1015***	***1009***	***1110***	***1107***	***1124***	***1087***	***1098***	***1028***	***1046***	***1032***	***1136***
Northbound	Left	131	---	---	85	---	---	---	87	6	---	36	210
	Thru	521	---	---	57	---	---	---	---	1	---	2	180
	Right	241	---	---	139	---	125	---	294	5	---	75	294
	Appr. Total	***893***	***---***	***---***	***281***	***---***	***125***	***---***	***381***	***12***	***---***	***113***	***684***
Southbound	Left	292	---	---	67	---	---	---	---	20	---	8	84
	Thru	377	---	---	87	---	---	---	---	1	---	1	195
	Right	121	13	11	35	16	---	61	---	98	11	3	47
	Appr. Total	***790***	***13***	***11***	***189***	***16***	***---***	***61***	***---***	***119***	***11***	***12***	***326***
	Int. Total	***3448***	***2121***	***2116***	***2676***	***2323***	***2410***	***2414***	***2744***	***2695***	***2450***	***2550***	***3664***

Intersection Approach	Movement	2045 Build 3 - PM Peak Hour Traffic Volumes											
		SW 137 AVE	SW 135 AVE	SW 134 CT	SW 134 AVE	SW 133 CT	SW 133 AVE	SW 132 PL	SW 132 AVE	SW 130 AVE	SW 129 CT	SW 129 AVE	SW 127 AVE
Eastbound	Left	51	---	---	34	13	---	---	---	60	---	2	92
	Thru	577	1229	1230	1103	1256	1243	1285	1211	1277	1299	1221	1042
	Right	88	---	---	93	---	13	---	74	8	---	76	193
	Appr. Total	***716***	***1229***	***1230***	***1230***	***1269***	***1256***	***1285***	***1285***	***1345***	***1299***	***1299***	***1327***
Westbound	Left	242	---	---	107	---	40	---	222	2	---	26	357
	Thru	346	870	870	768	921	938	949	928	1081	1098	1093	801
	Right	293	7	7	62	16	---	13	---	37	7	7	130
	Appr. Total	***881***	***877***	***877***	***937***	***937***	***978***	***962***	***1150***	***1120***	***1105***	***1126***	***1288***
Northbound	Left	109	---	---	76	---	---	---	36	2	---	9	168
	Thru	319	---	---	56	---	---	---	---	1	---	1	172
	Right	274	---	---	120	---	43	---	134	2	---	36	175
	Appr. Total	***702***	***---***	***---***	***252***	***---***	***43***	***---***	***170***	***5***	***---***	***46***	***515***
Southbound	Left	378	---	---	46	---	---	---	---	20	---	9	117
	Thru	640	---	---	46	---	---	---	---	4	---	1	247
	Right	123	11	8	33	15	---	28	---	67	22	3	71
	Appr. Total	***1141***	***11***	***8***	***125***	***15***	***---***	***28***	***---***	***91***	***22***	***13***	***435***
	Int. Total	***3440***	***2117***	***2115***	***2544***	***2221***	***2277***	***2275***	***2605***	***2561***	***2426***	***2484***	***3565***

7.4.1 Arterial Analysis Results

The study arterial for the existing conditions of SR 994 is operating at LOS C or better for both eastbound and westbound directions during the AM and PM hours as presented in **Tables 23** and **24**. The average vehicle speed for eastbound SR 994 during the AM and PM hours is 21-27 MPH, whereas in the westbound direction also for both s is slightly higher at 28-33 MPH. These speeds are lower than the 40 MPH posted speed limit for SR 994. If no improvements are implemented, the arterial operations of the study corridor for the westbound direction would degrade to LOS E for No Build conditions 2025 PM, LOS F for eastbound 2045 AM, and LOS E or worst for westbound 2045 AM and PM, as presented in **Tables 23** and **24**. The travel speeds decrease to 14 MPH or less with increased travel times. The total arterial travel time for westbound traffic under No Build conditions in 2025 PM increases from 1.6 minutes to 4.3 minutes. For eastbound traffic under No Build conditions in 2045 AM, the total arterial travel time increases from 2.6 minutes to 10.6 minutes. In 2045, for westbound traffic, the No Build conditions show an increase in total arterial travel time from 1.9 minutes to 8.5 minutes in the AM and from 1.6 minutes to 4 minutes in the PM.

Table 23. Existing & 2025 Arterial Operational Results AM & PM for SR 994

	Dir.	Peak Hour	MOE	EXISTING	NO BUILD 2025	BUILD 1 2025	BUILD 2 2025	BUILD 3 2025
2025	Eastbound	AM	LOS	C	F	C	C	C
			Speed (mph)	20	7	20	20	20
			Total Delay (hr)	18	59	17	17	17
			Travel Time (min)	3.4	9.4	4.2	4.2	4.2
		PM	LOS	C	F	D	C	C
			Speed (mph)	25	10	18	20	19
			Total Delay (hr)	10	35	18	14	14
			Travel Time (min)	2.7	7.0	4.2	3.8	3.9
	Westbound	AM	LOS	C	D	C	C	C
			Speed (mph)	22	16	20	21	20
			Total Delay (hr)	12	23	19	19	19
			Travel Time (min)	3.1	4.3	4.0	4.0	4.0
		PM	LOS	C	D	C	C	C
			Speed (mph)	28	17	19	20	20
			Total Delay (hr)	10	25	21	20	20
			Travel Time (min)	2.5	4.2	4.0	3.8	3.9
			Total Arterial Delay (hr)	*50.0*	*142.0*	*75.0*	*70.0*	*70.0*

Notes: Summarized results are based on Synchro.

With the implementation of the recommended improvements under the Build conditions, the arterial operations of the study corridor would improve to LOS D or better with increased speeds and lower travel times, as presented in **Tables 23** and **24**. Although all three Build alternatives are expected to significantly improve travel speeds during both the AM and PM peak hours in future years, Builds 2 and 3 are anticipated to provide approximately 3-5 MPH higher speeds when compared to Build 1.

With regards to arterial operations, Builds 2 and 3 have similar potential benefits while both being better than Build 1.

Table 24. Existing & 2045 Arterial Operational Results AM & PM for SR 994

	Dir.	Peak Hour	MOE	EXISTING	NO BUILD 2045	BUILD 1 2045	BUILD 2 2045	BUILD 3 2045
2045	Eastbound	AM	LOS	C	F	D	C	C
			Speed (mph)	20	7	18	19	19
			Total Delay (hr)	18	78	29	25	24
			Travel Time (min)	3.3	9.0	4.2	4.0	4.0
		PM	LOS	C	F	D	C	C
			Speed (mph)	25	8	16	18	18
			Total Delay (hr)	10	54	31	22	21
			Travel Time (min)	2.7	8.0	4.7	4.1	4.1
	Westbound	AM	LOS	C	D	C	C	C
			Speed (mph)	20	16	19	20	20
			Total Delay (hr)	12	36	28	25	25
			Travel Time (min)	3.1	4.3	4.0	3.8	3.9
		PM	LOS	C	D	C	C	C
			Speed (mph)	25	15	19	20	19
			Total Delay (hr)	10	58	27	27	27
			Travel Time (min)	2.5	4.6	4.1	3.9	4.0
			Total Arterial Delay (hr)	*50.0*	*226.0*	*115.0*	*99.0*	*97.0*

Notes: Summarized results are based on Synchro.

7.4.2 Intersection Analysis Results

It is essential to consider the timing and type of improvements under each Build alternative to understand the operational results and the changes to traffic patterns that these actions will bring. In other words, the benefits or decay in operations due to the implementation of the Build Alternatives are not linearly related but influenced by the modifications taking place at such time.

Build 1 includes capacity improvements at SW 137th Avenue and the opening of the south leg to traffic by the 2025 analysis year (the intersection leg actually opened in June 2022). Introduction of the south leg at SW 137th Avenue altered traffic patterns at SW 137th Avenue and SW 134th Avenue. Additionally, a County project to widen SW 137th Avenue from 2 lanes to 4 lanes is expected to be completed by 2030. While this project will improve traffic conditions by 2045, it will not affect conditions in the analysis year 2025. Starting with Build 1, the traffic control at the intersection of SW 134th Avenue will be upgraded to signal control. Additionally, capacity improvements will be implemented at the intersection of SW 127th Avenue. Under Build 2 and 3 alternatives, SR 994 is to be widened from 2 lanes to 4 lanes by FDOT. The primary difference between Build 2 and Build 3 is that Build 3 includes additional access management enhancements, which will divert traffic within the study corridor.

Signalized Intersection of SW 137th Avenue:

As previously presented in **Table 6**, this intersection is currently operating at LOS C or better with an overall average intersection delay of 33 seconds per vehicle or less during the AM and PM peak hours. At the beginning of this current study effort, the south leg at the intersection was under construction and closed to traffic. The south leg opened to traffic approximately in June 2022. Per the 2021 traffic data collected, all intersection movements are operating at LOS D or better, except the southbound left-turn movement at LOS F during the PM peak hour. The southbound left-turn movement is experiencing long vehicle queues and taking a few signal cycles for vehicles to complete the left-turn onto SR 994 eastbound during both peak hours. Additionally, the eastbound approach is experiencing long queues during the AM peak hour.

As presented in **Table 25**, with the increase in traffic expected in 2025, the level of service at this intersection under No Build conditions is expected to degrade to LOS F. Most intersection movements will operate at LOS F and experience long vehicular queues. The operations at the intersection will worsen by 2045. Signal timing improvements alone are not sufficient to mitigate the expected increase in traffic at the study intersection.

For the opening year 2025, operations at SW 137th Avenue are expected to show some improvement under Build 1. The overall average intersection delay per vehicle is projected to decrease from 119 to 65 seconds during the AM peak hour and from 159 to 121 seconds during the PM peak hour. Despite these improvements, the intersection level of service remains similar to No Build conditions at LOS E or worse. By 2045, further improvements in intersection operations are anticipated due to the widening of SW 137th Avenue. The overall average intersection delay per vehicle is expected to decrease from 217 to 61 seconds during the AM peak hour and from 135 to 79 seconds during the PM peak hour. However, the intersection level of service remains at E for both peak hours.

Although significant operational improvements are anticipated with both Build Alternatives 2 and 3, Build 2 is expected to experience lower vehicular delay. For the opening year 2025, the level of services for both alternatives are projected to be LOS D for the AM peak hour and LOS E for the PM peak hour. The overall average intersection delay per vehicle is 38 seconds for Build 2 and 41 seconds for Build 3 during the AM peak hour. For the PM peak hour, the overall average intersection delay per vehicle is 55 seconds for Build 2 and 65 seconds for Build 3. By year 2045, the intersection level of service improves to LOS D due to the widening of SW 137th Avenue. The overall average intersection delay per vehicle is 38 seconds for Build 2 and 40 seconds for Build 3 during the AM peak hour. For the PM peak hour, the overall average intersection delay per vehicle is 39 seconds for Build 2 and 43 seconds for Build 3.

To highlight the difference in total vehicular delays between Build 2 and Build 3, the total cumulative intersection vehicular delay for 2045 was calculated. For Build 2, the total delay is 36 hours during the AM and PM peak hours each, compared to 38 to 41 hours for Build 3 during the same periods, making Build 2 the better option at the intersection of SW 137th Avenue.

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Table 25. No Build & Build 1 Operational Results 2025 & 2045 AM & PM for SW 137th Ave

	NO BUILD - 2025							NO BUILD - 2045							BUILD 1 - 2025							BUILD 1 - 2045						
	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS
AM Peak Hour	EBLT	70	*	*	*	*	*	EBLT	83	*	*	*	*	*	EBLT	71	56.1	1.1	53	0.44	E	EBLT	84	54.4	1.3	60	0.42	D
	EBT	401	68.3	10.7	707	1.01	E	EBT	450	398.4	71.8	736	1.80	F	EBT	519	146.5	24.3	917	1.19	F	EBT	561	151.3	27.7	1044	1.21	F
	EBRT	93	*	*	*	*	*	EBRT	116	*	*	*	*	*	EBRT	79	*	*	*	*	*	EBRT	98	*	*	*	*	*
	WBLT	201	*	*	*	*	*	WBLT	377	*	*	*	*	*	WBLT	219	53.4	3.2	127	0.60	D	WBLT	278	54.0	4.2	155	0.67	D
	WBT	390	93.5	15.3	770	1.09	F	WBT	434	345.7	77.9	830	1.69	F	WBT	379	37.8	4.0	442	0.65	D	WBT	413	35.3	4.0	515	0.66	D
	WBRT	245	15.6	1.1	93	0.24	B	WBRT	256	13.8	1.0	80	0.23	B	WBRT	244	18.5	1.3	24	0.10	B	WBRT	383	14.6	1.6	26	0.15	B
	NBLT	145	99.5	4.0	197	0.96	F	NBLT	181	71.3	3.6	222	0.88	E	NBLT	105	28.6	0.8	80	0.30	C	NBLT	131	37.8	1.4	97	0.48	D
	NBT	417	127.9	19.3	735	1.14	F	NBT	521	129.3	24.6	457	1.14	F	NBT	417	48.3	5.6	440	0.81	D	NBT	521	48.9	7.1	259	0.75	D
	NBRT	127	*	*	*	*	*	NBRT	165	*	*	*	*	*	NBRT	180	31.4	1.6	96	0.13	C	NBRT	243	39.3	2.7	65	0.16	D
	SBLT	137	137.7	5.2	207	1.07	F	SBLT	215	71.3	4.3	274	0.93	E	SBLT	178	53.6	2.7	107	0.57	D	SBLT	292	52.3	4.2	158	0.67	D
	SBT	283	271.6	32.4	677	1.47	F	SBT	353	117.2	11.5	352	1.10	F	SBT	283	61.0	4.8	358	0.89	E	SBT	353	39.5	3.9	165	0.67	D
	SBRT	146	*	*	*	*	*	SBRT	182	*	*	*	*	*	SBRT	97	26.2	0.7	30	0.07	C	SBRT	121	29.9	1.0	39	0.09	C
	Int	**2655**	**119.4**	**88.1**			F	**Int**	**3333**	**216.6**	**194.7**			F	**Int**	**2771**	**65.0**	**50.1**			E	**Int**	**3478**	**61.0**	**59.0**			E
PM Peak Hour	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS
	EBLT	43	*	*	*	*	*	EBLT	51	*	*	*	*	*	EBLT	43	56.2	0.7	37	0.31	E	EBLT	51	56.1	0.8	42	0.35	E
	EBT	418	93.6	14.2	717	1.04	F	EBT	466	54.6	9.5	743	0.97	D	EBT	488	347.1	53.9	996	1.78	F	EBT	529	244.1	41.8	1049	1.53	F
	EBRT	87	*	*	*	*	*	EBRT	109	*	*	*	*	*	EBRT	71	*	*	*	*	*	EBRT	88	*	*	*	*	*
	WBLT	162	*	*	*	*	*	WBLT	218	*	*	*	*	*	WBLT	178	54.3	2.7	109	0.57	D	WBLT	241	54.8	3.7	140	0.65	D
	WBT	338	163.1	22.7	724	1.25	F	WBT	361	138.4	22.3	798	1.21	F	WBT	327	56.7	5.2	427	0.80	E	WBT	347	40.9	3.9	376	0.66	D
	WBRT	181	21.0	1.1	55	0.15	C	WBRT	286	16.4	1.3	108	0.28	B	WBRT	180	24.4	1.2	23	0.07	C	WBRT	295	16.6	1.4	22	0.12	B
	NBLT	138	133.4	5.1	204	1.07	F	NBLT	173	161.4	7.8	253	1.16	F	NBLT	87	21.3	0.5	57	0.27	C	NBLT	109	31.5	1.0	80	0.41	C
	NBT	256	37.7	4.2	389	0.69	D	NBT	319	45.2	6.3	230	0.65	D	NBT	256	26.7	1.9	233	0.37	C	NBT	319	36.1	3.2	159	0.36	D
	NBRT	148	*	*	*	*	*	NBRT	186	*	*	*	*	*	NBRT	214	23.9	1.4	53	0.14	C	NBRT	274	34.3	2.6	69	0.18	C
	SBLT	178	26.1	1.3	133	0.61	C	SBLT	278	97.3	7.5	333	1.04	F	SBLT	237	53.6	3.5	135	0.64	D	SBLT	379	52.9	5.6	199	0.74	D
	SBT	501	369.2	65.6	1000	1.71	F	SBT	626	302.5	67.2	606	1.55	F	SBT	501	134.8	18.8	705	1.18	F	SBT	626	54.4	9.5	364	0.93	D
	SBRT	139	*	*	*	*	*	SBRT	174	*	*	*	*	*	SBRT	98	18.0	0.5	26	0.07	B	SBRT	123	23.5	0.8	235	0.09	C
	Int	**2589**	**158.8**	**114.2**			F	**Int**	**3247**	**135.1**	**121.9**			F	**Int**	**2680**	**121.3**	**90.2**			F	**Int**	**3381**	**79.0**	**74.2**			E

Notes: “v/c” indicates volume over capacity; values greater than 1 indicates over capacity. “*” indicates movement is shared. “N/A” indicates movement does not exist or results are not calculated by Synchro. LOS E and F are highlighted in orange and red, respectively.

Table 26. Build 2 & 3 Operational Results 2025 & 2045 AM & PM for SW 137th Ave

	BUILD 2 - 2025							BUILD 2 - 2045							BUILD 3 - 2025							BUILD 3 - 2045						
AM Peak Hour	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS
	EBLT	71	56.1	1.1	53	0.44	E	EBLT	84	54.6	1.3	61	0.42	D	EBLT	71	56.1	1.1	53	0.44	E	EBLT	84	54.4	1.3	60	0.42	D
	EBT	519	44.1	7.3	457	0.71	D	EBT	562	36.5	6.7	405	0.64	D	EBT	518	43.3	7.2	449	0.70	D	EBT	560	36.5	6.7	423	0.64	D
	EBRT	79	*	*	*	*	*	EBRT	98	*	*	*	*	*	EBRT	79	*	*	*	*	*	EBRT	98	*	*	*	*	*
	WBLT	219	46.2	2.8	129	0.60	D	WBLT	278	44.1	3.4	135	0.67	D	WBLT	206	53.4	3.1	121	0.59	D	WBLT	265	53.5	3.9	147	0.65	D
	WBT	379	28.8	3.0	209	0.38	C	WBT	413	21.8	2.5	204	0.35	C	WBT	357	32.5	3.2	195	0.36	C	WBT	393	27.1	3.0	193	0.33	C
	WBRT	243	1.6	0.1	5	0.10	A	WBRT	383	10.6	1.1	107	0.18	B	WBRT	230	21.0	1.3	28	0.09	C	WBRT	365	14.9	1.5	27	0.14	B
	NBLT	105	54.8	1.6	73	0.45	D	NBLT	131	54.5	2.0	87	0.51	D	NBLT	105	54.8	1.6	73	0.45	D	NBLT	131	54.5	2.0	87	0.51	D
	NBT	417	39.4	4.6	370	0.72	D	NBT	521	47.9	6.9	254	0.73	D	NBT	417	39.4	4.6	370	0.72	D	NBT	521	47.4	6.9	252	0.72	D
	NBRT	181	28.2	1.4	36	0.12	C	NBRT	242	39.7	2.7	90	0.24	D	NBRT	181	28.2	1.4	45	0.12	C	NBRT	241	38.6	2.6	63	0.16	D
	SBLT	177	53.5	2.6	106	0.57	D	SBLT	292	52.8	4.3	158	0.67	D	SBLT	177	53.5	2.6	106	0.57	D	SBLT	292	52.8	4.3	158	0.67	D
	SBT	283	54.5	4.3	293	0.86	D	SBT	353	45.7	4.5	173	0.74	D	SBT	283	54.5	4.3	293	0.86	D	SBT	377	48.1	5.0	185	0.78	D
	SBRT	97	25.3	0.7	3	0.07	C	SBRT	121	32.6	1.1	20	0.09	C	SBRT	97	25.3	0.7	21	0.07	C	SBRT	121	32.3	1.1	41	0.09	C
	Int	**2770**	**38.4**	**29.6**			**D**	**Int**	**3478**	**37.7**	**36.4**			**D**	**Int**	**2721**	**41.1**	**31.1**			**D**	**Int**	**3448**	**39.9**	**38.2**			**D**
PM Peak Hour	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS
	EBLT	43	56.2	0.7	53	0.31	E	EBLT	51	56.1	0.8	42	0.60	E	EBLT	43	56.2	0.7	37	0.31	E	EBLT	51	56.1	0.8	42	0.35	E
	EBT	488	70.1	10.9	457	0.94	E	EBT	529	54.8	9.4	445	0.36	D	EBT	487	94.2	14.6	407	1.03	F	EBT	527	61.2	10.5	409	0.89	E
	EBRT	71	*	*	*	*	*	EBRT	88	*	*	*	*	*	EBRT	71	*	*	*	*	*	EBRT	88	*	*	*	*	*
	WBLT	178	53.4	2.6	129	0.55	D	WBLT	242	50.7	3.4	145	0.74	D	WBLT	177	53.5	2.6	107	0.55	D	WBLT	242	54.2	3.6	139	0.64	D
	WBT	327	39.4	3.6	209	0.42	D	WBT	347	33.5	3.2	192	0.37	C	WBT	325	43.5	3.9	176	0.48	D	WBT	346	36.6	3.5	176	0.40	D
	WBRT	180	20.5	1.0	5	0.07	C	WBRT	294	1.3	0.1	3	0.18	A	WBRT	179	22.9	1.1	25	0.07	C	WBRT	293	2.5	0.2	6	0.12	A
	NBLT	87	19.6	0.5	73	0.14	B	NBLT	109	26.8	0.8	30	0.22	C	NBLT	87	54.5	1.3	62	0.39	D	NBLT	109	53.8	1.6	73	0.43	D
	NBT	256	26.8	1.9	370	0.37	C	NBT	319	32.8	2.9	141	0.37	C	NBT	256	23.8	1.7	220	0.34	C	NBT	319	31.3	2.8	146	0.30	C
	NBRT	214	24.0	1.4	36	0.14	C	NBRT	274	31.4	2.4	61	0.73	C	NBRT	214	21.5	1.3	50	0.14	C	NBRT	274	30.1	2.3	63	0.18	C
	SBLT	237	53.4	3.5	106	0.63	D	SBLT	379	51.9	5.5	195	0.80	D	SBLT	236	53.5	3.5	134	0.64	D	SBLT	378	54.2	5.7	203	0.76	D
	SBT	501	155.1	21.6	293	1.23	F	SBT	626	39.8	6.9	283	0.85	D	SBT	501	123.9	17.2	705	1.16	F	SBT	640	51.3	9.1	387	0.92	D
	SBRT	98	19.1	0.5	3	0.07	B	SBRT	123	20.8	0.7	16	0.09	C	SBRT	98	17.3	0.5	21	0.07	B	SBRT	123	22.5	0.8	39	0.09	C
	Int	**2680**	**54.9**	**48.2**			**E**	**Int**	**3381**	**38.5**	**36.1**			**D**	**Int**	**2674**	**65.3**	**48.5**			**E**	**Int**	**3390**	**43.4**	**40.9**			**D**

Notes: “v/c” indicates volume over capacity; values greater than 1 indicates over capacity. “*” indicates movement is shared. “N/A” indicates movement does not exist or results are not calculated by Synchro. LOS E and F are highlighted in orange and red, respectively.

Stopped-Control Intersection (to be upgraded to signal control) of SW 134th Avenue:

As previously presented in **Table 6**, the through movements on SR 994 are currently free and not under traffic control. Although the eastbound and westbound left-turn volumes are low, vehicles would block the single through lanes on SR 994 when turning left due to the lack of exclusive left-turn lanes. Based on the HCM methodology, the eastbound and westbound left-turns are serviced at LOS B or better. The critical movements are the northbound and southbound single lane approaches operating under stop control at LOS F with excessive delay, except the southbound approach during the PM peak hour operating at LOS D.

As presented in **Table 27**, with the increase in traffic expected in 2025, the level of service at this intersection under No Build conditions is expected to further degrade. The service level might be rated as F due to poor traffic flow on side streets, as the HCM 6th methodology does not account for this due to east and west directions being in free flow conditions. The operations at the intersection will worsen by 2045.

With the implementation of any of the Build alternatives, the overall intersection operation during the AM and PM peak hours is improved to LOS C or better in 2025 and 2045 (from estimated LOS F) as seen in **Tables 27** and **28**. The intersection is upgraded to signal control under the Build alternatives. The overall average intersection delay per vehicle is expected to be 10 to 33 seconds with any of the alternatives. Build 2 and 3 seem to provide better operational benefits when compared to Build 1 with an average vehicular delay of 15 seconds vs. 25 seconds during each peak hour.

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Table 27. No Build & Build 1 Operational Results 2025 & 2045 AM & PM for SW 134th Ave

	NO BUILD 2025 (STOP CONTROL)							NO BUILD 2045 (STOP CONTROL)							BUILD 1 2025							BUILD 1 2045						
	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS
AM Peak Hour	EBLT	14	10.3	0.0	0	0.02	B	EBLT	18	11.7	0.1	0	0.03	B	EBLT	20	12.3	0.1	22	0.06	B	EBLT	25	24.9	0.2	15	0.12	C
	EBT	626	0.0	0.0	N/A	N/A	N/A	EBT	774	0.0	0.0	N/A	N/A	N/A	EBT	823	15.9	3.6	641	0.72	B	EBT	1007	35.4	9.9	931	0.95	D
	EBRT	38	N/A	N/A	N/A	N/A	N/A	EBRT	56	N/A	N/A	N/A	N/A	N/A	EBRT	42	5.0	0.1	0	0.04	A	EBRT	75	6.8	0.1	18	0.07	A
	WBLT	74	9.2	0.2	0	0.08	A	WBLT	74	10.1	0.2	0	0.10	B	WBLT	79	12.5	0.3	37	0.24	B	WBLT	98	32.3	0.9	88	0.61	D
	WBT	765	0.0	0.0	N/A	N/A	N/A	WBT	815	0.0	0.0	N/A	N/A	N/A	WBT	765	8.2	1.7	456	0.58	A	WBT	957	14.2	3.8	735	0.76	B
	WBRT	50	N/A	N/A	N/A	N/A	N/A	WBRT	63	N/A	N/A	N/A	N/A	N/A	WBRT	53	3.9	0.1	9	0.05	A	WBRT	66	5.0	0.1	14	0.06	A
	NBLT	44	*	*	*	*	*	NBLT	66	*	*	*	*	*	NBLT	51	48.7	0.7	69	0.34	D	NBLT	85	48.4	1.1	103	0.44	D
	NBT	18	47.1	2.2	103	0.70	E	NBT	22	468.7	28.5	396	1.84	F	NBT	19	49.0	1.8	65	0.57	D	NBT	23	46.4	2.1	74	0.57	D
	NBRT	105	*	*	*	*	*	NBRT	131	*	*	*	*	*	NBRT	111	*	*	*	*	*	NBRT	139	*	*	*	*	*
	SBLT	46	*	*	*	*	*	SBLT	57	*	*	*	*	*	SBLT	65	56.6	1.0	96	0.45	E	SBLT	81	56.1	1.3	114	0.50	E
	SBT	42	77.0	2.5	106	0.76	F	SBT	42	481.3	17.0	255	1.76	F	SBT	42	59.5	1.2	82	0.63	E	SBT	52	53.8	1.3	101	0.65	D
	SBRT	28	*	*	*	*	*	SBRT	28	*	*	*	*	*	SBRT	28	*	*	*	*	*	SBRT	35	*	*	*	*	*
	Int	**1850**	**9.5**	**4.9**			****E**	**Int**	**2146**	**71.5**	**45.8**			****F**	**Int**	**2098**	**18.0**	**10.5**			**B**	**Int**	**2643**	**28.3**	**20.8**			**C**
PM Peak Hour	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS
	EBLT	20	9.7	0.1	0	0.03	B	EBLT	25	10.5	0.1	0	0.04	B	EBLT	26	8.0	0.1	26	0.06	A	EBLT	33	14.5	0.1	33	0.11	B
	EBT	685	0.0	0.0	N/A	N/A	N/A	EBT	850	0.0	0.0	N/A	N/A	N/A	EBT	909	17.5	4.4	1036	0.78	B	EBT	959	49.0	13.1	1027	1.01	D
	EBRT	51	N/A	N/A	N/A	N/A	N/A	EBRT	70	N/A	N/A	N/A	N/A	N/A	EBRT	55	4.9	0.1	9	0.05	A	EBRT	253	5.8	0.4	31	0.09	A
	WBLT	54	9.3	0.1	0	0.06	A	WBLT	68	10.6	0.2	0	0.10	A	WBLT	58	14.1	0.2	31	0.20	B	WBLT	73	37.9	0.8	60	0.59	D
	WBT	623	0.0	0.0	N/A	N/A	N/A	WBT	779	0.0	0.0	N/A	N/A	N/A	WBT	625	5.8	1.0	344	0.46	A	WBT	781	9.1	2.0	447	0.60	A
	WBRT	46	N/A	N/A	N/A	N/A	N/A	WBRT	57	N/A	N/A	N/A	N/A	N/A	WBRT	49	3.3	0.0	8	0.04	A	WBRT	62	4.3	0.1	11	0.06	A
	NBLT	35	*	*	*	*	*	NBLT	58	*	*	*	*	*	NBLT	41	50.8	0.6	57	0.29	D	NBLT	234	48.7	3.2	97	0.44	D
	NBT	37	36.5	1.6	81	0.61	E	NBT	46	289.9	17.5	323	1.46	F	NBT	39	53.3	2.0	81	0.67	D	NBT	49	50.0	2.3	123	0.68	D
	NBRT	90	*	*	*	*	*	NBRT	113	*	*	*	*	*	NBRT	96	*	*	*	*	*	NBRT	120	*	*	*	*	*
	SBLT	30	*	*	*	*	*	SBLT	38	*	*	*	*	*	SBLT	38	58.0	0.6	66	0.33	E	SBLT	49	57.1	0.8	79	0.39	E
	SBT	23	36.5	0.8	44	0.43	E	SBT	29	227.6	6.3	158	1.16	F	SBT	23	60.8	0.8	58	0.56	E	SBT	29	57.7	1.0	67	0.56	E
	SBRT	26	*	*	*	*	*	SBRT	33	*	*	*	*	*	SBRT	26	*	*	*	*	*	SBRT	33	*	*	*	*	*
	Int	**1720**	**5.5**	**2.6**			****E**	**Int**	**2166**	**40.0**	**24.1**			****F**	**Int**	**1985**	**17.8**	**9.8**			**B**	**Int**	**2675**	**33.5**	**23.7**			**C**

Notes: “v/c” indicates volume over capacity; values greater than 1 indicates over capacity. “*” indicates movement is shared. “**” LOS estimated per intersection delay obtained from analysis since it is not determined by software. For No Build, SW 134th Avenue is under stopped control. “N/A” indicates movement does not exist or results are not calculated by Synchro. LOS E and F are highlighted in orange and red, respectively.

Table 28. Build 2 & 3 Operational Results 2025 & 2045 AM & PM for SW 134th Ave

	BUILD 2 2025							BUILD 2 2045							BUILD 3 2025							BUILD 3 2045						
	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS
AM Peak Hour	EBLT	20	8.7	0.0	29	0.05	A	EBLT	25	9.2	0.1	35	0.08	A	EBLT	22	7.7	0.0	31	0.05	A	EBLT	27	9.4	0.1	38	0.08	A
	EBT	665	11.4	2.1	418	0.41	B	EBT	1009	11.0	3.1	518	0.48	B	EBT	812	10.1	2.3	420	0.39	B	EBT	994	12.0	3.3	514	0.49	B
	EBRT	207	6.8	0.4	15	0.04	A	EBRT	73	5.1	0.1	49	0.07	A	EBRT	42	5.9	0.1	22	0.04	A	EBRT	75	5.8	0.1	59	0.07	A
	WBLT	79	7.7	0.2	39	0.19	A	WBLT	98	7.8	0.2	58	0.27	A	WBLT	124	7.0	0.2	69	0.28	A	WBLT	155	9.3	0.4	90	0.42	A
	WBT	765	6.5	1.4	164	0.32	A	WBT	957	6.3	1.7	274	0.39	A	WBT	710	5.3	1.0	182	0.29	A	WBT	889	6.6	1.6	258	0.37	A
	WBRT	53	5.0	0.1	12	0.05	A	WBRT	66	4.5	0.1	19	0.06	A	WBRT	53	4.2	0.1	11	0.05	A	WBRT	66	4.8	0.1	20	0.06	A
	NBLT	170	46.2	2.2	68	0.26	D	NBLT	85	45.5	1.1	89	0.43	D	NBLT	51	48.0	0.7	62	0.36	D	NBLT	85	45.0	1.1	87	0.46	D
	NBT	19	62.3	2.2	75	0.83	E	NBT	23	46.3	2.1	62	0.58	D	NBT	47	48.2	2.1	89	0.63	D	NBT	57	46.5	2.5	113	0.65	D
	NBRT	111	*	*	*	*	*	NBRT	139	*	*	*	*	*	NBRT	111	*	*	*	*	*	NBRT	139	*	*	*	*	*
	SBLT	65	46.9	0.8	80	0.41	D	SBLT	81	55.9	1.3	113	0.50	E	SBLT	54	56.4	0.8	82	0.40	E	SBLT	67	56.2	1.0	95	0.46	E
	SBT	42	51.8	1.0	84	0.43	D	SBT	52	56.9	1.4	100	0.63	E	SBT	70	62.5	1.7	121	0.76	E	SBT	87	59.6	2.0	145	0.77	E
	SBRT	28	*	*	*	*	*	SBRT	35	*	*	*	*	*	SBRT	28	*	*	*	*	*	SBRT	35	*	*	*	*	*
	Int	**2224**	**15.6**	**10.5**			**B**	**Int**	**2643**	**15.0**	**11.0**			**B**	**Int**	**2124**	**15.5**	**9.1**			**B**	**Int**	**2676**	**16.5**	**12.3**			**B**
PM Peak Hour	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS
	EBLT	26	6.2	0.0	23	0.06	A	EBLT	33	6.9	0.1	14	0.09	A	EBLT	27	6.5	0.0	24	0.06	A	EBLT	34	7.1	0.1	32	0.09	A
	EBT	767	8.5	1.8	428	0.41	A	EBT	1112	10.1	3.1	553	0.51	B	EBT	902	8.8	2.2	405	0.41	A	EBT	1103	10.3	3.2	552	0.51	B
	EBRT	202	4.9	0.3	24	0.05	A	EBRT	93	4.6	0.1	36	0.09	A	EBRT	55	5.1	0.1	22	0.05	A	EBRT	93	4.7	0.1	35	0.09	A
	WBLT	58	5.5	0.1	31	0.14	A	WBLT	73	7.1	0.1	40	0.22	A	WBLT	85	5.8	0.1	43	0.20	A	WBLT	107	7.7	0.2	56	0.31	A
	WBT	625	4.0	0.7	133	0.24	A	WBT	781	4.9	1.1	185	0.31	A	WBT	615	4.1	0.7	133	0.24	A	WBT	768	4.9	1.0	186	0.30	A
	WBRT	49	3.3	0.0	8	0.04	A	WBRT	62	3.7	0.1	16	0.05	A	WBRT	49	3.3	0.0	8	0.04	A	WBRT	62	3.8	0.1	16	0.05	A
	NBLT	187	50.4	2.6	57	0.29	D	NBLT	76	47.4	1.0	87	0.40	D	NBLT	41	50.3	0.6	56	0.31	D	NBLT	76	47.6	1.0	86	0.43	D
	NBT	39	52.9	2.0	80	0.67	D	NBT	49	50.0	2.3	98	0.68	D	NBT	44	52.8	2.1	83	0.67	D	NBT	56	50.2	2.5	114	0.69	D
	NBRT	96	*	*	*	*	*	NBRT	120	*	*	*	*	*	NBRT	96	*	*	*	*	*	NBRT	120	*	*	*	*	*
	SBLT	38	57.5	0.6	66	0.33	E	SBLT	49	57.1	0.8	79	0.39	E	SBLT	37	57.4	0.6	64	0.32	E	SBLT	46	57.1	0.7	73	0.37	E
	SBT	23	60.5	0.8	58	0.56	E	SBT	29	58.0	1.0	67	0.57	E	SBT	36	63.3	1.1	75	0.68	E	SBT	46	60.8	1.3	93	0.69	E
	SBRT	26	*	*	*	*	*	SBRT	33	*	*	*	*	*	SBRT	26	*	*	*	*	*	SBRT	33	*	*	*	*	*
	Int	**2136**	**12.8**	**9.0**			**B**	**Int**	**2510**	**13.9**	**9.7**			**B**	**Int**	**2013**	**13.4**	**7.5**			**B**	**Int**	**2544**	**14.4**	**10.2**			**B**

Notes: Notes: “v/c” indicates volume over capacity; values greater than 1 indicates over capacity. “*” indicates movement is shared. “N/A” indicates movement does not exist or results are not calculated by Synchro. LOS E and F are highlighted in orange and red, respectively.

Signalized Intersection of SW 127th Avenue:

As previously presented in **Table 6**, this intersection is currently operating at LOS D with an overall average intersection delay of approximately 44 to 51 seconds per vehicle during the AM and PM peak hours, respectively. The northbound approach is serviced at LOS F and experiences significant queues, due to the high volume (315 vehicles) of right turns during the AM peak hour. Although the right-turn volume decreases during the PM peak hour, the northbound through movement is being serviced at LOS E due to the single lane operation and signal progression priority of SR 994 over SW 127th Avenue. The southbound through movement experiences an increase in delay due to the slightly higher volume during the PM peak hour when compared to the earlier period.

As presented in **Table 29**, with the increase in traffic expected in 2025, the level of service at this intersection under No Build conditions is expected to be maintained at LOS D. This is possible due to the northbound right-turn to be constructed by the County and optimization of the intersection timing splits. However, the operations at the intersection will worsen by 2045 to LOS F. Further signal timing improvements alone are not sufficient to mitigate the expected increase in traffic at the study intersection.

With the implementation of any of the Build alternatives, the overall intersection operation during the AM and PM peak hours is improved to LOS C or better in 2025 and 2045 (from LOS F) as seen in **Tables 29** and **30**. The overall average intersection delay per vehicle is expected to be approximately 35 to 50 seconds with any of the alternatives. Although some intersection movements are expected to operate at LOS E, the vehicular queues are moderate. The overall benefits at this intersection are similar under any of the Build alternatives since the improvements are very similar.

(This area was intentionally left blank.)

Table 29. No Build & Build 1 Operational Results 2025 & 2045 AM & PM for SW 127th Ave

	NO BUILD 2025							NO BUILD 2045							BUILD 1 2025							BUILD 1 2045						
	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS
AM Peak Hour	EBLT	126	22.8	0.8	111	0.31	C	EBLT	157	29.9	1.3	126	0.44	C	EBLT	143	14.5	0.6	97	0.32	B	EBLT	179	18.9	0.9	126	0.48	B
	EBT	897	42.2	10.5	740	0.71	D	EBT	1112	113.3	35.0	974	1.08	F	EBT	1043	29.5	8.5	694	0.69	C	EBT	1285	58.7	21.0	1033	0.95	E
	EBRT	106	42.1	1.2	*	0.71	D	EBRT	132	114.7	4.2	*	1.09	F	EBRT	120	29.5	1.0	*	0.69	C	EBRT	150	60.7	2.5	*	0.96	E
	WBLT	266	42.5	3.1	353	0.87	D	WBLT	333	120.2	11.1	559	1.06	F	WBLT	217	67.2	4.1	145	0.80	E	WBLT	271	70.8	5.3	177	0.84	E
	WBT	498	25.6	3.5	252	0.31	C	WBT	622	31.4	5.4	304	0.42	C	WBT	560	17.7	2.8	240	0.31	B	WBT	701	23.9	4.7	318	0.43	C
	WBRT	161	21.3	1.0	42	0.20	C	WBRT	201	24.3	1.4	41	0.27	C	WBRT	131	13.1	0.5	33	0.15	B	WBRT	164	17.0	0.8	37	0.20	B
	NBLT	201	58.4	3.3	222	0.80	E	NBLT	251	101.5	7.1	430	0.99	F	NBLT	168	68.2	3.2	118	0.77	E	NBLT	210	67.2	3.9	142	0.80	E
	NBT	219	50.0	3.0	272	0.48	D	NBT	274	55.3	4.2	367	0.58	E	NBT	144	54.0	2.2	185	0.49	D	NBT	180	50.8	2.5	221	0.51	D
	NBRT	356	79.4	7.9	134	0.93	E	NBRT	445	145.7	18.0	328	1.14	F	NBRT	235	49.1	3.2	169	0.65	D	NBRT	294	46.0	3.8	230	0.68	D
	SBLT	104	53.7	1.6	119	0.46	D	SBLT	130	53.4	1.9	154	0.58	D	SBLT	67	48.4	0.9	83	0.32	D	SBLT	84	44.9	1.0	95	0.36	D
	SBT	241	79.6	6.4	411	0.88	E	SBT	301	130.3	13.1	648	1.07	F	SBT	156	58.9	2.6	214	0.60	E	SBT	195	57.6	3.1	262	0.63	E
	SBRT	50	*	*	*	*	*	SBRT	62	*	*	*	*	*	SBRT	38	52.6	0.6	0	0.17	D	SBRT	47	49.5	0.6	0	0.17	D
	Int	**3225**	**47.2**	**42.3**			**D**	**Int**	**4020**	**92.2**	**102.8**			**F**	**Int**	**3022**	**35.7**	**29.9**			D	**Int**	**3760**	**48.4**	**50.2**			D
PM Peak Hour	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS
	EBLT	62	28.8	0.5	59	0.17	C	EBLT	77	32.4	0.7	72	0.26	C	EBLT	74	14.3	0.3	57	0.17	B	EBLT	92	18.5	0.5	75	0.27	B
	EBT	725	48.2	9.7	641	0.70	D	EBT	900	82.3	20.6	811	0.97	F	EBT	848	25.7	6.1	583	0.59	C	EBT	1091	44.5	13.5	997	0.85	D
	EBRT	128	48.2	1.7	*	0.70	D	EBRT	160	82.6	3.7	*	0.97	F	EBRT	155	25.7	1.1	*	0.59	C	EBRT	193	45.2	2.4	*	0.86	D
	WBLT	346	51.4	4.9	460	0.94	D	WBLT	433	224.7	27.0	809	1.34	F	WBLT	286	65.9	5.2	182	0.83	E	WBLT	357	60.1	6.0	219	0.86	E
	WBT	570	26.2	4.1	269	0.35	C	WBT	712	30.7	6.1	371	0.46	C	WBT	641	14.5	2.6	274	0.32	B	WBT	801	18.7	4.2	373	0.44	B
	WBRT	125	17.1	0.6	29	0.15	B	WBRT	156	23.4	1.0	41	0.21	C	WBRT	104	9.0	0.3	25	0.10	A	WBRT	130	11.0	0.4	30	0.14	B
	NBLT	164	62.8	2.9	234	0.81	E	NBLT	205	77.7	4.4	313	0.91	E	NBLT	134	69.2	2.6	99	0.74	E	NBLT	168	64.2	3.0	120	0.78	E
	NBT	208	52.9	3.1	288	0.49	D	NBT	260	46.4	3.4	324	0.50	D	NBT	138	61.7	2.4	184	0.64	E	NBT	172	55.6	2.7	216	0.65	E
	NBRT	212	56.5	3.3	71	0.60	E	NBRT	265	49.7	3.7	69	0.61	D	NBRT	140	47.1	1.8	43	0.42	D	NBRT	175	41.4	2.0	66	0.44	D
	SBLT	146	43.0	1.7	164	0.48	D	SBLT	183	66.0	3.4	201	0.74	E	SBLT	94	50.6	1.3	107	0.46	D	SBLT	117	45.7	1.5	121	0.51	D
	SBT	308	88.1	9.3	576	0.95	F	SBT	385	177.3	23.4	861	1.21	F	SBT	198	69.5	3.8	257	0.86	E	SBT	247	57.6	4.0	309	0.88	E
	SBRT	73	*	*	*	*	*	SBRT	91	*	*	*	*	*	SBRT	57	55.9	0.9	*	0.29	E	SBRT	71	52.0	1.0	0	0.29	E
	Int	**3067**	**49.2**	**41.9**			**D**	**Int**	**3827**	**91.6**	**97.3**			**F**	**Int**	**2869**	**35.6**	**28.3**			D	**Int**	**3614**	**43.3**	**41.0**			D

Notes: “v/c” indicates volume over capacity; values greater than 1 indicates over capacity. “*” indicates movement is shared. “N/A” indicates movement does not exist or results are not calculated by Synchro. LOS E and F are highlighted in orange and red, respectively.

Table 30. Build 2 & 3 Operational Results 2025 & 2045 AM & PM for SW 127th Ave

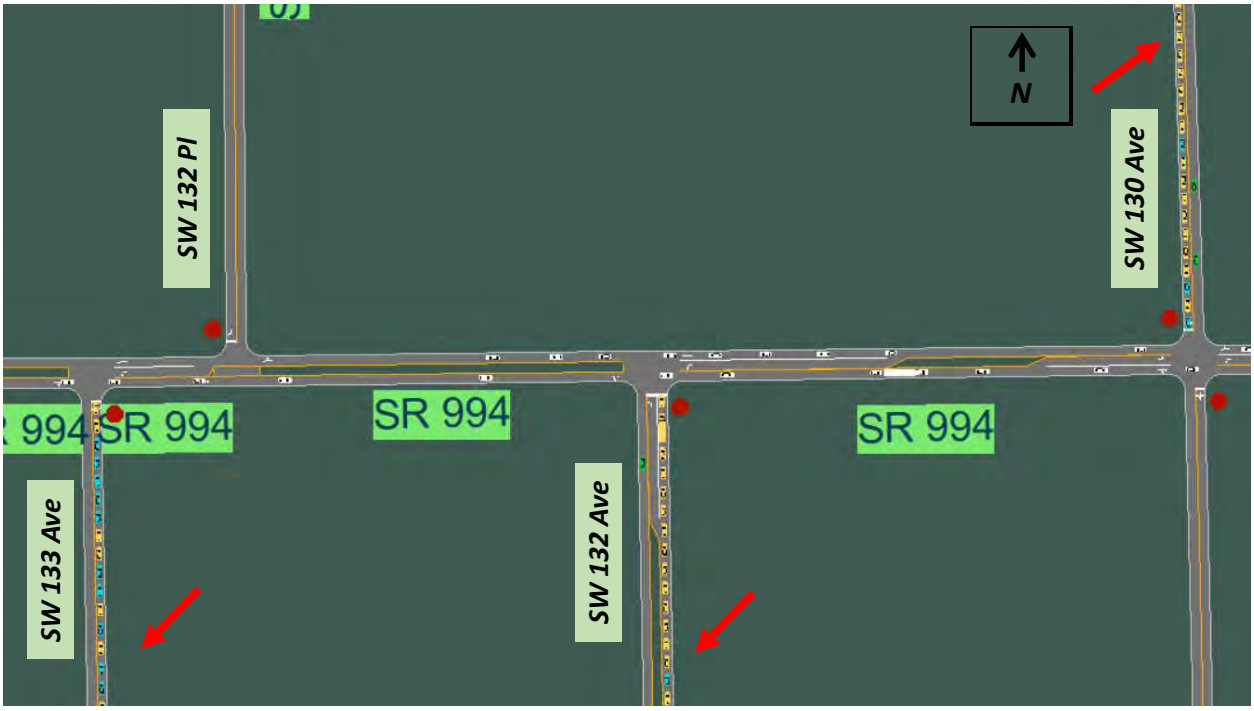
	BUILD 2 2025							BUILD 2 2045							BUILD 3 2025							BUILD 3 2045						
	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS
AM Peak Hour	EBLT	143	14.5	0.6	100	0.32	B	EBLT	179	18.8	0.9	117	0.48	B	EBLT	143	14.5	0.6	100	0.32	B	EBLT	179	18.9	0.9	122	0.48	B
	EBT	1043	25.5	7.4	562	0.62	C	EBT	1284	39.9	14.2	801	0.86	D	EBT	969	24.4	6.6	507	0.58	C	EBT	1189	36.3	12.0	724	0.80	D
	EBRT	120	18.2	0.6	12	0.17	B	EBRT	150	23.6	1.0	34	0.24	C	EBRT	120	18.2	0.6	12	0.17	B	EBRT	150	23.6	1.0	35	0.24	C
	WBLT	217	68.2	4.1	146	0.81	E	WBLT	271	72.4	5.5	179	0.84	E	WBLT	217	68.2	4.1	146	0.81	E	WBLT	271	72.4	5.5	179	0.84	E
	WBT	560	17.7	2.8	240	0.31	B	WBT	701	23.7	4.6	301	0.43	C	WBT	560	17.7	2.8	240	0.31	B	WBT	701	23.8	4.6	310	0.43	C
	WBRT	131	13.0	0.5	31	0.15	B	WBRT	164	16.7	0.8	34	0.20	B	WBRT	131	13.0	0.5	31	0.15	B	WBRT	164	16.8	0.8	34	0.20	B
	NBLT	168	51.0	2.4	183	0.68	D	NBLT	210	55.0	3.2	249	0.76	D	NBLT	168	51.0	2.4	183	0.68	D	NBLT	210	53.1	3.1	228	0.76	D
	NBT	144	54.2	2.2	188	0.50	D	NBT	180	51.2	2.6	230	0.52	D	NBT	144	54.2	2.2	188	0.50	D	NBT	180	51.2	2.6	230	0.52	D
	NBRT	235	49.8	3.3	149	0.65	D	NBRT	294	47.2	3.9	246	0.69	D	NBRT	235	49.8	3.3	144	0.65	D	NBRT	294	47.2	3.9	229	0.69	D
	SBLT	67	52.2	1.0	82	0.31	D	SBLT	84	48.9	1.1	100	0.36	D	SBLT	67	52.2	1.0	82	0.31	D	SBLT	84	49.2	1.1	98	0.36	D
	SBT	156	69.5	3.0	217	0.78	E	SBT	195	71.4	3.9	268	0.80	E	SBT	156	69.5	3.0	217	0.78	E	SBT	195	73.3	4.0	268	0.82	E
	SBRT	38	57.3	0.6	0	0.22	E	SBRT	47	54.4	0.7	0	0.23	D	SBRT	38	57.3	0.6	0	0.22	E	SBRT	47	54.8	0.7	0	0.23	D
	Int	**3022**	**33.7**	**28.3**			**C**	**Int**	**3759**	**40.5**	**42.3**			**D**	**Int**	**2948**	**33.6**	**27.5**			**C**	**Int**	**3664**	**39.4**	**40.1**			**D**
PM Peak Hour	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS
	EBLT	74	16.1	0.3	60	0.18	B	EBLT	92	20.8	0.5	77	0.29	C	EBLT	74	16.1	0.3	60	0.18	B	EBLT	92	20.8	0.5	77	0.29	C
	EBT	892	25.5	6.3	497	0.55	C	EBT	1091	37.7	11.4	751	0.78	D	EBT	854	25.0	5.9	470	0.53	C	EBT	1042	36.2	10.5	699	0.74	D
	EBRT	155	20.6	0.9	69	0.23	C	EBRT	193	27.4	1.5	111	0.33	C	EBRT	155	20.6	0.9	64	0.23	C	EBRT	193	27.4	1.5	106	0.33	C
	WBLT	286	71.9	5.7	182	0.85	E	WBLT	357	77.2	7.7	228	0.88	E	WBLT	286	71.9	5.7	182	0.85	E	WBLT	357	77.2	7.7	228	0.88	E
	WBT	641	16.6	3.0	284	0.34	B	WBT	801	22.5	5.0	400	0.46	C	WBT	641	16.6	3.0	284	0.34	B	WBT	801	22.5	5.0	400	0.46	C
	WBRT	104	10.5	0.3	26	0.11	B	WBRT	130	13.4	0.5	32	0.15	B	WBRT	104	10.5	0.3	26	0.11	B	WBRT	130	13.4	0.5	32	0.15	B
	NBLT	134	50.4	1.9	142	0.64	D	NBLT	168	51.4	2.4	166	0.72	D	NBLT	134	50.4	1.9	142	0.64	D	NBLT	168	51.4	2.4	166	0.72	D
	NBT	138	56.4	2.2	181	0.52	E	NBT	172	53.1	2.5	215	0.54	D	NBT	138	56.4	2.2	181	0.52	E	NBT	172	53.1	2.5	215	0.54	D
	NBRT	140	43.8	1.7	42	0.38	D	NBRT	175	38.8	1.9	49	0.40	D	NBRT	140	43.8	1.7	42	0.38	D	NBRT	175	38.8	1.9	48	0.40	D
	SBLT	94	49.4	1.3	104	0.40	D	SBLT	117	45.7	1.5	118	0.44	D	SBLT	94	49.4	1.3	104	0.40	D	SBLT	117	45.7	1.5	118	0.44	D
	SBT	198	69.5	3.8	257	0.86	E	SBT	247	70.2	4.8	309	0.88	E	SBT	198	69.5	3.8	257	0.86	E	SBT	247	70.2	4.8	309	0.88	E
	SBRT	57	55.9	0.9	0	0.29	E	SBRT	71	52.8	1.0	4	0.29	D	SBRT	57	55.9	0.9	0	0.29	E	SBRT	71	52.8	1.0	4	0.29	D
	Int	**2913**	**34.9**	**28.2**			**C**	**Int**	**3614**	**40.6**	**40.7**			**D**	**Int**	**2875**	**34.9**	**27.9**			**C**	**Int**	**3565**	**40.2**	**39.8**			**D**

Notes: “v/c” indicates volume over capacity; values greater than 1 indicates over capacity. “*” indicates movement is shared. “N/A” indicates movement does not exist or results are not calculated by Synchro. LOS E and F are highlighted in orange and red, respectively.

Stop-Controlled Intersections:

The critical movements at the stop-controlled intersections within the study limits include making a left-turn from the side streets or mainline SR 994. This is due to the lack of left-turning lanes and gaps on SR 994 given only one travel lane in each direction. **Tables 31** and **32** present a summary of the average vehicular delay, 95th percentile queue length, and level of service for all left-turn movements at each intersection for the No Build and Build alternatives. Although there are several left-turning movements expected to operate at LOS F for No Build conditions 2025 and 2045 during the AM and PM peak hours, most of these movements experience short queues. However, the southbound left-turn at SW 130 Avenue and the northbound left-turns at SW 132 Avenue and SW 133 Avenue are expected to experience significant queuing by 2045 during the AM peak hour. For No Build 20245, the 95th percentile queue for these movements at SW 130 Avenue, SW 132 Avenue, and SW 133 Avenue are 363, 752, and 506 feet, respectively. These traffic deficiencies do not improve under Build 1, as presented in the traffic simulation screen captured from SimTraffic (**Figure 44**) and summarized in **Table 31**.

Figure 44. Screen Capture of SimTraffic Simulation



The additional roadway widening for SR 994 under Build 2 and 3 is expected to facilitate turning left from these side streets experiencing significant queuing. As presented in **Table 31**, the vehicular queues for all critical intersection movements are low-to-moderate for Builds 2 and 3 under all scenarios. Builds 2 and 3 are expected to reduce left-turn delay by approximately 50%

or more when compared to Build 1. The total vehicular delay for Build 1 is projected to be 131.8 vehicular hours in 2045 for both the AM and PM peak hours, compared to 45.3 vehicular hours for Build 2 and 44.4 vehicular hours for Build 3, as summarized in **Table 31**. Build 3 has a slightly lower delay due to additional access management enhancements compared to Build 2.

(This area was intentionally left blank.)

Table 31. No Build & Build 1 2025 & 2045 Operational Results for Critical Movements at Unsignalized Intersections

		NO BUILD 2025						NO BUILD 2045						BUILD 1 2025						BUILD 1 2045					
	Intersection	Critical Movement	Volume (vph)	Avg Delay (sec/veh)	Avg Delay (veh-hr)	95th % Q (ft)	LOS	Critical Movement	Volume (vph)	Avg Delay (sec/veh)	Avg Delay (veh-hr)	95th % Q (ft)	LOS	Critical Movement	Volume (vph)	Avg Delay (sec/veh)	Avg Delay (veh-hr)	95th % Q (ft)	LOS	Critical Movement	Volume (vph)	Avg Delay (sec/veh)	Avg Delay (veh-hr)	95th % Q (ft)	LOS
AM Peak Hour		(1) SBLT	11	32.2	0.10	~25 ft	D	(1) SBLT	13	59.9	0.22	~25 ft	F	(1) SBLT	N/A	N/A	N/A	N/A	N/A	(1) SBLT	N/A	N/A	N/A	N/A	N/A
	SW 135 Ave	(2) EBLT	1	9.6	0.00	~25 ft	A	(2) EBLT	1	10.7	0.00	~25 ft	B	(2) EBLT	N/A	N/A	N/A	N/A	N/A	(2) EBLT	N/A	N/A	N/A	N/A	N/A
		(3) SBLT	6	32.6	0.05	~25 ft	D	(3) SBLT	8	56.7	0.13	~25 ft	F	(3) SBLT	N/A	N/A	N/A	N/A	N/A	(3) SBLT	N/A	N/A	N/A	N/A	N/A
	SW 134 Ct	(4) EBLT	2	9.7	0.01	~25 ft	A	(4) EBLT	2	10.7	0.01	~25 ft	B	(4) EBLT	N/A	N/A	N/A	N/A	N/A	(4) EBLT	N/A	N/A	N/A	N/A	N/A
		(5) SBLT	7	37.6	0.07	~25 ft	E	(5) SBLT	9	77.3	0.19	~25 ft	F	(5) SBLT	52	250.8	3.62	110	F	(5) SBLT	65	1180.0	21.31	205	F
	SW 133 Ct	(6) EBLT	4	9.9	0.01	~25 ft	A	(6) EBLT	5	11.0	0.02	~25 ft	B	(6) EBLT	31	10.2	0.09	~25 ft	B	(6) EBLT	39	11.5	0.12	~25 ft	B
		(7) NBLT	91	208.6	5.27	253	F	(7) NBLT	113	863.0	27.09	506	F	(7) NBLT	91	449.3	11.36	348	F	(7) NBLT	113	1505.0	47.24	594	F
	SW 133 Ave	(8) WBLT	13	9.7	0.04	~25 ft	A	(8) WBLT	16	10.6	0.05	~25 ft	B	(8) WBLT	14	10.8	0.04	~25 ft	B	(8) WBLT	17	12.3	0.06	~25 ft	B
		(9) SBLT	64	129.8	2.31	99	F	(9) SBLT	80	665.4	14.79	218	F	(9) SBLT	N/A	N/A	N/A	N/A	N/A	(9) SBLT	N/A	N/A	N/A	N/A	N/A
	SW 132 Pl	(10) EBLT	20	9.7	0.05	~25 ft	A	(10) EBLT	26	10.8	0.08	~25 ft	B	(10) EBLT	N/A	N/A	N/A	N/A	N/A	(10) EBLT	N/A	N/A	N/A	N/A	N/A
		(11) NBLT	34	246.5	2.33	361	F	(11) NBLT	42	1066.5	12.44	752	F	(11) NBLT	34	206.2	1.95	224	F	(11) NBLT	42	960.0	11.20	506	F
	SW 132 Ave	(12) WBLT	66	10.7	0.20	~25 ft	B	(12) WBLT	82	12.4	0.28	~25 ft	B	(12) WBLT	70	12.0	0.23	~25 ft	B	(12) WBLT	88	14.7	0.36	~25 ft	B
		(13) NBLT	5	172.1	0.24	~25 ft	F	(13) NBLT	6	2621.0	4.37	62	F	(13) NBLT	5	217.3	0.30	26	F	(13) NBLT	6	1371.0	2.29	57	F
		(14) SBLT	16	164.5	0.73	134	F	(14) SBLT	20	3542.0	19.68	363	F	(14) SBLT	16	230.1	1.02	154	F	(14) SBLT	20	1629.0	9.05	328	F
		(15) EBLT	113	10.4	0.33	~25 ft	B	(15) EBLT	141	12.1	0.47	~25 ft	B	(15) EBLT	130	10.6	0.38	~25 ft	B	(15) EBLT	162	12.6	0.57	~25 ft	B
	SW 130 Ave	(16) WBLT	1	10.5	0.00	~25 ft	B	(16) WBLT	1	11.9	0.00	~25 ft	B	(16) WBLT	2	11.4	0.01	~25 ft	B	(16) WBLT	2	13.3	0.01	~25 ft	B
		(17) NBLT	29	171.9	1.38	55	F	(17) NBLT	36	826.8	8.27	112	F	(17) NBLT	29	311.0	2.51	70	F	(17) NBLT	36	1325.0	13.25	121	F
		(18) SBLT	6	105.2	0.18	~25 ft	F	(18) SBLT	7	445.6	0.87	40	F	(18) SBLT	6	172.9	0.29	~25 ft	F	(18) SBLT	8	1006.0	2.24	53	F
		(19) EBLT	2	9.4	0.01	~25 ft	A	(19) EBLT	3	10.3	0.01	~25 ft	B	(19) EBLT	3	9.5	0.01	~25 ft	A	(19) EBLT	4	10.4	0.01	~25 ft	B
	SW 129 Ave	(20) WBLT	16	11.1	0.05	~25 ft	B	(20) WBLT	21	12.8	0.07	~25 ft	B	(20) WBLT	18	12.2	0.06	~25 ft	B	(20) WBLT	22	14.6	0.09	~25 ft	B
		Total	**507**	**94.8**	**13.4**	**N/A**	**N/A**	***Total***	**632**	**507.1**	**89.0**	**N/A**	**N/A**	***Total***	**501**	**157.1**	**21.9**	**N/A**	**N/A**	***Total***	**624**	**621.8**	**107.8**	**N/A**	**N/A**
PM Peak Hour		(1) SBLT	7	25.4	0.05	~25 ft	D	(1) SBLT	9	42.0	0.11	~25 ft	E	(1) SBLT	N/A	N/A	N/A	N/A	N/A	(1) SBLT	N/A	N/A	N/A	N/A	N/A
	SW 135 Ave	(2) EBLT	2	9.0	0.01	~25 ft	A	(2) EBLT	2	9.8	0.01	~25 ft	A	(2) EBLT	N/A	N/A	N/A	N/A	N/A	(2) EBLT	N/A	N/A	N/A	N/A	N/A
		(3) SBLT	6	30.8	0.05	~25 ft	D	(3) SBLT	7	52.0	0.10	~25 ft	F	(3) SBLT	N/A	N/A	N/A	N/A	N/A	(3) SBLT	N/A	N/A	N/A	N/A	N/A
	SW 134 Ct	(4) EBLT	1	9.0	0.00	~25 ft	A	(4) EBLT	1	9.8	0.00	~25 ft	A	(4) EBLT	N/A	N/A	N/A	N/A	N/A	(4) EBLT	N/A	N/A	N/A	N/A	N/A
		(5) SBLT	10	40.5	0.11	~25 ft	E	(5) SBLT	12	75.9	0.25	~25 ft	F	(5) SBLT	30	95.0	0.79	42	F	(5) SBLT	37	375.7	3.86	97	F
	SW 133 Ct	(6) EBLT	6	9.3	0.02	~25 ft	A	(6) EBLT	7	10.0	0.02	~25 ft	B	(6) EBLT	10	9.3	0.03	~25 ft	A	(6) EBLT	13	10.1	0.04	~25 ft	B
		(7) NBLT	17	30.7	0.14	~25 ft	D	(7) NBLT	22	79.4	0.49	68	F	(7) NBLT	17	49.8	0.24	37	E	(7) NBLT	22	190.5	1.16	106	F
	SW 133 Ave	(8) WBLT	29	9.9	0.08	~25 ft	A	(8) WBLT	37	11.0	0.11	~25 ft	B	(8) WBLT	34	11.3	0.11	~25 ft	B	(8) WBLT	40	13.1	0.15	~25 ft	B
		(9) SBLT	28	47.3	0.37	~25 ft	E	(9) SBLT	36	129.9	1.30	64	E	(9) SBLT	N/A	N/A	N/A	N/A	N/A	(9) SBLT	N/A	N/A	N/A	N/A	N/A
	SW 132 Pl	(10) EBLT	1	9.3	0.00	~25 ft	A	(10) EBLT	1	10.1	0.00	~25 ft	B	(10) EBLT	N/A	N/A	N/A	N/A	N/A	(10) EBLT	N/A	N/A	N/A	N/A	N/A
		(11) NBLT	21	98.6	0.58	132	F	(11) NBLT	27	1390.0	10.43	414	F	(11) NBLT	21	247.5	1.44	51	F	(11) NBLT	27	1401.0	10.51	117	F
	SW 132 Ave	(12) WBLT	155	11.3	0.49	~25 ft	B	(12) WBLT	194	14.0	0.75	33	B	(12) WBLT	167	13.5	0.63	~25 ft	B	(12) WBLT	209	19.0	1.10	53	C
		(13) NBLT	2	65.2	0.04	~25 ft	F	(13) NBLT	2	203.0	0.11	~25 ft	F	(13) NBLT	2	97.6	0.05	~25 ft	F	(13) NBLT	2	315.9	0.18	~25 ft	F
		(14) SBLT	16	66.6	0.30	66	F	(14) SBLT	20	446.4	2.48	189	F	(14) SBLT	16	122.6	0.54	95	F	(14) SBLT	20	792.0	4.40	224	F
		(15) EBLT	40	10.1	0.11	~25 ft	B	(15) EBLT	50	11.4	0.16	~25 ft	B	(15) EBLT	48	10.3	0.14	~25 ft	B	(15) EBLT	60	11.8	0.20	~25 ft	B
	SW 130 Ave	(16) WBLT	1	9.8	0.00	~25 ft	A	(16) WBLT	1	10.9	0.00	~25 ft	B	(16) WBLT	2	10.8	0.01	~25 ft	B	(16) WBLT	2	12.3	0.01	~25 ft	B
		(17) NBLT	7	80.3	0.16	~25 ft	F	(17) NBLT	9	231.4	0.58	~25 ft	F	(17) NBLT	7	125.1	0.24	~25 ft	F	(17) NBLT	9	436.0	1.09	35	F
		(18) SBLT	6	72.0	0.12	~25 ft	F	(18) SBLT	8	213.4	0.47	31	F	(18) SBLT	7	120.8	0.23	~25 ft	F	(18) SBLT	9	493.0	1.23	46	F
		(19) EBLT	1	9.7	0.00	~25 ft	A	(19) EBLT	2	10.7	0.01	~25 ft	B	(19) EBLT	2	9.8	0.01	~25 ft	A	(19) EBLT	2	10.8	0.01	~25 ft	B
	SW 129 Ave	(20) WBLT	19	10.4	0.05	~25 ft	B	(20) WBLT	24	11.7	0.08	~25 ft	B	(20) WBLT	21	11.5	0.07	~25 ft	B	(20) WBLT	26	13.4	0.10	~25 ft	B
		Total	**375**	**25.7**	**2.7**	**N/A**	**N/A**	***Total***	**471**	**133.4**	**17.5**	**N/A**	**N/A**	***Total***	**384**	**42.4**	**4.5**	**N/A**	**N/A**	***Total***	**478**	**180.9**	**24.0**	**N/A**	**N/A**

Notes: LOS E and F are highlighted in orange and red, respectively.

Table 32. Build 2 & 3 2025 & 2045 Operational Results for Critical Movements at Unsignalized Intersections

AM Peak Hour

	BUILD 2 2025							BUILD 2 2045							BUILD 3 2025							BUILD 3 2045						
	Intersection	Critical Movement	Volume (vph)	Avg Delay (sec/veh)	Avg Delay (veh-hr)	95th % Q (ft)	LOS	Critical Movement	Volume (vph)	Avg Delay (sec/veh)	Avg Delay (veh-hr)	95th % Q (ft)	LOS	Critical Movement	Volume (vph)	Avg Delay (sec/veh)	Avg Delay (veh-hr)	95th % Q (ft)	LOS	Critical Movement	Volume (vph)	Avg Delay (sec/veh)	Avg Delay (veh-hr)	95th % Q (ft)	LOS
		(1) SBLT	N/A	N/A	N/A	N/A	N/A	(1) SBLT	N/A	N/A	N/A	N/A	N/A	(1) SBLT	N/A	N/A	N/A	N/A	N/A	(1) SBLT	N/A	N/A	N/A	N/A	N/A
	SW 135 Ave	(2) EBLT	N/A	N/A	N/A	N/A	N/A	(2) EBLT	N/A	N/A	N/A	N/A	N/A	(2) EBLT	N/A	N/A	N/A	N/A	N/A	(2) EBLT	N/A	N/A	N/A	N/A	N/A
		(3) SBLT	N/A	N/A	N/A	N/A	N/A	(3) SBLT	N/A	N/A	N/A	N/A	N/A	(3) SBLT	N/A	N/A	N/A	N/A	N/A	(3) SBLT	N/A	N/A	N/A	N/A	N/A
	SW 134 Ct	(4) EBLT	N/A	N/A	N/A	N/A	N/A	(4) EBLT	N/A	N/A	N/A	N/A	N/A	(4) EBLT	N/A	N/A	N/A	N/A	N/A	(4) EBLT	N/A	N/A	N/A	N/A	N/A
		(5) SBLT	52	98.4	1.42	25	F	(5) SBLT	65	458.9	8.29	161	F	(5) SBLT	N/A	N/A	N/A	N/A	N/A	(5) SBLT	N/A	N/A	N/A	N/A	N/A
	SW 133 Ct	(6) EBLT	31	10.2	0.09	~25 ft	B	(6) EBLT	39	11.5	0.12	~25 ft	B	(6) EBLT	31	11.7	0.10	~25 ft	B	(6) EBLT	39	11.4	0.12	~25 ft	B
		(7) NBLT	91	155.0	3.92	222	F	(7) NBLT	113	419.5	13.17	264	F	(7) NBLT	N/A	N/A	N/A	N/A	N/A	(7) NBLT	N/A	N/A	N/A	N/A	N/A
	SW 133 Ave	(8) WBLT	14	11.0	0.04	~25 ft	B	(8) WBLT	17	11.4	0.05	~25 ft	B	(8) WBLT	14	10.6	0.04	~25 ft	B	(8) WBLT	17	11.9	0.06	~25 ft	B
		(9) SBLT	N/A	N/A	N/A	N/A	N/A	(9) SBLT	N/A	N/A	N/A	N/A	N/A	(9) SBLT	N/A	N/A	N/A	N/A	N/A	(9) SBLT	N/A	N/A	N/A	N/A	N/A
	SW 132 Pl	(10) EBLT	N/A	N/A	N/A	N/A	N/A	(10) EBLT	N/A	N/A	N/A	N/A	N/A	(10) EBLT	N/A	N/A	N/A	N/A	N/A	(10) EBLT	N/A	N/A	N/A	N/A	N/A
		(11) NBLT	34	106.0	1.00	48	F	(11) NBLT	42	458.1	5.34	169	F	(11) NBLT	70	184.3	3.58	112	F	(11) NBLT	87	937.3	22.65	227	F
	SW 132 Ave	(12) WBLT	70	12.2	0.24	~25 ft	B	(12) WBLT	88	15.0	0.37	~25 ft	C	(12) WBLT	70	11.6	0.23	~25 ft	B	(12) WBLT	98	14.2	0.39	~25 ft	B
		(13) NBLT	5	105.1	0.15	~25 ft	F	(13) NBLT	6	431.3	0.72	42	F	(13) NBLT	5	91.0	0.13	~25 ft	F	(13) NBLT	6	343.0	0.57	40	F
		(14) SBLT	16	51.5	0.23	68	F	(14) SBLT	20	387.0	2.15	224	F	(14) SBLT	16	45.3	0.20	62	E	(14) SBLT	20	321.6	1.79	209	F
		(15) EBLT	130	10.7	0.39	~25 ft	B	(15) EBLT	162	12.7	0.57	~25 ft	B	(15) EBLT	130	10.7	0.39	~25 ft	B	(15) EBLT	162	12.8	0.58	~25 ft	B
	SW 130 Ave	(16) WBLT	2	11.4	0.01	~25 ft	B	(16) WBLT	2	13.3	0.01	~25 ft	B	(16) WBLT	2	11.0	0.01	~25 ft	B	(16) WBLT	2	12.6	0.01	~25 ft	B
		(17) NBLT	29	132.7	1.07	48	F	(17) NBLT	36	564.8	5.65	66	F	(17) NBLT	29	104.6	0.84	42	F	(17) NBLT	36	428.8	4.29	92	F
		(18) SBLT	6	56.7	0.09	~25 ft	F	(18) SBLT	8	127.9	0.28	~25 ft	F	(18) SBLT	6	52.6	0.09	~25 ft	F	(18) SBLT	8	127.9	0.28	~25 ft	F
		(19) EBLT	3	9.5	0.01	~25 ft	A	(19) EBLT	4	10.4	0.01	~25 ft	B	(19) EBLT	3	9.5	0.01	~25 ft	A	(19) EBLT	4	10.5	0.01	~25 ft	B
	SW 129 Ave	(20) WBLT	18	12.5	0.06	~25 ft	B	(20) WBLT	22	15.1	0.09	~25 ft	C	(20) WBLT	18	12.0	0.06	~25 ft	B	(20) WBLT	22	14.2	0.09	~25 ft	B
		Total	**501**	**62.6**	**8.7**	**N/A**	**N/A**	***Total***	**624**	**212.5**	**36.8**	**N/A**	**N/A**	***Total***	**394**	**51.8**	**5.7**	**N/A**	**N/A**	***Total***	**501**	**221.5**	**30.8**	**N/A**	**N/A**

PM Peak Hour

	BUILD 2 2025							BUILD 2 2045							BUILD 3 2025							BUILD 3 2045						
	Intersection	Critical Movement	Volume (vph)	Avg Delay (sec/veh)	Avg Delay (veh-hr)	95th % Q (ft)	LOS	Critical Movement	Volume (vph)	Avg Delay (sec/veh)	Avg Delay (veh-hr)	95th % Q (ft)	LOS	Critical Movement	Volume (vph)	Avg Delay (sec/veh)	Avg Delay (veh-hr)	95th % Q (ft)	LOS	Critical Movement	Volume (vph)	Avg Delay (sec/veh)	Avg Delay (veh-hr)	95th % Q (ft)	LOS
		(1) SBLT	N/A	N/A	N/A	N/A	N/A	(1) SBLT	N/A	N/A	N/A	N/A	N/A	(1) SBLT	N/A	N/A	N/A	N/A	N/A	(1) SBLT	N/A	N/A	N/A	N/A	N/A
	SW 135 Ave	(2) EBLT	N/A	N/A	N/A	N/A	N/A	(2) EBLT	N/A	N/A	N/A	N/A	N/A	(2) EBLT	N/A	N/A	N/A	N/A	N/A	(2) EBLT	N/A	N/A	N/A	N/A	N/A
		(3) SBLT	N/A	N/A	N/A	N/A	N/A	(3) SBLT	N/A	N/A	N/A	N/A	N/A	(3) SBLT	N/A	N/A	N/A	N/A	N/A	(3) SBLT	N/A	N/A	N/A	N/A	N/A
	SW 134 Ct	(4) EBLT	N/A	N/A	N/A	N/A	N/A	(4) EBLT	N/A	N/A	N/A	N/A	N/A	(4) EBLT	N/A	N/A	N/A	N/A	N/A	(4) EBLT	N/A	N/A	N/A	N/A	N/A
		(5) SBLT	30	45.0	0.38	~25 ft	E	(5) SBLT	37	104.5	1.07	55	F	(5) SBLT	N/A	N/A	N/A	N/A	N/A	(5) SBLT	N/A	N/A	N/A	N/A	N/A
	SW 133 Ct	(6) EBLT	10	9.3	0.03	~25 ft	A	(6) EBLT	13	10.1	0.04	~25 ft	B	(6) EBLT	10	9.3	0.03	~25 ft	A	(6) EBLT	13	10.2	0.04	~25 ft	B
		(7) NBLT	17	28.7	0.14	~25 ft	D	(7) NBLT	22	65.0	0.40	59	F	(7) NBLT	N/A	N/A	N/A	N/A	N/A	(7) NBLT	N/A	N/A	N/A	N/A	N/A
	SW 133 Ave	(8) WBLT	32	11.4	0.10	~25 ft	B	(8) WBLT	40	13.4	0.15	~25 ft	B	(8) WBLT	32	13.0	0.12	~25 ft	B	(8) WBLT	40	13.0	0.14	~25 ft	B
		(9) SBLT	N/A	N/A	N/A	N/A	N/A	(9) SBLT	N/A	N/A	N/A	N/A	N/A	(9) SBLT	N/A	N/A	N/A	N/A	N/A	(9) SBLT	N/A	N/A	N/A	N/A	N/A
	SW 132 Pl	(10) EBLT	N/A	N/A	N/A	N/A	N/A	(10) EBLT	N/A	N/A	N/A	N/A	N/A	(10) EBLT	N/A	N/A	N/A	N/A	N/A	(10) EBLT	N/A	N/A	N/A	N/A	N/A
		(11) NBLT	21	151.0	0.88	40	F	(11) NBLT	27	482.2	3.62	90	F	(11) NBLT	28	102.3	0.80	53	F	(11) NBLT	36	1030.0	10.30	117	F
	SW 132 Ave	(12) WBLT	167	13.8	0.64	29	B	(12) WBLT	209	16.4	0.95	44	C	(12) WBLT	167	11.9	0.55	~25 ft	B	(12) WBLT	222	19.2	1.18	57	C
		(13) NBLT	2	57.3	0.03	~25 ft	F	(13) NBLT	3	138.5	0.12	~25 ft	F	(13) NBLT	2	53.8	0.03	~25 ft	F	(13) NBLT	3	91.0	0.08	~25 ft	F
		(14) SBLT	16	42.2	0.19	46	E	(14) SBLT	20	198.6	1.10	141	F	(14) SBLT	16	39.8	0.18	42	E	(14) SBLT	24	139.8	0.93	119	F
		(15) EBLT	48	10.4	0.14	~25 ft	B	(15) EBLT	60	11.9	0.20	~25 ft	B	(15) EBLT	48	10.4	0.14	~25 ft	B	(15) EBLT	60	12.0	0.20	~25 ft	B
	SW 130 Ave	(16) WBLT	2	10.8	0.01	~25 ft	B	(16) WBLT	2	12.3	0.01	~25 ft	B	(16) WBLT	2	10.6	0.01	~25 ft	B	(16) WBLT	2	11.1	0.01	~25 ft	B
		(17) NBLT	7	67.3	0.13	~25 ft	F	(17) NBLT	9	153.2	0.38	~25 ft	F	(17) NBLT	7	62.4	0.12	~25 ft	F	(17) NBLT	9	137.5	0.34	~25 ft	F
		(18) SBLT	7	52.6	0.10	~25 ft	F	(18) SBLT	9	116.7	0.29	~25 ft	F	(18) SBLT	7	50.2	0.10	~25 ft	F	(18) SBLT	9	113.5	0.28	~25 ft	F
		(19) EBLT	2	9.8	0.01	~25 ft	A	(19) EBLT	2	10.8	0.01	~25 ft	B	(19) EBLT	2	9.8	0.01	~25 ft	A	(19) EBLT	2	10.9	0.01	~25 ft	B
	SW 129 Ave	(20) WBLT	21	11.8	0.07	~25 ft	B	(20) WBLT	26	13.9	0.10	~25 ft	B	(20) WBLT	21	11.5	0.07	~25 ft	B	(20) WBLT	26	13.4	0.10	~25 ft	B
		Total	**382**	**26.7**	**2.8**	**N/A**	**N/A**	***Total***	**479**	**63.4**	**8.4**	**N/A**	**N/A**	***Total***	**342**	**22.4**	**2.1**	**N/A**	**N/A**	***Total***	**446**	**109.9**	**13.6**	**N/A**	**N/A**

Notes: LOS E and F are highlighted in orange and red, respectively.

8.0 FUTURE SAFETY CONDITIONS

8.1 FUTURE SAFETY ANALYSIS

The future safety analysis for the study corridor was completed using the predictive method exemplified in the Highway Safety Manual (HSM) 1st edition. The predictive method for urban and suburban arterials in the HSM can be used to estimate the expected average crash frequency for a series of contiguous sites (an entire urban or suburban arterial facility), or a single individual site. Each predictive model consists of a safety performance function (SPF), crash modification factors (CMFs), a calibration factor, and pedestrian and bicyclist factors. The analysis worksheets are provided in **Appendix L**.

In the predictive method, a facility consists of a contiguous set of individual intersections and roadway segments referred to as "sites." For the study segment, it was determined that there would be 8 intersections and 8 segments. This segmentation has been discussed with FDOT's prime reviewer for this study effort. These segments were determined based on the crashes associated to the intersection and crashes associated to the main roadway of SR 994.

The intersections/segments were as follows:

- Signalized Intersections:
  - SW 137th Avenue
  - SW 134th Avenue
  - SW 127th Avenue
- Unsignalized Intersections:
  - SW 133rd Avenue
  - SW 132nd Place
  - SW 132nd Avenue
  - SW 130th Avenue
  - SW 129th Avenue
- Segments:
  - SW 137th Avenue to SW 134th Avenue
  - SW 134th Avenue to SW 133rd Avenue
  - SW 133rd Avenue to SW 132nd Avenue
  - SW 132nd Avenue to SW 130th Avenue
  - SW 130th Avenue to SW 129th Avenue

- SW 129th Avenue to SW 128th Avenue
- SW 128th Avenue to SW 127th Avenue
- SW 127th Avenue to SW 125th Avenue

The predictive model was developed for all alternatives (i.e., No Build, Build 1, Build 2, and Build 3) for design year 2045 to estimate the predicted average crash frequency of the individual intersections and the homogenous roadway segments, as presented in **Tables 33** and **34**. Based on the analysis, the number of crashes for existing conditions for the study corridor are 13.6 segment crashes and 64.4 intersection crashes on a yearly average, resulting in a total average of 78.0 crashes per year. For the 2045 No Build Alternative, the expected average crash frequency is 9.7 segment crashes and 44.0 intersection crashes per year with a total of 53.7 crashes. The decrease observed in crash frequency could be attributed to the scheduled improvements at the intersections of SW 137th Avenue, where the south leg has been already opened to traffic, and SW 127th Avenue where an exclusive northbound right-turn bay will be added to the intersection. Nevertheless, the crashes documented for existing conditions cannot be directly compared to the number of crashes expected under the 2045 No-Build Alternative, as one represents actual historical crashes and the other is based on crash expectancy calculations given the future roadway conditions of the study corridor.

The Build 1 Alternative improvements result in an expected average crash frequency of 9.7 segment crashes and 44.0 intersection crashes per year, resulting in a total of 53.7 crashes. The crash reduction of 5.6 crashes for the Build 1 Alternative when compared to No Build is attributed to the additional capacity improvements, such as the addition of turning lanes, recommended throughout the study corridor.

Under the Build 2 Alternative, the expected average crash frequency is 8.4 segment crashes and 43.6 intersection crashes per year, resulting in a total of 52.0 crashes. The crash decrease of 1.7 crashes for the Build 2 Alternative when compared to the Build 1 improvements is attributed to the additional capacity improvements due to widening SR 994 from two lanes to four and the installation of a raised median.

The Build 3 Alternative has the same expected average crash frequencies as the Build 2 Alternative. Although there are some differing improvements between the Build 2 and Build 3 Alternatives, these differences are minor and are not identified or measured by the HSM analysis.

It is noted that the HSM Predictive Method for Urban and Suburban Arterials Analysis Spreadsheet has limitations which may have affected the results observed. The limitations applicable to this analysis are as follows:

- Does not identify whether the lanes allow for passing. For example, in the existing conditions, and thus no-build alternative, the two lanes along SR 994 are divided by yellow broken line pavement markings which indicate that passing is allowed.
- Does not include a 2-lane divided roadway as a roadway type. This condition is present in the Build 1 Alternative. As a result, the 2-lane undivided arterial type was selected for this analysis.
- Does not consider prohibited movements. In the proposed alternatives, raised medians are installed which at certain locations eliminate left turns from the minor road.

In addition to the HSM analysis, a cursory review was performed using Crash Modification Factors (CMFs), included as **Appendix M**, from the Federal Highway Administration's Crash Modification Factors Clearinghouse to better differentiate the potential safety benefits of the Build Alternatives. A CMF of 29% (i.e., CRF of 71%) with ID 2219, rated with four stars (3 or higher is preferred) from FHWA's source, was selected to estimate the potential crash reduction association with installing a raised median along the study corridor. This CMF is applicable for all crashes along an urban roadway. Additionally, a CMF of 37% (i.e., CRF of 63%) with ID 7568, rated with four stars (3 or higher is preferred) from FHWA's source, was also selected to estimate the potential crash reduction association with widening the study corridor from 2 lanes to 4 lanes. This CMF is applicable for all crashes along an urban roadway. Based on the application of these CMFs to the Build Alternatives, the following is stated:

- For the Build 1 Alternative, installing a raised median along SR 994 has an expected crash reduction of 71% for all crashes (CMF ID: 2219). During the five-year study period, there were 390 documented crashes along the study corridor, averaging 78 crashes per year. The crash reduction percentage will be applied to 60% these crashes (78 crashes reduced by 40% to account for crashes occurring at intersections where the raised median may not be present). After applying the reduction, the estimated potential crash reduction under the Build 1 Alternative is 33.4 crashes per year.

- For the Build 2 and 3 Alternatives, the study corridor will be widened from two lanes to four lanes in addition to installing a raised median as in the Build 1 Alternative. The same

CMF ID 2219 for installing a raised median will be applied for these alternatives. Additionally, a CMF of 0.63 (37% crash reduction) for widening the road (CMF: 7568) will be applied to the total 78 crashes, after accounting for the already reduced crash expectancy of 33.4 crashes per year. After applying this additional reduction, the estimated potential crash reduction under the Build 2 and 3 Alternatives is 16.5 crashes per year, for a total crash reduction of 49.9 crashes annually.

In conclusion, based on the HSM and CMF methodologies crashes are expected to decrease for No Build due to the improvements at SW 137th Avenue, SW 134th Avenue, and SW 127th Avenue per other FDOT and County projects that are being completed by 2045. With the implementation of the Build Alternatives, crashes are expected to further decrease. Based on the HSM methodology, the safety benefits between the Build Alternatives are minimal (a difference of 1.7 crashes per year). The CMF application methodology presents greater safety benefits for the Build 2 and 3 Alternatives when compared to the Build 1 Alternative. Based on the CMF methodology, the four-lane roadway with a raised median option is slightly better than the two-lane roadway with a raised median alternative (with a reduction of 16.5 more crashes per year).

Installing a raised median along an undivided arterial, such as the study roadway, can bring several safety benefits, including:

- **Reduction in Head-On Collisions:** A raised median creates a physical barrier between opposing lanes of traffic, reducing the risk of head-on collisions.
- **Prevention of Left-Turn Crashes:** Raised medians can provide designated areas for left-turning vehicles, reducing the likelihood of conflicts with through traffic and decreasing left-turn crashes.
- **Improved Pedestrian Safety:** Raised medians provide pedestrians with a refuge area when crossing the street. They can cross one direction of traffic at a time, reducing exposure to moving vehicles.
- **Channelization of Traffic:** Raised medians help to guide traffic flow and discourage unsafe maneuvers such as sudden lane changes.
- **Reduced Conflict Points:** By limiting the number of conflict points where vehicles can cross paths, raised medians decrease the likelihood of crashes.
- **Speed Reduction:** Medians can be designed to visually narrow the roadway, which can encourage drivers to reduce speed, enhancing overall safety.

Additionally, safety benefits that can be achieved by widening the road from two lanes to four lanes under Build Alternatives 2 or 3, include the following:

- **Reduced Rear-End Collisions:** Additional lanes can ease congestion and reduce the likelihood of rear-end collisions caused by sudden stops or traffic slowdowns.
- **Decreased Congestion-Related Crashes:** By increasing roadway capacity, widening can help alleviate congestion, reducing the likelihood of crashes caused by congestion-related factors such as sudden lane changes or merging conflicts.
- **Reduced Sideswipe Collisions:** Additional lanes provide more space for vehicles, reducing the chance of sideswipe collisions, especially during lane changes or overtaking maneuvers.
- **Enhanced Passing Opportunities:** With more lanes available, drivers have increased opportunities to pass slower-moving vehicles safely, potentially reducing aggressive passing maneuvers and associated crashes.
- **Decreased Lane Departure Crashes:** Additional lanes provide more space for vehicles, potentially reducing the likelihood of lane departure crashes caused by drifting out of lanes due to narrow roadways.
- **Improved Traffic Flow:** Widening can smooth traffic flow, reducing stop-and-go conditions and the likelihood of crashes associated with abrupt changes in speed.

During the five-year study period, the crash analysis documented a total of 390 crashes. These crashes consisted of 48% (187) rear-end collisions, 30% (117) angle/left-turn collisions, 11% (43) sideswipe collisions, and 5% (18) lane departure collisions. Furthermore, approximately 35% of all crashes resulted in injury, while the majority (65%) resulted in property-damage only crashes. This high percentage of property-damage only crashes indicate incidents related to saturated traffic conditions along the study corridor, attributed to the presence of only one lane in each direction amidst growing traffic.

The improvements proposed under Build Alternatives 2 and 3 will specifically target these crash types to enhance the safety of the study corridor compared to Build Alternative 1.

Overall, widening a two-lane roadway to four lanes can lead to a safer and more efficient transportation corridor by reducing congestion, improving traffic flow, and providing additional space for vehicles to maneuver safely. Similarly, installing a raised median along an undivided arterial can significantly enhance safety for both motorists and pedestrians by reducing conflict points and providing physical separation between opposing traffic flows. These potential benefits are specifically associated with Build Alternatives 2 and 3, rather than Build 1.

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Table 33: 2045 Design Year Safety Analysis for No Build & Build Alternatives - Segments

Location	Existing Avg Crashes	NO BUILD 2045		BUILD 1 2045		BUILD 2 2045		BUILD 3 2045	
		Expected Avg Crash Frequency	Improvements	Expected Avg Crash Frequency	Improvements (In Addition to No Build)	Expected Avg Crash Frequency	Improvements (In Addition to Build 1)	Expected Avg Crash Frequency	Improvements (In Addition to Build 2)
ROADWAY SEGMENTS				ROADWAY SEGMENTS		ROADWAY SEGMENTS		ROADWAY SEGMENTS	
SW 137 Ave to SW 134 Ave	3.600	2.222	-	2.313	Adding a raised median. Inclusion of directional medians.	2.085	From 1 lane in each direction to 2 lanes in each direction.	2.085	Extension of raised median resulting in median closures.
SW 134 Ave to SW 133 Ave	2.200	1.006	-	1.040	Adding a raised median.	0.866	From 1 lane in each direction to 2 lanes in each direction.	0.866	Extension of raised median resulting in directional medians.
SW 133 Ave to SW 132 Ave	0.800	0.629	-	0.704	Adding a raised median. Inclusion of directional medians.	0.504	From 1 lane in each direction to 2 lanes in each direction.	0.504	-
SW 132 Ave to SW 130 Ave	1.400	1.077	-	1.162	Adding a raised median.	0.961	From 1 lane in each direction to 2 lanes in each direction.	0.961	-
SW 130 Ave to SW 129 Ave	0.800	0.870	-	0.892	Adding a raised median.	0.655	From 1 lane in each direction to 2 lanes in each direction.	0.655	-
SW 129 Ave to SW 128 Ave	0.200	0.694	-	0.711	Adding a raised median.	0.477	From 1 lane in each direction to 2 lanes in each direction.	0.477	-
SW 128 Ave to SW 127 Ave	2.200	1.293	-	1.369	Adding a raised median.	1.369	From 1 lane in each direction to 2 lanes in each direction.	1.369	-
SW 127 Ave to SW 125 Ave	2.400	1.493	-	1.503	Adding a raised median.	1.503	-	1.503	-
Total Roadway Segment Crashes	*13.600*	*9.284*	-	*9.694*	-	*8.420*	-	*8.420*	-

Note: The crashes documented for existing conditions cannot be directly compared to the number of crashes expected under the 2045 No-Build Alternative, as one represents actual historical crashes and the other is based on crash expectancy calculations given the future roadway conditions of the study corridor.

Table 34: 2045 Design Year Safety Analysis for No Build & Build Alternatives – Intersections

Location	Existing Avg Crashes	NO BUILD 2045		BUILD 1 2045		BUILD 2 2045		BUILD 3 2045	
		Expected Avg Crash Frequency	Improvements	Expected Avg Crash Frequency	Improvements (In Addition to No Build)	Expected Avg Crash Frequency	Improvements (In Addition to Build 1)	Expected Avg Crash Frequency	Improvements (In Addition to Build 2)
INTERSECTIONS				INTERSECTIONS		INTERSECTIONS		INTERSECTIONS	
SW 137 Ave	11.400	8.535	The south leg will open with one left-turn lane and a shared through/right-turn lane.	6.788	Adding one additional southbound, eastbound, and westbound left-turn lane. Converting the southbound and northbound shared through/right turn lane to one through lane and one right-turn bay. Adding one additional southbound and northbound through lane. Converting the eastbound shared left-turn/through/right-turn lane to one left-turn lane and one shared through/right-turn lane. Converting the westbound through/left-turn lane to one through lane and one left-turn bay. Adding one additional westbound right-turn lane.	6.603	Additional exclusive through lane in both major approaches. Adding one additional northbound left-turn lane.	6.603	-
SW 134 Ave	13.800	8.730	-	8.032	Converting the southbound shared left-turn/through/right-turn lane to one left-turn lane and one shared through/right-turn lane. Converting the westbound shared through/right-turn lane to one through lane and one right-turn lane.	8.032	Additional exclusive through lane in both major approaches.	8.032	-
SW 133 Ave	1.600	2.094	-	1.877	Adding left-turn on westbound approach.	1.877	Additional exclusive through lane in both major approaches.	1.877	Eliminating northbound left-turn movement.
SW 132 Pl	0.600	1.269	-	0.844	Eliminating the eastbound left-turn movement.	0.844	Additional exclusive through lane in both major approaches.	0.844	-
SW 132 Ave	6.600	5.568	-	5.025	Converting the northbound approach to one left-turn lane and one right-turn lane. Adding left-turn on westbound approach.	5.025	Additional exclusive through lane in both major approaches.	5.025	-
SW 130 Ave	3.000	3.364	-	2.711	Adding left-turn bays along the major road.	2.390	Additional exclusive through lane in both major approaches.	2.390	-
SW 129 Ave	3.400	3.484	-	2.473	Adding left-turn bays along the major road.	2.473	Additional exclusive through lane in both major approaches.	2.473	-
SW 127 Ave	24.000	16.977	An exclusive right-turn bay will be added to the northbound approach.	16.260	Adding one additional westbound and northbound left-turn lane. Converting the southbound shared through/right-turn lane to one through lane and one right-turn lane.	16.330	Additional exclusive through lane in the eastbound approach. Converting the eastbound shared through/right-turn lane to one through lane and one right-turn lane. Eliminating one northbound left-turn lane.	16.330	-
Total Intersection Crashes	*64.400*	*50.020*	-	*44.009*	-	*43.574*	-	*43.574*	-
TOTAL CRASHES (Segments + Intersections)	**78.000**	**59.305**	**-**	**53.703**	**-**	**51.994**	**-**	**51.994**	**-**

Note: The crashes documented for existing conditions cannot be directly compared to the number of crashes expected under the 2045 No-Build Alternative, as one represents actual historical crashes and the other is based on crash expectancy calculations given the future roadway conditions of the study corridor.

8.2 SHARED-USE PATH ANALYSIS

A study was conducted to assess the feasibility of implementing a Shared-Use Path along one or both sides of the study corridor (FM No. 445804-1-22-01; Task 40). The Department is open to considering the inclusion of this multimodal amenity in the PD&E's preferred alternative. Two alternatives were evaluated: Alternative 1, which features a 10-foot directional Shared-Use Path on both sides of the road, and Alternative 2, which includes a 12-foot bidirectional Shared-Use Path on the south side and a 6-foot sidewalk on the north side. Given the roadway profile of the study corridor, the south side of the road is the more feasible option for implementing a one-sided Shared-Use Path, as discussed during the design phase.

The objective of this study was accomplished by assessing the pedestrian and bicycle travel in the study area and performing safety and operational analyses per available guidelines.

Based on the study, a Shared-Use Path was determined to be an appropriate facility for bicycle users to be serviced given the 40 MPH posted speed limit and >10k vehicular traffic for the study corridor. The Shared-Use Path is recommended on both sides of the study corridor (Alternative 1) per the following statements below. Furthermore, according to the Sidepath Intersection & Crossing Treatment Guide (June 2018), one-way bikeways on each side of the road are preferred over a two-way bikeway for two-way streets whenever possible.

- Based on the Strava Global Heatmaps, there is significant pedestrian activity along the study corridor between SW 132nd Avenue and SW 127th Avenue, the Black Creek Trail, and to the south of the study corridor along SW 132nd Avenue, SW 127th Avenue and SW 208th Street. Although the bicyclist activity along the study corridor seems lower, there is more predominant activity along the Black Creek Trail, SW 137th Avenue, and to the south of the study corridor along SW 216th Street. Nevertheless, there is also bicyclist activity to the north of the study corridor through SW 132nd Place/SW 133rd Avenue and to the south along SW 132nd Avenue and SW 208th Street.
- These findings are supported by the pedestrian and bicycle data collected which determined that there were a total of 205 modal users during the peak hour of 5:00 PM to 6:00 PM with 181 (88%) of them travelling along the north and south sides of the study corridor, with a majority opting for the south side, and 24 (12%) of them crossing SR 994 at intersections rather than midblock locations. Despite the lack of bicycle lanes and sidewalk presence within the study corridor, there is substantial bicyclist and pedestrian

activity. There is approximately 39% sidewalk coverage along the north side of the study corridor and 67% sidewalk coverage along the south side.

- Furthermore, the Miami-Dade County has identified as Priority 4 (2031-2040) providing bicycle lanes along each direction of SW 137th Avenue from US 1 to SW 184th Avenue (already constructed at SW 137th Avenue) and a Shared-Use Path along the north side of SW 200th Street (not state road section) from SR 994 to US 1. Pedestrian crosswalks and signals will be provided at the intersections of SW 137th Avenue and SW 134th Avenue (upgrading to signal control), and the box will be closed at the intersection of SW 127th Avenue, as part of the PD&E's preferred alternative. These facilities are expected to attract more pedestrian and bicyclist activity to both the north and south sides of the study corridor.
- Within approximately a ½ mile radius from the study corridor bordered by single family homes, there are numerous pedestrian and bicyclist generators and attractors that could benefit from a Shared-Use Path on both sides of the corridor, including two schools, two parks, five churches, and retail businesses (The Shoppes at Quail Roost, 7-Eleven, Publix, YouFit Gym, Family Dollar, and others).
- Based on the number of conflict points, bicyclists along a bidirectional Shared-Use Path (Alternative 2) are at higher risk than along a directional Shared-Use Path (Alternative 1) with a higher potential for conflict with right-turning vehicles and overall traffic patterns at commercial driveways and signalized intersections.
- According to the Sidepath Intersection & Crossing Treatment Guide (June 2018), the "Interested but Concerned" bicycle user represents most of the potential bicycle activity in any community. It is expected that approximately 60% of the modal users in the study area would originate from this category. This type of bicycle user could potentially originate from the north and south sides of the study corridor, since both sides share very similar land use characteristics (i.e., single family homes).
- Based on the bicycle level of traffic stress (BLTS), Alternative 1 presents a lower stress tolerance in comparison to Alternative 2. Alternative 1 is classified as LTS 1 (LTS 1 on both sides of the roadway) which is designated as a level that most children can use confidently. According to the latest Census Data (2020), the study corridor falls within postal zip code 33177, where the percentage of children in the population is high at 20%. On the other hand, Alternative 2 has a final score of LTS 4 (LTS 4 and LTS 1 on the north and south sides of the roadway, respectively) which designates the level as only being tolerated by those with limited routes or mode choices, and/or cycling enthusiasts that

choose to ride under stressful conditions. Given the balanced residential land use on both sides of the study corridor, the target bicyclist demographic is the "Interested but Concerned" cyclist, expected to generate around 60% of bicycle traffic. A score of LTS4 for Alternative 2 is not suitable for this type of bicyclist.

- Based on the HCM predictive operational analysis, both Shared-Use Path alternatives are expected to operate at a LOS A for bicyclists. Furthermore, it was noted that Alternative 1 experiences less weighted events (passings and meetings) than Alternative 2. This is expected due to Alternative 1 proposing directional Shared-Use Paths, meaning that there will be no path user meetings as defined by the HCM.
- According to the Sidepath Safety Model: Bicycle Sidepath Design Factors Affecting Crash Rates (2006), it would be safer to travel along the sidepath when the adjacent roadway has three lanes or less, but less safe when the roadway has four lanes or more. The number of travel lanes along the study corridor of SR 994 in each direction will be less than three lanes, that is two lanes. This suggests that implementing Shared-Use Paths on each side of the study corridor would constitute a safe design approach.

Following the outlined results and discussions with the Department, it has been decided to incorporate a multimodal facility on both sides of the study corridor in the PD&E's preferred alternative. However, after additional analysis and coordination with FDOT District Six's Design Office, the Shared-Use Paths will be replaced by sidewalks with sidewalk-level Separated Bicycle Lanes (SBLs).

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9.0 ALTERNATIVE SELECTION MATRIX

The no action alternative (No Build) and Build Alternatives 1, 2, and 3 were scored based on the overall potential operational and safety benefits, as presented in **Table 35**. A no action alternative is not desirable for the study corridor of SR 994, since it is expected to endure operational deficiencies. The No Build alternative received the lowest score with a -8 when compared to the other alternatives. Build 1 trails in second place with a score of +1. Based on the traffic simulation, Build 1 will experience significant queuing at some of the side streets due to the lack of roadway capacity along SR 994, which is to be provided by the latter alternatives. Lastly, Builds 2 and 3 are very similar with a score of +8. Both Builds 2 and 3 are expected to have similar safety benefits. However, the slightly higher operational benefits expected with Build 3 over Build 2 are attributed to the additional restriction of left-turns to/from the side streets and estimating their diversion mainly to the signalized intersection of SW 134th Avenue which is to be upgraded to signal control. These additional turn restrictions are not deemed necessary based on the crash patterns identified for the study corridor of SR 994. Therefore, from a traffic and safety perspective, Build 2 seems to be the most suitable alternative for implementation. The following sections further detail the safety, traffic operations, and capacity benefits of Build 2.

Safety Benefits

Build Alternative 2 is expected to improve safety and reduce the amount and severity of crashes along the study corridor. The addition of a median will reduce the number of conflicts at stop controlled intersections by restricting or eliminating some of the existing turn movements. An additional though lane in each direction will allow for vehicles to safely pass slower traffic. The additional through lane also serves for occasional deceleration of right turning vehicles when an exclusive turn lane is not present, alleviating the high incidence of rear-end crashes that exists today. Traffic separators at signalized intersections will channelize traffic and provide refuge for pedestrians. Shared use paths on both sides of the road will enhance bicycle and pedestrian safety and reduce the potential for bicycles crossing at undesignated mid-block locations to reach the other side, compared to only providing one shared use path. The new signalized intersection at SW 134th Avenue will provide an additional crossing location between SW 137th Avenue and SW 127th Avenue.

Traffic Operations

Build Alternative 2 provides one additional through lane in each direction between SW 137th Avenue and SW 127th Avenue, which will provide faster travel times, especially during peak hours. Additional auxiliary turn lanes at signalized intersections will improve capacity and reduce queue lengths with higher levels of service. SW 132nd Avenue will be improved with an exclusive westbound left-turn lane and separate left and right turn lanes in the northbound direction. Access management restrictions that are currently enforced with raised directional islands or pavement markings will now be controlled with the raised median.

Capacity

Build Alternative 2 adds corridor capacity between SW 137th Avenue and SW 127th Avenue. The additional through lane will improve travel time. The addition of auxiliary lanes at signalized and unsignalized intersections will also reduce delay for vehicular traffic.

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Table 35: Alternatives Evaluation Matrix

Evaluation Criteria		Alternatives Comparison							
		No-Build (2-Lane Undivided)	**Score**	**Build Alternative 1 (2-Lane with 16.5-ft median)**	**Score**	**Build Alternative 2 (4-Lane with 16.5-ft median)**	**Score**	**Build Alternative 3 (4-Lane with 22-ft median)**	**Score**
ENGINEERING		**Corridor-Wide**							
	Traffic Operations	Traffic Operations significantly deteriorate from existing conditions. 310 hours of delay by Opening Year VS. 138 hours today If no action (both AM&PM for signalized/critical movements at unsignalized intersections; mostly due to lack of turning lanes); Delay is expected to double by Design Year 2045 to 693 hours Travel Time increases by 5 mins by Opening Year from 8 mins for the total of both AM&PM + EB/WB; By 2045, travel time increases from 8 mins to 27 mins	--	Delay is significantly reduced by -42% to 401 hours VS. 693 hours in No-Build for 2045 (both AM+PM) Travel Time improved to 7 mins back/forth (from 19 mins) for the AM peak hour and to 7 mins back/forth (from 7.5 mins) for the PM peak hour when compared to No-Build	+	Delay is significantly reduced by -68% to 222 hours VS. 693 hours in No-Build for 2045 (both AM+PM) Build 2 reduces delay by an additional -26% when compared to Build 1 Travel Time improved to 6 mins back/forth (from 7 mins) per peak period when compared to Build 1	++	Delay is significantly reduced by -67% to 226 hours VS. 693 hours in No-Build for 2045 (both AM+PM) Build 3 increases delay by +2% when compared to Build 2 Travel Time remains at 6 mins back/forth per peak period	+
		Main Intersections							
		LOS at SW 137 Ave fails (from C or better) due to lack of turning lanes Already failing LOS at SW 134 Ave worsens by 2045 where 2 fatal crashes occurred LOS at SW 127 Ave fails by 2045 (from D)	--	LOS at SW 137 Ave improved to E (from F, if No Action); it cannot be improved to LOS D due to the single eastbound approach through lane at SW 137 Ave LOS at SW 134 Ave improved to C (from F, if No Action) LOS at SW 127 Ave improved to D (from F, if No Action)	+	Delay at SW 137 Ave further reduced by -45% (-61 hours) at an improved LOS D Delay at SW 134 Ave further reduced by -53% (-24 hours) at an improved LOS B Although at LOS D, SW 127 Ave delay further reduced by -9% (-8 hours)	++	Although at LOS D, SW 137 Ave delay increased by +9% (+7 hours) Although at LOS B, SW 134 Ave delay increased by +9% (+2 hours) Although at LOS D, SW 134 Ave delay further reduced by -4% (-3 hours)	+
		Stop-Controlled Intersections							
		Turning Traffic Delay from/onto side streets worsens to 106 hours by 2045 from 16 hours for both AM & PM peak periods	--	Turning Traffic Delay from/onto side streets worsens by +24% to 132 hours from 106 hours for both AM & PM peak periods	--	Turning Traffic Delay from/onto side streets improves by -66% to 45 hours from 132 hours for both AM & PM peak periods when compared to Build 1	++	Turning Traffic Delay from/onto side streets improves by -2% to 44 hours from 45 hours for both AM & PM peak periods when compared to Build 2	++

Evaluation Criteria		Alternatives Comparison							
		No-Build (2-Lane Undivided)	Score	Build Alternative 1 (2-Lane with 16.5-ft median)	Score	Build Alternative 2 (4-Lane with 16.5-ft median)	Score	Build Alternative 3 (4-Lane with 22-ft median)	Score
	Safety	Number of crashes expected to increase compared to existing conditions due to projected increase in traffic volumes	--	Safety Improvements include: • Turn Lanes (left and right) • Protected Left-Turn Phasing • Multimodal Facilities (SUPs) • Special Emphasis Ped/Bike Crossings • Enhancements to Existing Trail Crossing • Corridor Lighting • Traffic Control Upgrade at SW 134 Ave to Signal Control • Some Access Management Improvements • Raised Median Islands/Traffic Separators Per CMF Methodology, expected to reduce 33 crashes per year In addition, this alternative addresses severity of crashes – 2 out of 3 fatal accidents in the past 5 years were related to turning movements at the SW 134 Avenue intersection	+	Safety Improvements include the same as Build Alternative 1 plus the addition of: • One additional thru lane in each direction Per CMF Methodology, expected to reduce 50 crashes per year; this is approximately 16 more crashes than Build 1 Same as Build 1, this alternative addresses severity of crashes; however, Build 1 does not address crashes related to traffic congestion such as rear-end collisions	++	Safety Improvements include the same as Build alternative 2 plus the addition of: • Wider Raised Median, 22 ft • Additional Access Management Improvements Per CMF Methodology, expected to reduce 50 crashes per year; this is approximately 16 more crashes than Build 1* *Similar safety benefits as Build 2, since the locations where Build 3 implemented additional access management improvements did not have significant crashes for mitigation Same as Builds 1 and 2, this alternative addresses severity of crashes. however, Build 1 does not address crashes related to traffic congestion such as rear-end collisions	++
TOTAL SCORE		**-8**		**1**		**8**		**6**	

Score	Description
+	Alternative meets or has a positive response to the Evaluation Criteria (attributed a score of +1)
0	Alternative has no effect or provides some benefit to the Evaluation Criteria (attributed a score of 0)
-	Alternative has a poor or negative response to the Evaluation Criteria (attributed a score of -1)
Note:	++ or -- denote greater impact positively or negatively, respectively (attributed a score of +2 or -2, respectively)

10.0 ENHANCEMENTS TO PREFERRED ALTERNATIVE

During the development of the Project Traffic Analysis Report (PTAR), the PD&E team considered a recent system linkage/capacity improvement project led by Miami-Dade County, which was completed in June 2022 at the intersection of SR 994 and SW 137th Avenue. At the start of the PD&E, the south leg at the SW 137th Avenue intersection was under construction, extending south along SW 137th Avenue to connect to US-1.

Initially, traffic patterns for the PD&E alternative development were estimated based on historical data, traffic counts from 2021, and planning model outputs. Roadway capacity improvements for the build alternatives were developed accordingly. However, once the new SW 137th Avenue connection opened to traffic, additional traffic data was collected in early 2023 to reassess future turning movement volumes for the No-Build and Build Alternatives for the years 2025 and 2045, as discussed in **Section 4.5.9.4**.

The new data revealed a decrease in traffic patterns from southbound SW 137th Avenue to eastbound SR 994 and then to southbound SW 134th Avenue, as well as from westbound SR 994 to northbound SW 137th Avenue. Consequently, future turning movement volumes were revised during this current submittal based on the changes and analyzed according to the previously developed roadway capacity improvements for the intersections of SW 137th Avenue and SW 134th Avenue. A separate sensitivity analysis was conducted to refine the Build 2 Alternative and determine if turning lanes could be reconsidered.

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The refinements to intersection capacities resulted in positive operational benefits, as detailed in **Tables 36** and **37**. Additionally, these modifications reduce the need for right-of-way acquisition. The changes include:

At SW 137th Avenue:

- **Eastbound Approach:** Reduce from 2 left-turn lanes to 1 left-turn lane
- **Westbound Approach:** Reduce from 2 right-turn lanes to 1 right-turn lane
- **Northbound Approach:** Reduce from 2 left-turn lanes to 1 left-turn lane
- **Southbound Approach:** Remove right-turn lane to share with through lane

At SW 134th Avenue:

- **Eastbound Approach:** Remove right-turn lane to share with through lane
- **Westbound Approach:** Remove right-turn lane to share with through lane
- **Northbound Approach:** No changes
- **Southbound Approach:** No changes

The Synchro analysis worksheets are included in the Project Traffic Analysis Report in **Appendix N**.

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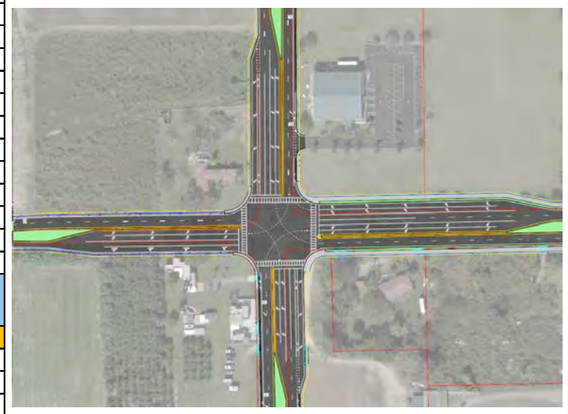
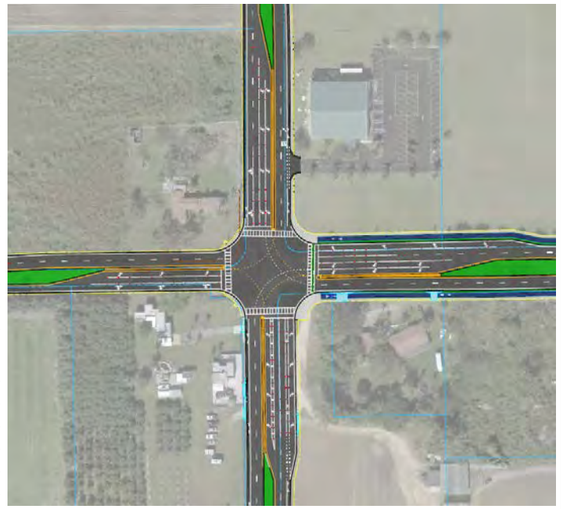
Table 36. Build 2 (Refined) Operational Results 2045 AM & PM for SW 137th Ave

	BUILD 2 - 2045							BUILD 2 - 2045	*Refined* BUILD 2 - 2045							*Refined* BUILD 2 - 2045
	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Intersection Geometry	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	Intersection Geometry
AM Peak Hour	EBLT	84	54.6	1.3	61	0.42	D		EBLT	84	22.7	0.5	69	0.24	C	
	EBT	562	36.5	6.7	405	0.64	D		EBT	562	34.9	6.4	332	0.62	C	
	EBRT	98	*	*	*	*	*		EBRT	98	*	*	*	*	*	
	WBLT	278	44.1	3.4	135	0.67	D		WBLT	278	47.1	3.6	156	0.66	D	
	WBT	413	21.8	2.5	204	0.35	C		WBT	413	34.3	3.9	222	0.32	C	
	WBRT	383	10.6	1.1	107	0.18	B		WBRT	383	1.5	0.2	6	0.27	A	
	NBLT	131	54.5	2.0	87	0.51	D		NBLT	131	36.5	1.3	107	0.48	D	
	NBT	521	47.9	6.9	254	0.73	D		NBT	521	50.4	7.3	270	0.77	D	
	NBRT	242	39.7	2.7	90	0.24	D		NBRT	242	39.8	2.7	68	0.16	D	
	SBLT	292	52.8	4.3	158	0.67	D		SBLT	292	54.1	4.4	162	0.70	D	
	SBT	353	45.7	4.5	173	0.74	D		SBT	353	55.0	7.2	237	0.86	D	
	SBRT	121	32.6	1.1	20	0.09	C		SBRT	121	*	*	*	*	*	
	Int	**3478**	**37.7**	**36.4**			**D**		**Int**	**3478**	**38.9**	**37.6**			**D**	
PM Peak Hour	Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS		Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS	
	EBLT	51	56.1	0.8	42	0.60	E		EBLT	51	31.4	0.4	61	0.19	C	
	EBT	529	54.8	9.4	445	0.36	D		EBT	529	48.7	8.3	#351	0.78	D	
	EBRT	88	*	*	*	*	*		EBRT	88	*	*	*	*	*	
	WBLT	242	50.7	3.4	145	0.74	D		WBLT	242	51.8	3.5	128	0.70	D	
	WBT	347	33.5	3.2	192	0.37	C		WBT	347	30.0	2.9	160	0.35	C	
	WBRT	294	1.3	0.1	3	0.18	A		WBRT	294	4.5	0.4	142	0.20	A	
	NBLT	109	26.8	0.8	30	0.22	C		NBLT	109	32.0	1.0	61	0.48	C	
	NBT	319	32.8	2.9	141	0.37	C		NBT	319	33.9	3.0	263	0.33	C	
	NBRT	274	31.4	2.4	61	0.73	C		NBRT	274	33.9	2.6	105	0.31	C	
								EB: 2 LEFTS + 1 THRU + 1 SHARED THRU/RIGHT								EB: 1 LEFT + 1 THRU + 1 SHARED THRU/RIGHT
	SBLT	379	51.9	5.5	195	0.80	D	WB: 2 LEFTS + 2 THRUS + 2 RIGHTS	SBLT	379	52.9	5.6	186	0.74	D	WB: 2 LEFTS + 2 THRUS + 1 RIGHT
	SBT	626	39.8	6.9	283	0.85	D	NB: 2 LEFTS + 2 THRUS + 1 RIGHT	SBT	626	53.4	11.1	#507	0.95	D	NB: 1 LEFT + 2 THRUS + 1 RIGHT
	SBRT	123	20.8	0.7	16	0.09	C	SB: 2 LEFTS + 2 THRUS + 1 RIGHT	SBRT	123	*	*	*	*	*	SB: 2 LEFTS + 1 THRU + 1 SHARED THRU/RIGHT
	Int	**3381**	**38.5**	**36.1**			**D**		**Int**	**3381**	**41.3**	**38.8**			**D**	

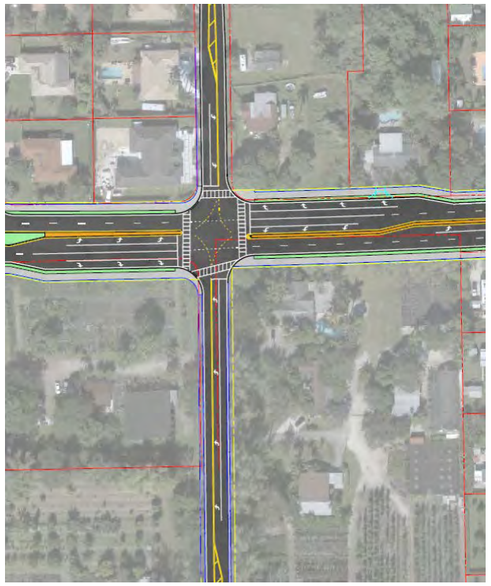
Notes: “v/c” indicates volume over capacity; values greater than 1 indicates over capacity. “*” indicates movement is shared. LOS E is highlighted in orange.

Table 37. Build 2 (Refined) Operational Results 2045 AM & PM for SW 134th Ave

AM Peak Hour

BUILD 2 - 2045						
Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS
EBLT	25	9.2	0.1	35	0.08	A
EBT	1009	11.0	3.1	518	0.48	B
EBRT	73	5.1	0.1	49	0.07	A
WBLT	98	7.8	0.2	58	0.27	A
WBT	957	6.3	1.7	274	0.39	A
WBRT	66	4.5	0.1	19	0.06	A
NBLT	85	45.5	1.1	89	0.43	D
NBT	23	46.3	2.1	62	0.58	D
NBRT	139	*	*	*	*	*
SBLT	81	55.9	1.3	113	0.50	E
SBT	52	56.9	1.4	100	0.63	E
SBRT	35	*	*	*	*	*
Int	2643	15.0	11.0			B

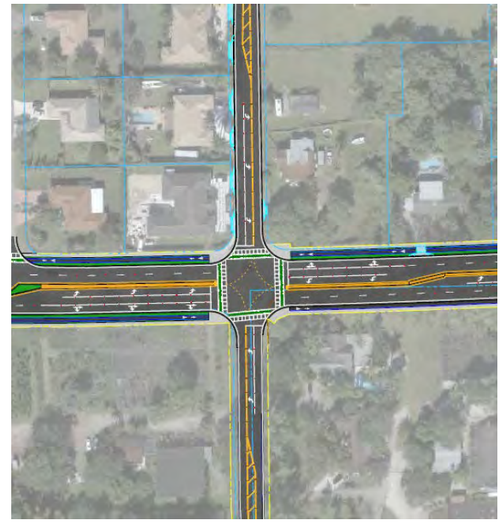
BUILD 2 - 2045
Intersection Geometry



EB: 1 LEFT + 2 THRUS + 1 RIGHT
WB: 1 LEFT + 2 THRUS + 1 RIGHT
NB: 1 LEFT + 1 SHARED THRU/RIGHT
SB: 1 LEFT + 1 SHARED THRU/RIGHT

Refined BUILD 2 - 2045						
Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS
EBLT	25	7.2	0.1	1	0.08	A
EBT	1009	12.1	3.6	338	0.51	B
EBRT	73	*	*	*	*	*
WBLT	98	8.3	0.2	35	0.27	A
WBT	957	10.2	2.9	261	0.44	B
WBRT	66	*	*	*	*	*
NBLT	85	49.0	1.2	114	0.38	D
NBT	23	46.5	2.1	79	0.59	D
NBRT	139	*	*	*	*	*
SBLT	81	56.2	1.3	129	0.51	E
SBT	52	42.6	1.0	95	0.31	D
SBRT	35	*	*	*	*	*
Int	2643	16.8	12.4			B

Refined BUILD 2 - 2045
Intersection Geometry



EB: 1 LEFT + 1 THRU + 1 SHARED THRU/RIGHT
WB: 1 LEFT + 1 THRU + 1 SHARED THRU/RIGHT
NB: 1 LEFT + 1 SHARED THRU/RIGHT
SB: 1 LEFT + 1 SHARED THRU/RIGHT

PM Peak Hour

BUILD 2 - 2045						
Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS
EBLT	33	6.9	0.1	14	0.09	A
EBT	1112	10.1	3.1	553	0.51	B
EBRT	93	4.6	0.1	36	0.09	A
WBLT	73	7.1	0.1	40	0.22	A
WBT	781	4.9	1.1	185	0.31	A
WBRT	62	3.7	0.1	16	0.05	A
NBLT	76	47.4	1.0	87	0.40	D
NBT	49	50.0	2.3	98	0.68	D
NBRT	120	*	*	*	*	*
SBLT	49	57.1	0.8	79	0.39	E
SBT	29	58.0	1.0	67	0.57	E
SBRT	33	*	*	*	*	*
Int	2510	13.9	9.7			B

Refined BUILD 2 - 2045						
Movement	Vol (vph)	Delay (sec/veh)	Delay (veh-hr)	95th % Q (ft)	v/c	LOS
EBLT	33	5.7	0.1	18	0.09	A
EBT	1112	11.5	3.8	588	0.55	B
EBRT	93	*	*	*	*	*
WBLT	73	7.8	0.2	25	0.22	A
WBT	781	8.3	1.9	188	0.36	A
WBRT	62	*	*	*	*	*
NBLT	76	49.4	1.0	106	0.35	D
NBT	49	50.8	2.4	134	0.68	D
NBRT	120	*	*	*	*	*
SBLT	49	57.2	0.8	90	0.39	E
SBT	29	44.1	0.8	63	0.25	D
SBRT	33	*	*	*	*	*
Int	2510	15.7	11.0			B

Notes: “v/c” indicates volume over capacity; values greater than 1 indicates over capacity. “*” indicates movement is shared. LOS E is highlighted in orange.

11.0 CONCLUSION AND RECOMMENDATIONS

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Study to address safety, traffic operations, and capacity issues along State Road (SR) 994/SW 200th Street/Quail Roost Drive in southwest Miami-Dade County. The study area spans from just west of SW 137th Avenue to just east of SW 127th Avenue, covering approximately 1.67 miles. The project's goal is to accommodate future travel demand resulting from population and employment growth in the area. Additional objectives of this project include improving the overall safety conditions along the corridor, including emergency evacuation and response times, and enhancing mobility options and multi-modal access.

The purpose of this Project Traffic Analysis Report is to examine the existing traffic and safety conditions of SR 994 to predict the future operational and safety characteristics of the study corridor for the following scenarios:

- Existing Conditions 2021 for AM & PM Peak Hours
- No Build Alternative 2025 & 2045 for AM & PM Peak Hours
- Build Alternatives 2025 & 2045 for AM & PM Peak Hours
    - Build 1: Includes widening SR 994 to provide a raised median with left-turning opportunities from and onto the side streets while implementing access management enhancements. Additionally, implement several capacity improvements at the signalized intersections of SW 137th Avenue and SW 127th Avenue, and upgrade the stop-controlled intersection of SW 134th Avenue to signal control.
    - Build 2: In addition to the improvements in Build 1, this alternative widens SR 994 from two lanes to four lanes.
    - Build 3: In addition to the improvements in Build 2, this alternative implements additional access management enhancements.

Based on the evaluation of the No Build and Build Alternatives, the following concluding statements are presented for the proposed project’s opening and design years 2025 and 2045, respectively:

It is essential to consider the timing and type of improvements under each Build alternative to understand the operational results and the changes to traffic patterns that these actions will bring.

In other words, the benefits or decay in operations due to the implementation of the Build Alternatives are not linearly related but influenced by the modifications taking place at such time.

Build 1 includes capacity improvements at SW 137th Avenue and the opening of the south leg to traffic by the 2025 analysis year (the intersection leg actually opened in June 2022). Introduction of the south leg at SW 137th Avenue altered traffic patterns at SW 137th Avenue and SW 134th Avenue. Additionally, a County project to widen SW 137th Avenue from 2 lanes to 4 lanes is expected to be completed by 2030. While this project will improve traffic conditions by 2045, it will not affect conditions in the analysis year 2025. Starting with Build 1, the traffic control at the intersection of SW 134th Avenue will be upgraded to signal control. Additionally, capacity improvements will be implemented at the intersection of SW 127th Avenue. Under Build 2 and 3 alternatives, SR 994 is to be widened from 2 lanes to 4 lanes by FDOT. The primary difference between Build 2 and Build 3 is that Build 3 includes additional access management enhancements, which will divert traffic within the study corridor.

Traffic Operations Benefits:

- *Arterial:* With the implementation of the recommended improvements under the Build conditions, the arterial operations of the study corridor would improve to LOS D or better with increased speeds and lower travel times, as presented in **Tables 23** and **24**. Although all three Build alternatives are expected to significantly improve travel speeds during both the AM and PM peak hours in future years, Builds 2 and 3 are anticipated to provide approximately 3-5 MPH higher speeds when compared to Build 1. With regards to arterial operations, Builds 2 and 3 have similar potential benefits while both being better than Build 1.
- *SW 137th Avenue:* For the opening year 2025, operations at SW 137th Avenue are expected to show some improvement under Build 1. The overall average intersection delay per vehicle is projected to decrease from 119 to 65 seconds during the AM peak hour and from 159 to 121 seconds during the PM peak hour. Despite these improvements, the intersection level of service remains similar to No Build conditions at LOS E or worse. By 2045, further improvements in intersection operations are anticipated due to the widening of SW 137th Avenue. The overall average intersection delay per vehicle is expected to decrease from 217 to 61 seconds during the AM peak hour and from 135 to 79 seconds during the PM peak hour. However, the intersection level of service remains at E for both peak hours.

Although significant operational improvements are anticipated with both Build Alternatives 2 and 3, Build 2 is expected to experience lower vehicular delay. For the opening year 2025, the level of services for both alternatives are projected to be LOS D for the AM peak hour and LOS E for the PM peak hour. The overall average intersection delay per vehicle is 38 seconds for Build 2 and 41 seconds for Build 3 during the AM peak hour. For the PM peak hour, the overall average intersection delay per vehicle is 55 seconds for Build 2 and 65 seconds for Build 3. By year 2045, the intersection level of service improves to LOS D due to the widening of SW 137th Avenue. The overall average intersection delay per vehicle is 38 seconds for Build 2 and 40 seconds for Build 3 during the AM peak hour. For the PM peak hour, the overall average intersection delay per vehicle is 39 seconds for Build 2 and 43 seconds for Build 3.

To highlight the difference in total vehicular delays between Build 2 and Build 3, the total cumulative intersection vehicular delay for 2045 was calculated. For Build 2, the total delay is 36 hours during the AM and PM peak hours each, compared to 38 to 41 hours for Build 3 during the same periods, making Build 2 the better option at the intersection of SW 137th Avenue

- *SW 134th Avenue:* With the implementation of any of the Build alternatives, the overall intersection operation during the AM and PM peak hours is improved to LOS C or better in 2025 and 2045 (from estimated LOS F) as seen in **Tables 27** and **28**. The intersection is upgraded to signal control under the Build alternatives. The overall average intersection delay per vehicle is expected to be 10 to 33 seconds with any of the alternatives. Build 2 and 3 seem to provide better operational benefits when compared to Build 1 with an average vehicular delay of 15 seconds vs. 25 seconds during each peak hour.

- *SW 127th Avenue:* With the implementation of any of the Build alternatives, the overall intersection operation during the AM and PM peak hours is improved to LOS C or better in 2025 and 2045 (from LOS F) as seen in **Tables 29** and **30**. The overall average intersection delay per vehicle is expected to be approximately 35 to 50 seconds with any of the alternatives. Although some intersection movements are expected to operate at LOS E, the vehicular queues are moderate. The overall benefits at this intersection are similar under any of the Build alternatives since the improvements are very similar.

- *Stopped-Control Intersections:* The critical movements at the stop-controlled intersections within the study limits include making a left-turn from the side streets or mainline SR 994. This is due to the lack of left-turning lanes and gaps on SR 994 given only one travel lane in each direction. **Tables 31** and **32** present a summary of the average vehicular delay, 95th percentile queue length, and level of service for all left-turn movements at each intersection for the No Build and Build alternatives. Although there are several left-turning movements expected to operate at LOS F for No Build conditions 2025 and 2045 during the AM and PM peak hours, most of these movements experience short queues. However, the southbound left-turn at SW 130 Avenue and the northbound left-turns at SW 132nd Avenue and SW 133rd Avenue are expected to experience significant queuing by 2045 during the AM peak hour. For No Build 20245, the 95th percentile queue for these movements at SW 130th Avenue, SW 132 Avenue, and SW 133 Avenue are 363, 752, and 506 feet, respectively. The additional roadway widening for SR 994 under Build 2 and 3 is expected to facilitate turning left from these side streets experiencing significant queuing. The vehicular queues for all critical intersection movements are low-to-moderate for Builds 2 and 3 under all scenarios. Builds 2 and 3 are expected to reduce left-turn delay by approximately 50% or more when compared to Build 1. The total vehicular delay for Build 1 is projected to be 131.8 vehicular hours in 2045 for both the AM and PM peak hours, compared to 45.3 vehicular hours for Build 2 and 44.4 vehicular hours for Build 3. Build 3 has a slightly lower delay due to additional access management enhancements compared to Build 2.

Safety Benefits:

Based on the HSM and CMF methodologies crashes are expected to decrease for No Build due to the improvements at SW 137th Avenue, SW 134th Avenue, and SW 127th Avenue per other FDOT and County projects that are being completed by 2045. With the implementation of the Build Alternatives, crashes are expected to further decrease. Based on the HSM methodology, the safety benefits between the Build Alternatives are minimal (a difference of 1.7 crashes per year). The CMF application methodology presents greater safety benefits for the Build 2 and 3 Alternatives when compared to the Build 1 Alternative. Based on the CMF methodology, the four-lane roadway with a raised median option is slightly better than the two-lane roadway with a raised median alternative (with a reduction of 16.5 more crashes per year).

Alternative Ranking:

Based on the overall potential operational and safety benefits of a no action alternative, No Build, and Build Alternatives 1, 2, and 3, the alternatives were ranked for operations and safety, each, as presented in **Table 35**. It is clear that a no action alternative is not desirable for the study corridor of SR 994, since it is expected to endure safety and operational deficiencies. The No Build alternative received the lowest ranking of -8 when compared to the other alternatives. Build 1 trails in second place with a ranking of +1. Based on the traffic simulation, Build 1 will experience significant queuing at some of the side streets due to the lack of roadway capacity along SR 994, which is to be provided by the latter alternatives. Build 3 follows with a ranking of +6. Lastly, Build 2 leads with a ranking of +8. Build 2 demonstrates better operational benefits for the entire corridor and at the main study intersections compared to Build 3. The operational benefits for the left-turning movements from/to the side streets at the unsignalized intersections are very similar for both build alternatives. However, other related needs, such as the amount of right-of-way for the implementation of Build 2 or 3 should be vetted to obtain more differentiation between these two alternatives apart from the operations and safety benefits presented in this report.

Enhancements to Preferred Alternative:

Additionally, the preferred should include a sidewalk with a sidewalk level bicycle lane on each side of the study corridor. The Department is open to considering the inclusion of this multimodal amenity in the PD&E's preferred alternative. Additional details are presented in **Section 8.2**.

Lastly, although the operational and safety analyses included the opening of the south leg at the SW 137th Avenue intersection, a sensitivity analysis was conducted to refine the preferred Build 2 Alternative. This analysis aimed to determine if turning lanes could be reconsidered at the intersections of SW 137th Avenue and SW 134th Avenue, as discussed in **Section 10.0**. The results indicate that both intersections can still maintain a level of service D while implementing the following capacity modifications:

At SW 137th Avenue:

- **Eastbound Approach:** Reduce from 2 left-turn lanes to 1 left-turn lane
- **Westbound Approach:** Reduce from 2 right-turn lanes to 1 right-turn lane
- **Northbound Approach:** Reduce from 2 left-turn lanes to 1 left-turn lane
- **Southbound Approach:** Remove right-turn lane to share with through lane

At SW 134th Avenue:

- **Eastbound Approach:** Remove right-turn lane to share with through lane
- **Westbound Approach:** Remove right-turn lane to share with through lane
- **Northbound Approach:** No changes
- **Southbound Approach:** No changes

Additionally, these modifications reduce the need for right-of-way acquisition.

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FDOT

Appendix A: Relevant Traffic Reports and Planning Studies

FLORIDA DEPARTMENT OF TRANSPORTATION

TWO 48

DISTRICT SIX – TRAFFIC OPERATIONS

Districtwide Traffic Operations & Safety Studies

June 2019

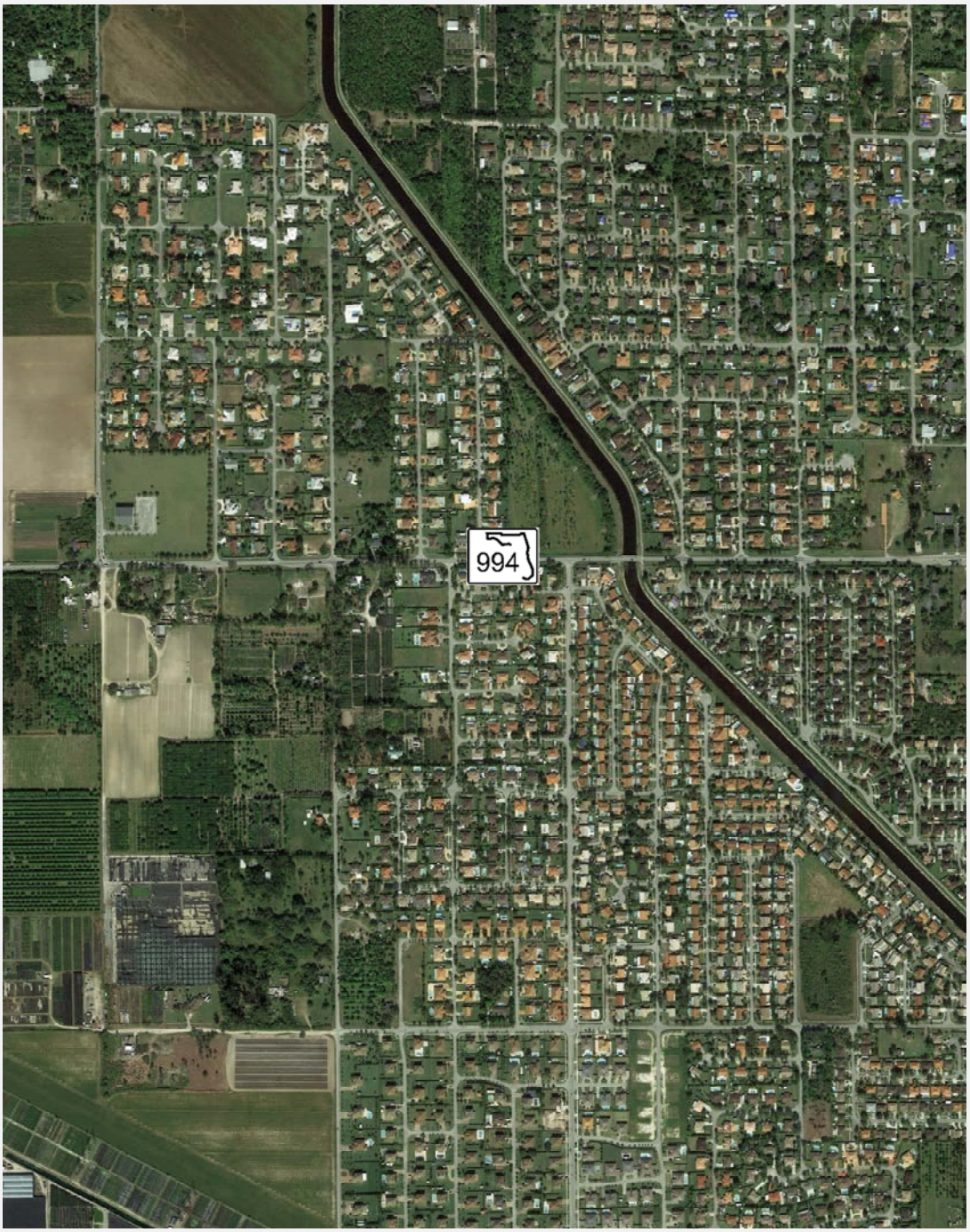
FPID 250650-4-32-01

Contract C-9R38

SR 994/Quail Roost Drive/SW 200th Street

From West of SW 137th Avenue to West of SW 127th Avenue

Section 87091000 (MP 4.035 to 4.961)



3R SAFETY REVIEW

FDOT

FDOT Project Manager: Isis Sotolongo

Resurfacing, Restoration and Rehabilitation (RRR/3R)

SAFETY REVIEW

District Six Traffic Operations

District-Wide Traffic Operations & Safety Studies

FM: 250650-4-32-01

Contract No. C-9R38

Task Work Order No. 48

SR 994 / QUAIL ROOST DRIVE / SW 200TH STREET

From West of SW 137TH Avenue to West of SW 127TH Avenue

Section 87091000 (MP 4.035 to 4.961)

FDOT Project Manager: Isis Sotolongo

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ENGINEER'S CERTIFICATION

I, Keffler Castro, PE, with Florida PE No. 66437, certify that I currently hold an active Professional Engineer's License in the State of Florida and I am competent through education or experience to provide engineering services in the civil and traffic engineering disciplines contained in this report. I further certify that this report was prepared by me or under my responsible charge as defined in Chapter 61G15-18.001 F.A.C. and that all statements, conclusions and recommendations made herein are true and correct to the best of my knowledge and ability.

Project Description:

3R SAFETY REVIEW

SR 994/QUAIL ROOST DRIVE/SW 200TH STREET

FROM WEST OF SW 137TH AVENUE TO WEST OF SW 127TH AVENUE

SECTION 87091000 (MP 4.035 TO 4.961)



June 6, 2019

Keffler Castro, P.E.
Florida Registration P.E. No. 66437
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1 INTRODUCTION

The segment of SR 994/Quail Roost Drive/SW 200th Street from West of SW 137th Avenue to West of SW 127th Avenue was identified by the Department as a candidate for a Resurfacing, Restoration and Rehabilitation (3R) project with FM No. 443915-1. This report has been prepared in response to the Department's request for a safety review for this project. The purpose of the safety review is to identify crash patterns, suggest further review and/or recommend safety countermeasures to enhance safety and operations. Some of the recommended improvements could potentially be implemented through the subject 3R Project. **Figure 1.1** depicts the locations of the 3R safety review project.

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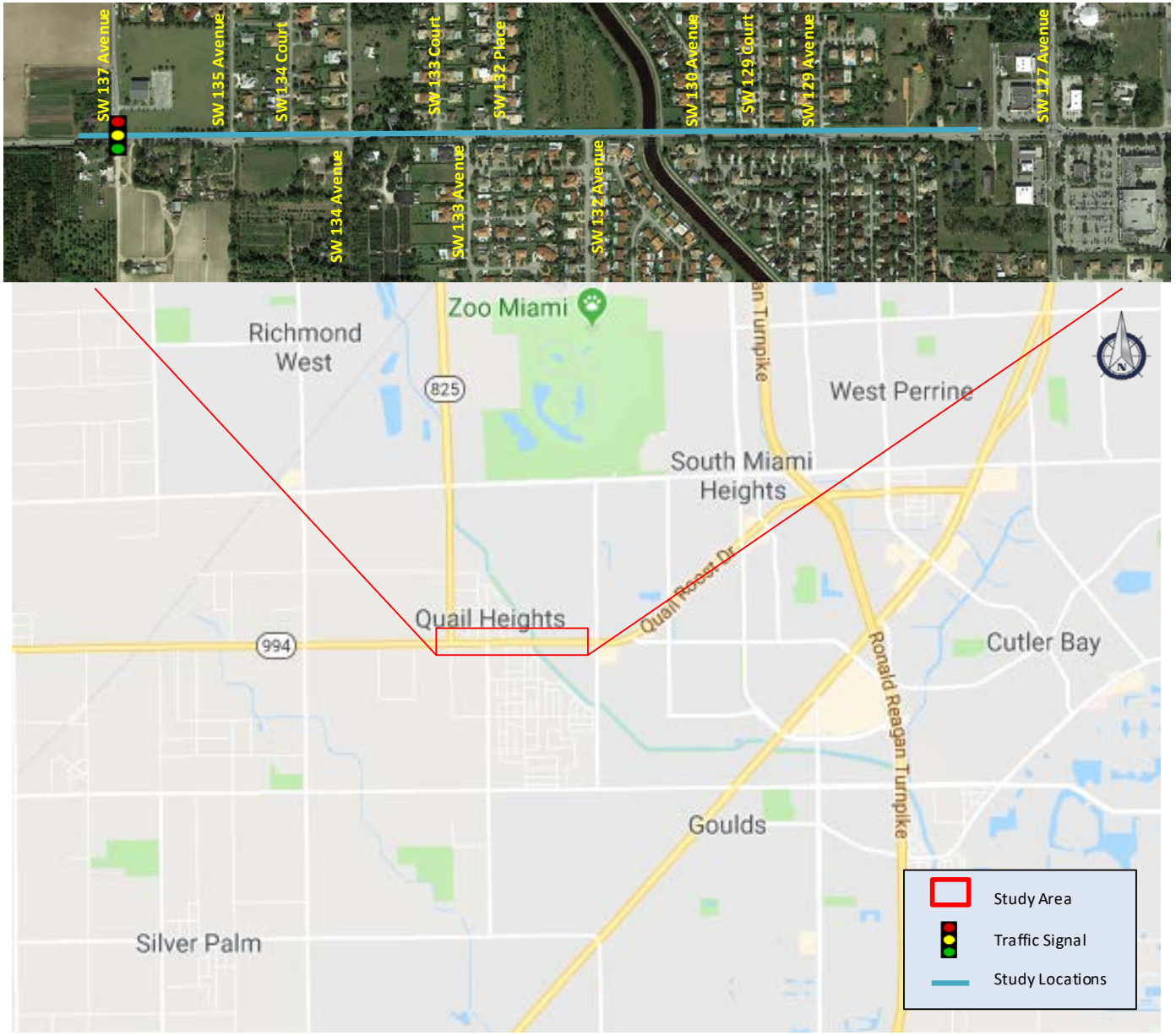

Figure 1.1: Project Location Map

2 EXISTING CONDITIONS

The approximately 1-mile study segment runs along SR 994/SW 200th Street/Quail Roost Drive, from West of SW 137th Avenue to West of SW 127th Avenue (MP 4.035 TO 4.961) in Miami-Dade County, Florida. SR 994, also called Quail Roost Drive within the study area, is identified as section 87091000 on the State Highway System (SHS).

Within the study limits, SR 994/Quail Roost Drive is classified as a rural minor arterial from MP 4.035 to MP 4.073 (SW 137th Avenue) and as an urban minor arterial from MP 4.073 to MP 4.961. SR 994/Quall Roost Drive runs in the east-west direction and its typical section consists of one travel lane in each direction. There are no sidewalks and curb/gutters along SR 994/Quail Roost Drive within the study limits. The study limits have a posted speed limit of 40 mph throughout the entire segment. The straight line diagram for the roadway section forming the study segment is included in **Appendix A**.

The study segment includes the signalized intersection of SR 994/Quail Roost Drive at SW 137th Avenue and ten (10) un-signalized intersections. The Signal Timing Information for the intersection SR 994/Quail Roost Drive at SW 137th Avenue is included as **Appendix B**. The existing lane configuration and general roadway characteristics at the signalized intersection and some of the un-signalized intersections are as follows:

SR 994/Quail Roost Drive at SW 137th Avenue – MP 4.075 (Asset No. 6507)

- EB Approach: One shared through/left-turn/right-turn lane.
- WB Approach: One shared through/left-turn lane and one right-turn lane.
- NB Approach: One shared through/left-turn/right-turn lane.
- SB Approach: One shared through/left-turn and one right-turn lane.

SR 994/Quail Roost Drive at SW 137th Avenue is a four-legged intersection. The eastbound, westbound, and northbound movements are controlled via mast arm traffic assembly. The southbound movements are controlled by two post-mounted signals. To the south of SW 200th Street, SW 137th Avenue is an unpaved dirt road. There are no pedestrian crossing features. A review of the signal timing information obtained from the Miami-Dade Traffic Signal site revealed the current Yellow Change Interval and All Red Clearance Interval for all movements comply with the Traffic Engineering Manual (TEM) requirements.

SR 994/Quail Roost Drive at SW 134th Avenue – MP 4.328 (Un-signalized intersection)

- EB Approach: One shared through/left-turn and one right-turn lane.
- WB Approach: One shared through/left-turn/right-turn lane.
- NB Approach: One shared through/left-turn/right-turn lane (Movements controlled via stop signs).
- SB Approach: One shared through/left-turn/right-turn lane (Movements controlled via stop signs).

SR 994/Quail Roost Drive at SW 130th Avenue – MP 4.700 (Un-signalized intersection)

- EB Approach: One shared through/left-turn/right-turn lane.
- WB Approach: One shared through/left-turn/right-turn lane.
- NB Approach: One shared through/left-turn/right-turn lane (Movements controlled via stop signs).
- SB Approach: One shared through/left-turn/right-turn lane (Movements controlled via stop signs).

SR 994/Quail Roost Drive at SW 129th Avenue – MP 4.835 (Un-signalized intersection)

- EB Approach: One shared through/left-turn/right-turn lane.
- WB Approach: One shared through/left-turn/right-turn lane.
- NB Approach: One left-turn lane and one right-turn lane (Movements controlled via stop signs).
- SB Approach: One shared through/left-turn/right-turn lane (Movements controlled via stop signs).

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3 WORK PROGRAM REVIEW

A review of the FIVE-YEAR FDOT Work Program and relevant studies reveal that the study corridor or intersections fall within the limits of the following projects:

FUTURE PROJECTS

- FM: 429341-3-52-01, Roadway Improvements along SR 994/Quail Roost Drive/SW 186th Street/SW 200th Street from west of SW 127th Avenue to SW 113th Avenue. The scope of work of this project includes:
  - Installing a new traffic signal and new lighting at SW 200th Street/Caribbean Boulevard
  - Installing a new traffic signal at SW 134th Avenue.
  - Repaving and restriping the roadway along the project limits.
  - Upgrading signs, pavement markings and pedestrian ramps, signals and adding push buttons.
  - Adding speed feedback signs on the eastbound and westbound approaches to the SW 113th Avenue and SW 200th Street intersections.
  - Enhancing pedestrian signals to countdown type.
  - Upgrading lighting at SW 122nd Avenue, SW 117th Avenue and SW 115th Avenue.

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4 CRASH ANALYSIS

The crash data for the latest three-year period (January 2014 to December 2016) was downloaded from the FDOT's Crash Analysis Reporting System (CARS), reviewed, and summarized for the study segments. The raw data for the segments included a total of 139 crashes. Upon reviewing the raw data and eliminating crashes that fell outside the study limits, a total of 137 crashes remained and were used for this safety review. The following is a summary of the analysis for the entire segment:

- The segment experienced a total of 137 crashes in the three-year period with a yearly breakdown of 36, 49, and 52 crashes (2014, 2015, and 2016).
- The percentage of nighttime crashes (night/dusk/dawn) was 23.4% (32 crashes), which is below the district-wide average of 29.5%.
- The percentage of crashes that occurred during wet/slippery pavement conditions was 21.2% (29 crashes), which is above the district-wide average of 15%. According to the FDOT Skid Hazard reporting system, the friction number (FN) along SR 994 eastbound and westbound directions within the limits of the study segment is between 35 and 37, and the disposition code is 91, which based on the FDOT Skid Hazard Report means 'No action required, FN adequate'. However, the RRR Project will resurface the entire pavement within the project limits.
- Based on crash severity, 34.3% (47 crashes) were injury type crashes and 65.0% (89 crashes) were property damage only crashes. There was a fatal crash during the three-year study period.
- The fatal crash (Crash No. 852268560 – Batch 2016 B10) occurred at the intersection of SR 994/Quail Roost Drive and SW 132nd Avenue on Sunday, March 20, 2016, at 8:40 PM. The crash occurred when a vehicle (dirt bike) traveling eastbound struck a westbound vehicle attempting to make a left-turn to continue southbound. The driver of the eastbound vehicle was traveling without headlights and without a helmet and died on the date of the crash. As part of a previous fatal crash disposition, no further actions were recommended for this crash.
- The leading types of crashes were rear end with 77 crashes and angle with 24 crashes. The peak period for all crashes was 3:00 PM to 6:00 PM with 37 crashes. There were no bicyclist or pedestrian crashes during all three years.

Based on FDOT's 2014-2016 High Crash Lists for spots and segments, the following locations were considered high crash spots/segments:

- SR 994/Quail Roost Drive at SW 137th Avenue (spot)
- SR 994/Quail Roost Drive at SW 134th Avenue (spot)
- SR 994/Quail Roost Drive at SW 132nd Avenue (spot)
- SR 994/Quail Roost Drive from east of SW 139th Avenue to SW 137th Avenue (segment)
- SR 994/Quail Roost Drive from SW 137th Avenue to west of SW 127th Avenue (segment)

Table 4.1 shows the confidence level for the study segment which was calculated at 75.00% for the year 2014, 90.00% for 2015, and 50.00% for the year 2016. Segments with a confidence level of 99.95%, or higher, have such probability of their crash rates being abnormally high.

Table 4.1: Confidence Level Calculations for the Segment

Year	2014	2015	2016
Number of Crashes	36	49	52
Average Daily Traffic (ADT)	17,016	17,402	17,960
Actual Crash Rate (ACR)	6.260	8.331	8.566
District 6 Average Crash Rate (A)	5.539	6.909	8.075
Average Vehicle Exposure (M)	5.751	5.882	6.070
Critical Crash Rate (CCR)	8.682	10.391	11.789
Safety Ratio	0.638	0.665	0.685
Statistical Significance	0.823	1.390	0.497
Confidence Level	75.00%	90.00%	50.00%

Table 4.2 presents a summary by crash type for the segment. **Table 4.3** presents a crash summary by different categories such as lighting conditions, surface conditions and weather conditions. The same information is depicted graphically in **Figure 4.1** for visual comparison.

Table 4.4 and **Figure 4.2** present an overall perspective of the clustering and staggering of crashes along the study segment. From these, the following intersections will be further investigated:

- SR 994/Quail Roost Drive at SW 137th Avenue.
- SR 994/Quail Roost Drive at SW 134th Avenue.
- SR 994/Quail Roost Drive at SW 132nd Avenue.
- SR 994/Quail Roost Drive at SW 130th Avenue.

Collision Diagrams were prepared for the crash clusters for the analysis period of January 2014 through December 2016, and are presented in **Appendix C**. The raw crash data for the segment is also presented in **Appendix D**.

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Table 4.2: Crash Summary by Type – SR 994 Study Segment

SR 994 / Quail Roost Dr from W of SW 137th Avenue to W of SW 127th Avenue		Number of Crashes Year			3 Year Total Crashes	Mean Crashes Per Year	%
		2014	2015	2016			
CRASH TYPE	Rear End	22	27	28	77	26	56.2%
	Head On	0	2	3	5	2	3.6%
	Angle	4	6	14	24	8	17.5%
	Left Turn	1	4	1	6	2	4.4%
	Right Turn	3	0	1	4	1	2.9%
	Sideswipe	3	3	2	8	3	5.8%
	Backed Into	0	0	0	0	0	0.0%
	Pedestrian	0	0	0	0	0	0.0%
	Bicycle	0	0	0	0	0	0.0%
	Fixed Object	*0*	*6*	*3*	*9*	*3*	*6.6%*
	Impact Attenuator/Crash Cushion	0	0	0	0	0	0.0%
	Bridge Overhead Structure	0	0	0	0	0	0.0%
	Bridge Pier or Support	0	0	0	0	0	0.0%
	Bridge Rail	0	1	0	1	0	0.7%
	Culvert	0	0	0	0	0	0.0%
	Curb	0	0	0	0	0	0.0%
	Ditch	0	0	0	0	0	0.0%
	Embankment	0	0	0	0	0	0.0%
	Guardrail Face	0	0	1	1	0	0.7%
	Guardrail End	0	0	0	0	0	0.0%
	Cable Barrier	0	0	0	0	0	0.0%
	Concrete Traffic Barrier	0	0	0	0	0	0.0%
	Other Traffic Barrier	0	0	0	0	0	0.0%
	Tree (Standing)	0	2	2	4	1	2.9%
	Utility Pole/Light Support	0	0	0	0	0	0.0%
	Traffic Sign Support	0	0	0	0	0	0.0%
	Traffic Signal Support	0	0	0	0	0	0.0%
	Other Post, Pole Or Support	0	0	0	0	0	0.0%
	Fence	0	3	0	3	1	2.2%
	Mailbox	0	0	0	0	0	0.0%
	Other Fixed Object	0	0	0	0	0	0.0%
	Other Non Fixed Object Collisions	*2*	*1*	*0*	*3*	*1*	*2.2%*
	Railway Vehicle (Train, Engine)	0	0	0	0	0	0.0%
	Animal	1	1	0	2	1	1.5%
	Motor Vehicle in Transport	1	0	0	1	0	0.7%
	Parked Motor Vehicle	0	0	0	0	0	0.0%
	Work Zone/Maintenance Equip.	0	0	0	0	0	0.0%
	Struck by Falling/Shifting Cargo	0	0	0	0	0	0.0%
	Other Non-Fixed Object	0	0	0	0	0	0.0%
	Non-Collisions	*1*	*0*	*0*	*1*	*0*	*0.7%*
	Overturn/Rollover	0	0	0	0	0	0.0%
	Fire/Explosion	0	0	0	0	0	0.0%
	Immersion	0	0	0	0	0	0.0%
	Jackknife	0	0	0	0	0	0.0%
	Cargo/Equipment Loss or Shift	1	0	0	1	0	0.7%
	Fell/Jumped from Motor Vehicle	0	0	0	0	0	0.0%
	Thrown or Falling Object	0	0	0	0	0	0.0%
	Ran into Water/Canal	0	0	0	0	0	0.0%
	Other Non-Collision	0	0	0	0	0	0.0%
	Others	0	0	0	0	0	0.0%
	Total Crashes	**36**	**49**	**52**	**137**	**46**	**100.0%**

Table 4.3: Crash Summaries by Other Categories – Segment

SR 994 / Quail Roost Dr from W of SW 137th Avenue to W of SW 127th Avenue		Number of Crashes Year			3 Year Total Crashes	Mean Crashes Per Year	%
		2014	2015	2016			
SEVERITY	PDO Crashes	20	34	35	89	30	65.0%
	Fatal Crashes	0	0	1	1	0	0.7%
	Injury Crashes	16	15	16	47	16	34.3%
LIGHTING CONDITIONS	Daylight	24	38	43	105	35	76.6%
	Dusk	0	0	0	0	0	0.0%
	Dawn	0	0	1	1	0	0.7%
	Dark	12	11	8	31	10	22.6%
	Unknown	0	0	0	0	0	0.0%
SURFACE CONDITIONS	Dry	29	36	43	108	36	78.8%
	Wet	7	13	9	29	10	21.2%
	Others	0	0	0	0	0	0.0%
MONTH OF YEAR	January	6	3	2	11	4	8.0%
	February	3	6	3	12	4	8.8%
	March	5	4	5	14	5	10.2%
	April	1	1	4	6	2	4.4%
	May	0	2	3	5	2	3.6%
	June	3	6	5	14	5	10.2%
	July	2	2	5	9	3	6.6%
	August	5	3	2	10	3	7.3%
	September	3	7	5	15	5	10.9%
	October	2	3	7	12	4	8.8%
	November	4	5	6	15	5	10.9%
	December	2	7	5	14	5	10.2%
DAY OF WEEK	Monday	5	6	9	20	7	14.6%
	Tuesday	6	6	7	19	6	13.9%
	Wednesday	7	9	8	24	8	17.5%
	Thursday	5	8	9	22	7	16.1%
	Friday	5	9	10	24	8	17.5%
	Saturday	4	7	5	16	5	11.7%
	Sunday	4	4	4	12	4	8.8%
HOUR OF DAY	00:00-06:00	5	1	2	8	3	5.8%
	06:00-09:00	8	12	11	31	10	22.6%
	09:00-11:00	3	7	5	15	5	10.9%
	11:00-13:00	0	5	4	9	3	6.6%
	13:00-15:00	4	5	1	10	3	7.3%
	15:00-18:00	9	11	17	37	12	27.0%
	18:00-21:00	6	3	10	19	6	13.9%
	21:00-24:00	1	5	2	8	3	5.8%
CONTRIBUTING CAUSES (VEHICLE ONLY)	No Contributing Action	1	4	0	5	2	3.6%
	Careless or Negligent Manner	18	25	32	75	25	54.7%
	Failed to Yield Right-Of-Way	5	9	10	24	8	17.5%
	Improper Backing	0	0	0	0	0	0.0%
	Improper Turn	1	0	0	1	0	0.7%
	Followed too Closely	2	3	1	6	2	4.4%
	Ran Red Light	0	0	1	1	0	0.7%
	Ran Stop Sign	3	1	3	7	2	5.1%
	Improper Passing	1	1	0	2	1	1.5%
	Failed To Keep In Proper Lane	2	2	0	4	1	2.9%
	Over-Correcting/Over-Steering	0	1	0	1	0	0.7%
	Swerved Or Avoided	0	3	2	5	2	3.6%
	Erratic, Reckless or Aggressive	0	0	1	1	0	0.7%
	Other Contributing Action	3	0	2	5	2	3.6%
WEATHER CONDITIONS	Clear	22	29	27	78	26	56.9%
	Cloudy	11	11	17	39	13	28.5%
	Rain	3	9	8	20	7	14.6%



Figure 4.1: Histograms of Crash Summaries

Table 4.4: Crash Distribution by Intersections

Location	2014	2015	2016	PDO	Injury	Fatal	Totals	Average
SW 137th Avenue	6	19	14	29	10	0	39	13
SW 135th Avenue	2	1	2	3	2	0	5	2
SW 134th Court	0	0	0	0	0	0	0	0
SW 134th Avenue	15	10	12	22	15	0	37	12
SW 133rd Court	0	1	2	3	0	0	3	1
SW 133rd Avenue	1	4	3	6	2	0	8	3
SW 132nd Place	1	0	0	0	1	0	1	0
SW 132nd Avenue	7	6	8	10	10	1	21	7
SW 130th Avenue	1	6	6	9	4	0	13	4
SW 129th Court	0	0	0	0	0	0	0	0
SW 129th Avenue	3	2	5	7	3	0	10	3
Total	**36**	**49**	**52**	**89**	**47**	**1**	**137**	**45**

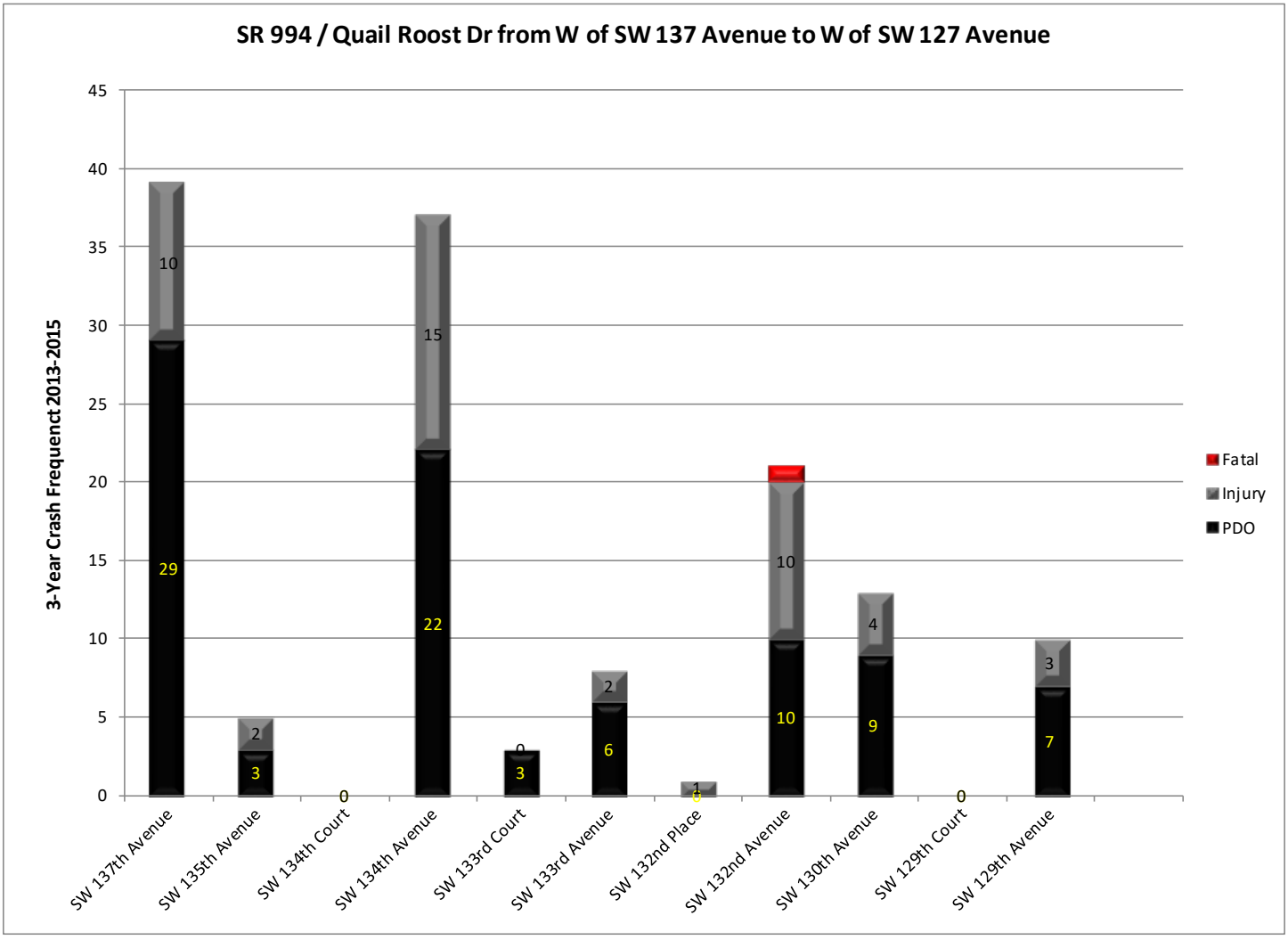

Figure 4.2: Crash Distribution by Section

Cluster 1 – SR 994/Quail Roost Drive at SW 137th Avenue

Given that there are not expected values for the geometric layout of this intersection (2 Lane x 2 Lane), an expected value analysis was not performed. A frequency analysis was performed instead.

- Overall, there were 39 crashes in the three-year study period with a yearly breakdown of 6, 19, and 14 crashes (2014, 2015, and 2016).
- Based on crash severity, 25.6% (10 crashes) were injury type crashes and 74.4% (29 crashes) were property damage only crashes. There were no fatal crashes during the three-year study period.
- The percentage of crashes that occurred during nighttime (night/dusk/dawn) was 25.6% (10 crashes), which is below the district-wide average of 29.5%; and the percentage of crashes that occurred during wet/slippery pavement conditions was 23.1% (9 crashes), which is above the district-wide average of 15%.
- The peak period for all crashes was 3:00 PM to 6:00 PM with 35.9% (14 crashes).
- The most predominant crash type was rear-end at 71.8% (28 crashes).
- Of the 28 rear end crashes, 22 involved eastbound vehicles, three (3) westbound vehicles, and three (3) southbound vehicles. The review of police reports revealed that the majority of the rear end crashes occurred when eastbound vehicles struck the queue created by eastbound left-turning vehicles standing at the intersection, waiting for a gap to perform left-turn movements. Thirteen (13) of the 28 crashes occurred between 3:00 PM to 6:00 PM.
- A review of Signal 4 Analytics Database revealed an additional three (3) eastbound rear end crashes in 2017 and three (3) eastbound rear end crashes in 2018.
- There were three (3) collision with fixed object during the three-year study period. Two (2) crashes involved vehicles traveling westbound and one (1) crash involved a vehicle traveling southbound. The first crash occurred when a westbound vehicle traveling under dry pavement conditions was blinded by the lights of an opposing vehicle, causing the driver to lose control of vehicle and hit a tree. The second crash occurred under wet pavement conditions when the driver of a southbound vehicle lost control for an unknown reason and struck a fence. The final crash occurred when a westbound vehicle traveling under dry pavement conditions swerved to avoid another vehicle while making a left turn and hit a concrete utility pole.
- There were three (3) head-on crashes during the study period. The first crash occurred under wet pavement conditions when a westbound driver crossing the intersection of SR 994/SW 200 Street and SW 137 Avenue drifted into the eastbound lane and struck another vehicle. The second crash occurred under dry pavement conditions when a northbound driver, after turning from SR 994/SW 200 Street, made a wide turn to avoid a ditch at the northeast corner and struck a southbound vehicle head-on. The final crash occurred under dry pavement conditions when a southbound vehicle lost control of the vehicle due to their dog attempting to jump out the car window and struck a northbound vehicle.

Table 4.5 summarizes the crash statistics of the intersection. **Table 4.6** presents a summary of rear end crashes by direction.

Table 4.5: Crash Statistics - SR 994 at SW 137th Avenue

SR 994 / Quail Roost Drive at SW 137th Avenue Segment/Spot with No Expected Values Available		Number of Crashes Year 2014	2015	2016	3 Year Total Crashes	Mean Crashes Per Year	%
CRASH TYPE	Rear End	6	12	10	28	9.33	71.8%
	Head On	0	1	2	3	1.00	7.7%
	Angle	0	1	1	2	0.67	5.1%
	Left Turn	0	2	0	2	0.67	5.1%
	Right Turn	0	0	0	0	0.00	0.0%
	Sideswipe	0	1	0	1	0.33	2.6%
	Backed Into	0	0	0	0	0.00	0.0%
	Pedestrian	0	0	0	0	0.00	0.0%
	Bicycle	0	0	0	0	0.00	0.0%
	Fixed Object	0	2	1	3	1.00	7.7%
	Other Non-Collisions	0	0	0	0	0.00	0.0%
	Overturn/Rollover	0	0	0	0	0.00	0.0%
	Others	0	0	0	0	0.00	0.0%
	Total Crashes	**6**	**19**	**14**	**39**	**13.00**	**100.0%**
SEVERITY	PDO Crashes	5	12	12	29	9.67	74.4%
	Fatal Crashes	0	0	0	0	0.00	0.0%
	Injury Crashes	1	7	2	10	3.33	25.6%
LIGHTING CONDITIONS	Daylight	5	13	11	29	9.67	74.4%
	Dusk	0	0	0	0	0.00	0.0%
	Dawn	0	0	1	1	0.33	2.6%
	Dark	1	6	2	9	3.00	23.1%
	Unknown	0	0	0	0	0.00	0.0%
SURFACE CONDITIONS	Dry	4	12	14	30	10.00	76.9%
	Wet	2	7	0	9	3.00	23.1%
	Others	0	0	0	0	0.00	0.0%

Table 4.6: Crash Summary by Direction - SR 994 at SW 137th Avenue

SR 994 / Quail Roost Drive at SW 137th Avenue		Number of Crashes Year 2014	2015	2016	3 Year Total Crashes	Mean Crashes Per Year	%
CRASH TYPE	**Rear End**	**6**	**12**	**10**	**28**	**9.33**	
	E & E	5	10	7	22	7.33	78.6%
	W & W	0	0	3	3	1.00	10.7%
	N & N	0	0	0	0	0.00	0.0%
	S & S	1	2	0	3	1.00	10.7%

Cluster 2 – SR 994/Quail Roost Drive at SW 134th Avenue

Given that there are not expected values for the geometric layout of this intersection (2 Lane x 2 Lane), an expected value analysis was not performed. A frequency analysis was performed instead.

- Overall, there were 37 crashes in the three-year study period with a yearly breakdown of 15, 10, and 12 crashes (2014, 2015, and 2016).
- Based on crash severity, 40.5% (15 crashes) were injury type crashes and 59.5% (22 crashes) were property damage only crashes. There were no fatal crashes during the three-year study period.
- The percentage of crashes that occurred during nighttime (night/dusk/dawn) was 24.3% (9 crashes), which is below the district-wide average of 29.5%; and the percentage of crashes that occurred during wet/slippery pavement conditions was 13.5% (5 crashes), which is below the district-wide average of 15%.
- Although, there is a slight peak period for all crashes between 6:00 AM and 9:00 AM with 27.0% (10 crashes), the crashes were spread out during the day and night.
- The most predominant crash types were angle at 37.8% (14 crashes) and rear-end at 35.1% (13 crashes).
- Of the 14 angle crashes, 13 crashes involved northbound vehicles with seven (7) attempting to make left-turn and six (6) attempting to continue straight on SW 134th Avenue. Failing to obey a traffic control device (stop sign) was the contributing cause of the majority of the angle crashes. There was no clear peak period for the angle crashes; instead, they were spread out during the day and night. It is noted that eight (8) of the 14 angle crashes occurred in 2016 with six (6) crashes involving northbound and eastbound vehicles and two (2) crashes involving northbound and westbound vehicles.
- Of the 13 rear end crashes, six (6) involved eastbound vehicles, five (5) northbound vehicles, one (1) westbound vehicles and one (1) southbound vehicles. The review of police reports revealed that the majority of the rear end crashes occurred when through vehicles failed to observe left-turning vehicles at the intersection waiting for a gap to perform left-turn movements. The peak periods for rear end crashes were (6:00 AM to 9 AM) and (3:00 PM to 6:00 PM) with five (5) (38.5%) and four (4) (30.8) crashes, respectively.
- A review of Signal Four Analytics Database revealed eight (8) angle crashes in 2017 and eight (8) angle crashes in 2018. Of the 16 angle crashes, eight (8) involved northbound vehicles colliding with eastbound vehicles, five (5) involved northbound vehicles colliding with westbound vehicles, and three (3) involved southbound vehicles colliding with eastbound vehicles. Failing to obey a traffic control device (stop sign) was the contributing cause of the majority of the angle crashes. The peak period for angle crashes was from 6 AM to 9 AM with five (5) angle crashes (31%).

Table 4.7 summarizes the crash statistics of the intersection. **Table 4.8** presents a summary of angle and rear end crashes by direction.

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Table 4.7: Crash Statistics - SR 994 at SW 134th Avenue

SR 994 / Quail Roost Drive at SW 134th Avenue Segment/Spot with No Expected Values Available		Number of Crashes Year 2014	2015	2016	3 Year Total Crashes	Mean Crashes Per Year	%
CRASH TYPE	Rear End	7	3	3	13	4.33	35.1%
	Head On	0	1	0	1	0.33	2.7%
	Angle	4	2	8	14	4.67	37.8%
	Left Turn	0	2	0	2	0.67	5.4%
	Right Turn	1	0	0	1	0.33	2.7%
	Sideswipe	2	2	1	5	1.67	13.5%
	Backed Into	0	0	0	0	0.00	0.0%
	Pedestrian	0	0	0	0	0.00	0.0%
	Bicycle	0	0	0	0	0.00	0.0%
	Fixed Object	0	0	0	0	0.00	0.0%
	Other Non-Collisions	0	0	0	0	0.00	0.0%
	Overturn/Rollover	0	0	0	0	0.00	0.0%
	Others	1	0	0	1	0.33	2.7%
	Total Crashes	**15**	**10**	**12**	**37**	**12.33**	**100.0%**
SEVERITY	PDO Crashes	8	7	7	22	7.33	59.5%
	Fatal Crashes	0	0	0	0	0.00	0.0%
	Injury Crashes	7	3	5	15	5.00	40.5%
LIGHTING CONDITIONS	Daylight	9	7	12	28	9.33	75.7%
	Dusk	0	0	0	0	0.00	0.0%
	Dawn	0	0	0	0	0.00	0.0%
	Dark	6	3	0	9	3.00	24.3%
	Unknown	0	0	0	0	0.00	0.0%
SURFACE CONDITIONS	Dry	13	9	10	32	10.67	86.5%
	Wet	2	1	2	5	1.67	13.5%
	Others	0	0	0	0	0.00	0.0%

Table 4.8: Crash Summary by Direction - SR 994 at SW 134th Avenue

SR 994 / Quail Roost Drive at SW 134th Avenue		Number of Crashes Year 2014	2015	2016	3 Year Total Crashes	Mean Crashes Per Year	%
CRASH TYPE	**Rear End**	**7**	**3**	**3**	**13**	**4.33**	
	E & E	4	2	0	6	2.00	46.2%
	W & W	1	0	0	1	0.33	7.7%
	N & N	2	1	2	5	1.67	38.5%
	S & S	0	0	1	1	0.33	7.7%
	Angle	**4**	**2**	**8**	**14**	**4.67**	
	E & N	2	1	6	9	3.00	64.3%
	E & S	0	0	0	0	0.00	0.0%
	W & N	1	1	2	4	1.33	28.6%
	W & S	1	0	0	1	0.33	7.1%

Cluster 3 – SR 994/Quail Roost Drive at SW 132nd Avenue

Given that there are not expected values for the geometric layout of this intersection (2 Lane x 2 Lane), an expected value analysis was not performed. A frequency analysis was performed instead.

- Overall, there were 21 crashes in the three-year study period with a yearly breakdown of 7, 6, and 8 crashes (2014, 2015, and 2016).
- Based on crash severity, 47.6% (10 crashes) were injury type crashes and 47.6% (10 crashes) were property damage only crashes. There was a fatal crash during the three-year study period. As discussed at the beginning of Section 4, the crash occurred on Sunday, March 20, 2016, at 8:40 PM when a dirt bike traveling eastbound struck a westbound vehicle attempting to make a left-turn to continue southbound. The dirt bike driver was traveling without headlights and without a helmet and died on the same date of the crash. The fatal crash disposition did not recommend any further actions for this crash.
- The percentage of crashes that occurred during nighttime (night/dusk/dawn) was 23.8% (5 crashes), which is below the district-wide average of 29.5%; and the percentage of crashes that occurred during wet/slippery pavement conditions was 38.1% (8 crashes), which is above the district-wide average of 15%.
- Although, there is a slight peak period for all crashes between 3:00 PM and 6:00 PM with 23.8% (5 crashes), the crashes were spread out during the day and night.
- The most predominant crash type was rear end at 66.7% (14 crashes).
- Of the 14 rear end crashes, 13 involved westbound vehicles and one (1) involved northbound vehicles. The review of police reports revealed that the majority of the rear end crashes occurred when westbound through vehicles failed to observe left-turning vehicles stopped at the intersection, waiting for a gap to perform left-turn movements. The majority of the rear end crashes occurred during the afternoon peak period.
- A review of Signal4 Analytics Database revealed six (6) rear end crashes in 2017 and one (1) rear end crash in 2018.

Table 4.9 summarizes the crash statistics of the intersection.

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Table 4.9: Crash Statistics - SR 994 at SW 132nd Avenue

SR 994 / Quail Roost Drive at SW 132nd Avenue Segment/Spot with No Expected Values Available		Number of Crashes Year 2014	2015	2016	3 Year Total Crashes	Mean Crashes Per Year	%
CRASH TYPE	Rear End	5	3	6	14	4.67	66.7%
	Head On	0	0	1	1	0.33	4.8%
	Angle	0	1	0	1	0.33	4.8%
	Left Turn	0	0	1	1	0.33	4.8%
	Right Turn	0	0	0	0	0.00	0.0%
	Sideswipe	0	0	0	0	0.00	0.0%
	Backed Into	0	0	0	0	0.00	0.0%
	Coll. w/ Parked Car	0	0	0	0	0.00	0.0%
	Coll. w/ Pedestrian	0	0	0	0	0.00	0.0%
	Coll. w/ Bicycle	0	0	0	0	0.00	0.0%
	Fixed Object	0	2	0	2	0.67	9.5%
	Ran Off Road	0	0	0	0	0.00	0.0%
	Overturned	0	0	0	0	0.00	0.0%
	Other	2	0	0	2	0.67	9.5%
	Total Crashes	**7**	**6**	**8**	**21**	**7.00**	**100.0%**
SEVERITY	PDO Crashes	3	4	3	10	3.33	47.6%
	Fatal Crashes	0	0	1	1	0.33	4.8%
	Injury Crashes	4	2	4	10	3.33	47.6%
LIGHTING CONDITIONS	Daylight	6	6	4	16	5.33	76.2%
	Dusk	0	0	0	0	0.00	0.0%
	Dawn	0	0	0	0	0.00	0.0%
	Dark	1	0	4	5	1.67	23.8%
	Unknown	0	0	0	0	0.00	0.0%
SURFACE CONDITIONS	Dry	5	4	4	13	4.33	61.9%
	Wet	2	2	4	8	2.67	38.1%
	Others	0	0	0	0	0.00	0.0%

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Cluster 4– SR 994/Quail Roost Drive at SW 130th Avenue

Given that there are not expected values for the geometric layout of this intersection (2 Lane x 2 Lane), an expected value analysis was not performed. A frequency analysis was performed instead.

- Overall, there were 13 crashes in the three-year study period with a yearly breakdown of 1, 6, and 6 crashes (2014, 2015, and 2016).
- Based on crash severity, 30.8% (4 crashes) were injury type crashes and 69.2% (9 crashes) were property damage only crashes.
- The percentage of crashes that occurred during nighttime (night/dusk/dawn) was 30.8% (4 crashes), which is above the district-wide average of 29.5%; and the percentage of crashes that occurred during wet/slippery pavement conditions was 15.4% (2 crashes), which is slightly above the district-wide average of 15%.
- The most predominant crash type was rear end at 61.5% (8 crashes).
- Of the eight (8) rear end crashes, six (6) involved eastbound and two (2) westbound vehicles.
- A review of Signal 4 Analytics Database revealed one (1) rear end crash in 2017 and two (2) rear end crashes in 2018, and therefore, rear end crashes will not be further investigated.

Table 4.10 summarizes the crash statistics of the intersection.

Table 4.10: Crash Statistics - SR 994 at SW 130th Avenue

SR 994 / Quail Roost Drive at SW 130th Avenue Segment/Spot with No Expected Values Available		Number of Crashes Year 2014	2015	2016	3 Year Total Crashes	Mean Crashes Per Year	%
CRASH TYPE	Rear End	0	4	4	8	2.67	61.5%
	Head On	0	0	0	0	0.00	0.0%
	Angle	0	1	2	3	1.00	23.1%
	Left Turn	0	0	0	0	0.00	0.0%
	Right Turn	1	0	0	1	0.33	7.7%
	Sideswipe	0	0	0	0	0.00	0.0%
	Backed Into	0	0	0	0	0.00	0.0%
	Pedestrian	0	0	0	0	0.00	0.0%
	Bicycle	0	0	0	0	0.00	0.0%
	Fixed Object	0	0	0	0	0.00	0.0%
	Other Non-Collisions	0	0	0	0	0.00	0.0%
	Overturn/Rollover	0	0	0	0	0.00	0.0%
	Others	0	1	0	1	0.33	7.7%
	Total Crashes	**1**	**6**	**6**	**13**	**4.33**	**100.0%**
SEVERITY	PDO Crashes	1	5	3	9	3.00	69.2%
	Fatal Crashes	0	0	0	0	0.00	0.0%
	Injury Crashes	0	1	3	4	1.33	30.8%
LIGHTING CONDITIONS	Daylight	0	5	4	9	3.00	69.2%
	Dusk	0	0	0	0	0.00	0.0%
	Dawn	0	0	0	0	0.00	0.0%
	Dark	1	1	2	4	1.33	30.8%
	Unknown	0	0	0	0	0.00	0.0%
SURFACE CONDITIONS	Dry	1	5	5	11	3.67	84.6%
	Wet	0	1	1	2	0.67	15.4%
	Others	0	0	0	0	0.00	0.0%

5 FIELD REVIEW

The field reviews were conducted on Tuesday, January 29, 2019 between 3:00 PM and 6:00 PM and on Wednesday, January 30, 2019 between 7:00 AM and 9:00 AM. The findings of all field reviews are summarized below:

SR 994/Quail Roost Drive at SW 137th Avenue

1. During the AM Peak period, all legs of the intersection were able to clear their queues during the green phase.
2. During the PM Peak period, eastbound and westbound traffic was able to clear during the green phase, but southbound left-turning traffic required two cycles to clear the intersection. Additionally, the southbound queue appears to be metered by an all-way stop controlled intersection at SW 192nd Street. The southbound queue from SW 192nd Street extends to SW 184th Street.
3. During both AM and PM Peak periods, eastbound left-turn traffic was forced to stop and wait for gaps in westbound traffic to complete a left-turn to travel northbound on SW 137th Avenue. Sufficient gaps appeared to allow these movements during the green phase.
4. On the west leg of the intersection, trees are obstructing eastbound drivers' view to the signal heads.

SR 994/Quail Roost Drive at SW 134th Avenue

5. During the AM Peak period, traffic in the eastbound direction was light with large gaps and traffic in the westbound direction was moderate with occasional gaps.
6. During both AM and PM Peak periods, long queues formed on the northbound approach due to insufficient gaps to allow through or left-turn movements. The longest queues observed during the AM and PM Peak periods were 16 vehicles and 13 vehicles, respectively.
7. Westbound left-turn vehicles stopping to wait for gaps in eastbound traffic caused backups on the east leg of the intersection. Some drivers were observed traveling on the grass around the stopped vehicle. Additionally, westbound turning vehicles were observed stopping to provide gaps for northbound turning and through vehicles.

SR 994/Quail Roost Drive at SW 132nd Avenue

8. During both AM Peak and PM Peak periods, traffic was heavy in the eastbound direction, occasionally stopping due to traffic further downstream of the intersection. This provided gaps in eastbound traffic for westbound and northbound vehicles to attempt left-turn movements.
9. During the PM Peak period, traffic was heavy in the westbound direction and westbound left-turning vehicles were forced to stop and wait for a gap, causing a backup on the east leg of the intersection.
10. During the AM Peak period, queues formed on the south leg due to northbound left and right turn movements waiting at the stop bar for a sufficient gap to appear in traffic on SR 994/Quail Roost Drive. The longest queue observed during the AM Peak period was 13 vehicles.
11. The heavy eastbound traffic led to both northbound and westbound drivers attempted risky maneuvers to make left-turns at the intersection.
12. The truncated domes at the southwest corner have been significantly worn away.

Exhibit 5.1 to **5.4** depicts photographs taken during field observations.

Exhibit 5.1: Field Observations

Photo 1 - Comment 2



Southbound queue on SW 137th Avenue at SR 994/Quail Roost Drive/SW 200th Street

Photo 2 - Comment 2



Southbound queue on SW 137th Avenue extending nearly to SW 184th Street/Eureka Drive

Photo 3 - Comment 4



Eastbound signal head obstructed by vegetation at SW 137th Avenue

Photo 4 - Comment 4



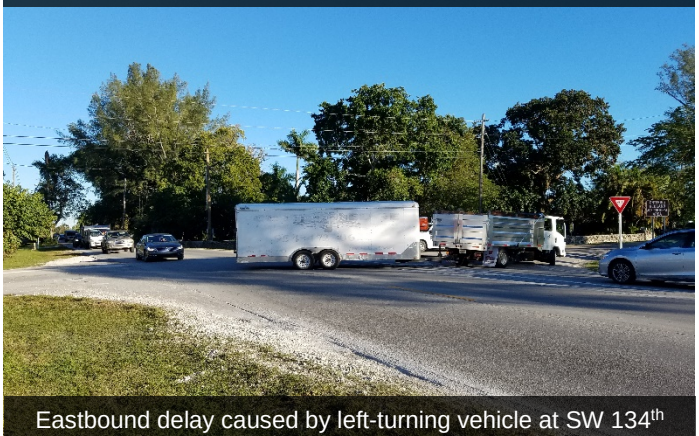
Vegetation obstructing eastbound signal head at SW 137th Avenue

Photo 5 - Comment 6



Long northbound queues at SW 134th Avenue

Photo 6 - Comment 7



Eastbound delay caused by left-turning vehicle at SW 134th Avenue

Exhibit 5.2: Field Observations

Photo 7 – Comment 7



Eastbound through vehicle driving around an eastbound left-turn vehicle stopped awaiting gap to turn at SW 134th Avenue

Photo 8 – Comment 10



Northbound queue at SW 132nd Avenue extending approximately 300 ft

Photo 9 – Comment 11



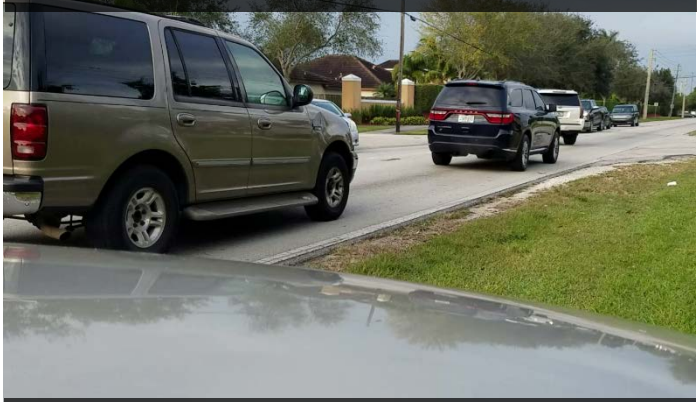
Northbound left-turn vehicle turning in front of westbound traffic at SW 132nd Avenue

Photo 10 – Comment 12



Truncated domes at southwest corner have been significantly worn down by vehicular traffic at SW 132nd Avenue

Photo 11 – Comment 15



Eastbound vehicles stopped to allow westbound vehicle to make left-turn at SW 129th Avenue

Photo 12 – Comment 16



Westbound through vehicle driving around a westbound left-turn vehicle stopped awaiting gap to turn

Exhibit 5.3: Field Observations

Photo 13 – Comment 17



School bus stop at SW 129th Avenue

Photo 14 – Comment 17



School bus stop at SW 129th Avenue

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6 IMPROVEMENT DEVELOPMENT

6.1 CRASH PATTERNS AND COUNTERMEASURES

Table 6.1 details the crash types to target for mitigation, probable contributing causes, and possible crash countermeasures. These countermeasures were used as the foundation to develop conceptual improvements to reduce the identified crash patterns and improve motorists' safety (and traffic operations) along the study segment.

Table 6.1: Probable Causes & Crash Countermeasures

Cluster	Crash Pattern(s)	Probable Cause(s)	Possible Countermeasure(s)
SW 137th Avenue	Rear end	- High demand of left-turn traffic - Lack of left-turn lane - Lack of adequate gaps - Speed differential - Lack of visibility to the signal heads	- Install additional advance traffic control signs - Provide left-turn lane - Trim landscaping
SW 134th Avenue	Angle	- High demand of side street Traffic - Lack of visibility to oncoming traffic - Lack of adequate gaps	- Installing a signal
	Rear end	- High demand of left-turn traffic	- Provide left-turn lane
SW 132nd Avenue	Rear end	- High demand of left-turn traffic - Lack of left-turn lane - Lack of adequate gaps - Speed differential	- Installing a signal - Provide left-turn lane

6.2 PROPOSED IMPROVEMENTS

Cluster 1 – SR 994/Quail Roost Drive at SW 137th Avenue

Crash Pattern:

- Rear end involving eastbound through vehicles and eastbound vehicles stopped due to left-turning vehicles.

Probable Cause:

- Lack of left-turn lane.
- Congestion/Lack of capacity.
- Lack of adequate gaps.
- Speed differential.
- Lack of visibility to the signal heads.

Recommended Improvements:

- Provide a left-turn lane on the eastbound approach. *A preliminary review of the intersection revealed there may not be sufficient right-of-way for accommodating the left-turn lane for the eastbound approach. Therefore, right-of-way acquisition may be necessary to implement this improvement.*
- Install a 'BE PREPARED TO STOP' sign (W3-4) with flashing beacons facing the eastbound approach. *A benefit cost analysis may be necessary before the implementation of this improvement.*
- Trim landscaping limiting the visibility to signal heads facing the eastbound approach.

Cluster 2 – SR 994/Quail Roost Drive at SW 134th Avenue

Crash Pattern:

- Angle crashes involving mostly northbound and westbound vehicles

Probable Cause:

- Failing to yield the right-of-way.
- Lack of adequate gaps.
- Congestion/Lack of capacity/Heavy demand on the side street.

Recommended Improvements:

- Install a traffic signal. The crash history of the intersection and field observations reveal moderate demand, an excessive delay of northbound vehicles approaching the intersection.

Crash Pattern:

- Rear end involving westbound through vehicles and westbound vehicles stopped due to left-turning vehicles

Probable Cause:

- Lack of left-turn lane.
- Congestion/Lack of capacity.
- Lack of adequate gaps.
- Speed differential.

Recommended Improvements:

- Evaluate the feasibility of providing a left-turn lane on the westbound approach.

It is noted that previous studies were conducted by the Department at this intersection and a traffic signal will be installed at this intersection under the RRR project FM No. 429341-3. Based on the plans, the new signalized intersection will also include a westbound left-turn lane, curb and gutters, drainage, and lighting improvements.

Cluster 3 – SR 994/Quail Roost Drive at SW 132nd Avenue

Crash Pattern:

- Rear end crashes involving westbound through vehicles and left-turning vehicles

Probable Cause:

- Lack of left-turn lane
- Congestion/Lack of capacity
- Lack of adequate gaps
- Speed differential

Recommended Improvements:

- Install a traffic signal. The crash history of the intersection and field observations reveal moderate demand, an excessive delay of northbound vehicles approaching the intersection.
- Evaluate the feasibility of providing a left-turn lane on the westbound approach.

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6.3 DATA COLLECTION

The data collection efforts for this study consisted of 72-hr Automated Traffic Recorders (ATRs) and Turning Movement Counts (TMCs) at the following locations within the study area:

- SR 994/Quail Roost Drive at SW 137th Avenue – (6-Hour TMCs)
- SR 994/Quail Roost Drive at SW 134th Avenue – (6-Hour TMCs)
- SR 994/Quail Roost Drive at SW 132nd Avenue – (12 Hour TMCs)

The ATRs were collected from Tuesday, February 5, 2019 through Thursday, February 7, 2019. The TMCs were performed at the intersection of SR 994/Quail Roost Drive at SW 137th Avenue on Tuesday, February 5, 2019, and at intersections of SR 994/Quail Roost Drive at SW 134th Avenue and SW 132nd Avenue on Thursday, January 31, 2019, during the AM and PM peak periods. The TMCs periods at SW 137th Avenue and SW 134th Avenue were 6:00 AM to 9:00 AM and 3:00 PM to 6:00 PM. The TMCs periods at SW 132nd Avenue were 6:00 AM to 10:00 AM and 12:00 PM to 8:00 PM.

The TMCs also included heavy vehicles, pedestrians/bicycles, and U-Turns separately. The peak hour TMCs for each intersection are summarized in **Table 6.2** to **Table 6.4**. In addition, the TMCs data sheets are included in **Appendix E**.

Table 6.2: Summary of Traffic Characteristics - SR 994 at SW 137th Avenue

Period		Traffic Characteristics	Movement											
			NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM PEAK	8:30 AM	RAW TMCs (VPH)	0	0	1	481	0	0	56	351	0	2	338	497
		PEAK 15 MIN.	0	0	1	133	0	0	21	94	0	1	91	151
		PHF	0.00	0.00	0.25	0.90	0.00	0.00	0.67	0.93	0.00	0.50	0.93	0.82
	To	TRUCKS	0	0	0	1	0	0	1	7	0	0	17	15
		% TRUCKS	0%	0%	0%	0%	0%	0%	2%	2%	0%	0%	5%	3%
	7:30 AM	APPROACH TOTAL (VPH)		1			481			407			837	
		PEDESTRIANS (Crossing the approach)		0			0			0			0	
		INTERSECTION TOTAL (VPH)	1726											
Period		Traffic Characteristics	Movement											
			NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
PM PEAK	6:00 PM	RAW TMCs (VPH)	0	0	0	490	0	63	64	396	1	2	336	327
		PEAK 15 MIN.	0	0	0	126	0	20	19	111	1	1	87	97
		PHF	0.00	0.00	0.00	0.97	0.00	0.79	0.84	0.89	0.25	0.50	0.97	0.84
	To	TRUCKS	0	0	0	5	0	1	0	2	1	0	5	0
		% TRUCKS	0%	0%	0%	1%	0%	2%	0%	1%	100%	0%	1%	0%
	5:00 PM	APPROACH TOTAL (VPH)		0			553			461			665	
		PEDESTRIANS (Crossing the approach)		0			0			0			0	
		INTERSECTION TOTAL (VPH)	1679											

Table 6.3: Summary of Traffic Characteristics - SR 994 at SW 134th Avenue

Period		Traffic Characteristics	Movement											
			NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM PEAK	8:15 AM	RAW TMCs (VPH)	101	32	29	12	1	1	2	647	229	61	758	155
		PEAK 15 MIN.	31	13	8	4	1	1	1	191	65	26	199	48
		PHF	0.81	0.62	0.91	0.75	0.25	0.25	0.50	0.85	0.88	0.59	0.95	0.81
	To	TRUCKS	5	0	0	1	0	1	0	33	5	6	45	1
		% TRUCKS	5%	0%	0%	8%	0%	100%	0%	5%	2%	10%	6%	1%
	7:15 AM	APPROACH TOTAL (VPH)	162			14			878			974		
		PEDESTRIANS (Crossing the approach)	0			0			0			1		
		INTERSECTION TOTAL (VPH)	2028											
Period		Traffic Characteristics	Movement											
			NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
PM PEAK	6:00 PM	RAW TMCs (VPH)	81	23	38	13	29	3	1	551	384	83	582	32
		PEAK 15 MIN.	25	7	12	6	10	1	1	143	108	25	166	10
		PHF	0.81	0.82	0.79	0.54	0.73	0.75	0.25	0.96	0.89	0.83	0.88	0.80
	To	TRUCKS	0	0	0	0	0	0	0	17	9	4	32	0
		% TRUCKS	0%	0%	0%	0%	0%	0%	0%	3%	2%	5%	5%	0%
	5:00 PM	APPROACH TOTAL (VPH)	142			45			936			697		
		PEDESTRIANS (Crossing the approach)	0			0			0			0		
		INTERSECTION TOTAL (VPH)	1820											

Table 6.4: Summary of Traffic Characteristics - SR 994 at SW 132nd Avenue

Period		Traffic Characteristics	Movement											
			NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM PEAK	8:00 AM	RAW TMCs (VPH)	72	0	130	0	0	0	0	762	10	20	758	0
		PEAK 15 MIN.	21	0	40	0	0	0	0	205	5	8	208	0
		PHF	0.86	0.00	0.81	0.00	0.00	0.00	0.00	0.93	0.50	0.63	0.91	0.00
	To	TRUCKS	1	0	0	0	0	0	0	13	0	1	18	0
		% TRUCKS	1%	0%	0%	0%	0%	0%	0%	2%	0%	5%	2%	0%
	7:00 AM	APPROACH TOTAL (VPH)	202			0			772			778		
		PEDESTRIANS (Crossing the approach)	0			0			0			1		
		INTERSECTION TOTAL (VPH)	1752											
Period		Traffic Characteristics	Movement											
			NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
PM PEAK	6:00 PM	RAW TMCs (VPH)	36	0	62	0	0	0	0	607	27	163	643	0
		PEAK 15 MIN.	11	0	18	0	0	0	0	160	10	48	195	0
		PHF	0.82	0.00	0.86	0.00	0.00	0.00	0.00	0.95	0.68	0.85	0.82	0.00
	To	TRUCKS	0	0	0	0	0	0	0	8	1	1	8	0
		% TRUCKS	0%	0%	0%	0%	0%	0%	0%	1%	4%	1%	1%	0%
	5:00 PM	APPROACH TOTAL (VPH)	98			0			634			806		
		PEDESTRIANS (Crossing the approach)	0			0			1			0		
		INTERSECTION TOTAL (VPH)	1538											

6.4 FEASIBILITY OF ADDING AN EASTBOUND LEFT-TURN LANE - SW 137TH AVENUE

An investigation of the existing right-of-way at the east leg of the intersection was conducted to evaluate the feasibility of providing an eastbound left-turn lane. The investigation revealed that there is only 30 feet of right-of-way, which is insufficient to accommodate the additional lane. In addition, providing the additional lane would require the following:

- Relocating the guardrail along the south side.
- Relocating the mast-arm facing the eastbound approach.
- Relocating the two post-mounted signals facing the southbound approach.
- Relocating the wood fence of the property located in the southwest quadrant.
- Relocating light poles along south side and transmissions lines and concrete poles along north side.

Given the insufficient right-of-way, the impacts of accommodating the additional lane, and the reduction of rear-end crashes involving eastbound vehicles in 2017 and 2018, it is concluded that providing the eastbound left-turn lane is not feasible at this time. However, it is recommended to provide a 'BE PREPARED TO STOP' sign (W3-4) with flashing beacons facing the eastbound approach and keep monitoring the rear-end crashes involving eastbound traffic.

6.5 B/C ANALYSIS - SW 137TH AVENUE

A benefit/cost (b/c) ratio analysis was performed for the installation of a 'BE PREPARED TO STOP' sign (W3-4) with flashing beacons facing the eastbound approach. The b/c ratio analysis required an estimation of the potential reduction of crashes upon the implementation of the improvements and estimation of preliminary construction cost. If the improvements result in a b/c ratio of 1.0 or more, then the proposed safety improvements are considered to be economically viable and could be implemented barring other constraints. In addition, a net present value (NPV) for the proposed improvements was performed.

Cost Estimate: The preliminary safety improvement cost was estimated and summarized in **Table 6.5**. This estimate included costs for construction, engineering, maintenance of traffic, mobilization, construction engineering inspection, and a contingency amount to cover for unexpected costs. A detailed cost estimate showing costs for individual construction pay items is included in **Appendix F**.

Table 6.5: Preliminary Cost Estimate for SR 994 at SW 137TH Avenue

SAFETY IMPROVEMENTS	COST
SIGNING & PAVEMENT MARKINGS	$ 10,000.00
SUBTOTAL	**$ 10,000.00**
20% Maintenance of Traffic	$ 2,000.00
10% Mobilization	$ 1,000.00
PE & CEI	$ 2,000.00
Contingency	$ 5,000.00
GRAND TOTAL	**$ 20,000.00**

Crash Reduction Factors (CRF): In order to estimate the safety benefits realized from undertaking the above improvement, an estimate of the potential number of crashes that can be reduced as result of each improvement was calculated using crash reduction factors (CRFs). A list of CRF values for the various improvements was obtained either from the Department's database and/or from the FHWA's Desktop Reference for Crash Reduction Factors dated September 2008 and from the FHWA Crash Modification Factors (CMF) Clearinghouse database. **Table 6.6** illustrates in detail the crash reduction computations for the safety improvement. The table indicates that if the improvement was to be implemented, there is a potential to reduce six (6) crashes over the next three years or two (2) crashes per year.

Table 6.6: CRF Calculation for SR 994 at SW 137TH Avenue

Proposed Improvement(s)	CRF					Targeted Crash Types	Total Crashes Reduced
	Source	Crash Group	Default CRF	% Adjustment	Adjusted CRF[A]		
Install Sign with Flashing Beacons as Advance warning	FHWA (p. 36)	Rear-end (EB)	36%	80.00% [1]	28.80%	Rear-end	6.34
Total Crashes Reduced in 3 Years							6.34
Possible Crashes to be Reduced with Proposed Improvement per Year							**2.11**

Notes:
*A. Adjusted CRF = Default CRF * (% Adjustment)*
1. CRF adjustment commensurate with the level of effectiveness anticipated from these collective improvements.

B/C Calculation: Benefits for the modification improvement were estimated by using the annual crash cost values established by FDOT and the estimated annual number of crashes reduced. The estimated safety benefits were compared to the annualized cost estimate for the safety improvement to determine the benefit to cost ratio (b/c). The b/c ratio value for the proposed safety improvements was determined to be approximately **165.9** as shown in **Table 6.7**. Given such a high positive b/c ratio value, the recommended safety improvement described above appear to be economically feasible for implementation. Detailed calculations of the b/c ratio and NPV analysis were included in **Appendix G**.

Table 6.7: Benefit/Cost Calculation for SR 994 at SW 137TH Avenue

DESCRIPTION	COST
Safety Benefits	$ 263,359.37
Annualizez Cost of Project	$ 1,587.49
SAFETY B/C	**165.9**
NVP	**$ 2,629,154.79**

CONCLUSIONS: Given the positive results of the b/c ratio analysis, installing a 'BE PREPARED TO STOP' sign (W3-4) with flashing beacons facing the eastbound approach is a feasible improvement.

6.6 SIGNAL WARRANT ANALYSIS – SW 132nd Avenue

The signal warrant analysis for the intersection of SR 994/Quail Roost Drive at SW 132nd Avenue was conducted in accordance with the procedures and guidelines outlined in the Manual on Uniform Traffic Control Devices (MUTCD 2009) and Manual on Uniform Traffic Studies (MUTS). At least one of nine warrants must be satisfied as a minimum condition for an un-signalized location to be considered for a traffic signal control installation. However, satisfaction of a warrant does not by itself require installation of a traffic control signal. Due to the nature of the study location, only four of the warrants in the MUTCD were found to be applicable to this location i.e., Signal Warrant 1, Signal Warrant 2, Signal Warrant 3, and Signal Warrant 7. Given the operational conditions observed during the field review and the crash history of the intersection, the signal warrant analysis will be performed assuming only the northbound left-turn volumes. Extract pages from the MUTCD showing the criteria for the different signal warrants are included in **Appendix H**.

SR 994/Quail Roost Drive at SW 132nd Avenue

The warrant analysis shows that no signal warrants were satisfied. **Table 6.8** shows a summary of the warrant analysis. **Appendix H** includes all the warrant analysis forms used.

Table 6.8: Summary of Signal Warrant Analysis - SR 994 at SW 132nd Avenue

Warrant	Applicable	Satisfied
Warrant 1: Eight-Hour Vehicular Volume	Yes	No
Warrant 2: Four-Hour Vehicular Volume	Yes	No
Warrant 3: Peak Hour	Yes	No
Warrant 4: Pedestrian Volume	No	n/a
Warrant 5: School Crossing	No	n/a
Warrant 6: Coordinated Signal System	No	n/a
Warrant 7: Crash Experience	Yes	No
Warrant 8: Roadway Network	No	n/a
Warrant 9: Intersection Near a Grade Crossing	No	n/a

The results of the Signal Warrant Analysis revealed that the installation of signal at this intersection is not warranted. Additionally, based on the crash analysis, field observations, and engineering judgment the rear end crashes at the intersection can be largely reduced by adding a westbound left-turn lane. Therefore, it is recommended to evaluate the feasibility of providing a left-turn lane facing the westbound approach.

6.7 FEASIBILITY OF ADDING A WESTBOUND LEFT-TURN LANE AT SW 132nd AVENUE

An investigation of the existing right-of-way at the east leg of the intersection was conducted to evaluate the feasibility of providing an eastbound left-turn lane. The investigation revealed that there is 80 feet of right-of-way, which is sufficient to accommodate the additional lane. However, providing the additional lane would require the following:

- Widening or replacing the concrete bridge located at approximately 300 feet of SW 132nd Avenue

(centerline) to provide the required left-turn lane length. ***Coordination was established with South Florida Water Management District (SFWMD) to determine if the concrete bridge could be widened or if it needs to be replaced. Based on the information provided by SFWMD and the investigation conducted under this study, which includes a review of the bridge plans, the bridge can be widened. However, benefit/cost analysis should be conducted assuming both scenarios, 1) the widening and 2) the replacement of the bridge. The communication with SFWMD is presented in Appendix L.***

- Relocating the guardrail along the north and/or south sides of SR 994/SW 200th Street.
- Relocating the rectangular rapid flashing beacons located just east of the concrete bridge.

Given the crash history of the intersection and the heavy demand of westbound left-turn traffic, it is recommended to add a westbound left-turn lane at SR 994/SW 200th Street. A benefit/cost analysis was conducted to confirm that this improvement is economically viable (See **Section 6.9**).

6.8 CAPACITY ANALYSIS – SW 132ND AVENUE

An operational analysis was performed at the intersection of SR 994/Quail Roost Drive at SW 132nd Avenue for the existing and proposed conditions for the AM and PM peak traffic periods using Synchro/SimTraffic Traffic Software. The results were obtained from SYNCHRO 10.0 based on HCM 2000 methodology. The primary Measures of Effectiveness (MOEs) used was based on volume/capacity (v/c), total delay (control and queue), Level of Service (LOS), and 95th Percentile Queue (feet). Synchro output sheets are included in **Appendix I**. The results of existing and proposed conditions analysis for the signalized intersections are presented in **Table 6.9**.

Table 6.9: Operational Analysis for SR 994 at SW 132nd Avenue

			Existing					Proposed					Proposed vs Existing AM					
													Δ Delay				Δ 95% Queue	
	Lane Group	Move-ment	Volume (vph)	Delay (s-veh)	LOS	v/c	95% Queue (ft)*	Volume (vph)	Delay (s-veh)	LOS	v/c	95% Queue (ft)*	(s-veh)	%	Δ LOS	Δ v/c	Feet	%
AM PEAK	EB	TR	750	0.0	A	0.50	0	750	0.0	A	0.50	0	0.0	-	Same	0%	0	-
		RT	10					10										
		Appr	-	0.0	A			-	0.0	A			0.0	-	Same	-	-	-
	WB	LT	15					15	9.7	A	0.03	3						
		TR	756	1.0	A	0.03	3	756	0.0	A	0.49	0	(1.0)	-100%	Same	1533%	(3)	-100%
		Appr	-	1.0	A			-	0.3	A			(0.7)	-70%	Same	-	-	-
	NB	LT	66					66										
		RT	118	187.8	F	1.22	311	118	187.8	F	1.22	311	0.0	0%	Same	0%	0	0%
		Appr	-	187.8	F			-	187.8	F			0.0	0%	Same	-	-	-
	Intersection			23.2					22.9				(0.3)	-1%	Same	-	-	-
			Existing					Proposed					Proposed vs Existing PM					
													Δ Delay				Δ 95% Queue	
	Lane Group	Move-ment	Volume (vph)	Delay (s-veh)	LOS	v/c	95% Queue (ft)*	Volume (vph)	Delay (s-veh)	LOS	v/c	95% Queue (ft)*	(s-veh)	%	Δ LOS	Δ v/c	Feet	%
PM PEAK	EB	TR	607	0.0	A	0.40	0	607	0.0	A	0.40	0	0.0	-	Same	0%	0	-
		RT	27					27										
		Appr	-	0.0	A			-					0.0	-	Better	-	-	-
	WB	LT	163					163	10.0	A	0.21	20						
		TR	643	5.1	A	0.21	20	643	0.0	A	0.46	0	(5.1)	-100%	Same	119%	(20)	-100%
		Appr	-	5.1	A			-					(5.1)	-100%	Better	-	-	-
	NB	LT	36					36										
		RT	62	90.9	F	0.81	127	62	90.9	F	0.81	127	0.0	0%	Same	0%	0	0%
		Appr	-	90.9	F			-	90.9	F			0.0	0%	Same	-	-	-
	Intersection			8.7					7.0				(1.7)	-20%	Same	-	-	-

With the addition of a westbound left-turn lane, there is a significant decrease in vehicle delay for the westbound through movement and for the overall intersection of SR 994/Quail Roost Drive at SW 132nd Avenue during the AM and PM periods. The LOS for all movements and approaches either improves or remains the same. There is no change to the delay of the eastbound movements.

6.9 B/C ANALYSIS - SW 132ND AVENUE

A b/c ratio analysis was performed for adding a westbound left-turn lane. The b/c ratio analysis required an estimation of the potential reduction of crashes upon the implementation of the improvements and estimation of preliminary construction cost. If the improvements result in a b/c ratio of 1.0 or more, then the proposed safety improvements are considered to be economically viable and could be implemented barring other constraints. In addition, a net present value (NPV) for the proposed improvements was performed. The benefit/cost analysis will assume two scenarios. The first scenario will assume that the bridge does not have to be replaced and that providing the left-turn lane can be performed by widening the bridge to the north side. The second scenario will assume that the bridge has to be replaced.

Cost Estimate: The preliminary safety improvements costs were estimated and summarized in **Table 6.10**. This estimate included costs for construction, engineering, maintenance of traffic, mobilization, construction engineering inspection, and a contingency amount to cover for unexpected costs. A detailed cost estimate showing costs for individual construction pay items is included in **Appendix J**.

Table 6.10: Preliminary Cost Estimate for SR 994 at SW 132nd Avenue

SAFETY IMPROVEMENTS	COST Bridge Widening	COST Bridge Replacing
ROADWAY	$ 134,072.24	$ 190,393.93
SIGNING & PAVEMENT MARKINGS	$ 18,616.26	$ 16,382.31
STRUCTURES/BRIDGE WIDENING/REPLACEMENT	$ 300,000.00	$ 1,000,000.00
SUBTOTAL	**$ 452,688.51**	**$ 1,206,776.24**
20% Maintenance of Traffic	$ 90,537.70	$ 241,355.25
10% Mobilization	$ 45,268.85	$ 120,677.62
32% Preliminary Engineering	$ 144,860.32	$ 386,168.40
18% Construction Engineering & Inspection	$ 81,483.93	$ 217,219.72
Contingency	$ 125,000.00	$ 250,000.00
GRAND TOTAL	**$ 939,839.31**	**$ 2,422,197.23**

Crash Reduction Factors (CRF): In order to estimate the safety benefits realized from undertaking the above improvements, an estimate of the potential number of crashes that can be reduced as result of each improvement was calculated using crash reduction factors (CRFs). A list of CRF values for the various improvements was obtained either from the Department's database and/or from the FHWA's Desktop Reference for Crash Reduction Factors dated September 2008 and from the FHWA Crash Modification Factors (CMF) Clearinghouse database. **Table 6.11** illustrates in detail the crash reduction computations for the safety

improvements. The table indicates that if the improvements were to be implemented, there is a potential to reduce near six (6) crashes over the next three years or two (2) crashes per year.

Table 6.11: CRF Calculation for SR 994 at SW 132nd Avenue

Proposed Improvement(s)	CRF					Targeted Crash Types	Crashes Reduced		
	Source	Crash Group	Default CRF	% Adjustment	Adjusted CRF[A]		Rear-end (14)	Left-turn (1)	Total
Provide Left-Turn Lane - Westbound	FHWA (p. 22)	Rear-end	39%	100.00% [1]	39.00%	Rear-end	5.50		5.50
		Left-turn	35%	100.00% [1]	35.00%	Left-turn		0.40	0.40
Total Crashes Reduced							5.50	0.40	5.90
Total Crashes Reduced in 3 Years							5.90		
Possible Crashes to be Reduced with Proposed Improvement per Year							**1.97**		

Notes:
*A. Adjusted CRF = Default CRF * (% Adjustment)*
1. CRF adjustment commensurate with the level of effectiveness anticipated from these collective improvements.

B/C Calculation: Benefits for the modification improvements were estimated by using the annual crash cost values established by FDOT and the estimated annual number of crashes reduced. The estimated safety benefits were compared to the annualized cost estimate for the safety improvement to determine the benefit to cost ratio (b/c). The b/c ratio value for the proposed safety improvements was determined to be approximately **3.1** if the bridge can be widened and **1.2** if the bridge needs to be replaced, as shown in **Table 6.12**. The recommended safety improvements described above appear to be economically feasible for implementation. Detailed calculations of the b/c ratio and NPV analysis were included in **Appendix K**.

Table 6.12: Benefit/Cost Calculation for SR 994 at SW 132nd Avenue

DESCRIPTION	COST Widening Bridge	COST Replacing Bridge
Safety Benefits	$ 245,082.07	$ 245,082.07
Annualizez Cost of Project	$ 78,682.14	$ 204,499.97
SAFETY B/C	**3.1**	**1.2**
NVP	**$ 1,525,462.53**	**$ 43,104.61**

CONCLUSIONS: Given the positive results of the b/c ratio analysis, adding a westbound left-turn lane at SW 132nd Avenue is a feasible improvement.

7 IMPROVEMENT RECOMMENDATIONS

Proposed Improvements are geared towards mitigating crash patterns identified at the cluster locations. The proposed improvements are as follows:

SR 994/Quail Roost Drive at SW 137th Avenue

Short term:

- Install a 'BE PREPARED TO STOP' sign (W3-4) with flashing beacons facing the eastbound approach.
- Trim landscaping limiting the visibility to signal heads facing the eastbound approach.

Long term:

- Consider provide a left-turn lane on the eastbound approach. *A preliminary investigation revealed there is not sufficient right-of-way for accommodating a left-turn lane for the eastbound approach; therefore, right-of-way acquisition is necessary to implement this improvement.*

SR 994/Quail Roost Drive at SW 134th Avenue

- **Install a traffic signal.** *It is noted that previous studies have been conducted by the Department at this intersection and a traffic signal will be installed at this intersection under the RRR project FM No. 429341-3. Based on the plans, the new signalized intersection will also include a westbound left-turn lane, curb and gutters, drainage, and lighting improvements.*

SR 994/Quail Roost Drive at SW 132nd Avenue

- **Provide a westbound left-turn lane.** *The implementation of this improvement will require the following:*
  - *Widening or replacing the concrete bridge located at approximately 300 feet of SW 132nd Avenue (centerline) to provide a standard left-turn lane.* ***Coordination was established with SFWMD to determine if the concrete bridge could be widened or if it needs to be replaced. Based on the information provided by SFWMD and the investigation conducted under this report, which includes a review of the bridge plan, the bridge can be widened. However, benefit/cost analysis was conducted assuming the widening and replacement of the bridge. The communication with SFWMD is presented in Appendix L.***
  - *Relocating the guardrail along the north and/or south sides of SR 994/SW 200th Street.*
  - *Relocating the rectangular rapid flashing beacons located just east of the concrete bridge.*

Segment-wide

- The Department should consider in the future at the possibility of widening SR 994/Quail Roost Drive to provide 2 lanes in each direction from SW 137th Avenue to West of SW 127th Avenue.

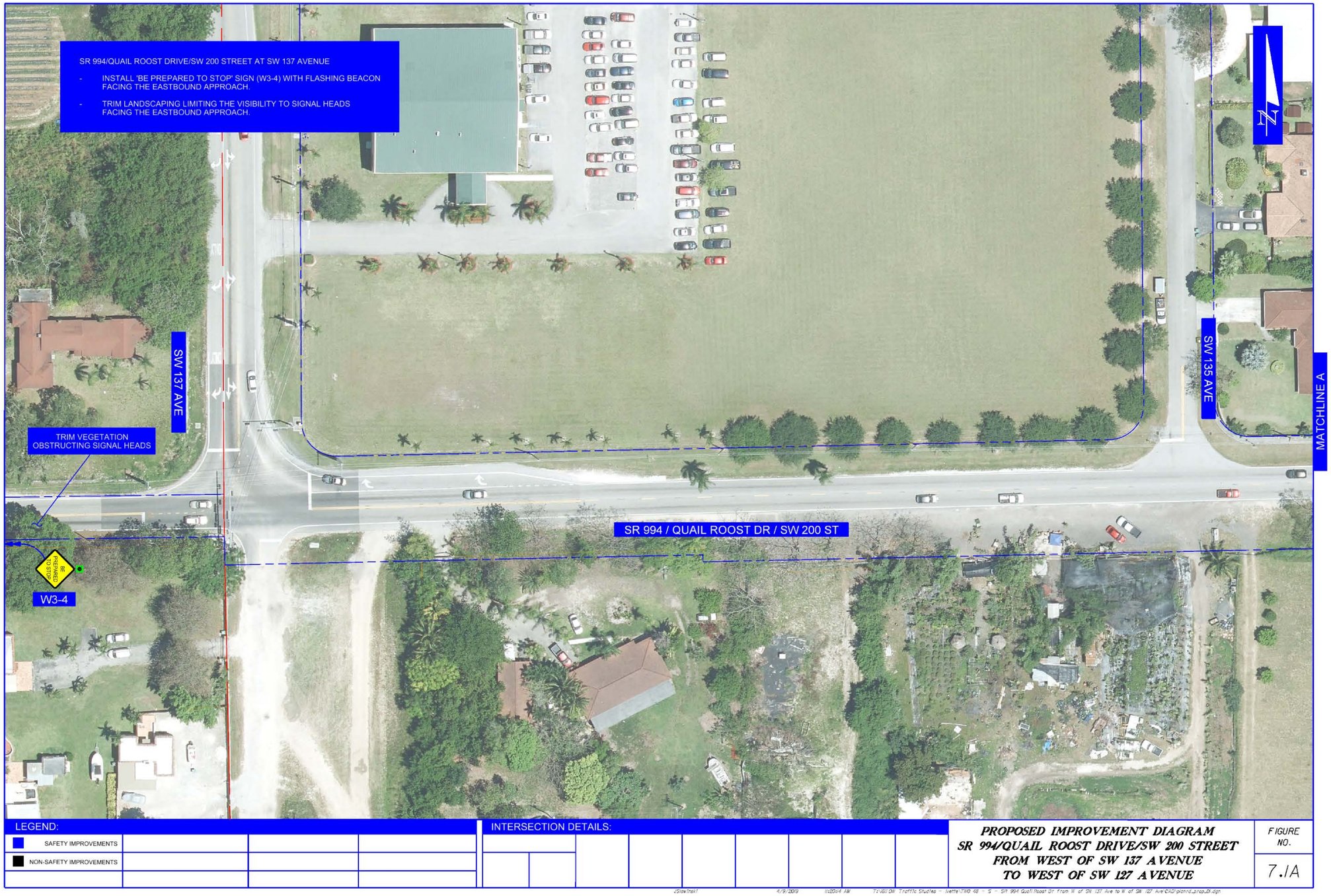
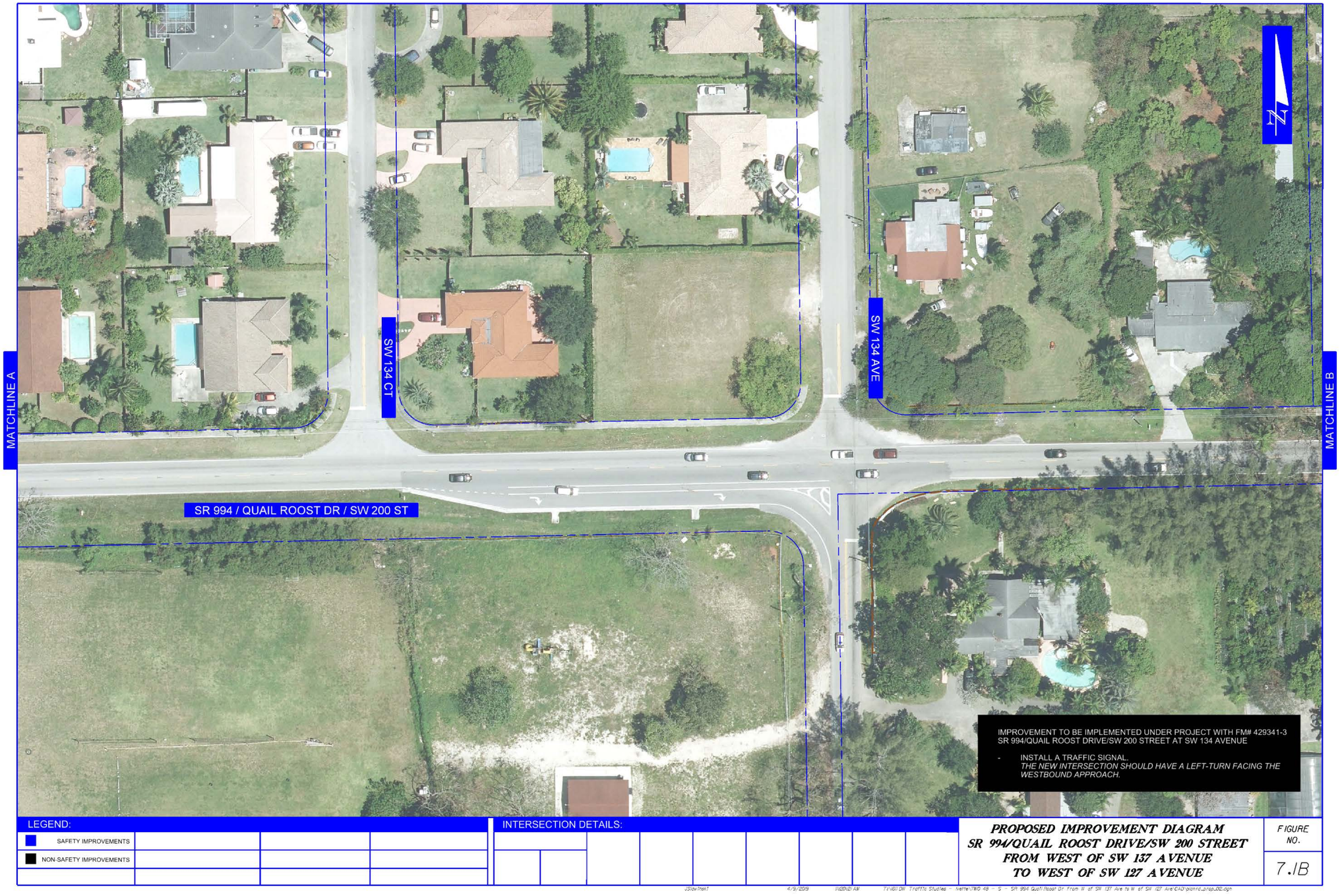


Figure 7.1: Proposed Improvement Diagram



LEGEND:

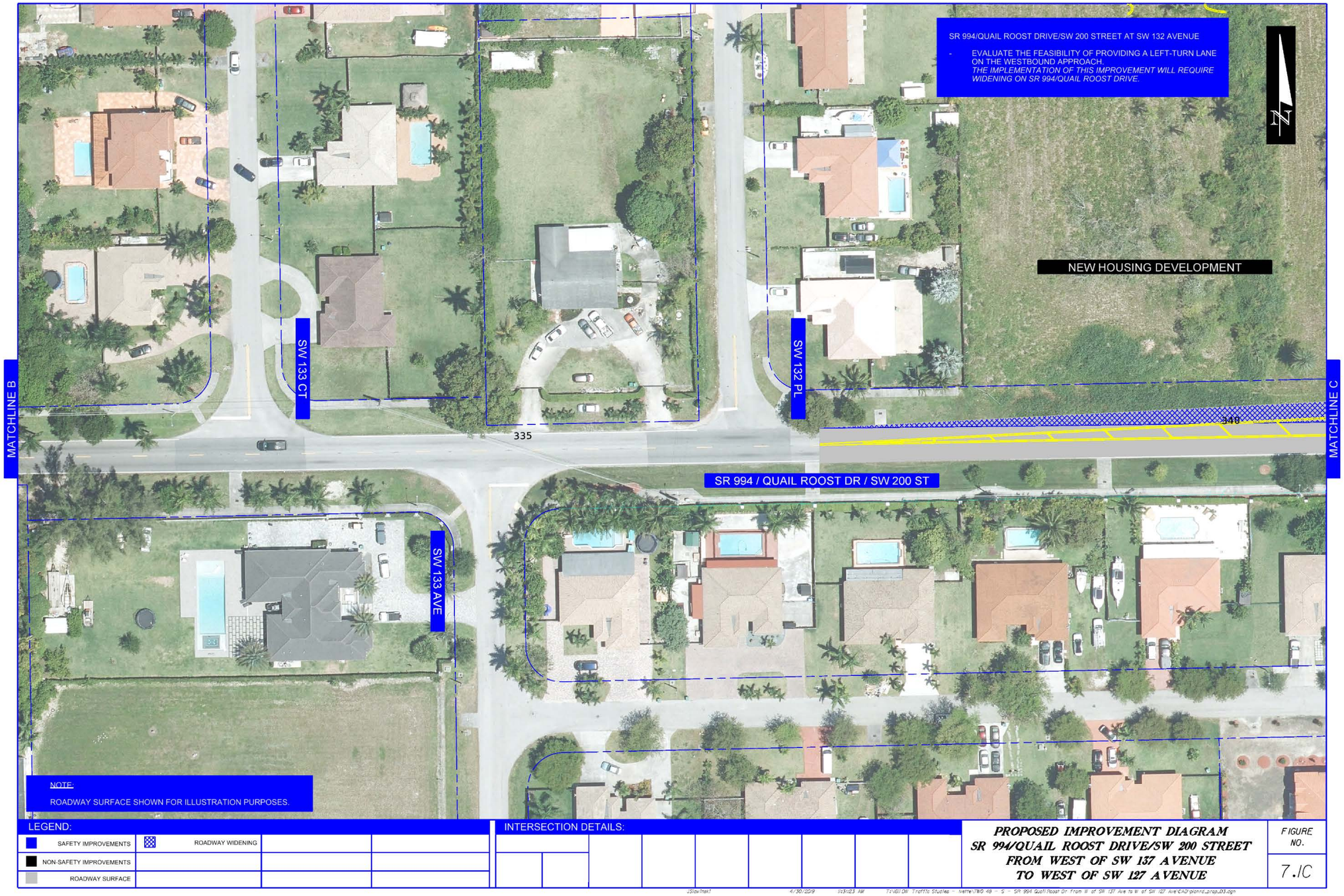
SAFETY IMPROVEMENTS			
NON-SAFETY IMPROVEMENTS			

INTERSECTION DETAILS:

PROPOSED IMPROVEMENT DIAGRAM
SR 994/QUAIL ROOST DRIVE/SW 200 STREET
FROM WEST OF SW 137 AVENUE
TO WEST OF SW 127 AVENUE

FIGURE NO. 7.1B

JSlowinski 4/9/2019 11:20:21 AM T:\Vol1 DW Traffic Studies - Nette\TWO 48 - S - SR 994 Quail Roost Dr from W of SW 137 Ave to W of SW 127 Ave\CAD\plohrd_prop_02.dgn


SR 994/QUAIL ROOST DRIVE/SW 200 STREET AT SW 132 AVENUE
- EVALUATE THE FEASIBILITY OF PROVIDING A LEFT-TURN LANE ON THE WESTBOUND APPROACH.
THE IMPLEMENTATION OF THIS IMPROVEMENT WILL REQUIRE WIDENING ON SR 994/QUAIL ROOST DRIVE.
N
NEW HOUSING DEVELOPMENT
SW 133 CT
SW 132 PL
335
340
MATCHLINE B
MATCHLINE C
SR 994 / QUAIL ROOST DR / SW 200 ST
SW 133 AVE
NOTE:
ROADWAY SURFACE SHOWN FOR ILLUSTRATION PURPOSES.
LEGEND:
SAFETY IMPROVEMENTS
ROADWAY WIDENING
NON-SAFETY IMPROVEMENTS
ROADWAY SURFACE
INTERSECTION DETAILS:
PROPOSED IMPROVEMENT DIAGRAM
SR 994/QUAIL ROOST DRIVE/SW 200 STREET
FROM WEST OF SW 137 AVENUE
TO WEST OF SW 127 AVENUE
FIGURE NO.
7.IC
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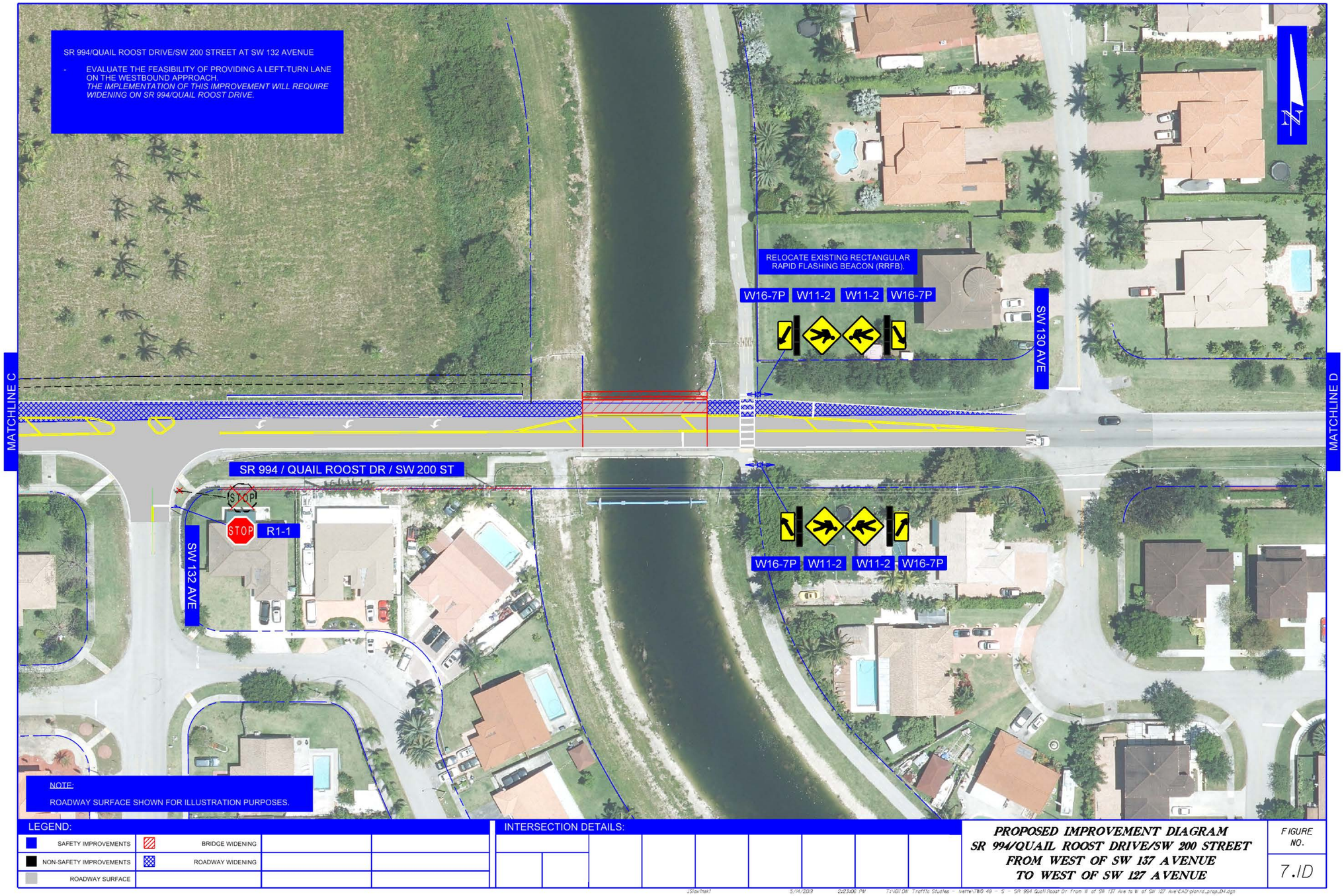

SR 994/QUAIL ROOST DRIVE/SW 200 STREET AT SW 132 AVENUE
- EVALUATE THE FEASIBILITY OF PROVIDING A LEFT-TURN LANE ON THE WESTBOUND APPROACH.
THE IMPLEMENTATION OF THIS IMPROVEMENT WILL REQUIRE WIDENING ON SR 994/QUAIL ROOST DRIVE.
RELOCATE EXISTING RECTANGULAR RAPID FLASHING BEACON (RRFB).
W16-7P W11-2 W11-2 W16-7P
SW 130 AVE
MATCHLINE C
MATCHLINE D
SR 994 / QUAIL ROOST DR / SW 200 ST
STOP
STOP R1-1
SW 132 AVE
W16-7P W11-2 W11-2 W16-7P
NOTE:
ROADWAY SURFACE SHOWN FOR ILLUSTRATION PURPOSES.
LEGEND:
SAFETY IMPROVEMENTS
NON-SAFETY IMPROVEMENTS
ROADWAY SURFACE
BRIDGE WIDENING
ROADWAY WIDENING
INTERSECTION DETAILS:
PROPOSED IMPROVEMENT DIAGRAM
SR 994/QUAIL ROOST DRIVE/SW 200 STREET
FROM WEST OF SW 137 AVENUE
TO WEST OF SW 127 AVENUE
FIGURE NO.
7.ID

APPENDIX A – STRAIGHT LINE DIAGRAM

5 YR INV	SLD REV
DATE 01/30/2018	02/12/2018
BY URS	URS

BMP	EMP	INV	SLD REV
0.000	8.058	N/A	11/13/2018 FDOT

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
02		SR 994	MIAMI-DADE	06	87091000	1 OF 2

0.0 1.0 2.0 3.0 4.0

997

INSIDE URBAN, OUTSIDE CITY
* MIAMI
*|<=SW 200 ST/QUAIL DR
*|<SR 994

1117

KROME AVE 0.000 0.000 0.038

SW 177 AVE 0.000

SR 997

GPS COORDINATES
25°34' 47" N
80° 28' 42" W

SW 172 AVE 0.511

SW 167 AVE 1.023

SW 165 AVE 1.148

1.273 OUTSIDE CITY & URBAN
*|<=SW 200 ST/QUAIL DR
*|<SR 994

SW 162 AVE 1.529

MIAMI-DADE COUNTY

63113.0-N

1.906

SW 158 AVE 1.908

SW 157 AVE 2.039

SW 155 AVE 2.164

SW 154 AVE 2.291

C-102 CANAL

SW 152 AVE 2.542

SW 149 AVE 2.798

SW 147 AVE 3.057

SW 140 AVE 3.684

SW 139 AVE 3.814

ROADWAY FEATURES

LANE WIDTHS ARE AVERAGED

0.175 46.0' - 22.0'
2 - 11.0' RDWY
2 - 12.0' LWN SHLD

0.000 70.0' - 22.0'
2 - 11.0' RDWY
12.0 PVD MED
2 - 6.0' PVD SHLD
2 - 12.0' LWN SHLD2

1.229 40.0' - 22.0'
2 - 11.0' RDWY
6.0' LWN SHLD - LT
12.0' LWN SHLD - RT

ROADWAY COMPOSITION

0.000 28/FC-2
28/FC-2

0.175 28/FC-2

HORIZONTAL ALIGNMENT

PI=0.511 Δ=0°00'04.00"
PI=1.019 Δ=0°30'14.00"
PI=1.524 Δ=0°06'30.00"
PI=2.032 Δ=0°39'08.00"
Δ=0°00'46.00" PI=2.541
PI=3.049 Δ=0°00'31.00"
Δ=0°00'04.00" PI=3.556

B=N88°08'48"E B=N88°08'52"E B=N88°39'06"E B=N88°32'36"E B=N89°11'44"E B=N89°10'58"E B=N89°11'29"E B=N89°11'25"E

STRUCTURE DESCRIPTION

2.468 #0628 2.475
37'
BR

TRAFFIC DATA

AADT= 7,100 D= 59.30
K= 9.00 T= 9.80
All Traffic Data as of 12-31-17

SIS

FUN CLASS

0.000 URBAN MAJOR COLLECTOR
1.273 RURAL MAJOR COLLECTOR

● = SIGNALIZED INTERSECTION

4.0 5.0 6.0

4.000 OUTSIDE CITY & URBAN
*|<=SW 200 ST/QUAIL DR
*|<SR 994

4.075 INSIDE URBAN, OUTSIDE CITY
* MIAMI
*|<=SW 200 ST/QUAIL DR
*|<SR 994

MIAMI-DADE COUNTY

5.090 INSIDE URBAN, OUTSIDE CITY
* MIAMI
*|<=QUAIL ROOST DR
*|<SR 994

SW 137 AVE 4.075
SW 135 AVE 4.200
SW 134 CT 4.264
SW 134 AVE 4.328
SW 133 CT 4.425
SW 132 PL 4.490
BLACK CREEK CANAL
SW 130 AVE 4.711
SW 129 CT 4.774
SW 129 AVE 4.835
1116 4.960
SW 127 AVE 5.090
SW 125 AVE 5.212
SW 124 CT 5.301
SW 123 PL 5.422
SW 123 CT 5.475
SW 122 PL 5.592
TN LN TO SW 122 AVE 5.688
SW 122 AVE 5.686
FAMILY & CHILDREN EN 5.737
FAMILY & CHILDREN EN 5.807
EMERGENCY SIGNAL
SW 192 TER 5.985

SA

SW 133 AVE 4.457
SW 132 AVE 4.584
SW 124 CT 5.282
SW 200 ST 5.354
SW 198 ST 5.567
TN LN TO SW 122 AVE 5.648
SW 196 ST 5.737
SW 194 TER 5.856
SW 193 ST RD 5.985

ROADWAY FEATURES

LANE WIDTHS ARE AVERAGED

4.075 46.0' - 22.0'
2 - 11.0' RDWY
2 - 12.0' LWN SHLD

4.961 48.0' - 11.0'L+22.0'R
1 - 11.0L + 2 - 11.0'R RDWY
11.0 PVD MED
2 - 2.0' C&G SHLD

4.000 40.0' - 22.0'
2 - 11.0' RDWY
6.0' LWN SHLD - LT
12.0' LWN SHLD - RT

5.090 59.0' - 44.0'
4 - 11.0' RDWY
2 - 2.0' C&G SHLD

ROADWAY COMPOSITION

4.000 28/FC-2

4.961 28/FC-2
28/FC-2

HORIZONTAL ALIGNMENT

Δ=0°25'30.00" PI=4.059
PI=4.574 Δ=1°02'37.00"
Δ=0°34'16.00" PI=5.080
Δ=38°11'30.00" D=3°00' PC=5.172 PI=5.297 PT=5,413
PI=5.492 Δ=0°03'49.00" Δ=1°13'03.00" PI=5.504
Δ=11°51'09.00" D=4°06' PC=5.686 PI=5.714 PT=5,741
PC=5.783 PI=5.815 PT=5.847 Δ=13°45'07.00" D=4°06'

B=N88°45'55"E B=N89°48'32"E B=N89°14'16"E B=N52°16'32"E B=N51°03'29"E B=N48°02'40"E B=N36°11'31"E B=N50°00'10"E

STRUCTURE DESCRIPTION

4.645 #0633 4.663
95'
BR

TRAFFIC DATA

4.075 AADT= 18,700 D= 55.70
K= 9.00 T= 10.50
All Traffic Data as of 12-31-17

5.090 AADT= 32,000 D= 55.70
K= 9.00 T= 8.40

SIS

FUN CLASS

4.000 RURAL MAJOR COLLECTOR
4.075 URBAN MINOR ART

Version: 1,4,2,27 02/12/2018

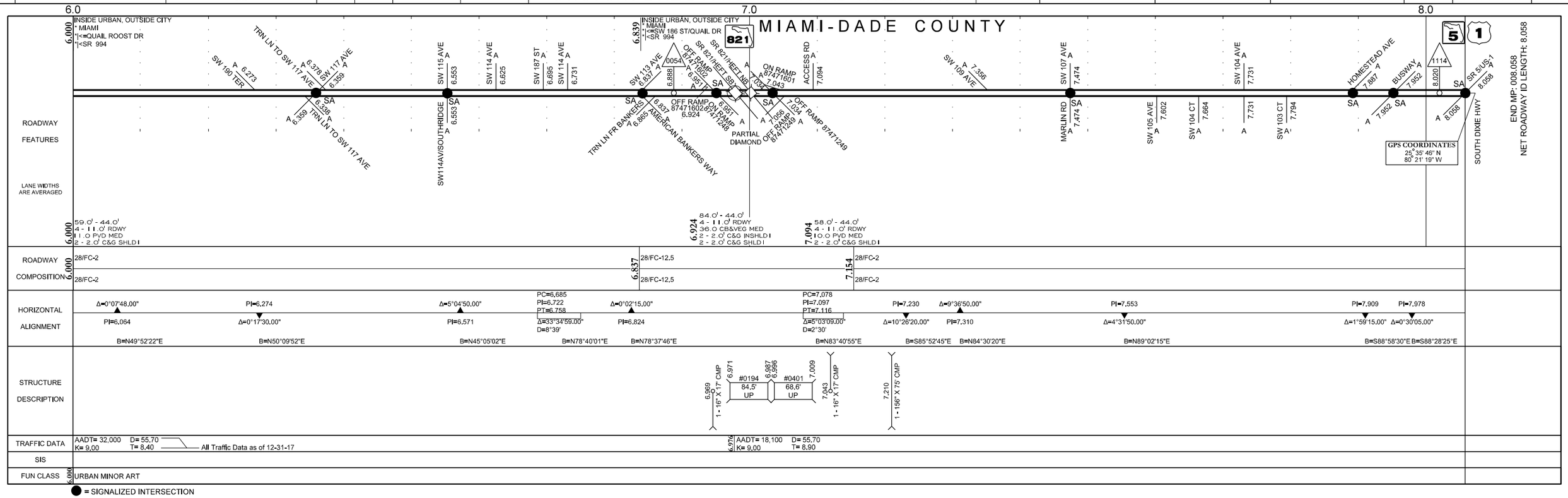
SW 200 ST/QUAIL ROOST DRIVE (Miami-Dade County)

	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	01/30/2018	02/12/2018	0.000	8.058	N/A	11/13/2018 FDOT
BY	URS	URS				

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
02		SR 994	MIAMI-DADE	06	87091000	2 OF 2



● = SIGNALIZED INTERSECTION

Version: 1.4.2.27 02/12/2018

QUAIL ROOST DR/SW 186 STREET (Miami-Dade County)

APPENDIX B – SIGNAL OPERATING PLAN SHEETS

TOD Schedule Report

for 6507: Quail Roost Dr&SW 137 Av

Print Date: 5/22/2018

Print Time: 6:42 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
6507	Quail Roost Dr&SW 137 Av	DOW-3		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	-	NBT	-	EBT	-	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	10 - 10 - 10	15 - 15 - 15	4	2
2 WBT	0 - 0 - 0	0 - 0 - 0	16 - 16 - 16	1 - 1 - 1	35 - 40 - 40	0 - 55 - 0	4.4	2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 NBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	20 - 40 - 20	25 - 40 - 0	4.4	2
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 EBT	0 - 0 - 0	0 - 0 - 0	16 - 16 - 16	1 - 1 - 1	35 - 40 - 40	0 - 55 - 0	4.4	2
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 SBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	20 - 40 - 20	25 - 40 - 0	4.4	2

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12-4-6-8
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

Current TOD Schedule	Plan	Cycle	1 EBL	2 WBT	3 -	4 NBT	5 -	6 EBT	7 -	8 SBT	Ring Offset	Offset

Local TOD Schedule

Time	Plan	DOW
0000	Flash	Su M T W Th F S
0500	Free	Su M T W Th F S

TOD Schedule Report

for 6507: Quail Roost Dr&SW 137 Av

Print Date: 5/22/2018

Print Time: 6:42 PM

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0500	TOD OUTPUTS	-------1	M T W ThF
0630	TOD OUTPUTS	------2-	M T W ThF
0900	TOD OUTPUTS	-------1	M T W ThF
1600	TOD OUTPUTS	------2-	M T W ThF
1900	TOD OUTPUTS	-------1	M T W ThF
2100	TOD OUTPUTS	--------	M T W ThF

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0500	TOD OUTPUTS	-------1	M T W ThF
0630	TOD OUTPUTS	------2-	M T W ThF
0900	TOD OUTPUTS	-------1	M T W ThF
1600	TOD OUTPUTS	------2-	M T W ThF
1900	TOD OUTPUTS	-------1	M T W ThF
2100	TOD OUTPUTS	--------	M T W ThF

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

APPENDIX C – COLLISION DIAGRAMS AND ANNUAL CRASH SUMMARIES

SW 137 AVE

SW 135 AVE

MATCHLINE A

SR 994 / QUAIL ROOST DR / SW 200 ST

N

COLLISION SYMBOLS:

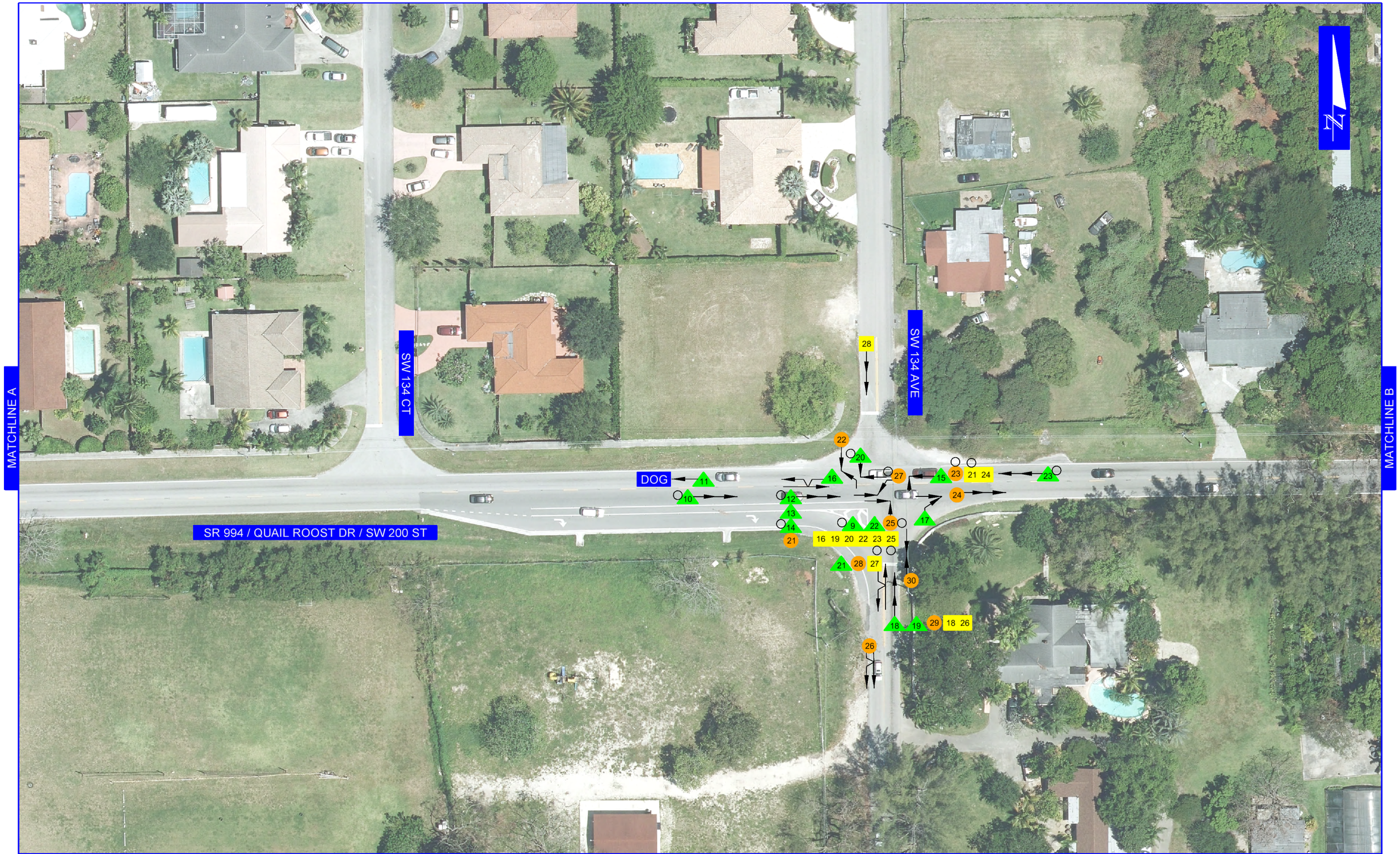
RECORD NUMBER	BICYCLIST	FIXED OBJECT	LEFT TURN	HEAD ON	CARGO LOSS/DEBRIS		YR 2014
INJURY	PEDESTRIAN	PARKED CAR	OUT OF CONTROL	ANGLE	U-TURN		YR 2015
FATAL	BACKING VEHICLE	REAR END	RIGHT TURN	SIDE SWIPE	OVERTURNED		YR 2016

COLLISION DIAGRAM
SR 994/QUAIL ROOST DRIVE/SW 200 STREET
FROM WEST OF SW 137 AVENUE
TO WEST OF SW 127 AVENUE

FIGURE NO.

C-1

JSlawinski 2/7/2019 3:45:07 PM T:\1611 DW Traffic Studies - Ivette\TWO 48 - S - SR 994 Quail Roost Dr from W of SW 137 Ave to W of SW 127 Ave\CAD\planrd_co_01.dgn



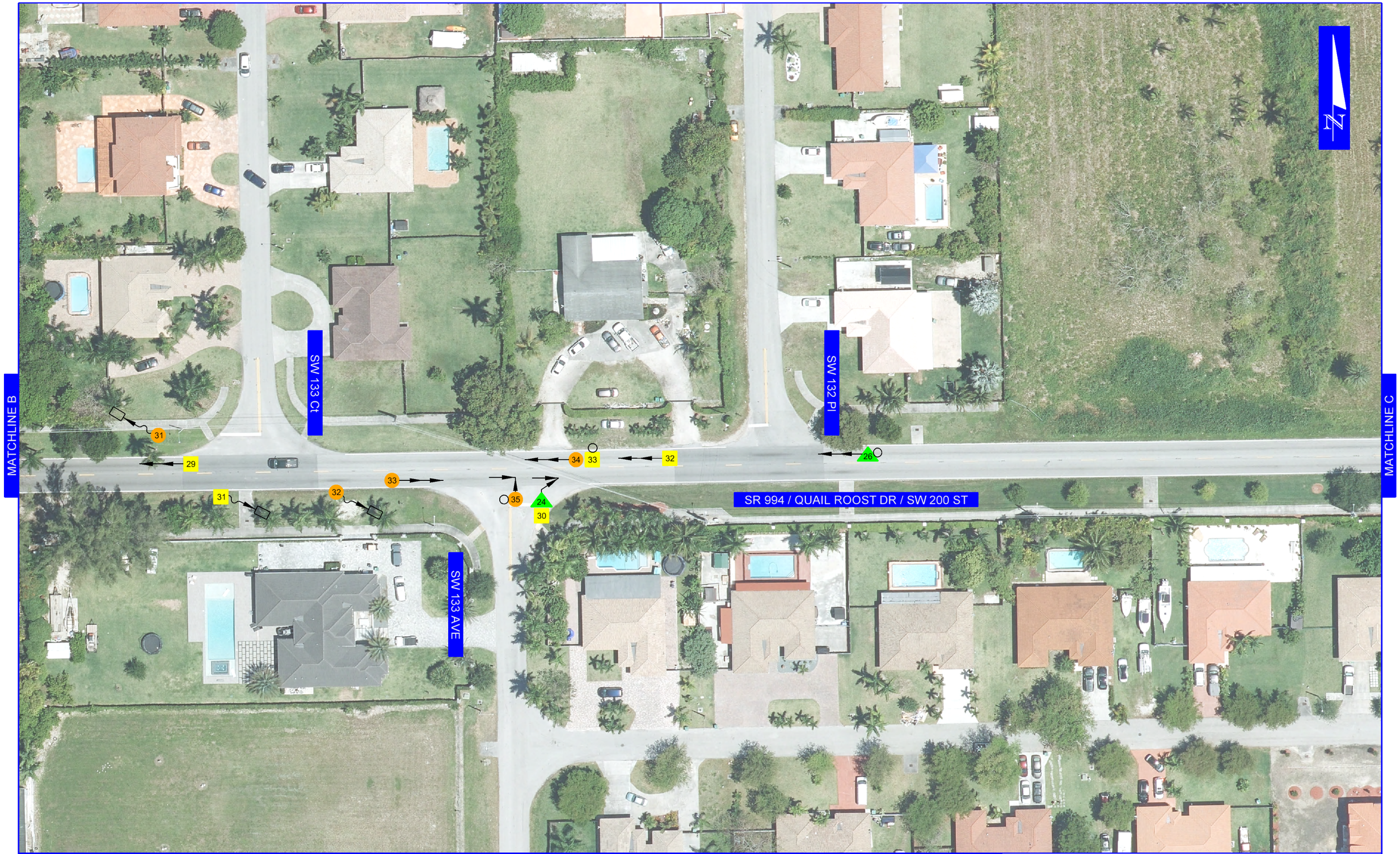
COLLISION SYMBOLS:

RECORD NUMBER	BICYCLIST	FIXED OBJECT	LEFT TURN	HEAD ON	CARGO LOSS/DEBRIS		YR 2014
INJURY	PEDESTRIAN	PARKED CAR	OUT OF CONTROL	ANGLE	U-TURN		YR 2015
FATAL	BACKING VEHICLE	REAR END	RIGHT TURN	SIDE SWIPE	OVERTURNED		YR 2016

COLLISION DIAGRAM
SR 994/QUAIL ROOST DRIVE/SW 200 STREET
FROM WEST OF SW 137 AVENUE
TO WEST OF SW 127 AVENUE

FIGURE NO. C-2

JSlawinski 2/7/2019 3:45:15 PM T:\1611 DW Traffic Studies - Ivette\TWO 48 - S - SR 994 Quail Roost Dr from W of SW 137 Ave to W of SW 127 Ave\CAD\planrd_co_02.dgn



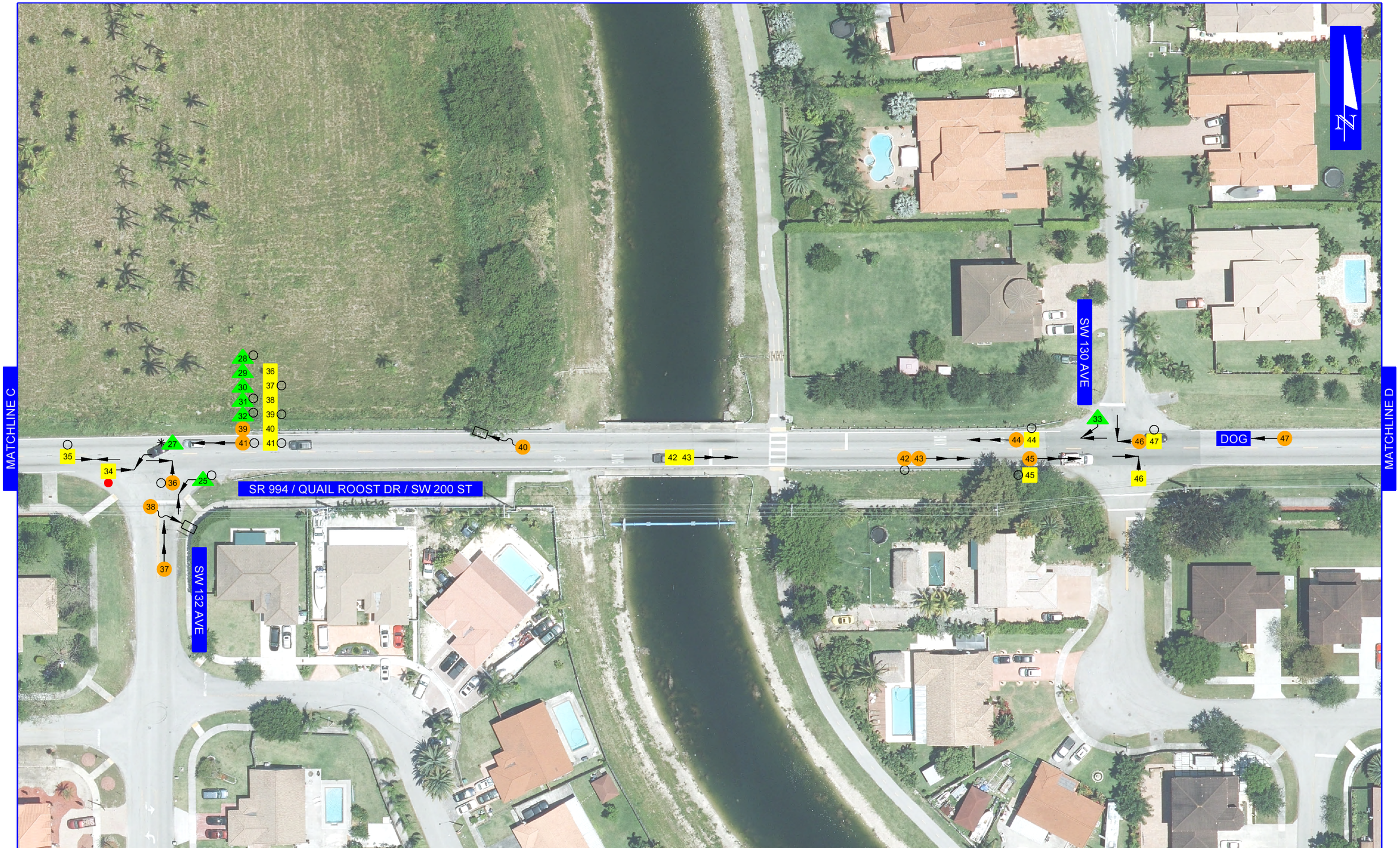
COLLISION SYMBOLS:

RECORD NUMBER	BICYCLIST	FIXED OBJECT	LEFT TURN	HEAD ON	CARGO LOSS/DEBRIS	YR 2014
INJURY	PEDESTRIAN	PARKED CAR	OUT OF CONTROL	ANGLE	U-TURN	YR 2015
FATAL	BACKING VEHICLE	REAR END	RIGHT TURN	SIDE SWIPE	OVERTURNED	YR 2016

COLLISION DIAGRAM
SR 994/QUAIL ROOST DRIVE/SW 200 STREET
FROM WEST OF SW 137 AVENUE
TO WEST OF SW 127 AVENUE

FIGURE NO. C-3

JSlawinski 2/7/2019 3:45:21 PM T:\1611 DW Traffic Studies - Ivette\TWO 48 - S - SR 994 Quail Roost Dr from W of SW 137 Ave to W of SW 127 Ave\CAD\planrd_co_03.dgn



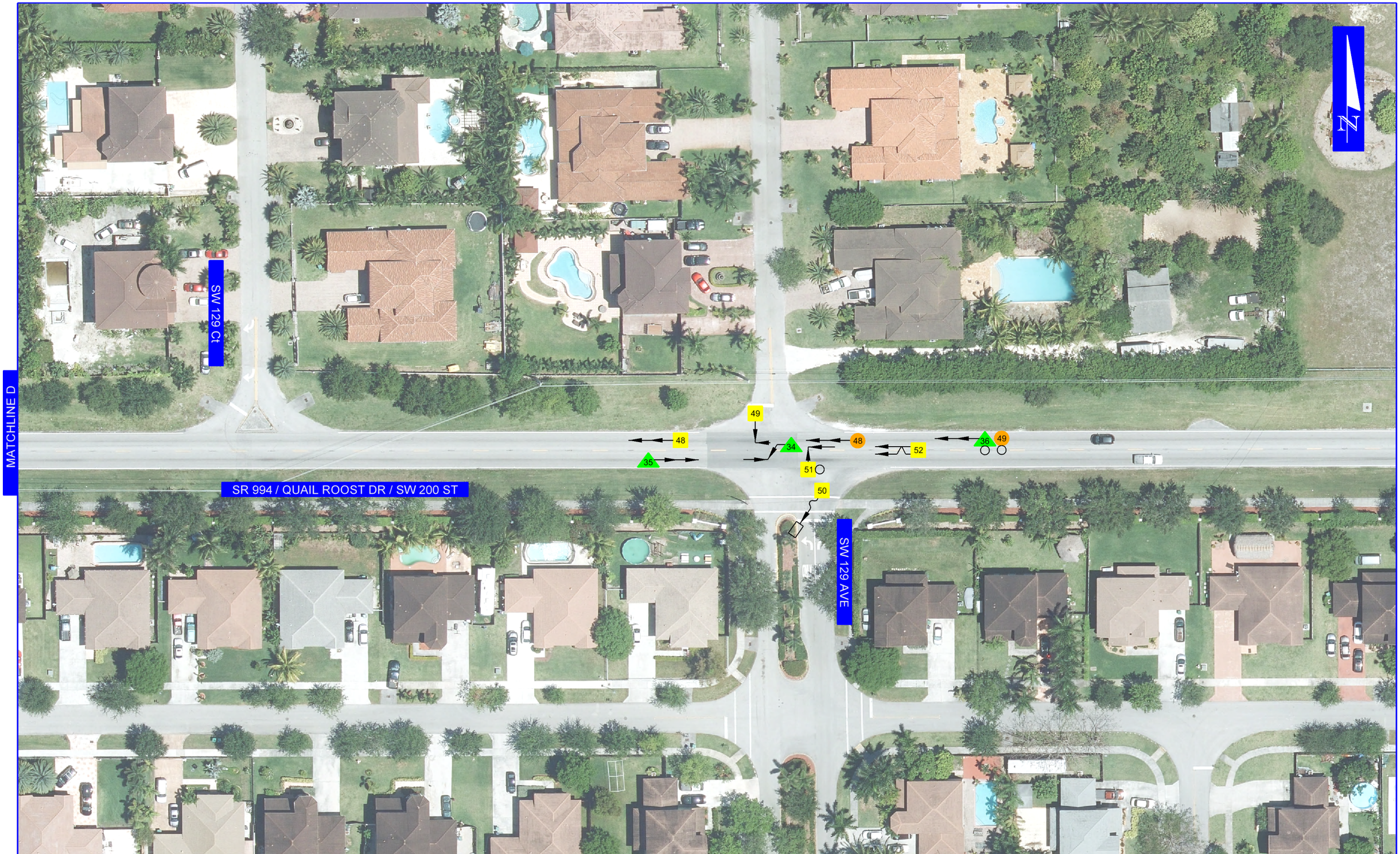
COLLISION SYMBOLS:

RECORD NUMBER	BICYCLIST	FIXED OBJECT	LEFT TURN	HEAD ON	CARGO LOSS/DEBRIS		YR 2014
INJURY	PEDESTRIAN	PARKED CAR	OUT OF CONTROL	ANGLE	U-TURN		YR 2015
FATAL	BACKING VEHICLE	REAR END	RIGHT TURN	SIDE SWIPE	OVERTURNED		YR 2016

COLLISION DIAGRAM
SR 994/QUAIL ROOST DRIVE/SW 200 STREET
FROM WEST OF SW 137 AVENUE
TO WEST OF SW 127 AVENUE

FIGURE NO.
C-4

JSlawinski 2/7/2019 3:45:29 PM T:\1611 DW Traffic Studies - Ivette\TWO 48 - S - SR 994 Quail Roost Dr from W of SW 137 Ave to W of SW 127 Ave\CAD\planrd_co_04.dgn



COLLISION SYMBOLS:

RECORD NUMBER	BICYCLIST	FIXED OBJECT	LEFT TURN	HEAD ON	CARGO LOSS/DEBRIS		YR 2014
INJURY	PEDESTRIAN	PARKED CAR	OUT OF CONTROL	ANGLE	U-TURN		YR 2015
FATAL	BACKING VEHICLE	REAR END	RIGHT TURN	SIDE SWIPE	OVERTURNED		YR 2016

COLLISION DIAGRAM
SR 994/QUAIL ROOST DRIVE/SW 200 STREET
FROM WEST OF SW 137 AVENUE
TO WEST OF SW 127 AVENUE

FIGURE NO.
C-5

JSlawinski 2/7/2019 3:45:36 PM T:\1611 DW Traffic Studies - Ivette\TWO 48 - S - SR 994 Quail Roost Dr from W of SW 137 Ave to W of SW 127 Ave\CAD\planrd_co_05.dgn

State of Florida Department of Transportation
CRASH SUMMARY

SECTION: 87091000 STATE ROUTE: 994

ROADWAY LIMITS: From West of SW 137 Avenue to West of SW 127 Avenue M.P. 4.035 TO 4.961 ENGINEER: FDOT D6

STUDY PERIOD: FROM 1/ 2014 TO 12/ 2014 COUNTY: Miami-Dade

Crash Number	No.	MILE POST	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURIES	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE (VEHICLE ONLY)
838100430	1	4.037	08/25/14	Mon	0740	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
837614740	2	4.056	08/20/14	Wed	0830	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
837327670	3	4.071	01/06/14	Mon	1615	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
843674580	4	4.073	06/24/14	Tue	2048	Rear-End	0	0	1	Night	Wet	Careless or Negligent Manner
843461020	5	4.075	01/10/14	Fri	1734	Rear-End	0	2	0	Day	Dry	Careless or Negligent Manner
843811800	6	4.075	10/26/14	Sun	1018	Rear-End	0	0	1	Day	Dry	Followed too Closely
843530490	7	4.196	03/01/14	Sat	1952	Rear-End	0	5	0	Night	Dry	Careless or Negligent Manner
837193210	8	4.200	07/30/14	Wed	1613	Sideswipe	0	2	0	Day	Dry	Failed To Keep In Proper Lane
838044830	9	4.300	11/07/14	Fri	2218	Angle	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
837631670	10	4.309	03/07/14	Fri	1448	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
838019590	11	4.309	06/17/14	Tue	0430	Animal	0	0	1	Night	Dry	No Contributing Action
837181130	12	4.322	01/29/14	Wed	0825	Rear-End	0	1	0	Day	Wet	Careless or Negligent Manner
843456940	13	4.322	08/20/14	Wed	0005	Rear-End	0	0	1	Night	Dry	Other Contributing Action
831471890	14	4.328	04/22/14	Tue	1655	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
836736050	15	4.328	03/10/14	Mon	1000	Angle	0	0	1	Day	Dry	Improper Passing
837181500	16	4.328	06/01/14	Sun	0310	Sideswipe	0	0	1	Night	Dry	Failed To Keep In Proper Lane
838003880	17	4.328	07/16/14	Wed	1020	Right-Turn	0	0	1	Day	Dry	Ran Stop Sign
843757050	18	4.328	09/09/14	Tue	0805	Rear-End	0	2	0	Day	Dry	Followed too Closely
843809170	19	4.328	11/05/14	Wed	1530	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
844755760	20	4.328	08/24/14	Sun	1855	Angle	0	4	0	Day	Dry	Ran Stop Sign
845075540	21	4.328	09/11/14	Thu	2020	Sideswipe	0	0	1	Night	Wet	Careless or Negligent Manner
845537310	22	4.328	12/28/14	Sun	0008	Angle	0	2	0	Night	Dry	Failed to Yield Right-Of-Way
837198920	23	4.330	02/10/14	Mon	0751	Rear-End	0	2	0	Day	Dry	Careless or Negligent Manner
843475620	24	4.457	02/06/14	Thu	0741	Right-Turn	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
843557550	25	4.584	03/25/14	Tue	1305	Motor Vehicle in Transport	0	1	0	Day	Dry	Improper Turn
845021000	26	4.490	11/08/14	Sat	1945	Rear-End	0	2	0	Night	Dry	Careless or Negligent Manner
837513480	27	4.584	01/08/14	Wed	1448	Cargo/Equipment Loss or Shift	0	0	1	Day	Dry	Other Contributing Action
844905170	28	4.584	08/28/14	Thu	1340	Rear-End	0	2	0	Day	Dry	Careless or Negligent Manner
837046460	29	4.586	01/30/14	Thu	1720	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
845191090	30	4.588	12/05/14	Fri	0823	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
843443950	31	4.590	01/13/14	Mon	1729	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
843525610	32	4.593	02/27/14	Thu	1810	Rear-End	0	1	0	Night	Wet	Careless or Negligent Manner
845025960	33	4.711	11/25/14	Tue	1715	Right-Turn	0	0	1	Night	Dry	Ran Stop Sign
837181260	34	4.835	03/01/14	Sat	0530	Left-Turn	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
844866520	35	4.835	09/26/14	Fri	0830	Rear-End	0	0	1	Day	Wet	Failed to Yield Right-Of-Way
845120900	36	4.846	10/18/14	Sat	1532	Rear-End	0	2	0	Day	Dry	Other Contributing Action

	Total No.	Fatal	Injury	PDO	Rear-End	Head-On	Angle	Left-Turn	Right-Turn	Sideswipe	Backed Into	Ped/Bike	Parked Car	Fixed Object	Ran into Water	Other
	36	**0**	**16**	**20**	**22**	**0**	**4**	**1**	**3**	**3**	**0**	**0**	**0**	**0**	**0**	**0**
	Percent	*0.00%*	*44.44%*	*55.56%*	*61.11%*	*0.00%*	*11.11%*	*2.78%*	*8.33%*	*8.33%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
	Contrib. Cause	Day	Night	Wet	Dry	Careless Driving	FTYRW	Improper Turn	Ran Red Light	Exceeded Speed	Improper Passing	Disreg Cntl Dev	Erratic/ Aggress	Ran off Road	DUI	Wrong Way
	Total	**24**	**12**	**7**	**29**	**18**	**5**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**
	Percent	*66.67%*	*33.33%*	*19.44%*	*80.56%*	*50.00%*	*13.89%*	*2.78%*	*0.00%*	*0.00%*	*2.78%*	*0.00%*	*0.00%*	*0.00%*	*2.78%*	*0.00%*

TOTAL ENTERING VEHICLES/ADT: **17,016**

SEGMENT CRASH RATE: **6.260** CRASHES PER MILLION VEHICLE MILES

State of Florida Department of Transportation
CRASH SUMMARY

SECTION: 87091000 STATE ROUTE: 994

ROADWAY LIMITS: From West of SW 137 Avenue to West of SW 127 Avenue M.P. 4.035 TO 4.961 ENGINEER: FDOT D6

STUDY PERIOD: FROM 1/ 2015 TO 12/ 2015 COUNTY: Miami-Dade

Crash Number	No.	MILE POST	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURIES	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE (VEHICLE ONLY)
845513230	1	4.037	01/02/15	Fri	1740	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
845542650	2	4.056	02/02/15	Mon	0900	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
845538250	3	4.066	02/25/15	Wed	1207	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
852256840	4	4.068	12/07/15	Mon	1301	Rear-End	0	2	0	Day	Wet	No Contributing Action
845626860	5	4.072	04/29/15	Wed	2113	Rear-End	0	0	1	Night	Wet	Careless or Negligent Manner
851204490	6	4.073	06/18/15	Thu	0940	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
851881750	7	4.073	10/04/15	Sun	1510	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
852410130	8	4.073	12/29/15	Tue	1000	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
851810590	9	4.074	08/23/15	Sun	1549	Rear-End	0	5	0	Day	Dry	Careless or Negligent Manner
843363810	10	4.075	12/22/15	Tue	2255	Rear-End	0	0	1	Night	Wet	Careless or Negligent Manner
843445240	11	4.075	12/19/15	Sat	1045	Left-Turn	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
845095870	12	4.075	02/09/15	Mon	0655	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
851956080	13	4.075	09/22/15	Tue	0617	Left-Turn	0	2	0	Night	Wet	No Contributing Action
852362580	14	4.075	12/21/15	Mon	0701	Head-On	0	2	0	Night	Wet	Failed To Keep In Proper Lane
856670910	15	4.075	06/27/15	Sat	1127	Fence	0	0	1	Day	Wet	Careless or Negligent Manner
860005010	16	4.075	11/08/15	Sun	0100	Angle	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
851881580	17	4.084	09/23/15	Wed	1710	Sideswipe	0	0	1	Day	Dry	Failed To Keep In Proper Lane
852424860	18	4.084	12/10/15	Thu	1717	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
856514400	19	4.137	03/17/15	Tue	2225	Tree (Standing)	0	0	1	Night	Dry	Over-Correcting/Over-Steering
851128500	20	4.198	06/06/15	Sat	1255	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
851214760	21	4.325	07/17/15	Fri	1621	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
843405290	22	4.328	12/14/15	Mon	1700	Left-Turn	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
845537460	23	4.328	03/07/15	Sat	0835	Angle	0	2	0	Day	Dry	Failed to Yield Right-Of-Way
848895560	24	4.328	05/01/15	Fri	2041	Rear-End	0	0	1	Night	Dry	Careless or Negligent Manner
851642360	25	4.328	10/03/15	Sat	1440	Angle	0	2	0	Day	Dry	Failed to Yield Right-Of-Way
856571260	26	4.328	02/06/15	Fri	1553	Sideswipe	0	0	1	Day	Dry	Improper Passing
856604800	27	4.328	03/02/15	Mon	0716	Left-Turn	0	1	0	Day	Dry	Failed to Yield Right-Of-Way
856605140	28	4.328	02/25/15	Wed	1306	Sideswipe	0	0	1	Day	Dry	Careless or Negligent Manner
856682400	29	4.328	08/19/15	Wed	2245	Rear-End	0	0	1	Night	Dry	Followed too Closely
859783330	30	4.328	08/05/15	Wed	0605	Head-On	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
848677070	31	4.397	06/04/15	Thu	0920	Fence	0	0	1	Day	Dry	Swerved Or Avoided
845450470	32	4.441	01/24/15	Sat	2115	Tree (Standing)	0	0	1	Night	Dry	Careless or Negligent Manner
851233630	33	4.451	09/04/15	Fri	0800	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
845281810	34	4.463	02/25/15	Wed	1332	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
859804910	35	4.457	07/21/15	Tue	1044	Angle	0	1	0	Day	Dry	Failed to Yield Right-Of-Way
851956670	36	4.584	11/20/15	Fri	1225	Angle	0	1	0	Day	Dry	Failed to Yield Right-Of-Way
856560690	37	4.584	01/16/15	Fri	1545	Rear-End	0	0	1	Day	Dry	Followed too Closely
859959690	38	4.584	11/15/15	Sun	1030	Fence	0	0	1	Day	Wet	Swerved Or Avoided
848677150	39	4.593	06/27/15	Sat	1145	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
851233620	40	4.603	09/03/15	Thu	0850	Bridge Rail	0	0	1	Day	Dry	Swerved Or Avoided
852034690	41	4.612	10/14/15	Wed	0815	Rear-End	0	3	0	Day	Dry	No Contributing Action
851233640	42	4.692	09/04/15	Fri	0730	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
852121180	43	4.692	11/19/15	Thu	0800	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
845399670	44	4.702	03/05/15	Thu	1925	Rear-End	0	0	1	Night	Dry	Careless or Negligent Manner
859745270	45	4.709	06/03/15	Wed	1654	Rear-End	0	0	1	Day	Dry	Followed too Closely
851798710	46	4.711	09/10/15	Thu	1427	Angle	0	0	1	Day	Dry	Ran Stop Sign
859961520	47	4.717	11/06/15	Fri	1723	Animal	0	0	1	Day	Dry	No Contributing Action
845542800	48	4.835	05/05/15	Tue	0830	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
851881520	49	4.854	09/17/15	Thu	1839	Rear-End	0	1	0	Day	Wet	Careless or Negligent Manner

	Total No.	Fatal	Injury	PDO	Rear-End	Head-On	Angle	Left-Turn	Right-Turn	Sideswipe	Backed Into	Ped/Bike	Parked Car	Fixed Object	Ran into Water	Other
	49	**0**	**15**	**34**	**27**	**2**	**6**	**4**	**0**	**3**	**0**	**0**	**0**	**6**	**0**	**0**
	Percent	*0.00%*	*30.61%*	*69.39%*	*55.10%*	*4.08%*	*12.24%*	*8.16%*	*0.00%*	*6.12%*	*0.00%*	*0.00%*	*0.00%*	*12.24%*	*0.00%*	*0.00%*

	Contrib. Cause	Day	Night	Wet	Dry	Careless Driving	FTYRW	Improper Turn	Ran Red Light	Exceeded Speed	Improper Passing	Disreg Cntl Dev	Erratic/ Aggress	Ran off Road	DUI	Wrong Way
	Total	**38**	**11**	**13**	**36**	**25**	**9**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**
	Percent	*77.55%*	*22.45%*	*26.53%*	*73.47%*	*51.02%*	*18.37%*	*0.00%*	*0.00%*	*0.00%*	*2.04%*	*0.00%*	*0.00%*	*0.00%*	*2.04%*	*0.00%*

TOTAL ENTERING VEHICLES/ADT: **17,402**

SEGMENT CRASH RATE: **8.331** CRASHES PER MILLION VEHICLE MILES

State of Florida Department of Transportation
CRASH SUMMARY

SECTION: 87091000 STATE ROUTE: 994

ROADWAY LIMITS: From West of SW 137 Avenue to West of SW 127 Avenue M.P. 4.035 TO 4.961 ENGINEER: FDOT D6

STUDY PERIOD: FROM 1/ 2016 TO 12/ 2016 COUNTY: Miami-Dade

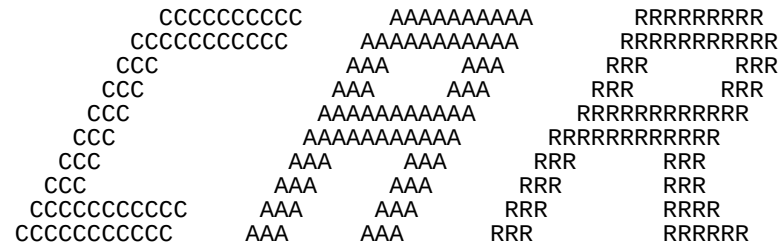
Crash Number	No.	MILE POST	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURIES	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE (VEHICLE ONLY)
852268660	1	4.037	04/11/16	Mon	1755	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
853032130	2	4.066	04/01/16	Fri	1241	Rear-End	0	2	0	Day	Dry	Careless or Negligent Manner
866998440	3	4.066	09/04/16	Sun	1912	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
853506010	4	4.070	06/20/16	Mon	1641	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
852385100	5	4.073	02/05/16	Fri	1525	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
852410430	6	4.075	02/11/16	Thu	0800	Angle	0	0	1	Day	Dry	Ran Red Light
853732670	7	4.075	11/25/16	Fri	0045	Guardrail Face	0	0	1	Night	Dry	Swerved Or Avoided
865115230	8	4.075	05/02/16	Mon	0605	Head-On	0	0	1	Night	Dry	Careless or Negligent Manner
853844170	9	4.084	10/08/16	Sat	1020	Head-On	0	0	1	Day	Dry	Careless or Negligent Manner
854154670	10	4.084	10/25/16	Tue	1739	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
854154680	11	4.084	10/25/16	Tue	1739	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
854166150	12	4.094	11/05/16	Sat	1500	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
853164430	13	4.113	05/13/16	Fri	1700	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
868826890	14	4.113	12/27/16	Tue	1941	Rear-End	0	0	1	Night	Dry	Careless or Negligent Manner
853546330	15	4.181	07/26/16	Tue	1618	Angle	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
854253020	16	4.328	11/19/16	Sat	0555	Angle	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
867143420	17	4.228	12/15/16	Thu	1719	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
851241330	18	4.328	01/04/16	Mon	0645	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
852780800	19	4.328	02/21/16	Sun	1039	Angle	0	2	0	Day	Dry	Failed to Yield Right-Of-Way
852899300	20	4.328	03/04/16	Fri	1300	Angle	0	0	1	Day	Dry	Ran Stop Sign
853277280	21	4.328	08/15/16	Mon	0650	Angle	0	1	0	Day	Dry	Failed to Yield Right-Of-Way
853726990	22	4.328	09/08/16	Thu	1555	Angle	0	0	1	Day	Dry	Ran Stop Sign
854337040	23	4.328	12/02/16	Fri	0623	Angle	0	2	0	Day	Wet	Failed to Yield Right-Of-Way
859729140	24	4.328	01/17/16	Sun	1254	Angle	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
865140440	25	4.328	06/15/16	Wed	1237	Angle	0	1	0	Day	Dry	Careless or Negligent Manner
865148430	26	4.328	06/16/16	Thu	1545	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
867142370	27	4.328	12/06/16	Tue	1645	Sideswipe	0	0	1	Day	Dry	Erratic, Reckless or Aggressive
867158020	28	4.328	12/16/16	Fri	0647	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
867057730	29	4.406	10/20/16	Thu	1801	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
852713670	30	4.457	03/30/16	Wed	1900	Right-Turn	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
852917760	31	4.425	05/28/16	Sat	1702	Tree (Standing)	0	0	1	Day	Dry	Careless or Negligent Manner
853335350	32	4.460	07/16/16	Sat	1620	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
854226150	33	4.470	11/16/16	Wed	0703	Rear-End	0	2	0	Day	Dry	Careless or Negligent Manner
852268560	34	4.584	03/20/16	Sun	2040	Left-Turn	1	0	0	Night	Wet	Other Contributing Action
853877170	35	4.584	10/19/16	Wed	0910	Head-On	0	2	0	Day	Dry	Swerved Or Avoided
852917840	36	4.586	06/08/16	Wed	1515	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
853647190	37	4.588	07/18/16	Mon	2150	Rear-End	0	1	0	Night	Wet	Careless or Negligent Manner
853797870	38	4.590	09/21/16	Wed	1600	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
853513620	39	4.591	07/06/16	Wed	1005	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
853335430	40	4.593	07/18/16	Mon	2130	Rear-End	0	0	1	Night	Wet	Careless or Negligent Manner
854154780	41	4.593	11/08/16	Tue	2007	Rear-End	0	1	0	Night	Dry	Careless or Negligent Manner
852338810	42	4.649	03/04/16	Fri	0845	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
852338820	43	4.649	03/04/16	Fri	0846	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
852699190	44	4.705	04/21/16	Thu	1000	Rear-End	0	2	0	Day	Dry	Followed too Closely
852687820	45	4.705	04/05/16	Tue	2019	Rear-End	0	1	0	Night	Dry	Careless or Negligent Manner
853506560	46	4.711	09/26/16	Mon	2025	Angle	0	0	1	Night	Dry	Ran Stop Sign
853686100	47	4.712	08/18/16	Thu	0718	Angle	0	4	0	Day	Wet	Failed to Yield Right-Of-Way
853506660	48	4.830	10/17/16	Mon	1733	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
853647690	49	4.835	09/09/16	Fri	1816	Angle	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
867121100	50	4.835	11/24/16	Thu	1230	Tree (Standing)	0	0	1	Day	Dry	Other Contributing Action
854060260	51	4.838	10/05/16	Wed	0623	Angle	0	2	0	Day	Wet	Failed to Yield Right-Of-Way
831602150	52	4.839	06/16/16	Thu	1909	Sideswipe	0	0	1	Day	Dry	Careless or Negligent Manner

	Total No.	Fatal	Injury	PDO	Rear-End	Head-On	Angle	Left-Turn	Right-Turn	Sideswipe	Backed Into	Ped/Bike	Parked Car	Fixed Object	Ran into Water	Other
	52	**1**	**16**	**35**	**28**	**3**	**14**	**1**	**1**	**2**	**0**	**0**	**0**	**6**	**0**	**0**
	Percent	*1.92%*	*30.77%*	*67.31%*	*53.85%*	*5.77%*	*26.92%*	*1.92%*	*1.92%*	*3.85%*	*0.00%*	*0.00%*	*0.00%*	*11.54%*	*0.00%*	*0.00%*
	Contrib. Cause	Day	Night	Wet	Dry	Careless Driving	FTYRW	Improper Turn	Ran Red Light	Exceeded Speed	Improper Passing	Disreg Cntl Dev	Erratic/ Aggress	Ran off Road	DUI	Wrong Way
	Total	**43**	**9**	**9**	**43**	**25**	**9**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
	Percent	*82.69%*	*17.31%*	*17.31%*	*82.69%*	*48.08%*	*17.31%*	*0.00%*	*0.00%*	*0.00%*	*1.92%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*

TOTAL ENTERING VEHICLES/ADT: **17,402** SEGMENT CRASH RATE: **8.331** CRASHES PER MILLION VEHICLE MILES

APPENDIX D – RAW CRASH DATA





C R A S H R E P O R T I N G S Y S T E M

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I/O NAME: ..............  CARI122
PROGRAM ID: ............  CARPJ122
REPORT NUMBER: .........  01
RUN CLASS: .............  A
MESSAGE CLASS: .........  Q
PRINTER DEST: ..........  LOCAL
# COPIES: ..............  01
ACCOUNT #: .............  5565945
SUBMIT W/HOLD? .........  N
USERID: ................  KNCHPCK
DETAIL SORT ORDER: .....  1 - SORT BY ROADWAY, MILE POINT
PRINT SEGMENTS? ........  Y
PRINT INTERSECTIONS? ...  N
SUMMARY FORMAT: ........  2 - TOP LINE ALL BREAKS
OVERRIDE VALUES:
 MAX # OF BREAKS: ......  06
 CRASH RATE CATEGORY: ...
 AVERAGE DAILY TRAFFIC:..
 # OF LEGS: ............
```

COMMENT: 1 - SORT BY ROADWAY, MILE POINT
FROM: 01/01/2014 TO 12/31/2016 RAMPS INCL
FROM CO/SEC/SUB: 87 091 000 MP: 004.035 INFL INCL
TO CO/SEC/SUB: 87 091 000 MP: 004.961 CR/OS INCL

C R N A U S M H B E R	ROADWYID C O U N T Y	S E C T I O N	M I L E P O S T	N E N A O R D E E T	S T A T E D	ADT VAR EIA RLF AYF G I E C	Y E A R	M O N T H	D A Y	H O U R	CRCC RALA ATAT SESE O Y	A L C	H AE RV ME FN EO UT RL	MO AF N NC TD IT L	L IC GO HN HD ET NN GS	W EC AO TN U R S F	R D OC AO DN T R N TO S EN	DL OO TC A D ST D II YP #	R A C L N S E	V C 1 I OT R DY	V 1 1 D B P E R	VF 1U SC E DI RO IN V R1	VM 1A N T DE R I V R	VA 1C T G M I V	V 1A 2	V 2N M B OD DE /S C	V 2N M F UL NO CC /R	VN 2M MP NR VI TT /1	VN 2M AA CC 1N 2	N V M 2N M E	# RA AG GE E	# V H C L S	# K I N J U R D D
838100430	87091000	04.037	2946	994	007200	14	08	25	07	R-2UN	0	14	01	01	01	01	01	03	R	1	E	01	01	01	02	19	E	02	01	13	01	52	2	0	00
845513230	87091000	04.037	2946	994	007200	15	01	02	17	R-2UN	0	14	01	01	01	01	01	01	R	2	E	16	01	01	02	46	E	16	01	77	01	42	3	0	00
852268660	87091000	04.037	2946	994	007100	16	04	11	17	R-2UN	0	14	01	01	01	01	01	01	R	1	E	03	01	01	02	57	E	01	01	13	01	29	2	0	01
837614740	87091000	04.056	2946	994	007200	14	08	20	08	R-2UN	0	14	01	01	02	01	01	03	R	1	E	01	01	01	02	22	E	02	01	13	01	46	2	0	00
845542650	87091000	04.056	2946	994	007200	15	02	02	09	R-2UN	0	14	01	01	01	01	01	03	R	1	E	01	01	01	02	19	E	01	01	13	01	23	2	0	00
845538250	87091000	04.066	2946	994	007200	15	02	25	12	R-2UN	0	14	01	01	01	01	01	02	R	1	E	02	01	01	02	54	E	03	01	13	01	41	3	0	00
853032130	87091000	04.066	2946	994	007100	16	04	01	12	R-2UN	0	14	01	01	02	01	01	03	R	1	E	01	01	01	02	23	E	16	01	13	01	70	2	0	02
866998440	87091000	04.066	2946	994	007100	16	09	04	19	R-2UN	0	14	01	01	01	01	01	02	R	1	E	01	01	01	02	28	W	01	01	03	01	33	2	0	00
852256840	87091000	04.068	2946	994	007200	15	12	07	13	R-2UN	0	14	01	01	03	02	01	02	R	1	E	01	01	01	01	66	E	01	01	13	01	69	2	0	02
853506010	87091000	04.070	2946	994	007100	16	06	20	16	R-2UN	0	14	01	01	02	01	01	03	R	1	E	16	01	01	02	25	E	02	01	13		00	2	0	00
837327670	87091000	04.071	2946	994	007200	14	01	06	16	R-2UN	0	14	01	01	02	02	01	02	R	1	E	03	01	01	02	38	E	01	01	13	01	22	2	0	00
845626860	87091000	04.072	2946	994	007200	15	04	29	21	R-2UN	0	14	01	05	02	02	01	02	R	1	E	03	01	01	02	36	E	01	01	03	01	29	2	0	00
843674580	87091000	04.073	2946	994	007200	14	06	24	20	R-2UN	0	14	01	05	02	02	01	02	R	1	E	03	01	01	02	42	E	01	01	13	01	61	2	0	00
844831150	87091000	04.073	2946	994	007200	14	07	19	21	R-2UN	0	14	88	04	02	02	01	02	R	2	E	01	01	05	02	26	E	01	01	01	01	58	2	0	00
851204490	87091000	04.073	2946	994	007200	15	06	18	09	R-2UN	0	14	01	01	01	01	01	02	R	1	E	01	01	01	02	47	E	01	01	01	01	66	3	0	01
851881750	87091000	04.073	2946	994	007200	15	10	04	15	R-2UN	0	14	01	01	01	01	01	02	R	1	E	01	01	14	02	25	E	01	01	13	01	48	2	0	01
852410130	87091000	04.073	2946	994	007200	15	12	29	10	R-2UN	0	14	01	01	01	01	01	02	R	1	E	16	01	01	02	39	E	01	01	13	01	63	2	0	01
852385100	87091000	04.073	2946	994	007100	16	02	05	15	R-2UN	0	14	01	01	02	01	01	03	R	1	E	16	01	01	02	39	E	03	01	13	01	46	2	0	00
851810590	87091000	04.074	2946	994	007200	15	08	23	15	R-2UN	1	14	01	01	01	01	01	02	R	1	E	16	01	01	02	42	E	16	01	13	01	52	4	0	05
843461020	87091000	04.075	2946	994	007200	14	01	10	17	R-2UN	0	14	01	01	01	01	01	02	R	1	E	02	01	01	02	81	E	01	01	13	01	48	2	0	02
843811800	87091000	04.075	2946	994	007200	14	10	26	10	R-2UN	0	14	01	01	01	01	01	02	T	1	S	01	01	01	10	19	S	03	01	01	01	50	2	0	00
845095870	87091000	04.075	2946	994	007200	15	02	09	06	R-2UN	0	14	01	01	03	02	01	02	T	1	S	01	01	01	02	16	S	03	01	13	01	47	2	0	00
856670910	87091000	04.075	2946	994	007200	15	06	27	11	R-2UN	0	37	77	01	03	02	01	02	R	S	S	03	01	01	02	49	S	03	01	08		00	3	0	00
851956080	87091000	04.075	2946	994	007200	15	09	22	06	R-2UN	0	14	03	06	02	02	01	02	R	1	E	01	01	03	01	60	W	16	01	01	01	22	2	0	02
860005010	87091000	04.075	2946	994	007200	15	11	08	01	R-2UN	0	14	03	05	01	01	01	02	R	1	S	01	01	03	03	25	E	16	01	01	01	23	2	0	00
843445240	87091000	04.075	2946	994	007200	15	12	19	10	R-2UN	0	14	03	01	01	01	01	02	L	1	E	20	01	03	03	57	W	16	01	01	01	68	2	0	00
852362580	87091000	04.075	2946	994	007200	15	12	21	07	R-2UN	0	14	02	06	03	02	01	02	R	1	W	11	01	01	25	63	E	02	01	01	01	23	2	0	02
843363810Y	87091000	04.075	2946	994	007200	15	12	22	22	R-2UN	0	14	01	05	02	02	10	03	T	L	S	01	88	01	02	00	S	01	01	13	01	46	2	0	00
852410430	87091000	04.075	2946	994	007100	16	02	11	08	R-2UN	0	14	03	01	01	01	01	02	I	M	W	01	01	01	11	35	S	03	01	03	01	38	2	0	00
865115230	87091000	04.075	2946	994	007100	16	05	02	06	R-2UN	0	14	03	03	02	01	01	03	T	L	N	01	01	03	02	77	S	01	01	01	01	30	2	0	00
853732670	87091000	04.075	2946	994	007100	16	11	25	00	R-2UN	0	27	03	04	01	01	01	02	R	S	W	03	01	01	01	30	S	16	01	03		00	2	0	00
851881580	87091000	04.084	2946	994	017900	15	09	23	17	S-2UN	0	14	03	01	01	01	01	02	L	1	W	01	01	06	25	25	W	03	01	01	01	58	2	0	00
852424860	87091000	04.084	2946	994	017900	15	12	10	17	S-2UN	0	14	01	01	02	01	01	02	L	1	E	03	01	01	02	24	E	01	01	13	01	30	3	0	00
853844170	87091000	04.084	2946	994	018500	16	10	08	10	S-2UN	0	14	02	01	01	01	01	03	L	L	E	16	01	03	02	19	W	01	01	13	01	57	2	0	00
854154670	87091000	04.084	2946	994	018500	16	10	25	17	S-2UN	0	14	01	01	02	01	01	03	R	1	E	03	01	01	02	45	E	02	01	13	01	35	2	0	00
854154680	87091000	04.084	2946	994	018500	16	10	25	17	S-2UN	0	14	01	01	02	01	01	03	R	1	E	02	01	01	02	44	E	03	01	13	01	45	3	0	00
854166150	87091000	04.094	2946	994	018500	16	11	05	15	S-2UN	0	14	01	01	01	01	01	03	L	1	W	01	01	01	02	29	W	01	01	13	01	64	2	0	00

COMMENT: 1 - SORT BY ROADWAY, MILE POINT
FROM: 01/01/2014 TO 12/31/2016 RAMPS INCL
FROM CO/SEC/SUB: 87 091 000 MP: 004.035 INFL INCL
TO CO/SEC/SUB: 87 091 000 MP: 004.961 CR/OS INCL

C R N A U S M H B E R	ROADWY ID C S T I O N	S E C T I O N	M I L E P O S T	N E N A O R D E E S T	S T A T E D	ADT VAR EIA RLF AYF G I E C	Y E A R	M O N T H	D A Y	H O U R	CRCC RALA ATAT SESE S-2UN SG O R Y	A L C	H AE RV ME FN EO UT	MO AF N NC TD RL	L IC GO HN IT LL	W EC AO TN ET NN	R D S U R F	R OC AO DN D N	DL OO TC A ST II EN	R O C D S	A C N R	V 1 DY E V R1	V 1 BY P C R	VF 1U SC E DI RO IN VI E V R	VM 1A E U RO IN TT V	VA 1C T E DI RO VI NN R1	V 1A G DE R	V 2 M R	V 2N OD DE C	V 2N UL NO /S /R	V 2M F CC RO /1	VN MP NR VI 1N	VN AA CC TT	N M 2 E	V 2N RA AG GE S	# H E L S	# K L E D	# I N U R
853164430	87091000	04.113	2946	994	018500	16	05	13	17	S-2UN	0	14	01	01	01	01	01	03	L	2	W	16	01	01	02	28	W	16	01	13	01		22	3	0	00
868826890	87091000	04.113	2946	994	018500	16	12	27	19	S-2UN	0	14	01	04	01	01	01	03	L	1	W	01	01	01	02	38	W	16	01	13	01		48	2	0	00
856514400	87091000	04.170	6805	994	017900	15	03	17	22	S-2UN	0	32	77	04	01	01	01	01	L	S	W	01	01	01	29	24									1	0	00
853546330	87091000	04.181	6805	994	018500	16	07	26	16	S-2UN	0	14	03	01	01	01	01	03	R	1	E	01	01	10	06	39	E	03	01	01	01		26	2	0	00
854253020	87091000	04.181	6805	994	018500	16	11	19	05	S-2UN	0	14	03	01	01	01	01	03	R	1	W	17	01	03	03	57	E	03	01	01	01		49	2	0	00
843530490	87091000	04.196	6805	994	017500	14	03	01	19	S-2UN	1	14	01	05	01	01	01	02	R	1	E	16	88	01	02	49	E	01	01	13	01		30	4	0	04
851128500	87091000	04.198	6805	994	017900	15	06	06	12	S-2UN	0	14	01	01	01	01	01	02	R	1	E	16	01	01	02	55	E	16	01	13	01		53	3	0	00
837193210	87091000	04.200	6805	994	017500	14	07	30	16	S-2UN	0	14	02	01	02	01	01	02	R	1	W	16	01	01	25	18	E	02	01	01	01		35	4	0	02
867143420	87091000	04.228	6805	994	018500	16	12	15	17	S-2UN	0	14	01	01	01	01	01	03	L	1	W	01	01	01	02	19	W	01	01	01	01		47	2	0	00
838044830	87091000	04.300	3335	994	017500	14	11	07	22	S-2UN	0	14	03	05	01	01	01	02	L	1	N	16	01	03	03	17	E	03	01	01	01		49	2	0	00
837631670	87091000	04.309	3335	994	017500	14	03	07	14	S-2UN	0	14	01	01	01	01	01	03	R	1	E	02	01	01	02	46	E	01	01	13	01		27	2	0	01
838019590	87091000	04.309	3335	994	017500	14	06	17	04	S-2UN	0	13	77	05	02	01	01	03	L	1	W	01	01	01	01	42									1	0	00
837181130	87091000	04.322	3335	994	017500	14	01	29	08	S-2UN	0	14	01	01	03	02	01	02	R	1	E	01	01	01	02	25	E	03	01	13	01		23	2	0	01
843456940	87091000	04.322	3335	994	017500	14	08	20	00	S-2UN	0	14	01	05	01	01	01	02	R	1	E	01	88	01	77	00	E	01	01	01	01		53	2	0	00
851214760	87091000	04.325	3335	994	017900	15	07	17	16	S-2UN	0	14	01	01	03	02	01	02	R	1	E	01	01	01	02	88	E	01	01	13	01		26	2	0	00
836736050	87091000	04.328	3335	994	017500	14	03	10	10	S-2UN	0	14	03	01	01	01	01	02	R	1	W	01	01	11	15	21	N	01	01	01	01		34	2	0	00
831471890	87091000	04.328	3335	994	017500	14	04	22	16	S-2UN	0	14	01	01	01	01	01	02	R	1	E	01	01	01	02	36	E	01	01	01	01		41	2	0	01
837181500	87091000	04.328	3335	994	017500	14	06	01	03	S-2UN	0	14	05	05	02	01	01	02	R	1	W	00	01	01		00	E	01	01	01	01		24	2	0	00
838003880	87091000	04.328	3335	994	017500	14	07	16	10	S-2UN	0	14	03	01	01	01	01	02	I	M	N	01	01	05	13	82	E	01	01	01	01		85	2	0	00
844755760	87091000	04.328	3335	994	017500	14	08	24	18	S-2UN	0	14	03	01	01	01	01	02	L	1	S	01	01	03	13	47	W	01	01	03	01		21	3	0	04
843757050	87091000	04.328	3335	994	017500	14	09	09	08	S-2UN	0	14	01	01	01	01	01	02	S	1	N	16	01	01	10	24	N	01	01	13	01		33	2	0	02
845075540	87091000	04.328	3335	994	017500	14	09	11	20	S-2UN	0	14	03	04	03	02	01	02	S	1	E	01	01	05		00	N	01	01	13	01		24	2	0	00
843809170	87091000	04.328	3335	994	017500	14	11	05	15	S-2UN	0	14	01	01	01	01	01	02	S	1	N	01	01	01	02	19	N	01	01	13	01		40	2	0	00
845537310	87091000	04.328	3335	994	017500	14	12	28	00	S-2UN	0	14	03	04	01	01	01	02	R	1	0	00	01	00		00	E	01	01	01	01		22	2	0	02
856571260	Y87091000	04.328	3335	994	017900	15	02	06	15	S-2UN	0	14	03	01	01	01	01	04	S	1	S	01	01	77	77	19	S	03	01	05	01		40	2	0	00
856605140	87091000	04.328	3335	994	017900	15	02	25	13	S-2UN	0	14	03	01	01	01	01	02	S	1	E	03	01	05	02	70	N	01	01	13	01		43	2	0	00
856604800	87091000	04.328	3335	994	017900	15	03	02	07	S-2UN	0	14	03	01	01	01	01	02	R	1	S	17	01	03	03	43	E	01	01	01	01		27	3	0	01
845537460	87091000	04.328	3335	994	017900	15	03	07	08	S-2UN	0	14	03	01	01	01	01	02	L	1	N	01	01	01	03	73	W	20	01	01	01		45	2	0	02
848895560	87091000	04.328	3335	994	017900	15	05	01	20	S-2UN	0	14	01	05	02	01	01	02	R	1	E	01	01	01	02	22	E	01	01	13	01		24	2	0	00
859783330	87091000	04.328	3335	994	017900	15	08	05	06	S-2UN	0	14	02	05	01	01	01	02	I	M	N	01	01	03	03	44	S	16	01	03	06		24	2	0	00
856682400	87091000	04.328	3335	994	017900	15	08	19	22	S-2UN	0	14	01	05	01	01	01	02	S	1	N	01	88	88	10	00	N	01	01	01	01		45	2	0	00
851642360	87091000	04.328	3335	994	017900	15	10	03	14	S-2UN	0	14	03	01	01	01	01	02	R	1	N	01	01	01	03	21	E	16	01	01	01		31	2	0	02
843405290	87091000	04.328	3335	994	017900	15	12	14	17	S-2UN	0	14	03	01	01	01	01	02	I	M	N	01	01	03	03	25	S	01	01	01	01		20	2	0	00
851241330	87091000	04.328	3335	994	018500	16	01	04	06	S-2UN	0	14	01	01	03	02	01	02	S	1	N	03	01	01	02	25	N	02	01	13	01		41	2	0	00
859729140	87091000	04.328	3335	994	018500	16	01	17	12	S-2UN	0	14	03	01	01	01	01	01	L	S	W	01	03	01	01	50	N	01	01	03	03		76	2	0	00
852780800	87091000	04.328	3335	994	018500	16	02	21	10	S-2UN	0	14	03	01	02	01	01	02	I	M	N	01	01	03	03	49	E	01	01	01	01		49	2	0	02
852899300	87091000	04.328	3335	994	018500	16	03	04	13	S-2UN	0	14	03	01	02	01	01	02	R	1	N	01	01	03	13	22	E	16	01	01	01		52	2	0	00

COMMENT: 1 - SORT BY ROADWAY, MILE POINT
FROM: 01/01/2014 TO 12/31/2016 RAMPS INCL
FROM CO/SEC/SUB: 87 091 000 MP: 004.035 INFL INCL
TO CO/SEC/SUB: 87 091 000 MP: 004.961 CR/OS INCL

C R N A U S M H B E R	ROADWYID C S O E U C N T Y O N	S I E L A E P O S T	M I L A O R D E P O S T	N E N A O R D E E S	S T R A O T A E D	ADT VAR EIA RLF AYF G I E C	Y E A R	M O N T H	D A Y	H O U R	CRCC RALA ATAT SESE S-2UN	A L C	H AE RV ME FN I N V	MO AF NC EO UT G O L Y	L IC HN TD RL 1	W EC AO HD IT GS	R D U R S	R OC DN D T S	DL OO AO ST II EN	R TO D #	A V C	V 1 1 OT DY YP	VF 1U 1A P E C	VM 1A 1C E V R	VA 1C 1A DI RO R1	V DE R R	V 2 I R	V 2N OD DE C	V 2N UL NO /S /R	VN 2M MP CC VI RO /1	VN 2M AA TT 1N	N M C T N 2	V 2N A D G E	# # # M V K I RA AG L E S	N J U R D
865140440	87091000	04.328	3335	994	018500	16	06	15	12	S-2UN	0	14	03	01	01	01	01	02	R	1	N	01	01	03	02	18	E	03	01	01	01	56	2	0	01
865148430	87091000	04.328	3335	994	018500	16	06	16	15	S-2UN	0	14	01	01	01	01	01	02	S	1	N	01	01	01	02	17	N	02	01	01	01	34	2	0	00
853277280	87091000	04.328	3335	994	018500	16	08	15	06	S-2UN	0	14	03	01	01	01	01	02	L	1	N	01	01	03	03	19	W	01	01	01	01	59	2	0	01
853726990	87091000	04.328	3335	994	018500	16	09	08	15	S-2UN	0	14	03	01	01	01	01	02	R	1	N	01	01	01		00	E	16	01	01	01	43	2	0	00
854337040	87091000	04.328	3335	994	018500	16	12	02	06	S-2UN	0	14	03	01	03	02	01	02	R	2	N	16	01	01	03	56	E	16	01	01	01	69	2	0	02
867142370	87091000	04.328	3335	994	018500	16	12	06	16	S-2UN	0	14	05	01	01	01	01	03	S	1	S	03	00	01	31	06	N	16	01	01	01	40	2	0	00
867158020	87091000	04.328	3335	994	018500	16	12	16	06	S-2UN	0	14	01	01	01	01	01	03	T	1	S	16	01	01	02	42	S	02	01	13	01	48	2	0	01
837198920	87091000	04.330	3335	994	017500	14	02	10	07	S-2UN	0	14	01	01	01	01	01	02	L	1	W	02	01	01	01	61	W	01	01	13	01	41	2	0	02
848677070	87091000	04.397	8551	994	017900	15	06	04	09	S-2UN	0	09	77	01	02	01	01	03	L	S	W	01	00	77		00	W	01	01	01	01	27	2	0	00
867057730	87091000	04.406	8551	994	018500	16	10	20	18	S-2UN	0	14	01	01	03	02	01	03	L	1	W	01	01	01	02	32	W	03	01	01	01	56	2	0	00
845450470	87091000	04.421	8551	994	017900	15	01	24	21	S-2UN	0	36	77	04	01	01	01	02	R	S	E	01	01	01	02	59							1	0	00
851233630	87091000	04.423	8551	994	017900	15	09	04	08	S-2UN	0	14	01	01	01	01	01	02	R	1	E	01	01	01	02	49	E	16	01	14	01	29	2	0	00
843475620	87091000	04.425	8551	994	017500	14	02	06	07	S-2UN	0	14	04	01	01	01	01	02	R	1	N	01	01	05	03	31	E	01	01	01	01	16	2	0	00
852713670	87091000	04.425	8551	994	018500	16	03	30	19	S-2UN	0	14	01	01	01	01	01	02	R	1	N	01	01	05	03	56	E	02	01	01	01	38	2	0	00
852917760	87091000	04.425	8551	994	018500	16	05	28	17	S-2UN	0	32	77	01	02	01	01	02	R	S	E	03	01	01	02	64							1	0	00
853335350	87091000	04.429	8551	994	018500	16	07	16	16	S-2UN	0	14	01	01	02	01	01	03	L	1	W	01	01	01	02	27	W	01	01	14	01	19	2	0	00
854226150	87091000	04.430	8551	994	018500	16	11	16	07	S-2UN	0	14	01	01	01	01	01	03	L	1	W	16	01	01	02	60	W	01	01	13	01	43	2	0	02
845281810	87091000	04.434	8551	994	017900	15	02	25	13	S-2UN	0	14	01	01	02	01	01	02	L	2	W	16	01	01	02	20	W	16	01	13	01	30	3	0	00
859804910	87091000	04.457	8552	994	017900	15	07	21	10	S-2UN	0	14	03	01	01	01	01	02	R	1	N	03	01	03	03	26	E	01	01	01	01	35	2	0	01
843557550	87091000	04.490	8553	994	017500	14	03	25	13	S-2UN	0	14	03	01	01	01	01	02	L	1	E	01	01	03	06	20	S	03	01	14	01	56	2	0	01
845021000	87091000	04.490	8553	994	017500	14	11	08	19	S-2UN	0	14	01	04	01	01	01	02	L	1	W	01	01	01	02	20	W	03	01	01	01	56	2	0	02
837513480	87091000	04.584	3376	994	017500	14	01	08	14	S-2UN	0	05	77	01	02	01	01	02	L	1	W	20	01	13	77	46	W	01	01	13	01	40	2	0	00
844905170	87091000	04.584	3376	994	017500	14	08	28	13	S-2UN	0	14	01	01	02	01	01	02	L	1	W	16	01	01	02	28	W	01	01	13	01	18	2	0	02
856560690	87091000	04.584	3376	994	017900	15	01	16	15	S-2UN	0	14	01	01	01	01	01	03	R	1	N	01	03	01	10	49	N	16	01	01	01	50	2	0	00
859959690	87091000	04.584	3376	994	017900	15	11	15	10	S-2UN	0	37	77	01	03	02	01	02	T	S	W	03	01	77	30	70							1	0	00
851956670	87091000	04.584	3376	994	017900	15	11	20	12	S-2UN	0	14	03	01	01	01	01	02	R	1	N	01	01	03	03	18	E	12	01	01	01	64	2	0	01
852268560	87091000	04.584	3376	994	018500	16	03	20	20	S-2UN	0	14	03	04	03	02	01	02	R	1	E	11	01	01	77	24	W	16	01	03	01	49	2	1	00
853877170	87091000	04.584	3376	994	018500	16	10	19	09	S-2UN	0	14	02	01	01	01	01	02	R	1	W	01	01	01	30	25	E	01	01	01	01	45	2	0	02
837046460	87091000	04.586	3376	994	017500	14	01	30	17	S-2UN	0	14	01	01	03	02	01	02	L	2	W	16	01	01	02	41	W	01	01	13	01	53	2	0	00
852917840	87091000	04.586	3376	994	018500	16	06	08	15	S-2UN	0	14	01	01	03	02	01	03	L	1	W	03	01	01	02	40	W	16	01	13	01	64	2	0	00
845191090	87091000	04.588	3376	994	017500	14	12	05	08	S-2UN	0	14	01	01	01	01	01	02	L	2	W	01	01	01	02	20	W	03	01	13	01	41	2	0	00
853647190	87091000	04.588	3376	994	018500	16	07	18	21	S-2UN	0	14	01	05	03	02	01	03	L	1	W	01	01	01	02	30	W	03	01	14	01	45	2	0	01
843443950	87091000	04.590	3376	994	017500	14	01	13	17	S-2UN	0	14	01	01	01	01	01	02	L	1	W	01	01	01	02	20	W	16	01	13	01	74	2	0	01
853797870	87091000	04.590	3376	994	018500	16	09	21	16	S-2UN	0	14	01	01	01	01	01	03	L	1	W	16	01	01	02	29	W	01	01	13	01	30	3	0	00
853513620	87091000	04.591	3376	994	018500	16	07	06	10	S-2UN	0	14	01	01	02	01	01	02	L	1	W	03	01	01	02	67	W	03	01	13	01	18	2	0	01
843525610	87091000	04.593	3376	994	017500	14	02	27	18	S-2UN	0	14	01	04	02	02	01	02	L	1	W	01	01	01	02	26	W	01	01	13	01	30	3	0	01
848677150	87091000	04.593	3376	994	017900	15	06	27	11	S-2UN	0	14	01	01	03	02	01	02	L	1	W	01	01	01	02	53	W	01	01	14	01	31	3	0	00

COMMENT: 1 - SORT BY ROADWAY, MILE POINT
FROM: 01/01/2014 TO 12/31/2016 RAMPS INCL
FROM CO/SEC/SUB: 87 091 000 MP: 004.035 INFL INCL
TO CO/SEC/SUB: 87 091 000 MP: 004.961 CR/OS INCL

C R N A U S M H B E R	ROADWYID C S E C T I O N	S I E L A E P O S T	M I L A O R D E E D	N E N T A O T A S	S T R A F F I C	ADT V A R I A N C E	Y E A R	M O N T H	D A Y	H O U R	CRCC RALA ATAT SESE	A L C	H AE RV ME	MO AF N NC	L IC GO HN	W EC AO TN	R D S U	R OC AO DN	DL OO TC A D	R O C	A C	V 1	V 1	VF 1U	VM 1A N	VA 1C T	V 1A G	V 2 M	V 2N M	V 2N M	VN 2M	VN 2M	N V M 2N M	# V E	# K I	# I N J
853335430	87091000	04.593	3376	994	018500	16	07	18	21	S-2UN	0	14	01	05	03	02	01	03	L	1	W	01	01	01	02	22	W	01	01	13	01	49	2	0	00
854154780	87091000	04.593	3376	994	018500	16	11	08	20	S-2UN	0	14	01	05	02	01	01	03	L	1	W	01	01	01	02	27	W	01	01	14	01	21	2	0	01
851233620	87091000	04.603	3376	994	017900	15	09	03	08	S-2UN	0	22	77	01	02	01	01	01	L	S	W	00	01	11		00	W	19	01	01	01	43	2	0	00
852338810	87091000	04.603	3376	994	018500	16	03	04	08	S-2UN	0	14	01	01	02	01	01	03	R	1	E	01	01	01	02	31	E	01	01	13	01	22	3	0	00
852338820	87091000	04.603	3376	994	018500	16	03	04	08	S-2UN	0	14	01	01	02	01	01	03	R	1	E	01	01	01	02	34	E	01	01	14	01	31	2	0	00
852034690	87091000	04.612	3376	994	017900	15	10	14	08	S-2UN	0	14	01	01	02	01	01	03	L	1	W	16	01	01	01	26	W	03	01	13	01	30	3	0	03
852699190	87091000	04.622	3336	994	018500	16	04	21	10	S-2UN	0	14	01	01	01	01	01	03	L	2	W	01	01	01	10	57	W	03	01	13	01	54	2	0	02
851233640	87091000	04.692	3337	994	017900	15	09	04	07	S-2UN	0	14	01	01	01	01	01	03	R	1	E	20	01	01	02	56	E	01	01	14	01	29	3	0	01
852121180	87091000	04.692	3337	994	017900	15	11	19	08	S-2UN	0	14	01	01	02	02	01	03	R	1	E	16	01	01	02	51	E	01	01	14	01	17	2	0	00
845399670	87091000	04.702	3337	994	017900	15	03	05	19	S-2UN	0	14	01	05	01	01	01	02	L	1	W	16	01	01	02	38	W	01	01	13	01	28	3	0	00
852687820	87091000	04.705	3337	994	018500	16	04	05	20	S-2UN	0	14	01	05	01	01	01	03	R	1	E	03	01	01	02	29	E	01	01	13	01	23	3	0	01
859745270	87091000	04.709	3337	994	017900	15	06	03	16	S-2UN	0	14	01	01	01	01	01	02	R	1	E	03	01	01	10	72	E	01	01	14	01	40	2	0	00
845025960	87091000	04.711	3337	994	017500	14	11	25	17	S-2UN	0	14	03	04	01	01	01	02	L	1	S	01	01	05	13	23	W	03	01	01	01	40	2	0	00
851798710	87091000	04.711	3337	994	017900	15	09	10	14	S-2UN	0	14	03	01	02	01	01	02	L	1	S	01	01	03	13	27	W	16	01	01	01	45	2	0	00
853506560	87091000	04.711	3337	994	018500	16	09	26	20	S-2UN	0	14	03	05	01	01	01	02	R	1	N	01	01	01	13	21	E	03	01	01	01	40	2	0	00
853686100	87091000	04.712	3337	994	018500	16	08	18	07	S-2UN	0	14	03	01	03	02	01	02	L	1	S	16	01	01	03	90	W	01	01	01	01	53	2	0	04
859961520	87091000	04.717	3337	994	017900	15	11	06	17	S-2UN	0	13	77	01	01	01	01	02	L	1	W	16	01	01	01	63							1	0	00
853506660	87091000	04.830	3374	994	018500	16	10	17	17	S-2UN	0	14	01	01	01	01	01	03	L	1	W	02	01	01	02	40	W	03	01	13	01	63	3	0	00
837181260	87091000	04.835	3374	994	017500	14	03	01	05	S-2UN	0	14	02	05	02	01	01	02	R	1	W	01	01	03	03	23	E	01	01	01	01	51	2	0	00
844866520	87091000	04.835	3374	994	017500	14	09	26	08	S-2UN	0	14	01	01	02	02	01	02	R	1	E	01	01	01	01	41	E	02	01	13	01	39	2	0	00
845542800	87091000	04.835	3374	994	017900	15	05	05	08	S-2UN	0	14	01	01	03	02	01	02	L	1	W	17	01	01	02	42	W	16	01	13	01	35	2	0	00
853647690	87091000	04.835	3374	994	018500	16	09	09	18	S-2UN	0	14	03	01	02	01	01	02	L	1	S	01	01	03	03	17	W	02	01	01	01	36	2	0	00
867121100	87091000	04.835	3374	994	018500	16	11	24	12	S-2UN	0	32	01	01	01	01	01	03	S	M	W	01	01	01	77	71							1	0	00
854060260	87091000	04.838	3374	994	018500	16	10	05	06	S-2UN	0	14	03	01	02	02	01	02	L	1	E	01	01	03	03	25	W	16	01	01	01	32	2	0	02
831602150	87091000	04.839	3374	994	018500	16	06	16	19	S-2UN	0	14	04	01	02	01	01	03	L	1	W	01	01	01		00	W	16	01	13	01	27	2	0	00
845120900	87091000	04.846	3374	994	017500	14	10	18	15	S-2UN	0	14	01	01	01	01	01	01	L	1	W	01	01	77	77	22	W	16	01	77	77	39	3	0	02
851881520	87091000	04.854	3374	994	017900	15	09	17	18	S-2UN	0	14	01	01	03	02	01	03	L	2	W	01	01	01	02	20	W	01	01	13	01	38	2	0	01
853902780	87091000	04.938	3374	994	018500	16	10	25	22	S-2UN	0	14	01	04	01	01	01	01	R	2	E	03	01	01	02	18	E	03	01	13	01	24	2	0	00

COMMENT: 1 - SORT BY ROADWAY, MILE POINT
FROM: 01/01/2014 TO 12/31/2016 RAMPS INCL
FROM CO/SEC/SUB: 87 091 000 MP: 004.035 INFL INCL
TO CO/SEC/SUB: 87 091 000 MP: 004.961 CR/OS INCL

FOR YEAR	FATAL CRASH STATISTICS			INJURY CRASH STATS		PROPERTY DAMAGE ONLY	TOTALS			INFLUENCE CRASHES OCCURRING ON INTERSECTING RDWYS	
	CRASHES	FATALITIES	INJURIES	CRASHES	INJURIES	CRASHES	CRASHES	FATALITIES	INJURIES	AT INT.	INFL AREA
2014	0	0	0	16	30	21	37	0	30	4	0
2015	0	0	0	15	26	34	49	0	26	4	2
2016	1	1	0	16	26	36	53	1	26	6	0
TOTAL	1	1	0	47	82	91	139	1	82	14	2

N O T I C E: THE INFORMATION CONTAINED IN THIS DOCUMENT (REPORT, SCHEDULE, LIST, OR DATA) HAS BEEN COMPILED FROM INFORMATION COLLECTED FOR THE PURPOSE OF IDENTIFYING, EVALUATING, OR PLANNING SAFETY ENHANCEMENTS. THIS PRODUCT IDENTIFIES INFORMATION USED FOR THE PURPOSE OF DEVELOPING HIGHWAY SAFETY CONSTRUCTION IMPROVEMENT PROJECTS WHICH MAY BE IMPLEMENTED UTILIZING FEDERAL-AID HIGHWAY FUNDS. ANY DOCUMENT DISPLAYING THIS NOTICE SHALL BE USED ONLY FOR THOSE PURPOSES DEEMED APPROPRIATE BY THE FLORIDA DEPARTMENT OF TRANSPORTATION. SEE TITLE 23, UNITED STATES CODE, SECTION 409.

*** REPORT TOTALS ***

CUMULATIVE TOTALS FOR ALL LOCATIONS SUBMITTED - OVERLAPPING OR INTERSECTING LOCATIONS MAY RESULT IN CRASHES COUNTED MORE THAN ONCE

FOR	FATAL CRASH STATISTICS			INJURY CRASH STATS		PROPERTY DAMAGE ONLY	TOTALS			INFLUENCE CRASHES OCCURRING ON INTERSECTING RDWYS	
YEAR	CRASHES	FATALITIES	INJURIES	CRASHES	INJURIES	CRASHES	CRASHES	FATALITIES	INJURIES	AT INT.	INFL AREA
2014	0	0	0	16	30	21	37	0	30	4	0
2015	0	0	0	15	26	34	49	0	26	4	2
2016	1	1	0	16	26	36	53	1	26	6	0
TOTAL	1	1	0	47	82	91	139	1	82	14	2

N O T I C E: THE INFORMATION CONTAINED IN THIS DOCUMENT (REPORT, SCHEDULE, LIST, OR DATA) HAS BEEN COMPILED FROM INFORMATION COLLECTED FOR THE PURPOSE OF IDENTIFYING, EVALUATING, OR PLANNING SAFETY ENHANCEMENTS. THIS PRODUCT IDENTIFIES INFORMATION USED FOR THE PURPOSE OF DEVELOPING HIGHWAY SAFETY CONSTRUCTION IMPROVEMENT PROJECTS WHICH MAY BE IMPLEMENTED UTILIZING FEDERAL-AID HIGHWAY FUNDS. ANY DOCUMENT DISPLAYING THIS NOTICE SHALL BE USED ONLY FOR THOSE PURPOSES DEEMED APPROPRIATE BY THE FLORIDA DEPARTMENT OF TRANSPORTATION. SEE TITLE 23, UNITED STATES CODE, SECTION 409.

APPENDIX E – TRAFFIC DATA

CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 137 Avenue

File Name : SW 200 St at SW 137 Ave
Site Code : 20013701
Start Date : 2/5/2019
Page No : 1

Groups Printed- Passenger Cars - Heavy Vehicles

	SW 137 Avenue Southbound					SR 994/SW 200 Street Westbound					SW 137 Avenue Northbound					SR 994/SW 200 Street Eastbound					
Start Time	Right	Thru	Left	P&B CNL	App. Total	Right	Thru	Left	P&B CEL	App. Total	Right	Thru	Left	P&B CSL	App. Total	Right	Thru	Left	P&B CWL	App. Total	Int. Total
06:00 AM	1	0	24	0	25	86	50	0	0	136	1	0	0	0	1	1	76	14	0	91	253
06:15 AM	1	0	34	0	35	118	61	0	0	179	0	0	0	0	0	1	84	16	0	101	315
06:30 AM	2	0	40	0	42	150	74	0	0	224	0	0	0	0	0	2	83	13	0	98	364
06:45 AM	0	0	73	0	73	130	83	1	0	214	0	0	0	0	0	0	78	12	0	90	377
Total	4	0	171	0	175	484	268	1	0	753	1	0	0	0	1	4	321	55	0	380	1309
07:00 AM	0	0	91	0	91	137	87	0	0	224	2	1	0	0	3	0	80	17	0	97	415
07:15 AM	0	0	93	0	93	133	65	0	0	198	1	0	1	0	2	0	74	29	0	103	396
07:30 AM	0	0	121	0	121	120	90	0	0	210	1	0	0	0	1	0	91	15	0	106	438
07:45 AM	0	0	133	0	133	109	83	0	0	192	0	0	0	0	0	0	94	5	0	99	424
Total	0	0	438	0	438	499	325	0	0	824	4	1	1	0	6	0	339	66	0	405	1673
08:00 AM	0	0	129	0	129	117	74	1	0	192	0	0	0	0	0	0	91	15	0	106	427
08:15 AM	0	0	98	0	98	151	91	1	0	243	0	0	0	0	0	0	75	21	0	96	437
08:30 AM	5	0	93	0	98	132	75	0	0	207	0	0	0	0	0	5	60	22	0	87	392
08:45 AM	6	0	81	0	87	149	75	0	0	224	0	0	0	0	0	6	66	11	0	83	394
Total	11	0	401	0	412	549	315	2	0	866	0	0	0	0	0	11	292	69	0	372	1650
*** BREAK ***																					
03:00 PM	18	0	108	0	126	69	76	0	0	145	0	0	0	0	0	1	81	9	0	91	362
03:15 PM	26	0	114	0	140	64	97	0	0	161	0	0	0	0	0	2	77	7	0	86	387
03:30 PM	17	0	119	0	136	83	95	3	0	181	0	0	0	0	0	0	92	18	0	110	427
03:45 PM	21	0	125	0	146	67	79	0	0	146	0	0	0	0	0	1	82	13	0	96	388
Total	82	0	466	0	548	283	347	3	0	633	0	0	0	0	0	4	332	47	0	383	1564
04:00 PM	18	0	134	0	152	82	84	0	0	166	0	0	0	1	1	1	80	10	0	91	410
04:15 PM	20	0	113	0	133	69	114	0	0	183	0	0	0	0	0	2	69	15	0	86	402
04:30 PM	25	0	118	0	143	60	78	1	0	139	0	0	0	0	0	1	85	13	0	99	381
04:45 PM	15	0	113	0	128	84	106	1	0	191	0	0	0	0	0	0	87	12	0	99	418
Total	78	0	478	0	556	295	382	2	0	679	0	0	0	1	1	4	321	50	0	375	1611
05:00 PM	10	0	123	0	133	76	78	1	0	155	0	0	0	0	0	0	101	15	0	116	404
05:15 PM	15	0	121	0	136	73	87	1	0	161	0	0	0	0	0	0	111	19	0	130	427
05:30 PM	18	0	126	0	144	97	86	0	0	183	0	0	0	0	0	0	89	13	0	102	429
05:45 PM	20	0	120	0	140	81	85	0	0	166	0	0	0	0	0	1	95	17	0	113	419
Total	63	0	490	0	553	327	336	2	0	665	0	0	0	0	0	1	396	64	0	461	1679
Grand Total	238	0	2444	0	2682	2437	1973	10	0	4420	5	1	1	1	8	24	2001	351	0	2376	9486
Apprch %	8.9	0	91.1	0		55.1	44.6	0.2	0		62.5	12.5	12.5	12.5		1	84.2	14.8	0		
Total %	2.5	0	25.8	0	28.3	25.7	20.8	0.1	0	46.6	0.1	0	0	0	0.1	0.3	21.1	3.7	0	25	
Passenger Cars	235	0	2423	0	2658	2397	1915	10	0	4322	4	1	1	1	7	22	1942	347	0	2311	9298
% Passenger Cars																					
Heavy Vehicles	3	0	21	0	24	40	58	0	0	98	1	0	0	0	1	2	59	4	0	65	188
% Heavy Vehicles	1.3	0	0.9	0	0.9	1.6	2.9	0	0	2.2	20	0	0	0	12.5	8.3	2.9	1.1	0	2.7	2

P&B CNL: Pedestrians & Bicyclists Crossing North Leg

P&B CEL:Pedestrians & Bicyclists Crossing East Leg

P&B CSL:Pedestrians & Bicyclists Crossing South Leg

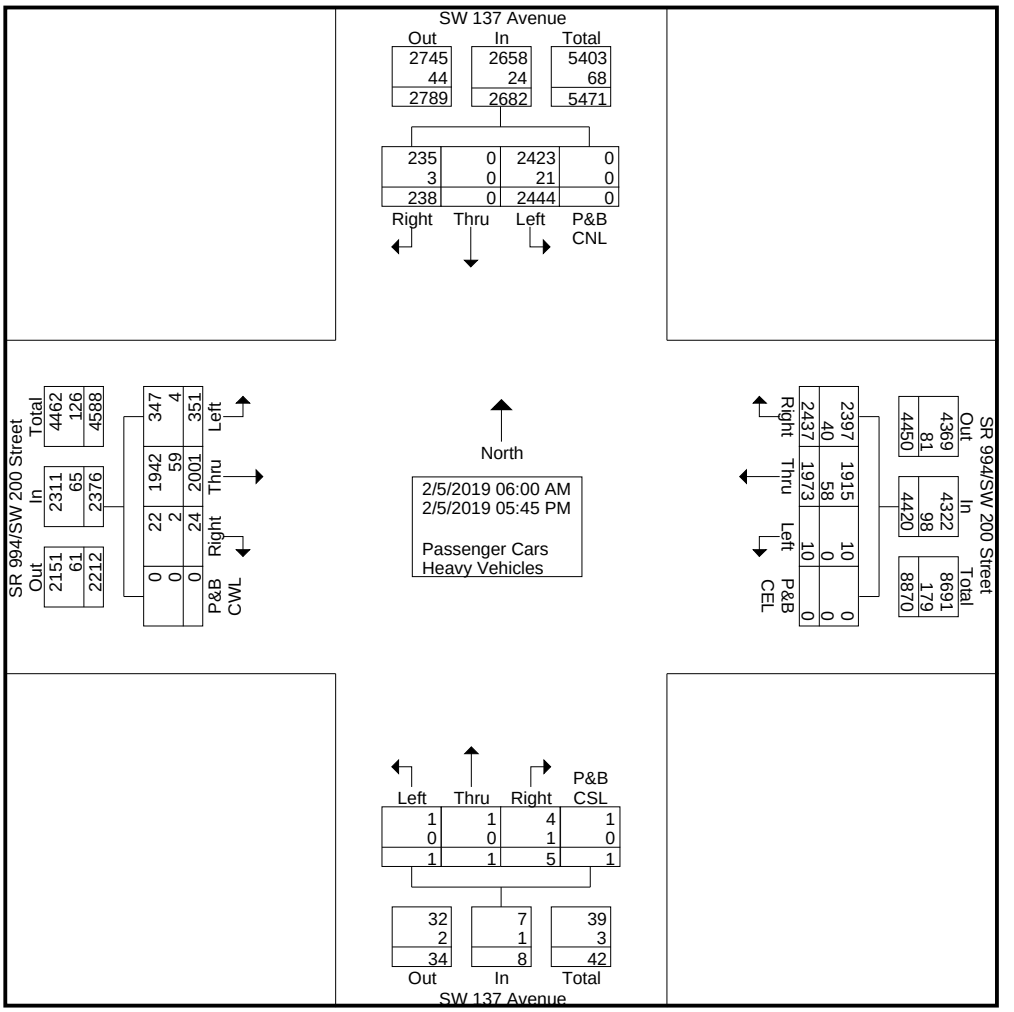
P&B CWL:Pedestrians & Bicyclists Crossing West Leg

CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 137 Avenue

File Name : SW 200 St at SW 137 Ave
Site Code : 20013701
Start Date : 2/5/2019
Page No : 2



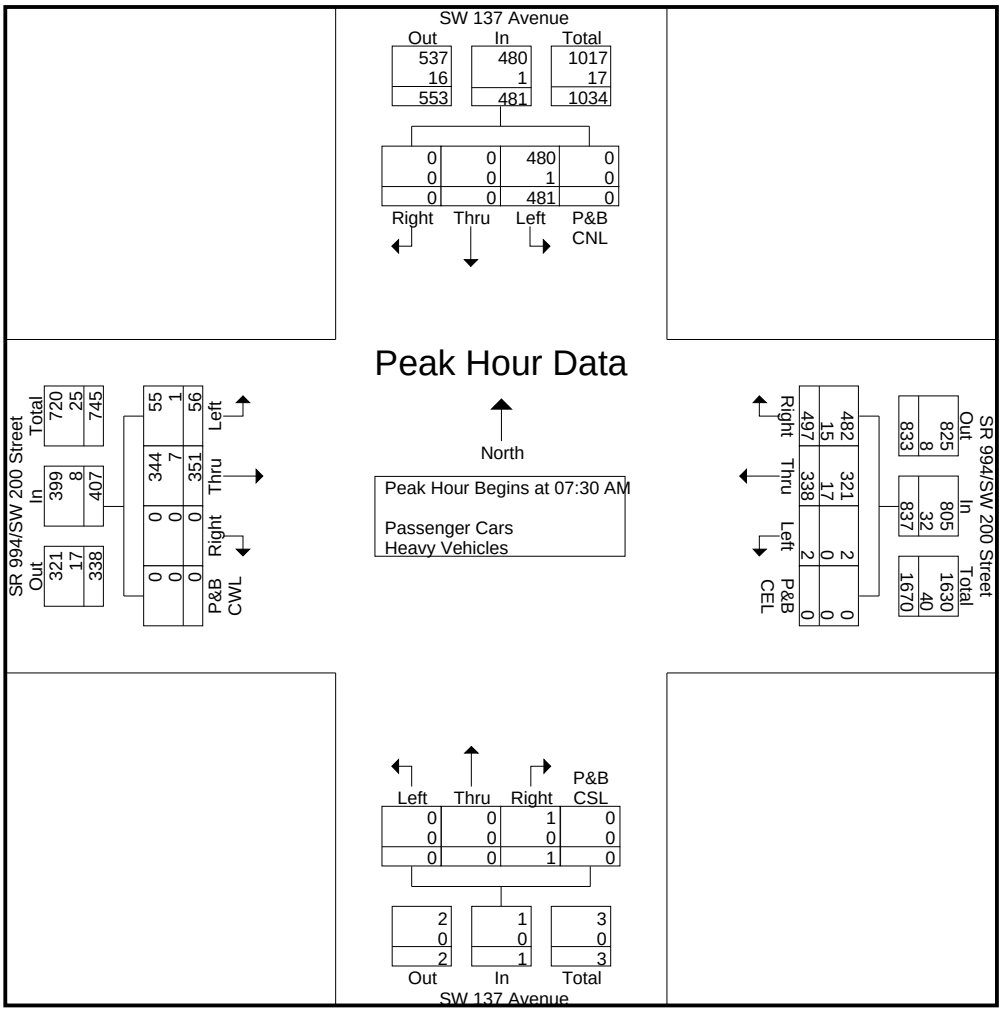
CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 137 Avenue

File Name : SW 200 St at SW 137 Ave
Site Code : 20013701
Start Date : 2/5/2019
Page No : 3

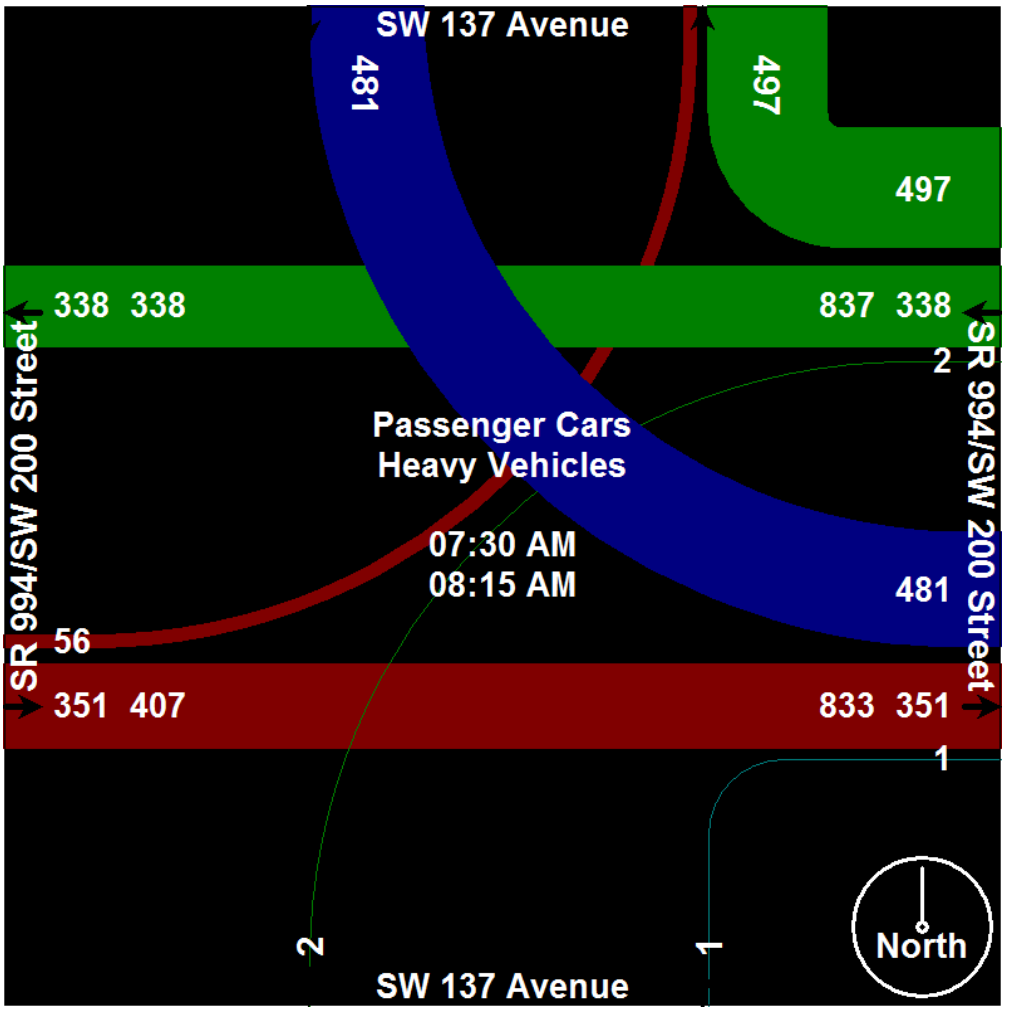
	SW 137 Avenue Southbound					SR 994/SW 200 Street Westbound					SW 137 Avenue Northbound					SR 994/SW 200 Street Eastbound					
Start Time	Right	Thru	Left	P&B CNL	App. Total	Right	Thru	Left	P&B CEL	App. Total	Right	Thru	Left	P&B CSL	App. Total	Right	Thru	Left	P&B CWL	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	121	0	121	120	90	0	0	210	**1**	0	0	0	**1**	0	91	15	0	**106**	**438**
07:45 AM	0	0	**133**	0	**133**	109	83	0	0	192	0	0	0	0	0	0	**94**	5	0	99	424
08:00 AM	0	0	129	0	129	117	74	**1**	0	192	0	0	0	0	0	0	91	15	0	106	427
08:15 AM	0	0	98	0	98	**151**	**91**	1	0	**243**	0	0	0	0	0	0	75	**21**	0	96	437
Total Volume	0	0	481	0	481	497	338	2	0	837	1	0	0	0	1	0	351	56	0	407	1726
% App. Total	0	0	100	0		59.4	40.4	0.2	0		100	0	0	0		0	86.2	13.8	0		
PHF	.000	.000	.904	.000	.904	.823	.929	.500	.000	.861	.250	.000	.000	.000	.250	.000	.934	.667	.000	.960	.985
Passenger Cars	0	0	480	0	480	482	321	2	0	805	1	0	0	0	1	0	344	55	0	399	1685
% Passenger Cars																					
Heavy Vehicles	0	0	1	0	1	15	17	0	0	32	0	0	0	0	0	0	7	1	0	8	41
% Heavy Vehicles	0	0	0.2	0	0.2	3.0	5.0	0	0	3.8	0	0	0	0	0	0	2.0	1.8	0	2.0	2.4



CH Perez and Associates Consulting Engineers Inc.
9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 137 Avenue

File Name : SW 200 St at SW 137 Ave
Site Code : 20013701
Start Date : 2/5/2019
Page No : 4



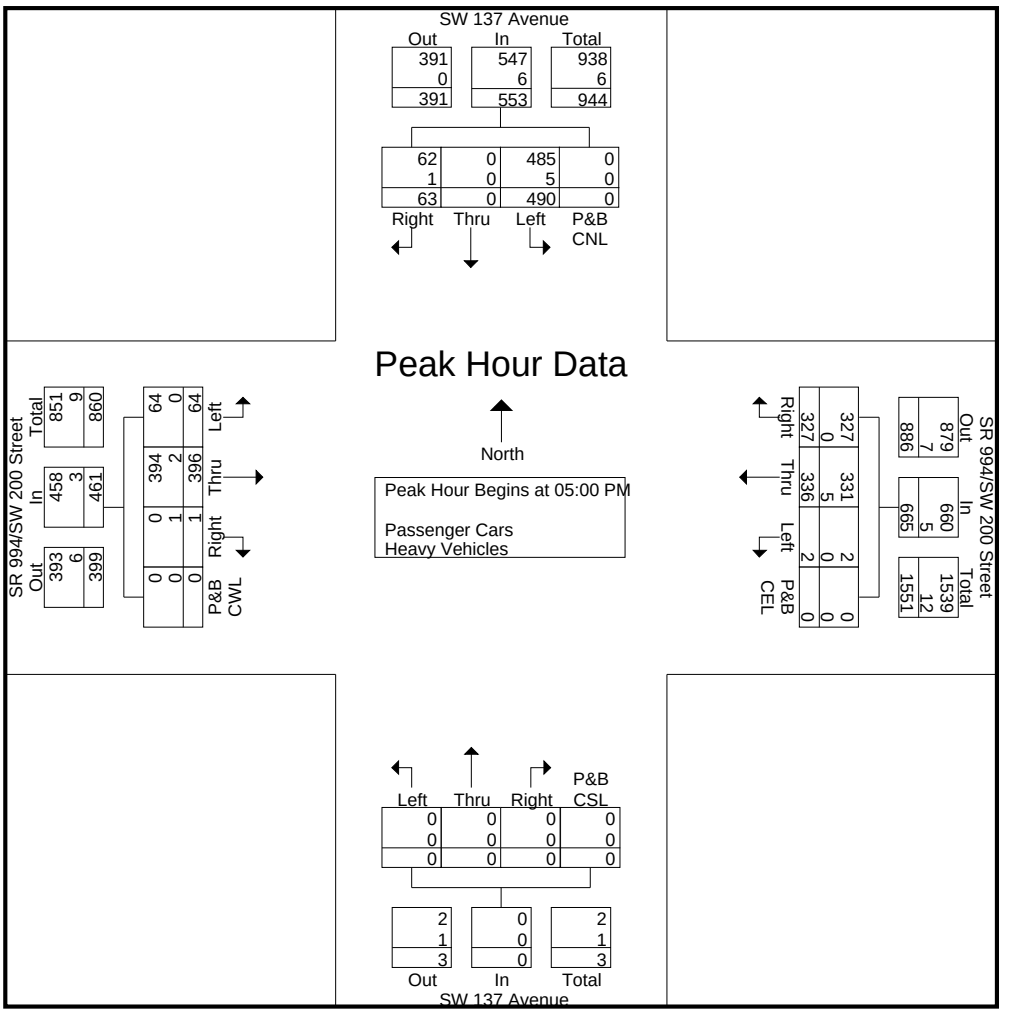
CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 137 Avenue

File Name : SW 200 St at SW 137 Ave
Site Code : 20013701
Start Date : 2/5/2019
Page No : 5

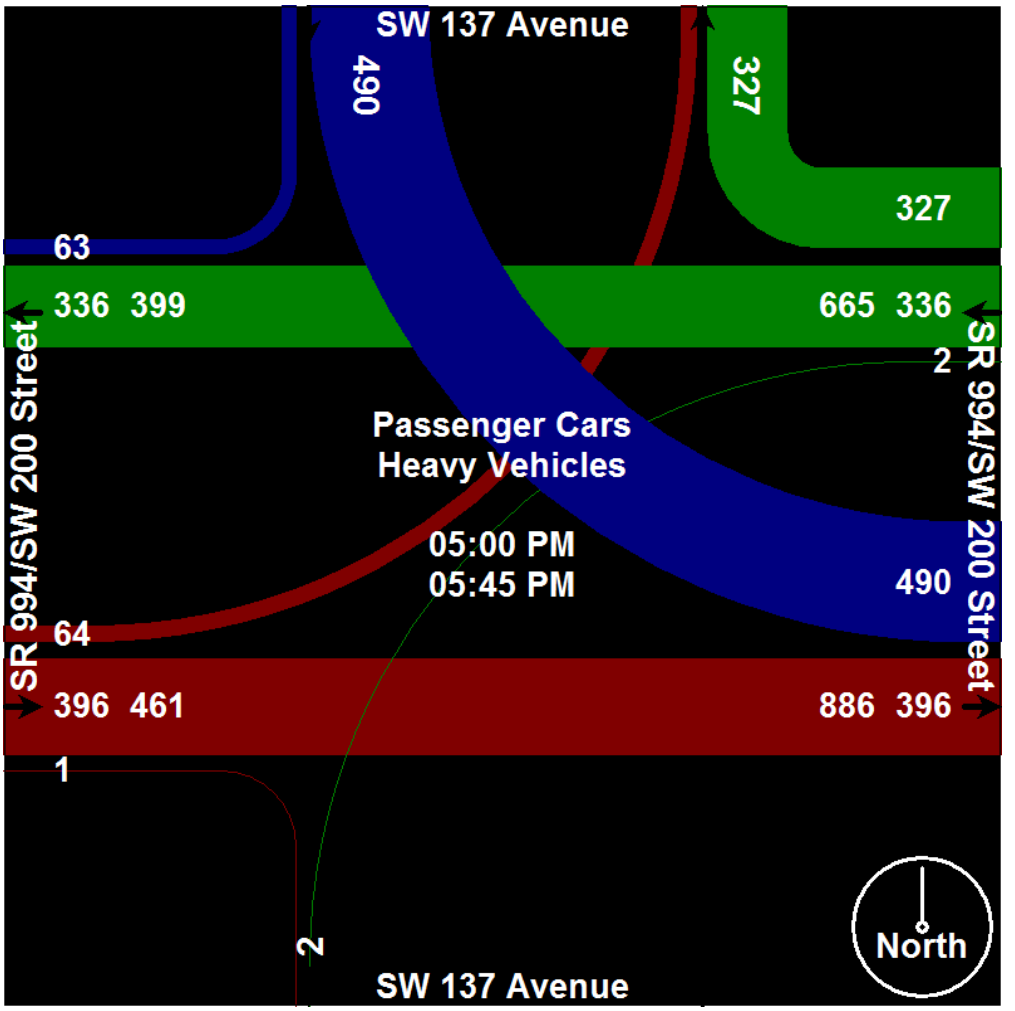
	SW 137 Avenue Southbound					SR 994/SW 200 Street Westbound					SW 137 Avenue Northbound					SR 994/SW 200 Street Eastbound					
Start Time	Right	Thru	Left	P&B CNL	App. Total	Right	Thru	Left	P&B CEL	App. Total	Right	Thru	Left	P&B CSL	App. Total	Right	Thru	Left	P&B CWL	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	10	0	123	0	133	76	78	**1**	0	155	0	0	0	0	0	0	101	15	0	116	404
05:15 PM	15	0	121	0	136	73	**87**	1	0	161	0	0	0	0	0	0	**111**	**19**	0	**130**	427
05:30 PM	18	0	**126**	0	**144**	**97**	86	0	0	**183**	0	0	0	0	0	0	89	13	0	102	**429**
05:45 PM	**20**	0	120	0	140	81	85	0	0	166	0	0	0	0	0	**1**	95	17	0	113	419
Total Volume	63	0	490	0	553	327	336	2	0	665	0	0	0	0	0	1	396	64	0	461	1679
% App. Total	11.4	0	88.6	0		49.2	50.5	0.3	0		0	0	0	0		0.2	85.9	13.9	0		
PHF	.788	.000	.972	.000	.960	.843	.966	.500	.000	.908	.000	.000	.000	.000	.000	.250	.892	.842	.000	.887	.978
Passenger Cars	62	0	485	0	547	327	331	2	0	660	0	0	0	0	0	0	394	64	0	458	1665
% Passenger Cars																					
Heavy Vehicles	1	0	5	0	6	0	5	0	0	5	0	0	0	0	0	1	2	0	0	3	14
% Heavy Vehicles	1.6	0	1.0	0	1.1	0	1.5	0	0	0.8	0	0	0	0	0	100	0.5	0	0	0.7	0.8



CH Perez and Associates Consulting Engineers Inc.
9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 137 Avenue

File Name : SW 200 St at SW 137 Ave
Site Code : 20013701
Start Date : 2/5/2019
Page No : 6



CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 137 Avenue

File Name : SW 200 St at SW 137 Ave
Site Code : 20013701
Start Date : 2/5/2019
Page No : 1

Groups Printed- Passenger Cars

	SW 137 Avenue Southbound					SR 994/SW 200 Street Westbound					SW 137 Avenue Northbound					SR 994/SW 200 Street Eastbound					
Start Time	Right	Thru	Left	P&B CNL	App. Total	Right	Thru	Left	P&B CEL	App. Total	Right	Thru	Left	P&B CSL	App. Total	Right	Thru	Left	P&B CWL	App. Total	Int. Total
06:00 AM	1	0	24	0	25	83	47	0	0	130	1	0	0	0	1	1	71	14	0	86	242
06:15 AM	1	0	32	0	33	118	58	0	0	176	0	0	0	0	0	1	77	15	0	93	302
06:30 AM	2	0	37	0	39	147	69	0	0	216	0	0	0	0	0	2	73	12	0	87	342
06:45 AM	0	0	71	0	71	124	82	1	0	207	0	0	0	0	0	0	78	12	0	90	368
Total	4	0	164	0	168	472	256	1	0	729	1	0	0	0	1	4	299	53	0	356	1254
07:00 AM	0	0	91	0	91	137	83	0	0	220	1	1	0	0	2	0	76	17	0	93	406
07:15 AM	0	0	93	0	93	132	65	0	0	197	1	0	1	0	2	0	74	29	0	103	395
07:30 AM	0	0	121	0	121	114	83	0	0	197	1	0	0	0	1	0	90	15	0	105	424
07:45 AM	0	0	132	0	132	102	77	0	0	179	0	0	0	0	0	0	90	5	0	95	406
Total	0	0	437	0	437	485	308	0	0	793	3	1	1	0	5	0	330	66	0	396	1631
08:00 AM	0	0	129	0	129	116	72	1	0	189	0	0	0	0	0	0	91	14	0	105	423
08:15 AM	0	0	98	0	98	150	89	1	0	240	0	0	0	0	0	0	73	21	0	94	432
08:30 AM	5	0	93	0	98	129	72	0	0	201	0	0	0	0	0	5	58	21	0	84	383
08:45 AM	6	0	81	0	87	148	75	0	0	223	0	0	0	0	0	6	65	11	0	82	392
Total	11	0	401	0	412	543	308	2	0	853	0	0	0	0	0	11	287	67	0	365	1630
*** BREAK ***																					
03:00 PM	17	0	106	0	123	66	75	0	0	141	0	0	0	0	0	0	81	9	0	90	354
03:15 PM	26	0	113	0	139	64	95	0	0	159	0	0	0	0	0	2	72	7	0	81	379
03:30 PM	17	0	118	0	135	81	92	3	0	176	0	0	0	0	0	0	90	18	0	108	419
03:45 PM	21	0	124	0	145	65	77	0	0	142	0	0	0	0	0	1	80	13	0	94	381
Total	81	0	461	0	542	276	339	3	0	618	0	0	0	0	0	3	323	47	0	373	1533
04:00 PM	18	0	133	0	151	81	83	0	0	164	0	0	0	1	1	1	80	10	0	91	407
04:15 PM	19	0	112	0	131	69	111	0	0	180	0	0	0	0	0	2	66	15	0	83	394
04:30 PM	25	0	118	0	143	60	76	1	0	137	0	0	0	0	0	1	81	13	0	95	375
04:45 PM	15	0	112	0	127	84	103	1	0	188	0	0	0	0	0	0	82	12	0	94	409
Total	77	0	475	0	552	294	373	2	0	669	0	0	0	1	1	4	309	50	0	363	1585
05:00 PM	10	0	123	0	133	76	77	1	0	154	0	0	0	0	0	0	100	15	0	115	402
05:15 PM	14	0	121	0	135	73	86	1	0	160	0	0	0	0	0	0	110	19	0	129	424
05:30 PM	18	0	123	0	141	97	85	0	0	182	0	0	0	0	0	0	89	13	0	102	425
05:45 PM	20	0	118	0	138	81	83	0	0	164	0	0	0	0	0	0	95	17	0	112	414
Total	62	0	485	0	547	327	331	2	0	660	0	0	0	0	0	0	394	64	0	458	1665
Grand Total	235	0	2423	0	2658	2397	1915	10	0	4322	4	1	1	1	7	22	1942	347	0	2311	9298
Apprch %	8.8	0	91.2	0		55.5	44.3	0.2	0		57.1	14.3	14.3	14.3		1	84	15	0		
Total %	2.5	0	26.1	0	28.6	25.8	20.6	0.1	0	46.5	0	0	0	0	0.1	0.2	20.9	3.7	0	24.9	

P&B CNL: Pedestrians & Bicyclists Crossing North Leg

P&B CEL:Pedestrians & Bicyclists Crossing East Leg

P&B CSL:Pedestrians & Bicyclists Crossing South Leg

P&B CWL:Pedestrians & Bicyclists Crossing West Leg

CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 137 Avenue

File Name : SW 200 St at SW 137 Ave
Site Code : 20013701
Start Date : 2/5/2019
Page No : 1

Groups Printed- Heavy Vehicles

	SW 137 Avenue Southbound					SR 994/SW 200 Street Westbound					SW 137 Avenue Northbound					SR 994/SW 200 Street Eastbound					
Start Time	Right	Thru	Left	P&B CNL	App. Total	Right	Thru	Left	P&B CEL	App. Total	Right	Thru	Left	P&B CSL	App. Total	Right	Thru	Left	P&B CWL	App. Total	Int. Total
06:00 AM	0	0	0	0	0	3	3	0	0	6	0	0	0	0	0	0	5	0	0	5	11
06:15 AM	0	0	2	0	2	0	3	0	0	3	0	0	0	0	0	0	7	1	0	8	13
06:30 AM	0	0	3	0	3	3	5	0	0	8	0	0	0	0	0	0	10	1	0	11	22
06:45 AM	0	0	2	0	2	6	1	0	0	7	0	0	0	0	0	0	0	0	0	0	9
Total	0	0	7	0	7	12	12	0	0	24	0	0	0	0	0	0	22	2	0	24	55
07:00 AM	0	0	0	0	0	0	4	0	0	4	1	0	0	0	1	0	4	0	0	4	9
07:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	6	7	0	0	13	0	0	0	0	0	0	1	0	0	1	14
07:45 AM	0	0	1	0	1	7	6	0	0	13	0	0	0	0	0	0	4	0	0	4	18
Total	0	0	1	0	1	14	17	0	0	31	1	0	0	0	1	0	9	0	0	9	42
08:00 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	0	1	0	1	4
08:15 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	2	0	0	2	5
08:30 AM	0	0	0	0	0	3	3	0	0	6	0	0	0	0	0	0	2	1	0	3	9
08:45 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Total	0	0	0	0	0	6	7	0	0	13	0	0	0	0	0	0	5	2	0	7	20
*** BREAK ***																					
03:00 PM	1	0	2	0	3	3	1	0	0	4	0	0	0	0	0	1	0	0	0	1	8
03:15 PM	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	8
03:30 PM	0	0	1	0	1	2	3	0	0	5	0	0	0	0	0	0	2	0	0	2	8
03:45 PM	0	0	1	0	1	2	2	0	0	4	0	0	0	0	0	0	2	0	0	2	7
Total	1	0	5	0	6	7	8	0	0	15	0	0	0	0	0	1	9	0	0	10	31
04:00 PM	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	3
04:15 PM	1	0	1	0	2	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	8
04:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	6
04:45 PM	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	0	5	0	0	5	9
Total	1	0	3	0	4	1	9	0	0	10	0	0	0	0	0	0	12	0	0	12	26
05:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
05:15 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	3
05:30 PM	0	0	3	0	3	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4
05:45 PM	0	0	2	0	2	0	2	0	0	2	0	0	0	0	0	1	0	0	0	1	5
Total	1	0	5	0	6	0	5	0	0	5	0	0	0	0	0	1	2	0	0	3	14
Grand Total	3	0	21	0	24	40	58	0	0	98	1	0	0	0	1	2	59	4	0	65	188
Apprch %	12.5	0	87.5	0		40.8	59.2	0	0		100	0	0	0		3.1	90.8	6.2	0		
Total %	1.6	0	11.2	0	12.8	21.3	30.9	0	0	52.1	0.5	0	0	0	0.5	1.1	31.4	2.1	0	34.6	

CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 134 Avenue

File Name : SW 200 St at SW 134 Ave
Site Code : 20013401
Start Date : 1/31/2019
Page No : 1

Groups Printed- Passenger Cars - Heavy Vehicles

	SW 134 Avenue Southbound					SR 994/SW 200 Street Westbound					SW 134 Avenue Northbound					SR 994/SW 200 Street Eastbound					
Start Time	Right	Thru	Left	P&B CNL	App. Total	Right	Thru	Left	P&B CEL	App. Total	Right	Thru	Left	P&B CSL	App. Total	Right	Thru	Left	P&B CWL	App. Total	Int. Total
06:00 AM	0	0	0	0	0	2	93	2	0	97	24	3	53	0	80	10	94	0	0	104	281
06:15 AM	0	1	0	0	1	12	119	3	0	134	10	7	43	0	60	19	108	0	0	127	322
06:30 AM	0	0	1	0	1	16	166	17	0	199	1	3	37	0	41	21	122	0	0	143	384
06:45 AM	0	0	2	0	2	12	122	3	0	137	3	6	30	0	39	28	128	0	0	156	334
Total	0	1	3	0	4	42	500	25	0	567	38	19	163	0	220	78	452	0	0	530	1321
07:00 AM	0	0	0	0	0	28	177	13	0	218	12	13	33	0	58	51	147	1	0	199	475
07:15 AM	0	0	1	0	1	30	199	7	0	236	7	13	30	0	50	53	137	1	0	191	478
07:30 AM	0	0	3	0	3	48	187	10	1	246	8	7	17	0	32	60	191	0	0	251	532
07:45 AM	1	1	4	0	6	46	186	26	0	258	8	10	23	0	41	65	165	1	0	231	536
Total	1	1	8	0	10	152	749	56	1	958	35	43	103	0	181	229	640	3	0	872	2021
08:00 AM	0	0	4	0	4	31	186	18	0	235	6	2	31	0	39	51	154	0	0	205	483
08:15 AM	1	0	2	0	3	20	180	14	0	214	11	7	37	0	55	35	143	1	0	179	451
08:30 AM	0	0	2	0	2	22	175	7	0	204	4	5	41	0	50	39	130	0	0	169	425
08:45 AM	0	0	1	0	1	17	175	12	0	204	10	4	35	0	49	49	141	0	0	190	444
Total	1	0	9	0	10	90	716	51	0	857	31	18	144	0	193	174	568	1	0	743	1803
*** BREAK ***																					
03:00 PM	0	1	1	0	2	3	125	10	0	138	4	2	19	0	25	59	133	0	0	192	357
03:15 PM	1	0	5	0	6	5	148	15	0	168	5	1	25	0	31	75	112	1	0	188	393
03:30 PM	1	4	3	1	9	4	155	22	0	181	9	4	28	0	41	71	146	0	0	217	448
03:45 PM	0	1	2	0	3	7	174	23	0	204	7	3	26	0	36	72	141	0	0	213	456
Total	2	6	11	1	20	19	602	70	0	691	25	10	98	0	133	277	532	1	0	810	1654
04:00 PM	0	2	0	0	2	3	169	25	0	197	6	9	24	0	39	78	120	0	0	198	436
04:15 PM	1	4	4	0	9	5	138	16	1	160	12	3	23	0	38	89	124	0	0	213	420
04:30 PM	1	2	1	0	4	5	136	16	1	158	14	4	22	0	40	68	147	1	0	216	418
04:45 PM	1	5	1	0	7	8	136	24	0	168	9	4	29	0	42	93	130	2	0	225	442
Total	3	13	6	0	22	21	579	81	2	683	41	20	98	0	159	328	521	3	0	852	1716
05:00 PM	0	6	1	0	7	10	166	22	0	198	11	3	23	0	37	88	140	0	0	228	470
05:15 PM	1	9	6	0	16	6	136	25	0	167	12	7	20	0	39	101	142	1	0	244	466
05:30 PM	1	4	3	0	8	6	128	21	0	155	7	6	25	0	38	108	126	0	0	234	435
05:45 PM	1	10	3	0	14	10	152	15	0	177	8	7	13	0	28	87	143	0	0	230	449
Total	3	29	13	0	45	32	582	83	0	697	38	23	81	0	142	384	551	1	0	936	1820
Grand Total	10	50	50	1	111	356	3728	366	3	4453	208	133	687	0	1028	1470	3264	9	0	4743	10335
Apprch %	9	45	45	0.9		8	83.7	8.2	0.1		20.2	12.9	66.8	0		31	68.8	0.2	0		
Total %	0.1	0.5	0.5	0	1.1	3.4	36.1	3.5	0	43.1	2	1.3	6.6	0	9.9	14.2	31.6	0.1	0	45.9	
Passenger Cars	9	49	49	1	108	350	3518	334	3	4205	193	132	664	0	989	1422	3088	9	0	4519	9821
% Passenger Cars																					
Heavy Vehicles	1	1	1	0	3	6	210	32	0	248	15	1	23	0	39	48	176	0	0	224	514
% Heavy Vehicles	10	2	2	0	2.7	1.7	5.6	8.7	0	5.6	7.2	0.8	3.3	0	3.8	3.3	5.4	0	0	4.7	5

P&B CNL: Pedestrians & Bicyclists Crossing North Leg

P&B CEL:Pedestrians & Bicyclists Crossing East Leg

P&B CSL:Pedestrians & Bicyclists Crossing South Leg

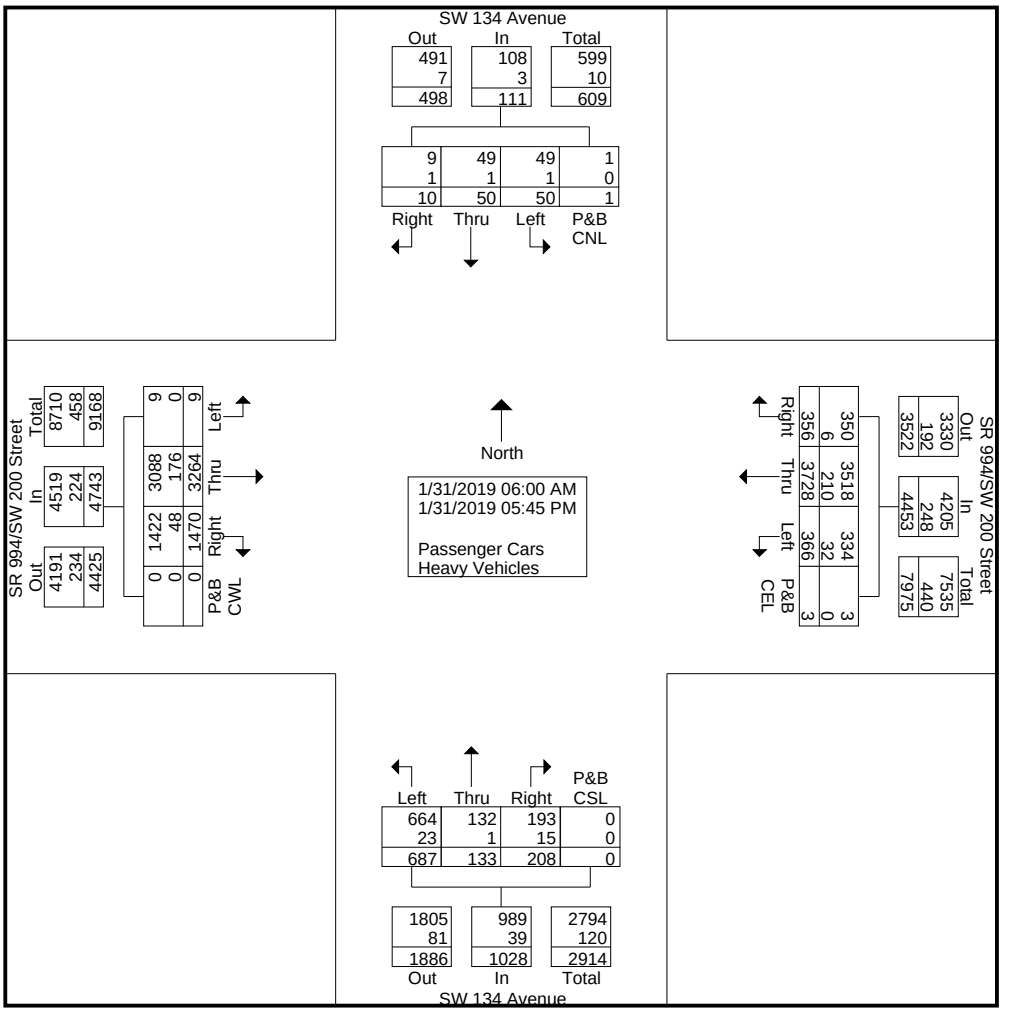
P&B CWL:Pedestrians & Bicyclists Crossing West Leg

CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 134 Avenue

File Name : SW 200 St at SW 134 Ave
Site Code : 20013401
Start Date : 1/31/2019
Page No : 2



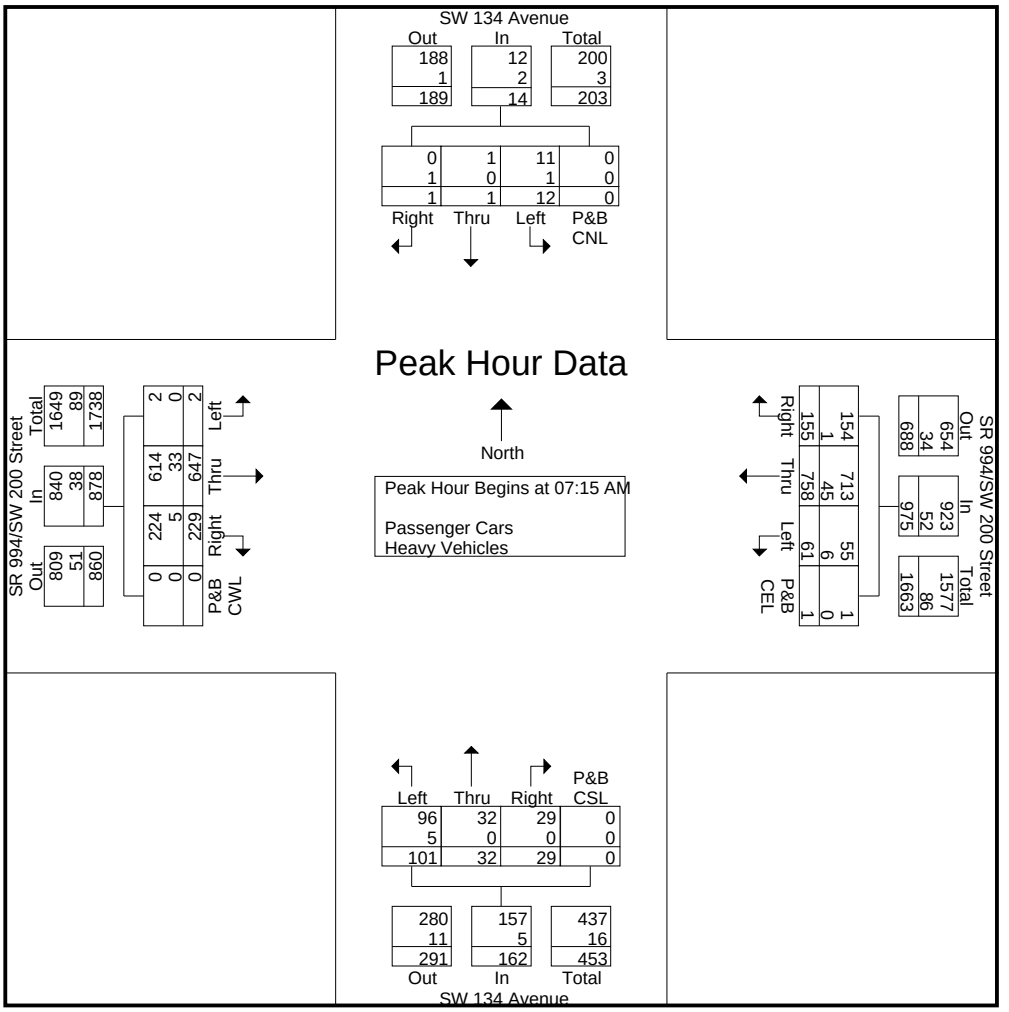
CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 134 Avenue

File Name : SW 200 St at SW 134 Ave
Site Code : 20013401
Start Date : 1/31/2019
Page No : 3

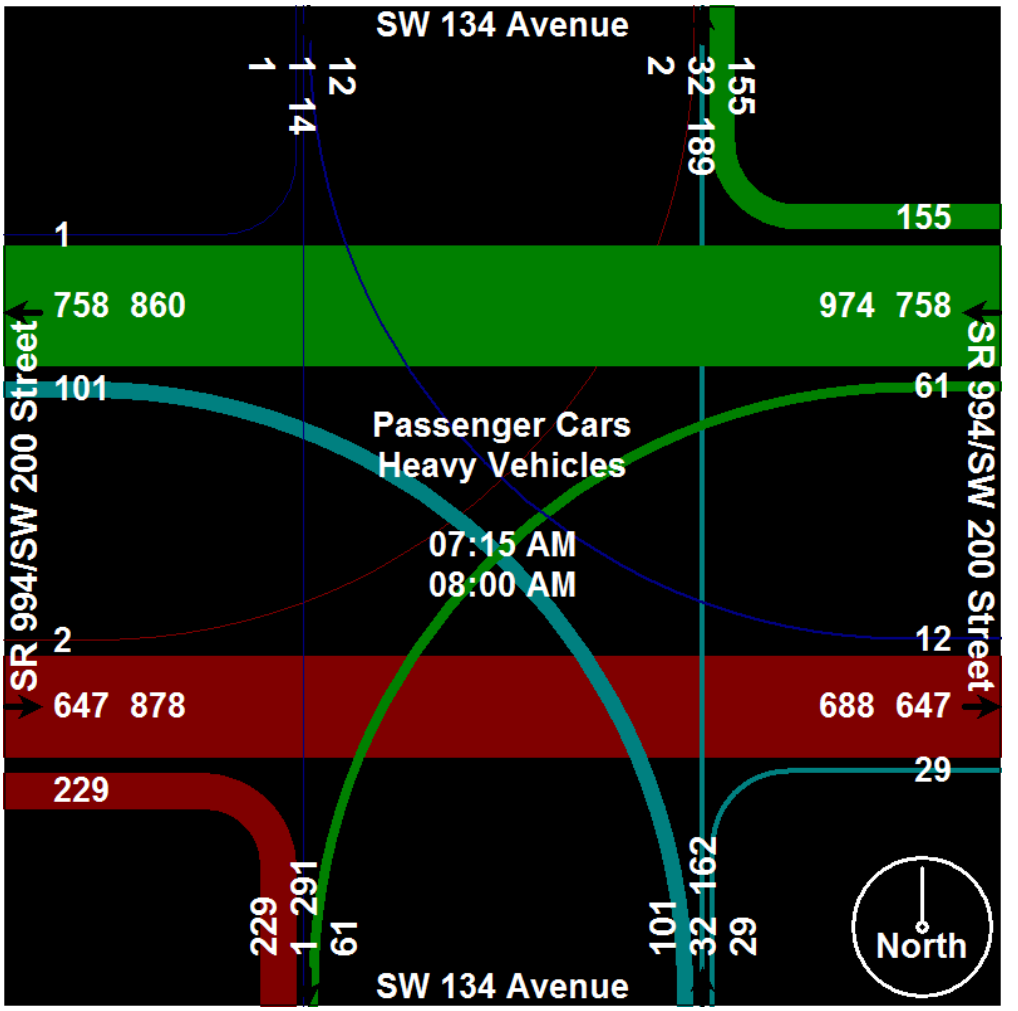
	SW 134 Avenue Southbound					SR 994/SW 200 Street Westbound					SW 134 Avenue Northbound					SR 994/SW 200 Street Eastbound					
Start Time	Right	Thru	Left	P&B CNL	App. Total	Right	Thru	Left	P&B CEL	App. Total	Right	Thru	Left	P&B CSL	App. Total	Right	Thru	Left	P&B CWL	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	1	0	1	30	**199**	7	0	236	7	**13**	30	0	**50**	53	137	**1**	0	191	478
07:30 AM	0	0	3	0	3	**48**	187	10	**1**	246	**8**	7	17	0	32	60	**191**	0	0	**251**	532
07:45 AM	**1**	**1**	**4**	0	**6**	46	186	**26**	0	**258**	8	10	23	0	41	**65**	165	1	0	231	**536**
08:00 AM	0	0	4	0	4	31	186	18	0	235	6	2	**31**	0	39	51	154	0	0	205	483
Total Volume	1	1	12	0	14	155	758	61	1	975	29	32	101	0	162	229	647	2	0	878	2029
% App. Total	7.1	7.1	85.7	0		15.9	77.7	6.3	0.1		17.9	19.8	62.3	0		26.1	73.7	0.2	0		
PHF	.250	.250	.750	.000	.583	.807	.952	.587	.250	.945	.906	.615	.815	.000	.810	.881	.847	.500	.000	.875	.946
Passenger Cars	0	1	11	0	12	154	713	55	1	923	29	32	96	0	157	224	614	2	0	840	1932
% Passenger Cars																					
Heavy Vehicles	1	0	1	0	2	1	45	6	0	52	0	0	5	0	5	5	33	0	0	38	97
% Heavy Vehicles	100	0	8.3	0	14.3	0.6	5.9	9.8	0	5.3	0	0	5.0	0	3.1	2.2	5.1	0	0	4.3	4.8



CH Perez and Associates Consulting Engineers Inc.
9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 134 Avenue

File Name : SW 200 St at SW 134 Ave
Site Code : 20013401
Start Date : 1/31/2019
Page No : 4



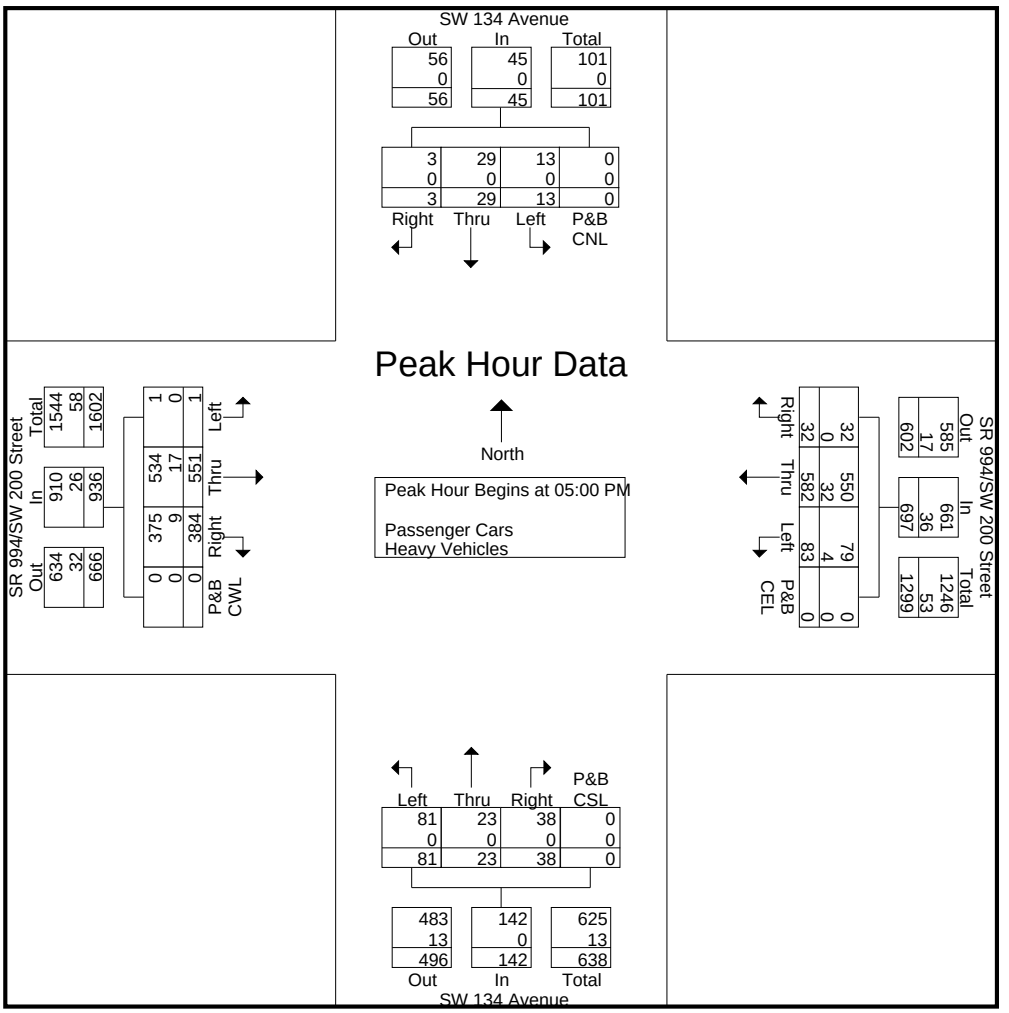
CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 134 Avenue

File Name : SW 200 St at SW 134 Ave
Site Code : 20013401
Start Date : 1/31/2019
Page No : 5

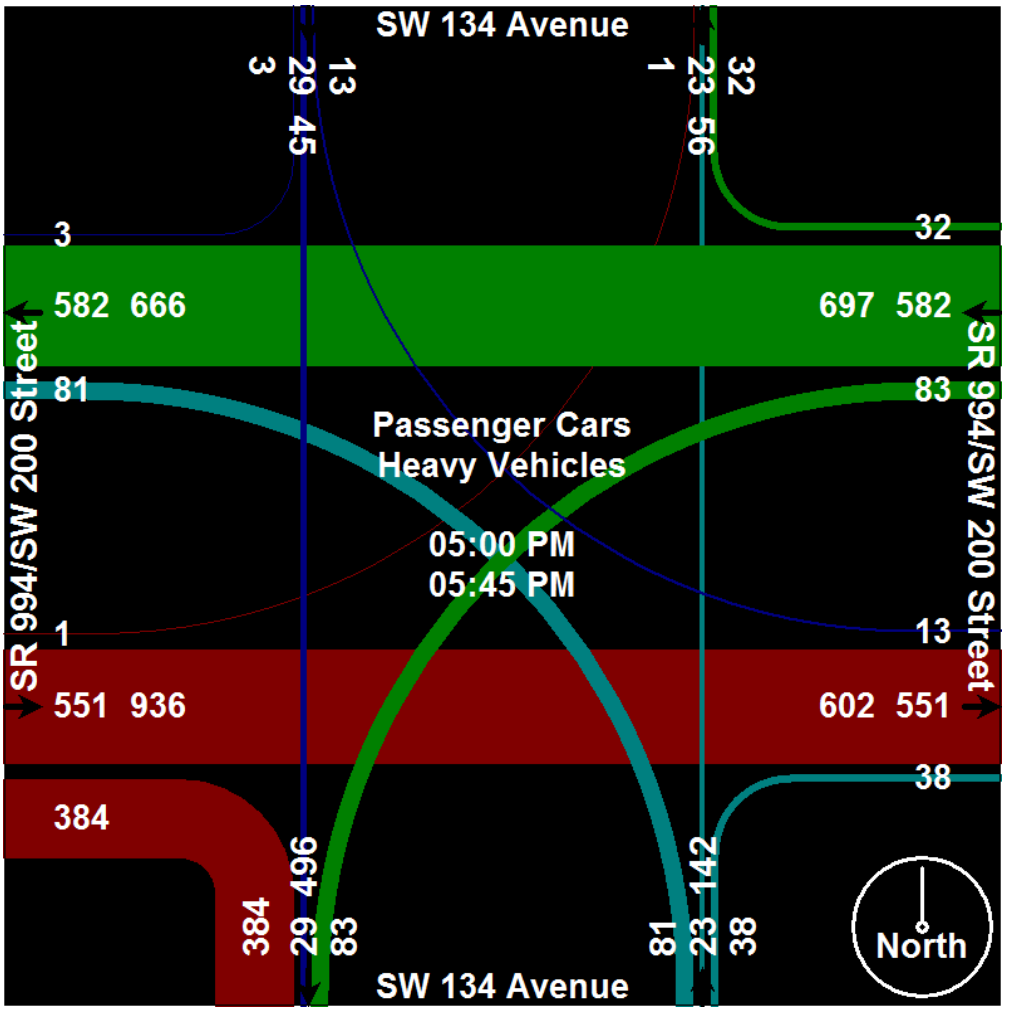
	SW 134 Avenue Southbound					SR 994/SW 200 Street Westbound					SW 134 Avenue Northbound					SR 994/SW 200 Street Eastbound					
Start Time	Right	Thru	Left	P&B CNL	App. Total	Right	Thru	Left	P&B CEL	App. Total	Right	Thru	Left	P&B CSL	App. Total	Right	Thru	Left	P&B CWL	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	6	1	0	7	**10**	**166**	22	0	**198**	11	3	23	0	37	88	140	0	0	228	**470**
05:15 PM	**1**	9	**6**	0	**16**	6	136	**25**	0	167	**12**	**7**	20	0	**39**	101	142	**1**	0	**244**	466
05:30 PM	1	4	3	0	8	6	128	21	0	155	7	6	**25**	0	38	**108**	126	0	0	234	435
05:45 PM	1	**10**	3	0	14	10	152	15	0	177	8	7	13	0	28	87	**143**	0	0	230	449
Total Volume	3	29	13	0	45	32	582	83	0	697	38	23	81	0	142	384	551	1	0	936	1820
% App. Total	6.7	64.4	28.9	0		4.6	83.5	11.9	0		26.8	16.2	57	0		41	58.9	0.1	0		
PHF	.750	.725	.542	.000	.703	.800	.877	.830	.000	.880	.792	.821	.810	.000	.910	.889	.963	.250	.000	.959	.968
Passenger Cars	3	29	13	0	45	32	550	79	0	661	38	23	81	0	142	375	534	1	0	910	1758
% Passenger Cars																					
Heavy Vehicles	0	0	0	0	0	0	32	4	0	36	0	0	0	0	0	9	17	0	0	26	62
% Heavy Vehicles	0	0	0	0	0	0	5.5	4.8	0	5.2	0	0	0	0	0	2.3	3.1	0	0	2.8	3.4



CH Perez and Associates Consulting Engineers Inc.
9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 134 Avenue

File Name : SW 200 St at SW 134 Ave
Site Code : 20013401
Start Date : 1/31/2019
Page No : 6



CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 134 Avenue

File Name : SW 200 St at SW 134 Ave
Site Code : 20013401
Start Date : 1/31/2019

Groups Printed- Passenger Cars

	SW 134 Avenue Southbound					SR 994/SW 200 Street Westbound					SW 134 Avenue Northbound					SR 994/SW 200 Street Eastbound					
Start Time	Right	Thru	Left	P&B CNL	App. Total	Right	Thru	Left	P&B CEL	App. Total	Right	Thru	Left	P&B CSL	App. Total	Right	Thru	Left	P&B CWL	App. Total	Int. Total
06:00 AM	0	0	0	0	0	2	89	2	0	93	21	3	51	0	75	9	77	0	0	86	254
06:15 AM	0	1	0	0	1	12	113	3	0	128	8	7	42	0	57	18	95	0	0	113	299
06:30 AM	0	0	1	0	1	16	149	13	0	178	0	3	36	0	39	20	113	0	0	133	351
06:45 AM	0	0	2	0	2	12	119	2	0	133	2	6	28	0	36	28	125	0	0	153	324
Total	0	1	3	0	4	42	470	20	0	532	31	19	157	0	207	75	410	0	0	485	1228
07:00 AM	0	0	0	0	0	28	172	13	0	213	12	12	33	0	57	50	142	1	0	193	463
07:15 AM	0	0	1	0	1	30	187	7	0	224	7	13	28	0	48	51	128	1	0	180	453
07:30 AM	0	0	2	0	2	47	174	8	1	230	8	7	17	0	32	59	179	0	0	238	502
07:45 AM	0	1	4	0	5	46	180	26	0	252	8	10	21	0	39	65	160	1	0	226	522
Total	0	1	7	0	8	151	713	54	1	919	35	42	99	0	176	225	609	3	0	837	1940
08:00 AM	0	0	4	0	4	31	172	14	0	217	6	2	30	0	38	49	147	0	0	196	455
08:15 AM	1	0	2	0	3	20	168	13	0	201	9	7	35	0	51	34	134	1	0	169	424
08:30 AM	0	0	2	0	2	21	165	6	0	192	4	5	41	0	50	38	120	0	0	158	402
08:45 AM	0	0	1	0	1	16	169	12	0	197	10	4	33	0	47	48	131	0	0	179	424
Total	1	0	9	0	10	88	674	45	0	807	29	18	139	0	186	169	532	1	0	702	1705
*** BREAK ***																					
03:00 PM	0	1	1	0	2	3	116	10	0	129	4	2	18	0	24	58	128	0	0	186	341
03:15 PM	1	0	5	0	6	4	135	14	0	153	5	1	21	0	27	69	103	1	0	173	359
03:30 PM	1	4	3	1	9	4	147	20	0	171	9	4	27	0	40	70	139	0	0	209	429
03:45 PM	0	1	2	0	3	7	166	18	0	191	6	3	24	0	33	66	133	0	0	199	426
Total	2	6	11	1	20	18	564	62	0	644	24	10	90	0	124	263	503	1	0	767	1555
04:00 PM	0	2	0	0	2	3	159	23	0	185	6	9	24	0	39	74	114	0	0	188	414
04:15 PM	1	4	4	0	9	4	130	15	1	150	9	3	23	0	35	85	117	0	0	202	396
04:30 PM	1	1	1	0	3	4	123	13	1	141	12	4	22	0	38	65	144	1	0	210	392
04:45 PM	1	5	1	0	7	8	135	23	0	166	9	4	29	0	42	91	125	2	0	218	433
Total	3	12	6	0	21	19	547	74	2	642	36	20	98	0	154	315	500	3	0	818	1635
05:00 PM	0	6	1	0	7	10	156	20	0	186	11	3	23	0	37	85	136	0	0	221	451
05:15 PM	1	9	6	0	16	6	128	24	0	158	12	7	20	0	39	98	134	1	0	233	446
05:30 PM	1	4	3	0	8	6	118	20	0	144	7	6	25	0	38	106	124	0	0	230	420
05:45 PM	1	10	3	0	14	10	148	15	0	173	8	7	13	0	28	86	140	0	0	226	441
Total	3	29	13	0	45	32	550	79	0	661	38	23	81	0	142	375	534	1	0	910	1758
Grand Total	9	49	49	1	108	350	3518	334	3	4205	193	132	664	0	989	1422	3088	9	0	4519	9821
Apprch %	8.3	45.4	45.4	0.9		8.3	83.7	7.9	0.1		19.5	13.3	67.1	0		31.5	68.3	0.2	0		
Total %	0.1	0.5	0.5	0	1.1	3.6	35.8	3.4	0	42.8	2	1.3	6.8	0	10.1	14.5	31.4	0.1	0	46	

P&B CNL: Pedestrians & Bicyclists Crossing North Leg

P&B CEL:Pedestrians & Bicyclists Crossing East Leg

P&B CSL:Pedestrians & Bicyclists Crossing South Leg

P&B CWL:Pedestrians & Bicyclists Crossing West Leg

CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 134 Avenue

File Name : SW 200 St at SW 134 Ave
Site Code : 20013401
Start Date : 1/31/2019
Page No : 1

Groups Printed- Heavy Vehicles

	SW 134 Avenue Southbound					SR 994/SW 200 Street Westbound					SW 134 Avenue Northbound					SR 994/SW 200 Street Eastbound					
Start Time	Right	Thru	Left	P&B CNL	App. Total	Right	Thru	Left	P&B CEL	App. Total	Right	Thru	Left	P&B CSL	App. Total	Right	Thru	Left	P&B CWL	App. Total	Int. Total
06:00 AM	0	0	0	0	0	0	4	0	0	4	3	0	2	0	5	1	17	0	0	18	27
06:15 AM	0	0	0	0	0	0	6	0	0	6	2	0	1	0	3	1	13	0	0	14	23
06:30 AM	0	0	0	0	0	0	17	4	0	21	1	0	1	0	2	1	9	0	0	10	33
06:45 AM	0	0	0	0	0	0	3	1	0	4	1	0	2	0	3	0	3	0	0	3	10
Total	0	0	0	0	0	0	30	5	0	35	7	0	6	0	13	3	42	0	0	45	93
07:00 AM	0	0	0	0	0	0	5	0	0	5	0	1	0	0	1	1	5	0	0	6	12
07:15 AM	0	0	0	0	0	0	12	0	0	12	0	0	2	0	2	2	9	0	0	11	25
07:30 AM	0	0	1	0	1	1	13	2	0	16	0	0	0	0	0	1	12	0	0	13	30
07:45 AM	1	0	0	0	1	0	6	0	0	6	0	0	2	0	2	0	5	0	0	5	14
Total	1	0	1	0	2	1	36	2	0	39	0	1	4	0	5	4	31	0	0	35	81
08:00 AM	0	0	0	0	0	0	14	4	0	18	0	0	1	0	1	2	7	0	0	9	28
08:15 AM	0	0	0	0	0	0	12	1	0	13	2	0	2	0	4	1	9	0	0	10	27
08:30 AM	0	0	0	0	0	1	10	1	0	12	0	0	0	0	0	1	10	0	0	11	23
08:45 AM	0	0	0	0	0	1	6	0	0	7	0	0	2	0	2	1	10	0	0	11	20
Total	0	0	0	0	0	2	42	6	0	50	2	0	5	0	7	5	36	0	0	41	98
*** BREAK ***																					
03:00 PM	0	0	0	0	0	0	9	0	0	9	0	0	1	0	1	1	5	0	0	6	16
03:15 PM	0	0	0	0	0	1	13	1	0	15	0	0	4	0	4	6	9	0	0	15	34
03:30 PM	0	0	0	0	0	0	8	2	0	10	0	0	1	0	1	1	7	0	0	8	19
03:45 PM	0	0	0	0	0	0	8	5	0	13	1	0	2	0	3	6	8	0	0	14	30
Total	0	0	0	0	0	1	38	8	0	47	1	0	8	0	9	14	29	0	0	43	99
04:00 PM	0	0	0	0	0	0	10	2	0	12	0	0	0	0	0	4	6	0	0	10	22
04:15 PM	0	0	0	0	0	1	8	1	0	10	3	0	0	0	3	4	7	0	0	11	24
04:30 PM	0	1	0	0	1	1	13	3	0	17	2	0	0	0	2	3	3	0	0	6	26
04:45 PM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	2	5	0	0	7	9
Total	0	1	0	0	1	2	32	7	0	41	5	0	0	0	5	13	21	0	0	34	81
05:00 PM	0	0	0	0	0	0	10	2	0	12	0	0	0	0	0	3	4	0	0	7	19
05:15 PM	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	3	8	0	0	11	20
05:30 PM	0	0	0	0	0	0	10	1	0	11	0	0	0	0	0	2	2	0	0	4	15
05:45 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	1	3	0	0	4	8
Total	0	0	0	0	0	0	32	4	0	36	0	0	0	0	0	9	17	0	0	26	62
Grand Total	1	1	1	0	3	6	210	32	0	248	15	1	23	0	39	48	176	0	0	224	514
Apprch %	33.3	33.3	33.3	0		2.4	84.7	12.9	0		38.5	2.6	59	0		21.4	78.6	0	0		
Total %	0.2	0.2	0.2	0	0.6	1.2	40.9	6.2	0	48.2	2.9	0.2	4.5	0	7.6	9.3	34.2	0	0	43.6	

CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 132 Avenue

File Name : SW 200 St at SW 132 Ave
Site Code : 20013201
Start Date : 1/31/2019
Page No : 1

Groups Printed- Passenger Cars - Heavy Vehicles

	SW 132 Avenue Southbound					SR 994/SW 200 Street Westbound					SW 132 Avenue Northbound					SR 994/SW 200 Street Eastbound					
Start Time	Right	Thru	Left	P&B CNL	App. Total	Right	Thru	Left	P&B CEL	App. Total	Right	Thru	Left	P&B CSL	App. Total	Right	Thru	Left	P&B CWL	App. Total	Int. Total
06:00 AM	0	0	0	0	0	0	84	2	0	86	33	0	9	0	42	2	138	0	0	140	268
06:15 AM	0	0	0	0	0	0	101	4	0	105	35	0	15	0	50	4	143	0	0	147	302
06:30 AM	0	0	0	0	0	0	146	2	0	148	35	0	18	0	53	3	167	0	0	170	371
06:45 AM	0	0	0	0	0	0	153	7	1	161	37	0	13	0	50	1	182	0	0	183	394
Total	0	0	0	0	0	0	484	15	1	500	140	0	55	0	195	10	630	0	0	640	1335
07:00 AM	0	0	0	0	0	0	181	8	0	189	33	0	21	0	54	0	192	0	0	192	435
07:15 AM	0	0	0	0	0	0	198	7	0	205	25	0	19	0	44	2	160	0	0	162	411
07:30 AM	0	0	0	0	0	0	208	1	1	210	40	0	17	0	57	3	205	0	0	208	475
07:45 AM	0	0	0	0	0	0	171	4	0	175	32	0	15	0	47	5	205	0	0	210	432
Total	0	0	0	0	0	0	758	20	1	779	130	0	72	0	202	10	762	0	0	772	1753
08:00 AM	0	0	0	0	0	0	179	3	0	182	21	0	15	0	36	0	180	0	0	180	398
08:15 AM	0	0	0	0	0	0	162	20	1	183	17	0	15	0	32	2	179	0	0	181	396
08:30 AM	0	0	0	0	0	0	177	17	0	194	23	0	17	0	40	6	146	0	0	152	386
08:45 AM	0	0	0	0	0	0	160	8	0	168	18	0	13	0	31	5	142	0	0	147	346
Total	0	0	0	0	0	0	678	48	1	727	79	0	60	0	139	13	647	0	0	660	1526
09:00 AM	0	0	0	0	0	0	145	11	0	156	22	0	15	0	37	1	133	0	0	134	327
09:15 AM	0	0	0	0	0	0	118	7	0	125	16	0	9	0	25	3	128	0	0	131	281
09:30 AM	0	0	0	0	0	0	117	9	0	126	18	0	10	0	28	2	116	0	0	118	272
09:45 AM	0	0	0	0	0	0	102	10	0	112	17	0	9	0	26	3	99	0	0	102	240
Total	0	0	0	0	0	0	482	37	0	519	73	0	43	0	116	9	476	0	0	485	1120
*** BREAK ***																					
12:00 PM	0	0	0	0	0	0	127	7	0	134	14	0	5	0	19	2	95	0	0	97	250
12:15 PM	0	0	0	0	0	0	132	8	0	140	20	0	6	0	26	1	107	0	0	108	274
12:30 PM	0	0	0	0	0	0	122	6	0	128	24	0	6	0	30	3	87	0	0	90	248
12:45 PM	0	0	0	0	0	0	122	5	0	127	21	0	10	0	31	1	79	0	0	80	238
Total	0	0	0	0	0	0	503	26	0	529	79	0	27	0	106	7	368	0	0	375	1010
01:00 PM	0	0	0	0	0	0	125	8	0	133	22	0	11	0	33	2	96	0	0	98	264
01:15 PM	0	0	0	0	0	0	130	10	0	140	20	0	12	0	32	1	112	0	0	113	285
01:30 PM	0	0	0	0	0	0	119	9	0	128	19	0	8	0	27	2	98	0	0	100	255
01:45 PM	0	0	0	0	0	0	130	7	0	137	22	0	11	0	33	2	93	0	0	95	265
Total	0	0	0	0	0	0	504	34	0	538	83	0	42	0	125	7	399	0	0	406	1069
02:00 PM	0	0	0	0	0	0	149	12	0	161	22	0	10	0	32	1	87	0	0	88	281
02:15 PM	0	0	0	0	0	0	158	16	0	174	16	0	8	0	24	2	95	0	0	97	295
02:30 PM	0	0	0	0	0	0	153	14	0	167	20	0	8	0	28	1	111	0	0	112	307
02:45 PM	0	0	0	0	0	0	171	15	0	186	16	0	6	0	22	2	118	0	0	120	328
Total	0	0	0	0	0	0	631	57	0	688	74	0	32	0	106	6	411	0	0	417	1211
03:00 PM	0	0	0	0	0	0	115	24	0	139	20	0	5	0	25	8	132	0	0	140	304
03:15 PM	0	0	0	0	0	0	153	36	0	189	23	0	10	0	33	5	123	0	0	128	350
03:30 PM	0	0	0	0	0	0	172	26	0	198	16	0	5	0	21	15	145	0	1	161	380
03:45 PM	0	0	0	0	0	0	181	48	0	229	10	0	7	0	17	10	197	0	0	207	453
Total	0	0	0	0	0	0	621	134	0	755	69	0	27	0	96	38	597	0	1	636	1487
04:00 PM	0	0	0	0	0	0	178	30	0	208	9	0	9	0	18	9	117	0	1	127	353
04:15 PM	0	0	0	0	0	0	165	36	0	201	5	0	5	0	10	6	135	0	0	141	352
04:30 PM	0	0	0	0	0	0	155	21	0	176	11	0	8	0	19	9	156	0	0	165	360
04:45 PM	0	0	0	0	0	0	140	32	0	172	9	0	3	0	12	10	146	0	0	156	340
Total	0	0	0	0	0	0	638	119	0	757	34	0	25	0	59	34	554	0	1	589	1405
05:00 PM	0	0	0	0	0	0	195	32	0	227	17	0	8	0	25	10	142	0	0	152	404
05:15 PM	0	0	0	0	0	0	127	39	0	166	10	0	11	0	21	8	160	0	1	169	356
05:30 PM	0	0	0	0	0	0	153	44	0	197	18	0	11	0	29	8	145	0	0	153	379
05:45 PM	0	0	0	0	0	0	168	48	0	216	17	0	6	0	23	1	160	0	0	161	400
Total	0	0	0	0	0	0	643	163	0	806	62	0	36	0	98	27	607	0	1	635	1539
06:00 PM	0	0	0	0	0	0	204	40	0	244	17	0	10	0	27	5	119	0	0	124	395
06:15 PM	0	0	0	0	0	0	191	36	0	227	23	0	8	0	31	3	126	0	0	129	387
06:30 PM	0	0	0	0	0	0	172	30	0	202	20	0	12	0	32	4	129	0	0	133	367
06:45 PM	0	0	0	0	0	0	147	32	0	179	18	0	11	0	29	2	111	0	0	113	321
Total	0	0	0	0	0	0	714	138	0	852	78	0	41	0	119	14	485	0	0	499	1470

CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 132 Avenue

File Name : SW 200 St at SW 132 Ave
Site Code : 20013201
Start Date : 1/31/2019
Page No : 2

Groups Printed- Passenger Cars - Heavy Vehicles

	SW 132 Avenue Southbound					SR 994/SW 200 Street Westbound					SW 132 Avenue Northbound					SR 994/SW 200 Street Eastbound					
Start Time	Right	Thru	Left	P&B CNL	App. Total	Right	Thru	Left	P&B CEL	App. Total	Right	Thru	Left	P&B CSL	App. Total	Right	Thru	Left	P&B CWL	App. Total	Int. Total
07:00 PM	0	0	0	0	0	0	155	28	0	183	13	0	10	0	23	4	85	0	0	89	295
07:15 PM	0	0	0	0	0	0	141	26	0	167	15	0	10	0	25	5	85	0	0	90	282
07:30 PM	0	0	0	0	0	0	115	23	0	138	18	0	8	0	26	4	77	0	0	81	245
07:45 PM	0	0	0	0	0	0	107	24	0	131	20	0	6	0	26	3	74	0	0	77	234
Total	0	0	0	0	0	0	518	101	0	619	66	0	34	0	100	16	321	0	0	337	1056
Grand Total	0	0	0	0	0	0	7174	892	3	8069	967	0	494	0	1461	191	6257	0	3	6451	15981
Apprch %	0	0	0	0		0	88.9	11.1	0		66.2	0	33.8	0		3	97	0	0		
Total %	0	0	0	0	0	0	44.9	5.6	0	50.5	6.1	0	3.1	0	9.1	1.2	39.2	0	0	40.4	
Passenger Cars	0	0	0	0	0	0	7018	885	3	7906	958	0	493	0	1451	189	6095	0	3	6287	15644
% Passenger Cars																					
Heavy Vehicles	0	0	0	0	0	0	156	7	0	163	9	0	1	0	10	2	162	0	0	164	337
% Heavy Vehicles	0	0	0	0	0	0	2.2	0.8	0	2	0.9	0	0.2	0	0.7	1	2.6	0	0	2.5	2.1

P&B CNL: Pedestrians & Bicyclists Crossing North Leg

P&B CEL:Pedestrians & Bicyclists Crossing East Leg

P&B CSL:Pedestrians & Bicyclists Crossing South Leg

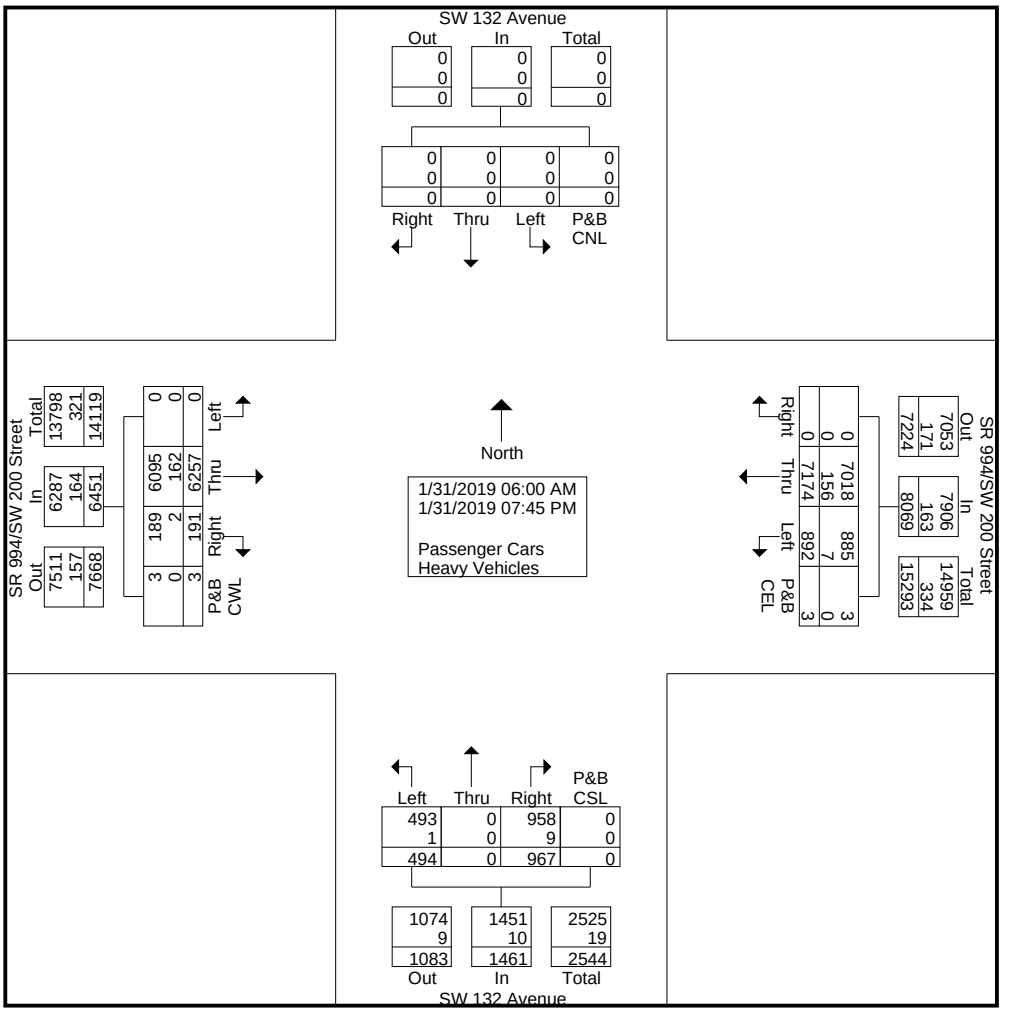
P&B CWL:Pedestrians & Bicyclists Crossing West Leg

CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 132 Avenue

File Name : SW 200 St at SW 132 Ave
Site Code : 20013201
Start Date : 1/31/2019
Page No : 3



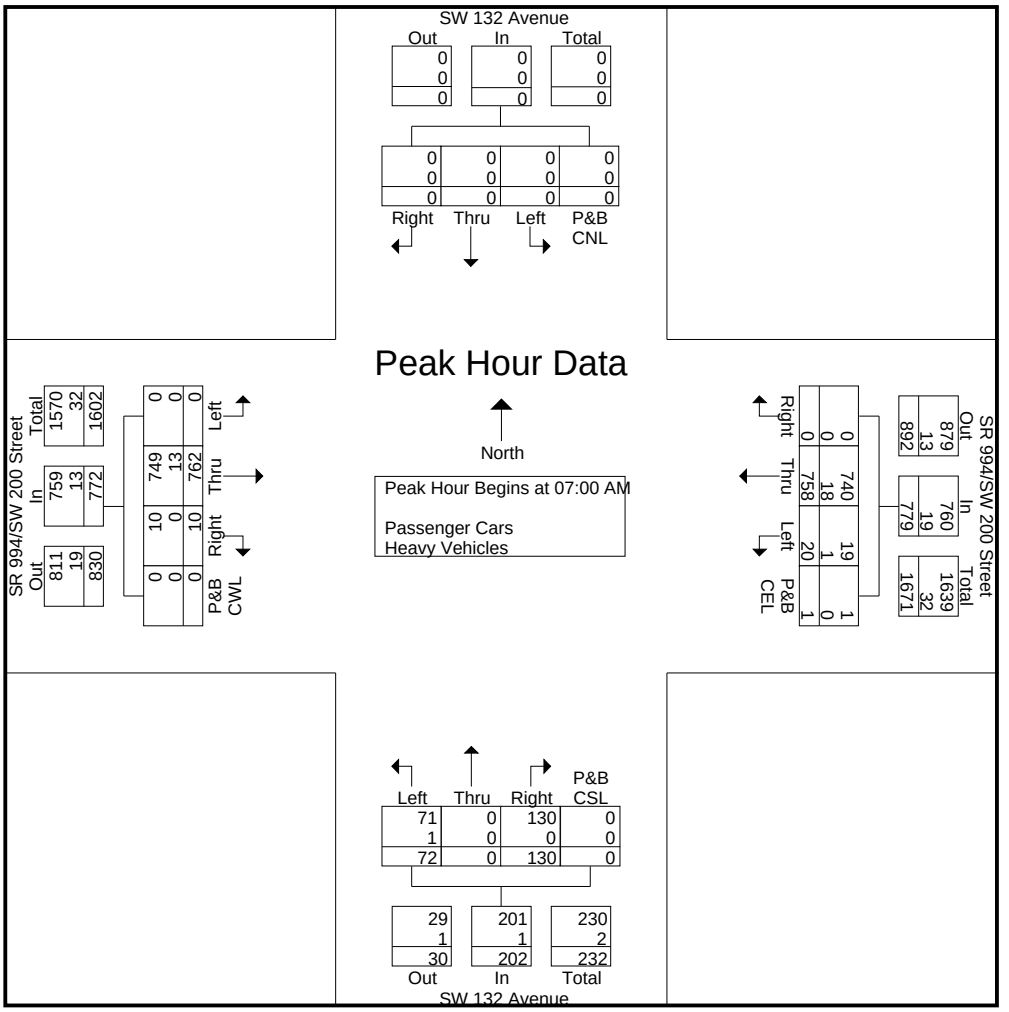
CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 132 Avenue

File Name : SW 200 St at SW 132 Ave
Site Code : 20013201
Start Date : 1/31/2019
Page No : 4

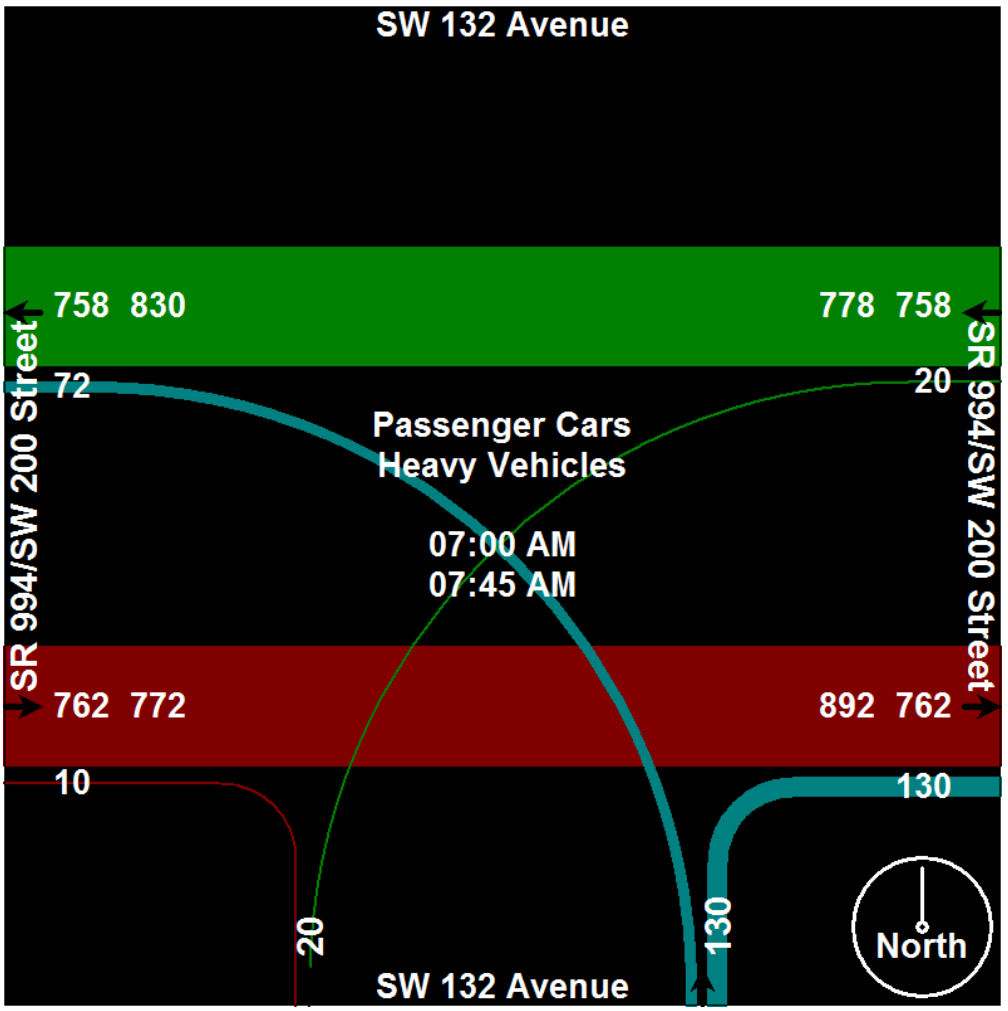
	SW 132 Avenue Southbound					SR 994/SW 200 Street Westbound					SW 132 Avenue Northbound					SR 994/SW 200 Street Eastbound					
Start Time	Right	Thru	Left	P&B CNL	App. Total	Right	Thru	Left	P&B CEL	App. Total	Right	Thru	Left	P&B CSL	App. Total	Right	Thru	Left	P&B CWL	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	181	**8**	0	189	33	0	**21**	0	54	0	192	0	0	192	435
07:15 AM	0	0	0	0	0	0	198	7	0	205	25	0	19	0	44	2	160	0	0	162	411
07:30 AM	0	0	0	0	0	0	**208**	1	**1**	**210**	**40**	0	17	0	**57**	3	**205**	0	0	208	**475**
07:45 AM	0	0	0	0	0	0	171	4	0	175	32	0	15	0	47	**5**	205	0	0	**210**	432
Total Volume	0	0	0	0	0	0	758	20	1	779	130	0	72	0	202	10	762	0	0	772	1753
% App. Total	0	0	0	0		0	97.3	2.6	0.1		64.4	0	35.6	0		1.3	98.7	0	0		
PHF	.000	.000	.000	.000	.000	.000	.911	.625	.250	.927	.813	.000	.857	.000	.886	.500	.929	.000	.000	.919	.923
Passenger Cars	0	0	0	0	0	0	740	19	1	760	130	0	71	0	201	10	749	0	0	759	1720
% Passenger Cars																					
Heavy Vehicles	0	0	0	0	0	0	18	1	0	19	0	0	1	0	1	0	13	0	0	13	33
% Heavy Vehicles	0	0	0	0	0	0	2.4	5.0	0	2.4	0	0	1.4	0	0.5	0	1.7	0	0	1.7	1.9



CH Perez and Associates Consulting Engineers Inc.
9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 132 Avenue

File Name : SW 200 St at SW 132 Ave
Site Code : 20013201
Start Date : 1/31/2019
Page No : 5



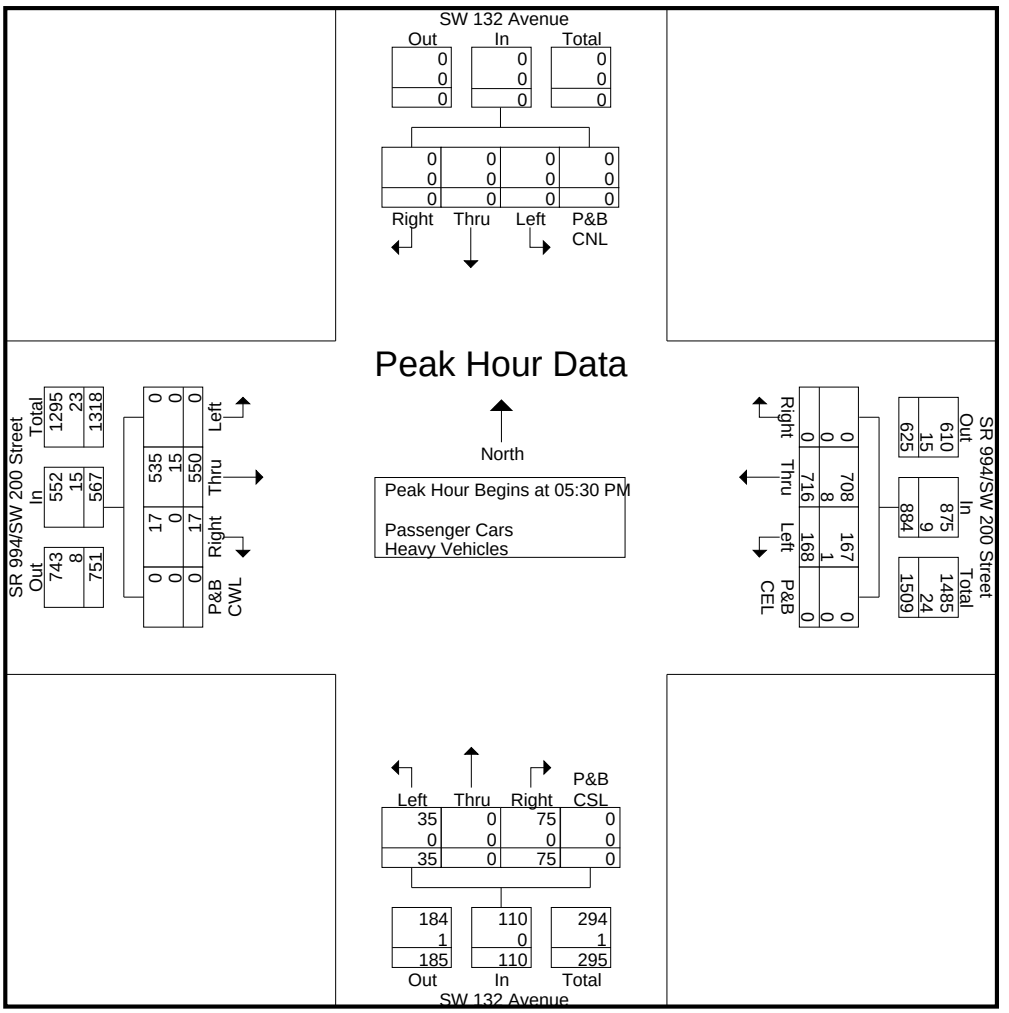
CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 132 Avenue

File Name : SW 200 St at SW 132 Ave
Site Code : 20013201
Start Date : 1/31/2019
Page No : 6

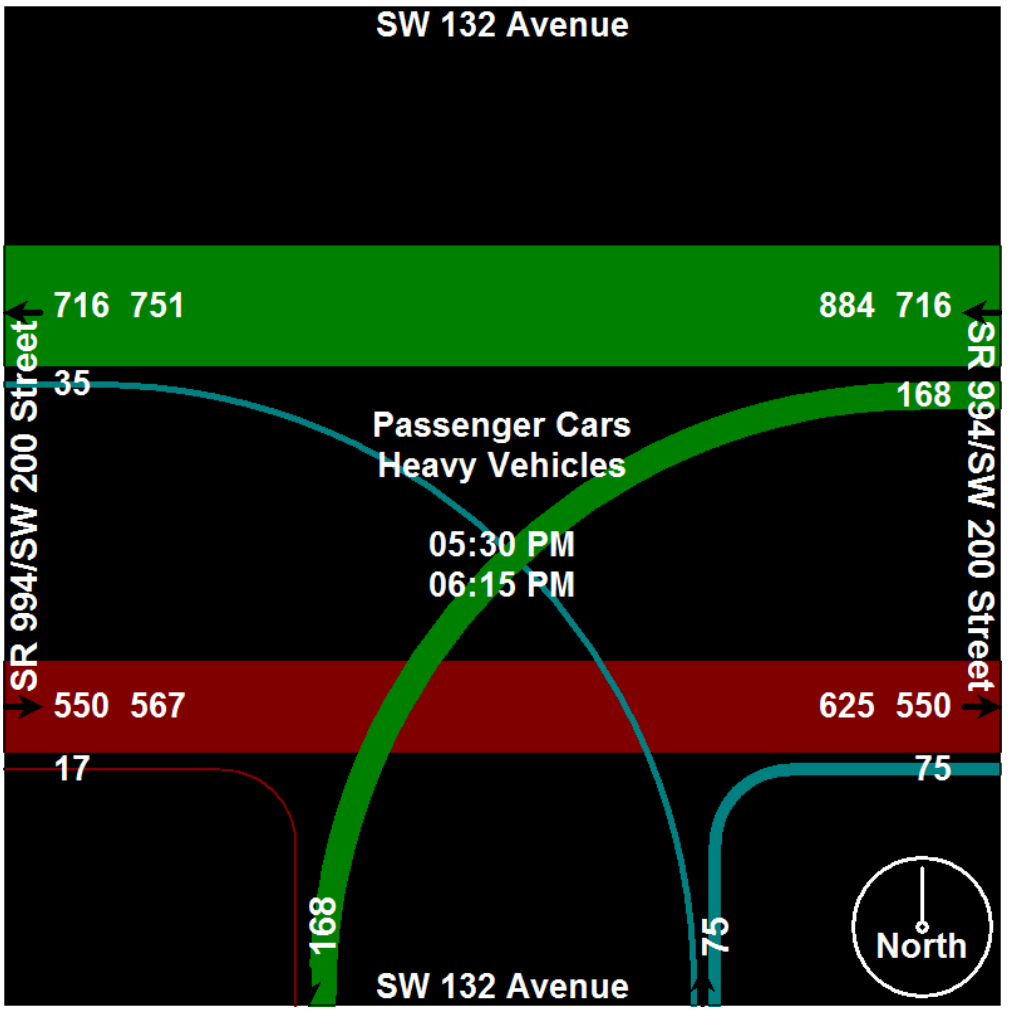
	SW 132 Avenue Southbound					SR 994/SW 200 Street Westbound					SW 132 Avenue Northbound					SR 994/SW 200 Street Eastbound					
Start Time	Right	Thru	Left	P&B CNL	App. Total	Right	Thru	Left	P&B CEL	App. Total	Right	Thru	Left	P&B CSL	App. Total	Right	Thru	Left	P&B CWL	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 07:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:30 PM																					
05:30 PM	0	0	0	0	0	0	153	44	0	197	18	0	**11**	0	29	**8**	145	0	0	153	379
05:45 PM	0	0	0	0	0	0	168	**48**	0	216	17	0	6	0	23	1	**160**	0	0	**161**	**400**
06:00 PM	0	0	0	0	0	0	**204**	40	0	**244**	17	0	10	0	27	5	119	0	0	124	395
06:15 PM	0	0	0	0	0	0	191	36	0	227	**23**	0	8	0	**31**	3	126	0	0	129	387
Total Volume	0	0	0	0	0	0	716	168	0	884	75	0	35	0	110	17	550	0	0	567	1561
% App. Total	0	0	0	0		0	81	19	0		68.2	0	31.8	0		3	97	0	0		
PHF	.000	.000	.000	.000	.000	.000	.877	.875	.000	.906	.815	.000	.795	.000	.887	.531	.859	.000	.000	.880	.976
Passenger Cars	0	0	0	0	0	0	708	167	0	875	75	0	35	0	110	17	535	0	0	552	1537
% Passenger Cars																					
Heavy Vehicles	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	0	15	0	0	15	24
% Heavy Vehicles	0	0	0	0	0	0	1.1	0.6	0	1.0	0	0	0	0	0	0	2.7	0	0	2.6	1.5



CH Perez and Associates Consulting Engineers Inc.
9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 132 Avenue

File Name : SW 200 St at SW 132 Ave
Site Code : 20013201
Start Date : 1/31/2019
Page No : 7



CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 132 Avenue

File Name : SW 200 St at SW 132 Ave
Site Code : 20013201
Start Date : 1/31/2019
Page No : 1

Groups Printed- Passenger Cars

	SW 132 Avenue Southbound					SR 994/SW 200 Street Westbound					SW 132 Avenue Northbound					SR 994/SW 200 Street Eastbound					
Start Time	Right	Thru	Left	P&B CNL	App. Total	Right	Thru	Left	P&B CEL	App. Total	Right	Thru	Left	P&B CSL	App. Total	Right	Thru	Left	P&B CWL	App. Total	Int. Total
06:00 AM	0	0	0	0	0	0	81	2	0	83	32	0	9	0	41	2	128	0	0	130	254
06:15 AM	0	0	0	0	0	0	98	3	0	101	33	0	15	0	48	4	137	0	0	141	290
06:30 AM	0	0	0	0	0	0	138	2	0	140	35	0	18	0	53	3	159	0	0	162	355
06:45 AM	0	0	0	0	0	0	151	7	1	159	34	0	13	0	47	1	174	0	0	175	381
Total	0	0	0	0	0	0	468	14	1	483	134	0	55	0	189	10	598	0	0	608	1280
07:00 AM	0	0	0	0	0	0	178	7	0	185	33	0	20	0	53	0	187	0	0	187	425
07:15 AM	0	0	0	0	0	0	193	7	0	200	25	0	19	0	44	2	158	0	0	160	404
07:30 AM	0	0	0	0	0	0	202	1	1	204	40	0	17	0	57	3	200	0	0	203	464
07:45 AM	0	0	0	0	0	0	167	4	0	171	32	0	15	0	47	5	204	0	0	209	427
Total	0	0	0	0	0	0	740	19	1	760	130	0	71	0	201	10	749	0	0	759	1720
08:00 AM	0	0	0	0	0	0	172	3	0	175	19	0	15	0	34	0	179	0	0	179	388
08:15 AM	0	0	0	0	0	0	159	18	1	178	17	0	15	0	32	2	174	0	0	176	386
08:30 AM	0	0	0	0	0	0	169	17	0	186	23	0	17	0	40	6	139	0	0	145	371
08:45 AM	0	0	0	0	0	0	157	8	0	165	18	0	13	0	31	5	140	0	0	145	341
Total	0	0	0	0	0	0	657	46	1	704	77	0	60	0	137	13	632	0	0	645	1486
09:00 AM	0	0	0	0	0	0	144	11	0	155	22	0	15	0	37	1	131	0	0	132	324
09:15 AM	0	0	0	0	0	0	117	7	0	124	16	0	9	0	25	3	127	0	0	130	279
09:30 AM	0	0	0	0	0	0	115	9	0	124	18	0	10	0	28	2	115	0	0	117	269
09:45 AM	0	0	0	0	0	0	101	10	0	111	17	0	9	0	26	3	98	0	0	101	238
Total	0	0	0	0	0	0	477	37	0	514	73	0	43	0	116	9	471	0	0	480	1110
*** BREAK ***																					
12:00 PM	0	0	0	0	0	0	123	7	0	130	14	0	5	0	19	2	93	0	0	95	244
12:15 PM	0	0	0	0	0	0	129	8	0	137	20	0	6	0	26	1	105	0	0	106	269
12:30 PM	0	0	0	0	0	0	118	6	0	124	24	0	6	0	30	3	83	0	0	86	240
12:45 PM	0	0	0	0	0	0	120	5	0	125	21	0	10	0	31	1	77	0	0	78	234
Total	0	0	0	0	0	0	490	26	0	516	79	0	27	0	106	7	358	0	0	365	987
01:00 PM	0	0	0	0	0	0	124	8	0	132	22	0	11	0	33	2	94	0	0	96	261
01:15 PM	0	0	0	0	0	0	129	10	0	139	20	0	12	0	32	1	110	0	0	111	282
01:30 PM	0	0	0	0	0	0	117	9	0	126	19	0	8	0	27	2	97	0	0	99	252
01:45 PM	0	0	0	0	0	0	127	7	0	134	22	0	11	0	33	2	91	0	0	93	260
Total	0	0	0	0	0	0	497	34	0	531	83	0	42	0	125	7	392	0	0	399	1055
02:00 PM	0	0	0	0	0	0	148	12	0	160	22	0	10	0	32	1	86	0	0	87	279
02:15 PM	0	0	0	0	0	0	156	16	0	172	16	0	8	0	24	2	93	0	0	95	291
02:30 PM	0	0	0	0	0	0	150	14	0	164	20	0	8	0	28	1	109	0	0	110	302
02:45 PM	0	0	0	0	0	0	170	15	0	185	16	0	6	0	22	2	116	0	0	118	325
Total	0	0	0	0	0	0	624	57	0	681	74	0	32	0	106	6	404	0	0	410	1197
03:00 PM	0	0	0	0	0	0	110	23	0	133	19	0	5	0	24	8	127	0	0	135	292
03:15 PM	0	0	0	0	0	0	143	36	0	179	23	0	10	0	33	5	118	0	0	123	335
03:30 PM	0	0	0	0	0	0	169	26	0	195	16	0	5	0	21	14	142	0	1	157	373
03:45 PM	0	0	0	0	0	0	172	48	0	220	10	0	7	0	17	10	193	0	0	203	440
Total	0	0	0	0	0	0	594	133	0	727	68	0	27	0	95	37	580	0	1	618	1440
04:00 PM	0	0	0	0	0	0	170	29	0	199	9	0	9	0	18	9	111	0	1	121	338
04:15 PM	0	0	0	0	0	0	161	36	0	197	5	0	5	0	10	6	127	0	0	133	340
04:30 PM	0	0	0	0	0	0	146	21	0	167	11	0	8	0	19	9	151	0	0	160	346
04:45 PM	0	0	0	0	0	0	140	32	0	172	9	0	3	0	12	10	141	0	0	151	335
Total	0	0	0	0	0	0	617	118	0	735	34	0	25	0	59	34	530	0	1	565	1359
05:00 PM	0	0	0	0	0	0	192	32	0	224	17	0	8	0	25	9	141	0	0	150	399
05:15 PM	0	0	0	0	0	0	124	39	0	163	10	0	11	0	21	8	160	0	1	169	353
05:30 PM	0	0	0	0	0	0	152	44	0	196	18	0	11	0	29	8	143	0	0	151	376
05:45 PM	0	0	0	0	0	0	167	47	0	214	17	0	6	0	23	1	155	0	0	156	393
Total	0	0	0	0	0	0	635	162	0	797	62	0	36	0	98	26	599	0	1	626	1521
06:00 PM	0	0	0	0	0	0	200	40	0	240	17	0	10	0	27	5	115	0	0	120	387
06:15 PM	0	0	0	0	0	0	189	36	0	225	23	0	8	0	31	3	122	0	0	125	381
06:30 PM	0	0	0	0	0	0	171	30	0	201	20	0	12	0	32	4	126	0	0	130	363
06:45 PM	0	0	0	0	0	0	146	32	0	178	18	0	11	0	29	2	107	0	0	109	316
Total	0	0	0	0	0	0	706	138	0	844	78	0	41	0	119	14	470	0	0	484	1447

CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 132 Avenue

File Name : SW 200 St at SW 132 Ave
Site Code : 20013201
Start Date : 1/31/2019

Groups Printed- Passenger Cars

	SW 132 Avenue Southbound					SR 994/SW 200 Street Westbound					SW 132 Avenue Northbound					SR 994/SW 200 Street Eastbound					
Start Time	Right	Thru	Left	P&B CNL	App. Total	Right	Thru	Left	P&B CEL	App. Total	Right	Thru	Left	P&B CSL	App. Total	Right	Thru	Left	P&B CWL	App. Total	Int. Total
07:00 PM	0	0	0	0	0	0	154	28	0	182	13	0	10	0	23	4	83	0	0	87	292
07:15 PM	0	0	0	0	0	0	139	26	0	165	15	0	10	0	25	5	81	0	0	86	276
07:30 PM	0	0	0	0	0	0	114	23	0	137	18	0	8	0	26	4	75	0	0	79	242
07:45 PM	0	0	0	0	0	0	106	24	0	130	20	0	6	0	26	3	73	0	0	76	232
Total	0	0	0	0	0	0	513	101	0	614	66	0	34	0	100	16	312	0	0	328	1042
Grand Total	0	0	0	0	0	0	7018	885	3	7906	958	0	493	0	1451	189	6095	0	3	6287	15644
Apprch %	0	0	0	0		0	88.8	11.2	0		66	0	34	0		3	96.9	0	0		
Total %	0	0	0	0	0	0	44.9	5.7	0	50.5	6.1	0	3.2	0	9.3	1.2	39	0	0	40.2	

P&B CNL: Pedestrians & Bicyclists Crossing North Leg

P&B CEL:Pedestrians & Bicyclists Crossing East Leg

P&B CSL:Pedestrians & Bicyclists Crossing South Leg

P&B CWL:Pedestrians & Bicyclists Crossing West Leg

CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 132 Avenue

File Name : SW 200 St at SW 132 Ave
Site Code : 20013201
Start Date : 1/31/2019

Groups Printed- Heavy Vehicles

	SW 132 Avenue Southbound					SR 994/SW 200 Street Westbound					SW 132 Avenue Northbound					SR 994/SW 200 Street Eastbound					
Start Time	Right	Thru	Left	P&B CNL	App. Total	Right	Thru	Left	P&B CEL	App. Total	Right	Thru	Left	P&B CSL	App. Total	Right	Thru	Left	P&B CWL	App. Total	Int. Total
06:00 AM	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	0	10	0	0	10	14
06:15 AM	0	0	0	0	0	0	3	1	0	4	2	0	0	0	2	0	6	0	0	6	12
06:30 AM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	8	0	0	8	16
06:45 AM	0	0	0	0	0	0	2	0	0	2	3	0	0	0	3	0	8	0	0	8	13
Total	0	0	0	0	0	0	16	1	0	17	6	0	0	0	6	0	32	0	0	32	55
07:00 AM	0	0	0	0	0	0	3	1	0	4	0	0	1	0	1	0	5	0	0	5	10
07:15 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	7
07:30 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	5	0	0	5	11
07:45 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	5
Total	0	0	0	0	0	0	18	1	0	19	0	0	1	0	1	0	13	0	0	13	33
08:00 AM	0	0	0	0	0	0	7	0	0	7	2	0	0	0	2	0	1	0	0	1	10
08:15 AM	0	0	0	0	0	0	3	2	0	5	0	0	0	0	0	0	5	0	0	5	10
08:30 AM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	7	0	0	7	15
08:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	5
Total	0	0	0	0	0	0	21	2	0	23	2	0	0	0	2	0	15	0	0	15	40
09:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
09:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
09:30 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
09:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Total	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	10
*** BREAK ***																					
12:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	6
12:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	5
12:30 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	8
12:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
Total	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	10	0	0	10	23
01:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
01:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
01:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
01:45 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	5
Total	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	7	0	0	7	14
02:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
02:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
02:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	5
02:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
Total	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	7	0	0	7	14
03:00 PM	0	0	0	0	0	0	5	1	0	6	1	0	0	0	1	0	5	0	0	5	12
03:15 PM	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	5	0	0	5	15
03:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	1	3	0	0	4	7
03:45 PM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	4	0	0	4	13
Total	0	0	0	0	0	0	27	1	0	28	1	0	0	0	1	1	17	0	0	18	47
04:00 PM	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	0	6	0	0	6	15
04:15 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	8	0	0	8	12
04:30 PM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	5	0	0	5	14
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	5
Total	0	0	0	0	0	0	21	1	0	22	0	0	0	0	0	0	24	0	0	24	46
05:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	1	1	0	0	2	5
05:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
05:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
05:45 PM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	5	0	0	5	7
Total	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	1	8	0	0	9	18
06:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	8
06:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	6
06:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	4
06:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
Total	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	15	0	0	15	23

CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178

Turning Movement Counts
SR 994/SW 200 Street at SW 132 Avenue

File Name : SW 200 St at SW 132 Ave
Site Code : 20013201
Start Date : 1/31/2019

Groups Printed- Heavy Vehicles

	SW 132 Avenue Southbound					SR 994/SW 200 Street Westbound					SW 132 Avenue Northbound					SR 994/SW 200 Street Eastbound					
Start Time	Right	Thru	Left	P&B CNL	App. Total	Right	Thru	Left	P&B CEL	App. Total	Right	Thru	Left	P&B CSL	App. Total	Right	Thru	Left	P&B CWL	App. Total	Int. Total
07:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
07:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	6
07:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
07:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Total	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	9	0	0	9	14
Grand Total	0	0	0	0	0	0	156	7	0	163	9	0	1	0	10	2	162	0	0	164	337
Apprch %	0	0	0	0		0	95.7	4.3	0		90	0	10	0		1.2	98.8	0	0		
Total %	0	0	0	0	0	0	46.3	2.1	0	48.4	2.7	0	0.3	0	3	0.6	48.1	0	0	48.7	

CH Perez and Associates Consulting Engineers Inc.
9594 NW 41st Street, Suite 201, Miami, Florida 33178
Phone: (305) 592-1070 & Fax: (305) 592-1078

Station ID: 00013
SR 994/SW 200 Street Westbound
At East of SW 137 Avenue

Start Time	Mon 04-Feb-19	Tue 05-Feb-19	Wed 06-Feb-19	Thu 07-Feb-19	Fri 08-Feb-19	Average Day	Sat 09-Feb-19	Sun 10-Feb-19	Week Average
12:00 AM	*	66	68	61	*	65	*	*	65
01:00	*	32	25	35	*	31	*	*	31
02:00	*	14	17	21	*	17	*	*	17
03:00	*	21	34	32	*	29	*	*	29
04:00	*	68	74	68	*	70	*	*	70
05:00	*	298	285	285	*	289	*	*	289
06:00	*	720	679	684	*	694	*	*	694
07:00	*	840	**843**	**865**	*	**849**	*	*	**849**
08:00	*	**882**	824	838	*	848	*	*	848
09:00	*	585	595	546	*	575	*	*	575
10:00	*	445	443	445	*	444	*	*	444
11:00	*	486	488	523	*	499	*	*	499
12:00 PM	*	517	508	487	*	504	*	*	504
01:00	*	539	527	544	*	537	*	*	537
02:00	*	635	631	593	*	620	*	*	620
03:00	*	645	**705**	639	*	663	*	*	663
04:00	*	678	649	691	*	673	*	*	673
05:00	*	**681**	695	**714**	*	**697**	*	*	**697**
06:00	*	630	614	549	*	598	*	*	598
07:00	*	539	471	484	*	498	*	*	498
08:00	*	417	325	344	*	362	*	*	362
09:00	*	225	275	288	*	263	*	*	263
10:00	*	195	193	180	*	189	*	*	189
11:00	*	129	127	124	*	127	*	*	127
Day Total	0	10287	10095	10040	0	10141	0	0	10141
% Avg. WkDay	0.0%	101.4%	99.5%	99.0%	0.0%				
% Avg. Week	0.0%	101.4%	99.5%	99.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	-	08:00	07:00	07:00	-	07:00	-	-	07:00
Vol.	-	882	843	865	-	849	-	-	849
PM Peak	-	17:00	15:00	17:00	-	17:00	-	-	17:00
Vol.	-	681	705	714	-	697	-	-	697
Grand Total	0	10287	10095	10040	0	10141	0	0	10141

ADT ADT 10,134 AADT 10,134

CH Perez and Associates Consulting Engineers Inc.
9594 NW 41st Street, Suite 201, Miami, Florida 33178
Phone: (305) 592-1070 & Fax: (305) 592-1078

Station ID: 00013
SR 994/SW 200 Street Westbound
At East of SW 137 Avenue

Start Time	Tue 05-Feb-19 A.M.	P.M.	Wed 06-Feb-19 A.M.	P.M.	Thu 07-Feb-19 A.M.	P.M.	Daily Average A.M.	P.M.
12:00	28	133	22	108	22	110	24	117
12:15	18	122	15	134	18	130	17	129
12:30	12	136	19	126	12	117	14	126
12:45	8	126	12	140	9	130	10	132
01:00	8	138	5	140	11	133	8	137
01:15	6	142	8	132	10	148	8	141
01:30	10	127	8	130	6	142	8	133
01:45	8	132	4	125	8	121	7	126
02:00	5	145	3	138	9	135	6	139
02:15	2	182	4	171	3	137	3	163
02:30	3	135	6	158	3	152	4	148
02:45	4	173	4	164	6	169	5	169
03:00	6	144	8	153	2	124	5	140
03:15	4	154	6	**188**	8	166	6	169
03:30	5	193	6	**179**	10	174	7	182
03:45	6	154	14	**185**	12	175	11	171
04:00	10	169	4	**156**	7	183	7	169
04:15	12	174	14	176	8	170	11	173
04:30	23	161	25	160	23	183	24	168
04:45	23	174	31	157	30	155	28	162
05:00	30	160	31	194	37	**189**	33	**181**
05:15	49	**162**	46	160	40	**184**	45	**169**
05:30	85	**198**	87	177	83	**152**	85	**176**
05:45	134	**161**	121	164	125	**189**	127	**171**
06:00	128	**176**	115	141	127	135	123	151
06:15	162	151	165	155	163	166	163	157
06:30	207	137	193	168	195	148	198	151
06:45	223	166	**206**	150	**199**	100	**209**	139
07:00	215	151	**224**	131	**217**	141	**219**	141
07:15	229	126	**208**	129	**222**	126	**220**	127
07:30	205	140	**205**	106	**244**	108	**218**	118
07:45	191	122	206	105	182	109	193	112
08:00	**205**	104	193	84	224	98	207	95
08:15	**231**	123	218	76	203	82	217	94
08:30	**221**	102	223	102	196	88	213	97
08:45	**225**	88	190	63	215	76	210	76
09:00	165	78	163	78	176	79	168	78
09:15	142	53	137	78	138	81	139	71
09:30	131	42	155	65	120	76	135	61
09:45	147	52	140	54	112	52	133	53
10:00	119	58	93	61	99	51	104	57
10:15	115	53	105	47	115	48	112	49
10:30	88	39	123	43	114	59	108	47
10:45	123	45	122	42	117	22	121	36
11:00	95	30	120	36	130	30	115	32
11:15	126	36	130	31	124	34	127	34
11:30	133	35	117	33	138	32	129	33
11:45	132	28	121	27	131	28	128	28
Total	4457	5830	4375	5720	4403	5637	4412	5728
Combined Total	10287		10095		10040		10140	
Peak	08:00	05:15	06:45	03:15	06:45	05:00	06:45	05:00
Vol.	882	697	843	708	882	714	866	697
P.H.F.	0.955	0.880	0.941	0.941	0.904	0.944	0.984	0.963
ADT	ADT 10,134		AADT 10,134					

CH Perez and Associates Consulting Engineers Inc.
9594 NW 41st Street, Suite 201, Miami, Florida 33178
Phone: (305) 592-1070 & Fax: (305) 592-1078

Station ID: 00005
SR 994/SW 200 Street Eastbound
At West of SW 137 Avenue

Start Time	Mon 04-Feb-19	Tue 05-Feb-19	Wed 06-Feb-19	Thu 07-Feb-19	Fri 08-Feb-19	Average Day	Sat 09-Feb-19	Sun 10-Feb-19	Week Average
12:00 AM	*	20	19	22	*	20	*	*	20
01:00	*	12	9	9	*	10	*	*	10
02:00	*	9	7	13	*	10	*	*	10
03:00	*	14	13	8	*	12	*	*	12
04:00	*	34	44	37	*	38	*	*	38
05:00	*	216	208	224	*	216	*	*	216
06:00	*	397	413	400	*	403	*	*	403
07:00	*	**447**	**448**	**450**	*	**448**	*	*	**448**
08:00	*	436	413	394	*	414	*	*	414
09:00	*	376	331	407	*	371	*	*	371
10:00	*	359	339	332	*	343	*	*	343
11:00	*	314	316	348	*	326	*	*	326
12:00 PM	*	300	347	360	*	336	*	*	336
01:00	*	335	355	334	*	341	*	*	341
02:00	*	347	348	353	*	349	*	*	349
03:00	*	393	394	383	*	390	*	*	390
04:00	*	397	391	412	*	400	*	*	400
05:00	*	**460**	**426**	**460**	*	**449**	*	*	**449**
06:00	*	376	397	329	*	367	*	*	367
07:00	*	252	237	234	*	241	*	*	241
08:00	*	161	173	155	*	163	*	*	163
09:00	*	112	102	110	*	108	*	*	108
10:00	*	60	70	72	*	67	*	*	67
11:00	*	41	40	47	*	43	*	*	43
Day Total	0	5868	5840	5893	0	5865	0	0	5865
% Avg. WkDay	0.0%	100.1%	99.6%	100.5%	0.0%				
% Avg. Week	0.0%	100.1%	99.6%	100.5%	0.0%	100.0%	0.0%	0.0%	
AM Peak	-	07:00	07:00	07:00	-	07:00	-	-	07:00
Vol.	-	447	448	450	-	448	-	-	448
PM Peak	-	17:00	17:00	17:00	-	17:00	-	-	17:00
Vol.	-	460	426	460	-	449	-	-	449
Grand Total	0	5868	5840	5893	0	5865	0	0	5865

ADT ADT 5,866 AADT 5,866

CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178
Phone: (305) 592-1070 & Fax: (305) 592-1078

Station ID: 00005
SR 994/SW 200 Street Eastbound
At West of SW 137 Avenue

Start Time	Tue 05-Feb-19 A.M.	P.M.	Wed 06-Feb-19 A.M.	P.M.	Thu 07-Feb-19 A.M.	P.M.	Daily Average A.M.	P.M.
12:00	9	84	6	86	10	89	8	86
12:15	6	80	3	93	5	94	5	89
12:30	3	76	4	94	4	98	4	89
12:45	2	60	6	74	3	79	4	71
01:00	4	91	4	84	4	101	4	92
01:15	3	81	3	90	0	85	2	85
01:30	4	88	2	92	2	73	3	84
01:45	1	75	0	89	3	75	1	80
02:00	1	82	3	80	4	71	3	78
02:15	4	71	1	89	1	92	2	84
02:30	1	82	1	91	6	85	3	86
02:45	3	112	2	88	2	105	2	102
03:00	1	95	3	99	2	85	2	93
03:15	2	99	2	88	0	108	1	98
03:30	4	103	2	94	2	87	3	95
03:45	7	96	6	113	4	103	6	104
04:00	5	100	5	85	5	99	5	95
04:15	7	101	3	95	6	108	5	101
04:30	5	94	16	107	7	88	9	96
04:45	17	102	20	104	19	**117**	19	108
05:00	23	**113**	25	100	24	**100**	24	**104**
05:15	35	**122**	36	**122**	36	**122**	36	**122**
05:30	56	**110**	59	**101**	54	**127**	56	**113**
05:45	102	**115**	88	**103**	110	111	100	**110**
06:00	96	88	100	**116**	98	86	98	97
06:15	107	96	107	114	106	97	107	102
06:30	99	115	111	88	91	78	100	94
06:45	95	77	95	79	105	68	98	75
07:00	113	73	78	65	**95**	72	95	70
07:15	104	69	**121**	59	**114**	54	113	61
07:30	**117**	53	**129**	63	**112**	63	**119**	60
07:45	**113**	57	**120**	50	**129**	45	**121**	51
08:00	**125**	37	**117**	49	95	57	**112**	48
08:15	**119**	48	113	51	111	33	**114**	44
08:30	94	45	83	40	82	35	86	40
08:45	98	31	100	33	106	30	101	31
09:00	93	31	90	37	103	28	95	32
09:15	97	29	86	24	111	30	98	28
09:30	86	33	68	23	99	33	84	30
09:45	100	19	87	18	94	19	94	19
10:00	106	11	77	23	101	26	95	20
10:15	92	19	97	15	80	17	90	17
10:30	84	15	71	12	77	18	77	15
10:45	77	15	94	20	74	11	82	15
11:00	70	16	79	14	75	14	75	15
11:15	82	10	81	10	103	11	89	10
11:30	81	4	70	7	74	8	75	6
11:45	81	11	86	9	96	14	88	11
Total	2634	3234	2560	3280	2644	3249	2613	3256
Combined Total	5868		5840		5893		5869	
Peak	07:30	05:00	- 07:15	05:15	- 07:00	04:45	- 07:30	05:00
Vol.	474	460	- 487	442	- 450	466	- 466	449
P.H.F.	0.948	0.943	0.944	0.906	0.872	0.917	0.963	0.920
ADT	ADT 5,866		AADT 5,866					

CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178
Phone: (305) 592-1070 & Fax: (305) 592-1078

Station ID: 00006
SW 137 Avenue Southbound
At North of SR 994/SW 200 Street

Start Time	Mon 04-Feb-19	Tue 05-Feb-19	Wed 06-Feb-19	Thu 07-Feb-19	Fri 08-Feb-19	Average Day	Sat 09-Feb-19	Sun 10-Feb-19	Week Average
12:00 AM	*	69	68	75	*	71	*	*	71
01:00	*	36	27	36	*	33	*	*	33
02:00	*	20	17	18	*	18	*	*	18
03:00	*	11	16	12	*	13	*	*	13
04:00	*	23	23	19	*	22	*	*	22
05:00	*	51	56	56	*	54	*	*	54
06:00	*	227	210	197	*	211	*	*	211
07:00	*	**543**	**526**	**538**	*	**536**	*	*	**536**
08:00	*	446	452	454	*	451	*	*	451
09:00	*	317	324	316	*	319	*	*	319
10:00	*	289	266	248	*	268	*	*	268
11:00	*	290	293	343	*	309	*	*	309
12:00 PM	*	323	291	320	*	311	*	*	311
01:00	*	336	337	381	*	351	*	*	351
02:00	*	408	448	453	*	436	*	*	436
03:00	*	554	505	572	*	544	*	*	544
04:00	*	**598**	**597**	574	*	**590**	*	*	**590**
05:00	*	565	590	**592**	*	582	*	*	582
06:00	*	582	539	585	*	569	*	*	569
07:00	*	440	402	421	*	421	*	*	421
08:00	*	288	281	276	*	282	*	*	282
09:00	*	203	235	237	*	225	*	*	225
10:00	*	196	175	168	*	180	*	*	180
11:00	*	101	117	104	*	107	*	*	107
Day Total	0	6916	6795	6995	0	6903	0	0	6903
% Avg. WkDay	0.0%	100.2%	98.4%	101.3%	0.0%				
% Avg. Week	0.0%	100.2%	98.4%	101.3%	0.0%	100.0%	0.0%	0.0%	
AM Peak	-	07:00	07:00	07:00	-	07:00	-	-	07:00
Vol.	-	543	526	538	-	536	-	-	536
PM Peak	-	16:00	16:00	17:00	-	16:00	-	-	16:00
Vol.	-	598	597	592	-	590	-	-	590
Grand Total	0	6916	6795	6995	0	6903	0	0	6903

ADT ADT 6,896 AADT 6,896

CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178
Phone: (305) 592-1070 & Fax: (305) 592-1078

Station ID: 00006
SW 137 Avenue Southbound
At North of SR 994/SW 200 Street

Start Time	Tue 05-Feb-19 A.M.	P.M.	Wed 06-Feb-19 A.M.	P.M.	Thu 07-Feb-19 A.M.	P.M.	Daily Average A.M.	P.M.
12:00	31	77	23	64	18	78	24	73
12:15	15	75	18	70	19	85	17	77
12:30	12	79	10	86	19	83	14	83
12:45	11	92	17	71	19	74	16	79
01:00	9	74	14	72	15	84	13	77
01:15	13	77	6	85	3	103	7	88
01:30	7	88	3	95	11	98	7	94
01:45	7	97	4	85	7	96	6	93
02:00	4	100	5	128	5	85	5	104
02:15	4	94	4	118	5	109	4	107
02:30	6	117	2	95	3	121	4	111
02:45	6	97	6	107	5	138	6	114
03:00	2	123	4	114	3	116	3	118
03:15	2	141	4	136	3	168	3	148
03:30	2	138	2	124	3	159	2	140
03:45	5	**152**	6	131	3	129	5	137
04:00	3	**162**	5	**153**	5	140	4	152
04:15	0	**135**	10	**151**	2	137	4	141
04:30	10	**166**	3	**131**	8	142	7	146
04:45	10	135	5	**162**	4	155	6	151
05:00	5	136	7	149	6	149	6	145
05:15	6	143	12	137	10	**144**	9	141
05:30	15	140	11	146	13	**152**	13	**146**
05:45	25	146	26	158	27	**147**	26	**150**
06:00	30	151	27	142	21	**163**	26	**152**
06:15	43	148	33	147	53	135	43	**143**
06:30	66	151	71	133	57	148	65	144
06:45	88	132	79	117	66	139	78	129
07:00	119	109	137	100	**133**	103	**130**	104
07:15	**135**	116	**129**	127	**139**	105	**134**	116
07:30	**141**	109	**121**	103	**128**	101	**130**	104
07:45	**148**	106	**139**	72	**138**	112	**142**	97
08:00	**128**	71	**139**	72	121	78	129	74
08:15	120	87	129	82	138	71	129	80
08:30	106	59	99	66	100	72	102	66
08:45	92	71	85	61	95	55	91	62
09:00	104	55	99	66	87	70	97	64
09:15	86	51	96	75	88	64	90	63
09:30	63	49	65	53	77	52	68	51
09:45	64	48	64	41	64	51	64	47
10:00	74	59	63	50	59	36	65	48
10:15	94	56	59	54	65	53	73	54
10:30	53	37	73	30	59	35	62	34
10:45	68	44	71	41	65	44	68	43
11:00	72	33	62	35	82	32	72	33
11:15	82	25	79	29	80	24	80	26
11:30	52	19	77	29	89	20	73	23
11:45	84	24	75	24	92	28	84	25
Total	2322	4594	2278	4517	2312	4683	2306	4597
Combined Total	6916		6795		6995		6903	
Peak	07:15	03:45	- 07:15	04:00	- 07:00	05:15	- 07:00	05:30
Vol.	552	615	- 528	597	- 538	606	- 536	591
P.H.F.	0.932	0.926	0.950	0.921	0.968	0.929	0.944	0.972
ADT	ADT 6,896		AADT 6,896					

CH Perez and Associates Consulting Engineers Inc.
9594 NW 41st Street, Suite 201, Miami, Florida 33178
Phone: (305) 592-1070 & Fax: (305) 592-1078

Station ID: 00002
SR 994/SW 200 Street Westbound
At East of SW 134 Avenue

Start Time	Mon 04-Feb-19	Tue 05-Feb-19	Wed 06-Feb-19	Thu 07-Feb-19	Fri 08-Feb-19	Average Day	Sat 09-Feb-19	Sun 10-Feb-19	Week Average
12:00 AM	*	58	63	63	*	61	*	*	61
01:00	*	20	20	33	*	24	*	*	24
02:00	*	11	19	16	*	15	*	*	15
03:00	*	14	23	20	*	19	*	*	19
04:00	*	57	65	57	*	60	*	*	60
05:00	*	210	202	194	*	202	*	*	202
06:00	*	641	629	631	*	634	*	*	634
07:00	*	**972**	**973**	**969**	*	**971**	*	*	**971**
08:00	*	909	857	857	*	874	*	*	874
09:00	*	479	506	466	*	484	*	*	484
10:00	*	424	396	423	*	414	*	*	414
11:00	*	460	449	479	*	463	*	*	463
12:00 PM	*	486	493	502	*	494	*	*	494
01:00	*	536	512	521	*	523	*	*	523
02:00	*	634	626	575	*	612	*	*	612
03:00	*	689	701	690	*	693	*	*	693
04:00	*	**754**	679	707	*	713	*	*	713
05:00	*	743	**712**	**732**	*	**729**	*	*	**729**
06:00	*	661	632	615	*	636	*	*	636
07:00	*	547	482	475	*	501	*	*	501
08:00	*	400	315	333	*	349	*	*	349
09:00	*	221	247	270	*	246	*	*	246
10:00	*	181	165	170	*	172	*	*	172
11:00	*	115	116	107	*	113	*	*	113
Day Total	0	10222	9882	9905	0	10002	0	0	10002
% Avg. WkDay	0.0%	102.2%	98.8%	99.0%	0.0%				
% Avg. Week	0.0%	102.2%	98.8%	99.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	-	07:00	07:00	07:00	-	07:00	-	-	07:00
Vol.	-	972	973	969	-	971	-	-	971
PM Peak	-	16:00	17:00	17:00	-	17:00	-	-	17:00
Vol.	-	754	712	732	-	729	-	-	729
Grand Total	0	10222	9882	9905	0	10002	0	0	10002

ADT ADT 9,998 AADT 9,998

CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178
Phone: (305) 592-1070 & Fax: (305) 592-1078

Station ID: 00002
SR 994/SW 200 Street Westbound
At East of SW 134 Avenue

Start Time	Tue 05-Feb-19 A.M.	P.M.	Wed 06-Feb-19 A.M.	P.M.	Thu 07-Feb-19 A.M.	P.M.	Daily Average A.M.	P.M.
12:00	21	136	22	112	17	113	20	120
12:15	16	108	12	133	23	138	17	126
12:30	10	125	18	119	11	117	13	120
12:45	11	117	11	129	12	134	11	127
01:00	5	137	3	125	11	126	6	129
01:15	4	138	5	133	7	138	5	136
01:30	9	110	9	124	9	138	9	124
01:45	2	151	3	130	6	119	4	133
02:00	3	149	4	145	5	146	4	147
02:15	1	173	5	168	3	112	3	151
02:30	1	143	4	149	3	159	3	150
02:45	6	169	6	164	5	158	6	164
03:00	3	150	7	149	3	145	4	148
03:15	2	170	5	181	3	162	3	171
03:30	2	188	4	178	7	**189**	4	185
03:45	7	181	7	193	7	**194**	7	189
04:00	5	177	4	160	4	**172**	4	170
04:15	12	204	14	170	6	**191**	11	188
04:30	22	176	24	166	22	177	23	173
04:45	18	**197**	23	**183**	25	167	22	**182**
05:00	32	**180**	24	**198**	34	187	30	**188**
05:15	36	**205**	37	**166**	29	198	34	**190**
05:30	67	**193**	56	**179**	58	164	60	**179**
05:45	75	165	85	169	73	183	78	172
06:00	94	190	90	171	82	162	89	174
06:15	142	157	130	162	146	185	139	168
06:30	193	144	192	154	192	170	192	156
06:45	212	170	217	145	211	98	213	138
07:00	**252**	171	**227**	142	214	146	231	153
07:15	**238**	127	**248**	121	**234**	111	**240**	120
07:30	**251**	136	**263**	109	**269**	118	**261**	121
07:45	**231**	113	**235**	110	**252**	100	**239**	108
08:00	241	114	220	83	**241**	95	**234**	97
08:15	244	112	229	76	222	76	232	88
08:30	219	99	235	87	231	79	228	88
08:45	205	75	173	69	163	83	180	76
09:00	121	76	156	73	164	71	147	73
09:15	125	37	102	72	141	70	123	60
09:30	104	54	132	48	105	77	114	60
09:45	129	54	116	54	56	52	100	53
10:00	116	62	83	55	112	50	104	56
10:15	96	40	96	35	107	39	100	38
10:30	90	36	104	39	95	56	96	44
10:45	122	43	113	36	109	25	115	35
11:00	81	32	112	34	124	36	106	34
11:15	128	32	107	32	112	24	116	29
11:30	111	29	117	29	129	29	119	29
11:45	140	22	113	21	114	18	122	20
Total	4255	5967	4202	5680	4208	5697	4221	5780
Combined Total	10222		9882		9905		10001	
Peak	07:00	04:45	- 07:00	04:45	- 07:15	03:30	- 07:15	04:45
Vol.	972	775	- 973	726	- 996	746	- 974	739
P.H.F.	0.964	0.945	0.925	0.917	0.926	0.961	0.933	0.972
ADT	ADT 9,998		AADT 9,998					

CH Perez and Associates Consulting Engineers Inc.
9594 NW 41st Street, Suite 201, Miami, Florida 33178
Phone: (305) 592-1070 & Fax: (305) 592-1078

Station ID: 00001
SR 994/SW 200 Street Eastbound
At West of SW 134 Avenue

Start Time	Mon 04-Feb-19	Tue 05-Feb-19	Wed 06-Feb-19	Thu 07-Feb-19	Fri 08-Feb-19	Average Day	Sat 09-Feb-19	Sun 10-Feb-19	Week Average
12:00 AM	*	89	83	91	*	88	*	*	88
01:00	*	49	44	47	*	47	*	*	47
02:00	*	28	22	27	*	26	*	*	26
03:00	*	27	29	24	*	27	*	*	27
04:00	*	50	61	50	*	54	*	*	54
05:00	*	221	213	227	*	220	*	*	220
06:00	*	521	529	514	*	521	*	*	521
07:00	*	**873**	**874**	**901**	*	**883**	*	*	**883**
08:00	*	810	806	765	*	794	*	*	794
09:00	*	619	581	622	*	607	*	*	607
10:00	*	566	551	483	*	533	*	*	533
11:00	*	492	531	556	*	526	*	*	526
12:00 PM	*	548	544	562	*	551	*	*	551
01:00	*	592	583	577	*	584	*	*	584
02:00	*	642	705	626	*	658	*	*	658
03:00	*	817	763	824	*	801	*	*	801
04:00	*	847	890	837	*	858	*	*	858
05:00	*	**897**	**905**	**910**	*	**904**	*	*	**904**
06:00	*	876	869	848	*	864	*	*	864
07:00	*	625	600	622	*	616	*	*	616
08:00	*	419	440	426	*	428	*	*	428
09:00	*	311	311	323	*	315	*	*	315
10:00	*	261	231	214	*	235	*	*	235
11:00	*	144	156	151	*	150	*	*	150
Day Total	0	11324	11321	11227	0	11290	0	0	11290
% Avg. WkDay	0.0%	100.3%	100.3%	99.4%	0.0%				
% Avg. Week	0.0%	100.3%	100.3%	99.4%	0.0%	100.0%	0.0%	0.0%	
AM Peak	-	07:00	07:00	07:00	-	07:00	-	-	07:00
Vol.	-	873	874	901	-	883	-	-	883
PM Peak	-	17:00	17:00	17:00	-	17:00	-	-	17:00
Vol.	-	897	905	910	-	904	-	-	904
Grand Total	0	11324	11321	11227	0	11290	0	0	11290

ADT ADT 11,283 AADT 11,283

CH Perez and Associates Consulting Engineers Inc.
9594 NW 41st Street, Suite 201, Miami, Florida 33178
Phone: (305) 592-1070 & Fax: (305) 592-1078

Station ID: 00001
SR 994/SW 200 Street Eastbound
At West of SW 134 Avenue

Start Time	Mon 04-Feb-19	Tue 05-Feb-19	Wed 06-Feb-19	Thu 07-Feb-19	Fri 08-Feb-19	Average Day	Sat 09-Feb-19	Sun 10-Feb-19	Week Average
12:00 AM	*	89	83	91	*	88	*	*	88
01:00	*	49	44	47	*	47	*	*	47
02:00	*	28	22	27	*	26	*	*	26
03:00	*	27	29	24	*	27	*	*	27
04:00	*	50	61	50	*	54	*	*	54
05:00	*	221	213	227	*	220	*	*	220
06:00	*	521	529	514	*	521	*	*	521
07:00	*	**873**	**874**	**901**	*	**883**	*	*	**883**
08:00	*	810	806	765	*	794	*	*	794
09:00	*	619	581	622	*	607	*	*	607
10:00	*	566	551	483	*	533	*	*	533
11:00	*	492	531	556	*	526	*	*	526
12:00 PM	*	548	544	562	*	551	*	*	551
01:00	*	592	583	577	*	584	*	*	584
02:00	*	642	705	626	*	658	*	*	658
03:00	*	817	763	824	*	801	*	*	801
04:00	*	847	890	837	*	858	*	*	858
05:00	*	**897**	**905**	**910**	*	**904**	*	*	**904**
06:00	*	876	869	848	*	864	*	*	864
07:00	*	625	600	622	*	616	*	*	616
08:00	*	419	440	426	*	428	*	*	428
09:00	*	311	311	323	*	315	*	*	315
10:00	*	261	231	214	*	235	*	*	235
11:00	*	144	156	151	*	150	*	*	150
Day Total	0	11324	11321	11227	0	11290	0	0	11290
% Avg. WkDay	0.0%	100.3%	100.3%	99.4%	0.0%				
% Avg. Week	0.0%	100.3%	100.3%	99.4%	0.0%	100.0%	0.0%	0.0%	
AM Peak	-	07:00	07:00	07:00	-	07:00	-	-	07:00
Vol.	-	873	874	901	-	883	-	-	883
PM Peak	-	17:00	17:00	17:00	-	17:00	-	-	17:00
Vol.	-	897	905	910	-	904	-	-	904
Grand Total	0	11324	11321	11227	0	11290	0	0	11290

ADT ADT 11,283 AADT 11,283

CH Perez and Associates Consulting Engineers Inc.
9594 NW 41st Street, Suite 201, Miami, Florida 33178
Phone: (305) 592-1070 & Fax: (305) 592-1078

Station ID: 00010
SW 134 Avenue Southbound
At North of SR 994/SW 200 Street

Start Time	Mon 04-Feb-19	Tue 05-Feb-19	Wed 06-Feb-19	Thu 07-Feb-19	Fri 08-Feb-19	Average Day	Sat 09-Feb-19	Sun 10-Feb-19	Week Average
12:00 AM	*	1	1	4	*	2	*	*	2
01:00	*	0	0	1	*	0	*	*	0
02:00	*	0	1	1	*	1	*	*	1
03:00	*	0	0	0	*	0	*	*	0
04:00	*	2	0	1	*	1	*	*	1
05:00	*	3	3	3	*	3	*	*	3
06:00	*	8	15	10	*	11	*	*	11
07:00	*	21	29	25	*	25	*	*	25
08:00	*	**27**	**33**	**32**	*	**31**	*	*	**31**
09:00	*	15	20	28	*	21	*	*	21
10:00	*	16	6	18	*	13	*	*	13
11:00	*	13	10	12	*	12	*	*	12
12:00 PM	*	9	11	17	*	12	*	*	12
01:00	*	7	16	15	*	13	*	*	13
02:00	*	12	20	16	*	16	*	*	16
03:00	*	16	14	14	*	15	*	*	15
04:00	*	47	32	**48**	*	42	*	*	42
05:00	*	**68**	**44**	30	*	**47**	*	*	**47**
06:00	*	38	19	1	*	19	*	*	19
07:00	*	11	8	8	*	9	*	*	9
08:00	*	6	9	4	*	6	*	*	6
09:00	*	12	6	7	*	8	*	*	8
10:00	*	5	5	7	*	6	*	*	6
11:00	*	2	4	1	*	2	*	*	2
Day Total	0	339	306	303	0	315	0	0	315
% Avg. WkDay	0.0%	107.6%	97.1%	96.2%	0.0%				
% Avg. Week	0.0%	107.6%	97.1%	96.2%	0.0%	100.0%	0.0%	0.0%	
AM Peak	-	08:00	08:00	08:00	-	08:00	-	-	08:00
Vol.	-	27	33	32	-	31	-	-	31
PM Peak	-	17:00	17:00	16:00	-	17:00	-	-	17:00
Vol.	-	68	44	48	-	47	-	-	47
Grand Total	0	339	306	303	0	315	0	0	315

ADT ADT 315 AADT 315

CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178
Phone: (305) 592-1070 & Fax: (305) 592-1078

Station ID: 00010
SW 134 Avenue Southbound
At North of SR 994/SW 200 Street

Start Time	Tue 05-Feb-19 A.M.	P.M.	Wed 06-Feb-19 A.M.	P.M.	Thu 07-Feb-19 A.M.	P.M.	Daily Average A.M.	P.M.
12:00	1	3	1	2	1	3	1	3
12:15	0	5	0	1	0	6	0	4
12:30	0	1	0	5	1	1	0	2
12:45	0	0	0	3	2	7	1	3
01:00	0	0	0	2	1	3	0	2
01:15	0	2	0	6	0	2	0	3
01:30	0	1	0	5	0	7	0	4
01:45	0	4	0	3	0	3	0	3
02:00	0	4	0	5	0	4	0	4
02:15	0	2	0	4	0	4	0	3
02:30	0	1	0	6	1	3	0	3
02:45	0	5	1	5	0	5	0	5
03:00	0	3	0	3	0	4	0	3
03:15	0	4	0	5	0	3	0	4
03:30	0	5	0	3	0	2	0	3
03:45	0	4	0	3	0	5	0	4
04:00	2	6	0	4	1	**10**	1	7
04:15	0	5	0	10	0	**14**	0	10
04:30	0	17	0	6	0	**13**	0	12
04:45	0	19	0	12	0	**11**	0	14
05:00	0	8	1	4	2	8	1	7
05:15	0	**23**	0	**12**	0	7	0	**14**
05:30	0	**17**	0	**14**	0	9	0	**13**
05:45	3	**20**	2	**14**	1	6	2	**13**
06:00	0	**29**	3	**9**	1	1	1	**13**
06:15	3	2	2	3	1	0	2	2
06:30	1	4	4	5	4	0	3	3
06:45	4	3	6	2	4	0	5	2
07:00	5	4	5	0	6	2	5	2
07:15	3	6	4	2	5	4	4	4
07:30	**7**	1	**7**	3	6	0	**7**	1
07:45	**6**	0	**13**	3	**8**	2	**9**	2
08:00	**4**	0	**11**	1	**9**	1	**8**	1
08:15	**14**	1	**13**	2	**8**	1	**12**	1
08:30	5	4	4	4	**8**	2	6	3
08:45	4	1	5	2	7	0	5	1
09:00	1	5	6	0	2	3	3	3
09:15	5	1	4	2	13	0	7	1
09:30	3	3	5	1	4	1	4	2
09:45	6	3	5	3	9	3	7	3
10:00	5	1	2	3	5	1	4	2
10:15	4	1	2	0	4	0	3	0
10:30	3	2	1	0	2	2	2	1
10:45	4	1	1	2	7	4	4	2
11:00	2	1	3	0	0	0	2	0
11:15	5	0	3	1	7	0	5	0
11:30	3	1	1	2	2	0	2	1
11:45	3	0	3	1	3	1	3	1
Total	106	233	118	188	135	168	119	194
Combined Total	339		306		303		313	
Peak	07:30	05:15	07:30	05:15	07:45	04:00	07:30	05:15
Vol.	31	89	44	49	33	48	36	53
P.H.F.	0.554	0.767	0.846	0.875	0.917	0.857	0.750	0.946
ADT		ADT 315	AADT 315					

CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178
Phone: (305) 592-1070 & Fax: (305) 592-1078

Station ID: 00003
SW 134 Avenue Northbound
At South of SR 994/SW 200 Street

Start Time	Mon 04-Feb-19	Tue 05-Feb-19	Wed 06-Feb-19	Thu 07-Feb-19	Fri 08-Feb-19	Average Day	Sat 09-Feb-19	Sun 10-Feb-19	Week Average
12:00 AM	*	24	19	17	*	20	*	*	20
01:00	*	16	12	16	*	15	*	*	15
02:00	*	6	9	7	*	7	*	*	7
03:00	*	9	10	15	*	11	*	*	11
04:00	*	29	30	31	*	30	*	*	30
05:00	*	185	159	164	*	169	*	*	169
06:00	*	**238**	**227**	**232**	*	**232**	*	*	**232**
07:00	*	129	143	165	*	146	*	*	146
08:00	*	160	149	157	*	155	*	*	155
09:00	*	182	192	175	*	183	*	*	183
10:00	*	139	151	148	*	146	*	*	146
11:00	*	117	123	112	*	117	*	*	117
12:00 PM	*	128	139	96	*	121	*	*	121
01:00	*	130	127	135	*	131	*	*	131
02:00	*	128	148	149	*	142	*	*	142
03:00	*	143	157	135	*	145	*	*	145
04:00	*	**146**	147	162	*	152	*	*	152
05:00	*	139	**160**	**175**	*	**158**	*	*	**158**
06:00	*	144	150	120	*	138	*	*	138
07:00	*	125	111	117	*	118	*	*	118
08:00	*	71	68	68	*	69	*	*	69
09:00	*	67	61	70	*	66	*	*	66
10:00	*	52	50	39	*	47	*	*	47
11:00	*	41	39	52	*	44	*	*	44
Day Total	0	2548	2581	2557	0	2562	0	0	2562
% Avg. WkDay	0.0%	99.5%	100.7%	99.8%	0.0%				
% Avg. Week	0.0%	99.5%	100.7%	99.8%	0.0%	100.0%	0.0%	0.0%	
AM Peak	-	06:00	06:00	06:00	-	06:00	-	-	06:00
Vol.	-	238	227	232	-	232	-	-	232
PM Peak	-	16:00	17:00	17:00	-	17:00	-	-	17:00
Vol.	-	146	160	175	-	158	-	-	158
Grand Total	0	2548	2581	2557	0	2562	0	0	2562

ADT ADT 2,560 AADT 2,560

CH Perez and Associates Consulting Engineers Inc.
9594 NW 41st Street, Suite 201, Miami, Florida 33178
Phone: (305) 592-1070 & Fax: (305) 592-1078

Station ID: 00003
SW 134 Avenue Northbound
At South of SR 994/SW 200 Street

Start	Tue	05-Feb-19		Wed	06-Feb-19		Thu	07-Feb-19		Daily Average	
Time	A.M.	P.M.		A.M.	P.M.		A.M.	P.M.		A.M.	P.M.
12:00	14	28		4	26		6	18		8	24
12:15	5	29		7	32		6	24		6	28
12:30	3	30		5	42		3	21		4	31
12:45	2	41		3	39		2	33		2	38
01:00	2	28		4	34		5	31		4	31
01:15	3	41		2	30		2	35		2	35
01:30	5	38		6	39		5	37		5	38
01:45	6	23		0	24		4	32		3	26
02:00	0	33		0	27		3	39		1	33
02:15	4	30		2	38		2	32		3	33
02:30	0	31		3	34		0	46		1	37
02:45	2	34		4	49		2	32		3	38
03:00	2	35		0	27		2	27		1	30
03:15	4	38		2	50		3	25		3	38
03:30	2	33		3	44		6	46		4	41
03:45	1	37		5	36		4	37		3	37
04:00	9	27		4	31		6	43		6	34
04:15	1	**43**		3	31		3	40		2	38
04:30	10	**40**		13	**40**		10	**46**		11	**42**
04:45	9	**36**		10	**45**		12	**33**		10	**38**
05:00	16	**36**		11	**45**		15	**47**		14	**43**
05:15	30	25		31	**44**		25	**50**		29	**40**
05:30	**61**	42		49	40		**60**	43		**57**	42
05:45	**78**	36		**68**	31		**64**	35		**70**	34
06:00	**74**	36		**71**	32		**75**	38		**73**	35
06:15	**57**	33		**61**	42		**50**	27		**56**	34
06:30	50	43		**51**	41		56	29		52	38
06:45	57	32		44	35		51	26		51	31
07:00	23	28		50	26		56	35		43	30
07:15	41	32		15	34		48	34		35	33
07:30	30	30		33	26		31	26		31	27
07:45	35	35		45	25		30	22		37	27
08:00	47	21		34	17		40	20		40	19
08:15	36	22		28	15		29	17		31	18
08:30	42	16		35	19		41	15		39	17
08:45	35	12		52	17		47	16		45	15
09:00	53	29		60	14		51	25		55	23
09:15	41	18		43	22		44	16		43	19
09:30	49	10		57	11		36	15		47	12
09:45	39	10		32	14		44	14		38	13
10:00	38	8		37	14		30	9		35	10
10:15	33	16		32	13		36	11		34	13
10:30	33	15		38	16		41	9		37	13
10:45	35	13		44	7		41	10		40	10
11:00	27	8		30	13		26	11		28	11
11:15	36	12		33	10		27	14		32	12
11:30	28	9		34	6		35	16		32	10
11:45	26	12		26	10		24	11		25	11
Total	1234	1314		1224	1357		1239	1318		1231	1330
Combined Total	2548			2581			2557			2561	
Peak	05:30	04:15	-	05:45	04:30	-	05:30	04:30	-	05:30	04:30
Vol.	270	155	-	251	174	-	249	176	-	256	163
P.H.F.	0.865	0.901		0.884	0.870		0.830	0.880		0.877	0.948
ADT		ADT 2,560		AADT 2,560							

CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178
Phone: (305) 592-1070 & Fax: (305) 592-1078

Station ID: 00007
SR 994/SW 200 Street Westbound
At East of SW 132 Avenue

Start Time	Mon 04-Feb-19	Tue 05-Feb-19	Wed 06-Feb-19	Thu 07-Feb-19	Fri 08-Feb-19	Average Day	Sat 09-Feb-19	Sun 10-Feb-19	Week Average
12:00 AM	*	69	77	86	*	77	*	*	77
01:00	*	26	23	40	*	30	*	*	30
02:00	*	11	21	23	*	18	*	*	18
03:00	*	16	21	20	*	19	*	*	19
04:00	*	61	69	59	*	63	*	*	63
05:00	*	198	187	193	*	193	*	*	193
06:00	*	517	523	510	*	517	*	*	517
07:00	*	**835**	**814**	**827**	*	**825**	*	*	**825**
08:00	*	792	769	736	*	766	*	*	766
09:00	*	486	498	462	*	482	*	*	482
10:00	*	416	423	409	*	416	*	*	416
11:00	*	483	476	501	*	487	*	*	487
12:00 PM	*	515	535	541	*	530	*	*	530
01:00	*	550	533	550	*	544	*	*	544
02:00	*	694	693	627	*	671	*	*	671
03:00	*	773	780	793	*	782	*	*	782
04:00	*	894	854	815	*	854	*	*	854
05:00	*	**960**	**894**	**918**	*	**924**	*	*	**924**
06:00	*	840	818	762	*	807	*	*	807
07:00	*	672	599	623	*	631	*	*	631
08:00	*	475	431	409	*	438	*	*	438
09:00	*	280	302	327	*	303	*	*	303
10:00	*	226	206	201	*	211	*	*	211
11:00	*	144	128	133	*	135	*	*	135
Day Total	0	10933	10674	10565	0	10723	0	0	10723
% Avg. WkDay	0.0%	102.0%	99.5%	98.5%	0.0%				
% Avg. Week	0.0%	102.0%	99.5%	98.5%	0.0%	100.0%	0.0%	0.0%	
AM Peak	-	07:00	07:00	07:00	-	07:00	-	-	07:00
Vol.	-	835	814	827	-	825	-	-	825
PM Peak	-	17:00	17:00	17:00	-	17:00	-	-	17:00
Vol.	-	960	894	918	-	924	-	-	924
Grand Total	0	10933	10674	10565	0	10723	0	0	10723

ADT ADT 10,718 AADT 10,718

CH Perez and Associates Consulting Engineers Inc.
9594 NW 41st Street, Suite 201, Miami, Florida 33178
Phone: (305) 592-1070 & Fax: (305) 592-1078

Station ID: 00007
SR 994/SW 200 Street Westbound
At East of SW 132 Avenue

Start	Tue	05-Feb-19		Wed	06-Feb-19		Thu	07-Feb-19		Daily Average	
Time	A.M.	P.M.		A.M.	P.M.		A.M.	P.M.		A.M.	P.M.
12:00	23	145		27	116		21	129		24	130
12:15	18	120		17	143		31	144		22	136
12:30	14	128		21	134		19	135		18	132
12:45	14	122		12	142		15	133		14	132
01:00	9	137		4	132		13	144		9	138
01:15	5	150		7	133		10	151		7	145
01:30	10	110		10	126		10	133		10	123
01:45	2	153		2	142		7	122		4	139
02:00	2	163		5	160		7	149		5	157
02:15	1	183		5	178		4	136		3	166
02:30	2	155		4	169		3	172		3	165
02:45	6	193		7	186		9	170		7	183
03:00	4	173		8	173		3	165		5	170
03:15	2	190		2	187		4	189		3	189
03:30	2	200		3	205		5	209		3	205
03:45	8	210		8	215		8	230		8	218
04:00	5	215		4	189		4	185		4	196
04:15	12	246		15	**219**		7	206		11	224
04:30	24	198		28	**221**		22	212		25	210
04:45	20	235		22	**225**		26	212		23	224
05:00	31	236		23	**242**		32	**228**		29	**235**
05:15	34	**255**		34	219		29	**250**		32	**241**
05:30	62	**246**		53	218		62	**203**		59	**222**
05:45	71	**223**		77	215		70	**237**		73	**225**
06:00	81	**253**		80	236		74	215		78	235
06:15	113	205		110	207		111	227		111	213
06:30	145	181		147	196		151	188		148	188
06:45	178	201		186	179		174	132		179	171
07:00	216	201		183	158		186	191		195	183
07:15	**208**	169		**218**	160		**202**	148		**209**	159
07:30	**223**	159		**213**	144		**231**	145		**222**	149
07:45	**188**	143		**200**	137		**208**	139		**199**	140
08:00	**218**	128		**194**	113		**208**	113		**207**	118
08:15	202	129		211	103		191	101		201	111
08:30	194	117		217	116		213	106		208	113
08:45	178	101		147	99		124	89		150	96
09:00	123	98		151	95		164	86		146	93
09:15	122	50		111	80		138	87		124	72
09:30	108	65		123	65		101	95		111	75
09:45	133	67		113	62		59	59		102	63
10:00	112	76		94	75		109	54		105	68
10:15	97	50		99	46		84	52		93	49
10:30	88	46		108	43		101	59		99	49
10:45	119	54		122	42		115	36		119	44
11:00	94	41		126	36		119	39		113	39
11:15	131	35		107	31		131	31		123	32
11:30	125	38		122	33		132	40		126	37
11:45	133	30		121	28		119	23		124	27
Total	3910	7023		3901	6773		3866	6699		3893	6829
Combined Total	10933			10674			10565			10722	
Peak	07:15	05:15	-	07:15	04:15	-	07:15	05:00	-	07:15	05:00
Vol.	837	977	-	825	907	-	849	918	-	837	923
P.H.F.	0.938	0.958		0.946	0.937		0.919	0.918		0.943	0.957
ADT	ADT 10,718			AADT 10,718							

CH Perez and Associates Consulting Engineers Inc.
9594 NW 41st Street, Suite 201, Miami, Florida 33178
Phone: (305) 592-1070 & Fax: (305) 592-1078

Station ID: 00008
SR 994/SW 200 Street Eastbound
At West of SW 132 Avenue

Start Time	Mon 04-Feb-19	Tue 05-Feb-19	Wed 06-Feb-19	Thu 07-Feb-19	Fri 08-Feb-19	Average Day	Sat 09-Feb-19	Sun 10-Feb-19	Week Average
12:00 AM	*	54	23	15	*	31	*	*	31
01:00	*	24	5	5	*	11	*	*	11
02:00	*	15	3	1	*	6	*	*	6
03:00	*	16	5	1	*	7	*	*	7
04:00	*	35	21	17	*	24	*	*	24
05:00	*	275	187	164	*	209	*	*	209
06:00	*	628	582	507	*	572	*	*	572
07:00	*	**818**	748	**755**	*	**774**	*	*	**774**
08:00	*	741	**749**	601	*	697	*	*	697
09:00	*	548	422	465	*	478	*	*	478
10:00	*	462	353	298	*	371	*	*	371
11:00	*	386	287	296	*	323	*	*	323
12:00 PM	*	412	312	338	*	354	*	*	354
01:00	*	454	345	351	*	383	*	*	383
02:00	*	431	329	324	*	361	*	*	361
03:00	*	**558**	408	414	*	460	*	*	460
04:00	*	535	461	406	*	467	*	*	467
05:00	*	549	**475**	**442**	*	**489**	*	*	**489**
06:00	*	508	423	400	*	444	*	*	444
07:00	*	334	273	262	*	290	*	*	290
08:00	*	219	199	171	*	196	*	*	196
09:00	*	153	120	111	*	128	*	*	128
10:00	*	91	63	46	*	67	*	*	67
11:00	*	40	33	32	*	35	*	*	35
Day Total	0	8286	6826	6422	0	7177	0	0	7177
% Avg. WkDay	0.0%	115.5%	95.1%	89.5%	0.0%				
% Avg. Week	0.0%	115.5%	95.1%	89.5%	0.0%	100.0%	0.0%	0.0%	
AM Peak	-	07:00	08:00	07:00	-	07:00	-	-	07:00
Vol.	-	818	749	755	-	774	-	-	774
PM Peak	-	15:00	17:00	17:00	-	17:00	-	-	17:00
Vol.	-	558	475	442	-	489	-	-	489
Grand Total	0	8286	6826	6422	0	7177	0	0	7177

ADT ADT 7,175 AADT 7,175

CH Perez and Associates Consulting Engineers Inc.

9594 NW 41st Street, Suite 201, Miami, Florida 33178
Phone: (305) 592-1070 & Fax: (305) 592-1078

Station ID: 00008
SR 994/SW 200 Street Eastbound
At West of SW 132 Avenue

Start Time	Tue 05-Feb-19 A.M.	P.M.	Wed 06-Feb-19 A.M.	P.M.	Thu 07-Feb-19 A.M.	P.M.	Daily Average A.M.	P.M.
12:00	22	110	6	82	8	81	12	91
12:15	14	120	5	69	4	74	8	88
12:30	10	96	7	78	1	101	6	92
12:45	8	86	5	83	2	82	5	84
01:00	8	105	4	81	2	84	5	90
01:15	6	112	1	97	0	89	2	99
01:30	4	129	0	96	0	95	1	107
01:45	6	108	0	71	3	83	3	87
02:00	0	102	3	95	1	75	1	91
02:15	7	92	0	84	0	82	2	86
02:30	7	104	0	73	0	85	2	87
02:45	1	133	0	77	0	82	0	97
03:00	2	**142**	1	80	0	71	1	98
03:15	2	**125**	0	118	0	121	1	121
03:30	6	**151**	1	110	1	135	3	132
03:45	6	**140**	3	100	0	87	3	109
04:00	10	137	3	103	2	88	5	109
04:15	3	107	4	105	4	104	4	105
04:30	4	142	5	137	4	94	4	124
04:45	18	149	9	116	7	120	11	128
05:00	22	130	14	96	9	88	15	105
05:15	48	136	30	**140**	23	**113**	34	**130**
05:30	78	129	44	**122**	37	**132**	53	**128**
05:45	127	154	99	**117**	95	**109**	107	**127**
06:00	148	130	119	**124**	115	**124**	127	**126**
06:15	152	119	141	127	126	100	140	115
06:30	158	143	168	88	121	101	149	111
06:45	170	116	154	84	145	75	156	92
07:00	197	81	153	74	175	79	175	78
07:15	194	92	188	69	173	69	185	77
07:30	**198**	81	**197**	76	**194**	45	**196**	67
07:45	**229**	80	**210**	54	**213**	69	**217**	68
08:00	**230**	50	**238**	50	**173**	55	**214**	52
08:15	**211**	74	**236**	53	**184**	53	**210**	60
08:30	153	44	140	60	137	36	143	47
08:45	147	51	135	36	107	27	130	38
09:00	155	40	113	37	158	31	142	36
09:15	149	34	132	38	140	33	140	35
09:30	118	47	91	27	62	23	90	32
09:45	126	32	86	18	105	24	106	25
10:00	126	27	83	26	80	15	96	23
10:15	133	24	89	15	57	17	93	19
10:30	97	25	86	8	75	6	86	13
10:45	106	15	95	14	86	8	96	12
11:00	84	18	81	14	60	11	75	14
11:15	98	13	78	7	88	13	88	11
11:30	93	2	69	8	73	4	78	5
11:45	111	7	59	4	75	4	82	5
Total	4002	4284	3385	3441	3125	3297	3502	3676
Combined Total	8286		6826		6422		7178	
Peak	07:30	03:00	- 07:30	05:15	- 07:30	05:15	- 07:30	05:15
Vol.	868	558	- 881	503	- 764	478	- 837	511
P.H.F.	0.943	0.924	0.925	0.898	0.897	0.905	0.964	0.983
ADT	ADT 7,175		AADT 7,175					

CH Perez and Associates Consulting Engineers Inc.
9594 NW 41st Street, Suite 201, Miami, Florida 33178
Phone: (305) 592-1070 & Fax: (305) 592-1078

Station ID: 00011
SW 132 Avenue Northbound
At South of SR 994/SW 200 Street

Start Time	Mon 04-Feb-19	Tue 05-Feb-19	Wed 06-Feb-19	Thu 07-Feb-19	Fri 08-Feb-19	Average Day	Sat 09-Feb-19	Sun 10-Feb-19	Week Average
12:00 AM	*	9	9	10	*	9	*	*	9
01:00	*	6	5	9	*	7	*	*	7
02:00	*	7	1	5	*	4	*	*	4
03:00	*	6	11	11	*	9	*	*	9
04:00	*	20	15	20	*	18	*	*	18
05:00	*	96	101	98	*	98	*	*	98
06:00	*	244	238	245	*	242	*	*	242
07:00	*	**275**	**273**	**265**	*	**271**	*	*	**271**
08:00	*	229	221	242	*	231	*	*	231
09:00	*	117	133	120	*	123	*	*	123
10:00	*	86	97	112	*	98	*	*	98
11:00	*	92	93	87	*	91	*	*	91
12:00 PM	*	94	95	94	*	94	*	*	94
01:00	*	100	103	114	*	106	*	*	106
02:00	*	105	93	**115**	*	104	*	*	104
03:00	*	**128**	**124**	108	*	**120**	*	*	**120**
04:00	*	101	113	106	*	107	*	*	107
05:00	*	106	121	114	*	114	*	*	114
06:00	*	126	104	113	*	114	*	*	114
07:00	*	112	105	94	*	104	*	*	104
08:00	*	73	71	73	*	72	*	*	72
09:00	*	39	56	57	*	51	*	*	51
10:00	*	36	40	41	*	39	*	*	39
11:00	*	14	32	29	*	25	*	*	25
Day Total	0	2221	2254	2282	0	2251	0	0	2251
% Avg. WkDay	0.0%	98.7%	100.1%	101.4%	0.0%				
% Avg. Week	0.0%	98.7%	100.1%	101.4%	0.0%	100.0%	0.0%	0.0%	
AM Peak	-	07:00	07:00	07:00	-	07:00	-	-	07:00
Vol.	-	275	273	265	-	271	-	-	271
PM Peak	-	15:00	15:00	14:00	-	15:00	-	-	15:00
Vol.	-	128	124	115	-	120	-	-	120
Grand Total	0	2221	2254	2282	0	2251	0	0	2251

ADT ADT 2,252 AADT 2,252

CH Perez and Associates Consulting Engineers Inc.
9594 NW 41st Street, Suite 201, Miami, Florida 33178
Phone: (305) 592-1070 & Fax: (305) 592-1078

Station ID: 00011
SW 132 Avenue Northbound
At South of SR 994/SW 200 Street

Start Time	Tue 05-Feb-19 A.M.	P.M.	Wed 06-Feb-19 A.M.	P.M.	Thu 07-Feb-19 A.M.	P.M.	Daily Average A.M.	P.M.
12:00	4	22	3	14	6	24	4	20
12:15	3	22	3	25	3	27	3	25
12:30	2	26	2	34	1	18	2	26
12:45	0	24	1	22	0	25	0	24
01:00	1	27	1	23	1	18	1	23
01:15	2	24	1	34	2	**25**	2	28
01:30	0	25	1	23	2	**33**	1	27
01:45	3	24	2	23	4	**38**	3	28
02:00	2	33	0	28	4	**35**	2	32
02:15	2	21	0	24	1	21	1	22
02:30	1	18	0	26	0	27	0	24
02:45	2	33	1	15	0	32	1	27
03:00	1	25	2	**32**	2	27	2	28
03:15	1	35	4	**50**	1	29	2	38
03:30	1	35	3	**22**	6	21	3	26
03:45	3	33	2	**20**	2	31	2	28
04:00	2	26	1	23	0	29	1	26
04:15	2	33	2	28	7	23	4	28
04:30	7	22	8	26	3	23	6	24
04:45	9	20	4	36	10	31	8	29
05:00	15	24	12	29	17	26	15	26
05:15	23	21	18	24	16	39	19	28
05:30	27	30	33	28	24	20	28	26
05:45	31	**31**	38	40	41	29	37	**33**
06:00	46	**32**	40	21	35	28	40	**27**
06:15	54	**29**	58	34	55	33	56	**32**
06:30	**78**	**38**	71	21	83	31	**77**	**30**
06:45	**66**	27	69	28	72	21	**69**	25
07:00	**69**	24	**68**	26	66	23	**68**	24
07:15	**63**	21	**56**	31	61	20	**60**	24
07:30	69	34	**74**	33	**70**	27	71	31
07:45	74	33	**75**	15	**68**	24	72	24
08:00	53	20	56	19	**85**	23	65	21
08:15	63	27	55	14	**65**	18	61	20
08:30	59	9	53	20	43	14	52	14
08:45	54	17	57	18	49	18	53	18
09:00	35	13	44	18	44	11	41	14
09:15	31	11	28	20	20	15	26	15
09:30	27	7	32	10	22	16	27	11
09:45	24	8	29	8	34	15	29	10
10:00	24	14	24	17	33	17	27	16
10:15	24	11	28	5	37	9	30	8
10:30	24	4	22	8	26	7	24	6
10:45	14	7	23	10	16	8	18	8
11:00	23	4	26	9	25	8	25	7
11:15	28	3	28	10	21	5	26	6
11:30	21	2	15	7	22	8	19	6
11:45	20	5	24	6	19	8	21	6
Total	1187	1034	1197	1057	1224	1058	1204	1049
Combined Total	2221		2254		2282		2253	
Peak	06:30	05:45	- 07:00	03:00	- 07:30	01:15	- 06:30	05:45
Vol.	276	130	- 273	124	- 288	131	- 274	122
P.H.F.	0.885	0.855	0.910	0.620	0.847	0.862	0.890	0.803
ADT	ADT 2,252		AADT 2,252					

APPENDIX F – COST ESTIMATE FOR SW 137TH AVENUE

Cost Estimate

Location: SR 994/Quail Roost Drive at 137th Avenue

Roadway Section: **87091000**

Date: **3/25/2019**

Produced By: JC **QA/QC By:** AM

Pay Item	Description	Unit Measured	Avg. Unit Cost	Quantity	Total
0700 12 22	SIGN BEACON, F&I GM- SOLAR, TWO BEACONS	AS	$10,000.00	1	$10,000.00

	Signing	$10,000.00
	Pre-Total	$10,000.00
20%	Maintenance of Traffic (MOT)	$2,000.00
10%	Mobilization	$1,000.00
	Contingency Project	$5,000.00
LS	PE & CEI	$2,000.00
	Grand-Total	**$20,000.00**

APPENDIX G - B/C AND NPV ANALYSIS FOR SW 137TH AVENUE

FORM 511-09

CONCEPTUAL ALTERNATIVE

SAFETY 7/1/1991

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

SAFETY OFFICE ANNUAL BENEFIT COST ANALYSIS

1	SUBMITTED BY	**CH Perez & Associates**			WPA NO.	**N/A**			SAFETY PRIORITY	
2	DATE SUBMITTED	**5/14/2019**			ENVIRONMENTAL STUDY					
3	PROJECT NO.	**FM: 250650-4-32-01 - TWO 48**							SKID (I.D.)	**N/A**
4	ALTERNATIVE NO.	**1**			SN	**NA**			SPEED	**40**
6	DISTRICT	**VI**	COUNTY	**DADE**	SECTION	**87091000**	STATE ROAD	**994**	U.S. ROAD	**-**
7	BEGINNING MILE POST	**4.075**	ENDING MILE POST	**4.075**	LENGTH	**0.000**	miles		NODE	-

8 DESCRIPTION OF LOCATION/FACILITY TYPE: **SR 994 / Quail Roost Drive at SW 137th Avenue**

9 CAUSE OF CRASH PROBLEMS (LIST AND DISCUSS)

Rear-end Crashes Caused for kack of visibility to stopped vehicles

10 PROPOSED IMPROVEMENTS (LIST AND DISCUSS)

Install a 'Be Prepared to Stop' sign (W3-4) with flashing beacons facing the eastbound approach.

		2014	2015	2016	AVG.
11	NO. OF CRASHES	**6**	**19**	**14**	**13.0**
12	NO. CRASHES POTENTIALLY REDUCED	**1.0**	**3.1**	**2.3**	**2.1**

14 **CRASH INFORMATION FOR FACILITY**

COST/CRASH	$ 124,618.00
CRASH CLEANUP	$ 100
INTEREST RATE	4%

13

TYPE OF CRASH	NUMBER OF CRASHES (3-year)	CRASHES TO BE REDUCED
Rear End	28	6.34
Head On	3	0.00
Angle	2	0.00
Left Turn	2	0.00
Right Turn	0	0.00
Sideswipe	1	0.00
Backed Into	0	0.00
Coll. w/ Parked Car	0	0.00
Coll. w/ Pedestrian	0	0.00
Coll. w/ Bicycle	0	0.00
Fixed Object	3	0.00
Ran Off Road	0	0.00
Overturned	0	0.00
Other	0	0.00
Total Crashes	39	6.34
Crashes Per Year	7.80	**2.11**
Wet/Slippery	9	0.00
Night Time	10	0.00

15 **ANNUAL COST OF IMPROVEMENTS**

	TYPE	COST	LIFE	CRF	ANNUAL COST
A.	R-O-W	$ -	0	0.0000	$ -
B.	P.E.C.E.I.	$ 10,000	15	0.0899	$ 899.41
C.	STRUCTURE	$ -	16	0.0858	$ -
D.	ROADWAY	$ -	20	0.0736	$ -
E.	SIGNING/PAVEMENT	$ 10,000	15	0.0899	$ 899.41
F.	SIGNALS	$ -	15	0.0899	$ -
G.	SUBTOTAL	$ 20,000			$ 1,798.82
H.	CHANGE IN MAINTENANCE				$ -
I.	CRASH CLEANUP				$ (211.33)
J.	**TOTAL**				**$ 1,587.49**

16 **BENEFITS**

A.	CRASH REDUCTION	2.11	crash @	$ 124,618	$ 263,359.37
B.	DELAY SAVINGS		veh-hrs @		$ -
	SUB TOTAL ANNUAL BENEFIT				**$ 263,359.37**
C.	OTHER BENEFIT	0		$ -	$ -
D.	**TOTAL ANNUAL BENEFIT**				**$ 263,359.37**

17

NET BENEFIT/COST	$ 263,359.37	$ 1,587.49	**165.9**
SAFETY BENEFIT/COST	$ 263,359.37	$ 1,587.49	**165.9**

PREPARED BY **RK** APPROVED BY **KC** DATE **05/14/2019**

COMMENTS/CRASH REDUCTION METHOD:

FHWA, FDOT

HIGH CRASH LISTINGS:

2014-2016

PROJECT NET PRESENT VALUE (NPV)

Project Name	**SR 994 / Quail Roost Drive at SW 137th Avenue**
Current Year	2017
Project Completion	2018
Project Life	15
Project Category	
Discount Rate	0.07
Project Ends	2032

#REF!

Year #	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Calendar Year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Estimated Cost	$20,000																			
Estimated Benefits		263,359	263,359	263,359	263,359	263,359	263,359	263,359	263,359	263,359	263,359	263,359	263,359	263,359	263,359	263,359	263,359	263,359	263,359	
Calculation																				
Discount Factor	1.000	0.935	0.873	0.816	0.763	0.713	0.666	0.623	0.582	0.544	0.508	0.475	0.444	0.415	0.388	0.362	0.339	0.317	0.296	0.277
Discounted Cost	-20,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Discounted Benefits	0	246,130	230,028	214,980	200,916	187,772	175,487	164,007	153,278	143,250	133,879	125,120	116,935	109,285	102,135	95,454	89,209	83,373	77,919	0
NPV	**2,629,155**																			

APPENDIX H – SIGNAL WARRANT ANALYSIS – SW 132nd AVENUE

CHAPTER 4C. TRAFFIC CONTROL SIGNAL NEEDS STUDIES

Section 4C.01 Studies and Factors for Justifying Traffic Control Signals

Standard:

01 **An engineering study of traffic conditions, pedestrian characteristics, and physical characteristics of the location shall be performed to determine whether installation of a traffic control signal is justified at a particular location.**

02 **The investigation of the need for a traffic control signal shall include an analysis of factors related to the existing operation and safety at the study location and the potential to improve these conditions, and the applicable factors contained in the following traffic signal warrants:**

Warrant 1, Eight-Hour Vehicular Volume
Warrant 2, Four-Hour Vehicular Volume
Warrant 3, Peak Hour
Warrant 4, Pedestrian Volume
Warrant 5, School Crossing
Warrant 6, Coordinated Signal System
Warrant 7, Crash Experience
Warrant 8, Roadway Network
Warrant 9, Intersection Near a Grade Crossing

03 **The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.**

Support:

04 Sections 8C.09 and 8C.10 contain information regarding the use of traffic control signals instead of gates and/or flashing-light signals at highway-rail grade crossings and highway-light rail transit grade crossings, respectively.

Guidance:

05 *A traffic control signal should not be installed unless one or more of the factors described in this Chapter are met.*

06 *A traffic control signal should not be installed unless an engineering study indicates that installing a traffic control signal will improve the overall safety and/or operation of the intersection.*

07 *A traffic control signal should not be installed if it will seriously disrupt progressive traffic flow.*

08 *The study should consider the effects of the right-turn vehicles from the minor-street approaches. Engineering judgment should be used to determine what, if any, portion of the right-turn traffic is subtracted from the minor-street traffic count when evaluating the count against the signal warrants listed in Paragraph 2.*

09 *Engineering judgment should also be used in applying various traffic signal warrants to cases where approaches consist of one lane plus one left-turn or right-turn lane. The site-specific traffic characteristics should dictate whether an approach is considered as one lane or two lanes. For example, for an approach with one lane for through and right-turning traffic plus a left-turn lane, if engineering judgment indicates that it should be considered a one-lane approach because the traffic using the left-turn lane is minor, the total traffic volume approaching the intersection should be applied against the signal warrants as a one-lane approach. The approach should be considered two lanes if approximately half of the traffic on the approach turns left and the left-turn lane is of sufficient length to accommodate all left-turn vehicles.*

10 *Similar engineering judgment and rationale should be applied to a street approach with one through/left-turn lane plus a right-turn lane. In this case, the degree of conflict of minor-street right-turn traffic with traffic on the major street should be considered. Thus, right-turn traffic should not be included in the minor-street volume if the movement enters the major street with minimal conflict. The approach should be evaluated as a one-lane approach with only the traffic volume in the through/left-turn lane considered.*

11 *At a location that is under development or construction and where it is not possible to obtain a traffic count that would represent future traffic conditions, hourly volumes should be estimated as part of an engineering study for comparison with traffic signal warrants. Except for locations where the engineering study uses the satisfaction of Warrant 8 to justify a signal, a traffic control signal installed under projected conditions should have an engineering study done within 1 year of putting the signal into stop-and-go operation to determine if the signal is justified. If not justified, the signal should be taken out of stop-and-go operation or removed.*

12 *For signal warrant analysis, a location with a wide median, even if the median width is greater than 30 feet, should be considered as one intersection.*

Option:

13 At an intersection with a high volume of left-turn traffic from the major street, the signal warrant analysis may be performed in a manner that considers the higher of the major-street left-turn volumes as the "minor-street" volume and the corresponding single direction of opposing traffic on the major street as the "major-street" volume.

14 For signal warrants requiring conditions to be present for a certain number of hours in order to be satisfied, any four sequential 15-minute periods may be considered as 1 hour if the separate 1-hour periods used in the warrant analysis do not overlap each other and both the major-street volume and the minor-street volume are for the same specific one-hour periods.

15 For signal warrant analysis, bicyclists may be counted as either vehicles or pedestrians.

Support:

16 When performing a signal warrant analysis, bicyclists riding in the street with other vehicular traffic are usually counted as vehicles and bicyclists who are clearly using pedestrian facilities are usually counted as pedestrians.

Option:

17 Engineering study data may include the following:

A. The number of vehicles entering the intersection in each hour from each approach during 12 hours of an average day. It is desirable that the hours selected contain the greatest percentage of the 24-hour traffic volume.
B. Vehicular volumes for each traffic movement from each approach, classified by vehicle type (heavy trucks, passenger cars and light trucks, public-transit vehicles, and, in some locations, bicycles), during each 15-minute period of the 2 hours in the morning and 2 hours in the afternoon during which total traffic entering the intersection is greatest.
C. Pedestrian volume counts on each crosswalk during the same periods as the vehicular counts in Item B and during hours of highest pedestrian volume. Where young, elderly, and/or persons with physical or visual disabilities need special consideration, the pedestrians and their crossing times may be classified by general observation.
D. Information about nearby facilities and activity centers that serve the young, elderly, and/or persons with disabilities, including requests from persons with disabilities for accessible crossing improvements at the location under study. These persons might not be adequately reflected in the pedestrian volume count if the absence of a signal restrains their mobility.
E. The posted or statutory speed limit or the 85th-percentile speed on the uncontrolled approaches to the location.
F. A condition diagram showing details of the physical layout, including such features as intersection geometrics, channelization, grades, sight-distance restrictions, transit stops and routes, parking conditions, pavement markings, roadway lighting, driveways, nearby railroad crossings, distance to nearest traffic control signals, utility poles and fixtures, and adjacent land use.
G. A collision diagram showing crash experience by type, location, direction of movement, severity, weather, time of day, date, and day of week for at least 1 year.

18 The following data, which are desirable for a more precise understanding of the operation of the intersection, may be obtained during the periods described in Item B of Paragraph 17:

A. Vehicle-hours of stopped time delay determined separately for each approach.
B. The number and distribution of acceptable gaps in vehicular traffic on the major street for entrance from the minor street.
C. The posted or statutory speed limit or the 85th-percentile speed on controlled approaches at a point near to the intersection but unaffected by the control.
D. Pedestrian delay time for at least two 30-minute peak pedestrian delay periods of an average weekday or like periods of a Saturday or Sunday.
E. Queue length on stop-controlled approaches.

Section 4C.02 Warrant 1, Eight-Hour Vehicular Volume

Support:

01 The Minimum Vehicular Volume, Condition A, is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

02 The Interruption of Continuous Traffic, Condition B, is intended for application at locations where Condition A is not satisfied and where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

03 It is intended that Warrant 1 be treated as a single warrant. If Condition A is satisfied, then Warrant 1 is satisfied and analyses of Condition B and the combination of Conditions A and B are not needed. Similarly, if Condition B is satisfied, then Warrant 1 is satisfied and an analysis of the combination of Conditions A and B is not needed.

Standard:

04 **The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:**

A. The vehicles per hour given in both of the 100 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or

B. The vehicles per hour given in both of the 100 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

In applying each condition the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

Option:

05 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, the traffic volumes in the 70 percent columns in Table 4C-1 may be used in place of the 100 percent columns.

Guidance:

06 *The combination of Conditions A and B is intended for application at locations where Condition A is not satisfied and Condition B is not satisfied and should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.*

Standard:

07 **The need for a traffic control signal shall be considered if an engineering study finds that both of the following conditions exist for each of any 8 hours of an average day:**

A. The vehicles per hour given in both of the 80 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; and

B. The vehicles per hour given in both of the 80 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

These major-street and minor-street volumes shall be for the same 8 hours for each condition; however, the 8 hours satisfied in Condition A shall not be required to be the same 8 hours satisfied in Condition B. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B—Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume

[b] Used for combination of Conditions A and B after adequate trial of other remedial measures

[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Option:

08 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, the traffic volumes in the 56 percent columns in Table 4C-1 may be used in place of the 80 percent columns.

Section 4C.03 Warrant 2, Four-Hour Vehicular Volume

Support:

01 The Four-Hour Vehicular Volume signal warrant conditions are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Standard:

02 **The need for a traffic control signal shall be considered if an engineering study finds that, for each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) all fall above the applicable curve in Figure 4C-1 for the existing combination of approach lanes. On the minor street, the higher volume shall not be required to be on the same approach during each of these 4 hours.**

Option:

03 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, Figure 4C-2 may be used in place of Figure 4C-1.

Section 4C.04 Warrant 3, Peak Hour

Support:

01 The Peak Hour signal warrant is intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street.

Standard:

02 **This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.**

03 **The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:**

A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:

1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach; and

2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and

3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.

B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Option:

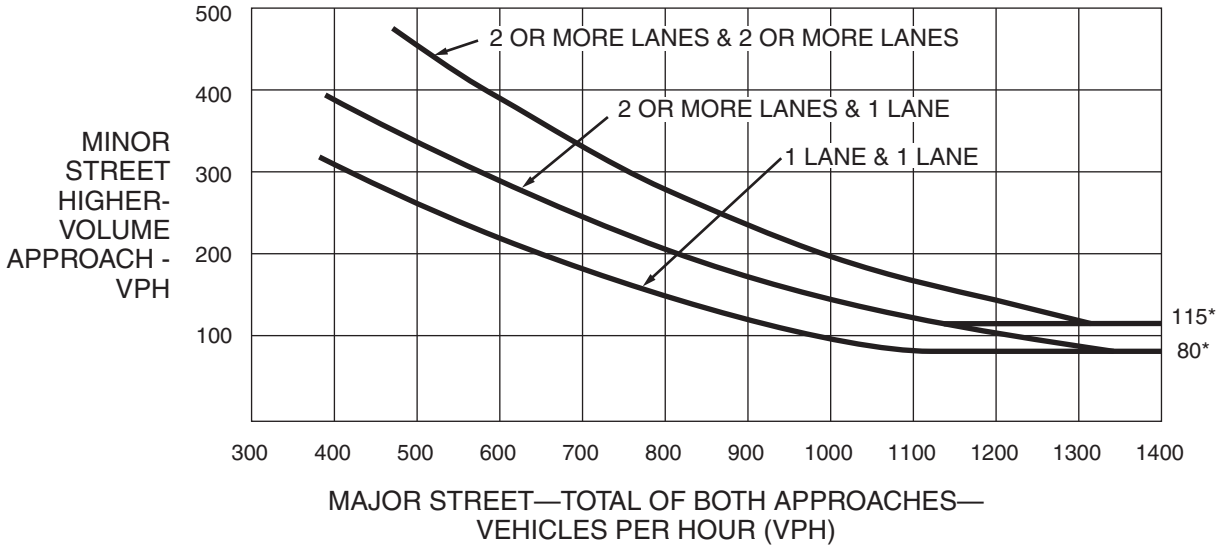
04 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, Figure 4C-4 may be used in place of Figure 4C-3 to evaluate the criteria in the second category of the Standard.

05 If this warrant is the only warrant met and a traffic control signal is justified by an engineering study, the traffic control signal may be operated in the flashing mode during the hours that the volume criteria of this warrant are not met.

Guidance:

06 *If this warrant is the only warrant met and a traffic control signal is justified by an engineering study, the traffic control signal should be traffic-actuated.*

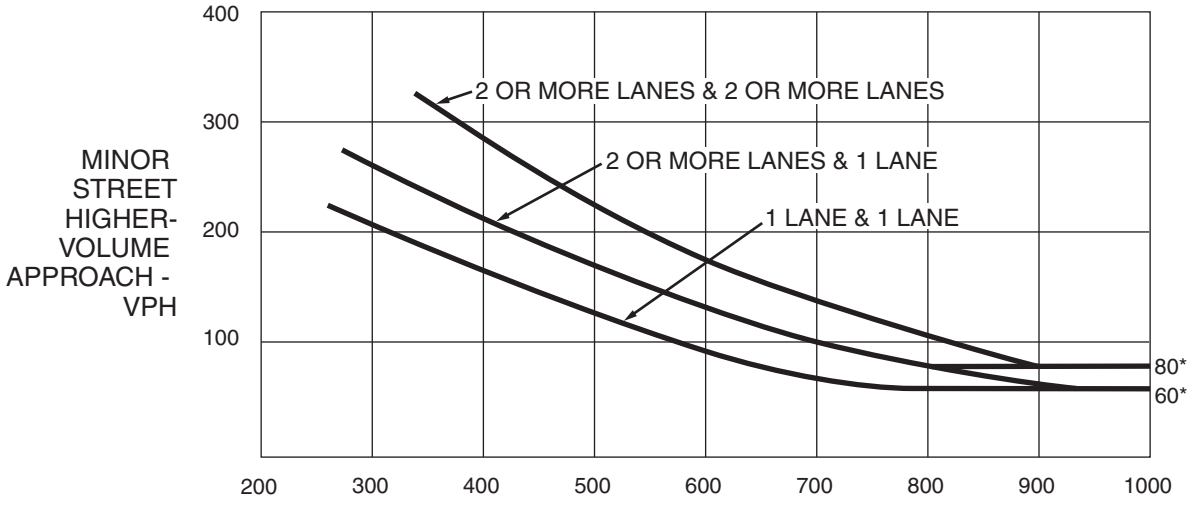
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

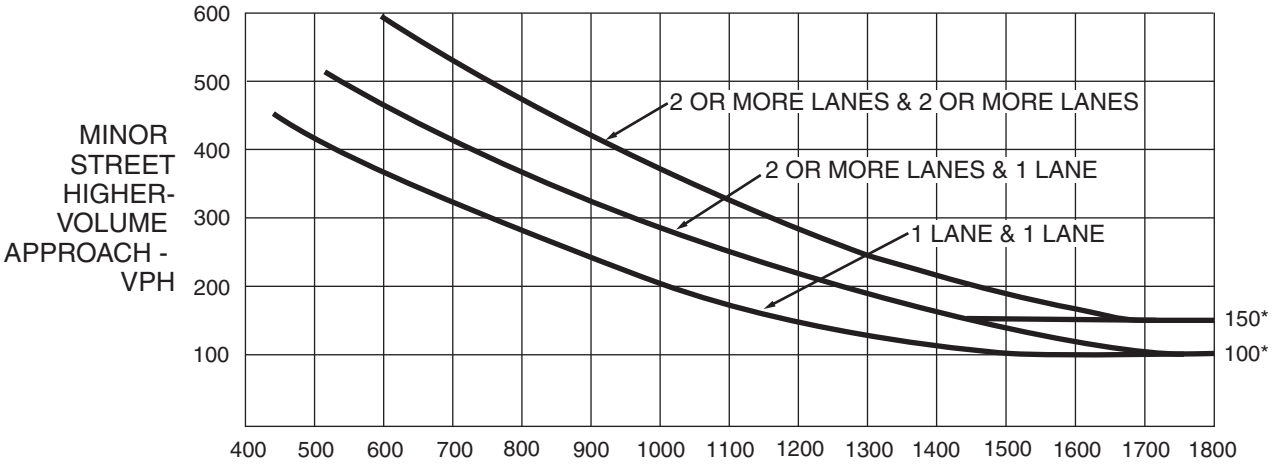
Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

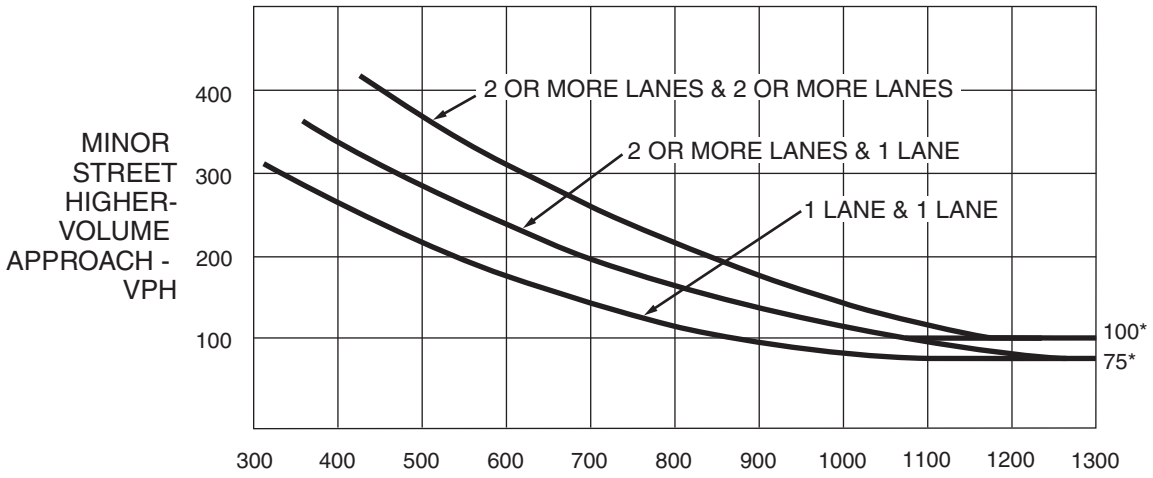
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Section 4C.05 Warrant 4, Pedestrian Volume

Support:

01 The Pedestrian Volume signal warrant is intended for application where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street.

Standard:

02 **The need for a traffic control signal at an intersection or midblock crossing shall be considered if an engineering study finds that one of the following criteria is met:**

- **A. For each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) all fall above the curve in Figure 4C-5; or**
- **B. For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) falls above the curve in Figure 4C-7.**

Option:

03 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 35 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, Figure 4C-6 may be used in place of Figure 4C-5 to evaluate Criterion A in Paragraph 2, and Figure 4C-8 may be used in place of Figure 4C-7 to evaluate Criterion B in Paragraph 2.

Standard:

04 **The Pedestrian Volume signal warrant shall not be applied at locations where the distance to the nearest traffic control signal or STOP sign controlling the street that pedestrians desire to cross is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.**

05 **If this warrant is met and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E.**

Guidance:

06 *If this warrant is met and a traffic control signal is justified by an engineering study, then:*

- *A. If it is installed at an intersection or major driveway location, the traffic control signal should also control the minor-street or driveway traffic, should be traffic-actuated, and should include pedestrian detection.*
- *B. If it is installed at a non-intersection crossing, the traffic control signal should be installed at least 100 feet from side streets or driveways that are controlled by STOP or YIELD signs, and should be pedestrian-actuated. If the traffic control signal is installed at a non-intersection crossing, at least one of the signal faces should be over the traveled way for each approach, parking and other sight obstructions should be prohibited for at least 100 feet in advance of and at least 20 feet beyond the crosswalk or site accommodations should be made through curb extensions or other techniques to provide adequate sight distance, and the installation should include suitable standard signs and pavement markings.*
- *C. Furthermore, if it is installed within a signal system, the traffic control signal should be coordinated.*

Option:

07 The criterion for the pedestrian volume crossing the major street may be reduced as much as 50 percent if the 15th-percentile crossing speed of pedestrians is less than 3.5 feet per second.

08 A traffic control signal may not be needed at the study location if adjacent coordinated traffic control signals consistently provide gaps of adequate length for pedestrians to cross the street.

Section 4C.06 Warrant 5, School Crossing

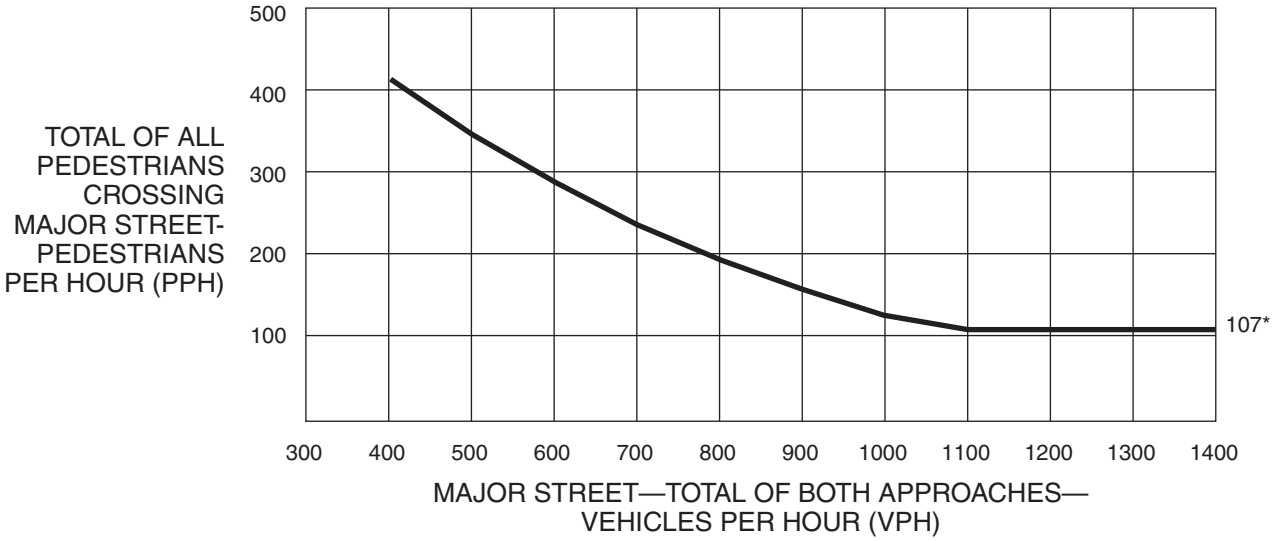
Support:

01 The School Crossing signal warrant is intended for application where the fact that schoolchildren cross the major street is the principal reason to consider installing a traffic control signal. For the purposes of this warrant, the word “schoolchildren” includes elementary through high school students.

Standard:

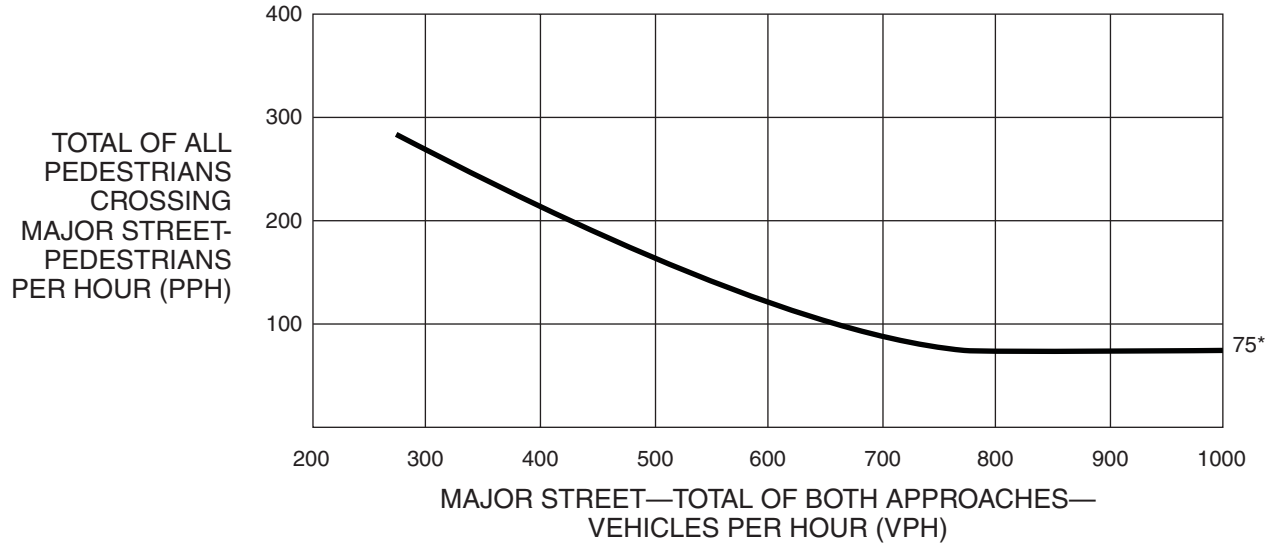
02 **The need for a traffic control signal shall be considered when an engineering study of the frequency and adequacy of gaps in the vehicular traffic stream as related to the number and size of groups of schoolchildren at an established school crossing across the major street shows that the number of adequate gaps in the traffic stream during the period when the schoolchildren are using the crossing is less than the number of minutes in the same period (see Section 7A.03) and there are a minimum of 20 schoolchildren during the highest crossing hour.**

Figure 4C-5. Warrant 4, Pedestrian Four-Hour Volume



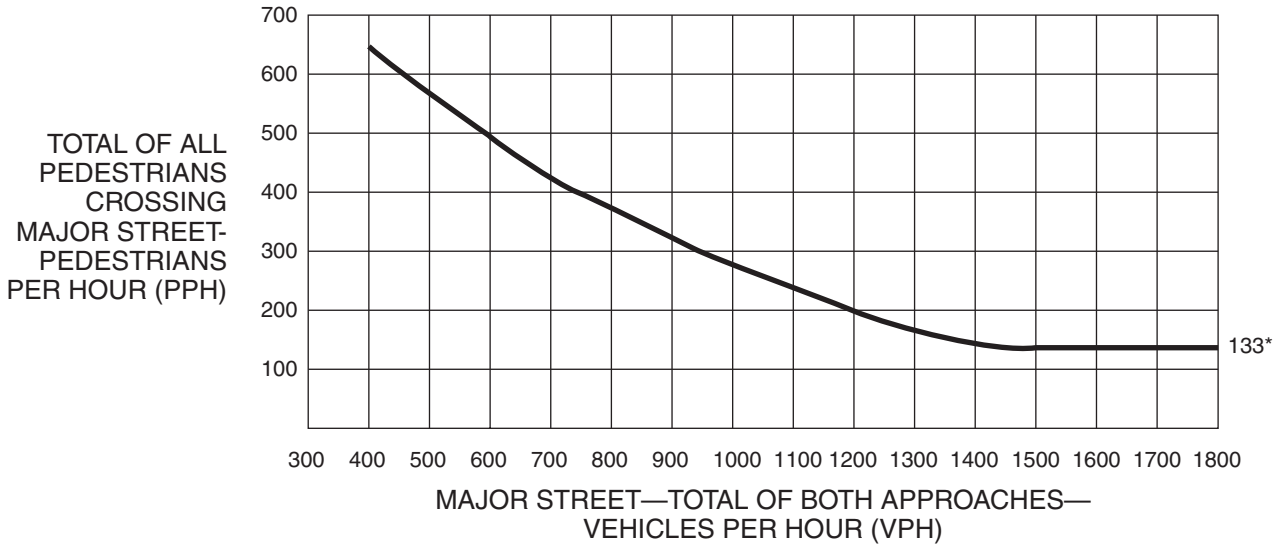
*Note: 107 pph applies as the lower threshold volume.

Figure 4C-6. Warrant 4, Pedestrian Four-Hour Volume (70% Factor)



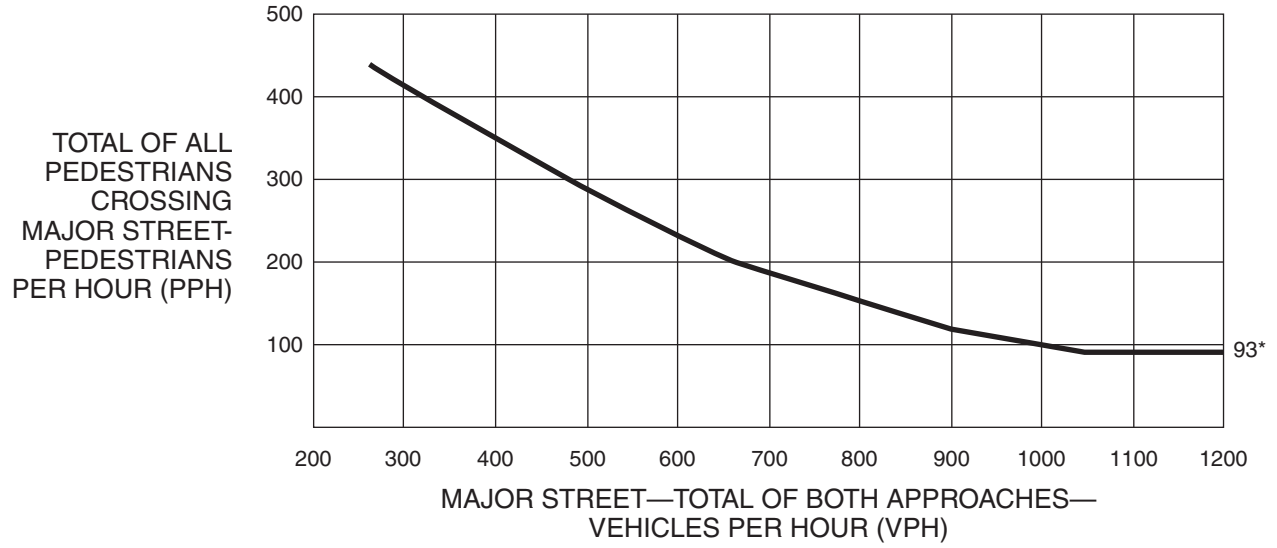
*Note: 75 pph applies as the lower threshold volume.

Figure 4C-7. Warrant 4, Pedestrian Peak Hour



*Note: 133 pph applies as the lower threshold volume.

Figure 4C-8. Warrant 4, Pedestrian Peak Hour (70% Factor)



*Note: 93 pph applies as the lower threshold volume.

03 **Before a decision is made to install a traffic control signal, consideration shall be given to the implementation of other remedial measures, such as warning signs and flashers, school speed zones, school crossing guards, or a grade-separated crossing.**

04 **The School Crossing signal warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.**

Guidance:

05 *If this warrant is met and a traffic control signal is justified by an engineering study, then:*

A. If it is installed at an intersection or major driveway location, the traffic control signal should also control the minor-street or driveway traffic, should be traffic-actuated, and should include pedestrian detection.

B. If it is installed at a non-intersection crossing, the traffic control signal should be installed at least 100 feet from side streets or driveways that are controlled by STOP or YIELD signs, and should be pedestrian-actuated. If the traffic control signal is installed at a non-intersection crossing, at least one of the signal faces should be over the traveled way for each approach, parking and other sight obstructions should be prohibited for at least 100 feet in advance of and at least 20 feet beyond the crosswalk or site accommodations should be made through curb extensions or other techniques to provide adequate sight distance, and the installation should include suitable standard signs and pavement markings.

C. Furthermore, if it is installed within a signal system, the traffic control signal should be coordinated.

Section 4C.07 Warrant 6, Coordinated Signal System

Support:

01 Progressive movement in a coordinated signal system sometimes necessitates installing traffic control signals at intersections where they would not otherwise be needed in order to maintain proper platooning of vehicles.

Standard:

02 **The need for a traffic control signal shall be considered if an engineering study finds that one of the following criteria is met:**

A. On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.

B. On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

Guidance:

03 *The Coordinated Signal System signal warrant should not be applied where the resultant spacing of traffic control signals would be less than 1,000 feet.*

Section 4C.08 Warrant 7, Crash Experience

Support:

01 The Crash Experience signal warrant conditions are intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal.

Standard:

02 **The need for a traffic control signal shall be considered if an engineering study finds that all of the following criteria are met:**

A. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and

B. Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash; and

C. For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80 percent columns of Condition A in Table 4C-1 (see Section 4C.02), or the vph in both of the 80 percent columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80 percent of the requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Option:

03 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, the traffic volumes in the 56 percent columns in Table 4C-1 may be used in place of the 80 percent columns.

Section 4C.09 Warrant 8, Roadway Network

Support:

01 Installing a traffic control signal at some intersections might be justified to encourage concentration and organization of traffic flow on a roadway network.

Standard:

02 **The need for a traffic control signal shall be considered if an engineering study finds that the common intersection of two or more major routes meets one or both of the following criteria:**

- **A. The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1, 2, and 3 during an average weekday; or**
- **B. The intersection has a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday).**

03 **A major route as used in this signal warrant shall have at least one of the following characteristics:**

- **A. It is part of the street or highway system that serves as the principal roadway network for through traffic flow.**
- **B. It includes rural or suburban highways outside, entering, or traversing a city.**
- **C. It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.**

Section 4C.10 Warrant 9, Intersection Near a Grade Crossing

Support:

01 The Intersection Near a Grade Crossing signal warrant is intended for use at a location where none of the conditions described in the other eight traffic signal warrants are met, but the proximity to the intersection of a grade crossing on an intersection approach controlled by a STOP or YIELD sign is the principal reason to consider installing a traffic control signal.

Guidance:

02 *This signal warrant should be applied only after adequate consideration has been given to other alternatives or after a trial of an alternative has failed to alleviate the safety concerns associated with the grade crossing. Among the alternatives that should be considered or tried are:*

- *A. Providing additional pavement that would enable vehicles to clear the track or that would provide space for an evasive maneuver, or*
- *B. Reassigning the stop controls at the intersection to make the approach across the track a non-stopping approach.*

Standard:

03 **The need for a traffic control signal shall be considered if an engineering study finds that both of the following criteria are met:**

- **A. A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and**
- **B. During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the minor-street approach that crosses the track (one direction only, approaching the intersection) falls above the applicable curve in Figure 4C-9 or 4C-10 for the existing combination of approach lanes over the track and the distance D, which is the clear storage distance as defined in Section 1A.13.**

Guidance:

04 *The following considerations apply when plotting the traffic volume data on Figure 4C-9 or 4C-10:*

- *A. Figure 4C-9 should be used if there is only one lane approaching the intersection at the track crossing location and Figure 4C-10 should be used if there are two or more lanes approaching the intersection at the track crossing location.*

CHAPTER 4F. PEDESTRIAN HYBRID BEACONS

Section 4F.01 Application of Pedestrian Hybrid Beacons

Support:

01 A pedestrian hybrid beacon is a special type of hybrid beacon used to warn and control traffic at an unsignalized location to assist pedestrians in crossing a street or highway at a marked crosswalk.

Option:

02 A pedestrian hybrid beacon may be considered for installation to facilitate pedestrian crossings at a location that does not meet traffic signal warrants (see Chapter 4C), or at a location that meets traffic signal warrants under Sections 4C.05 and/or 4C.06 but a decision is made to not install a traffic control signal.

Standard:

03 **If used, pedestrian hybrid beacons shall be used in conjunction with signs and pavement markings to warn and control traffic at locations where pedestrians enter or cross a street or highway. A pedestrian hybrid beacon shall only be installed at a marked crosswalk.**

Guidance:

04 *If one of the signal warrants of Chapter 4C is met and a traffic control signal is justified by an engineering study, and if a decision is made to install a traffic control signal, it should be installed based upon the provisions of Chapters 4D and 4E.*

05 *If a traffic control signal is not justified under the signal warrants of Chapter 4C and if gaps in traffic are not adequate to permit pedestrians to cross, or if the speed for vehicles approaching on the major street is too high to permit pedestrians to cross, or if pedestrian delay is excessive, the need for a pedestrian hybrid beacon should be considered on the basis of an engineering study that considers major-street volumes, speeds, widths, and gaps in conjunction with pedestrian volumes, walking speeds, and delay.*

06 *For a major street where the posted or statutory speed limit or the 85th-percentile speed is 35 mph or less, the need for a pedestrian hybrid beacon should be considered if the engineering study finds that the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding total of all pedestrians crossing the major street for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4F-1 for the length of the crosswalk.*

07 *For a major street where the posted or statutory speed limit or the 85th-percentile speed exceeds 35 mph, the need for a pedestrian hybrid beacon should be considered if the engineering study finds that the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding total of all pedestrians crossing the major street for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4F-2 for the length of the crosswalk.*

08 *For crosswalks that have lengths other than the four that are specifically shown in Figures 4F-1 and 4F-2, the values should be interpolated between the curves.*

Section 4F.02 Design of Pedestrian Hybrid Beacons

Standard:

01 **Except as otherwise provided in this Section, a pedestrian hybrid beacon shall meet the provisions of Chapters 4D and 4E.**

02 **A pedestrian hybrid beacon face shall consist of three signal sections, with a CIRCULAR YELLOW signal indication centered below two horizontally aligned CIRCULAR RED signal indications (see Figure 4F-3).**

03 **When an engineering study finds that installation of a pedestrian hybrid beacon is justified, then:**

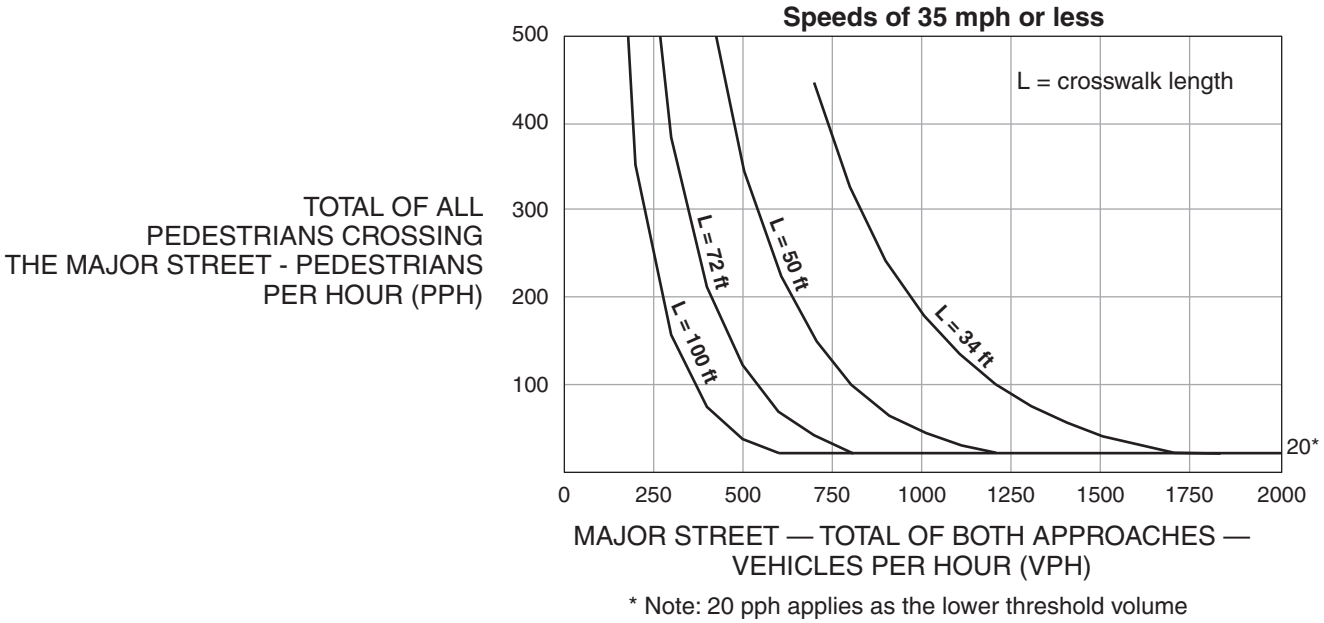
- **A. At least two pedestrian hybrid beacon faces shall be installed for each approach of the major street,**
- **B. A stop line shall be installed for each approach to the crosswalk,**
- **C. A pedestrian signal head conforming to the provisions set forth in Chapter 4E shall be installed at each end of the marked crosswalk, and**
- **D. The pedestrian hybrid beacon shall be pedestrian actuated.**

Guidance:

04 *When an engineering study finds that installation of a pedestrian hybrid beacon is justified, then:*

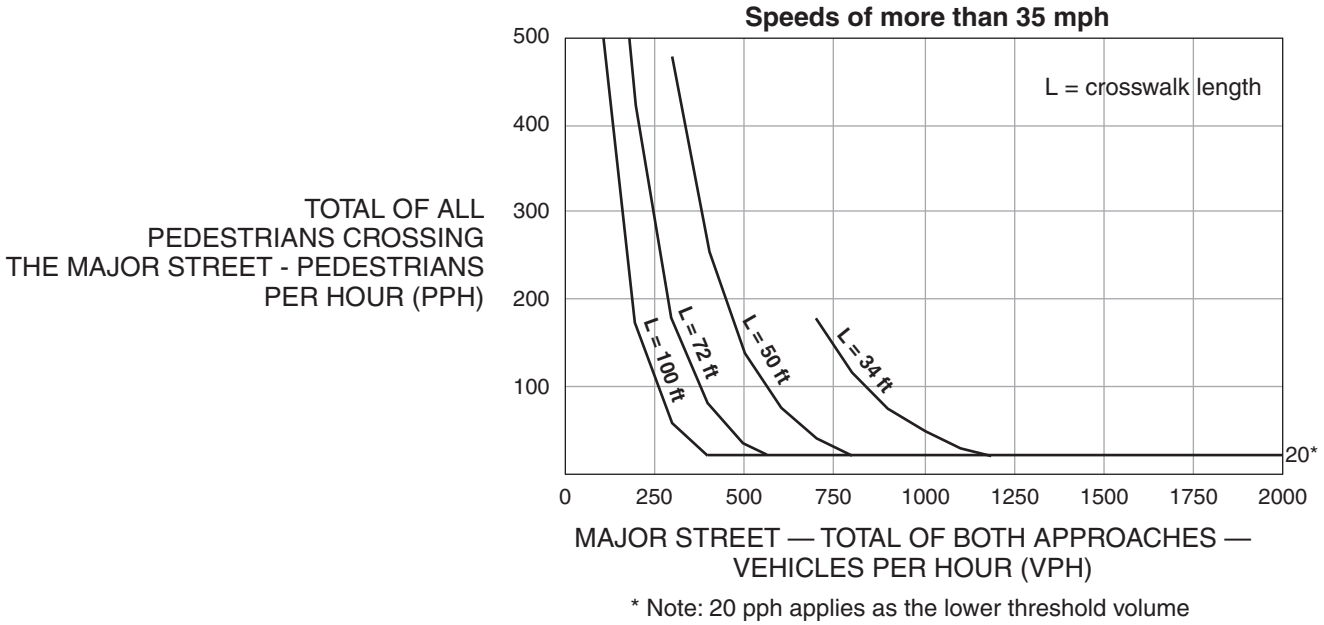
- *A. The pedestrian hybrid beacon should be installed at least 100 feet from side streets or driveways that are controlled by STOP or YIELD signs,*

Figure 4F-1. Guidelines for the Installation of Pedestrian Hybrid Beacons on Low-Speed Roadways



* Note: 20 pph applies as the lower threshold volume

Figure 4F-2. Guidelines for the Installation of Pedestrian Hybrid Beacons on High-Speed Roadways



* Note: 20 pph applies as the lower threshold volume

SIGNAL WARRANT ANALYSIS

Introduction

- The Signal Warrant Analysis Spreadsheets are a tool for assisting traffic engineers when evaluating the need for a traffic signal installation
- The filled spreadsheets can be used as part of the supporting documents for the signal warrant evaluation

Note: This templates are a useful resource, but it remains necessary to apply engineering judgment and to consider specific environmental, traffic, geometric, and operational conditions

Instructions

Fill in "Orange" areas only	
Automated cells based on in Input Data in "orange" cells	
General Information	Fill in below the general information including: District, County (drop-down menu) City, Engineer, Date Major and Minor Street with corresponding number of lanes and speed limits
Enter Eight Hour Volumes	Any 8 hours of an average day. Major-street and minor-street volumes shall be for the same 8 hours; however, the 8 hours satisfied in Condition A shall **not** be required to be the same 8 hours satisfied in Condition B **for 80% columns only.** On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.
Enter Four Hour Volumes	Any 4 hours of an average day. Vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only, not required to be on the same approach during each of the 4 hours)
Enter Pedestrian Volumes (4-hr)	Pedestrians per hour crossing the major street (total of all crossings)
Enter Peak Hour Volumes	Vehicular: Any four consecutive 15-minute periods of an average day Pedestrian: Any four consecutive 15-minute periods of an average day representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings)

Input Data

Form 750-020-01
TRAFFIC ENGINEERING
February 2015

City:	**Miami**				
County:	**87 – Miami Dade**	Engineer:	**CHP**		
District:	**Six**	Date:	**April 30, 2019**		
Major Street:	**SR 994/SW 200 Street**	# Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 132 Avenue**	# Lanes:	**2**	Minor Approach Speed:	**30**

Eight Hour Volumes (Condition A)

Hours	Major Street (total of both approaches)	Minor Street (one direction only)
06:00 AM	1105	55
07:00 AM	1562	72
08:00 AM	1518	60
09:00 AM	920	43
03:00 PM	1188	27
04:00 PM	1315	25
05:00 PM	1369	36
07:00 PM	872	34

Eight Hour Volumes (Condition B)

Hours	Major Street (total of both approaches)	Minor Street (one direction only)
06:00 AM	1105	55
07:00 AM	1562	72
08:00 AM	1518	60
09:00 AM	920	43
03:00 PM	1188	27
04:00 PM	1315	25
05:00 PM	1369	36
07:00 PM	872	34

Highest Four Hour Vehicular Volumes

Hours	Major Street (total of both approaches)	Minor Street (one direction only)
06:00 AM	1105	55
07:00 AM	1562	72
08:00 AM	1518	60
09:00 AM	920	43

Highest Four Hour Pedestrian Volumes

Hours	Major Street (total of both approaches)	Pedestrian Crossings on Major Street
06:00 AM	1105	1
07:00 AM	1562	1
08:00 AM	1518	1
3:00 PM	1188	1

Vehicular Peak Hour Volumes

Peak Hour	Major Street (total of both approaches)	Minor Street (one direction only)	Total Entering Volume
7:00 AM	1562	72	1634

Pedestrian Peak Hour Volumes

Peak Hour	Major Street (total of both approaches)	Pedestrian Crossing Volumes on Major Street
7:00 AM	1562	1

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	Miami	Engineer:	CHP
County:	87 – Miami Dade	Date:	April 30, 2019
District:	Six		

Major Street:	SR 994/SW 200 Street	Lanes:	2	Major Approach Speed:	40
Minor Street:	SW 132 Avenue	Lanes:	2	Minor Approach Speed:	30

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)? ☐ Yes ☑ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☐ 70% ☑ 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

Warrant 1 is satisfied if Condition A or Condition B is "100%" satisfied for eight hours. ☐ Yes ☑ No

Warrant 1 is also satisfied if both Condition A and Condition B are "80%" satisfied (should only be applied after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems). ☐ Yes ☑ No

Condition A - Minimum Vehicular Volume

Condition A is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

100% Satisfied: ☐ Yes ☑ No
80% Satisfied: ☐ Yes ☑ No
70% Satisfied: ☐ Yes ☑ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	Minor	100%[a]	80%[b]	70%[c]	100%[a]	80%[b]	70%[c]
1	1	500	400	350	150	120	105
2 or more	1	600	480	420	150	120	105
2 or more	2 or more	600	480	420	200	160	140
1	2 or more	500	400	350	200	160	140

[a] Basic Minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Street	Eight Highest Hours							
	06:00 AM	07:00 AM	08:00 AM	09:00 AM	03:00 PM	04:00 PM	05:00 PM	07:00 PM
Major	1,105	1,562	1,518	920	1,188	1,315	1,369	872
Minor	55	72	60	43	27	25	36	34

Existing Volumes

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

Condition B - Interruption of Continuous Traffic

Condition B is intended for application where Condition A is not satisfied and the traffic volume on a major street is so heavy that traffic on the minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

Applicable:	☑ Yes	☐ No
100% Satisfied:	☐ Yes	☑ No
80% Satisfied:	☐ Yes	☑ No
70% Satisfied:	☐ Yes	☑ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	**Minor**	**100%[a]**	**80%[b]**	**70%[c]**	**100%[a]**	**80%[b]**	**70%[c]**
1	1	750	600	525	75	60	53
2 or more	1	900	720	630	75	60	53
2 or more	2 or more	900	720	630	100	80	70
1	2 or more	750	600	525	100	80	70

[a] Basic Minimum hourly volume

[b] Used for combination of Conditions A and B after adequate trial of other remedial measures

[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Eight Highest Hours								
Street	**06:00 AM**	**07:00 AM**	**08:00 AM**	**09:00 AM**	**03:00 PM**	**04:00 PM**	**05:00 PM**	**07:00 PM**
Major	1,105	1,562	1,518	920	1,188	1,315	1,369	872
Minor	55	72	60	43	27	25	36	34

Existing Volumes

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	**Miami**	Engineer:	**CHP**
County:	**87 – Miami Dade**	Date:	**April 30, 2019**
District:	**Six**		

Major Street:	**SR 994/SW 200 Street**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 132 Avenue**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)? ☐ Yes ☑ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☐ Yes ☑ No

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

If all four points lie above the appropriate line, then the warrant is satisfied.

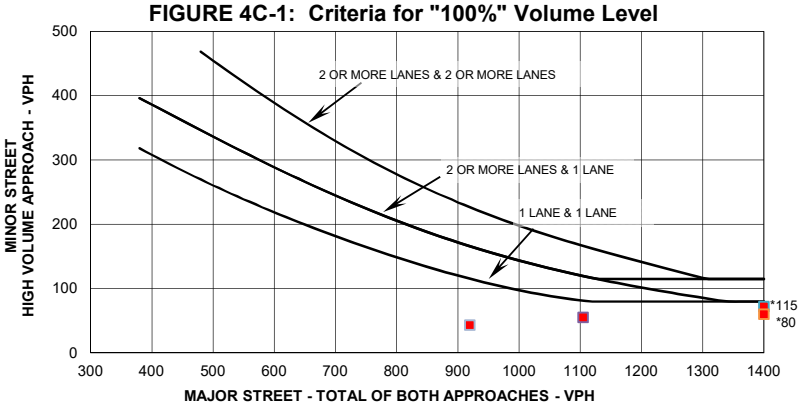
Applicable: ☑ Yes ☐ No
Satisfied: ☐ Yes ☑ No

Plot four volume combinations on the applicable figure below.

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
06:00 AM	1105	55
07:00 AM	1562	72
08:00 AM	1518	60
09:00 AM	920	43

FIGURE 4C-1: Criteria for "100%" Volume Level



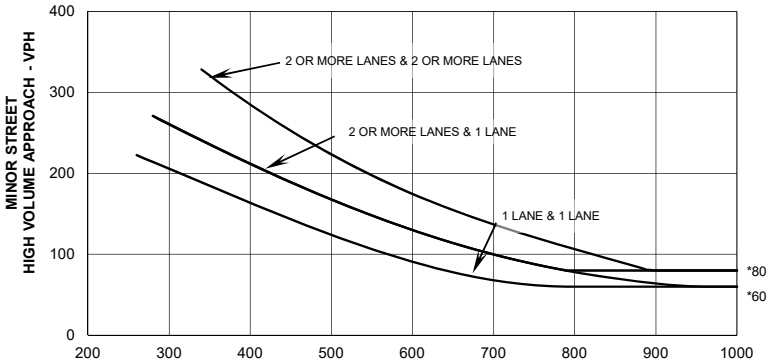
** Note: 115 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 80 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street

FIGURE 4C-2: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr (40 mph) on Major Street)



** Note: 80 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 60 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

Form 750-020-01
TRAFFIC ENGINEERING
February 2015

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	**Miami**	Engineer:	**CHP**
County:	**87 – Miami Dade**	Date:	**April 30, 2019**
District:	**Six**		

Major Street:	**SR 994/SW 200 Street**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 132 Avenue**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)? ☐ Yes ☑ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☐ 70% ☑ 100%

WARRANT 3 - PEAK HOUR

*If all three criteria are fulfilled **or** the plotted point lies above the appropriate line, then the warrant is satisfied.*

Applicable: ☑ Yes ☐ No
Satisfied: ☐ Yes ☑ No

Unusual condition justifying use of warrant:

Excessive deay on minor street

Record hour when criteria are fulfilled and the corresponding delay or volume in boxes provided.

Peak Hour 100% Volume		
Time	Major Vol.	Minor Vol.
7:00 AM	1562	72

Peak Hour 70% Volume		
Time	Major Vol.	Minor Vol.

Criteria

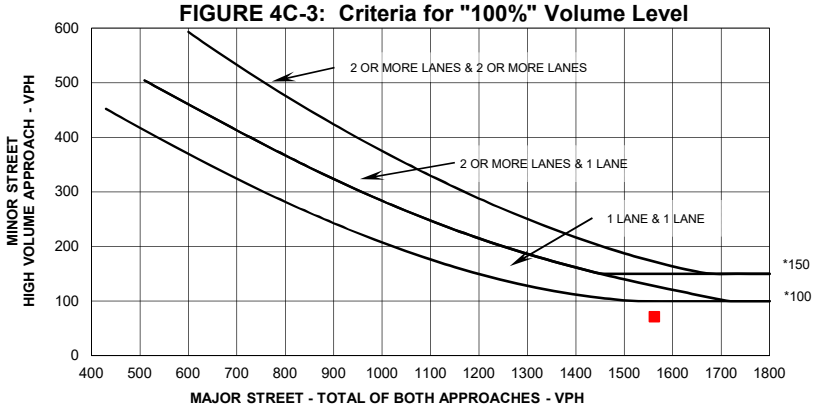
1. Delay on Minor Approach *(vehicle-hours)		
Approach Lanes	1	2
Delay Criteria*	4.0	5.0
Delay*	0.8	
Fulfilled?:	☐ Yes ☑ No	

2. Volume on Minor Approach One-Direction *(vehicles per hour)		
Approach Lanes	1	2
Volume Criteria*	100	150
Volume*	141	
Fulfilled?:	☑ Yes ☐ No	

3. Total Intersection Entering Volume *(vehicles per hour)		
No. of Approaches	3	4
Volume Criteria*	650	800
Volume*	1,269	
Fulfilled?:	☑ Yes ☐ No	

Plot volume combination on the applicable figure below.

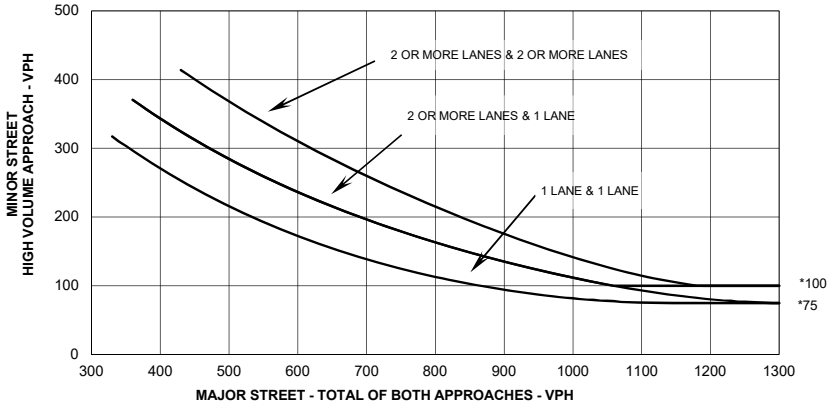
FIGURE 4C-3: Criteria for "100%" Volume Level



** Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

FIGURE 4C-4: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr (40 mph) on Major Street)



** Note: 100 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 75 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

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County:	**87 – Miami Dade**	Date:	**April 30, 2019**
District:	**Six**		

Major Street:	**SR 994/SW 200 Street**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 132 Avenue**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)? ☐ Yes ☑ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☐ 70% ☑ 100%

WARRANT 4 - PEDESTRIAN VOLUME

For each of any 4 hours of an average day, the plotted points lie above the appropriate line, then the warrant is satisfied.

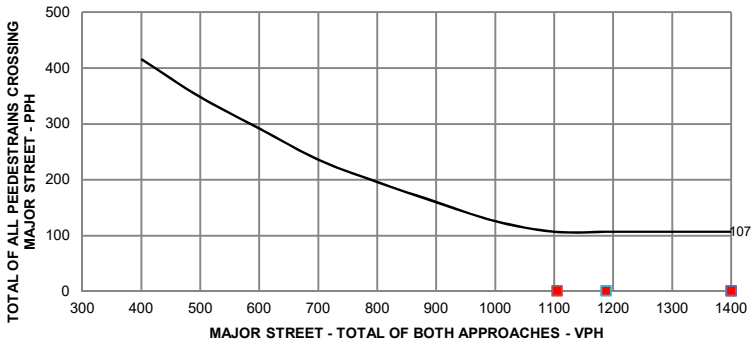
Applicable: ☐ Yes ☑ No
Satisfied: ☐ Yes ☑ No

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Pedestrian Total
06:00 AM	1105	1
07:00 AM	1562	1
08:00 AM	1518	1
08:00 AM	1188	1

Plot four volume combinations on the applicable figure below.

Figure 4C-5. Criteria for "100%" Volume Level

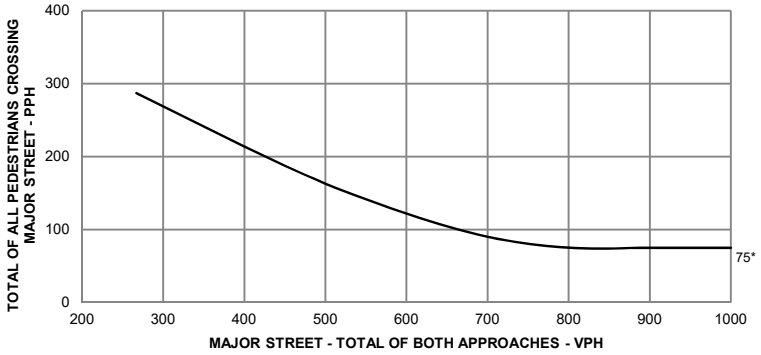


** Note: 107 pph applies as the lower threshold volume*

70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Pedestrian Total

Figure 4C-6 Criteria for "70%" Volume Level



** Note: 75 pph applies as the lower threshold volume*

WARRANT 4 - PEDESTRIAN VOLUME

For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point falls above the appropriate line, then the warrant is satisfied.

Applicable: ☑ Yes ☐ No

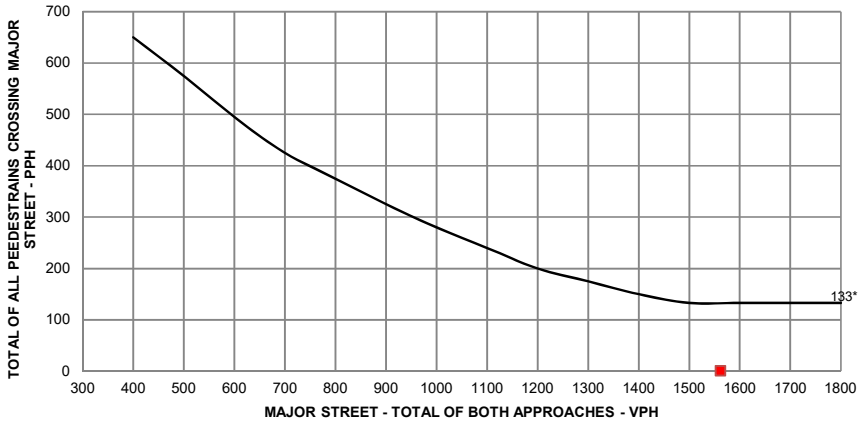
Satisfied: ☑ Yes ☐ No

Plot one volume combination on the applicable figure below.

100% Volume Level

Peak Hour	Volumes	
	Major Street	Pedestrian Total
7:00 AM	1562	1

Figure 4C-7. Criteria for "100%" Volume Level - Peak Hour

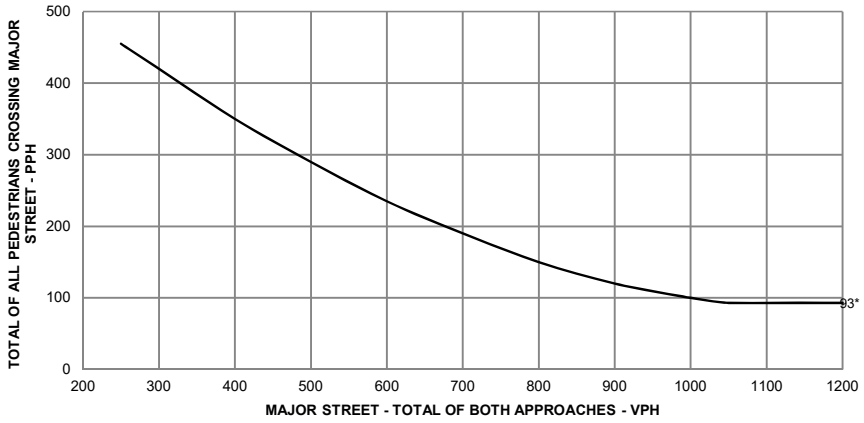


** Note: 133 pph applies as the lower threshold volume*

70% Volume Level

Peak Hour	Volumes	
	Major Street	Pedestrian Total

Figure 4C-8 Criteria for "70%" Volume Level - Peak Hour



** Note: 93 pph applies as the lower threshold volume*

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

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County:	**87 – Miami Dade**	Date:	**April 30, 2019**
District:	**Six**		

Major Street:	**SR 994/SW 200 Street**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 132 Avenue**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 5 - SCHOOL CROSSING

Record hours where criteria are fulfilled and the corresponding volume or gap frequency in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled.

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☑ No

Criteria				Fulfilled? Yes	Fulfilled? No
1. There are a minimum of 20 students crossing the major street during the highest crossing hour.	Students:	Hour:			
2. There are fewer adequate gaps in the major street traffic stream during the period when the children are using the established school crossing than the number of minutes in the same period.		Minutes:	Gaps:		
3. The nearest traffic signal along the major street is located more than 300 ft. (90 m) away, or the nearest signal is within 300 ft. (90 m) but the proposed traffic signal will not restrict the progressive movement of traffic.					

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	**Miami**	Engineer:	**CHP**
County:	**87 – Miami Dade**	Date:	**April 30, 2019**
District:	**Six**		

Major Street:	**SR 994/SW 200 Street**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 132 Avenue**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 6 - COORDINATED SIGNAL SYSTEM

Indicate if the criteria are fulfilled in the boxes provided. The warrant is satisfied if either criterion is fulfilled. This warrant should not be applied when the resulting signal spacing would be less than 300 m (1,000 ft.).

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☑ No

Criteria	Fulfilled? Yes	Fulfilled? No
1. On a one-way street or a street that has traffic predominately in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.		
2. On a two-way street, adjacent signals do not provide the necessary degree of platooning, and the proposed and adjacent signals will collectively provide a progressive operation.		

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	**Miami**	Engineer:	**CHP**
County:	**87 – Miami Dade**	Date:	**April 30, 2019**
District:	**Six**		

Major Street:	**SR 994/SW 200 Street**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 132 Avenue**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 7 - CRASH EXPERIENCE

Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled.

Applicable: ☑ Yes ☐ No
Satisfied: ☐ Yes ☑ No

Criteria		Hour								Volume		Met?		Fulfilled?	
										Major	Minor	Yes	No	Yes	No
1. One of the warrants to the right is met.	Warrant 1, Condition A (80% satisfied)	x	x	x	x	x		x		x	x		x	x	
	Warrant 1, Condition B (80% satisfied)	x	x	x	x	x	x	x	x			x			
	Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour.												x		
2. Adequate trial of other remedial measure has failed to reduce crash frequency.		Measure tried:													x
3. Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12-month period.		Observed Crash Types:			Angle Left Turn					Number of crashes per 12 months:				x	

State of Florida Department of Transportation

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District:	**Six**		

Major Street:	**SR 994/SW 200 Street**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 132 Avenue**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 8 - ROADWAY NETWORK

Record hours where criteria are fulfilled, and the corresponding volume or other information in the boxes provided. The warrant is satisfied if at least one of the criteria is fulfilled and if all intersecting routes have one or more of the Major Route characteristics listed.

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☑ No

Criteria								Met? Yes	Met? No	Fulfilled? Yes	Fulfilled? No
1. Both of the criteria to the right are met.	a. Total entering volume of at least 1,000 veh/hr during a typical weekday peak hour.			Entering Volume:							
	b. Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3.			Warrant:	1	2	3				
				Satisfied?:							
2. Total entering volume at least 1,000 veh/hr for each of any 5 hrs of a non-normal business day (Sat. or Sun.)							← Hour				
							←Volume				

Characteristics of Major Routes		Met? Yes	Met? No	Fulfilled? Yes	Fulfilled? No
1. Part of the street or highway system that serves as the principal roadway network for through traffic flow.	Major Street:				
	Minor Street:				
2. Rural or suburban highway outside of, entering, or traversing a city.	Major Street:				
	Minor Street:				
3. Appears as a major route on an official plan.	Major Street:				
	Minor Street:				

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	Miami	Engineer:	CHP
County:	87 – Miami Dade	Date:	April 30, 2019
District:	Six		

Major Street:	SR 994/SW 200 Street	Lanes:	2	Major Approach Speed:	40
Minor Street:	SW 132 Avenue	Lanes:	2	Minor Approach Speed:	30

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Approach Lane Criteria

1. How many approach lanes are there at the track crossing?

If there is 1 lane, use Figure 4C-9 and if there are 2 or more, use Figure 4C-10.

☑ 1 ☐ 2 or
☑ Fig 4C-9 ☐ Fig 4C-10

WARRANT 9 - INTERSECTION NEAR A GRADE CROSSING

This signal warrant should be applied only after adequate consideration has been given to other alternatives or after a trial of an alternative has failed to alleviate the safety concerns associated with the grade crossing.

Indicate if both criteria are fulfilled in the boxes provided. The warrant is satisfied if both criteria are met.

Applicable: ☐ Yes ☑ No
Satisfied: ☐ Yes ☑ No

Criteria	Fulfilled? Yes	Fulfilled? No
1. A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and	☐	☑
2. During the highest traffic volume hour during which the rail uses the crossing, the plotted point falls above the applicable curve for the existing combination of approach lanes over the track and the distance D (clear storage distance).	☐	☑

Use the following tables (4C-2, 4C-3, and 4C-4 to appropriately adjust the minor-street approach volume).

Inputs		Adjustment Factors from Tables
Occurrences of Rail traffic per day		
% of High Occupancy Buses on Minor-Street Approach		1.00
Enter D (feet)		
% of Tractor-Trailer Trucks on Minor-Street Approach		0.50

Table 4C-2. Adjustment Factor for Daily Frequency of Rail Traffic

Rail Traffic per Day	Adjustment Factor
1	0.67
2	0.91
3 to 5	1.00
6 to 8	1.18
9 to 11	1.25
12 or more	1.33

Table 4C-3. Adjustment Factor for Percentage of High-Occupancy Buses

% of High-Occupancy Buses* on Minor Street Approach	Adjustment Factor
0%	1.00
2%	1.09
4%	1.19
6% or more	1.32

* A high-occupancy bus is defined as a bus occupied by at least 20 people

Table 4C-4. Adjustment Factor for Percentage of Tractor-Trailer Trucks

% of Tractor-Trailer Trucks on Minor-Street Approach	Adjustment Factor	
	D less than 70 feet	D of 70 feet or more
0% to 2.5%	0.50	0.50
2.6% to 7.5%	0.75	0.75
7.6% to 12.5%	1.00	1.00
12.6% to 17.5%	2.30	1.15
17.6% to 22.5%	2.70	1.35
22.6% to 27.5%	3.28	1.64
More than 27.5%	4.18	2.09

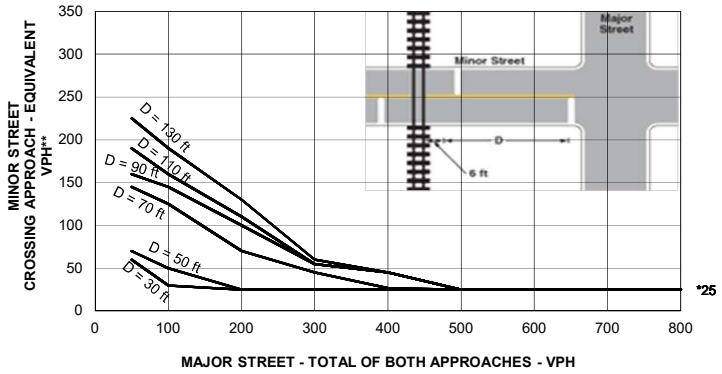
Input the major and minor street volumes before adjustment factors are applied

1 Approach Lane		
D (ft)	Major Vol.	Minor Vol.

After adjustment factors are applied

1 Approach Lane w/Factors		
D (ft)	Major Vol.	Minor Vol.

FIGURE 4C-9: Criteria for 1 Approach Lane at the Track Crossing



** Note: 25 vph applies as the lower threshold volume*

** *Note: VPH after applying the adjustment factors in Tables 4C-2, 4C, and or 4C-4, if appropriate*

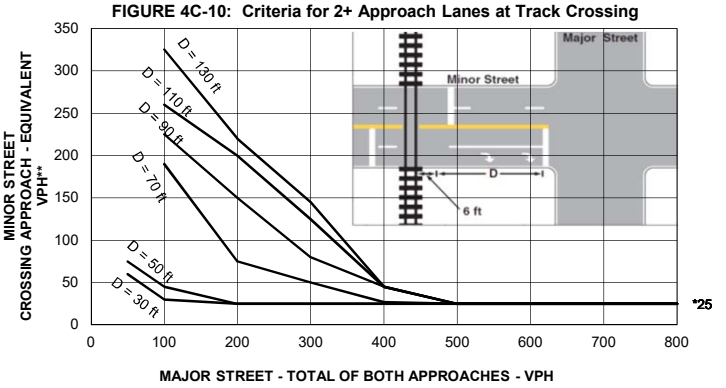
Input D and the major and minor street volumes before adjustment factors are applied

2 or more Approach Lanes		
D (ft)	Major Vol.	Minor Vol.

After adjustment factors are applied

2+ Approach Lane w/Factors		
D (ft)	Major Vol.	Minor Vol.

FIGURE 4C-10: Criteria for 2+ Approach Lanes at Track Crossing



** Note: 25 vph applies as the lower threshold volume*

** *Note: VPH after applying the adjustment factors in Tables 4C-2, 4C, and or 4C-4, if appropriate*

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MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

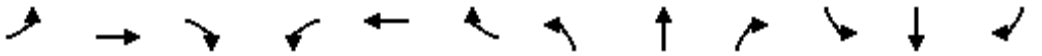
CONCLUSIONS

Remarks: **Installation of a traffic signal is not justified**

WARRANTS SATISFIED:

☐ Warrant 1	☐ Not Applicable
☐ Warrant 2	☐ Not Applicable
☐ Warrant 3	☐ Not Applicable
☐ Warrant 4	☑ Not Applicable
☐ Warrant 5	☑ Not Applicable
☐ Warrant 6	☑ Not Applicable
☐ Warrant 7	☐ Not Applicable
☐ Warrant 8	☑ Not Applicable
☐ Warrant 9	☑ Not Applicable

APPENDIX I – OPERATIONAL ANALYSIS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	350	0	1	312	479	1	0	2	476	0	0
Future Volume (vph)	64	350	0	1	312	479	1	0	2	476	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.4	6.4		6.4			6.4	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		1.00			1.00	0.85		0.93			1.00	
Flt Protected		0.99			1.00	1.00		0.98			0.95	
Satd. Flow (prot)		1855			1809	1568		1729			1805	
Flt Permitted		0.64			1.00	1.00		0.75			0.75	
Satd. Flow (perm)		1207			1802	1568		1324			1430	
Peak-hour factor, PHF	0.55	0.93	0.92	0.25	0.87	0.90	0.25	0.92	0.50	0.89	0.92	0.92
Adj. Flow (vph)	116	376	0	4	359	532	4	0	4	535	0	0
RTOR Reduction (vph)	0	0	0	0	0	286	0	6	0	0	0	0
Lane Group Flow (vph)	0	492	0	0	363	246	0	2	0	0	535	0
Heavy Vehicles (%)	2%	1%	0%	0%	5%	3%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	7	3			8			2			6	
Permitted Phases	3			8		8	2			6		6
Actuated Green, G (s)		76.4			55.0	55.0		40.0			40.0	
Effective Green, g (s)		76.4			55.0	55.0		40.0			40.0	
Actuated g/C Ratio		0.59			0.43	0.43		0.31			0.31	
Clearance Time (s)		6.0			6.4	6.4		6.4			6.4	
Vehicle Extension (s)		2.0			1.0	1.0		2.5			2.5	
Lane Grp Cap (vph)		801			769	669		411			444	
v/s Ratio Prot		c0.08										
v/s Ratio Perm		c0.28			0.20	0.16		0.00			c0.37	
v/c Ratio		0.61			0.47	0.37		0.01			1.20	
Uniform Delay, d1		16.8			26.5	25.1		30.7			44.4	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		3.5			2.1	1.6		0.0			111.9	
Delay (s)		20.3			28.6	26.6		30.7			156.3	
Level of Service		C			C	C		C			F	
Approach Delay (s)		20.3			27.4			30.7			156.3	
Approach LOS		C			C			C			F	

Intersection Summary			
HCM 2000 Control Delay	61.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	128.8	Sum of lost time (s)	16.8
Intersection Capacity Utilization	87.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

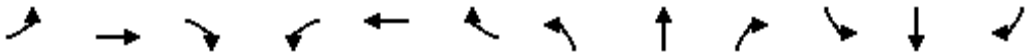


Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	492	363	532	8	535
v/c Ratio	0.62	0.47	0.56	0.02	1.21
Control Delay	19.0	29.0	5.2	0.0	151.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	29.0	5.2	0.0	151.9
Queue Length 50th (ft)	216	214	15	0	~543
Queue Length 95th (ft)	298	291	95	0	#763
Internal Link Dist (ft)	362	576		87	1067
Turn Bay Length (ft)			150		
Base Capacity (vph)	791	769	956	454	443
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.62	0.47	0.56	0.02	1.21

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	647	229	61	758	155	101	32	29	12	1	1
Future Volume (Veh/h)	2	647	229	61	758	155	101	32	29	12	1	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.85	0.88	0.59	0.95	0.81	0.81	0.62	0.91	0.75	0.25	0.25
Hourly flow rate (vph)	4	761	260	103	798	191	125	52	32	16	4	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	989			761			1874	1964	761	1926	1868	894
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	989			761			1874	1964	761	1926	1868	894
tC, single (s)	4.1			4.2			7.1	6.5	6.2	7.2	6.5	7.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.3	3.6	4.0	4.2
p0 queue free %	99			87			0	6	92	0	94	98
cM capacity (veh/h)	707			816			45	55	409	7	64	231

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total	765	260	1092	209	24
Volume Left	4	0	103	125	16
Volume Right	0	260	191	32	4
cSH	707	1700	816	55	10
Volume to Capacity	0.01	0.15	0.13	3.78	2.36
Queue Length 95th (ft)	0	0	11	Err	100
Control Delay (s)	0.2	0.0	3.7	Err	1348.3
Lane LOS	A		A	F	F
Approach Delay (s)	0.1		3.7	Err	1348.3
Approach LOS				F	F

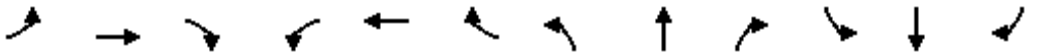
Intersection Summary				
Average Delay	904.8			
Intersection Capacity Utilization	105.7%	ICU Level of Service	G	
Analysis Period (min)	15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	750	10	15	756	66	118
Future Volume (Veh/h)	750	10	15	756	66	118
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.50	0.54	0.91	0.87	0.74
Hourly flow rate (vph)	824	20	28	831	76	159
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			844		1721	834
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			844		1721	834
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		21	57
cM capacity (veh/h)			801		96	368

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	844	859	235
Volume Left	0	28	76
Volume Right	20	0	159
cSH	1700	801	192
Volume to Capacity	0.50	0.03	1.22
Queue Length 95th (ft)	0	3	311
Control Delay (s)	0.0	1.0	187.8
Lane LOS		A	F
Approach Delay (s)	0.0	1.0	187.8
Approach LOS			F

Intersection Summary			
Average Delay	23.2		
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	396	1	2	336	327	0	0	0	490	0	63
Future Volume (vph)	64	396	1	2	336	327	0	0	0	490	0	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.4	6.4					6.4	6.4
Lane Util. Factor		1.00			1.00	1.00					1.00	1.00
Frt		1.00			1.00	0.85					1.00	0.85
Flt Protected		0.99			1.00	1.00					0.95	1.00
Satd. Flow (prot)		1855			1862	1615					1787	1583
Flt Permitted		0.80			0.99	1.00					0.76	1.00
Satd. Flow (perm)		1501			1853	1615					1424	1583
Peak-hour factor, PHF	0.84	0.89	0.25	0.50	0.97	0.84	0.92	0.92	0.92	0.97	0.92	0.79
Adj. Flow (vph)	76	445	4	4	346	389	0	0	0	505	0	80
RTOR Reduction (vph)	0	0	0	0	0	218	0	0	0	0	0	43
Lane Group Flow (vph)	0	525	0	0	350	171	0	0	0	0	505	37
Heavy Vehicles (%)	0%	1%	100%	0%	2%	0%	0%	0%	0%	1%	0%	2%
Turn Type	pm+pt	NA		Perm	NA	Perm				Perm	NA	Perm
Protected Phases	7	3			8			2			6	
Permitted Phases	3			8		8	2			6		6
Actuated Green, G (s)		76.4			55.0	55.0					40.0	40.0
Effective Green, g (s)		76.4			55.0	55.0					40.0	40.0
Actuated g/C Ratio		0.59			0.43	0.43					0.31	0.31
Clearance Time (s)		6.0			6.4	6.4					6.4	6.4
Vehicle Extension (s)		2.0			1.0	1.0					2.5	2.5
Lane Grp Cap (vph)		937			791	689					442	491
v/s Ratio Prot		c0.07										
v/s Ratio Perm		c0.26			0.19	0.11					c0.35	0.02
v/c Ratio		0.56			0.44	0.25					1.14	0.07
Uniform Delay, d1		16.0			26.1	23.7					44.4	31.3
Progression Factor		1.00			1.00	1.00					1.00	1.00
Incremental Delay, d2		2.4			1.8	0.9					87.9	0.0
Delay (s)		18.4			27.9	24.5					132.3	31.4
Level of Service		B			C	C					F	C
Approach Delay (s)		18.4			26.1			0.0			118.5	
Approach LOS		B			C			A			F	

Intersection Summary			
HCM 2000 Control Delay	53.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	128.8	Sum of lost time (s)	16.8
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

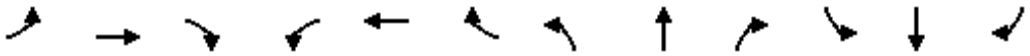


Lane Group	EBT	WBT	WBR	SBT	SBR
Lane Group Flow (vph)	525	350	389	505	80
v/c Ratio	0.56	0.44	0.43	1.14	0.15
Control Delay	17.9	28.3	4.1	128.5	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	28.3	4.1	128.5	11.5
Queue Length 50th (ft)	236	203	4	~492	10
Queue Length 95th (ft)	317	290	45	#709	37
Internal Link Dist (ft)	362	576		1072	
Turn Bay Length (ft)			150		200
Base Capacity (vph)	932	791	907	442	535
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.56	0.44	0.43	1.14	0.15

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	551	384	83	582	32	81	23	38	13	29	3
Future Volume (Veh/h)	1	551	384	83	582	32	81	23	38	13	29	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.96	0.89	0.83	0.88	0.80	0.81	0.82	0.79	0.54	0.72	0.75
Hourly flow rate (vph)	4	574	431	100	661	40	100	28	48	24	40	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	701			574			1487	1483	574	1525	1463	681
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	701			574			1487	1483	574	1525	1463	681
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			90			0	75	91	64	66	99
cM capacity (veh/h)	905			984			70	113	522	66	116	454

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total	578	431	801	176	68
Volume Left	4	0	100	100	24
Volume Right	0	431	40	48	4
cSH	905	1700	984	99	95
Volume to Capacity	0.00	0.25	0.10	1.78	0.72
Queue Length 95th (ft)	0	0	8	356	91
Control Delay (s)	0.1	0.0	2.5	461.1	106.9
Lane LOS	A		A	F	F
Approach Delay (s)	0.1		2.5	461.1	106.9
Approach LOS				F	F

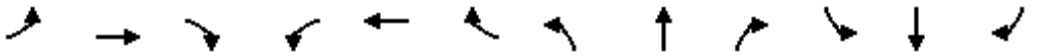
Intersection Summary				
Average Delay	44.1			
Intersection Capacity Utilization	90.9%	ICU Level of Service		E
Analysis Period (min)	15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	607	27	163	643	36	62
Future Volume (Veh/h)	607	27	163	643	36	62
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.68	0.85	0.82	0.82	0.86
Hourly flow rate (vph)	639	40	192	784	44	72
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			679		1827	659
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			679		1827	659
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			79		35	85
cM capacity (veh/h)			918		68	467

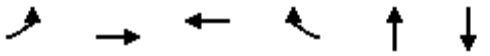
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	679	976	116
Volume Left	0	192	44
Volume Right	40	0	72
cSH	1700	918	144
Volume to Capacity	0.40	0.21	0.81
Queue Length 95th (ft)	0	20	127
Control Delay (s)	0.0	5.1	90.9
Lane LOS		A	F
Approach Delay (s)	0.0	5.1	90.9
Approach LOS			F

Intersection Summary			
Average Delay	8.7		
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	350	0	1	312	479	1	0	2	476	0	0
Future Volume (vph)	64	350	0	1	312	479	1	0	2	476	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.4	6.4		6.4			6.4	
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Frt	1.00	1.00			1.00	0.85		0.93			1.00	
Flt Protected	0.95	1.00			1.00	1.00		0.98			0.95	
Satd. Flow (prot)	1770	1881			1809	1568		1729			1805	
Flt Permitted	0.38	1.00			1.00	1.00		0.75			0.75	
Satd. Flow (perm)	713	1881			1804	1568		1324			1430	
Peak-hour factor, PHF	0.55	0.93	0.92	0.25	0.87	0.90	0.25	0.92	0.50	0.89	0.92	0.92
Adj. Flow (vph)	116	376	0	4	359	532	4	0	4	535	0	0
RTOR Reduction (vph)	0	0	0	0	0	286	0	6	0	0	0	0
Lane Group Flow (vph)	116	376	0	0	363	246	0	2	0	0	535	0
Heavy Vehicles (%)	2%	1%	0%	0%	5%	3%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	7	3			8			2			6	
Permitted Phases	3			8		8	2			6		6
Actuated Green, G (s)	76.4	76.4			55.0	55.0		40.0			40.0	
Effective Green, g (s)	76.4	76.4			55.0	55.0		40.0			40.0	
Actuated g/C Ratio	0.59	0.59			0.43	0.43		0.31			0.31	
Clearance Time (s)	6.0	6.0			6.4	6.4		6.4			6.4	
Vehicle Extension (s)	2.0	2.0			1.0	1.0		2.5			2.5	
Lane Grp Cap (vph)	546	1115			770	669		411			444	
v/s Ratio Prot	0.02	c0.20										
v/s Ratio Perm	0.10				c0.20	0.16		0.00			c0.37	
v/c Ratio	0.21	0.34			0.47	0.37		0.01			1.20	
Uniform Delay, d1	12.9	13.3			26.5	25.1		30.7			44.4	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.9	0.8			2.1	1.6		0.0			111.9	
Delay (s)	13.8	14.1			28.5	26.6		30.7			156.3	
Level of Service	B	B			C	C		C			F	
Approach Delay (s)		14.1			27.4			30.7			156.3	
Approach LOS		B			C			C			F	

Intersection Summary			
HCM 2000 Control Delay	59.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	128.8	Sum of lost time (s)	18.8
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

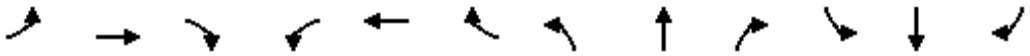


Lane Group	EBL	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	116	376	363	532	8	535
v/c Ratio	0.21	0.34	0.47	0.56	0.02	1.21
Control Delay	12.4	14.4	29.0	5.2	0.0	151.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.4	14.4	29.0	5.2	0.0	151.9
Queue Length 50th (ft)	40	151	214	15	0	~543
Queue Length 95th (ft)	40	214	291	95	0	#763
Internal Link Dist (ft)		362	576		87	1066
Turn Bay Length (ft)	150			150		
Base Capacity (vph)	546	1115	769	956	466	443
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.34	0.47	0.56	0.02	1.21

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	647	229	61	758	155	167	32	29	12	1	1
Future Volume (vph)	2	647	229	61	758	155	167	32	29	12	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4	6.4	6.4			6.4			6.4	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00			1.00	
Frt		1.00	0.85	1.00	0.97			0.98			0.98	
Flt Protected		1.00	1.00	0.95	1.00			0.97			0.97	
Satd. Flow (prot)		1810	1583	1641	1757			1801			1473	
Flt Permitted		1.00	1.00	0.13	1.00			0.78			0.79	
Satd. Flow (perm)		1802	1583	221	1757			1448			1203	
Peak-hour factor, PHF	0.50	0.85	0.88	0.59	0.95	0.81	0.85	0.62	0.91	0.75	0.25	0.25
Adj. Flow (vph)	4	761	260	103	798	191	196	52	32	16	4	4
RTOR Reduction (vph)	0	0	118	0	8	0	0	3	0	0	3	0
Lane Group Flow (vph)	0	765	142	103	981	0	0	277	0	0	21	0
Heavy Vehicles (%)	0%	5%	2%	10%	6%	1%	0%	0%	3%	8%	0%	100%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		51.5	51.5	65.1	65.1			25.2			25.2	
Effective Green, g (s)		51.5	51.5	65.1	65.1			25.2			25.2	
Actuated g/C Ratio		0.50	0.50	0.63	0.63			0.24			0.24	
Clearance Time (s)		6.4	6.4	6.4	6.4			6.4			6.4	
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		900	790	238	1109			353			294	
v/s Ratio Prot				0.03	c0.56							
v/s Ratio Perm		0.42	0.09	0.24				c0.19			0.02	
v/c Ratio		0.85	0.18	0.43	0.88			0.78			0.07	
Uniform Delay, d1		22.4	14.2	15.9	15.9			36.4			30.0	
Progression Factor		1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2		7.6	0.1	1.3	8.6			10.9			0.1	
Delay (s)		30.0	14.3	17.1	24.5			47.3			30.1	
Level of Service		C	B	B	C			D			C	
Approach Delay (s)		26.0			23.8			47.3			30.1	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	103.1	Sum of lost time (s)	19.2
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	765	260	103	989	280	24
v/c Ratio	0.85	0.29	0.43	0.89	0.79	0.08
Control Delay	32.4	3.0	12.8	26.4	55.8	33.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.4	3.0	12.8	26.4	55.8	33.2
Queue Length 50th (ft)	423	8	25	497	165	10
Queue Length 95th (ft)	516	40	27	707	217	9
Internal Link Dist (ft)	258			417	1285	374
Turn Bay Length (ft)		225	250			
Base Capacity (vph)	1398	1280	237	1551	370	308
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.20	0.43	0.64	0.76	0.08

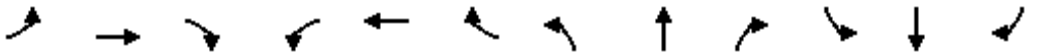
Intersection Summary



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	750	10	15	756	0	118
Future Volume (Veh/h)	750	10	15	756	0	118
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.50	0.54	0.91	0.87	0.74
Hourly flow rate (vph)	824	20	28	831	0	159
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			844		1721	834
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			844		1721	834
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	57
cM capacity (veh/h)			801		96	368

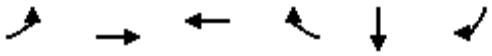
Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	844	28	831	159
Volume Left	0	28	0	0
Volume Right	20	0	0	159
cSH	1700	801	1700	368
Volume to Capacity	0.50	0.03	0.49	0.43
Queue Length 95th (ft)	0	3	0	53
Control Delay (s)	0.0	9.7	0.0	22.0
Lane LOS		A		C
Approach Delay (s)	0.0	0.3		22.0
Approach LOS				C

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	396	1	2	336	327	0	0	0	490	0	63
Future Volume (vph)	64	396	1	2	336	327	0	0	0	490	0	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.4	6.4					6.4	6.4
Lane Util. Factor	1.00	1.00			1.00	1.00					1.00	1.00
Frt	1.00	1.00			1.00	0.85					1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00					0.95	1.00
Satd. Flow (prot)	1805	1862			1862	1615					1787	1583
Flt Permitted	0.39	1.00			1.00	1.00					0.76	1.00
Satd. Flow (perm)	750	1862			1855	1615					1424	1583
Peak-hour factor, PHF	0.84	0.89	0.25	0.50	0.97	0.84	0.92	0.92	0.92	0.97	0.92	0.79
Adj. Flow (vph)	76	445	4	4	346	389	0	0	0	505	0	80
RTOR Reduction (vph)	0	0	0	0	0	218	0	0	0	0	0	55
Lane Group Flow (vph)	76	449	0	0	350	171	0	0	0	0	505	25
Heavy Vehicles (%)	0%	1%	100%	0%	2%	0%	0%	0%	0%	1%	0%	2%
Turn Type	pm+pt	NA		Perm	NA	Perm				Perm	NA	Perm
Protected Phases	7	3			8			2			6	
Permitted Phases	3			8		8	2			6		6
Actuated Green, G (s)	76.4	76.4			55.0	55.0					40.0	40.0
Effective Green, g (s)	76.4	76.4			55.0	55.0					40.0	40.0
Actuated g/C Ratio	0.59	0.59			0.43	0.43					0.31	0.31
Clearance Time (s)	6.0	6.0			6.4	6.4					6.4	6.4
Vehicle Extension (s)	2.0	2.0			1.0	1.0					2.5	2.5
Lane Grp Cap (vph)	567	1104			792	689					442	491
v/s Ratio Prot	0.02	c0.24										
v/s Ratio Perm	0.06				c0.19	0.11					c0.35	0.02
v/c Ratio	0.13	0.41			0.44	0.25					1.14	0.05
Uniform Delay, d1	12.4	14.0			26.1	23.7					44.4	31.1
Progression Factor	1.00	1.00			1.00	1.00					1.00	1.00
Incremental Delay, d2	0.5	1.1			1.8	0.9					87.9	0.0
Delay (s)	12.9	15.2			27.8	24.5					132.3	31.1
Level of Service	B	B			C	C					F	C
Approach Delay (s)		14.8			26.1			0.0			118.5	
Approach LOS		B			C			A			F	

Intersection Summary			
HCM 2000 Control Delay	52.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	128.8	Sum of lost time (s)	18.8
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

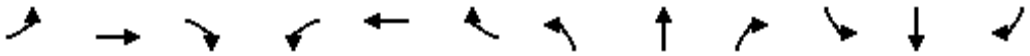


Lane Group	EBL	EBT	WBT	WBR	SBT	SBR
Lane Group Flow (vph)	76	449	350	389	505	80
v/c Ratio	0.13	0.41	0.44	0.43	1.14	0.15
Control Delay	11.8	15.4	28.3	4.1	128.5	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.8	15.4	28.3	4.1	128.5	7.4
Queue Length 50th (ft)	26	190	203	4	~492	0
Queue Length 95th (ft)	44	259	290	45	#709	27
Internal Link Dist (ft)		362	576		1075	
Turn Bay Length (ft)	150			150		200
Base Capacity (vph)	567	1105	791	907	442	546
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.41	0.44	0.43	1.14	0.15

Intersection Summary

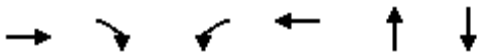
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	551	384	83	582	32	117	23	38	13	29	3
Future Volume (vph)	1	551	384	83	582	32	117	23	38	13	29	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4	6.4	6.4			6.4			6.4	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00			1.00	
Frt		1.00	0.85	1.00	0.99			0.97			0.99	
Flt Protected		1.00	1.00	0.95	1.00			0.97			0.98	
Satd. Flow (prot)		1844	1583	1719	1799			1786			1852	
Flt Permitted		1.00	1.00	0.22	1.00			0.76			0.86	
Satd. Flow (perm)		1837	1583	404	1799			1404			1622	
Peak-hour factor, PHF	0.25	0.96	0.89	0.83	0.88	0.80	0.81	0.82	0.79	0.54	0.73	0.75
Adj. Flow (vph)	4	574	431	100	661	40	144	28	48	24	40	4
RTOR Reduction (vph)	0	0	240	0	2	0	0	8	0	0	2	0
Lane Group Flow (vph)	0	578	191	100	699	0	0	212	0	0	66	0
Heavy Vehicles (%)	0%	3%	2%	5%	5%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		33.7	33.7	45.5	45.5			17.8			17.8	
Effective Green, g (s)		33.7	33.7	45.5	45.5			17.8			17.8	
Actuated g/C Ratio		0.44	0.44	0.60	0.60			0.23			0.23	
Clearance Time (s)		6.4	6.4	6.4	6.4			6.4			6.4	
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		813	701	334	1075			328			379	
v/s Ratio Prot				0.02	c0.39							
v/s Ratio Perm		c0.31	0.12	0.16				c0.15			0.04	
v/c Ratio		0.71	0.27	0.30	0.65			0.65			0.18	
Uniform Delay, d1		17.2	13.4	9.5	10.1			26.3			23.3	
Progression Factor		1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2		2.9	0.2	0.5	1.4			4.3			0.2	
Delay (s)		20.2	13.6	10.1	11.5			30.6			23.5	
Level of Service		C	B	B	B			C			C	
Approach Delay (s)		17.4			11.3			30.6			23.5	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	76.1	Sum of lost time (s)	19.2
Intersection Capacity Utilization	94.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	578	431	100	701	220	68
v/c Ratio	0.71	0.46	0.27	0.67	0.65	0.18
Control Delay	24.0	3.3	9.1	14.6	38.4	27.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.0	3.3	9.1	14.6	38.4	27.9
Queue Length 50th (ft)	220	0	18	189	90	25
Queue Length 95th (ft)	411	48	44	384	185	58
Internal Link Dist (ft)	258			417	1285	374
Turn Bay Length (ft)		225	250			
Base Capacity (vph)	1590	1428	379	1693	714	821
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.30	0.26	0.41	0.31	0.08

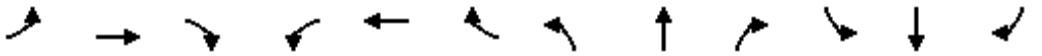
Intersection Summary



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	607	27	163	643	0	62
Future Volume (Veh/h)	607	27	163	643	0	62
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.68	0.85	0.82	0.82	0.86
Hourly flow rate (vph)	639	40	192	784	0	72
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			679		1827	659
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			679		1827	659
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			79		100	85
cM capacity (veh/h)			918		68	467

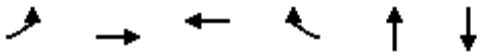
Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	679	192	784	72
Volume Left	0	192	0	0
Volume Right	40	0	0	72
cSH	1700	918	1700	467
Volume to Capacity	0.40	0.21	0.46	0.15
Queue Length 95th (ft)	0	20	0	14
Control Delay (s)	0.0	10.0	0.0	14.1
Lane LOS		A		B
Approach Delay (s)	0.0	2.0		14.1
Approach LOS				B

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	350	0	1	312	479	1	0	2	476	0	0
Future Volume (vph)	64	350	0	1	312	479	1	0	2	476	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.4	6.4		6.4			6.4	
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Frt	1.00	1.00			1.00	0.85		0.93			1.00	
Flt Protected	0.95	1.00			1.00	1.00		0.98			0.95	
Satd. Flow (prot)	1770	1881			1809	1568		1729			1805	
Flt Permitted	0.38	1.00			1.00	1.00		0.75			0.75	
Satd. Flow (perm)	713	1881			1804	1568		1324			1430	
Peak-hour factor, PHF	0.55	0.93	0.92	0.25	0.87	0.90	0.25	0.92	0.50	0.89	0.92	0.92
Adj. Flow (vph)	116	376	0	4	359	532	4	0	4	535	0	0
RTOR Reduction (vph)	0	0	0	0	0	286	0	6	0	0	0	0
Lane Group Flow (vph)	116	376	0	0	363	246	0	2	0	0	535	0
Heavy Vehicles (%)	2%	1%	0%	0%	5%	3%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	7	3			8			2			6	
Permitted Phases	3			8		8	2			6		6
Actuated Green, G (s)	76.4	76.4			55.0	55.0		40.0			40.0	
Effective Green, g (s)	76.4	76.4			55.0	55.0		40.0			40.0	
Actuated g/C Ratio	0.59	0.59			0.43	0.43		0.31			0.31	
Clearance Time (s)	6.0	6.0			6.4	6.4		6.4			6.4	
Vehicle Extension (s)	2.0	2.0			1.0	1.0		2.5			2.5	
Lane Grp Cap (vph)	546	1115			770	669		411			444	
v/s Ratio Prot	0.02	c0.20										
v/s Ratio Perm	0.10				c0.20	0.16		0.00			c0.37	
v/c Ratio	0.21	0.34			0.47	0.37		0.01			1.20	
Uniform Delay, d1	12.9	13.3			26.5	25.1		30.7			44.4	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.9	0.8			2.1	1.6		0.0			111.9	
Delay (s)	13.8	14.1			28.5	26.6		30.7			156.3	
Level of Service	B	B			C	C		C			F	
Approach Delay (s)		14.1			27.4			30.7			156.3	
Approach LOS		B			C			C			F	

Intersection Summary			
HCM 2000 Control Delay	59.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	128.8	Sum of lost time (s)	18.8
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

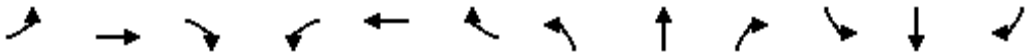


Lane Group	EBL	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	116	376	363	532	8	535
v/c Ratio	0.21	0.34	0.47	0.56	0.02	1.21
Control Delay	12.4	14.4	29.0	5.2	0.0	151.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.4	14.4	29.0	5.2	0.0	151.9
Queue Length 50th (ft)	40	151	214	15	0	~543
Queue Length 95th (ft)	40	214	291	95	0	#763
Internal Link Dist (ft)		362	576		87	1066
Turn Bay Length (ft)	150			150		
Base Capacity (vph)	546	1115	769	956	466	443
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.34	0.47	0.56	0.02	1.21

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	647	229	61	758	155	101	32	29	12	1	1
Future Volume (vph)	2	647	229	61	758	155	101	32	29	12	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4	6.4	6.4			6.4			6.4	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00			1.00	
Frt		1.00	0.85	1.00	0.97			0.98			0.98	
Flt Protected		1.00	1.00	0.95	1.00			0.97			0.97	
Satd. Flow (prot)		1810	1583	1641	1757			1798			1473	
Flt Permitted		1.00	1.00	0.17	1.00			0.81			0.79	
Satd. Flow (perm)		1802	1583	289	1757			1491			1204	
Peak-hour factor, PHF	0.50	0.85	0.88	0.59	0.95	0.81	0.85	0.62	0.91	0.75	0.25	0.25
Adj. Flow (vph)	4	761	260	103	798	191	119	52	32	16	4	4
RTOR Reduction (vph)	0	0	108	0	7	0	0	5	0	0	3	0
Lane Group Flow (vph)	0	765	152	103	982	0	0	198	0	0	21	0
Heavy Vehicles (%)	0%	5%	2%	10%	6%	1%	0%	0%	3%	8%	0%	100%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		49.8	49.8	61.4	61.4			17.7			17.7	
Effective Green, g (s)		49.8	49.8	61.4	61.4			17.7			17.7	
Actuated g/C Ratio		0.54	0.54	0.67	0.67			0.19			0.19	
Clearance Time (s)		6.4	6.4	6.4	6.4			6.4			6.4	
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		976	857	269	1173			287			231	
v/s Ratio Prot				0.02	c0.56							
v/s Ratio Perm		0.42	0.10	0.23				c0.13			0.02	
v/c Ratio		0.78	0.18	0.38	0.84			0.69			0.09	
Uniform Delay, d1		16.8	10.7	11.7	11.5			34.5			30.5	
Progression Factor		1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2		4.2	0.1	0.9	5.3			7.0			0.2	
Delay (s)		20.9	10.8	12.6	16.8			41.5			30.7	
Level of Service		C	B	B	B			D			C	
Approach Delay (s)		18.4			16.4			41.5			30.7	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	19.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	91.9	Sum of lost time (s)	19.2
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	765	260	103	989	203	24
v/c Ratio	0.78	0.27	0.34	0.86	0.70	0.10
Control Delay	24.1	2.8	8.9	20.8	51.4	34.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.1	2.8	8.9	20.8	51.4	34.2
Queue Length 50th (ft)	347	6	19	370	106	9
Queue Length 95th (ft)	516	40	27	707	155	9
Internal Link Dist (ft)	258			417	1285	374
Turn Bay Length (ft)		225	250			
Base Capacity (vph)	1512	1366	303	1601	463	373
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.19	0.34	0.62	0.44	0.06

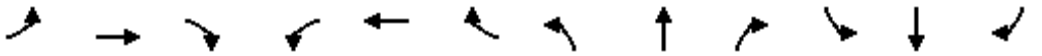
Intersection Summary



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	750	10	15	756	66	118
Future Volume (Veh/h)	750	10	15	756	66	118
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.50	0.54	0.91	0.87	0.74
Hourly flow rate (vph)	824	20	28	831	76	159
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			844		1721	834
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			844		1721	834
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		21	57
cM capacity (veh/h)			801		96	368

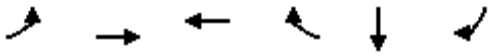
Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	844	28	831	235
Volume Left	0	28	0	76
Volume Right	20	0	0	159
cSH	1700	801	1700	192
Volume to Capacity	0.50	0.03	0.49	1.22
Queue Length 95th (ft)	0	3	0	311
Control Delay (s)	0.0	9.7	0.0	187.8
Lane LOS		A		F
Approach Delay (s)	0.0	0.3		187.8
Approach LOS				F

Intersection Summary			
Average Delay	22.9		
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	396	1	2	336	327	0	0	0	490	0	63
Future Volume (vph)	64	396	1	2	336	327	0	0	0	490	0	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.4	6.4					6.4	6.4
Lane Util. Factor	1.00	1.00			1.00	1.00					1.00	1.00
Frt	1.00	1.00			1.00	0.85					1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00					0.95	1.00
Satd. Flow (prot)	1805	1862			1862	1615					1787	1583
Flt Permitted	0.39	1.00			1.00	1.00					0.76	1.00
Satd. Flow (perm)	750	1862			1855	1615					1424	1583
Peak-hour factor, PHF	0.84	0.89	0.25	0.50	0.97	0.84	0.92	0.92	0.92	0.97	0.92	0.79
Adj. Flow (vph)	76	445	4	4	346	389	0	0	0	505	0	80
RTOR Reduction (vph)	0	0	0	0	0	218	0	0	0	0	0	55
Lane Group Flow (vph)	76	449	0	0	350	171	0	0	0	0	505	25
Heavy Vehicles (%)	0%	1%	100%	0%	2%	0%	0%	0%	0%	1%	0%	2%
Turn Type	pm+pt	NA		Perm	NA	Perm				Perm	NA	Perm
Protected Phases	7	3			8			2			6	
Permitted Phases	3			8		8	2			6		6
Actuated Green, G (s)	76.4	76.4			55.0	55.0					40.0	40.0
Effective Green, g (s)	76.4	76.4			55.0	55.0					40.0	40.0
Actuated g/C Ratio	0.59	0.59			0.43	0.43					0.31	0.31
Clearance Time (s)	6.0	6.0			6.4	6.4					6.4	6.4
Vehicle Extension (s)	2.0	2.0			1.0	1.0					2.5	2.5
Lane Grp Cap (vph)	567	1104			792	689					442	491
v/s Ratio Prot	0.02	c0.24										
v/s Ratio Perm	0.06				c0.19	0.11					c0.35	0.02
v/c Ratio	0.13	0.41			0.44	0.25					1.14	0.05
Uniform Delay, d1	12.4	14.0			26.1	23.7					44.4	31.1
Progression Factor	1.00	1.00			1.00	1.00					1.00	1.00
Incremental Delay, d2	0.5	1.1			1.8	0.9					87.9	0.0
Delay (s)	12.9	15.2			27.8	24.5					132.3	31.1
Level of Service	B	B			C	C					F	C
Approach Delay (s)		14.8			26.1			0.0			118.5	
Approach LOS		B			C			A			F	

Intersection Summary			
HCM 2000 Control Delay	52.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	128.8	Sum of lost time (s)	18.8
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

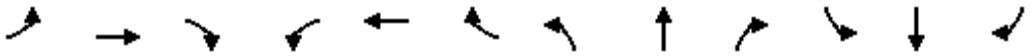


Lane Group	EBL	EBT	WBT	WBR	SBT	SBR
Lane Group Flow (vph)	76	449	350	389	505	80
v/c Ratio	0.13	0.41	0.44	0.43	1.14	0.15
Control Delay	11.8	15.4	28.3	4.1	128.5	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.8	15.4	28.3	4.1	128.5	7.4
Queue Length 50th (ft)	26	190	203	4	~492	0
Queue Length 95th (ft)	44	259	290	45	#709	27
Internal Link Dist (ft)		362	576		1075	
Turn Bay Length (ft)	150			150		200
Base Capacity (vph)	567	1105	791	907	442	546
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.41	0.44	0.43	1.14	0.15

Intersection Summary

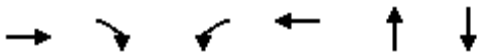
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	551	384	83	582	32	81	23	38	13	29	3
Future Volume (vph)	1	551	384	83	582	32	81	23	38	13	29	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4	6.4	6.4			6.4			6.4	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00			1.00	
Frt		1.00	0.85	1.00	0.99			0.96			0.99	
Flt Protected		1.00	1.00	0.95	1.00			0.97			0.98	
Satd. Flow (prot)		1844	1583	1719	1799			1779			1852	
Flt Permitted		1.00	1.00	0.23	1.00			0.79			0.87	
Satd. Flow (perm)		1837	1583	413	1799			1439			1631	
Peak-hour factor, PHF	0.25	0.96	0.89	0.83	0.88	0.80	0.81	0.82	0.79	0.54	0.73	0.75
Adj. Flow (vph)	4	574	431	100	661	40	100	28	48	24	40	4
RTOR Reduction (vph)	0	0	239	0	2	0	0	11	0	0	2	0
Lane Group Flow (vph)	0	578	192	100	699	0	0	165	0	0	66	0
Heavy Vehicles (%)	0%	3%	2%	5%	5%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		31.4	31.4	43.2	43.2			14.5			14.5	
Effective Green, g (s)		31.4	31.4	43.2	43.2			14.5			14.5	
Actuated g/C Ratio		0.45	0.45	0.61	0.61			0.21			0.21	
Clearance Time (s)		6.4	6.4	6.4	6.4			6.4			6.4	
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		818	705	353	1102			295			335	
v/s Ratio Prot				0.02	c0.39							
v/s Ratio Perm		c0.31	0.12	0.15				c0.11			0.04	
v/c Ratio		0.71	0.27	0.28	0.63			0.56			0.20	
Uniform Delay, d1		15.8	12.3	8.4	8.6			25.1			23.2	
Progression Factor		1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2		2.8	0.2	0.4	1.2			2.3			0.3	
Delay (s)		18.6	12.5	8.8	9.9			27.4			23.5	
Level of Service		B	B	A	A			C			C	
Approach Delay (s)		16.0			9.7			27.4			23.5	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	70.5	Sum of lost time (s)	19.2
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	578	431	100	701	176	68
v/c Ratio	0.70	0.46	0.26	0.66	0.57	0.20
Control Delay	22.2	3.2	7.8	12.7	34.6	28.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	3.2	7.8	12.7	34.6	28.0
Queue Length 50th (ft)	200	0	15	163	64	24
Queue Length 95th (ft)	373	45	38	330	139	56
Internal Link Dist (ft)	258			417	1285	374
Turn Bay Length (ft)		225	250			
Base Capacity (vph)	1665	1474	400	1740	787	885
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.29	0.25	0.40	0.22	0.08

Intersection Summary



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	607	27	163	643	36	62
Future Volume (Veh/h)	607	27	163	643	36	62
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.68	0.85	0.82	0.82	0.86
Hourly flow rate (vph)	639	40	192	784	44	72
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			679		1827	659
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			679		1827	659
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			79		35	85
cM capacity (veh/h)			918		68	467

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	679	192	784	116
Volume Left	0	192	0	44
Volume Right	40	0	0	72
cSH	1700	918	1700	144
Volume to Capacity	0.40	0.21	0.46	0.81
Queue Length 95th (ft)	0	20	0	127
Control Delay (s)	0.0	10.0	0.0	90.9
Lane LOS		A		F
Approach Delay (s)	0.0	2.0		90.9
Approach LOS				F

Intersection Summary			
Average Delay	7.0		
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		

APPENDIX J – COST ESTIMATE FOR SW 132ND AVENUE

Cost Estimate

Bridge Widening Alternative

Location: SR 994/Quail Roost Drive at 132nd Avenue

Roadway Section: 87091000

Date: 6/3/2019

Produced By: KC **QA/QC By:** AM

Pay Item	Description	Unit Measured	Avg. Unit Cost	Quantity	Total
0110 1 1	CLEARING & GRUBBING	LS	15,000.00	1.00	$15,000.00
0160 4	TYPE B STABILIZATION	SY	$4.27	1,081.78	$4,619.19
0285709	OPTIONAL BASE,BASE GROUP 09	SY	$14.41	1,081.78	$15,588.42
0327 70 6	MILLING EXIST ASPH PAVT,1 1/2" AVG DEPTH	SY	$2.33	2,721.89	$6,342.00
0334 1 13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	TN	$87.55	345.18	$30,220.75
0337 7 83	ASPH CONC FC,TRAFFIC C,(FC-12.5,PG 76-22)(1.5")	TN	$108.80	345.18	$37,555.88
0339 1	MISCELLANEOUS ASPHALT PAVEMENT	TN	$189.00	10.00	$1,890.00
0536 1 1	GUARDRAIL- ROADWAY	LF	$21.24	400.00	$8,496.00
0536 73	GUARDRAIL REMOVAL	LF	$4.59	400.00	$1,836.00
0536 85 24	GUARDRAIL END ANCHORAGE ASSEM- PARALLEL	EA	$3,131.00	4.00	$12,524.00
0654 2 22	RECTANGULAR RAPID FLASHING BEACON, F&I, SOLAR POWERED, COMPLETE SIGN ASSEMBLY- BACK TO BACK	AS	$7,200.00	1.00	$7,200.00
0654 2 40	RECTANGULAR RAPID FLASHING BEACON, RELOCATE COMPLETE SIGN ASSEMBLY	AS	$3,000.00	1.00	$3,000.00
0700 1 11	SINGLE POST SIGN, F&I, LESS THAN 12 SF	AS	$359.07	1	$359.07
0700 20 40	SINGLE POST SIGN, RELOCATE	AS	$363.67	4	$1,454.68
0700 1 60	SINGLE POST SIGN, REMOVE	AS	$34.14	1	$34.14
0711 11103	THERMOPLASTIC, STD, WHITE, SOLID, 12"	GM	$8,879.91	0.02	$177.60
0711 11125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	LF	$4.18	110	$459.80
0711 11160	THERMOPLASTIC, STD, WHITE, MESSAGE	EA	$130.66	4	$522.64
0711 11170	THERMOPLASTIC, STD, WHITE, ARROW	EA	$67.73	3	$203.19
0711 11224	THERMOPLASTIC, STD, YELLOW, SOLID, 18"	LF	$2.87	148	$424.76
0711 15101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	GM	$4,558.62	0.41	$1,869.03
0711 15201	THERMOPLASTIC, STD-OP, YELLOW, SOLID, 6"	GM	$4,468.80	0.61	$2,733.75

	Roadway	$134,072.24
	Signing	$12,225.49
	Markings	$6,390.78
	Bridge Widening	$300,000.00
	Pre-Total	$452,688.51
20%	Maintenance of Traffic (MOT)	$90,537.70
10%	Mobilization	$45,268.85
	Contingency Project	$125,000.00
32%	Preliminary Engineering	$144,860.32
18%	Construction Engineering & Inspection	$81,483.93
	Grand-Total	**$939,839.31**

Cost Estimate

Bridge Replacement Alternative

Location: SR 994/Quail Roost Drive at 132nd Avenue
Roadway Section: 87091000

Date: 6/6/2019
Produced By: KC **QA/QC By:** AM

Pay Item	Description	Unit Measured	Avg. Unit Cost	Quantity	Total
0110 1 1	CLEARING & GRUBBING	LS	15,000.00	1.00	$15,000.00
0160 4	TYPE B STABILIZATION	SY	$4.27	2,624.44	$11,206.38
0285709	OPTIONAL BASE,BASE GROUP 09	SY	$14.41	2,624.44	$37,818.24
0327 70 6	MILLING EXIST ASPH PAVT,1 1/2" AVG DEPTH	SY	$2.33	1,588.33	$3,700.82
0334 1 13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	TN	$87.55	382.31	$33,471.20
0337 7 83	ASPH CONC FC,TRAFFIC C,(FC-12.5,PG 76-22)(ARB)(1.5")	TN	$108.80	382.31	$41,595.28
0339 1	MISCELLANEOUS ASPHALT PAVEMENT	TN	$189.00	10.00	$1,890.00
0536 1 1	GUARDRAIL- ROADWAY	LF	$21.24	800.00	$16,992.00
0536 73	GUARDRAIL REMOVAL	LF	$4.59	800.00	$3,672.00
0536 85 24	GUARDRAIL END ANCHORAGE ASSEM- PARALLEL	EA	$3,131.00	8.00	$25,048.00
654 2 40	RECTANGULAR RAPID FLASHING BEACON, RELOCATE COMPLETE SIGN ASSEMBLY	AS	$3,000.00	2.00	$6,000.00
0700 1 11	SINGLE POST SIGN, F&I, LESS THAN 12 SF	AS	$359.07	6	$2,154.42
0700 20 40	SINGLE POST SIGN, RELOCATE	AS	$363.67	4	$1,454.68
0700 1 60	SINGLE POST SIGN, REMOVE	AS	$34.14	6	$204.84
0711 11103	THERMOPLASTIC, STD, WHITE, SOLID, 12"	GM	$8,879.91	0.02	$177.60
0711 11125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	LF	$4.18	110	$459.80
0711 11160	THERMOPLASTIC, STD, WHITE, MESSAGE	EA	$130.66	4	$522.64
0711 11170	THERMOPLASTIC, STD, WHITE, ARROW	EA	$67.73	3	$203.19
0711 11224	THERMOPLASTIC, STD, YELLOW, SOLID, 18"	LF	$2.87	148	$424.76
0711 15101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	GM	$4,558.62	0.41	$1,869.03
0711 15201	THERMOPLASTIC, STD-OP, YELLOW, SOLID, 6"	GM	$4,468.80	0.61	$2,733.75

	Roadway	$190,393.93
	Signing	$9,991.54
	Markings	$6,390.78
	Bridge Replacement	$1,000,000.00
	Pre-Total	$1,206,776.24
20%	Maintenance of Traffic (MOT)	$241,355.25
10%	Mobilization	$120,677.62
	Contingency Project	$250,000.00
32%	Preliminary Engineering	$386,168.40
18%	Construction Engineering & Inspection	$217,219.72
	Grand-Total	**$2,422,197.23**

APPENDIX K – B/C AND NPV ANALYSIS FOR SW 132ND AVENUE

FORM 511-09

CONCEPTUAL ALTERNATIVE

SAFETY 7/1/1991

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

SAFETY OFFICE ANNUAL BENEFIT COST ANALYSIS

1	SUBMITTED BY	**CH Perez & Associates**			WPA NO.	**N/A**			SAFETY PRIORITY	
2	DATE SUBMITTED	**5/14/2019**			ENVIRONMENTAL STUDY					
3	PROJECT NO.	**FM: 250650-4-32-01 - TWO 48**							SKID (I.D.)	**N/A**
4	ALTERNATIVE NO.	**1 - Widening Bridge**			SN	**NA**			SPEED	**40**
6	DISTRICT	**VI**	COUNTY	**DADE**	SECTION	**87091000**	STATE ROAD	**994**	U.S. ROAD	**-**
7	BEGINNING MILE POST	**4.035**	ENDING MILE POST	**4.961**	LENGTH	**0.926**	miles		NODE	-

8 DESCRIPTION OF LOCATION/FACILITY TYPE: **SR 994 / Quail Roost Drive at SW 132nd Avenue**

9 CAUSE OF CRASH PROBLEMS (LIST AND DISCUSS)

Rear-end Crashes Caused for kack of visibility to stopped vehicles

10 PROPOSED IMPROVEMENTS (LIST AND DISCUSS)

Provide Left-turn lane facing westbound and bridge widening

		2014	2015	2016	AVG.
11	NO. OF CRASHES	**7**	**6**	**8**	**7.0**
12	NO. CRASHES POTENTIALLY REDUCED	**2.0**	**1.7**	**2.2**	**2.0**

14 **CRASH INFORMATION FOR FACILITY**

COST/CRASH	$ 124,618.00
CRASH CLEANUP	$ 100
INTEREST RATE	4%

13

TYPE OF CRASH	NUMBER OF CRASHES (5-year)	CRASHES TO BE REDUCED
Rear End	14	5.50
Head On	1	0.00
Angle	1	0.00
Left Turn	1	0.40
Right Turn	0	0.00
Sideswipe	0	0.00
Backed Into	0	0.00
Coll. w/ Parked Car	0	0.00
Coll. w/ Pedestrian	0	0.00
Coll. w/ Bicycle	0	0.00
Fixed Object	2	0.00
Ran Off Road	0	0.00
Overturned	0	0.00
Other	0	0.00
Total Crashes	21	5.90
Crashes Per Year	4.20	**1.97**
Wet/Slippery	8	0.00
Night Time	5	0.00

15 **ANNUAL COST OF IMPROVEMENTS**

	TYPE	COST	LIFE	CRF	ANNUAL COST
A.	R-O-W	$ -	0	0.0000	$ -
B.	P.E.C.E.I.	$ 351,344	15	0.0899	$ 31,600.29
C.	STRUCTURE	$ 300,000	16	0.0858	$ 25,746.00
D.	ROADWAY	$ 269,879	20	0.0736	$ 19,858.15
E.	SIGNING/PAVEMENT	$ 18,616	15	0.0899	$ 1,674.37
F.	SIGNALS	$ -	15	0.0899	$ -
G.	SUBTOTAL	$ 939,839			$ 78,878.81
H.	CHANGE IN MAINTENANCE				$ -
I.	CRASH CLEANUP				$ (196.67)
J.	**TOTAL**				**$ 78,682.14**

16 **BENEFITS**

A.	CRASH REDUCTION	1.97	crash @	$ 124,618	$ 245,082.07
B.	DELAY SAVINGS		veh-hrs @		$ -
	SUB TOTAL ANNUAL BENEFIT				**$ 245,082.07**
C.	OTHER BENEFIT	0		$ -	$ -
D.	**TOTAL ANNUAL BENEFIT**				**$ 245,082.07**

17

NET BENEFIT/COST	$ 245,082.07	$ 78,682.14	**3.1**
SAFETY BENEFIT/COST	$ 245,082.07	$ 78,682.14	**3.1**

PREPARED BY **RK** APPROVED BY **KC** DATE **05/14/2019**

COMMENTS/CRASH REDUCTION METHOD:

FHWA, FDOT

HIGH CRASH LISTINGS:

PROJECT NET PRESENT VALUE (NPV)

Project Name	**SR 994 / Quail Roost Drive at SW 132nd Avenue**
Current Year	2019
Project Completion	2023
Project Life	15
Project Category	
Discount Rate	0.07
Project Ends	2037

Estimated Reduction in Crashes = 1.96666666666667 crashes/year; Total Annual benefit = $245,082; Cost Per Crash $124,618

Year #	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Calendar Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Estimated Cost	$939,839																			
Estimated Benefits		245,082	245,082	245,082	245,082	245,082	245,082	245,082	245,082	245,082	245,082	245,082	245,082	245,082	245,082	245,082	245,082	245,082	245,082	
Calculation																				
Discount Factor	1.000	0.935	0.873	0.816	0.763	0.713	0.666	0.623	0.582	0.544	0.508	0.475	0.444	0.415	0.388	0.362	0.339	0.317	0.296	0.277
Discounted Cost	-939,839	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Discounted Benefits	0	229,049	214,064	200,060	186,972	174,740	163,309	152,625	142,640	133,308	124,587	116,437	108,819	101,700	95,047	88,829	83,018	77,587	72,511	0
NPV	**1,525,463**																			

FORM 511-09

CONCEPTUAL ALTERNATIVE

SAFETY 7/1/1991

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

SAFETY OFFICE ANNUAL BENEFIT COST ANALYSIS

1	SUBMITTED BY	**CH Perez & Associates**			WPA NO.	**N/A**			SAFETY PRIORITY	
2	DATE SUBMITTED	**6/6/2019**			ENVIRONMENTAL STUDY					
3	PROJECT NO.	**FM: 250650-4-32-01 - TWO 48**							SKID (I.D.)	**N/A**
4	ALTERNATIVE NO.	**2 - Replacing Bridge**			SN	**NA**			SPEED	**40**
6	DISTRICT	**VI**	COUNTY	**DADE**	SECTION	**87091000**	STATE ROAD	**994**	U.S. ROAD	**-**
7	BEGINNING MILE POST	**4.035**	ENDING MILE POST	**4.961**	LENGTH	**0.926**	miles		NODE	-

8 DESCRIPTION OF LOCATION/FACILITY TYPE **SR 994 / Quail Roost Drive at SW 132nd Avenue**

9 CAUSE OF CRASH PROBLEMS (LIST AND DISCUSS)

Rear-end Crashes Caused for kack of visibility to stopped vehicles

10 PROPOSED IMPROVEMENTS (LIST AND DISCUSS)

Provide Left-turn lane facing westbound and bridge replacement

		2014	2015	2016	AVG.
11	NO. OF CRASHES	**7**	**6**	**8**	**7.0**
12	NO. CRASHES POTENTIALLY REDUCED	**2.0**	**1.7**	**2.2**	**2.0**

14 **CRASH INFORMATION FOR FACILITY**

COST/CRASH	$ 124,618
CRASH CLEANUP	$ 100
INTEREST RATE	4%

13

TYPE OF CRASH	NUMBER OF CRASHES (5-year)	CRASHES TO BE REDUCED
Rear End	14	5.50
Head On	1	0.00
Angle	1	0.00
Left Turn	1	0.40
Right Turn	0	0.00
Sideswipe	0	0.00
Backed Into	0	0.00
Coll. w/ Parked Car	0	0.00
Coll. w/ Pedestrian	0	0.00
Coll. w/ Bicycle	0	0.00
Fixed Object	2	0.00
Ran Off Road	0	0.00
Overturned	0	0.00
Other	0	0.00
Total Crashes	21	5.90
Crashes Per Year	4.20	**1.97**
Wet/Slippery	8	0.00
Night Time	5	0.00

15 **ANNUAL COST OF IMPROVEMENTS**

	TYPE	COST	LIFE	CRF	ANNUAL COST
A.	R-O-W	$ -	0	0.0000	$ -
B.	P.E.C.E.I.	$ 853,388	15	0.0899	$ 76,754.67
C.	STRUCTURE	$ 1,000,000	16	0.0858	$ 85,820.00
D.	ROADWAY	$ 552,427	20	0.0736	$ 40,648.53
E.	SIGNING/PAVEMENT	$ 16,382	15	0.0899	$ 1,473.44
F.	SIGNALS	$ -	15	0.0899	$ -
G.	SUBTOTAL	$ 2,422,197			$ 204,696.64
H.	CHANGE IN MAINTENANCE				$ -
I.	CRASH CLEANUP				$ (196.67)
J.	**TOTAL**				**$ 204,499.97**

16 **BENEFITS**

A.	CRASH REDUCTION	1.97	crash @	$ 124,618	$ 245,082.07
B.	DELAY SAVINGS		veh-hrs @		$ -
	SUB TOTAL ANNUAL BENEFIT				**$ 245,082.07**
C.	OTHER BENEFIT	0		$ -	$ -
D.	**TOTAL ANNUAL BENEFIT**				**$ 245,082.07**

17

NET BENEFIT/COST	$ 245,082.07	$ 204,499.97	**1.2**
SAFETY BENEFIT/COST	$ 245,082.07	$ 204,499.97	**1.2**

PREPARED BY **RK** APPROVED BY **KC** DATE **06/06/2019**

COMMENTS/CRASH REDUCTION METHOD:

FHWA, FDOT

HIGH CRASH LISTINGS:

PROJECT NET PRESENT VALUE (NPV)

Project Name	**SR 994 / Quail Roost Drive at SW 132nd Avenue**
Current Year	2019
Project Completion	2023
Project Life	15
Project Category	
Discount Rate	0.07
Project Ends	2037

Estimated Reduction in Crashes = 1.96666666666667 crashes/year; Total Annual benefit = $245,082; Cost Per Crash $124,618

Year #	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Calendar Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Estimated Cost	$2,422,197																			
Estimated Benefits		245,082	245,082	245,082	245,082	245,082	245,082	245,082	245,082	245,082	245,082	245,082	245,082	245,082	245,082	245,082	245,082	245,082	245,082	
Calculation																				
Discount Factor	1.000	0.935	0.873	0.816	0.763	0.713	0.666	0.623	0.582	0.544	0.508	0.475	0.444	0.415	0.388	0.362	0.339	0.317	0.296	0.277
Discounted Cost	-2,422,197	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Discounted Benefits	0	229,049	214,064	200,060	186,972	174,740	163,309	152,625	142,640	133,308	124,587	116,437	108,819	101,700	95,047	88,829	83,018	77,587	72,511	0
NPV	**43,105**																			

APPENDIX L – COORDINATION WITH SFWMD

Keffler Castro

From: Keffler Castro
Sent: Tuesday, April 9, 2019 11:25 AM
To: 'Leon, Misleidys'
Cc: Revocatus Kanilwa; 'Borrego, Liana'
Subject: RE: SR 994 / Quail Roost Drive / SW 200 Street / from SW 137 Ave to SW 127 Ave Safety Study
Attachments: Proposed Improvements (COMPRESSED).pdf

Hi Misleidys,

Please find attached the proposed condition diagram for SR 994/Quail Roost Drive.

Please let us know if you have any question,

Thanks,

Keffler Castro, MSCE, P.E., CGC *(kc@p-a.cc)*

C. H. Perez & Associates Consulting Engineers, Inc.
Engineers • Planners • Surveyors • Construction Inspectors
Disadvantaged Business Enterprise (DBE) / Community Business Enterprise (CBE)

9594 NW 41st Street,
Suite 201 - Doral, Florida 33178
t: (305)592-1070 / f: (305)592-1078 / c: (305)542-7866

www.p-a.cc
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From: Keffler Castro
Sent: Friday, March 29, 2019 2:37 PM
To: 'Borrego, Liana' <Liana.Borrego@dot.state.fl.us>
Cc: 'Leon, Misleidys' <Misleidys.Leon@dot.state.fl.us>; Alejandro G. Meitin <agm@p-a.cc>; Revocatus Kanilwa <rk@p-a.cc>
Subject: FW: SR 994 / Quail Roost Drive / SW 200 Street / from SW 137 Ave to SW 127 Ave Safety Study

Hi Liana,

Please see below communication with South Florida Water Management (SFWM).

Alex Meitin was able to find the plans of the bridge (see attachment). Based on those plans, the elevation of the lowest member of the bridge is 8.5 ft- NGVD, which is minimum required (see below).

We'll still keep in the report the costs and B/C ratio analysis for the two (2) scenarios but it seems like the additional lane can be provided without having to replace the bridge.

Thanks,

Keffler Castro, MSCE, P.E., CGC *(kc@p-a.cc)*

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From: Crichton, Christopher [mailto:ccrichto@sfwmd.gov]
Sent: Friday, March 29, 2019 2:22 PM
To: Alejandro G. Meitin <agm@p-a.cc>
Cc: Keffler Castro <kc@p-a.cc>; Jose A. Cabrera <jac@p-a.cc>; Revocatus Kanilwa <rk@p-a.cc>; Blanchette, Tyler <tblanche@sfwmd.gov>
Subject: RE: SR 994 / Quail Roost Drive / SW 200 Street / from SW 137 Ave to SW 127 Ave Safety Study

That is correct.

Christopher Crichton
ROW Specialist Supervisor
Operations and Maintenance Resources
(561) 682- 2068 or
(561) 686-8800 Ext. 7134; Email: ccrichto@sfwmd.gov
3301 Gun Club Road, MSC 5330, West Palm Beach, FL.33406
www.sfwmd.gov/rowpermits

From: Alejandro G. Meitin <agm@p-a.cc>
Sent: Friday, March 29, 2019 1:59 PM

To: Crichton, Christopher <ccrichto@sfwmd.gov>
Cc: Keffler Castro <kc@p-a.cc>; Jose A. Cabrera <jac@p-a.cc>; Revocatus Kanilwa <rk@p-a.cc>; Blanchette, Tyler <tblanche@sfwmd.gov>
Subject: RE: SR 994 / Quail Roost Drive / SW 200 Street / from SW 137 Ave to SW 127 Ave Safety Study

Thanks for your help.

I assume that we can widen the existing bridge as long as low member is at elevation 8.5 or higher. Is that a correct statement?

Alejandro Meitin, P.E. *(agm@p-a.cc)*
Vice President
Roadway Department Manager

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From: Crichton, Christopher <ccrichto@sfwmd.gov>
Sent: Friday, March 29, 2019 1:56 PM
To: Alejandro G. Meitin <agm@p-a.cc>
Cc: Keffler Castro <kc@p-a.cc>; Jose A. Cabrera <jac@p-a.cc>; Revocatus Kanilwa <rk@p-a.cc>; Blanchette, Tyler <tblanche@sfwmd.gov>
Subject: RE: SR 994 / Quail Roost Drive / SW 200 Street / from SW 137 Ave to SW 127 Ave Safety Study

Alejandro:

Please see canal design information below. The bridge should have been built according to the below specifications with a Low member elevation of 8.5'NGVD. However, no as-builts drawing were found in permit file. So, a survey of the existing will be needed when any new design for the bridge is submitted.

The following is the summary of the Design information from "C&SF Project Design Memorandums"(PartVSupp31) and canal as-built.

Canal Bottom Width: 40 ft

Canal Bottom Elevation: (-)12.0 feet-NGVD
Sideslopes: 1V:1H
Design Water Level: 4.3 ft-NGVD
Optimum Water Level: 5.0 ft-NGVD

Hope the above information satisfies your request. Please let me know if you have any questions. Sorry for the long wait.

Have a great weekend.

Christopher Crichton
ROW Specialist Supervisor
Operations and Maintenance Resources
(561) 682- 2068 or
(561) 686-8800 Ext. 7134; Email: ccrichto@sfwmd.gov
3301 Gun Club Road, MSC 5330, West Palm Beach, FL.33406
www.sfwmd.gov/rowpermits

From: Alejandro G. Meitin <agm@p-a.cc>
Sent: Tuesday, March 26, 2019 2:44 PM
To: Crichton, Christopher <ccrichto@sfwmd.gov>
Cc: Keffler Castro <kc@p-a.cc>; Jose A. Cabrera <jac@p-a.cc>; Revocatus Kanilwa <rk@p-a.cc>
Subject: RE: SR 994 / Quail Roost Drive / SW 200 Street / from SW 137 Ave to SW 127 Ave Safety Study

Thank you for the update. We look forward to hearing back and getting your input.

Have a great day.

Alejandro Meitin, P.E. *(agm@p-a.cc)*
Vice President
Roadway Department Manager

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---

From: Crichton, Christopher <ccrichto@sfwmd.gov>
Sent: Tuesday, March 26, 2019 2:40 PM
To: Alejandro G. Meitin <agm@p-a.cc>
Cc: Keffler Castro <kc@p-a.cc>; Jose A. Cabrera <jac@p-a.cc>; Revocatus Kanilwa <rk@p-a.cc>
Subject: RE: SR 994 / Quail Roost Drive / SW 200 Street / from SW 137 Ave to SW 127 Ave Safety Study

Alejandro:

You have not been forgotten. I forwarded your request to one of our water managers to confirm my findings. However, he was on vacation and should be back today. So, hopefully by the end of the week we should hear from him. But, I sure he will has a lot of catching up to do because that's what happens when someone takes off.

Best regards,

Christopher Crichton
ROW Specialist Supervisor
Operations and Maintenance Resources
(561) 682- 2068 or
(561) 686-8800 Ext. 7134; Email: ccrichto@sfwmd.gov
3301 Gun Club Road, MSC 5330, West Palm Beach, FL.33406
www.sfwmd.gov/rowpermits

From: Alejandro G. Meitin <agm@p-a.cc>
Sent: Tuesday, March 19, 2019 10:20 AM
To: Crichton, Christopher <ccrichto@sfwmd.gov>
Cc: Keffler Castro <kc@p-a.cc>; Jose A. Cabrera <jac@p-a.cc>; Revocatus Kanilwa <rk@p-a.cc>
Subject: RE: SR 994 / Quail Roost Drive / SW 200 Street / from SW 137 Ave to SW 127 Ave Safety Study

I appreciate your efforts

Have a great day.

Alejandro Meitin, P.E. *(agm@p-a.cc)*
Vice President
Roadway Department Manager

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From: Crichton, Christopher <ccrichto@sfwmd.gov>
Sent: Tuesday, March 19, 2019 10:14 AM
To: Alejandro G. Meitin <agm@p-a.cc>
Cc: Keffler Castro <kc@p-a.cc>; Jose A. Cabrera <jac@p-a.cc>; Revocatus Kanilwa <rk@p-a.cc>
Subject: RE: SR 994 / Quail Roost Drive / SW 200 Street / from SW 137 Ave to SW 127 Ave Safety Study

I am working on the information for you. Thanks

Christopher Crichton
ROW Specialist Supervisor
Operations and Maintenance Resources
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(561) 686-8800 Ext. 7134; Email: ccrichto@sfwmd.gov
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www.sfwmd.gov/rowpermits

From: Alejandro G. Meitin <agm@p-a.cc>
Sent: Wednesday, March 13, 2019 3:31 PM
To: Crichton, Christopher <ccrichto@sfwmd.gov>
Cc: Keffler Castro <kc@p-a.cc>; Jose A. Cabrera <jac@p-a.cc>; Revocatus Kanilwa <rk@p-a.cc>
Subject: SR 994 / Quail Roost Drive / SW 200 Street / from SW 137 Ave to SW 127 Ave Safety Study

Mr. Crichton:

Thank you for your time this afternoon. As Jose Cabrera and I explained in our meeting at your office in Doral this afternoon, FDOT is conducting a safety study along SR 994 / Quail Roost Drive / SW 200 Street. A recommendation to increase safety along the corridor is to add a westbound left turn lane at SW 132 Avenue. In order to provide this

additional lane FDOT would be required to widen bridge number 870633 (SR 994 over C-1W / Black Creek Canal). We would like to know if South Florida Water management would allow the FDOT to simply widen the bridge or would they be required to reconstruct it at a higher elevation to allow more clearance underneath. I appreciate your looking into this matter and advising since the cost to reconstruct would be much higher.

I have included a rough sketch showing the widening area of the bridge and the roadway alignment on the bridge.

Thanks again for your efforts in this matter.

Alejandro Meitin, P.E. *(agm@p-a.cc)*
Vice President
Roadway Department Manager

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APPENDIX M – ERC COMMENTS AND RESPONSES

Submittal Report

Financial Project:	250650-4-32-01	Submittal Type:	OTHER
Submittal Phase:	OTHER	Submittal Staff Type:	CONSULTANT
Received Date:	4/30/2019	Response Due Date:	5/7/2019
Grace Period:	0	District:	SIXTH
Status:	OPEN	Create Date:	4/30/2019
Create User Id:	RD652NP	Last Update:	4/30/2019
		Last Update User Id:	RD652NP

Description:

250650-4: This is a RRR safety review. No meeting required.
Group: PRELIMINARY ENGINEERING Phase Review Type: Traffic Operational Study
Phase Initiation Date: 4/30/2019
Comments Due Date: 5/6/2019 Days Allowed for Review: 7
Review Meeting: 5/6/2019 9:45 PM to 9:45 PM @ No Review Meeting Required
Field Meeting: 4/6/2019 9:45 PM to 9:45 PM @ No Review Meeting Required
Plans Format: Electronic
Comments: This is a RRR safety review. No meeting required.
Please have Keffler Castro as PM for comments responses (kc@p-a.cc).

Threads:

Name	Assignment	Due Date	Status	Comments
Adebayo Coker	LEAD REVIEWER	5/6/2019	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Alejandro Casals	LEAD REVIEWER	5/6/2019	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Amanda Montgomery	REVIEWER	5/6/2019	ACTIVE	6

No	Status	Current Holder	Reference	Categories
14	RESPONSE ACCEPTED			ENVIRONMENTAL PERMITS

Created By	Created On	Version	Delegate For
Amanda Montgomery	5/6/2019	1	

The South Florida Water Management District (SFWMD) has Right-of-Way (R/W) along the Black Creek (C-1W) Canal. Any work proposed within (i.e., bridge widening/replacement, floating turbidity barriers) or encroaching within, SFWMD R/W may require a SFWMD R/W Occupancy Permit. Design plans should include the labelled waterbody and SFWMD R/W lines, and a cross-section of the canal and proposed bridge work for agency coordination.

Keffler Castro	5/7/2019	1	

Agree. Contact was made with SFWMD during the preparation of the 3R Safety Review. However, the above efforts should be performed during the design phase.

Thanks,

Amanda Montgomery	5/8/2019	1	

Response Accepted & Comment Closed

No	Status	Current Holder	Reference	Categories
15	RESPONSE ACCEPTED			ENVIRONMENTAL PERMITS

Created By	Created On	Version	Delegate For
Amanda Montgomery	5/6/2019	1	

Please note, a U.S. Army Corps of Engineers (USACE) Section 408 review may be required for activities falling within a federal project (Black Creek/C-1W Canal).

Keffler Castro	5/7/2019	1	

Thanks, We'll consider adding a note.

Amanda Montgomery	5/8/2019	1	

Response Accepted & Comment Closed

No	Status	Current Holder	Reference	Categories
16	RESPONSE ACCEPTED			ENVIRONMENTAL PERMITS

Created By	Created On	Version	Delegate For
Amanda Montgomery	5/6/2019	1	

Please note, a USACE Section 404 Dredge and Fill Permit may be required for any proposed in-water work (i.e., bridge widening/replacement).

Keffler Castro	5/7/2019	1	

Agree, This should be performed (if necessary) during the design phase.

Amanda Montgomery	5/8/2019	1	

Response Accepted & Comment Closed

No	Status	Current Holder	Reference	Categories
17	RESPONSE ACCEPTED			ENVIRONMENTAL PERMITS

Created By	Created On	Version	Delegate For
Amanda Montgomery	5/6/2019	1	

Please note, a SFWMD Environmental Resource Permit (ERP) may be required for any proposed in-water work (i.e., bridge widening/replacement).

Keffler Castro	5/7/2019	1	

Agree, This should be performed (if necessary) during the design phase.

Amanda Montgomery	5/8/2019	1	

Response Accepted & Comment Closed

No	Status	Current Holder	Reference	Categories
18	RESPONSE ACCEPTED			ENVIRONMENTAL PERMITS

Created By	Created On	Version	Delegate For
Amanda Montgomery	5/6/2019	1	

Please be aware that this project falls within the consultation and focal area for the Florida bonneted bat. Any tree and/or bridge impacts warrant a field review for habitat for the bat.

Keffler Castro	5/7/2019	1	

Agree, This should be performed (if necessary) during the design phase.

Thanks,

Amanda Montgomery	5/8/2019	1	

Response Accepted & Comment Closed

No	Status	Current Holder	Reference	Categories
19	RESPONSE ACCEPTED			ENVIRONMENTAL PERMITS

Created By	Created On	Version	Delegate For
Amanda Montgomery	5/6/2019	1	

Please contact me at Amanda.Montgomery@dot.state.fl.us with any questions pertaining to the provided comments or environmental permitting. Thank you.

Keffler Castro	5/7/2019	1	

Thanks Amanda!!

Amanda Montgomery 5/8/2019 1

Response Accepted & Comment Closed

Name	Assignment	Due Date	Status	Comments
Arturo Gomez	REVIEWER	5/6/2019	ACTIVE	3

No	Status	Current Holder	Reference	Categories
11	RESPONSE SUBMITTED	Arturo Gomez	Page 31 and 34	MAINTENANCE

Created By	Created On	Version	Delegate For
Arturo Gomez	5/6/2019	1	

Feasibility study for bridge widening or replacement should not be based only on SFWMD criteria.
Check with FDOT-D6 Structures Section and Bridge Maintenance. For example: The latest inspection report shows longitudinal cracks in the asphalt wearing surface. This means that the existing precast slabs are working independently, the load rating will be lower and a retrofit for the joints will be required if the bridge is widened. This repair will represent additional costs. The existing railings will also need to be replaced

Keffler Castro 5/7/2019 1

Please note that we don't have all information and therefore a b/c analysis was conducted assuming that the bridge needs to be replaced. In addition a contingency amount is assumed for both scenarios. Please note also that Safety funds can be used only for Safety Improvements of for works to implement those safety improvements. Bridge Structural Evaluation are not part of our scope and repairs should be performed with other funds different than safety funds.

No	Status	Current Holder	Reference	Categories
12	RESPONSE SUBMITTED	Arturo Gomez	Appendix F and J	MAINTENANCE

Created By	Created On	Version	Delegate For
Arturo Gomez	5/6/2019	1	

Costs for bridge widening and bridge replacement look high. Verify.

Keffler Castro 5/7/2019 1

Agree. We have assumed high costs after experiences with similar projects.
Thanks,

No	Status	Current Holder	Reference	Categories
13	RESPONSE SUBMITTED	Arturo Gomez		MAINTENANCE

Created By	Created On	Version	Delegate For
Arturo Gomez	5/6/2019	1	

The recommendations included the Installation of a traffic signals. Explain/clarify if new mast arms will be required.
Were the new signals/mast arms included in the cost estimates? Verify.

Keffler Castro 5/7/2019 1

A traffic signal was recommended only at SW 134th Avenue. However, the design is being conducted under another project. That design should include mast-arms.

Thanks,

Name	Assignment	Due Date	Status	Comments
Barbara Russell	REVIEWER	5/6/2019	ACTIVE	0
Calvin Mason	REVIEWER	5/6/2019	ACTIVE	0
Carlos Benitez	REVIEWER	5/6/2019	ACTIVE	0
Carlos Perez	REVIEWER	5/6/2019	ACTIVE	0
Carlos Verson	REVIEWER	5/6/2019	ACTIVE	0
Corina del Sol Alonso	REVIEWER	5/6/2019	ACTIVE	0*
Diana Peralta	REVIEWER	5/6/2019	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
EDGAR MONTANEZ	REVIEWER	5/6/2019	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
EUGENE SHERMAN	LEAD REVIEWER	5/6/2019	ACTIVE	6

No	Status	Current Holder	Reference	Categories
5	RESPONSE ACCEPTED		Pg. 24, 25, & 34	ROADWAY

Created By	Created On	Version	Delegate For
EUGENE SHERMAN	5/3/2019	1	

SR 994/Quail Roost Drive at SW 134th Avenue: there is a statement in the report that “a traffic signal will be installed at this intersection under the RRR project FM No. 429341□3”. Please, note that SW 134 St is outside of the limits of scope of FM 429341□3 which are from SW 127 St to SW 113 St. Refer to the submittals information on ERC site.

Keffler Castro	5/7/2019	1

Agree, We're aware that SW 134th Avenue falls outside of the limits of the FM 429341 project (We completed that 3R Safety Review). However, based on information provided by the Department, this was added recently after citizen complaints and subsequent additional studies (QAs, Signa Warrant).

Thanks,

EUGENE SHERMAN	5/7/2019	1

Response Accepted & Comment Closed

No	Status	Current Holder	Reference	Categories
6	RESPONSE ACCEPTED		Pg. 34	ROADWAY

Created By	Created On	Version	Delegate For
EUGENE SHERMAN	5/3/2019	1	

SR 994/Quail Roost Drive at SW 134th Avenue: as shown in Figure 7.1D, the R/W seems to be impacted by the construction of roadway and bridge widening. Please address.

Keffler Castro	5/7/2019	1

We'll review and revise the figure accordingly.

EUGENE SHERMAN	5/7/2019	1

Response Accepted & Comment Closed

No	Status	Current Holder	Reference	Categories
7	RESPONSE ACCEPTED		Pg. 25	ROADWAY

Created By	Created On	Version	Delegate For
EUGENE SHERMAN	5/3/2019	1	

Cluster 3 - SR 994/Quail Roost Drive at SW 132nd Avenue: Recommended Improvements call for installation of a traffic signal however IMPROVEMENT RECOMMENDATIONS on Pg. 34 do not include it (neither this reflected in Fig. 71D). Please reconcile.

Keffler Castro	5/7/2019	1

The section Recommended Improvements includes potential improvements to be considered and evaluated. The "Improvement Recommendations" section includes only those improvements that will be feasible after the investigation. The Traffic Signal at SW 132nd Avenue was considered as a potential alternative but given the results of the signal warrant analysis and the possibility of targeting rear-end crashes with the additional WB LT lane, the installation of the signal was discarded; and therefore, not included in the "Improvement Recommendations Section".

EUGENE SHERMAN	5/7/2019	1

Response Accepted & Comment Closed

No	Status	Current Holder	Reference	Categories
8	RESPONSE ACCEPTED		Figure 7.1D	ROADWAY

Created By	Created On	Version	Delegate For
EUGENE SHERMAN	5/3/2019	1	

a) Consider showing the relocation of the guardrail to both directions from the bridge.
b) is rapid flashed beacon sign assembly also recommended to be replaced on the south side of SR 994? Please clarify.

Keffler Castro	5/7/2019	1

a) We'll do. However, that is is a concept and the exact location will be defined during the design phase.

b) Yes, we're assuming that the rapid rectangular flashing beacon located along the south side will have to be replaced.

EUGENE SHERMAN	5/7/2019	1

b) Why? There is no widening on the south side.

No	Status	Current Holder	Reference	Categories
9	RESPONSE ACCEPTED		Pg. 179 & 180	ROADWAY

Created By	Created On	Version	Delegate For
EUGENE SHERMAN	5/3/2019	1	

a) explain the use of Pay Item 110-4-10: the recommendation that calls for concrete pavement (such as curb & gutter, sidewalk, traffic separators) removal/replacement could not be found in this study. Also, by some reason, this pay item quantity is identical to the quantities of OBG and Stabilization, in both Cost Estimates;
b) is the cost of partial or all of the existing bridge removal included in the cost of bridge widening/replacement? Typically, the pay item 110-3 “Removal of Existing Structure” is used fin the estimates of the bridge removal;
c) Per BOE, pay Item 337-7-83 is no longer “ARB”, effective 1-1-17;
d) Per BOE, pay Item 536-85-22 is valid through June 2019 lettings;
e) Pay item for the installation (not relocating) of rapid flashed beacon sign assembly is not included. Refer to Fig. 7.1A (sign W3-4).

Keffler Castro	5/7/2019	1

a) Pay item has been removed.

b) The lump sum estimate for the bridge widening/replacement includes removal of existing elements as necessary.

c) Agree. Will update pay item description.

d) Agree. We will update the cost estimate.

Thanks,
e) Agree. We will update the cost estimate.

EUGENE SHERMAN	5/8/2019	1

Response Accepted & Comment Closed

No	Status	Current Holder	Reference	Categories
10	RESPONSE ACCEPTED		Pg. 179 & 180	ROADWAY

Created By	Created On	Version	Delegate For
EUGENE SHERMAN	5/3/2019	1	

It is understanding that the difference between the Cost Estimates shown on Pg. 179 and Pg. 180 is that one assumes the bridge widening and the other one bridge replacement? If so, why the roadway quantities vary significantly?

Keffler Castro	5/7/2019	1

The bridge widening and replacement was an estimated lump sum for the structural elements. The bridge would still require paving. We will review the quantities and revise as necessary.

EUGENE SHERMAN	5/8/2019	1

Response Accepted & Comment Closed

Name	Assignment	Due Date	Status	Comments
Felipe Gonzalez	REVIEWER	5/6/2019	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
FRANCO SARACENO	REVIEWER	5/6/2019	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
GORKY CHARPENTIER	REVIEWER	5/6/2019	ACTIVE	0

Name	Assignment	Due Date	Status	Comments

Hong Benitez	LEAD REVIEWER	5/6/2019	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Isis Sotolongo	IN-HOUSE PROJECT MANAGER	5/6/2019	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Jasmine Andrion	LEAD REVIEWER	5/6/2019	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Jeannie Cann	LEAD REVIEWER	5/6/2019	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
JESSICA JOSSELYN	REVIEWER	5/6/2019	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Jinyan Lu	LEAD REVIEWER	5/6/2019	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Joaquin De la Cruz	LEAD REVIEWER	5/6/2019	ACTIVE	3

No	Status	Current Holder	Reference	Categories
1	RESPONSE ACCEPTED		wet weather crashes	PAVEMENT DESIGN

Created By	Created On	Version	Delegate For
Joaquin De la Cruz	5/1/2019	1	

Please include a discussion for the substandard cross slopes within the project limits (see attached MPVS from District Materials Office).

Keffler Castro	5/7/2019	1	

We'll review the documentation your have provided and revise the report accordingly.
Thanks,

Joaquin De la Cruz	5/7/2019	1	

Response Accepted & Comment Closed

No	Status	Current Holder	Reference	Categories
2	RESPONSE ACCEPTED		Existing typical section	PAVEMENT DESIGN

Created By	Created On	Version	Delegate For
Joaquin De la Cruz	5/1/2019	1	

Please include a discussion for the existing typical section (rural high speed) with existing design speed 55 mph.

Keffler Castro	5/7/2019	1	

We have discussed the existing typical section under the existing conditions.
"Within the study limits, SR 994/Quail Roost Drive is classified as a rural minor arterial from MP 4.035 to MP 4.073 (SW 137th Avenue) and as an urban minor arterial from MP 4.073 to MP 4.961. SR 994/Quall Roost Drive runs in the east□west direction and its typical section consists of one travel lane in each direction. There are no sidewalks and curb/gutters along SR 994/Quail Roost Drive within the study limits."
However, we'll mention the lane widths.
Please note that the information you have provided does not fall within the limits of the RRR. The project limits are from just West of SW 137 Avenue to West of SW 127 Avenue. The attached document you provided is for SW 147 Avenue.

Thanks,

Joaquin De la Cruz	5/7/2019	1	

Response Accepted & Comment Closed

No	Status	Current Holder	Reference	Categories
3	RESPONSE ACCEPTED		Friction course	PAVEMENT DESIGN

Created By	Created On	Version	Delegate For
Joaquin De la Cruz	5/1/2019	1	

Please include discussion for the existing friction course (dense graded FC) and the need for open graded FC 5 to prevent potential hydroplaning.

Keffler Castro	5/7/2019	1	

The Crash Analysis (Section 4. Page 6) includes the following text:

"The percentage of crashes that occurred during wet/slippery pavement conditions was 21.2%, which is above the district□wide average of 15%. According to the FDOT Skid Hazard reporting system, the friction number (FN) along SR 994 eastbound and westbound directions within the limits of the study segment is between 35 and 37, and the disposition code is 91, which based on the FDOT Skid Hazard Report means 'No action required, FN adequate'. However, the RRR Project will resurface the entire pavement within the project limits."

Additional information about the pavement conditions may be provided by the consultant preparing the scoping report.

Thanks,

Joaquin De la Cruz	5/7/2019	1	

Response Accepted & Comment Closed

Name	Assignment	Due Date	Status	Comments
Judith Dotres-Garcia	REVIEWER	5/6/2019	ACTIVE	0
Judy Solaun-Gonzalez	LEAD REVIEWER	5/6/2019	ACTIVE	0
Julie Cossavella	REVIEWER	5/6/2019	ACTIVE	1

No	Status	Current Holder	Reference	Categories
4	RESPONSE ACCEPTED			CONTAMINATION

Created By	Created On	Version	Delegate For
Julie Cossavella	5/6/2019	1	

There are no known contaminated sites within a 500-foot radius of the project corridor. Therefore, no contamination impacts are anticipated.

Keffler Castro	5/7/2019	1	

No response is necessary!

Julie Cossavella	5/8/2019	1	

Response Accepted & Comment Closed

Name	Assignment	Due Date	Status	Comments
Keffler Castro	CONSULTANT PROJECT MANAGER	5/7/2019	ACTIVE	0
Ken Jeffries	LEAD REVIEWER	5/6/2019	ACTIVE	0
Kirenia Borbolla	LEAD REVIEWER	5/6/2019	ACTIVE	0
Krish Dial	REVIEWER	5/6/2019	ACTIVE	0
Leonard Salazar	REVIEWER	5/6/2019	ACTIVE	0
Luis Lopez	REVIEWER	5/6/2019	ACTIVE	0
Mario Dominguez	LEAD REVIEWER	5/6/2019	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Mauricio Gomez	LEAD REVIEWER	5/6/2019	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Mikhail Dubrovsky	LEAD REVIEWER	5/6/2019	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Pablo Orozco	LEAD REVIEWER	5/6/2019	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Patrick Marchant	LEAD REVIEWER	5/6/2019	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Phani Allu	REVIEWER	5/6/2019	ACTIVE	9

No	Status	Current Holder	Reference	Categories
20	RESPONSE ACCEPTED			TRAFFIC OPERATIONS

Created By	Created On	Version	Delegate For
Phani Allu	5/6/2019	1	

Please consider including the scope of work for FM No. 443915-1 in an Appendix.

Created By	Created On	Version	Delegate For
Keffler Castro	5/7/2019	1	

Agree. We'll consider your recommendation

Created By	Created On	Version	Delegate For
Phani Allu	5/7/2019	1	

Response Accepted & Comment Closed

No	Status	Current Holder	Reference	Categories
21	RESPONSE ACCEPTED		Page 3	TRAFFIC OPERATIONS

Created By	Created On	Version	Delegate For
Phani Allu	5/6/2019	1	

Page 3, Section 2: It was mentioned that there are 10 un-signalized intersections within the study limits. However, lane configuration was included in the report for only three intersections. Please clarify.

Created By	Created On	Version	Delegate For
Keffler Castro	5/7/2019	1	

The report stated:
"The existing lane configuration and general roadway characteristics at the signalized intersection and SOME of the un□signalized intersections are as follows:"

The were selected based on a preliminary investigation of the crash clusters and existing roadway network.

Created By	Created On	Version	Delegate For
Phani Allu	5/7/2019	1	

Response Accepted & Comment Closed

No	Status	Current Holder	Reference	Categories
22	RESPONSE ACCEPTED		Page 6	TRAFFIC OPERATIONS

Created By	Created On	Version	Delegate For
Phani Allu	5/6/2019	1	

Page 6, Section 4: For the nighttime and wet/slippery crashes, please consider showing the number of crashes along with the percentage.

Created By	Created On	Version	Delegate For
Keffler Castro	5/7/2019	1	

Agree. The number of nighttime and wet/slippery crashes will be added.

Created By	Created On	Version	Delegate For
Phani Allu	5/7/2019	1	

Response Accepted & Comment Closed

No	Status	Current Holder	Reference	Categories
23	RESPONSE ACCEPTED		Page 18	TRAFFIC OPERATIONS

Created By	Created On	Version	Delegate For
Phani Allu	5/6/2019	1	

Page 18, Section 4 (Cluster 4): It was mentioned that the wet/slippery crashes at the intersection of SW 130 Avenue (15.4%) is below the districtwide average (15%). Please revise to indicate that it is either similar or slightly higher.

Keffler Castro	5/7/2019	1	

Agree. The text will be revised.

Phani Allu	5/7/2019	1	

Response Accepted & Comment Closed

No	Status	Current Holder	Reference	Categories
24	RESPONSE ACCEPTED		Page 5	TRAFFIC OPERATIONS

Created By	Created On	Version	Delegate For
Phani Allu	5/6/2019	1	

Page 5, Section 3: It was mentioned that there were no relevant studies within the study corridor. However, in later section on Page 25, it was mentioned that, there was a previous study that recommended a signal at SW 134 Avenue to be implemented under FM No. 429341-3. Please verify and revise accordingly..

Keffler Castro	5/7/2019	1	

Agree. Section 3 will be revised.
Thanks,

Phani Allu	5/7/2019	1	

Response Accepted & Comment Closed

No	Status	Current Holder	Reference	Categories
25	RESPONSE ACCEPTED		Appendix G	TRAFFIC OPERATIONS

Created By	Created On	Version	Delegate For
Phani Allu	5/6/2019	1	

The B/C calculation in Appendix G does not seem to use the latest cost per crash (shows $117,867). Please verify and revise the B/C analysis accordingly.

Keffler Castro	5/7/2019	1	

You' 're absolutely right. We'll revise the b/c analysis.

Thanks,

Phani Allu	5/7/2019	1	

Response Accepted & Comment Closed

No	Status	Current Holder	Reference	Categories
26	RESPONSE ACCEPTED		Page 31	TRAFFIC OPERATIONS

Created By	Created On	Version	Delegate For
Phani Allu	5/6/2019	1	

Page 31 (under Section 6.7): It is indicated that a b/c analysis should be conducted to verify the economic feasibility of adding a WBLT lane. Would this analysis be a separate study or completed as part of the subject study?

Keffler Castro	5/7/2019	1	

The B/C analysis was completed under Section 6.9.

Thanks,

Phani Allu	5/7/2019	1	

Please indicate that B/C analysis was conducted as part of the subject study and reference it to the appropriate section.

No	Status	Current Holder	Reference	Categories
27	RESPONSE ACCEPTED		Page 31	TRAFFIC OPERATIONS

Created By	Created On	Version	Delegate For
Phani Allu	5/6/2019	1	

Page 31, Section 6.8: It is mentioned that HCM 2010 methodology was used to obtain the MOEs for operational analysis. However, Appendix I appears to include HCM 2000 output. Please verify and revise appropriately. Please also clarify why HCM 6th Edition analysis was not considered for the subject.

Keffler Castro 5/7/2019 1

HCM 2010 edition methodology and HCM 6th edition methodology do not support the existing lane configurations for all of the intersections within the study area (SW 137 Avenue). HCM 2000 was used to provide a consistent methodology.

We will review and update the report as necessary.

Phani Allu 5/7/2019 1

Response Accepted & Comment Closed

No	Status	Current Holder	Reference	Categories
28	RESPONSE ACCEPTED		Page 33	TRAFFIC OPERATIONS

Created By	Created On	Version	Delegate For
Phani Allu	5/6/2019	1	

Page 33, Table 6.11 (Appendix K): The number of crashes reduced shown in Appendix K is not consistent with the number of crashes reduced shown in Table 6.11. Please verify and revise accordingly.

Keffler Castro 5/7/2019 1

We'll review and revise accordingly.

Phani Allu 5/7/2019 1

Response Accepted & Comment Closed

Name	Assignment	Due Date	Status	Comments
Sedat Oner	REVIEWER	5/6/2019	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Sergio Bravo	LEAD REVIEWER	5/6/2019	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Simon Gutierrez	REVIEWER	5/6/2019	ACTIVE	0*
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Simon Prilutsky	REVIEWER	5/6/2019	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Steven James	LEAD REVIEWER	5/6/2019	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Tim Albury	LEAD REVIEWER	5/6/2019	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Xiomara Nunez	LEAD REVIEWER	5/6/2019	ACTIVE	0

SR 994/SW 200 Street/ Quail Roost Drive at SW 134 Avenue

TWO 51 – Intersection Qualitative Assessment
TWO 54 – Signal Warrant Analysis
TWO 58 – Conceptual Design Alternatives
Financial Project Number 249726-4-32-01 Contract Number C-9G07

June 2017

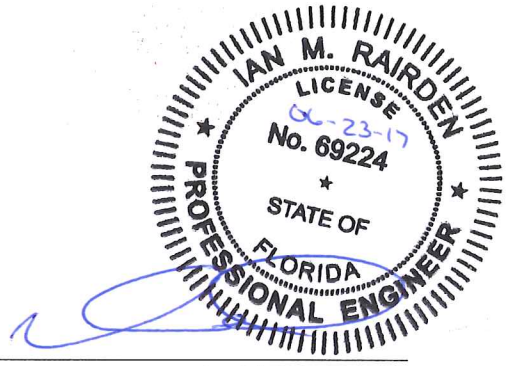
Prepared for:
Florida Department of Transportation District 6
Traffic Operations Office
1000 NW 111 Avenue
Miami, FL 33172

FINAL

ENGINEERS CERTIFICATION

I, Ian M. Rairden P.E. # 69224, certify that I currently hold an active Professional Engineers License in the State of Florida and am competent through education or experience to provide engineering services in the civil and traffic engineering disciplines contained in this plan, print, specification, or report. I further certify that this Intersection Qualitative Assessment was prepared by me or under my responsible charge as defined in Chapter 61G15-18.001 F.A.C. and that all statements, conclusions, and recommendations made herein are true and correct to the best of my knowledge and ability.

Study Location: **SR 994/SW 200 Street/Quail Roost Drive at SW 134 Avenue**
Section No.: **87091000 (MP 4.328)**
Project Location: **Miami-Dade County, Florida**



Ian M. Rairden, P.E.
Florida Registration No. 69224
Kimley-Horn and Associates, Inc.
600 North Pine Island Road, Suite 450
Plantation, Florida 33324
Certificate of Authorization No. 696

EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) has retained Kimley-Horn to prepare an Intersection Qualitative Assessment for the State Road (SR) 994/SW 200 Street/Quail Roost Drive at SW 134 Avenue intersection (Section Number 87091000, Mile Post (MP) 4.328). A citizen contacted FDOT requesting a traffic signal at this intersection. The citizen has reported delay during peak hours, especially during the morning peak period when SW 134 Avenue becomes gridlocked due to the high volume of northbound vehicles. Additionally, the citizen has reported that speeding eastbound vehicles make it difficult to turn onto SR 994. This study analyzed operations and safety deficiencies of the intersection, and provided recommendations to improve operations and safety of the intersection. Traffic count data was collected and peak period field reviews were conducted, which included a field inventory and qualitative assessment.

The SR 994 at SW 134 Avenue intersection is a four (4)-legged intersection. SR 994, the major travel way, runs east-west, and SW 134 Avenue, the minor travel way, runs north-south. The intersection is under two-way stop control with SR 994 uncontrolled and SW 134 Avenue under stop control.

AM and PM peak hour field visits were conducted to perform observations. During the AM peak hour northbound traffic was observed to have a queue between 12 and 35 vehicles during a 40-minute period. Additionally, one (1) vehicle was observed to experience an eight (8)-minute delay. Eastbound traffic also queued through the SW 134 Avenue intersection on multiple occasions. During the PM peak hour, queues of between 6 and 16 vehicles were observed with maximum observed queues timed between 5 and 6 minutes.

A signal warrant analysis was also performed to determine if the two-way stop controlled intersection satisfied criteria to become a signalized intersection. The analysis revealed that three (3) of the four (4) applicable warrants were met.

Based on the field observations and qualitative assessment, the following recommendations have been provided to improve the operation and safety of the SR 994 at SW 134 Avenue intersection.

<u>Recommendations</u>

- Install a traffic signal
- Conduct lighting analysis to determine if lighting improvements are required
- Trim landscaping in northeast corner

Concept Design Alternatives (CDAs) with Opinions of Probable Cost (OPCs) were developed for two (2) signalized alternatives. Alternative 1 included just the traffic signal without any turn lane improvements. Alternative 2 provided a new westbound left-turn lane in addition to the traffic signal. The OPCs for Alternative 1 and Alternative 2 are $566,599.11 and $623,222.66, respectively.

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INTRODUCTION

The Florida Department of Transportation (FDOT) has retained Kimley-Horn to prepare an Intersection Qualitative Assessment for the SR 994/SW 200 Street/Quail Roost Drive at SW 134 Avenue intersection (Section Number 87091000, Mile Post (MP) 4.328). A citizen contacted FDOT requesting a traffic signal at this intersection. The citizen has reported delay during peak hours, especially during the morning peak period when SW 134 Avenue becomes gridlocked due to the high volume of northbound vehicles. Additionally, the citizen has reported that speeding eastbound vehicles make it difficult to turn onto SR 994. This study primarily focused on operations and safety deficiencies of the intersection, and provides recommendations to improve operations and safety of the intersection.

This study is based on observations made during field reviews, review of peak hour turning movement counts, and review of three (3) years of crash data. A signal warrant analysis was also completed to determine if the existing two-way stop controlled intersection satisfied criteria to become a signalized intersection. Appendix A includes FDOT correspondence detailing the origin of the request to evaluate this intersection. The following sections summarize existing conditions, data collection efforts, field reviews, crash data, and recommendations. Figure 1 illustrates the location of the intersection.



Figure 1: Project Location

STUDY METHODOLOGY

The procedure for the intersection study was based upon the following tasks:

- Data Collection – Turning movements and pedestrian counts were collected at the intersection. The counts captured the morning and evening peak periods (see Appendix B).

- Field Inventory – A field review was conducted to examine existing conditions of the intersection. A condition diagram was prepared (see Figure 2) and photographs were taken to document the existing conditions (see Appendix C).

- Qualitative Assessment – A professional engineer visited the intersection and environs to observe the operations during peak traffic demand periods and to assess existing geometric features and traffic characteristics. Morning and evening weekday peak hour observations were conducted.

- Crash Analysis – Crash reports were reviewed and collision diagrams and crash tables prepared based upon the most recent three (3) years of crash data obtained from the FDOT's Crash Analysis Reporting (CAR) On-Line database (see Appendix D and Appendix E).

- Signal Warrant Analysis – Peak season count data and crash data were utilized to determine if a traffic signal is warranted based on the criteria within the Manual on Uniform Traffic Control Devices (MUTCD) (see Appendix F).

- Recommendation of Improvements – Recommendations for safety and operational improvements were developed. The improvements focused upon crash reduction, safety, and traffic operations.

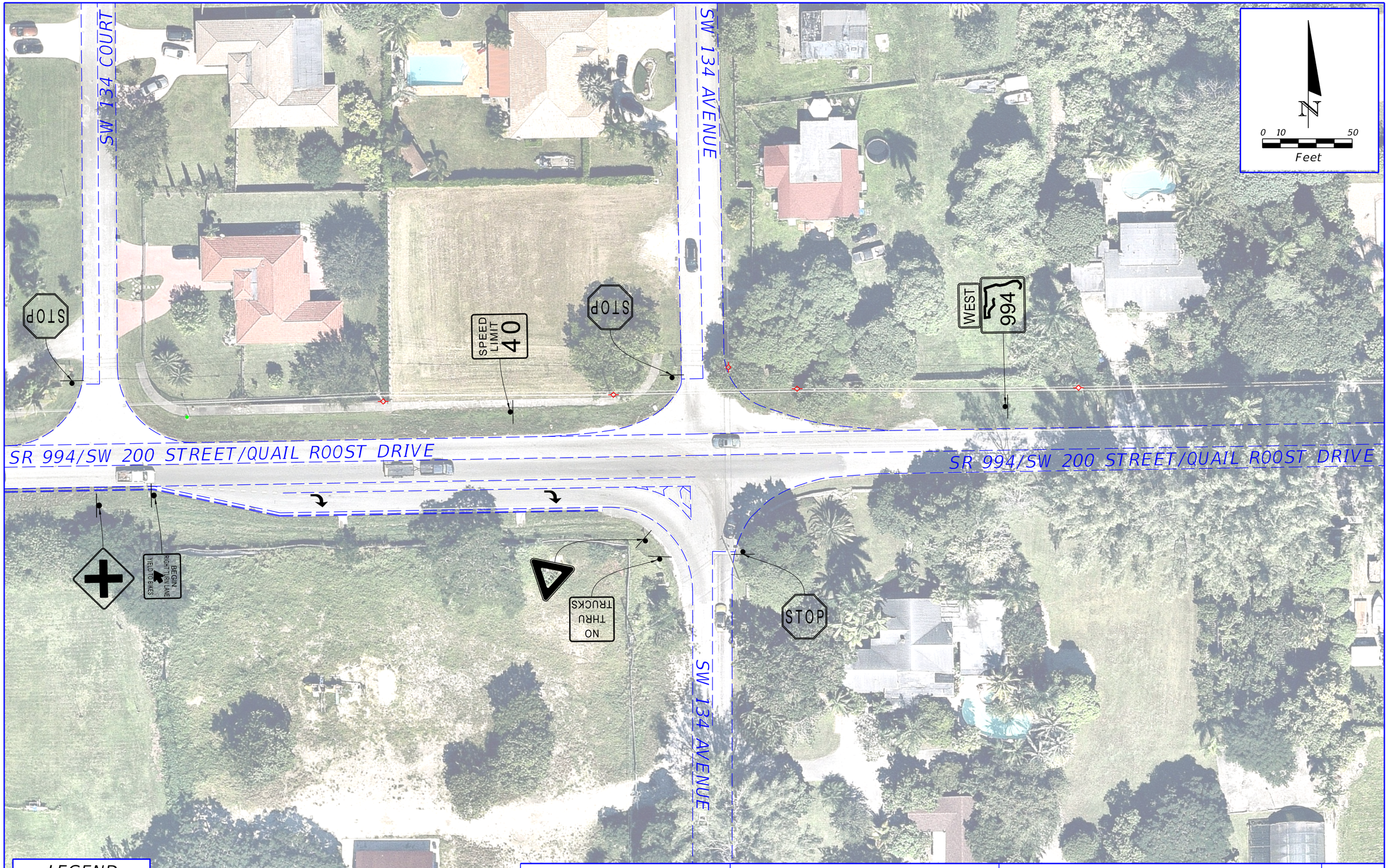
EXISTING CONDITIONS

The SR 994 at SW 134 Avenue intersection has four (4) approaches: SR 994 runs east-west and SW 134 Avenue runs north-south. The lane configuration for each approach is as follows:

- Eastbound approach: One (1) shared left-turn/through lane and one (1) right-turn lane
- Westbound approach: One (1) shared left-turn/through/right-turn lane
- Northbound approach: One (1) shared left-turn/through/right-turn lane
- Southbound approach: One (1) shared left-turn/through/right-turn lane

A field inventory was conducted at the study intersection on Wednesday, December 7, 2016, during the AM peak period and Thursday, December 8, 2016, during the PM peak period. SR 994 (Section Number 87091000), locally called SW 200 Street and Quail Roost Drive, is an Urban Minor Arterial oriented in the east-west direction. An eastbound speed limit is not posted within the vicinity of the intersection; however, an eastbound speed limit of 40 miles per hour (mph) is posted approximately 1,260 feet west of SW 134 Avenue. A westbound speed limit of 40 mph is posted on the west leg of the intersection. SR 994 is a two (2)-lane undivided roadway with 12-foot wide travel lanes. A five (5)-foot wide bike lane is provided on the west leg between the eastbound shared left-turn/through lane and the eastbound right-turn lane. SW 134 Avenue is located at MP 4.328 along SR 994 (Section Number 87091000). SW 134 Avenue is a local north-south roadway providing access to single-family residential. SW 134 Avenue is a two (2)-lane undivided roadway with 11-foot wide lanes south of SR 994 and 12-foot wide lanes north of SR 994. A speed limit is not posted on SW 134 Avenue north of SR 994; however, a speed limit of 35 mph is posted on SW 134 Avenue south of SR 994.

Five (5)-foot wide sidewalks exist along the north side of SR 994 west of SW 134 Avenue and along the west side of SW 134 Avenue north of SR 994. The intersection is under two-way stop control. SR 994 is uncontrolled while SW 134 Avenue is under stop control. The area immediately surrounding the study intersection is single-family residential. Overhead electric service is present along the north side of SR 994. A condition diagram of existing signage, lane configuration, and placement of utilities is shown in Figure 2.



LEGEND

- ELECTRIC POLE
- LIGHT POLE

PREPARED BY:
KIMLEY-HORN AND ASSOCIATES, INC.

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 994	MIAMI-DADE	249726-4-32-01

FIGURE 2: CONDITION DIAGRAM
SR 994/SW 200 STREET AT SW 134 AVENUE

PAGE NO. 5

DATA COLLECTION

Seventy-two (72) hour automatic traffic recorder (ATR) tube counts were conducted on SR 994 and SW 134 Avenue from Tuesday, November 29, 2016, through Thursday, December 1, 2016. Table 1 includes three (3) days of vehicle volumes for each of the four (4) approaches. Figure 3 includes 72-hour ATR volumes in graphical form.

Table 1: 72-hour ATR Volumes

	Tuesday, November 29, 2016					Wednesday, November 30, 2016					Thursday, December 1, 2016					
Begin Time	SR 994/SW 200 Street/Quail Roost Drive Eastbound	SR 994/SW 200 Street/Quail Roost Drive Westbound	SW 134 Avenue Northbound	SW 134 Avenue Southbound	Total	SR 994/SW 200 Street/Quail Roost Drive Eastbound	SR 994/SW 200 Street/Quail Roost Drive Westbound	SW 134 Avenue Northbound	SW 134 Avenue Southbound	Total	SR 994/SW 200 Street/Quail Roost Drive Eastbound	SR 994/SW 200 Street/Quail Roost Drive Westbound	SW 134 Avenue Northbound	SW 134 Avenue Southbound	Total	3-Day Average
12:00 AM	78	46	16	0	140	86	62	16	3	167	92	68	35	2	197	168
1:00 AM	44	39	15	1	99	39	34	11	1	85	62	36	9	0	107	97
2:00 AM	23	15	9	0	47	39	21	8	0	68	28	25	9	1	63	59
3:00 AM	30	22	9	0	61	41	32	17	0	90	36	26	18	0	80	77
4:00 AM	51	47	23	0	121	46	45	22	1	114	47	55	27	0	129	121
5:00 AM	219	181	157	2	559	228	201	156	2	587	245	188	144	2	579	575
6:00 AM	515	638	318	5	1,476	531	642	304	6	1,483	558	644	307	6	1,515	1,491
7:00 AM	935	940	170	21	2,066	903	953	186	35	2,077	878	943	165	22	2,008	2,050
8:00 AM	825	728	199	31	1,783	829	712	231	23	1,795	876	717	209	36	1,838	1,805
9:00 AM	600	474	181	12	1,267	560	397	150	10	1,117	581	424	190	17	1,212	1,199
10:00 AM	471	435	133	12	1,051	491	357	121	7	976	463	384	119	9	975	1,001
11:00 AM	441	417	100	14	972	455	409	119	9	992	504	414	125	6	1,049	1,004
12:00 PM	523	404	105	8	1,040	509	424	130	8	1,071	488	429	120	7	1,044	1,052
1:00 PM	554	460	125	8	1,147	577	464	126	5	1,172	562	491	129	10	1,192	1,170
2:00 PM	634	526	155	7	1,322	621	556	113	11	1,301	635	526	144	10	1,315	1,313
3:00 PM	711	657	145	16	1,529	684	591	135	15	1,425	686	640	145	11	1,482	1,479
4:00 PM	833	629	135	26	1,623	849	644	183	36	1,712	825	609	160	25	1,619	1,651
5:00 PM	920	675	139	48	1,782	920	683	182	17	1,802	897	650	144	61	1,752	1,779
6:00 PM	822	560	132	35	1,549	774	514	103	36	1,427	748	532	141	14	1,435	1,470
7:00 PM	516	463	104	11	1,094	536	459	96	8	1,099	526	452	86	8	1,072	1,088
8:00 PM	378	280	65	7	730	369	313	83	8	773	386	343	74	2	805	769
9:00 PM	310	250	54	1	615	310	257	57	6	630	275	245	53	3	576	607
10:00 PM	264	192	45	8	509	232	159	44	0	435	250	175	52	7	484	476
11:00 PM	136	119	32	0	287	177	169	58	2	406	165	127	33	6	331	341
24-Hour Total	10,833	9,197	2,566	273	22,869	10,806	9,098	2,651	249	22,804	10,813	9,143	2,638	265	22,859	22,844

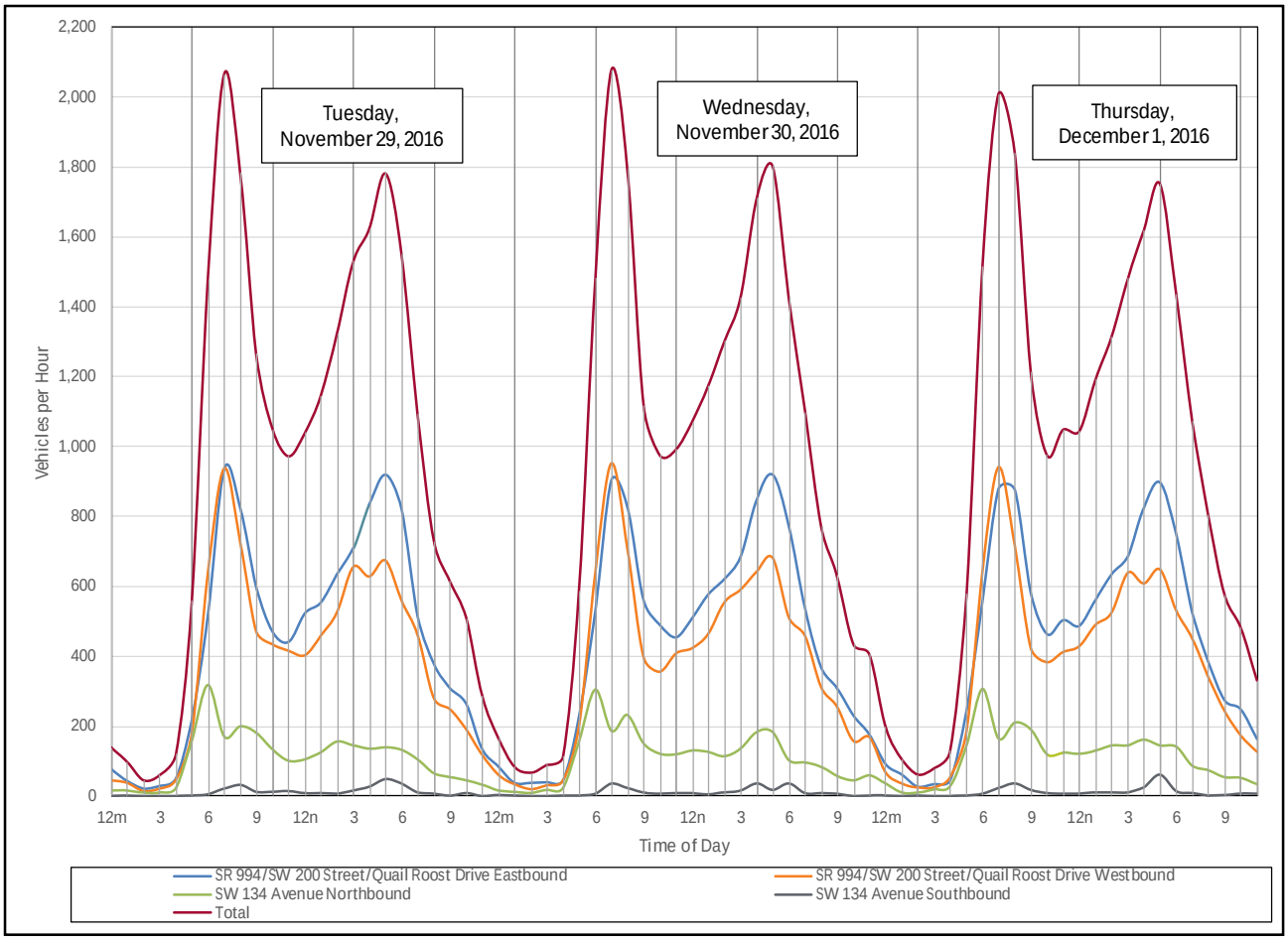


Figure 3: 72-hour ATR Volumes

Four (4) hour turning movement counts were collected for SR 994 and SW 134 Avenue on Tuesday, November 29, 2016, from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM. Pedestrian counts were also collected during the same four (4) hours. According to the data collected, the AM peak hour begins at 7:15 AM and ends at 8:15 AM and the PM peak hour begins at 4:45 PM and ends at 5:45 PM.

Turning movement volumes were adjusted using a FDOT peak season conversion factor of 1.04. Figure 4 shows the average peak season AM and PM peak hour traffic volumes and pedestrian volumes. Table 2 summarizes the four (4) hour turning movement counts.

Seventy-two (72) hour raw tube counts, peak period raw turning movement counts, and FDOT peak season conversion factors are included in Appendix B.

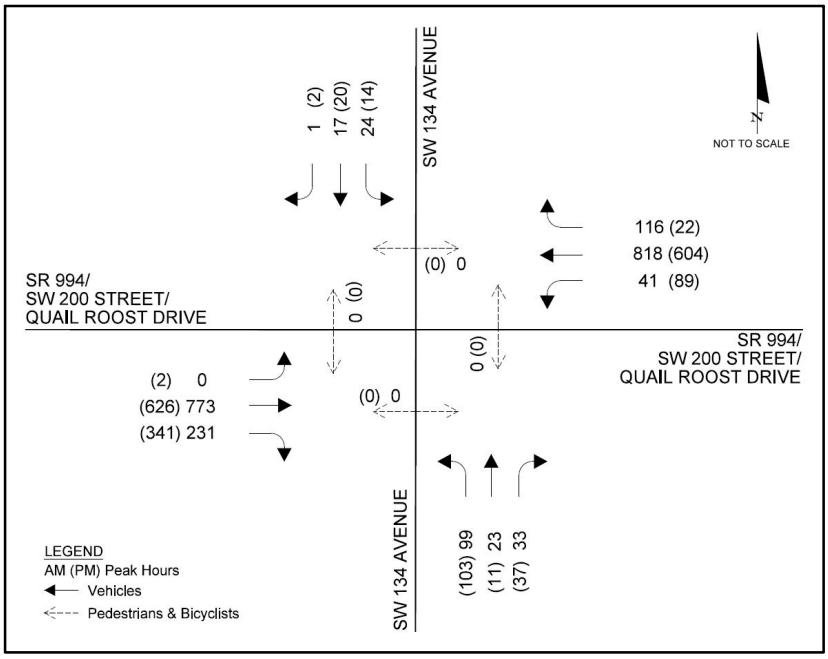


Figure 4: Existing 2016 Peak Hour Volumes

Table 2: Turning Movement Counts

	Begin Time	SR 994/ SW 200 Street/ Quail Roost Drive Eastbound				SR 994/ SW 200 Street/ Quail Roost Drive Westbound				SW 134 Avenue Northbound				SW 134 Avenue Southbound				Vehicular Total
		Left	Through	Right	Pedestrians/Bikes	Left	Through	Right	Pedestrians/Bikes	Left	Through	Right	Pedestrians/Bikes	Left	Through	Right	Pedestrians/Bikes	
	7:00 AM	0	155	49	0	15	199	25	0	43	7	14	0	1	0	1	0	509
PEAK HOUR	7:15 AM	0	184	67	0	10	210	31	0	28	4	8	0	1	0	0	0	543
PEAK HOUR	7:30 AM	0	187	60	0	10	222	32	0	22	7	6	0	2	0	0	0	548
PEAK HOUR	7:45 AM	0	215	52	0	10	200	25	0	26	8	10	0	10	6	1	0	563
PEAK HOUR	8:00 AM	0	187	52	0	11	186	28	0	23	4	9	0	11	11	0	0	522
	8:15 AM	0	196	49	0	11	182	14	0	29	6	15	0	2	4	0	0	508
	8:30 AM	0	158	29	0	8	170	7	0	45	9	17	0	1	0	1	0	445
	8:45 AM	0	173	25	0	5	148	3	0	45	6	9	0	1	0	0	0	415
	4:00 PM	0	140	66	0	10	126	5	0	18	3	5	0	1	1	1	0	376
	4:15 PM	0	135	70	0	23	141	2	0	15	3	5	0	2	2	1	0	399
	4:30 PM	1	141	74	0	12	155	1	0	22	5	15	0	6	6	0	0	438
PEAK HOUR	4:45 PM	0	157	93	0	22	150	4	0	31	2	12	0	4	2	1	0	478
PEAK HOUR	5:00 PM	0	152	68	0	22	157	10	0	28	2	8	0	1	1	1	0	450
PEAK HOUR	5:15 PM	2	164	90	0	24	136	4	0	28	6	11	0	2	8	0	0	475
PEAK HOUR	5:30 PM	0	153	90	0	21	161	4	0	16	1	6	0	7	9	0	0	468
	5:45 PM	1	164	80	0	14	134	4	0	22	2	14	0	5	16	0	0	456

Vehicle delay data was collected on Tuesday, November 29, 2016, from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM for the northbound and southbound approaches at the study intersection. A summary of the vehicle delay data is shown in Table 3 and the raw vehicle delay data can be found in Appendix B.

Table 3: Vehicle Delay Summary

	SW 134 Avenue at SR 994			
	Northbound Approach		Southbound Approach	
	7-9 AM	4-6 PM	7-9 AM	4-6 PM
Total Vehicles	392	280	52	74
Average Stopped Time (in seconds)	222.89	80.25	58.21	80.07
Maximum Stopped Time (in seconds)	548	271	171	239
Average Queue (in vehicles)	11.89	3.02	0.53	0.84
Maximum Queue (in vehicles)	22	16	5	8

As shown in Table 3, the highest volumes occurred on the northbound approach during both peak periods. The longest stopped time was experienced on the northbound approach during the AM peak period with an average stopped time of approximately four (4) minutes and a maximum stopped time of approximately nine (9) minutes. Additionally, the northbound approach experienced a maximum queue of at least 16 vehicles in both peak periods.

QUALITATIVE ASSESSMENT

Field observations were conducted on Thursday, December 8, 2016, during the AM peak period and Wednesday, December 7, 2016, during the PM peak period to assess intersection operations, safety, queuing, conflicts, and existing signage. Field Observation Reports along with photographs are included in Appendix C.

During the AM and PM peak period field reviews, the following was observed:

General Observations

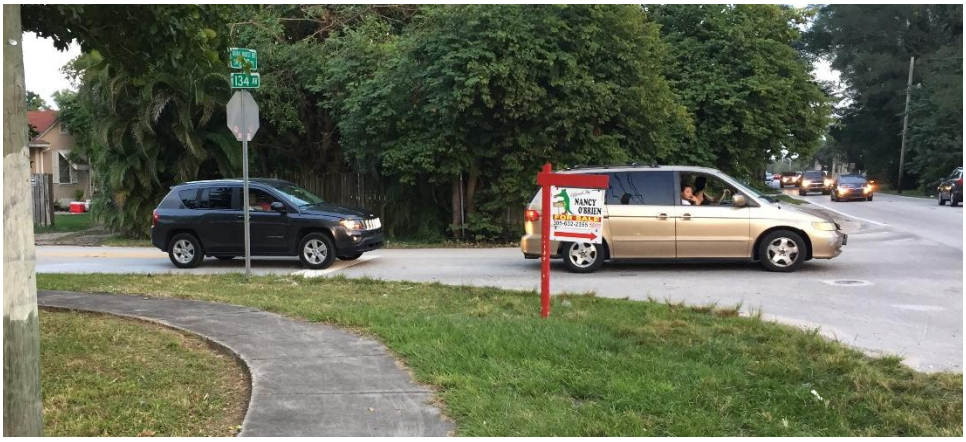
- Accident debris in southeast, northeast, and northwest corners



- Wall in the southeast corner has been hit twice
  - Accident debris observed in one of the breaks in the wall



- Trees in the northeast corner obstruct view of westbound traffic from southbound drivers and vice versa
    - Southbound drivers must pull up past the stop bar to see westbound traffic



- Chain link fence with black tarp in the southwest corner obstructs view of eastbound traffic from northbound drivers and vice versa
    - Northbound drivers must pull up past the stop bar to see eastbound traffic
    - When northbound left drivers pull up to the edge of the intersection, the following vehicle, if destined eastbound, is able to pull around and make a right turn; however, sight of eastbound vehicles is obstructed by the northbound left-turning vehicle
    - When northbound drivers pull up to the edge of the intersection it impacts the turning radius for the westbound left turning drivers
- There is a path worn in the northeast corner where westbound through vehicles are going around westbound left-turning vehicles that are stopped waiting for a gap in eastbound traffic



- Traffic signal to the west at SW 137 Avenue created gaps in eastbound traffic; however, there was not a signal to the east to create gaps

- When a westbound left-turning vehicle is waiting for gaps in eastbound traffic there is a westbound queue that forms. Once the vehicle is able to make the westbound left it takes additional time to clear the westbound queue which reduces the available gaps for side street traffic to enter SR 994.
- As side street vehicle delay got to be excessive drivers would grow impatient
    - Vehicles in queue would honk
    - Turning vehicles would either accept smaller gaps or cut into traffic causing eastbound/westbound traffic to stop
    - Vehicles would roll through intersection without stopping
- Although a speed study was not conducted, eastbound and westbound vehicles along SR 994 did not appear to be travelling at excessive speeds.

AM Peak Period Observations

- Longest observed northbound queue of 35 vehicles
- Peak northbound queues occurred between 7:45 AM and 8:20 AM ranging from 12 to 35 vehicles



- Timed delay for three (3) vehicles
    - 1st vehicle at 7:44 AM: 3 minutes and 55 seconds
    - 2nd vehicle at 7:48 AM: 7 minutes and 54 seconds
    - 3rd vehicle at 8:09 AM: 8 minutes and 29 seconds

- The eastbound traffic would queue up through the SW 134 Avenue intersection; however, the cause of the queue could not be seen.



- On one (1) instance there were vehicles waiting to make northbound left, westbound left, and southbound through movements. When a gap in eastbound traffic appeared the southbound through and westbound left-turning vehicles went at the same time causing the southbound through vehicle to swerve to avoid hitting the westbound left-turning vehicle.

PM Peak Period Observations

- On two (2) occasions a westbound driver stopped to allow side street traffic to enter SR 994



- The sun set during the site visit causing street lights to activate. Lighting did not appear adequate for the intersection
- Timed delay for two (2) vehicles
  - 1st vehicle at 5:27 PM: 2 minutes and 10 seconds
  - 2nd vehicle at 5:46 PM: 2 minutes and 59 seconds
- Witnessed hesitation of westbound left-turning and eastbound right-turning drivers as to who had right-of-way for making the turn
  - There is a yield sign for the eastbound right-turn lane

Access Management

SR 994 is an Access Class 4 roadway and has a posted speed limit of 40 mph. Based on the Access Management Standards from *Administrative Rule Chapter 14-97* the spacing standards along an Access Class 4 roadway posted at 45 mph or less are: 2,640 feet for a traffic signal and 400 feet for a connection.

The signalized intersection at SW 137 Avenue is located approximately 1,335 feet west of SW 134 Avenue and the signalized intersection at SW 127 Avenue is located approximately 4,020 feet east of SW 134 Avenue. The distance between both signalized intersections is approximately 5,355 feet and therefore satisfies the Access Management Standards.

Two (2) connections exist within 400 feet of SW 134 Avenue; therefore, SR 994 within the vicinity of SW 134 Avenue does not satisfy Access Management Standards.

CRASH DATA ANALYSIS

Crash data for the most recent three (3) years (2012-2014) was obtained from FDOT's CAR On-Line database. Police crash reports were reviewed to verify accuracy of the electronic crash database. Collision diagrams showing all crashes are included in Appendix D. A summary of the crash analysis is provided below. Full crash summary sheets are provided in Appendix E.

Crashes by Year

A total of 30 crashes occurred within the study intersection from January 2012 to December 2014. As shown in Figure 5, the frequency of crashes nearly doubled from 2013 to 2014. There were 10 crashes with injury and no crashes with fatality.

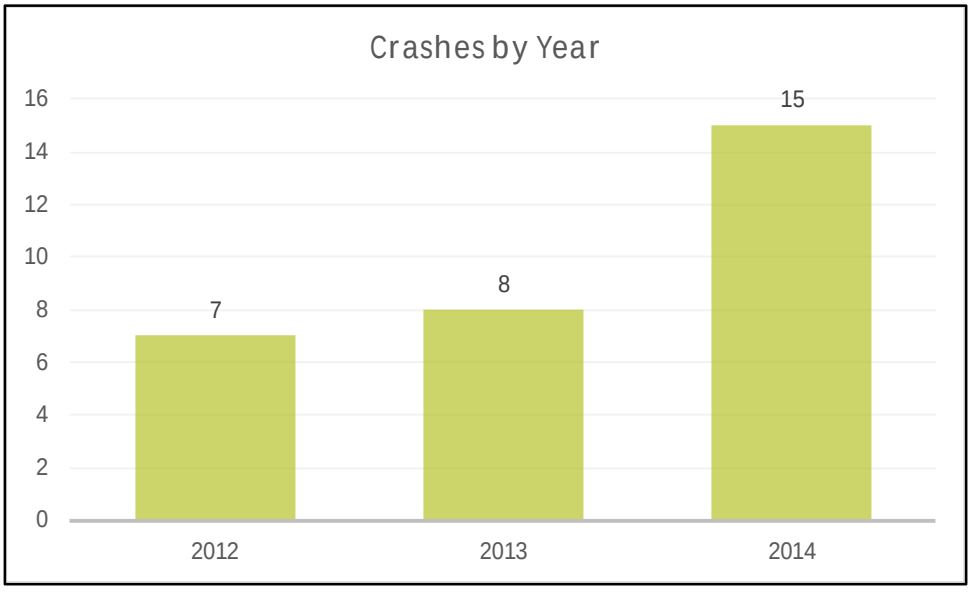


Figure 5: Crashes by Year

Crashes by Type

As shown in Figure 6 and Table 4, the three most frequent crash types are rear end crashes (15 crashes/50 percent), angle crashes (4 crashes/13 percent), and right-turn crashes (4 crashes/13 percent). Collision diagrams illustrating the following crash patterns are included in Appendix D.

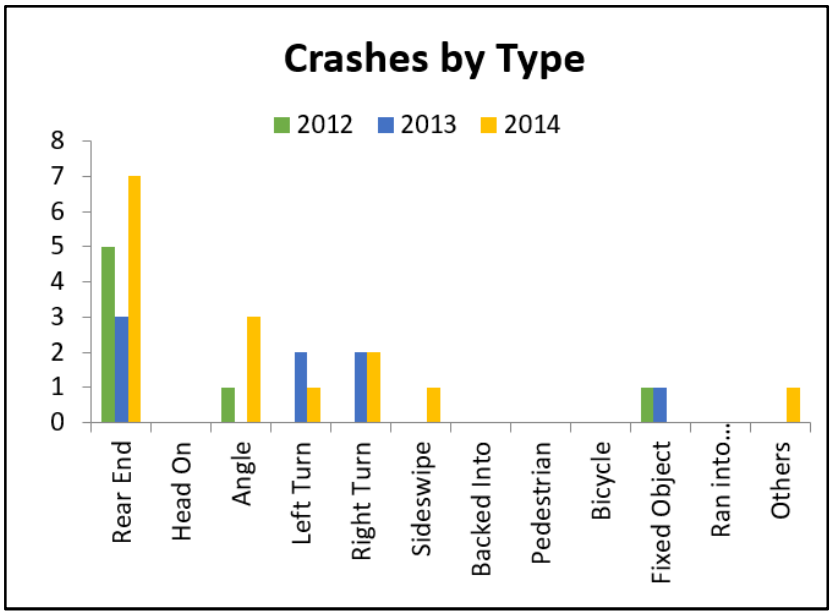


Figure 6: Crashes by Type

Table 4: Crashes by Type

Rank	Crash Type	Total	%
1	Rear End	15	50
2	Angle	4	13
2	Right Turn	4	13
4	Left Turn	3	10
5	Fixed Object	2	7
6	Sideswipe	1	3
6	Others	1	3
N/A	Head On	0	0
N/A	Backed Into	0	0
N/A	Pedestrian	0	0
N/A	Bicycle	0	0
N/A	Ran into Water/Canal	0	0

Note: Due to rounding, the cumulative percentage does not equal 100 percent.

Crashes by Lighting Condition

Table 5 shows that approximately 67 percent of crashes occurred during daylight conditions and approximately 33 percent of crashes occurred during dawn/dusk/dark conditions. Overall, the percentage of dark condition crashes is comparable to the statewide average (33 percent versus 31 percent).

Table 5: Crashes by Lighting Condition

Lighting Conditions	Number of Crashes	Percent of Crashes
Daylight	20	66.7
Dusk/Dawn	1	3.3
Dark	9	30
Unknown	0	0
Total	30	100

Crashes by Surface Condition

As shown in Table 6, approximately 17 percent of crashes occurred when the roadway surface was wet. The percentage of wet pavement crashes is equal to the statewide average (17 percent).

Table 6: Crashes by Surface Condition

Surface Conditions	Number of Crashes	Percent of Crashes
Dry	25	83.3
Wet	5	16.7
Other	0	0
Total	30	100

Safety Ratios and Confidence Levels

The calculated spot safety ratios and confidence levels for the years 2012 through 2014, as shown in Table 7, indicate that the study intersection experienced more overall crashes in years 2012 through 2014 than would typically be anticipated on similar facilities. Based on FDOT's high crash location reports the SR 994 at SW 134 Avenue intersection was listed as a high crash location in 2013 and 2014.

Table 7: Safety Ratios and Confidence Levels 2012-2014

Year	2012	2013	2014
Safety Ratio	0.460	0.471	0.484
Confidence Level	99.9986%	99.9997%	99.9999%

Expected Value Analysis

An Expected Value Analysis (EVA) was not able to be performed since EVA cannot evaluate two-lane by two-lane intersections.

PROGRAMMED ROADWAY IMPROVEMENTS

The 2017-2021 FDOT Work Program was reviewed for future roadway improvements within the vicinity of the study intersection. No roadway projects with the vicinity of SR 994 at SW 134 Avenue are programmed through year 2021.

SIGNAL WARRANT ANALYSIS

A signal warrant analysis was conducted for the SR 994 at SW 134 Avenue intersection. The signal warrant analysis was completed to determine if the two-way stop controlled intersection satisfied criteria to become a signalized intersection. The signal warrant analysis used existing average peak season count data and existing geometrics and was based upon criteria contained in the Federal Highway Administration's *Manual on Uniform Traffic Control Devices* (MUTCD), 2009 Edition. It should be noted that the volumes utilized for signal warrant analysis do not match the ATR volumes in Table 1, this is due to 3 main factors: (1) the FDOT PSCF was applied to the turning movement volumes but not the ATR volumes, (2) the turning movement volumes were manually counted and the starting times for each hour may be slightly different from the ATR counts based on the clocks not being synced, and (3) per MUTCD guidelines the right-turn volumes were removed from the minor street approach, based on engineering judgement, to provide a conservative analysis. Appendix F includes the signal warrant analysis specific to the following volume warrants:

- Warrant Number 1: Eight-Hour Vehicular Volume Warrant
  - Condition A: Minimum Vehicular Volume
    - Intended for application at location where a large volume intersecting traffic is the principal reason to consider installing a traffic control signal.
  - Condition B: Interruption of Continuous Traffic
    - Intended for application at locations where Condition A is not satisfied and where the traffic volume on a major street is so heavy that traffic on a minor street suffers excessive delay or conflict in entering or crossing the major street.
  - Combination: Combination of Conditions A & B
    - Intended that Warrant 1 be treated as a single warrant. If Condition A is satisfied, then Warrant 1 is satisfied and analyses of Condition B and the combination of Conditions A and B are not needed. Similarly, if Condition B is satisfied, then Warrant 1 is satisfied and an analysis of the combination of Conditions A and B is not needed.
- Warrant Number 2: Four-Hour Vehicular Volume Warrant
  - Intended to be applied where the volume of intersecting traffic is the principle reason to consider installing a traffic control signal.
- Warrant Number 3: Peak Hour Vehicular Volume Warrant
  - Intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street.

- Warrant Number 4: Pedestrian Volume
  - Intended for application where a traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street.
- Warrant Number 5: School Crossing
  - Intended for application where the fact that schoolchildren cross the major street is the principal reason to consider installing a traffic control signal. For purposes of this warrant, the word "schoolchildren" includes elementary through high school students.
- Warrant Number 6: Coordinated Signal System
  - Progressive movement in a coordinated signal system sometimes necessitates installing traffic control signals at intersections where they would not otherwise be needed in order to maintain proposed platooning of vehicles.
- Warrant Number 7: Crash Experience
  - Intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal.
- Warrant Number 8: Roadway Network
  - Installing a traffic control signal at some intersections might be justified to encourage concentration and organization of traffic flow on a roadway network
- Warrant Number 9: Intersection Near a Grade Crossing
  - Intended for use at a location where none of the conditions described in the other eight warrants are met, but the proximity to the intersection of a grade crossing on an intersection approach controlled by a stop or yield sign is the principal reason to consider installing a traffic control signal.

It is important to note that the MUTCD clearly states that Warrants should be viewed as guidelines, not as absolute values. Satisfaction of a warrant or warrants does not guarantee that the device is needed. The signal warrant analysis completed is summarized in Table 8 and is included in its entirety in Appendix F. As Table 8 indicates, the SR 994 at SW 134 Avenue intersection satisfies volume Warrants 1, 2, and 3 under existing conditions.

Table 8: Signal Warrant Analysis Summary

Warrant 1	Satisfied ✓	Warrant 6	Not Applicable
Warrant 2	Satisfied ✓	Warrant 7	Not Satisfied ×
Warrant 3	Satisfied ✓	Warrant 8	Not Applicable
Warrant 4	Not Applicable	Warrant 9	Not Applicable
Warrant 5	Not Applicable		

CONCEPTUAL DESIGN ALTERNATIVES AND OPINIONS OF PROBABLE COST

Conceptual Design Alternatives (CDAs) with Opinions of Probable Cost (OPCs) for the SR 994 at SW 134 Avenue intersection were requested by the FDOT District Six Scoping Committee after the Qualitative Assessment, Intersection Delay Study, and Signal Warrant Analysis were completed at the study intersection. CDAs with OPCs were requested for two (2) alternatives, each with a traffic signal. Alternative 1 included just the traffic signal without any turn lane improvements. Alternative 2 provided a new westbound left-turn lane in addition to the traffic signal. A new eastbound left-turn lane was an initial requirement for Alternative 2; however, it was determined due to spacing with the adjacent intersection the new eastbound left-turn lane transition would extended through the adjacent intersection to the west of SW 134 Avenue. Both CDAs included providing the following:

- Traffic signal
- Sidewalks along the north and south side of SR 994 within 300 feet of the intersection including ADA ramp connections
- Crosswalks across all four (4) legs of the intersection
- Countdown pedestrian signals for all proposed crosswalks
- Pedestrian push buttons for the proposed crosswalks across SR 994
- New street lighting at the intersection

The OPCs for Alternative 1 and Alternative 2 are $566,599.11 and $623,222.66, respectively. The CDAs are included in Appendix G and the OPCs are included in Appendix H.

RECOMMENDATIONS

This study evaluated operational and safety improvements for the SR 994 at SW 134 Avenue intersection. A total of 30 crashes occurred within the study intersection from January 2012 through December 2014. Based on the field observations and qualitative assessment described herein, the following recommendations have been provided to improve the operation and safety of the SR 994 at SW 134 Avenue intersection:

- Install a traffic signal
- Conduct lighting analysis to determine if lighting improvements are required
- Trim landscaping in northeast corner

APPENDIX A

FDOT CORRESPONDENCE

Meitin, Omar

From: Maarouf, Khalil
Sent: Tuesday, November 01, 2016 2:00 PM
To: Meitin, Omar
Subject: FW: Phone call

Omar,

Please issue a CTP_____ number to the request below as you did for the other. I downloaded the original request to the one that you issued earlier this morning. Thanks

Khalil Maarouf
Florida Department of Transportation
District 6 Traffic Operations
1000 NW 111 Ave, Room 6202A
Phone (305) 470-5335, Fax (305) 470-5815
E-mail: khalil.maarouf@dot.state.fl.us



From: Espinal, Esteban
Sent: Tuesday, November 01, 2016 10:00 AM
To: Maarouf, Khalil
Subject: RE: Phone call

Khalil,
Mr. San Clemente request is for the intersection of SW 200th Street and SW 134th Avenue. He is requesting a traffic signal at this location due to delays he is experiencing in the peak hours. He advised that in the morning at the intersection northbound SW 134th Avenue has become a gridlock due to the high volume of northbound vehicles and speeding eastbound vehicles, making it very difficult to turn at SW 200th Street. Please create a CTP so we can follow up with Mr. San Clemente. His information is below.

Alejandro San Clemente
Tel. 305 910-9443
Email. Alexpapas@gmail.com

Thanks,

Esteban A. Espinal, E.I.
Traffic Operations Analyst
Florida Department of Transportation, District 6
1000 NW 111th Avenue, 6206A
Miami, Florida 33172
Tel. (305) 470-5303 Fax. (305) 470-5330
Esteban.Espinal@dot.state.fl.us

From: Maarouf, Khalil
Sent: Tuesday, November 01, 2016 6:38 AM
To: Espinal, Esteban
Subject: FW: Phone call

Good morning Esteban,

Please call citizen and get his e-mail address and verify location and his concerns. It could be SW instead of NW. Thanks

Khalil Maarouf
Florida Department of Transportation
District 6 Traffic Operations
1000 NW 111 Ave, Room 6202A
Phone (305) 470-5335, Fax (305) 470-5815
E-mail: khalil.maarouf@dot.state.fl.us



From: Del Villar, Carmen
Sent: Monday, October 31, 2016 2:21 PM
To: Maarouf, Khalil
Cc: Meitin, Omar
Subject: Phone call

Alejandro San Clemente 305 910-9443 he has a big concern with the intersection of 200 Street NW 134 Avenue. It's very hard to drive across this intersection. He is afraid that there will be a very bad accident in that location.

Carmen Del Villar
Administrative Assistant
Traffic Operations Dept.
1000 N.W. 111th Ave. Suite 6206
Miami, Florida 33172
Phone : 305-470-5335
Fax : 305-470-5815
e-mail : Carmen.DelVillar@dot.state.fl.us

APPENDIX B

DATA COLLECTION

County: 99
Station: 0228
Description: SW 134TH AVENUE S OF SW 200TH STREET
Start Date: 11/29/2016
Start Time: 0000

	Direction: N					Direction: S					Combined
Time	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total
0000	5	4	4	3	16	12	9	4	3	28	44
0100	6	2	4	3	15	7	6	7	2	22	37
0200	4	3	1	1	9	1	0	2	1	4	13
0300	1	3	2	3	9	1	7	1	3	12	21
0400	4	4	7	8	23	2	2	4	5	13	36
0500	15	28	36	78	157	5	9	10	13	37	194
0600	80	90	71	77	318	13	22	36	36	107	425
0700	56	38	37	39	170	60	76	70	69	275	445
0800	36	44	65	54	199	72	64	36	29	201	400
0900	47	49	42	43	181	34	45	31	24	134	315
1000	38	32	44	19	133	34	24	24	22	104	237
1100	20	22	28	30	100	27	25	24	25	101	201
1200	33	18	29	25	105	35	38	27	39	139	244
1300	23	38	45	19	125	40	36	42	45	163	288
1400	42	34	43	36	155	36	45	57	56	194	349
1500	27	25	43	50	145	65	64	59	81	269	414
1600	26	23	42	44	135	75	94	91	113	373	508
1700	39	41	24	35	139	90	119	119	108	436	575
1800	40	30	26	36	132	97	108	85	69	359	491
1900	33	26	24	21	104	65	69	40	56	230	334
2000	14	12	22	17	65	43	40	25	36	144	209
2100	11	18	11	14	54	35	39	36	24	134	188
2200	15	11	12	7	45	27	21	33	23	104	149
2300	8	10	5	9	32	18	18	18	13	67	99
24-Hour Totals:					2566					3650	6216

Peak Volume Information

	Direction: N		Direction: S		Combined Directions	
	Hour	Volume	Hour	Volume	Hour	Volume
A.M.	830	215	715	287	645	450
P.M.	1630	166	1715	443	1645	589
Daily	545	319	1715	443	1645	589

Generated by SPS 5.0.53P

County: 99
Station: 0228
Description: SW 134TH AVENUE S OF SW 200TH STREET
Start Date: 11/30/2016
Start Time: 0000

	Direction: N					Direction: S					Combined
Time	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total
0000	8	5	3	0	16	9	4	5	4	22	38
0100	6	3	0	2	11	6	5	4	5	20	31
0200	2	3	2	1	8	6	5	2	0	13	21
0300	1	5	6	5	17	1	3	6	7	17	34
0400	1	7	8	6	22	4	3	5	3	15	37
0500	23	26	32	75	156	13	8	11	9	41	197
0600	89	67	89	59	304	11	20	38	52	121	425
0700	59	45	46	36	186	49	73	73	61	256	442
0800	46	72	53	60	231	58	66	50	46	220	451
0900	27	38	48	37	150	37	37	36	25	135	285
1000	35	32	26	28	121	17	30	31	14	92	213
1100	23	37	29	30	119	26	25	21	41	113	232
1200	29	36	33	32	130	21	29	29	36	115	245
1300	31	32	39	24	126	37	35	36	40	148	274
1400	21	28	32	32	113	47	47	72	49	215	328
1500	29	36	32	38	135	46	67	64	73	250	385
1600	47	43	46	47	183	82	87	106	106	381	564
1700	41	44	47	50	182	103	103	104	98	408	590
1800	32	25	25	21	103	125	89	81	61	356	459
1900	27	25	25	19	96	66	67	56	52	241	337
2000	22	31	13	17	83	34	36	32	26	128	211
2100	16	17	12	12	57	35	27	24	28	114	171
2200	16	9	12	7	44	28	27	23	36	114	158
2300	10	13	17	18	58	34	19	7	6	66	124
24-Hour Totals:					2651					3601	6252

Peak Volume Information

	Direction: N		Direction: S		Combined Directions	
	Hour	Volume	Hour	Volume	Hour	Volume
A.M.	800	231	715	265	730	458
P.M.	1600	183	1715	430	1715	603
Daily	545	320	1715	430	1715	603

Generated by SPS 5.0.53P

County: 99
Station: 0228
Description: SW 134TH AVENUE S OF SW 200TH STREET
Start Date: 12/01/2016
Start Time: 0000

	Direction: N					Direction: S					Combined
Time	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total
0000	18	15	0	2	35	8	4	13	8	33	68
0100	3	0	4	2	9	4	9	7	5	25	34
0200	2	3	3	1	9	4	2	4	4	14	23
0300	3	2	7	6	18	1	4	2	1	8	26
0400	1	7	8	11	27	3	4	3	4	14	41
0500	10	28	39	67	144	7	10	10	12	39	183
0600	90	83	67	67	307	17	21	32	60	130	437
0700	51	41	29	44	165	50	73	74	57	254	419
0800	41	44	65	59	209	73	65	46	41	225	434
0900	46	54	43	47	190	50	44	28	24	146	336
1000	28	23	32	36	119	25	28	20	37	110	229
1100	38	28	27	32	125	29	30	41	38	138	263
1200	31	35	20	34	120	22	26	27	34	109	229
1300	32	34	31	32	129	36	56	48	39	179	308
1400	48	26	34	36	144	52	48	61	54	215	359
1500	33	33	41	38	145	52	63	72	55	242	387
1600	34	38	46	42	160	68	96	89	85	338	498
1700	40	34	34	36	144	114	101	123	111	449	593
1800	52	43	23	23	141	98	92	75	67	332	473
1900	25	27	12	22	86	73	70	47	50	240	326
2000	20	20	18	16	74	48	38	52	39	177	251
2100	12	17	15	9	53	25	28	24	21	98	151
2200	14	17	10	11	52	30	25	17	23	95	147
2300	9	7	5	12	33	27	15	20	8	70	103
24-Hour Totals:					2638					3680	6318

Peak Volume Information

	Direction: N		Direction: S		Combined Directions	
	Hour	Volume	Hour	Volume	Hour	Volume
A.M.	830	224	715	277	645	445
P.M.	1615	166	1700	449	1700	593
Daily	545	307	1700	449	1700	593

Generated by SPS 5.0.53P

County: 99
Station: 0229
Description: SW 134TH AVENUE N OF SW 200TH STREET
Start Date: 11/29/2016
Start Time: 0000

	Direction: N					Direction: S					Combined
Time	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total
0000	2	0	0	0	2	0	0	0	0	0	2
0100	1	1	3	0	5	0	0	1	0	1	6
0200	0	0	0	0	0	0	0	0	0	0	0
0300	0	0	0	0	0	0	0	0	0	0	0
0400	0	0	0	0	0	0	0	0	0	0	0
0500	0	0	0	3	3	0	1	0	1	2	5
0600	5	10	16	24	55	0	3	0	2	5	60
0700	30	35	36	32	133	1	1	2	17	21	154
0800	32	17	14	7	70	22	6	2	1	31	101
0900	1	4	2	3	10	4	5	2	1	12	22
1000	4	5	6	2	17	3	5	3	1	12	29
1100	4	3	8	3	18	3	6	2	3	14	32
1200	3	5	7	6	21	2	2	1	3	8	29
1300	5	6	4	3	18	2	2	2	2	8	26
1400	3	5	6	7	21	0	3	2	2	7	28
1500	8	3	9	7	27	6	2	4	4	16	43
1600	8	5	7	5	25	3	5	13	5	26	51
1700	12	13	4	6	35	3	10	16	19	48	83
1800	4	4	10	5	23	12	9	11	3	35	58
1900	7	7	3	6	23	7	2	2	0	11	34
2000	1	1	2	3	7	6	0	0	1	7	14
2100	2	4	1	1	8	1	0	0	0	1	9
2200	4	2	4	3	13	4	1	1	2	8	21
2300	5	0	0	1	6	0	0	0	0	0	6
24-Hour Totals:					540					273	813

Peak Volume Information

	Direction: N		Direction: S		Combined Directions	
	Hour	Volume	Hour	Volume	Hour	Volume
A.M.	715	135	730	47	715	177
P.M.	1630	37	1715	57	1715	84
Daily	715	135	1715	57	715	177

Generated by SPS 5.0.53P

County: 99
Station: 0229
Description: SW 134TH AVENUE N OF SW 200TH STREET
Start Date: 11/30/2016
Start Time: 0000

	Direction: N					Direction: S					Combined
Time	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total
0000	1	1	2	0	4	0	0	3	0	3	7
0100	0	1	0	0	1	0	0	0	1	1	2
0200	1	1	0	0	2	0	0	0	0	0	2
0300	0	0	0	0	0	0	0	0	0	0	0
0400	0	1	0	0	1	0	1	0	0	1	2
0500	0	1	0	3	4	0	1	0	1	2	6
0600	6	11	28	25	70	1	3	1	1	6	76
0700	32	36	43	32	143	3	1	6	25	35	178
0800	31	17	15	7	70	16	3	1	3	23	93
0900	5	4	7	3	19	1	2	2	5	10	29
1000	1	4	4	2	11	0	4	2	1	7	18
1100	6	2	5	5	18	2	1	3	3	9	27
1200	3	2	8	3	16	0	1	5	2	8	24
1300	6	4	4	6	20	1	1	0	3	5	25
1400	3	4	11	2	20	5	0	3	3	11	31
1500	4	10	4	5	23	6	4	2	3	15	38
1600	13	9	8	3	33	5	3	13	15	36	69
1700	12	9	3	6	30	4	1	4	8	17	47
1800	13	4	4	6	27	19	7	7	3	36	63
1900	14	5	4	4	27	1	3	1	3	8	35
2000	4	8	4	4	20	3	1	3	1	8	28
2100	2	2	2	1	7	1	0	1	4	6	13
2200	0	1	0	2	3	0	0	0	0	0	3
2300	1	1	1	2	5	1	1	0	0	2	7
24-Hour Totals:					574					249	823

Peak Volume Information

	Direction: N		Direction: S		Combined Directions	
	Hour	Volume	Hour	Volume	Hour	Volume
A.M.	700	143	730	50	715	190
P.M.	1545	35	1745	41	1600	69
Daily	700	143	730	50	715	190

Generated by SPS 5.0.53P

County: 99
Station: 0229
Description: SW 134TH AVENUE N OF SW 200TH STREET
Start Date: 12/01/2016
Start Time: 0000

	Direction: N					Direction: S					Combined
Time	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total
0000	1	0	0	1	2	1	0	0	1	2	4
0100	0	0	1	0	1	0	0	0	0	0	1
0200	1	1	0	0	2	1	0	0	0	1	3
0300	0	0	0	0	0	0	0	0	0	0	0
0400	0	2	0	0	2	0	0	0	0	0	2
0500	1	0	0	3	4	0	1	0	1	2	6
0600	7	7	19	14	47	1	3	1	1	6	53
0700	35	40	30	27	132	4	2	4	12	22	154
0800	29	15	9	2	55	15	3	10	8	36	91
0900	4	4	3	6	17	6	3	7	1	17	34
1000	4	1	6	6	17	0	2	5	2	9	26
1100	3	9	5	3	20	1	2	2	1	6	26
1200	2	1	1	4	8	2	2	1	2	7	15
1300	2	3	6	0	11	4	2	2	2	10	21
1400	3	8	6	5	22	2	3	1	4	10	32
1500	7	3	12	8	30	3	2	3	3	11	41
1600	7	7	5	6	25	3	8	4	10	25	50
1700	10	4	3	8	25	16	5	28	12	61	86
1800	8	3	3	7	21	5	3	5	1	14	35
1900	5	13	3	3	24	2	2	1	3	8	32
2000	0	3	1	0	4	0	1	0	1	2	6
2100	0	1	2	1	4	1	1	0	1	3	7
2200	2	2	0	3	7	2	1	3	1	7	14
2300	0	2	2	0	4	3	1	2	0	6	10
24-Hour Totals:					484					265	749

Peak Volume Information

	Direction: N		Direction: S		Combined Directions	
	Hour	Volume	Hour	Volume	Hour	Volume
A.M.	700	132	745	40	715	159
P.M.	1530	34	1700	61	1700	86
Daily	700	132	1700	61	715	159

Generated by SPS 5.0.53P

County: 99
Station: 0230
Description: SW 200TH STREET W OF SW 134TH AVENUE
Start Date: 11/29/2016
Start Time: 0000

	Direction: E					Direction: W					Combined
Time	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total
0000	24	19	17	18	78	18	8	15	11	52	130
0100	11	12	14	7	44	17	12	6	7	42	86
0200	6	5	4	8	23	4	7	5	7	23	46
0300	8	8	5	9	30	2	8	7	8	25	55
0400	11	9	12	19	51	14	9	21	19	63	114
0500	15	34	63	107	219	36	50	88	105	279	498
0600	100	115	138	162	515	137	183	233	231	784	1299
0700	202	242	235	256	935	234	231	242	222	929	1864
0800	224	233	177	191	825	205	202	214	190	811	1636
0900	175	166	133	126	600	155	155	146	138	594	1194
1000	120	119	120	112	471	145	103	145	107	500	971
1100	96	115	110	120	441	106	118	108	115	447	888
1200	124	128	117	154	523	115	97	119	105	436	959
1300	134	128	143	149	554	99	139	126	142	506	1060
1400	130	172	178	154	634	128	145	157	160	590	1224
1500	171	168	180	192	711	155	156	197	202	710	1421
1600	194	191	217	231	833	142	158	175	178	653	1486
1700	209	243	234	234	920	185	163	177	149	674	1594
1800	244	231	193	154	822	144	153	138	161	596	1418
1900	143	145	107	121	516	133	133	114	125	505	1021
2000	113	92	89	84	378	95	72	80	61	308	686
2100	78	93	79	60	310	73	70	58	61	262	572
2200	80	59	69	56	264	54	57	52	38	201	465
2300	38	36	32	30	136	38	43	22	21	124	260
24-Hour Totals:					10833					10114	20947

Peak Volume Information

	Direction: E		Direction: W		Combined Directions	
	Hour	Volume	Hour	Volume	Hour	Volume
A.M.	715	957	645	938	700	1864
P.M.	1715	955	1500	710	1645	1620
Daily	715	957	645	938	700	1864

Generated by SPS 5.0.53P

County: 99
Station: 0230
Description: SW 200TH STREET W OF SW 134TH AVENUE
Start Date: 11/30/2016
Start Time: 0000

	Direction: E					Direction: W					Combined
Time	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total
0000	27	20	19	20	86	20	29	16	9	74	160
0100	15	6	9	9	39	15	10	4	8	37	76
0200	12	14	9	4	39	5	7	8	6	26	65
0300	7	7	11	16	41	8	12	6	12	38	79
0400	5	8	13	20	46	6	11	22	22	61	107
0500	27	36	67	98	228	38	57	87	120	302	530
0600	105	117	144	165	531	144	187	226	217	774	1305
0700	179	231	244	249	903	221	243	229	224	917	1820
0800	228	213	190	198	829	222	196	211	177	806	1635
0900	157	149	128	126	560	104	116	126	133	479	1039
1000	116	116	148	111	491	107	98	104	104	413	904
1100	106	97	120	132	455	99	117	133	115	464	919
1200	124	141	117	127	509	129	127	118	107	481	990
1300	156	132	144	145	577	132	132	129	116	509	1086
1400	150	172	159	140	621	142	138	153	141	574	1195
1500	149	196	153	186	684	139	140	175	172	626	1310
1600	189	211	215	234	849	167	163	166	157	653	1502
1700	229	223	240	228	920	199	201	153	179	732	1652
1800	240	205	174	155	774	151	133	122	119	525	1299
1900	148	140	133	115	536	127	113	123	111	474	1010
2000	103	101	78	87	369	104	97	88	61	350	719
2100	81	92	60	77	310	72	73	59	68	272	582
2200	55	58	59	60	232	47	47	45	36	175	407
2300	69	49	30	29	177	42	52	44	43	181	358
24-Hour Totals:					10806					9943	20749

Peak Volume Information

	Direction: E		Direction: W		Combined Directions	
	Hour	Volume	Hour	Volume	Hour	Volume
A.M.	715	952	715	918	715	1870
P.M.	1715	931	1700	732	1700	1652
Daily	715	952	715	918	715	1870

Generated by SPS 5.0.53P

County: 99
Station: 0230
Description: SW 200TH STREET W OF SW 134TH AVENUE
Start Date: 12/01/2016
Start Time: 0000

	Direction: E					Direction: W					Combined
Time	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total
0000	25	22	25	20	92	23	19	18	16	76	168
0100	14	23	13	12	62	9	11	8	9	37	99
0200	12	4	6	6	28	5	7	5	9	26	54
0300	10	7	6	13	36	6	6	12	16	40	76
0400	10	11	11	15	47	5	15	22	29	71	118
0500	28	43	63	111	245	32	51	80	117	280	525
0600	131	111	145	171	558	156	200	230	224	810	1368
0700	186	213	251	228	878	205	233	249	232	919	1797
0800	266	231	186	193	876	194	202	209	188	793	1669
0900	186	146	127	122	581	129	140	134	129	532	1113
1000	113	116	114	120	463	107	104	114	112	437	900
1100	104	145	128	127	504	118	106	120	117	461	965
1200	103	137	118	130	488	115	125	128	120	488	976
1300	123	160	155	124	562	134	153	130	137	554	1116
1400	136	166	153	180	635	137	138	143	154	572	1207
1500	153	187	166	180	686	157	184	177	164	682	1368
1600	195	207	210	213	825	153	149	167	168	637	1462
1700	222	218	244	213	897	180	143	167	180	670	1567
1800	217	193	177	161	748	153	157	126	139	575	1323
1900	142	169	97	118	526	124	136	106	100	466	992
2000	102	73	120	91	386	101	88	94	79	362	748
2100	63	71	77	64	275	67	77	66	59	269	544
2200	79	65	56	50	250	63	44	45	43	195	445
2300	58	40	42	25	165	34	23	33	30	120	285
24-Hour Totals:					10813					10072	20885

Peak Volume Information

	Direction: E		Direction: W		Combined Directions	
	Hour	Volume	Hour	Volume	Hour	Volume
A.M.	730	976	700	919	715	1866
P.M.	1645	897	1500	682	1700	1567
Daily	730	976	700	919	715	1866

Generated by SPS 5.0.53P

County: 99
Station: 0231
Description: SW 200TH STREET E OF SW 134TH AVENUE
Start Date: 11/29/2016
Start Time: 0000

	Direction: E					Direction: W					Combined
Time	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total
0000	13	15	15	16	59	14	10	12	10	46	105
0100	7	9	10	3	29	14	14	7	4	39	68
0200	8	6	2	7	23	1	5	4	5	15	38
0300	6	4	4	6	20	2	8	5	7	22	42
0400	10	9	11	14	44	11	7	17	12	47	91
0500	16	32	67	115	230	27	31	62	61	181	411
0600	117	118	136	149	520	93	135	206	204	638	1158
0700	165	189	192	233	779	227	242	249	222	940	1719
0800	201	208	171	178	758	212	192	177	147	728	1486
0900	165	157	120	112	554	125	126	115	108	474	1028
1000	110	118	115	105	448	124	87	122	102	435	883
1100	94	111	108	114	427	104	112	100	101	417	844
1200	112	116	107	135	470	97	100	110	97	404	874
1300	105	111	124	130	470	91	128	113	128	460	930
1400	114	147	136	126	523	111	134	130	151	526	1049
1500	128	129	147	151	555	147	152	182	176	657	1212
1600	145	141	158	168	612	138	162	165	164	629	1241
1700	156	174	165	178	673	190	160	177	148	675	1348
1800	179	157	146	117	599	120	145	141	154	560	1159
1900	102	94	86	83	365	111	129	99	124	463	828
2000	82	66	73	57	278	89	69	69	53	280	558
2100	58	62	51	48	219	75	67	52	56	250	469
2200	66	47	41	40	194	55	50	48	39	192	386
2300	22	25	21	22	90	39	38	23	19	119	209
24-Hour Totals:					8939					9197	18136

Peak Volume Information

	Direction: E		Direction: W		Combined Directions	
	Hour	Volume	Hour	Volume	Hour	Volume
A.M.	730	834	700	940	715	1740
P.M.	1715	696	1645	691	1645	1354
Daily	730	834	700	940	715	1740

Generated by SPS 5.0.53P

County: 99
Station: 0231
Description: SW 200TH STREET E OF SW 134TH AVENUE
Start Date: 11/30/2016
Start Time: 0000

	Direction: E					Direction: W					Combined
Time	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total
0000	19	16	23	15	73	14	25	14	9	62	135
0100	9	2	7	10	28	10	9	6	9	34	62
0200	7	8	7	4	26	5	6	5	5	21	47
0300	7	4	10	14	35	7	8	4	13	32	67
0400	2	8	8	19	37	6	8	14	17	45	82
0500	21	35	74	108	238	28	37	68	68	201	439
0600	124	121	128	135	508	93	148	196	205	642	1150
0700	160	194	203	238	795	215	253	252	233	953	1748
0800	216	184	157	168	725	218	169	190	135	712	1437
0900	144	121	128	110	503	89	88	114	106	397	900
1000	113	109	133	116	471	85	83	96	93	357	828
1100	102	94	100	123	419	94	98	113	104	409	828
1200	112	138	105	115	470	111	112	102	99	424	894
1300	136	115	125	131	507	121	116	113	114	464	971
1400	129	142	121	124	516	138	134	151	133	556	1072
1500	131	150	121	146	548	127	129	171	164	591	1139
1600	156	161	162	174	653	174	161	161	148	644	1297
1700	159	160	169	178	666	191	194	141	157	683	1349
1800	161	156	121	109	547	157	127	112	118	514	1061
1900	99	99	95	78	371	127	110	121	101	459	830
2000	85	76	54	74	289	96	83	78	56	313	602
2100	60	75	49	50	234	68	68	60	61	257	491
2200	43	35	42	30	150	43	41	39	36	159	309
2300	38	39	21	20	118	41	51	41	36	169	287
24-Hour Totals:					8927					9098	18025

Peak Volume Information

	Direction: E		Direction: W		Combined Directions	
	Hour	Volume	Hour	Volume	Hour	Volume
A.M.	715	851	715	956	715	1807
P.M.	1715	668	1630	694	1630	1349
Daily	715	851	715	956	715	1807

Generated by SPS 5.0.53P

County: 99
Station: 0231
Description: SW 200TH STREET E OF SW 134TH AVENUE
Start Date: 12/01/2016
Start Time: 0000

	Direction: E					Direction: W					Combined
Time	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total
0000	17	20	14	15	66	15	17	20	16	68	134
0100	9	16	10	7	42	7	12	9	8	36	78
0200	7	4	2	6	19	3	6	5	11	25	44
0300	9	4	6	14	33	3	5	6	12	26	59
0400	8	8	11	13	40	5	11	18	21	55	95
0500	26	38	68	119	251	25	30	55	78	188	439
0600	137	125	134	170	566	98	147	208	191	644	1210
0700	160	184	204	200	748	209	249	246	239	943	1691
0800	232	201	175	169	777	197	190	177	153	717	1494
0900	167	131	116	123	537	106	103	110	105	424	961
1000	106	106	104	117	433	94	94	100	96	384	817
1100	92	127	102	117	438	99	93	111	111	414	852
1200	100	131	107	117	455	101	112	114	102	429	884
1300	108	124	133	104	469	122	135	117	117	491	960
1400	119	129	120	151	519	120	133	133	140	526	1045
1500	128	155	128	150	561	150	174	170	146	640	1201
1600	156	148	155	185	644	143	150	151	165	609	1253
1700	153	145	184	157	639	170	138	159	183	650	1289
1800	159	136	116	121	532	142	135	116	139	532	1064
1900	94	123	63	82	362	116	129	107	100	452	814
2000	71	57	82	67	277	92	85	93	73	343	620
2100	46	51	65	46	208	63	68	60	54	245	453
2200	58	53	49	30	190	58	39	41	37	175	365
2300	39	29	23	6	97	33	25	33	36	127	224
24-Hour Totals:					8903					9143	18046

Peak Volume Information

	Direction: E		Direction: W		Combined Directions	
	Hour	Volume	Hour	Volume	Hour	Volume
A.M.	730	837	700	943	715	1751
P.M.	1645	667	1700	650	1645	1299
Daily	730	837	700	943	715	1751

Generated by SPS 5.0.53P

SW 200th Street & SW 134th Avenue

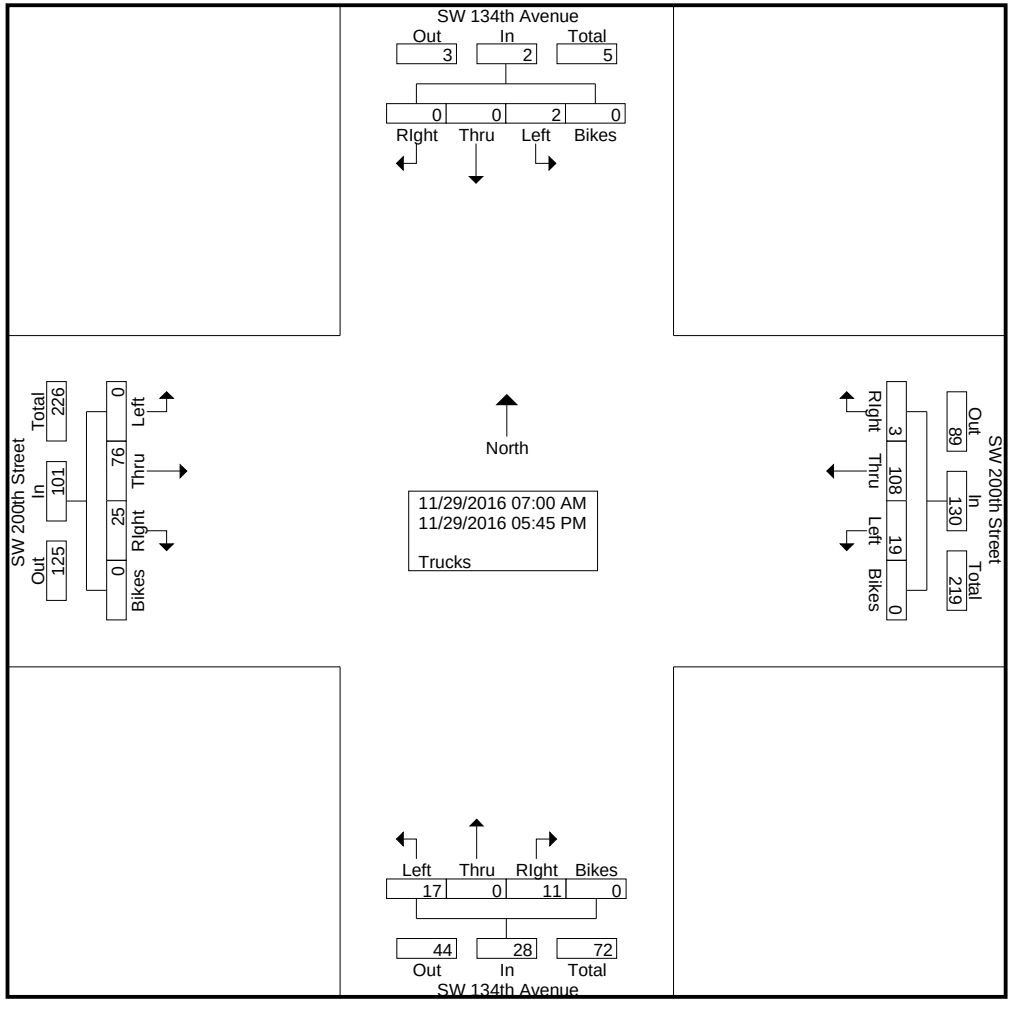
File Name : SW 200th Street & SW 134th Avenue
Site Code : 00000000
Start Date : 11/29/2016
Page No : 1

Groups Printed- Trucks

	SW 134th Avenue Southbound					SW 134th Avenue Northbound					SW 200th Street Westbound					SW 200th Street Eastbound					
Start Time	Left	Thru	RIght	Bikes	App. Total	Left	Thru	RIght	Bikes	App. Total	Left	Thru	RIght	Bikes	App. Total	Left	Thru	RIght	Bikes	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	8	2	0	10	17
07:15 AM	0	0	0	0	0	2	0	1	0	3	1	8	1	0	10	0	7	5	0	12	25
07:30 AM	0	0	0	0	0	1	0	0	0	1	1	4	1	0	6	0	6	0	0	6	13
07:45 AM	0	0	0	0	0	2	0	1	0	3	0	8	0	0	8	0	2	0	0	2	13
Total	0	0	0	0	0	5	0	2	0	7	2	27	2	0	31	0	23	7	0	30	68
08:00 AM	1	0	0	0	1	1	0	1	0	2	0	6	0	0	6	0	3	1	0	4	13
08:15 AM	0	0	0	0	0	2	0	2	0	4	0	7	0	0	7	0	5	3	0	8	19
08:30 AM	0	0	0	0	0	4	0	2	0	6	0	7	0	0	7	0	9	1	0	10	23
08:45 AM	0	0	0	0	0	2	0	0	0	2	0	9	0	0	9	0	8	1	0	9	20
Total	1	0	0	0	1	9	0	5	0	14	0	29	0	0	29	0	25	6	0	31	75
*** BREAK ***																					
04:00 PM	1	0	0	0	1	0	0	0	0	0	2	7	0	0	9	0	7	2	0	9	19
04:15 PM	0	0	0	0	0	2	0	1	0	3	5	9	0	0	14	0	3	0	0	3	20
04:30 PM	0	0	0	0	0	0	0	1	0	1	1	10	0	0	11	0	4	3	0	7	19
04:45 PM	0	0	0	0	0	0	0	1	0	1	2	4	0	0	6	0	1	1	0	2	9
Total	1	0	0	0	1	2	0	3	0	5	10	30	0	0	40	0	15	6	0	21	67
05:00 PM	0	0	0	0	0	0	0	0	0	0	2	7	1	0	10	0	5	1	0	6	16
05:15 PM	0	0	0	0	0	0	0	0	0	0	1	8	0	0	9	0	5	1	0	6	15
05:30 PM	0	0	0	0	0	1	0	0	0	1	1	4	0	0	5	0	2	2	0	4	10
05:45 PM	0	0	0	0	0	0	0	1	0	1	3	3	0	0	6	0	1	2	0	3	10
Total	0	0	0	0	0	1	0	1	0	2	7	22	1	0	30	0	13	6	0	19	51
Grand Total	2	0	0	0	2	17	0	11	0	28	19	108	3	0	130	0	76	25	0	101	261
Apprch %	100	0	0	0		60.7	0	39.3	0		14.6	83.1	2.3	0		0	75.2	24.8	0		
Total %	0.8	0	0	0	0.8	6.5	0	4.2	0	10.7	7.3	41.4	1.1	0	49.8	0	29.1	9.6	0	38.7	

SW 200th Street & SW 134th Avenue

File Name : SW 200th Street & SW 134th Avenue
Site Code : 00000000
Start Date : 11/29/2016
Page No : 2



SW 200th Street & SW 134th Avenue

File Name : SW 200th Street & SW 134th Avenue
Site Code : 00000000
Start Date : 11/29/2016
Page No : 3

	SW 134th Avenue Southbound					SW 134th Avenue Northbound					SW 200th Street Westbound					SW 200th Street Eastbound					
Start Time	Left	Thru	RIght	Bikes	App. Total	Left	Thru	RIght	Bikes	App. Total	Left	Thru	RIght	Bikes	App. Total	Left	Thru	RIght	Bikes	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	**1**	0	0	0	**1**	1	0	1	0	2	0	6	0	0	6	0	3	1	0	4	13
08:15 AM	0	0	0	0	0	2	0	**2**	0	4	0	7	0	0	7	0	5	**3**	0	8	19
08:30 AM	0	0	0	0	0	**4**	0	2	0	**6**	0	7	0	0	7	0	**9**	1	0	**10**	**23**
08:45 AM	0	0	0	0	0	2	0	0	0	2	0	**9**	0	0	**9**	0	8	1	0	9	20
Total Volume	1	0	0	0	1	9	0	5	0	14	0	29	0	0	29	0	25	6	0	31	75
% App. Total	100	0	0	0		64.3	0	35.7	0		0	100	0	0		0	80.6	19.4	0		
PHF	.250	.000	.000	.000	.250	.563	.000	.625	.000	.583	.000	.806	.000	.000	.806	.000	.694	.500	.000	.775	.815

SW 200th Street & SW 134th Avenue

File Name : SW 200th Street & SW 134th Avenue
Site Code : 00000000
Start Date : 11/29/2016
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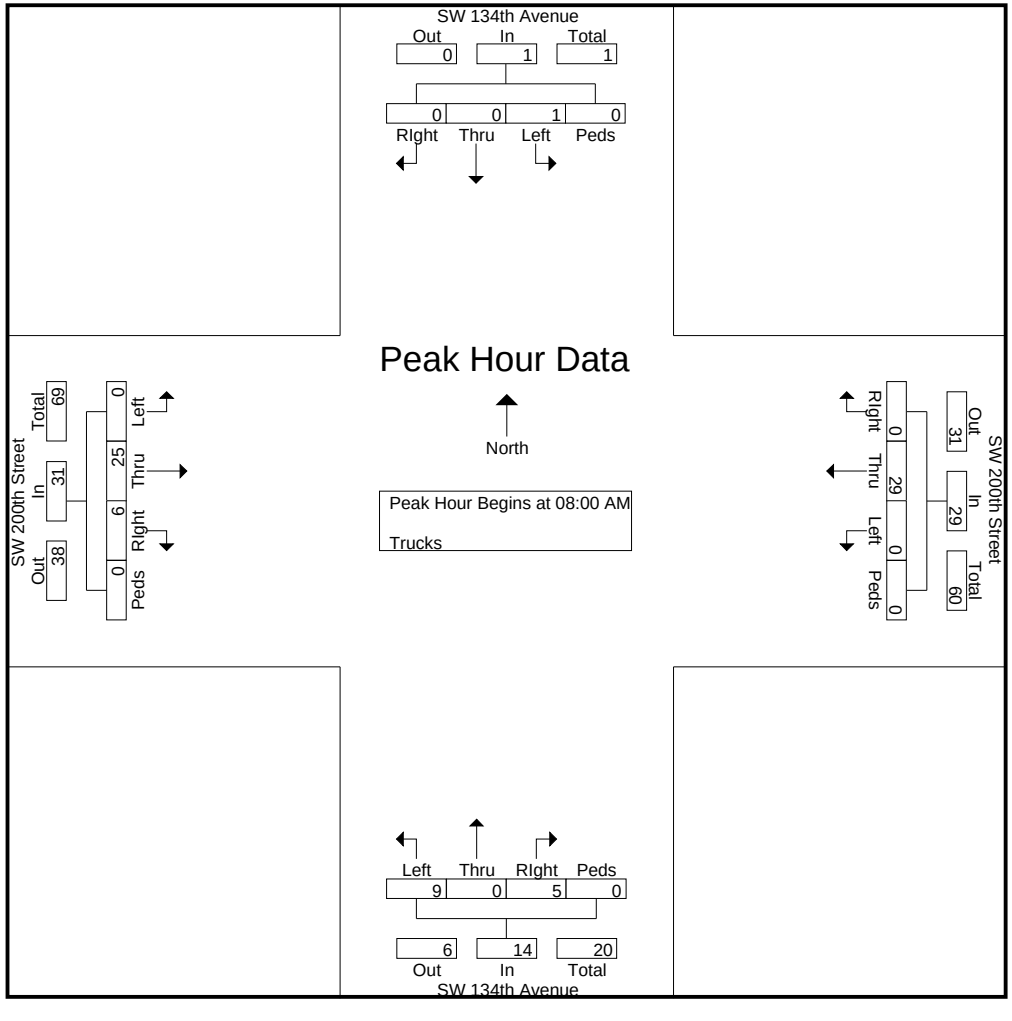

SW 200th Street & SW 134th Avenue

File Name : SW 200th Street & SW 134th Avenue
Site Code : 00000000
Start Date : 11/29/2016
Page No : 5

	SW 134th Avenue Southbound					SW 134th Avenue Northbound					SW 200th Street Westbound					SW 200th Street Eastbound					
Start Time	Left	Thru	RIght	Bikes	App. Total	Left	Thru	RIght	Bikes	App. Total	Left	Thru	RIght	Bikes	App. Total	Left	Thru	RIght	Bikes	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	**1**	0	0	0	**1**	0	0	0	0	0	2	7	0	0	9	0	**7**	2	0	**9**	19
04:15 PM	0	0	0	0	0	**2**	0	**1**	0	**3**	**5**	9	0	0	**14**	0	3	0	0	3	**20**
04:30 PM	0	0	0	0	0	0	0	1	0	1	1	**10**	0	0	11	0	4	**3**	0	7	19
04:45 PM	0	0	0	0	0	0	0	1	0	1	2	4	0	0	6	0	1	1	0	2	9
Total Volume	1	0	0	0	1	2	0	3	0	5	10	30	0	0	40	0	15	6	0	21	67
% App. Total	100	0	0	0		40	0	60	0		25	75	0	0		0	71.4	28.6	0		
PHF	.250	.000	.000	.000	.250	.250	.000	.750	.000	.417	.500	.750	.000	.000	.714	.000	.536	.500	.000	.583	.838

SW 200th Street & SW 134th Avenue

File Name : SW 200th Street & SW 134th Avenue
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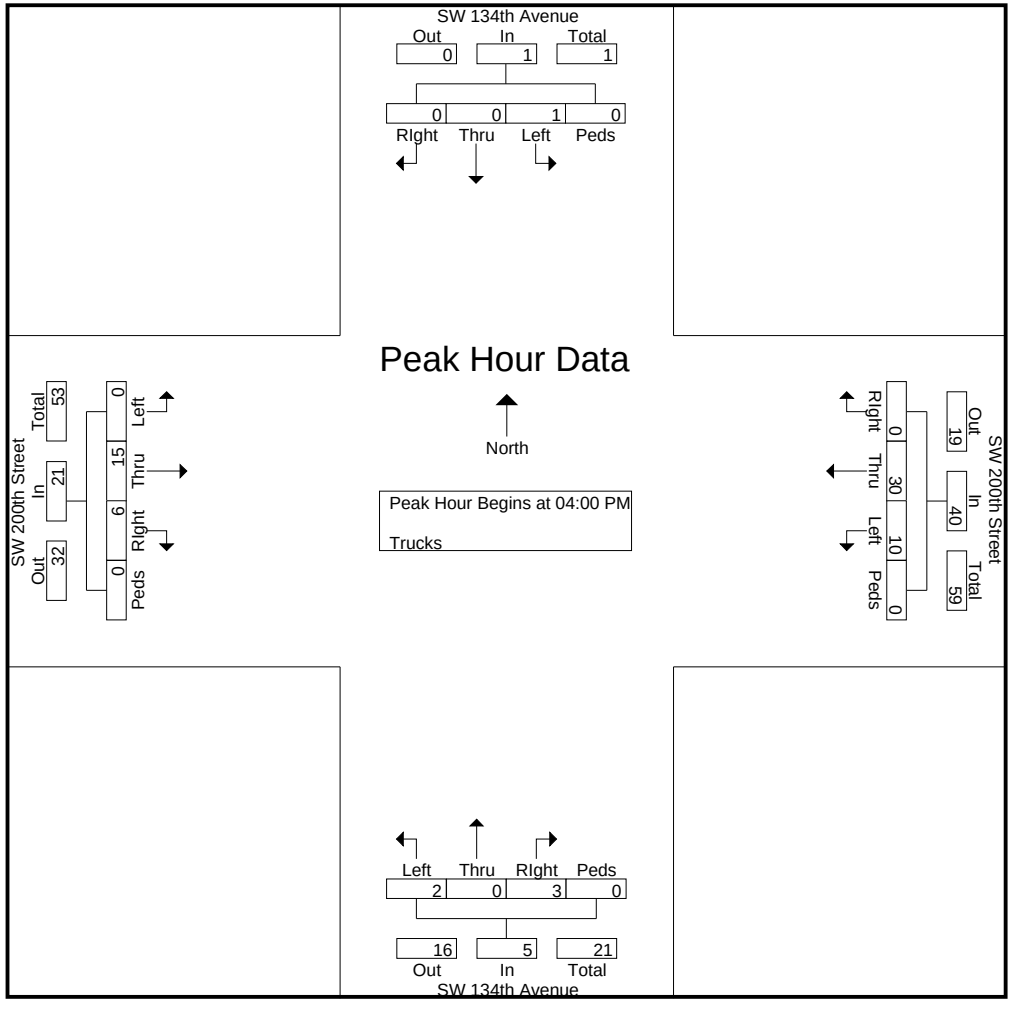

SW 200th Street & SW 134th Avenue

File Name : SW 200th Street & SW 134th Avenue
Site Code : 00000000
Start Date : 11/29/2016
Page No : 1

Groups Printed- Veh - Trucks - Turns

	SW 134th Avenue Southbound					SW 134th Avenue Northbound					SW 200th Street Westbound					SW 200th Street Eastbound					
Start Time	Left	Thru	RIght	Peds/Bike	App. Total	Left	Thru	RIght	Peds/Bike	App. Total	Left	Thru	RIght	Peds/Bike	App. Total	Left	Thru	RIght	Peds/Bike	App. Total	Int. Total
07:00 AM	1	0	1	0	2	41	7	13	0	61	14	191	24	0	229	0	149	47	0	196	488
07:15 AM	1	0	0	0	1	27	4	8	0	39	10	202	30	0	242	0	177	64	0	241	523
07:30 AM	2	0	0	0	2	21	7	6	0	34	10	213	31	0	254	0	180	58	0	238	528
07:45 AM	10	6	1	0	17	25	8	10	0	43	10	192	24	0	226	0	207	50	0	257	543
Total	14	6	2	0	22	114	26	37	0	177	44	798	109	0	951	0	713	219	0	932	2082
08:00 AM	11	11	0	0	22	22	4	9	0	35	11	179	27	0	217	0	180	50	0	230	504
08:15 AM	2	4	0	0	6	28	6	14	0	48	11	175	13	0	199	0	188	47	0	235	488
08:30 AM	1	0	1	0	2	43	9	16	0	68	8	163	7	0	178	0	152	28	0	180	428
08:45 AM	1	0	0	0	1	43	6	9	0	58	5	142	3	0	150	0	166	24	0	190	399
Total	15	15	1	0	31	136	25	48	0	209	35	659	50	0	744	0	686	149	0	835	1819
*** BREAK ***																					
04:00 PM	1	1	1	0	3	17	3	5	0	25	10	121	5	0	136	0	135	63	0	198	362
04:15 PM	2	2	1	0	5	14	3	5	0	22	22	136	2	0	160	0	130	67	0	197	384
04:30 PM	6	6	0	0	12	21	5	14	0	40	12	149	1	0	162	1	136	71	0	208	422
04:45 PM	4	2	1	0	7	30	2	12	0	44	21	144	4	0	169	0	151	89	0	240	460
Total	13	11	3	0	27	82	13	36	0	131	65	550	12	0	627	1	552	290	0	843	1628
05:00 PM	1	1	1	0	3	27	2	8	0	37	21	151	10	0	182	0	146	65	0	211	433
05:15 PM	2	8	0	0	10	27	6	11	0	44	23	131	4	0	158	2	158	87	0	247	459
05:30 PM	7	9	0	0	16	15	1	6	0	22	20	155	4	0	179	0	147	87	0	234	451
05:45 PM	5	15	0	0	20	21	2	13	0	36	13	129	4	0	146	1	158	77	0	236	438
Total	15	33	1	0	49	90	11	38	0	139	77	566	22	0	665	3	609	316	0	928	1781
Grand Total	57	65	7	0	129	422	75	159	0	656	221	2573	193	0	2987	4	2560	974	0	3538	7310
Apprch %	44.2	50.4	5.4	0		64.3	11.4	24.2	0		7.4	86.1	6.5	0		0.1	72.4	27.5	0		
Total %	0.8	0.9	0.1	0	1.8	5.8	1	2.2	0	9	3	35.2	2.6	0	40.9	0.1	35	13.3	0	48.4	
Veh	55	65	7	0	127	405	75	148	0	628	202	2465	190	0	2857	4	2484	949	0	3437	7049
% Veh	96.5	100	100	0	98.4	96	100	93.1	0	95.7	91.4	95.8	98.4	0	95.6	100	97	97.4	0	97.1	96.4
Trucks	2	0	0	0	2	17	0	11	0	28	19	108	3	0	130	0	76	25	0	101	261
% Trucks	3.5	0	0	0	1.6	4	0	6.9	0	4.3	8.6	4.2	1.6	0	4.4	0	3	2.6	0	2.9	3.6
U-Turns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% U-Turns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SW 200th Street & SW 134th Avenue

File Name : SW 200th Street & SW 134th Avenue
Site Code : 00000000
Start Date : 11/29/2016
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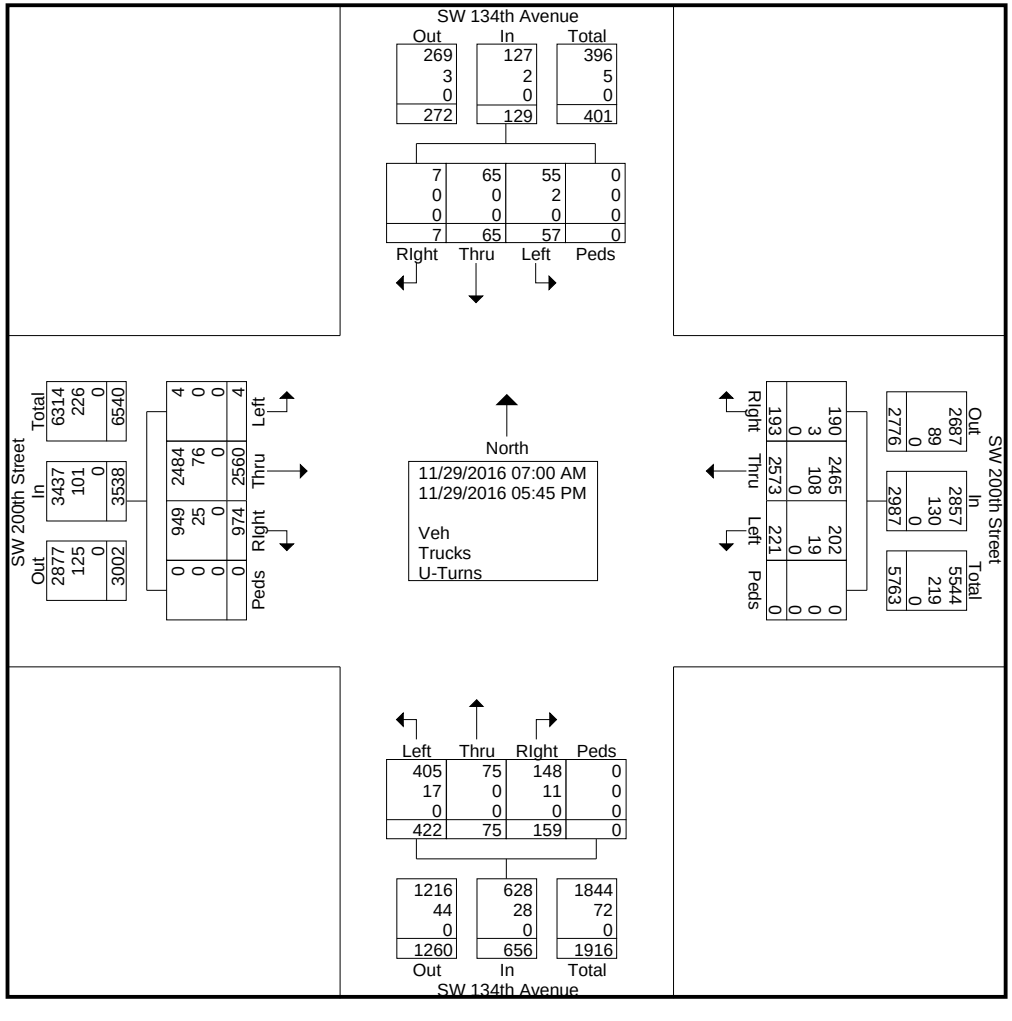


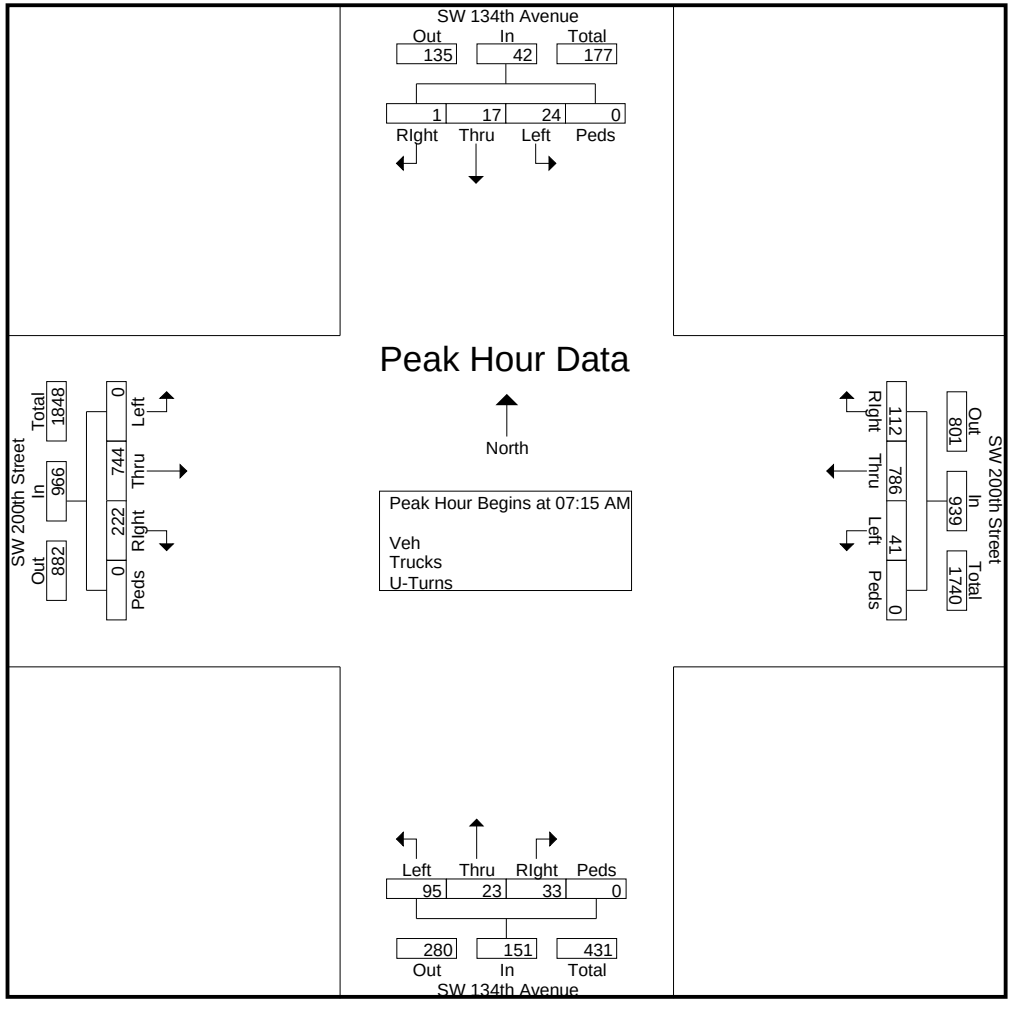
SW 200th Street & SW 134th Avenue

File Name : SW 200th Street & SW 134th Avenue
Site Code : 00000000
Start Date : 11/29/2016
Page No : 3

	SW 134th Avenue Southbound					SW 134th Avenue Northbound					SW 200th Street Westbound					SW 200th Street Eastbound					
Start Time	Left	Thru	RIght	Peds/Bike	App. Total	Left	Thru	RIght	Peds/Bike	App. Total	Left	Thru	RIght	Peds/Bike	App. Total	Left	Thru	RIght	Peds/Bike	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	1	0	0	0	1	**27**	4	8	0	39	10	202	30	0	242	0	177	**64**	0	241	523
07:30 AM	2	0	0	0	2	21	7	6	0	34	10	**213**	**31**	0	**254**	0	180	58	0	238	528
07:45 AM	10	6	**1**	0	17	25	**8**	**10**	0	**43**	10	192	24	0	226	0	**207**	50	0	**257**	**543**
08:00 AM	**11**	**11**	0	0	**22**	22	4	9	0	35	**11**	179	27	0	217	0	180	50	0	230	504
Total Volume	24	17	1	0	42	95	23	33	0	151	41	786	112	0	939	0	744	222	0	966	2098
% App. Total	57.1	40.5	2.4	0		62.9	15.2	21.9	0		4.4	83.7	11.9	0		0	77	23	0		
PHF	.545	.386	.250	.000	.477	.880	.719	.825	.000	.878	.932	.923	.903	.000	.924	.000	.899	.867	.000	.940	.966

SW 200th Street & SW 134th Avenue

File Name : SW 200th Street & SW 134th Avenue
Site Code : 00000000
Start Date : 11/29/2016
Page No : 4



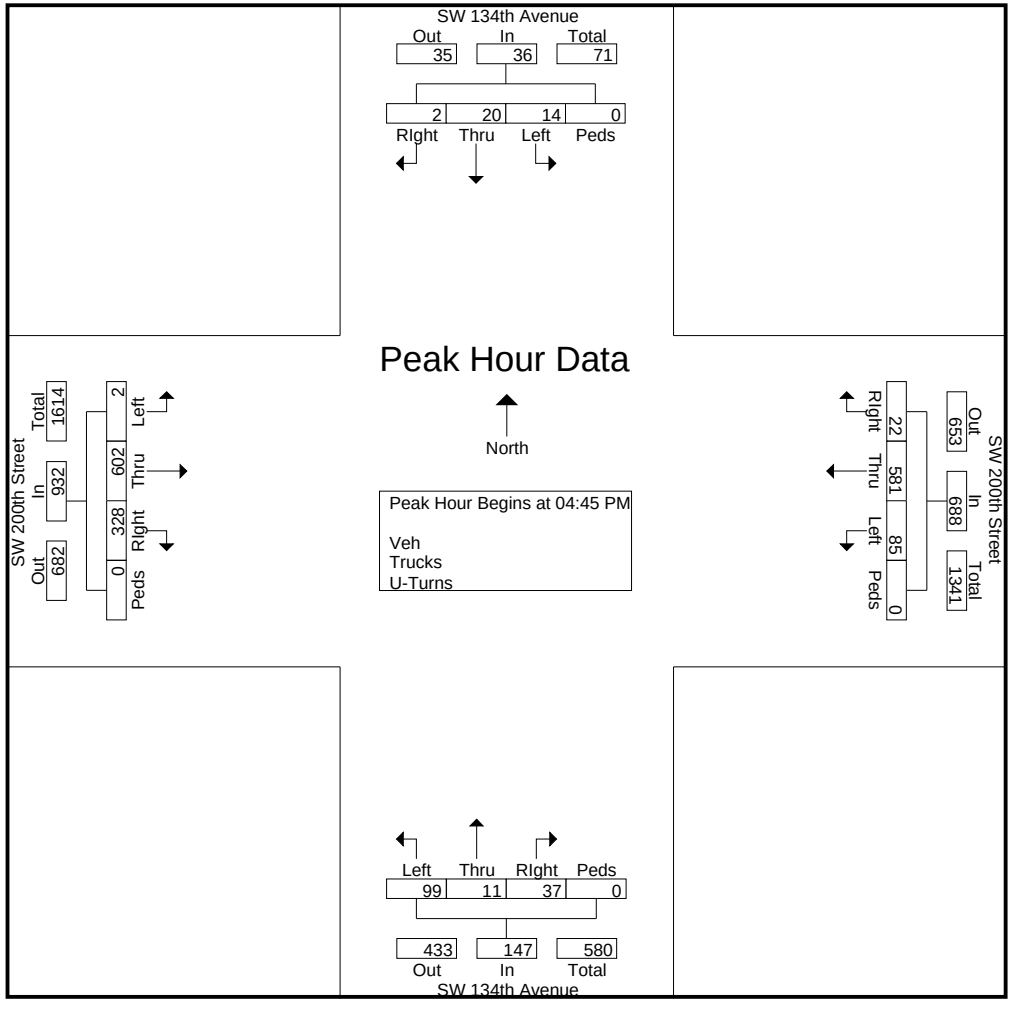
SW 200th Street & SW 134th Avenue

File Name : SW 200th Street & SW 134th Avenue
Site Code : 00000000
Start Date : 11/29/2016
Page No : 5

	SW 134th Avenue Southbound					SW 134th Avenue Northbound					SW 200th Street Westbound					SW 200th Street Eastbound					
Start Time	Left	Thru	RIght	Peds/Bike	App. Total	Left	Thru	RIght	Peds/Bike	App. Total	Left	Thru	RIght	Peds/Bike	App. Total	Left	Thru	RIght	Peds/Bike	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	4	2	**1**	0	7	**30**	2	**12**	0	**44**	21	144	4	0	169	0	151	**89**	0	240	**460**
05:00 PM	1	1	1	0	3	27	2	8	0	37	21	151	**10**	0	**182**	0	146	65	0	211	433
05:15 PM	2	8	0	0	10	27	**6**	11	0	44	**23**	131	4	0	158	**2**	**158**	87	0	**247**	459
05:30 PM	**7**	**9**	0	0	**16**	15	1	6	0	22	20	**155**	4	0	179	0	147	87	0	234	451
Total Volume	14	20	2	0	36	99	11	37	0	147	85	581	22	0	688	2	602	328	0	932	1803
% App. Total	38.9	55.6	5.6	0		67.3	7.5	25.2	0		12.4	84.4	3.2	0		0.2	64.6	35.2	0		
PHF	.500	.556	.500	.000	.563	.825	.458	.771	.000	.835	.924	.937	.550	.000	.945	.250	.953	.921	.000	.943	.980

SW 200th Street & SW 134th Avenue

File Name : SW 200th Street & SW 134th Avenue
Site Code : 00000000
Start Date : 11/29/2016
Page No : 6



SW 200th Street & SW 134th Avenue
Stop Delay Northbound
4pm-6pm

File Name : Stop Delay SW 200th St & SW 134th Av 4pm-6pm NB
Site Code : 00000000
Start Date : 11/29/2016
Page No : 1

Ln.	No.	Joined Queue	Released From Queue	Delay
1	1	4:00:00 PM	4:00:49 PM	49
1	2	4:00:34 PM	4:00:51 PM	17
1	3	4:02:40 PM	4:03:03 PM	23
1	4	4:03:01 PM	4:03:08 PM	7
1	5	4:03:02 PM	4:03:11 PM	9
1	6	4:06:07 PM	4:06:22 PM	15
1	7	4:06:10 PM	4:06:29 PM	19
1	8	4:06:43 PM	4:07:09 PM	26
1	9	4:06:45 PM	4:07:21 PM	36
1	10	4:08:14 PM	4:08:35 PM	21
1	11	4:08:15 PM	4:08:59 PM	44
1	12	4:08:22 PM	4:09:23 PM	61
1	13	4:09:38 PM	4:09:42 PM	4
1	14	4:10:29 PM	4:10:44 PM	15
1	15	4:11:16 PM	4:11:42 PM	26
1	16	4:11:17 PM	4:11:44 PM	27
1	17	4:11:18 PM	4:11:49 PM	31
1	18	4:11:32 PM	4:11:55 PM	23
1	19	4:11:35 PM	4:12:18 PM	43
1	20	4:11:37 PM	4:12:19 PM	42
1	21	4:12:25 PM	4:13:12 PM	47
1	22	4:17:32 PM	4:17:43 PM	11
1	23	4:17:37 PM	4:17:50 PM	13
1	24	4:17:38 PM	4:17:59 PM	21
1	25	4:18:58 PM	4:19:25 PM	27
1	26	4:19:57 PM	4:20:42 PM	45
1	27	4:20:42 PM	4:20:49 PM	7
1	28	4:22:30 PM	4:22:35 PM	5
1	29	4:22:32 PM	4:22:43 PM	11
1	30	4:22:58 PM	4:23:04 PM	6
1	31	4:23:00 PM	4:23:06 PM	6
1	32	4:23:10 PM	4:23:45 PM	35
1	33	4:23:33 PM	4:24:28 PM	55
1	34	4:24:56 PM	4:25:07 PM	11
1	35	4:25:55 PM	4:26:48 PM	53
1	36	4:26:00 PM	4:27:05 PM	65
1	37	4:27:18 PM	4:27:23 PM	5
1	38	4:27:53 PM	4:28:20 PM	27
1	39	4:29:03 PM	4:29:06 PM	3
1	40	4:30:04 PM	4:30:12 PM	8
1	41	4:31:06 PM	4:31:12 PM	6
1	42	4:31:28 PM	4:32:10 PM	42
1	43	4:31:30 PM	4:32:28 PM	58
1	44	4:31:49 PM	4:32:50 PM	61
1	45	4:31:53 PM	4:33:33 PM	100
1	46	4:32:07 PM	4:33:34 PM	87
1	47	4:33:52 PM	4:34:14 PM	22
1	48	4:33:53 PM	4:34:25 PM	32
1	49	4:34:22 PM	4:35:37 PM	75
1	50	4:34:31 PM	4:35:55 PM	84
1	51	4:37:35 PM	4:37:44 PM	9
1	52	4:37:36 PM	4:37:46 PM	10
1	53	4:38:11 PM	4:38:24 PM	13
1	54	4:38:14 PM	4:38:29 PM	15
1	55	4:38:49 PM	4:38:55 PM	6
1	56	4:39:12 PM	4:39:16 PM	4
1	57	4:39:34 PM	4:40:05 PM	31
1	58	4:40:03 PM	4:40:09 PM	6
1	59	4:40:08 PM	4:40:16 PM	8
1	60	4:40:11 PM	4:40:21 PM	10
1	61	4:40:18 PM	4:40:23 PM	5
1	62	4:40:35 PM	4:40:42 PM	7
1	63	4:40:36 PM	4:40:45 PM	9

SW 200th Street & SW 134th Avenue
Stop Delay Northbound
4pm-6pm

File Name : Stop Delay SW 200th St & SW 134th Av 4pm-6pm NB
Site Code : 00000000
Start Date : 11/29/2016

Ln.	No.	Joined Queue	Released From Queue	Delay
1	64	4:40:36 PM	4:40:49 PM	13
1	65	4:40:37 PM	4:41:50 PM	73
1	66	4:40:38 PM	4:42:55 PM	137
1	67	4:40:46 PM	4:43:00 PM	134
1	68	4:41:17 PM	4:43:02 PM	105
1	69	4:41:27 PM	4:43:04 PM	97
1	70	4:42:19 PM	4:43:08 PM	49
1	71	4:42:28 PM	4:43:11 PM	43
1	72	4:42:30 PM	4:43:27 PM	57
1	73	4:42:43 PM	4:43:28 PM	45
1	74	4:42:58 PM	4:43:33 PM	35
1	75	4:43:26 PM	4:43:35 PM	9
1	76	4:43:38 PM	4:43:45 PM	7
1	77	4:43:43 PM	4:43:46 PM	3
1	78	4:43:50 PM	4:44:01 PM	11
1	79	4:44:14 PM	4:45:07 PM	53
1	80	4:44:48 PM	4:45:19 PM	31
1	81	4:45:10 PM	4:45:43 PM	33
1	82	4:45:21 PM	4:45:48 PM	27
1	83	4:45:29 PM	4:46:20 PM	51
1	84	4:45:30 PM	4:46:21 PM	51
1	85	4:45:34 PM	4:46:52 PM	78
1	86	4:45:44 PM	4:47:27 PM	103
1	87	4:45:47 PM	4:47:37 PM	110
1	88	4:46:30 PM	4:47:40 PM	70
1	89	4:46:31 PM	4:47:56 PM	85
1	90	4:46:33 PM	4:48:12 PM	99
1	91	4:47:01 PM	4:48:25 PM	84
1	92	4:47:02 PM	4:49:01 PM	119
1	93	4:47:29 PM	4:49:15 PM	106
1	94	4:47:39 PM	4:49:18 PM	99
1	95	4:48:31 PM	4:49:39 PM	68
1	96	4:48:36 PM	4:49:49 PM	73
1	97	4:49:30 PM	4:49:53 PM	23
1	98	4:49:32 PM	4:49:59 PM	27
1	99	4:50:22 PM	4:51:01 PM	39
1	100	4:51:23 PM	4:51:29 PM	6
1	101	4:51:24 PM	4:51:52 PM	28
1	102	4:51:46 PM	4:52:15 PM	29
1	103	4:53:18 PM	4:53:23 PM	5
1	104	4:53:30 PM	4:55:00 PM	90
1	105	4:53:39 PM	4:55:06 PM	87
1	106	4:54:48 PM	4:55:17 PM	29
1	107	4:54:49 PM	4:55:27 PM	38
1	108	4:54:50 PM	4:55:34 PM	44
1	109	4:54:51 PM	4:55:38 PM	47
1	110	4:55:06 PM	4:55:46 PM	40
1	111	4:56:52 PM	4:57:26 PM	34
1	112	4:56:52 PM	4:57:33 PM	41
1	113	4:56:53 PM	4:57:41 PM	48
1	114	4:56:53 PM	4:57:45 PM	52
1	115	4:56:55 PM	4:57:53 PM	58
1	116	4:56:56 PM	4:58:25 PM	89
1	117	4:57:14 PM	4:58:41 PM	87
1	118	4:57:51 PM	4:58:42 PM	51
1	119	4:57:52 PM	4:58:44 PM	52
1	120	4:58:13 PM	4:58:47 PM	34
1	121	4:58:23 PM	4:59:09 PM	46
1	122	4:58:35 PM	4:59:19 PM	44
1	123	4:59:03 PM	4:59:20 PM	17
1	124	4:59:28 PM	4:59:30 PM	2
1	125	4:59:36 PM	4:59:44 PM	8
1	126	4:59:54 PM	4:59:56 PM	2

SW 200th Street & SW 134th Avenue
Stop Delay Northbound
4pm-6pm

File Name : Stop Delay SW 200th St & SW 134th Av 4pm-6pm NB
Site Code : 00000000
Start Date : 11/29/2016

Ln.	No.	Joined Queue	Released From Queue	Delay
1	127	5:00:26 PM	5:02:09 PM	103
1	128	5:01:20 PM	5:02:16 PM	56
1	129	5:01:23 PM	5:03:47 PM	144
1	130	5:01:34 PM	5:04:01 PM	147
1	131	5:01:35 PM	5:04:11 PM	156
1	132	5:01:35 PM	5:04:18 PM	163
1	133	5:01:36 PM	5:04:29 PM	173
1	134	5:01:45 PM	5:05:19 PM	214
1	135	5:02:54 PM	5:05:19 PM	145
1	136	5:02:58 PM	5:05:27 PM	149
1	137	5:03:07 PM	5:05:57 PM	170
1	138	5:03:08 PM	5:06:14 PM	186
1	139	5:03:44 PM	5:06:33 PM	169
1	140	5:04:04 PM	5:07:22 PM	198
1	141	5:04:17 PM	5:07:56 PM	219
1	142	5:04:23 PM	5:07:58 PM	215
1	143	5:04:55 PM	5:08:02 PM	187
1	144	5:05:25 PM	5:08:07 PM	162
1	145	5:06:30 PM	5:08:18 PM	108
1	146	5:06:49 PM	5:08:25 PM	96
1	147	5:07:04 PM	5:08:28 PM	84
1	148	5:08:20 PM	5:08:34 PM	14
1	149	5:08:27 PM	5:08:40 PM	13
1	150	5:08:30 PM	5:08:44 PM	14
1	151	5:08:41 PM	5:08:48 PM	7
1	152	5:08:42 PM	5:08:51 PM	9
1	153	5:09:00 PM	5:09:51 PM	51
1	154	5:09:01 PM	5:09:54 PM	53
1	155	5:09:12 PM	5:10:04 PM	52
1	156	5:09:17 PM	5:10:12 PM	55
1	157	5:09:44 PM	5:10:16 PM	32
1	158	5:10:10 PM	5:11:05 PM	55
1	159	5:10:31 PM	5:11:06 PM	35
1	160	5:12:14 PM	5:13:42 PM	88
1	161	5:12:48 PM	5:15:05 PM	137
1	162	5:12:49 PM	5:15:27 PM	158
1	163	5:14:32 PM	5:16:00 PM	88
1	164	5:14:33 PM	5:16:10 PM	97
1	165	5:14:35 PM	5:16:26 PM	111
1	166	5:14:52 PM	5:16:31 PM	99
1	167	5:15:02 PM	5:16:35 PM	93
1	168	5:15:04 PM	5:16:36 PM	92
1	169	5:16:07 PM	5:16:40 PM	33
1	170	5:16:28 PM	5:16:55 PM	27
1	171	5:16:32 PM	5:17:03 PM	31
1	172	5:16:46 PM	5:17:07 PM	21
1	173	5:16:53 PM	5:17:13 PM	20
1	174	5:17:25 PM	5:17:43 PM	18
1	175	5:19:54 PM	5:21:13 PM	79
1	176	5:20:00 PM	5:21:23 PM	83
1	177	5:20:16 PM	5:21:26 PM	70
1	178	5:20:18 PM	5:21:28 PM	70
1	179	5:20:23 PM	5:21:32 PM	69
1	180	5:20:40 PM	5:21:45 PM	65
1	181	5:21:32 PM	5:23:06 PM	94
1	182	5:21:38 PM	5:23:25 PM	107
1	183	5:21:38 PM	5:23:29 PM	111
1	184	5:21:54 PM	5:23:35 PM	101
1	185	5:22:31 PM	5:24:05 PM	94
1	186	5:22:33 PM	5:24:36 PM	123
1	187	5:22:54 PM	5:24:45 PM	111
1	188	5:22:55 PM	5:24:51 PM	116
1	189	5:23:20 PM	5:25:07 PM	107

SW 200th Street & SW 134th Avenue
Stop Delay Northbound
4pm-6pm

File Name : Stop Delay SW 200th St & SW 134th Av 4pm-6pm NB
Site Code : 00000000
Start Date : 11/29/2016

Ln.	No.	Joined Queue	Released From Queue	Delay
1	190	5:24:28 PM	5:25:15 PM	47
1	191	5:24:49 PM	5:25:21 PM	32
1	192	5:24:50 PM	5:25:28 PM	38
1	193	5:25:15 PM	5:25:29 PM	14
1	194	5:25:24 PM	5:25:41 PM	17
1	195	5:25:41 PM	5:25:46 PM	5
1	196	5:25:48 PM	5:25:58 PM	10
1	197	5:26:04 PM	5:26:21 PM	17
1	198	5:26:05 PM	5:26:25 PM	20
1	199	5:26:33 PM	5:28:05 PM	92
1	200	5:26:48 PM	5:28:34 PM	106
1	201	5:27:08 PM	5:29:21 PM	133
1	202	5:27:54 PM	5:29:27 PM	93
1	203	5:27:59 PM	5:29:31 PM	92
1	204	5:28:24 PM	5:29:34 PM	70
1	205	5:28:41 PM	5:29:44 PM	63
1	206	5:28:55 PM	5:29:50 PM	55
1	207	5:29:04 PM	5:30:00 PM	56
1	208	5:29:31 PM	5:30:01 PM	30
1	209	5:31:43 PM	5:31:48 PM	5
1	210	5:32:17 PM	5:32:20 PM	3
1	211	5:33:02 PM	5:33:11 PM	9
1	212	5:33:43 PM	5:33:50 PM	7
1	213	5:33:52 PM	5:33:54 PM	2
1	214	5:35:04 PM	5:35:12 PM	8
1	215	5:35:44 PM	5:36:04 PM	20
1	216	5:35:46 PM	5:36:55 PM	69
1	217	5:36:47 PM	5:37:02 PM	15
1	218	5:37:13 PM	5:38:30 PM	77
1	219	5:37:16 PM	5:38:40 PM	84
1	220	5:37:50 PM	5:39:04 PM	74
1	221	5:37:51 PM	5:39:17 PM	86
1	222	5:37:52 PM	5:41:05 PM	193
1	223	5:38:56 PM	5:41:36 PM	160
1	224	5:39:21 PM	5:41:38 PM	137
1	225	5:40:46 PM	5:42:27 PM	101
1	226	5:40:54 PM	5:42:38 PM	104
1	227	5:41:29 PM	5:43:05 PM	96
1	228	5:41:31 PM	5:43:48 PM	137
1	229	5:44:27 PM	5:44:30 PM	3
1	230	5:45:23 PM	5:45:31 PM	8
1	231	5:47:18 PM	5:48:26 PM	68
1	232	5:48:07 PM	5:48:28 PM	21
1	233	5:48:20 PM	5:49:26 PM	66
1	234	5:49:17 PM	5:50:07 PM	50
1	235	5:49:19 PM	5:50:09 PM	50
1	236	5:49:29 PM	5:50:27 PM	58
1	237	5:49:31 PM	5:50:33 PM	62
1	238	5:49:33 PM	5:50:36 PM	63
1	239	5:49:35 PM	5:50:37 PM	62
1	240	5:49:43 PM	5:50:47 PM	64
1	241	5:49:49 PM	5:51:07 PM	78
1	242	5:50:42 PM	5:51:14 PM	32
1	243	5:51:10 PM	5:52:56 PM	106
1	244	5:51:15 PM	5:53:17 PM	122
1	245	5:51:20 PM	5:53:24 PM	124
1	246	5:51:22 PM	5:54:06 PM	164
1	247	5:51:52 PM	5:54:58 PM	186
1	248	5:51:52 PM	5:55:03 PM	191
1	249	5:51:55 PM	5:55:56 PM	241
1	250	5:51:59 PM	5:56:26 PM	267
1	251	5:52:02 PM	5:56:33 PM	271
1	252	5:52:05 PM	5:56:36 PM	271

SW 200th Street & SW 134th Avenue
Stop Delay Northbound
4pm-6pm

File Name : Stop Delay SW 200th St & SW 134th Av 4pm-6pm NB
Site Code : 00000000
Start Date : 11/29/2016

Ln.	No.	Joined Queue	Released From Queue	Delay
1	253	5:52:50 PM	5:56:38 PM	228
1	254	5:53:58 PM	5:56:56 PM	178
1	255	5:54:23 PM	5:57:28 PM	185
1	256	5:54:26 PM	5:57:42 PM	196
1	257	5:54:32 PM	5:57:44 PM	192
1	258	5:54:34 PM	5:58:24 PM	230
1	259	5:54:37 PM	5:58:51 PM	254
1	260	5:54:38 PM	5:58:58 PM	260
1	261	5:54:41 PM	5:59:01 PM	260
1	262	5:54:49 PM	5:59:01 PM	252
1	263	5:57:05 PM	5:59:12 PM	127
1	264	5:57:07 PM	5:59:20 PM	133
1	265	5:57:12 PM	5:59:39 PM	147
1	266	5:57:39 PM	6:01:42 PM	243
1	267	5:57:40 PM	6:01:47 PM	247
1	268	5:57:43 PM	6:01:52 PM	249
1	269	5:57:59 PM	6:02:03 PM	244
1	270	5:58:13 PM	6:02:10 PM	237
1	271	5:58:44 PM	6:02:16 PM	212
1	272	5:58:45 PM	6:02:32 PM	227
1	273	5:58:47 PM	6:02:40 PM	233
1	274	5:58:54 PM	6:02:44 PM	230
1	275	5:59:02 PM	6:02:49 PM	227
1	276	5:59:06 PM	6:03:15 PM	249
1	277	5:59:10 PM	6:03:27 PM	257
1	278	5:59:15 PM	6:03:33 PM	258
1	279	5:59:23 PM	6:03:37 PM	254
1	280	5:59:33 PM	6:03:49 PM	256

Summary Information:

4:00:00 PM - 6:04:00 PM	Lane 1
Total Vehicle Count:	280
Delayed Vehicle Count:	280
Through Vehicle Count:	0
Average Stopped Time:	80.25
Maximum Stopped Time:	271
Min. Secs. for Delay:	0
Average Queue:	3.02
Queue Density:	4.50
Maximum Queue:	16
Delay in Vehicle Hour:	3.02
Total Delay:	22471

SW 200th Street & SW 134th Avenue
Stop Delay Southbound
4pm-6pm

File Name : Stop Delay SW 200th St & SW 134th Av 4pm-6pm SB
Site Code : 00000000
Start Date : 11/29/2016
Page No : 1

Ln.	No.	Joined Queue	Released From Queue	Delay
1	1	4:01:01 PM	4:01:05 PM	4
1	2	4:05:04 PM	4:05:32 PM	28
1	3	4:13:40 PM	4:13:46 PM	6
1	4	4:15:34 PM	4:15:47 PM	13
1	5	4:17:38 PM	4:17:55 PM	17
1	6	4:20:51 PM	4:21:11 PM	20
1	7	4:21:50 PM	4:21:59 PM	9
1	8	4:23:56 PM	4:24:05 PM	9
1	9	4:30:23 PM	4:30:27 PM	4
1	10	4:30:25 PM	4:31:00 PM	35
1	11	4:30:43 PM	4:31:13 PM	30
1	12	4:31:49 PM	4:32:02 PM	13
1	13	4:32:24 PM	4:32:44 PM	20
1	14	4:33:48 PM	4:35:04 PM	76
1	15	4:34:02 PM	4:35:09 PM	67
1	16	4:35:13 PM	4:35:28 PM	15
1	17	4:35:33 PM	4:35:39 PM	6
1	18	4:38:31 PM	4:38:39 PM	8
1	19	4:38:38 PM	4:39:41 PM	63
1	20	4:41:39 PM	4:42:27 PM	48
1	21	4:47:49 PM	4:47:55 PM	6
1	22	4:52:19 PM	4:52:26 PM	7
1	23	4:52:57 PM	4:53:03 PM	6
1	24	4:54:34 PM	4:54:37 PM	3
1	25	4:55:58 PM	4:56:32 PM	34
1	26	4:56:28 PM	4:57:07 PM	39
1	27	4:58:10 PM	4:58:19 PM	9
1	28	5:01:43 PM	5:03:38 PM	115
1	29	5:02:03 PM	5:03:51 PM	108
1	30	5:03:28 PM	5:04:02 PM	34
1	31	5:21:52 PM	5:22:57 PM	65
1	32	5:22:46 PM	5:23:05 PM	19
1	33	5:23:08 PM	5:24:09 PM	61
1	34	5:23:20 PM	5:24:12 PM	52
1	35	5:23:35 PM	5:24:21 PM	46
1	36	5:25:00 PM	5:25:10 PM	10
1	37	5:26:11 PM	5:26:20 PM	9
1	38	5:26:52 PM	5:27:38 PM	46
1	39	5:28:48 PM	5:28:54 PM	6
1	40	5:28:52 PM	5:29:02 PM	10
1	41	5:30:55 PM	5:31:16 PM	21
1	42	5:32:13 PM	5:33:04 PM	51
1	43	5:32:32 PM	5:33:25 PM	53
1	44	5:33:34 PM	5:34:53 PM	79
1	45	5:33:56 PM	5:35:26 PM	90
1	46	5:35:15 PM	5:35:36 PM	21
1	47	5:36:36 PM	5:36:46 PM	10
1	48	5:36:39 PM	5:37:24 PM	45
1	49	5:36:41 PM	5:38:45 PM	124
1	50	5:37:29 PM	5:40:36 PM	187
1	51	5:38:25 PM	5:40:49 PM	144
1	52	5:40:22 PM	5:41:06 PM	44
1	53	5:41:30 PM	5:42:01 PM	31
1	54	5:43:53 PM	5:43:58 PM	5
1	55	5:44:23 PM	5:46:17 PM	114
1	56	5:44:38 PM	5:46:20 PM	102
1	57	5:44:46 PM	5:48:34 PM	228
1	58	5:45:20 PM	5:49:08 PM	228
1	59	5:45:51 PM	5:49:39 PM	228
1	60	5:46:13 PM	5:49:50 PM	217
1	61	5:46:44 PM	5:50:40 PM	236
1	62	5:48:18 PM	5:51:52 PM	214
1	63	5:48:22 PM	5:52:21 PM	239

SW 200th Street & SW 134th Avenue
Stop Delay Southbound
4pm-6pm

File Name : Stop Delay SW 200th St & SW 134th Av 4pm-6pm SB
Site Code : 00000000
Start Date : 11/29/2016
Page No : 2

Ln.	No.	Joined Queue	Released From Queue	Delay
1	64	5:48:33 PM	5:52:31 PM	238
1	65	5:49:56 PM	5:52:42 PM	166
1	66	5:50:38 PM	5:53:36 PM	178
1	67	5:52:29 PM	5:55:31 PM	182
1	68	5:52:50 PM	5:56:21 PM	211
1	69	5:53:04 PM	5:56:43 PM	219
1	70	5:54:13 PM	5:57:51 PM	218
1	71	5:54:19 PM	5:58:15 PM	236
1	72	5:54:24 PM	5:58:19 PM	235
1	73	5:55:55 PM	5:58:20 PM	145
1	74	5:58:23 PM	5:58:33 PM	10

Summary Information:

4:01:00 PM - 5:59:00 PM	Lane 1
Total Vehicle Count:	74
Delayed Vehicle Count:	74
Through Vehicle Count:	0
Average Stopped Time:	80.07
Maximum Stopped Time:	239
Min. Secs. for Delay:	0
Average Queue:	0.84
Queue Density:	2.64
Maximum Queue:	8
Delay in Vehicle Hour:	0.84
Total Delay:	5925

SW 200th Street & SW 134th Avenue
Stop Delay Northbound
7am-9am

File Name : Stop Delay SW 200th St & SW 134th Av 7am-9am NB
Site Code : 00000000
Start Date : 11/29/2016
Page No : 1

Ln.	No.	Joined Queue	Released From Queue	Delay
1	1	7:00:00 AM	7:00:03 AM	3
1	2	7:00:03 AM	7:00:08 AM	5
1	3	7:00:04 AM	7:00:53 AM	49
1	4	7:00:05 AM	7:01:10 AM	65
1	5	7:00:05 AM	7:01:43 AM	98
1	6	7:00:06 AM	7:01:46 AM	100
1	7	7:00:06 AM	7:01:48 AM	102
1	8	7:00:07 AM	7:01:49 AM	102
1	9	7:00:09 AM	7:01:56 AM	107
1	10	7:00:10 AM	7:02:02 AM	112
1	11	7:00:11 AM	7:02:09 AM	118
1	12	7:00:12 AM	7:02:11 AM	119
1	13	7:00:13 AM	7:02:14 AM	121
1	14	7:00:13 AM	7:02:21 AM	128
1	15	7:00:14 AM	7:02:22 AM	128
1	16	7:00:15 AM	7:02:52 AM	157
1	17	7:00:16 AM	7:02:55 AM	159
1	18	7:01:02 AM	7:02:59 AM	117
1	19	7:01:22 AM	7:03:02 AM	100
1	20	7:01:23 AM	7:03:20 AM	117
1	21	7:01:24 AM	7:03:21 AM	117
1	22	7:01:31 AM	7:03:25 AM	114
1	23	7:01:32 AM	7:03:27 AM	115
1	24	7:01:32 AM	7:03:30 AM	118
1	25	7:02:08 AM	7:03:35 AM	87
1	26	7:02:08 AM	7:03:43 AM	95
1	27	7:02:09 AM	7:03:57 AM	108
1	28	7:02:10 AM	7:04:09 AM	119
1	29	7:02:13 AM	7:04:59 AM	166
1	30	7:02:13 AM	7:05:20 AM	187
1	31	7:02:18 AM	7:05:28 AM	190
1	32	7:02:19 AM	7:05:34 AM	195
1	33	7:02:22 AM	7:05:39 AM	197
1	34	7:02:25 AM	7:06:01 AM	216
1	35	7:02:26 AM	7:06:11 AM	225
1	36	7:04:29 AM	7:06:21 AM	112
1	37	7:04:30 AM	7:06:31 AM	121
1	38	7:04:30 AM	7:06:49 AM	139
1	39	7:05:11 AM	7:07:53 AM	162
1	40	7:06:01 AM	7:08:26 AM	145
1	41	7:06:07 AM	7:08:29 AM	142
1	42	7:06:13 AM	7:08:46 AM	153
1	43	7:06:33 AM	7:08:51 AM	138
1	44	7:06:55 AM	7:09:28 AM	153
1	45	7:06:58 AM	7:09:34 AM	156
1	46	7:07:38 AM	7:09:42 AM	124
1	47	7:07:40 AM	7:09:44 AM	124
1	48	7:07:50 AM	7:09:47 AM	117
1	49	7:07:52 AM	7:09:51 AM	119
1	50	7:07:54 AM	7:09:52 AM	118
1	51	7:08:12 AM	7:09:55 AM	103
1	52	7:08:34 AM	7:10:02 AM	88
1	53	7:08:48 AM	7:10:05 AM	77
1	54	7:08:52 AM	7:10:10 AM	78
1	55	7:08:56 AM	7:10:14 AM	78
1	56	7:08:57 AM	7:10:16 AM	79
1	57	7:09:00 AM	7:10:19 AM	79
1	58	7:09:01 AM	7:11:26 AM	145
1	59	7:10:27 AM	7:11:29 AM	62
1	60	7:10:29 AM	7:11:34 AM	65
1	61	7:10:31 AM	7:11:44 AM	73
1	62	7:11:23 AM	7:11:52 AM	29
1	63	7:12:08 AM	7:12:23 AM	15

SW 200th Street & SW 134th Avenue
Stop Delay Northbound
7am-9am

File Name : Stop Delay SW 200th St & SW 134th Av 7am-9am NB
Site Code : 00000000
Start Date : 11/29/2016

Ln.	No.	Joined Queue	Released From Queue	Delay
1	64	7:12:10 AM	7:12:31 AM	21
1	65	7:12:26 AM	7:14:59 AM	153
1	66	7:13:48 AM	7:15:18 AM	90
1	67	7:13:50 AM	7:15:52 AM	122
1	68	7:13:53 AM	7:16:01 AM	128
1	69	7:13:57 AM	7:16:19 AM	142
1	70	7:14:00 AM	7:16:22 AM	142
1	71	7:14:16 AM	7:16:50 AM	154
1	72	7:14:22 AM	7:18:21 AM	239
1	73	7:15:34 AM	7:18:22 AM	168
1	74	7:15:35 AM	7:18:24 AM	169
1	75	7:15:38 AM	7:18:30 AM	172
1	76	7:15:40 AM	7:18:32 AM	172
1	77	7:15:42 AM	7:18:38 AM	176
1	78	7:16:15 AM	7:18:55 AM	160
1	79	7:16:16 AM	7:19:04 AM	168
1	80	7:16:19 AM	7:19:18 AM	179
1	81	7:16:23 AM	7:20:41 AM	258
1	82	7:16:33 AM	7:20:46 AM	253
1	83	7:16:36 AM	7:20:47 AM	251
1	84	7:16:39 AM	7:20:57 AM	258
1	85	7:16:43 AM	7:21:21 AM	278
1	86	7:17:05 AM	7:22:21 AM	316
1	87	7:17:09 AM	7:24:17 AM	428
1	88	7:17:39 AM	7:24:25 AM	406
1	89	7:17:43 AM	7:25:04 AM	441
1	90	7:18:40 AM	7:25:11 AM	391
1	91	7:19:29 AM	7:26:25 AM	416
1	92	7:20:01 AM	7:26:31 AM	390
1	93	7:21:00 AM	7:26:41 AM	341
1	94	7:21:09 AM	7:26:48 AM	339
1	95	7:21:26 AM	7:27:13 AM	347
1	96	7:23:56 AM	7:27:16 AM	200
1	97	7:24:31 AM	7:28:49 AM	258
1	98	7:24:34 AM	7:28:57 AM	263
1	99	7:24:37 AM	7:29:07 AM	270
1	100	7:24:48 AM	7:29:09 AM	261
1	101	7:25:10 AM	7:29:11 AM	241
1	102	7:25:26 AM	7:29:16 AM	230
1	103	7:25:51 AM	7:29:45 AM	234
1	104	7:26:20 AM	7:29:56 AM	216
1	105	7:26:40 AM	7:30:02 AM	202
1	106	7:26:50 AM	7:30:08 AM	198
1	107	7:27:02 AM	7:30:16 AM	194
1	108	7:27:06 AM	7:30:52 AM	226
1	109	7:27:11 AM	7:31:20 AM	249
1	110	7:27:28 AM	7:31:21 AM	233
1	111	7:27:43 AM	7:31:42 AM	239
1	112	7:28:51 AM	7:31:59 AM	188
1	113	7:29:03 AM	7:32:05 AM	182
1	114	7:29:13 AM	7:32:30 AM	197
1	115	7:29:29 AM	7:32:54 AM	205
1	116	7:29:59 AM	7:33:37 AM	218
1	117	7:30:06 AM	7:34:54 AM	288
1	118	7:30:11 AM	7:35:00 AM	289
1	119	7:30:14 AM	7:35:02 AM	288
1	120	7:30:19 AM	7:35:33 AM	314
1	121	7:30:55 AM	7:36:01 AM	306
1	122	7:31:27 AM	7:36:53 AM	326
1	123	7:32:12 AM	7:38:31 AM	379
1	124	7:33:17 AM	7:39:44 AM	387
1	125	7:33:25 AM	7:39:54 AM	389
1	126	7:33:30 AM	7:40:08 AM	398

SW 200th Street & SW 134th Avenue
Stop Delay Northbound
7am-9am

File Name : Stop Delay SW 200th St & SW 134th Av 7am-9am NB
Site Code : 00000000
Start Date : 11/29/2016

Ln.	No.	Joined Queue	Released From Queue	Delay
1	127	7:33:44 AM	7:40:20 AM	396
1	128	7:34:39 AM	7:40:59 AM	380
1	129	7:34:46 AM	7:41:41 AM	415
1	130	7:35:02 AM	7:41:56 AM	414
1	131	7:35:11 AM	7:42:05 AM	414
1	132	7:35:40 AM	7:42:43 AM	423
1	133	7:35:47 AM	7:43:48 AM	481
1	134	7:35:50 AM	7:43:56 AM	486
1	135	7:36:05 AM	7:44:10 AM	485
1	136	7:36:26 AM	7:44:29 AM	483
1	137	7:37:19 AM	7:44:57 AM	458
1	138	7:38:56 AM	7:45:08 AM	372
1	139	7:39:45 AM	7:45:10 AM	325
1	140	7:39:59 AM	7:45:25 AM	326
1	141	7:40:18 AM	7:45:35 AM	317
1	142	7:40:24 AM	7:45:40 AM	316
1	143	7:40:44 AM	7:46:00 AM	316
1	144	7:41:01 AM	7:46:12 AM	311
1	145	7:41:45 AM	7:46:35 AM	290
1	146	7:41:58 AM	7:46:52 AM	294
1	147	7:42:07 AM	7:48:07 AM	360
1	148	7:42:26 AM	7:48:28 AM	362
1	149	7:42:50 AM	7:49:06 AM	376
1	150	7:43:53 AM	7:49:57 AM	364
1	151	7:44:19 AM	7:50:16 AM	357
1	152	7:44:32 AM	7:50:19 AM	347
1	153	7:45:47 AM	7:50:23 AM	276
1	154	7:46:03 AM	7:50:29 AM	266
1	155	7:46:08 AM	7:50:33 AM	265
1	156	7:46:14 AM	7:50:38 AM	264
1	157	7:46:25 AM	7:50:46 AM	261
1	158	7:47:25 AM	7:50:46 AM	201
1	159	7:47:29 AM	7:51:09 AM	220
1	160	7:47:32 AM	7:51:10 AM	218
1	161	7:47:35 AM	7:51:20 AM	225
1	162	7:49:18 AM	7:53:03 AM	225
1	163	7:49:21 AM	7:54:16 AM	295
1	164	7:49:23 AM	7:54:31 AM	308
1	165	7:49:26 AM	7:54:33 AM	307
1	166	7:49:59 AM	7:55:01 AM	302
1	167	7:50:18 AM	7:55:08 AM	290
1	168	7:50:22 AM	7:55:39 AM	317
1	169	7:50:25 AM	7:55:45 AM	320
1	170	7:50:31 AM	7:55:53 AM	322
1	171	7:50:36 AM	7:56:02 AM	326
1	172	7:50:50 AM	7:56:30 AM	340
1	173	7:50:52 AM	7:56:50 AM	358
1	174	7:51:13 AM	7:57:02 AM	349
1	175	7:51:22 AM	7:57:06 AM	344
1	176	7:52:46 AM	7:57:16 AM	270
1	177	7:52:51 AM	7:57:19 AM	268
1	178	7:53:21 AM	7:58:56 AM	335
1	179	7:53:49 AM	7:59:03 AM	314
1	180	7:53:53 AM	7:59:19 AM	326
1	181	7:53:57 AM	8:00:13 AM	376
1	182	7:54:00 AM	8:00:52 AM	412
1	183	7:54:20 AM	8:02:21 AM	481
1	184	7:54:51 AM	8:02:28 AM	457
1	185	7:54:54 AM	8:02:31 AM	457
1	186	7:54:55 AM	8:02:36 AM	461
1	187	7:55:04 AM	8:02:39 AM	455
1	188	7:55:11 AM	8:02:42 AM	451
1	189	7:55:43 AM	8:03:07 AM	444

SW 200th Street & SW 134th Avenue
Stop Delay Northbound
7am-9am

File Name : Stop Delay SW 200th St & SW 134th Av 7am-9am NB
Site Code : 00000000
Start Date : 11/29/2016

Ln.	No.	Joined Queue	Released From Queue	Delay
1	190	7:55:49 AM	8:03:21 AM	452
1	191	7:55:56 AM	8:04:59 AM	543
1	192	7:56:06 AM	8:05:00 AM	534
1	193	7:56:48 AM	8:05:13 AM	505
1	194	7:57:03 AM	8:05:22 AM	499
1	195	7:58:07 AM	8:06:16 AM	489
1	196	7:58:12 AM	8:06:47 AM	515
1	197	7:58:14 AM	8:06:50 AM	516
1	198	7:59:23 AM	8:07:20 AM	477
1	199	8:00:16 AM	8:07:37 AM	441
1	200	8:00:30 AM	8:08:09 AM	459
1	201	8:00:36 AM	8:08:45 AM	489
1	202	8:00:41 AM	8:08:48 AM	487
1	203	8:01:01 AM	8:08:55 AM	474
1	204	8:02:03 AM	8:09:04 AM	421
1	205	8:02:46 AM	8:09:18 AM	392
1	206	8:03:14 AM	8:10:29 AM	435
1	207	8:03:31 AM	8:10:52 AM	441
1	208	8:03:57 AM	8:12:23 AM	506
1	209	8:05:17 AM	8:13:17 AM	480
1	210	8:05:20 AM	8:13:22 AM	482
1	211	8:05:25 AM	8:13:23 AM	478
1	212	8:05:29 AM	8:14:22 AM	533
1	213	8:05:30 AM	8:14:29 AM	539
1	214	8:05:50 AM	8:14:42 AM	532
1	215	8:06:20 AM	8:14:49 AM	509
1	216	8:06:49 AM	8:15:29 AM	520
1	217	8:06:54 AM	8:16:02 AM	548
1	218	8:07:24 AM	8:16:20 AM	536
1	219	8:08:17 AM	8:16:22 AM	485
1	220	8:08:59 AM	8:16:29 AM	450
1	221	8:09:11 AM	8:16:33 AM	442
1	222	8:09:22 AM	8:16:43 AM	441
1	223	8:10:33 AM	8:16:54 AM	381
1	224	8:10:57 AM	8:17:28 AM	391
1	225	8:12:25 AM	8:17:34 AM	309
1	226	8:13:19 AM	8:18:04 AM	285
1	227	8:13:42 AM	8:18:26 AM	284
1	228	8:14:24 AM	8:18:32 AM	248
1	229	8:15:40 AM	8:18:33 AM	173
1	230	8:15:43 AM	8:19:25 AM	222
1	231	8:15:46 AM	8:19:37 AM	231
1	232	8:15:49 AM	8:19:57 AM	248
1	233	8:16:09 AM	8:20:07 AM	238
1	234	8:16:23 AM	8:20:08 AM	225
1	235	8:16:35 AM	8:20:12 AM	217
1	236	8:16:52 AM	8:20:15 AM	203
1	237	8:17:02 AM	8:20:29 AM	207
1	238	8:17:03 AM	8:20:30 AM	207
1	239	8:17:06 AM	8:20:34 AM	208
1	240	8:17:10 AM	8:20:40 AM	210
1	241	8:17:31 AM	8:20:45 AM	194
1	242	8:17:45 AM	8:23:01 AM	316
1	243	8:17:51 AM	8:23:50 AM	359
1	244	8:17:54 AM	8:24:30 AM	396
1	245	8:17:57 AM	8:24:36 AM	399
1	246	8:18:08 AM	8:24:42 AM	394
1	247	8:19:08 AM	8:24:44 AM	336
1	248	8:20:52 AM	8:24:47 AM	235
1	249	8:21:06 AM	8:26:15 AM	309
1	250	8:21:07 AM	8:26:21 AM	314
1	251	8:21:10 AM	8:26:27 AM	317
1	252	8:21:13 AM	8:26:32 AM	319

SW 200th Street & SW 134th Avenue
Stop Delay Northbound
7am-9am

File Name : Stop Delay SW 200th St & SW 134th Av 7am-9am NB
Site Code : 00000000
Start Date : 11/29/2016

Ln.	No.	Joined Queue	Released From Queue	Delay
1	253	8:21:22 AM	8:26:38 AM	316
1	254	8:21:22 AM	8:26:39 AM	317
1	255	8:21:23 AM	8:26:41 AM	318
1	256	8:21:24 AM	8:26:46 AM	322
1	257	8:23:06 AM	8:28:07 AM	301
1	258	8:23:19 AM	8:28:30 AM	311
1	259	8:24:32 AM	8:29:39 AM	307
1	260	8:24:39 AM	8:29:49 AM	310
1	261	8:24:52 AM	8:30:09 AM	317
1	262	8:26:25 AM	8:30:16 AM	231
1	263	8:26:28 AM	8:30:17 AM	229
1	264	8:26:36 AM	8:30:26 AM	230
1	265	8:26:44 AM	8:30:30 AM	226
1	266	8:26:54 AM	8:30:49 AM	235
1	267	8:29:20 AM	8:30:53 AM	93
1	268	8:29:22 AM	8:31:01 AM	99
1	269	8:29:23 AM	8:31:05 AM	102
1	270	8:29:25 AM	8:32:34 AM	189
1	271	8:29:26 AM	8:33:40 AM	254
1	272	8:29:28 AM	8:33:43 AM	255
1	273	8:29:29 AM	8:33:55 AM	266
1	274	8:29:30 AM	8:33:58 AM	268
1	275	8:29:42 AM	8:34:01 AM	259
1	276	8:30:01 AM	8:34:11 AM	250
1	277	8:30:10 AM	8:34:12 AM	242
1	278	8:30:27 AM	8:34:26 AM	239
1	279	8:30:32 AM	8:34:31 AM	239
1	280	8:32:35 AM	8:34:35 AM	120
1	281	8:32:40 AM	8:34:39 AM	119
1	282	8:32:41 AM	8:34:48 AM	127
1	283	8:32:44 AM	8:34:52 AM	128
1	284	8:32:47 AM	8:34:54 AM	127
1	285	8:32:48 AM	8:35:17 AM	149
1	286	8:33:16 AM	8:35:30 AM	134
1	287	8:33:18 AM	8:35:35 AM	137
1	288	8:33:20 AM	8:36:05 AM	165
1	289	8:33:23 AM	8:36:08 AM	165
1	290	8:33:25 AM	8:36:21 AM	176
1	291	8:34:24 AM	8:36:42 AM	138
1	292	8:34:28 AM	8:36:50 AM	142
1	293	8:35:36 AM	8:37:02 AM	86
1	294	8:36:11 AM	8:37:16 AM	65
1	295	8:36:14 AM	8:37:45 AM	91
1	296	8:36:18 AM	8:38:35 AM	137
1	297	8:36:22 AM	8:38:39 AM	137
1	298	8:36:24 AM	8:38:55 AM	151
1	299	8:36:27 AM	8:39:05 AM	158
1	300	8:36:29 AM	8:39:21 AM	172
1	301	8:36:32 AM	8:39:29 AM	177
1	302	8:36:36 AM	8:39:38 AM	182
1	303	8:36:38 AM	8:39:43 AM	185
1	304	8:36:40 AM	8:39:50 AM	190
1	305	8:36:44 AM	8:39:58 AM	194
1	306	8:36:46 AM	8:40:02 AM	196
1	307	8:36:48 AM	8:40:10 AM	202
1	308	8:37:04 AM	8:40:24 AM	200
1	309	8:37:11 AM	8:40:33 AM	202
1	310	8:37:14 AM	8:40:58 AM	224
1	311	8:37:56 AM	8:41:02 AM	186
1	312	8:38:13 AM	8:41:35 AM	202
1	313	8:38:44 AM	8:41:48 AM	184
1	314	8:39:03 AM	8:41:52 AM	169
1	315	8:39:24 AM	8:41:55 AM	151

SW 200th Street & SW 134th Avenue
Stop Delay Northbound
7am-9am

File Name : Stop Delay SW 200th St & SW 134th Av 7am-9am NB
Site Code : 00000000
Start Date : 11/29/2016

Ln.	No.	Joined Queue	Released From Queue	Delay
1	316	8:39:27 AM	8:42:00 AM	153
1	317	8:40:27 AM	8:42:04 AM	97
1	318	8:40:29 AM	8:42:07 AM	98
1	319	8:40:30 AM	8:42:12 AM	102
1	320	8:40:38 AM	8:42:20 AM	102
1	321	8:40:40 AM	8:42:43 AM	123
1	322	8:40:42 AM	8:42:54 AM	132
1	323	8:40:45 AM	8:42:58 AM	133
1	324	8:40:47 AM	8:43:21 AM	154
1	325	8:43:37 AM	8:43:45 AM	8
1	326	8:43:42 AM	8:43:47 AM	5
1	327	8:43:50 AM	8:44:17 AM	27
1	328	8:44:54 AM	8:45:05 AM	11
1	329	8:45:01 AM	8:45:09 AM	8
1	330	8:45:15 AM	8:45:23 AM	8
1	331	8:45:58 AM	8:46:02 AM	4
1	332	8:46:11 AM	8:46:56 AM	45
1	333	8:46:14 AM	8:47:10 AM	56
1	334	8:46:15 AM	8:47:13 AM	58
1	335	8:46:16 AM	8:47:16 AM	60
1	336	8:46:17 AM	8:47:18 AM	61
1	337	8:46:18 AM	8:47:25 AM	67
1	338	8:46:35 AM	8:47:37 AM	62
1	339	8:47:16 AM	8:47:44 AM	28
1	340	8:47:19 AM	8:48:02 AM	43
1	341	8:47:22 AM	8:48:58 AM	96
1	342	8:47:35 AM	8:49:00 AM	85
1	343	8:48:22 AM	8:49:24 AM	62
1	344	8:48:38 AM	8:49:29 AM	51
1	345	8:48:39 AM	8:49:39 AM	60
1	346	8:48:40 AM	8:49:46 AM	66
1	347	8:48:50 AM	8:50:29 AM	99
1	348	8:48:56 AM	8:50:39 AM	103
1	349	8:48:57 AM	8:50:46 AM	109
1	350	8:49:31 AM	8:50:52 AM	81
1	351	8:49:43 AM	8:51:22 AM	99
1	352	8:49:45 AM	8:51:24 AM	99
1	353	8:50:11 AM	8:51:32 AM	81
1	354	8:50:33 AM	8:52:00 AM	87
1	355	8:50:50 AM	8:52:04 AM	74
1	356	8:51:14 AM	8:52:08 AM	54
1	357	8:51:42 AM	8:52:12 AM	30
1	358	8:51:45 AM	8:53:29 AM	104
1	359	8:51:48 AM	8:53:36 AM	108
1	360	8:52:03 AM	8:53:52 AM	109
1	361	8:52:23 AM	8:54:37 AM	134
1	362	8:52:26 AM	8:54:43 AM	137
1	363	8:52:28 AM	8:54:56 AM	148
1	364	8:52:52 AM	8:54:57 AM	125
1	365	8:53:33 AM	8:55:04 AM	91
1	366	8:54:21 AM	8:55:12 AM	51
1	367	8:54:23 AM	8:55:23 AM	60
1	368	8:54:25 AM	8:55:27 AM	62
1	369	8:54:27 AM	8:55:43 AM	76
1	370	8:54:30 AM	8:56:04 AM	94
1	371	8:54:54 AM	8:56:13 AM	79
1	372	8:54:56 AM	8:56:31 AM	95
1	373	8:56:49 AM	8:57:12 AM	23
1	374	8:56:50 AM	8:57:20 AM	30
1	375	8:56:54 AM	8:58:29 AM	95
1	376	8:57:27 AM	8:58:31 AM	64
1	377	8:57:30 AM	8:58:37 AM	67
1	378	8:57:34 AM	8:58:41 AM	67

SW 200th Street & SW 134th Avenue
Stop Delay Northbound
7am-9am

File Name : Stop Delay SW 200th St & SW 134th Av 7am-9am NB
Site Code : 00000000
Start Date : 11/29/2016

Ln.	No.	Joined Queue	Released From Queue	Delay
1	379	8:58:13 AM	8:58:45 AM	32
1	380	8:58:15 AM	8:59:22 AM	67
1	381	8:58:25 AM	8:59:28 AM	63
1	382	8:58:53 AM	8:59:40 AM	47
1	383	8:59:05 AM	8:59:50 AM	45
1	384	8:59:45 AM	8:59:58 AM	13
1	385	8:59:49 AM	9:00:14 AM	25
1	386	9:00:04 AM	9:01:18 AM	74
1	387	9:00:52 AM	9:01:33 AM	41
1	388	9:00:54 AM	9:01:40 AM	46
1	389	9:00:56 AM	9:02:10 AM	74
1	390	9:00:57 AM	9:02:25 AM	88
1	391	9:00:59 AM	9:02:29 AM	90
1	392	9:01:00 AM	9:02:31 AM	91

Summary Information:

7:00:00 AM - 9:03:00 AM	Lane 1
Total Vehicle Count:	392
Delayed Vehicle Count:	392
Through Vehicle Count:	0
Average Stopped Time:	222.89
Maximum Stopped Time:	548
Min. Secs. for Delay:	0
Average Queue:	11.89
Queue Density:	12.12
Maximum Queue:	22
Delay in Vehicle Hour:	11.89
Total Delay:	87374

SW 200th Street & SW 134th Avenue
Stop Delay Southbound
7am-9am

File Name : Stop Delay SW 200th St & SW 134th Av 7am-9am SB
Site Code : 00000000
Start Date : 11/29/2016
Page No : 1

Ln.	No.	Joined Queue	Released From Queue	Delay
1	1	7:12:01 AM	7:12:47 AM	46
1	2	7:14:47 AM	7:15:00 AM	13
1	3	7:25:05 AM	7:25:13 AM	8
1	4	7:32:06 AM	7:32:49 AM	43
1	5	7:39:47 AM	7:39:59 AM	12
1	6	7:45:12 AM	7:45:16 AM	4
1	7	7:46:01 AM	7:48:12 AM	131
1	8	7:46:11 AM	7:48:15 AM	124
1	9	7:48:34 AM	7:49:24 AM	50
1	10	7:48:46 AM	7:50:16 AM	90
1	11	7:48:53 AM	7:50:33 AM	100
1	12	7:48:55 AM	7:50:41 AM	106
1	13	7:50:24 AM	7:50:46 AM	22
1	14	7:51:19 AM	7:52:36 AM	77
1	15	7:53:35 AM	7:54:30 AM	55
1	16	7:54:20 AM	7:54:57 AM	37
1	17	7:55:05 AM	7:55:48 AM	43
1	18	7:55:10 AM	7:56:29 AM	79
1	19	7:55:32 AM	7:56:32 AM	60
1	20	7:57:25 AM	7:57:58 AM	33
1	21	7:57:30 AM	7:58:09 AM	39
1	22	7:57:49 AM	7:58:18 AM	29
1	23	8:00:10 AM	8:00:54 AM	44
1	24	8:00:31 AM	8:01:17 AM	46
1	25	8:01:25 AM	8:02:34 AM	69
1	26	8:01:43 AM	8:02:39 AM	56
1	27	8:02:00 AM	8:02:42 AM	42
1	28	8:02:12 AM	8:03:10 AM	58
1	29	8:02:23 AM	8:03:22 AM	59
1	30	8:03:50 AM	8:05:01 AM	71
1	31	8:03:51 AM	8:05:05 AM	74
1	32	8:03:52 AM	8:05:41 AM	109
1	33	8:05:26 AM	8:06:20 AM	54
1	34	8:06:11 AM	8:06:23 AM	12
1	35	8:07:28 AM	8:08:16 AM	48
1	36	8:08:02 AM	8:08:48 AM	46
1	37	8:08:20 AM	8:08:54 AM	34
1	38	8:09:09 AM	8:10:01 AM	52
1	39	8:09:28 AM	8:11:02 AM	94
1	40	8:09:33 AM	8:11:46 AM	133
1	41	8:09:56 AM	8:12:00 AM	124
1	42	8:10:29 AM	8:13:19 AM	170
1	43	8:10:34 AM	8:13:25 AM	171
1	44	8:20:00 AM	8:20:11 AM	11
1	45	8:21:17 AM	8:22:03 AM	46
1	46	8:21:19 AM	8:22:46 AM	87
1	47	8:22:41 AM	8:22:49 AM	8
1	48	8:22:56 AM	8:23:05 AM	9
1	49	8:23:57 AM	8:24:35 AM	38
1	50	8:33:45 AM	8:33:59 AM	14
1	51	8:39:26 AM	8:40:04 AM	38
1	52	8:46:51 AM	8:47:00 AM	9

SW 200th Street & SW 134th Avenue
Stop Delay Southbound
7am-9am

File Name : Stop Delay SW 200th St & SW 134th Av 7am-9am SB
Site Code : 00000000
Start Date : 11/29/2016

Summary Information:

7:12:00 AM - 8:48:00 AM	Lane 1
Total Vehicle Count:	52
Delayed Vehicle Count:	52
Through Vehicle Count:	0
Average Stopped Time:	58.21
Maximum Stopped Time:	171
Min. Secs. for Delay:	0
Average Queue:	0.53
Queue Density:	1.92
Maximum Queue:	5
Delay in Vehicle Hour:	0.53
Total Delay:	3027

2015 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 8701 MIAMI-DADE SOUTH

MOCF: 0.98

WEEK	DATES	SF	PSCF
1	01/01/2015 - 01/03/2015	1.02	1.04
2	01/04/2015 - 01/10/2015	1.02	1.04
3	01/11/2015 - 01/17/2015	1.02	1.04
4	01/18/2015 - 01/24/2015	1.01	1.03
5	01/25/2015 - 01/31/2015	1.00	1.02
6	02/01/2015 - 02/07/2015	0.99	1.01
* 7	02/08/2015 - 02/14/2015	0.98	1.00
* 8	02/15/2015 - 02/21/2015	0.97	0.99
* 9	02/22/2015 - 02/28/2015	0.97	0.99
*10	03/01/2015 - 03/07/2015	0.97	0.99
*11	03/08/2015 - 03/14/2015	0.97	0.99
*12	03/15/2015 - 03/21/2015	0.98	1.00
*13	03/22/2015 - 03/28/2015	0.98	1.00
*14	03/29/2015 - 04/04/2015	0.99	1.01
*15	04/05/2015 - 04/11/2015	0.99	1.01
*16	04/12/2015 - 04/18/2015	0.99	1.01
*17	04/19/2015 - 04/25/2015	0.99	1.01
*18	04/26/2015 - 05/02/2015	0.99	1.01
*19	05/03/2015 - 05/09/2015	0.99	1.01
20	05/10/2015 - 05/16/2015	1.00	1.02
21	05/17/2015 - 05/23/2015	0.99	1.01
22	05/24/2015 - 05/30/2015	0.99	1.01
23	05/31/2015 - 06/06/2015	0.99	1.01
24	06/07/2015 - 06/13/2015	0.99	1.01
25	06/14/2015 - 06/20/2015	1.00	1.02
26	06/21/2015 - 06/27/2015	1.01	1.03
27	06/28/2015 - 07/04/2015	1.01	1.03
28	07/05/2015 - 07/11/2015	1.02	1.04
29	07/12/2015 - 07/18/2015	1.02	1.04
30	07/19/2015 - 07/25/2015	1.01	1.03
31	07/26/2015 - 08/01/2015	1.01	1.03
32	08/02/2015 - 08/08/2015	1.00	1.02
33	08/09/2015 - 08/15/2015	1.00	1.02
34	08/16/2015 - 08/22/2015	1.00	1.02
35	08/23/2015 - 08/29/2015	1.00	1.02
36	08/30/2015 - 09/05/2015	1.01	1.03
37	09/06/2015 - 09/12/2015	1.01	1.03
38	09/13/2015 - 09/19/2015	1.01	1.03
39	09/20/2015 - 09/26/2015	1.01	1.03
40	09/27/2015 - 10/03/2015	1.01	1.03
41	10/04/2015 - 10/10/2015	1.01	1.03
42	10/11/2015 - 10/17/2015	1.02	1.04
43	10/18/2015 - 10/24/2015	1.02	1.04
44	10/25/2015 - 10/31/2015	1.03	1.05
45	11/01/2015 - 11/07/2015	1.03	1.05
46	11/08/2015 - 11/14/2015	1.04	1.06
47	11/15/2015 - 11/21/2015	1.03	1.05
48	11/22/2015 - 11/28/2015	1.03	1.05
49	11/29/2015 - 12/05/2015	1.02	1.04
50	12/06/2015 - 12/12/2015	1.02	1.04
51	12/13/2015 - 12/19/2015	1.02	1.04
52	12/20/2015 - 12/26/2015	1.02	1.04
53	12/27/2015 - 12/31/2015	1.02	1.04

* PEAK SEASON

APPENDIX C

FIELD REVIEWS

FIELD OBSERVATION REPORT

Location: SW 200 St @ & SW 134 Ave Date: 12-8-16

Observer: Ian Rairden, P.E. Time: AM Peak

PART I - PHYSICAL CHECKLIST

		NO	YES	COMMENTS
1.	Are there sight distance obstructions to:			
	a. Traffic control devices?	X		
	b. Intersections and driveways?	X		
	c. Turning or on-coming vehicles?		X	Fence with tarp in SW corner blocks view of NB→EB. Tree in NE corner blocks view of SB→WB.
2.	Does parking affect:			
	a. Sight distance?	X		
	b. Through or turning vehicle paths?	X		
3.	Is horizontal alignment inadequate?	X		
4.	Is vertical alignment inadequate?	X		
5.	Is pavement width or the number of lanes inadequate?		X	In NE corner there is a path worn by ~~vet~~ WB through vehicles going around ~~stopped~~ WBL vehicle.
6.	Are intersection or driveway radii too short?	X		
7.	Are there problems with driveways such as:			
	a. Inadequate design?	X		
	b. Location near major intersection?	X		
	c. Too many driveways?	X		
8.	Is channelization inadequate for:			
	a. Reducing conflict points?	X		EBR and WBL were confused as to who had right-of-way
	b. Separating traffic flows or defining movements?	X		
9.	Should pedestrian crosswalks be:			
	a. Added?	X		
	b. Relocated or repainted?	X		

FIELD OBSERVATION REPORT

		NO	YES	COMMENTS
10.	Are there problems with traffic signs such as:			
	a. Inadequate or improper message?	X		
	b. Too many signs?	X		
	c. Placement or size?	X		
11.	Are there problems with traffic signals such as:			
	a. Timing?	N/A		
	b. Number of signal heads?	N/A		
	c. Placement or size?	N/A		
12.	Are there problems with pavement markings such as:			
	a. Vehicle paths not clearly marked?	X		
	b. Location of the markings?	X		
13.	Do posted speed limits appear to be too high or too low for conditions?	X		
14.	Does the pavement condition (potholes, irregular surface, etc. appear to contribute to safety problems?	X		
15.	Is roadway lighting inadequate?	N/A		Daytime site visit
16.	Are there tire skid marks on pavement?	X		
17.	Is there evidence of vehicle accident debris such as scar marks on trees, utility poles, embankments or other objects?		X	Accident debris in SE, NE, and NW corners. A wall in the SE corner has been hit twice.
18.	Is there an abundance of vehicle accident debris such as small pieces of crushed glass, plastic, etc. along the shoulder or in the median area?		X	Accident debris in SE, NE, and NW corners.

FIELD OBSERVATION REPORT

PART II - OPERATIONAL CHECKLIST

		NO	YES	COMMENTS
1.	Do obstructions block the driver's view of opposing or conflicting vehicles?		X	Fence with tarp in SW corner and trees in NE corner blocks view of E/W traffic on SW 200 St from side street.
2.	Do drivers have trouble finding the correct path through the location?	X		
3.	Is there any indication of driver confusion about routes, street names or other guidance information?	X		
4.	Do steep grades create large speed differences?	X		
5.	Are pavement surface conditions creating erratic driver movements?	X		
6.	Does the presence of existing driveways contribute to erratic driver movements?	X		
7.	Is excessive vehicle delay creating unsafe risk taking by motorists?		X	Very long delays. Side street traffic starting to cut into SW 200 St without regard for right of way.
8.	Are there large speed differences between vehicles:			
	a. Traveling through the location?	X		
	b. Turning at driveways or intersections?	X		
9.	Do drivers respond incorrectly to:			
	a. Signals?	X		
	b. Signs or other traffic control devices?	X		
10.	Are problems being caused by the volume of:			
	a. Through traffic?		X	Minimal gaps along SW 200 St
	b. Turning traffic?		X	NB queues turning onto SW 200 St.

FIELD OBSERVATION REPORT

		NO	YES	COMMENTS
11.	Do pedestrian movements create conflicts?	X		
12.	Do bicycle movements create conflicts?	X		
13.	Is there considerable weaving or lane changing by drivers at the location?	X		
14.	Are there violations of parking at the location?	X		
15.	Are there violations of other traffic control devices or regulations such as:			
	a. Running red light?	N/A		
	b. Failing to stop or yield the right-of-way?		X	SW 134 Ave traffic cutting into SW 200 St even if gaps aren't sufficient causing EB traffic to slow down
	c. Speed limits?	X		
	d. Right-turn-on-red?	N/A		
	e. Other?		X	NB vehicles rolling through stop bar
16.	Are there traffic flow problems or traffic conflict patterns associated with turning vehicles?		X	
17.	Are there any other unusual traffic flow problems or traffic conflict patterns?	X		
18.	Does inadequate lighting cause drivers to slow down or create erratic maneuvers?	N/A		Daytime site visit
19.	Do transit operations create conflicts / excessive delays.	X		

NOTES:
- SBT truck cut in front of WBL vehicle when gap in EB traffic appeared
- Timed a vehicle at 7:44 am with ~3:55 delay
- Timed 2nd vehicle at 7:48 am with ~7:54 delay
- At 7:54 Am an EB queue formed through the SW 134 Ave intersection, but could not see the source

- Timed a 3rd vehicle at 8:09 Am w.th ~ 8:29 delay
- Multiple drivers stopped to ask me to put in a signal.
- NBL vehicles block view of EB traffic from NBR.

FIELD OBSERVATION REPORT

Location: SW 200 ST @ SW 134 Ave Date: 12/7/16

Observer: Ian Rairden, PE Time: 5-6 pm

PART I - PHYSICAL CHECKLIST

		NO	YES	COMMENTS
1.	Are there sight distance obstructions to:			
	a. Traffic control devices?	X		
	b. Intersections and driveways?	X		
	c. Turning or on-coming vehicles?		X	Fence with tarp in SW corner and trees in NE corner block view of SW 200 ST E/W traffic from side street
2.	Does parking affect:			
	a. Sight distance?	X		
	b. Through or turning vehicle paths?	X		
3.	Is horizontal alignment inadequate?	X		
4.	Is vertical alignment inadequate?	X		
5.	Is pavement width or the number of lanes inadequate?		X	Path worn on NE corner where WB through vehicles are going around WBL vehicles.
6.	Are intersection or driveway radii too short?	X		
7.	Are there problems with driveways such as:			
	a. Inadequate design?	X		
	b. Location near major intersection?	X		
	c. Too many driveways?	X		
8.	Is channelization inadequate for:			
	a. Reducing conflict points?	X		Note: There is confusion for WBL and EBR for who has right of way
	b. Separating traffic flows or defining movements?	X		
9.	Should pedestrian crosswalks be:			
	a. Added?	X		
	b. Relocated or repainted?	X		

FIELD OBSERVATION REPORT

		NO	YES	COMMENTS
10.	Are there problems with traffic signs such as:			
	a. Inadequate or improper message?	X		
	b. Too many signs?	X		
	c. Placement or size?	X		
11.	Are there problems with traffic signals such as:			
	a. Timing?	N/A		
	b. Number of signal heads?	N/A		
	c. Placement or size?	N/A		
12.	Are there problems with pavement markings such as:			
	a. Vehicle paths not clearly marked?	X		
	b. Location of the markings?	X		
13.	Do posted speed limits appear to be too high or too low for conditions?	X		
14.	Does the pavement condition (potholes, irregular surface, etc. appear to contribute to safety problems?	X		
15.	Is roadway lighting inadequate?		X	Only 2 lights in this location and not covering whole intersection
16.	Are there tire skid marks on pavement?	X		
17.	Is there evidence of vehicle accident debris such as scar marks on trees, utility poles, embankments or other objects?		X	Accident debris in SE, NE, and NW corners Wall in SE corner has been hit twice
18.	Is there an abundance of vehicle accident debris such as small pieces of crushed glass, plastic, etc. along the shoulder or in the median area?		X	Accident debris in SE, NE, and NW corners

FIELD OBSERVATION REPORT

PART II - OPERATIONAL CHECKLIST

		NO	YES	COMMENTS
1.	Do obstructions block the driver's view of opposing or conflicting vehicles?		X	Fence with tarp in SW corner and trees in NE corner block view of SW 200 st EW traffic from side street
2.	Do drivers have trouble finding the correct path through the location?	X		
3.	Is there any indication of driver confusion about routes, street names or other guidance information?	X		
4.	Do steep grades create large speed differences?	X		
5.	Are pavement surface conditions creating erratic driver movements?	X		
6.	Does the presence of existing driveways contribute to erratic driver movements?	X		
7.	Is excessive vehicle delay creating unsafe risk taking by motorists?		X	As delay gets longer NB traffic is taking smaller gaps
8.	Are there large speed differences between vehicles:			
	a. Traveling through the location?	X		
	b. Turning at driveways or intersections?	X		
9.	Do drivers respond incorrectly to:			
	a. Signals?	X		
	b. Signs or other traffic control devices?	X		
10.	Are problems being caused by the volume of:			
	a. Through traffic?		X	Not enough gaps on SW 200th street
	b. Turning traffic?		X	Long NB queues

FIELD OBSERVATION REPORT

		NO	YES	COMMENTS
11.	Do pedestrian movements create conflicts?	X		
12.	Do bicycle movements create conflicts?	X		
13.	Is there considerable weaving or lane changing by drivers at the location?	X		
14.	Are there violations of parking at the location?	X		
15.	Are there violations of other traffic control devices or regulations such as:			
	a. Running red light?	N/A		
	b. Failing to stop or yield the right-of-way?		X	side street traffic is cutting into SW 200 st even if gaps not big enough
	c. Speed limits?	X		
	d. Right-turn-on-red?	N/A		
	e. Other?	X		
16.	Are there traffic flow problems or traffic conflict patterns associated with turning vehicles?		X	
17.	Are there any other unusual traffic flow problems or traffic conflict patterns?	X		
18.	Does inadequate lighting cause drivers to slow down or create erratic maneuvers?	X		Lighting appeared insufficient but did not seem to impact vehicles
19.	Do transit operations create conflicts / excessive delays.	X		

NOTES:
- when WBL stops it causes a WB queue. NB can't go because WBL has RLW then when WBL finally goes there is a long WB queue that needs to clear before gaps appear for NB.
- when longer gaps did appear, NB traffic would roll through without coming to a complete stop.

- Timed 1 car at 5:27 pm with ~2:10 delay
- Drivers waiting a long time would honk and get aggressive with gaps
  - Heard a lot of tire squeals and revving engines
- The NBL vehicles would come up to the edge of intersection, past the stop bar, and affect turning radius for WBL
- Posted speed limit of 40 mph
- Some hesitation for WBL and EBR about who had rlw
- Timed a 2nd vehicle at 5:46 pm with ~2:59 delay
- Twice a WBT vehicle stopped to allow NB traffic to enter intersection.

PHOTO LOG

General Observations



1. SR 994 eastbound approach – looking east.



2. Northeast corner worn from westbound through vehicles driving around stopped westbound left-turn vehicles – looking west.



3. Wall damaged in the southeast corner of the intersection – looking east.



4. Vehicle debris in the southeast corner of the intersection – looking west.



5. Vegetation located in the northeast corner of the intersection – looking southeast.

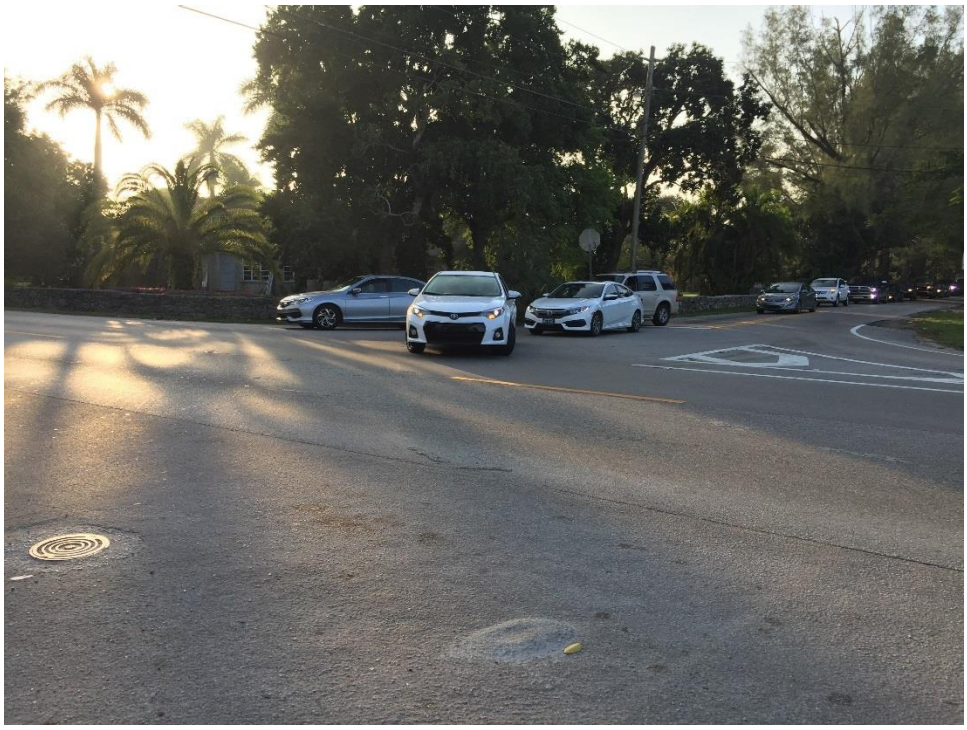


6. Sidewalk provided along the north side of SR 994 – looking west.



7. “NO THRU TRUCKS” sign and support is damaged located on the south leg of the intersection.

AM Observations



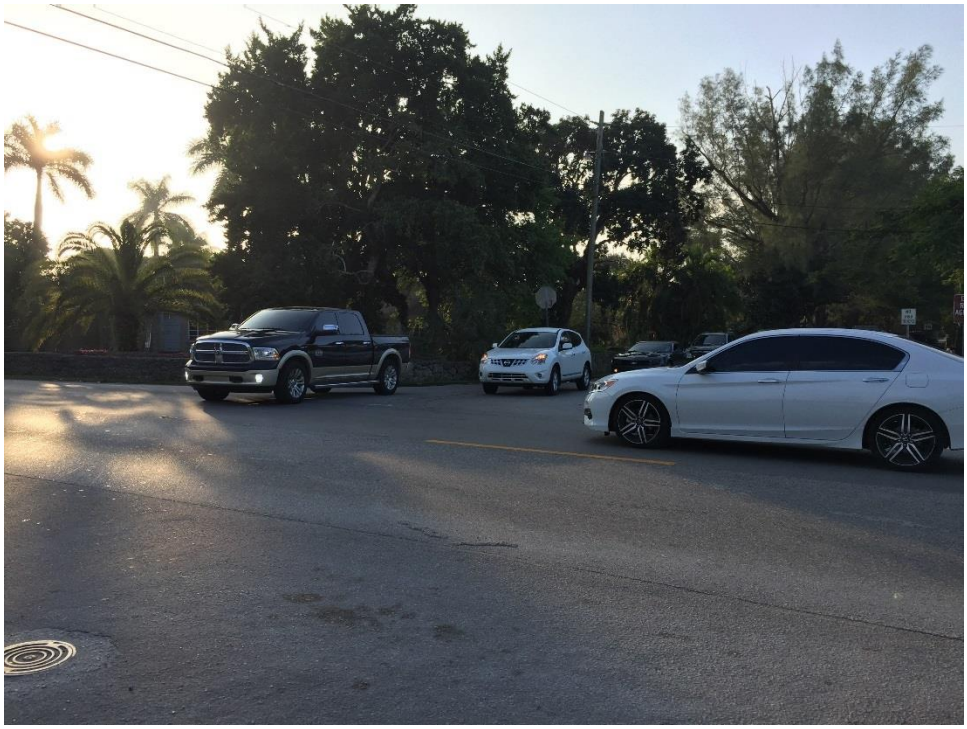
1. A northbound left-turning vehicle and northbound right-turning vehicle completing movements simultaneously – looking southeast.



2. SR 994 eastbound queue at SW 134 Avenue – looking southeast.



3. SR 994 eastbound queue west of SW 134 Avenue – looking west.



4. A truck queued behind the white sports utility vehicles drives around the white northbound sports utility vehicle and attempts to cross SR 994 – looking southeast.



5. A westbound left-turning vehicle and a northbound left-turning vehicle attempt to complete movements simultaneously – looking northwest.



6. SR 994 northbound queue – looking south.



7. SR 994 northbound queue – looking south.

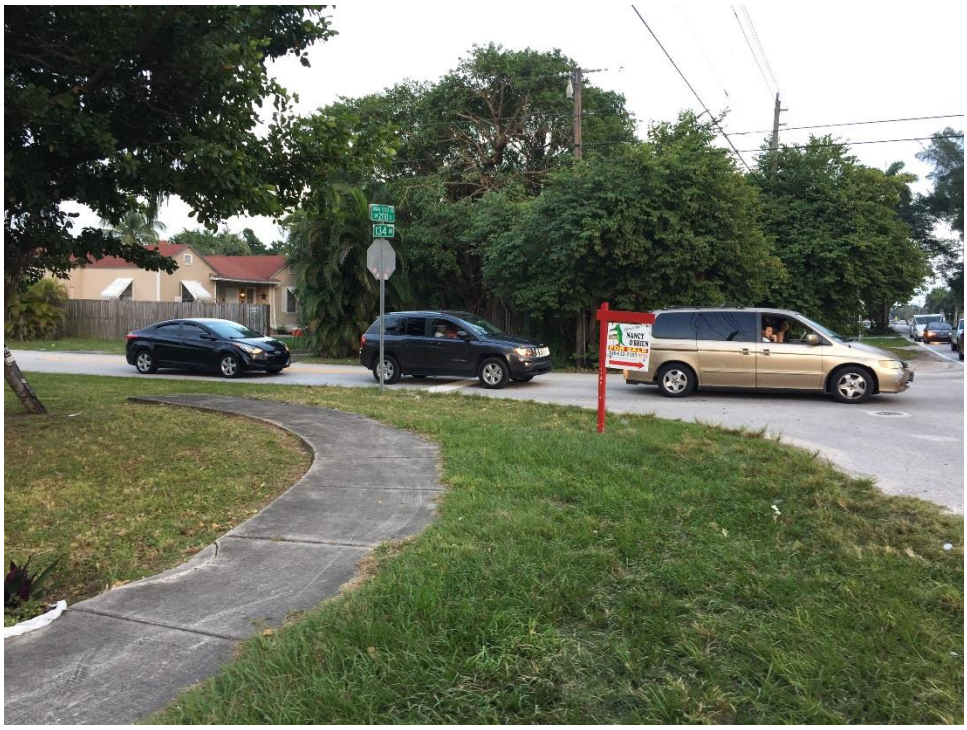


8. SR 994 northbound queue – looking north.



9. A white sedan performs a northbound left-turn from SW 134 Avenue to SR 994 while driving in the SR 994 eastbound lanes to enter westbound traffic – looking east.

PM Observations



1. Southbound queue – looking east.



2. Northbound queue – looking south.



3. Westbound queue – looking east.



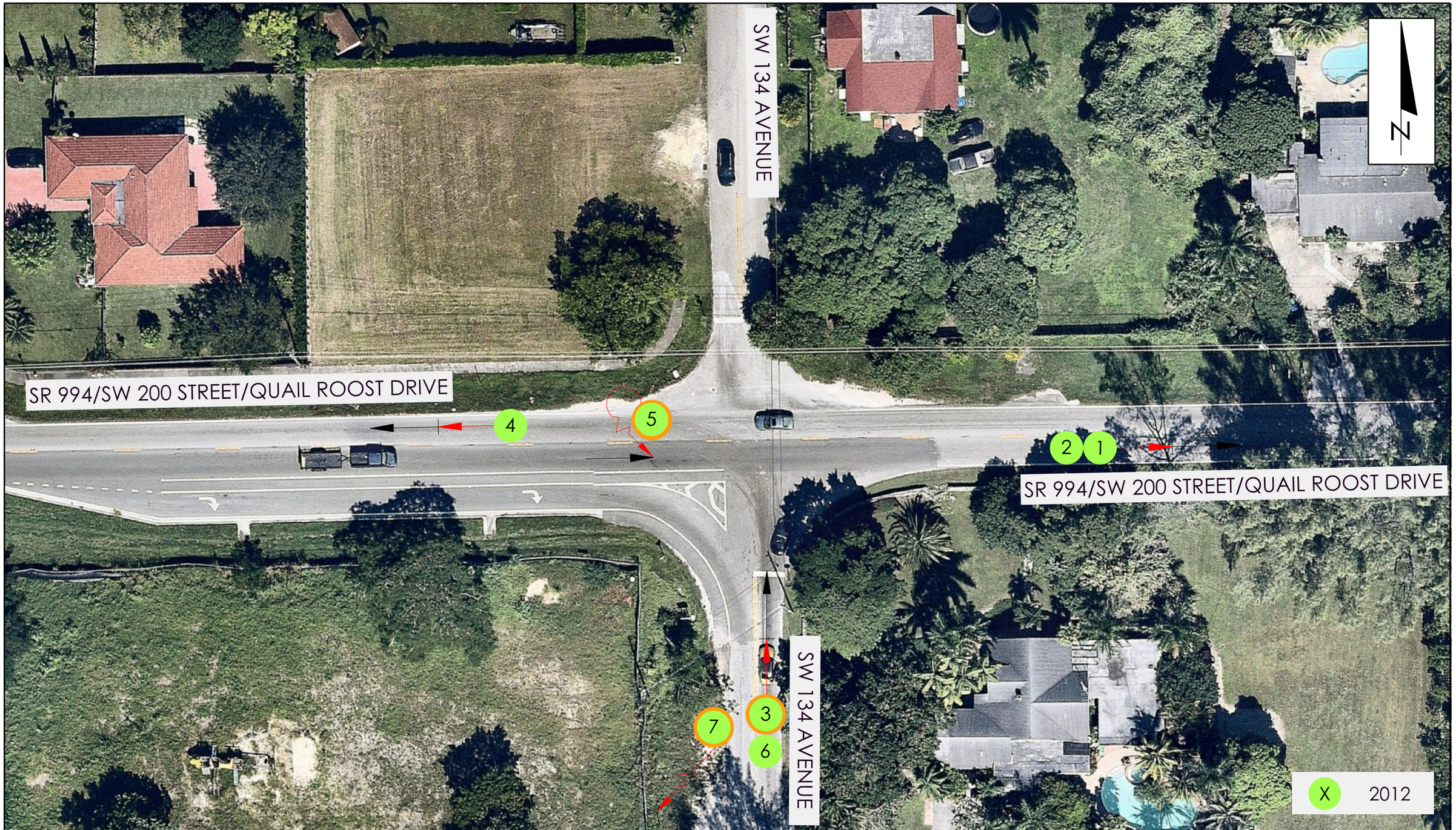
4. A white sedan southbound stops in the SR 994 westbound lane while an eastbound vehicle is crossing SW 134 Avenue – looking southeast.



5. A westbound through vehicle goes around a stopped westbound left-turning vehicle – looking east.

APPENDIX D

COLLISION DIAGRAMS



LEGEND:

- BACKING VEHICLE
- SIDESWIPE
- PEDESTRIAN PATH
- OUT OF CONTROL
- OVERTURNED VEHICLE
- PEDESTRIAN/ BIKE COLLISION
- ANGLE COLLISION
- REAR-END COLLISION
- HEAD-ON COLLISION
- LEFT TURN COLLISION
- RIGHT TURN COLLISION
- PARKED VEHICLE
- FIXED OBJECT
- PERSONAL INJURY
- FATALITY
- COMMERCIAL TRUCK
- VEHICLE INVOLVED
- VEHICLE AT FAULT
- WET CONDITIONS
- DARK LIGHTING CONDITION
- DRIVER UNDER INFLUENCE
- DUI+DARK LIGHTING CONDITION
- X=CRASH TYPE CANNOT BE DETERMINED

PREPARED BY:
KIMLEY-HORN AND ASSOCIATES, INC.

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	CITY OR TOWN
SR 994	MIAMI-DADE	UNINCORPORATED

COLLISION DIAGRAM

SR 994/SW 200 STREET/QUAIL ROOST DRIVE
AT SW 134 AVENUE

YEAR 2012

K:\FTL_TPTO\040006418-C9G07 TWO•51 SR 994 - 200TH ST & 134TH AVE\SAFETY\COLLISION DIAGRAMS\2012 PW051.DGN



LEGEND:

- BACKING VEHICLE
- SIDESWIPE
- PEDESTRIAN PATH
- OUT OF CONTROL
- OVERTURNED VEHICLE
- PEDESTRIAN/ BIKE COLLISION
- ANGLE COLLISION
- REAR-END COLLISION
- HEAD-ON COLLISION
- LEFT TURN COLLISION
- RIGHT TURN COLLISION
- PARKED VEHICLE
- FIXED OBJECT
- PERSONAL INJURY
- FATALITY
- COMMERCIAL TRUCK
- VEHICLE INVOLVED
- VEHICLE AT FAULT
- WET CONDITIONS
- DARK LIGHTING CONDITION
- DRIVER UNDER INFLUENCE
- DUI+DARK LIGHTING CONDITION
- X=CRASH TYPE CANNOT BE DETERMINED

PREPARED BY:
KIMLEY-HORN AND ASSOCIATES, INC.

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

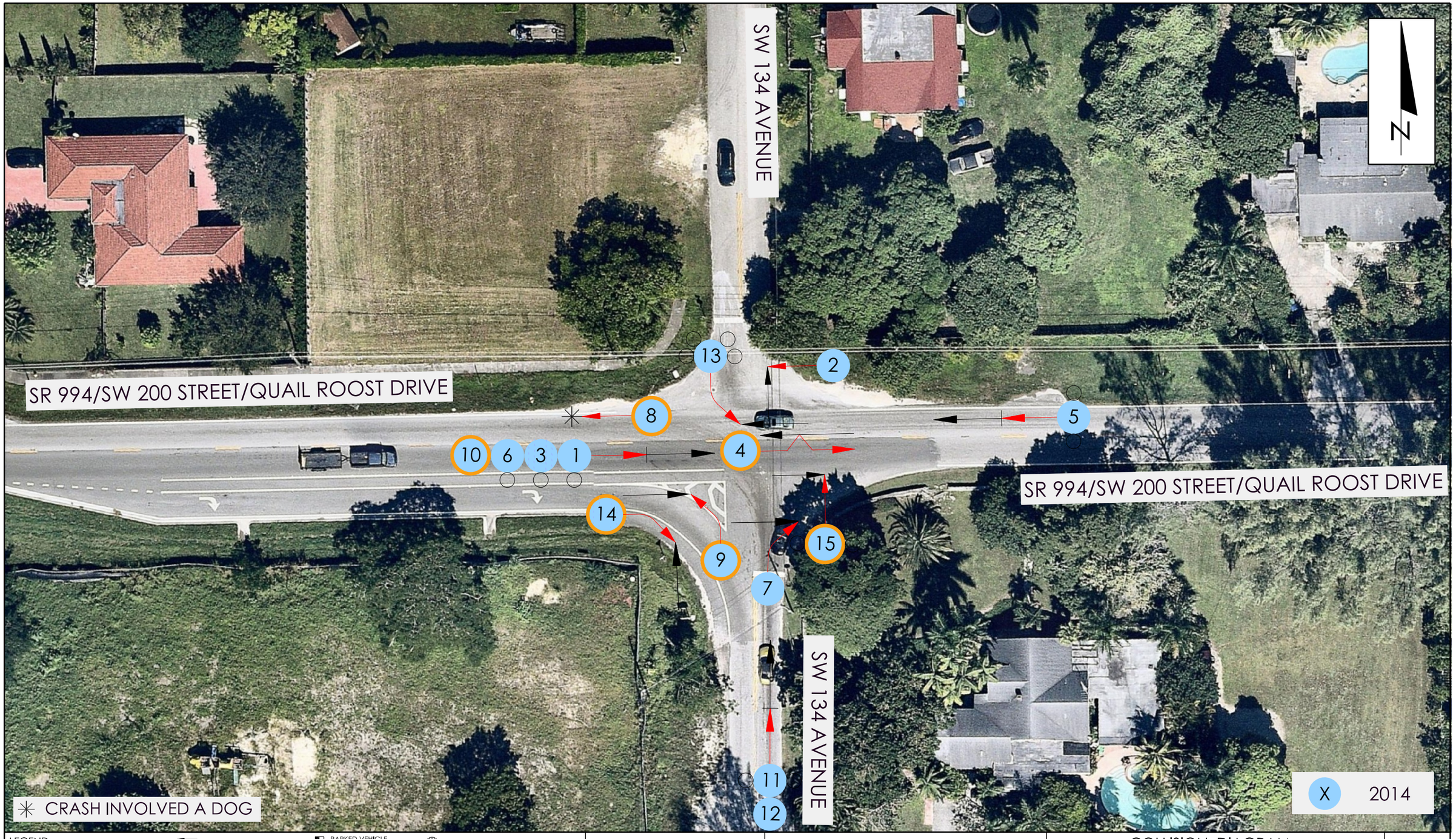
ROAD NO.	COUNTY	CITY OR TOWN
SR 994	MIAMI-DADE	UNINCORPORATED

COLLISION DIAGRAM

SR 994/SW 200 STREET/QUAIL ROOST DRIVE
AT SW 134 AVENUE

YEAR 2013

K:\FTL_TPTO\040006418-C9G07 TWO•51 SR 994 - 200TH ST & 134TH AVE\SAFETY\2013 COLLISION DIAGRAM\2013 PM 051.DGN



LEGEND:

- BACKING VEHICLE
- SIDESWIPE
- PEDESTRIAN PATH
- OUT OF CONTROL
- OVERTURNED VEHICLE
- PEDESTRIAN/ BIKE COLLISION
- ANGLE COLLISION
- REAR-END COLLISION
- HEAD-ON COLLISION
- LEFT TURN COLLISION
- RIGHT TURN COLLISION
- PARKED VEHICLE
- FIXED OBJECT
- PERSONAL INJURY
- FATALITY
- COMMERCIAL TRUCK
- VEHICLE INVOLVED
- VEHICLE AT FAULT
- WET CONDITIONS
- DARK LIGHTING CONDITION
- DRIVER UNDER INFLUENCE
- DUI+DARK LIGHTING CONDITION
- X=CRASH TYPE CANNOT BE DETERMINED

PREPARED BY:
KIMLEY-HORN AND ASSOCIATES, INC.

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	CITY OR TOWN
SR 994	MIAMI-DADE	UNINCORPORATED

COLLISION DIAGRAM

SR 994/SW 200 STREET/QUAIL ROOST DRIVE
AT SW 134 AVENUE

YEAR 2014

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APPENDIX E

CRASH SUMMARY WORKSHEETS

LOCATION INFORMATION
CONFIDENCE LEVEL COMPUTATIONS

Location:	SR 994/SW 200 Street/Quail Roost Drive at SW 134 Avenue		
State Section:	87091000	County:	Miami-Dade
State Road:	994	District:	6
Intersection:	SR 994/SW 200 Street/Quail Roost Drive at SW 134 Avenue		
Engineer:	Ian Rairden, P.E.		
Area Type:	Suburban		
Spot/Segment:	Spot		
Spot Type:	2-3 Lanes 2wy Undivided 4 Legs		
Begin Milepost:	4.278		
End Milepost:	4.378		
Begin Year:	2012		
End Year:	2014		
Number of Years:	3		

CRASH STATISTICS

Year	2012	2013	2014
Number of Crashes	7	8	15
Average Daily Traffic (ADT)	15,300	16,400	17,500
Actual Crash Rate (ACR)	1.253	1.336	2.348
District 6 Average Crash Rate (A)	0.328	0.343	0.369
Average Vehicle Exposure (M)	5.585	5.986	6.388
Critical Crash Rate (CCR)	0.713	0.729	0.762
Safety Ratio	0.460	0.471	0.484
Statistical Significance	4.188	4.499	8.561
Confidence Level	99.9986%	99.9997%	99.9999%

ADT – Average Daily Traffic
ACR – Actual Crash Rate = No. of crashes in a year / Average Vehicle Exposure (M)
M – Average Vehicle Exposure (million vehicles or million vehicles miles) = [(ADT * 365 * L) / 1,000,000]
L = Length of the Segment for Segment Analysis, 1 for Spot Analysis
A – Average Crash Rate
CCR – Critical Crash Rate = A + K * (SQRT[A/M]) - (1/[2 * M])
(Ref: FDOT Highway Safety Improvement Program Guidelines)
K = 3.291 for Urban, 1.960 for Suburban, 1.645 for Rural K = 1.96
Safety Ratio = ACR/CCR
Level of statistical significance = (ACR - A + (1/2M))/SQRT(A/M)
Confidence Level = Percent probability that the crash rate is abnormally high for the location under study, using the district-wide average as a basis. CL Threshold = 99.00%

CRASH STATISTICS

SR 994/SW 200 Street/Quail Roost Drive at SW 134 Avenue		Number of Crashes Year			3 Year Total Crashes	Mean Crashes Per Year	%
		2012	2013	2014			
CRASH TYPE	Rear End	5	3	7	15	5	50.0%
	Head On	0	0	0	0	0	0.0%
	Angle	1	0	3	4	1	13.3%
	Left Turn	0	2	1	3	1	10.0%
	Right Turn	0	2	2	4	1	13.3%
	Sideswipe	0	0	1	1	0	3.3%
	Backed Into	0	0	0	0	0	0.0%
	Pedestrian	0	0	0	0	0	0.0%
	Bicycle	0	0	0	0	0	0.0%
	Fixed Object	*1*	*1*	*0*	*2*	*1*	*6.7%*
	Impact Attenuator/Crash Cushion	0	0	0	0	0	0.0%
	Bridge Overhead Structure	0	0	0	0	0	0.0%
	Bridge Pier or Support	0	0	0	0	0	0.0%
	Bridge Rail	0	0	0	0	0	0.0%
	Culvert	0	0	0	0	0	0.0%
	Curb	0	0	0	0	0	0.0%
	Ditch	0	0	0	0	0	0.0%
	Embankment	0	0	0	0	0	0.0%
	Guardrail Face	0	0	0	0	0	0.0%
	Guardrail End	0	0	0	0	0	0.0%
	Cable Barrier	0	0	0	0	0	0.0%
	Concrete Traffic Barrier	0	0	0	0	0	0.0%
	Other Traffic Barrier	0	0	0	0	0	0.0%
	Tree (Standing)	1	1	0	2	1	6.7%
	Utility Pole/Light Support	0	0	0	0	0	0.0%
	Traffic Sign Support	0	0	0	0	0	0.0%
	Traffic Signal Support	0	0	0	0	0	0.0%
	Other Post, Pole Or Support	0	0	0	0	0	0.0%
	Fence	0	0	0	0	0	0.0%
	Mailbox	0	0	0	0	0	0.0%
	Other Fixed Object	0	0	0	0	0	0.0%
	Other Non Fixed Object Collisions	*0*	*0*	*1*	*1*	*0*	*3.3%*
	Railway Vehicle (Train, Engine)	0	0	0	0	0	0.0%
	Animal	0	0	1	1	0	3.3%
	Motor Vehicle in Transport	0	0	0	0	0	0.0%
	Parked Motor Vehicle	0	0	0	0	0	0.0%
	Work Zone/Maintenance Equip.	0	0	0	0	0	0.0%
	Struck by Falling/Shifting Cargo	0	0	0	0	0	0.0%
	Other Non-Fixed Object	0	0	0	0	0	0.0%
	Non-Collisions	*0*	*0*	*0*	*0*	*0*	*0.0%*
	Overturn/Rollover	0	0	0	0	0	0.0%
	Fire/Explosion	0	0	0	0	0	0.0%
	Immersion	0	0	0	0	0	0.0%
	Jackknife	0	0	0	0	0	0.0%
	Cargo/Equipment Loss or Shift	0	0	0	0	0	0.0%
	Fell/Jumped from Motor Vehicle	0	0	0	0	0	0.0%
	Thrown or Falling Object	0	0	0	0	0	0.0%
	Ran into Water/Canal	0	0	0	0	0	0.0%
	Other Non-Collision	0	0	0	0	0	0.0%
	Others	0	0	0	0	0	0.0%
	Total Crashes	**7**	**8**	**15**	**30**	**10**	**100.0%**
SEVERITY	PDO Crashes	6	6	8	20	7	66.7%
	Fatal Crashes	0	0	0	0	0	0.0%
	Injury Crashes	1	2	7	10	3	33.3%

CRASH STATISTICS

SR 994/SW 200 Street/Quail Roost Drive at SW 134 Avenue		Number of Crashes Year			3 Year Total Crashes	Mean Crashes Per Year	%
		2012	2013	2014			
LIGHTING CONDITIONS	Daylight	4	7	9	20	7	66.7%
	Dusk	0	0	0	0	0	0.0%
	Dawn	1	0	0	1	0	3.3%
	Dark	2	1	6	9	3	30.0%
	Unknown	0	0	0	0	0	0.0%
SURFACE CONDITIONS	Dry	6	6	13	25	8	83.3%
	Wet	1	2	2	5	2	16.7%
	Others	0	0	0	0	0	0.0%
MONTH OF YEAR	January	0	0	1	1	0	3.3%
	February	0	1	1	2	1	6.7%
	March	0	0	2	2	1	6.7%
	April	2	0	1	3	1	10.0%
	May	0	0	0	0	0	0.0%
	June	0	1	2	3	1	10.0%
	July	0	0	1	1	0	3.3%
	August	1	0	2	3	1	10.0%
	September	1	2	2	5	2	16.7%
	October	0	0	0	0	0	0.0%
	November	1	3	2	6	2	20.0%
	December	2	1	1	4	1	13.3%
DAY OF WEEK	Monday	1	2	2	5	2	16.7%
	Tuesday	1	1	3	5	2	16.7%
	Wednesday	2	1	4	7	2	23.3%
	Thursday	0	1	1	2	1	6.7%
	Friday	0	2	2	4	1	13.3%
	Saturday	1	1	0	2	1	6.7%
	Sunday	2	0	3	5	2	16.7%
HOUR OF DAY	00:00-06:00	0	0	4	4	1	13.3%
	06:00-09:00	1	1	3	5	2	16.7%
	09:00-11:00	0	1	2	3	1	10.0%
	11:00-13:00	0	1	0	1	0	3.3%
	13:00-15:00	1	2	1	4	1	13.3%
	15:00-18:00	3	2	2	7	2	23.3%
	18:00-24:00	2	1	3	6	2	20.0%
CONTRIBUTING CAUSES (VEHICLE ONLY)	No Contributing Action	3	0	2	5	2	16.7%
	Careless or Negligent Manner	1	3	4	8	3	26.7%
	Failed to Yield Right-Of-Way	0	2	1	3	1	10.0%
	Improper Backing	0	0	0	0	0	0.0%
	Improper Turn	0	1	0	1	0	3.3%
	Followed too Closely	0	0	1	1	0	3.3%
	Ran Red Light	0	0	0	0	0	0.0%
	Drove too Fast for Conditions	0	1	0	1	0	3.3%
	Ran Stop Sign	0	0	2	2	1	6.7%
	Improper Passing	0	0	1	1	0	3.3%
	Exceed Posted Speed	0	0	0	0	0	0.0%
	Wrong Side or Wrong Way	0	0	0	0	0	0.0%
	Failed To Keep In Proper Lane	0	0	0	0	0	0.0%
	Ran Off Roadway	0	0	0	0	0	0.0%
	Disregarded Other Traffic Sign	0	0	0	0	0	0.0%
	Disregarded other Road Markings	0	0	0	0	0	0.0%
	Over-Correcting/Over-Steering	0	0	0	0	0	0.0%
	Swerved Or Avoided	1	0	0	1	0	3.3%
	Erratic, Reckless or Aggressive	0	0	0	0	0	0.0%
	Other Contributing Action	2	1	4	7	2	23.3%

State of Florida Department of Transportation
CRASH SUMMARY

SECTION: 87091000 STATE ROUTE: 994

INTERSECTING ROADWAY: SR 994/SW 200 Street/Quail Roost Drive at SW 134 Aven M.P. 4.278 TO 4.378 ENGINEER: Ian Rairden, P.E.

STUDY PERIOD: FROM 1/ 2012 TO 12/ 2012 COUNTY: #REF!

No.	MILE POST	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURIES	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE (VEHICLE ONLY)
1	4.347	04/01/12	Sun	1454	Rear-End	0	0	1	Day	Dry	No Contributing Action
2	4.347	04/01/12	Sun	1530	Rear-End	0	0	1	Day	Dry	No Contributing Action
3	4.328	12/12/12	Wed	1935	Rear-End	0	0	1	Night	Dry	Other Contributing Action
4	4.319	09/12/12	Wed	1702	Rear-End	0	0	1	Day	Dry	No Contributing Action
5	4.328	11/27/12	Tue	0625	Angle	0	0	1	Night	Wet	Careless or Negligent Manner
6	4.328	08/13/12	Mon	1838	Rear-End	0	0	1	Day	Dry	Other Contributing Action
7	4.328	12/08/12	Sat	1743	Tree (Standing)	0	1	0	Night	Dry	Swerved Or Avoided

Total No.	Fatal	Injury	PDO	Rear-End	Head-On	Angle	Left-Turn	Right-Turn	Sideswipe	Backed Into	Ped/Bike	Parked Car	Fixed Object	Ran into Water	Other
7	**0**	**1**	**6**	**5**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**
Percent	*0.00%*	*14.29%*	*85.71%*	*71.43%*	*0.00%*	*14.29%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*14.29%*	*0.00%*	*0.00%*

Contrib. Cause	Day	Night	Wet	Dry	Careless Driving	FTYRW	Improper Turn	Ran Red Light	Exceeded Speed	Improper Passing	Disreg Cntl Dev	Erratic/ Aggress	Ran off Road	DUI	Wrong Way
Total	**4**	**3**	**1**	**6**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Percent	*57.14%*	*42.86%*	*14.29%*	*85.71%*	*14.29%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*

TOTAL ENTERING VEHICLES/ADT: **15,300** SPOT CRASH RATE: **1.253** CRASHES PER MILLION ENTERING VEHICLES

State of Florida Department of Transportation
CRASH SUMMARY

SECTION: 87091000 STATE ROUTE: 994

INTERSECTING ROADWAY: SR 994/SW 200 Street/Quail Roost Drive at SW 134 Aven M.P. 4.278 TO 4.378 ENGINEER: Ian Rairden, P.E.

STUDY PERIOD: FROM 1/ 2013 TO 12/ 2013 COUNTY: #REF!

No.	MILE POST	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURIES	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE (VEHICLE ONLY)
1	4.319	02/21/13	Thu	1340	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
2	4.328	11/30/13	Sat	1220	Rear-End	0	2	0	Day	Dry	Careless or Negligent Manner
3	4.328	06/25/13	Tue	1605	Right-Turn	0	0	1	Day	Dry	Other Contributing Action
4	4.328	12/06/13	Fri	1820	Left-Turn	0	3	0	Night	Dry	Failed to Yield Right-Of-Way
5	4.335	09/11/13	Wed	1635	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
6	4.328	09/30/13	Mon	0730	Left-Turn	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
7	4.328	11/22/13	Fri	1455	Tree (Standing)	0	0	1	Day	Wet	Drove too Fast for Conditions
8	4.328	11/25/13	Mon	0918	Right-Turn	0	0	1	Day	Dry	Improper Turn

Total No.	Fatal	Injury	PDO	Rear-End	Head-On	Angle	Left-Turn	Right-Turn	Sideswipe	Backed Into	Ped/Bike	Parked Car	Fixed Object	Ran into Water	Other
8	0	2	6	3	0	0	2	2	0	0	0	0	1	0	0
Percent	*0.00%*	*25.00%*	*75.00%*	*37.50%*	*0.00%*	*0.00%*	*25.00%*	*25.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*12.50%*	*0.00%*	*0.00%*

Contrib. Cause	Day	Night	Wet	Dry	Careless Driving	FTYRW	Improper Turn	Ran Red Light	Exceeded Speed	Improper Passing	Disreg Cntl Dev	Erratic/ Aggress	Ran off Road	DUI	Wrong Way
Total	7	1	2	6	3	2	1	0	1	0	0	0	0	0	0
Percent	*87.50%*	*12.50%*	*25.00%*	*75.00%*	*37.50%*	*25.00%*	*12.50%*	*0.00%*	*12.50%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*

TOTAL ENTERING VEHICLES/ADT: 16,400 SPOT CRASH RATE: 1.336 CRASHES PER MILLION ENTERING VEHICLES

State of Florida Department of Transportation
CRASH SUMMARY

SECTION: 87091000 STATE ROUTE: 994

INTERSECTING ROADWAY: SR 994/SW 200 Street/Quail Roost Drive at SW 134 Aven M.P. 4.278 TO 4.378 ENGINEER: Ian Rairden, P.E.

STUDY PERIOD: FROM 1/ 2014 TO 12/ 2014 COUNTY: #REF!

No.	MILE POST	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURIES	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE (VEHICLE ONLY)
1	4.328	04/22/14	Tue	1655	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
2	4.328	03/10/14	Mon	1000	Angle	0	0	1	Day	Dry	Improper Passing
3	4.322	01/29/14	Wed	0825	Rear-End	0	1	0	Day	Wet	Careless or Negligent Manner
4	4.328	06/01/14	Sun	0310	Sideswipe	0	0	1	Night	Dry	#N/A
5	4.330	02/10/14	Mon	0751	Rear-End	0	2	0	Day	Dry	No Contributing Action
6	4.309	03/07/14	Fri	1448	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
7	4.328	07/16/14	Wed	1020	Right-Turn	0	0	1	Day	Dry	Ran Stop Sign
8	4.309	06/17/14	Tue	0430	Animal	0	0	1	Night	Dry	No Contributing Action
9	4.300	11/07/14	Fri	2218	Angle	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
10	4.322	08/20/14	Wed	0005	Rear-End	0	0	1	Night	Dry	Other Contributing Action
11	4.328	09/09/14	Tue	0805	Rear-End	0	2	0	Day	Dry	Followed too Closely
12	4.328	11/05/14	Wed	1530	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
13	4.328	08/24/14	Sun	1855	Left-Turn	0	4	0	Day	Dry	Ran Stop Sign
14	4.328	09/11/14	Thu	2020	Right-Turn	0	0	1	Night	Wet	#N/A
15	4.328	12/28/14	Sun	0008	Angle	0	2	0	Night	Dry	#N/A

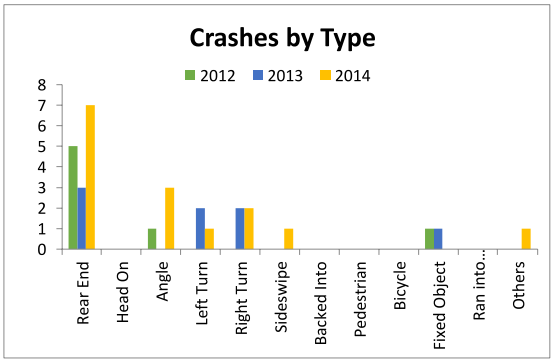
Total No.	Fatal	Injury	PDO	Rear-End	Head-On	Angle	Left-Turn	Right-Turn	Sideswipe	Backed Into	Ped/Bike	Parked Car	Fixed Object	Ran into Water	Other
15	0	7	8	7	0	3	1	2	1	0	0	0	0	0	0
Percent	*0.00%*	*46.67%*	*53.33%*	*46.67%*	*0.00%*	*20.00%*	*6.67%*	*13.33%*	*6.67%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Contrib. Cause	Day	Night	Wet	Dry	Careless Driving	FTYRW	Improper Turn	Ran Red Light	Exceeded Speed	Improper Passing	Disreg Cntl Dev	Erratic/ Aggress	Ran off Road	DUI	Wrong Way
Total	9	6	2	13	4	1	0	0	0	1	0	0	0	0	0
Percent	*60.00%*	*40.00%*	*13.33%*	*86.67%*	*26.67%*	*6.67%*	*0.00%*	*0.00%*	*0.00%*	*6.67%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*

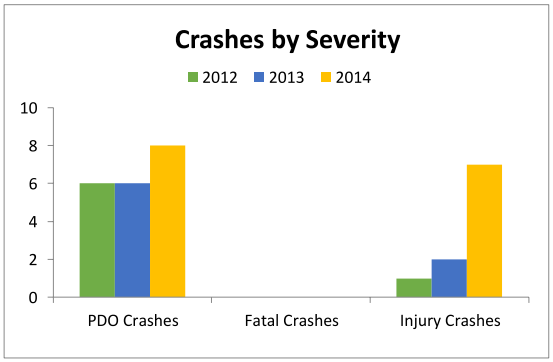
TOTAL ENTERING VEHICLES/ADT: 17,500

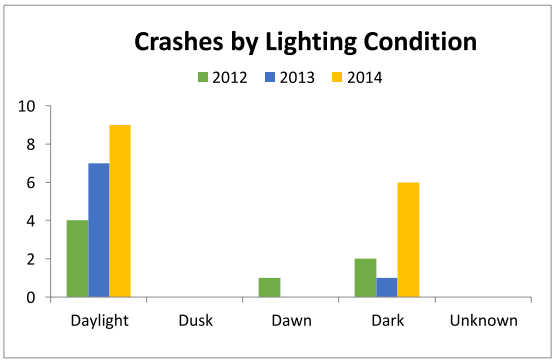
SPOT CRASH RATE: 2.348 CRASHES PER MILLION ENTERING VEHICLES

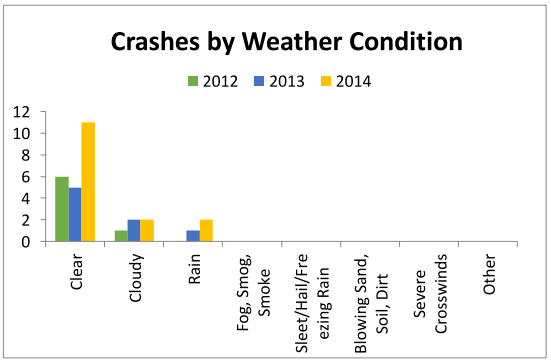
CRASH HISTOGRAMS

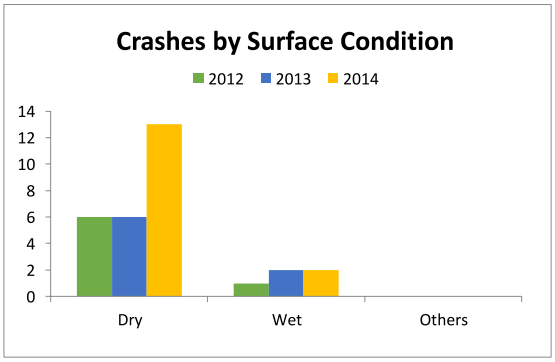
SR 994/SW 200 Street/Quail Roost Drive at SW 134 Avenue

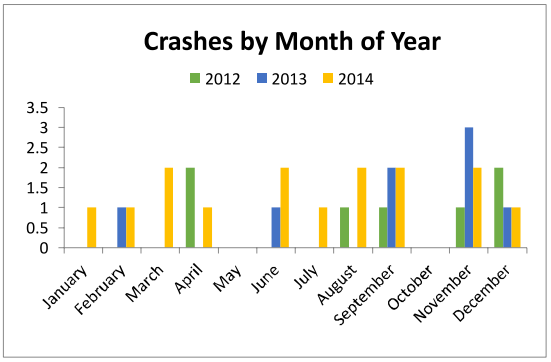


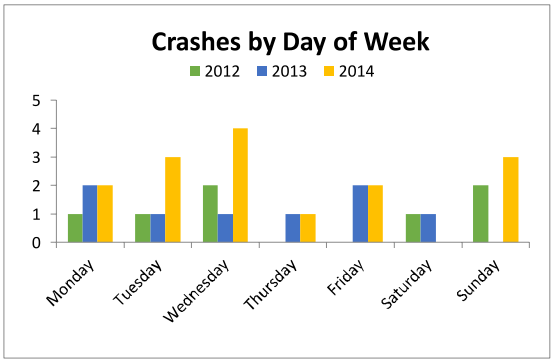


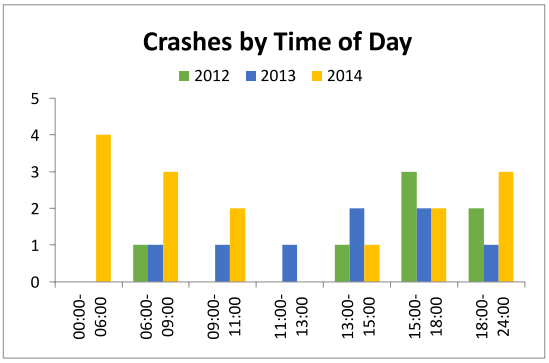












APPENDIX F

FDOT TRAFFIC SIGNAL WARRANT SUMMARY FORM 750-020-01

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	**Unincorporated**	Engineer:	**Ian Rairden, P.E.**
County:	**87 – Miami Dade**	Date:	**February 15, 2017**
District:	**Six**		

Major Street:	**SR 994/SW 200 Street/Quail Roost Drive**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 134 Avenue**	Lanes:	**1**	Minor Approach Speed:	**35**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)? ☐ Yes ☑ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☐ 70% ☑ 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

Warrant 1 is satisfied if Condition A or Condition B is "100%" satisfied for eight hours. ☑ Yes ☐ No

Warrant 1 is also satisfied if both Condition A and Condition B are "80%" satisfied (should only be applied after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems). ☐ Yes ☑ No

Condition A - Minimum Vehicular Volume

Condition A is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

100% Satisfied: ☐ Yes ☑ No
80% Satisfied: ☐ Yes ☑ No
70% Satisfied: ☐ Yes ☑ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	**Minor**	**100%[a]**	**80%[b]**	**70%[c]**	**100%[a]**	**80%[b]**	**70%[c]**
1	1	500	400	350	150	120	105
2 or more	1	600	480	420	150	120	105
2 or more	2 or more	600	480	420	200	160	140
1	2 or more	500	400	350	200	160	140

[a] Basic Minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Street	Eight Highest Hours							
	7:00 AM	**8:00 AM**	**9:00 AM**	**2:00 PM**	**3:00 PM**	**4:00 PM**	**5:00 PM**	**6:00 PM**
Major	1,924	1,611	1,071	1,155	1,393	1,488	1,624	1,413
Minor	140	158	139	108	103	96	104	98

Existing Volumes

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

Condition B - Interruption of Continuous Traffic

Condition B is intended for application where Condition A is not satisfied and the traffic volume on a major street is so heavy that traffic on the minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

Applicable:	☑ Yes	☐ No
100% Satisfied:	☑ Yes	☐ No
80% Satisfied:	☑ Yes	☐ No
70% Satisfied:	☑ Yes	☐ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	**Minor**	**100%[a]**	**80%[b]**	**70%[c]**	**100%[a]**	**80%[b]**	**70%[c]**
1	1	750	600	525	75	60	53
2 or more	1	900	720	630	75	60	53
2 or more	2 or more	900	720	630	100	80	70
1	2 or more	750	600	525	100	80	70

[a] Basic Minimum hourly volume

[b] Used for combination of Conditions A and B after adequate trial of other remedial measures

[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Eight Highest Hours								
Street	**7:00 AM**	**8:00 AM**	**9:00 AM**	**2:00 PM**	**3:00 PM**	**4:00 PM**	**5:00 PM**	**6:00 PM**
Major	1,924	1,611	1,071	1,155	1,393	1,488	1,624	1,413
Minor	140	158	139	108	103	96	104	98

Existing Volumes

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	**Unincorporated**	Engineer:	**Ian Rairden, P.E.**
County:	**87 – Miami Dade**	Date:	**February 15, 2017**
District:	**Six**		

Major Street:	**SR 994/SW 200 Street/Quail Roost Drive**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 134 Avenue**	Lanes:	**1**	Minor Approach Speed:	**35**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)? ☐ Yes ☑ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☐ Yes ☑ No

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

If all four points lie above the appropriate line, then the warrant is satisfied.

Applicable: ☑ Yes ☐ No

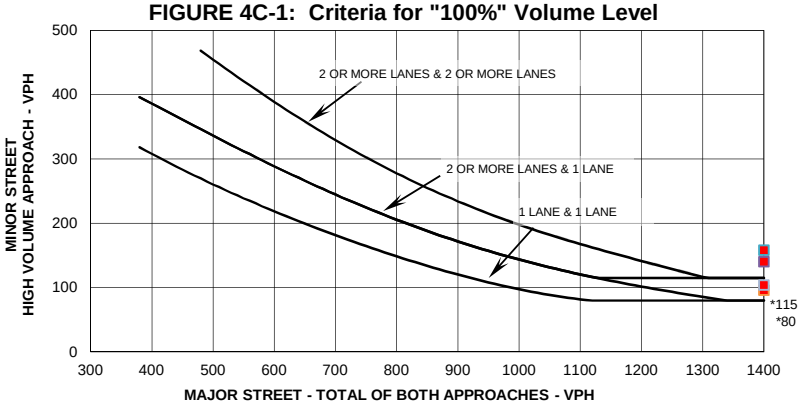
Satisfied: ☑ Yes ☐ No

Plot four volume combinations on the applicable figure below.

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
7:00 AM	1924	140
8:00 AM	1611	158
4:00 PM	1488	96
5:00 PM	1624	104

FIGURE 4C-1: Criteria for "100%" Volume Level



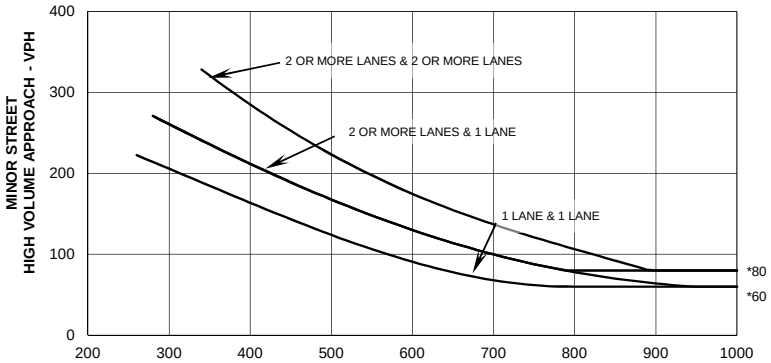
** Note: 115 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 80 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street

FIGURE 4C-2: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr (40 mph) on Major Street)



** Note: 80 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 60 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	**Unincorporated**	Engineer:	**Ian Rairden, P.E.**
County:	**87 – Miami Dade**	Date:	**February 15, 2017**
District:	**Six**		

Major Street:	**SR 994/SW 200 Street/Quail Roost Drive**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 134 Avenue**	Lanes:	**1**	Minor Approach Speed:	**35**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)? ☐ Yes ☑ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☐ 70% ☑ 100%

WARRANT 3 - PEAK HOUR

*If all three criteria are fulfilled **or** the plotted point lies above the appropriate line, then the warrant is satisfied.*

Applicable: ☑ Yes ☐ No
Satisfied: ☑ Yes ☐ No

Unusual condition justifying use of warrant:

Record hour when criteria are fulfilled and the corresponding delay or volume in boxes provided.

Peak Hour 100% Volume		
Time	Major Vol.	Minor Vol.
7:15 AM	1947	116

Peak Hour 70% Volume		
Time	Major Vol.	Minor Vol.

Criteria

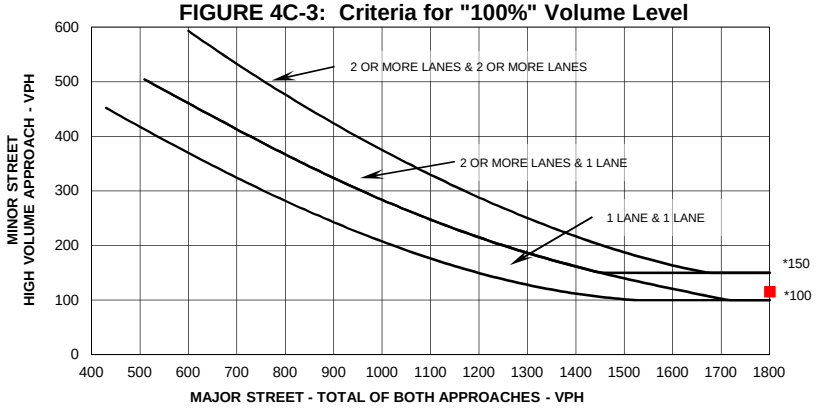
1. Delay on Minor Approach *(vehicle-hours)		
Approach Lanes	1	2
Delay Criteria*	4.0	5.0
Delay*	10.3	
Fulfilled?:	☑ Yes ☐ No	

2. Volume on Minor Approach One-Direction *(vehicles per hour)		
Approach Lanes	1	2
Volume Criteria*	100	150
Volume*	116	
Fulfilled?:	☑ Yes ☐ No	

3. Total Intersection Entering Volume *(vehicles per hour)		
No. of Approaches	3	4
Volume Criteria*	650	800
Volume*		2,063
Fulfilled?:	☑ Yes ☐ No	

Plot volume combination on the applicable figure below.

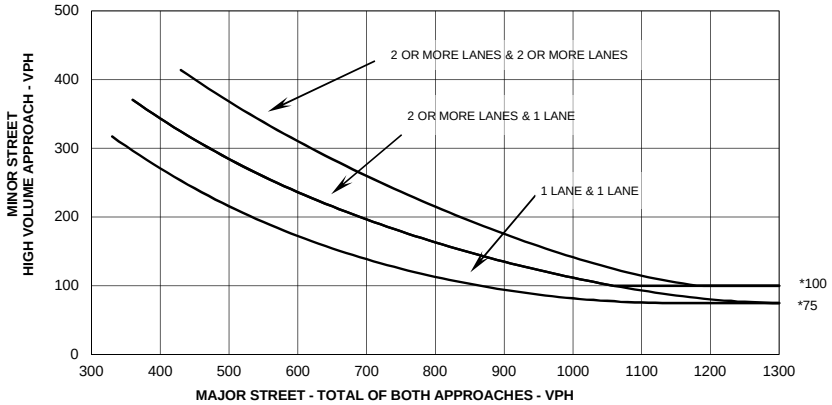
FIGURE 4C-3: Criteria for "100%" Volume Level



** Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

FIGURE 4C-4: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr (40 mph) on Major Street)



** Note: 100 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 75 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	**Unincorporated**	Engineer:	**Ian Rairden, P.E.**
County:	**87 – Miami Dade**	Date:	**February 15, 2017**
District:	**Six**		

Major Street:	**SR 994/SW 200 Street/Quail Roost Drive**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 134 Avenue**	Lanes:	**1**	Minor Approach Speed:	**35**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)? ☐ Yes ☑ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☐ 70% ☑ 100%

WARRANT 4 - PEDESTRIAN VOLUME

For each of any 4 hours of an average day, the plotted points lie above the appropriate line, then the warrant is satisfied.

Applicable: ☐ Yes ☑ No
Satisfied: ☐ Yes ☑ No

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Pedestrian Total

Plot four volume combinations on the applicable figure below.

Figure 4C-5. Criteria for "100%" Volume Level



** Note: 107 pph applies as the lower threshold volume*

70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Pedestrian Total

Figure 4C-6 Criteria for "70%" Volume Level



** Note: 75 pph applies as the lower threshold volume*

WARRANT 4 - PEDESTRIAN VOLUME

For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point falls above the appropriate line, then the warrant is satisfied.

Applicable: ☐ Yes ☑ No

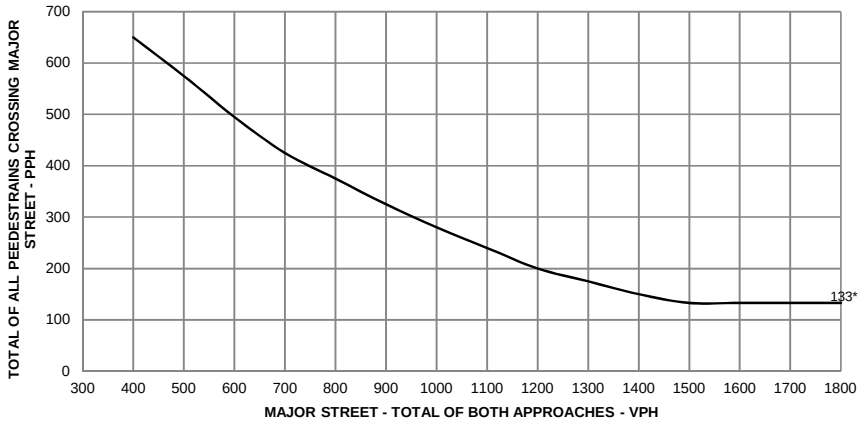
Satisfied: ☐ Yes ☑ No

Plot one volume combination on the applicable figure below.

100% Volume Level

Peak Hour	Volumes	
	Major Street	Pedestrian Total

Figure 4C-7. Criteria for "100%" Volume Level - Peak Hour

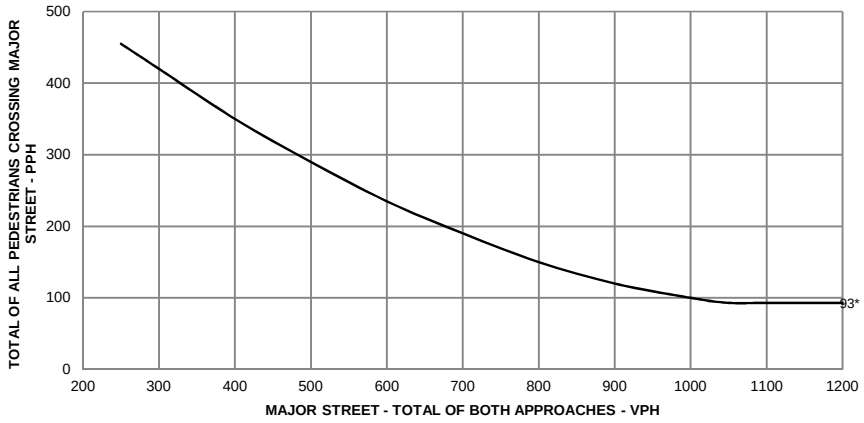


** Note: 133 pph applies as the lower threshold volume*

70% Volume Level

Peak Hour	Volumes	
	Major Street	Pedestrian Total

Figure 4C-8 Criteria for "70%" Volume Level - Peak Hour



** Note: 93 pph applies as the lower threshold volume*

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	**Unincorporated**	Engineer:	**Ian Rairden, P.E.**
County:	**87 – Miami Dade**	Date:	**February 15, 2017**
District:	**Six**		

Major Street:	**SR 994/SW 200 Street/Quail Roost Drive**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 134 Avenue**	Lanes:	**1**	Minor Approach Speed:	**35**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 5 - SCHOOL CROSSING

Record hours where criteria are fulfilled and the corresponding volume or gap frequency in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled.

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☑ No

Criteria				Fulfilled? Yes	Fulfilled? No
1. There are a minimum of 20 students crossing the major street during the highest crossing hour.	Students:	Hour:			
2. There are fewer adequate gaps in the major street traffic stream during the period when the children are using the established school crossing than the number of minutes in the same period.		Minutes:	Gaps:		
3. The nearest traffic signal along the major street is located more than 300 ft. (90 m) away, or the nearest signal is within 300 ft. (90 m) but the proposed traffic signal will not restrict the progressive movement of traffic.					

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	**Unincorporated**	Engineer:	**Ian Rairden, P.E.**
County:	**87 – Miami Dade**	Date:	**February 15, 2017**
District:	**Six**		

Major Street:	**SR 994/SW 200 Street/Quail Roost Drive**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 134 Avenue**	Lanes:	**1**	Minor Approach Speed:	**35**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 6 - COORDINATED SIGNAL SYSTEM

Indicate if the criteria are fulfilled in the boxes provided. The warrant is satisfied if either criterion is fulfilled. This warrant should not be applied when the resulting signal spacing would be less than 300 m (1,000 ft.).

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☑ No

Criteria	Fulfilled? Yes	Fulfilled? No
1. On a one-way street or a street that has traffic predominately in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.		
2. On a two-way street, adjacent signals do not provide the necessary degree of platooning, and the proposed and adjacent signals will collectively provide a progressive operation.		

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	**Unincorporated**	Engineer:	**Ian Rairden, P.E.**
County:	**87 – Miami Dade**	Date:	**February 15, 2017**
District:	**Six**		

Major Street:	**SR 994/SW 200 Street/Quail Roost Drive**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 134 Avenue**	Lanes:	**1**	Minor Approach Speed:	**35**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 7 - CRASH EXPERIENCE

Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled.

Applicable: ☑ Yes ☐ No
Satisfied: ☐ Yes ☑ No

Criteria		Hour								Volume		Met?		Fulfilled?	
										Major	Minor	Yes	No	Yes	No
1. One of the warrants to the right is met.	Warrant 1, Condition A (80% satisfied)	7a	8a	9a	2p					480	120		No	Yes	
	Warrant 1, Condition B (80% satisfied)	7a	8a	9a	2p	3p	4p	5p	6p	720	60	Yes			
	Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour.												No		
2. Adequate trial of other remedial measure has failed to reduce crash frequency.		Measure tried:	Installed eastbound right-turn lane											Yes	
3. Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12-month period.		Observed Crash Types:	Angle and Left Turn							Number of crashes per 12 months:	2.3				No

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	**Unincorporated**	Engineer:	**Ian Rairden, P.E.**
County:	**87 – Miami Dade**	Date:	**February 15, 2017**
District:	**Six**		

Major Street:	**SR 994/SW 200 Street/Quail Roost Drive**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 134 Avenue**	Lanes:	**1**	Minor Approach Speed:	**35**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 8 - ROADWAY NETWORK

Record hours where criteria are fulfilled, and the corresponding volume or other information in the boxes provided. The warrant is satisfied if at least one of the criteria is fulfilled and if all intersecting routes have one or more of the Major Route characteristics listed.

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☑ No

Criteria								Met? Yes	Met? No	Fulfilled? Yes	Fulfilled? No
1. Both of the criteria to the right are met.	a. Total entering volume of at least 1,000 veh/hr during a typical weekday peak hour.		Entering Volume:								
	b. Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3.		Warrant:	1	2	3					
			Satisfied?:								
2. Total entering volume at least 1,000 veh/hr for each of any 5 hrs of a non-normal business day (Sat. or Sun.)							← Hour				
							←Volume				

Characteristics of Major Routes		Met? Yes	Met? No	Fulfilled? Yes	Fulfilled? No
1. Part of the street or highway system that serves as the principal roadway network for through traffic flow.	Major Street:				
	Minor Street:				
2. Rural or suburban highway outside of, entering, or traversing a city.	Major Street:				
	Minor Street:				
3. Appears as a major route on an official plan.	Major Street:				
	Minor Street:				

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	**Unincorporated**	Engineer:	**Ian Rairden, P.E.**
County:	**87 – Miami Dade**	Date:	**February 15, 2017**
District:	**Six**		

Major Street:	**SR 994/SW 200 Street/Quail Roost Drive**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 134 Avenue**	Lanes:	**1**	Minor Approach Speed:	**35**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Approach Lane Criteria

1. How many approach lanes are there at the track crossing? ☐ 1 ☐ 2 or

If there is 1 lane, use Figure 4C-9 and if there are 2 or more, use Figure 4C-10. ☐ Fig 4C-9 ☐ Fig 4C-10

WARRANT 9 - INTERSECTION NEAR A GRADE CROSSING

This signal warrant should be applied only after adequate consideration has been given to other alternatives or after a trial of an alternative has failed to alleviate the safety concerns associated with the grade crossing.

Indicate if both criteria are fulfilled in the boxes provided. The warrant is satisfied if both criteria are met.

Applicable: ☐ Yes ☐ No

Satisfied: ☐ Yes ☑ No

Criteria	Fulfilled? Yes	Fulfilled? No
1. A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and	☐	☐
2. During the highest traffic volume hour during which the rail uses the crossing, the plotted point falls above the applicable curve for the existing combination of approach lanes over the track and the distance D (clear storage distance).	☐	☐

Use the following tables (4C-2, 4C-3, and 4C-4 to appropriately adjust the minor-street approach volume).

Inputs		Adjustment Factors from Tables
Occurrences of Rail traffic per day		
% of High Occupancy Buses on Minor-Street Approach		**1.00**
Enter D (feet)		
% of Tractor-Trailer Trucks on Minor-Street Approach		**0.50**

Table 4C-2. Adjustment Factor for Daily Frequency of Rail Traffic

Rail Traffic per Day	Adjustment Factor
1	0.67
2	0.91
3 to 5	1.00
6 to 8	1.18
9 to 11	1.25
12 or more	1.33

Table 4C-3. Adjustment Factor for Percentage of High-Occupancy Buses

% of High-Occupancy Buses* on Minor Street Approach	Adjustment Factor
0%	1.00
2%	1.09
4%	1.19
6% or more	1.32

* A high-occupancy bus is defined as a bus occupied by at least 20 people

Table 4C-4. Adjustment Factor for Percentage of Tractor-Trailer Trucks

% of Tractor-Trailer Trucks on Minor-Street Approach	Adjustment Factor	
	D less than 70 feet	D of 70 feet or more
0% to 2.5%	0.50	0.50
2.6% to 7.5%	0.75	0.75
7.6% to 12.5%	1.00	1.00
12.6% to 17.5%	2.30	1.15
17.6% to 22.5%	2.70	1.35
22.6% to 27.5%	3.28	1.64
More than 27.5%	4.18	2.09

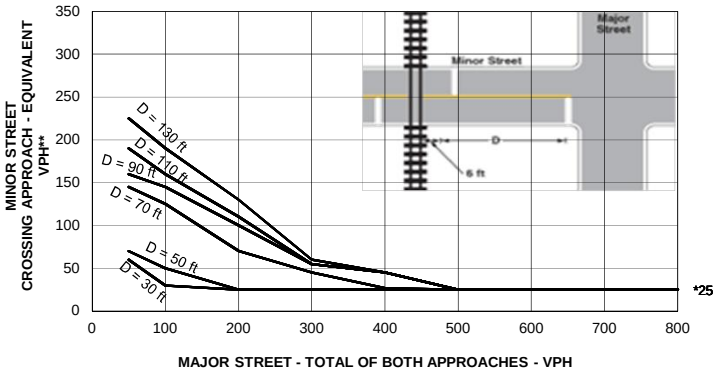
Input the major and minor street volumes before adjustment factors are applied

1 Approach Lane		
D (ft)	Major Vol.	Minor Vol.

After adjustment factors are applied

1 Approach Lane w/Factors		
D (ft)	Major Vol.	Minor Vol.

FIGURE 4C-9: Criteria for 1 Approach Lane at the Track Crossing



** Note: 25 vph applies as the lower threshold volume*

** *Note: VPH after applying the adjustment factors in Tables 4C-2, 4C, and or 4C-4, if appropriate*

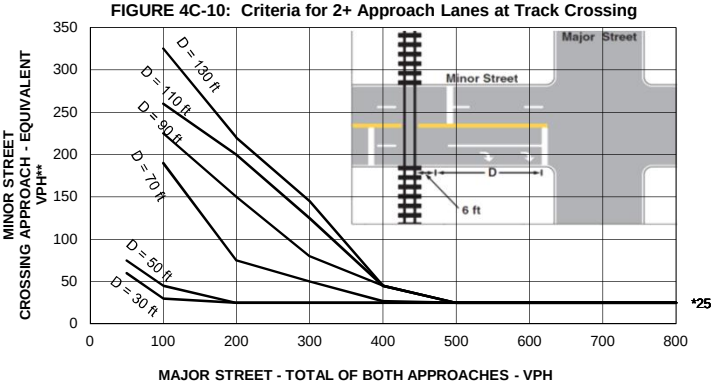
Input D and the major and minor street volumes before adjustment factors are applied

2 or more Approach Lanes		
D (ft)	Major Vol.	Minor Vol.

After adjustment factors are applied

2+ Approach Lane w/Factors		
D (ft)	Major Vol.	Minor Vol.

FIGURE 4C-10: Criteria for 2+ Approach Lanes at Track Crossing



** Note: 25 vph applies as the lower threshold volume*

** *Note: VPH after applying the adjustment factors in Tables 4C-2, 4C, and or 4C-4, if appropriate*

Form 750-020-01
TRAFFIC ENGINEERING
10/15

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	**Unincorporated**	Engineer:	**Ian Rairden, P.E.**
County:	**87 – Miami Dade**	Date:	**February 15, 2017**
District:	**Six**		

Major Street:	**SR 994/SW 200 Street/Quail Roost Drive**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 134 Avenue**	Lanes:	**1**	Minor Approach Speed:	**35**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

CONCLUSIONS

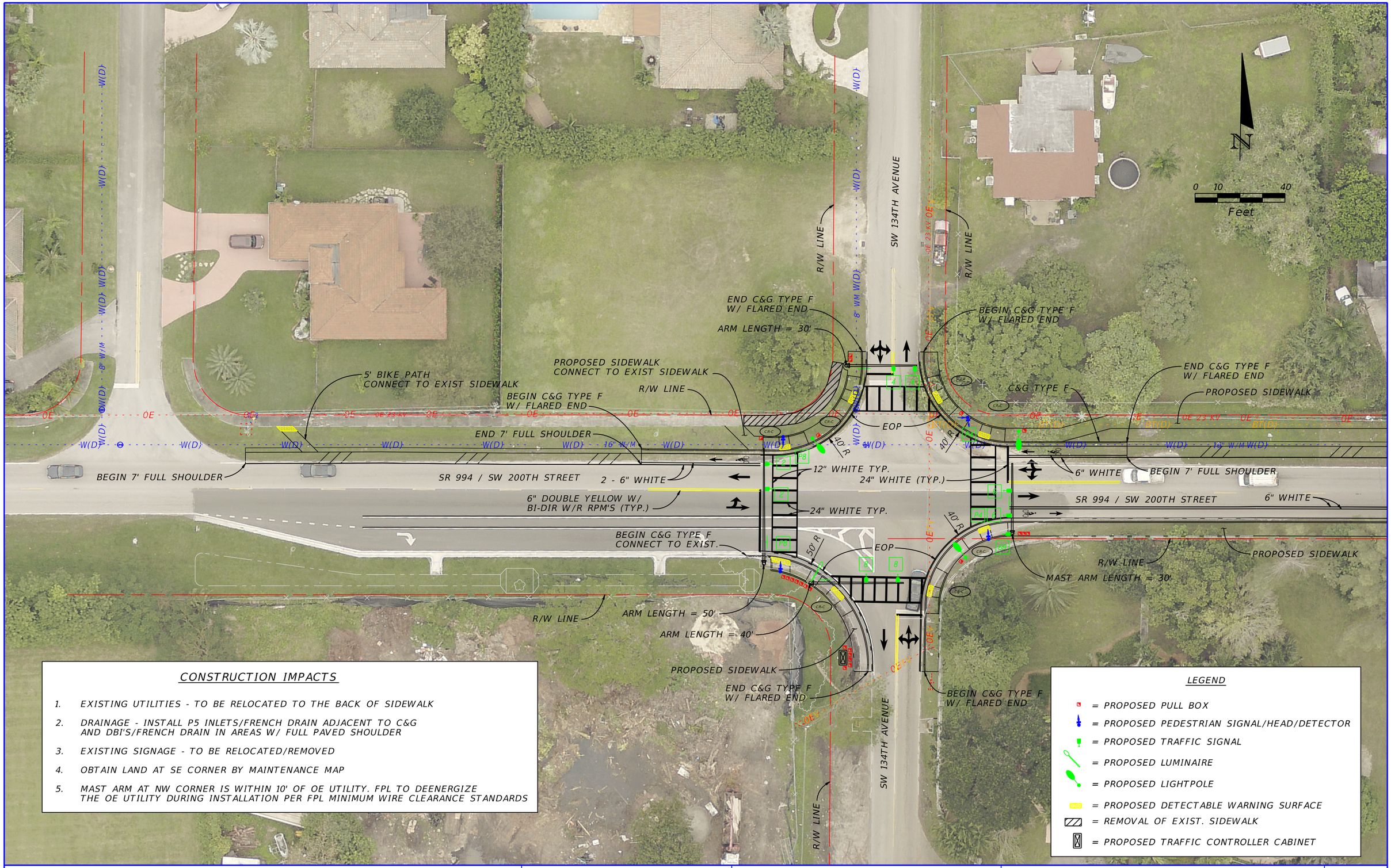
Remarks:

WARRANTS SATISFIED:

✓	Warrant 1		Not Applicable
✓	Warrant 2		Not Applicable
✓	Warrant 3		Not Applicable
	Warrant 4	✓	Not Applicable
	Warrant 5	✓	Not Applicable
	Warrant 6	✓	Not Applicable
	Warrant 7		Not Applicable
	Warrant 8	✓	Not Applicable
	Warrant 9	✓	Not Applicable

APPENDIX G

CONCEPTUAL DESIGN ALTERNATIVES



CONSTRUCTION IMPACTS

1. EXISTING UTILITIES - TO BE RELOCATED TO THE BACK OF SIDEWALK
2. DRAINAGE - INSTALL P5 INLETS/FRENCH DRAIN ADJACENT TO C&G AND DBI'S/FRENCH DRAIN IN AREAS W/ FULL PAVED SHOULDER
3. EXISTING SIGNAGE - TO BE RELOCATED/REMOVED
4. OBTAIN LAND AT SE CORNER BY MAINTENANCE MAP
5. MAST ARM AT NW CORNER IS WITHIN 10' OF OE UTILITY. FPL TO DEENERGIZE THE OE UTILITY DURING INSTALLATION PER FPL MINIMUM WIRE CLEARANCE STANDARDS

LEGEND

- = PROPOSED PULL BOX
- = PROPOSED PEDESTRIAN SIGNAL/HEAD/DETECTOR
- = PROPOSED TRAFFIC SIGNAL
- = PROPOSED LUMINAIRE
- = PROPOSED LIGHTPOLE
- = PROPOSED DETECTABLE WARNING SURFACE
- = REMOVAL OF EXIST. SIDEWALK
- = PROPOSED TRAFFIC CONTROLLER CABINET

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

BURT L. BALDO, P.E .
P.E. NO.: 53120
KIMLEY-HORN AND ASSOCIATES, INC.
355 ALHAMBRA CIRCLE - SUITE 1400
MIAMI, FLORIDA 33134
CERTIFICATE OF AUTHORIZATION 696

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
994	MIAMI-DADE	TWO#58

ROADWAY PLAN

SHEET NO. 1

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

BURT L. BALDO, P.E .
P.E. NO.: 53120
KIMLEY-HORN AND ASSOCIATES, INC.
355 ALHAMBRA CIRCLE - SUITE 1400
MIAMI, FLORIDA 33134
CERTIFICATE OF AUTHORIZATION 696

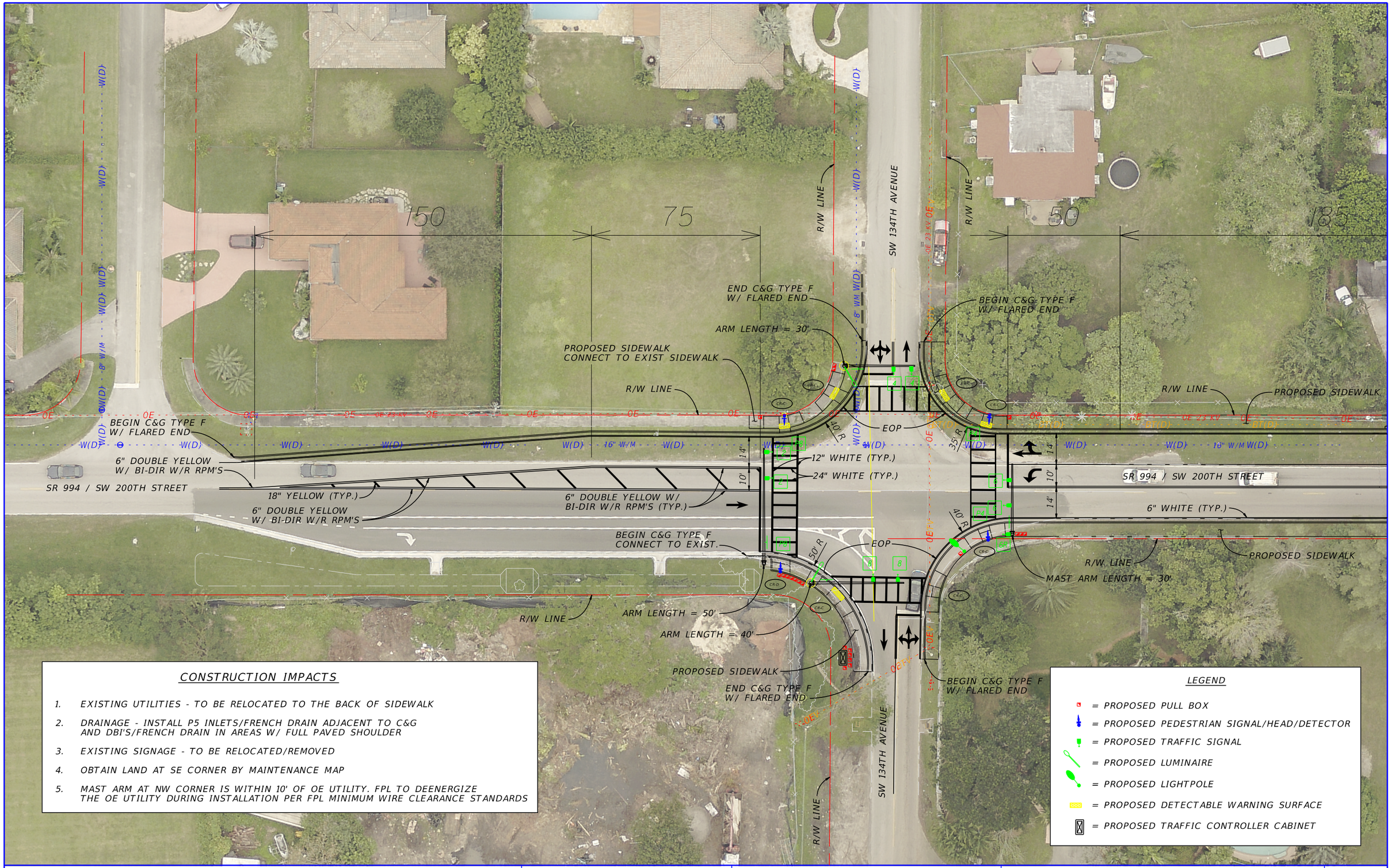
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
994	MIAMI-DADE	TWO#58

ROADWAY PLAN

SHEET NO.
2

$USER$ $DATE$ $TIME$ $FILE$



CONSTRUCTION IMPACTS

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- = PROPOSED TRAFFIC SIGNAL
- = PROPOSED LUMINAIRE
- = PROPOSED LIGHTPOLE
- = PROPOSED DETECTABLE WARNING SURFACE
- = PROPOSED TRAFFIC CONTROLLER CABINET

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

BURT L. BALDO, P.E .
P.E. NO.: 53120
KIMLEY-HORN AND ASSOCIATES, INC.
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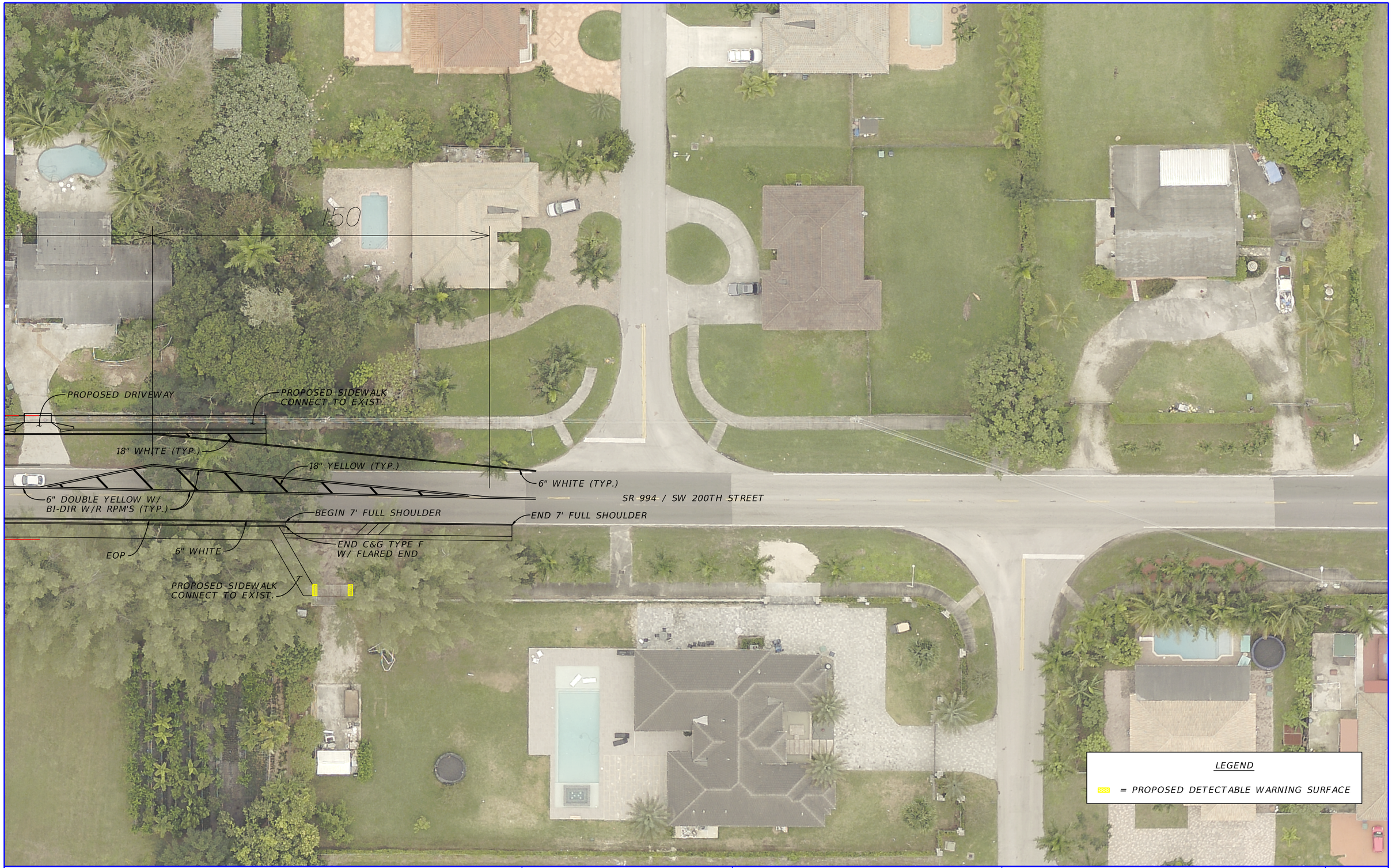
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
994	MIAMI-DADE	TWO#58

ROADWAY PLAN

SHEET NO. 3

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

BURT L. BALDO, P.E .
P.E. NO.: 53120
KIMLEY-HORN AND ASSOCIATES, INC.
355 ALHAMBRA CIRCLE - SUITE 1400
MIAMI, FLORIDA 33134
CERTIFICATE OF AUTHORIZATION 696

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
994	MIAMI-DADE	TWO#58

ROADWAY PLAN

SHEET NO. 4

$USER$ $DATE$ $TIME$ $FILE$

APPENDIX H

OPINIONS OF PROBABLE COST

Kimley»Horn

OPINION OF PROBABLE COST (DRAFT SUBMITTAL) DATE: 5/11/2017

SR 994 / SW 200th Street / Quail Roost Drive @ SW 134th Avenue

Alternative 1 - No Westbound Left-Turn Lane

ITEM NUMBER	DESCRIPTION	UNIT	QTY.	UNIT PRICE	TOTAL COST
	ROADWAY/DRAINAGE PAY ITEMS				
160-4	TYPE B STABILIZATION	SY	385	$ 1.20	$ 461.75
285-07-03	OPTIONAL BASE GROUP 3	SY	402	$ 8.75	$ 3,518.73
285-7-09	OPTIONAL BASE GROUP 9	SY	446	$ 13.92	$ 6,213.54
334-1-13	SUPERPAVE ASPH CONC, TRAFFIC C	TN	74	$ 81.72	$ 6,018.83
337-7-73	ASPHALT CONCRETE FRICTION COURSE, TRAFFIC C, FC-9.5, PG	TN	43	$ 114.93	$ 4,974.30
425-1-351	INLETS, CURB, TYPE P-5, <10'	EA	1	$ 4,904.21	$ 4,904.21
425-1-561	INLETS, DITCH BOTTOM, TYPE A, <10'	EA	6	$ 3,581.00	$ 21,486.00
443-70-4	FRENCH DRAIN, 24"	LF	469	$ 135.12	$ 63,413.17
520-1-10	CONCRETE CURB AND GUTTER, TYPE F	LF	706	$ 21.11	$ 14,904.50
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4" THICK	SY	614	$ 38.15	$ 23,408.01
527-2	DETECTABLE WARNINGS	SF	164	$ 29.00	$ 4,751.38
		ROADWAY/DRAINAGE TOTAL			**$ 154,054.43**
	SIGNING AND PAVEMENT MARKING PAY ITEMS				
700-1-50	SINGLE POST SIGN, F&I GROUND MOUNT, 12-20 SF	AS	5	$ 297.27	$ 1,486.35
700-2-52	MULTI-POST SIGN, F&I GROUND MOUNT, RELOCATE	AS	1	$ 2,265.00	$ 2,265.00
711-11-123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12"	LF	297	$ 1.80	$ 534.42
711-11-125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24"	LF	366	$ 3.19	$ 1,168.05
711-14-160	THERMOPLASTIC, STANDARD,WHITE SYMBOL	EA	3	$ 294.97	$ 884.91
711-14-170	THERMOPLASTIC, STANDARD,WHITE ARROW	EA	3	$ 122.44	$ 367.32
711-16-101	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SOLID, 6"	GM	0.375	$ 3,068.93	$ 1,150.85
711-16-201	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SOLID, 6"	GM	0.051	$ 3,064.94	$ 156.31
		SIGNING & PAVT MARKING TOTAL			**$ 8,013.21**
	SIGNALIZATION PAY ITEMS				
630-2-11	CONDUIT, F&I, OPEN TRENCH	LF	350	$ 6.52	$ 2,282.00
630-2-12	CONDUIT, F&I, DIRECTIONAL BORE	LF	575	$ 16.32	$ 9,384.00
632-7-2	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1	$ 5,410.99	$ 5,410.99
635-02-11	PULL AND SPLICE BOX, F&I, 13" X 24" COVER	EA	19	$ 566.85	$ 10,770.15
639-3-11	ELECTRICAL SERVICE DISCONNECT, F&I, POLE MOUNT	EA	1	$ 623.78	$ 623.78
646-01-11	ALUMINUM SIGNALS POLE, PEDESTAL	EA	4	$ 962.30	$ 3,849.20
646-21-01	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 30'	EA	2	$ 27,436.00	$ 54,872.00
646-21-03	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 40'	EA	1	$ 29,886.15	$ 29,886.15
646-21-06	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 50'	EA	1	$ 32,533.69	$ 32,533.69
650-01-14	TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 3 SECTION, 1 WAY	AS	9	$ 946.35	$ 8,517.15
653-1-11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	AS	4	$ 683.11	$ 2,732.44
660-4-11	VIDEO DETECTION SYSTEM - VIDEO, FURNISH & INSTALL CABINET EQUIPMENT	EA	1	$ 6,285.15	$ 6,285.15
660-4-12	VIDEO DETECTION SYSTEM - VIDEO, FURNISH & INSTALL ABOVE GROUND EQUIPMENT	EA	5	$ 2,908.08	$ 14,540.40
665-1-11	PEDESTRIAN DETECTOR, FURNISH & INSTALL, STANDARD	EA	4	$ 218.83	$ 875.32
670-5-120	TRAFFIC CONTROLLER ASSEMBLY, F&I, 170	AS	1	$ 24,176.78	$ 24,176.78
700-5-21	INTERNALLY ILLUMINATED SIGN, FURNISH & INSTALL OVERHEAD MOUNT, UP TO 12 SF	EA	4	$ 2,866.24	$ 11,464.96
		SIGNALIZATION TOTAL			**$ 218,204.16**
	LIGHTING PAY ITEMS				
630-2-11	CONDUIT, F&I, OPEN TRENCH	LF	100	$ 6.52	$ 652.00
630-2-12	CONDUIT, F&I, DIRECTIONAL BORE	LF	100	$ 16.32	$ 1,632.00
635-2-11	PULL AND SPLICE BOX, F&I, 13" X 24" COVER	EA	7	$ 566.85	$ 3,967.95
715-5-11	LUMINAIRE & BRACKET ARM, F&I, ALUMINUM	EA	1	$ 2,034.00	$ 2,034.00
715-1-12	LIGHTING CONDUCTORS, F&I, INSULATED, NO 8 TO NO 6	LF	300	$ 1.70	$ 510.00
715-4-113	LIGHT POLE COMPLETE, F&I, WIND SPEED 150, POLE HEIGHT - 50'	EA	3	$ 5,896.02	$ 17,688.06
715-7-11	LOAD CENTER, F&I, SECONDARY VOLTAGE	EA	1	$ 11,335.35	$ 11,335.35
715-500-1	POLE CABLE DISTRIBUTION SYSTEM, CONVENTIONAL	EA	1	$ 1,611.89	$ 1,611.89
		LIGHTING TOTAL			**$ 39,431.25**
		SUB-TOTAL			**$ 419,703.05**
101-1	MOBILIZATION	LS	10%	-	$ 41,970.30
102-1	MAINTENANCE OF TRAFFIC	LS	10%	-	$ 41,970.30
	CONTINGENCY	LS	15%	-	$ 62,955.46
		GRAND TOTAL			**$ 566,599.11**

Unit prices are per FDOT Item Average Unit for year 2016-2017

Kimley-Horn and Associates, Inc. has no control over the cost of labor, materials, equipment, or services furnished by others, or over methods of determining price, or over competitive bidding or market conditions. Any and all professional opinions as to costs reflected herein, including but not limited to professional opinions as to the costs of construction materials, are made on the basis of professional experience and available data. Kimley-Horn and Associates, Inc. cannot and does not guarantee or warrant that proposals, bids, or actual costs will not vary from the professional opinions of costs shown herein.

Kimley»Horn

OPINION OF PROBABLE COST (DRAFT SUBMITTAL) DATE: 5/11/2017

SR 994 / SW 200th Street / Quail Roost Drive @ SW 134h Avenue

Alternative 2 - With Westbound Left-Turn Lane

ITEM NUMBER	DESCRIPTION	UNIT	QTY.	UNIT PRICE	TOTAL COST
	ROADWAY/DRAINAGE PAY ITEMS				
160-4	TYPE B STABILIZATION	SY	1237	$ 1.20	$ 1,484.28
285-07-03	OPTIONAL BASE GROUP 3	SY	78	$ 8.75	$ 685.07
285-7-09	OPTIONAL BASE GROUP 9	SY	1109	$ 13.92	$ 15,439.05
334-1-13	SUPERPAVE ASPH CONC, TRAFFIC C	TN	183	$ 81.72	$ 14,955.24
337-7-73	ASPHALT CONCRETE FRICTION COURSE, TRAFFIC C, FC-9.5, ARB	TN	65	$ 114.93	$ 7,505.86
425-1-351	INLETS, CURB, TYPE P-5, <10'	EA	6	$ 4,904.21	$ 29,425.26
425-1-561	INLETS, DITCH BOTTOM, TYPE A, <10'	EA	2	$ 3,581.00	$ 7,162.00
443-70-4	FRENCH DRAIN, 24"	LF	595	$ 135.12	$ 80,363.97
520-1-10	CONCRETE CURB AND GUTTER, TYPE F	LF	1092	$ 21.11	$ 23,044.73
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4" THICK	SY	560	$ 38.15	$ 21,370.60
522-2	CONCRETE SIDEWALK AND DRIVEWAYS, 6" THICK	SY	14	$ 20.00	$ 275.60
527-2	DETECTABLE WARNINGS	SF	84	$ 29.00	$ 2,423.98
		ROADWAY/DRAINAGE TOTAL			**$ 204,135.64**
	SIGNING AND PAVEMENT MARKING PAY ITEMS				
700-1-50	SINGLE POST SIGN, F&I GROUND MOUNT, 12-20 SF	AS	5	$ 297.27	$ 1,486.35
700-2-52	MULTI-POST SIGN, F&I GROUND MOUNT, RELOCATE	AS	1	$ 2,265.00	$ 2,265.00
711-11-123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12"	LF	335	$ 1.80	$ 603.52
711-11-124	THERMOPLASTIC, STANDARD,YELLOW, SOLID, 18"	LF	6	$ 2.20	$ 14.21
711-11-125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24"	LF	409	$ 3.19	$ 1,304.10
711-14-160	THERMOPLASTIC, STANDARD,WHITE SYMBOL	EA	2	$ 294.97	$ 589.94
711-11-170	THERMOPLASTIC, STANDARD,WHITE ARROW	EA	2	$ 122.44	$ 244.88
711-16-101	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SOLID, 6"	GM	0.310	$ 3,068.93	$ 951.37
711-16-201	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SOLID, 6"	GM	0.379	$ 3,064.94	$ 1,161.61
		SIGNING & PAVT MARKING TOTAL			**$ 8,620.99**
	SIGNALIZATION PAY ITEMS				
630-2-11	CONDUIT, F&I, OPEN TRENCH	LF	280	$ 6.52	$ 1,825.60
630-2-12	CONDUIT, F&I, DIRECTIONAL BORE	LF	320	$ 16.32	$ 5,222.40
632-7-2	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1	$ 5,410.99	$ 5,410.99
635-02-11	PULL AND SPLICE BOX, F&I, 13" X 24" COVER	EA	17	$ 566.85	$ 9,636.45
639-3-11	ELECTRICAL SERVICE DISCONNECT, F&I, POLE MOUNT	EA	1	$ 623.78	$ 623.78
646-01-11	ALUMINUM SIGNALS POLE, PEDESTAL	EA	4	$ 962.30	$ 3,849.20
646-21-01	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 30'	EA	2	$ 27,436.00	$ 54,872.00
646-21-03	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 40'	EA	1	$ 29,886.15	$ 29,886.15
646-21-06	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 50'	EA	1	$ 32,533.69	$ 32,533.69
650-01-14	TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 3 SECTION, 1 WAY	AS	7	$ 946.35	$ 6,624.45
650-01-18	TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 5 SECTION STRAIGHT, 1 WAY	AS	2	$ 1,292.89	$ 2,585.78
653-1-11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	AS	4	$ 683.11	$ 2,732.44
660-4-11	VIDEO DETECTION SYSTEM - VIDEO, FURNISH & INSTALL CABINET EQUIPMENT	EA	1	$ 6,285.15	$ 6,285.15
660-4-12	VIDEO DETECTION SYSTEM - VIDEO, FURNISH & INSTALL ABOVE GROUND EQUIPMENT	EA	6	$ 2,908.08	$ 17,448.48
665-1-11	PEDESTRIAN DETECTOR, FURNISH & INSTALL, STANDARD	EA	4	$ 218.83	$ 875.32
670-5-120	TRAFFIC CONTROLLER ASSEMBLY, F&I, 170	AS	1	$ 24,176.78	$ 24,176.78
700-5-21	INTERNALLY ILLUMINATED SIGN, FURNISH & INSTALL OVERHEAD MOUNT, UP TO 12 SF	EA	4	$ 2,866.24	$ 11,464.96
		SIGNALIZATION TOTAL			**$ 216,053.62**
	LIGHTING PAY ITEMS				
630-2-11	CONDUIT, F&I, OPEN TRENCH	LF	15	$ 6.52	$ 97.80
630-2-12	CONDUIT, F&I, DIRECTIONAL BORE	LF	300	$ 16.32	$ 4,896.00
635-2-11	PULL AND SPLICE BOX, F&I, 13" X 24" COVER	EA	6	$ 566.85	$ 3,401.10
715-5-11	LUMINAIRE & BRACKET ARM, F&I, ALUMINUM	EA	2	$ 2,034.00	$ 4,068.00
715-1-12	LIGHTING CONDUCTORS, F&I, INSULATED, NO 8 TO NO 6	LF	900	$ 1.70	$ 1,530.00
715-4-112	LIGHT POLE COMPLETE, F&I, WIND SPEED 150, POLE HEIGHT - 45'	EA	1	$ 5,896.02	$ 5,896.02
715-7-11	LOAD CENTER, F&I, SECONDARY VOLTAGE	EA	1	$ 11,335.35	$ 11,335.35
715-500-1	POLE CABLE DISTRIBUTION SYSTEM, CONVENTIONAL	EA	1	$ 1,611.89	$ 1,611.89
		LIGHTING TOTAL			**$ 32,836.16**
		SUB-TOTAL			**$ 461,646.41**
101-1	MOBILIZATION	LS	10%	-	$ 46,164.64
102-1	MAINTENANCE OF TRAFFIC	LS	10%	-	$ 46,164.64
	CONTINGENCY	LS	15%	-	$ 69,246.96
		GRAND TOTAL			**$ 623,222.66**

Unit prices are per FDOT Item Average Unit for year 2016-2017

Kimley-Horn and Associates, Inc. has no control over the cost of labor, materials, equipment, or services furnished by others, or over methods of determining price, or over competitive bidding or market conditions. Any and all professional opinions as to costs reflected herein, including but not limited to professional opinions as to the costs of construction materials, are made on the basis of professional experience and available data. Kimley-Horn and Associates, Inc. cannot and does not guarantee or warrant that proposals, bids, or actual costs will not vary from the professional opinions of costs shown herein.

STATE OF FLORIDA

DEPARTMENT OF TRANSPORTATION

CONTRACT PLANS

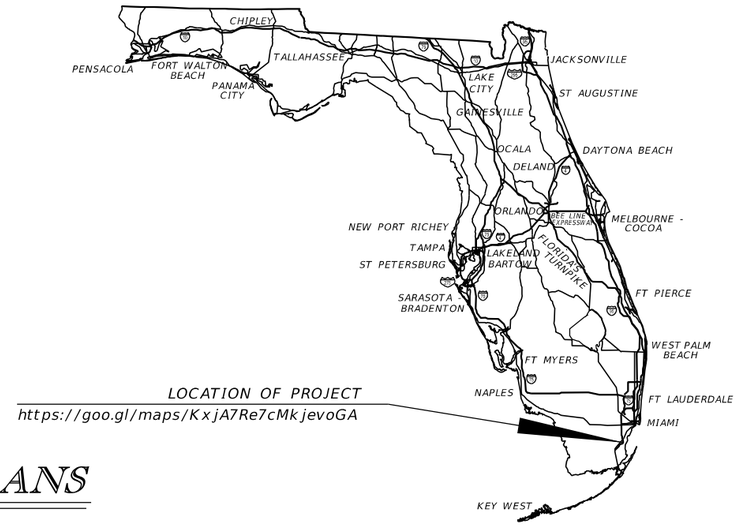
FINANCIAL PROJECT ID 443907-1-52-01

MIAMI-DADE COUNTY (87091)

STATE ROAD NO. 994 / QUAIL ROOST DRIVE / SW 200 ST

FROM E. OF KROME AVE TO W. OF SW 137 AVE

SIGNING AND PAVEMENT MARKING PLANS



INDEX OF SIGNING AND PAVEMENT MARKING PLANS

SHEET NO.	SHEET DESCRIPTION
S-1	KEY SHEET
S-2	GENERAL NOTES
S-3 - S-38	SIGNING & PAVEMENT MARKING PLANS
S-39	LOOP DETAIL AND INSTRUCTIONS
S-40 - S-44	GUIDE SIGN WORK SHEET AND DETAILS

RAFAEL S. AGUILAR
LICENSE
No 74068
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY

ON THE DATE ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

SIGNING AND PAVEMENT MARKINGS PLANS ENGINEER OF RECORD:

RAFAEL S. AGUILAR, P.E.
P.E. LICENSE NUMBER 74068
CHOICE ENGINEERING CONSULTANTS, INC.
12855 SW 132nd STREET, SUITE 200
MIAMI, FL 33186
CONTRACT NO.: CAD94
VENDOR NO.: F473395906

FDOT PROJECT MANAGER:

FABIANA GONZALEZ, P.E.

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
TBD	23	S-1

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GENERAL NOTES

1. DELIVER AND UNLOAD REMOVED STREET SIGNS TO:

   MIAMI-DADE COUNTY DEPT. OF TRANSPORTATION AND PUBLIC WORKS, TRAFFIC SIGNALS & SIGNS DIVISION
   7100 N.W. 36TH STREET
   MIAMI, FLORIDA 33166

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REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			GENERAL NOTES	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RAFAEL S. AGUILAR, P.E. LICENSE NUMBER 74068 CHOICE ENGINEERING CONSULTANTS, INC. 12855 SW 132nd STREET, SUITE 200 MIAMI, FLORIDA 33186	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-2
					SR 994	MIAMI-DADE	443907-1-52-01		

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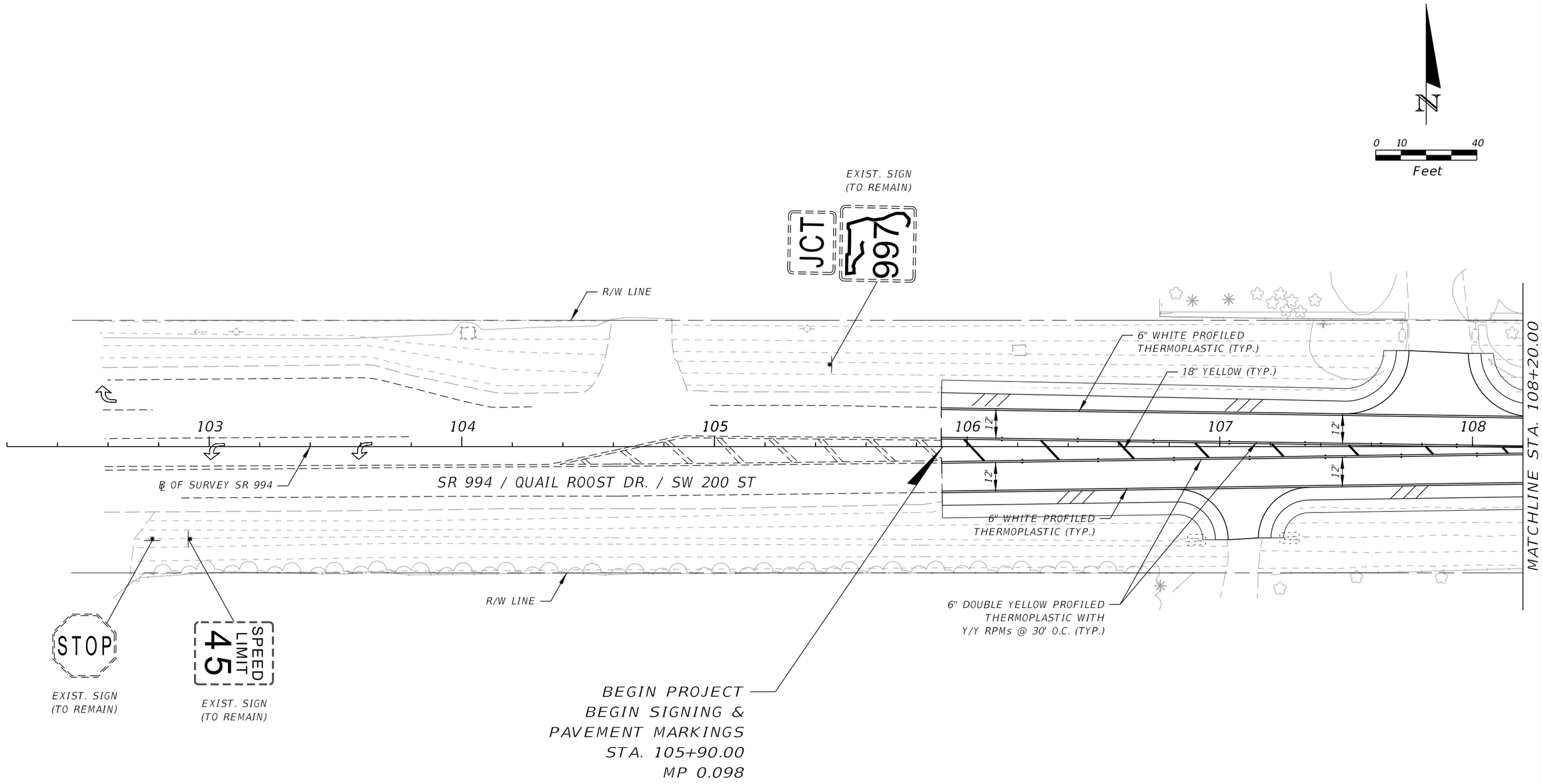

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REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING & PAVEMENT MARKING PLANS	SHEET NO.
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					SR 994	MIAMI-DADE	443907-1-52-01		

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EXIST. SIGN
(TO BE REMOVED)
0700 1 60
STA. 108+33
1 AS

SPEED LIMIT 45

R2-1
30"x36"
0700 1 11
STA. 108+40
1 AS

SPEED LIMIT 45

W3-3
30"x30"
0700 1 11
STA. 109+60
1 AS

EXIST. SIGN
(TO BE REMOVED)
0700 1 60
STA. 109+72
1 AS

EXIST. SIGN
(TO BE REMOVED)
0700 1 60
STA. 112+71
1 AS

SW 177 AVE
KROME AVE
NEXT SIGNAL

GS-17
108"x60"
0700 2 12
STA. 113+59
1 AS

SW 177 AVE
KROME AVE
NEXT SIGNAL

N

0 10 40
Feet

MATCHLINE STA. 108+20.00

MATCHLINE STA. 114+20.00

R/W LINE

18" YELLOW (TYP.)

6" WHITE PROFILED
THERMOPLASTIC (TYP.)

R/W LINE

109 110 111 112 113 114

12' 12' 12' 12'

SR 994 / QUAIL ROOST DR. / SW 200 ST

℄ OF SURVEY SR 994

6" WHITE PROFILED
THERMOPLASTIC (TYP.)

STA. +00.42
1.64' RT.

R/W LINE

R/W LINE

6" YELLOW (10'-30' SKIP)
PROFILED THERMOPLASTIC
WITH Y/Y RPMs @ 40' O.C. (TYP.)

6" DOUBLE YELLOW PROFILED
THERMOPLASTIC WITH
Y/Y RPMs @ 30' O.C. (TYP.)

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REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING & PAVEMENT MARKING PLANS	SHEET NO.
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					SR 994	MIAMI-DADE	443907-1-52-01		

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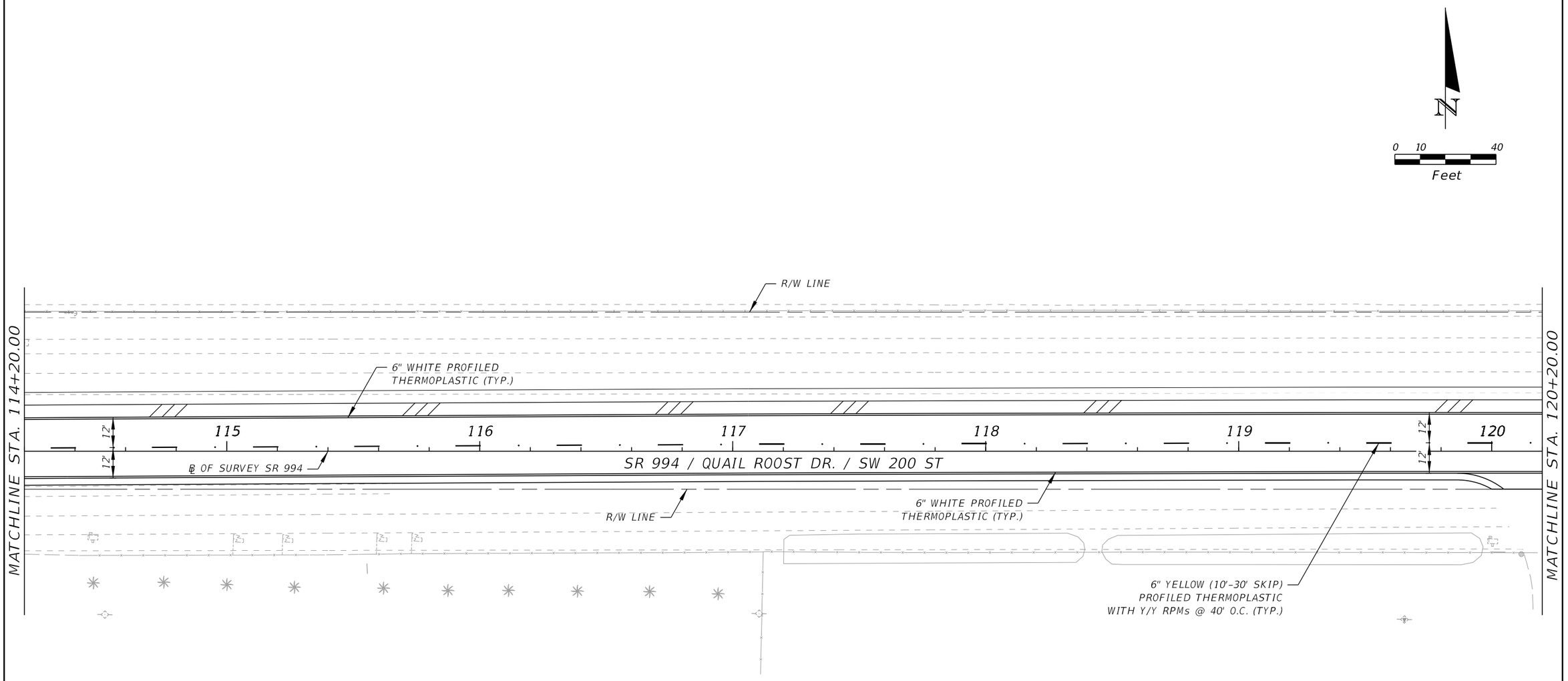

REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING & PAVEMENT MARKING PLANS	SHEET NO.
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					SR 994	MIAMI-DADE	443907-1-52-01		

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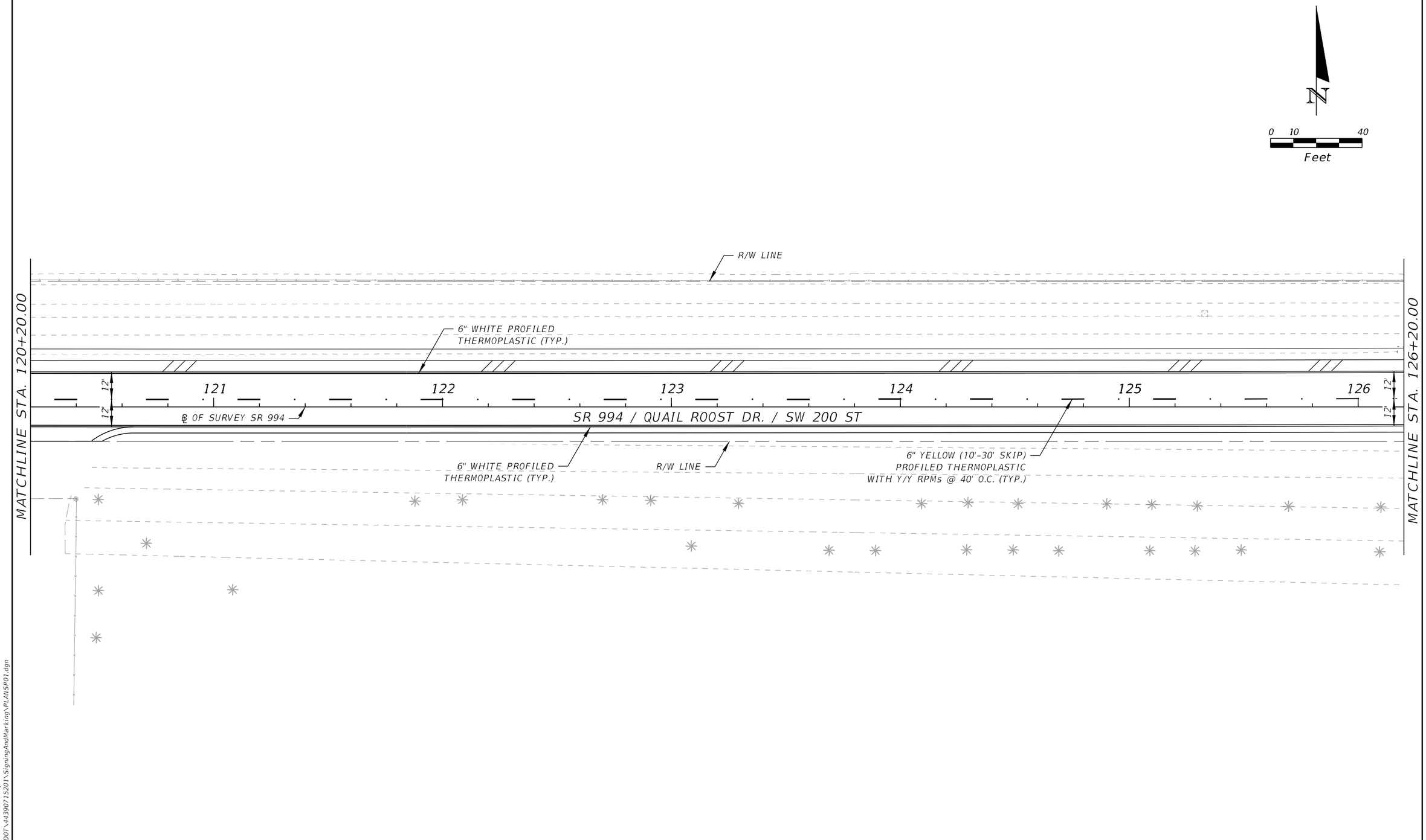

REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING & PAVEMENT MARKING PLANS	SHEET NO.
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					SR 994	MIAMI-DADE	443907-1-52-01		

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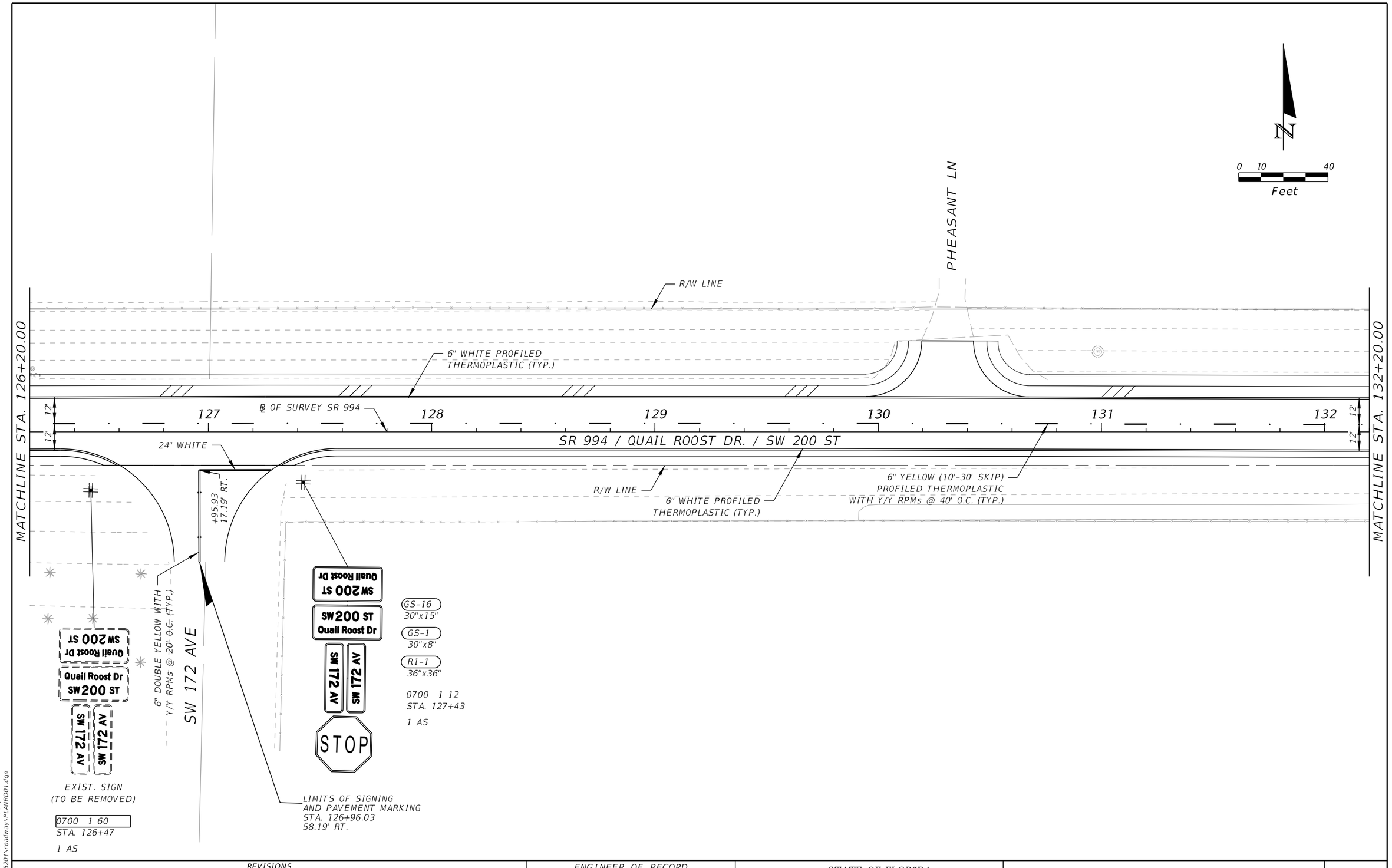

REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING & PAVEMENT MARKING PLANS	SHEET NO.
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					SR 994	MIAMI-DADE	443907-1-52-01		

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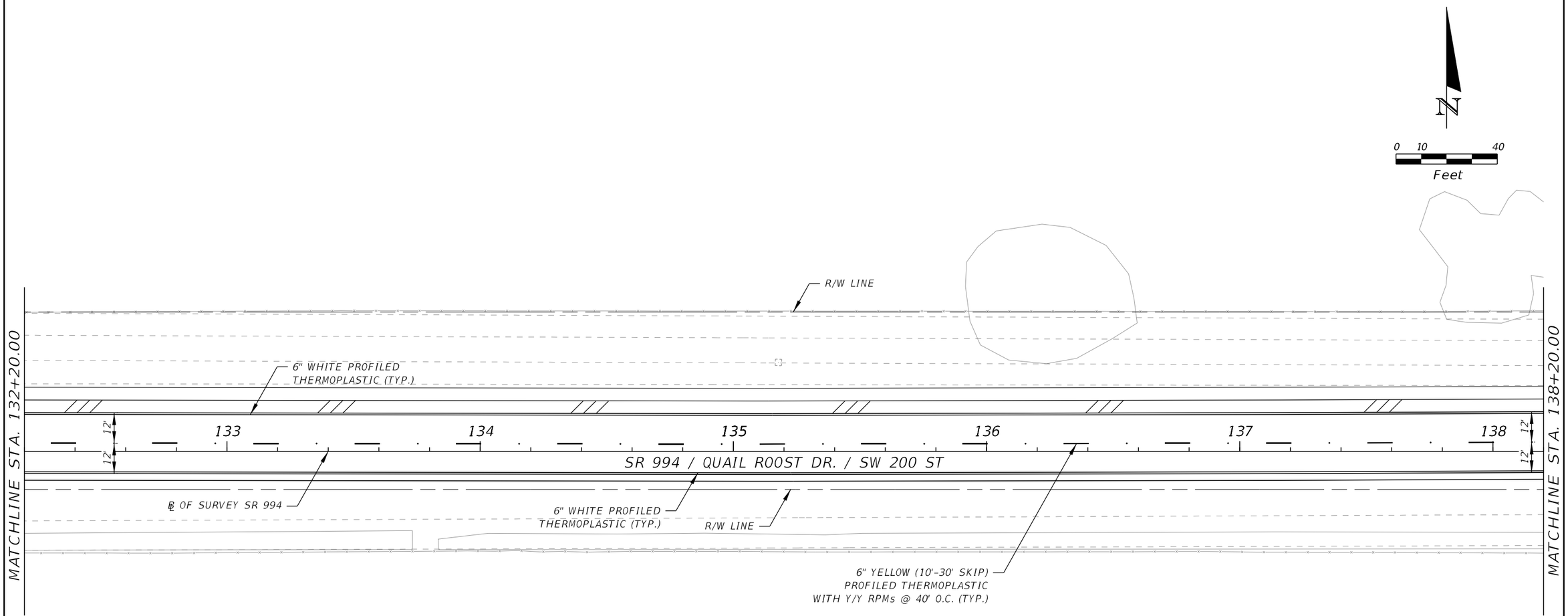

REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING & PAVEMENT MARKING PLANS	SHEET NO.
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					SR 994	MIAMI-DADE	443907-1-52-01		

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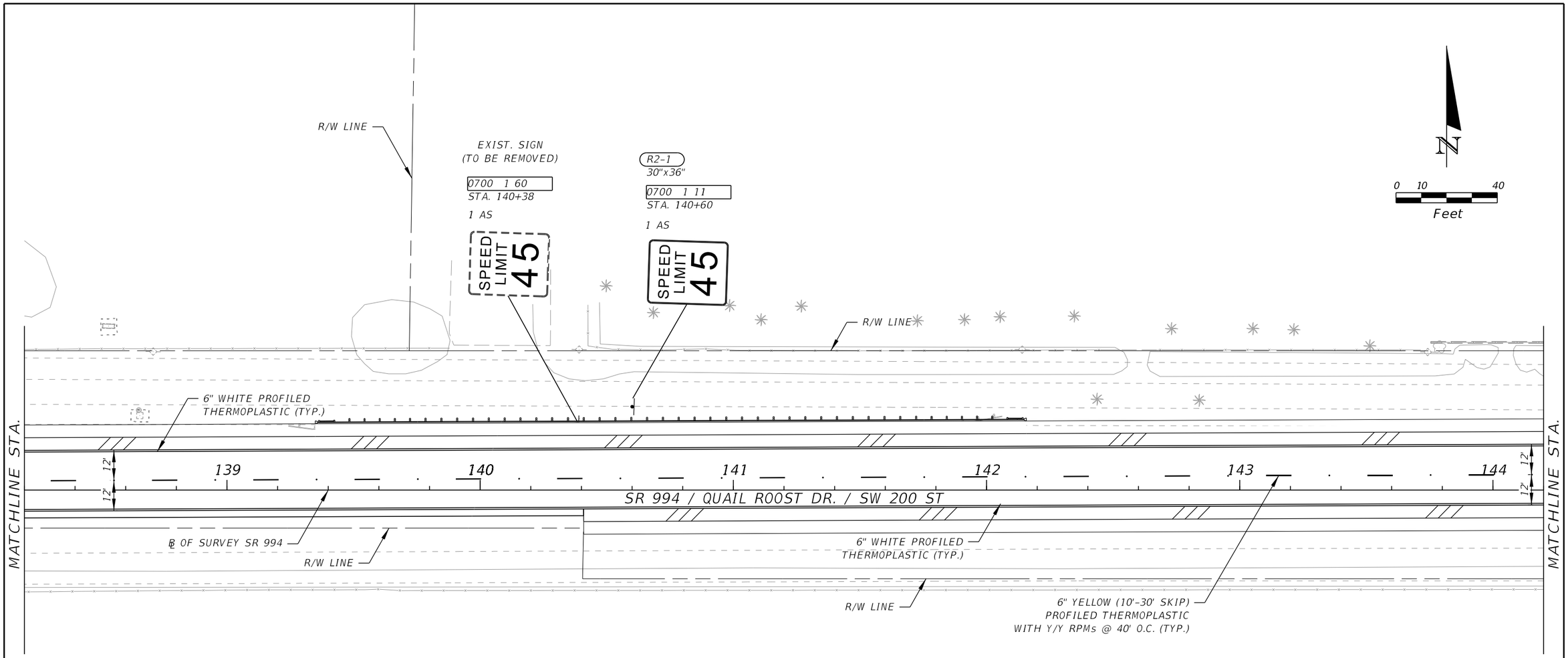

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					SR 994	MIAMI-DADE	443907-1-52-01		

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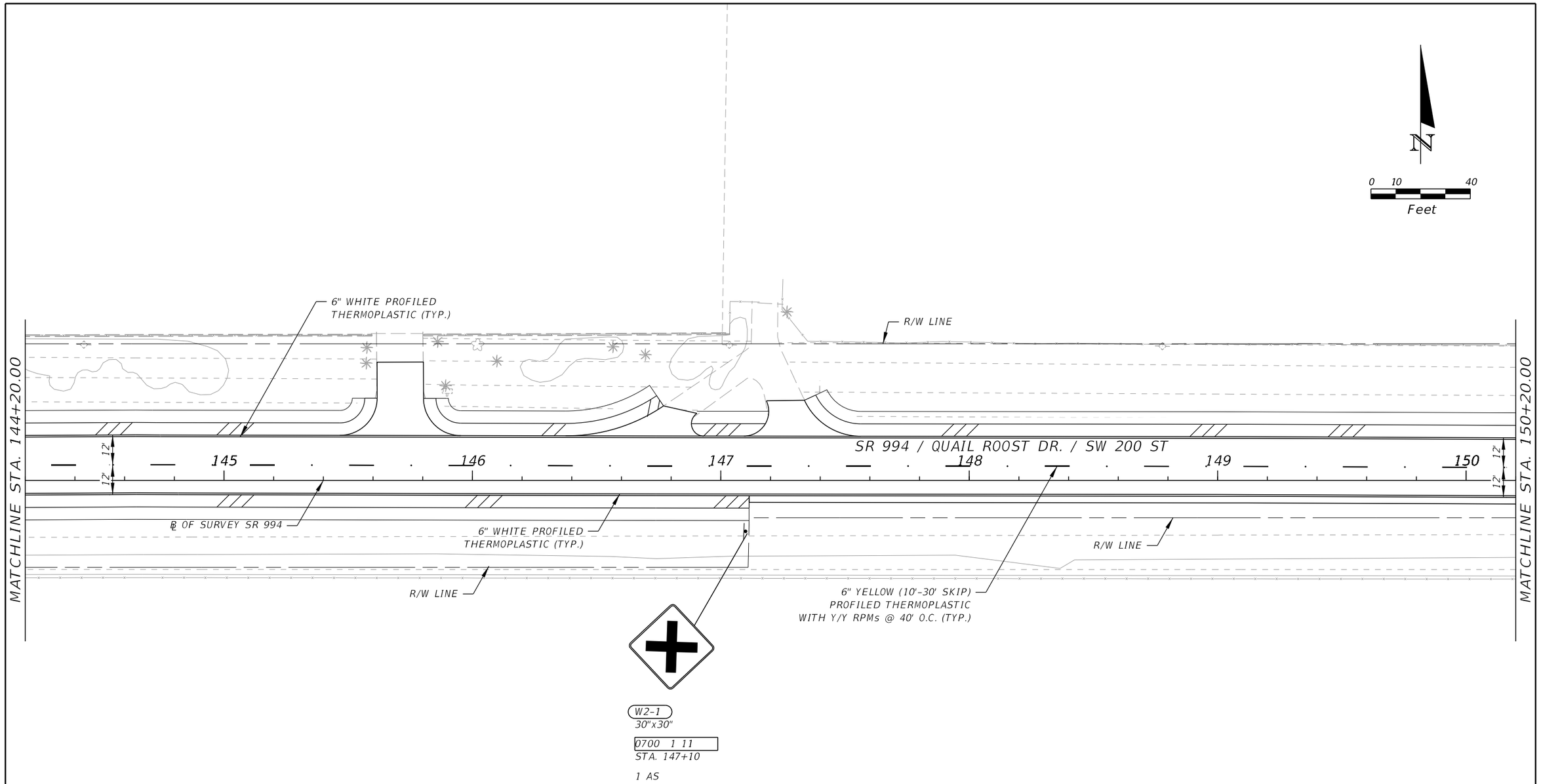

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					SR 994	MIAMI-DADE	443907-1-52-01		

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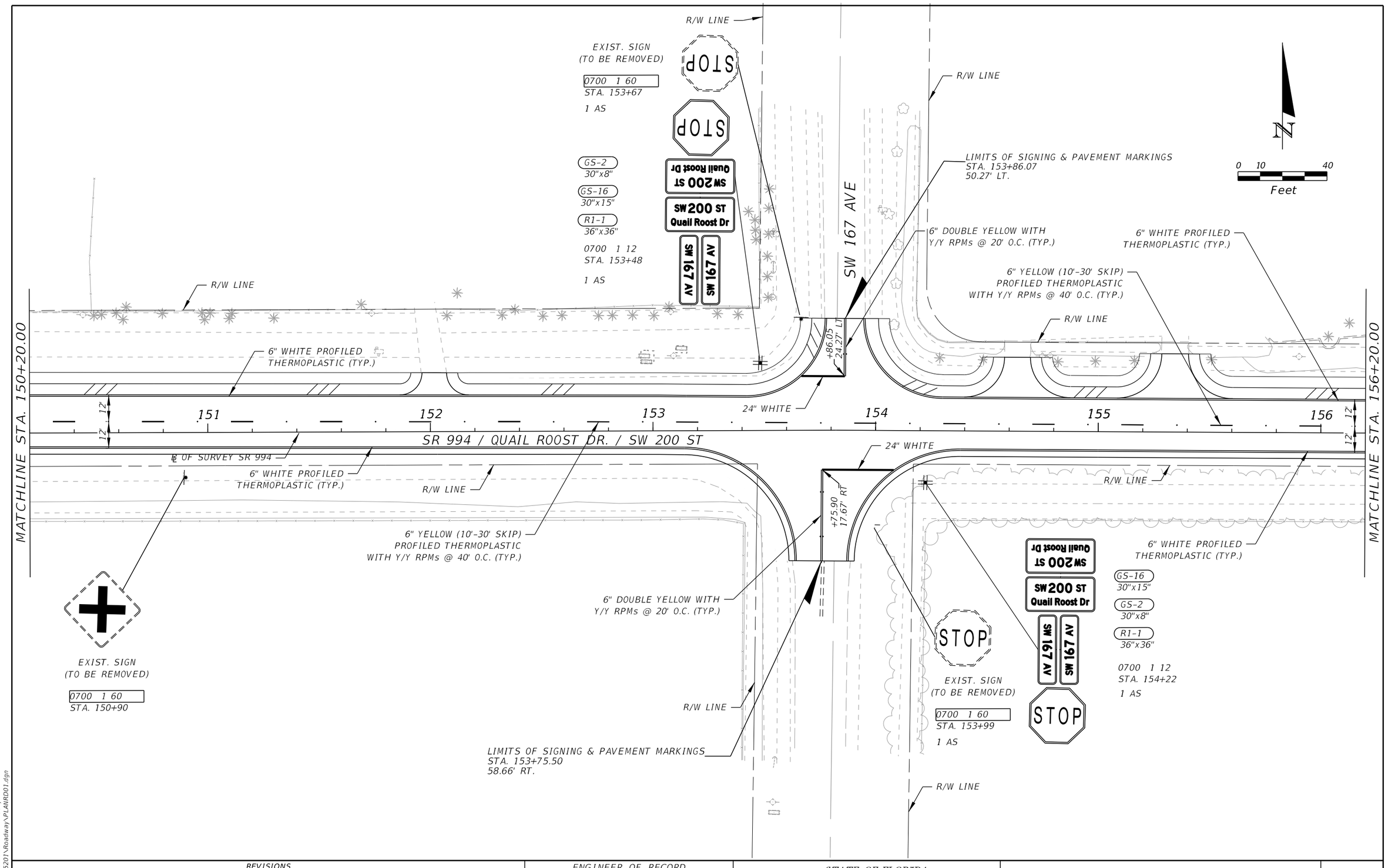

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					SR 994	MIAMI-DADE	443907-1-52-01		

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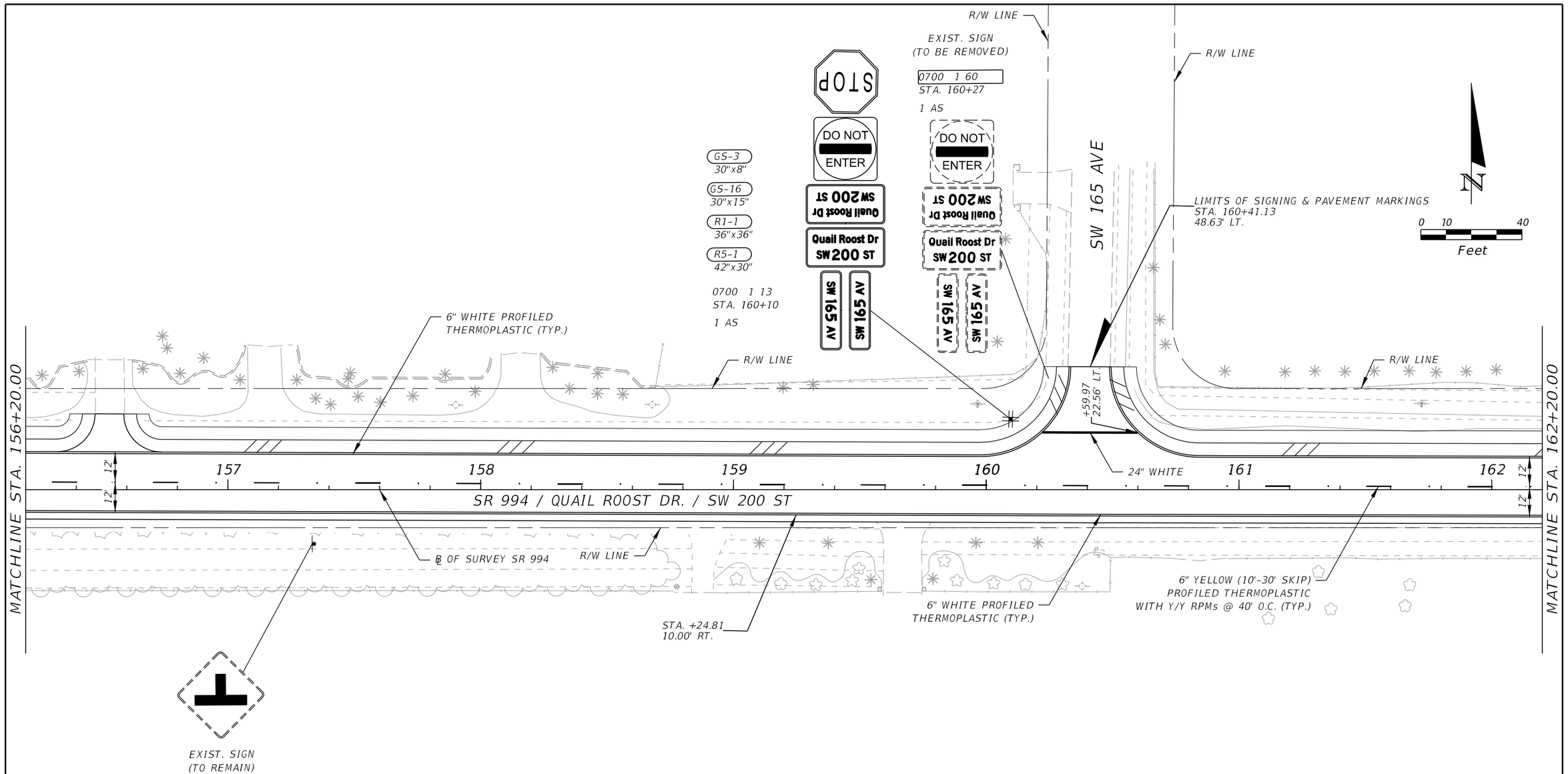

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					SR 994	MIAMI-DADE	443907-1-52-01		

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EXIST. SIGN
(TO BE REMOVED)
0700 1 60
STA. 163+05
1 AS

EXIST. SIGN
(TO BE REMOVED)
0700 1 60
STA. 164+93
1 AS

W2-2R
30"x30"
0700 1 11
STA. 165+00
1 AS

R2-1
30"x36"
0700 1 11
STA. 167+20
1 AS

N

0 10 40
Feet

MATCHLINE STA. 162+20.00

MATCHLINE STA. 168+20.00

12'

12'

163 164 165 166 167 168

℄ OF SURVEY SR 994

SR 994 / QUAIL ROOST DR. / SW 200 ST

12'

R/W LINE

6" WHITE PROFILED
THERMOPLASTIC (TYP.)

6" YELLOW (10'-30' SKIP)
PROFILED THERMOPLASTIC
WITH Y/Y RPMs @ 40' O.C. (TYP.)

STA. +14.49
11.31' RT.

R/W LINE

EXIST. SIGN
(TO BE REMOVED)
0700 1 60
STA. 163+14
1 AS

R2-1
30"x36"
0700 1 11
STA. 167+20
1 AS

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					SR 994	MIAMI-DADE	443907-1-52-01		

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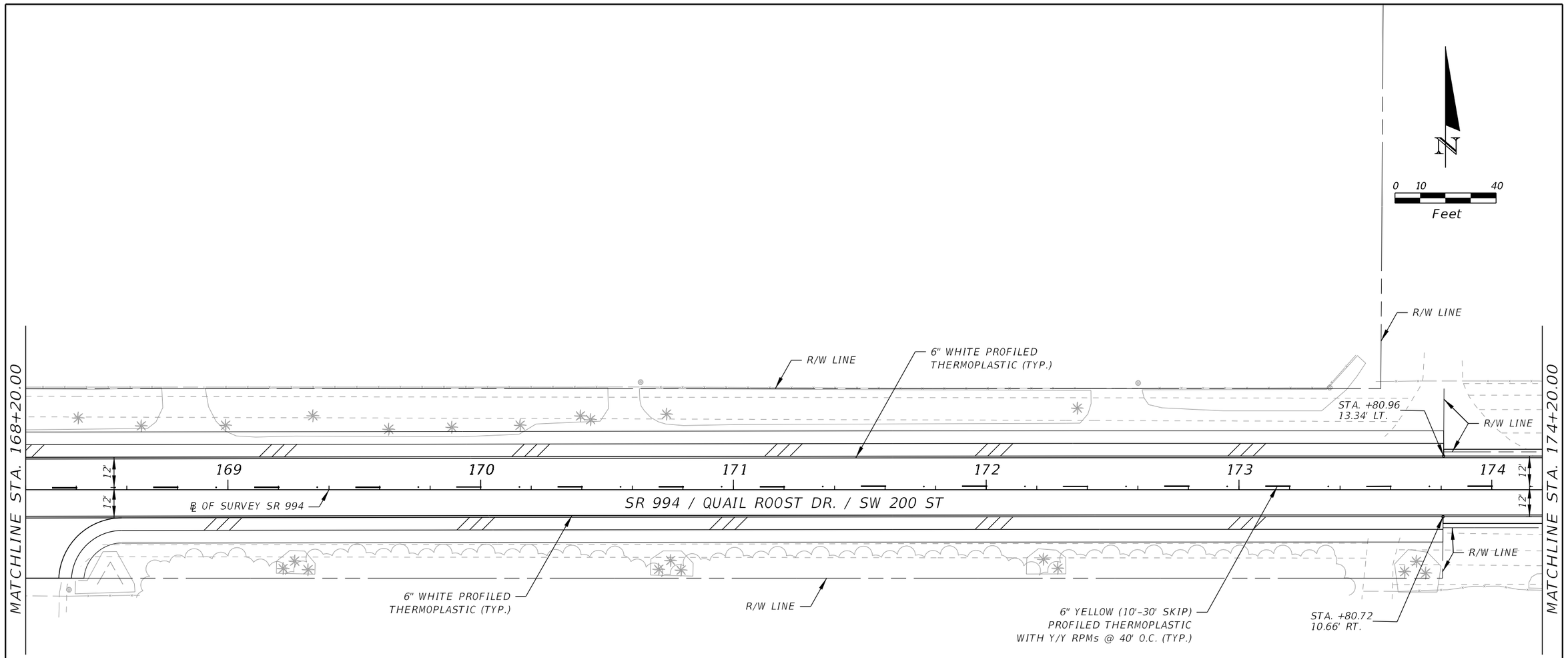

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					SR 994	MIAMI-DADE	443907-1-52-01		

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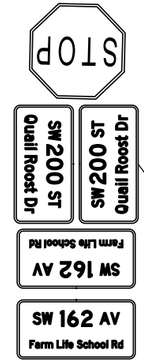
GS-4
30"x15"

GS-16
30"x15"

R1-1
36"x36"

0700 1 12
STA. 180+10

1 AS





MATCHLINE STA. 174+20.00

MATCHLINE STA. 180+20.00

6" WHITE PROFILED THERMOPLASTIC (TYP.)

R/W LINE

24" WHITE
STA. +93.09
13.59' LT.

12'

12'

12'

12'

175 176 177 178 179 180

℄ OF SURVEY SR 994

SR 994 / QUAIL ROOST DR. / SW 200 ST

6" WHITE PROFILED THERMOPLASTIC (TYP.)

R/W LINE

6" YELLOW (10'-30' SKIP)
PROFILED THERMOPLASTIC
WITH Y/Y RPMs @ 40' O.C. (TYP.)

STA. +84.01
10.42' RT.

EXIST. SIGN
(TO REMAIN)

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					SR 994	MIAMI-DADE	443907-1-52-01		

SW 162 AVE

R/W LINE

LIMITS OF SIGNING & PAVEMENT MARKINGS
STA. 180+37.92
44.98' LT

6" DOUBLE YELLOW WITH
Y/Y RPMs @ 20' O.C. (TYP.)

+37.94
22.62' LT.

6" WHITE PROFILED
THERMOPLASTIC (TYP.)

R/W LINE

STA. +93.82
13.02' LT.

R/W LINE

24" WHITE

MATCHLINE STA.

12'

181 182 183 184 185 186

12'

℄ OF SURVEY SR 994

SR 994 / QUAIL ROOST DR. / SW 200 ST

12'

24" WHITE

MATCHLINE STA.

R/W LINE

R/W LINE

6" WHITE PROFILED
THERMOPLASTIC (TYP.)

STA. +02.82
11.01' RT.

6" YELLOW (10'-30' SKIP)
PROFILED THERMOPLASTIC
WITH Y/Y RPMs @ 40' O.C. (TYP.)

6" DOUBLE YELLOW WITH
Y/Y RPMs @ 20' O.C. (TYP.)

EXIST. SIGN
(TO BE REMOVED)

0700 1 60
STA. 180+68
1 AS

SW 200 ST
Quail Roost Dr

SW 162 AV

STOP

GS-16
30"x15"

GS-4
30"x15"

R1-1
36"x36"

0700 1 12
STA. 180+93
1 AS

LIMITS OF SIGNING & PAVEMENT MARKINGS
STA. 180+46.06
88.08' RT.

R/W LINE

N

0 10 40
Feet

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

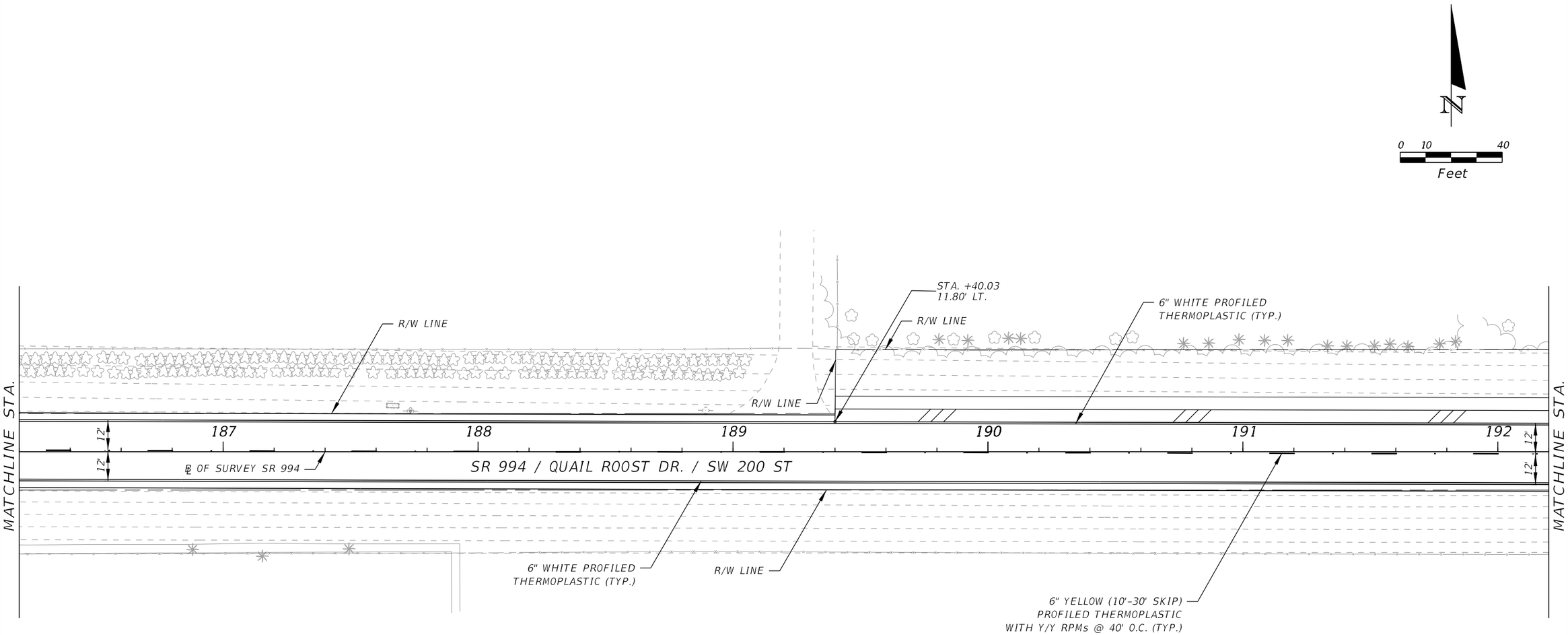
RAFAEL S. AGUILAR, P.E.
LICENSE NUMBER 74068
CHOICE ENGINEERING CONSULTANTS, INC.
12855 SW 132nd STREET, SUITE 200
MIAMI, FLORIDA 33186

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 994	MIAMI-DADE	443907-1-52-01

SIGNING & PAVEMENT MARKING PLANS

SHEET NO.
S-16



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					SR 994	MIAMI-DADE	443907-1-52-01		

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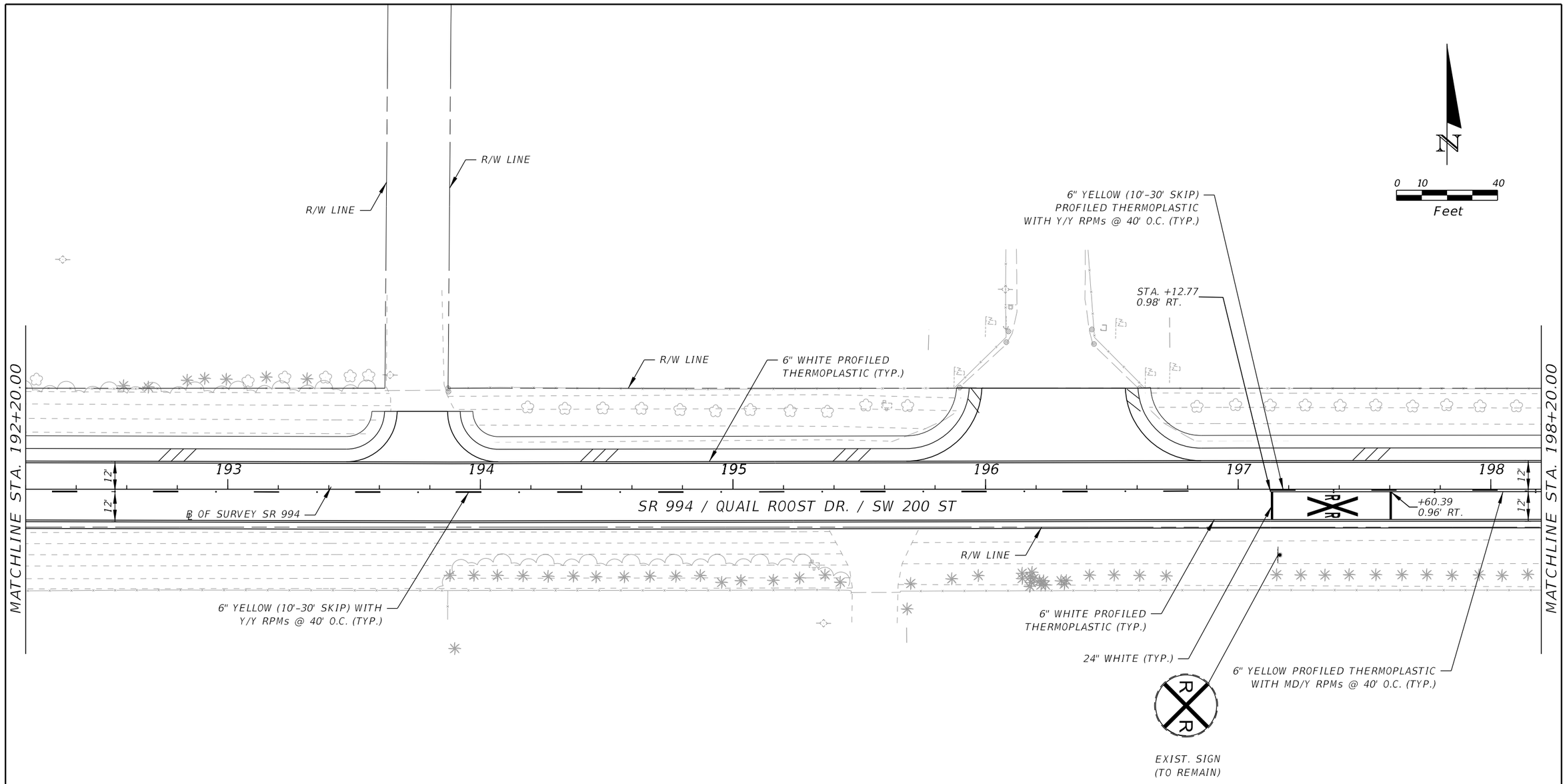

REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING & PAVEMENT MARKING PLANS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RAFAEL S. AGUILAR, P.E. LICENSE NUMBER 74068 CHOICE ENGINEERING CONSULTANTS, INC. 12855 SW 132nd STREET, SUITE 200 MIAMI, FLORIDA 33186	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-18
					SR 994	MIAMI-DADE	443907-1-52-01		

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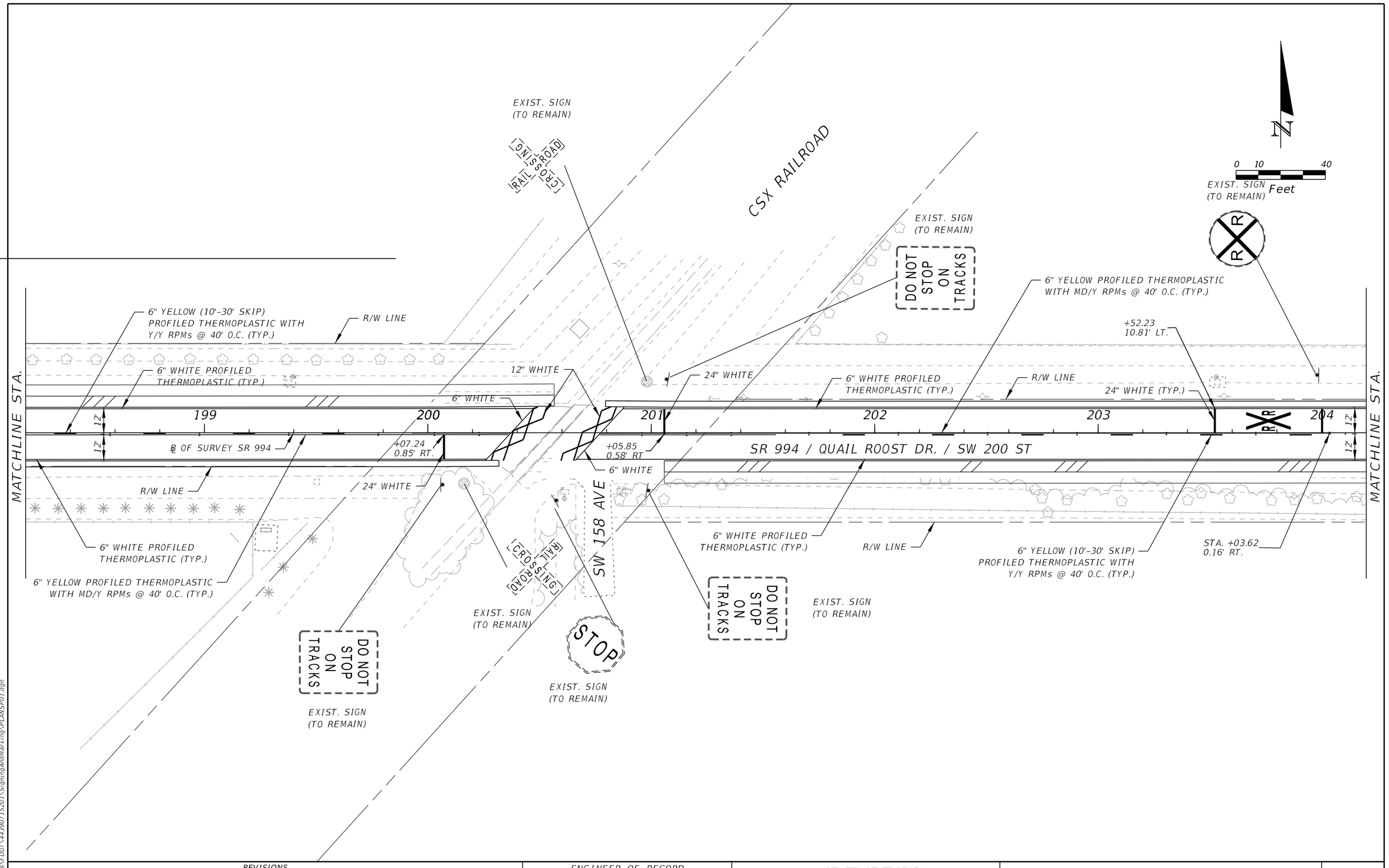

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REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING & PAVEMENT MARKING PLANS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RAFAEL S. AGUILAR, P.E. LICENSE NUMBER 74068 CHOICE ENGINEERING CONSULTANTS, INC. 12855 SW 132nd STREET, SUITE 200 MIAMI, FLORIDA 33186	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-19
					SR 994	MIAMI-DADE	443907-1-52-01		

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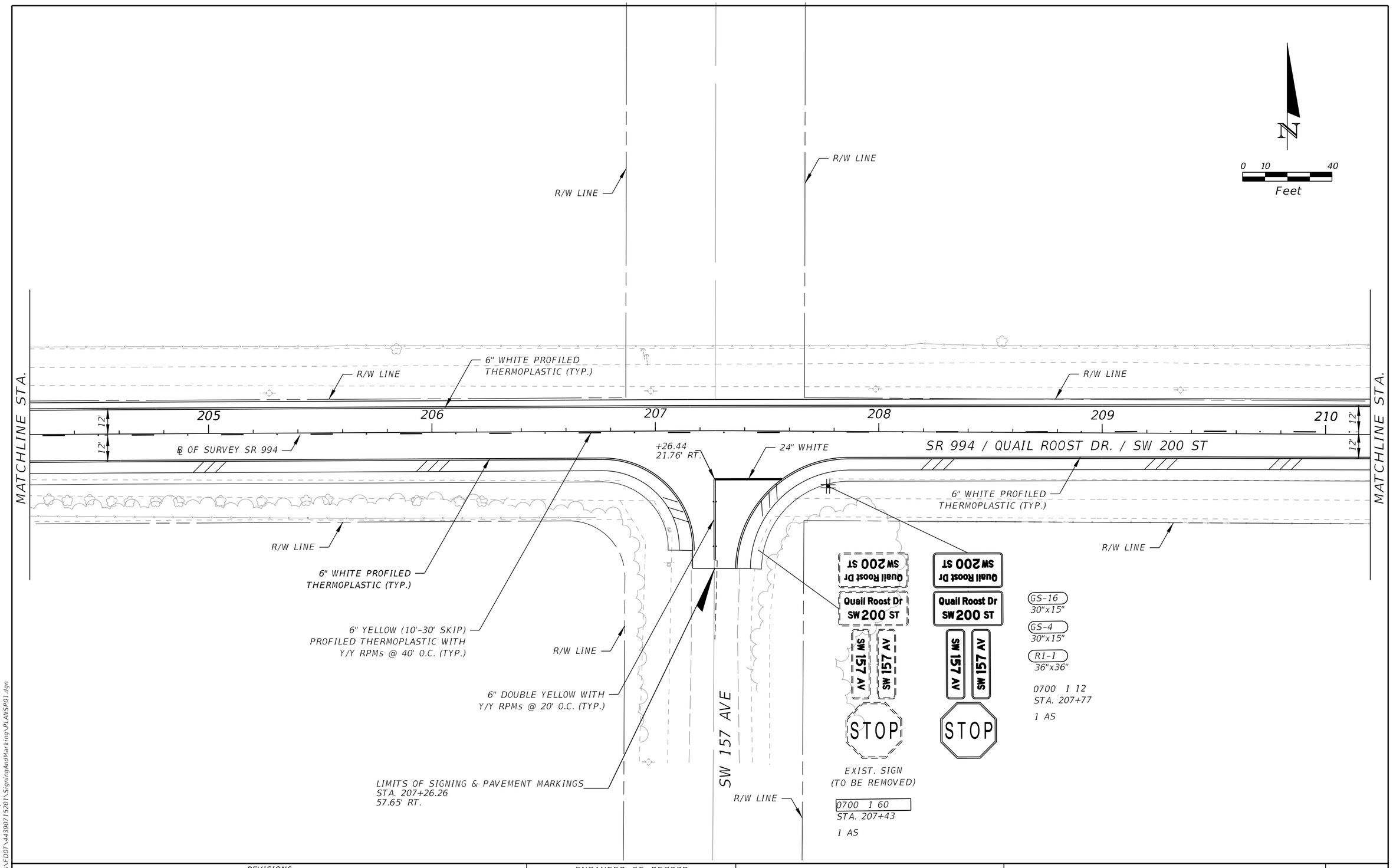

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD
RAFAEL S. AGUILAR, P.E.
LICENSE NUMBER 74068
CHOICE ENGINEERING CONSULTANTS, INC.
12855 SW 132nd STREET, SUITE 200
MIAMI, FLORIDA 33186

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 994	MIAMI-DADE	443907-1-52-01

SIGNING & PAVEMENT MARKING PLANS

SHEET NO.
S-20

EXIST. SIGN
(TO BE REMOVED)
0700 1 60
STA. 210+33
1 AS

R/W LINE

W2-2L
30"x30"
0700 1 11
STA. 210+70
1 AS

STA. +62.92
13.34' LT.

6" WHITE PROFILED
THERMOPLASTIC (TYP.)

EXIST. SIGN
(TO BE REMOVED)
0700 1 60
STA. 214+78
1 AS

R2-1
30"x36"
0700 1 11
STA. 214+80
1 AS

SPEED LIMIT 45

SPEED LIMIT 45

N

0 10 40
Feet

MATCHLINE STA. 211

211 212 213 214 215 216

MATCHLINE STA. 216

12' 12'

℄ OF SURVEY SR 994

SR 994 / QUAIL ROOST DR. / SW 200 ST

6" WHITE PROFILED
THERMOPLASTIC (TYP.)

6" YELLOW (10'-30' SKIP)
PROFILED THERMOPLASTIC WITH
Y/Y RPMs @ 40' O.C. (TYP.)

+25.92
16.42' RT.

24" WHITE

STA. +60.95
10.21' RT.

6" WHITE PROFILED
THERMOPLASTIC (TYP.)

R/W LINE

EXIST. SIGN
(TO BE REMOVED)
0700 1 60
STA. 213+97
1 AS

Quail Roost Dr SW 200 ST

Quail Roost Dr SW 200 ST

SW 155 AV

SW 155 AV

6" DOUBLE YELLOW WITH
Y/Y RPMs @ 20' O.C. (TYP.)

SW 155 AVE

Quail Roost Dr SW 200 ST

Quail Roost Dr SW 200 ST

SW 155 AV

SW 155 AV

STOP

GS-16
30"x15"

GS-4
30"x15"

R1-1
36"x36"

0700 1 12
STA. 214+57
1 AS

LIMITS OF SIGNING & PAVEMENT MARKINGS
STA. 214+25.85
35.09' RT.

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REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING & PAVEMENT MARKING PLANS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RAFAEL S. AGUILAR, P.E. LICENSE NUMBER 74068 CHOICE ENGINEERING CONSULTANTS, INC. 12855 SW 132nd STREET, SUITE 200 MIAMI, FLORIDA 33186	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-21
					SR 994	MIAMI-DADE	443907-1-52-01		

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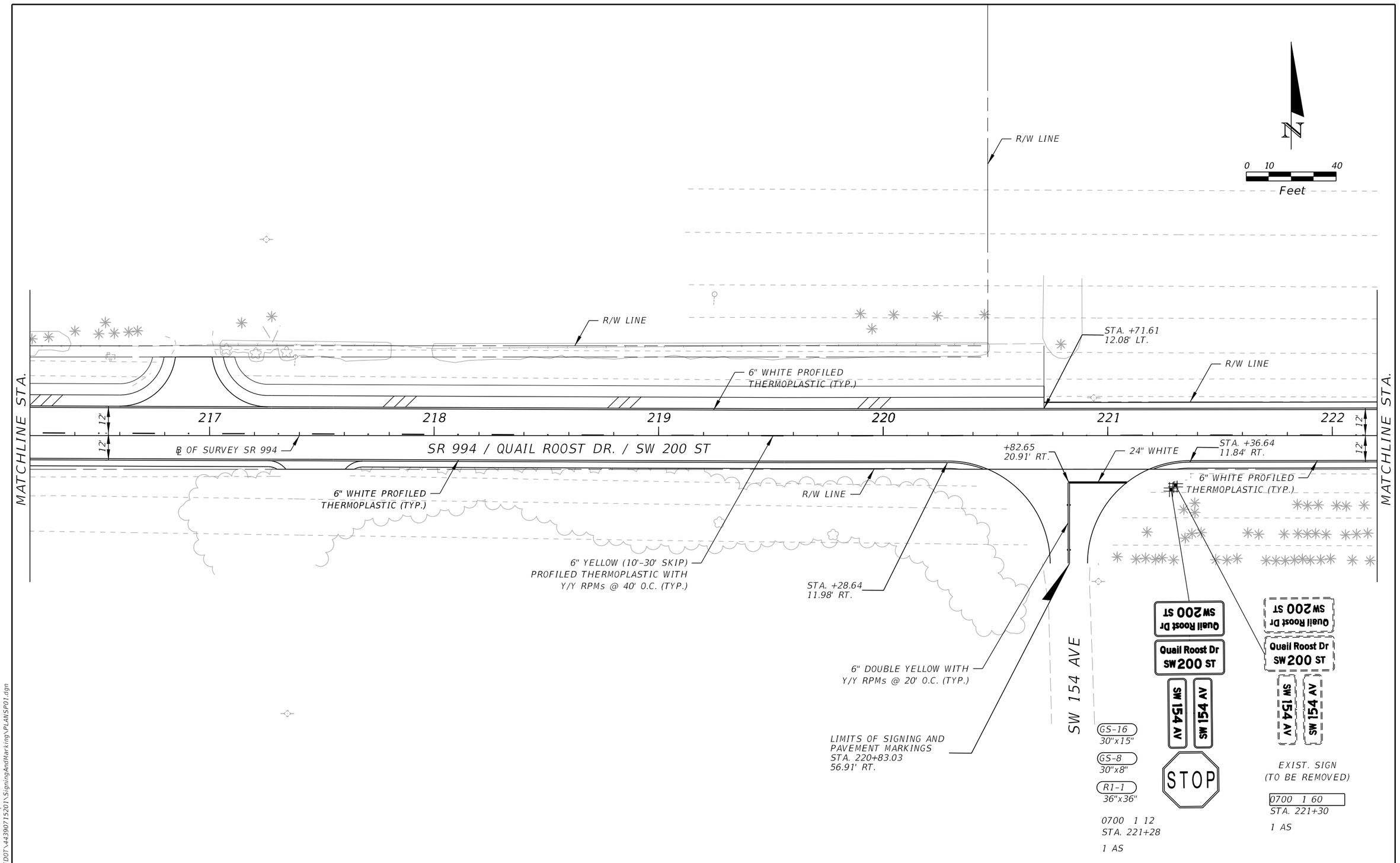

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

RAFAEL S. AGUILAR, P.E.
LICENSE NUMBER 74068
CHOICE ENGINEERING CONSULTANTS, INC.
12855 SW 132nd STREET, SUITE 200
MIAMI, FLORIDA 33186

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 994	MIAMI-DADE	443907-1-52-01

SIGNING & PAVEMENT MARKING PLANS

SHEET NO.
S-22

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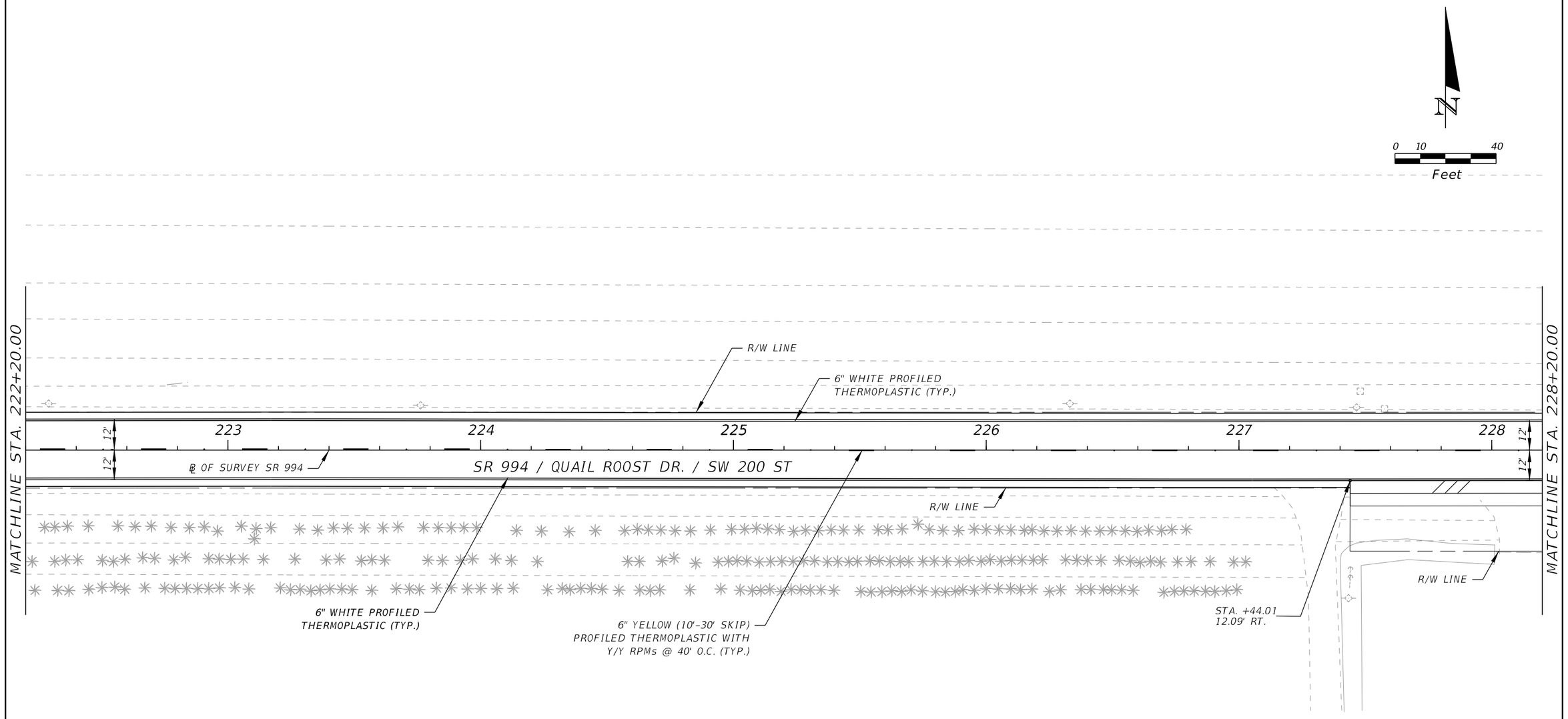

REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING & PAVEMENT MARKING PLANS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RAFAEL S. AGUILAR, P.E. LICENSE NUMBER 74068 CHOICE ENGINEERING CONSULTANTS, INC. 12855 SW 132nd STREET, SUITE 200 MIAMI, FLORIDA 33186	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-23
					SR 994	MIAMI-DADE	443907-1-52-01		

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LIMITS OF SIGNING & PAVEMENT MARKINGS
STA. 233+94.80
48.20' LT.

EXIST. SIGN
(TO BE REMOVED)

0700 1 60
STA. 233+76
1 AS

R/W LINE

SW 152 AVE

6" DOUBLE YELLOW WITH
Y/Y RPMs @ 20' O.C. (TYP.)

+94.85
22.20' LT.

N

0 10 40
Feet

GS-16
30"x15"

GS-8
30"x8"

R1-1
36"x36"

0700 1 12
STA. 233+60
1 AS

STOP
Quail Roost Dr
SW 200 ST
Quail Roost Dr
SW 200 ST
SW 152 AV
SW 152 AV

STOP
Quail Roost Dr
SW 200 ST
Quail Roost Dr
SW 200 ST
SW 151 AV
SW 152 AV

EXIST. SIGN
(TO REMAIN)

C-102 CANAL

R/W LINE

END EXCEPTION
END BRIDGE
NO.: 870628
STA. 230+52.22

C-102
SIGN

6" WHITE PROFILED
THERMOPLASTIC (TYP.)

STA. +54.79
15.00' LT.

R/W LINE

6" WHITE PROFILED
THERMOPLASTIC (TYP.)

24" WHITE

MATCHLINE STA. 228+20.00

MATCHLINE STA. 234+20.00

229 230 231 232 233 234

12' 12'

℄ OF SURVEY SR 994

SR 994 / QUAIL ROOST DR. / SW 200 ST

12' 12'

6" WHITE PROFILED
THERMOPLASTIC (TYP.)

6" YELLOW (10'-30' SKIP)
PROFILED THERMOPLASTIC WITH
Y/Y RPMs @ 40' O.C. (TYP.)

R/W LINE

6" WHITE PROFILED
THERMOPLASTIC (TYP.)

R/W LINE

C-102
SIGN

BEGIN EXCEPTION
BEGIN BRIDGE
NO.: 870628
STA. 229+67.23

EXIST. SIGN
(TO REMAIN)

EXIST. SIGN
(TO REMAIN)

R/W LINE

C-102 CANAL

R/W LINE

EXIST. SIGN
(TO REMAIN)

R/W LINE

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REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING & PAVEMENT MARKING PLANS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RAFAEL S. AGUILAR, P.E. LICENSE NUMBER 74068 CHOICE ENGINEERING CONSULTANTS, INC. 12855 SW 132nd STREET, SUITE 200 MIAMI, FLORIDA 33186	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-24
					SR 994	MIAMI-DADE	443907-1-52-01		

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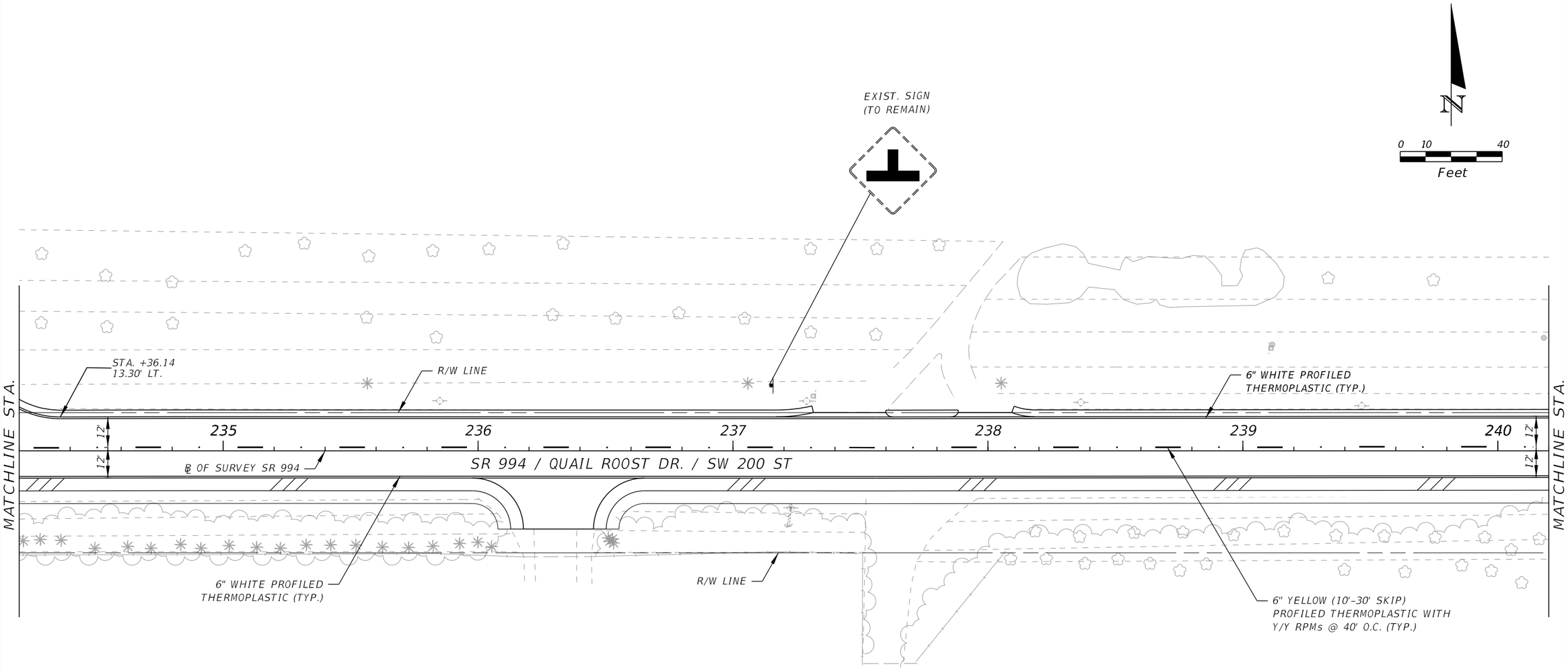

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

RAFAEL S. AGUILAR, P.E.
LICENSE NUMBER 74068
CHOICE ENGINEERING CONSULTANTS, INC.
12855 SW 132nd STREET, SUITE 200
MIAMI, FLORIDA 33186

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 994	MIAMI-DADE	443907-1-52-01

SIGNING & PAVEMENT MARKING PLANS

SHEET NO.
S-25

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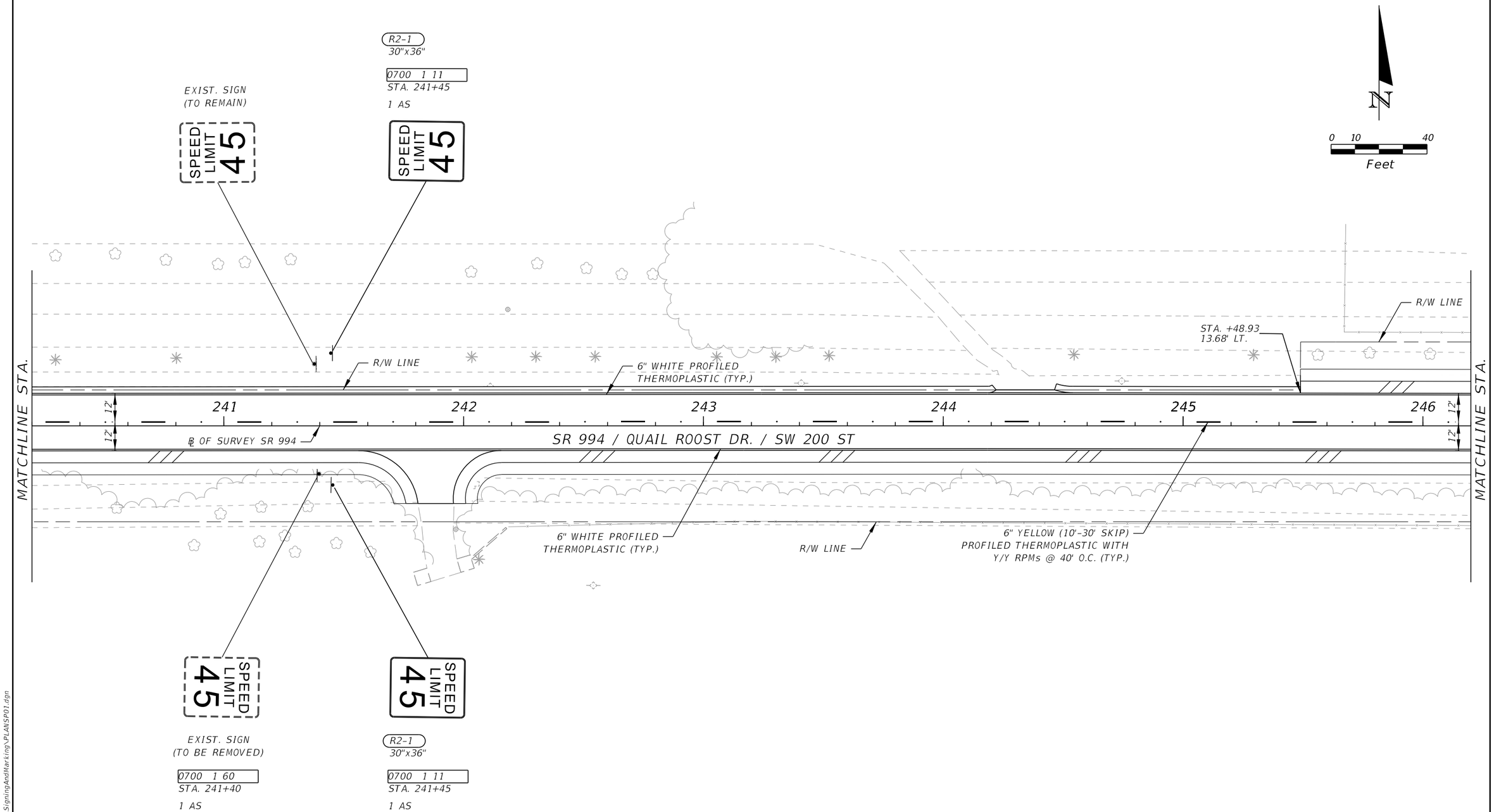

REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING & PAVEMENT MARKING PLANS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RAFAEL S. AGUILAR, P.E. LICENSE NUMBER 74068 CHOICE ENGINEERING CONSULTANTS, INC. 12855 SW 132nd STREET, SUITE 200 MIAMI, FLORIDA 33186	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-26
					SR 994	MIAMI-DADE	443907-1-52-01		

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N

0 10 40
Feet

MATCHLINE STA. 246+20.00

MATCHLINE STA. 252+20.00

STA. +57.93
13.41' LT.

R/W LINE

6" WHITE PROFILED
THERMOPLASTIC (TYP.)

247 248 249 250 251 252

12' 12'

℄ OF SURVEY SR 994

SR 994 / QUAIL ROOST DR. / SW 200 ST

6" WHITE

6" WHITE PROFILED
THERMOPLASTIC (TYP.)

R/W LINE

6" YELLOW (10'-30' SKIP)
PROFILED THERMOPLASTIC WITH
Y/Y RPMs @ 40' O.C. (TYP.)

STA. +93.19
10.81' RT.

SW 149 AVE

Quail Roost Dr
SW 200 ST

SW 149 AV

STOP

GS-16
30"x15"

GS-10
30"x8"

R1-1
36"x36"

0700 1 12
STA. 247+88
1 AS

LIMITS OF SIGNING & PAVEMENT MARKINGS
STA. 247+63.91
35.59' RT.

EXIST. SIGN
(TO BE REMOVED)

0700 1 60
STA. 247+75
1 AS

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REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING & PAVEMENT MARKING PLANS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RAFAEL S. AGUILAR, P.E. LICENSE NUMBER 74068 CHOICE ENGINEERING CONSULTANTS, INC. 12855 SW 132nd STREET, SUITE 200 MIAMI, FLORIDA 33186	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-27
					SR 994	MIAMI-DADE	443907-1-52-01		

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EXIST. SIGN
(TO BE REMOVED)

0700 1 60
STA. 258+14

1 AS

SPEED LIMIT 45

N

0 10 40
Feet

MATCHLINE STA.

253 254 255 256 257 258

12' 12'

℄ OF SURVEY SR 994

SR 994 / QUAIL ROOST DR. / SW 200 ST

12' 12'

MATCHLINE STA.

R/W LINE

6" WHITE PROFILED
THERMOPLASTIC (TYP.)

STA. +50.00
10.96' RT.

R/W LINE

6" WHITE PROFILED
THERMOPLASTIC (TYP.)

6" YELLOW (10'-30' SKIP)
PROFILED THERMOPLASTIC WITH
Y/Y RPMs @ 40' O.C. (TYP.)

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REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING & PAVEMENT MARKING PLANS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RAFAEL S. AGUILAR, P.E. LICENSE NUMBER 74068 CHOICE ENGINEERING CONSULTANTS, INC. 12855 SW 132nd STREET, SUITE 200 MIAMI, FLORIDA 33186	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-28
					SR 994	MIAMI-DADE	443907-1-52-01		

R2-1
30"x36"

0700 1 11
STA. 258+60
1 AS

SPEED LIMIT 45

LIMITS OF SIGNING & PAVEMENT MARKINGS
STA. 261+00.17
85.82' LT

STA. +16.42
85.79' LT.

R/W LINE

6" YELLOW (10'-30' SKIP)
PROFILED THERMOPLASTIC WITH
Y/Y RPMs @ 40' O.C. (TYP.)

6" WHITE PROFILED
THERMOPLASTIC (TYP.)

6" DOUBLE YELLOW PROFILED
THERMOPLASTIC WITH
Y/Y RPMs @ 20' O.C. (TYP.)

NARANJA RD. / SW 147 AVE

N

0 10 40
Feet

EXIST. SIGN
(TO BE REMOVED)

0700 1 60
STA. 264+19
1 AS

MATCHLINE STA. 259

259 260 261 262 263 264

12' 12'

℄ OF SURVEY SR 994

SR 994 / QUAIL ROOST DR. / SW 200 ST

MATCHLINE STA. 264

24" WHITE
(TYP.)

SPEED LIMIT 45

R2-1
30"x36"

0700 1 11
STA. 262+17
1 AS

EXIST. SIGN
(TO BE REMOVED)

0700 1 60
STA. 262+72
1 AS

LIMITS OF SIGNING & PAVEMENT MARKINGS
STA. 261+00.51
88.18' RT.

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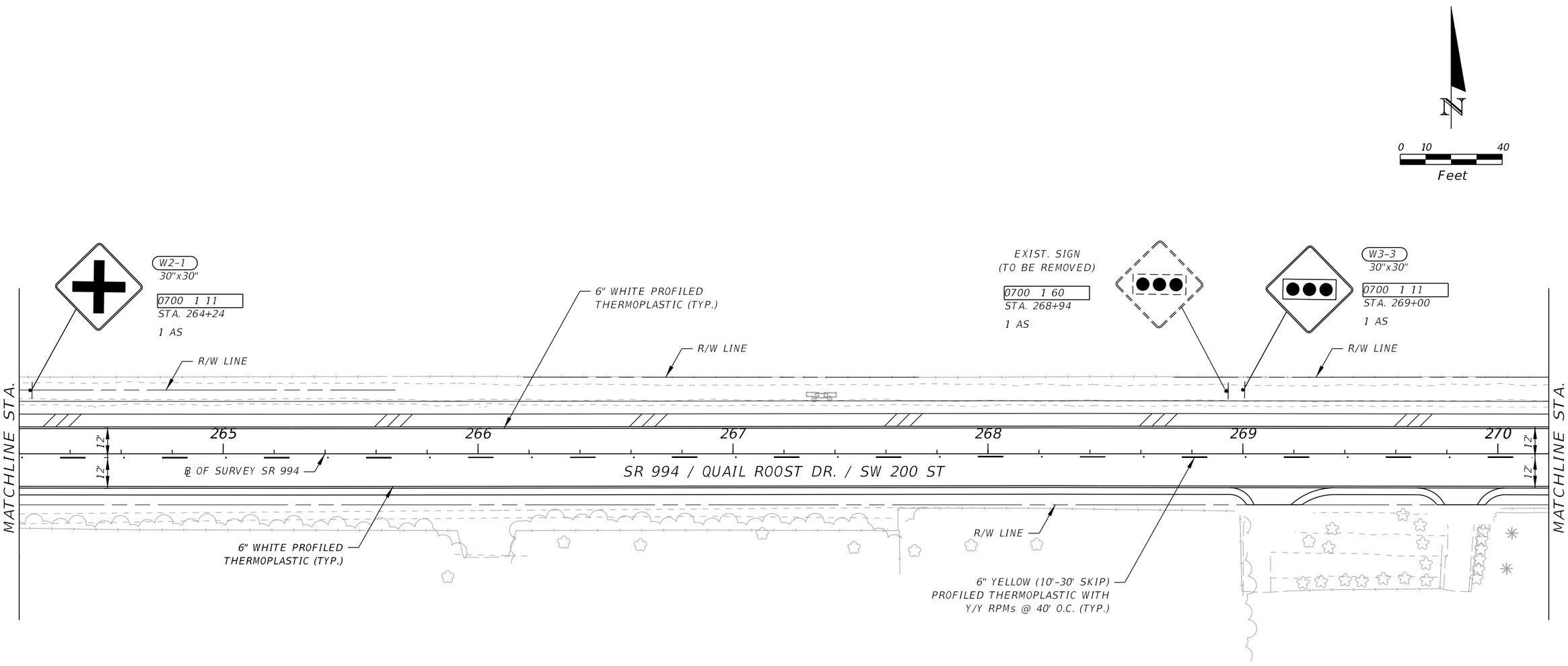
REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING & PAVEMENT MARKING PLANS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RAFAEL S. AGUILAR, P.E. LICENSE NUMBER 74068 CHOICE ENGINEERING CONSULTANTS, INC. 12855 SW 132nd STREET, SUITE 200 MIAMI, FLORIDA 33186	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-29
					SR 994	MIAMI-DADE	443907-1-52-01		



REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING & PAVEMENT MARKING PLANS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RAFAEL S. AGUILAR, P.E. LICENSE NUMBER 74068 CHOICE ENGINEERING CONSULTANTS, INC. 12855 SW 132nd STREET, SUITE 200 MIAMI, FLORIDA 33186	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-30
					SR 994	MIAMI-DADE	443907-1-52-01		

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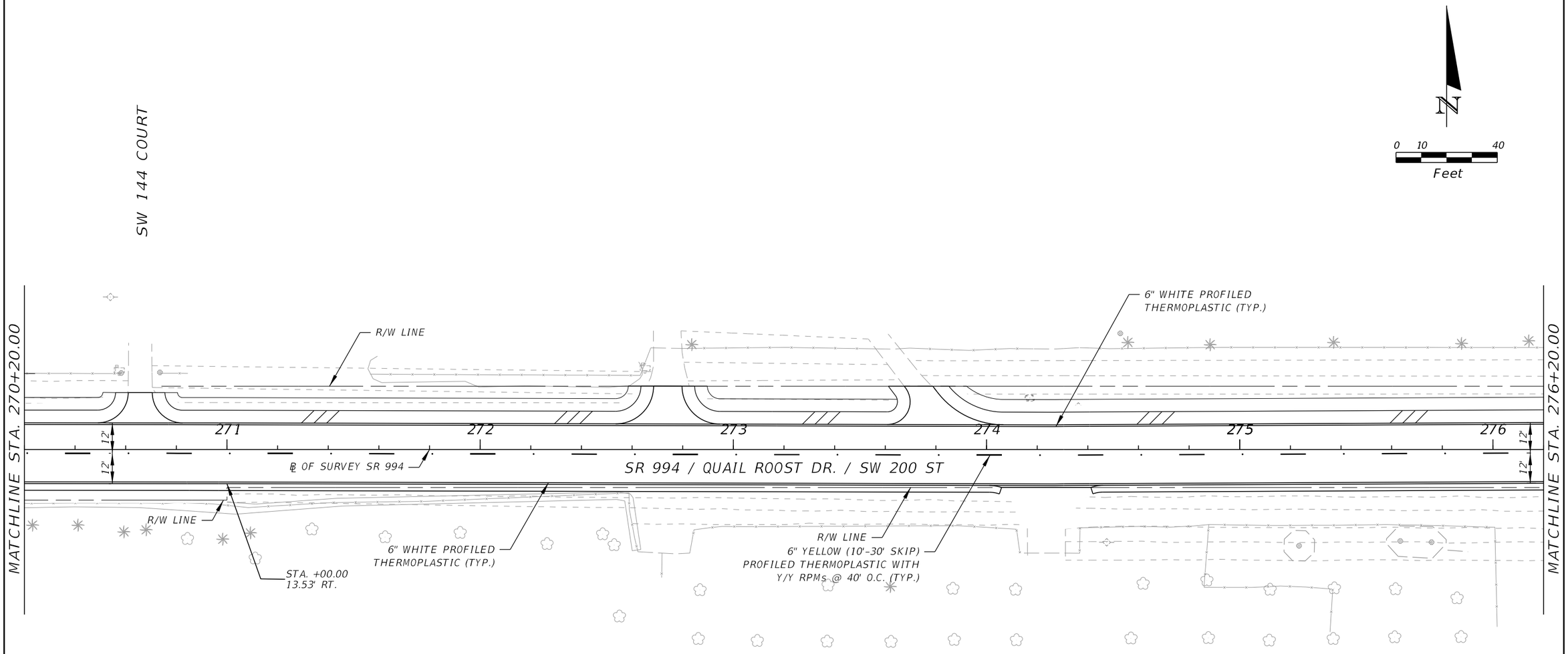

REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING & PAVEMENT MARKING PLANS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RAFAEL S. AGUILAR, P.E. LICENSE NUMBER 74068 CHOICE ENGINEERING CONSULTANTS, INC. 12855 SW 132nd STREET, SUITE 200 MIAMI, FLORIDA 33186	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-31
					SR 994	MIAMI-DADE	443907-1-52-01		

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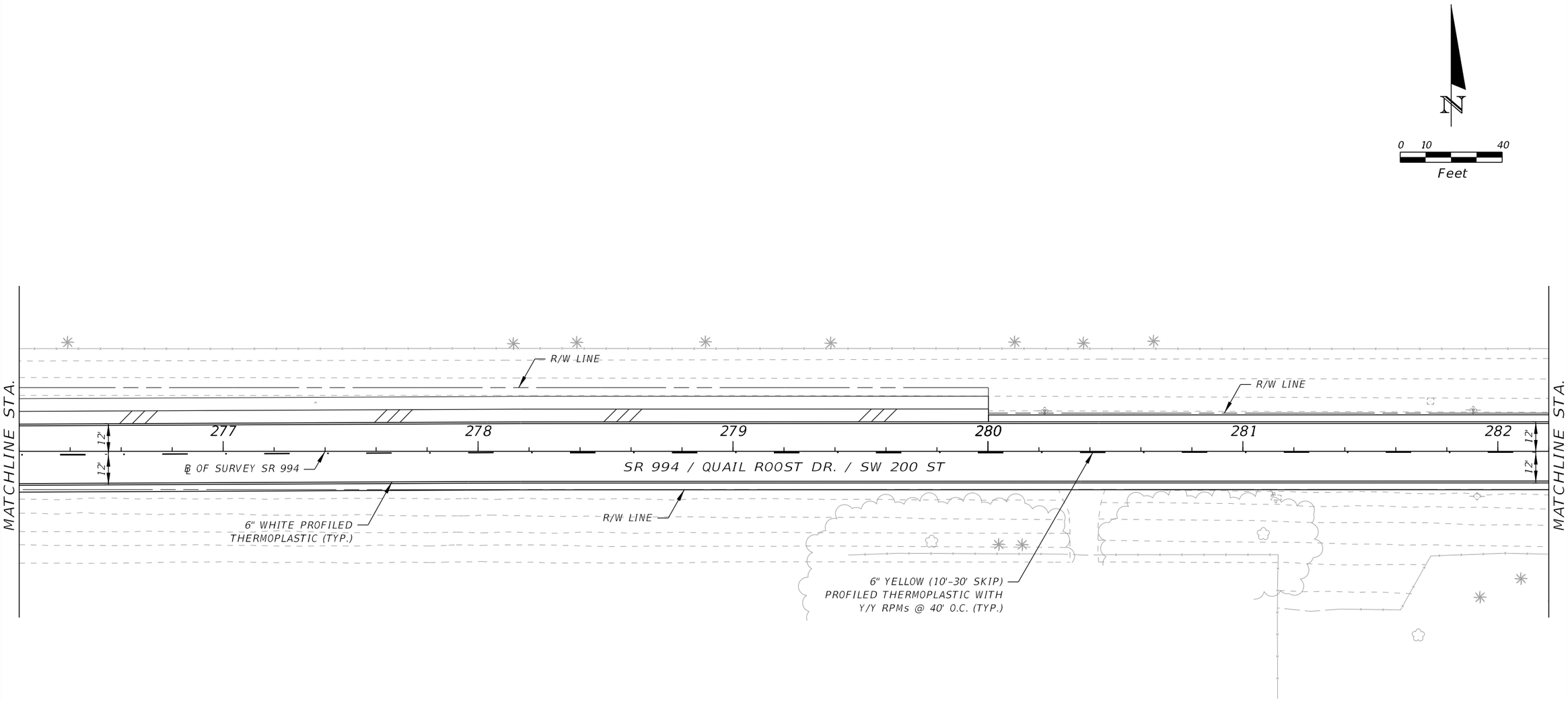

REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING & PAVEMENT MARKING PLANS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RAFAEL S. AGUILAR, P.E. LICENSE NUMBER 74068 CHOICE ENGINEERING CONSULTANTS, INC. 12855 SW 132nd STREET, SUITE 200 MIAMI, FLORIDA 33186	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-32
					SR 994	MIAMI-DADE	443907-1-52-01		

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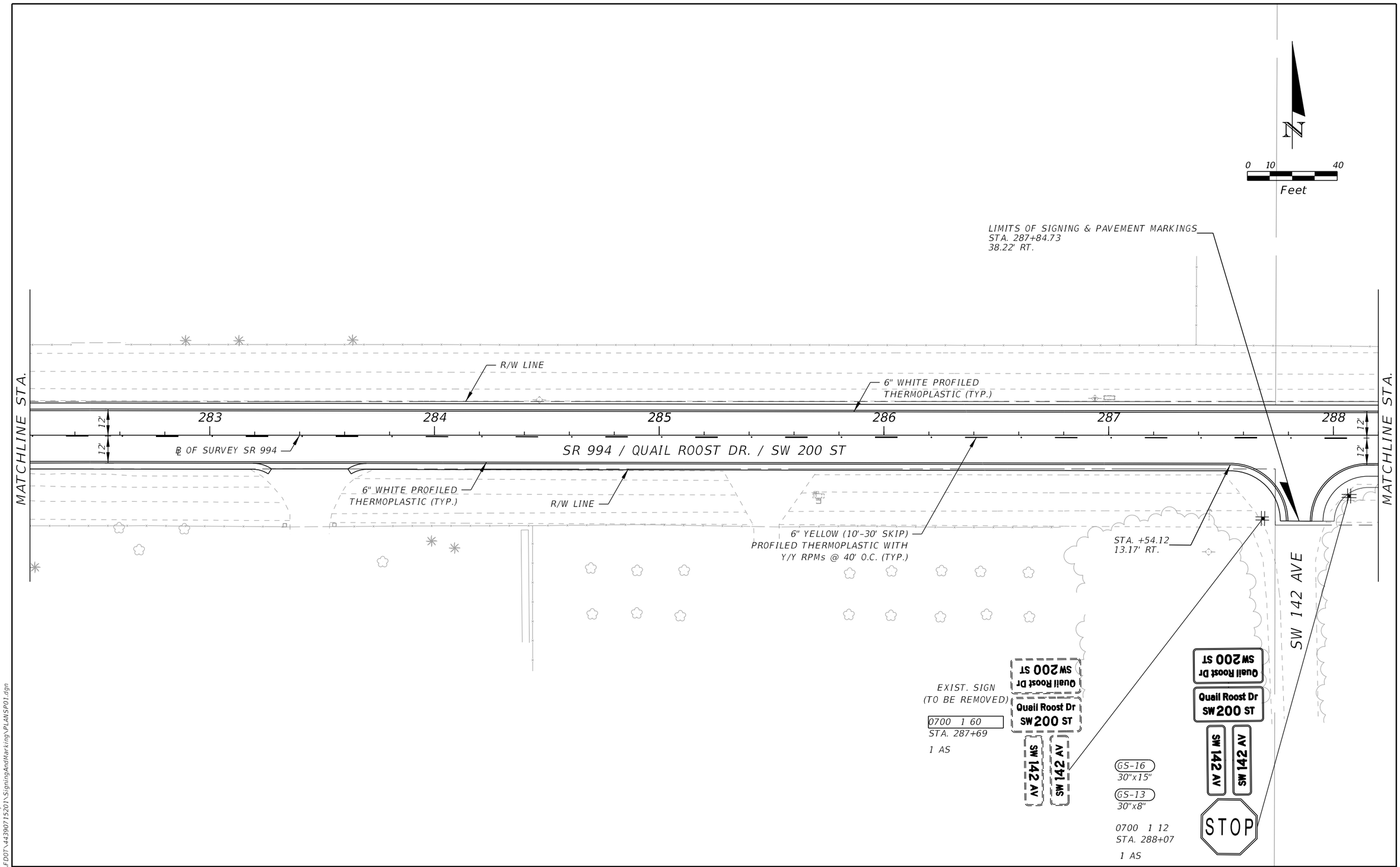

REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION				SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RAFAEL S. AGUILAR, P.E. LICENSE NUMBER 74068 CHOICE ENGINEERING CONSULTANTS, INC. 12855 SW 132nd STREET, SUITE 200 MIAMI, FLORIDA 33186	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	SIGNING & PAVEMENT MARKING PLANS	S-33
					SR 994	MIAMI-DADE	443907-1-52-01		

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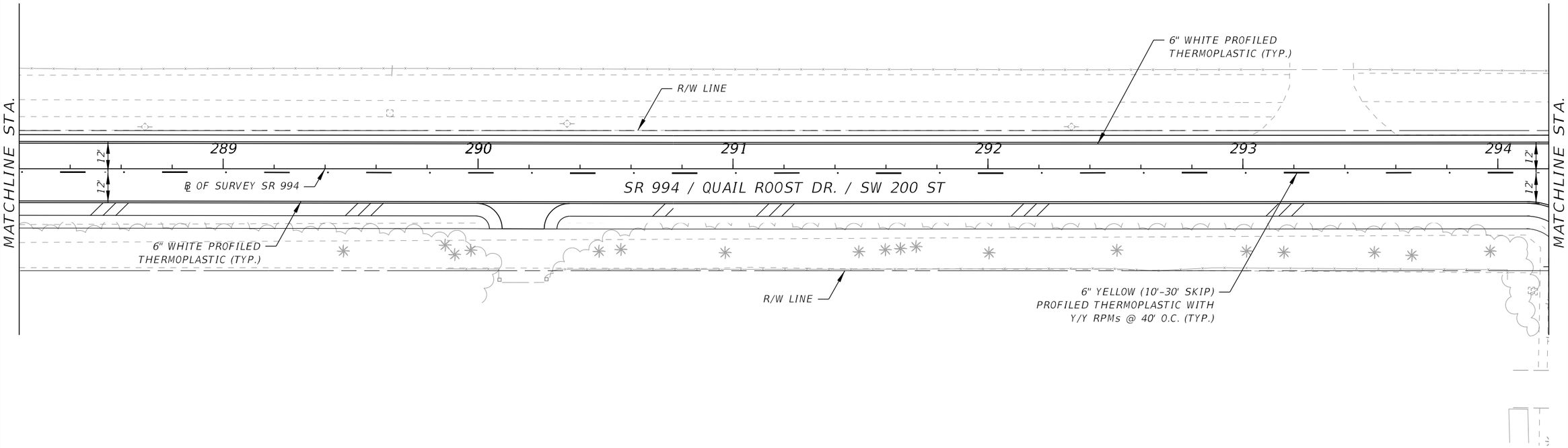

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REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING & PAVEMENT MARKING PLANS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RAFAEL S. AGUILAR, P.E. LICENSE NUMBER 74068 CHOICE ENGINEERING CONSULTANTS, INC. 12855 SW 132nd STREET, SUITE 200 MIAMI, FLORIDA 33186	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-34
					SR 994	MIAMI-DADE	443907-1-52-01		

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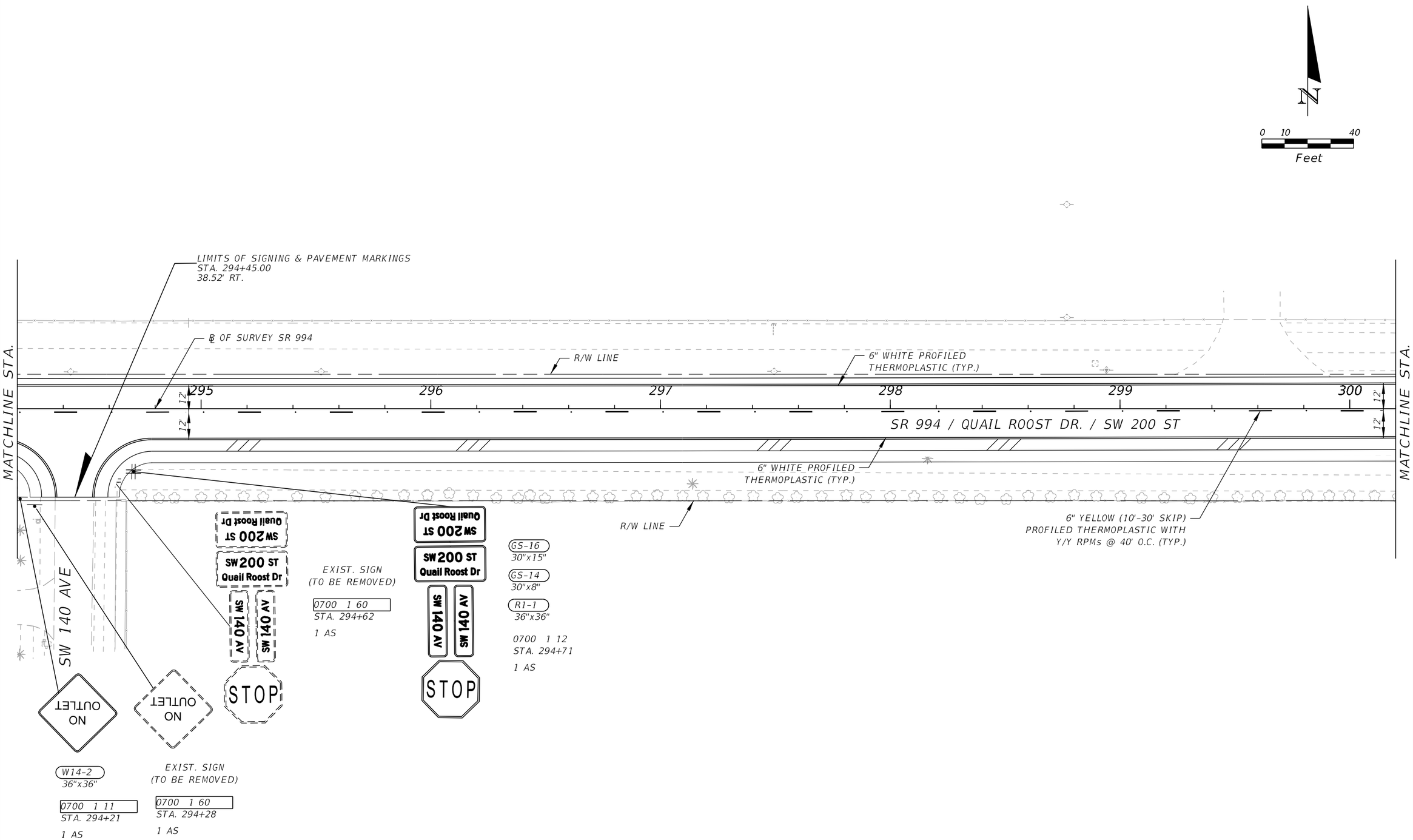

REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION				SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RAFAEL S. AGUILAR, P.E. LICENSE NUMBER 74068 CHOICE ENGINEERING CONSULTANTS, INC. 12855 SW 132nd STREET, SUITE 200 MIAMI, FLORIDA 33186	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	SIGNING & PAVEMENT MARKING PLANS	S-35
					SR 994	MIAMI-DADE	443907-1-52-01		

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N

0 10 40
Feet

MATCHLINE STA. 300+20.00

MATCHLINE STA. 306+20.00

R/W LINE

6" WHITE PROFILED THERMOPLASTIC (TYP.)

301 302 303 304 305 306

12' 12' 12' 12'

℄ OF SURVEY SR 994

SR 994 / QUAIL ROOST DR. / SW 200 ST

STA. +30.38
12.55' RT.

R/W LINE

6" WHITE PROFILED THERMOPLASTIC (TYP.)

6" YELLOW (10'-30' SKIP) PROFILED THERMOPLASTIC WITH Y/Y RPMs @ 40' O.C. (TYP.)

R/W LINE

SW 139 AVE

GS-16
30"x15"

GS-15
30"x8"

0700 1 12
STA. 301+22
1 AS

SW 200 ST
Quail Roost Dr

SW 139 AV

SW 139 AV

STOP

SW 200 ST
Quail Roost Dr

SW 200 ST
Quail Roost Dr

SW 139 AV

SW 139 AV

EXIST. SIGN
(TO BE REMOVED)

0700 1 60
STA. 300+88
1 AS

LIMITS OF SIGNING & PAVEMENT MARKINGS
STA. 300+98.91
37.78. rt.

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REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING & PAVEMENT MARKING PLANS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RAFAEL S. AGUILAR, P.E. LICENSE NUMBER 74068 CHOICE ENGINEERING CONSULTANTS, INC. 12855 SW 132nd STREET, SUITE 200 MIAMI, FLORIDA 33186	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-36
					SR 994	MIAMI-DADE	443907-1-52-01		

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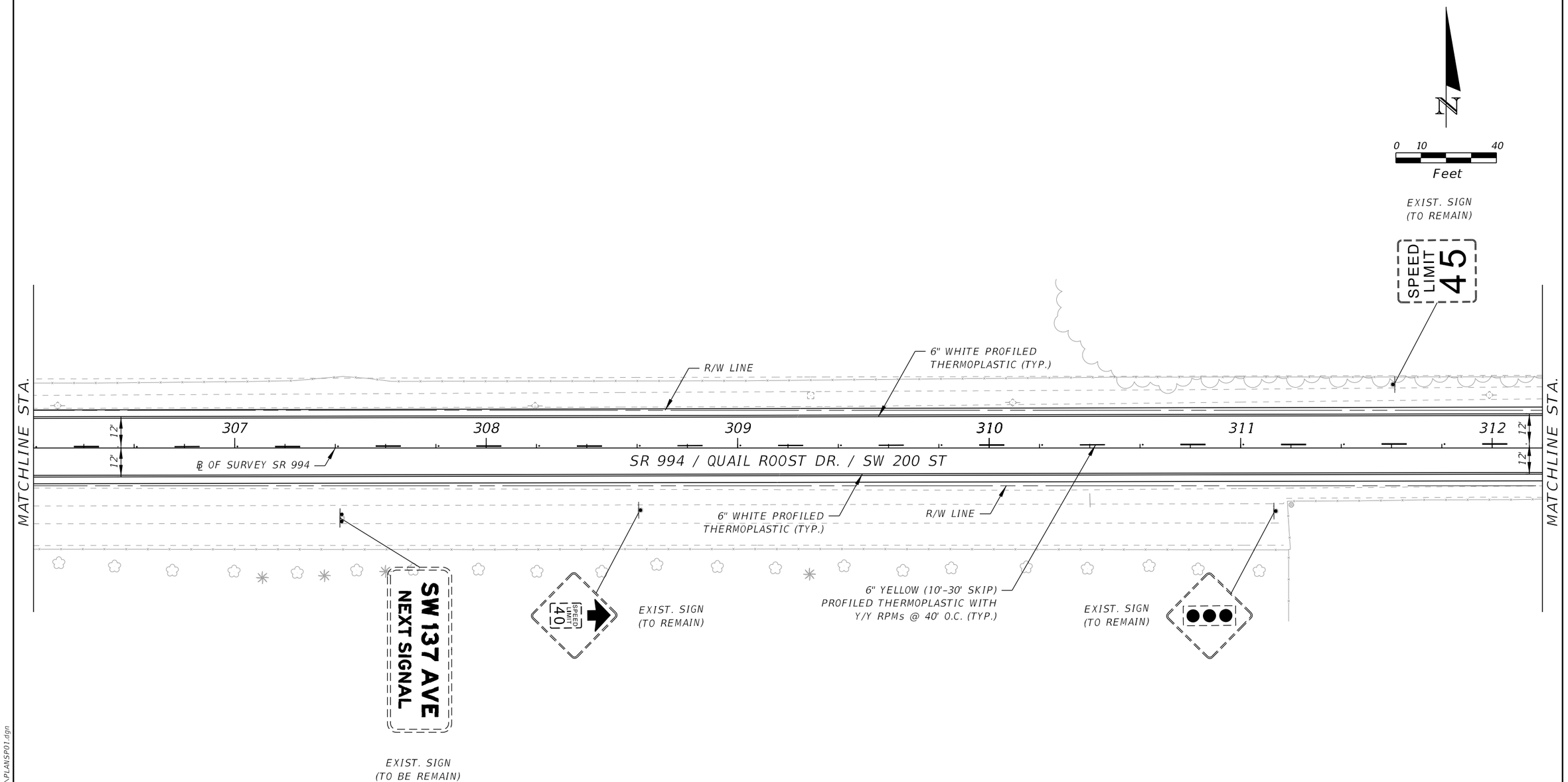

REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING & PAVEMENT MARKING PLANS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RAFAEL S. AGUILAR, P.E. LICENSE NUMBER 74068 CHOICE ENGINEERING CONSULTANTS, INC. 12855 SW 132nd STREET, SUITE 200 MIAMI, FLORIDA 33186	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-37
					SR 994	MIAMI-DADE	443907-1-52-01		

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END PROJECT
END SIGNING &
PAVEMENT MARKINGS
STA. 313+75.00
MP 4.035

6" WHITE PROFILED
THERMOPLASTIC (TYP.)

6" YELLOW (10'-30' SKIP)
PROFILED THERMOPLASTIC WITH
Y/Y RPMs @ 40' O.C. (TYP.)

6" DOUBLE YELLOW PROFILED
THERMOPLASTIC WITH
Y/Y RPMs @ 20' O.C. (TYP.)

R/W LINE

STA. +16.08
2.20' LT.

MATCHLINE STA.

313 314 315 316 317 318

12'
12'

℄ OF SURVEY SR 994

SR 825 / SW 137 AVE / LINDGREN RD.

ONLY

SR 994 / QUAIL ROOST DR. / SW 200 ST

R/W LINE

6" WHITE PROFILED
THERMOPLASTIC (TYP.)

N

0 10 40
Feet

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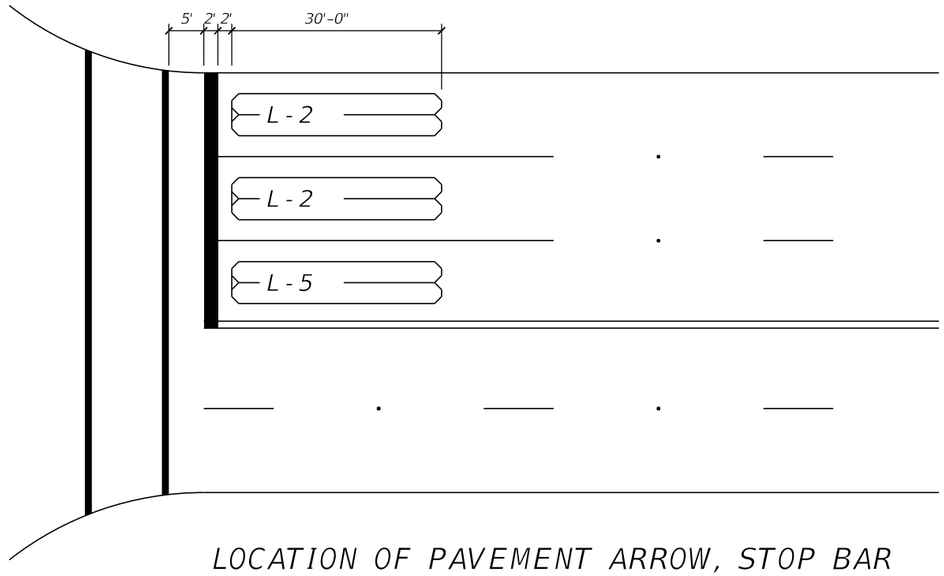
REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING & PAVEMENT MARKING PLANS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RAFAEL S. AGUILAR, P.E. LICENSE NUMBER 74068 CHOICE ENGINEERING CONSULTANTS, INC. 12855 SW 132nd STREET, SUITE 200 MIAMI, FLORIDA 33186	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-38
					SR 994	MIAMI-DADE	443907-1-52-01		



LOCATION OF PAVEMENT ARROW, STOP BAR AND LOOPS AT SIGNALIZED INTERSECTIONS

(NOTE: PAVEMENT ARROWS SHALL NOT OVERLAP LOOPS)
(N.T.S.)

1 Drawing
000 CUSTOM 1:1.949672

REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			LOOP DETAIL AND INSTRUCTIONS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	RAFAEL S. AGUILAR, P.E. LICENSE NUMBER 74068 CHOICE ENGINEERING CONSULTANTS, INC. 12855 SW 132nd STREET, SUITE 200 MIAMI, FLORIDA 33186	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-39
					SR 994	MIAMI-DADE	443907-1-52-01		

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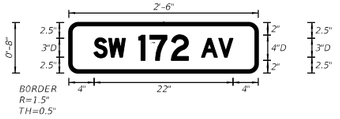
SIGN NAME	GS-01	QTY	1	SIGN NO.	STATION(S)
PANEL		BORDER			none
WIDTH	2'-6"	WIDTH	0.5"		
HEIGHT	0'-8"	RADII	1.5"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE		AVERAGE LENGTH



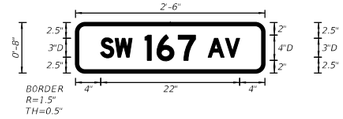
NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

	S	W		L																				
	4	6.3		5																				
	1	7	2		L																			
	11.1	12.8	16.2		7.9																			
	A	V		L																				
	21	23.7		5																				

SIGN NAME	GS-02	QTY	1	SIGN NO.	STATION(S)
PANEL		BORDER			none
WIDTH	2'-6"	WIDTH	0.5"		
HEIGHT	0'-8"	RADII	1.5"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE		AVERAGE LENGTH



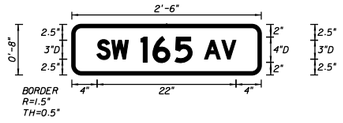
NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

	S	W		L																				
	4	6.3		5																				
	1	6	7		L																			
	11	12.9	16.3		8																			
	A	V		L																				
	21	23.7		5																				

SIGN NAME	GS-03	QTY	1	SIGN NO.	STATION(S)
PANEL		BORDER			none
WIDTH	2'-6"	WIDTH	0.5"		
HEIGHT	0'-8"	RADII	1.5"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE		AVERAGE LENGTH



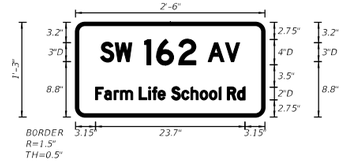
NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

	S	W		L																				
	4	6.3		5																				
	1	6	5		L																			
	10.9	12.8	16.3		8.1																			
	A	V		L																				
	21	23.7		5																				

SIGN NAME	GS-04	QTY	1	SIGN NO.	STATION(S)
PANEL		BORDER			none
WIDTH	2'-6"	WIDTH	0.5"		
HEIGHT	1'-3"	RADII	1.5"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE		AVERAGE LENGTH



NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

	S	W		L																				
	4	6.3		4.9																				
	1	6	2		L																			
	10.9	12.8	16.3		8.1																			
	A	V		L																				
	21	23.7		5																				
	F	a	r	m		L	l	f	e		S	c	h	o	o	l		R	d		L		
	3.2	4.6	6.1	7.1	9.1	10.1	11.6	12.2	13.1	14.2	15.2	16.8	18.3	19.7	21.2	22.7	23.1	24.1	25.6		23.7			

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

RAFAEL S. AGUILAR, P.E.
LICENSE NUMBER 74068
CHOICE ENGINEERING CONSULTANTS, INC.
12855 SW 132nd STREET, SUITE 200
MIAMI, FLORIDA 33186

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 994	MIAMI-DADE	443907-1-52-01

GUIDE SIGN WORK SHEET AND DETAILS

SHEET NO.
S-40

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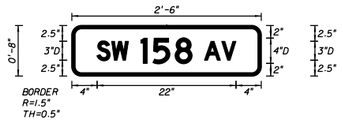
SIGN NAME	GS-05	QTY	1	SIGN NO.	STATION(S)
PANEL		BORDER			none
WIDTH	2'-6"	WIDTH	0.5"		
HEIGHT	0'-8"	RADII	1.5"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE		AVERAGE LENGTH



NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

	S	W		L																				
	4	6.3		5																				
	1	5	8		L																			
	10.9	12.8	16.3		8.1																			
	A	V		L																				
	21	23.7		5																				

SIGN NAME	GS-06	QTY	1	SIGN NO.	STATION(S)
PANEL		BORDER			none
WIDTH	2'-6"	WIDTH	0.5"		
HEIGHT	1'-3"	RADII	1.5"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE		AVERAGE LENGTH



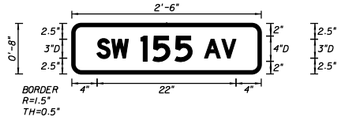
NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

	S	W		L																				
	4	6.3		4.9																				
	1	5	7		L																			
	11	12.9	16.3		8																			
	A	V		L																				
	21	23.7		5																				
	N	e	w	t	o	n		R	d		L													
	5.4	8	9.9	13.4	14.8	17.1	18.9	20.4	22.8		19.2													

SIGN NAME	GS-07	QTY	1	SIGN NO.	STATION(S)
PANEL		BORDER			none
WIDTH	2'-6"	WIDTH	0.5"		
HEIGHT	0'-8"	RADII	1.5"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE		AVERAGE LENGTH



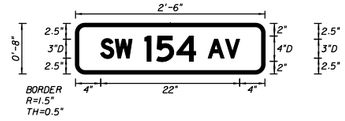
NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

	S	W		L																				
	4	6.3		4.9																				
	1	5	5		L																			
	10.9	12.8	16.3		8.1																			
	A	V		L																				
	21	23.7		5																				

SIGN NAME	GS-08	QTY	1	SIGN NO.	STATION(S)
PANEL		BORDER			none
WIDTH	2'-6"	WIDTH	0.5"		
HEIGHT	0'-8"	RADII	1.5"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE		AVERAGE LENGTH



NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

	S	W		L																				
	4	6.3		4.9																				
	1	5	4		L																			
	11	12.8	16		8.1																			
	A	V		L																				
	21	23.7		5																				

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD
RAFAEL S. AGUILAR, P.E.
LICENSE NUMBER 74068
CHOICE ENGINEERING CONSULTANTS, INC.
12855 SW 132nd STREET, SUITE 200
MIAMI, FLORIDA 33186

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 994	MIAMI-DADE	443907-1-52-01

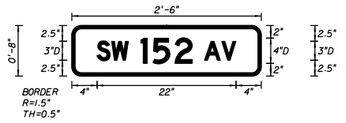
GUIDE SIGN WORK SHEET AND DETAILS

SHEET NO. S-41

SIGN NAME	GS-09	QTY	1	SIGN NO.	STATION(S)
PANEL		BORDER			none
WIDTH	2'-6"	WIDTH	0.5"		
HEIGHT	0'-8"	RADII	1.5"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE		AVERAGE LENGTH



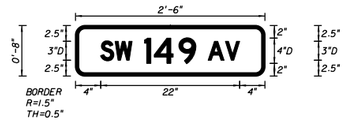
NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

	S	W		L																				
	4	6.3		4.9																				
	1	5	2		L																			
	10.9	12.8	16.3		8.1																			
	A	V		L																				
	21	23.7		5																				

SIGN NAME	GS-10	QTY	1	SIGN NO.	STATION(S)
PANEL		BORDER			none
WIDTH	2'-6"	WIDTH	0.5"		
HEIGHT	0'-8"	RADII	1.5"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE		AVERAGE LENGTH



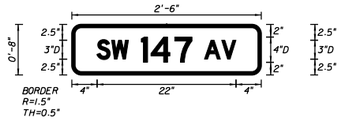
NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

	S	W		L																				
	4	6.3		4.9																				
	1	4	9		L																			
	10.9	12.5	16.4		8.2																			
	A	V		L																				
	21	23.7		5																				

SIGN NAME	GS-11	QTY	1	SIGN NO.	STATION(S)
PANEL		BORDER			none
WIDTH	2'-6"	WIDTH	0.5"		
HEIGHT	0'-8"	RADII	1.5"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE		AVERAGE LENGTH



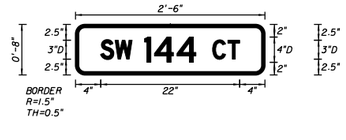
NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

	S	W		L																				
	4	6.3		4.9																				
	1	4	7		L																			
	11	12.5	16.3		8																			
	A	V		L																				
	21	23.7		5																				

SIGN NAME	GS-12	QTY	1	SIGN NO.	STATION(S)
PANEL		BORDER			none
WIDTH	2'-6"	WIDTH	0.5"		
HEIGHT	0'-8"	RADII	1.5"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE		AVERAGE LENGTH



NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

	S	W		L																				
	4	6.3		4.9																				
	1	4	4		L																			
	10.9	12.5	16.1		8.1																			
	C	T		L																				
	21.7	24.1		4.3																				

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD
RAFAEL S. AGUILAR, P.E.
LICENSE NUMBER 74068
CHOICE ENGINEERING CONSULTANTS, INC.
12855 SW 132nd STREET, SUITE 200
MIAMI, FLORIDA 33186

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 994	MIAMI-DADE	443907-1-52-01

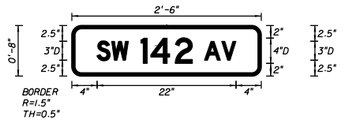
GUIDE SIGN WORK SHEET AND DETAILS

SHEET NO. S-42

SIGN NAME	GS-13		QTY	1	SIGN NO.	STATION(S)
PANEL		BORDER				none
WIDTH	2'-6"	WIDTH	0.5"			
HEIGHT	0'-8"	RADII	1.5"			
LEGEND	White	COLOR	White			
COLOR	Green					

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE		AVERAGE LENGTH



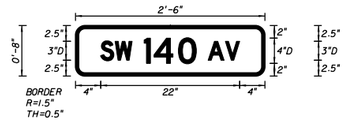
NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

	S	W		L																				
	4	6.3		5																				
	1	4	2		L																			
	10.9	12.5	16.4		8.2																			
	A	V		L																				
	21	23.7		5																				

SIGN NAME	GS-14		QTY	1	SIGN NO.	STATION(S)
PANEL		BORDER				none
WIDTH	2'-6"	WIDTH	0.5"			
HEIGHT	0'-8"	RADII	1.5"			
LEGEND	White	COLOR	White			
COLOR	Green					

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE		AVERAGE LENGTH



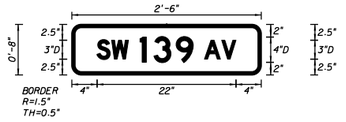
NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

	S	W		L																				
	4	6.3		5																				
	1	4	0		L																			
	10.9	12.4	16.3		8.3																			
	A	V		L																				
	21	23.7		5																				

SIGN NAME	GS-15		QTY	1	SIGN NO.	STATION(S)
PANEL		BORDER				none
WIDTH	2'-6"	WIDTH	0.5"			
HEIGHT	0'-8"	RADII	1.5"			
LEGEND	White	COLOR	White			
COLOR	Green					

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE		AVERAGE LENGTH



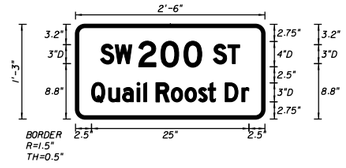
NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

	S	W		L																				
	4	6.3		5																				
	1	3	9		L																			
	10.8	13	16.5		8.4																			
	A	V		L																				
	21	23.7		5																				

SIGN NAME	GS-16		QTY	1	SIGN NO.	STATION(S)
PANEL		BORDER				none
WIDTH	2'-6"	WIDTH	0.5"			
HEIGHT	1'-3"	RADII	1.5"			
LEGEND	White	COLOR	White			
COLOR	Green					

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE		AVERAGE LENGTH



NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

	S	W		L																				
	4	6.3		5																				
	2	0	0		L																			
	10	13.5	17.2		10																			
	S	T		L																				
	21.9	24.1		4.1																				
	Q	u	a	l	l		R	o	o	s	t		D	r		L								
	2.5	5.2	7.4	9.7	10.8	11.3	12.8	15.2	17.3	19.5	21	22.2	23.7	26.3		25								

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

RAFAEL S. AGUILAR, P.E.
LICENSE NUMBER 74068
CHOICE ENGINEERING CONSULTANTS, INC.
12855 SW 132nd STREET, SUITE 200
MIAMI, FLORIDA 33186

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 994	MIAMI-DADE	443907-1-52-01

GUIDE SIGN WORK SHEET AND DETAILS

SHEET NO.
S-43

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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\\storage\projects\FDOT\443907152O1\SigningAndMarking\GSWKSP01.dgn

SIGN NAME	GS-17	QTY	1	SIGN NO.	STATION(S)
PANEL		BORDER			none
WIDTH	9'-0"	WIDTH	2"		
HEIGHT	5'-0"	RADII	8"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE	AVERAGE LENGTH



NO. OF LIGHT FIXTURES		FIXTURE SPACING		PHOTOMETRIC CURVE		WATT		VOLTAGE	

SIGN NAME		QTY		SIGN NO.	STATION(S)
PANEL		BORDER			
WIDTH		WIDTH			
HEIGHT		RADII			
LEGEND		COLOR			
COLOR					

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE	AVERAGE LENGTH

NO. OF LIGHT FIXTURES		FIXTURE SPACING		PHOTOMETRIC CURVE		WATT		VOLTAGE	

"	S	W		1	7	7		A	V	E		L															
"	9.1	19.4	30.7	36	41.4	51.8	60.4	65.8	77.5	89.2		88.1															
"	K	R	O	M	E		A	V	E		L																
"	9.1	19.5	30	41.5	54.4	62.3	67.7	79.3	91		89.8																
"	N	E	X	T		S	I	G	N	A	L		L														
"	15.7	24.3	31.4	39.2	45.2	49.2	57.3	60.6	68.9	76.8	86.3		76.6														
"																											
"																											
"																											
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"																											
"																											

SIGN NAME		QTY		SIGN NO.	STATION(S)
PANEL		BORDER			
WIDTH		WIDTH			
HEIGHT		RADII			
LEGEND		COLOR			
COLOR					

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE	AVERAGE LENGTH

NO. OF LIGHT FIXTURES		FIXTURE SPACING		PHOTOMETRIC CURVE		WATT		VOLTAGE	

"																											
"																											
"																											
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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

RAFAEL S. AGUILAR, P.E.
LICENSE NUMBER 74068
CHOICE ENGINEERING CONSULTANTS, INC.
12855 SW 132nd STREET, SUITE 200
MIAMI, FLORIDA 33186

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 994	MIAMI-DADE	443907-1-52-01

GUIDE SIGN WORK SHEET AND DETAILS

SHEET NO.
S-44

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7/17/2020

PLANS FOR PROPOSED

IMPROVEMENTS TO

SW 137 AVENUE

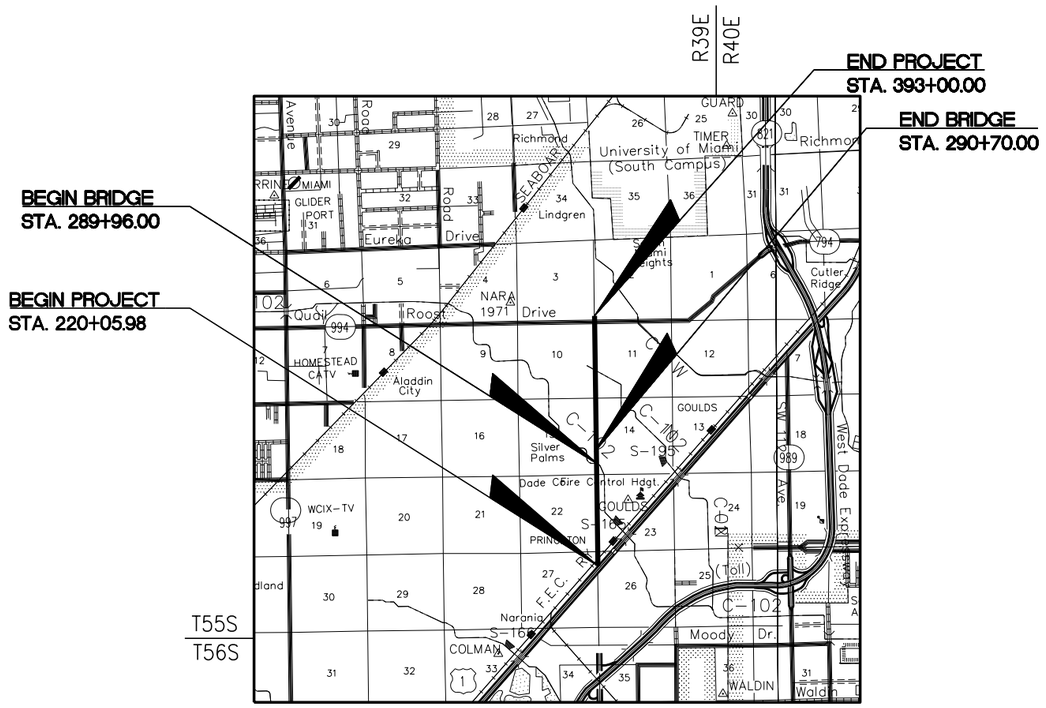
FROM US-1 TO SW 200 STREET

MIAMI-DADE COUNTY PROJECT NO. 20040343

PTP FUNDS

INDEX OF SHEETS

SHT. No.	SHEET DESCRIPTION
1	COVER SHEEET
SS-1	SIGNATURE SHEET
DM-1, DM-6	DRAINAGE MAP
2, 4	TYPICAL SECTION
7 - 8	GENERAL NOTES
9, 37	PLAN AND PROFILE
41	INTERSECTING STREET PLAN
47	INTERSECTING STREET PROFILE
48, 57, 58	INTERSECTION DETAILS
59 - 60	DRAINAGE STRUCTURES
79	SWPPP GENERAL NOTES
80	STORM WATER POLLUTION PREVENTION PLAN
102	CROSS SECTIONS
124	MAINTENANCE OF TRAFFIC GENERAL NOTES
125, 127	TRAFFIC CONTROL TYPICAL SECTION
128, 142	TREE INVENTORY PLAN
S-7	SIGNING AND PAVEMENT MARKING GENERAL NOTES
S-8, S-36	SIGNING AND PAVEMENT MARKING PLAN
S-40	SIGNING AND PAVEMENT MARKING DETAILS
T-2	SIGNALIZATION GENERAL NOTES
T-3, T-3A, T-6	SIGNALIZATION PLAN
T-7	MAST ARM TABULATION
T-9	SIGNALIZATION MAST ARM ASSEMBLY DATA TABLE
T-10	SIGNALIZATION GUIDE SIGN WORKSHEET
T-13	ELECTRIC POWER SERVICE DETAIL
L-4	LIGHTING GENERAL NOTES
L-5	LIGHTING POLE DATA
L-6	LIGHTING POLE LEGEND
L-7	LIGHTING PLAN
L-36	LIGHTING POLE DETAIL (1)
L-38	SERVICE POINT DETAIL



NOTE;

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN REDUCED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

SUBMIT SHOP DRAWINGS TO:

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
4868 SW 72ND AVENUE
MIAMI, FL 33155
TEL (305) 667-4772
CA 27017
CHRISTOPHER P. MESZLER, P.E.
LIC. NO. 74718

LENGTH OF JOB		
	LIN. FT.	MILES
ROADWAY	19296.84	3.655
BRIDGE	74.000	0.014
GROSS LENGTH OF JOB	19370.84	3.669
EXCEPTIONS		
NET LENGTH OF JOB	19370.84	3.669

FOR FDOT PERMIT REVIEW

PREPARED FOR

MIAMI-DADE COUNTY

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION

STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE MIAMI-DADE COUNTY PUBLIC WORKS DEPARTMENT STANDARDS AND SPECIFICATIONS PARTS 1, 2 AND 3 (REV. 02/1999). THE MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS (2016). THE FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN STANDARDS (2017-2018), AND THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (2017), AS AMENDED BY CONTRACT DOCUMENTS.

Always call 811 two full business days before you dig
Sunshine811.com

NEW MILLENNIUM DESIGN CONSULTANTS, INC.

ENGINEER OF RECORD:

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
4868 SW 72ND AVENUE
MIAMI, FL 33155
TEL (305) 667-4772
CA 27017
CHRISTOPHER P. MESZLER, P.E.
LIC. NO. 74718

APPROVED _____ COUNTY ENGINEER

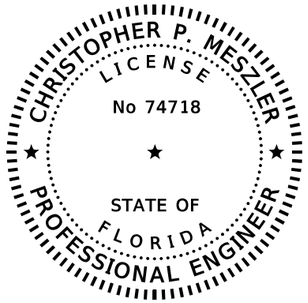
RECOMMENDED _____ ASSISTANT DIRECTOR

SUBMITTED _____ HIGHWAY DIVISION

PROPOSED _____ CHECK _____

DESIGN _____ DRAWN _____

DATE _____ SHEET 1 OF 144



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NEW MILLENNIUM DESIGN CONSULTANTS, INC.
4868 SW 72ND AVENUE
MIAMI, FLORIDA, 33155
CERTIFICATE OF AUTHORIZATION: 27017
CHRISTOPHER P. MESZLER, P.E. NO. 74718

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

SHEET NO.	SHEET DESCRIPTION
1	COVER SHEEET
SS-1	SIGNATURE SHEET
DM-1, DM-6	DRAINAGE MAP
2, 4	TYPICAL SECTION
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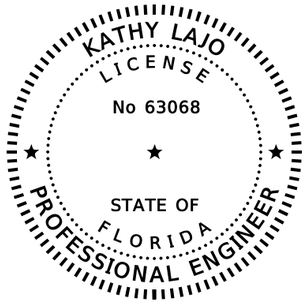
L-38	SERVICE POINT DETAIL



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NEW MILLENNIUM DESIGN CONSULTANTS, INC.
4868 SW 72ND AVENUE
MIAMI, FLORIDA, 33155
CERTIFICATE OF AUTHORIZATION: 27017
KATHY LAJO, P.E. NO. 63068

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

SHEET NO.	SHEET DESCRIPTION
SS-1	SIGNATURE SHEET
T-2	SIGNALIZATION GENERAL NOTES
T-3, T-3A, T-6	SIGNALIZATION PLAN
T-7	MAST ARM TABULATION
T-9	SIGNALIZATION MAST ARM ASSEMBLY DATA TABLE
T-10	SIGNALIZATION GUIDE SIGN WORKSHEET
T-13	ELECTRIC POWER SERVICE DETAIL

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9:41:36 AM
7/17/2020

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
4868 SW 72nd Avenue
Miami, Florida 33155
Tel (305)667-4772
CA 27017
CHRISTOPHER P. MESZLER, P.E.
Lic. No. 74718

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		

SUPERVISED BY:

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

SIGNATURE SHEET

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MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORK
HIGHWAY DIVISION
SW 137 AVENUE
FROM US 1 TO SW 200 STREET
PROJECT NO. 20040343 SHEET DM-1 OF DM-6

0 100 200

BASIN A

BASIN B

SW 248 STREET

U.S. HIGHWAY NO. 1

BUSWAY

S-1A S-1B S-1 S-2 S-3 S-4 S-4A S-5A S-5 S-5B S-5C S-5D S-6 S-7 S-8 S-9 S-10 S-10A S-11 S-12 S-13B S-13A S-13 S-14 S-15 S-16 S-17

220 225 230 235 240 245

R/W LINE

SW 137 AVENUE

COCONUT PALM DRIVE

SW 244 STREET

BEGIN PROJECT
BEGIN MILLING & RESURFACING
STA. 220+05.98

MATCH LINE STA 248+00.00

NOTE:

1- DO NOT USE THE INFORMATION ON THIS SHEET FOR CONSTRUCTION PURPOSES. This sheet is in the plans for documentation and to assist construction personnel with drainage concerns.

SOIL BORING PERCOLATION TEST SITE

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
3/24/20	CM	6 REVISED DRAINAGE MAP						

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
4868 SW 72nd Avenue
Miami, Florida 33155
Tel (305)667-4772
CA 27017
CHRISTOPHER P. MESZLER, P.E.
Lic. No. 74718

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		

SUPERVISED BY:

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

DRAINAGE MAP

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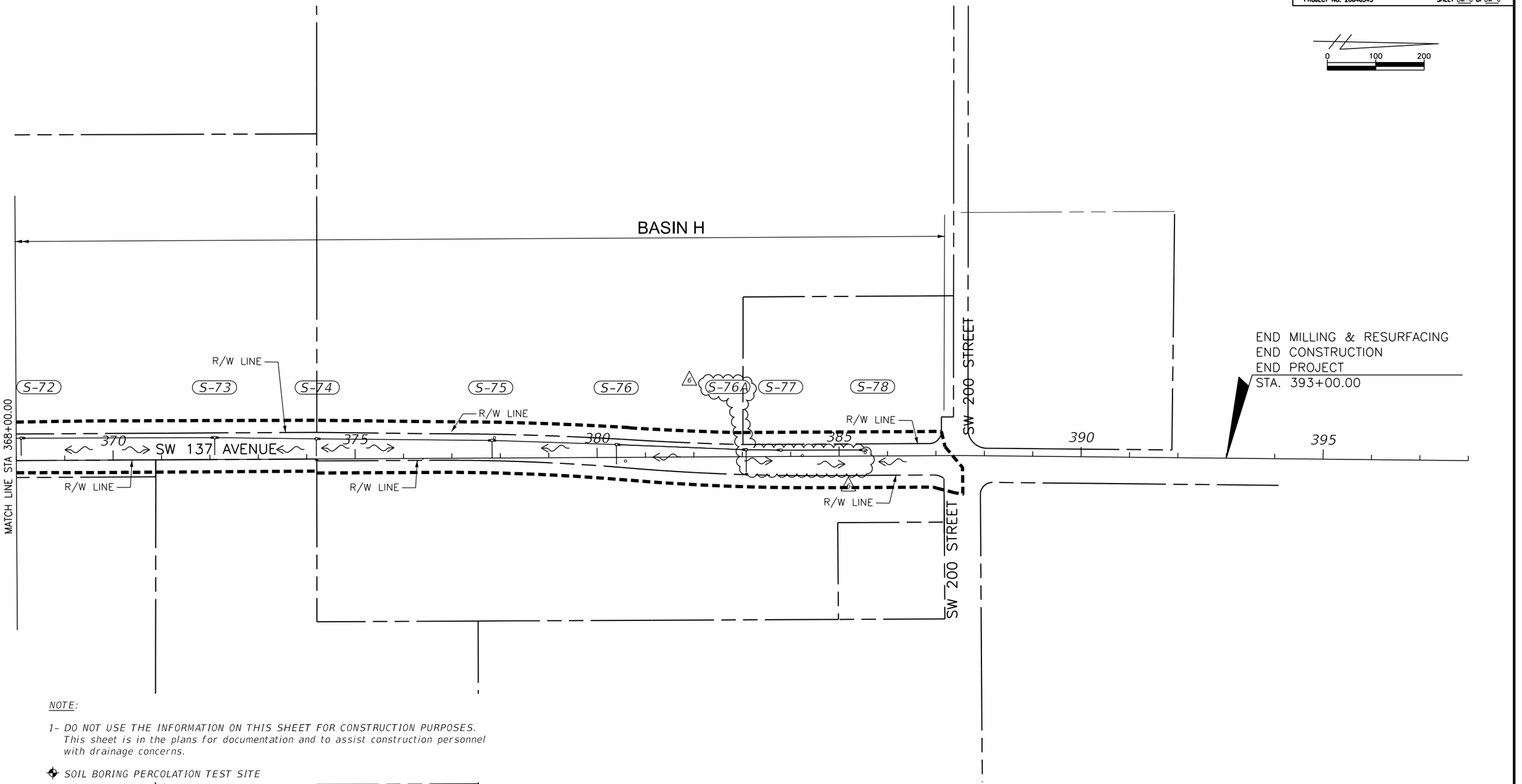

NOTE:

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SOIL BORING PERCOLATION TEST SITE

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
3/24/20	CM	6 REVISED DRAINAGE MAP						

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
4868 SW 72nd Avenue
Miami, Florida 33155
Tel (305)667-4772
CA 27017
CHRISTOPHER P. MESZLER, P.E.
Lic. No. 74718

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		

SUPERVISED BY:

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

DRAINAGE MAP

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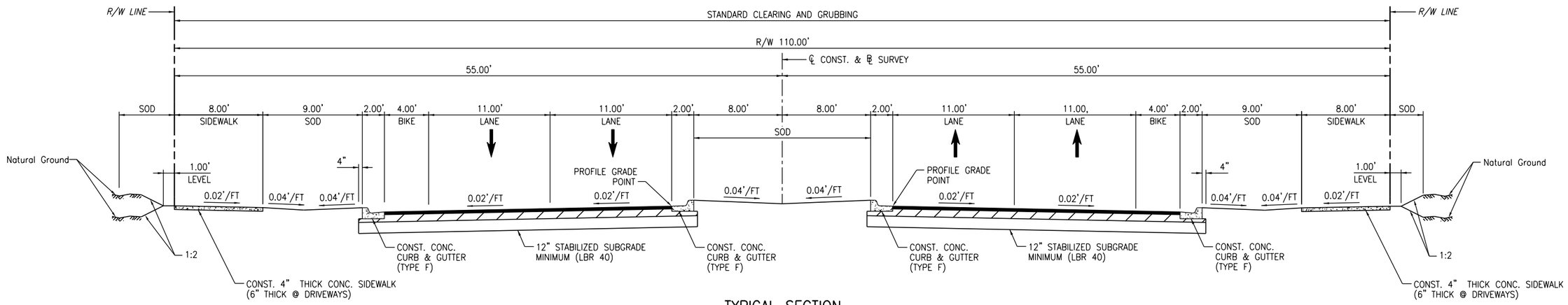


TYPICAL SECTION

SW 137 AVENUE

STA. 220+05.98 TO STA. 230+30.00

MILLING

MILL EXISTING ASPHALT PAVEMENT (1" AVG. DEPTH)

RESURFACING

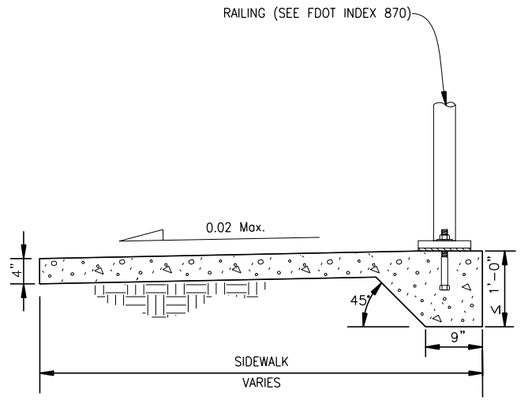
ASPHALT CONCRETE FRICTION COURSE, TRAFFIC C, FC-9.5, PG 76-22 (1" THICK) (110 LBS/SY)

NEW CONSTRUCTION

LIMEROCK BASE (8") (PRIMED) WITH
TYPE SP-12.5 SUPERPAVE ASPHALTIC CONCRETE
STRUCTURAL COURSE (TRAFFIC C) (2")
AND ASPHALT CONCRETE FRICTION COURSE, TRAFFIC C,
FC-9.5, PG 76-22 (1" THICK) (110 LBS/SY)

TYPICAL SECTION NOTES:

1. ALL EXISTING LIMEROCK BASE THAT IS REMOVED IS TO BE INCORPORATED INTO THE STABILIZED PORTION OF THE SUBGRADE AND IS NOT TO BE USED IN CONSTRUCTION OF THE PROPOSED BASE.
2. EXTEND LIMEROCK BASE (8" THICK) 6" OUTSIDE EDGES OF PAVEMENT AT ALL CONNECTIONS AND INTERSECTIONS TO COUNTY STREETS AND ROADS.
3. STABILIZE ALL TURNOUTS AND INTERSECTIONS TO COUNTY ROADS AND STREETS TO A DEPTH OF 12" (MIN LBR OF 30) AND 12" OUTSIDE EDGES OF PAVEMENT, 4" BACK OF CURB.



CONCRETE SIDEWALK WITH THICKENED EDGE DETAIL

NOTES:

1. THIS DETAIL TO BE USED WHEN PROPERTY OWNERS DO NOT ALLOW ACCESS TO PRIVATE PROPERTY FOR SLOPE HARMONIZATION FROM SIDEWALK OR ROADWAY CONSTRUCTION.
2. SIDEWALK SHALL BE CONSTRUCTED USING A THICKENED EDGE PER FDOT STANDARD INDEX 310.
3. DROP-OFFS FROM BACK OF SIDEWALK GREATER THAN 10 INCHES REQUIRE GUIDERAIL PER FDOT INDEX 870.
4. DROP-OFFS GREATER THAN 1 FOOT FROM BACK OF SIDEWALK REQUIRE GRAVITY WALL PER FDOT INDEX 6011, AND GUIDERAIL PER FDOT INDEX 870.
5. WHERE THERE IS NO SIDEWALK, SLOPE HARMONIZATION FROM ROADWAY CONSTRUCTION SHALL STOP AT RIGHT-OF-WAY LINE WITH GRAVITY WALL PER FDOT INDEX 6011. GRAVITY WALL LOCATIONS SHALL BE PROTECTED USING GUARDRAIL PER FDOT INDEX 400.

DESIGN SPEED 45 MPH

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
4868 SW 72nd Avenue
Miami, Florida 33155
Tel (305)667-4772
CA 27017
CHRISTOPHER P. MESZLER, P.E.
Llc. No. 74718

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		

SUPERVISED BY:

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

TYPICAL SECTION

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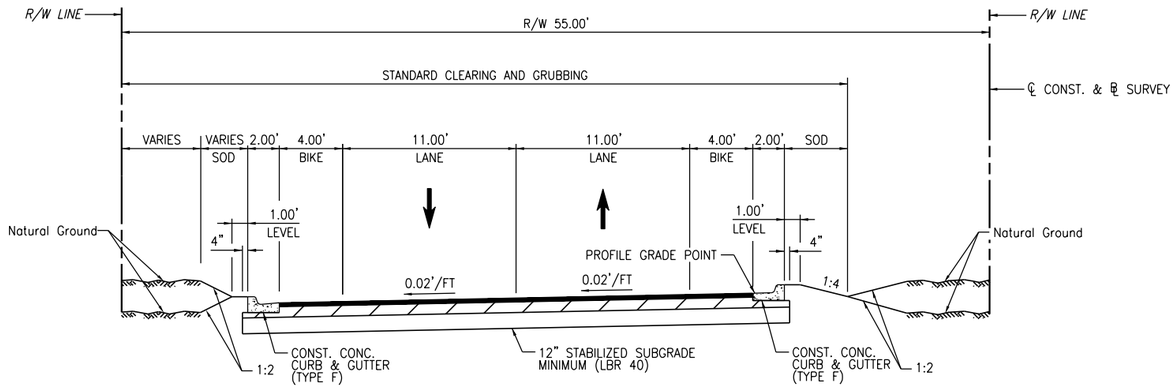
SConnor 9:41:39 AM 7/17/2020



TYPICAL SECTION
SW 137 AVENUE
STA. 261+13.87 TO STA. 393+00.00

MILLING

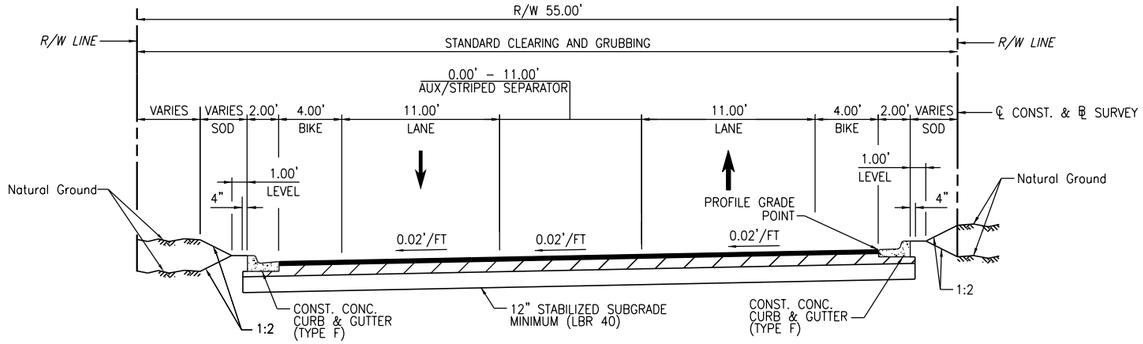
MILL EXISTING ASPHALT PAVEMENT (1" AVG. DEPTH)

RESURFACING

ASPHALT CONCRETE FRICTION COURSE, TRAFFIC C, FC-9.5, PG 76-22 (1" THICK) (110 LBS/SY)

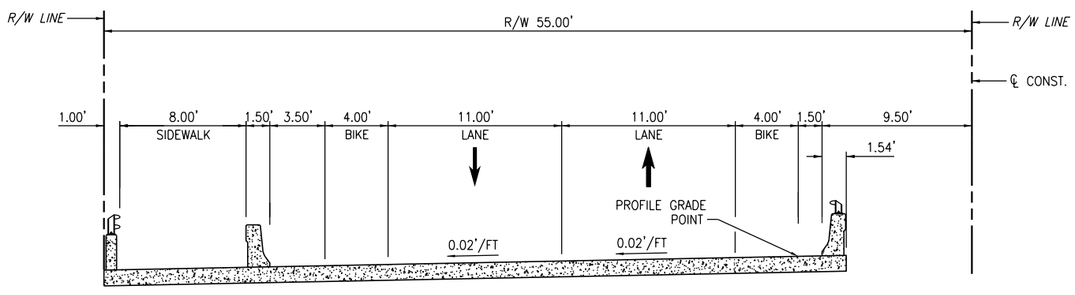
NEW CONSTRUCTION

LIMEROCK BASE (8") (PRIMED) WITH
TYPE SP-12.5 SUPERPAVE ASPHALTIC CONCRETE
STRUCTURAL COURSE (TRAFFIC C) (2")
AND ASPHALT CONCRETE FRICTION COURSE, TRAFFIC C,
FC-9.5, PG 76-22 (1" THICK) (110 LBS/SY)



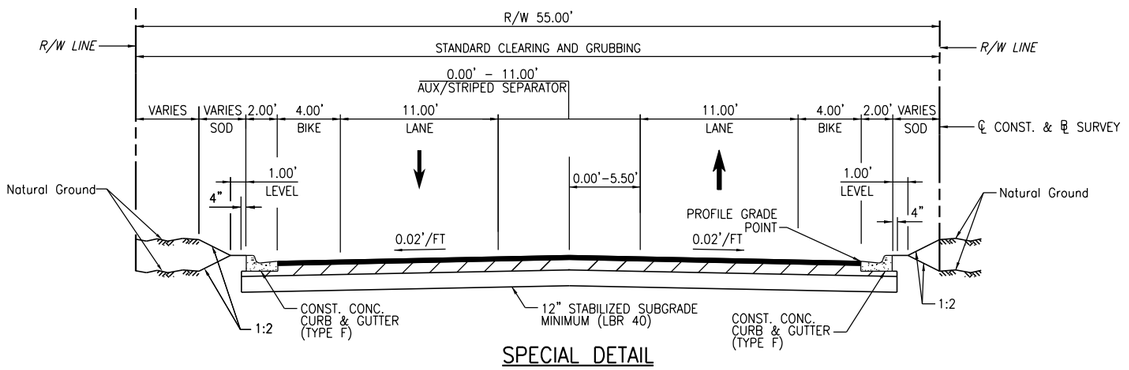
SPECIAL DETAIL
TRANSITION TO/FROM INTERSECTION

STA. 253+58.00 TO STA. 261+13.87
STA. 271+90.00 TO STA. 276+00.00
STA. 282+00.00 TO STA. 285+98.97
STA. 305+66.42 TO STA. 320+80.71
STA. 325+42.48 TO STA. 341+99.49



TYPICAL SECTION
SW 137 AVENUE BRIDGE
OVER CANAL C-102

(REFER TO BRIDGE PLANS
B1-1 TO B1-28)



SPECIAL DETAIL
STA. 276+00.00 TO STA. 282+00.00

DESIGN SPEED 45 MPH

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
4868 SW 72nd Avenue
Miami, Florida 33155
Tel (305)667-4772
CA 27017
CHRISTOPHER P. MESZLER, P.E.
Llc. No. 74718

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		
SUPERVISED BY:					

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

TYPICAL SECTION

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GENERAL NOTES

1. BENCHMARK DATA IS NATIONAL GEODETIC VERTICAL DATUM OF 1929 (N.G.V.D.-29).

2. ANY N.G.V.D. BENCH MARK MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE PROTECTED AND PROPERLY REFERENCED BY A REGISTERED-LAND SURVEYOR IN ACCORDANCE WITH THE MINIMUM TECHNICAL STANDARDS OF THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS PRIOR TO BEGINNING WORK AT THE SITE. IF ANY MONUMENT IS IN DANGER OF DAMAGE, THE PROJECT ENGINEER SHALL NOTIFY RON TAYLOR, FLORIDA DEPT. OF ENVIRONMENTAL PROTECTION (FDEP) SURVEYING AND MAPPING, 3900 COMMONWEALTH BLVD., MAIL STATION 105, TALLAHASSEE, FLORIDA 32399-3000 TELEPHONE (850) 245-2606.

3. ALL PUBLIC LAND CORNERS AND MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE PROTECTED BY THE CONTRACTOR AS FOLLOWS: CORNERS AND MONUMENTS IN CONFLICT WITH THE WORK AND IN DANGER OF BEING DAMAGED, DESTROYED, OR COVERED SHALL BE PROPERLY REFERENCED BY A REGISTERED-LAND SURVEYOR IN ACCORDANCE WITH THE MINIMUM TECHNICAL STANDARDS OF THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS PRIOR TO BEGINNING WORK AT THE SITE. THE CONTRACTOR SHALL RETAIN THE LAND SURVEYOR TO REFERENCE, AND RESTORE UPON COMPLETION OF THE WORK, ALL SUCH CORNERS AND MONUMENTS AND SHALL FURNISH TO MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS A SIGNED AND SEALED COPY OF THE LAND SURVEYOR'S REFERENCE DRAWING.

4. ALL STATIONS AND OFFSETS REFER TO CENTERLINE OF CONSTRUCTION ALONG SW 137 AVE, UNLESS OTHERWISE STATED.

5. ALL GRADES SHOWN IN PLAN ARE FINISHED GRADES.

6. THE CONTRACTOR SHALL PAINT ALL STATIONS WITH STENCILED NUMBERS ON THE FACE OF CURB:
   A. FROM THE BEGINNING OF THE PROJECT WHERE THE CURB IS TO REMAIN.
   B. AT NEW CURB NOT LATER THAN 72 HOURS AFTER BEING POURED.
   THE CONTRACTOR SHALL MAINTAIN STATIONING WITH SURVEYING STAKES.
   CONTRACTOR SHALL MAINTAIN THE STATION MARKS VISIBLE UNTIL FINAL INSPECTION.

7. ALL CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS, AND ANY OTHER STATE OR LOCAL AGENCY WITH JURISDICTION. IT IS THE INTENT OF THESE PLANS TO BE IN ACCORDANCE WITH APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION. ANY DISCREPANCIES BETWEEN THESE PLANS AND APPLICABLE CODES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER.

8. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE EPA AND THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES)

9. BASELINE CONTROL SURVEY CONDUCTED BY MIAMI-DADE COUNTY. PLEASE CALL MR. SCOTT RIGGS AT 305-375-2657 CONCERNING SURVEY RELATED QUESTIONS.

10. EXISTING TOPOGRAPHIC INFORMATION WAS OBTAINED FROM SURVEY PREPARED BY MIAMI-DADE COUNTY AND MANUEL G. VERA & ASSOCIATES INC.

11. CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE-CALL AT 1-(800)-432-4770 AT LEAST 48 HOURS PRIOR TO PERFORMING ANY DIGGING TO VERIFY THE EXACT LOCATION OF EXISTING UTILITIES. A CONTRACTOR'S REPRESENTATIVE MUST BE PRESENT WHEN UTILITY COMPANIES LOCATE THEIR FACILITIES.

12. THE CONTRACTOR IS TO USE CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD AND UNDERGROUND UTILITIES.

13. THE LOCATION AND SIZE OF THE UTILITIES SHOWN IN THE PLANS ARE BASED ON THE BEST AVAILABLE INFORMATION AND SHOULD BE CONSIDERED APPROXIMATE ONLY. ADDITIONAL UTILITIES MAY EXIST WHICH ARE NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRONIC METHODS AND BY PRE-TRENCHING IN COORDINATION WITH ALL UTILITY COMPANIES, PRIOR TO BEGINNING ANY CONSTRUCTION OPERATION. ANY AND ALL CONFLICTS OF EXISTING UTILITIES WITH PROPOSED IMPROVEMENTS MUST BE RESOLVED BY THE ENGINEER AND THE OWNER. THIS WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

14. MIAMI-DADE WATER AND SEWER DEPARTMENT REQUIRES THAT ACCESS TO ALL WATER AND SEWER VALVES, SANITARY MANHOLES, AND OTHER CONTROL MECHANISMS BE MAINTAINED THROUGHOUT CONSTRUCTION IN THE EVENT OF AN EMERGENCY TO ENSURE THE PUBLIC HEALTH AND SAFETY. COVERING VALVE BOXES AND MANHOLES CAN BE CONSIDERED UNAUTHORIZED OBSTRUCTION OF AND TAMPERING WITH DEPARTMENT UTILITIES. ALL REQUESTS FOR UTILITY ADJUSTMENTS MUST BE MADE IN WRITING AT LEAST TWO (2) WEEKS IN ADVANCE. FOR MANHOLE AND VALVES, CONTACT THE CONSTRUCTION MANAGEMENT SECTION, PUMP STATIONS UNIT, 3071 SW 38 AVENUE, FAX NO. 305-668-3626. THE DEPARTMENT WILL MAKE ONE FINAL AND PERMANENT ADJUSTMENT AT NO COST TO THE REQUESTING AGENCY. FOR THE ADJUSTMENT OF WATER METERS, CONTACT THE CHIEF OF METER OPERATIONS AND MAINTENANCE, FAX NO. 305-545-3482. FOR ANY FIRE HYDRANTS THAT ARE DAMAGED OR BUMPED DURING CONSTRUCTION, CONTACT THE MDWASD HYDRANT SHOP AT 305-805-4575 BEFORE POURING CONCRETE FOR THE SIDEWALK. IN THE EVENT OF A WATER OR SEWER EMERGENCY, CONTACT MIAMI DADE WATER AND SEWER DEPARTMENT AT 305-274-9272. THIS LINE IS OPEN 24 HOURS, 7 DAYS A WEEK.

15. KNOWN UTILITY COMPANIES IN THE PROJECT LIMITS INCLUDE, BUT ARE NOT LIMITED TO:

UTILITY OWNER	TELEPHONE
AT&T-BELLSOUTH UNDERGROUND COMMUNICATIONS	786-464-1400
AT&T-TCG	407-578-8000
COMCAST	954-534-7380
FLORIDA CITY GAS	305-835-3632
FPL	305-442-5140
CROWN CASTLE FIBER	786-610-7073
LEVEL 3 COMMUNICATIONS	512-742-1433
MIAMI-DADE WATER AND SEWER DEPARTMENT	305-665-7471
XO COMMUNICATIONS	305-356-3160

16. THE CONTRACTOR IS ADVISED THAT PROPERTIES ADJACENT TO THE PROJECT HAVE ELECTRIC, TELEPHONE, GAS, WATER, AND/OR SEWER SERVICE LATERALS WHICH MAY NOT BE SHOWN IN PLANS. THE CONTRACTOR MUST REQUEST THE LOCATION OF THESE LATERAL SERVICES FROM THE UTILITY COMPANIES. THE ADDITIONAL COST OF EXCAVATING, INSTALLING, BACKFILLING, AND COMPACTING AROUND THESE LATERAL SERVICES SHALL BE INCLUDED IN THE COST OF THE BID ITEM FOR THE WORK BEING DONE. BID ITEMS INCLUDE 120-1 AND 120-6.

17. ANY DAMAGE TO PUBLIC OR PRIVATE PROPERTY SHALL BE RESTORED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

18. ANY ENCROACHMENT WITHIN THE LIMITS OF CONSTRUCTION SHALL BE RELOCATED OR PROTECTED BY THE ADJACENT PROPERTY OWNER AT THEIR EXPENSE.

19. CLEARING AND GRUBBING, GRADING AND OTHER INCIDENTAL WORK NECESSARY FOR HARMONIZATION OUTSIDE R/W SHALL BE INCLUDED IN THE COST OF THE BID ITEM FOR THE WORK BEING DONE. BID ITEMS INCLUDE 110-1-1B AND 120-6.

20. ALL GRASS AREAS AFFECTED BY CONSTRUCTION SHALL BE RESTORED.

21. THE CONTRACTOR SHOULD TAKE SPECIAL NOTE OF SOIL CONDITIONS THROUGHOUT THIS PROJECT. ANY SPECIAL SHORING, SHEETING OR OTHER PROCEDURES NECESSARY TO PROTECT ADJACENT PROPERTY, PUBLIC OR PRIVATE, DURING THE EXCAVATION OF SUBSOIL MATERIAL AND EXFILTRATION TRENCH, OR FILLING OF ANY AREA, OR FOR ANY OPERATION DURING CONSTRUCTION, SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

22. IF SHEETING, SHORING, OR DEWATERING, INCLUDING WELL POINTS ARE NECESSARY, THE CONTRACTOR MUST MONITOR AND CONTROL ALL WORK THAT MAY CAUSE CRACKING TO ANY ADJACENT BUILDING, STRUCTURE, OR PROPERTY AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES CAUSED BY THESE OPERATIONS. COST OF SHEETING, SHORING, OR DEWATERING SHALL BE INCLUDED IN THE COST OF THE BID ITEM FOR THE WORK BEING DONE. BID ITEMS INCLUDE INLETS, MANHOLES, PIPE CULVERT, AND FRENCH DRAIN AS WELL AS 120-1, 400-0-11, AND 455-133-3.

23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE DEWATERING PERMIT. COST OF THE PERMIT AND DEWATERING SHALL BE INCLUDED IN THE COST OF THE BID ITEM FOR THE WORK BEING DONE. BID ITEMS INCLUDE INLET, MANHOLE, PIPE CULVERT, AND FRENCH DRAIN BID ITEMS AS WELL AS 120-1, 400-0-11, AND 455-133-3.

24. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE WELL PLUGGING PERMIT. COST OF PERMIT AND PLUGGING OF WELL SHALL BE INCLUDED IN THE COST OF THE BID ITEM 110-5A.

25. THE CONTRACTOR WILL RESTRICT PERSONNEL, THE USE OF EQUIPMENT, AND THE STORAGE OF MATERIALS TO AREAS WITHIN THE LIMITS OF CONSTRUCTION AND DESIGNATED STAGING AREA.

26. EXPLORATORY DIGGING OR PRE-TRENCHING IN THE ALIGNMENT AND GRADE OF PROPOSED PIPES STRUCTURES, FRENCH DRAINS, CONDUITS, POLE FOUNDATIONS AND/OR SUB-GRADE SHALL BE PERFORMED SEVEN DAYS IN ADVANCE OF ITS CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE UNDERGROUND UTILITY OWNERS AND THE DEPARTMENT WITH IMMEDIATE NOTIFICATION OF ANY CONFLICT WITH PROPOSED CONSTRUCTION. THIS NOTIFICATION SHALL PROVIDE SURVEY INFORMATION ABOUT EXISTING UTILITY ALIGNMENT, GRADE AND POSSIBLE CONFLICTS. PAYMENT FOR EXPLORATORY OR PRE-TRENCHING, SURVEY AND BACKFILLING SHALL BE INCLUDED IN THE COST OF THE BID ITEM FOR THE WORK BEING DONE. BID ITEMS INCLUDE 120-1 AND 120-6.

27. ALL EXCAVATIONS SHALL BE PERFORMED IN FULL COMPLIANCE WITH THE PROVISIONS OF THE TRENCH SAFETY ACT.

28. ALL EXCESS MATERIAL, AS DESIGNATED BY THE ENGINEER, IS TO BE DISPOSED BY THE CONTRACTOR IN LEGAL AREAS PROVIDED BY HIM WITHIN 72 HOURS OF BEING DEPOSITED IN THE CONSTRUCTION AREA AND AT THE CONTRACTOR'S EXPENSE. NO SEPARATE PAYMENT WILL BE MADE FOR DISPOSAL.

29. ALL DISPOSAL OF MATERIALS, RUBBISH, AND DEBRIS SHALL BE MADE AT A LEGAL DISPOSAL SITE OR BY OTHER PRIOR APPROVED MANNER. MATERIAL CLEARED FROM THE SITE AND DEPOSITED ON ADJACENT OR NEARBY PROPERTY WILL NOT BE CONSIDERED AS HAVING BEEN DISPOSED OF SATISFACTORILY.

30. ANY KNOWN OR SUSPECTED HAZARDOUS MATERIAL FOUND ON THE PROJECT BY THE CONTRACTOR SHALL BE IMMEDIATELY REPORTED TO THE PROJECT ENGINEER, WHO SHALL DIRECT THE CONTRACTOR TO PROTECT THE AREA OF KNOWN OR SUSPECTED CONTAMINATION FROM FURTHER ACCESS. THE ENGINEER WILL ARRANGE FOR INVESTIGATION, IDENTIFICATION, AND REMEDIATION OF THE HAZARDOUS MATERIAL. THE CONTRACTOR SHALL NOT RETURN TO THE AREA OF CONTAMINATION UNTIL APPROVAL IS PROVIDED BY THE PROJECT ENGINEER.

31. EXISTING ABOVE GROUND FEATURES ARE SHOWN ACCORDING TO THE BEST AVAILABLE DATA AND MAY NOT ACCURATELY REFLECT PRESENT CONDITIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH CURRENT SITE CONDITIONS, AND SHALL REPORT DISCREPANCIES TO THE ENGINEER PRIOR TO STARTING WORK

32. CONTRACTOR IS TO VERIFY THE EXACT LOCATION OF ALL EXISTING TREES, STRUCTURES AND UTILITIES, WHICH MAY NOT BE SHOWN ON PLANS. ANY STRUCTURE, PAVEMENT, TREES OR OTHER EXISTING IMPROVEMENT NOT SPECIFIED FOR REMOVAL WHICH IS DAMAGED, EXPOSED OR IN ANY WAY DISTURBED BY CONSTRUCTION PERFORMED UNDER THIS CONTRACT, SHALL BE REPAIRED, PATCHED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.

33. CONTRACTOR SHALL AVOID DAMAGE TO AND PROTECT EXISTING TREES TO REMAIN.

34. THE CONTRACTOR SHALL USE A STREET SWEEPER IN ACTIVE TRAVEL LANES USING WATER OR OTHER EQUIPMENT CAPABLE OF CONTROLLING AND REMOVING DUST. APPROVAL OF THE USE OF SUCH EQUIPMENT IS CONTINGENT UPON ITS DEMONSTRATED ABILITY TO PERFORM THE WORK.

35. THE CONTRACTOR SHALL PREPARE AND SUBMIT SHOP DRAWINGS FOR ALL ITEMS USED IN THIS PROJECT.

36. WHEN DISSIMILAR MATERIAL CONNECTIONS ARE MADE, SUCH AS CONCRETE TO METAL, THE DISSIMILAR MATERIAL SHALL BE SEPARATED BY COATING THE CONTACT SURFACE WITH BITUMASTIC MATERIAL.

37. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING EXISTING AND NEW INLETS CLEAN OF MILLING MATERIAL, LIMEROCK, DEBRIS, ETC. DURING THE CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER. ALL LINES AND STRUCTURES SHALL BE CLEANED PRIOR TO FINAL INSPECTION AND ACCEPTANCE.

38. CAST IRON PRODUCTS: HEAVY-DUTY CLASSIFICATION SUITABLE FOR HIGHWAY TRAFFIC LOADS OR 16,000 LBS WHEEL LOADS.

39. STEEL GRATING AND COVERS: TRAFFIC CLASSIFICATION H-20; 16,000 LBS OVER 8"X20" AREA.

40. EXISTING DRAINAGE STRUCTURES WITHIN THE LIMITS OF CONSTRUCTION SHALL BE REMOVED UNLESS OTHERWISE NOTED.

41. EXISTING STORM SEWER MANHOLES AND INLETS SCHEDULED TO REMAIN SHALL BE THOROUGHLY CLEANED BY REMOVING ALL DEBRIS AND SEDIMENTS, AND THE INTERIOR SHALL BE SEALED WITH AN APPROVED NON-TOXIC BITUMASTIC SEALANT.

42. PRIOR TO CONSTRUCTION THE CONTRACTOR WILL INSPECT ALL EXISTING STRUCTURES WHICH ARE TO REMAIN AND NOTIFY THE ENGINEER OF ANY STRUCTURAL DEFICIENCIES.

43. CONTRACTOR SHALL ADJUST ALL EXISTING CATCH BASINS, GRATES, AND STORM SEWER MANHOLE COVERS TO MEET NEW GRADES WHERE APPLICABLE.

44. ELEVATIONS AND OFFSETS SHOWN AT DRAINAGE STRUCTURES REFER TO EDGE OF PAVEMENT FOR CURB INLETS, TOP OF MANHOLES FOR MANHOLES, AND GRATE ELEVATIONS FOR DITCH BOTTOM INLETS.

45. PRIOR TO CONSTRUCTION, THE CONTRACTOR WILL VERIFY INVERT ELEVATIONS OF ALL PIPES WHICH ARE TO REMAIN AND NOTIFY THE ENGINEER OF ANY ELEVATION DEVIATIONS.

46. THERE SHALL BE NO MORE THAN THREE LATERAL DRAINAGE INSTALLATIONS WITHOUT BACKFILLING. BACKFILLING OF LATERAL DRAINAGE SHALL NOT LAG MORE THAN 72 HOURS BEHIND THE START OF EXCAVATION.

47. SPECIAL ATTENTION IS DIRECTED TO THE FACT THAT PORTIONS OF SOME DRAINAGE STRUCTURES EXTEND INTO THE STABILIZED PORTION OF THE ROADBED AND EXTREME CAUTION SHOULD BE USED IN THE STABILIZING OPERATIONS AT THESE LOCATIONS.

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GENERAL NOTES

48. INSTALLATIONS OF NEW PULL BOXES SHALL BE PERFORMED BY A QUALIFIED ELECTRICAL CONTRACTOR. WHEN A NEW PULL BOX REPLACES AN EXISTING PULL BOX, THE CONTRACTOR SHALL ADJUST CONDUITS AND CABLES TOFIT THE NEW PULL BOX LOCATION AND ELEVATION. COST OF ADJUSTMENTS, INCLUDING ANY CONDUIT AND CONDUCTOR NEEDED FOR ADJUSTMENT, IS INCLUDED IN THE PULL BOX PAY ITEM (635-2-11). FOR PAY ITEM (635-2-11) QUANTITIES, SEE SHEETS L-1 AND T-1.

49. RADII ON CURB RETURNS ARE TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

50. STANDARD 3'-0 CURB AND GUTTER ENDING TRANSITIONS SHALL BE PROVIDED AT ALL TERMINATIONS THAT DO NOT MEET EXISTING CURB AND GUTTER.

51. WHERE NEW PAVEMENT MEETS EXISTING, CONNECTION SHALL BE MADE IN A NEAT STRAIGHT LINE AND FLUSH WITH THE EXISTING PAVEMENT.

52. THE LOCATION OF SOME DRIVEWAYS IS APPROXIMATE. CONTRACTOR SHALL VERIFY EXACT LOCATION AND DIMENSIONS.

53. EXISTING DRIVEWAYS WITHIN THE LIMITS OF THIS PROJECT ARE TO BE REPLACED AT THE SAME LOCATION AND WIDTH, UNLESS OTHERWISE SHOWN IN PLANS.

54. CONTRACTOR SHALL INSTALL ½" PREFORMED EXPANSION JOINT WHEN PROPOSED SIDEWALK IMPROVEMENTS ARE IMMEDIATELY ADJACENT TO EXISTING CONCRETE SLAB, WALL AND/OR BUILDING.

55. THE SIDEWALK AT DRIVEWAY TURNOUTS SHALL BE 6" CONCRETE. SIDEWALKS SHALL BE CONSTRUCTED PER FDOT INDEXES 304, 310. DRIVEWAYS SHALL BE CONSTRUCTED PER FDOT STANDARD INDEX 515.

56. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVISION, INSTALLATION, AND MAINTENANCE OF ALL TRAFFIC CONTROL AND SAFETY DEVICES, IN ACCORDANCE WITH SPECIFICATIONS OUTLINED IN THE PUBLIC WORKS DEPARTMENT MANUAL, THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND THE FDOT DESIGN STANDARDS.

57. ALL BUS STOP SIGNS TO BE FURNISHED BY MIAMI-DADE TRANSIT. ENGINEER TO CONTACT MIAMI-DADE COUNTY TRANSIT AT (305)637-3753 ONE (1) WEEK PRIOR TO POURING SIDEWALKS AND COORDINATE THE REMOVAL AND REPLACEMENT OF BUS STOP SIGNS AND BENCHES.

58. COMPLETE AS-BUILT INFORMATION RELATIVE TO LOCATION AND DEPTH OF PIPES, MANHOLES, ETC. SHALL BE ACCURATELY RECORDED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER PRIOR TO FINAL ACCEPTANCE OF THE WORK. ALL ELEVATIONS SHALL BE TAKEN BY A FLORIDA REGISTERED SURVEYOR AND SHOWN ON THE RECORD DRAWINGS.

59. DESIGN WATER TABLE ELEVATION: OCTOBER WATER LEVEL +4.50 FEET N.G.V.D.

60. MIAMI-DADE COUNTY FLOOD CRITERIA ELEVATION:+7.00 FEET N.G.V.D.

61. EXFILTRATION TRENCH AND DRAINAGE STRUCTURES SHALL MEET OR EXCEED MIAMI-DADE COUNTY STANDARDS INCLUDING, BUT NOT LIMITED TO: SD-1.1, SD-2.6, SD-2.7, SD-3.3, SD-3.4, SD-3.6, SD-4.4.

62. CONTRACTOR SHALL PLACE GUARDRAIL AND END TREATMENTS IN ACCORDANCE WITH FDOT INDEX 400.

63. AT BEGIN AND END GRAVITY WALL LOCATIONS, TOP OF WALL SHALL MATCH EXISTING GROUND WITH NO HARMONIZATION PERMITTED OUTSIDE OF THE RIGHT-OF-WAY. GRAVITY WALL SHALL BE CONSTRUCTED ACCORDING TO FDOT INDEX 6011 UNLESS OTHERWISE MARKED IN THE PLANS.

64. THE INFORMATION PROVIDED IN THESE DRAWINGS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF CONDITIONS WHICH WILL BE ENCOUNTERED DURING THE COURSE OF WORK. THE CONTRACTORS ARE DIRECTED TO CONDUCT ANY INVESTIGATIONS THEY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSION REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED.

65. CONTRACTOR IS RESPONSIBLE FOR SITE RESTORATION AT NO ADDITIONAL COST. SITE MUST BE RESTORED TO THE ORIGINAL CONDITION OR BETTER AND TO THE SATISFACTION OF THE ENGINEER.

66. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL INSTALL SHALLOW MONITORING WELLS APPROXIMATELY ONE THOUSAND (1000) FEET APART ALONG THE LENGTH OF THE PROJECT BEGINNING AT STA. 254+00 (45.00' LT) AND ENDING AT STRUCTURE S-78 (STA. 385+50 (11.00' LT)). ALL SHALLOW MONITORING WELLS ARE TO BE PLACED ON THE LEFT SIDE OF THE PROJECT WHERE PROPOSED DRAINAGE STRUCTURES OR EXFILTRATION TRENCH WILL BE LOCATED. ADDITIONALLY, A SHALLOW MONITORING WELL SHALL BE INSTALLED AT THE LOCATION OF STRUCTURE S-3 (STA. 224+40 (41.00' LT)). THE WELLS SHALL BE INSTALLED IN ACCORDANCE WITH FDEP SOP PCS-006 (DESIGN, INSTALLATION, AND PLACEMENT OF MONITORING WELLS, DATED MAY 2, 2005) AND MIAMI- DADE COUNTY - RER'S RISK BASED CORRECTIVE ACTION GUIDANCE DOCUMENT 7A (DATED MARCH 11, 2003) AND SAMPLED IN ACCORDANCE WITH THE STANDARD OPERATING PROCEDURES (SOP) PROVIDED IN CHAPTER 62-160, FAC, AS AMENDED. ALL WORK REQUIRED FOR THE INSTALLATION OF THE SHALLOW MONITORING WELLS TO BE INCLUDED IN BID ITEM 125-4-5.

67. CONTRACTOR MAY BE REQUIRED TO SUPPLEMENT GROUNDWATER ASSESSMENT DONE BY THE COUNTY FOR SHALLOW MONITORING WELLS. SAMPLING PARAMETERS MAY INCLUDE THE FOLLOWING:
    a. AMMONIA, NITRATES/NITRITES/NOX
    b. MANGANESE, ARSENIC, CHROMIUM, COPPER, LEAD AND IRON
    c. PESTICIDES (ORGANOCHLORINE AND ORGANOPHOSPHORUS, EPA METHODS 8081 & 8141 OR EQUIVALENT)
    ALL ASSESSMENT SHALL BE COORDINATED WITH THE ENVIRONMENTAL MONITORING AND RESTORATION DIVISION OF RER. IN THE EVENT CONTAMINATION IS FOUND AT ANY OF THE SHALLOW MONITORING WELLS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT ENGINEER. DRAINAGE CONSTRUCTION ACTIVITIES IN THE AREA OF GROUNDWATER CONTAMINATION SHALL BE POSTPONED AND THE PROPOSED DRAINAGE SYSTEM MUST BE RE-EVALUATED AND RE-DESIGNED BY THE ENGINEER. COST TO BE INCLUDED IN BID ITEM 125-4-5.

68. ALL CONTAMINATED SOILS EXCAVATED DURING CONSTRUCTION SHALL BE REUSED WITHIN THE BOUNDARIES OF THE PROJECT WHEN POSSIBLE. REUSED CONTAMINATED SOILS SHALL BE PLACED UNDER AN IMPERVIOUS SURFACE AND AT LEAST 1 FOOT ABOVE THE SEASONAL HIGH GROUNDWATER TABLE OF 4.5 FT. ANY EXCESS CONTAMINATED SOILS SHALL REQUIRE PROPER CHARACTERIZATION FOR PROPER DISPOSAL. COST TO BE INCLUDED IN BID ITEM 125-4-2.

69. WHEN ENCOUNTERING OR EXPOSING ANY ABNORMAL CONDITION INDICATING THE PRESENCE OF A HAZARDOUS OR TOXIC WASTE, OR CONTAMINANTS, CEASE OPERATIONS IMMEDIATELY IN THE VICINITY AND NOTIFY THE ENGINEER. THE PRESENCE OF TANKS OR BARRELS; DISCOLORED EARTH, METAL, WOOD, GROUND WATER, ETC.; VISIBLE FUMES; ABNORMAL ODORS; EXCESSIVELY HOT EARTH; SMOKE; THE PRESENCE OF A SHEEN OR FREE PRODUCT; OR OTHER CONDITIONS THAT APPEAR ABNORMAL MAY INDICATE HAZARDOUS OR TOXIC WASTES OR CONTAMINANTS AND MUST BE TREATED WITH EXTREME CAUTION. MAKE EVERY EFFORT TO MINIMIZE THE SPREAD OF CONTAMINATION INTO UNCONTAMINATED AREAS. IMMEDIATELY PROVIDE FOR THE HEALTH AND SAFETY OF ALL WORKERS AT THE JOB SITE AND MAKE PROVISION NECESSARY FOR THE HEALTH AND SAFETY OF THE PUBLIC THAT MAY BE EXPOSED TO ANY POTENTIALLY HAZARDOUS CONDITIONS. PROVISIONS SHALL MEET ALL APPLICABLE LOCAL, STATE, AND FEDERAL LAWS, RULES, REGULATIONS OR CODES COVERING HAZARDOUS CONDITIONS AND WILL BE IN A MANNER COMMENSURATE WITH THE GRAVITY OF THE CONDITIONS. THE CONTRACTOR WILL COORDINATE AND MOBILIZE A QUALIFIED CONTAMINATION ASSESSMENT/REMEDIATION (CAR) SPECIALIST. QUALIFICATIONS OF SUCH CAR SPECIALIST SHALL INCLUDE, BUT NOT BE LIMITED TO: EXPERIENCE AND PERSONNEL TO PREPARE CONTAMINATION ASSESSMENT PLANS, CONDUCT CONTAMINATION ASSESSMENTS, PREPARE SITE ASSESSMENT REPORTS, REMEDIATION PLANS, IMPLEMENT REMEDIAL ACTION PLANS, RISK BASED CORRECTIVE ACTIONS, STORAGE TANKS SYSTEM REMOVAL, HIGHWAY SPILL RESPONSE AS WELL AS EXPERIENCE WITH INFRASTRUCTURE/CONSTRUCTION ACTIVITIES WITHIN CONTAMINATION AREAS SPECIFIC TO TRANSPORTATION SYSTEMS. ALL THE WORK PERFORMED BY THE CAR SPECIALIST SHALL BE PERFORMED IN COMPLIANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS GOVERNING WORKER SAFETY AND ENVIRONMENTAL REGULATIONS. THIS IS TO INCLUDE OCCUPATIONAL EXPOSURE TO CONTAMINATED SOILS, GROUNDWATER, WASTES AND ATMOSPHERE DURING THE CONSTRUCTION OF ALL FEATURES INCLUDED IN THE CONSTRUCTION PLANS. IN ADDITION, THE CAR SPECIALIST MUST BE STAFFED WITH FLORIDA LICENSED TECHNICAL PROFESSIONALS (GEOLOGISTS AND ENGINEERS) WHO WILL BE INVOLVED WITH THE PROJECT AND KNOWLEDGEABLE OF THE WORK ACTIVITIES CONDUCTED WITHIN CONTAMINATED AREAS AND WHO WOULD SIGN AND SEAL PROJECT REPORTS AS REQUIRED FOR SUBMITTAL TO THE APPROPRIATE ENVIRONMENTAL REGULATORY AGENCIES. THE ENGINEER WILL NOTIFY JAQUELYN LLANO, P.E. OF THE POLLUTION REMEDIATION SECTION AT (305) 372-6700 (DERMPCD@MIAMIDADE.GOV) AFTER ENCOUNTERING UNIDENTIFIED AREAS OF CONTAMINATION. PRELIMINARY INVESTIGATION BY THE CAR SPECIALIST WILL DETERMINE THE COURSE OF ACTION NECESSARY FOR SITE SECURITY AND THE STEPS NECESSARY UNDER APPLICABLE LAWS, RULES, AND REGULATIONS FOR ADDITIONAL ASSESSMENT AND/OR REMEDIATION WORK TO RESOLVE THE CONTAMINATION ISSUE. FOLLOWING COMPLETION OF THE PROJECT, THE CAR SPECIALIST SHALL BE REQUIRED TO PROVIDE COPIES OF ALL REPORTS SUBMITTED TO REGULATORY AGENCIES, WASTE MATERIAL PROFILES, MANIFESTS AND/OR DISPOSAL RECEIPTS FOR THE HANDLING OF ALL CONTAMINATED MEDIA INCLUDING BUT NOT LIMITED TO GROUND WATER, WASTE WATER, SOILS, SOLID WASTES, SLUDGE, HAZARDOUS WASTES, AIR MONITORING RECORDS, AND SAMPLE RESULTS FOR ALL MATERIALS TESTED AND ANALYZED TO THE ENGINEER, AND TO THE DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT (DERM). COST OF CONTAMINATION ASSESSMENT/REMEDIATION SPECIALIST TO BE PAID UNDER 125-4-5.

70. CONTRACTOR SHALL REFER TO THE FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION (FWC) GOPHER TORTOISE PERMITTING GUIDELINES (REVISED JANUARY 2017) http://www.myfwc.com/license/wildlife/gopher-tortoise-permits/ FOR SURVEY METHODOLOGY AND PERMITTING GUIDANCE PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONTACT ERIC SECKINGER WITH ANY QUESTIONS REGARDING GOPHER TORTOISE PERMITTING BY PHONE AT (850) 921-1029 OR AT ERIC.SECKINGER@MYFWC.COM

LEGEND:

⊕ SYMBOL REPRESENTS SOIL BORING LOCATIONS.

(CR G) SYMBOL REPRESENTS ALPHA-NUMBERIC IDENTIFICATION OF CURB RAMPS AS PER FDOT DESIGN STANDARD INDEX 304.

(G #) SYMBOLS REPRESENT ALPHA-NUMBERIC IDENTIFICATION OF DRIVEWAY TYPE AS PER FDOT DESIGN STANDARD INDEX 515.

△ SYMBOL REPRESENTS PIPE END CAP LOCATIONS.

SYMBOL REPRESENTS TEST MONITORING WELL (TMW) LOCATIONS. △

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
3/24/20	CM	△ ADDED TEST MONITORING WELL SYMBOL						

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
4868 SW 72nd Avenue
Miami, Florida 33155
Tel (305)667-4772
CA 27017
CHRISTOPHER P. MESZLER, P.E.
Lic. No. 74718

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		

SUPERVISED BY:

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

GENERAL NOTES (2 OF 2)

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9:42:03 AM
7/17/2020

SCALE 1"=40'

U.S HIGHWAY NO. 1

BEGIN PROJECT
BEGIN MILLING & RESURFACING
STA. 220+05.98

BEGIN WIDENING
STA. 220+71.44

BEGIN CONSTRUCTION
END MILLING &
RESURFACING
STA. 221+82.21

END WIDENING
STA. 221+41.32

SW 137 AVENUE

BUSWAY

NEWSOUTH LLC.
(162)

N00°53'44"W 2671.08'(TM)
N00°54'04"W 2671.01'(M)
N 00° 54' 04" W
℄ CONST. & ℄ SURVEY

MATCH LINE STA 223+00.00

NOTES:
1. SEE INTERSECTION DETAILS SHEETS FOR CURB RETURN GEOMETRY AND ELEVATIONS.
2. EXISTING STRUCTURES TO BE REMOVED BY CLEARING AND GRUBBING.
3. WORK SOUTH OF STA. 220+05.98 WILL BE PROVIDED UNDER MDC PROJECT NO. 20040344.

LEGEND:
- LIMITS OF MILLING & RESURFACING
- REMOVE EXISTING CONCRETE

NOTE:
6 PROFILE VIEW SHOWS DRAINAGE ON WEST SIDE OF SW 137TH AVE ONLY. SEE PLAN VIEW FOR DRAINAGE ON EAST SIDE OF SW 137TH AVE.

SCALE: 1"=20' (HOR.)
1"=2' (VER.)

BEGIN PGL LT
STA. 221+71.21

BEGIN PGL RT
STA. 221+93.32

PI +71.15
EL. 10.38

K = 96
145' V.C.

LP
+92.40
EL. 9.77

PI +98.88

-0.690%

-0.689%

EXIST. GROUNDLINE @ PGL LT

PGL LT & RT

36" PERF. PIPE

CONST. EXFILTRATION TRENCH
TOP ELEV. 7.00
BOTTOM ELEV. -3.00

SHGWT 4.5' NGVD

218+00 219+00 220+00 221+00 222+00

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
3/24/20	CM	6 REVISED DRAINAGE STRUCTURES, PIPES, AND LABELS						

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CHRISTOPHER P. MESZLER, P.E.
Llc. No. 74718

	NAME	DATE		NAME	DATE
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CHECKED BY			CHECKED BY		

SUPERVISED BY:

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST.
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PLAN AND PROFILE

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SCALE 1"=40'

MATCH LINE STA 501+00.00 (SEE SHEET 41)

CRAIG KONING & YVENIA BERRIOS (143)

JOLO INC. (140)

FLORIDA POWER & LIGHT CO. ATTN PROPERTY TAX DEPT.

POPLAND LLC.

SW 200 STREET

SW 137 AVENUE

END CONSTRUCTION
BEGIN OVERBUILD
BEGIN MILLING & RESURFACING
STA. 387+41.02

END OVERBUILD
STA. 388+40.00

℄ CONST. & ℞ SURVEY

℄ CONST. & ℞ SURVEY
STA. 387+54.70
℄ CONST. SW 200 ST.
STA. 502+00.05

TERMINATE EXIST. FENCE AT R/W
REMOVE EXIST. 6' WOODEN FENCE
FPL NEW 13KV OE LOCATION
EXIST. 13KV OE
EXIST. CONC. WALL (TO REMAIN)
END CURB & GUTTER(TYPE F) +41.58 12.00' RT
3' STRAIGHT CURB ENDING
REMOVE EXIST. 6' WOOD FENCE
RELOCATE AND REPLACE MAILBOX.
EXIST. UTILITY POLE AND GUY WIRE TO BE RELOCATED BY OTHERS (FPL)
EXIST. AT&T-FL OFO
EXIST. UTILITY POLE TO BE RELOCATED BY OTHERS (FPL)
CONST. CONC. CURB & GUTTER (TYPE F)
REMOVE EXIST. GUARDRAIL
PGL
+95.24 30.00' RT
FND 1" IRON PIPE IN CONCRETE, NO. ID.
STA. 387+51.30
N 453728.065
E 849555.166
END CURB & GUTTER(TYPE F) +73.56 18.00' RT
+76.56 15.99' RT
EXIST. 240V OE
EXIST. WATER VALVE TO BE ADJUSTED BY OTHERS (MDWASD)
EXIST. 16" D.I.P. WM
EXIST. WATER VALVE TO BE ADJUSTED BY OTHERS (MDWASD)
+29.36 26.00' RT
+26.36 28.11' RT
+33.58 33.03' RT
+59.86 33.17' RT
+18.13 27.41' RT MATCH EXIST. EL
3' STRAIGHT CURB ENDING
BEGIN CURB & GUTTER(TYPE F) +72.12 27.96' LT
+75.13 25.98' LT
+12.36 11.71' LT
+57.17 11.00' LT
+98.28 11.00' LT
TMW-1
N01°09'42"W 2661.08' (TM)
N01°09'44"W 2660.97' (M)
N 01° 09' 44" W
N 00° 15' 55" W
SB-81
SB-82
SB-83
S-78

NOTE:
SEE INTERSECTION DETAILS SHEETS FOR CURB RETURN GEOMETRY.

LEGEND:
LIMITS OF MILLING & RESURFACING

MATCH LINE STA 503+00.00 (SEE SHEET 41)

MATCH LINE STA 385+00.00

MATCH LINE STA 391+00.00

SCALE: 1"=20' (HOR.)
1"=2' (VER.)

K = 136
150' V.C.
2%
75' SUPERELEVATION TRANSITION
0.50%
75' SUPERELEVATION TRANSITION
-2%
END PGL
STA. 388+44.73
EL. 14.10
LP +52.62 EL. 13.61
PI +40.00 EL. 13.41
PI +55.36 EL. 14.40
+15.00 EL. 13.75
+90.00
+66.00
+48.00 EL. 14.10
(-) 0.646%
0.460%
PGL
EXIST. GROUNDLINE @ PGL
18" PIPE
SHGWT 4.5' NGVD
13.63
13.67
13.65
13.63
13.61
13.61
13.61
13.62
13.64
13.66
13.69
14.20

386+00 387+00 388+00 389+00 390+00

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
3/24/20	CM	6 REVISED DRAINAGE STRUCTURES, PIPES, LABELS, AND REVISED R/W LINE						

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
4868 SW 72nd Avenue
Miami, Florida 33155
Tel (305)667-4772
CA 27017
CHRISTOPHER P. MESZLER, P.E.
Lic. No. 74718

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		

SUPERVISED BY:

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

PLAN AND PROFILE

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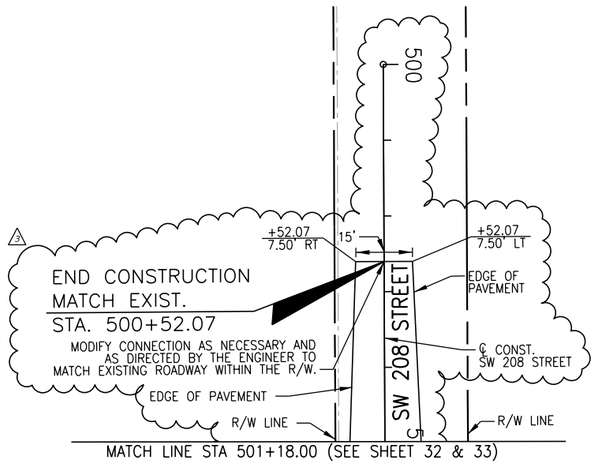
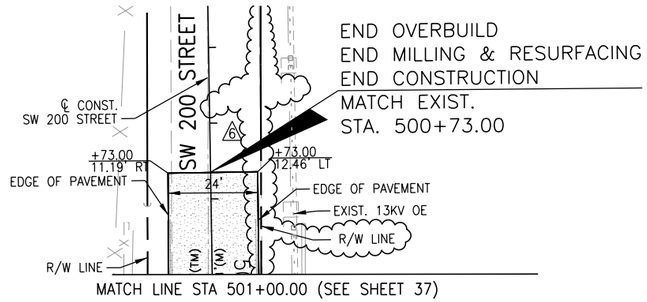
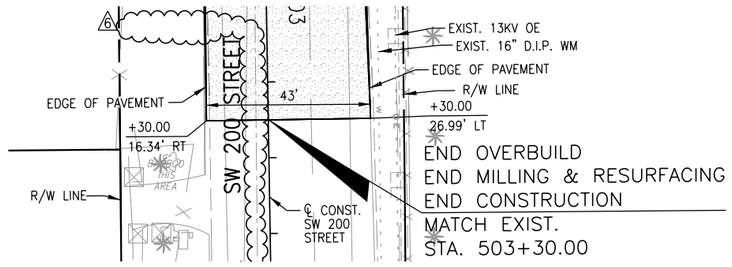


INTERSECTION SW 208 STREET



MATCH LINE STA 503+00.00 (SEE SHEET 37)



INTERSECTION SW 200 STREET

0 20 40
SCALE 1"=40'

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORK
HIGHWAY DIVISION
SW 137 AVENUE
FROM US 1 TO SW 200 STREET
PROJECT NO. 20040343 SHEET 41 OF 144

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
10/30/19	CM	△MOVED SW 208 ST AND CENTERLINE TO THE NORTH.	3/24/20	CM	△REVISED R/W LINE			

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	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		

SUPERVISED BY:

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
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INTERSECTING STREET PLAN

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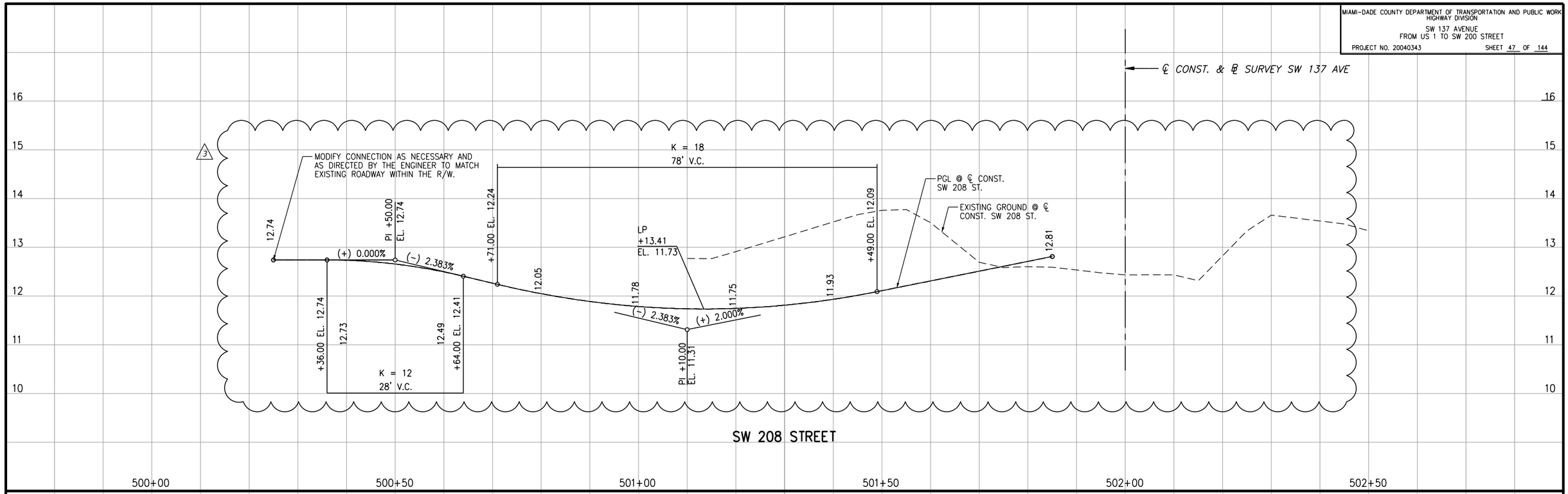
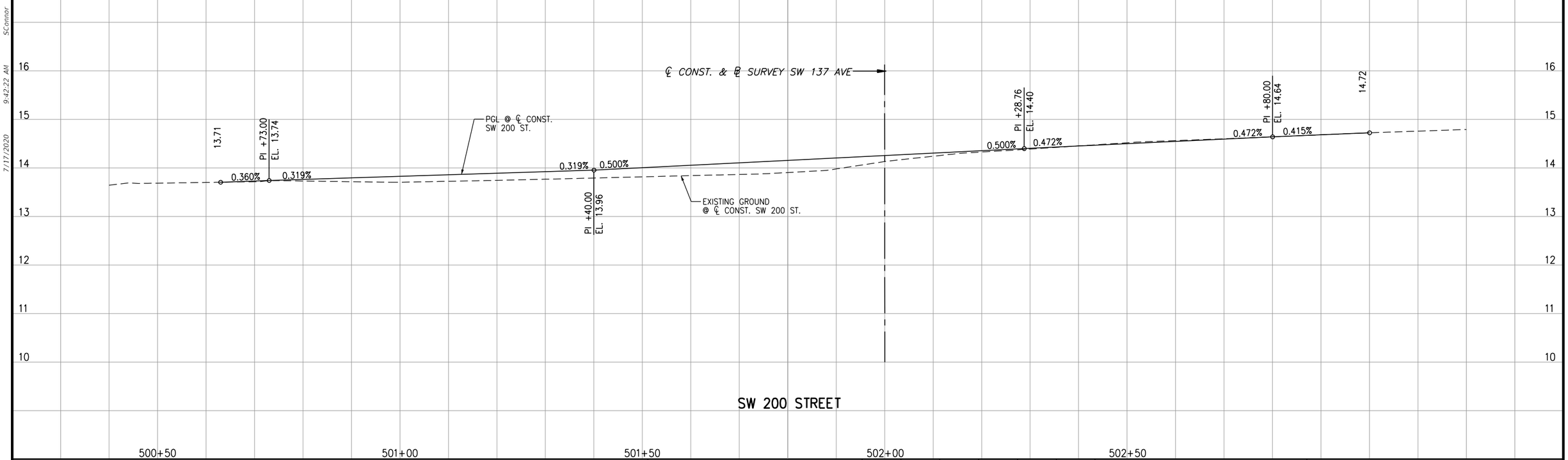


SCALE: 1"=20' (HOR.)
1"=2' (VER.)



REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
10/30/19	CM	△REVISED PROFILE						

NEW MILLENNIUM
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	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		
SUPERVISED BY:					

MIAMI-DADE COUNTY

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST.
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INTERSECTING STREET PROFILE

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7/17/2020

EDGE OF PAVEMENT BUSWAY
R/W LINE
EDGE OF PAVEMENT BUSWAY
+80.60 55.00' LT MATCH EXIST. EL
+20.47 55.93' LT MATCH EXIST. EL
R/W LINE
CONST. 6'-0" CONC. SWK.
C +30.87 38.47' LT EL 11.00
PC +19.78 45.53' LT EL 11.03
C +93.29 39.20' LT EL 10.59
PT +91.97 44.71' LT EL 10.55
+01.58 36.00' LT EL 10.80
PC +32.40 45.09' LT EL 10.56
C +43.32 38.35' LT EL 10.40
CONST. 8'-0" CONC. SWK.
+30.59 36.00' LT EL 11.07
PT +43.78 36.00' LT EL 10.97
E/P LT SW 137 AVE
PC +88.62 36.00' LT EL 10.63
+22.05 36.00' LT EL 10.91
+42.44 36.00' LT EL 10.54
PT +55.93 36.00' LT EL 10.23
+71.15 36.00' LT EL 9.86
1.5%
2.0%
SW 137 AVENUE
+88.62 10.00' LT EL 11.02
C +95.66 6.80' LT EL 11.08
PT +00.32 10.00' LT EL 10.93
PC +28.35 10.00' LT EL 10.72
+30.28 10.00' LT EL 10.71
+50.73 10.00' LT EL 10.83
+71.15 10.00' LT EL 10.38
PT +17.05 10.00' LT EL 10.06
+60.10 10.00' LT EL 11.24
0.76%
PGL LT
PC +96.96 1.30' LT EL 11.22
PT +31.71 8.71' LT EL 10.69
+30.15 9.67' LT EL 10.71
+41.32 0.00' RT EL 10.63
+61.76 0.00' RT EL 10.68
+82.20 0.00' RT EL 10.48
C +12.39 6.81' LT EL 10.15
220
℄ CONST. & ℄ SURVEY
221
222
+71.44 0.00' LT EL 11.27
+98.39 0.00' RT EL 11.25
PC +08.00 8.70' RT EL 11.21
PT +42.75 1.29' RT EL 10.62
+72.79 10.00' RT EL 10.53
+93.24 10.00' RT EL 10.43
PC +13.67 1.32' LT EL 10.24
PC +24.57 8.68' RT EL 10.03
U.S. HIGHWAY NO. 1
0.34%
+82.62 10.00' RT EL 11.24
C +09.55 9.66' RT EL 11.18
PT +11.35 10.00' RT EL 11.14
C +44.05 6.80' RT EL 10.86
+52.36 10.00' RT EL 10.55
PGL RT
C +26.13 9.66' RT EL 10.01
PT +27.95 10.00' RT EL 9.99
+47.89 10.00' RT EL 9.88
1.5%
PC +39.39 10.00' RT EL 11.05
BUSWAY
℄ BUSWAY
2.0%
EDGE OF PAVEMENT RT SB US1
E/P RT SW 137 AVE
PT +37.07 36.00' RT EL 10.75
+39.39 36.00' RT EL 10.66
PC +67.57 36.00' RT EL 10.49
+81.07 36.00' RT EL 10.37
+01.47 36.00' RT EL 10.84
+21.95 36.00' RT EL 10.26
PT +47.89 36.00' RT EL 9.36
+11.21 36.00' RT EL 10.97
EDGE OF PAVEMENT LT SB US1
C +80.17 38.34' RT EL 10.42
PT +91.07 45.07' RT EL 10.34
C +38.57 42.39' RT EL 9.93
C +27.72 42.45' RT EL 10.86
PC +30.43 53.48' RT EL 10.92
CONST. 8'-0" CONC. SWK.
+02.04 55.00' RT EL 10.30
PC +41.15 53.39' RT EL 10.49
CONST. 8'-0" CONC. SWK.
+50.56 61.98' RT MATCH EXIST. EL
R/W LINE
R/W LINE
EDGE OF PAVEMENT BUSWAY
EDGE OF PAVEMENT BUSWAY

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
4868 SW 72nd Avenue
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Lic. No. 74718

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DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		
SUPERVISED BY:					

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

INTERSECTION DETAILS

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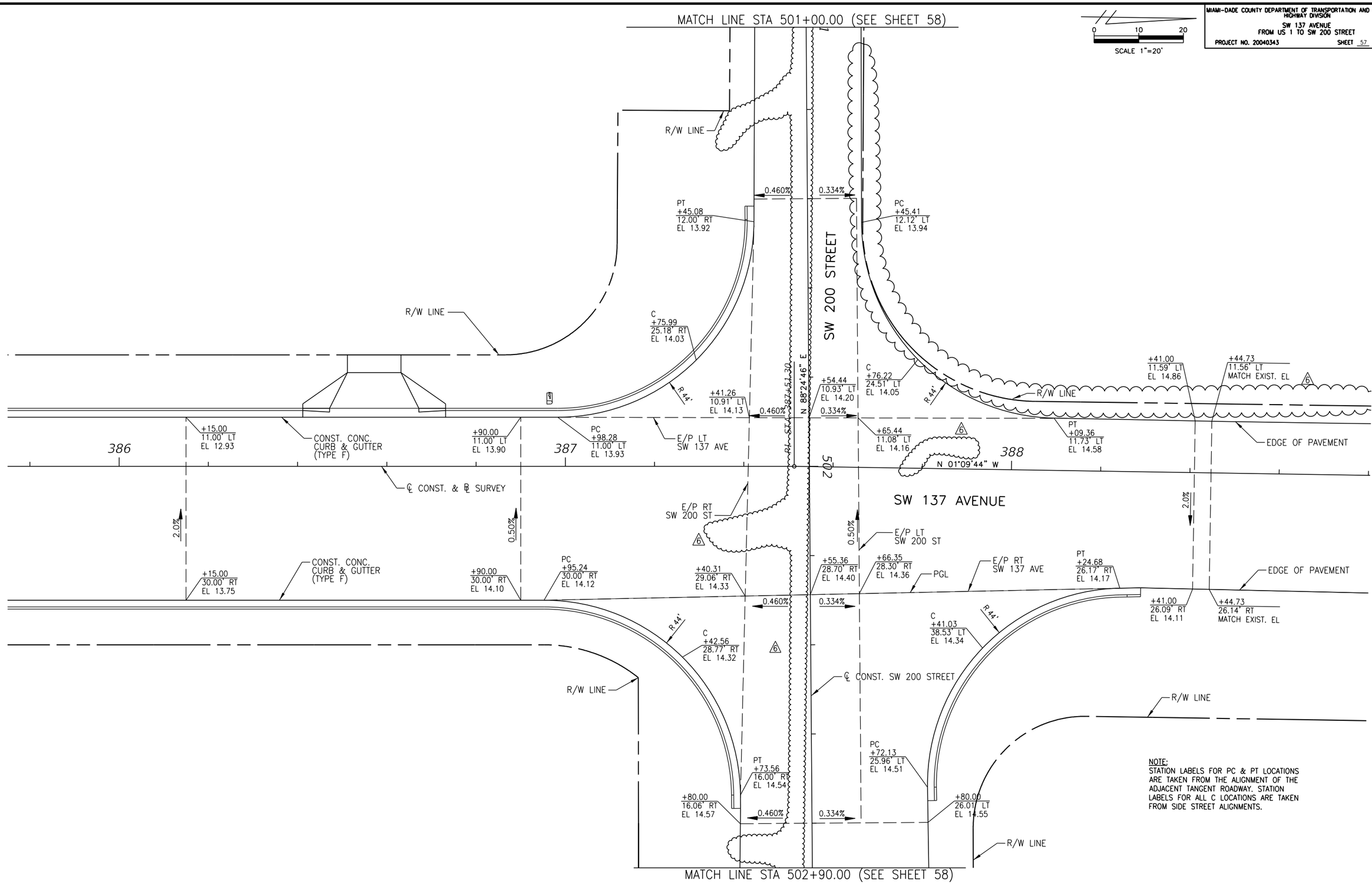

NOTE:
STATION LABELS FOR PC & PT LOCATIONS ARE TAKEN FROM THE ALIGNMENT OF THE ADJACENT TANGENT ROADWAY. STATION LABELS FOR ALL C LOCATIONS ARE TAKEN FROM SIDE STREET ALIGNMENTS.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
3/24/20	CM	6 REVISED R/W LINE						

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CHECKED BY			CHECKED BY		
SUPERVISED BY:					

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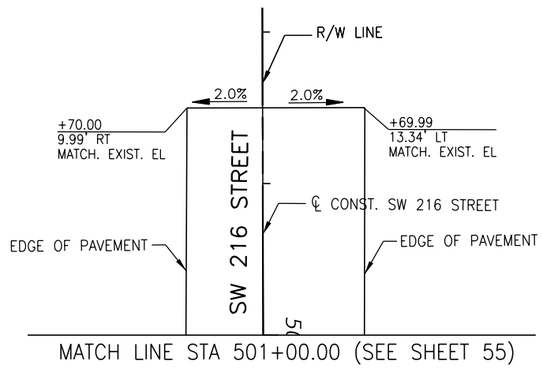
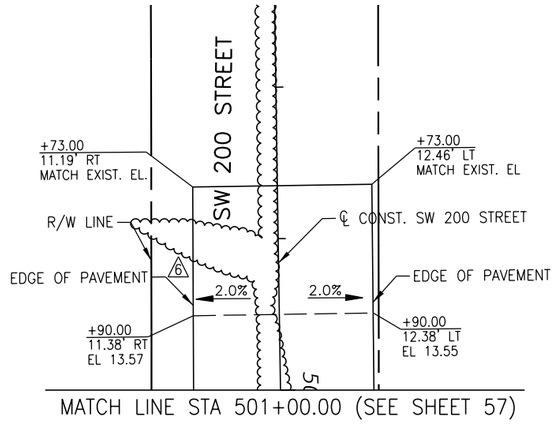
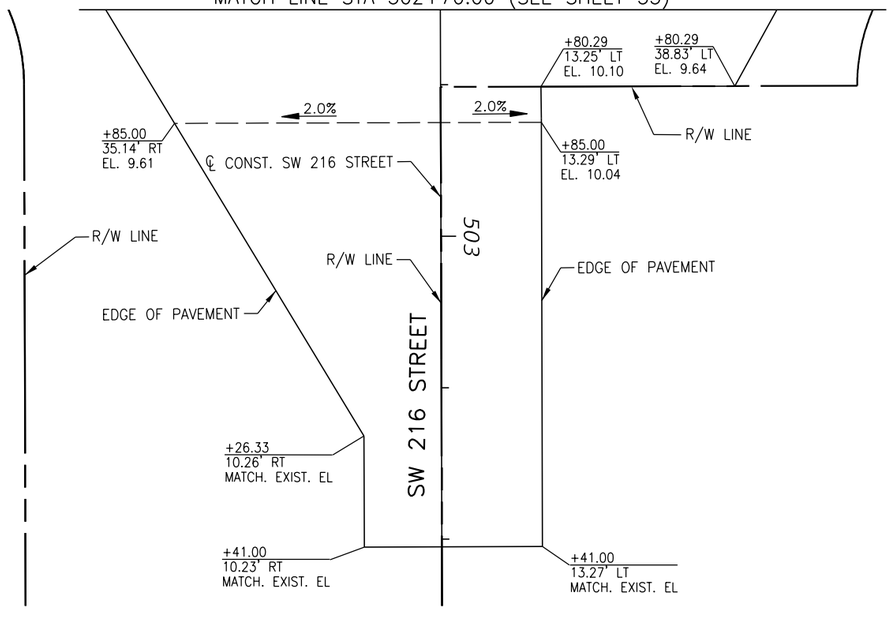
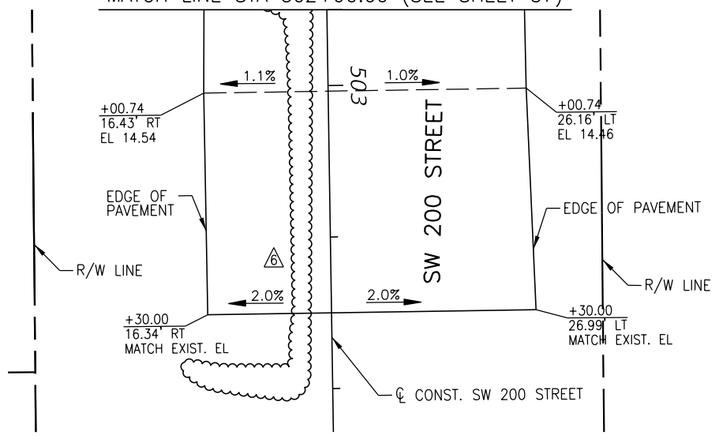
7/17/2020 9:42:25 AM SConnor









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SCALE 1"=20'

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
SW 137 AVENUE
FROM US 1 TO SW 200 STREET
PROJECT NO. 20040343 SHEET 58 OF 144

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
3/24/20	CM	6 REVISED R/W LINE						

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
4868 SW 72nd Avenue
Miami, Florida 33155
Tel (305)667-4772
CA 27017
CHRISTOPHER P. MESZLER, P.E.
Lic. No. 74718

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		

SUPERVISED BY:

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

INTERSECTION DETAILS

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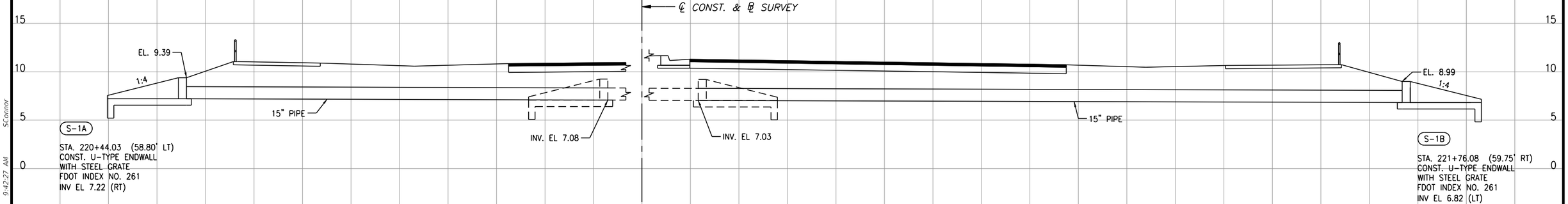

S-1A

STA. 220+44.03 (58.80' LT)
CONST. U-TYPE ENDWALL
WITH STEEL GRATE
FDOT INDEX NO. 261
INV EL 7.22 (RT)

S-1B

STA. 221+76.08 (59.75' RT)
CONST. U-TYPE ENDWALL
WITH STEEL GRATE
FDOT INDEX NO. 261
INV EL 6.82 (LT)

SCALE: 1"=10' (HOR.)
1"=10' (VER.)

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
3/24/20	CM	⚠ REVISED STRUCTURES, PIPES, AND LABELS						

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DRAINAGE STRUCTURES

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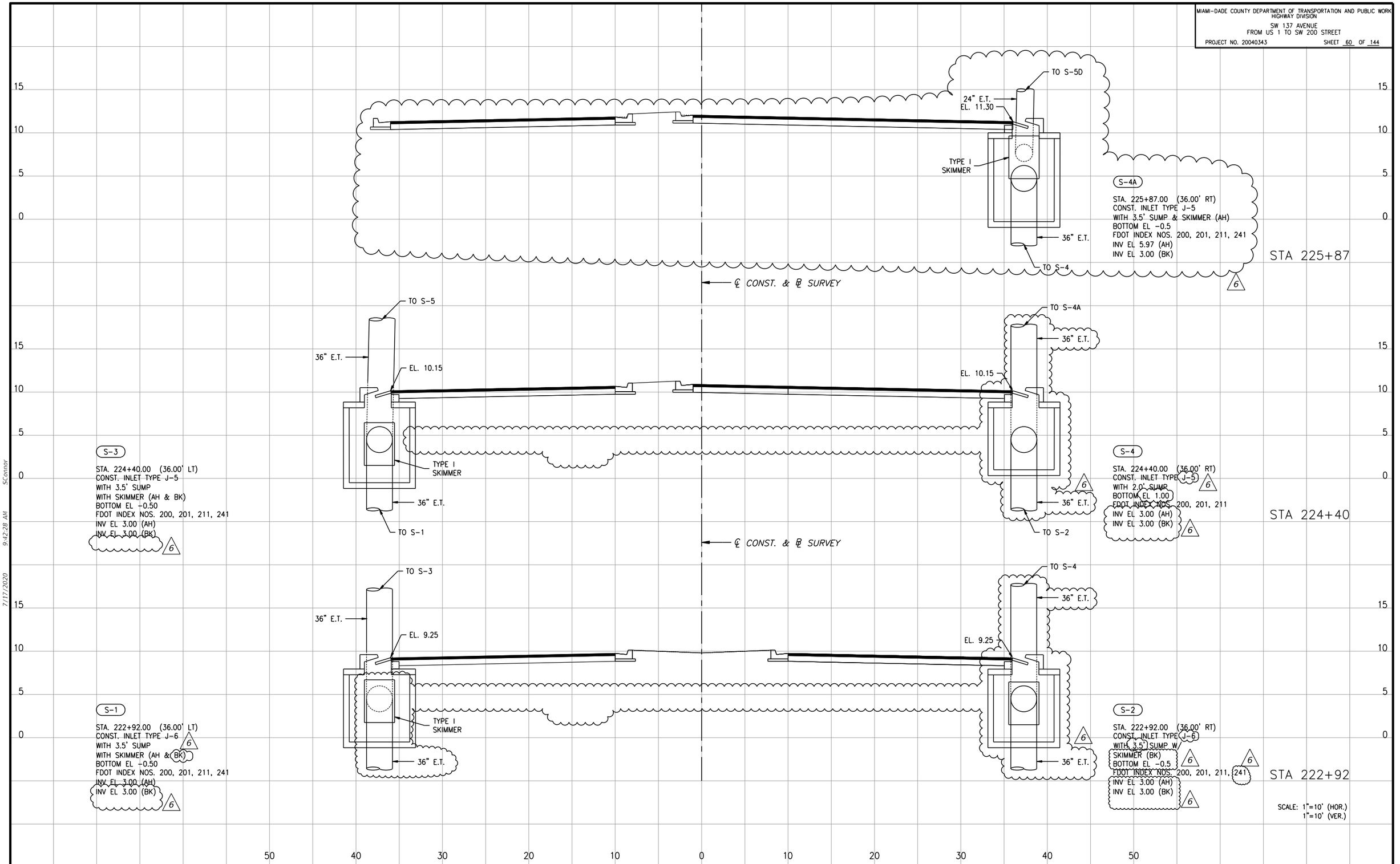
MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORK
HIGHWAY DIVISION
SW 137 AVENUE
FROM US 1 TO SW 200 STREET
PROJECT NO. 20040343 SHEET 60 OF 144



REVISIONS

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DRAINAGE STRUCTURES

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1. SITE DESCRIPTION

A. NATURE OF CONSTRUCTION ACTIVITY

PROJECT LIMITS: SW 137 AVENUE FROM US1 TO SW 200 STREET

PROJECT DESCRIPTION: THE PROJECT CONSISTS OF 3.655 MILES OF ROADWAY CONSTRUCTION. ROADWAY CONSTRUCTION PROVIDES FOR A NEW (2) LANE ROADWAY ON A STRAIGHT ALIGNMENT ALONG ONE SIDE OF THE RIGHT-OF-WAY WHICH SHALL INCLUDE SIDEWALKS, CURB AND GUTTER, A CONTINUOUS STORM DRAINAGE SYSTEM, SIGNALIZATION, PAVEMENT MARKINGS AND SIGNAGE, A STANDARD ROADWAY LIGHTING SYSTEM, BICYCLE FACILITIES, LANDSCAPING, A BRIDGE CROSSING OVER CANAL C-102, A CULVERT CROSSING AT CANAL C-102N, AND FILLING OF THE BORROW PIT AT SW 240 STREET WITHIN THE RIGHT OF WAY LIMITS.

B. SEQUENCE OF MAJOR SOIL DISTURBING ACTIVITIES:

1. CLEARING AND GRUBBING
2. EXCAVATION
3. EMBANKMENT
4. ROADWAY STABILIZATION AND BASE
5. ROADWAY CONNECTION TO EXISTING FACILITIES
6. GRADING AND LANDSCAPING WHERE NECESSARY

C. AREA ESTIMATES

1. TOTAL PROJECT AREA:	43.24 AC
2. TOTAL AREA TO BE DISTURBED:	31.90 AC
3. EXISTING IMPERVIOUS AREA:	3.13 AC
4. TOTAL PROPOSED IMPERVIOUS AREA:	17.51 AC
5. EXISTING PERVIOUS AREA:	40.11 AC
6. TOTAL PROPOSED PERVIOUS AREA:	25.73 AC

D. RUNOFF DATA

RUNOFF COEFFICIENTS FOR:

PERVIOUS AREAS:	C = 0.20
IMPERVIOUS AREAS:	C = 0.95
DISTURBED AREAS DURING CONSTRUCTION:	C =

WEIGHTED RUNOFF COEFFICIENTS:

BEFORE CONSTRUCTION:	C = .25
DURING CONSTRUCTION:	C =
AFTER CONSTRUCTION:	C = .50

OUTFALL INFORMATION:

EMERGENCY OUTFLOW TO C-102 & C102N FOR STORM EVENTS EXCEEDING 100-YEAR/24HR STORM..

E. SITE MAP:

A LOCATION MAP IS SHOWN ON THE KEY SHEET OF THE ROADWAY PLANS.

1. DRAINAGE PATTERNS:
RUNOFF WILL BE COLLECTED VIA CURB INLETS AND CONVEYED INTO AN INTERCONNECTED SYSTEM OF 36" DIAMETER EX-FILTRATION TRENCHES.
2. APPROXIMATE SLOPES:
THE SLOPES OF THE SITE CAN BE SEEN IN THE TYPICAL SECTION AND CROSS-SECTION SHEETS. 1:4 SLOPES ARE TYPICAL.
3. AREAS OF SOIL DISTURBANCE:
THE AREAS TO BE DISTURBED ARE INDICATED ON THE PLAN AND PROFILE SHEETS. MAJOR SOIL DISTURBANCE WILL BE ASSOCIATED WITH THE STANDARD CLEARING AND GRUBBING OPERATION. ALL AREAS WHERE PERMANENT FEATURES ARE SHOWN TO BE CONSTRUCTED, ABOVE OR BELOW GROUND, WILL BE DISTURBED.
4. AREAS THAT SHALL NOT BE DISTURBED:
ALL AREAS OUTSIDE THE CLEARING AND GRUBBING AND THE LIMITS OF CONSTRUCTION WILL NOT BE DISTURBED.
5. LOCATIONS OF TEMPORARY CONTROLS IDENTIFIED IN THE PLAN:
TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AT ALL LOCATIONS WHERE DISTURBANCE OF SOLIDS WILL OCCUR.
6. THE LOCATIONS OF PERMANENT CONTROLS: PERMANENT SEDIMENT CONTROL DEVICES ARE LOCATED IN THE DRAINAGE STRUCTURE SHEETS.

7. AREAS TO BE STABILIZED:
ALL DISTURBED AREAS WILL BE STABILIZED WITH TURF AND/OR LANDSCAPING. WIDENING AREAS ARE STABILIZED WITH PAVEMENT AND CONCRETE CURB AND GUTTER.

F. DISCHARGE POINT(S): EMERGENCY OVERFLOWS ARE LOCATED ON THE WEST SIDE OF THE BRIDGE & CULVERT.

2. CONTROLS

A. EROSION AND SEDIMENT CONTROLS:

1. STABILIZATION PRACTICES:
   - A. TEMPORARY: INCLUDES SOD, MULCH, SYNTHETIC BALES, AND ARTIFICIAL COVERINGS.
   - B. PERMANENT: INCLUDES ASPHALT OR CONCRETE SURFACE, SOD, ROADSIDE DITCH, AND RIP-RAP.
2. STRUCTURAL PRACTICES:
   - A. TEMPORARY: INCLUDES SILT FENCE, SYNTHETIC BALES, ROCK BAGS, AND TURBIDITY BARRIERS, AND SOIL TRACKING PREVENTION DEVICES.
   - B. PERMANENT: INCLUDES ROADSIDE DITCH, RIP-RAP, AND SOD.

B. PERMANENT STORM WATER MANAGEMENT:

STORM WATER WILL BE CONVEYED ALONG CURB AND GUTTER TO THE EX-FILTRATION TRENCH AND WILL INFILTRATE INTO THE GROUND. DRAINAGE STRUCTURES WITHIN THE CORRIDOR CONSIST OF CURB INLETS, DITCH BOTTOM INLETS, MANHOLES, AND EX-FILTRATION TRENCH.

C. OTHER CONTROLS:

THE CONTRACTOR SHALL PRACTICE GOOD HOUSEKEEPING BY INSTITUTING A CLEAN AND ORDERLY CONSTRUCTION SITE. THE FOLLOWING CONTROLS SHALL BE IMPLEMENTED TO FURTHER REDUCE POLLUTION AT THE PROJECT SITE.

1. DISCHARGE OF MATERIALS TO SURFACE WATERS
NO CONSTRUCTION MATERIAL SHALL BE DISCHARGED TO WATERS OF THE STATE UNLESS AUTHORIZED BY A SECTION 404 PERMIT AND/OR THE STATE OF FLORIDA ENVIRONMENTAL RESOURCE PERMIT. ALL CONSTRUCTION DEBRIS SHALL BE DISPOSED OF IN AN APPROVED UPLAND LOCATION. BUILDING MATERIAL SHALL NOT BE DISPOSED OF IN WETLANDS OR BURIED ON-SITE.

2. OFF-SITE VEHICLE TRACKING & DUST CONTROL
THE CONTRACTOR SHALL TAKE MEASURES TO INSURE THE CLEANUP OF SEDIMENTS THAT HAVE BEEN TRACKED BY VEHICLES OR HAVE BEEN TRANSPORTED BY WIND OR STORM WATER ABOUT THE SITE OR ONTO NEARBY ROADWAYS. STABILIZED CONSTRUCTION ENTRANCES AND CONSTRUCTION ROADS, IF APPROPRIATE, SHALL BE IMPLEMENTED IN ORDER TO REDUCE OFF-SITE TRACKING. LOADED HAUL TRUCKS SHALL BE COVERED WITH TARPAULIN. EXCESS DIRT ON THE ROAD SHALL BE REMOVED DAILY.

3. WASTE DISPOSAL
THE CONTRACTOR SHALL DEMONSTRATE THE PROPER DISPOSAL OF ALL CONSTRUCTION WASTE GENERATED WITHIN THE PROJECT LIMITS. WASTE MAY INCLUDE, BUT NOT BE LIMITED TO, VEGETATION FROM CLEARING AND GRUBBING ACTIVITIES, PACKAGING MATERIALS, SCRAP BUILDING MATERIALS, LITTER FROM TRAVELING PUBLIC, SEWAGE FROM SANITARY FACILITIES, HERBICIDES AND PESTICIDES AND THEIR CONTAINERS, AND HYDROCARBON PRODUCTS. THE CONTRACTOR SHALL DESIGNATE A WASTE COLLECTION AREA ON SITE AND DELINEATE THE AREA ON THE SWPP SITE MAP. SANITARY/SEPTIC FACILITIES SHALL BE PROVIDED AND MAINTAINED IN A NEAT AND SANITARY CONDITION FOR THE USE OF THE CONTRACTOR'S EMPLOYEES, AS NECESSARY. TO COMPLY WITH THE REQUIREMENTS AND REGULATIONS OF THE STATE AND LOCAL BOARDS OF HEALTH, A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR AS REQUIRED BY STATE REGULATIONS WILL COLLECT ALL SANITARY WASTE FROM PORTABLE UNITS. THE CONTRACTOR WILL PROVIDE LETTER CONTROL AND COLLECTION WITHIN THE PROJECT LIMITS DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR WILL PROVIDE AN ADEQUATE NUMBER OF LITTER CONTAINERS WITH LIDS AT THE STAGING, STOCKPILE, AND FIELD OFFICE AREAS. WASTE COLLECTION WILL BE SCHEDULED SO THAT CONTAINERS ARE EMPTIED PRIOR TO OVERFLOW. SPILLED LITTER CONTAINERS WILL BE CLEANED UP IMMEDIATELY.

4. FERTILIZERS AND PESTICIDES
THE APPLICATION AND HANDLING OF HERBICIDES AND PESTICIDES SHALL BE IN COMPLIANCE WITH THE MANUFACTURER'S RECOMMENDED METHOD AND IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. HERBICIDES AND PESTICIDES SHALL BE STORED IN THEIR ORIGINAL CONTAINERS WITH PRODUCT LABEL INTACT.

5. TOXIC SUBSTANCES
THE CONTRACTOR SHALL PROVIDE EQUIPMENT NECESSARY TO CONTAIN AND CLEAN UP SPILLS OF HAZARDOUS MATERIALS, INCLUDING PETROLEUM PRODUCTS. SPILLS SHALL BE CONTAINED AND CLEANED UP IMMEDIATELY AFTER THEY OCCUR. SPILLED MATERIALS AND EQUIPMENT USED TO CLEAN UP THE SPILL SHALL NOT COME IN CONTACT WITH SURFACE WATERS OR BE INTRODUCED INTO STORM WATER. DISPOSAL OF SURPLUS PRODUCT WILL BE DONE ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS. THE CONTRACTOR SHALL PROVIDE A PROJECT SPECIFIC HAZARDOUS MATERIAL SPILL CONTROL PLAN IN ORDER TO ADDRESS THE HANDLING OF HYDROCARBON AND HAZARDOUS MATERIALS. PETROLEUM PRODUCTS SHALL BE STORED IN COVERED AREAS WITH SECONDARY CONTAINMENT SURROUNDING CONTAINERS. TOXIC/HAZARDOUS MATERIALS EXPOSED DURING CONSTRUCTION ACTIVITIES SHALL BE HANDLED AS PER THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

D. STOCKPILE AND STAGING AREAS
THE CONTRACTOR IS RESPONSIBLE FOR EROSION CONTROL FOR STOCKPILE AND STAGING AREAS THAT CONFORM TO NPDES REQUIREMENTS. ALL STOCKPILE AND STAGING AREAS MUST BE APPROVED AND COORDINATED WITH THE ENGINEER.

3. MAINTENANCE

THE CONTRACTOR WILL BE RESPONSIBLE FOR THE MAINTENANCE AND REPAIRS OF EROSION AND SEDIMENT CONTROL DEVICES AS PER SECTION 104 OF FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED 2017 AND EROSION CONTROL MATERIALS AS PER SECTION 981 OF FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED 2017. THE MAINTENANCE OF THESE DEVICES AND MATERIALS WILL OCCUR UNTIL THE PROJECT ENGINEER HAS DEEMED AN AREA PERMANENTLY STABILIZED. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES ONCE THEY HAVE SERVED THEIR PURPOSE. THE CONTRACTOR SHALL INSTALL AND MAINTAIN RAIN GAUGES ON THE PROJECT SITE, TO BE INCLUDED IN THE (PAY ITEM NUMBER: 101.1)
ALL DEVICES AND MATERIALS WILL BE MAINTAINED IN GOOD WORKING ORDER AND CONDITION. IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT. MAINTENANCE AND REPAIR REQUIRED FOR THE EROSION AND SEDIMENT CONTROL DEVICES AND MATERIALS SHALL BE INCLUDED IN RELATED PAY ITEMS (104-10-3), (104-11A), OR (104-15-1).

THE FOLLOWING PRACTICES WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROL DEVICES AND MATERIALS:
SYNTHETIC BALES WILL BE INSPECTED FOR BUILT-UP SEDIMENT, WASHOUTS, AND DETERIORATION. REPLACE THE BALES WHEN EITHER SEDIMENT REACHES ONE-THIRD THE HEIGHT OF THE BALES. THE BALES WILL BE IN PLACE NO LONGER THAN THREE MONTHS. REPAIRS MADE WILL BE INCLUDED IN THE COST OF SEDIMENT BARRIER (PAY ITEM NUMBER: 104-11A).
STAKED SILT FENCES WILL BE INSPECTED FOR BUILT-UP SEDIMENT, WASHOUTS, AND DETERIORATION. REMOVE SEDIMENT FROM SILT FENCE WHEN SEDIMENT REACHES ONE-THIRD THE HEIGHT OF THE STAKED SILT FENCE. REPLACE STAKED SILT FENCE IF IT WASHES OUT, OR BECOMES SO DETERIORATED THAT IT IS NO LONGER FUNCTIONING AS A BARRIER. STAKED SILT FENCES WILL BE IN PLACE NO LONGER THAN ONE YEAR. REPAIRS MADE WILL BE INCLUDED IN THE COST OF SEDIMENT BARRIER (PAY ITEM NUMBER: 104-11A).
SODDING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH. REPAIRS WILL BE MADE FOR BARE SPOTS AND WASHOUTS TO BE INCLUDED IN THE COST OF SODDING (PAY ITEM NUMBER: 570-1-2).

4. INSPECTIONS:

THE CONTRACTOR SHALL BE REQUIRED TO CONDUCT DAILY VISUAL INSPECTIONS OF ALL TEMPORARY AND PERMANENT STABILIZATION MEASURES ALONG THE PROJECT CORRIDOR. THE CONTRACTOR IS EXPECTED TO REPAIR AND/OR REPLACE THESE ITEMS AS NECESSARY.
THE CONTRACTOR SHALL HAVE AN INSPECTOR REVIEW THE PROJECT'S TEMPORARY AND PERMANENT EROSION CONTROL MEASURES FOR THE ITEMS LISTED BELOW AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND/OR WITHIN 24 HOURS OF THE END OF A STORM THAT DEPOSITS 0.5 INCHES OR MORE OF RAIN INTO ANY OF THE FOLLOWING:

1. POINTS OF DISCHARGE TO WATERS OF THE UNITED STATES
2. POINTS OF DISCHARGE TO MUNICIPAL SEPARATE STORM SEWER SYSTEMS
3. DISTURBED AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED
4. AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION
5. STRUCTURAL CONTROLS
6. STORM WATER MANAGEMENT SYSTEMS
7. LOCATIONS WHERE VEHICLES ENTER OR EXIT THIS SITE

THE CONTRACTOR SHALL INITIATE REPAIRS WITHIN 24 HOURS OF INSPECTIONS THAT INDICATE ITEMS ARE NOT IN GOOD WORKING ORDER.
WHERE INSPECTIONS INDICATE THAT THE INSTALLED STABILIZATION AND STRUCTURAL PRACTICES ARE NOT SUFFICIENT TO MINIMIZE EROSION, RETAIN SEDIMENT, AND PREVENT DISCHARGING POLLUTANTS, THE CONTRACTOR SHALL PROVIDE ADDITIONAL MEASURES, AS APPROVED BY THE ENGINEER. THE CONTRACTOR IS TO CEASE OPERATIONS IN THAT AREA UNTIL THE ADDITIONAL MEASURES ARE IN PLACE..

5. CONTRACTOR'S SUBMITTAL

FOR EACH MEASURE IDENTIFIED IN THE SWPPP, CONTRACTOR AND/OR SUBCONTRACTOR(S) THAT WILL IMPLEMENT THE MEASURE MUST SIGN A COPY OF THE CERTIFICATION STATEMENT, PRIOR TO CONDUCTING ANY CONSTRUCTION ACTIVITIES AT THE SITE.

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MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORK
HIGHWAY DIVISION
SW 137 AVENUE
FROM US 1 TO SW 200 STREET
PROJECT NO. 20040343 SHEET 80 OF 144

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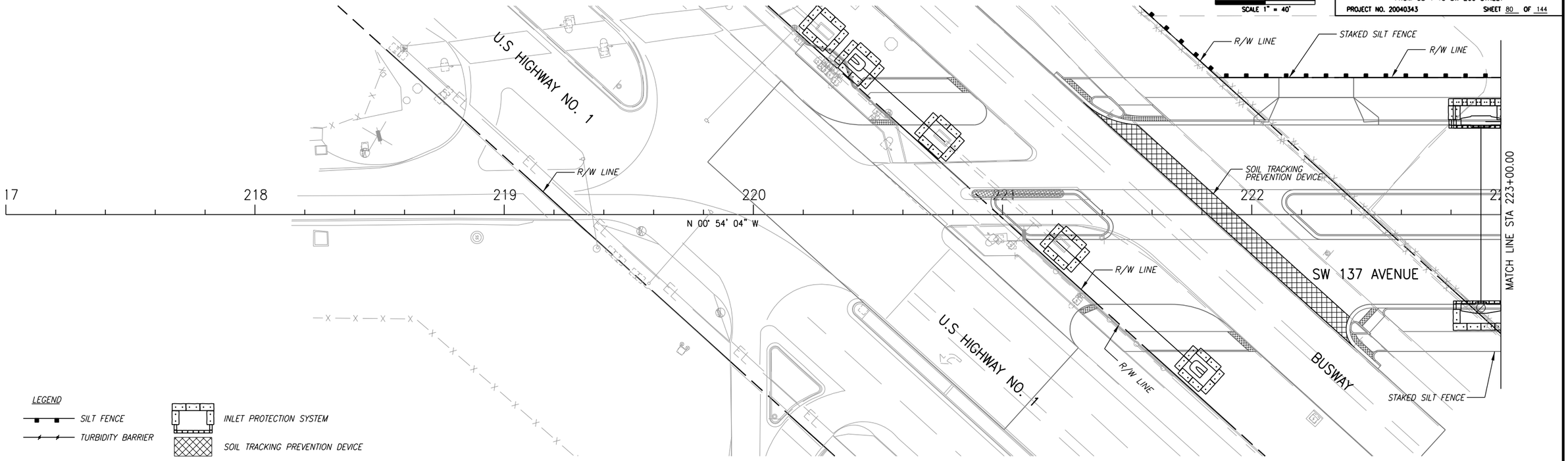
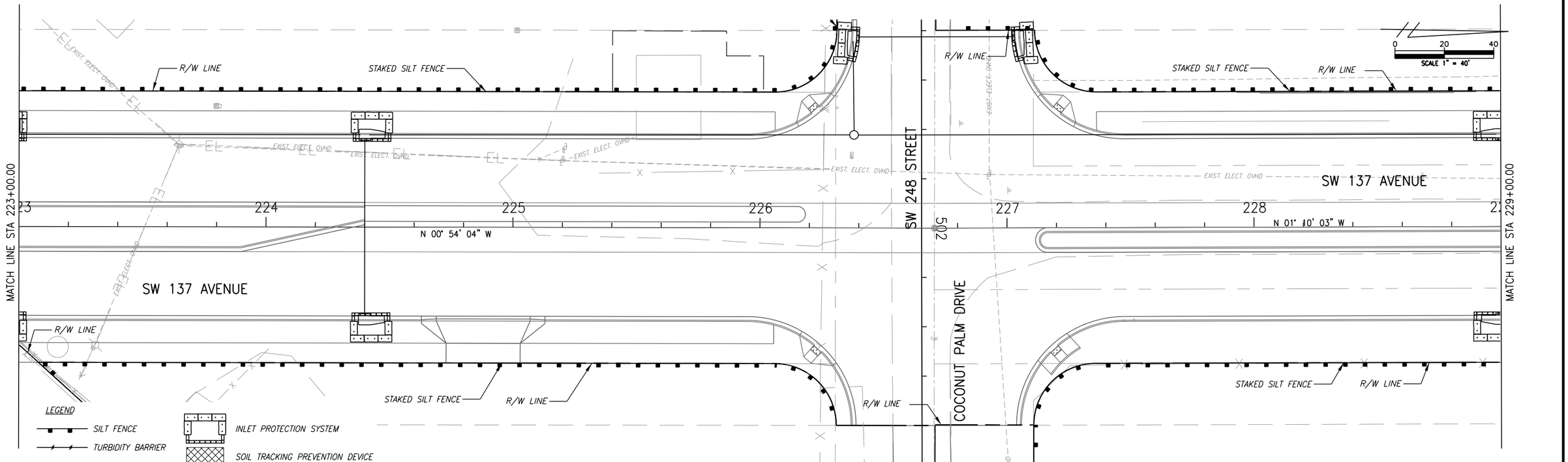
SCALE 1" = 40'





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STORM WATER POLLUTION PREVENTION PLAN

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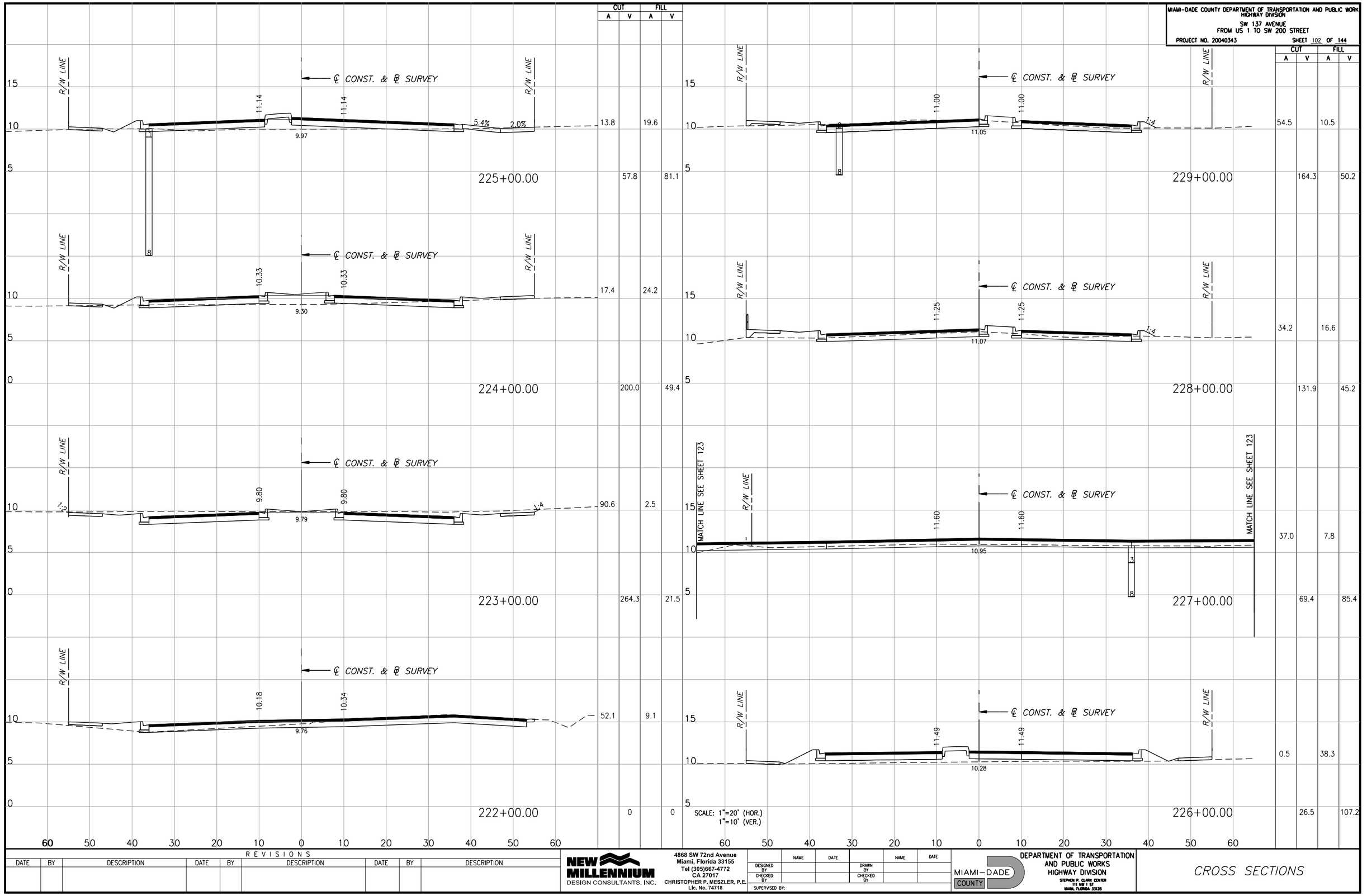

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224+00.00	17.4	200.0	24.2	49.4
223+00.00	90.6	264.3	2.5	21.5
222+00.00	52.1	0	9.1	0
229+00.00	54.5	164.3	10.5	50.2
228+00.00	34.2	131.9	16.6	45.2
227+00.00	37.0	69.4	7.8	85.4
226+00.00	0.5	26.5	38.3	107.2

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CROSS SECTIONS

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MAINTENANCE OF TRAFFIC GENERAL NOTES:

1. TRAFFIC CONTROLS SHALL BE IN ACCORDANCE WITH THE PROJECT PLANS, THE MIAMI-DADE COUNTY PUBLIC WORKS MANUAL AS PERTAINS TO MAINTENANCE OF TRAFFIC, THE CURRENT EDITION OF THE FDOT DESIGN STANDARDS (600 SERIES), THE STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AS MINIMUM CRITERIA.

2. TEMPORARY PAVEMENT SHALL CONSIST OF A MINIMUM OF 6 INCH LIMEROCK BASE, PRIME COAT AND 1-1/2 INCHES TYPE S ASPHALTIC CONCRETE. THE BASE LAYER SHALL BE PLACED OVER A FIRM, UNYIELDING, WELL-COMPACTED SUBGRADE. COST OF CONSTRUCTION AND REMOVAL OF TEMPORARY PAVEMENT TO BE INCLUDED IN PAY ITEM 102-1A, MAINTENANCE OF TRAFFIC.

3. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ALL POTHOLES THAT DEVELOP WITHIN THE PROJECT LIMITS AND WILL MAINTAIN A SUPPLY OF COLD MIX ON THE PROJECT SITE TO EXPEDITE THOSE REPAIRS. COST OF REPAIR TO BE INCLUDED IN PAY ITEM 102-1A, MAINTENANCE OF TRAFFIC.

4. NOTIFICATION OF LANE CLOSURES OR TEMPORARY DETOURS SHALL BE ACCOMPLISHED 14 WORKING DAYS PRIOR TO CLOSURE OR DETOUR BY COORDINATING WITH MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS AND MIAMI-DADE COUNTY TRAFFIC OPERATIONS.

5. THE CONTRACTOR SHALL NOTIFY LAW ENFORCEMENT AND FIRE PROTECTION SERVICES TWENTY-FOUR (24) HOURS IN ADVANCE OF A DETOUR IN ACCORDANCE WITH SECTION 336.07 OF THE FLORIDA STATUTES.

6. AT THE DISCRETION OF THE ENGINEER, IF A LANE CLOSURE CAUSES EXTENDED CONGESTION OR DELAY, THE CONTRACTOR SHALL BE DIRECTED TO REOPEN THE CLOSED LANE(S) UNTIL SUCH TIME THAT THE TRAFFIC FLOW HAS RETURNED TO AN ACCEPTABLE LEVEL.

7. THE TRAFFIC AND TRAVEL WAYS SHALL NOT BE ALTERED BY THE CONTRACTOR TO CREATE A WORK ZONE UNTIL ALL LABOR AND MATERIALS ARE AVAILABLE FOR THE CONSTRUCTION IN THAT AREA.

8 LANE CLOSURE SHALL OCCUR ONLY DURING NON-PEAK HOURS ON NONEVENT DAYS/NIGHTS. NO INTERRUPTION TO TRAFFIC IS PERMITTED FROM MONDAY-FRIDAY 7-9 A.M. AND 4-6 P.M. NO INTERRUPTION PERMITTED FROM 8 A.M. - 8 P.M. ON WEEKENDS AND HOLIDAYS.

9. REGULATORY SPEED ESTABLISHED WITHIN THE WORK ZONE TRAVEL WAYS SHALL NOT BE MORE THAN 10 M.P.H. REDUCED FROM POSTED SPEED AND REGULATORY SPEED SIGNS SHALL BE INSTALLED ON SEPARATE POSTS IN ACCORDANCE WITH THE STANDARD INDICES.

10. CONTRACTOR SHALL MAINTAIN ACCESS (IF EXISTING) TO PRIVATE PROPERTY DURING ALL PHASES OF CONSTRUCTION. LOCAL RESIDENTS WITHIN THE AREA OF CONSTRUCTION SHALL BE GIVEN ACCESS TO THEIR PROPERTY DURING ALL PHASES OF CONSTRUCTION. LOCAL RESIDENTS INCLUDE ALL COMMERCIAL ESTABLISHMENTS, BUSINESSES, AND HOMEOWNERS.

11. CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE REMOVAL OF STORM WATER FROM ROADWAYS UTILIZED FOR MAINTAINING TRAFFIC IN A MANNER APPROVED BY THE ENGINEER. COST FOR REMOVING THE WATER SHALL BE INCLUDED IN PAY ITEM 102-1A, MAINTENANCE OF TRAFFIC.

12. THE CONTRACTOR SHALL FURNISH AND MAINTAIN VARIABLE MESSAGE SIGNS IN ACCORDANCE WITH THE STANDARDS AND AS DIRECTED BY THE ENGINEER. MESSAGES FOR THE VMS SHALL BE AS DIRECTED BY THE ENGINEER. THE VMS SHALL BE IN PLACE TWO WEEKS BEFORE THE START OF WORK. TO BE INCLUDED IN THE PAY ITEM 102-1A, MAINTENANCE OF TRAFFIC.

13. THE CONTRACTOR MUST PROVIDE A FLASHING ARROW BOARD FOR ANY LANE THAT IS CLOSED OR DIVERTED.

14. TRAFFIC SHALL BE MAINTAINED ON A PAVED, DUST FREE SURFACE AT ALL TIMES.

15. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING EROSION CONTROL MEASURES TO PREVENT SEDIMENT FROM ENTERING EXISTING AND PROPOSED DRAINAGE STRUCTURES AND SEDIMENT INTRUSION ON WATERWAYS DURING CONSTRUCTION. THESE MEASURES SHALL BE APPROVED BY THE ENGINEER AND CONFORM TO THE CURRENT EDITION OF THE FDOT DESIGN STANDARDS FOR EROSION CONTROL (100 SERIES).

16. CONTRACTOR MUST MAINTAIN DRAINAGE AT ALL TIMES. THE EXISTING DRAINAGE SYSTEM SHALL BE KEPT OPERATIONAL OR TEMPORARY DRAINAGE PROVIDED WHILE THE PROPOSED DRAINAGE SYSTEM IS BEING CONSTRUCTED. THE CONTRACTOR SHALL PROVIDE THE NECESSARY TEMPORARY DRAINAGE AS APPROVED BY THE ENGINEER. ALL COSTS SHALL BE INCLUDED IN THE PAY ITEM 102-1A, MAINTENANCE OF TRAFFIC.

17. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ROADWAY LIGHTING ILLUMINATION LEVELS DURING CONSTRUCTION. THE CONTRACTOR SHALL MAINTAIN EXISTING LIGHTING OR SUPPLY TEMPORARY LIGHTING UNTIL THE PROPOSED SYSTEM IS IN OPERATION. THE CONTRACTOR SHALL SUBMIT A COMPLETE PROPOSED METHOD OF MAINTAINING LIGHTING FOR APPROVAL BY COUNTY ENGINEER PRIOR TO BEGINNING WORK. REFER TO ROADWAY LIGHTING PLANS AND OTHER APPLICABLE DRAWINGS FOR INFORMATION ON EXISTING AND PROPOSED ROADWAY LIGHTING AND DETAIL OF ROADWAY CONSTRUCTION. IF ANY PART OF THE SYSTEM IS OWNED BY F.P.&L., COORDINATE CLOSELY WITH F.P.&L.

18. FOR THE US-1 AND SW 137TH AVENUE INTERSECTION, WORK SHALL BE DONE DURING NIGHTTIME HOURS FROM 9:00 PM TO 5:30AM.

19. TEMPORARY LIGHTING SHALL BE PROVIDED AT ALL FLAGGER STATIONS USED DURING NIGHTTIME HOURS. △

SIGNING AND MARKINGS:

1. ALL TEMPORARY SIGNS, PAVEMENT MARKING, TRAFFIC CONTROL DEVICES AND ATTENUATORS SHALL BE INCLUDED IN PAY ITEM 102-1A, MAINTENANCE OF TRAFFIC WHEN SEPARATE PAY ITEM DOES NOT EXIST.

2. SIGNS ARE TO BE LOCATED BEFORE EACH BUSINESS OR SHOPPING PLAZA ENTRANCE WHERE CONSTRUCTION NEGATIVELY IMPACTS THE ACCESS TO THE BUSINESS OR AS DIRECTED BY THE ENGINEER TWO SIGNS WILL TYPICALLY BE REQUIRED AT EACH ENTRANCE. SIGNS ARE TO BE DISPLAYED AS DESCRIBED IN INDEX 600 OF THE ROADWAY AND TRAFFIC DESIGN STANDARDS.

3. AS DETERMINED BY THE ENGINEER, THE CONTRACTOR SHALL COVER WORK ZONE SIGNS WHEN CONDITIONS NO LONGER WARRANT THEIR USE. COST OF COVERING AND UNCOVERING THE SIGNS SHALL BE INCLUDED IN PAY ITEM 102-1A, MAINTENANCE OF TRAFFIC.

4. CONTRACTOR SHALL REMOVE, RELOCATE, OR COVER ANY EXISTING OR PROPOSED SIGNS THAT CONFLICT WITH THE TRAFFIC CONTROL PLANS. WHEN THE CONFLICT NO LONGER EXISTS, THE CONTRACTOR SHALL RESTORE THE SIGNS TO THEIR ORIGINAL POSITION. COST OF TEMPORARILY REMOVING, RELOCATING, COVERING, AND RESTORING THE SIGNS SHALL BE INCLUDED IN THE PAY ITEM 102-1A, MAINTENANCE OF TRAFFIC.

5. EACH EXISTING STREET NAME AND TRAFFIC SIGN AFFECTED BY CONSTRUCTION SHALL BE RELOCATED AND MAINTAINED IN AN APPROPRIATE LOCATION FOR THE DURATION OF THE PROJECT. WHEN NO LONGER AFFECTED BY CONSTRUCTION, THESE SIGNS SHALL BE RESTORED IN THEIR ORIGINAL POSITION. COST OF TEMPORARILY RELOCATING AND RESTORING THE SIGNS SHALL BE INCLUDED IN PAY ITEM 102-1A, MAINTENANCE OF TRAFFIC.

6. DURING ASPHALT CONSTRUCTION OPERATIONS, NO MORE THAN 1-1/4" DROP-OFF BETWEEN ADJACENT TRAVEL LANES OR AT TRANSVERSE JOINTS SHALL BE ALLOWED WHEN LANES ARE OPEN TO TRAFFIC. WHERE DROP OFF CONDITIONS EXIST, THE SIGNING FOR UNEVEN PAVEMENT SHALL BE INSTALLED FOR THE DURATION OF THE CONDITION (W8-9AP).

7. THE CONTRACTOR IS TO PLACE TEMPORARY OR REMOVABLE PAVEMENT MARKINGS BETWEEN EACH LAYER OF PAVEMENT, AND IS RESPONSIBLE FOR THE TEMPORARY RELOCATION OF STOP BARS & STOP SIGNS AS APPLICABLE. PAVEMENT MARKINGS AND BARRICADE PLACEMENT SHALL BE APPROPRIATELY COORDINATED.

8. THE CONTRACTOR SHALL REMOVE ANY EXISTING OR TEMPORARY PAVEMENT MARKINGS THAT CONFLICT WITH THE TRAFFIC CONTROL PLANS. COST OF REMOVAL OF TEMPORARY PAVEMENT MARKINGS, REGARDLESS OF METHOD, IS INCLUDED IN THE MAINTENANCE OF TRAFFIC PAY ITEMS. USE OF BLACK PAINT TO COVER EXISTING AND/OR TEMPORARY PAVEMENT MARKINGS IS PROHIBITED.

9. TEMPORARY LANE TRANSITIONS, SHIFTS, AND CROSSOVERS SHALL HAVE SOLID LANE AND EDGE LINES FOR THE LENGTH OF THE TRANSITION, SHIFT OR CROSSOVER. IN ADDITION, SOLID LANE AND EDGE LINES SHALL EXTEND 100 FT. ON THE TANGENT SECTION BEYOND EACH END OF THESE CROSSOVERS OR TRANSITION AREAS. COST OF THE TEMPORARY RPMS SHALL BE INCLUDED IN PAY ITEM 102-1A, MAINTENANCE OF TRAFFIC.

10. TEMPORARY RAISED PAVEMENT MARKERS (RPMS) SHALL BE INSTALLED ON THE EDGE, CENTER, AND LANE LINES OF ALL CROSS-OVERS, TRANSITIONS, AND TANGENT SECTIONS WITHIN THE WORK ZONE WHERE THE VEHICLE PATHS ARE ALTERED. THE SPACING FOR THESE RPMS SHALL BE 40 FT. ON CENTERS FOR TANGENT SECTIONS AND 5 FT FOR TRANSITIONS, CURVES, AND CROSSOVERS. THE RPMS SHALL EXTEND 100 FT. ON THE TANGENT SECTION BEYOND EACH END OF THESE CROSSOVERS OR TRANSITION AREAS. COST OF THE TEMPORARY RPMS SHALL BE INCLUDED IN THE PAY ITEM 102-1A, MAINTENANCE OF TRAFFIC.

SIGNALS:

1. CONTRACTOR SHALL NOTIFY MIAMI-DADE COUNTY TRAFFIC SIGNS AND SIGNALS DIVISION LOCATED AT 7100 NW 36 STREET, MIAMI, FLORIDA 33166 AND PHONE NO. (305) 592-8925, 48 HOURS PRIOR TO ANY MODIFICATION OF AN EXISTING TRAFFIC SIGNAL SYSTEM. THE CONTRACTOR SHALL HAVE FULL RESPONSIBILITY FOR THE MAINTENANCE OF THE EXISTING OR TEMPORARY TRAFFIC SIGNAL(S) WITHIN THE PROJECT LIMITS. COST OF RELOCATING TRAFFIC SIGNAL HEADS, PROVIDING AND REMOVING TEMPORARY SIGNALS, AND MAINTAINING THE EXISTING TEMPORARY TRAFFIC SIGNAL SHALL BE INCLUDED IN PAY ITEM 102-1A, MAINTENANCE OF TRAFFIC.

2. THE PROPOSED SIGNALS SHALL BE INSTALLED AND OPERATIONAL PRIOR TO THE REMOVAL OF THE EXISTING SYSTEM AND SHALL BE ADJUSTED TO THE TRAFFIC NEEDS FOR EACH CONSTRUCTION PHASE.

3. THE CONTRACTOR SHALL MAINTAIN ON-LINE COMMUNICATION OF EXISTING OR TEMPORARY SIGNALIZATION VIA INTERCONNECT OR PHONE LINE CONSTRUCTION. CONTRACTORS SHALL PROVIDE TEMPORARY LINES AND CONNECTIONS IF NECESSARY. COST OF MAINTAINING COMMUNICATION, INCLUDING TEMPORARY LINES AND CONNECTIONS SHALL BE INCLUDED IN PAY ITEM 102-1A, MAINTENANCE OF TRAFFIC.

INTERSECTIONS:

1. INTERSECTIONS TO BE RECONSTRUCTED SHALL BE CONSTRUCTED BY WORKING ON A CONTINUOUS DAILY BASIS UNTIL COMPLETE AND UNTIL STRUCTURAL COURSE IS IN PLACE.

2. ADJACENT INTERSECTIONS SHALL NOT BE CONSTRUCTED SIMULTANEOUSLY UNLESS DIRECTED BY THE ENGINEER. FOR EVERY BLOCK, CONSTRUCTION OF DRAINAGE AND SIDEWALK SHALL BE CONCURRENT WITH ROADWAY CONSTRUCTION.

3. AT ALL INTERSECTING STREETS, NO LESS THAN ONE (ROAD CONSTRUCTION AHEAD) SIGN AND ONE (END CONSTRUCTION) SIGN MUST BE INSTALLED. (TWO EACH FOR STREETS WITH MEDIAN.)

4. MOT TRANSITIONS AND TEMPORARY INTERSECTION CROSSOVERS WHERE CONSTRUCTION HAS CAUSED GRADE DIFFERENCES BETWEEN THE EXISTING AND NEW ROADWAYS SHALL BE CONSTRUCTED USING A 1:20 TYPE S ASPHALT CONCRETE SLOPE TO ACCOMMODATE VEHICULAR TRAFFIC FROM ANY DIRECTION. ALL MATERIAL, WORK, INCLUDING ITS REMOVAL, SHALL BE INCLUDED IN PAY ITEM 102-1A, MAINTENANCE OF TRAFFIC.

5. PAVED TEMPORARY CONNECTIONS SHALL BE PROVIDED AT INTERSECTIONS AS DIRECTED BY THE ENGINEER.

PEDESTRIANS, BICYCLES AND WHEELCHAIRS

1. AT THE END OF EACH WORK DAY OR WHENEVER THE WORK ZONE BECOMES INACTIVE, ANY DROP OFF GREATER THAN 6 INCHES (150 MM) ADJACENT TO THE PEDESTRIAN, BICYCLE, AND WHEELCHAIR TRAVEL PATHS SHALL BE BACKFILLED FLUSH WITH SAID PATHS OR PROTECTED WITH TEMPORARY FENCE, CONCRETE BARRIER WALL OR APPROVED HANDRAIL. COST SHALL BE INCLUDED IN THE PAY ITEM 102-1A, MAINTENANCE OF TRAFFIC.

2. EXISTING PEDESTRIAN, BICYCLE, AND WHEELCHAIR TRAFFIC SHALL BE MAINTAINED AND GUIDED USING APPROVED WARNING LIGHTS, SIGNING, AND DELINEATION DEVICES ON AT LEAST ONE SIDE OF THE PROJECT AT ALL TIMES THROUGHOUT THE PROJECT LIMITS. THE TRAVEL PATH SHALL BE A MINIMUM OF 4 FT. WIDE WITH A SMOOTH SURFACE THAT IS NOT SLICK AND IT SHOULD BE RAMPED AS NECESSARY FOR CONTINUITY. COST SHALL BE INCLUDED IN THE PAY ITEM 102-1A, MAINTENANCE OF TRAFFIC.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
7/16/20	CM	△ ADDED NOTES FOR FDOT PERMIT.						

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SUPERVISED BY:

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
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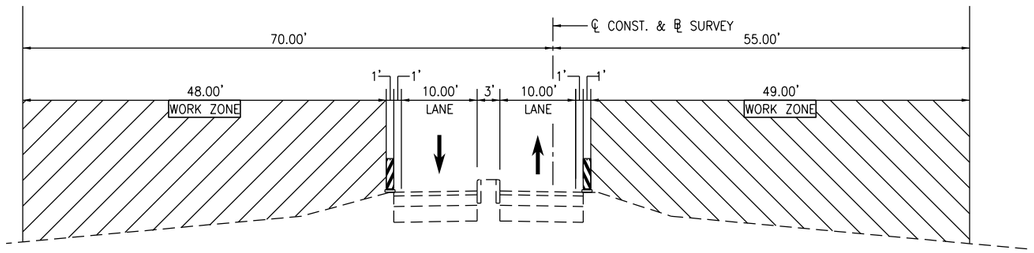
MIAMI, FLORIDA 33128

MAINTENANCE OF TRAFFIC GENERAL NOTES

PHASE IA

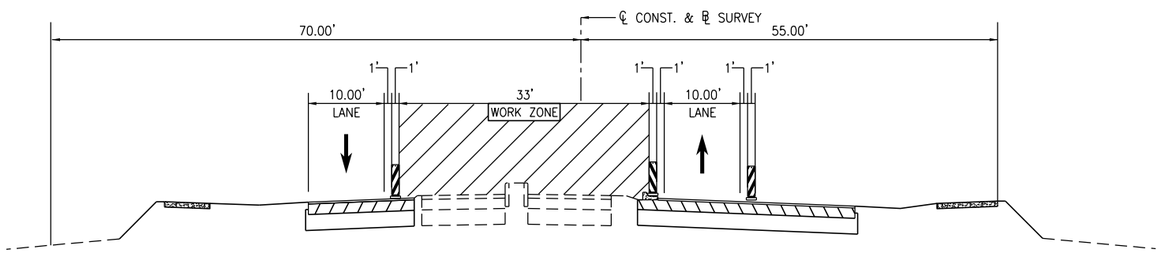


SW 137 AVENUE
STA. 220+05.98 TO STA. 221+82.26

PHASE IA : NEW CONSTRUCTION ON SW 137 AVENUE

1. MAINTAIN VEHICULAR TRAFFIC IN ACCORDANCE WITH FDOT STANDARD INDEX 601, 602, 603, 612, 613, 615, AND 616.
2. CLOSE SIDEWALKS IN ACCORDANCE WITH FDOT STANDARD INDEX 660. SIDEWALK CLOSURES SHALL BE ACCOMPANIED BY A PEDESTRIAN DETOUR ROUTE INCLUDING "SIDEWALK CLOSED AHEAD CROSS HERE" SIGN AT A CROSSWALK. SIDEWALK CLOSURES SHALL NOT OCCUR CONCURRENTLY AT CONSECUTIVE INTERSECTIONS.
3. CONSTRUCT WIDENING, CURB & GUTTER, UTILITY ADJUSTMENTS, INSTALL DRAINAGE, INSTALL SIGNALS, INSTALL LIGHTING, AND OTHER IMPROVEMENTS ON SW 137 AVENUE. IN WIDENING AREAS CONSTRUCT STABILIZATION, BASE, AND STRUCTURAL COURSE ONLY (FRICTION COURSE WILL BE PLACED IN LATER PHASE).

PHASE IB



SW 137 AVENUE
STA. 220+05.98 TO STA. 221+82.26

PHASE IB : NEW CONSTRUCTION ON SW 137 AVENUE

1. MAINTAIN VEHICULAR TRAFFIC IN ACCORDANCE WITH FDOT STANDARD INDEX 601, 602, 603, 613, 615, 616, AND 617.
2. MAINTAIN SIDEWALK CLOSURES IN ACCORDANCE WITH FDOT STANDARD INDEX 660. SIDEWALK CLOSURES SHALL BE ACCOMPANIED BY A PEDESTRIAN DETOUR ROUTE INCLUDING "SIDEWALK CLOSED AHEAD CROSS HERE" SIGN AT A CROSSWALK. SIDEWALK CLOSURES SHALL NOT OCCUR CONCURRENTLY AT CONSECUTIVE INTERSECTIONS.
3. CONSTRUCT WIDENING, CURB AND GUTTER, MEDIAN, INSTALL DRAINAGE, AND OTHER IMPROVEMENTS ON SW 137 AVENUE. IN WIDENING AREAS CONSTRUCT STABILIZATION, BASE, AND STRUCTURAL COURSE ONLY (FRICTION COURSE WILL BE PLACED IN LATER PHASE).

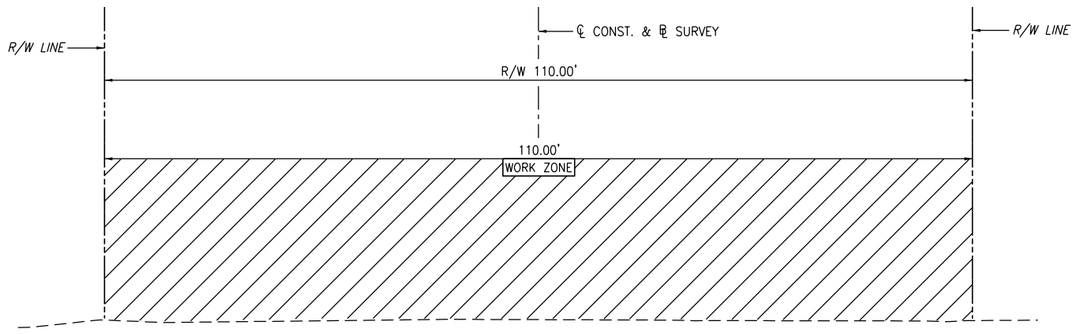
PHASE II : MILLING AND RESURFACING

DURING OFF-PEAK HOURS MAINTAIN TRAFFIC LANES IN ACCORDANCE WITH FDOT STANDARD INDEX 613, 615, AND 616. MILL BUSWAY AND SW 137 AVENUE, PLACE FRICTION COURSE IN MILLED AND WIDENENED AREAS, AND PLACE TEMPORARY MARKINGS IN FINAL ALIGNMENT. (TYPICAL SECTION NOT SHOWN)

PHASE III : PAVEMENT MARKINGS

APPLY FINAL PAVEMENT MARKINGS UTILIZING FDOT STANDARD INDEX 619 (TYPICAL SECTION NOT SHOWN).

PHASE I



SW 137 AVENUE
STA. 221+82.26 TO STA. 226+53.27

PHASE I : NEW CONSTRUCTION ON SW 137 AVENUE

1. MAINTAIN VEHICULAR TRAFFIC IN ACCORDANCE WITH FDOT STANDARD INDEX 601, 602, 603, 604, AND 605.
2. CONSTRUCT ROADWAY, CURB AND GUTTER, SIDEWALK, UTILITY ADJUSTMENTS, INSTALL DRAINAGE, INSTALL SIGNALS, INSTALL LIGHTING AND OTHER IMPROVEMENTS ON SW 137 AVENUE.

PHASE II : PAVEMENT MARKINGS

APPLY FINAL PAVEMENT MARKINGS UTILIZING FDOT STANDARD INDEX 619 (TYPICAL SECTION NOT SHOWN).

LEGEND

CHANNELIZATION DEVICE

WORK ZONE

7/17/2020 9:42:46 AM SConnor

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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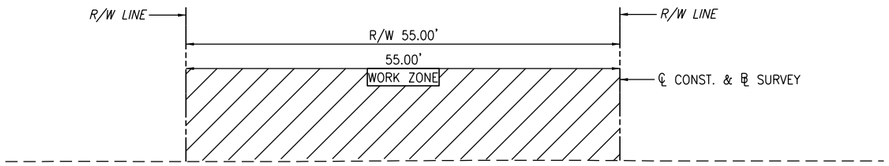
111 NW 1 ST
MIAMI, FLORIDA 33128

TRAFFIC CONTROL TYPICAL SECTION

PHASE I

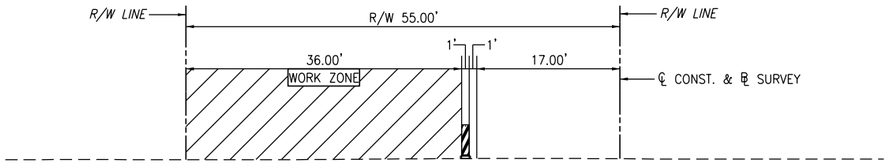


SW 137 AVENUE
STA. 253+58.00 TO STA. 387+41.00

PHASE I : NEW CONSTRUCTION ON SW 137 AVENUE

1. MAINTAIN VEHICULAR TRAFFIC ON INTERSECTING STREETS IN ACCORDANCE WITH FDOT STANDARD INDEX, 603, 604, AND 605.
2. ALL WORK FROM STA. 253+58.00 TO STA. 387+41.00 SHALL BE CONSTRUCTED IN ONE PHASE EXCEPT FOR THE LOCATIONS SHOWN IN FOLLOWING TYPICALS.
3. COORDINATE DRIVEWAY ACCESS WITH OWNERS THROUGH THE ENGINEER WHERE PROPOSED CONSTRUCTION IMPACTS PROPERTY ACCESS.

PHASE IA

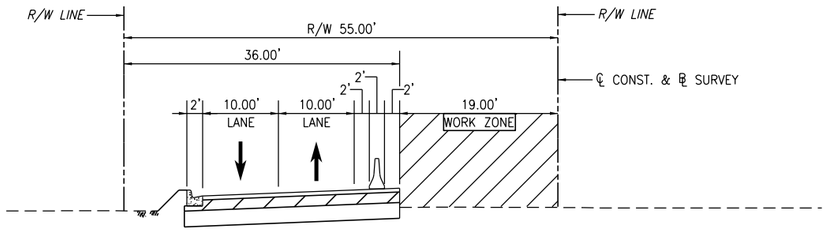


SW 137 AVENUE
STA. 317+20.00 TO STA. 334+80.00
STA. 381+00.00 TO STA. 387+41.00

PHASE IA : NEW CONSTRUCTION ON SW 137 AVENUE

1. MAINTAIN VEHICULAR TRAFFIC IN ACCORDANCE WITH FDOT STANDARD INDEX 603, 604, AND 605.
2. CONSTRUCT ROADWAY, CURB AND GUTTER, SIDEWALK, UTILITY ADJUSTMENTS, INSTALL DRAINAGE, INSTALL LIGHTING AND OTHER IMPROVEMENTS IN WORK ZONE AREA.
3. COORDINATE DRIVEWAY ACCESS WITH OWNERS THROUGH THE ENGINEER WHERE PROPOSED CONSTRUCTION IMPACTS PROPERTY ACCESS.

PHASE IB



SW 137 AVENUE
STA. 317+20.00 TO STA. 334+80.00
STA. 378+62.48 TO STA. 387+41.00

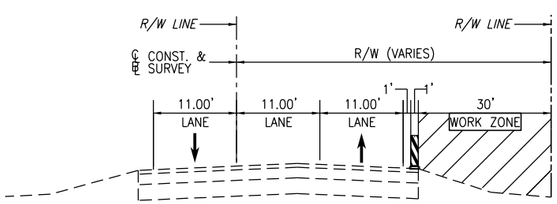
PHASE IB : NEW CONSTRUCTION ON SW 137 AVENUE

1. MAINTAIN VEHICULAR TRAFFIC IN ACCORDANCE WITH FDOT STANDARD INDEX 603, 604, AND 605.
2. CONSTRUCT ROADWAY, CURB AND GUTTER, SIDEWALK, UTILITY ADJUSTMENTS, INSTALL DRAINAGE, AND OTHER IMPROVEMENTS IN WORK ZONE AREA.
3. COORDINATE DRIVEWAY ACCESS WITH OWNERS THROUGH THE ENGINEER WHERE PROPOSED CONSTRUCTION IMPACTS PROPERTY ACCESS.

PHASE II : PAVEMENT MARKINGS

APPLY FINAL PAVEMENT MARKINGS UTILIZING FDOT STANDARD INDEX 619
(TYPICAL SECTION NOT SHOWN).

PHASE I

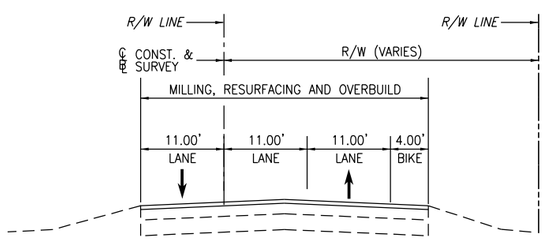


SW 137 AVENUE
STA. 387+41.00 TO STA. 393+00.00

PHASE I : NEW CONSTRUCTION ON SW 137 AVENUE

1. MAINTAIN VEHICULAR TRAFFIC IN ACCORDANCE WITH FDOT STANDARD INDEX 602, 603, 604, AND 606.
2. CONSTRUCT , CURB AND GUTTER, UTILITY ADJUSTMENTS, INSTALL SIGNALS, AND OTHER IMPROVEMENTS IN WORK ZONE AREA.
3. COORDINATE DRIVEWAY ACCESS WITH OWNERS THROUGH THE ENGINEER WHERE PROPOSED CONSTRUCTION IMPACTS PROPERTY ACCESS.

PHASE II



SW 137 AVENUE
STA. 387+41.00 TO STA. 393+00.00

PHASE II : MILLING, RESURFACING, AND OVERBUILD ON SW 137 AVENUE.

1. MAINTAIN VEHICULAR TRAFFIC IN ACCORDANCE WITH FDOT STANDARD INDEX 603, 604, AND 605.
2. MILL AND RESURFACE ONE LANE AT A TIME. BIKE LANE MAY BE MILLED AND RESURFACED CONCURRENTLY WITH OUTSIDE LANE.
3. PLACE TEMPORARY PAVEMENT MARKINGS AFTER EXISTING MARKINGS ARE REMOVED.

PHASE III : PAVEMENT MARKINGS.

APPLY FINAL PLACEMENT MARKINGS UTILIZING FDOT STANDARD INDEX 619. (TYPICAL SECTION NOT SHOWN)

LEGEND

- CHANNELIZATION DEVICE
- CONCRETE BARRIER
- WORK ZONE

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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STEPHEN P. CLARK CENTER
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MIAMI, FLORIDA 33128

TRAFFIC CONTROL
TYPICAL SECTION

7/17/2020 9:42:46 AM SConnor

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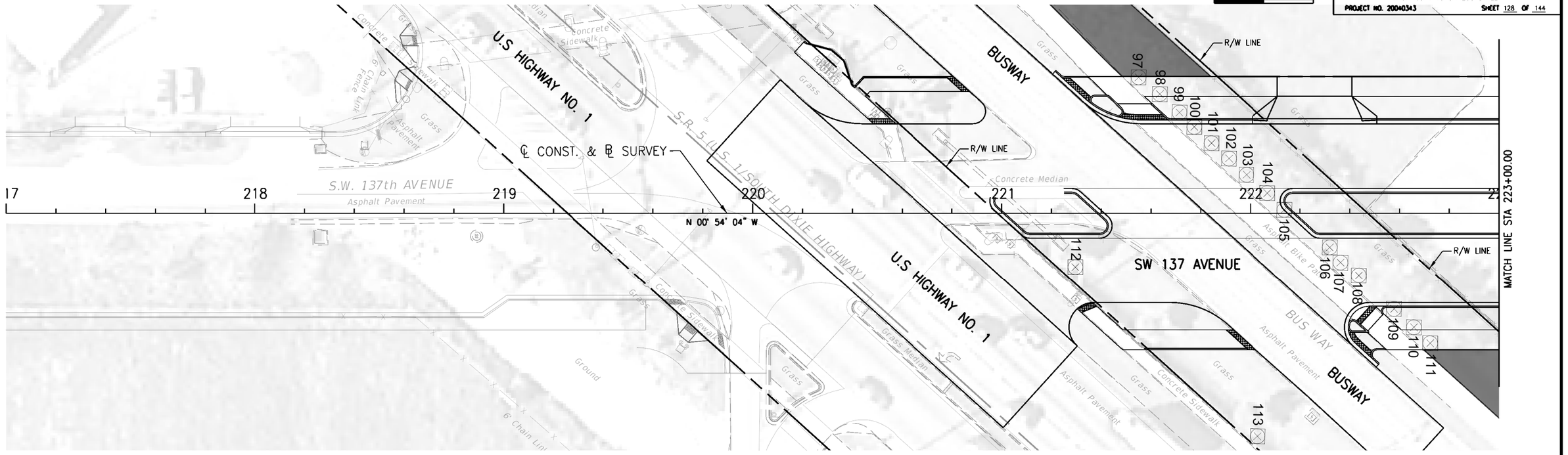
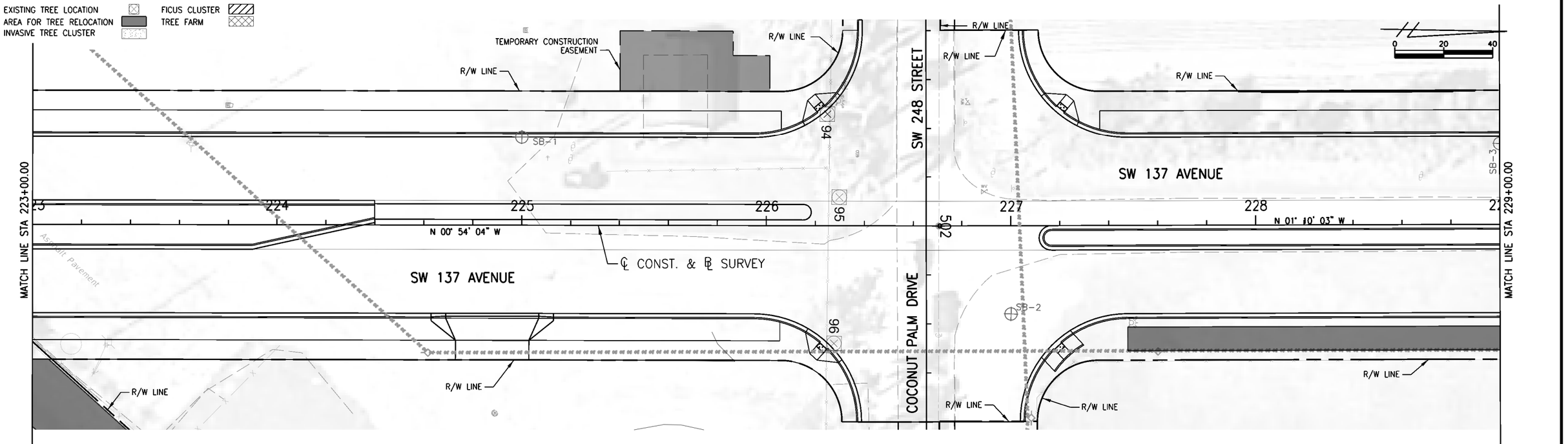
7/17/2020 9:43:09 AM SConnor



LEGEND:

EXISTING TREE LOCATION
AREA FOR TREE RELOCATION
INVASIVE TREE CLUSTER
FICUS CLUSTER
TREE FARM



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MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
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TREE INVENTORY PLAN

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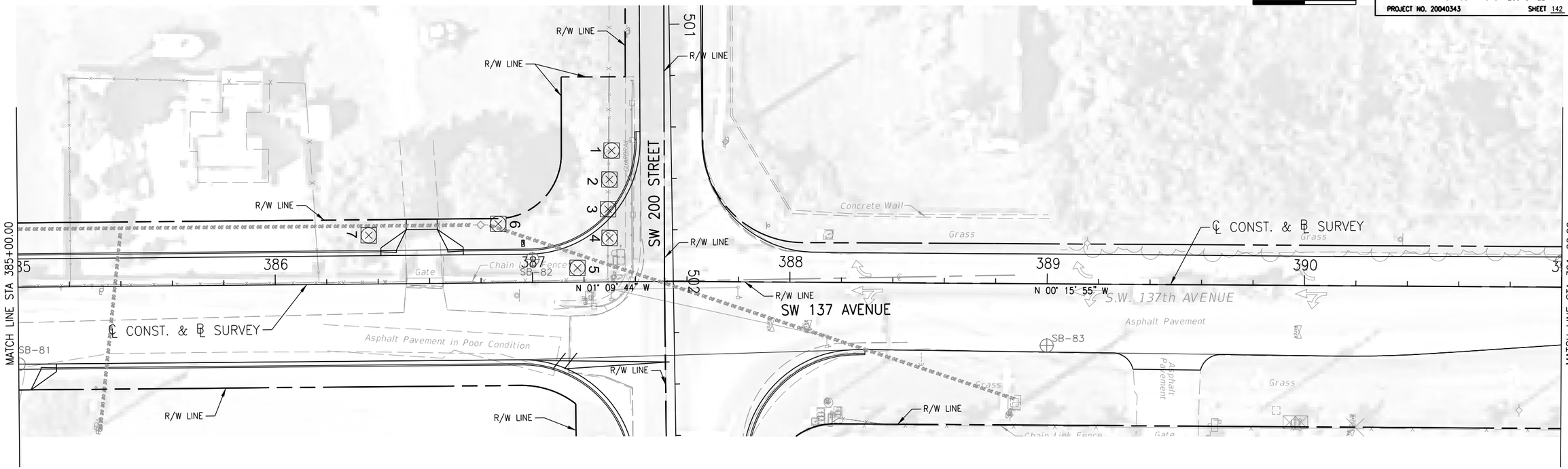
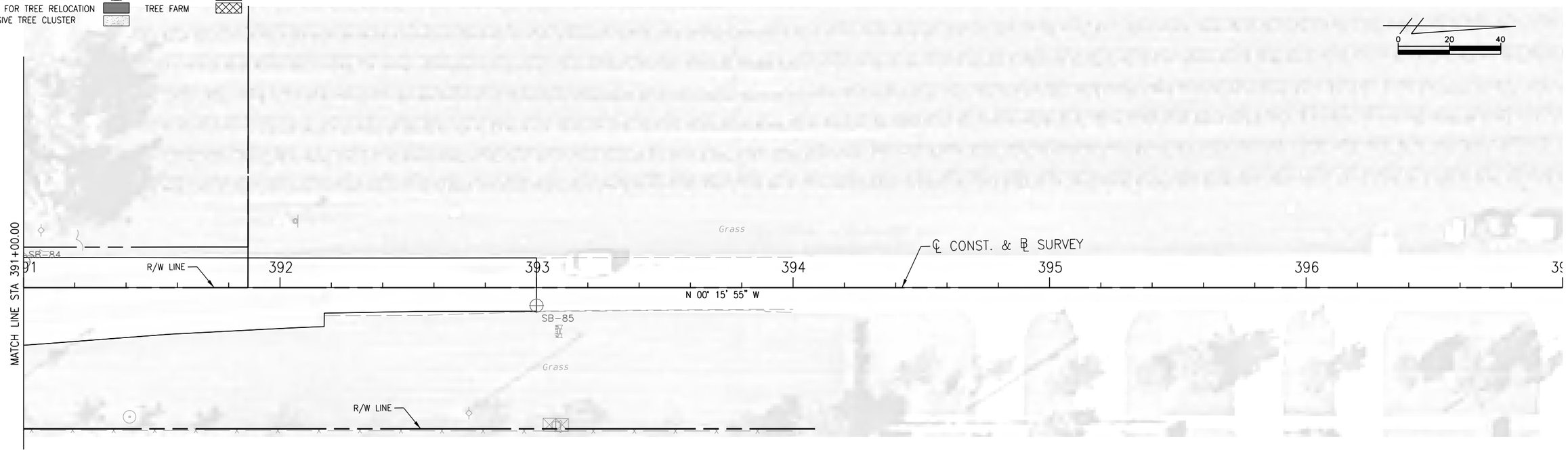
7/17/2020 9:43:43 AM SConnor



LEGEND:

EXISTING TREE LOCATION
AREA FOR TREE RELOCATION
INVASIVE TREE CLUSTER
FICUS CLUSTER
TREE FARM



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DESIGNED BY		DRAWN BY		
CHECKED BY		CHECKED BY		
SUPERVISED BY:				

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

TREE INVENTORY PLAN

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

7/17/2020 9:43:43 AM SConnor

GENERAL NOTES

1. ALL SIGNING AND PAVEMENT MARKINGS SHALL CONFORM WITH THE CURRENT EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS AND THE FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARDS.

2. ALL EXISTING SIGNS ARE TO REMAIN UNLESS OTHERWISE SPECIFIED. BEFORE STARTING THE PROJECT, THE CONTRACTOR SHALL REVIEW EXISTING SIGNS SHOWN ON THE PLANS TO BE RELOCATED OR TO REMAIN. THE CONTRACTOR SHALL DOCUMENT THE REVIEW AND PROVIDE AN INVENTORY TO THE ENGINEER. THE CONTRACTOR WILL NOTIFY IN WRITING TO THE PROJECT ENGINEER OF ANY MISSING SIGNS BEFORE CONSTRUCTION STARTS. SIGNS DAMAGED BY THE CONTRACTOR'S OPERATIONS WILL BE REPLACED AT NO COST TO THE DEPARTMENT. IF EXISTING SIGNS TO BE RELOCATED HAVE A DAMAGED POLE OR A POLE NOT MEETING HEIGHT SPECIFICATION REQUIREMENTS, THE COST OF A NEW POLE WILL BE INCLUDED IN THE RELOCATION BID ITEM 700-46-21A.

3. THE CONTRACTOR SHALL RELOCATE ALL EXISTING POST-MOUNTED STREET NAME AND STOP SIGNS TO A VISIBLE AREA UNDISTURBED BY THE CONSTRUCTION SO AS TO MINIMIZE DAMAGE TO THE SIGNS. NEW STREET NAME SIGNS WILL BE ATTACHED AT THE TOP OF THE NEW STOP SIGNS ON MINOR SIDE STREETS AT THE END OF CONSTRUCTION.

4. EXTRUDED ALUMINUM SIGN SUPPORT CLAMPS ARE NOT ACCEPTABLE. ALL RELOCATED SIGNS MUST COMPLY WITH THE DESIGN STANDARDS AS IF THEY WERE NEW SIGNS. IF EXISTING CLAMPS, BRACKETS, POLES, ETC. NEED TO BE REPLACED THE COST SHALL BE INCLUDED IN THE RELOCATION PAY ITEM 700-46-21A.

5. SIGN ASSEMBLY LOCATIONS SHOWN ON PLANS WHICH ARE IN CONFLICT WITH LIGHTING, UTILITIES, DRIVEWAYS, WHEELCHAIR RAMPS, ETC. MAY BE ADJUSTED SLIGHTLY AS DIRECTED BY THE ENGINEER. EXTREME LOCATION CHANGES MUST BE APPROVED BY THE ENGINEER AND MIAMI-DADE SIGNALS AND SIGNS DIVISION.

6. ANY SIGNING MATERIALS, INCLUDING SUPPORTS, TO BE REMOVED AS NOTED ON PLAN SHEETS, SHALL BE DELIVERED BY THE CONTRACTOR IN EXISTING CONDITION, IN CARE OF THE STOREKEEPER AT THE MIAMI-DADE COUNTY MAINTENANCE YARD, 7100 NW 36 STREET, MIAMI, FL 33166.

7. ALL CROSSWALKS SHALL BE 10' WIDE UNLESS OTHERWISE NOTED IN THE PLAN.

8. ALL FINAL PAVEMENT MARKINGS, MESSAGES, AND ARROWS SHALL BE THERMOPLASTIC UNLESS OTHERWISE NOTED.

9. BICYCLIST SYMBOLS, BIKE LANE ARROWS, AND 24" LONGITUDINAL BARS IN SPECIAL EMPHASIS CROSSWALKS SHALL BE PREFORMED THERMOPLASTIC.

10. BIKE LANE GREEN COLORED BACKGROUND SHALL BE THERMOPLASTIC BIKE LANE GREEN AS APPOINTED BY FHWA.

11. REFLECTIVE PAVEMENT MARKERS ARE TO BE PLACED ALONG THE ENTIRE LENGTH OF THE PROJECT PER FDOT STANDARD INDEX NO 17352.

12. MATCH EXISTING PAVEMENT MARKINGS AT THE BEGINNING AND AT THE END OF THE PROJECT AND AT ALL SIDE STREETS WITHOUT JOGS OR OFFSETS.

13. THE CONTRACTOR SHALL REMOVE EXISTING MARKINGS BY APPROVED METHOD WITHOUT DAMAGE TO THE FRICTION COURSE IF REMOVAL IS NECESSARY OUTSIDE OF MILLING AND RESURFACING AREA.

14. INCORRECTLY PLACED THERMOPLASTIC OR PAINT MARKINGS OVER FRICTION COURSE WILL BE REMOVED BY MILLING AND REPLACING THE FRICTION COURSE A MINIMUM WIDTH OF 18 IN AT THE CONTRACTOR'S EXPENSE. THE ENGINEER MAY APPROVE AN ALTERNATIVE METHOD IF IT CAN BE DEMONSTRATED TO COMPLETELY REMOVE THE MARKINGS WITHOUT DAMAGING THE ASPHALT.

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
4868 SW 72nd Avenue
Miami, Florida 33155
Tel (305)667-4772
CA 27017
CHRISTOPHER P. MESZLER, P.E.
Llc. No. 74718

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		

SUPERVISED BY:

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

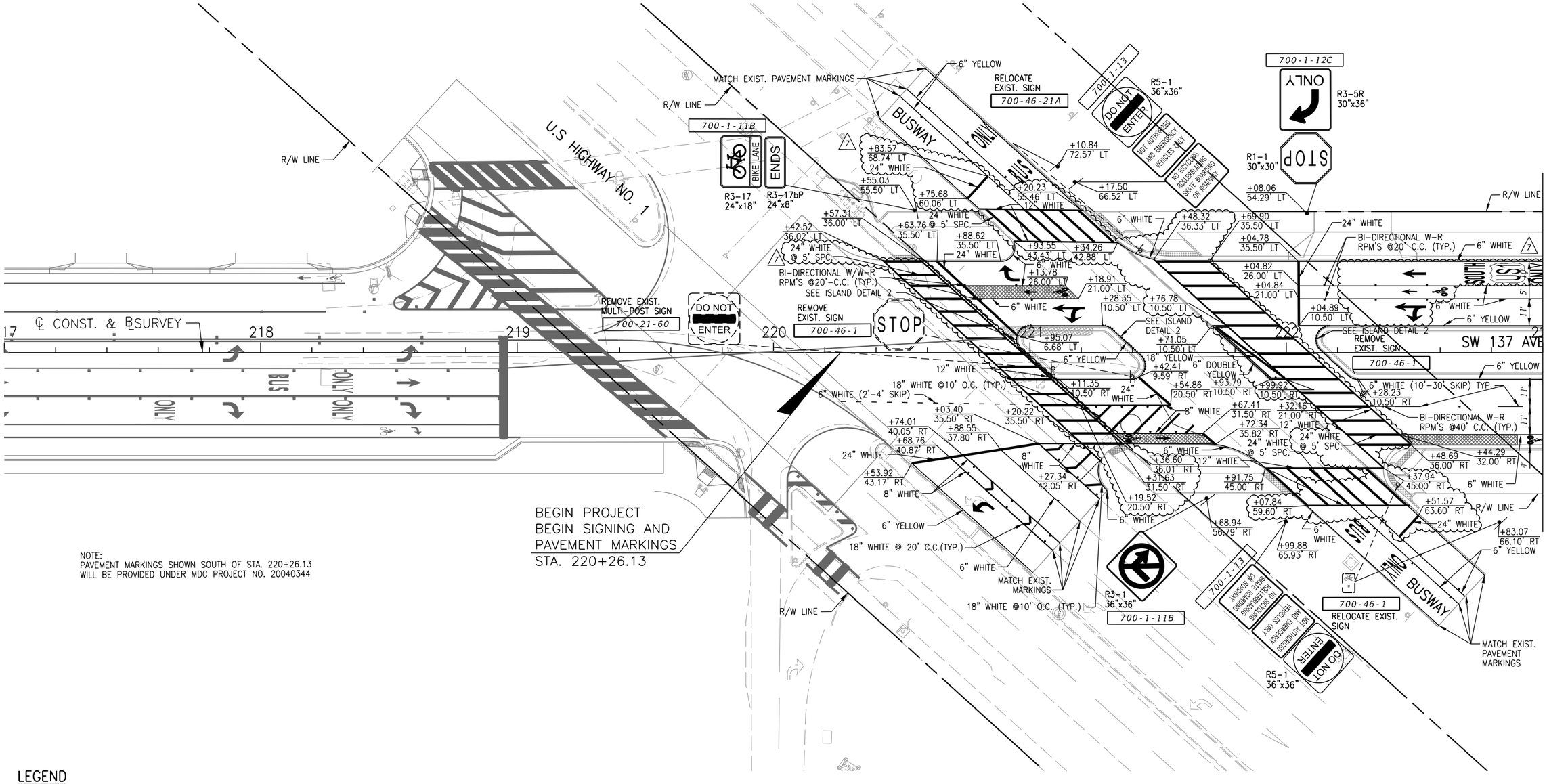
SIGNING AND PAVEMENT MARKING GENERAL NOTES

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

7/17/2020 9:43:48 AM SConnor

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORK
HIGHWAY DIVISION
SW 137 AVENUE
FROM US 1 TO SW 200 STREET
PROJECT NO. 20040343 SHEET S-8 OF S-41

0 20 40
SCALE 1"=40'



NOTE:
PAVEMENT MARKINGS SHOWN SOUTH OF STA. 220+26.13 WILL BE PROVIDED UNDER MDC PROJECT NO. 20040344

LEGEND

GREEN COLORED BACKGROUND

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
07/16/20	CM	△REVISED MARKINGS FOR FDOT PERMIT						

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
4868 SW 72nd Avenue
Miami, Florida 33155
Tel (305)667-4772
CA 27017
CHRISTOPHER P. MESZLER, P.E.
Lic. No. 74718

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		
SUPERVISED BY:					

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

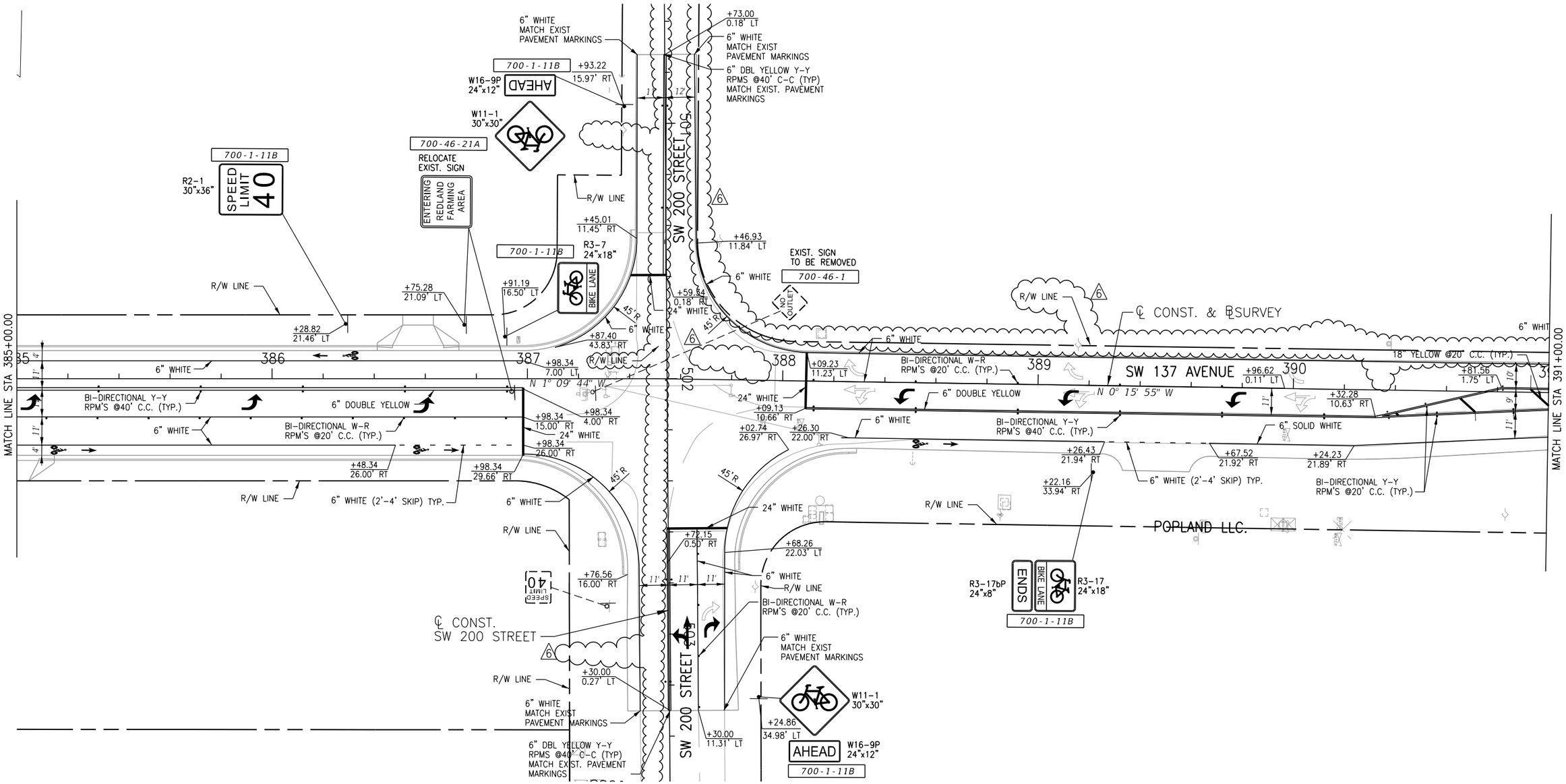
SIGNING AND PAVEMENT MARKING PLAN

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

SConnor
9:43:50 AM
7/17/2020

0 20 40
SCALE 1"=40'

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORK
HIGHWAY DIVISION
SW 137 AVENUE
FROM US 1 TO SW 200 STREET
PROJECT NO. 20040343 SHEET S-36 OF S-41



REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
03/24/20	CM	△1 REVISED R/W LINE						
07/16/20	CM	△2 REVISED MARKINGS FOR FDOT PERMIT						

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
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CHRISTOPHER P. MESZLER, P.E.
Lic. No. 74718

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		

SUPERVISED BY:

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

SIGNING AND PAVEMENT MARKING PLAN

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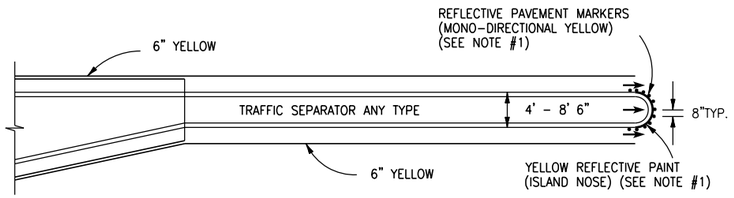
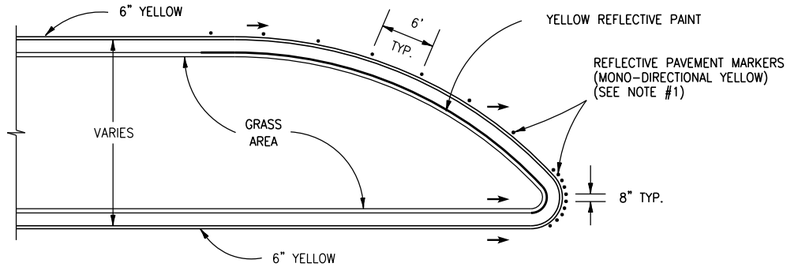
7/17/2020 9:43:50 AM SConnor

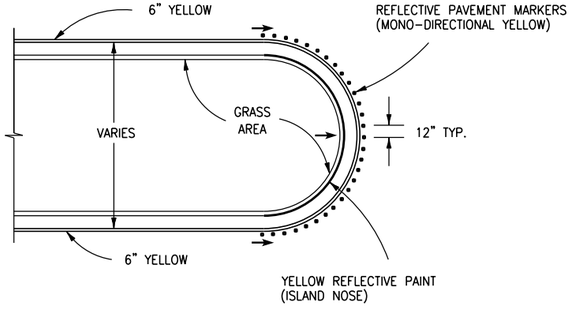
→ INDICATES ORIENTATION OF RPM'S.



DETAIL 1

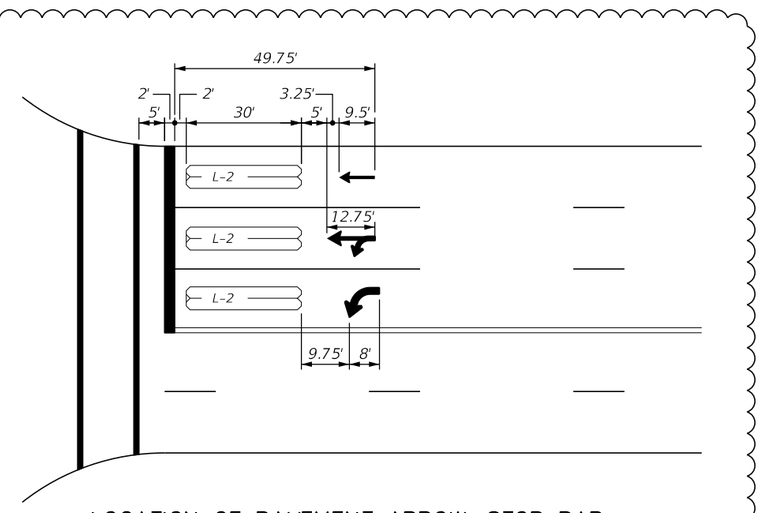


DETAIL 5



DETAIL 7

△7



LOCATION OF PAVEMENT ARROW, STOP BAR AND LOOPS AT SIGNALIZED INTERSECTIONS

(NOTE: PAVEMENT ARROWS SHALL NOT OVERLAP LOOPS)
(N.T.S.)

NOTES:
1. FURNISH AND INSTALL REFLECTIVE PAINT ON THE FACE OF CURB FOR THE LIMITS SHOWN IN THE ABOVE DETAILS.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
2/27/20	CM	△REMOVED LOOP DETAIL						
7/16/20	CM	△ADDED LOOP DETAIL FOR FDOT PERMIT						

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
4868 SW 72nd Avenue
Miami, Florida 33155
Tel (305)667-4772
CA 27017
CHRISTOPHER P. MESZLER, P.E.
Lic. No. 74718

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		

SUPERVISED BY:

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

SIGNING AND PAVEMENT MARKING DETAILS

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

SIGNALIZATION GENERAL NOTES

1. THE CONTRACTOR SHALL PERFORM AN INVENTORY OF THE EXISTING INTERSECTIONS PRIOR TO THE BEGINNING OF CONSTRUCTION ACTIVITIES, AND SUBMIT (2) COPIES OF THE INVENTORY REPORT, LISTING ALL OPERABLE AND INOPERABLE SIGNAL ITEMS (INCLUDING BUT NOT LIMITED TO SIGNS ON SIGNAL STRUCTURES) TO THE ENGINEER. ALL DAMAGED ITEMS SHOULD BE CLEARLY IDENTIFIED IN THE REPORT.

2. INTERCONNECT CONDUIT AT CROSSING INTERSECTIONS OR CORRIDORS SHALL BE TIED INTO THE CONTROLLER CABINETS.

3. THE CONTRACTOR SHALL USE LIGHT EMITTING DIODE (LED) FOR THE RED, YELLOW AND GREEN INDICATIONS AND INTERNALLY ILLUMINATED STREET NAME SIGNS ON MAST ARMS. THE INTERNALLY ILLUMINATED SIGNS MUST BE APPROVED BY THE ENGINEER AND CONCURRED WITH MIAMI-DADE COUNTY.

4. THE SIGNAL MAINTAINING AGENCY IS MIAMI DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS (DTPW) TRAFFIC SIGNALS & SIGNS DIVISION. THE CONTACT TELEPHONE NUMBER FOR THE DTPW, TRAFFIC SIGNALS & SIGNS DIVISION, IS: (305) 592-3470.

5. EXISTING COMMUNICATIONS OR COMMAND WIRE CONNECTIONS SHALL BE MAINTAINED AT ALL SIGNALIZED LOCATIONS DURING CONSTRUCTION. THIS SHALL INCLUDE INTERCONNECT, RAILROAD FLASHING BEACONS, RAILROAD PRE-EMPTION, FIRE PREEMPTION AND SCHOOL ZONE FLASHERS. CONTRACTOR SHALL PROVIDE TEMPORARY LINES AND CONNECTIONS IF NECESSARY. COST OF MAINTAINING COMMUNICATION, INCLUDING TEMPORARY LINES AND CONNECTIONS SHALL BE INCLUDED IN PAY ITEM 102-1A, MAINTENANCE OF TRAFFIC.

6. THE CONTRACTOR SHALL NOTIFY THE MAINTAINING AGENCY AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY WORK TO BE CARRIED OUT AT ANY SIGNAL RELATED INSTALLATION.

7. TWO FULL BUSINESS DAYS PRIOR TO DIGGING THE CONTRACTOR SHALL CALL SUNSHINE STATE ONE CALL OF FLORIDA, TELEPHONE NUMBER 811 or 1-800-432-4770, AND THE UTILITY OWNER AND REQUEST UTILITY LOCATIONS. A CONTRACTOR'S REPRESENTATIVE MUST BE PRESENT DURING UTILITY COMPANY LOCATIONS OF THEIR FACILITIES.

8. MAST ARM POLE CONCRETE FOUNDATION IS TO BE POURED IN ONE SINGLE POUR WITH ITS TOP AT THE GRADE AND SLOPE OF THE FINISHED SIDEWALK. FOUNDATIONS NOT IN COMPLIANCE WITH THESE REQUIREMENTS SHALL BE COMPLETELY REMOVED AND POURED AGAIN AT THE CONTRACTOR'S EXPENSE. FOR MAST ARM FOUNDATIONS PROPOSED WHERE THERE IS NO SIDEWALK, THE TOP OF FOUNDATION IS TO BE POURED IN ONE SINGLE POUR WITH ITS TOP AT A MINIMUM OF SIX (6) INCHES ABOVE FINISH GRADE. REFER TO MAST ARM TABULATION SHEETS FOR TOP OF FOUNDATION ELEVATIONS.

9. EACH MAST ARM POLE FOUNDATION SHALL INCLUDE A SPARE CONDUIT THAT IS TERMINATED IN THE ASSOCIATED PULL BOX. A MINIMUM OF TWO CONDUITS HAVE TO BE PROVIDED TO EACH POLE.

10. PULL BOXES, MAST ARM FOUNDATIONS AND CONTROLLER FOUNDATIONS SHALL HAVE A MINIMUM 4" CLEARANCE FROM ALL JOINTS AND EDGE OF SIDEWALK. THERE SHALL BE NO EXPANSION MATERIAL AROUND PULL BOXES, MAST ARM FOUNDATIONS AND CONTROLLER FOUNDATIONS. PULL BOXES WITH NEW CONDUIT RUNS SHALL NOT BE PLACED IN PEDESTRIAN RAMPS.

11. CONTRACTOR WILL PROVIDE THREE (3) SETS OF AS-BUILT DRAWINGS, AS REQUIRED BY SPEC.611-2.3.1 AND ONE SET OF THE SIGNALIZATION INSPECTION PACKAGE AS REQUIRED BY THE MIAMI-DADE COUNTY TECHNICAL SPECIAL PROVISIONS FOR TRAFFIC SIGNALS, 3 WORKING DAYS PRIOR TO THE INSPECTION FOR FINAL ACCEPTANCE.

12. CONTRACTOR WILL PROVIDE ONE SET OF THE COMPLETED SIGNAL INSPECTION REPORT FORM(S), CERTIFIED BY THE IMSA TRAFFIC SIGNAL INSPECTOR AT THE TIME OF THE INSPECTION FOR FINAL ACCEPTANCE.

13. CONTRACTOR SHALL SEQUENCE THE WORK AND DISPOSE OF MATERIAL SO AS NOT TO INTERFERE WITH THE OPERATIONS OF OTHER CONTRACTORS ENGAGED UPON ADJACENT WORK (SUCH AS ADJACENT PROJECT MDC PROJECT NO. 20180064, SW 137TH AVENUE FROM HEFT TO US 1).

14. DELIVER SALVAGEABLE MATERIAL TO THE MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS, TRAFFIC SIGNALS & SIGNS DIVISION:
    7100 NW 36TH STREET
    MIAMI, FLORIDA 33166

    RECEIPTS MUST BE OBTAINED FROM THE ABOVE AGENCY AND SUBMITTED TO THE PROJECT ENGINEER TO RECEIVE PAYMENT FOR REMOVAL ITEMS. COST TO BE INCLUDED IN REMOVAL PAY ITEMS.

    SIGNAL EQUIPMENT CONSIDERED SALVAGEABLE IS AS FOLLOWS: CONTROLLERS, CONTROLLER CABINETS, CONTROLLER HARDWARE AND SOFTWARE, FLASHERS, COMMUNICATION DEVICES AND HARDWARE, SIGNAL HEADS, MAST-ARM POLES AND ASSOCIATED HARDWARE, MOUNTED MAST ARM SIGNAL HEADS, MAST-ARM POLES AND ASSOCIATED HARDWARE, MOUNTED MAST ARM SIGNS, PEDESTRIAN DETECTORS, PEDESTRIAN SIGNAL HEADS. ALL OTHER EQUIPMENT SHALL BE DISPOSED OF AT THE CONTRACTOR'S EXPENSE.

15. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT IN WRITING, NO LESS THAN 14 WORKING DAYS IN ADVANCE OF THE NEED OF ELECTRICAL POWER SERVICE HOOKUPS OF SIGNALIZATION / STREET LIGHTING FACILITIES. THE CONTRACTOR SHALL SUBMIT A LETTER OF REQUEST ALONG WITH AN AFFIDAVIT OF GENERAL ELECTRICAL WORK, SIGNED AND CERTIFIED BY A MASTER ELECTRICIAN.

16. INSTALLATIONS OF NEW PULL BOXES SHALL BE PERFORMED BY A QUALIFIED FLORIDA LICENSED ELECTRICAL CONTRACTOR. WHEN A NEW PULL BOX IS REPLACING EXISTING PULL BOX, THE CONTRACTOR SHALL ADJUST CONDUITS AND CABLES TO FIT THE NEW PULL BOX ELEVATION. COST OF ADJUSTMENTS IS INCLUDED IN THE PULL BOX PAY ITEM 635-2-11.

17. THE CONTRACTOR SHALL CONSTRUCT CONCRETE SLABS AROUND ALL PULL BOXES; CONTROLLERS AND SERVICE POINTS LOCATED IN UNPAVED/GRASS AREA. SEE INDEX 17500 FOR DETAIL AND NOTES. COST OF THE SLAB CONSTRUCTION, INCLUDING REINFORCED STEEL FABRIC, SHALL BE INCLUDED IN THE RELATED PAY ITEMS FOR PULL BOXES; CONTROLLERS AND SERVICE POINTS.

18. ALL LOUVERED BACKPLATES SHALL BE PROVIDED WITH A REFLECTORIZED BORDER.

19. THE CONTRACTOR SHALL RESPOND TO ALL TROUBLE CALL DISPATCHES AND REPORTED MALFUNCTIONS OF TRAFFIC SIGNAL WITHIN (2) HOURS, AND SHALL RESTORE ALL MALFUNCTIONING TRAFFIC SIGNAL EQUIPMENT TO ITS LEVEL OF OPERATION WITHIN TWELVE (12) HOURS. IMMEDIATELY AFTER CLEAR THE DISPATCHES WITH THE TRAFFIC CONTROL CENTER (TCC) OPERATOR OR TIMING ENGINEER AT (305) 592-8925 EXT. 248. DURING DOWN TIME THE CONTRACTOR SHALL PROVIDE AT HIS EXPENSE TEMPORARY TRAFFIC CONTROL DEVICES, FLAGMAN PERSONNEL AND LAW ENFORCEMENT PERSONNEL AS NECESSARY TO MAINTAIN SAFE AND EFFICIENT FLOW OF TRAFFIC AT THE AFFECTED SIGNALIZED INTERSECTIONS.

20. THE CONTRACTOR SHALL PROVIDE WRITTEN AND VERBAL NOTIFICATION TO DTPW TRAFFIC SIGNALS & SIGNS DIVISION:
    A. TEN (10) BUSINESS DAYS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION, MODIFICATION, OR REPAIR OF ANY COMPONENT WITHIN THE MIAMI-DADE COUNTY TRAFFIC CONTROL SYSTEM.
    B. FIVE (5) BUSINESS DAYS PRIOR TO THE COMMENCEMENT OF JOB THAT INCLUDE OVERHEAD OR UNDERGROUND WORK WITHIN MIAMI-DADE COUNTY ROADWAYS OR OTHER ROADWAYS WITHIN THE COUNTY WHOSE TRAFFIC CONTROL DEVICES ARE MAINTAINED BY MIAMI-DADE COUNTY.
    C. NOTIFICATION IS PROVIDED AT:
       MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
       TRAFFIC SIGNALS AND SIGNS DIVISION (ATTN: WRITTEN NOTIFICATION)
       7100 NW 36TH STREET
       MIAMI, FLORIDA 33166
       PHONE NO. 305-592-3580
    D. CONTRACTOR SHALL PROVIDE IMMEDIATE VERBAL NOTIFICATION FOLLOWED BY WRITTEN NOTIFICATION TO DTPW TRAFFIC SIGNALS & SIGNS DIVISION UPON THE DISCOVERY OF ANY DAMAGE, MALFUNCTIONS, OR IRREGULARITIES PERTAINING TO ANY MIAMI-DADE COUNTY TRAFFIC CONTROL SYSTEM COMPONENT.

PAY ITEM NOTE:
670-5-121: COST OF FURNISHING AND INSTALLING A WIRELESS COMMUNICATION SYSTEM, INCLUDING BUT NOT LIMITED TO: WIRELESS ROUTER, POWER SUPPLY, ETHERNET CABLE, CELLULAR ANTENNAS, AND ALL ADDITIONAL CABLES TO BE INCLUDED IN PAY ITEM 670-5-121, TRAFFIC CONTROLLER ASSEMBLY, F&I, 170, 1 PREEMPTION PLAN

UTILITY OWNER	TELEPHONE
AT&T-BELLSOUTH UNDERGROUND COMMUNICATIONS	786-464-1400
AT&T-TCG	407-578-8000
COMCAST	954-534-7380
FLORIDA CITY GAS	305-835-3632
FPL	305-442-5140
FPL-FIBERNET	305-552-2411
LEVEL 3 COMMUNICATIONS	512-742-1433
MIAMI-DADE WATER AND SEWER DEPARTMENT	305-665-7471
XO COMMUNICATIONS	305-356-3160

7/17/2020 9:43:51 AM SConnor

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
4868 SW 72nd Avenue
Miami, Florida 33155
Tel (305)667-4772
CA 27017
KATHY LAJO, P.E.
Lic. No. 63068

	NAME	DATE		NAME	DATE
DESIGNED BY	K.L.	07-2018	DRAWN BY	V.E.	07-2018
CHECKED BY	K.V.	07-2018	CHECKED BY	K.L.	07-2018

SUPERVISED BY: KENNETH VORCE, P.E.

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

SIGNALIZATION GENERAL NOTES

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7/17/2020 9:44:04 AM SConnor

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORK
HIGHWAY DIVISION
SW 137 AVENUE
FROM US 1 TO SW 200 STREET
PROJECT NO. 20040343 SHEET T-3 OF T-13

SCALE 1"=40'

SIGNAL DETAILS

[2] [6] — 3-SECT., 1-WAY TO REMAIN

[5/2] — 5-SECT., 1-WAY TO REMAIN

[7/4] — EXISTING SIGNAL TO BE REMOVED

[4] [8] — EXISTING SIGNAL TO BE REMOVED

[3/8] — 4-SECT., 1-WAY TO BE REMOVED

[2B] [4] [6B] [8A] — 3-SECT., 1-WAY
650-1-14
8 AS

[4A] [8] — 3-SECT., 1-WAY, PROGRAMMABLE
650-1-44
4 AS

[7] — 3-SECT., 1-WAY, LEFT TURN ONLY
650-1-18
1 AS

LOOP ASSEMBLY
630-2-12 550 LF
635-2-11 1 EA
660-2-102 1 AS

PROPOSED CONTROLLER CABINET W/ WIRELESS COMM. SYSTEM
630-2-12 76 LF (40 LF) (6 LF PER PULL BOX)
632-7-1 1 PI
635-2-11 7 EA
639-3-12 1 EA
641-2-12M 1 EA
660-1-109C 6 EA
670-5-121 1 AS
(MODEL 2070 CONTROLLER 660X CABINET)

EXIST. TRAFFIC CONTROLLER AND CABINET TO BE REMOVED AND REPLACED

EXIST. FPL SERVICE POINT (1ST POLE WEST OF SW 137 AVE) TO REMAIN

INTERCEPT EXIST. SERVICE & INSTALL NEW DISCONNECT
635-2-11 3 EA
639-1-122 1 EA
639-2-1 10 LF
639-3-12 1 EA
641-2-12M 1 EA

PED POLE SIGNALS INSTALLED UNDER MDC PROJECT NO. 20040344

EXIST. MAST ARM TO REMAIN

EXIST. PED SIGNALS TO REMAIN

EXIST. PED SIGNALS TO REMAIN

ALUMINIUM PEDESTAL
630-2-12 21 LF
635-2-11 1 EA
646-1-11 1 EA
665-1-11 1 EA

630-2-12 126 LF

EXISTING MAST ARM TO BE REMOVED

EXIST. ALUMINUM POLE & PED SIGNAL TO BE REMOVED

630-2-12 103 LF

EXIST. ALUMINUM POLE & PED SIGNAL TO BE REMOVED

EXIST. PULL BOX

EXISTING MAST ARM TO BE REMOVED

MAST ARM & PED SIGNAL INSTALLED UNDER MDC PROJECT NO. 20040344

EXIST. AT&T SERVICE POINT

630-2-12 75 LF

630-2-12 97 LF

630-2-12 61 LF

630-2-12 103 LF

ALUMINIUM PEDESTAL
630-2-12 51 LF
635-2-11 2 EA
646-1-11 1 EA
665-1-11 1 EA

ALUMINIUM PEDESTAL
630-2-12 20 LF
635-2-11 2 EA
646-1-11 2 EA
665-1-11 2 EA

Sta. 221+61.02 (A2)
54.02' (LT)
N 88°50'17" E
630-2-12 20 LF
635-2-11 3 EA
649-21-3 1 EA

LOOP ASSEMBLY
630-2-12 58 LF
635-2-11 2 EA
660-2-106 2 AS

LOOP ASSEMBLY
630-2-12 33 LF
635-2-11 2 EA
660-2-106 1 AS

ALUMINIUM PEDESTAL
630-2-12 5 LF
635-2-11 1 EA
646-1-11 1 EA
665-1-11 1 EA

Sta. 221+55.60 (A4)
47.02' (RT)
N 48°38'32" W
630-2-12 11 LF
635-2-11 3 EA
649-21-10 1 EA

ALUMINIUM PEDESTAL
630-2-12 5 LF
635-2-11 1 EA
646-1-11 1 EA
665-1-11 1 EA

ALUMINIUM PEDESTAL
630-2-12 34 LF
635-2-11 1 EA
646-1-11 1 EA
665-1-11 1 EA

Sta. 219+46.24 (A1)
41.65' (RT)
S 89°05'56" W,
630-2-12 12 LF
635-2-11 2 EA
649-21-21 1 EA

Sta. 222+62.41 (A3)
45.00' (RT)
S 88°49'57" W
630-2-12 8 LF
635-2-11 4 EA
649-21-3 1 EA
665-1-11 1 EA

LOOP ASSEMBLY
630-2-12 32 LF
635-2-11 2 EA
660-2-106 1 AS

LOOP ASSEMBLY
630-2-12 550 LF
635-2-11 1 EA
660-2-102 1 AS

LOOP ASSEMBLY
630-2-12 16 LF
635-2-11 2 EA
660-2-106 2 AS

Sta. 226+66.31
452.62' RT

SW 137TH AVENUE

US-1 ONLY

BUSWAY

219 220 221 222 223

550'

LEGENDS
VD-# EXISTING VIDEO DETECTION CAMERA ID
EXISTING VIDEO DETECTION CAMERA

GENERAL NOTES

1. MAJOR STREET: US-1 / DIXIE HWY/BUSWAY
   MINOR STREET: SW 137 AVE
2. SIGNAL TIMING AND APS SETTINGS WILL BE PROVIDED BY EOR IN COORDINATION WITH MDC DTPW TSS, DURING CONSTRUCTION. (INSTRUCTIONS TO BE PROVIDED BY MIAMI-DADE COUNTY TRAFFIC SIGNALS AND SIGNS DIVISION OR APS MANUFACTURER).
3. THE FOLLOWING MESSAGE SHALL BE PROGRAMMED INTO THE APS SYSTEM: "WAIT TO CROSS SW 137 AVE".
4. CONTRACTOR TO ENSURE THAT PEDESTRIAN SIGNAL HEADS ARE ALIGNED WITH THE CENTER OF THE FAR SIDE END OF THE CROSSWALK THAT THEY SERVE.
5. WORK THIS SHEET WITH SHEET T-3A.
6. ALL INDUCTIVE LOOPS SHALL BE TYPE F FOR VEHICLE AND TYPE F MODIFIED FOR BICYCLE AND MEET MDC STANDARD INDEX 660 WITH THE EXCEPTION OF TWO TYPE B LOOPS PROPOSED ON THE BUSWAY LANES.

REMOVAL ITEMS
646-1-60 2 EA
649-26-5 2 EA
670-5-600 1 AS

SW 137 AVE AND US-1
INTERSECTION ID NO. 6052

SW 137 AVE AND BUSWAY
INTERSECTION ID NO. 6927

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
02/27/2020	KL	(5) TSS COMMENTS						
07/16/2020	KL	(7) FDOT PERMIT COMMENTS						

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
4868 SW 72nd Avenue
Miami, Florida 33155
Tel (305)667-4772
CA 27017
KATHY LAJO, P.E.
Lic. No. 63068

	NAME	DATE		NAME	DATE
DESIGNED BY	K.L.	07-2018	DRAWN BY	V.E.	07-2018
CHECKED BY	K.V.	07-2018	CHECKED BY	K.L.	07-2018

SUPERVISED BY: KENNETH VORCE, P.E.

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

SIGNALIZATION PLAN

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.
SConnor 9:44:05 AM 7/17/2020

SCALE 1"=40'

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORK
HIGHWAY DIVISION
SW 137 AVENUE
FROM US 1 TO SW 200 STREET
PROJECT NO. 20040343 SHEET T-3A OF T-13

SIGNAL DETAILS

△1 **SW 137 Av**
Tallahassee Rd/Speedway Blvd
EXISTING SIGN TO REMAIN

△2 **US 1/S Dixie Hwy**
Trpr Burk Buchanan Mem Hwy
EXISTING SIGN TO BE REMOVED

△1 **US 1/S Dixie Hwy**
Trpr Burk Buchanan Mem Hwy
700-5-21
2 EA

△2 **BUSWAY**
700-5-21
2 EA

|P2|
PED. SIGNAL POLE
1-SECT., 1-WAY
EXIST. PED SIGNAL TO BE REMOVED
646-1-60
_2_EA_

△E **U-TURN YIELD TO RIGHT TURN**
EXISTING SIGN TO REMAIN

△D
EXISTING SIGN TO REMAIN

△B
EXISTING SIGN TO REMAIN

△A **NO TURNS EXCEPT BUSES**
(24"x30")
700-3-201
2 EA

|P6|P8|
PED. SIGNAL COUNT-DOWN
1-SECT., 1-WAY
EXIST. PED SIGNAL TO REMAIN
(INSTALLED UNDER MDC PROJECT NO. 20040344)

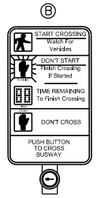
△C **BUSES ONLY**
(30"x30")
EXISTING SIGN TO BE REMOVED

△W **BUSES ONLY**
(30"x30")
EXISTING SIGN TO BE REMOVED
700-3-601
1 EA

|P2|P2B|
PED. SIGNAL COUNT-DOWN
1-SECT., 1-WAY
653-1-11
4 AS

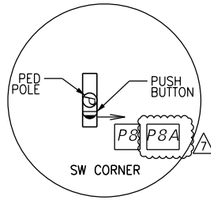
Ⓐ Ⓒ


AUDIBLE PEDESTRIAN SIGNAL (APS) AND DETECTOR
PEDESTRIAN DETECTOR SIGN (LED OPTION) COMBINATION
R10-3E
COUNTY MODIFIED
(9"x15")
COST INCLUDED IN ITEM 665-1-11
4 AS

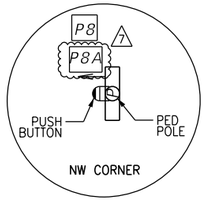
Ⓑ


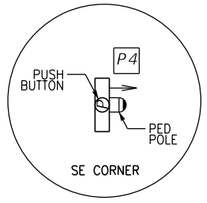
AUDIBLE PEDESTRIAN SIGNAL (APS) AND DETECTOR
PEDESTRIAN DETECTOR SIGN (LED OPTION) COMBINATION
R10-3E
COUNTY MODIFIED
(9"x15")
COST INCLUDED IN ITEM 665-1-11
4 AS

|P4|P8|
PED. SIGNAL COUNT-DOWN
1-SECT., 1-WAY
653-1-11
4 AS



P8 / P8A





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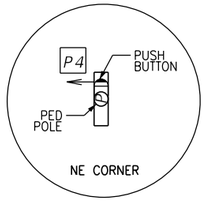

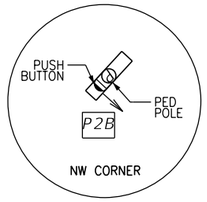

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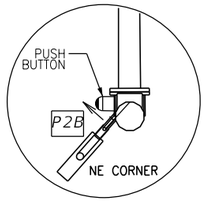

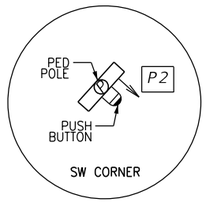

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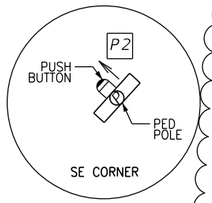
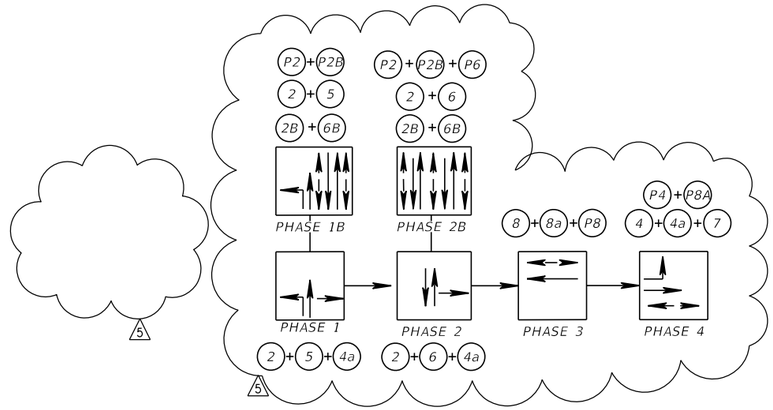
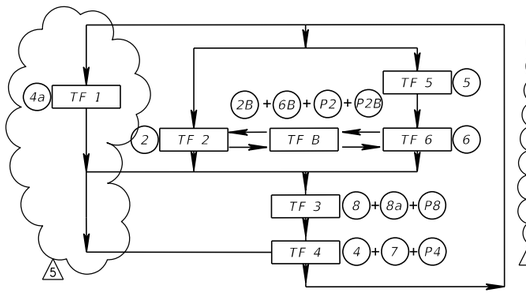


PEDESTRIAN SIGNALS

SIGNAL OPERATION PLAN

SPECIAL S.O.P.





DETECTORS FOR LOOPS

LOOP	NO. OF LOOPS	NO. OF NEW DETS.	NO. OF EXIST. DETS.
L-2B	2	1	
L-6B	2	1	
L-8	2	1	1
L-8A	2	1	

5

VIDEO VEHICLE DETECTION ASSIGNMENTS

VIDEO DITECTION CAMERA NO.	DETECTION ZONE LOCATION NO.	DELAY TIME (SECONDS)
VD-1	DZ-6	
VD-2	DZ-6 (EXIT)	
VD-3	DZ-2, DZ-5	
VD-4	DZ-2 (EXIT)	

5

CONTROLLER TIMING

		1	1B	2	2B	3	4
	CONTROLLER PHASE						
FUNCTION	APPROACH POSTED SPEED (MPH)	45	45	45	45	45	45
FUNCTION	ALL RED DISTANCE (FEET)	88	152	181	181	145	174
FUNCTION	YELLOW CLEARANCE	4.8	4.8	4.8	4.8	4.8	4.8
FUNCTION	ALL RED	2.2	2.6	3.1	3.1	2.5	3.0
	PEDESTRIAN MOVEMENT		P2+P2B		P2+P2B +P6	P8	P4+P8A
FUNCTION	PEDESTRIAN CROSSING DISTANCE (FEET)		116		133	56	42
FUNCTION	PEDESTRIAN WALK		7		7	7	7
FUNCTION	PEDESTRIAN FALSHING DON'T WALK		33		38	16	16

TIMINGS ARE INITIAL AND MAY REQUIRE FIELD ADJUSTMENT AS DIRECTED BY PROJECT ENGINEER
5

NOTES

1. WORK THIS SHEET WITH SHEET T-3.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
02/27/2020	KL	△6 TSS COMMENTS						
07/16/2020	KL	△7 FDOT PERMIT COMMENTS						

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SUPERVISED BY: KENNETH VORCE, P.E.

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
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SIGNALIZATION PLAN

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SIGNAL DETAILS

5-SECT., 1-WAY — 1/6, 4/7, 3/8 — R, Y, 4Y, 4G, G

650-1-18

3 AS

3-SECT., 1-WAY — 2, 4, 6, 8 — R, Y, G

650-1-14

5 AS

SIGN DETAILS

X

SW 137 Av
Tallahassee Rd

700-5-21

1 EA

Y

SW 200 St
Quail Roost Dr

700-5-21

1 EA

X

SW 137 Av
Tallahassee Rd

699-1-41

TO BE RELOCATED
1 EA

Y

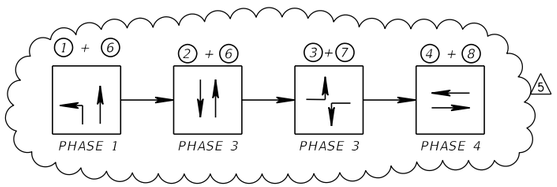
SW 200 St
Quail Roost Dr

699-1-41

TO BE RELOCATED
1 EA

SIGNAL OPERATION PLAN

S.O.P. SPECIAL



DETECTORS FOR LOOPS		
LOOP	NO. OF LOOPS	NO. OF NEW DETS.
L-2	2	1
L-3	1	1
L-4	1	1
L-4B	1	1
L-6	1	1
L-7	1	1
L-8	1	1

CONTROLLER TIMING								
	VEHICLE MOVEMENT	1	2	3	4	5	6	7	8
FUNCTION	APPROACH DIRECTION	EBL	WBT	SBL	NBT		EBT	NBL	SBT
	APPROACH POSTED SPEED (MPH)	40	40	45	45	–	40	45	45
	ALL RED DISTANCE (FEET)	70	70	70	80	–	70	80	70
	YELLOW CLEARANCE	4.4	4.4	4.8	4.8	–	4.4	4.8	4.8
	ALL RED	2	2	2	2	–	2	2	2

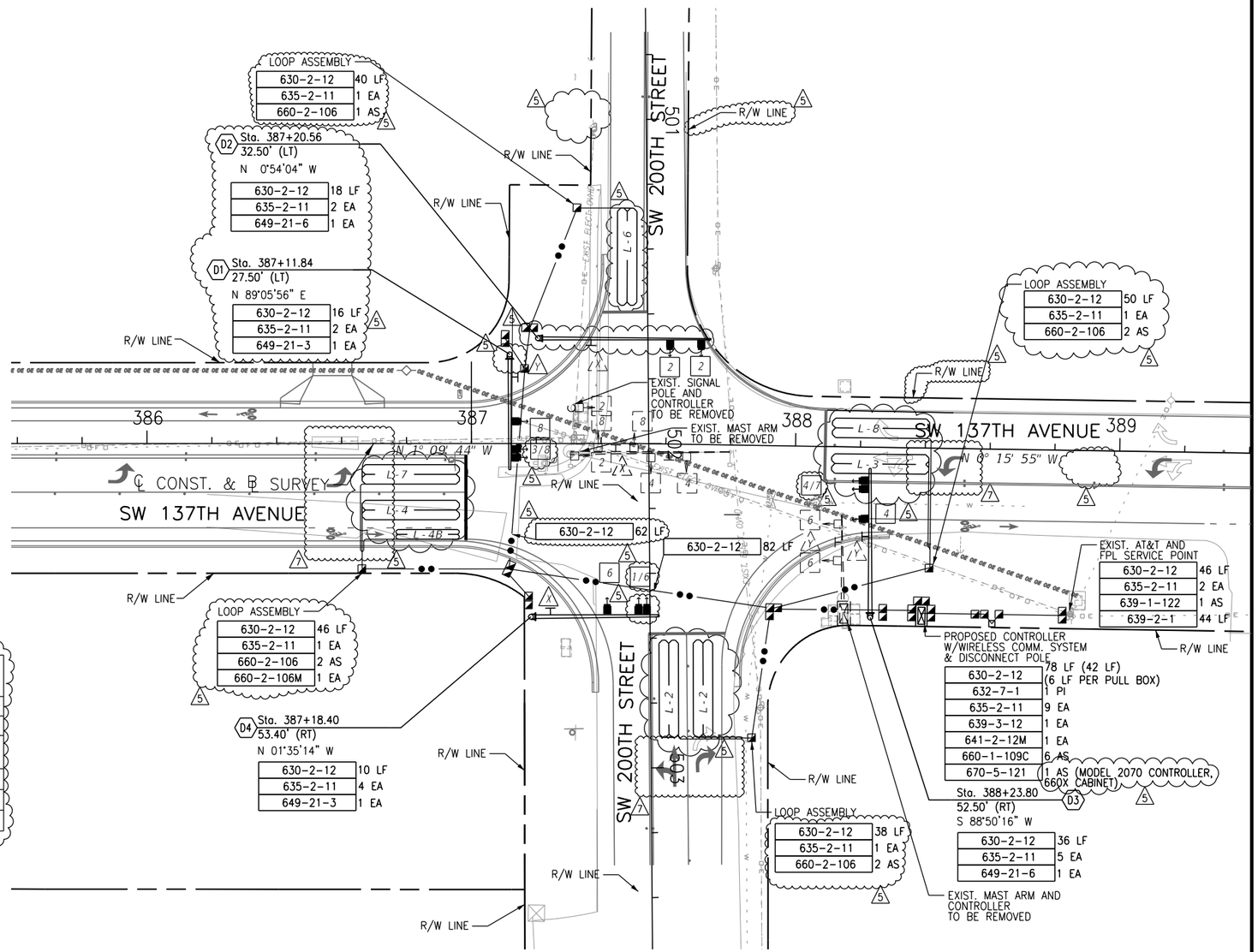
TIMINGS ARE INITIAL AND MAY REQUIRE FIELD ADJUSTMENT AS DIRECTED BY PROJECT ENGINEER

NOTES:

1. MAJOR STREET: SR 994/SW 200 ST. (QUAIL ROOST RD.)
   MINOR STREET: SW 137 AVE.
2. MOVEMENTS 2 AND 6 TO FLASH YELLOW AND ALL OTHER MOVEMENTS TO FLASH RED DURING FLASHING OPERATION.
3. SIGNAL TIMING WILL BE PROVIDED BY THE EOR, IN COORDINATION WITH MDC DTPW TSS, DURING CONSTRUCTION.
4. ALL INDUCTIVE LOOPS SHALL BE TYPE F FOR VEHICLE AND TYPE F MODIFIED FOR BICYCLE AND MEET MDC STANDARD INDEX 660.

REMOVAL ITEMS

649-26-5	2 EA
670-5-600	1 AS
700-1-60	1 EA



SW 137 AVE AND SW 200 ST
INTERSECTION ID NO. 6507

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
02/27/2020	KL	5 TSS COMMENTS						
07/16/2020	KL	7 FDOT PERMIT COMMENTS						

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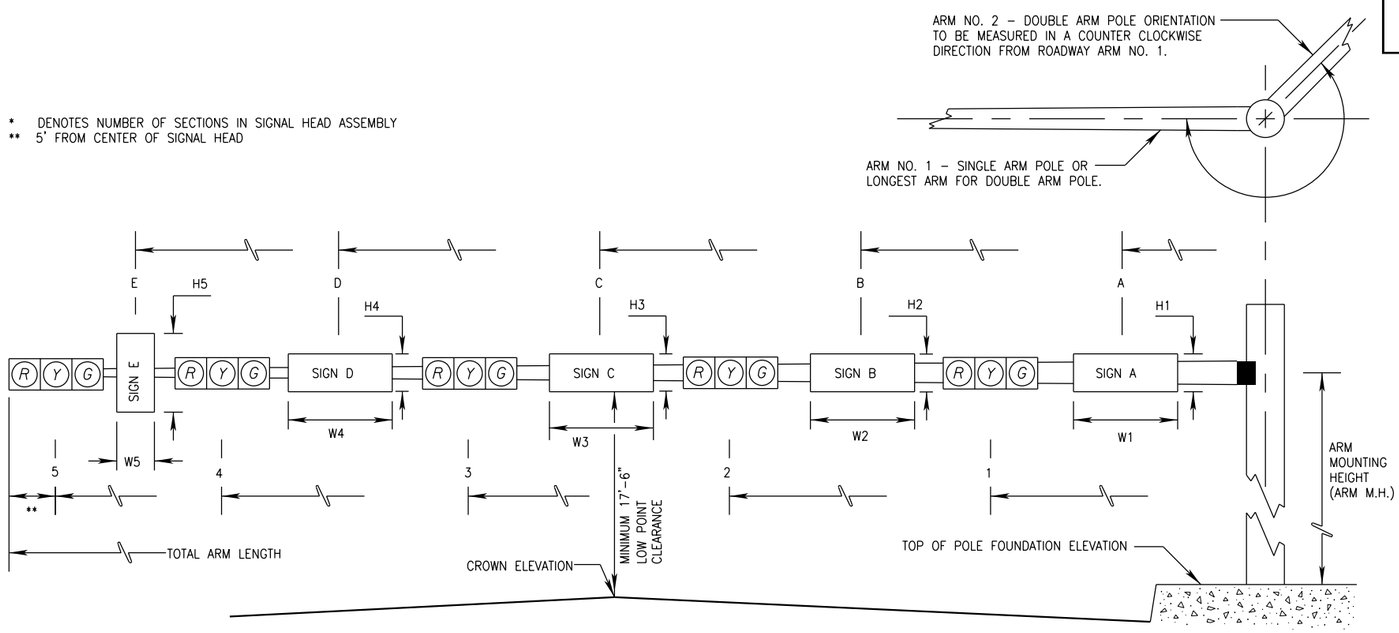
7/17/2020 9:44:18 AM SConnor

SPECIAL INSTRUCTIONS

ID NO.	PED. BUTTON		PED. SIGNALS		HANDHOLE LOCATION
A3	90	-	45	-	
B1	90	-	90	-	270

NOTES:
1. DEGREES ARE MEASURED COUNTERCLOCKWISE FROM ARM.
2. HANDHOLE LOCATION IS 90° FROM ARM #1, FACING AWAY FROM TRAFFIC,UNLESS OTHERWISE NOTED
3. SIGN LOCATION INCLUDES TWO SIGN PANELS, ONE ON EACH FACE OF MAST ARM.

* DENOTES NUMBER OF SECTIONS IN SIGNAL HEAD ASSEMBLY
** 5' FROM CENTER OF SIGNAL HEAD



ID NO.	SHEET NO.	LOCATION BY STA.	TOP OF FOUND. ELEVATION	RDWY ARM NO.	CROWN ELEV.	SIGNAL DATA: SIGNAL V/H	BACK PLATES Y/N	PED. SIGNAL Y/N	DISTANCE FROM POLE: 1	*	2	*	3	*	4	*	5	*	TOTAL ARM LENGTH	ARM M.H.	ANGLE BETWEEN DUAL ARMS 90/270	SIGN DATA: DISTANCE FROM POLE / HEIGHT AND WIDTH OF SIGN: A	H1	W1	B	H2	W2	C	H3	W3	D	H4	W4	E	H5	W5	PAINT COLOR
A1	T-3	219+46.24	11.59	1	11.08	H	Y	N	19'-0"	3	30'-0"	3	41'-0"	3	61'-3"	3	72'-6"	3	77'-6"	18'-3"		13'-0"	2'-0"	6'-0"	SEE NOTE 3													
---	-----	----------	-------	2																	-----																	
A2	T-3	221+61.02	10.64	1	10.93	H	Y	N	23'-0"	3	35'-0"	3							40'-0"	19'-6"		11'-6"	2'-0"	6'-0"	30'-6"	2'-6"	2'-0"											
---	-----	----------	-------	2																	-----																	
A3	T-3	222+62.41	10.44	1	9.82	H	Y	Y	18'-3	3	29'-6"	3							34'-6"	18'-6"		10'-6"	2'-0"	6'-0"	24'-9"	2'-6"	2'-0"											
---	-----	----------	-------	2																	-----																	
A4	T-3	221+55.60	11.00	1	10.74	H	Y	N	25'-6"	3	36'-9"	3	41'-3"	3	52'-3"	3			57-6"	20'-0"		19'-6"	2'-0"	6'-0"	SEE NOTE 3													
---	-----	----------	-------	2																	-----																	
B1	T-4	226+11.05	12.15	1	11.52	H	Y	Y	20'-6"	3	32'-0"	3	42'-9"	5					48'-9"	18'-6"		15'-6"	2'-0"	6'-0"													
---	-----	----------	-------	2																	-----																	
B2	T-4	227+17.09	11.86	1	11.36	H	Y	N	38'-9"	3	49'-9"	3							54'-9"	19'-0"		31'-3"	2'-0"	6'-0"													
---	-----	----------	-------	2																	-----																	
B3	T-4	227+31.61	12.14	1	11.48	H	Y	N	20'-6"	3	32'-3"	3	42'-9'	5					48'-9"	18'-6"		14'-6"	2'-0"	6'-0"													
---	-----	----------	-------	2																	-----																	
B4	T-4	226+24.71	12.18	1	11.64	H	Y	N	27'-6"	3	39'-3"	3							44'-6"	18'-6"		20'-6"	2'-0"	6'-0"													
---	-----	----------	-------	2																	-----																	
C1	T-5	333+17.88	10.95	1	10.52	H	Y	N	10'-6"	3	20'-8"	5							26'-8"	19'-0"		5'-3"	2'-0"	6'-0"													
---	-----	----------	-------	2																	-----																	
C2	T-5	334+53.08	11.01	1	10.57	H	Y	N	46'-6"	3	57'-6"	3							62'-6"	19'-0"		30'-9"	2'-0"	6'-0"													
---	-----	----------	-------	2																	-----																	
C3	T-5	334+67.81	11.60	1	10.52	H	Y	N	42'-6"	3	53'-6"	5							59'-6"	18'-0"		30'-0"	2'-0"	6'-0"													
---	-----	----------	-------	2																	-----																	
C4	T-5	333+22.50	11.64	1	10.52	H	Y	N	55'-3"	3	66'-3"	3							71'-6"	18'-0"		41'-3"	2'-0"	6'-0"													
---	-----	----------	-------	2																	-----																	
				1																																			
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REVISIONS								
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02/27/2020	KL	5 TSS COMMENTS						

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MAST ARM TABULATION

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STANDARD MAST ARM ASSEMBLIES DATA TABLE

STRUCTURE ID NUMBERS	DESIGNATION	FIRST ARM		SECOND ARM		UF (deg)	LL (deg)	POLE			SPECIAL DRILLED SHAFT					
		ARM ID	(1, 7) FAA (ft.)	ARM ID	(1) SAA (ft.)			POLE ID	(2) UAA (ft.)	UB (ft.)	DA (ft.)	DB (ft.)	RA	RB	RC	RD (in.)
A1	A78/S-P6/S-DS/18/5.0	A78/S	38.5					P6/S	25	22	18	5.0	14	18	12	8
A2	A40/S-P2/S-DS/12/4.5	A40/S						P2/S	22.5	19.5	12	4.5	11	16	12	8
A3	A40/S-P2/S-DS/12/4.5	A40/S	34.5					P2/S	21.5	18.5	12	4.5	11	16	12	8
A4	A60/S-P4/S-DS/14/5.0	A60/S	33					P4/S	24	21	14	5.0	11	18	12	8
B1	A50/S-P3/S-DS/14/4.5	A50/S	30.25					P3/S	21.5	18.5	14	4.5	11	16	12	8
B2	A60/S-P4/S-DS/14/5.0	A60/S	29.25					P4/S	22	19	14	5.0	14	18	12	8
B3	A50/S-P3/S-DS/14/4.5	A50/S	30.25					P3/S	21.5	18.5	14	4.5	11	16	12	8
B4	A50/S-P3/S-DS/14/4.5	A50/S	26					P3/S	21.5	18.5	14	4.5	11	16	12	8
C1	A30/S-P1/S-DS/12/4.0	A30/S	26.7					P1/S	22	19	12	4.0	11	14	12	12
C2	A70/S-P5/S-DS/16/5.0	A70/S	29.5					P5/S	22	19	16	5.0	14	18	12	8
C3	A60/S-P4/S-DS/14/5.0	A60/S	28					P4/S	21	18	14	5.0	14	18	12	8
C4	A78/S-P6/S-DS18/5.0	A78/S	31.5					P6/S	21	18	18	5.0	14	18	12	8
D1	A40/S-P2/S-DS/12/4.5	A40/S	35.5					P2/S	21.5	18.5	12	4.5	11	16	12	8 △5
D2	A60/S-P4/S-DS/14/5.0	A60/S	27.83					P4/S	21.5	18.5	14	5.0	11	18	12	8 △5
D3	A50/S-P3/S-DS/14/4.5	A50/S	28.5					P3/S	21.5	18.5	14	4.5	11	16	12	8
D4	A40/S-P2/S-DS/12/4.5	A40/S	39.5					P2/S △5	21.5	18.5	12	4.5	11	16	8	12

NOTES:

1. IF AN ENTRY APPEARS IN COLUMN FAA, A SHORTER ARM IS REQUIRED. THIS IS OBTAINED BY REMOVING LENGTH FROM THE ARM TIP AND THE ARM LENGTH SHORTENED FROM FA TO FAA. SAA SIMILAR.
2. IF AN ENTRY APPEARS IN COLUMN UAA, A SHORTER POLE IS REQUIRED. THIS IS OBTAINED BY REMOVING LENGTH FROM THE POLE TIP AND THE POLE HEIGHT SHORTENED FROM UA TO UAA.
3. ARM MOUNTING HEIGHT UB MUST BE BETWEEN 18-22 FEET.
4. POLE TYPES P2 AND LARGER REQUIRE A MINIMUM 4.5 FOOT DIAMETER DRILLED SHAFT, POLE TYPES P5 AND LARGER REQUIRE A MINIMUM 5.0 FOOT DIAMETER DRILLED SHAFT.
5. WORK THIS SHEET WITH THE SIGNAL DESIGNER'S "MAST ARM TABULATION". SEE "MAST ARM TABULATION" FOR SPECIAL INSTRUCTIONS THAT INCLUDE NON-STANDARD HANDHOLE LOCATION, PAINT COLOR, TERMINAL COMPARTMENT REQUIREMENT, AND PEDESTRIAN FEATURES.
6. WORK WITH INDEX 17743 AND 17745.
7. FOR ALL MAST ARMS LONGER THAN 40'-0", WHERE A VALUE OF FAA IS REPORTED, THE MAST ARM SPLICE LENGTH PROVIDED IS 2'-0"

$USERS
$TIMES
$DATES

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
02/27/2020	KL	△5 TSS COMMENTS						

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
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KATHY LAJO, P.E.
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DESIGNED BY	K.L.	07-2018	DRAWN BY	V.E.	07-2018
CHECKED BY	K.V.	07-2018	CHECKED BY	K.L.	07-2018

SUPERVISED BY: KENNETH VORCE, P.E.

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DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
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SIGNALIZATION MAST ARM ASSEMBLY DATA TABLE

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

SIGN NAME	X	QTY	5	SIGN NUMBER	STATION(S)
PANEL		BORDER			none
WIDTH	6'-0"	WIDTH	0.5"		
HEIGHT	2'-0"	RADII	1.5"		
LEGEND	White	COLOR	White		
COLOR	White				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge Of Lane	COLUMN SIZE		AVERAGE LENGTH



Panel Style: Street Name 8-6in-1.ssi
M.U.T.C.D.: 2009 Edition

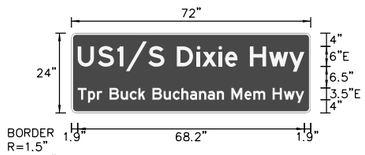
NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

COPY	S	W									A	v		L								
SPACE	9.7	15.2	21.6	25.3	29.1	32.8	36.6	40.3	44.1	47.8	51.6	58.1		52.6								
COPY						1	3	7		L												
SPACE	29.1	32.8	36.6	40.3	44.1	27.1	31.1	38.4		21												
COPY	T	a	l	l	a	h	a	s	s	e	e		R	d		L						
SPACE	7.6	12.6	17.3	19.5	21.4	26.1	30.6	35	39	43.2	47.6	51.3	55	60.7		56.8						
COPY																						
SPACE																						
COPY																						
SPACE																						
COPY																						
SPACE																						

SIGN NAME	Y (T-3)	QTY	2	SIGN NUMBER	STATION(S)
PANEL		BORDER			none
WIDTH	6'-0"	WIDTH	0.5"		
HEIGHT	2'-0"	RADII	1.5"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge Of Lane	COLUMN SIZE		AVERAGE LENGTH



Panel Style: street name 8-6in-MSD-2.ssi
M.U.T.C.D.: 2009 Edition

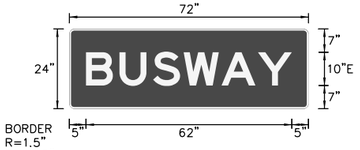
NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

COPY	U	S	–	1	/	S		D	i	x	i	e		H	w	y		L					
SPACE	0.7	6.7	12.2	15.1	17.6	24.4	29.2	33	39	40.6	45.5	47.5	51.2	55	60.7	66.7		70.7					
COPY	T	p	r		B	u	c	k		B	u	c	h	a	n	a	n		M	e	m		H
SPACE	1.9	5	7.7	9.3	11.5	14.8	17.5	20.1	22.2	24.4	27.8	30.5	33.1	35.7	38.4	41	43.8	45.9	48.1	52.1	54.7	58.3	60.5
COPY	H	w	y		L																		
SPACE	60.5	63.9	67.4		68.2																		
COPY																							
SPACE																							
COPY																							
SPACE																							
COPY																							
SPACE																							

SIGN NAME	Z (T-3)	QTY	2	SIGN NUMBER	STATION(S)
PANEL		BORDER			none
WIDTH	6'-0"	WIDTH	0.5"		
HEIGHT	2'-0"	RADII	1.5"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge Of Lane	COLUMN SIZE		AVERAGE LENGTH



Panel Style: street name 8-6in-MSD-2.ssi
M.U.T.C.D.: 2009 Edition

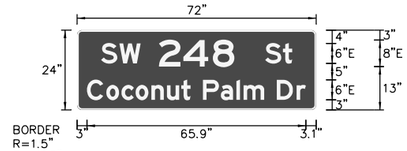
NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

COPY	B	U	S	W	A	Y		L														
SPACE	5	15.1	25.2	34.4	45.8	56.8		62														
COPY																						
SPACE																						
COPY																						
SPACE																						
COPY																						
SPACE																						
COPY																						
SPACE																						
COPY																						
SPACE																						

SIGN NAME	Y (T-4)	QTY	2	SIGN NUMBER	STATION(S)
PANEL		BORDER			none
WIDTH	6'-0"	WIDTH	0.5"		
HEIGHT	2'-0"	RADII	1.5"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge Of Lane	COLUMN SIZE		AVERAGE LENGTH



Panel Style: Street Name 8-6in-1.ssi
M.U.T.C.D.: 2009 Edition

NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

COPY	S	W											S	t		L						
SPACE	7.3	12.8	19.1	22.9	26.6	30.4	34.1	37.9	41.6	45.4	49.1	52.9	56.6	62		57.5						
COPY	2	4	8								L											
SPACE	24.6	32	40.9	26.6	30.4	34.1	37.9	41.6	45.4		26.8											
COPY	C	o	c	o	n	u	t		P	a	l	m		D	r		L					
SPACE	3	8.8	13.4	17.6	22.4	27.1	31.4	34.1	37.9	43.3	48	50.1	56.4	60.1	66.1		65.9					
COPY																						
SPACE																						
COPY																						
SPACE																						
COPY																						
SPACE																						

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
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CHECKED BY	K.V.	07-2018	CHECKED BY	K.L.	07-2018

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HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
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SIGNALIZATION GUIDE SIGN WORKSHEET

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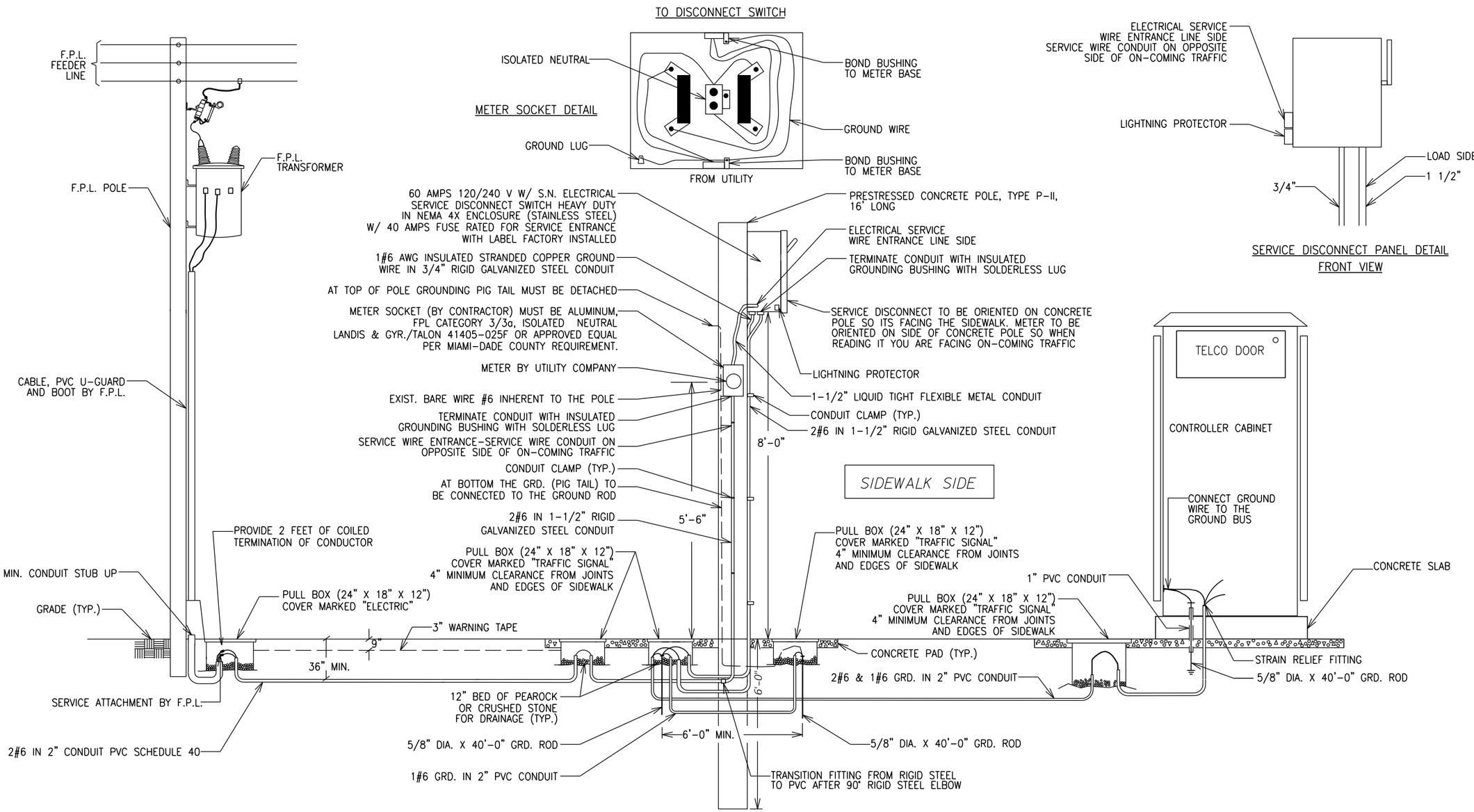
SConnor 9:44:20 AM 7/17/2020



SERVICE POINT DETAIL
N.T.S

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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SUPERVISED BY: KENNETH VORCE, P.E.

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
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MIAMI, FLORIDA 33128

ELECTRICAL POWER SERVICE DETAIL

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

THE FOLLOWING PLAN NOTES HAVE BEEN COMPILED THROUGH THE COOPERATIVE EFFORTS OF CONSTRUCTION, LIGHTING DESIGN, TRAFFIC OPERATIONS AND MIAMI-DADE COUNTY LIGHTING DIVISION. THE LIGHTING PLAN NOTES PREPARED FOR DISTRICT SIX HAVE REQUIREMENTS IN ADDITION TO, AND DIFFERENT FROM FDOT STANDARDS WHEN THE PROJECT IS WITHIN THE JURISDICTION OF MIAMI-DADE COUNTY AS THE MAINTAINING AGENCY. IT IS HOPEFUL THAT THESE NOTES WILL REDUCE FIELD PROBLEMS AND IMPROVE CONSTRUCTABILITY.

1. GOVERNING STANDARDS AND SPECIFICATIONS ARE: THE 2017 DESIGN STANDARDS, THE FLORIDA DEPARTMENT OF TRANSPORTATION 2017 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, THE MIAMI-DADE COUNTY STANDARD SPECIFICATIONS FOR ROADWAY LIGHTING, THE 2014 NATIONAL ELECTRIC CODE, NATIONAL ELECTRICAL SAFETY CODE OR LATER EDITION AND LOCAL CODES WHICH EXCEED THESE SPECIFICATIONS.

2. ENDS OF CONDUITS SHALL BE SEALED WITH POLYURETHANE FOAM AFTER WIRING IS COMPLETE. FOAM SEAL SHALL NOT BE USED AS A MEANS TO PROTECT CONDUCTORS FROM ABRASION IN RACEWAYS. GALVANIZED RIGID METAL CONDUIT DIAMETER SHALL HAVE PROPER FITTINGS TO PROTECT CONDUCTORS FROM ABRASION.

3. DEVICE SUPPORT IN PULL BOXES: THE PREFERRED METHOD OF ATTACHMENT OF LIGHTNING ARRESTERS AND OTHER DEVICES LIKELY TO BE SUPPORTED IN PULL BOXES, IS BY MEANS OF A SELF-TAPPING SCREW OR BY A MASONRY SCREW. CARE SHOULD BE EXERCISED WHEN UTILIZING THIS METHOD NOT TO BREAK THE SUPPORTING TABS; SCREWS SHOULD BE FIRM BUT NOT SNUG AGAINST THE SUPPORTING TABS. OTHER APPROVED AND LISTED METHODS MAY BE USED, IF THEY ARE FOUND SUITABLE FOR THE CONDITIONS.

4. SPLICES AND CONNECTIONS MADE IN PULL BOXES SHALL BE ACCOMPLISHED WITH THE USE OF GEL CAPS.

5. GROUND RODS ARE TO BE LOCATED AT EACH PULL BOX ASSOCIATED WITH A LIGHT POLE OR ELECTRICAL LOAD CENTER. THE MIAMI-DADE PUBLIC WORKS LIGHTING STANDARDS REQUIRES TWO 5/8 " X 20' LONG COPPER CLAD STEEL GROUNDING ELECTRODES AT EACH SERVICE POINT. THEY MUST BE SPACED A MINIMUM OF SIX FEET AND SIX INCHES FROM EACH OTHER WHEN INSTALLED AS AN ARRAY. WHEN THE GROUNDING ELECTRODE CONDUCTOR IS ENCLOSED IN A METAL RACEWAY, BOTH ENDS OF THE RACEWAYS AND ALL INTERVENING RACEWAYS AND METALLIC ENCLOSURES CONTAINING THE GROUNDING ELECTRODE CONDUCTOR MUST BE BONDED TO THE GROUNDING ELECTRODE CONDUCTOR.

6. SLUGS: WHERE THE POLE CABLE DISTRIBUTION IS EMPLOYED (MG SQUARE, DOT 3), AND WHERE THE POWER SOURCE IS GROUNDED TYPE (GROUNDED NEUTRAL CONDUCTOR), EXAMPLE 480 VAC TO GROUND. A SLUG SHALL BE INSERTED IN THE GROUNDED (NEUTRAL SIDE) REPLACING THE FACTORY INSTALLED FUSE, IN THE MALE DISTRIBUTION PLUG AT THE TIME OF INSTALLATION.

7. ALL GROUNDING CONNECTIONS SHALL BE EXOTHERMICALLY WELDED AS PER F.D.O.T. SPECIFICATIONS SECTION 715-11 AND MIAMI-DADE COUNTY MAINTENANCE AGENCY NEW SPECIFICATIONS. WHERE THE POLE CABLE DISTRIBUTION SYSTEM IS EMPLOYED (MG SQUARE, DOT 3), GROUNDING CONNECTIONS TO THE DISTRIBUTION BLOCK AND LIGHTNING ARRESTER OR OTHER DEVICES CONTAINING LEADS SMALLER THAN # 8 AWG, SHALL BE DONE BY MECHANICAL CONNECTIONS OR OTHER APPROVED MEANS.

8. GROUND CONDUCTOR SHALL HAVE A GREEN JACKET, TYPE RHW-XLP, AND SHALL NOT BE SMALLER THAN NO. 6 AWG. IF CONDUCTORS ARE LARGER THAN NO. 6 AWG THEN THE GROUND CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

9. THE CONTRACTOR SHALL CHECK THE CONTINUITY OF GROUNDING CONDUCTOR USING MEGGER OR EQUAL LOW RESISTANCE / HIGH CAPACITY OHMMETER CALIBRATED WITHIN THE PAST 180 DAYS. A NEUTRAL / GROUND LOOP RESISTANCE OF MORE THAN 0.5 OHMS-PER THOUSAND FEET SHALL BE CONSIDERED INADEQUATE.

10. CONCRETE PULL BOX SHALL HAVE EXTERIOR DIMENSIONS OF 27 1/2 " X 18" X 12". POLYMER CONCRETE PULL BOXES REINFORCED BY HEAVY-WEAVE FIBERGLASS SHALL HAVE EXTERIOR DIMENSIONS OF 25" X 15 1/2" X 12". COVERS SHALL BE OF HEAVY-DUTY POLYMER COMPOSITE AND LABELED "STREET LIGHTING".

11. ONLY LINE CONDUCTORS WILL BE PERMITTED IN SERVICE PULL BOX. NO GROUND RODS OR ANY OTHER ITEMS OR DEVICES SHALL BE ALLOWED.

12. NO UNNECESSARY SPLICING WILL BE PERMITTED IN PULL BOXES.

13. THE CONTRACTOR SHALL CONSTRUCT CONCRETE SLABS AROUND ALL PULL BOXES AND SERVICE POINTS LOCATED IN UNPAVED/GRASS AREA. SEE INDEX 17500 FOR DETAILS AND NOTES. COST OF THE SLAB CONSTRUCTION, INCLUDING REINFORCED STEEL FABRIC, SHALL BE INCLUDED IN THE RELATED PAY ITEMS FOR PULL BOXES AND SERVICE POINTS.

14. PULL BOX COVER SHALL BE BOLTED TO THE PULL BOX USING A TAMPER PROOF BOLT.

15. INSTALLATIONS OF NEW PULL BOXES SHALL BE PERFORMED BY A QUALIFIED ELECTRICAL CONTRACTOR. WHEN NEW PULL BOX IS REPLACING EXISTING PULL BOX, THE CONTRACTOR SHALL ADJUST CONDUITS AND CABLES TO FIT THE NEW PULL BOX ELEVATION. COST OF ADJUSTMENTS IS INCLUDED IN THE PULL BOX PAY ITEM.

16. LIGHT POLE FOUNDATION SHALL BE CONCRETE AS PER INDEX 17515 SHEET #4. (SCREW TYPE POLE BASE IS NOT ALLOWED).

17. LIGHT POLE FOUNDATIONS SHALL BE INSTALLED AT A GRADE THAT IS FLUSH WITH THE ADJACENT AND SURROUNDING SIDEWALK.

18. THE POLE FOUNDATION CONDUITS SHALL EXTEND FROM 1" TO 2" INSIDE THE POLE BASE.

19. RACEWAYS: RACEWAYS CONTAINING # 4 AWG OR LARGER CONDUCTORS MUST BE PROTECTED BY AN INSULATING FITTING, UNLESS THE CONDUCTORS ARE SEPARATED FROM THE FITTING OR RACEWAY BY SUBSTANTIAL INSULATING MATERIAL THAT IS SECURELY FASTENED IN PLACE.

20. WHERE THE CONCRETE POLE FOUNDATION MAY COME IN DIRECT CONTACT WITH THE SIDEWALK, AN EXPANSION MATERIAL SHALL BE EMPLOYED TO EFFECTIVELY AVOID OR PREVENT THIS OCCURRENCE. COST INCIDENTAL TO LIGHT POLE PAY ITEM NUMBER.

21. POLE CABLE DISTRIBUTION SYSTEM USED SHALL BE (MG SQUARE DOT 3), THE ONLY ACCEPTABLE SPLICING DEVICE ACCEPTABLE TO THE MIAMI-DADE PUBLIC WORKS LIGHTING STANDARD, IS THE MOLDED SPLICE KIT TYCO-RAYCHEM CATALOG # GELCAP-SL-2/0-3 HOLE. PULL BOXES CONTAINING # 4 AWG OR LARGER CONDUCTORS CONTAINING SPLICES OR U PULLS, THE DISTANCE BETWEEN RACEWAYS SHALL BE INCREASED. THE DISTANCE BETWEEN RACEWAYS SHALL BE INCREASED SIX TIMES THE TRADE SIZE DIAMETER OF THE LARGEST RACEWAY.

22. ALL DISTRIBUTION BLOCKS SHALL HAVE THE MIAMI-DADE COUNTY NUMBER MDC/PW 715-500 MOLDED ONTO IT.

23. PAYMENT FOR CONDUIT SHALL BE BASED ON THE HORIZONTAL PATH OF THE INSTALLED CONDUIT AS MEASURED BETWEEN THE CENTER OF PULL BOXES, POLES, JUNCTION BOXES, ETC. NO ALLOWANCES SHALL BE MADE FOR SWEEPS OR VERTICAL DISTANCES ABOVE OR BELOW GROUND.

24. ALL CONDUCTORS SHALL BE TYPE RHW-XLP AS SPECIFIED IN THE FDOT SPECIFICATION SECTION 992 AND AS PER MIAMI-DADE COUNTY MAINTENANCE AGENCY. OTHER TYPE OF CABLE IS NOT ALLOWED.

25. ALL SALVAGEABLE LIGHTING EQUIPMENT THAT IS REMOVED MUST BE DISASSEMBLED, DELIVERED AND UNLOADED AT THE MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS, LIGHTING DIVISION. 7100 N.W. 36TH STREET, MIAMI, FLORIDA 33166. LIGHTING EQUIPMENT CONSIDERED SALVAGEABLE IS AS FOLLOWS: LIGHTING POLES ALUMINUM, LUMINARIES, CABLE DISTRIBUTION SYSTEMS THAT ARE INTACT. ALL OTHER EQUIPMENT SHALL BE DISPOSED AT THE CONTRACTOR'S EXPENSE. COST TO BE INCLUDED IN THE REMOVAL PAY ITEMS.

26. CONTRACTOR SHALL VERIFY UTILITY LOCATIONS WITH UTILITY COMPANIES PRIOR TO CONSTRUCTION. SEE UTILITY CONTACTS BELOW.

UTILITY OWNER	TELEPHONE
AT&T-BELLSOUTH UNDERGROUND COMMUNICATIONS	786-464-1400
AT&T-TCG	407-578-8000
COMCAST	954-534-7380
FLORIDA CITY GAS	305-835-3632
FPL	305-442-5140
CROWN CASTLE FIBER	786-610-7073
LEVEL 3 COMMUNICATIONS	512-742-1433
MIAMI-DADE WATER AND SEWER DEPARTMENT	305-665-7471
XO COMMUNICATIONS	305-356-3160

27. SUBMITTAL DATA PRIOR TO ANY PROCUREMENT ORDER THE CONTRACTOR SHALL SUBMIT FOR APPROVAL, EQUIPMENT SPECIFICATIONS OR DESIGN DATA FOR ALL MATERIALS PROPOSED FOR THE PROJECT AND SHALL INCLUDE, BUT NOT LIMITED TO:

A. SHOP DRAWINGS FOR THE LUMINARIES, POLES AND BASES.

B. CONDUCTORS, CONDUIT, GROUND RODS AND PULL BOXES.

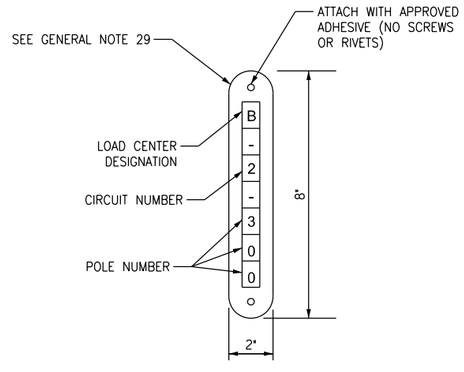
C. FUSES, FUSE HOLDERS, SURGE PROTECTORS AND POLE DISTRIBUTION SYSTEMS.

D. SAFETY SWITCHES, PANELS, CIRCUIT BREAKERS, AND OTHER MAJOR SERVICE POINT COMPONENTS.

E. SEVEN COPIES OF THE SHOP DRAWINGS AND DESIGN DATA SHALL BE SUBMITTED TO THE ENGINEER WITH A COPY OF THE SUBMITTAL LETTER SENT TO THE DEPARTMENT'S RESIDENT CONSTRUCTION ENGINEER IN CHARGE OF THE PROJECT. ALLOW A 45 DAY TURNAROUND FOR SUBMITTALS.

28. FURNISH AND INSTALL AN ALUMINUM IDENTIFICATION TAG ON EACH ROADWAY LIGHT POLE. TAGS SHALL BE 2" X 8" IN SIZE WITH BLACK LETTERS ON YELLOW BACKGROUND, ATTACHED WITH RIVETS (NO SCREWS). NUMBERS SHALL BE AS SHOWN ON THE POLE IDENTIFICATION TAG DETAIL. COST OF TAGS SHALL BE INCLUDED IN THE BID ITEMS FOR LIGHT POLE COMPLETE. TAG SHALL BE PLACED 5 FEET ABOVE GRADE.

29. LIGHT POLE POSITIONS AND CONDUIT ROUTING MAY BE ADJUSTED, AS APPROVED BY THE ENGINEER, TO PREVENT CONFLICTS WITH EXISTING/PROPOSED UTILITY AND DRAINAGE STRUCTURES NOT INDICATED.



POLE IDENTIFICATION TAG (2"x8")

NOT TO SCALE

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REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
4868 SW 72nd Avenue
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Tel (305)667-4772
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CHRISTOPHER P. MESZLER, P.E.
Llc. No. 74718

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		

SUPERVISED BY:

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

LIGHTING GENERAL NOTES

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POLE DATA

POLE NO.	CIRCUIT	ARM/TILT	LUMINAIRE WATTAGE	MOUNTING HEIGHT	STATION AND OFFSET	PAY ITEM	PROJECT NUMBER
1	EXIST. CKT.	EXIST.	EXIST.	EXIST.	STA 221+40.5, 41' RT	715-460	20040343
2	A-1	10'	400	45'	STA 222+83.5, 69' RT	715-4-112	20040343
3	A-1				STA 220+71.0, 141' LT		20040343
4	A-1				STA 222+98.0, 54' LT		20040343
5	A-1	15'		35'	STA 224+02.0, 54' RT	715-4-32	20040343
6	A-1	10'		45'	STA 225+04.4, 54' LT	715-4-112	20040343
7	A-1	15'		35'	STA 227+26.0, 55' RT	715-4-32	20040343
8	A-1	10'		45'	STA 228+73.2, 54' LT	715-4-112	20040343
9	A-1	15'		35'	STA 229+75.0, 54' RT	715-4-32	20040343
10	A-1	10'		45'	STA 230+78.3, 54' LT	715-4-112	20040343
11	A-1				STA 232+88.3, 54' LT		20040343
12	A-1				STA 235+05.4, 54' LT		20040343
13	A-1				STA 237+13.4, 54' LT		20040343
14	A-1				STA 239+73.5, 54' LT		20040343
15	A-1				STA 242+34.5, 54' LT		20040343
16	A-1				STA 244+94.6, 54' LT		20040343
17	A-2				STA 247+54.6, 54' LT		20040343
18	A-2				STA 250+18.7, 54' LT		20040343
19	A-2				STA 252+80.0, 52' LT		20040343
20	A-2				STA 255+40.0, 54' LT		20040343
21	A-2				STA 258+00.9, 54' LT		20040343
22	A-2				STA 260+61.9, 54' LT		20040343
23	A-2				STA 263+22.0, 54' LT		20040343
24	A-2				STA 265+83.0, 54' LT		20040343
25	A-2				STA 268+44.1, 54' LT		20040343
26	A-2				STA 271+03.0, 54' LT		20040343
27	A-2				STA 273+62.3, 54' LT		20040343
28	A-2				STA 276+24.3, 54' LT		20040343
29	A-2				STA 278+86.3, 54' LT		20040343
30	B-1				STA 281+20.0, 54' LT		20040343
31	B-1				STA 283+90.0, 54' LT		20040343
32	B-1				STA 286+55.0, 54' LT		20040343
33	B-1				STA 289+20.0, 54' LT		20040343
34	B-1				STA 291+82.5, 54' LT		20040343
35	B-1				STA 294+42.5, 54' LT		20040343
36	B-1				STA 297+03.5, 54' LT		20040343
37	B-1				STA 299+63.5, 54' LT		20040343
38	B-1				STA 302+23.5, 54' LT		20040343
39	B-1				STA 304+83.5, 54' LT		20040343
40	B-1				STA 307+53.0, 54' LT		20040343
41	B-1	15'		35'	STA 309+60.0, 54' LT	715-4-32	20040343
42	B-2				STA 311+45.0, 54' LT		20040343
43	B-2				STA 313+30.0, 54' LT		20040343
44	B-2				STA 315+15.0, 54' LT		20040343
45	B-2				STA 317+00.0, 54' LT		20040343
46	B-2				STA 318+85.0, 54' LT		20040343
47	B-2				STA 320+70.0, 54' LT		20040343
48	B-2				STA 322+55.0, 54' LT		20040343
49	B-2				STA 324+40.0, 54' LT		20040343
50	C-1				STA 326+25.0, 54' LT		20040343
51	C-1	10'		45'	STA 328+40.1, 54' LT	715-4-112	20040343
52	C-1				STA 330+97.0, 54' LT		20040343
53	C-2				STA 333+23.0, 54' LT		20040343
54	C-2				STA 336+01.0, 54' LT		20040343
55	C-2				STA 338+66.0, 54' LT		20040343
56	C-2				STA 341+31.0, 54' LT		20040343
57	C-2				STA 343+96.0, 54' LT		20040343
58	C-2				STA 346+62.2, 54' LT		20040343

POLE DATA

POLE NO.	CIRCUIT	ARM/TILT	LUMINAIRE WATTAGE	MOUNTING HEIGHT	STATION AND OFFSET	PAY ITEM	PROJECT NUMBER
59	C-2	10'	400	45'	STA 349+36.0, 54' LT	715-4-112	20040343
60	C-2				STA 351+29.2, 54' LT		20040343
61	D-1				STA 354+82.0, 54' LT		20040343
62	D-1				STA 356+85.3, 54' LT		20040343
63	D-1				STA 359+46.3, 54' LT		20040343
64	D-1				STA 362+06.8, 54' LT		20040343
65	D-1				STA 364+67.9, 54' LT		20040343
66	D-1				STA 367+31.9, 54' LT		20040343
67	D-1				STA 369+93.0, 54' LT		20040343
68	D-1				STA 372+53.0, 54' LT		20040343
69	D-1				STA 375+14.0, 48' LT		20040343
70	D-1				STA 377+74.9, 44' LT		20040343
71	D-1	15'		35'	STA 379+80.0, 37' LT	715-4-32	20040343
72	D-1				STA 381+60.0, 27' LT		20040343
73	D-2				STA 383+40.0, 21' LT		20040343
74	D-2				STA 385+20.0, 20' LT		20040343
75	D-2				STA 387+00.0, 20' LT		20040343

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORK
HIGHWAY DIVISION
SW 137 AVENUE
FROM US 1 TO SW 200 STREET
PROJECT NO. 20040343 SHEET L-05 OF L-40

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
4868 SW 72nd Avenue
Miami, Florida 33155
Tel (305)667-4772
CA 27017
CHRISTOPHER P. MESZLER, P.E.
Llc. No. 74718

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		

SUPERVISED BY:

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

LIGHTING POLE DATA

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CONVENTIONAL LIGHTING DESIGN CRITERIA

AVERAGE INITIAL INTENSITY	1.0 (H.F.C.)
UNIFORMITY RATIO AVG/MIN	4:1 OR LESS
UNIFORMITY RATIO MAX/MIN	10:1 OR LESS
WIND SPEED	150 MPH

LEGEND

SYMBOLS	DESCRIPTION
	400 WATT HIGH-PRESSURE SODIUM LUMINAIRE. INTERNAL REGULATOR TYPE BALLAST WIRED FOR 480 VOLT OPERATION. POLE MOUNTING HEIGHT IS 45 FEET. DESIGNED FOR SEMI-CUTOFF TYPE III DISTRIBUTION. LUMINAIRE IS GE M-400A POWER DOOR LUMINAIRE (PHOTOMETRIC CURVE GE 35-451008).
	400 WATT HIGH-PRESSURE SODIUM LUMINAIRE. INTERNAL REGULATOR TYPE BALLAST WIRED FOR 480 VOLT OPERATION. NOMINAL POLE MOUNTING HEIGHT IS 35'-0" WITH 18'-7" OVERALL POLE HEIGHT AND 45° BRACKET ARM. DESIGNED FOR SEMI-CUTOFF TYPE III DISTRIBUTION. LUMINAIRE IS GE M-400A POWER/DOOR (PHOTOMETRIC CURVE GE 35-451008).
	RELOCATE EXISTING LUMINAIRE AND POLE
	EXISTING LUMINAIRE AND POLE
	REMOVE EXISTING UNDERGROUND LIGHTING CONDUIT & CONDUCTORS
	2" SCHEDULE 40 PVC CONDUIT (UNDERPAVEMENT, OR OPEN TRENCH) WITH THREE RHW-2/XLP CONDUCTORS INSIDE THE CONDUIT: ONE WITH RED INSULATION, ONE WITH BLACK INSULATION, AND ONE GROUND WITH GREEN INSULATION INSIDE THE CONDUIT. (NUMBER AND SIZE OF CONDUCTORS AS SHOWN ON PLAN SHEETS).
	2" HIGH DENSITY POLYETHYLENE (HDPE) CONDUIT (DIRECTIONAL BORE) WITH THREE RHW-2/XLP CONDUCTORS INSIDE THE CONDUIT: ONE WITH RED INSULATION, ONE WITH BLACK INSULATION, AND ONE NEUTRAL WITH WHITE INSULATION. (NUMBER AND SIZE OF CONDUCTORS AS SHOWN ON PLAN SHEETS.)
	PULL BOX (EMBEDDED IN SIDEWALK)
	PULL BOX WITH CONCRETE SLAB. SEE FDOT INDEX 17500 FOR DETAILS.
	PROPOSED LOAD CENTER "A" (480V TO GROUND, 1 PHASE, 3 WIRE) (SEE "SERVICE POINT DETAIL " SHEET)
	FPL SERVICE POINT, FPL TO PROVIDE NEW TRANSFORMER WITH 480V TO GROUND, 1 PHASE, 3 WIRE SERVICE. COORDINATE WITH FPL PRIOR TO CONNECTION (SEE "SERVICE POINT DETAIL " SHEET)
	CONCRETE SLAB FOR POLE AND PULL BOX LOCATIONS. SEE FDOT INDEX 17500 FOR DETAILS

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
4868 SW 72nd Avenue
Miami, Florida 33155
Tel (305)667-4772
CA 27017
CHRISTOPHER P. MESZLER, P.E.
Llc. No. 74718

	NAME	DATE		NAME	DATE
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CHECKED BY			CHECKED BY		

SUPERVISED BY:

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

LIGHTING POLE LEGEND

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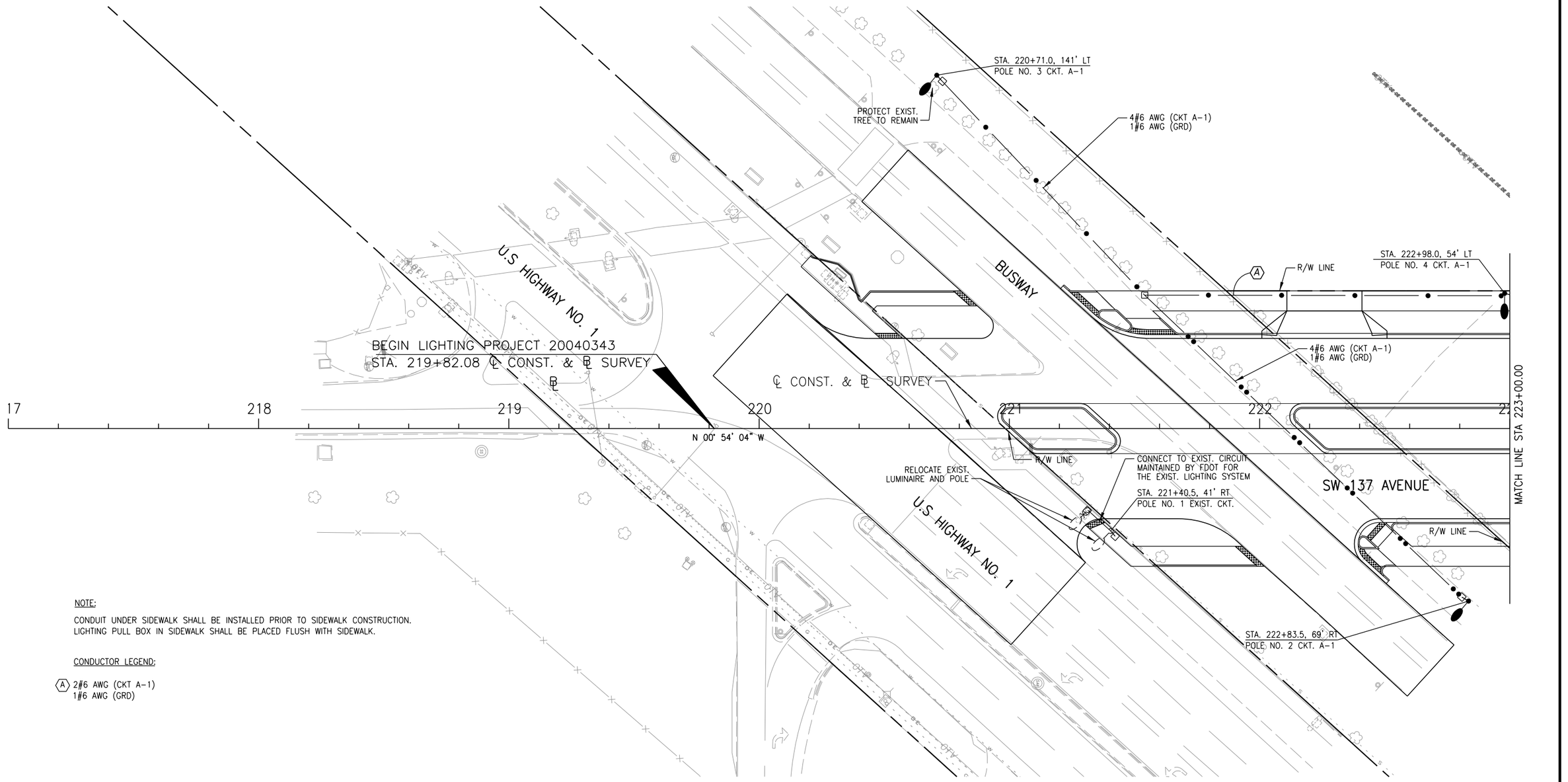
0 20 40
SCALE 1"=40'

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORK
HIGHWAY DIVISION
SW 137 AVENUE
FROM US 1 TO SW 200 STREET
PROJECT NO. 20040343 SHEET L-07 OF L-40



NOTE:

CONDUIT UNDER SIDEWALK SHALL BE INSTALLED PRIOR TO SIDEWALK CONSTRUCTION. LIGHTING PULL BOX IN SIDEWALK SHALL BE PLACED FLUSH WITH SIDEWALK.

CONDUCTOR LEGEND:

(A) 2#6 AWG (CKT A-1)
1#6 AWG (GRD)

REVISIONS								
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SUPERVISED BY:					

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

LIGHTING PLAN

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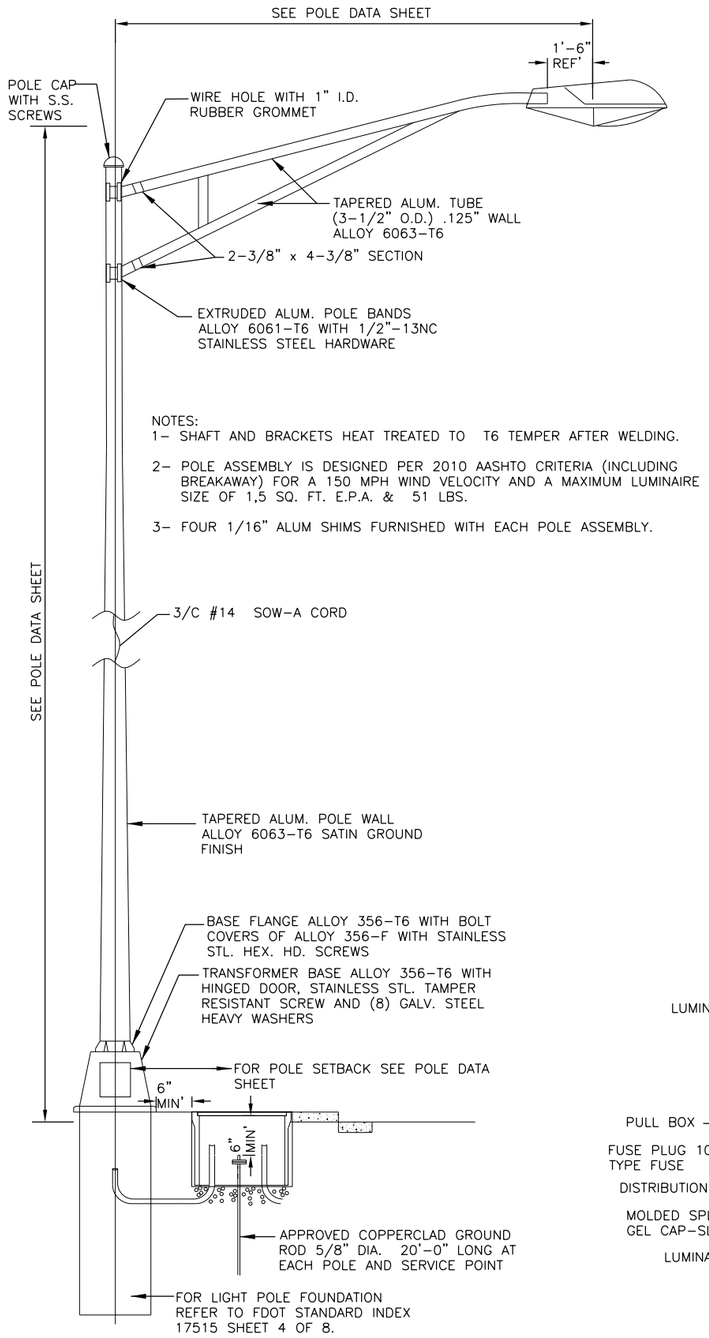
SConnor 9:44:32 AM 7/17/2020

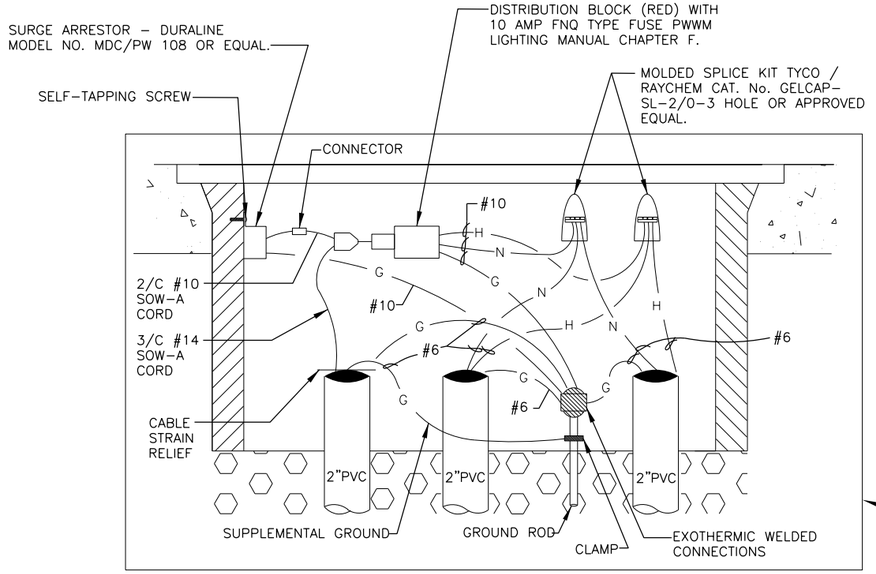


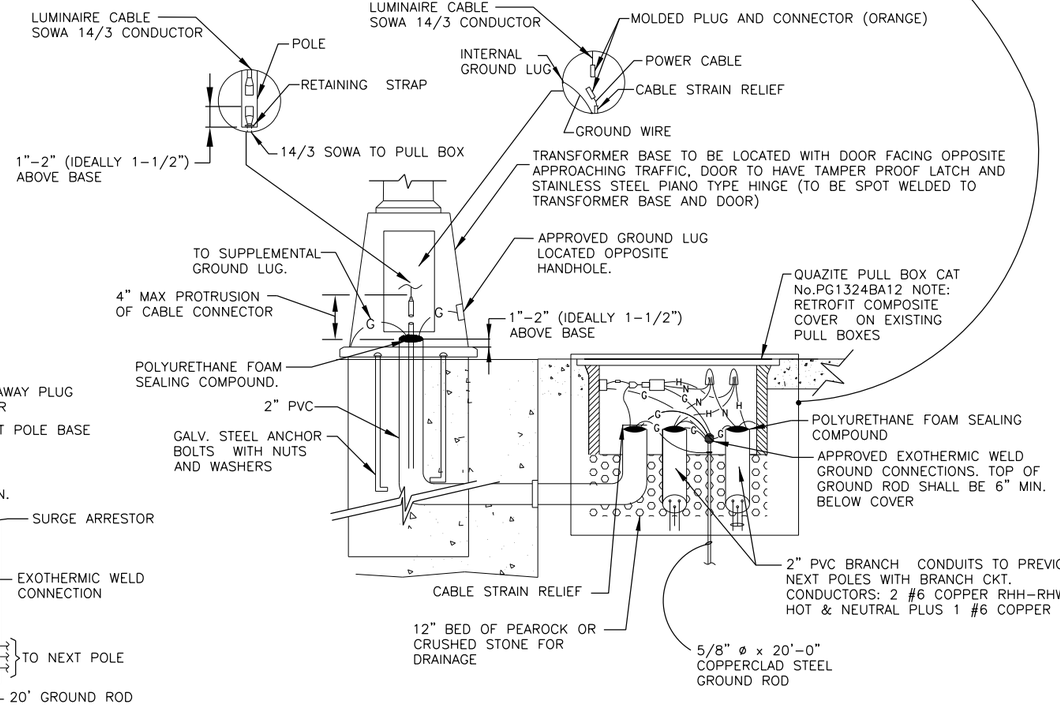
NOTES:
1- SHAFT AND BRACKETS HEAT TREATED TO T6 TEMPER AFTER WELDING.

2- POLE ASSEMBLY IS DESIGNED PER 2010 AASHTO CRITERIA (INCLUDING BREAKAWAY) FOR A 150 MPH WIND VELOCITY AND A MAXIMUM LUMINAIRE SIZE OF 1,5 SQ. FT. E.P.A. & 51 LBS.

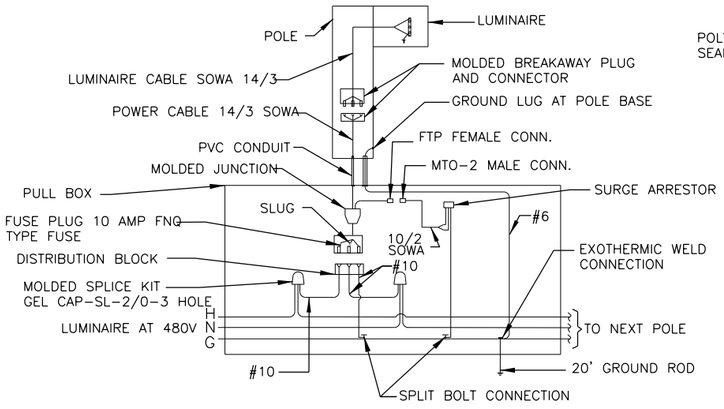
3- FOUR 1/16" ALUM SHIMS FURNISHED WITH EACH POLE ASSEMBLY.

TYPICAL METAL POLE INSTALLATION DETAIL
N.T.S.





POLE WIRING DETAIL WITH PULL BOX
N.T.S.



WIRING DIAGRAM (POLE CABLE DISTRIBUTION)
N.T.S.

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

NEW MILLENNIUM DESIGN CONSULTANTS, INC.
4868 SW 72nd Avenue
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SUPERVISED BY:					

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

LIGHTING POLE DETAIL (1)

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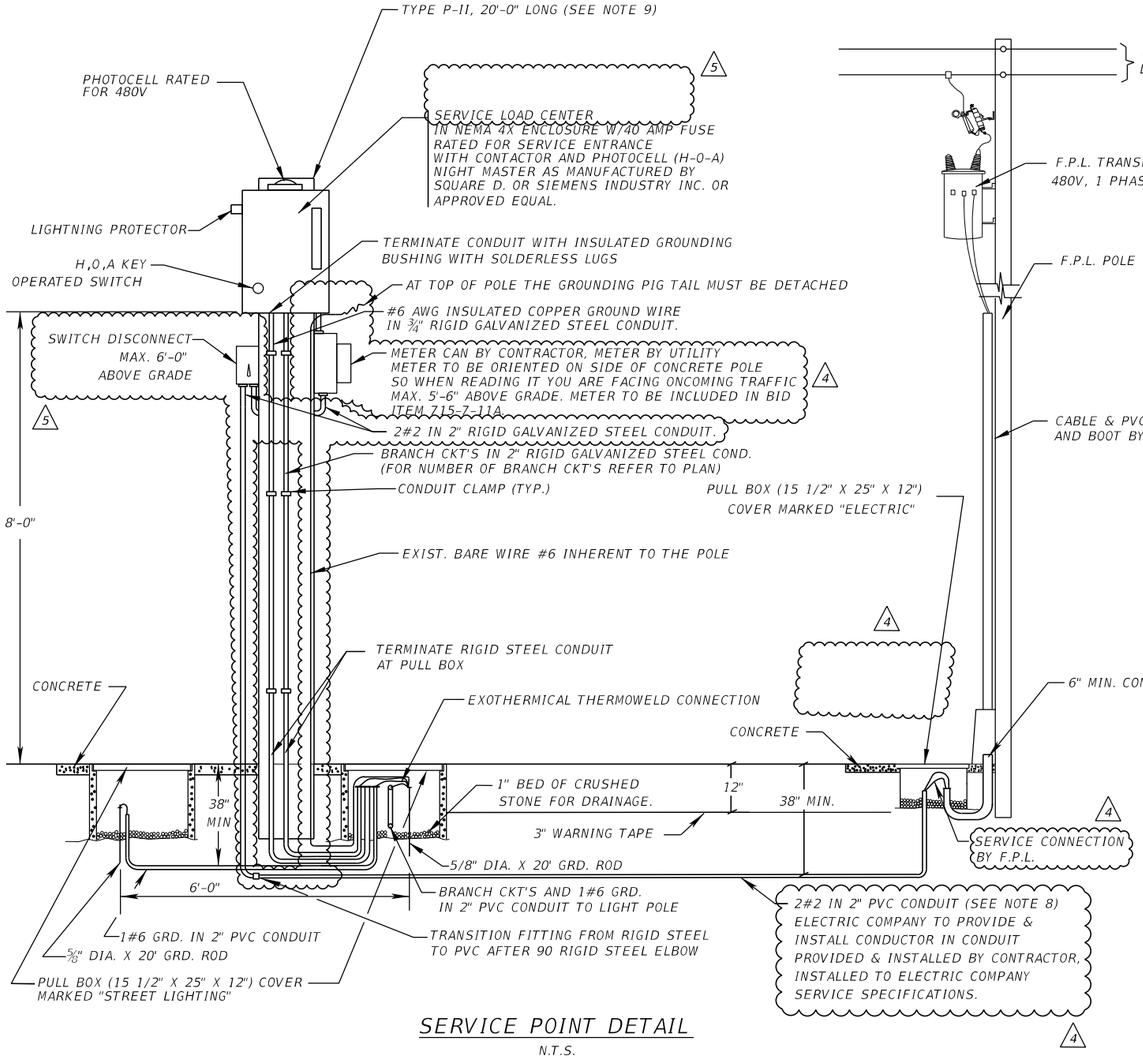
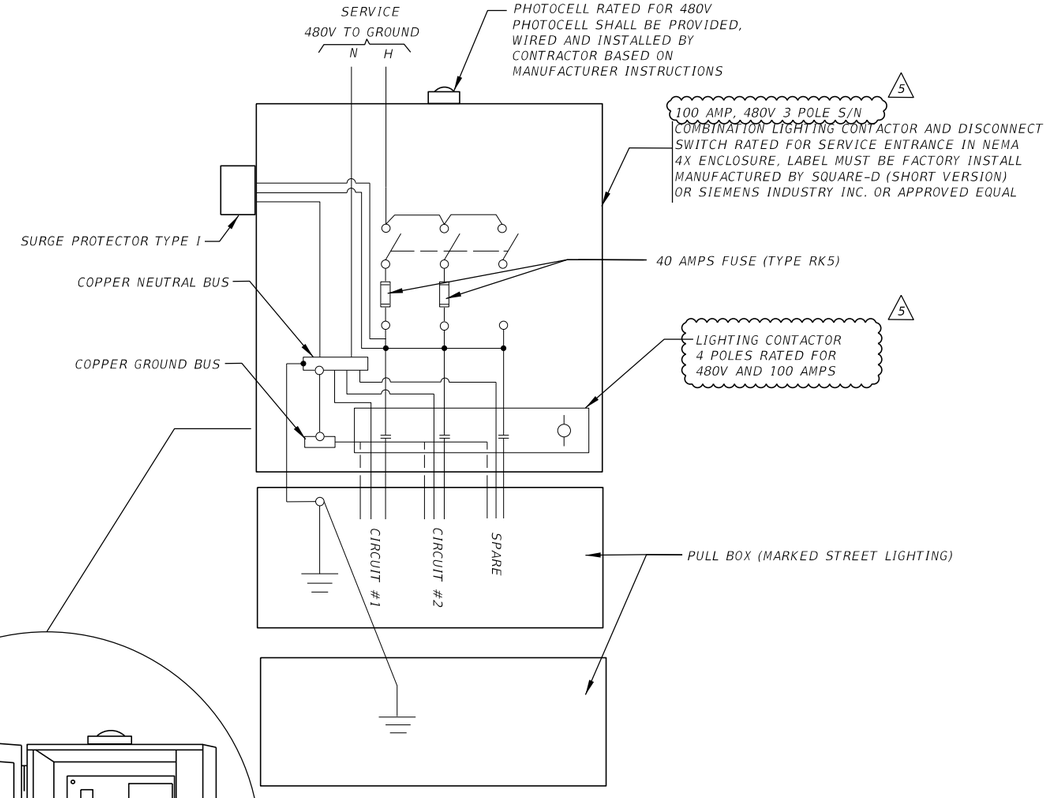
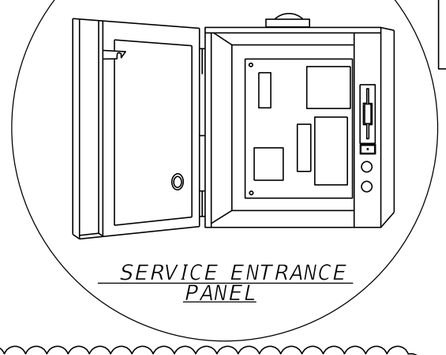


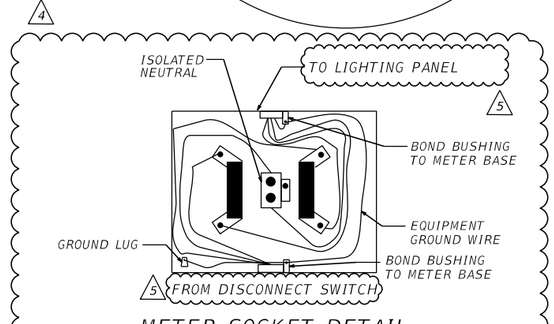
SERVICE POINT DETAIL
N.T.S.



WIRING DIAGRAM
N.T.S



SERVICE ENTRANCE PANEL



METER SOCKET DETAIL
* METER CAN SHALL BE ALUMINUM

NOTES:

1. THE ENCLOSURE SHALL BE NEMA 4X (STAINLESS STEEL), POLE MOUNTED, RIGIDLY ATTACHED TO THE POLE FACE.
2. THE ENCLOSURE DOOR SHALL BE SECURED BY LOCKABLE LATCH.
3. A 600V SURGE PROTECTOR TYPE I SHALL BE WIRED INSIDE THE ENCLOSURE. NO SPLICING IN ENCLOSURE.
4. ALL SERVICE EQUIPMENT SHALL BE U.L. APPROVED.
5. CONTRACTOR SHALL COORDINATE WITH F.P.L. ENGINEERS FOR THE INSTALLATION OF THE F.P.L. RISER WHICH INCLUDES A CONNECTION FEE. (THIS FEE SHALL BE INCLUDED IN THE FPL CONNECTION FEE ALLOWANCE)
6. ALL GROUND ROD SHALL BE INTERCONNECTED (USING #6 GROUND WIRE).
7. PROVIDE SUPPLEMENTARY GROUND ELECTRODE SPACE AT LEAST 6FT.
8. ALL CONDUCTOR SHALL BE TYPE RHH-RHW2-XLP. (OTHER TYPE OF CONDUCTOR IS NOT ALLOWED. EXCEPT GROUND WIRE WHICH SHALL BE TYPE THWN.)
9. CONTRACTOR SHALL SUBMIT STRUCTURAL CALCULATIONS OF THE POLE, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER.
10. SURGE PROTECTOR TO BE WIRED ON LOAD SIDE OF DISCONNECT SWITCH.

FUSIBLE SWITCH SCHEDULE

	CKT NO	SERVING	KVA	AMPS	FUSE	WIRE/CONDUCT
LOAD CENTER A	A1	STREET LIGHT	480	15.6	40	6
	A2	STREET LIGHT	480	13.5	40	6
LOAD CENTER B	B1	STREET LIGHT	480	12.5	40	6
	B2	STREET LIGHT	480	8.4	40	6
LOAD CENTER C	C1	STREET LIGHT	480	3.1	40	6
	C2	STREET LIGHT	480	8.4	40	6
LOAD CENTER D	D1	STREET LIGHT	480	12.5	40	6
	D2	STREET LIGHT	480	3.1	40	6

CONTINUOUS LOADS= 480 VA
25% CONT. LOAD= 120 VA
TOTAL= 600 VA

$$Amp = \frac{VA}{V} = \frac{600}{480} = 1.25$$

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
1/02/20	CM	3 MODIFIED DETAILS AND LABELS.						
2/27/20	CM	3 MODIFIED DETAILS AND LABELS						

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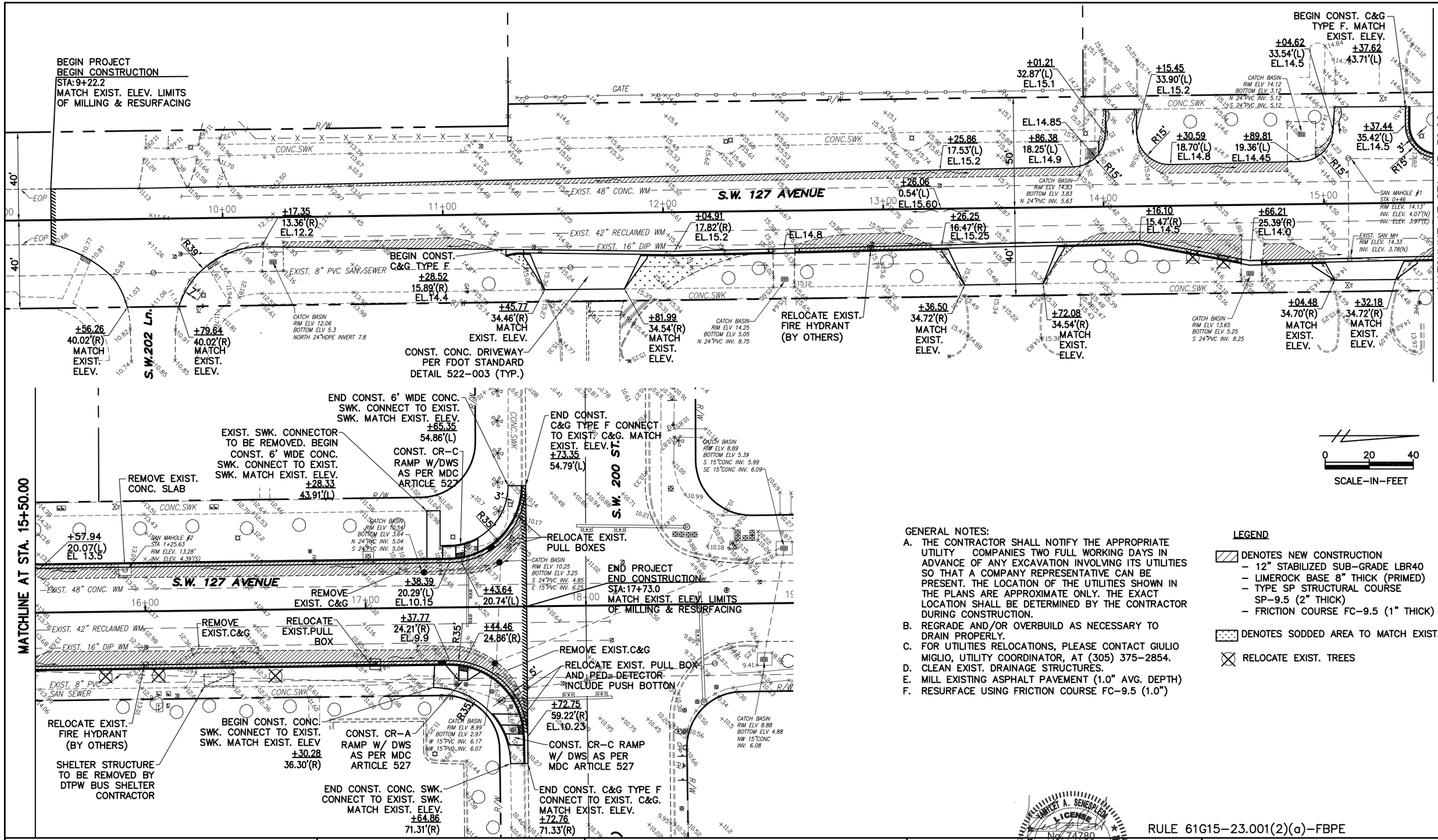
MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

SERVICE POINT DETAIL



GENERAL NOTES:

A. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANIES TWO FULL WORKING DAYS IN ADVANCE OF ANY EXCAVATION INVOLVING ITS UTILITIES SO THAT A COMPANY REPRESENTATIVE CAN BE PRESENT. THE LOCATION OF THE UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION.
B. REGRADE AND/OR OVERBUILD AS NECESSARY TO DRAIN PROPERLY.
C. FOR UTILITIES RELOCATIONS, PLEASE CONTACT GIULIO MIGLIO, UTILITY COORDINATOR, AT (305) 375-2854.
D. CLEAN EXIST. DRAINAGE STRUCTURES.
E. MILL EXISTING ASPHALT PAVEMENT (1.0" AVG. DEPTH)
F. RESURFACE USING FRICTION COURSE FC-9.5 (1.0")

LEGEND

- DENOTES NEW CONSTRUCTION
  - 12" STABILIZED SUB-GRADE LBR40
  - LIMEROCK BASE 8" THICK (PRIMED)
  - TYPE SP STRUCTURAL COURSE SP-9.5 (2" THICK)
  - FRICTION COURSE FC-9.5 (1" THICK)
- DENOTES SODDED AREA TO MATCH EXIST.
- RELOCATE EXIST. TREES

YAMILET A. SENESPLEDA LICENSE No. 74780 STATE OF FLORIDA PROFESSIONAL ENGINEER
11/25/2020

RULE 61G15-23.001(2)(a)-FBPE

100% DESIGN

REVISIONS

DATE	REV	DESCRIPTION

MIAMI-DADE COUNTY DTPW

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

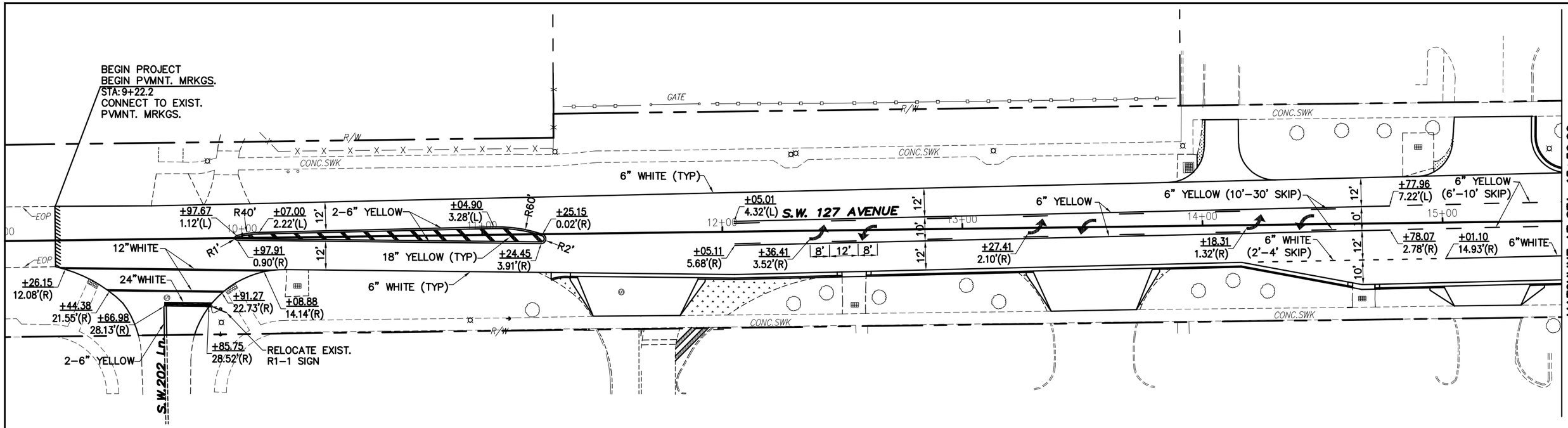
PROJECT No: 20180004 | SHEET 1 OF 3

YAMILET SENESPLEDA, P.E. 74780

SW 127 AVE & SW 200 ST ROADWAY PLAN

G.T.	11/25/20
DESIGN	DATE

\\miamidade\nas2\PWWM2\TE-Design\Tnova\mdc\IntersectionImprovements\SW SECTION\SW 127 AVE & SW 200 ST\CADD\ SW 127 AVE & SW 200 ST 11 25 20.dwg



GENERAL NOTES:

A. ALL SIGNS AND PAVEMENT MARKING IN CONFLICT WITH PROPOSED DESIGN SHALL BE REMOVED.
B. MATCH EXISTING PAVEMENT MARKINGS AT THE BEGINNING, AND AT THE END OF THE PROJECT, AND AT ALL SIDE STREETS.
C. EXTEND STRIPING AT PROJECT END TO CORRECT STRIPING OBLITERATED BY CONSTRUCTION DUE TO TRACK AND BITUMINOUS TRACKING.
D. FOR PAVEMENT MARKINGS INCLUDING RPM'S, REFER TO FDOT STANDARD INDEX 706-001 AND 711-001 AS APPLICABLE.

YAMILET A. SENESPLEDA LICENSE No. 74780 PROFESSIONAL ENGINEER
11/25/2020
STATE OF FLORIDA

RULE 61G15-23.001(2)(a)-FBPE

100% DESIGN

REVISIONS		
DATE	REV	DESCRIPTION

MIAMI-DADE COUNTY DTPW

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

PROJECT No: 20180004 | SHEET 2 OF 3

YAMILET SENESPLEDA, P.E. 74780

SW 127 AVE & SW 200 ST PAVEMENT MARKING

G.T.	11/25/20
DESIGN	DATE

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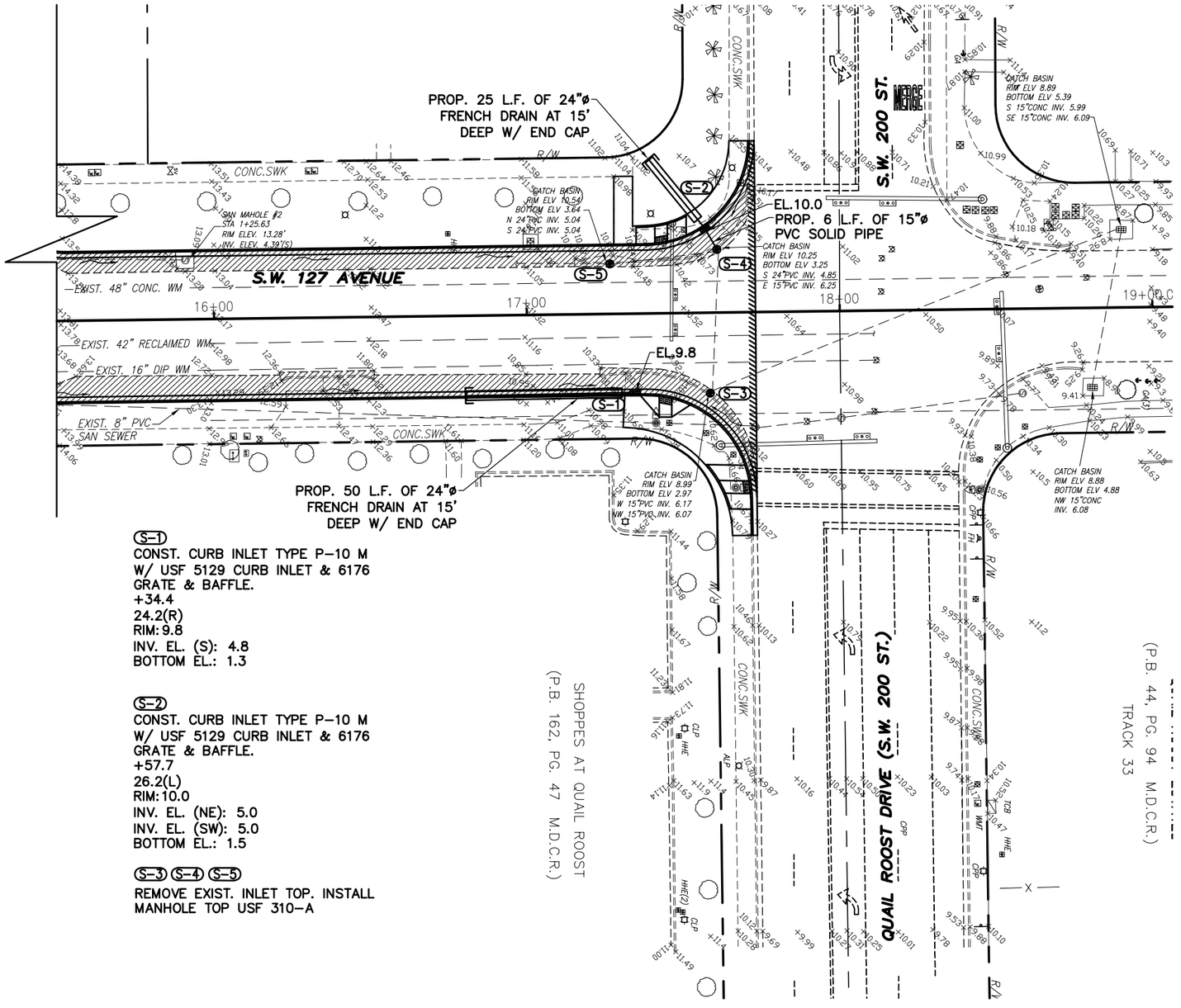
0 20 40

SCALE-IN-FEET



(S-1)
CONST. CURB INLET TYPE P-10 M
W/ USF 5129 CURB INLET & 6176
GRATE & BAFFLE.
+34.4
24.2(R)
RIM: 9.8
INV. EL. (S): 4.8
BOTTOM EL.: 1.3

(S-2)
CONST. CURB INLET TYPE P-10 M
W/ USF 5129 CURB INLET & 6176
GRATE & BAFFLE.
+57.7
26.2(L)
RIM: 10.0
INV. EL. (NE): 5.0
INV. EL. (SW): 5.0
BOTTOM EL.: 1.5

(S-3) (S-4) (S-5)
REMOVE EXIST. INLET TOP. INSTALL
MANHOLE TOP USF 310-A

YAMILET A. SENESPLEDA LICENSE No. 74780 STATE OF FLORIDA PROFESSIONAL ENGINEER
11/25/2020

RULE 61G15-23.001(2)(a)-FBPE

100% DESIGN

REVISIONS		
DATE	REV	DESCRIPTION

MIAMI-DADE COUNTY DTPW

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION
AND PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

PROJECT No: 20180004 | SHEET 3 OF 3

YAMILET SENESPLEDA, P.E. 74780

SW 127 AVE & SW 200 ST DRAINAGE DETAILS

G.T.	11/25/20
DESIGN	DATE

\\miamidade\nas2\PWWM2\TE-Design\Tnova\mdc\IntersectionImprovements\SW SECTION\SW 127 AVE & SW 200 ST\CADD\ SW 127 AVE & SW 200 ST 11 25 20.dwg

Appendix B: Data Collection

Choice Engineering Consultants, Inc
12855 SR 132nd Street, Suite 200
Miami, FL 33186

SR 994 Study Segment

Time	EASTBOUND APPROACH 137 AVE Approach	134 AVE Approach	132 AVE Approach	127 AVE Approach	EASTBOUND DEPARTURE 137 AVE Departure	134 AVE Departure	132 AVE Departure	127 AVE Departure
0	22	64	47	68	65	44	47	52
100	17	42	27	43	38	27	29	36
200	11	27	27	30	31	26	28	32
300	17	26	25	33	27	24	29	42
400	30	42	36	97	37	33	50	104
500	129	143	155	245	134	150	213	330
600	443	480	436	695	420	398	605	806
700	473	782	891	1183	672	740	1116	986
800	466	819	847	1072	668	795	933	929
900	348	503	485	642	496	445	558	741
1000	328	466	429	556	460	411	484	664
1100	317	496	436	569	477	416	495	643
1200	349	570	453	580	518	446	505	662
1300	362	588	521	658	590	502	572	701
1400	433	753	611	756	772	588	657	717
1500	514	863	678	815	862	637	709	822
1600	479	819	613	739	809	585	642	757
1700	563	885	658	800	880	645	696	770
1800	415	751	546	651	730	520	566	693
1900	262	550	444	538	576	427	468	562
2000	191	411	318	384	398	310	334	423
2100	94	260	196	219	270	188	190	259
2200	65	203	164	229	216	158	164	170
2300	43	115	86	120	120	89	86	99
Total	**6372**	**10659**	**9131**	**11724**	**10265**	**8603**	**10174**	**12000**

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SR 994 Study Segment

	WESTBOUND APPROACH				WESTBOUND DEPARTURE			
Time	137 AVE Approach	134 AVE Approach	132 AVE Approach	127 AVE Approach	137 AVE Departure	134 AVE Departure	132 AVE Departure	127 AVE Departure
0	40	38	74	74	23	40	38	50
100	30	23	39	43	14	30	23	28
200	24	16	30	28	10	23	16	21
300	33	23	36	34	19	33	23	32
400	68	54	73	51	33	67	53	49
500	259	194	283	154	104	254	192	164
600	577	472	648	441	262	565	467	431
700	913	918	1116	964	358	895	909	741
800	783	758	933	806	356	767	750	654
900	541	475	553	567	246	530	470	456
1000	458	406	470	555	218	449	402	431
1100	476	436	504	579	252	467	431	485
1200	521	470	572	653	271	510	466	506
1300	593	552	654	703	288	581	546	568
1400	678	643	873	949	347	664	637	700
1500	783	736	709	1053	414	767	729	912
1600	706	670	642	984	386	692	664	812
1700	615	616	696	1040	383	603	610	796
1800	558	549	870	907	325	547	544	726
1900	447	425	637	706	223	438	421	575
2000	294	282	443	492	181	288	280	397
2100	223	216	361	346	117	218	214	262
2200	127	121	220	235	80	124	119	167
2300	78	72	134	138	55	77	71	107
Total	**9825**	**9165**	**11572**	**12504**	**4965**	**9629**	**9073**	**10068**

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SR 994 Study Segment

	NORTHBOUND APPROACH				NORTHBOUND DEPARTURE			
Time	137 AVE Approach	134 AVE Approach	132 AVE Approach	127 AVE Approach	137 AVE Departure	134 AVE Departure	132 AVE Departure	127 AVE Departure
0	---	17	10	32	25	6	---	17
100	---	19	4	20	15	5	---	10
200	---	15	4	16	9	4	---	5
300	---	22	6	25	25	5	---	8
400	---	36	31	73	41	9	---	20
500	---	153	135	273	155	36	---	77
600	---	262	294	725	335	75	---	236
700	---	247	367	918	497	105	---	460
800	---	211	236	817	440	91	---	391
900	---	223	173	614	340	70	---	250
1000	---	189	145	528	261	60	---	204
1100	---	160	141	531	252	58	---	234
1200	---	205	165	625	273	68	---	243
1300	---	202	173	661	299	73	---	285
1400	---	203	170	689	329	82	---	351
1500	---	195	155	692	340	89	---	347
1600	---	180	150	652	296	82	---	359
1700	---	176	145	712	291	79	---	360
1800	---	170	147	709	275	72	---	318
1900	---	130	165	536	253	55	---	293
2000	---	89	117	374	180	38	---	188
2100	---	71	88	214	124	28	---	134
2200	---	50	65	118	81	18	---	76
2300	---	32	24	63	45	11	---	38
Total	**N/A**	**3256**	**3111**	**10616**	**5182**	**1219**	**N/A**	**4901**

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SR 994 Study Segment

	SOUTHBOUND APPROACH				SOUTHBOUND DEPARTURE			
Time	137 AVE Approach	134 AVE Approach	132 AVE Approach	127 AVE Approach	137 AVE Departure	134 AVE Departure	132 AVE Departure	127 AVE Departure
0	36	0	---	25	---	27	18	62
100	21	0	---	17	---	16	8	29
200	17	1	---	8	---	13	6	18
300	15	0	---	16	---	18	5	21
400	21	1	---	26	---	22	4	18
500	74	5	---	51	---	59	17	48
600	233	13	---	166	---	139	38	178
700	373	50	---	318	---	204	68	323
800	371	92	---	348	---	226	85	351
900	276	19	---	261	---	167	62	205
1000	256	19	---	246	---	159	66	333
1100	265	15	---	288	---	165	69	379
1200	288	17	---	285	---	189	85	425
1300	328	23	---	306	---	192	80	413
1400	429	30	---	310	---	241	109	463
1500	479	49	---	384	---	329	186	617
1600	449	39	---	511	---	367	196	624
1700	489	62	---	541	---	403	230	576
1800	406	26	---	460	---	321	203	627
1900	320	20	---	329	---	236	154	540
2000	221	16	---	265	---	172	110	382
2100	150	8	---	171	---	111	85	244
2200	120	4	---	104	---	86	60	186
2300	66	2	---	61	---	57	37	118
Total	**5703**	**512**	**N/A**	**5494**	**N/A**	**3920**	**1980**	**7182**

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SR 994 at SW 137 Ave
SB Approach

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	38	31	39	36
100	18	19	26	21
200	13	21	18	17
300	12	14	19	15
400	17	23	22	21
500	79	74	69	74
600	240	257	203	233
700	400	392	328	373
800	426	396	292	371
900	272	285	269	276
1000	266	254	248	256
1100	264	264	267	265
1200	281	282	299	288
1300	341	344	299	328
1400	406	452	429	429
1500	494	464	479	479
1600	456	443	449	449
1700	487	491	489	489
1800	419	392	406	406
1900	298	342	320	320
2000	225	217	221	221
2100	163	137	150	150
2200	119	121	120	120
2300	58	74	66	66
Total	**5792**	**5790**	**5527**	**5703**

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SR 994 at SW 137 Ave
NB Departure

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	32	17	27	25
100	18	14	14	15
200	12	8	7	9
300	24	26	26	25
400	40	38	45	41
500	160	166	139	155
600	342	361	301	335
700	530	528	433	497
800	445	443	431	440
900	336	337	347	340
1000	257	289	238	261
1100	260	315	180	252
1200	323	312	184	273
1300	341	351	204	299
1400	384	393	210	329
1500	411	388	222	340
1600	327	359	203	296
1700	316	338	220	291
1800	310	250	265	275
1900	248	258	252	253
2000	181	176	183	180
2100	132	114	127	124
2200	84	76	83	81
2300	40	45	49	45
Total	**5553**	**5602**	**4390**	**5182**

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SR 994 at SW 137 Ave
EB Approach

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	12	21	32	22
100	10	23	19	17
200	7	17	9	11
300	18	15	17	17
400	21	41	29	30
500	133	123	132	129
600	464	451	413	443
700	446	479	493	473
800	512	465	420	466
900	371	348	326	348
1000	339	295	351	328
1100	327	328	297	317
1200	341	362	345	349
1300	358	359	369	362
1400	405	420	473	433
1500	572	414	557	514
1600	513	467	458	479
1700	609	516	563	563
1800	378	451	417	415
1900	268	268	251	262
2000	178	202	194	191
2100	100	89	92	94
2200	69	59	68	65
2300	43	48	37	43
Total	**6494**	**6261**	**6362**	**6372**

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SR 994 at SW 137 Ave
EB Departure

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	68	56	70	65
100	32	35	47	38
200	24	38	32	31
300	22	26	34	27
400	31	42	39	37
500	143	133	125	134
600	432	462	366	420
700	720	705	591	672
800	767	713	525	668
900	490	513	485	496
1000	478	457	446	460
1100	476	476	480	477
1200	506	508	539	518
1300	613	620	538	590
1400	731	813	772	772
1500	889	835	862	862
1600	820	798	809	809
1700	876	883	880	880
1800	755	705	730	730
1900	536	615	576	576
2000	405	391	398	398
2100	293	247	270	270
2200	214	217	216	216
2300	105	134	120	120
Total	**10426**	**10422**	**9948**	**10265**

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SR 994 at SW 137 Ave
WB Approach

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	36	29	56	40
100	26	33	32	30
200	26	18	27	24
300	34	38	28	33
400	71	72	61	68
500	265	257	255	259
600	569	562	600	577
700	944	887	908	913
800	840	789	719	783
900	565	544	513	541
1000	453	461	460	458
1100	472	540	417	476
1200	521	544	497	521
1300	584	607	589	593
1400	709	700	624	678
1500	836	776	736	783
1600	764	678	676	706
1700	668	636	542	615
1800	563	582	530	558
1900	421	451	470	447
2000	277	332	273	294
2100	222	237	209	223
2200	125	141	114	127
2300	64	84	87	78
Total	**10055**	**9998**	**9423**	**9825**

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SR 994 at SW 137 Ave
WB Departure

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	22	27	20	23
100	17	13	13	14
200	9	9	12	10
300	25	14	18	19
400	36	28	34	33
500	102	104	107	104
600	272	267	248	262
700	345	387	343	358
800	377	406	285	356
900	232	275	231	246
1000	220	227	208	218
1100	267	237	252	252
1200	300	242	271	271
1300	293	283	288	288
1400	328	366	347	347
1500	436	391	414	414
1600	395	376	386	386
1700	378	388	383	383
1800	352	326	297	325
1900	209	259	200	223
2000	168	196	178	181
2100	115	105	132	117
2200	81	79	80	80
2300	51	66	48	55
Total	**5030**	**5071**	**4794**	**4965**

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SR 994 at SW 134 Ave
NB Approach

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	21	11	19	17
100	15	29	13	19
200	17	11	17	15
300	25	30	10	22
400	35	50	23	36
500	171	143	145	153
600	289	236	262	262
700	248	257	236	247
800	208	200	226	211
900	243	240	187	223
1000	209	183	174	189
1100	166	175	139	160
1200	195	200	219	205
1300	217	222	166	202
1400	186	225	199	203
1500	194	220	170	195
1600	184	194	161	180
1700	154	196	178	176
1800	185	169	156	170
1900	132	143	114	130
2000	78	105	85	89
2100	73	73	68	71
2200	49	54	46	50
2300	38	29	29	32
Total	**3331**	**3395**	**3041**	**3256**

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SR 994 at SW 134 Ave
NB Departure

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	6	5	7	6
100	4	6	4	5
200	4	3	4	4
300	5	6	3	5
400	9	11	7	9
500	38	34	35	36
600	79	71	75	75
700	106	105	105	105
800	95	90	89	91
900	73	72	64	70
1000	63	58	59	60
1100	59	63	53	58
1200	67	70	68	68
1300	73	77	69	73
1400	81	86	79	82
1500	93	91	83	89
1600	84	83	78	82
1700	79	83	76	79
1800	73	73	69	72
1900	54	57	54	55
2000	35	42	36	38
2100	29	29	26	28
2200	18	20	17	18
2300	11	11	11	11
Total	**1238**	**1248**	**1171**	**1219**

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SR 994 at SW 134 Ave
SB Approach

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	0	1	0	0
100	0	0	0	0
200	0	0	2	1
300	0	0	1	0
400	1	0	1	1
500	4	7	5	5
600	13	11	16	13
700	56	48	45	50
800	89	74	114	92
900	21	13	22	19
1000	14	20	22	19
1100	12	11	21	15
1200	11	26	15	17
1300	26	17	27	23
1400	33	27	31	30
1500	67	24	57	49
1600	58	25	34	39
1700	51	75	59	62
1800	25	26	28	26
1900	28	20	12	20
2000	12	22	14	16
2100	7	7	9	8
2200	6	5	2	4
2300	4	2	1	2
Total	**538**	**461**	**538**	**512**

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SR 994 at SW 134 Ave
SB Departure

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	25	33	23	27
100	14	17	17	16
200	12	12	15	13
300	20	19	14	18
400	20	20	25	22
500	61	62	55	59
600	157	151	109	139
700	223	201	188	204
800	261	255	162	226
900	165	172	165	167
1000	166	160	151	159
1100	173	174	148	165
1200	193	192	183	189
1300	216	194	167	192
1400	247	252	225	241
1500	354	347	287	329
1600	387	377	337	367
1700	405	412	393	403
1800	330	324	308	321
1900	217	262	228	236
2000	167	159	190	172
2100	117	100	115	111
2200	94	81	84	86
2300	51	60	61	57
Total	**4075**	**4036**	**3650**	**3920**

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SR 994 at SW 134 Ave
EB Approach

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	50	65	78	64
100	43	43	39	42
200	21	32	29	27
300	24	26	29	26
400	33	52	41	42
500	139	150	140	143
600	498	489	453	480
700	753	760	832	782
800	855	841	762	819
900	525	509	476	503
1000	471	435	493	466
1100	471	539	478	496
1200	563	599	547	570
1300	561	603	601	588
1400	755	746	757	753
1500	918	785	886	863
1600	819	840	798	819
1700	892	871	891	885
1800	723	778	752	751
1900	542	563	545	550
2000	382	441	410	411
2100	282	240	259	260
2200	211	190	207	203
2300	111	119	115	115
Total	**10642**	**10716**	**10618**	**10659**

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SR 994 at SW 134 Ave
EB Departure

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	46	30	57	44
100	21	25	35	27
200	21	32	26	26
300	15	24	33	24
400	29	38	31	33
500	165	149	136	150
600	398	430	367	398
700	763	716	740	740
800	841	748	795	795
900	455	450	430	445
1000	427	405	400	411
1100	421	416	412	416
1200	442	434	461	446
1300	524	509	474	502
1400	631	666	466	588
1500	722	697	493	637
1600	629	574	552	585
1700	672	633	630	645
1800	540	536	485	520
1900	401	445	435	427
2000	311	303	315	310
2100	200	178	185	188
2200	155	166	152	158
2300	63	94	109	89
Total	**8892**	**8698**	**8218**	**8603**

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SR 994 at SW 134 Ave
WB Approach

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	32	31	52	38
100	22	23	24	23
200	18	13	18	16
300	23	25	21	23
400	56	52	53	54
500	195	191	195	194
600	470	466	480	472
700	935	899	920	918
800	813	753	707	758
900	476	474	475	475
1000	398	402	417	406
1100	435	470	402	436
1200	474	499	438	470
1300	522	570	564	552
1400	670	667	593	643
1500	786	735	687	736
1600	702	654	655	670
1700	666	630	552	616
1800	550	568	529	549
1900	407	425	444	425
2000	274	313	260	282
2100	217	236	194	216
2200	115	138	109	121
2300	57	74	84	72
Total	**9313**	**9308**	**8873**	**9165**

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SR 994 at SW 134 Ave
WB Departure

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	35	28	55	40
100	25	32	31	30
200	25	18	26	23
300	33	37	27	33
400	70	71	60	67
500	260	252	250	254
600	558	551	588	565
700	925	869	890	895
800	823	773	705	767
900	554	533	503	530
1000	444	452	451	449
1100	463	529	409	467
1200	511	533	487	510
1300	572	595	577	581
1400	695	686	612	664
1500	819	760	721	767
1600	749	664	662	692
1700	655	623	531	603
1800	552	570	519	547
1900	413	442	461	438
2000	271	325	268	288
2100	218	232	205	218
2200	123	138	112	124
2300	63	82	85	77
Total	**9854**	**9798**	**9235**	**9629**

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SR 994 at SW 132 Ave
NB Approach

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	9	1	19	10
100	5	8	0	4
200	3	1	8	4
300	5	5	8	6
400	32	28	32	31
500	139	143	124	135
600	318	293	271	294
700	386	324	391	367
800	235	233	240	236
900	178	170	171	173
1000	135	142	157	145
1100	124	142	157	141
1200	174	162	158	165
1300	193	197	130	173
1400	194	145	170	170
1500	174	161	130	155
1600	139	162	150	150
1700	143	153	138	145
1800	164	140	138	147
1900	167	158	171	165
2000	103	152	97	117
2100	73	81	111	88
2200	57	80	57	65
2300	17	33	23	24
Total	**3168**	**3112**	**3052**	**3111**

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SR 994 at SW 132 Ave
SB Departure

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	13	20	22	18
100	7	10	6	8
200	7	6	6	6
300	5	5	6	5
400	4	4	4	4
500	17	17	16	17
600	45	47	22	38
700	73	77	55	68
800	92	91	73	85
900	74	52	61	62
1000	77	73	47	66
1100	82	80	45	69
1200	96	100	58	85
1300	83	96	61	80
1400	129	136	61	109
1500	211	215	133	186
1600	211	219	157	196
1700	236	232	222	230
1800	205	217	186	203
1900	146	176	139	154
2000	112	103	114	110
2100	91	86	77	85
2200	54	64	62	60
2300	34	37	39	37
Total	**2104**	**2163**	**1672**	**1980**

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12855 SR 132nd Street, Suite 200
Miami, FL 33186

SR 994 at SW 132 Ave
EB Approach

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	48	34	59	47
100	22	27	33	27
200	22	32	28	27
300	17	25	32	25
400	34	39	34	36
500	168	154	142	155
600	439	476	394	436
700	912	869	891	891
800	870	824	847	847
900	493	498	465	485
1000	450	418	420	429
1100	431	439	439	436
1200	456	443	459	453
1300	544	541	479	521
1400	647	695	492	611
1500	758	740	537	678
1600	685	592	562	613
1700	668	657	650	658
1800	569	564	505	546
1900	408	467	458	444
2000	332	311	312	318
2100	209	189	190	196
2200	158	176	158	164
2300	63	91	104	86
Total	**9403**	**9301**	**8690**	**9131**

Choice Engineering Consultants, Inc
12855 SR 132nd Street, Suite 200
Miami, FL 33186

SR 994 at SW 132 Ave
EB Departure

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	51	35	54	47
100	24	28	35	29
200	21	37	26	28
300	24	29	34	29
400	50	50	51	50
500	240	212	187	213
600	585	624	605	605
700	1121	1111	1116	1116
800	973	892	933	933
900	561	574	539	558
1000	515	461	475	484
1100	488	513	483	495
1200	507	500	507	505
1300	591	602	524	572
1400	713	735	523	657
1500	778	785	564	709
1600	710	633	584	642
1700	718	710	659	696
1800	592	585	522	566
1900	433	486	484	468
2000	346	332	323	334
2100	210	177	184	190
2200	158	173	160	164
2300	62	88	109	86
Total	**10471**	**10372**	**9680**	**10174**

Choice Engineering Consultants, Inc
12855 SR 132nd Street, Suite 200
Miami, FL 33186

SR 994 at SW 132 Ave
WB Approach

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	73	52	98	74
100	43	34	41	39
200	26	28	36	30
300	41	37	31	36
400	77	81	62	73
500	317	271	262	283
600	677	650	617	648
700	1121	1111	1116	1116
800	973	892	933	933
900	569	543	548	553
1000	476	473	462	470
1100	545	521	445	504
1200	570	659	487	572
1300	656	666	639	654
1400	911	874	833	873
1500	778	785	564	709
1600	710	633	584	642
1700	718	710	659	696
1800	915	828	866	870
1900	670	575	666	637
2000	496	423	411	443
2100	401	389	294	361
2200	222	235	204	220
2300	117	156	129	134
Total	**12102**	**11626**	**10987**	**11572**

Choice Engineering Consultants, Inc
12855 SR 132nd Street, Suite 200
Miami, FL 33186

SR 994 at SW 132 Ave
WB Departure

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	32	31	51	38
100	22	23	24	23
200	18	13	18	16
300	23	25	21	23
400	55	51	52	53
500	193	189	193	192
600	465	461	475	467
700	926	890	911	909
800	805	745	700	750
900	471	469	470	470
1000	394	398	413	402
1100	431	465	398	431
1200	469	494	434	466
1300	517	564	558	546
1400	663	660	587	637
1500	778	728	680	729
1600	695	647	648	664
1700	659	624	546	610
1800	545	562	524	544
1900	403	421	440	421
2000	271	310	257	280
2100	215	234	192	214
2200	114	137	108	119
2300	56	73	83	71
Total	**9220**	**9215**	**8784**	**9073**

Choice Engineering Consultants, Inc
12855 SR 132nd Street, Suite 200
Miami, FL 33186

SR 994 at SW 127 Ave
NB Approach

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	34	29	32	32
100	26	9	25	20
200	11	18	20	16
300	27	27	21	25
400	79	74	67	73
500	282	264	274	273
600	725	753	696	725
700	929	911	915	918
800	790	819	842	817
900	560	631	650	614
1000	481	492	610	528
1100	503	536	553	531
1200	569	691	615	625
1300	645	677	660	661
1400	707	693	668	689
1500	755	623	698	692
1600	620	697	640	652
1700	669	792	674	712
1800	664	706	756	709
1900	517	611	479	536
2000	394	408	319	374
2100	198	233	211	214
2200	113	112	130	118
2300	50	71	68	63
Total	**10348**	**10877**	**10623**	**10616**

Choice Engineering Consultants, Inc
12855 SR 132nd Street, Suite 200
Miami, FL 33186

SR 994 at SW 127 Ave
NB Departure

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	16	17	18	17
100	10	9	11	10
200	5	5	4	5
300	9	8	7	8
400	20	22	17	20
500	82	84	66	77
600	231	240	236	236
700	469	450	460	460
800	396	386	391	391
900	241	258	250	250
1000	208	200	204	204
1100	233	235	234	234
1200	247	238	243	243
1300	276	293	285	285
1400	345	357	351	351
1500	338	355	347	347
1600	384	333	359	359
1700	372	348	360	360
1800	322	287	345	318
1900	295	280	304	293
2000	165	205	194	188
2100	140	134	128	134
2200	65	82	81	76
2300	37	34	44	38
Total	**4906**	**4860**	**4936**	**4901**

Choice Engineering Consultants, Inc
12855 SR 132nd Street, Suite 200
Miami, FL 33186

SR 994 at SW 127 Ave
SB Approach

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	22	21	31	25
100	17	19	16	17
200	5	12	6	8
300	17	17	13	16
400	25	33	20	26
500	53	46	53	51
600	167	176	154	166
700	295	347	313	318
800	355	346	342	348
900	251	269	264	261
1000	251	237	250	246
1100	305	274	285	288
1200	294	266	296	285
1300	264	382	271	306
1400	306	375	248	310
1500	382	401	369	384
1600	488	507	539	511
1700	537	527	558	541
1800	447	467	465	460
1900	332	337	317	329
2000	257	282	255	265
2100	168	182	164	171
2200	103	108	100	104
2300	60	76	46	61
Total	**5401**	**5707**	**5375**	**5494**

Choice Engineering Consultants, Inc
12855 SR 132nd Street, Suite 200
Miami, FL 33186

SR 994 at SW 127 Ave
SB Departure

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	65	46	75	62
100	25	36	26	29
200	11	15	27	18
300	15	27	21	21
400	15	21	19	18
500	57	47	41	48
600	190	192	152	178
700	353	347	270	323
800	408	333	313	351
900	283	27	305	205
1000	309	296	393	333
1100	360	370	406	379
1200	388	352	536	425
1300	402	364	472	413
1400	477	478	435	463
1500	646	639	565	617
1600	646	676	550	624
1700	663	621	445	576
1800	646	639	597	627
1900	529	562	528	540
2000	384	392	370	382
2100	248	257	228	244
2200	185	200	174	186
2300	113	116	126	118
Total	**7418**	**7053**	**7074**	**7182**

Choice Engineering Consultants, Inc
12855 SR 132nd Street, Suite 200
Miami, FL 33186

SR 994 at SW 127 Ave
EB Approach

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	54	65	86	68
100	40	43	47	43
200	27	35	28	30
300	36	38	26	33
400	89	110	93	97
500	276	244	215	245
600	673	718	695	695
700	1189	1178	1183	1183
800	1119	1026	1072	1072
900	645	660	620	642
1000	592	530	546	556
1100	561	590	555	569
1200	583	575	583	580
1300	680	692	603	658
1400	820	845	601	756
1500	895	903	649	815
1600	817	728	672	739
1700	826	817	758	800
1800	681	673	600	651
1900	498	559	557	538
2000	398	382	371	384
2100	242	204	212	219
2200	217	233	238	229
2300	108	139	113	120
Total	**12064**	**11985**	**11123**	**11724**

Choice Engineering Consultants, Inc
12855 SR 132nd Street, Suite 200
Miami, FL 33186

SR 994 at SW 127 Ave
EB Departure

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	60	40	56	52
100	37	32	38	36
200	29	38	29	32
300	39	40	46	42
400	110	95	108	104
500	360	309	321	330
600	851	873	693	806
700	1011	1017	931	986
800	979	981	827	929
900	753	737	732	741
1000	703	637	652	664
1100	614	661	654	643
1200	666	621	699	662
1300	704	734	664	701
1400	709	800	643	717
1500	846	906	715	822
1600	821	751	700	757
1700	799	793	719	770
1800	686	691	701	693
1900	531	585	570	562
2000	430	423	416	423
2100	281	223	274	259
2200	152	179	179	170
2300	85	95	116	99
Total	**12256**	**12261**	**11483**	**12000**

Choice Engineering Consultants, Inc
12855 SR 132nd Street, Suite 200
Miami, FL 33186

SR 994 at SW 127 Ave
WB Approach

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	62	72	87	74
100	37	43	50	43
200	28	21	35	28
300	37	32	33	34
400	55	55	44	51
500	159	149	154	154
600	480	403	441	441
700	1036	942	915	964
800	883	796	739	806
900	613	541	547	567
1000	598	551	515	555
1100	638	565	535	579
1200	719	663	578	653
1300	733	709	666	703
1400	989	979	879	949
1500	1196	941	1023	1053
1600	1108	946	898	984
1700	1111	1055	954	1040
1800	988	865	868	907
1900	727	703	688	706
2000	509	523	445	492
2100	365	360	312	346
2200	234	258	213	235
2300	133	144	138	138
Total	**13438**	**12316**	**11757**	**12504**

Choice Engineering Consultants, Inc
12855 SR 132nd Street, Suite 200
Miami, FL 33186

SR 994 at SW 127 Ave
WB Departure

Time	8/31/2021	9/1/2021	9/2/2021	3-Day Avg
0	52	49	50	50
100	33	28	22	28
200	19	21	24	21
300	36	28	31	32
400	54	43	50	49
500	167	162	163	164
600	434	428	431	431
700	736	746	741	741
800	632	676	654	654
900	468	462	438	456
1000	407	455	431	431
1100	483	487	485	485
1200	531	480	506	506
1300	576	559	568	568
1400	669	730	700	700
1500	933	891	912	912
1600	818	806	812	812
1700	804	788	796	796
1800	728	723	726	726
1900	527	623	575	575
2000	423	387	380	397
2100	263	259	265	262
2200	153	176	173	167
2300	94	115	112	107
Total	**10040**	**10122**	**10043**	**10068**

Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

SR 994/Quail Roost Dr and SW 137th Ave
Wednesday, Sept 8, 2021
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 137th Ave
Site Code : 99413701
Start Date : 9/8/2021
Page No : 1

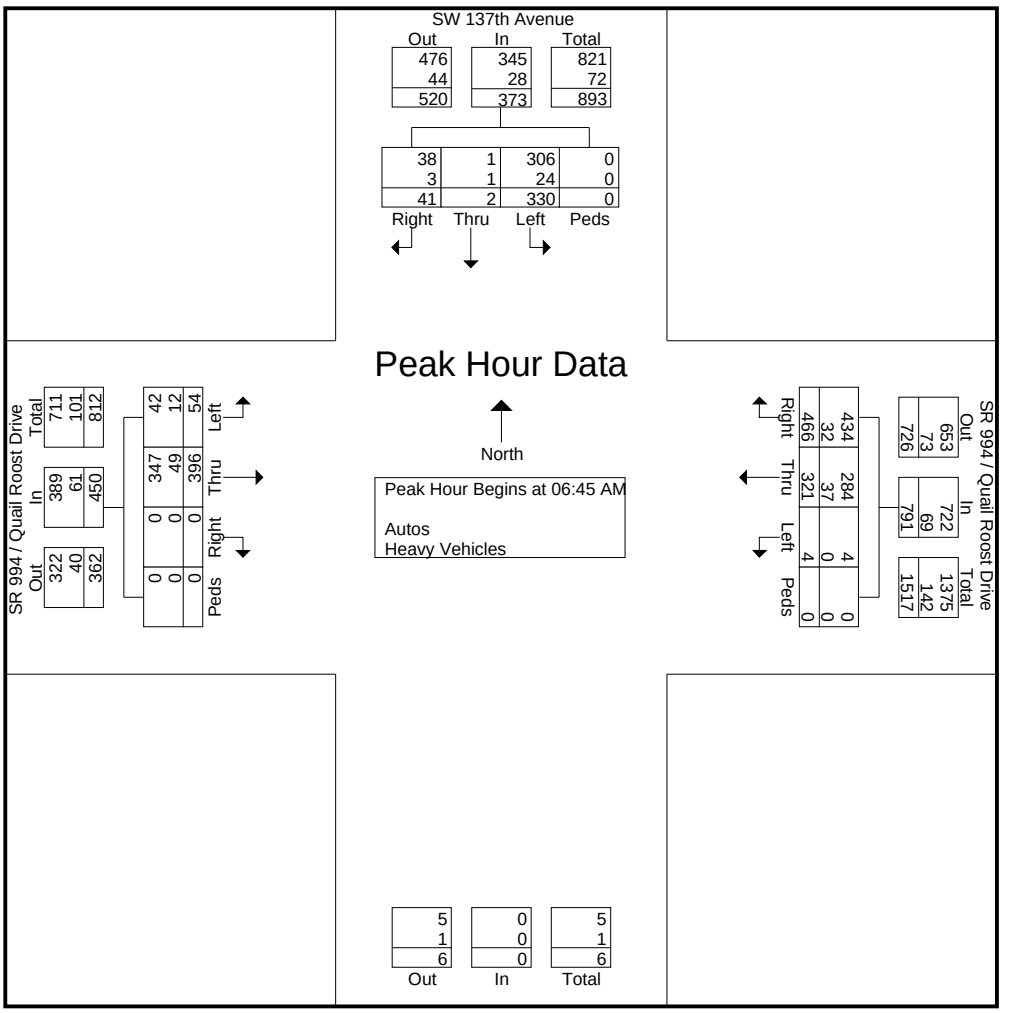
Groups Printed- Autos - Heavy Vehicles

	SW 137th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					Northb ound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
06:30 AM	6	0	39	0	45	93	81	0	0	174	0	0	78	9	0	87	306
06:45 AM	11	1	65	0	77	88	74	1	0	163	0	0	91	9	0	100	340
Total	17	1	104	0	122	181	155	1	0	337	0	0	169	18	0	187	646
07:00 AM	9	1	66	0	76	128	85	1	0	214	0	0	86	12	0	98	388
07:15 AM	12	0	101	0	113	122	70	1	0	193	0	0	105	17	0	122	428
07:30 AM	9	0	98	0	107	128	92	1	0	221	0	0	114	16	0	130	458
07:45 AM	10	0	51	0	61	111	83	0	0	194	0	0	66	4	0	70	325
Total	40	1	316	0	357	489	330	3	0	822	0	0	371	49	0	420	1599
08:00 AM	9	1	81	0	91	98	86	1	0	185	0	0	85	20	0	105	381
08:15 AM	7	1	99	0	107	108	91	0	0	199	0	0	110	25	0	135	441
08:30 AM	15	2	111	0	128	91	64	0	0	155	0	0	121	17	0	138	421
08:45 AM	15	0	103	0	118	104	66	1	0	171	0	0	69	11	0	80	369
Total	46	4	394	0	444	401	307	2	0	710	0	0	385	73	0	458	1612
09:00 AM	6	0	76	0	82	58	57	0	0	115	0	0	44	7	0	51	248
09:15 AM	8	0	62	0	70	92	63	0	0	155	0	0	65	12	0	77	302
*** BREAK ***																	
Total	14	0	138	0	152	150	120	0	0	270	0	0	109	19	0	128	550
*** BREAK ***																	
03:30 PM	8	2	125	0	135	78	61	0	0	139	0	0	118	9	0	127	401
03:45 PM	9	1	130	0	140	83	74	1	0	158	0	0	90	10	0	100	398
Total	17	3	255	0	275	161	135	1	0	297	0	0	208	19	0	227	799
04:00 PM	8	0	116	0	124	68	81	2	0	151	0	0	85	14	0	99	374
04:15 PM	14	0	104	0	118	61	88	0	0	149	0	0	97	7	0	104	371
04:30 PM	11	1	114	0	126	69	67	1	0	137	0	0	110	11	0	121	384
04:45 PM	15	0	107	0	122	70	79	0	0	149	0	0	130	6	0	136	407
Total	48	1	441	0	490	268	315	3	0	586	0	0	422	38	0	460	1536
05:00 PM	10	1	110	0	121	79	75	0	0	154	0	0	78	7	0	85	360
05:15 PM	12	0	123	0	135	63	85	1	0	149	0	0	118	11	0	129	413
05:30 PM	6	1	119	0	126	74	74	0	0	148	0	0	115	7	0	122	396
05:45 PM	9	0	140	0	149	66	60	0	0	126	0	0	78	9	1	88	363
Total	37	2	492	0	531	282	294	1	0	577	0	0	389	34	1	424	1532
06:00 PM	13	0	111	0	124	68	57	0	0	125	0	0	86	9	0	95	344
06:15 PM	10	0	107	0	117	71	63	0	0	134	0	0	76	9	0	85	336
Grand Total	242	12	2358	0	2612	2071	1776	11	0	3858	0	0	2215	268	1	2484	8954
Apprch %	9.3	0.5	90.3	0		53.7	46	0.3	0			0	89.2	10.8	0		
Total %	2.7	0.1	26.3	0	29.2	23.1	19.8	0.1	0	43.1	0	0	24.7	3	0	27.7	
Autos	198	7	2162	0	2367	1887	1502	8	0	3397	0	0	2001	235	1	2237	8001
% Autos	81.8	58.3	91.7	0	90.6	91.1	84.6	72.7	0	88.1	0	0	90.3	87.7	100	90.1	89.4
Heavy Vehicles	44	5	196	0	245	184	274	3	0	461	0	0	214	33	0	247	953
% Heavy Vehicles	18.2	41.7	8.3	0	9.4	8.9	15.4	27.3	0	11.9	0	0	9.7	12.3	0	9.9	10.6

Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 137th Ave
Site Code : 99413701
Start Date : 9/8/2021
Page No : 2

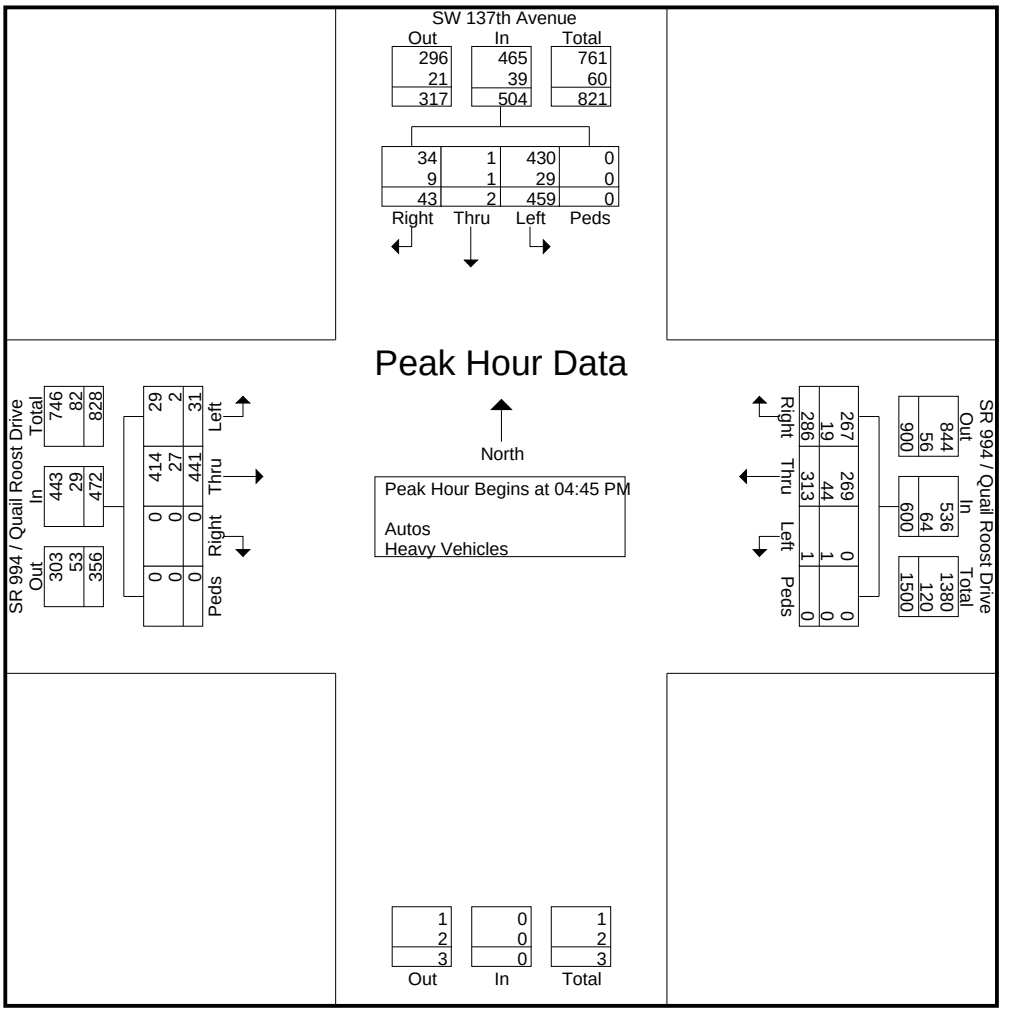
	SW 137th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					Northbound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:45 AM																	
06:45 AM	11	**1**	65	0	77	88	74	**1**	0	163	0	0	91	9	0	100	340
07:00 AM	9	1	66	0	76	**128**	85	1	0	214	0	0	86	12	0	98	388
07:15 AM	**12**	0	**101**	0	**113**	122	70	1	0	193	0	0	105	**17**	0	122	428
07:30 AM	9	0	98	0	107	128	**92**	1	0	**221**	0	0	**114**	16	0	**130**	**458**
Total Volume	41	2	330	0	373	466	321	4	0	791	0	0	396	54	0	450	1614
% App. Total	11	0.5	88.5	0		58.9	40.6	0.5	0			0	88	12	0		
PHF	.854	.500	.817	.000	.825	.910	.872	1.00	.000	.895	.000	.000	.868	.794	.000	.865	.881
Autos	38	1	306	0	345	434	284	4	0	722	0	0	347	42	0	389	1456
% Autos	92.7	50.0	92.7	0	92.5	93.1	88.5	100	0	91.3	0	0	87.6	77.8	0	86.4	90.2
Heavy Vehicles	3	1	24	0	28	32	37	0	0	69	0	0	49	12	0	61	158
% Heavy Vehicles	7.3	50.0	7.3	0	7.5	6.9	11.5	0	0	8.7	0	0	12.4	22.2	0	13.6	9.8



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 137th Ave
Site Code : 99413701
Start Date : 9/8/2021
Page No : 3

	SW 137th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					Northbound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**15**	0	107	0	122	70	79	0	0	149	0	0	**130**	6	0	**136**	407
05:00 PM	10	**1**	110	0	121	**79**	75	0	0	**154**	0	0	78	7	0	85	360
05:15 PM	12	0	**123**	0	**135**	63	**85**	**1**	0	149	0	0	118	**11**	0	129	**413**
05:30 PM	6	1	119	0	126	74	74	0	0	148	0	0	115	7	0	122	396
Total Volume	43	2	459	0	504	286	313	1	0	600	0	0	441	31	0	472	1576
% App. Total	8.5	0.4	91.1	0		47.7	52.2	0.2	0			0	93.4	6.6	0		
PHF	.717	.500	.933	.000	.933	.905	.921	.250	.000	.974	.000	.000	.848	.705	.000	.868	.954
Autos	34	1	430	0	465	267	269	0	0	536	0	0	414	29	0	443	1444
% Autos	79.1	50.0	93.7	0	92.3	93.4	85.9	0	0	89.3	0	0	93.9	93.5	0	93.9	91.6
Heavy Vehicles	9	1	29	0	39	19	44	1	0	64	0	0	27	2	0	29	132
% Heavy Vehicles	20.9	50.0	6.3	0	7.7	6.6	14.1	100	0	10.7	0	0	6.1	6.5	0	6.1	8.4



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

Trucks

SR 994/Quail Roost Dr and SW 137th Ave
Wednesday, Sept 8, 2021
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 137th Ave
Site Code : 99413701
Start Date : 9/8/2021
Page No : 1

Groups Printed- Heavy Vehicles

	SW 137th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					Northb ound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
06:30 AM	1	0	2	0	3	6	10	0	0	16	0	0	13	1	0	14	33
06:45 AM	2	1	2	0	5	7	6	0	0	13	0	0	15	1	0	16	34
Total	3	1	4	0	8	13	16	0	0	29	0	0	28	2	0	30	67
07:00 AM	0	0	6	0	6	8	6	0	0	14	0	0	7	1	0	8	28
07:15 AM	1	0	8	0	9	14	11	0	0	25	0	0	15	5	0	20	54
07:30 AM	0	0	8	0	8	3	14	0	0	17	0	0	12	5	0	17	42
07:45 AM	3	0	3	0	6	9	9	0	0	18	0	0	16	0	0	16	40
Total	4	0	25	0	29	34	40	0	0	74	0	0	50	11	0	61	164
08:00 AM	2	1	10	0	13	14	4	0	0	18	0	0	10	4	0	14	45
08:15 AM	1	1	9	0	11	7	11	0	0	18	0	0	13	2	0	15	44
08:30 AM	0	0	15	0	15	14	11	0	0	25	0	0	12	4	0	16	56
08:45 AM	4	0	12	0	16	14	13	1	0	28	0	0	14	1	0	15	59
Total	7	2	46	0	55	49	39	1	0	89	0	0	49	11	0	60	204
09:00 AM	3	0	8	0	11	8	11	0	0	19	0	0	6	0	0	6	36
09:15 AM	1	0	11	0	12	9	15	0	0	24	0	0	11	2	0	13	49
*** BREAK ***																	
Total	4	0	19	0	23	17	26	0	0	43	0	0	17	2	0	19	85
*** BREAK ***																	
03:30 PM	0	0	17	0	17	11	17	0	0	28	0	0	12	0	0	12	57
03:45 PM	4	1	11	0	16	9	17	0	0	26	0	0	6	3	0	9	51
Total	4	1	28	0	33	20	34	0	0	54	0	0	18	3	0	21	108
04:00 PM	1	0	13	0	14	4	17	0	0	21	0	0	7	2	0	9	44
04:15 PM	2	0	4	0	6	6	20	0	0	26	0	0	4	0	0	4	36
04:30 PM	1	0	8	0	9	7	14	1	0	22	0	0	4	0	0	4	35
04:45 PM	2	0	9	0	11	4	14	0	0	18	0	0	7	0	0	7	36
Total	6	0	34	0	40	21	65	1	0	87	0	0	22	2	0	24	151
05:00 PM	3	0	7	0	10	5	9	0	0	14	0	0	6	1	0	7	31
05:15 PM	2	0	7	0	9	6	12	1	0	19	0	0	7	0	0	7	35
05:30 PM	2	1	6	0	9	4	9	0	0	13	0	0	7	1	0	8	30
05:45 PM	3	0	7	0	10	6	10	0	0	16	0	0	3	0	0	3	29
Total	10	1	27	0	38	21	40	1	0	62	0	0	23	2	0	25	125
06:00 PM	4	0	7	0	11	7	7	0	0	14	0	0	4	0	0	4	29
06:15 PM	2	0	6	0	8	2	7	0	0	9	0	0	3	0	0	3	20
Grand Total	44	5	196	0	245	184	274	3	0	461	0	0	214	33	0	247	953
Apprch %	18	2	80	0		39.9	59.4	0.7	0			0	86.6	13.4	0		
Total %	4.6	0.5	20.6	0	25.7	19.3	28.8	0.3	0	48.4	0	0	22.5	3.5	0	25.9	

Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

SR 994/Quail Roost Dr and SW 135th Ave
Thursday, Sept 9, 2021
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 135th Ave
Site Code : 99413501
Start Date : 9/9/2021
Page No : 1

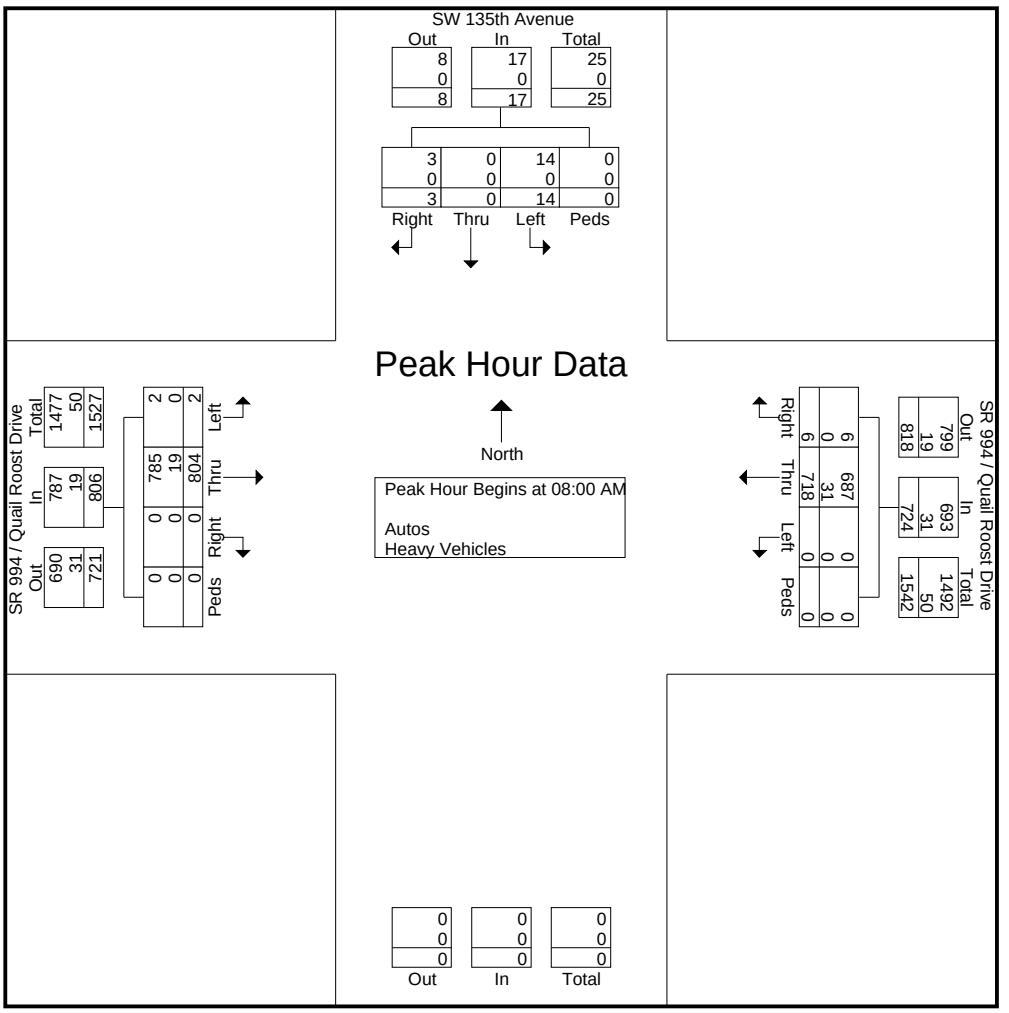
Groups Printed- Autos - Heavy Vehicles

	SW 135th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					Northb ound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
06:30 AM	0	0	2	0	2	1	168	0	0	169	0	0	140	0	0	140	311
06:45 AM	0	0	4	0	4	1	145	0	0	146	0	0	138	1	0	139	289
Total	0	0	6	0	6	2	313	0	0	315	0	0	278	1	0	279	600
07:00 AM	0	0	1	0	1	1	199	0	0	200	0	0	162	1	0	163	364
07:15 AM	1	0	1	0	2	1	207	0	0	208	0	0	185	0	0	185	395
07:30 AM	0	0	3	0	3	0	210	0	0	210	0	0	189	0	0	189	402
07:45 AM	1	0	2	0	3	1	201	0	0	202	0	0	142	0	0	142	347
Total	2	0	7	0	9	3	817	0	0	820	0	0	678	1	0	679	1508
08:00 AM	3	0	5	0	8	3	174	0	0	177	0	0	185	0	0	185	370
08:15 AM	0	0	1	0	1	0	198	0	0	198	0	0	226	0	0	226	425
08:30 AM	0	0	6	0	6	0	207	0	0	207	0	0	183	2	0	185	398
08:45 AM	0	0	2	0	2	3	139	0	0	142	0	0	210	0	0	210	354
Total	3	0	14	0	17	6	718	0	0	724	0	0	804	2	0	806	1547
09:00 AM	0	0	0	0	0	1	120	0	0	121	0	0	143	0	0	143	264
09:15 AM	0	0	2	0	2	0	121	0	0	121	0	0	117	0	0	117	240
09:30 AM	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	2
*** BREAK ***																	
Total	1	0	2	1	4	1	241	0	0	242	0	0	260	0	0	260	506
*** BREAK ***																	
03:30 PM	2	0	2	0	4	4	182	0	0	186	0	1	191	1	0	193	383
03:45 PM	1	0	0	0	1	1	197	0	0	198	0	0	174	0	0	174	373
Total	3	0	2	0	5	5	379	0	0	384	0	1	365	1	0	367	756
04:00 PM	1	0	2	0	3	0	162	0	0	162	0	0	201	0	0	201	366
04:15 PM	1	0	3	0	4	0	135	0	0	135	0	0	198	0	0	198	337
04:30 PM	2	0	2	0	4	1	152	0	0	153	0	0	207	1	0	208	365
04:45 PM	0	0	5	0	5	1	155	0	0	156	0	0	229	1	0	230	391
Total	4	0	12	0	16	2	604	0	0	606	0	0	835	2	0	837	1459
05:00 PM	0	0	6	0	6	1	160	0	0	161	0	0	197	0	0	197	364
05:15 PM	0	0	4	0	4	1	150	0	0	151	0	0	232	1	0	233	388
05:30 PM	0	0	4	0	4	1	162	0	0	163	0	0	225	0	0	225	392
05:45 PM	0	0	2	0	2	3	171	0	0	174	0	0	181	0	0	181	357
Total	0	0	16	0	16	6	643	0	0	649	0	0	835	1	0	836	1501
06:00 PM	0	0	2	0	2	0	156	0	0	156	0	0	206	0	0	206	364
06:15 PM	0	0	0	0	0	0	161	0	0	161	0	0	192	0	0	192	353
Grand Total	13	0	61	1	75	25	4032	0	0	4057	0	1	4453	8	0	4462	8594
Apprch %	17.3	0	81.3	1.3		0.6	99.4	0	0			0	99.8	0.2	0		
Total %	0.2	0	0.7	0	0.9	0.3	46.9	0	0	47.2	0	0	51.8	0.1	0	51.9	
Autos	12	0	60	1	73	23	3883	0	0	3906	0	1	4341	8	0	4350	8329
% Autos	92.3	0	98.4	100	97.3	92	96.3	0	0	96.3	0	100	97.5	100	0	97.5	96.9
Heavy Vehicles	1	0	1	0	2	2	149	0	0	151	0	0	112	0	0	112	265
% Heavy Vehicles	7.7	0	1.6	0	2.7	8	3.7	0	0	3.7	0	0	2.5	0	0	2.5	3.1

Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 135th Ave
Site Code : 99413501
Start Date : 9/9/2021
Page No : 2

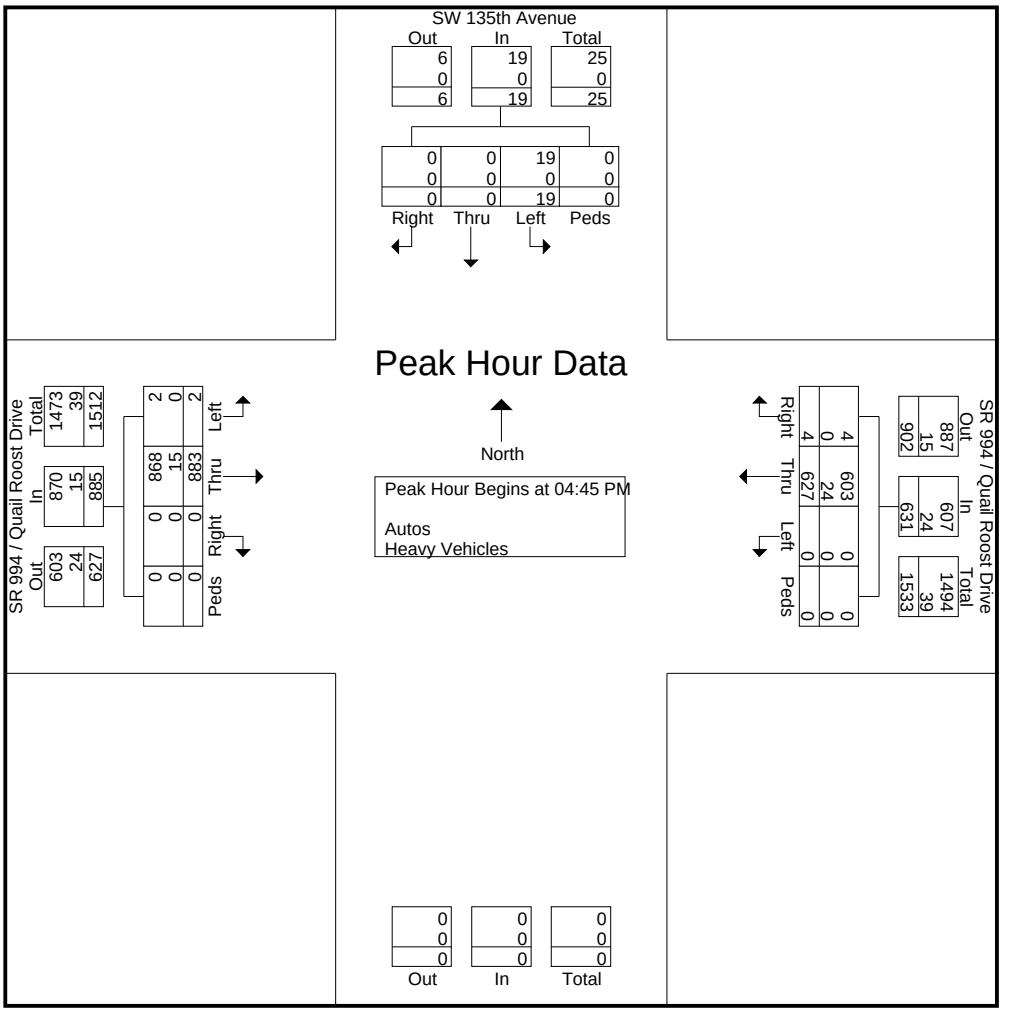
	SW 135th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					Northbound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**3**	0	5	0	**8**	**3**	174	0	0	177	0	0	185	0	0	185	370
08:15 AM	0	0	1	0	1	0	198	0	0	198	0	0	**226**	0	0	**226**	**425**
08:30 AM	0	0	**6**	0	6	0	**207**	0	0	**207**	0	0	183	**2**	0	185	398
08:45 AM	0	0	2	0	2	3	139	0	0	142	0	0	210	0	0	210	354
Total Volume	3	0	14	0	17	6	718	0	0	724	0	0	804	2	0	806	1547
% App. Total	17.6	0	82.4	0		0.8	99.2	0	0			0	99.8	0.2	0		
PHF	.250	.000	.583	.000	.531	.500	.867	.000	.000	.874	.000	.000	.889	.250	.000	.892	.910
Autos	3	0	14	0	17	6	687	0	0	693	0	0	785	2	0	787	1497
% Autos	100	0	100	0	100	100	95.7	0	0	95.7	0	0	97.6	100	0	97.6	96.8
Heavy Vehicles	0	0	0	0	0	0	31	0	0	31	0	0	19	0	0	19	50
% Heavy Vehicles	0	0	0	0	0	0	4.3	0	0	4.3	0	0	2.4	0	0	2.4	3.2



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 135th Ave
Site Code : 99413501
Start Date : 9/9/2021
Page No : 3

	SW 135th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					Northbound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	5	0	5	**1**	155	0	0	156	0	0	229	**1**	0	230	391
05:00 PM	0	0	**6**	0	**6**	1	160	0	0	161	0	0	197	0	0	197	364
05:15 PM	0	0	4	0	4	1	150	0	0	151	0	0	**232**	1	0	**233**	388
05:30 PM	0	0	4	0	4	1	**162**	0	0	**163**	0	0	225	0	0	225	**392**
Total Volume	0	0	19	0	19	4	627	0	0	631	0	0	883	2	0	885	1535
% App. Total	0	0	100	0		0.6	99.4	0	0			0	99.8	0.2	0		
PHF	.000	.000	.792	.000	.792	1.00	.968	.000	.000	.968	.000	.000	.952	.500	.000	.950	.979
Autos	0	0	19	0	19	4	603	0	0	607	0	0	868	2	0	870	1496
% Autos	0	0	100	0	100	100	96.2	0	0	96.2	0	0	98.3	100	0	98.3	97.5
Heavy Vehicles	0	0	0	0	0	0	24	0	0	24	0	0	15	0	0	15	39
% Heavy Vehicles	0	0	0	0	0	0	3.8	0	0	3.8	0	0	1.7	0	0	1.7	2.5



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

Trucks

SR 994/Quail Roost Dr and SW 135th Ave
Thursday, Sept 9, 2021
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 135th Ave
Site Code : 99413501
Start Date : 9/9/2021
Page No : 1

Groups Printed- Heavy Vehicles

	SW 135th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					Northb ound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
06:30 AM	0	0	0	0	0	1	1	0	0	2	0	0	9	0	0	9	11
06:45 AM	0	0	0	0	0	0	5	0	0	5	0	0	4	0	0	4	9
Total	0	0	0	0	0	1	6	0	0	7	0	0	13	0	0	13	20
07:00 AM	0	0	0	0	0	0	5	0	0	5	0	0	8	0	0	8	13
07:15 AM	0	0	0	0	0	0	4	0	0	4	0	0	8	0	0	8	12
07:30 AM	0	0	0	0	0	0	6	0	0	6	0	0	1	0	0	1	7
07:45 AM	0	0	0	0	0	0	8	0	0	8	0	0	2	0	0	2	10
Total	0	0	0	0	0	0	23	0	0	23	0	0	19	0	0	19	42
08:00 AM	0	0	0	0	0	0	11	0	0	11	0	0	2	0	0	2	13
08:15 AM	0	0	0	0	0	0	5	0	0	5	0	0	7	0	0	7	12
08:30 AM	0	0	0	0	0	0	7	0	0	7	0	0	4	0	0	4	11
08:45 AM	0	0	0	0	0	0	8	0	0	8	0	0	6	0	0	6	14
Total	0	0	0	0	0	0	31	0	0	31	0	0	19	0	0	19	50
09:00 AM	0	0	0	0	0	0	3	0	0	3	0	0	9	0	0	9	12
09:15 AM	0	0	0	0	0	0	4	0	0	4	0	0	4	0	0	4	8
*** BREAK ***																	
Total	0	0	0	0	0	0	7	0	0	7	0	0	13	0	0	13	20
*** BREAK ***																	
03:30 PM	0	0	1	0	1	0	6	0	0	6	0	0	6	0	0	6	13
03:45 PM	0	0	0	0	0	0	7	0	0	7	0	0	5	0	0	5	12
Total	0	0	1	0	1	0	13	0	0	13	0	0	11	0	0	11	25
04:00 PM	0	0	0	0	0	0	12	0	0	12	0	0	6	0	0	6	18
04:15 PM	0	0	0	0	0	0	9	0	0	9	0	0	8	0	0	8	17
04:30 PM	1	0	0	0	1	1	10	0	0	11	0	0	2	0	0	2	14
04:45 PM	0	0	0	0	0	0	7	0	0	7	0	0	5	0	0	5	12
Total	1	0	0	0	1	1	38	0	0	39	0	0	21	0	0	21	61
05:00 PM	0	0	0	0	0	0	12	0	0	12	0	0	5	0	0	5	17
05:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	1	0	0	1	4
05:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	4	0	0	4	6
05:45 PM	0	0	0	0	0	0	5	0	0	5	0	0	4	0	0	4	9
Total	0	0	0	0	0	0	22	0	0	22	0	0	14	0	0	14	36
06:00 PM	0	0	0	0	0	0	6	0	0	6	0	0	1	0	0	1	7
06:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	1	0	0	1	4
Grand Total	1	0	1	0	2	2	149	0	0	151	0	0	112	0	0	112	265
Apprch %	50	0	50	0		1.3	98.7	0	0			0	100	0	0		
Total %	0.4	0	0.4	0	0.8	0.8	56.2	0	0	57	0	0	42.3	0	0	42.3	

Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

SR 994/Quail Roost Dr and SW 134th Ct
Thursday, Sept 9, 2021
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 134th Ct
Site Code : 99413401
Start Date : 9/9/2021
Page No : 1

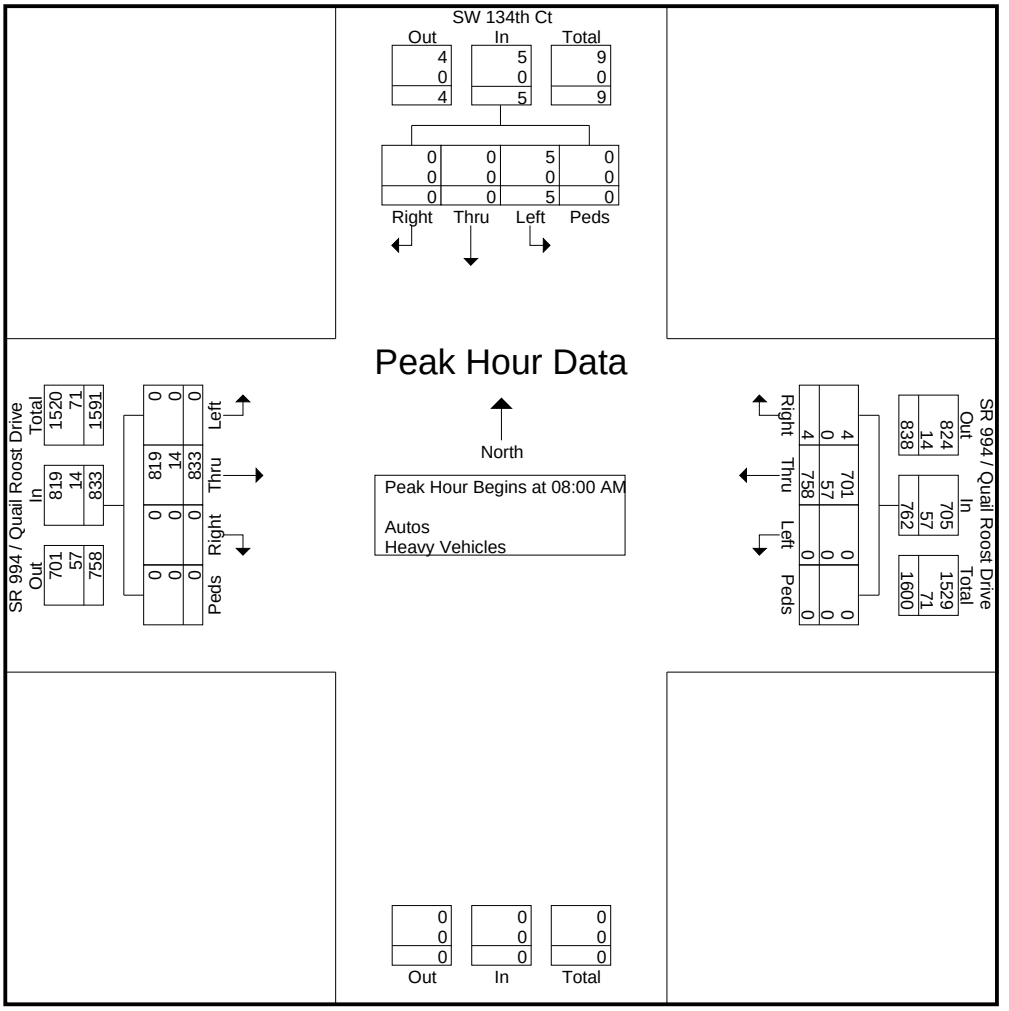
Groups Printed- Autos - Heavy Vehicles

	SW 134th Ct Southbound					SR 994 / Quail Roost Drive Westbound					Northb ound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:30 AM	0	0	1	0	1	0	159	0	0	159	0	0	132	0	0	132	292
06:45 AM	0	0	1	0	1	0	151	0	0	151	0	0	151	0	0	151	303
Total	0	0	2	0	2	0	310	0	0	310	0	0	283	0	0	283	595
07:00 AM	0	0	0	0	0	0	202	0	0	202	0	0	159	0	0	159	361
07:15 AM	0	0	3	0	3	1	189	0	0	190	0	0	192	0	0	192	385
07:30 AM	2	0	0	0	2	0	193	0	0	193	0	0	186	0	0	186	381
07:45 AM	0	0	1	0	1	1	213	0	0	214	0	0	147	0	0	147	362
Total	2	0	4	0	6	2	797	0	0	799	0	0	684	0	0	684	1489
08:00 AM	0	0	1	0	1	1	187	0	0	188	0	0	197	0	0	197	386
08:15 AM	0	0	1	0	1	1	202	0	0	203	0	0	221	0	0	221	425
08:30 AM	0	0	2	0	2	1	205	0	0	206	0	0	205	0	0	205	413
08:45 AM	0	0	1	0	1	1	164	0	0	165	0	0	210	0	0	210	376
Total	0	0	5	0	5	4	758	0	0	762	0	0	833	0	0	833	1600
09:00 AM	0	0	1	0	1	0	132	0	0	132	0	0	147	0	0	147	280
09:15 AM	0	0	3	0	3	1	119	0	0	120	0	0	133	0	0	133	256
*** BREAK ***																	
Total	0	0	4	0	4	1	251	0	0	252	0	0	280	0	0	280	536
*** BREAK ***																	
03:30 PM	0	0	0	0	0	1	182	0	0	183	0	0	191	0	0	191	374
03:45 PM	0	0	0	0	0	0	216	0	0	216	0	0	174	0	0	174	390
Total	0	0	0	0	0	1	398	0	0	399	0	0	365	0	0	365	764
04:00 PM	0	0	1	0	1	2	172	0	0	174	0	0	206	0	0	206	381
04:15 PM	0	0	1	0	1	2	141	0	0	143	0	0	214	0	0	214	358
04:30 PM	1	0	0	0	1	2	162	1	0	165	0	0	212	0	0	212	378
04:45 PM	0	0	0	0	0	0	154	0	0	154	0	0	228	0	0	228	382
Total	1	0	2	0	3	6	629	1	0	636	0	0	860	0	0	860	1499
05:00 PM	1	0	1	0	2	0	178	0	0	178	0	0	207	0	0	207	387
05:15 PM	0	0	3	0	3	1	121	0	0	122	0	0	238	0	0	238	363
05:30 PM	0	0	1	0	1	0	109	0	0	109	0	0	223	0	0	223	333
05:45 PM	0	0	0	0	0	1	134	0	0	135	0	0	200	0	0	200	335
Total	1	0	5	0	6	2	542	0	0	544	0	0	868	0	0	868	1418
06:00 PM	0	0	1	0	1	1	143	1	0	145	0	0	203	0	0	203	349
06:15 PM	1	0	0	0	1	2	165	0	0	167	0	0	195	0	0	195	363
Grand Total	5	0	23	0	28	19	3993	2	0	4014	0	0	4571	0	0	4571	8613
Apprch %	17.9	0	82.1	0		0.5	99.5	0	0			0	100	0	0		
Total %	0.1	0	0.3	0	0.3	0.2	46.4	0	0	46.6	0	0	53.1	0	0	53.1	
Autos	3	0	22	0	25	18	3728	2	0	3748	0	0	4465	0	0	4465	8238
% Autos	60	0	95.7	0	89.3	94.7	93.4	100	0	93.4	0	0	97.7	0	0	97.7	95.6
Heavy Vehicles	2	0	1	0	3	1	265	0	0	266	0	0	106	0	0	106	375
% Heavy Vehicles	40	0	4.3	0	10.7	5.3	6.6	0	0	6.6	0	0	2.3	0	0	2.3	4.4

Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 134th Ct
Site Code : 99413401
Start Date : 9/9/2021
Page No : 2

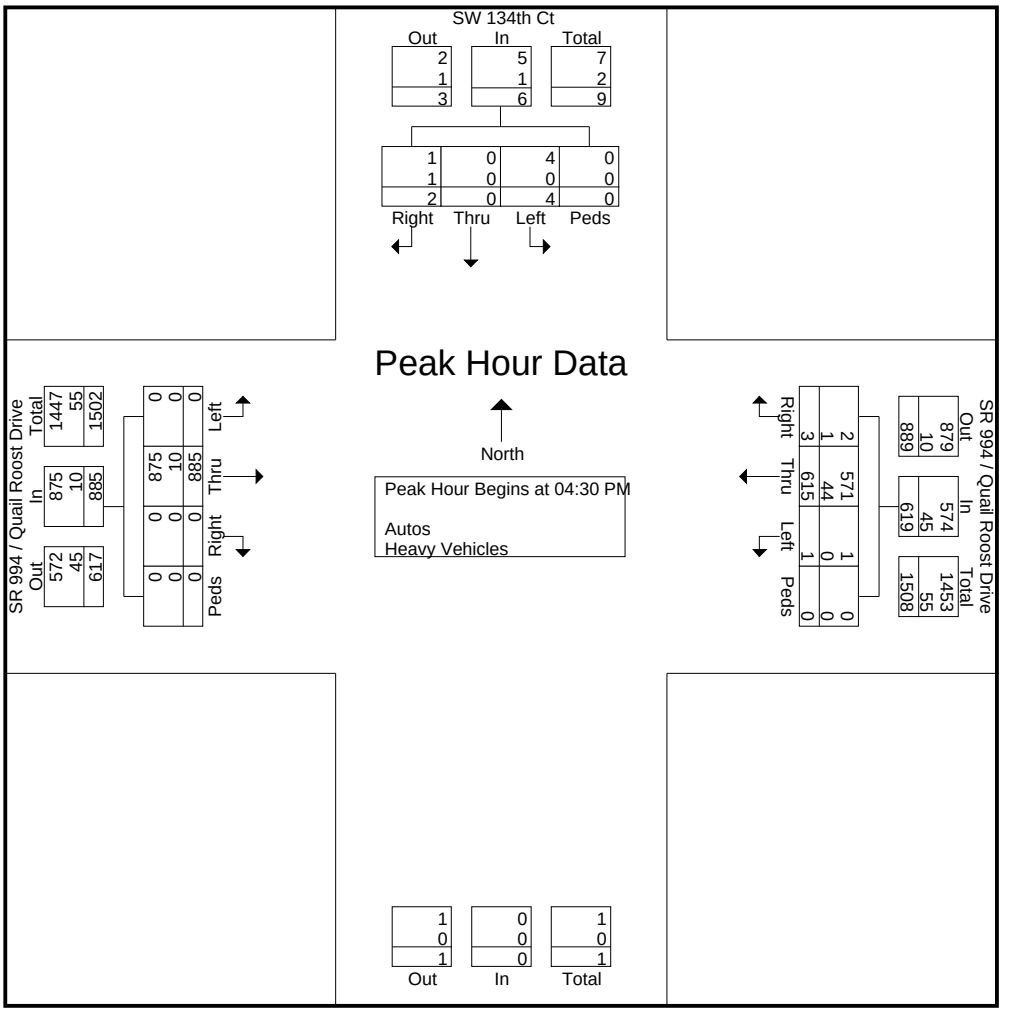
	SW 134th Ct Southbound					SR 994 / Quail Roost Drive Westbound					Northbound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Peds & Bicycles	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	1	0	1	**1**	187	0	0	188	0	0	197	0	0	197	386
08:15 AM	0	0	1	0	1	1	202	0	0	203	0	0	**221**	0	0	**221**	**425**
08:30 AM	0	0	**2**	0	**2**	1	**205**	0	0	**206**	0	0	205	0	0	205	413
08:45 AM	0	0	1	0	1	1	164	0	0	165	0	0	210	0	0	210	376
Total Volume	0	0	5	0	5	4	758	0	0	762	0	0	833	0	0	833	1600
% App. Total	0	0	100	0		0.5	99.5	0	0			0	100	0	0		
PHF	.000	.000	.625	.000	.625	1.00	.924	.000	.000	.925	.000	.000	.942	.000	.000	.942	.941
Autos	0	0	5	0	5	4	701	0	0	705	0	0	819	0	0	819	1529
% Autos	0	0	100	0	100	100	92.5	0	0	92.5	0	0	98.3	0	0	98.3	95.6
Heavy Vehicles	0	0	0	0	0	0	57	0	0	57	0	0	14	0	0	14	71
% Heavy Vehicles	0	0	0	0	0	0	7.5	0	0	7.5	0	0	1.7	0	0	1.7	4.4



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 134th Ct
Site Code : 99413401
Start Date : 9/9/2021
Page No : 3

	SW 134th Ct Southbound					SR 994 / Quail Roost Drive Westbound					Northbound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**1**	0	0	0	1	**2**	162	**1**	0	165	0	0	212	0	0	212	378
04:45 PM	0	0	0	0	0	0	154	0	0	154	0	0	228	0	0	228	382
05:00 PM	1	0	1	0	2	0	**178**	0	0	**178**	0	0	207	0	0	207	**387**
05:15 PM	0	0	**3**	0	**3**	1	121	0	0	122	0	0	**238**	0	0	**238**	363
Total Volume	2	0	4	0	6	3	615	1	0	619	0	0	885	0	0	885	1510
% App. Total	33.3	0	66.7	0		0.5	99.4	0.2	0			0	100	0	0		
PHF	.500	.000	.333	.000	.500	.375	.864	.250	.000	.869	.000	.000	.930	.000	.000	.930	.975
Autos	1	0	4	0	5	2	571	1	0	574	0	0	875	0	0	875	1454
% Autos	50.0	0	100	0	83.3	66.7	92.8	100	0	92.7	0	0	98.9	0	0	98.9	96.3
Heavy Vehicles	1	0	0	0	1	1	44	0	0	45	0	0	10	0	0	10	56
% Heavy Vehicles	50.0	0	0	0	16.7	33.3	7.2	0	0	7.3	0	0	1.1	0	0	1.1	3.7



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

Trucks

SR 994/Quail Roost Dr and SW 134th Ct
Thursday, Sept 9, 2021
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 134th Ct
Site Code : 99413401
Start Date : 9/9/2021
Page No : 1

Groups Printed- Heavy Vehicles

	SW 134th Ct Southbound					SR 994 / Quail Roost Drive Westbound					Northb ound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:30 AM	0	0	1	0	1	0	1	0	0	1	0	0	15	0	0	15	17
06:45 AM	0	0	0	0	0	0	9	0	0	9	0	0	4	0	0	4	13
Total	0	0	1	0	1	0	10	0	0	10	0	0	19	0	0	19	30
07:00 AM	0	0	0	0	0	0	8	0	0	8	0	0	6	0	0	6	14
07:15 AM	0	0	0	0	0	0	19	0	0	19	0	0	10	0	0	10	29
07:30 AM	1	0	0	0	1	0	13	0	0	13	0	0	7	0	0	7	21
07:45 AM	0	0	0	0	0	0	18	0	0	18	0	0	2	0	0	2	20
Total	1	0	0	0	1	0	58	0	0	58	0	0	25	0	0	25	84
08:00 AM	0	0	0	0	0	0	16	0	0	16	0	0	5	0	0	5	21
08:15 AM	0	0	0	0	0	0	12	0	0	12	0	0	5	0	0	5	17
08:30 AM	0	0	0	0	0	0	18	0	0	18	0	0	1	0	0	1	19
08:45 AM	0	0	0	0	0	0	11	0	0	11	0	0	3	0	0	3	14
Total	0	0	0	0	0	0	57	0	0	57	0	0	14	0	0	14	71
09:00 AM	0	0	0	0	0	0	13	0	0	13	0	0	4	0	0	4	17
09:15 AM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	9
*** BREAK ***																	
Total	0	0	0	0	0	0	22	0	0	22	0	0	4	0	0	4	26
*** BREAK ***																	
03:30 PM	0	0	0	0	0	0	15	0	0	15	0	0	6	0	0	6	21
03:45 PM	0	0	0	0	0	0	12	0	0	12	0	0	5	0	0	5	17
Total	0	0	0	0	0	0	27	0	0	27	0	0	11	0	0	11	38
04:00 PM	0	0	0	0	0	0	14	0	0	14	0	0	11	0	0	11	25
04:15 PM	0	0	0	0	0	0	13	0	0	13	0	0	7	0	0	7	20
04:30 PM	1	0	0	0	1	1	19	0	0	20	0	0	1	0	0	1	22
04:45 PM	0	0	0	0	0	0	6	0	0	6	0	0	4	0	0	4	10
Total	1	0	0	0	1	1	52	0	0	53	0	0	23	0	0	23	77
05:00 PM	0	0	0	0	0	0	14	0	0	14	0	0	3	0	0	3	17
05:15 PM	0	0	0	0	0	0	5	0	0	5	0	0	2	0	0	2	7
05:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	2	0	0	2	4
05:45 PM	0	0	0	0	0	0	5	0	0	5	0	0	2	0	0	2	7
Total	0	0	0	0	0	0	26	0	0	26	0	0	9	0	0	9	35
06:00 PM	0	0	0	0	0	0	8	0	0	8	0	0	1	0	0	1	9
06:15 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	5
Grand Total	2	0	1	0	3	1	265	0	0	266	0	0	106	0	0	106	375
Apprch %	66.7	0	33.3	0		0.4	99.6	0	0			0	100	0	0		
Total %	0.5	0	0.3	0	0.8	0.3	70.7	0	0	70.9	0	0	28.3	0	0	28.3	

Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

SR 994/Quail Roost Dr and SW 134th Ave
Wednesday, Sept 8, 2001
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 134th Ave
Site Code : 99413411
Start Date : 9/8/2021
Page No : 1

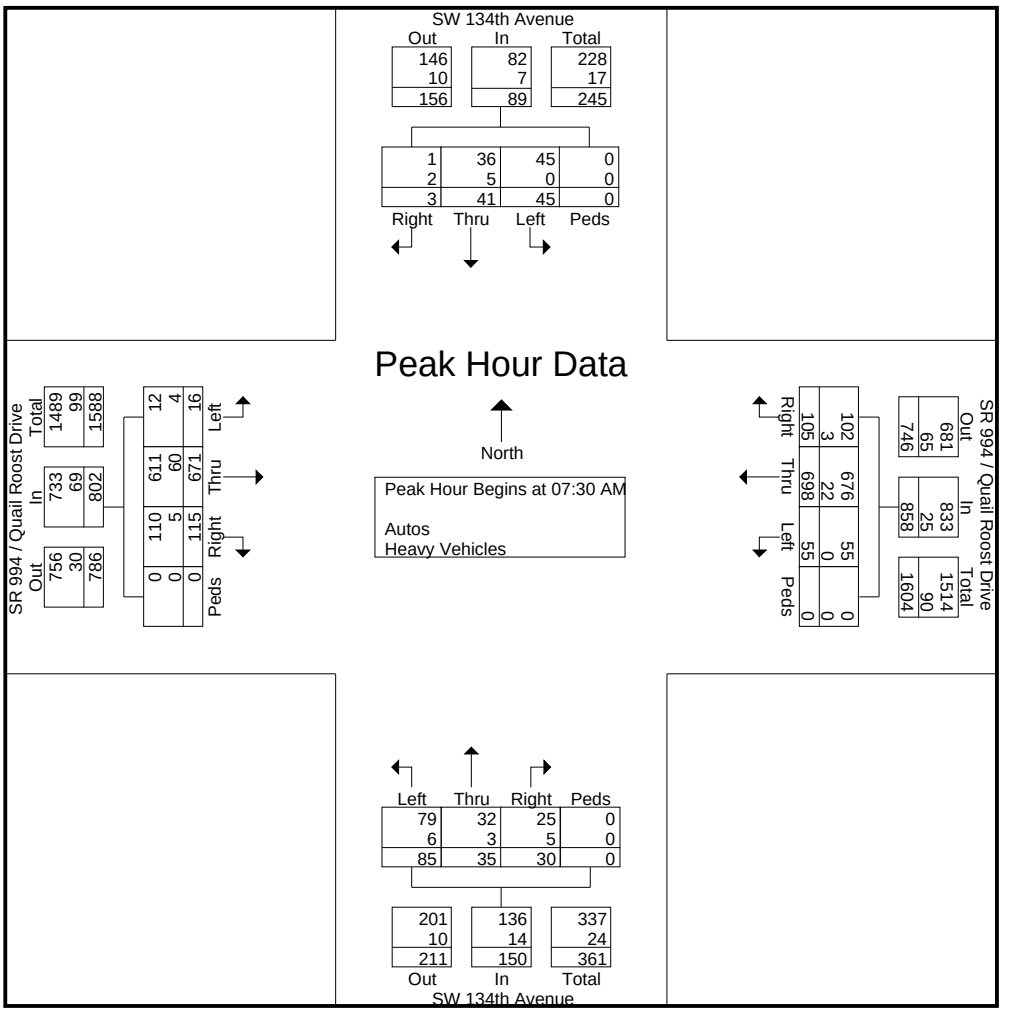
Groups Printed- Autos - Heavy Vehicles

	SW 134th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					SW 134th Avenue Northbound					SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
06:30 AM	0	2	1	0	3	8	146	8	0	162	6	5	28	0	39	28	67	0	0	95	299
06:45 AM	0	1	1	0	2	6	132	13	0	151	12	7	32	0	51	35	121	0	0	156	360
Total	0	3	2	0	5	14	278	21	0	313	18	12	60	0	90	63	188	0	0	251	659
07:00 AM	0	0	0	0	0	14	175	11	0	200	7	6	40	0	53	41	103	0	0	144	397
07:15 AM	0	0	0	0	0	19	169	13	0	201	4	10	24	0	38	46	167	1	0	214	453
07:30 AM	0	0	3	0	3	31	202	10	0	243	9	9	23	0	41	21	167	0	0	188	475
07:45 AM	0	10	8	0	18	36	164	19	0	219	0	6	27	0	33	25	125	0	0	150	420
Total	0	10	11	0	21	100	710	53	0	863	20	31	114	0	165	133	562	1	0	696	1745
08:00 AM	0	16	22	0	38	21	176	19	0	216	12	12	18	0	42	39	162	0	0	201	497
08:15 AM	3	15	12	0	30	17	156	7	0	180	9	8	17	0	34	30	217	16	0	263	507
08:30 AM	0	8	9	0	17	10	136	18	0	164	6	9	16	0	31	51	143	0	0	194	406
08:45 AM	0	0	1	0	1	3	129	8	0	140	8	3	36	0	47	43	127	1	0	171	359
Total	3	39	44	0	86	51	597	52	0	700	35	32	87	0	154	163	649	17	0	829	1769
09:00 AM	0	2	3	0	5	2	104	10	0	116	9	2	16	0	27	29	108	0	1	138	286
09:15 AM	0	1	0	0	1	0	97	5	0	102	16	4	36	0	56	26	111	0	0	137	296
*** BREAK ***																					
Total	0	3	3	0	6	2	201	15	0	218	25	6	52	0	83	55	219	0	1	275	582
*** BREAK ***																					
03:30 PM	0	3	11	0	14	4	140	13	0	157	8	7	24	0	39	46	203	0	0	249	459
03:45 PM	1	8	10	0	19	5	135	14	0	154	17	6	31	0	54	61	219	0	0	280	507
Total	1	11	21	0	33	9	275	27	0	311	25	13	55	0	93	107	422	0	0	529	966
04:00 PM	1	5	4	0	10	2	122	18	0	142	5	4	17	0	26	43	136	0	0	179	357
04:15 PM	0	6	5	0	11	6	115	18	0	139	9	6	11	0	26	63	99	0	0	162	338
04:30 PM	0	5	2	0	7	5	108	17	0	130	17	8	19	0	44	82	121	0	0	203	384
04:45 PM	0	2	3	0	5	11	125	30	0	166	4	1	5	0	10	65	126	0	0	191	372
Total	1	18	14	0	33	24	470	83	0	577	35	19	52	0	106	253	482	0	0	735	1451
05:00 PM	2	2	5	0	9	3	136	16	0	155	7	3	12	0	22	91	130	0	0	221	407
05:15 PM	1	2	2	0	5	5	103	17	0	125	10	1	7	0	18	69	98	0	0	167	315
05:30 PM	1	5	0	0	6	4	106	14	0	124	3	4	12	0	19	95	114	0	0	209	358
05:45 PM	0	2	2	0	4	6	92	19	0	117	4	2	3	0	9	83	122	0	2	207	337
Total	4	11	9	0	24	18	437	66	0	521	24	10	34	0	68	338	464	0	2	804	1417
06:00 PM	0	0	3	0	3	2	96	10	0	108	7	1	10	0	18	72	86	0	0	158	287
06:15 PM	0	0	1	0	1	1	95	20	0	116	4	0	9	0	13	68	70	0	0	138	268
Grand Total	9	95	108	0	212	221	3159	347	0	3727	193	124	473	0	790	1252	3142	18	3	4415	9144
Apprch %	4.2	44.8	50.9	0		5.9	84.8	9.3	0		24.4	15.7	59.9	0		28.4	71.2	0.4	0.1		
Total %	0.1	1	1.2	0	2.3	2.4	34.5	3.8	0	40.8	2.1	1.4	5.2	0	8.6	13.7	34.4	0.2	0	48.3	
Autos	7	87	108	0	202	213	3026									1196	2921				
% Autos	77.8	91.6	100	0	95.3	96.4	95.8	96.3	0	95.9	87.6	96.8	93.2	0	92.4	95.5	93	72.2	100	93.6	94.5
Heavy Vehicles																					
% Heavy Vehicles	22.2	8.4	0	0	4.7	3.6	4.2	3.7	0	4.1	12.4	3.2	6.8	0	7.6	4.5	7	27.8	0	6.4	5.5

Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 134th Ave
Site Code : 99413411
Start Date : 9/8/2021
Page No : 2

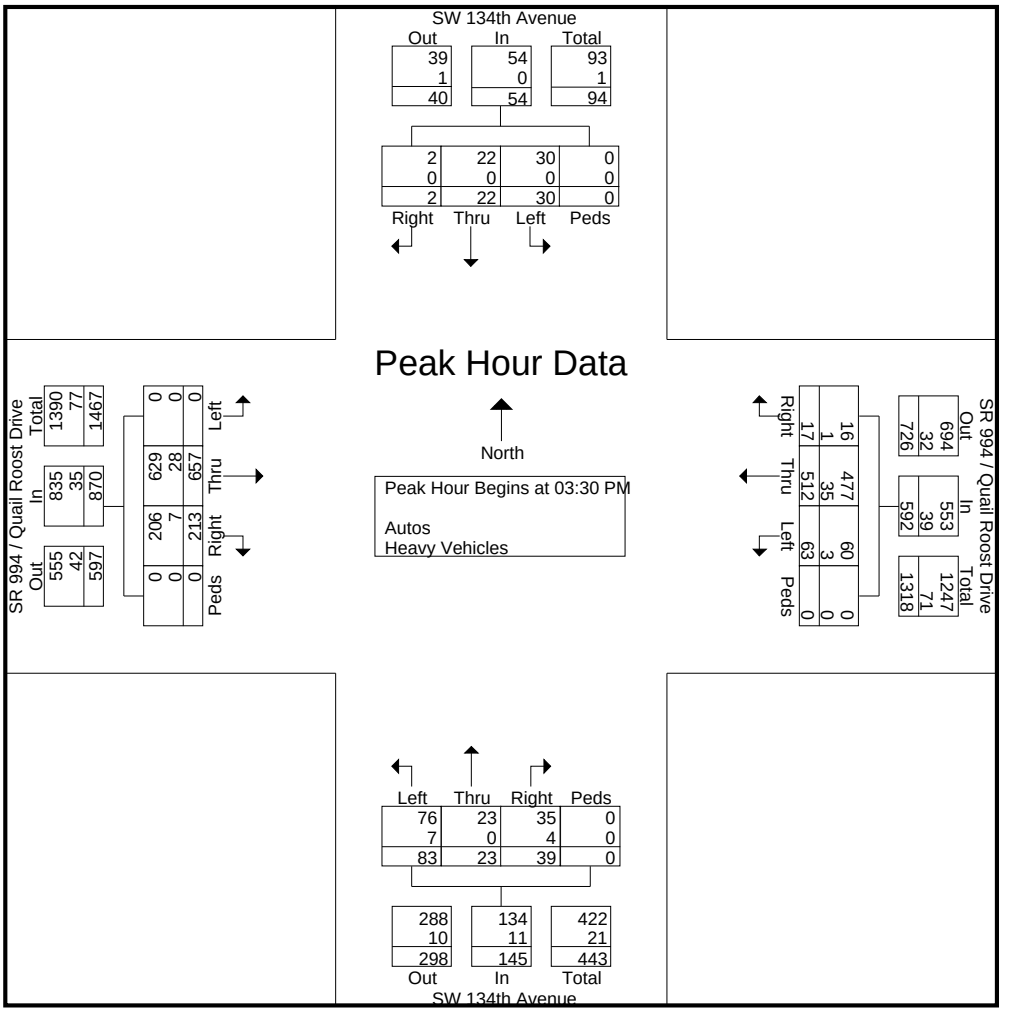
Start Time	SW 134th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					SW 134th Avenue Northbound					SR 994 / Quail Roost Drive Eastbound					
	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	3	0	3	31	**202**	10	0	**243**	9	9	23	0	41	21	167	0	0	188	475
07:45 AM	0	10	8	0	18	**36**	164	**19**	0	219	0	6	**27**	0	33	25	125	0	0	150	420
08:00 AM	0	**16**	**22**	0	**38**	21	176	19	0	216	**12**	**12**	18	0	**42**	**39**	162	0	0	201	497
08:15 AM	**3**	15	12	0	30	17	156	7	0	180	9	8	17	0	34	30	**217**	**16**	0	**263**	**507**
Total Volume	3	41	45	0	89	105	698	55	0	858	30	35	85	0	150	115	671	16	0	802	1899
% App. Total	3.4	46.1	50.6	0		12.2	81.4	6.4	0		20	23.3	56.7	0		14.3	83.7	2	0		
PHF	.250	.641	.511	.000	.586	.729	.864	.724	.000	.883	.625	.729	.787	.000	.893	.737	.773	.250	.000	.762	.936
Autos	1	36	45	0	82	102	676	55	0	833	25	32	79	0	136	110	611	12	0	733	1784
% Autos	33.3	87.8	100	0	92.1	97.1	96.8	100	0	97.1	83.3	91.4	92.9	0	90.7	95.7	91.1	75.0	0	91.4	93.9
Heavy Vehicles																					
% Heavy Vehicles	66.7	12.2	0	0	7.9	2.9	3.2	0	0	2.9	16.7	8.6	7.1	0	9.3	4.3	8.9	25.0	0	8.6	6.1



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 134th Ave
Site Code : 99413411
Start Date : 9/8/2021
Page No : 3

	SW 134th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					SW 134th Avenue Northbound					SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	0	3	**11**	0	14	4	**140**	13	0	**157**	8	**7**	24	0	39	46	203	0	0	249	459
03:45 PM	**1**	**8**	10	0	**19**	5	135	14	0	154	**17**	6	**31**	0	**54**	61	**219**	0	0	**280**	**507**
04:00 PM	1	5	4	0	10	2	122	**18**	0	142	5	4	17	0	26	43	136	0	0	179	357
04:15 PM	0	6	5	0	11	**6**	115	18	0	139	9	6	11	0	26	**63**	99	0	0	162	338
Total Volume	2	22	30	0	54	17	512	63	0	592	39	23	83	0	145	213	657	0	0	870	1661
% App. Total	3.7	40.7	55.6	0		2.9	86.5	10.6	0		26.9	15.9	57.2	0		24.5	75.5	0	0		
PHF	.500	.688	.682	.000	.711	.708	.914	.875	.000	.943	.574	.821	.669	.000	.671	.845	.750	.000	.000	.777	.819
Autos	2	22	30	0	54	16	477	60	0	553	35	23	76	0	134	206	629	0	0	835	1576
% Autos	100	100	100	0	100	94.1	93.2	95.2	0	93.4	89.7	100	91.6	0	92.4	96.7	95.7	0	0	96.0	94.9
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	5.9	6.8	4.8	0	6.6	10.3	0	8.4	0	7.6	3.3	4.3	0	0	4.0	5.1



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

Trucks

SR 994/Quail Roost Dr and SW 134th Ave
Wednesday, Sept 8, 2001
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 134th Ave
Site Code : 99413411
Start Date : 9/8/2021
Page No : 1

Groups Printed- Heavy Vehicles

	SW 134th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					SW 134th Avenue Northbound					SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
06:30 AM	0	1	0	0	1	1	4	0	0	5	2	1	1	0	4	1	14	0	0	15	25
06:45 AM	0	0	0	0	0	1	3	1	0	5	1	0	3	0	4	1	16	0	0	17	26
Total	0	1	0	0	1	2	7	1	0	10	3	1	4	0	8	2	30	0	0	32	51
07:00 AM	0	0	0	0	0	2	5	0	0	7	0	0	1	0	1	2	7	0	0	9	17
07:15 AM	0	0	0	0	0	0	7	1	0	8	0	0	2	0	2	7	15	1	0	23	33
07:30 AM	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	1	13	0	0	14	18
07:45 AM	0	1	0	0	1	1	3	0	0	4	0	0	2	0	2	0	15	0	0	15	22
Total	0	1	0	0	1	3	18	1	0	22	1	0	5	0	6	10	50	1	0	61	90
08:00 AM	0	1	0	0	1	2	9	0	0	11	1	1	2	0	4	3	18	0	0	21	37
08:15 AM	2	3	0	0	5	0	7	0	0	7	3	2	2	0	7	1	14	4	0	19	38
08:30 AM	0	1	0	0	1	0	15	4	0	19	1	0	0	0	1	6	11	0	0	17	38
08:45 AM	0	0	0	0	0	0	10	0	0	10	0	0	3	0	3	4	12	0	0	16	29
Total	2	5	0	0	7	2	41	4	0	47	5	3	7	0	15	14	55	4	0	73	142
09:00 AM	0	1	0	0	1	0	5	0	0	5	2	0	2	0	4	0	13	0	0	13	23
09:15 AM	0	0	0	0	0	0	3	0	0	3	3	0	2	0	5	3	12	0	0	15	23
*** BREAK ***																					
Total	0	1	0	0	1	0	8	0	0	8	5	0	4	0	9	3	25	0	0	28	46
*** BREAK ***																					
03:30 PM	0	0	0	0	0	1	10	0	0	11	0	0	1	0	1	1	9	0	0	10	22
03:45 PM	0	0	0	0	0	0	10	1	0	11	4	0	4	0	8	2	12	0	0	14	33
Total	0	0	0	0	0	1	20	1	0	22	4	0	5	0	9	3	21	0	0	24	55
04:00 PM	0	0	0	0	0	0	7	2	0	9	0	0	1	0	1	3	6	0	0	9	19
04:15 PM	0	0	0	0	0	0	8	0	0	8	0	0	1	0	1	1	1	0	0	2	11
04:30 PM	0	0	0	0	0	0	6	1	0	7	1	0	3	0	4	0	5	0	0	5	16
04:45 PM	0	0	0	0	0	0	4	0	0	4	2	0	0	0	2	3	7	0	0	10	16
Total	0	0	0	0	0	0	25	3	0	28	3	0	5	0	8	7	19	0	0	26	62
05:00 PM	0	0	0	0	0	0	3	0	0	3	1	0	1	0	2	9	4	0	0	13	18
05:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	1	4	0	0	5	8
05:30 PM	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	1	3	0	0	4	7
05:45 PM	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	2	3	0	0	5	8
Total	0	0	0	0	0	0	9	1	0	10	2	0	2	0	4	13	14	0	0	27	41
06:00 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	3	4	0	0	7	12
06:15 PM	0	0	0	0	0	0	0	2	0	2	1	0	0	0	1	1	3	0	0	4	7
Grand Total	2	8	0	0	10	8	133	13	0	154	24	4	32	0	60	56	221	5	0	282	506
Apprch %	20	80	0	0		5.2	86.4	8.4	0		40	6.7	53.3	0		19.9	78.4	1.8	0		
Total %	0.4	1.6	0	0	2	1.6	26.3	2.6	0	30.4	4.7	0.8	6.3	0	11.9	11.1	43.7	1	0	55.7	

Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

SR 994/Quail Roost Dr and SW 133rd Ct
Thursday, Sept 9, 2001
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 133rd Ct
Site Code : 99413301
Start Date : 9/9/2021

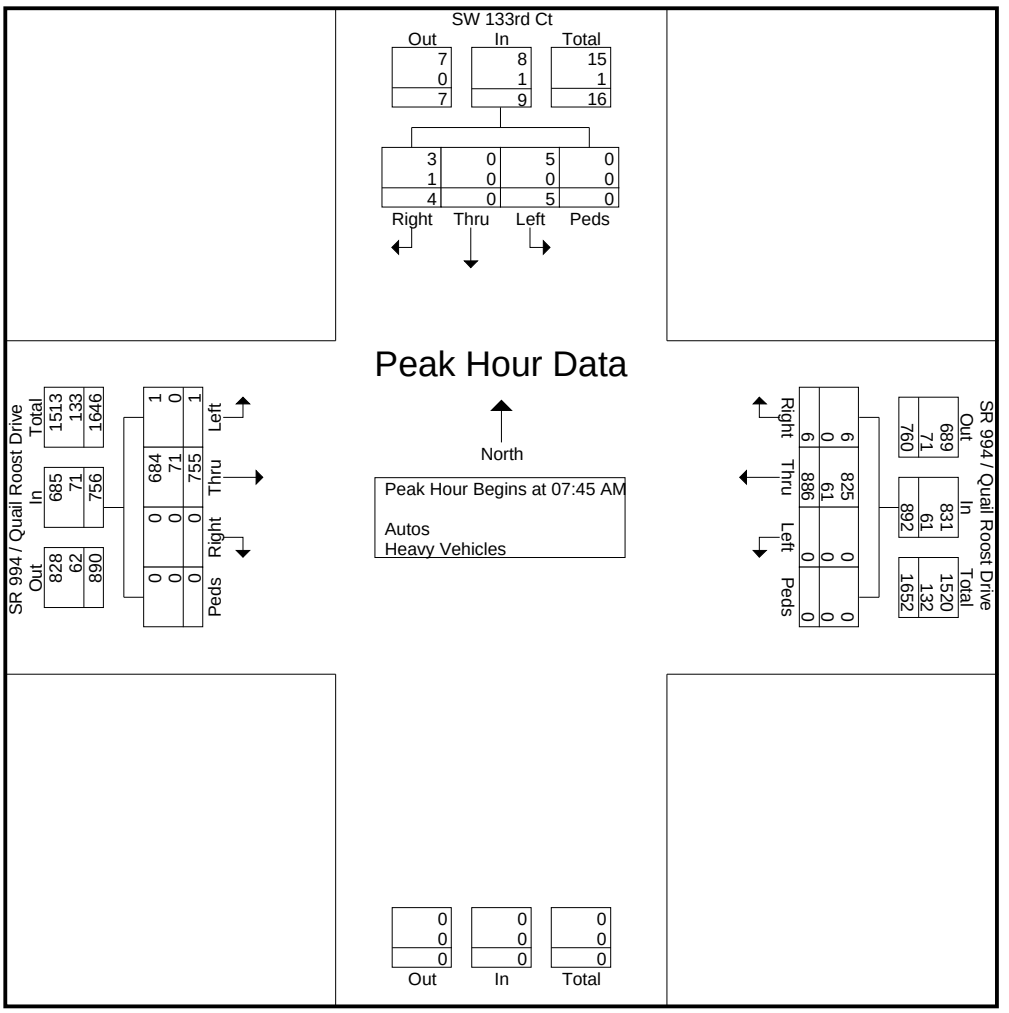
Groups Printed- Autos - Heavy Vehicles

	SW 133rd Ct Southbound					SR 994 / Quail Roost Drive Westbound					Northb ound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
06:30 AM	3	0	1	0	4	0	139	0	0	139	0	0	121	0	0	121	264
06:45 AM	0	0	0	0	0	1	145	0	0	146	0	0	118	0	0	118	264
Total	3	0	1	0	4	1	284	0	0	285	0	0	239	0	0	239	528
07:00 AM	0	0	1	0	1	0	194	0	0	194	0	0	122	3	0	125	320
07:15 AM	1	0	4	0	5	2	222	0	0	224	0	0	169	0	0	169	398
07:30 AM	3	0	2	0	5	4	247	0	0	251	0	0	157	3	0	160	416
07:45 AM	1	0	1	0	2	4	215	0	0	219	0	0	144	1	0	145	366
Total	5	0	8	0	13	10	878	0	0	888	0	0	592	7	0	599	1500
08:00 AM	0	0	1	0	1	2	242	0	0	244	0	0	196	0	0	196	441
08:15 AM	2	0	0	0	2	0	223	0	0	223	0	0	203	0	0	203	428
08:30 AM	1	0	3	0	4	0	206	0	0	206	0	0	212	0	0	212	422
08:45 AM	1	0	2	0	3	0	143	0	0	143	0	0	176	1	0	177	323
Total	4	0	6	0	10	2	814	0	0	816	0	0	787	1	0	788	1614
09:00 AM	1	0	2	0	3	0	108	0	0	108	0	0	106	0	0	106	217
09:15 AM	0	0	1	0	1	0	134	0	0	134	0	0	115	0	0	115	250
*** BREAK ***																	
Total	1	0	3	0	4	0	242	0	0	242	0	0	221	0	0	221	467
*** BREAK ***																	
03:30 PM	0	0	1	0	1	3	224	0	0	227	0	0	207	1	0	208	436
03:45 PM	2	0	2	0	4	3	225	0	0	228	0	0	113	0	0	113	345
Total	2	0	3	0	5	6	449	0	0	455	0	0	320	1	0	321	781
04:00 PM	0	0	3	0	3	3	163	0	0	166	0	0	130	1	0	131	300
04:15 PM	0	0	0	0	0	3	146	0	0	149	0	0	156	3	0	159	308
04:30 PM	0	0	1	0	1	3	177	0	0	180	0	0	156	0	0	156	337
04:45 PM	0	0	1	0	1	0	168	0	0	168	0	0	160	0	0	160	329
Total	0	0	5	0	5	9	654	0	0	663	0	0	602	4	0	606	1274
05:00 PM	1	0	0	0	1	1	158	0	0	159	0	0	150	1	0	151	311
05:15 PM	1	0	1	0	2	2	171	0	0	173	0	0	185	1	0	186	361
05:30 PM	0	0	2	0	2	2	162	0	0	164	0	0	161	0	0	161	327
05:45 PM	2	0	1	0	3	1	177	0	0	178	0	1	125	4	0	130	311
Total	4	0	4	0	8	6	668	0	0	674	0	1	621	6	0	628	1310
06:00 PM	0	0	0	0	0	1	147	0	0	148	0	0	139	0	0	139	287
06:15 PM	0	0	1	0	1	1	150	0	0	151	0	0	152	0	0	152	304
Grand Total	19	0	31	0	50	36	4286	0	0	4322	0	1	3673	19	0	3693	8065
Apprch %	38	0	62	0		0.8	99.2	0	0			0	99.5	0.5	0		
Total %	0.2	0	0.4	0	0.6	0.4	53.1	0	0	53.6	0	0	45.5	0.2	0	45.8	
Autos	15	0	28	0	43	32	3996	0	0	4028	0	1	3367	16	0	3384	7455
% Autos	78.9	0	90.3	0	86	88.9	93.2	0	0	93.2	0	100	91.7	84.2	0	91.6	92.4
Heavy Vehicles	4	0	3	0	7	4	290	0	0	294	0	0	306	3	0	309	610
% Heavy Vehicles	21.1	0	9.7	0	14	11.1	6.8	0	0	6.8	0	0	8.3	15.8	0	8.4	7.6

Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 133rd Ct
Site Code : 99413301
Start Date : 9/9/2021
Page No : 2

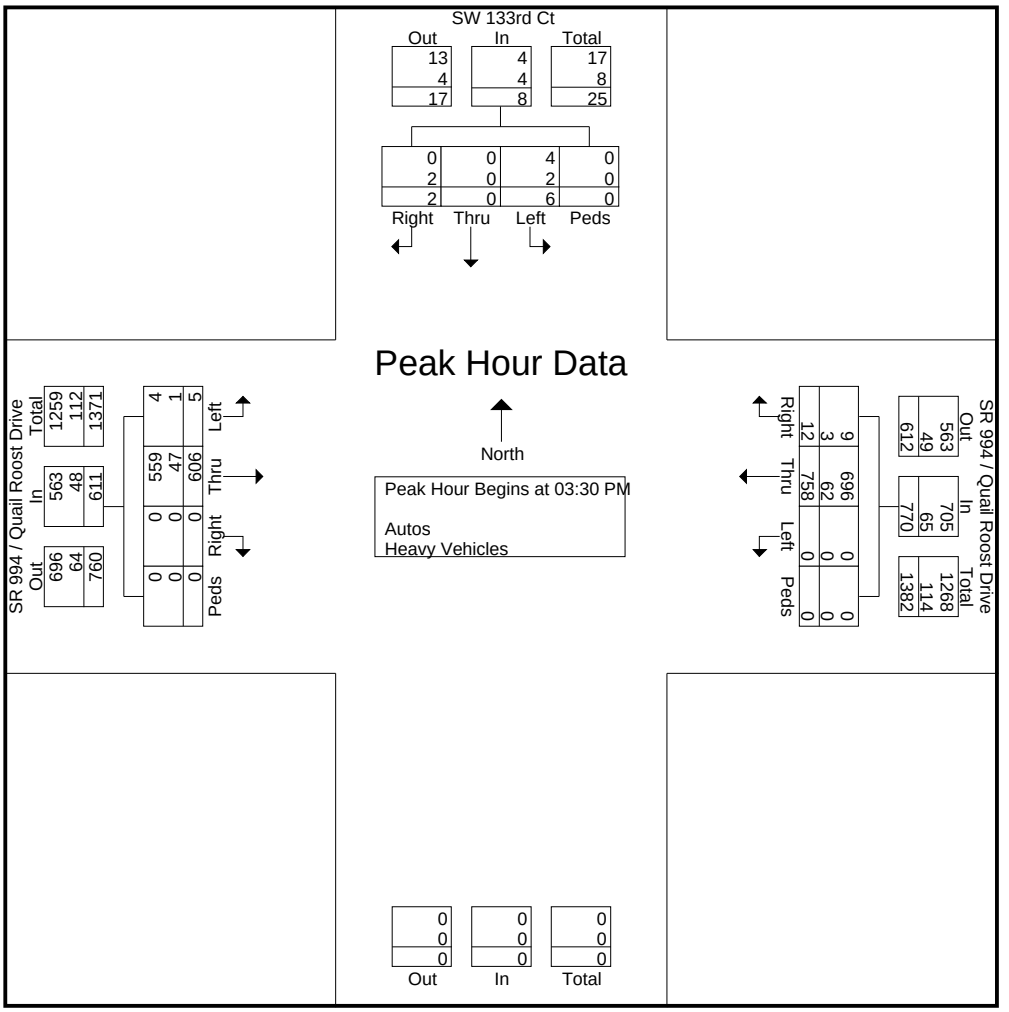
	SW 133rd Ct Southbound					SR 994 / Quail Roost Drive Westbound					Northbound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	1	0	1	0	2	**4**	215	0	0	219	0	0	144	**1**	0	145	366
08:00 AM	0	0	1	0	1	2	**242**	0	0	**244**	0	0	196	0	0	196	**441**
08:15 AM	**2**	0	0	0	2	0	223	0	0	223	0	0	203	0	0	203	428
08:30 AM	1	0	**3**	0	**4**	0	206	0	0	206	0	0	**212**	0	0	**212**	422
Total Volume	4	0	5	0	9	6	886	0	0	892	0	0	755	1	0	756	1657
% App. Total	44.4	0	55.6	0		0.7	99.3	0	0			0	99.9	0.1	0		
PHF	.500	.000	.417	.000	.563	.375	.915	.000	.000	.914	.000	.000	.890	.250	.000	.892	.939
Autos	3	0	5	0	8	6	825	0	0	831	0	0	684	1	0	685	1524
% Autos	75.0	0	100	0	88.9	100	93.1	0	0	93.2	0	0	90.6	100	0	90.6	92.0
Heavy Vehicles	1	0	0	0	1	0	61	0	0	61	0	0	71	0	0	71	133
% Heavy Vehicles	25.0	0	0	0	11.1	0	6.9	0	0	6.8	0	0	9.4	0	0	9.4	8.0



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 133rd Ct
Site Code : 99413301
Start Date : 9/9/2021
Page No : 3

	SW 133rd Ct Southbound					SR 994 / Quail Roost Drive Westbound					Northbound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	0	0	1	0	1	**3**	224	0	0	227	0	0	**207**	1	0	**208**	**436**
03:45 PM	**2**	0	2	0	**4**	3	**225**	0	0	**228**	0	0	113	0	0	113	345
04:00 PM	0	0	**3**	0	3	3	163	0	0	166	0	0	130	1	0	131	300
04:15 PM	0	0	0	0	0	3	146	0	0	149	0	0	156	**3**	0	159	308
Total Volume	2	0	6	0	8	12	758	0	0	770	0	0	606	5	0	611	1389
% App. Total	25	0	75	0		1.6	98.4	0	0			0	99.2	0.8	0		
PHF	.250	.000	.500	.000	.500	1.00	.842	.000	.000	.844	.000	.000	.732	.417	.000	.734	.796
Autos	0	0	4	0	4	9	696	0	0	705	0	0	559	4	0	563	1272
% Autos	0	0	66.7	0	50.0	75.0	91.8	0	0	91.6	0	0	92.2	80.0	0	92.1	91.6
Heavy Vehicles	2	0	2	0	4	3	62	0	0	65	0	0	47	1	0	48	117
% Heavy Vehicles	100	0	33.3	0	50.0	25.0	8.2	0	0	8.4	0	0	7.8	20.0	0	7.9	8.4



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

Trucks

SR 994/Quail Roost Dr and SW 133rd Ct
Thursday, Sept 9, 2001
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 133rd Ct
Site Code : 99413301
Start Date : 9/9/2021

Groups Printed- Heavy Vehicles

	SW 133rd Ct Southbound					SR 994 / Quail Roost Drive Westbound					Northb ound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
06:30 AM	0	0	0	0	0	0	7	0	0	7	0	0	25	0	0	25	32
06:45 AM	0	0	0	0	0	0	6	0	0	6	0	0	12	0	0	12	18
Total	0	0	0	0	0	0	13	0	0	13	0	0	37	0	0	37	50
07:00 AM	0	0	0	0	0	0	13	0	0	13	0	0	14	0	0	14	27
07:15 AM	0	0	0	0	0	0	17	0	0	17	0	0	16	0	0	16	33
07:30 AM	0	0	1	0	1	1	11	0	0	12	0	0	15	0	0	15	28
07:45 AM	0	0	0	0	0	0	15	0	0	15	0	0	11	0	0	11	26
Total	0	0	1	0	1	1	56	0	0	57	0	0	56	0	0	56	114
08:00 AM	0	0	0	0	0	0	13	0	0	13	0	0	22	0	0	22	35
08:15 AM	0	0	0	0	0	0	15	0	0	15	0	0	20	0	0	20	35
08:30 AM	1	0	0	0	1	0	18	0	0	18	0	0	18	0	0	18	37
08:45 AM	0	0	0	0	0	0	10	0	0	10	0	0	16	0	0	16	26
Total	1	0	0	0	1	0	56	0	0	56	0	0	76	0	0	76	133
09:00 AM	0	0	0	0	0	0	7	0	0	7	0	0	16	0	0	16	23
09:15 AM	0	0	0	0	0	0	10	0	0	10	0	0	10	0	0	10	20
*** BREAK ***																	
Total	0	0	0	0	0	0	17	0	0	17	0	0	26	0	0	26	43
*** BREAK ***																	
03:30 PM	0	0	0	0	0	1	21	0	0	22	0	0	15	0	0	15	37
03:45 PM	2	0	0	0	2	1	13	0	0	14	0	0	7	0	0	7	23
Total	2	0	0	0	2	2	34	0	0	36	0	0	22	0	0	22	60
04:00 PM	0	0	2	0	2	1	14	0	0	15	0	0	13	1	0	14	31
04:15 PM	0	0	0	0	0	0	14	0	0	14	0	0	12	0	0	12	26
04:30 PM	0	0	0	0	0	0	15	0	0	15	0	0	7	0	0	7	22
04:45 PM	0	0	0	0	0	0	9	0	0	9	0	0	9	0	0	9	18
Total	0	0	2	0	2	1	52	0	0	53	0	0	41	1	0	42	97
05:00 PM	0	0	0	0	0	0	17	0	0	17	0	0	9	0	0	9	26
05:15 PM	1	0	0	0	1	0	7	0	0	7	0	0	9	1	0	10	18
05:30 PM	0	0	0	0	0	0	5	0	0	5	0	0	10	0	0	10	15
05:45 PM	0	0	0	0	0	0	10	0	0	10	0	0	7	1	0	8	18
Total	1	0	0	0	1	0	39	0	0	39	0	0	35	2	0	37	77
06:00 PM	0	0	0	0	0	0	13	0	0	13	0	0	6	0	0	6	19
06:15 PM	0	0	0	0	0	0	10	0	0	10	0	0	7	0	0	7	17
Grand Total	4	0	3	0	7	4	290	0	0	294	0	0	306	3	0	309	610
Apprch %	57.1	0	42.9	0		1.4	98.6	0	0			0	99	1	0		
Total %	0.7	0	0.5	0	1.1	0.7	47.5	0	0	48.2	0	0	50.2	0.5	0	50.7	

Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

SR 994/Quail Roost Dr and SW 133rd Ave
Thursday, Sept 9, 2001
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 133rd Ave
Site Code : 99413301
Start Date : 9/9/2021
Page No : 1

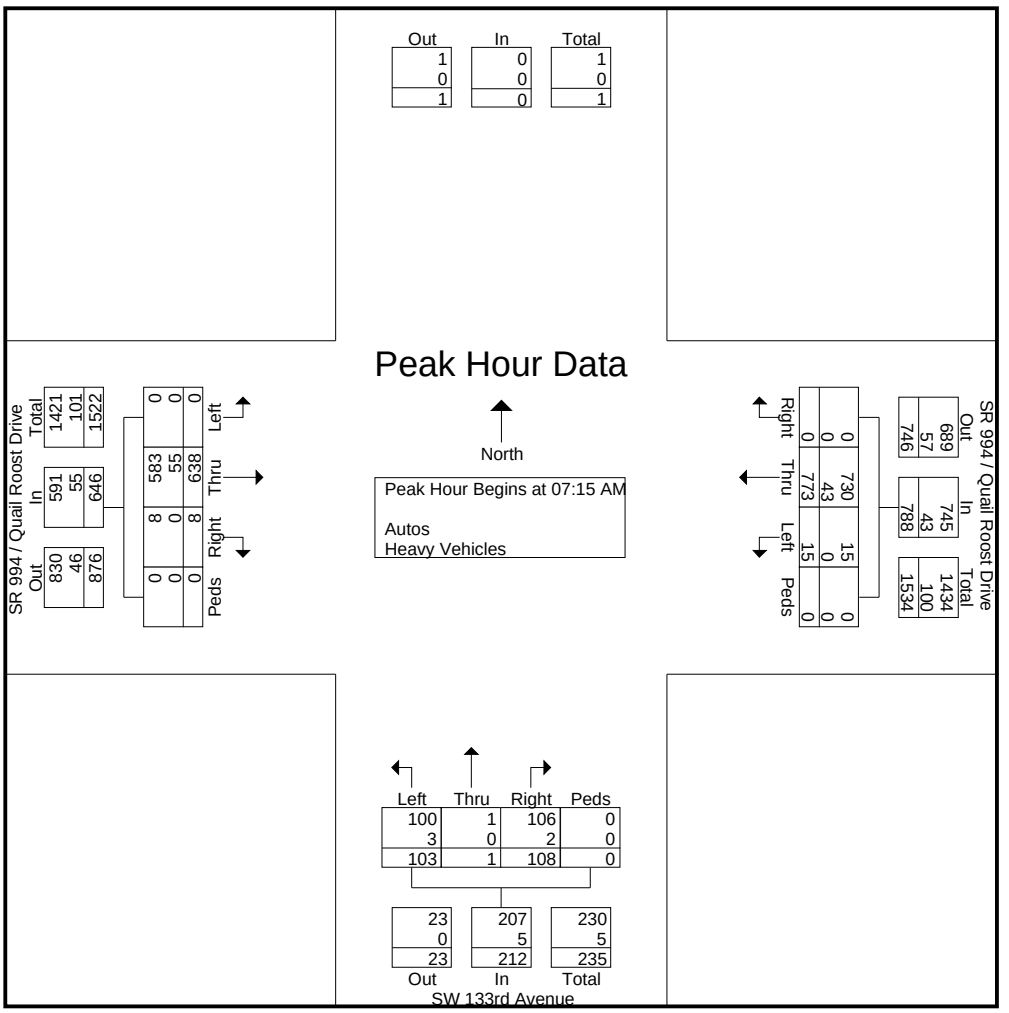
Groups Printed- Autos - Heavy Vehicles

	South bound	SR 994 / Quail Roost Drive Westbound					SW 133rd Avenue Northbound					SR 994 / Quail Roost Drive Eastbound					
Start Time	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
06:30 AM	0	0	137	3	0	140	9	0	6	0	15	0	126	0	0	126	281
06:45 AM	0	0	126	1	0	127	12	0	4	0	16	0	108	0	0	108	251
Total	0	0	263	4	0	267	21	0	10	0	31	0	234	0	0	234	532
07:00 AM	0	0	163	6	0	169	15	0	18	0	33	0	136	0	0	136	338
07:15 AM	0	0	194	5	0	199	35	0	24	0	59	3	159	0	0	162	420
07:30 AM	0	0	208	3	0	211	27	0	35	0	62	1	144	0	0	145	418
07:45 AM	0	0	186	2	0	188	28	0	32	0	60	1	151	0	0	152	400
Total	0	0	751	16	0	767	105	0	109	0	214	5	590	0	0	595	1576
08:00 AM	0	0	185	5	0	190	18	1	12	0	31	3	184	0	0	187	408
08:15 AM	0	0	191	3	0	194	7	0	18	0	25	7	192	0	0	199	418
08:30 AM	0	0	185	3	0	188	12	0	10	0	22	2	192	0	0	194	404
08:45 AM	0	0	112	2	0	114	4	0	5	0	9	2	190	0	0	192	315
Total	0	0	673	13	0	686	41	1	45	0	87	14	758	0	0	772	1545
09:00 AM	0	0	112	4	0	116	13	0	4	0	17	3	114	0	0	117	250
09:15 AM	0	0	97	3	0	100	7	0	4	2	13	1	106	0	0	107	220
*** BREAK ***																	
Total	0	0	209	7	0	216	20	0	8	2	30	4	220	0	0	224	470
*** BREAK ***																	
03:30 PM	0	0	180	4	0	184	11	0	6	0	17	1	155	0	0	156	357
03:45 PM	0	0	201	9	0	210	4	0	6	0	10	3	130	0	0	133	353
Total	0	0	381	13	0	394	15	0	12	0	27	4	285	0	0	289	710
04:00 PM	0	0	161	4	0	165	3	0	3	0	6	1	147	0	0	148	319
04:15 PM	0	0	142	12	0	154	3	0	2	0	5	2	146	0	0	148	307
04:30 PM	0	0	156	6	0	162	4	0	5	0	9	3	155	0	0	158	329
04:45 PM	0	0	146	4	0	150	3	0	1	0	4	2	162	0	0	164	318
Total	0	0	605	26	0	631	13	0	11	0	24	8	610	0	0	618	1273
05:00 PM	0	0	150	5	0	155	5	0	5	0	10	3	138	0	0	141	306
05:15 PM	0	0	151	11	0	162	4	0	2	0	6	4	178	0	0	182	350
05:30 PM	0	0	161	3	0	164	2	0	2	0	4	3	159	0	0	162	330
05:45 PM	0	0	171	9	0	180	5	0	1	0	6	4	126	0	0	130	316
Total	0	0	633	28	0	661	16	0	10	0	26	14	601	0	0	615	1302
06:00 PM	0	0	148	4	0	152	5	0	3	0	8	0	144	0	0	144	304
06:15 PM	0	0	156	6	0	162	4	0	3	0	7	2	133	0	0	135	304
Grand Total	0	0	3819	117	0	3936	240	1	211	2	454	51	3575	0	0	3626	8016
Apprch %		0	97	3	0		52.9	0.2	46.5	0.4		1.4	98.6	0	0		
Total %	0	0	47.6	1.5	0	49.1	3	0	2.6	0	5.7	0.6	44.6	0	0	45.2	
Autos	0	0	3589	110	0	3699	234	1	207	2	444	48	3320	0	0	3368	7511
% Autos	0	0	94	94	0	94	97.5	100	98.1	100	97.8	94.1	92.9	0	0	92.9	93.7
Heavy Vehicles	0	0	230	7	0	237	6	0	4	0	10	3	255	0	0	258	505
% Heavy Vehicles	0	0	6	6	0	6	2.5	0	1.9	0	2.2	5.9	7.1	0	0	7.1	6.3

Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 133rd Ave
Site Code : 99413301
Start Date : 9/9/2021
Page No : 2

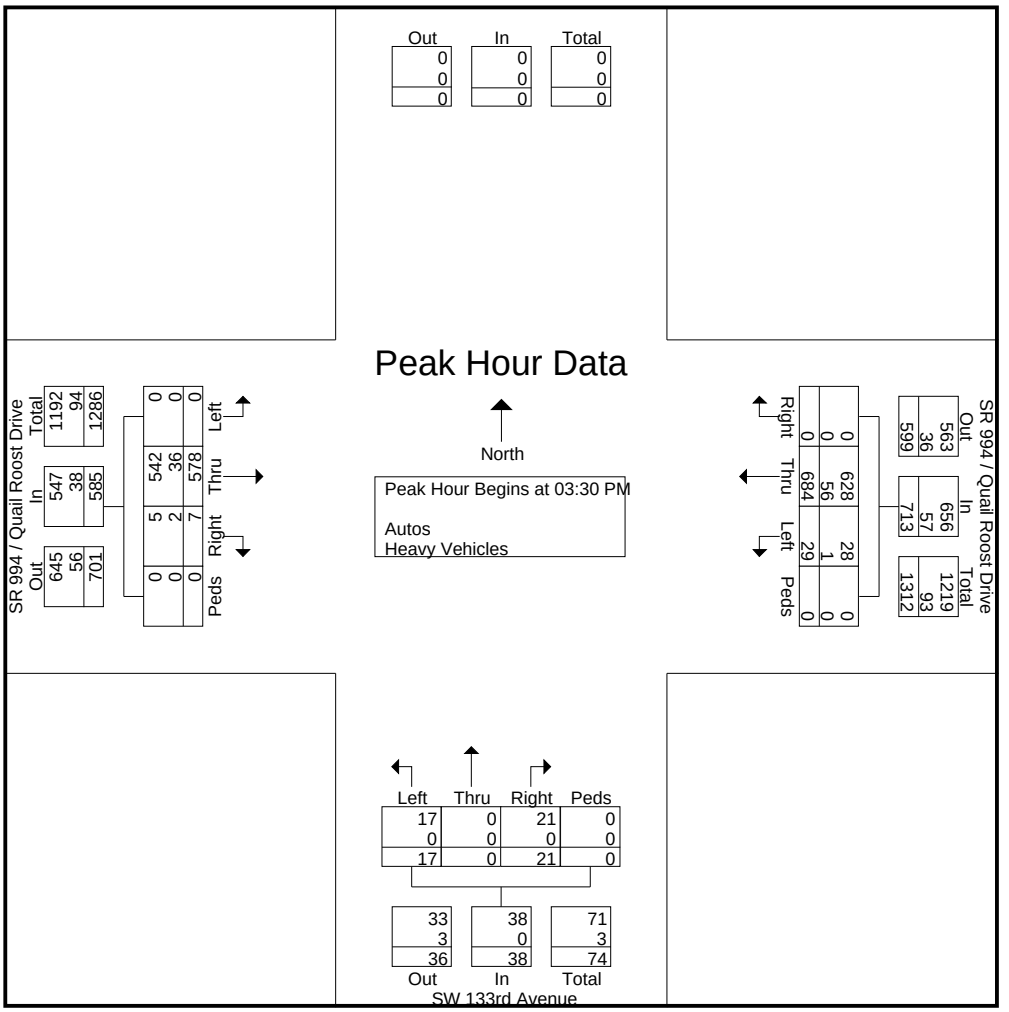
	South bound	SR 994 / Quail Roost Drive Westbound					SW 133rd Avenue Northbound					SR 994 / Quail Roost Drive Eastbound					
Start Time	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	194	**5**	0	199	**35**	0	24	0	59	**3**	159	0	0	162	**420**
07:30 AM	0	0	**208**	3	0	**211**	27	0	**35**	0	**62**	1	144	0	0	145	418
07:45 AM	0	0	186	2	0	188	28	0	32	0	60	1	151	0	0	152	400
08:00 AM	0	0	185	5	0	190	18	**1**	12	0	31	3	**184**	0	0	**187**	408
Total Volume	0	0	773	15	0	788	108	1	103	0	212	8	638	0	0	646	1646
% App. Total		0	98.1	1.9	0		50.9	0.5	48.6	0		1.2	98.8	0	0		
PHF	.000	.000	.929	.750	.000	.934	.771	.250	.736	.000	.855	.667	.867	.000	.000	.864	.980
Autos	0	0	730	15	0	745	106	1	100	0	207	8	583	0	0	591	1543
% Autos	0	0	94.4	100	0	94.5	98.1	100	97.1	0	97.6	100	91.4	0	0	91.5	93.7
Heavy Vehicles	0	0	43	0	0	43	2	0	3	0	5	0	55	0	0	55	103
% Heavy Vehicles	0	0	5.6	0	0	5.5	1.9	0	2.9	0	2.4	0	8.6	0	0	8.5	6.3



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 133rd Ave
Site Code : 99413301
Start Date : 9/9/2021
Page No : 3

	South bound	SR 994 / Quail Roost Drive Westbound					SW 133rd Avenue Northbound					SR 994 / Quail Roost Drive Eastbound					
Start Time	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	0	0	180	4	0	184	**11**	0	**6**	0	**17**	1	**155**	0	0	**156**	**357**
03:45 PM	0	0	**201**	9	0	**210**	4	0	6	0	10	**3**	130	0	0	133	353
04:00 PM	0	0	161	4	0	165	3	0	3	0	6	1	147	0	0	148	319
04:15 PM	0	0	142	**12**	0	154	3	0	2	0	5	2	146	0	0	148	307
Total Volume	0	0	684	29	0	713	21	0	17	0	38	7	578	0	0	585	1336
% App. Total		0	95.9	4.1	0		55.3	0	44.7	0		1.2	98.8	0	0		
PHF	.000	.000	.851	.604	.000	.849	.477	.000	.708	.000	.559	.583	.932	.000	.000	.938	.936
Autos	0	0	628	28	0	656	21	0	17	0	38	5	542	0	0	547	1241
% Autos	0	0	91.8	96.6	0	92.0	100	0	100	0	100	71.4	93.8	0	0	93.5	92.9
Heavy Vehicles	0	0	56	1	0	57	0	0	0	0	0	2	36	0	0	38	95
% Heavy Vehicles	0	0	8.2	3.4	0	8.0	0	0	0	0	0	28.6	6.2	0	0	6.5	7.1



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

Trucks

SR 994/Quail Roost Dr and SW 133rd Ave
Thursday, Sept 9, 2001
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 133rd Ave
Site Code : 99413301
Start Date : 9/9/2021

Groups Printed- Heavy Vehicles

	South bound	SR 994 / Quail Roost Drive Westbound					SW 133rd Avenue Northbound					SR 994 / Quail Roost Drive Eastbound					
Start Time	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
06:30 AM	0	0	2	1	0	3	0	0	0	0	0	0	20	0	0	20	23
06:45 AM	0	0	6	0	0	6	0	0	0	0	0	0	8	0	0	8	14
Total	0	0	8	1	0	9	0	0	0	0	0	0	28	0	0	28	37
07:00 AM	0	0	7	2	0	9	2	0	0	0	2	0	15	0	0	15	26
07:15 AM	0	0	12	0	0	12	1	0	1	0	2	0	16	0	0	16	30
07:30 AM	0	0	10	0	0	10	0	0	1	0	1	0	11	0	0	11	22
07:45 AM	0	0	10	0	0	10	0	0	1	0	1	0	10	0	0	10	21
Total	0	0	39	2	0	41	3	0	3	0	6	0	52	0	0	52	99
08:00 AM	0	0	11	0	0	11	1	0	0	0	1	0	18	0	0	18	30
08:15 AM	0	0	13	1	0	14	1	0	0	0	1	0	17	0	0	17	32
08:30 AM	0	0	10	0	0	10	0	0	0	0	0	0	14	0	0	14	24
08:45 AM	0	0	7	0	0	7	0	0	0	0	0	1	20	0	0	21	28
Total	0	0	41	1	0	42	2	0	0	0	2	1	69	0	0	70	114
09:00 AM	0	0	3	0	0	3	1	0	0	0	1	0	15	0	0	15	19
09:15 AM	0	0	5	1	0	6	0	0	1	0	1	0	6	0	0	6	13
*** BREAK ***																	
Total	0	0	8	1	0	9	1	0	1	0	2	0	21	0	0	21	32
*** BREAK ***																	
03:30 PM	0	0	18	1	0	19	0	0	0	0	0	1	8	0	0	9	28
03:45 PM	0	0	12	0	0	12	0	0	0	0	0	1	6	0	0	7	19
Total	0	0	30	1	0	31	0	0	0	0	0	2	14	0	0	16	47
04:00 PM	0	0	14	0	0	14	0	0	0	0	0	0	14	0	0	14	28
04:15 PM	0	0	12	0	0	12	0	0	0	0	0	0	8	0	0	8	20
04:30 PM	0	0	15	0	0	15	0	0	0	0	0	0	8	0	0	8	23
04:45 PM	0	0	9	0	0	9	0	0	0	0	0	0	7	0	0	7	16
Total	0	0	50	0	0	50	0	0	0	0	0	0	37	0	0	37	87
05:00 PM	0	0	13	0	0	13	0	0	0	0	0	0	9	0	0	9	22
05:15 PM	0	0	7	0	0	7	0	0	0	0	0	0	5	0	0	5	12
05:30 PM	0	0	4	0	0	4	0	0	0	0	0	0	6	0	0	6	10
05:45 PM	0	0	11	1	0	12	0	0	0	0	0	0	5	0	0	5	17
Total	0	0	35	1	0	36	0	0	0	0	0	0	25	0	0	25	61
06:00 PM	0	0	9	0	0	9	0	0	0	0	0	0	4	0	0	4	13
06:15 PM	0	0	10	0	0	10	0	0	0	0	0	0	5	0	0	5	15
Grand Total	0	0	230	7	0	237	6	0	4	0	10	3	255	0	0	258	505
Apprch %		0	97	3	0		60	0	40	0		1.2	98.8	0	0		
Total %	0	0	45.5	1.4	0	46.9	1.2	0	0.8	0	2	0.6	50.5	0	0	51.1	

Choice Engineering Consultants, Inc
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Miami, FL. 33186

SR 994/Quail Roost Dr and SW 132nd Place
Tuesday, Sept 14, 2021
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 132nd Pl
Site Code : 99413201
Start Date : 9/14/2021
Page No : 1

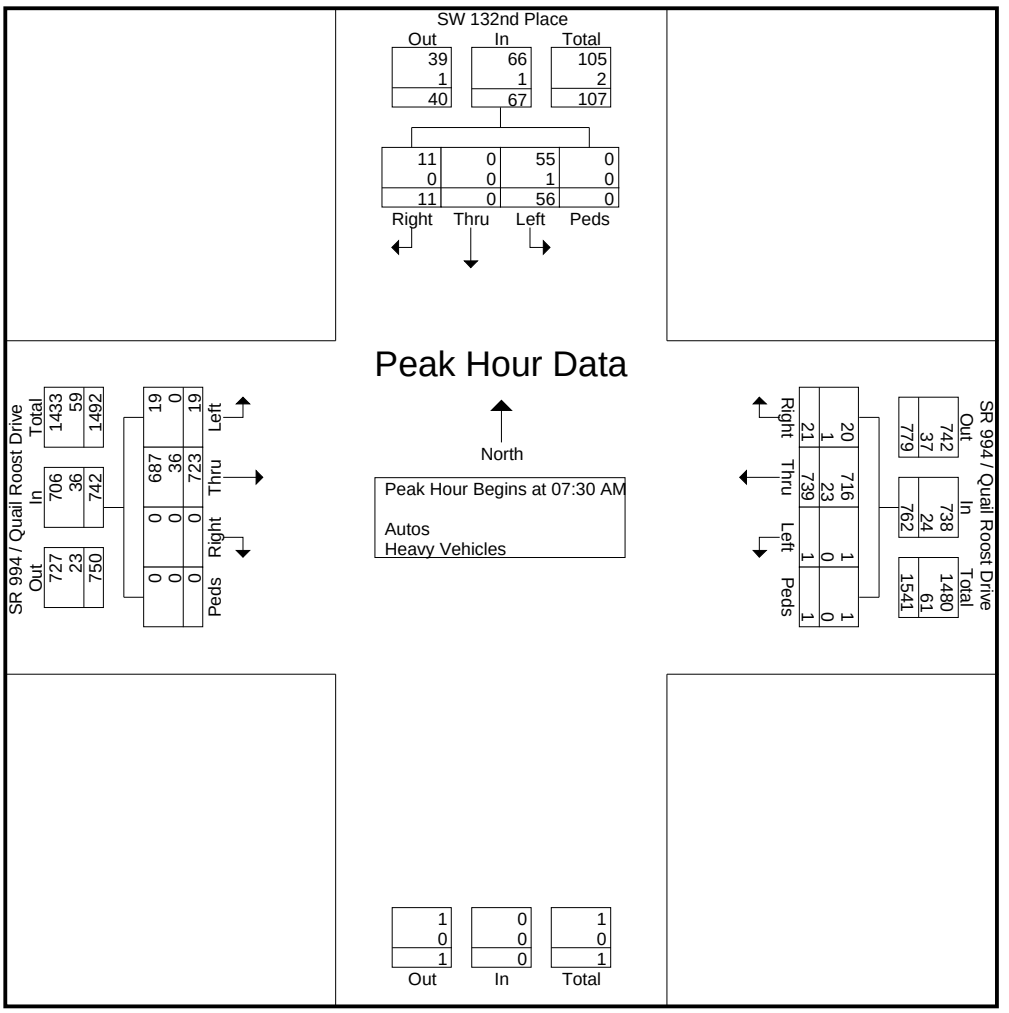
Groups Printed- Autos - Heavy Vehicles

	SW 132nd Place Southbound					SR 994 / Quail Roost Drive Westbound					Northb ound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
06:30 AM	0	0	2	0	2	0	125	0	0	125	0	0	117	0	0	117	244
06:45 AM	0	0	4	0	4	0	140	0	0	140	0	0	110	7	0	117	261
Total	0	0	6	0	6	0	265	0	0	265	0	0	227	7	0	234	505
07:00 AM	3	0	3	0	6	5	178	0	0	183	0	0	148	1	0	149	338
07:15 AM	1	0	7	0	8	1	182	0	0	183	0	0	167	5	0	172	363
07:30 AM	1	0	9	0	10	5	190	0	0	195	0	0	191	4	0	195	400
07:45 AM	4	0	19	0	23	9	173	0	0	182	0	0	151	7	0	158	363
Total	9	0	38	0	47	20	723	0	0	743	0	0	657	17	0	674	1464
08:00 AM	2	0	19	0	21	6	190	1	0	197	0	0	189	5	0	194	412
08:15 AM	4	0	9	0	13	1	186	0	1	188	0	0	192	3	0	195	396
08:30 AM	3	0	4	0	7	2	149	0	0	151	0	1	136	1	0	138	296
08:45 AM	0	0	2	0	2	2	115	0	0	117	0	0	163	1	0	164	283
Total	9	0	34	0	43	11	640	1	1	653	0	1	680	10	0	691	1387
09:00 AM	1	0	0	0	1	0	126	0	0	126	0	0	123	0	0	123	250
09:15 AM	3	0	3	0	6	0	102	0	0	102	0	0	117	0	0	117	225
*** BREAK ***																	
Total	4	0	3	0	7	0	228	0	0	228	0	0	240	0	0	240	475
*** BREAK ***																	
03:30 PM	1	0	5	0	6	2	173	0	0	175	0	0	178	0	0	178	359
03:45 PM	0	0	3	0	3	5	192	0	0	197	0	0	149	0	0	149	349
Total	1	0	8	0	9	7	365	0	0	372	0	0	327	0	0	327	708
04:00 PM	2	0	6	0	8	2	143	0	1	146	0	0	173	0	0	173	327
04:15 PM	1	0	4	0	5	3	172	0	0	175	0	0	149	0	0	149	329
04:30 PM	4	0	1	0	5	2	171	0	0	173	0	0	168	1	0	169	347
04:45 PM	3	0	3	1	7	3	165	0	0	168	0	0	166	0	0	166	341
Total	10	0	14	1	25	10	651	0	1	662	0	0	656	1	0	657	1344
05:00 PM	4	0	5	0	9	6	167	0	0	173	0	0	147	1	0	148	330
05:15 PM	2	0	5	0	7	4	149	0	0	153	0	0	172	1	0	173	333
05:30 PM	2	0	4	0	6	2	147	0	0	149	0	0	166	2	0	168	323
05:45 PM	0	0	4	0	4	2	146	0	0	148	0	0	169	1	0	170	322
Total	8	0	18	0	26	14	609	0	0	623	0	0	654	5	0	659	1308
06:00 PM	0	0	3	0	3	3	123	0	0	126	0	0	163	0	0	163	292
06:15 PM	0	0	5	0	5	5	167	0	0	172	0	0	131	1	0	132	309
Grand Total	41	0	129	1	171	70	3771	1	2	3844	0	1	3735	41	0	3777	7792
Apprch %	24	0	75.4	0.6		1.8	98.1	0	0.1			0	98.9	1.1	0		
Total %	0.5	0	1.7	0	2.2	0.9	48.4	0	0	49.3	0	0	47.9	0.5	0	48.5	
Autos	40	0	128	1	169	69	3625	1	2	3697	0	0	3625	41	0	3666	7532
% Autos	97.6	0	99.2	100	98.8	98.6	96.1	100	100	96.2	0	0	97.1	100	0	97.1	96.7
Heavy Vehicles	1	0	1	0	2	1	146	0	0	147	0	1	110	0	0	111	260
% Heavy Vehicles	2.4	0	0.8	0	1.2	1.4	3.9	0	0	3.8	0	100	2.9	0	0	2.9	3.3

Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 132nd Pl
Site Code : 99413201
Start Date : 9/14/2021
Page No : 2

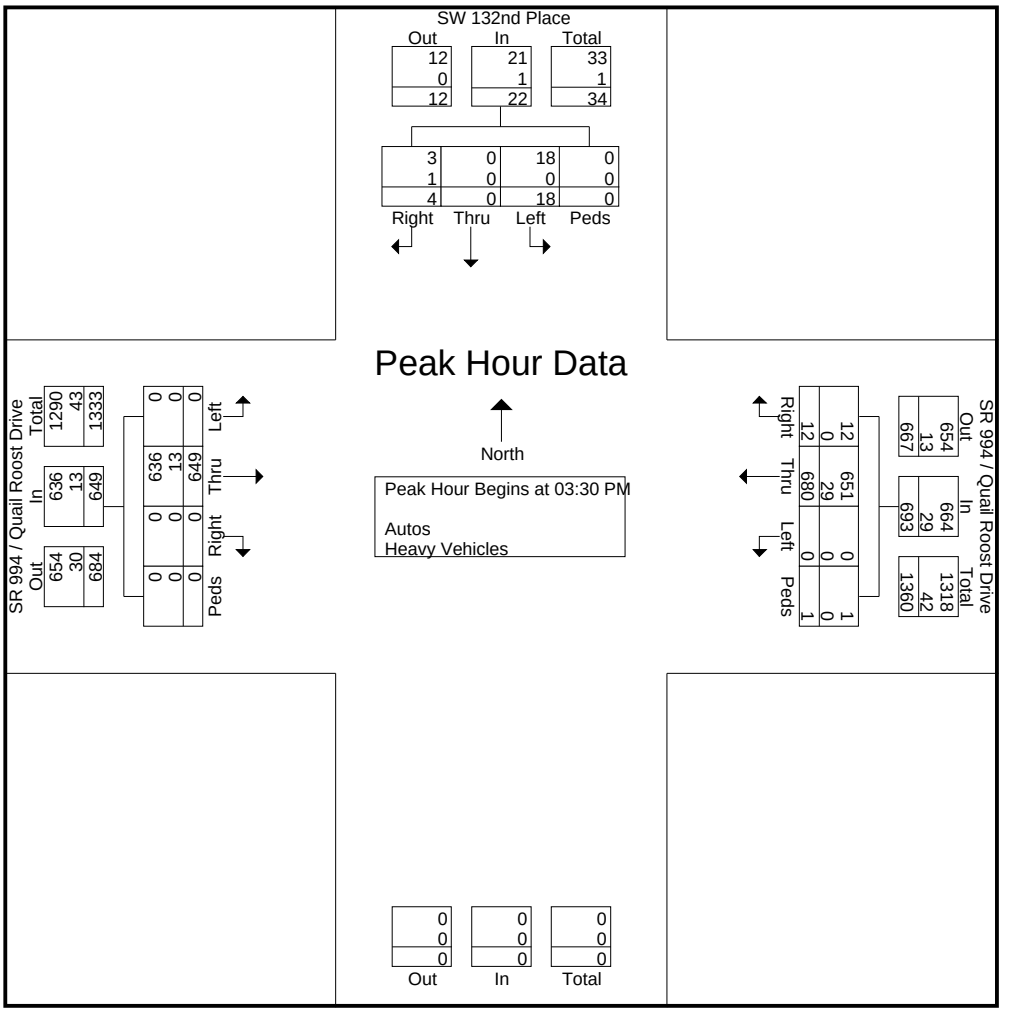
	SW 132nd Place Southbound					SR 994 / Quail Roost Drive Westbound					Northbound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	1	0	9	0	10	5	**190**	0	0	195	0	0	191	4	0	**195**	400
07:45 AM	**4**	0	**19**	0	**23**	**9**	173	0	0	182	0	0	151	**7**	0	158	363
08:00 AM	2	0	19	0	21	6	190	**1**	0	**197**	0	0	189	5	0	194	**412**
08:15 AM	4	0	9	0	13	1	186	0	**1**	188	0	0	**192**	3	0	195	396
Total Volume	11	0	56	0	67	21	739	1	1	762	0	0	723	19	0	742	1571
% App. Total	16.4	0	83.6	0		2.8	97	0.1	0.1			0	97.4	2.6	0		
PHF	.688	.000	.737	.000	.728	.583	.972	.250	.250	.967	.000	.000	.941	.679	.000	.951	.953
Autos	11	0	55	0	66	20	716	1	1	738	0	0	687	19	0	706	1510
% Autos	100	0	98.2	0	98.5	95.2	96.9	100	100	96.9	0	0	95.0	100	0	95.1	96.1
Heavy Vehicles	0	0	1	0	1	1	23	0	0	24	0	0	36	0	0	36	61
% Heavy Vehicles	0	0	1.8	0	1.5	4.8	3.1	0	0	3.1	0	0	5.0	0	0	4.9	3.9



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 132nd Pl
Site Code : 99413201
Start Date : 9/14/2021
Page No : 3

	SW 132nd Place Southbound					SR 994 / Quail Roost Drive Westbound					Northbound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	1	0	5	0	6	2	173	0	0	175	0	0	**178**	0	0	**178**	**359**
03:45 PM	0	0	3	0	3	**5**	**192**	0	0	**197**	0	0	149	0	0	149	349
04:00 PM	**2**	0	**6**	0	**8**	2	143	0	**1**	146	0	0	173	0	0	173	327
04:15 PM	1	0	4	0	5	3	172	0	0	175	0	0	149	0	0	149	329
Total Volume	4	0	18	0	22	12	680	0	1	693	0	0	649	0	0	649	1364
% App. Total	18.2	0	81.8	0		1.7	98.1	0	0.1			0	100	0	0		
PHF	.500	.000	.750	.000	.688	.600	.885	.000	.250	.879	.000	.000	.912	.000	.000	.912	.950
Autos	3	0	18	0	21	12	651	0	1	664	0	0	636	0	0	636	1321
% Autos	75.0	0	100	0	95.5	100	95.7	0	100	95.8	0	0	98.0	0	0	98.0	96.8
Heavy Vehicles	1	0	0	0	1	0	29	0	0	29	0	0	13	0	0	13	43
% Heavy Vehicles	25.0	0	0	0	4.5	0	4.3	0	0	4.2	0	0	2.0	0	0	2.0	3.2



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

Trucks

SR 994/Quail Roost Dr and SW 132nd Place
Tuesday, Sept 14, 2021
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 132nd Pl
Site Code : 99413201
Start Date : 9/14/2021

Groups Printed- Heavy Vehicles

	SW 132nd Place Southbound					SR 994 / Quail Roost Drive Westbound					Northb ound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
06:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	8	0	0	8	11
06:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	4	0	0	4	7
Total	0	0	0	0	0	0	6	0	0	6	0	0	12	0	0	12	18
07:00 AM	0	0	0	0	0	0	8	0	0	8	0	0	6	0	0	6	14
07:15 AM	0	0	0	0	0	0	9	0	0	9	0	0	9	0	0	9	18
07:30 AM	0	0	0	0	0	1	6	0	0	7	0	0	6	0	0	6	13
07:45 AM	0	0	1	0	1	0	2	0	0	2	0	0	7	0	0	7	10
Total	0	0	1	0	1	1	25	0	0	26	0	0	28	0	0	28	55
08:00 AM	0	0	0	0	0	0	8	0	0	8	0	0	13	0	0	13	21
08:15 AM	0	0	0	0	0	0	7	0	0	7	0	0	10	0	0	10	17
08:30 AM	0	0	0	0	0	0	10	0	0	10	0	1	4	0	0	5	15
08:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	4	0	0	4	7
Total	0	0	0	0	0	0	28	0	0	28	0	1	31	0	0	32	60
09:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	5	0	0	5	6
09:15 AM	0	0	0	0	0	0	10	0	0	10	0	0	6	0	0	6	16
*** BREAK ***																	
Total	0	0	0	0	0	0	11	0	0	11	0	0	11	0	0	11	22
*** BREAK ***																	
03:30 PM	0	0	0	0	0	0	8	0	0	8	0	0	5	0	0	5	13
03:45 PM	0	0	0	0	0	0	7	0	0	7	0	0	3	0	0	3	10
Total	0	0	0	0	0	0	15	0	0	15	0	0	8	0	0	8	23
04:00 PM	1	0	0	0	1	0	6	0	0	6	0	0	2	0	0	2	9
04:15 PM	0	0	0	0	0	0	8	0	0	8	0	0	3	0	0	3	11
04:30 PM	0	0	0	0	0	0	8	0	0	8	0	0	3	0	0	3	11
04:45 PM	0	0	0	0	0	0	9	0	0	9	0	0	1	0	0	1	10
Total	1	0	0	0	1	0	31	0	0	31	0	0	9	0	0	9	41
05:00 PM	0	0	0	0	0	0	6	0	0	6	0	0	2	0	0	2	8
05:15 PM	0	0	0	0	0	0	9	0	0	9	0	0	3	0	0	3	12
05:30 PM	0	0	0	0	0	0	4	0	0	4	0	0	2	0	0	2	6
05:45 PM	0	0	0	0	0	0	4	0	0	4	0	0	2	0	0	2	6
Total	0	0	0	0	0	0	23	0	0	23	0	0	9	0	0	9	32
06:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	2	0	0	2	4
06:15 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	5
Grand Total	1	0	1	0	2	1	146	0	0	147	0	1	110	0	0	111	260
Apprch %	50	0	50	0		0.7	99.3	0	0			0.9	99.1	0	0		
Total %	0.4	0	0.4	0	0.8	0.4	56.2	0	0	56.5	0	0.4	42.3	0	0	42.7	

Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

SR 994/Quail Roost Dr and SW 132nd Ave
Wednesday, Sept 8, 2021
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 132nd Ave
Site Code : 99413211
Start Date : 9/8/2021
Page No : 1

Groups Printed- Autos - Heavy Vehicles

	South bound	SW 132nd Avenue Westbound					SR 994 / Quail Roost Drive Northbound					SW 132nd Avenue Eastbound					
Start Time	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
06:30 AM	0	0	142	8	0	150	41	0	10	0	51	2	103	0	0	105	306
06:45 AM	0	0	137	10	0	147	50	0	11	0	61	5	139	0	0	144	352
Total	0	0	279	18	0	297	91	0	21	0	112	7	242	0	0	249	658
07:00 AM	0	0	167	12	0	179	47	0	13	0	60	4	127	0	0	131	370
07:15 AM	0	0	192	14	0	206	37	0	11	0	48	5	178	0	0	183	437
07:30 AM	0	0	210	15	0	225	77	0	10	0	87	5	162	0	1	168	480
07:45 AM	0	0	215	11	0	226	48	0	11	0	59	0	182	0	0	182	467
Total	0	0	784	52	0	836	209	0	45	0	254	14	649	0	1	664	1754
08:00 AM	0	0	177	20	0	197	40	0	8	0	48	3	192	0	0	195	440
08:15 AM	0	0	166	19	0	185	33	0	8	0	41	3	219	0	0	222	448
08:30 AM	0	0	156	19	0	175	31	0	8	0	39	6	221	0	0	227	441
08:45 AM	0	0	119	14	0	133	32	0	9	0	41	11	137	0	0	148	322
Total	0	0	618	72	0	690	136	0	33	0	169	23	769	0	0	792	1651
09:00 AM	0	0	122	4	0	126	20	0	8	0	28	4	131	0	0	135	289
09:15 AM	0	0	96	14	0	110	21	0	9	0	30	3	121	0	0	124	264
*** BREAK ***																	
Total	0	0	218	18	0	236	41	0	17	0	58	7	252	0	0	259	553
*** BREAK ***																	
03:30 PM	0	0	126	31	0	157	14	0	5	0	19	14	198	0	0	212	388
03:45 PM	0	0	159	37	0	196	13	0	8	0	21	14	170	0	0	184	401
Total	0	0	285	68	0	353	27	0	13	0	40	28	368	0	0	396	789
04:00 PM	0	0	164	38	0	202	16	0	7	0	23	14	165	0	0	179	404
04:15 PM	0	0	163	58	0	221	21	0	2	0	23	11	142	0	0	153	397
04:30 PM	0	0	127	35	0	162	14	0	5	0	19	10	148	0	0	158	339
04:45 PM	0	0	168	34	0	202	19	0	6	0	25	13	146	0	0	159	386
Total	0	0	622	165	0	787	70	0	20	0	90	48	601	0	0	649	1526
05:00 PM	0	0	169	34	0	203	17	0	6	0	23	10	135	0	0	145	371
05:15 PM	0	0	166	47	0	213	11	0	9	0	20	14	154	0	0	168	401
05:30 PM	0	0	142	40	0	182	17	0	4	0	21	11	148	0	0	159	362
05:45 PM	0	0	137	50	0	187	18	0	4	0	22	17	113	0	0	130	339
Total	0	0	614	171	0	785	63	0	23	0	86	52	550	0	0	602	1473
06:00 PM	0	0	117	36	0	153	20	0	7	0	27	21	100	0	0	121	301
06:15 PM	0	0	136	44	0	180	27	0	6	0	33	9	122	0	0	131	344
Grand Total	0	0	3673	644	0	4317	684	0	185	0	869	209	3653	0	1	3863	9049
Apprch %		0	85.1	14.9	0		78.7	0	21.3	0		5.4	94.6	0	0		
Total %	0	0	40.6	7.1	0	47.7	7.6	0	2	0	9.6	2.3	40.4	0	0	42.7	
Autos	0	0	3382	605	0	3987	650	0	173	0	823	199	3373	0	1	3573	8383
% Autos	0	0	92.1	93.9	0	92.4	95	0	93.5	0	94.7	95.2	92.3	0	100	92.5	92.6
Heavy Vehicles	0	0	291	39	0	330	34	0	12	0	46	10	280	0	0	290	666
% Heavy Vehicles	0	0	7.9	6.1	0	7.6	5	0	6.5	0	5.3	4.8	7.7	0	0	7.5	7.4

Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
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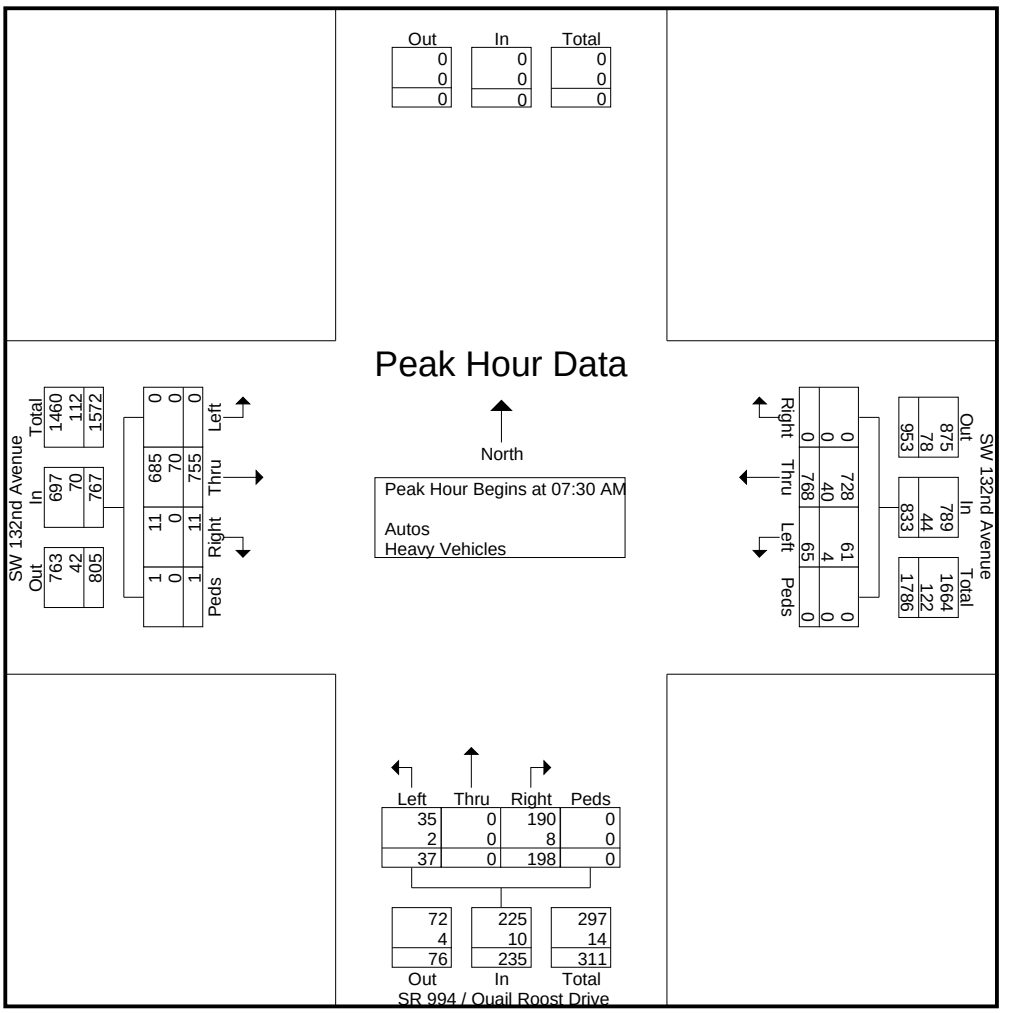
File Name : SW 132nd Ave
Site Code : 99413211
Start Date : 9/8/2021
Page No : 2

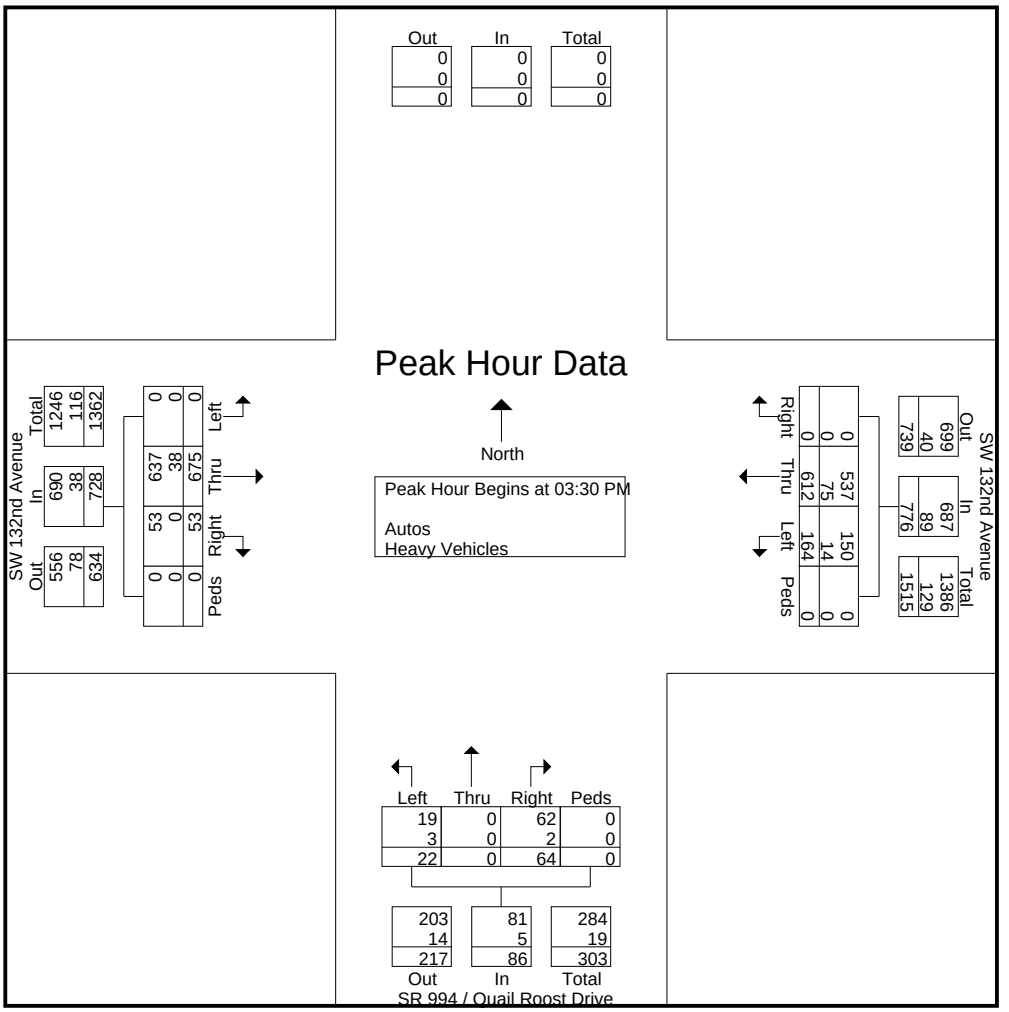
	South bound	SW 132nd Avenue Westbound					SR 994 / Quail Roost Drive Northbound					SW 132nd Avenue Eastbound					
Start Time	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	210	15	0	225	**77**	0	10	0	**87**	**5**	162	0	**1**	168	**480**
07:45 AM	0	0	**215**	11	0	**226**	48	0	**11**	0	59	0	182	0	0	182	467
08:00 AM	0	0	177	**20**	0	197	40	0	8	0	48	3	192	0	0	195	440
08:15 AM	0	0	166	19	0	185	33	0	8	0	41	3	**219**	0	0	**222**	448
Total Volume	0	0	768	65	0	833	198	0	37	0	235	11	755	0	1	767	1835
% App. Total		0	92.2	7.8	0		84.3	0	15.7	0		1.4	98.4	0	0.1		
PHF	.000	.000	.893	.813	.000	.921	.643	.000	.841	.000	.675	.550	.862	.000	.250	.864	.956
Autos	0	0	728	61	0	789	190	0	35	0	225	11	685	0	1	697	1711
% Autos	0	0	94.8	93.8	0	94.7	96.0	0	94.6	0	95.7	100	90.7	0	100	90.9	93.2
Heavy Vehicles	0	0	40	4	0	44	8	0	2	0	10	0	70	0	0	70	124
% Heavy Vehicles	0	0	5.2	6.2	0	5.3	4.0	0	5.4	0	4.3	0	9.3	0	0	9.1	6.8



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 132nd Ave
Site Code : 99413211
Start Date : 9/8/2021
Page No : 3

	South bound	SW 132nd Avenue Westbound					SR 994 / Quail Roost Drive Northbound					SW 132nd Avenue Eastbound					
Start Time	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	0	0	126	31	0	157	14	0	5	0	19	**14**	**198**	0	0	**212**	388
03:45 PM	0	0	159	37	0	196	13	0	**8**	0	21	14	170	0	0	184	401
04:00 PM	0	0	**164**	38	0	202	16	0	7	0	**23**	14	165	0	0	179	**404**
04:15 PM	0	0	163	**58**	0	**221**	**21**	0	2	0	23	11	142	0	0	153	397
Total Volume	0	0	612	164	0	776	64	0	22	0	86	53	675	0	0	728	1590
% App. Total		0	78.9	21.1	0		74.4	0	25.6	0		7.3	92.7	0	0		
PHF	.000	.000	.933	.707	.000	.878	.762	.000	.688	.000	.935	.946	.852	.000	.000	.858	.984
Autos	0	0	537	150	0	687	62	0	19	0	81	53	637	0	0	690	1458
% Autos	0	0	87.7	91.5	0	88.5	96.9	0	86.4	0	94.2	100	94.4	0	0	94.8	91.7
Heavy Vehicles	0	0	75	14	0	89	2	0	3	0	5	0	38	0	0	38	132
% Heavy Vehicles	0	0	12.3	8.5	0	11.5	3.1	0	13.6	0	5.8	0	5.6	0	0	5.2	8.3



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

Trucks

SR 994/Quail Roost Dr and SW 132nd Ave
Wednesday, Sept 8, 2021
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 132nd Ave
Site Code : 99413211
Start Date : 9/8/2021
Page No : 1

Groups Printed- Heavy Vehicles

	South bound	SW 132nd Avenue Westbound					SR 994 / Quail Roost Drive Northbound					SW 132nd Avenue Eastbound					
Start Time	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
06:30 AM	0	0	6	1	0	7	4	0	2	0	6	0	15	0	0	15	28
06:45 AM	0	0	9	1	0	10	1	0	0	0	1	0	14	0	0	14	25
Total	0	0	15	2	0	17	5	0	2	0	7	0	29	0	0	29	53
07:00 AM	0	0	6	2	0	8	2	0	0	0	2	1	8	0	0	9	19
07:15 AM	0	0	16	1	0	17	2	0	0	0	2	0	13	0	0	13	32
07:30 AM	0	0	8	1	0	9	2	0	0	0	2	0	11	0	0	11	22
07:45 AM	0	0	7	0	0	7	0	0	1	0	1	0	21	0	0	21	29
Total	0	0	37	4	0	41	6	0	1	0	7	1	53	0	0	54	102
08:00 AM	0	0	12	2	0	14	3	0	1	0	4	0	16	0	0	16	34
08:15 AM	0	0	13	1	0	14	3	0	0	0	3	0	22	0	0	22	39
08:30 AM	0	0	20	0	0	20	5	0	1	0	6	0	20	0	0	20	46
08:45 AM	0	0	13	1	0	14	1	0	1	0	2	1	10	0	0	11	27
Total	0	0	58	4	0	62	12	0	3	0	15	1	68	0	0	69	146
09:00 AM	0	0	15	0	0	15	2	0	1	0	3	2	21	0	0	23	41
09:15 AM	0	0	8	2	0	10	4	0	0	0	4	0	19	0	0	19	33
*** BREAK ***																	
Total	0	0	23	2	0	25	6	0	1	0	7	2	40	0	0	42	74
*** BREAK ***																	
03:30 PM	0	0	20	3	0	23	0	0	0	0	0	0	15	0	0	15	38
03:45 PM	0	0	18	6	0	24	0	0	2	0	2	0	9	0	0	9	35
Total	0	0	38	9	0	47	0	0	2	0	2	0	24	0	0	24	73
04:00 PM	0	0	17	2	0	19	2	0	1	0	3	0	10	0	0	10	32
04:15 PM	0	0	20	3	0	23	0	0	0	0	0	0	4	0	0	4	27
04:30 PM	0	0	15	1	0	16	0	0	1	0	1	1	6	0	0	7	24
04:45 PM	0	0	15	3	0	18	0	0	1	0	1	1	9	0	0	10	29
Total	0	0	67	9	0	76	2	0	3	0	5	2	29	0	0	31	112
05:00 PM	0	0	7	1	0	8	0	0	0	0	0	0	5	0	0	5	13
05:15 PM	0	0	10	2	0	12	1	0	0	0	1	1	9	0	0	10	23
05:30 PM	0	0	8	0	0	8	0	0	0	0	0	0	8	0	0	8	16
05:45 PM	0	0	11	3	0	14	1	0	0	0	1	0	3	0	0	3	18
Total	0	0	36	6	0	42	2	0	0	0	2	1	25	0	0	26	70
06:00 PM	0	0	10	1	0	11	0	0	0	0	0	3	4	0	0	7	18
06:15 PM	0	0	7	2	0	9	1	0	0	0	1	0	8	0	0	8	18
Grand Total	0	0	291	39	0	330	34	0	12	0	46	10	280	0	0	290	666
Apprch %		0	88.2	11.8	0		73.9	0	26.1	0		3.4	96.6	0	0		
Total %	0	0	43.7	5.9	0	49.5	5.1	0	1.8	0	6.9	1.5	42	0	0	43.5	

Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

SR 994/Quail Roost Dr and SW 130th Ave
Tuesday, Sept 14, 2021
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 130th Ave
Site Code : 99413001
Start Date : 9/14/2021
Page No : 1

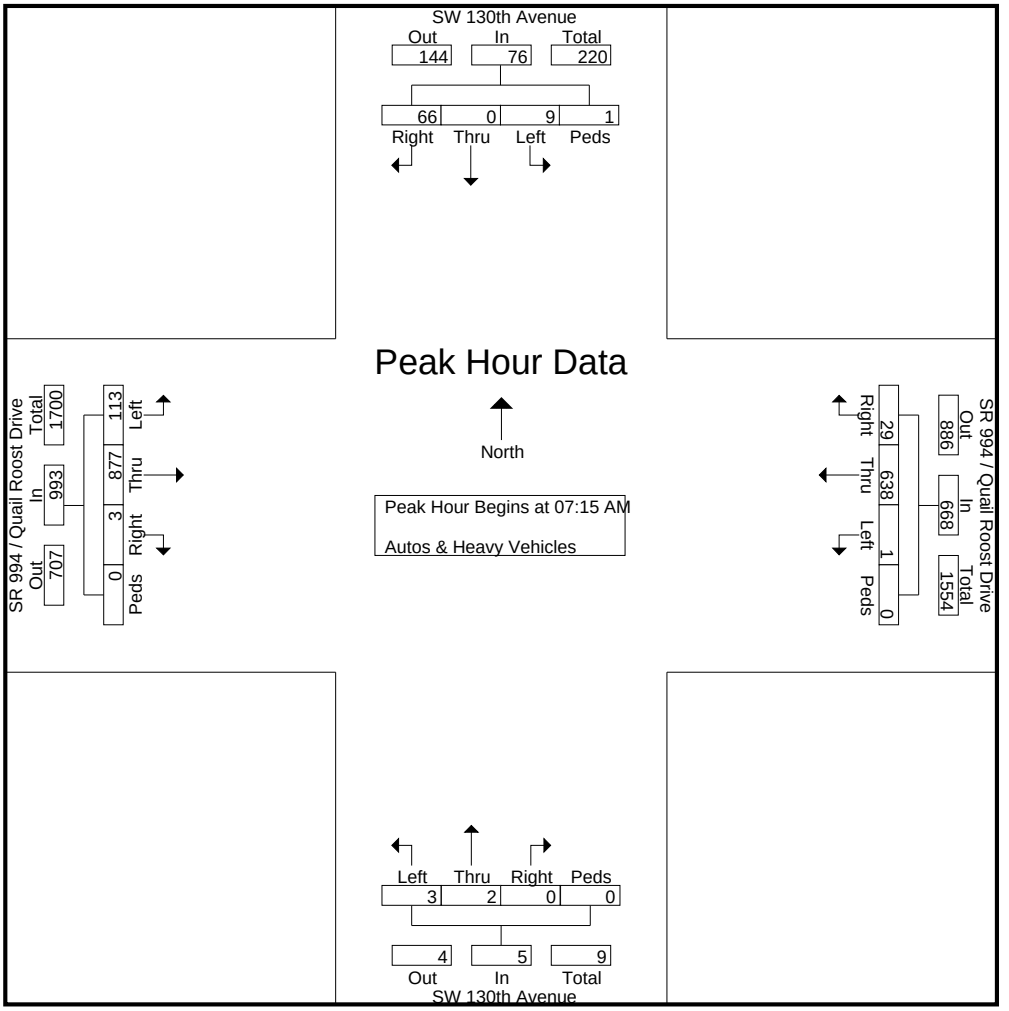
Groups Printed- Autos - Heavy Vehicles

	SW 130th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					SW 130th Avenue Northbound					SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
06:30 AM	5	0	1	0	6	2	112	1	0	115	2	0	0	0	2	0	197	6	0	203	326
06:45 AM	6	0	2	0	8	3	148	0	0	151	0	0	0	0	0	0	124	4	0	128	287
Total	11	0	3	0	14	5	260	1	0	266	2	0	0	0	2	0	321	10	0	331	613
07:00 AM	7	0	1	1	9	4	152	0	0	156	2	0	0	0	2	0	198	8	0	206	373
07:15 AM	5	0	0	0	5	9	160	1	0	170	0	2	1	0	3	0	209	16	0	225	403
07:30 AM	13	0	3	0	16	4	158	0	0	162	0	0	0	0	0	0	229	31	0	260	438
07:45 AM	28	0	5	1	34	9	164	0	0	173	0	0	0	0	0	1	226	44	0	271	478
Total	53	0	9	2	64	26	634	1	0	661	2	2	1	0	5	1	862	99	0	962	1692
08:00 AM	20	0	1	0	21	7	156	0	0	163	0	0	2	0	2	2	213	22	0	237	423
08:15 AM	12	0	2	1	15	4	151	0	0	155	0	0	1	0	1	0	189	13	0	202	373
08:30 AM	5	0	1	0	6	5	131	0	0	136	1	0	1	0	2	1	170	5	0	176	320
08:45 AM	8	0	2	0	10	0	99	7	0	106	1	0	0	0	1	0	184	4	0	188	305
Total	45	0	6	1	52	16	537	7	0	560	2	0	4	0	6	3	756	44	0	803	1421
09:00 AM	7	0	0	0	7	2	125	0	0	127	2	0	0	0	2	1	142	4	0	147	283
09:15 AM	3	0	4	0	7	4	123	1	0	128	2	0	1	0	3	1	131	3	0	135	273
*** BREAK ***																					
Total	10	0	4	0	14	6	248	1	0	255	4	0	1	0	5	2	273	7	0	282	556
*** BREAK ***																					
03:30 PM	14	1	2	0	17	5	211	0	0	216	0	0	0	0	0	1	172	14	0	187	420
03:45 PM	20	1	1	0	22	9	200	0	0	209	1	0	0	0	1	1	155	11	0	167	399
Total	34	2	3	0	39	14	411	0	0	425	1	0	0	0	1	2	327	25	0	354	819
04:00 PM	12	0	3	0	15	5	166	0	0	171	0	0	0	0	0	0	176	6	0	182	368
04:15 PM	14	1	4	0	19	9	201	0	2	212	0	0	1	0	1	2	161	8	0	171	403
04:30 PM	7	1	4	0	12	7	169	0	1	177	0	0	0	0	0	0	165	2	0	167	356
04:45 PM	8	0	2	0	10	6	192	0	0	198	0	0	1	0	1	2	194	6	0	202	411
Total	41	2	13	0	56	27	728	0	3	758	0	0	2	0	2	4	696	22	0	722	1538
05:00 PM	11	1	0	0	12	2	162	1	1	166	0	0	3	0	3	2	142	6	0	150	331
05:15 PM	4	0	3	0	7	5	187	1	1	194	0	0	0	0	0	4	177	8	0	189	390
05:30 PM	8	1	7	0	16	7	143	1	1	152	3	0	0	0	3	2	180	6	0	188	359
05:45 PM	3	1	1	0	5	5	162	0	0	167	1	0	0	0	1	1	160	3	0	164	337
Total	26	3	11	0	40	19	654	3	3	679	4	0	3	0	7	9	659	23	0	691	1417
06:00 PM	7	0	1	0	8	3	134	1	0	138	1	0	0	0	1	1	160	6	0	167	314
06:15 PM	5	0	3	1	9	8	179	0	0	187	0	1	1	0	2	2	148	6	0	156	354
Grand Total	232	7	53	4	296	124	3785	14	6	3929	16	3	12	0	31	24	4202	242	0	4468	8724
Apprch %	78.4	2.4	17.9	1.4		3.2	96.3	0.4	0.2		51.6	9.7	38.7	0		0.5	94	5.4	0		
Total %	2.7	0.1	0.6	0	3.4	1.4	43.4	0.2	0.1	45	0.2	0	0.1	0	0.4	0.3	48.2	2.8	0	51.2	
Autos	225	7	52	2	286	120	3577										3884				
% Autos	97	100	98.1	50	96.6	96.8	94.5	100	100	94.6	93.8	100	91.7	0	93.5	91.7	92.4	94.6	0	92.5	93.6
Heavy Vehicles																					
% Heavy Vehicles	3	0	1.9	50	3.4	3.2	5.5	0	0	5.4	6.2	0	8.3	0	6.5	8.3	7.6	5.4	0	7.5	6.4

Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 130th Ave
Site Code : 99413001
Start Date : 9/14/2021
Page No : 2

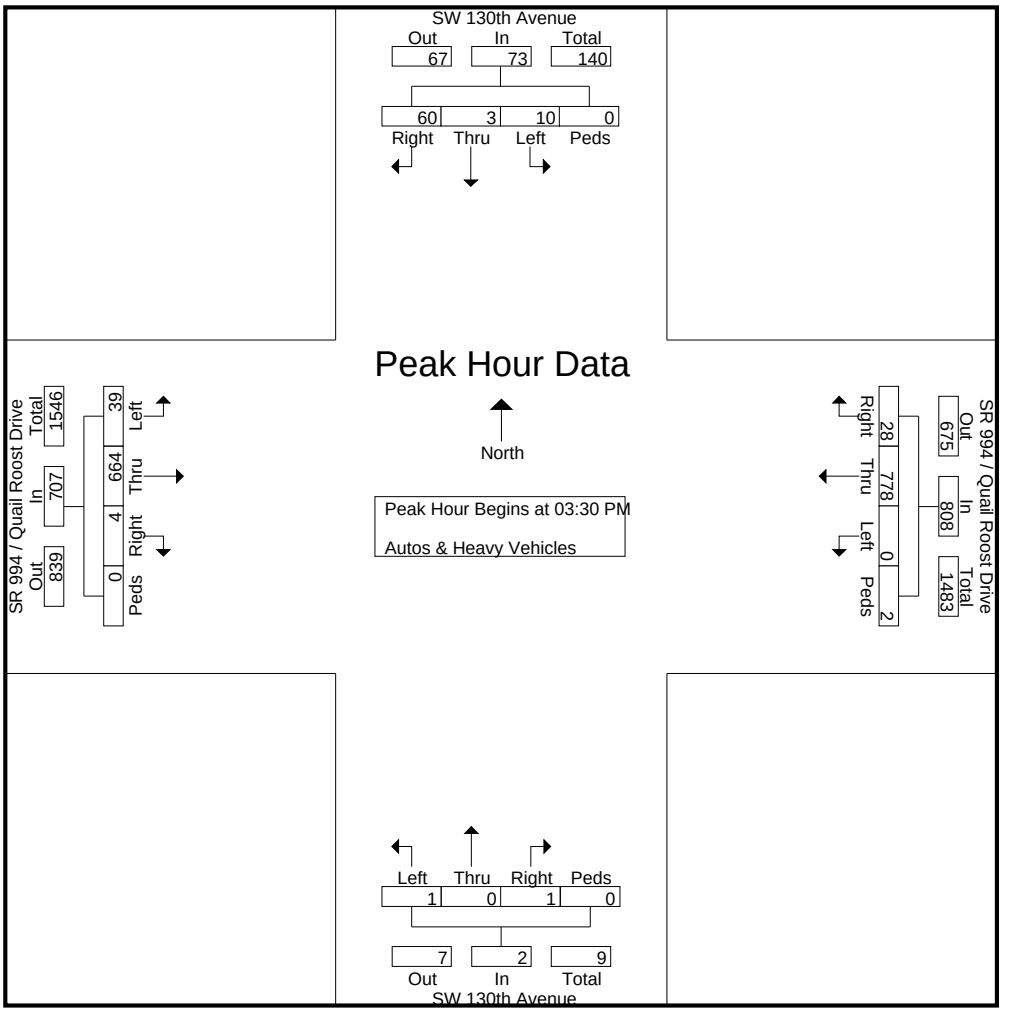
	SW 130th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					SW 130th Avenue Northbound					SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Peds & Bicycles	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	5	0	0	0	5	**9**	160	**1**	0	170	0	**2**	1	0	**3**	0	209	16	0	225	403
07:30 AM	13	0	3	0	16	4	158	0	0	162	0	0	0	0	0	0	**229**	31	0	260	438
07:45 AM	**28**	0	**5**	**1**	**34**	9	**164**	0	0	**173**	0	0	0	0	0	1	226	**44**	0	**271**	**478**
08:00 AM	20	0	1	0	21	7	156	0	0	163	0	0	**2**	0	2	**2**	213	22	0	237	423
Total Volume	66	0	9	1	76	29	638	1	0	668	0	2	3	0	5	3	877	113	0	993	1742
% App. Total	86.8	0	11.8	1.3		4.3	95.5	0.1	0		0	40	60	0		0.3	88.3	11.4	0		
PHF	.589	.000	.450	.250	.559	.806	.973	.250	.000	.965	.000	.250	.375	.000	.417	.375	.957	.642	.000	.916	.911



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 130th Ave
Site Code : 99413001
Start Date : 9/14/2021
Page No : 3

	SW 130th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					SW 130th Avenue Northbound					SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Peds & Bicycles	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	14	**1**	2	0	17	5	**211**	0	0	**216**	0	0	0	0	0	1	172	**14**	0	**187**	**420**
03:45 PM	**20**	1	1	0	**22**	**9**	200	0	0	209	**1**	0	0	0	**1**	1	155	11	0	167	399
04:00 PM	12	0	3	0	15	5	166	0	0	171	0	0	0	0	0	0	**176**	6	0	182	368
04:15 PM	14	1	**4**	0	19	9	201	0	**2**	212	0	0	**1**	0	1	**2**	161	8	0	171	403
Total Volume	60	3	10	0	73	28	778	0	2	808	1	0	1	0	2	4	664	39	0	707	1590
% App. Total	82.2	4.1	13.7	0		3.5	96.3	0	0.2		50	0	50	0		0.6	93.9	5.5	0		
PHF	.750	.750	.625	.000	.830	.778	.922	.000	.250	.935	.250	.000	.250	.000	.500	.500	.943	.696	.000	.945	.946



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

Trucks

SR 994/Quail Roost Dr and SW 130th Ave
Tuesday, Sept 14, 2021
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 130th Ave
Site Code : 99413001
Start Date : 9/14/2021
Page No : 1

Groups Printed- Heavy Vehicles

	SW 130th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					SW 130th Avenue Northbound					SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
06:30 AM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	36	1	0	37	46
06:45 AM	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	8	0	0	8	18
Total	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	44	1	0	45	64
07:00 AM	0	0	0	1	1	1	8	0	0	9	0	0	0	0	0	0	17	0	0	17	27
07:15 AM	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	21	1	0	22	36
07:30 AM	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	16	1	0	17	29
07:45 AM	1	0	0	0	1	0	7	0	0	7	0	0	0	0	0	1	28	0	0	29	37
Total	1	0	0	1	2	1	41	0	0	42	0	0	0	0	0	1	82	2	0	85	129
08:00 AM	0	0	0	0	0	2	15	0	0	17	0	0	0	0	0	0	28	4	0	32	49
08:15 AM	1	0	1	0	2	0	4	0	0	4	0	0	0	0	0	0	20	0	0	20	26
08:30 AM	1	0	0	0	1	0	9	0	0	9	0	0	0	0	0	0	10	0	0	10	20
08:45 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	17	0	0	17	23
Total	2	0	1	0	3	2	34	0	0	36	0	0	0	0	0	0	75	4	0	79	118
09:00 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	12	0	0	12	16
09:15 AM	0	0	0	0	0	0	12	0	0	12	1	0	0	0	1	0	17	1	0	18	31
*** BREAK ***																					
Total	0	0	0	0	0	0	16	0	0	16	1	0	0	0	1	0	29	1	0	30	47
*** BREAK ***																					
03:30 PM	0	0	0	0	0	1	14	0	0	15	0	0	0	0	0	0	15	2	0	17	32
03:45 PM	1	0	0	0	1	0	19	0	0	19	0	0	0	0	0	0	4	0	0	4	24
Total	1	0	0	0	1	1	33	0	0	34	0	0	0	0	0	0	19	2	0	21	56
04:00 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	5	2	0	7	12
04:15 PM	2	0	0	0	2	0	11	0	0	11	0	0	0	0	0	0	9	0	0	9	22
04:30 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	8	0	0	8	15
04:45 PM	1	0	0	0	1	0	7	0	0	7	0	0	1	0	1	0	11	0	0	11	20
Total	3	0	0	0	3	0	30	0	0	30	0	0	1	0	1	0	33	2	0	35	69
05:00 PM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	5	0	0	5	13
05:15 PM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	11	0	0	11	20
05:30 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	10
05:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5	1	0	6	8
Total	0	0	0	0	0	0	24	0	0	24	0	0	0	0	0	0	26	1	0	27	51
06:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	8	0	0	8	11
06:15 PM	0	0	0	1	1	0	8	0	0	8	0	0	0	0	0	1	2	0	0	3	12
Grand Total	7	0	1	2	10	4	208	0	0	212	1	0	1	0	2	2	318	13	0	333	557
Apprch %	70	0	10	20		1.9	98.1	0	0		50	0	50	0		0.6	95.5	3.9	0		
Total %	1.3	0	0.2	0.4	1.8	0.7	37.3	0	0	38.1	0.2	0	0.2	0	0.4	0.4	57.1	2.3	0	59.8	

Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

SR 994/Quail Roost Dr and SW 129th Ct
Tuesday, Sept 14, 2021
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 129th Ct
Site Code : 99412901
Start Date : 9/14/2021
Page No : 1

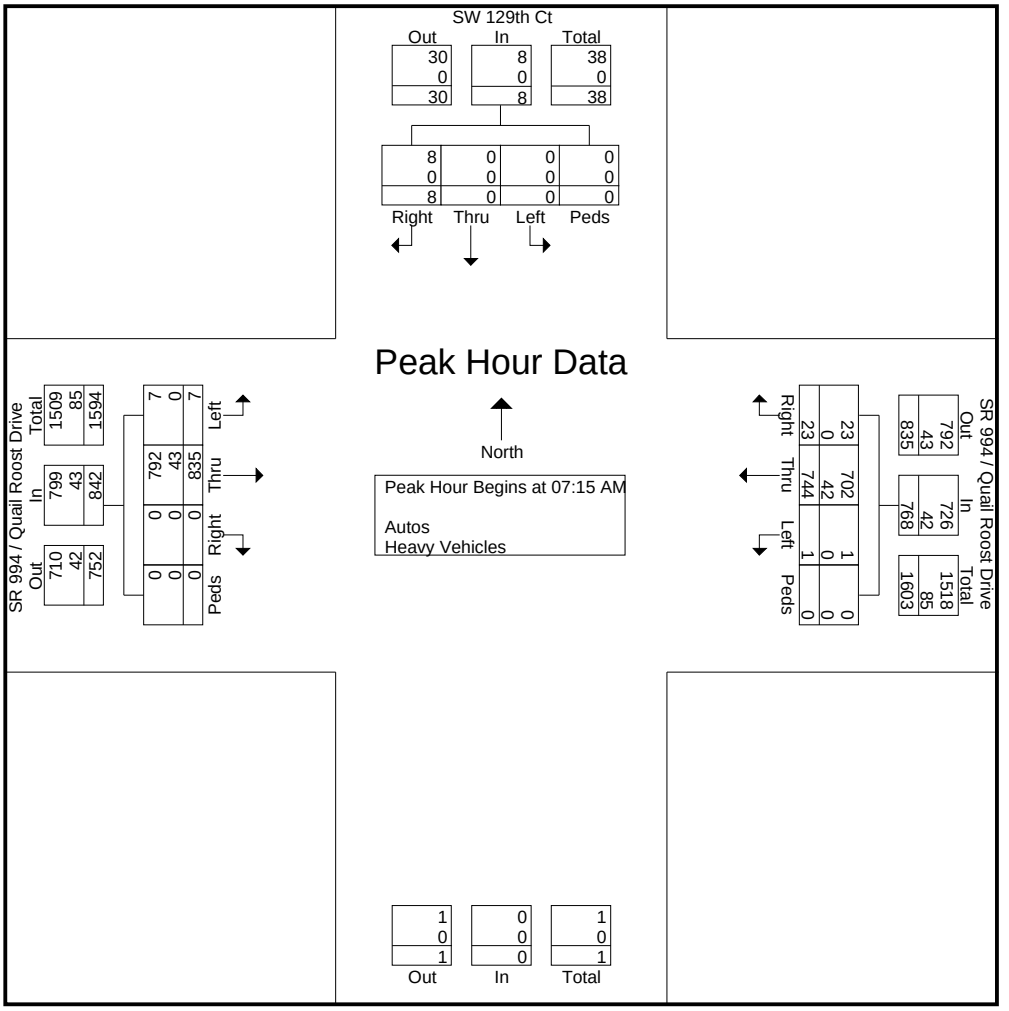
Groups Printed- Autos - Heavy Vehicles

	SW 129th Ct Southbound					SR 994 / Quail Roost Drive Westbound					Northb ound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Peds & Bicycles	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	Int. Total
06:30 AM	2	0	0	0	2	0	114	0	0	114	0	0	167	0	0	167	283
06:45 AM	3	0	0	0	3	1	156	0	0	157	0	0	150	0	0	150	310
Total	5	0	0	0	5	1	270	0	0	271	0	0	317	0	0	317	593
07:00 AM	0	0	0	0	0	1	194	0	0	195	0	0	192	0	0	192	387
07:15 AM	2	0	0	0	2	4	193	0	0	197	0	0	201	3	0	204	403
07:30 AM	3	0	0	0	3	8	178	1	0	187	0	0	225	1	0	226	416
07:45 AM	2	0	0	0	2	5	189	0	0	194	0	0	188	2	0	190	386
Total	7	0	0	0	7	18	754	1	0	773	0	0	806	6	0	812	1592
08:00 AM	1	0	0	0	1	6	184	0	0	190	0	0	221	1	0	222	413
08:15 AM	3	0	0	0	3	2	169	0	0	171	0	0	216	0	0	216	390
08:30 AM	0	0	0	0	0	2	171	0	0	173	0	0	180	0	0	180	353
08:45 AM	1	0	0	0	1	1	128	0	0	129	0	0	181	0	0	181	311
Total	5	0	0	0	5	11	652	0	0	663	0	0	798	1	0	799	1467
09:00 AM	0	0	0	0	0	1	188	0	0	189	0	0	147	0	0	147	336
09:15 AM	1	0	0	0	1	0	154	0	0	154	0	0	138	0	0	138	293
*** BREAK ***																	
Total	1	0	0	0	1	1	342	0	0	343	0	0	285	0	0	285	629
*** BREAK ***																	
03:30 PM	6	0	0	0	6	3	205	0	0	208	0	0	181	1	0	182	396
03:45 PM	6	0	0	0	6	2	208	0	0	210	0	0	149	1	0	150	366
Total	12	0	0	0	12	5	413	0	0	418	0	0	330	2	0	332	762
04:00 PM	4	0	0	0	4	0	177	0	0	177	0	0	177	1	0	178	359
04:15 PM	4	0	0	0	4	0	195	0	0	195	0	12	150	0	0	162	361
04:30 PM	3	0	0	0	3	2	203	0	0	205	0	0	272	0	0	272	480
04:45 PM	2	0	0	0	2	0	238	0	0	238	0	0	186	0	0	186	426
Total	13	0	0	0	13	2	813	0	0	815	0	12	785	1	0	798	1626
05:00 PM	2	0	0	0	2	2	211	0	0	213	0	0	153	0	0	153	368
05:15 PM	0	0	0	0	0	1	253	0	0	254	0	0	174	0	0	174	428
05:30 PM	3	0	0	0	3	1	238	0	0	239	0	0	179	0	0	179	421
05:45 PM	1	0	0	0	1	0	176	0	0	176	0	0	173	0	0	173	350
Total	6	0	0	0	6	4	878	0	0	882	0	0	679	0	0	679	1567
06:00 PM	7	0	0	0	7	1	175	0	0	176	0	0	155	0	0	155	338
06:15 PM	2	0	0	1	3	1	227	2	1	231	0	0	143	1	0	144	378
Grand Total	58	0	0	1	59	44	4524	3	1	4572	0	12	4298	11	0	4321	8952
Apprch %	98.3	0	0	1.7		1	99	0.1	0			0.3	99.5	0.3	0		
Total %	0.6	0	0	0	0.7	0.5	50.5	0	0	51.1	0	0.1	48	0.1	0	48.3	
Autos	57	0	0	0	57	42	4255	3	0	4300	0	12	4170	11	0	4193	8550
% Autos	98.3	0	0	0	96.6	95.5	94.1	100	0	94.1	0	100	97	100	0	97	95.5
Heavy Vehicles	1	0	0	1	2	2	269	0	1	272	0	0	128	0	0	128	402
% Heavy Vehicles	1.7	0	0	100	3.4	4.5	5.9	0	100	5.9	0	0	3	0	0	3	4.5

Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 129th Ct
Site Code : 99412901
Start Date : 9/14/2021
Page No : 2

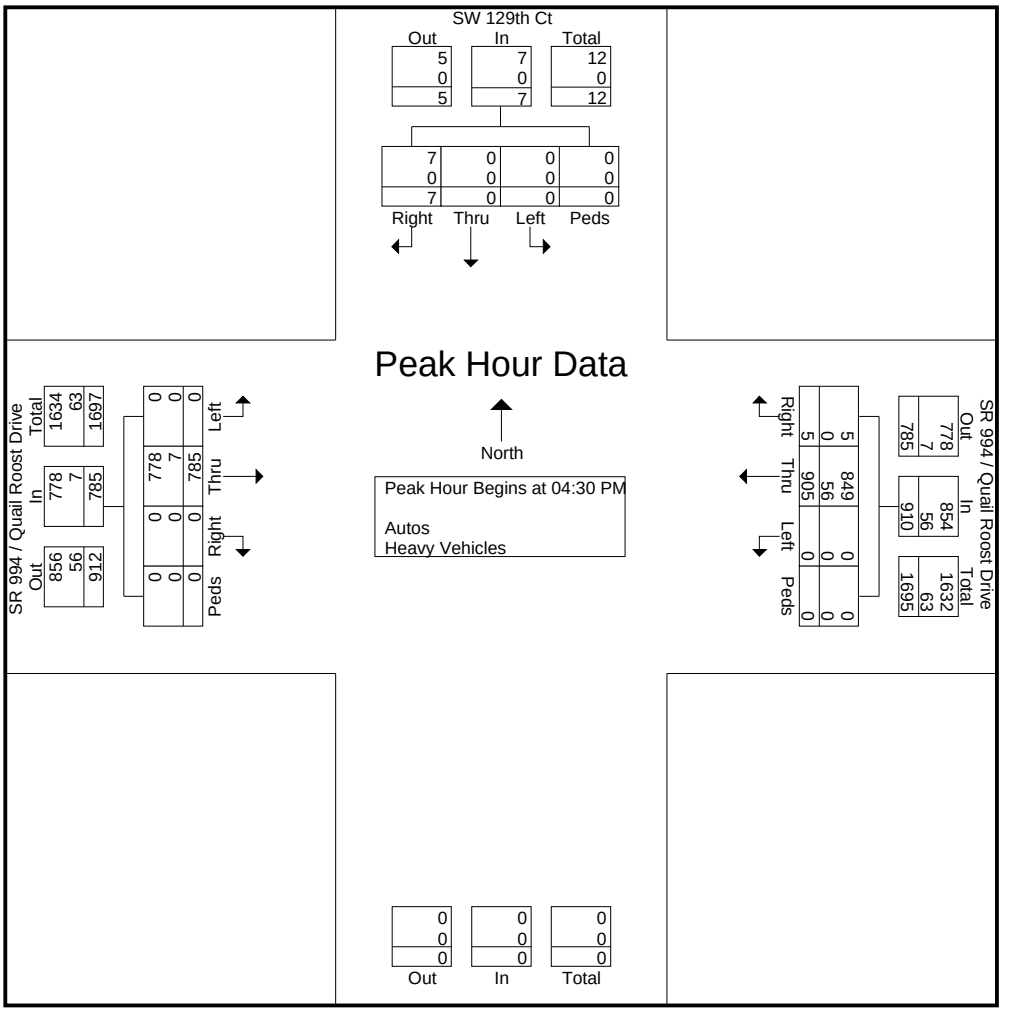
	SW 129th Ct Southbound					SR 994 / Quail Roost Drive Westbound					Northbound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Peds & Bicycles	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	2	0	0	0	2	4	**193**	0	0	**197**	0	0	201	**3**	0	204	403
07:30 AM	**3**	0	0	0	**3**	**8**	178	**1**	0	187	0	0	**225**	1	0	**226**	**416**
07:45 AM	2	0	0	0	2	5	189	0	0	194	0	0	188	2	0	190	386
08:00 AM	1	0	0	0	1	6	184	0	0	190	0	0	221	1	0	222	413
Total Volume	8	0	0	0	8	23	744	1	0	768	0	0	835	7	0	842	1618
% App. Total	100	0	0	0		3	96.9	0.1	0			0	99.2	0.8	0		
PHF	.667	.000	.000	.000	.667	.719	.964	.250	.000	.975	.000	.000	.928	.583	.000	.931	.972
Autos	8	0	0	0	8	23	702	1	0	726	0	0	792	7	0	799	1533
% Autos	100	0	0	0	100	100	94.4	100	0	94.5	0	0	94.9	100	0	94.9	94.7
Heavy Vehicles	0	0	0	0	0	0	42	0	0	42	0	0	43	0	0	43	85
% Heavy Vehicles	0	0	0	0	0	0	5.6	0	0	5.5	0	0	5.1	0	0	5.1	5.3



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 129th Ct
Site Code : 99412901
Start Date : 9/14/2021
Page No : 3

	SW 129th Ct Southbound					SR 994 / Quail Roost Drive Westbound					Northbound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Peds & Bicycles	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**3**	0	0	0	**3**	**2**	203	0	0	205	0	0	**272**	0	0	**272**	**480**
04:45 PM	2	0	0	0	2	0	238	0	0	238	0	0	186	0	0	186	426
05:00 PM	2	0	0	0	2	2	211	0	0	213	0	0	153	0	0	153	368
05:15 PM	0	0	0	0	0	1	**253**	0	0	**254**	0	0	174	0	0	174	428
Total Volume	7	0	0	0	7	5	905	0	0	910	0	0	785	0	0	785	1702
% App. Total	100	0	0	0		0.5	99.5	0	0			0	100	0	0		
PHF	.583	.000	.000	.000	.583	.625	.894	.000	.000	.896	.000	.000	.722	.000	.000	.722	.886
Autos	7	0	0	0	7	5	849	0	0	854	0	0	778	0	0	778	1639
% Autos	100	0	0	0	100	100	93.8	0	0	93.8	0	0	99.1	0	0	99.1	96.3
Heavy Vehicles	0	0	0	0	0	0	56	0	0	56	0	0	7	0	0	7	63
% Heavy Vehicles	0	0	0	0	0	0	6.2	0	0	6.2	0	0	0.9	0	0	0.9	3.7



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

Trucks

SR 994/Quail Roost Dr and SW 129th Ct
Tuesday, Sept 14, 2021
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 129th Ct
Site Code : 99412901
Start Date : 9/14/2021

Groups Printed- Heavy Vehicles

	SW 129th Ct Southbound					SR 994 / Quail Roost Drive Westbound					Northb ound	SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
06:30 AM	0	0	0	0	0	0	5	0	0	5	0	0	5	0	0	5	10
06:45 AM	0	0	0	0	0	0	11	0	0	11	0	0	2	0	0	2	13
Total	0	0	0	0	0	0	16	0	0	16	0	0	7	0	0	7	23
07:00 AM	0	0	0	0	0	0	9	0	0	9	0	0	6	0	0	6	15
07:15 AM	0	0	0	0	0	0	19	0	0	19	0	0	6	0	0	6	25
07:30 AM	0	0	0	0	0	0	7	0	0	7	0	0	5	0	0	5	12
07:45 AM	0	0	0	0	0	0	6	0	0	6	0	0	11	0	0	11	17
Total	0	0	0	0	0	0	41	0	0	41	0	0	28	0	0	28	69
08:00 AM	0	0	0	0	0	0	10	0	0	10	0	0	21	0	0	21	31
08:15 AM	0	0	0	0	0	0	5	0	0	5	0	0	17	0	0	17	22
08:30 AM	0	0	0	0	0	1	10	0	0	11	0	0	3	0	0	3	14
08:45 AM	1	0	0	0	1	0	4	0	0	4	0	0	5	0	0	5	10
Total	1	0	0	0	1	1	29	0	0	30	0	0	46	0	0	46	77
09:00 AM	0	0	0	0	0	1	5	0	0	6	0	0	7	0	0	7	13
09:15 AM	0	0	0	0	0	0	11	0	0	11	0	0	3	0	0	3	14
*** BREAK ***																	
Total	0	0	0	0	0	1	16	0	0	17	0	0	10	0	0	10	27
*** BREAK ***																	
03:30 PM	0	0	0	0	0	0	17	0	0	17	0	0	10	0	0	10	27
03:45 PM	0	0	0	0	0	0	21	0	0	21	0	0	4	0	0	4	25
Total	0	0	0	0	0	0	38	0	0	38	0	0	14	0	0	14	52
04:00 PM	0	0	0	0	0	0	9	0	0	9	0	0	4	0	0	4	13
04:15 PM	0	0	0	0	0	0	17	0	0	17	0	0	6	0	0	6	23
04:30 PM	0	0	0	0	0	0	11	0	0	11	0	0	4	0	0	4	15
04:45 PM	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	19
Total	0	0	0	0	0	0	56	0	0	56	0	0	14	0	0	14	70
05:00 PM	0	0	0	0	0	0	9	0	0	9	0	0	1	0	0	1	10
05:15 PM	0	0	0	0	0	0	17	0	0	17	0	0	2	0	0	2	19
05:30 PM	0	0	0	0	0	0	15	0	0	15	0	0	2	0	0	2	17
05:45 PM	0	0	0	0	0	0	10	0	0	10	0	0	3	0	0	3	13
Total	0	0	0	0	0	0	51	0	0	51	0	0	8	0	0	8	59
06:00 PM	0	0	0	0	0	0	8	0	0	8	0	0	1	0	0	1	9
06:15 PM	0	0	0	1	1	0	14	0	1	15	0	0	0	0	0	0	16
Grand Total	1	0	0	1	2	2	269	0	1	272	0	0	128	0	0	128	402
Apprch %	50	0	0	50		0.7	98.9	0	0.4			0	100	0	0		
Total %	0.2	0	0	0.2	0.5	0.5	66.9	0	0.2	67.7	0	0	31.8	0	0	31.8	

Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

SR 994/Quail Roost Dr and SW 129th Ave
Tuesday, Sept 14, 2001
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 129 Ave
Site Code : 99412913
Start Date : 9/14/2021
Page No : 1

Groups Printed- Autos - Heavy Vehicles

	SW 129th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					SW 129th Avenue Northbound					SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
06:30 AM	0	0	0	0	0	1	110	1	0	112	9	0	5	0	14	1	164	0	0	165	291
06:45 AM	0	0	1	0	1	1	144	4	0	149	7	0	3	0	10	1	153	0	0	154	314
Total	0	0	1	0	1	2	254	5	0	261	16	0	8	0	24	2	317	0	0	319	605
07:00 AM	0	0	2	0	2	0	163	0	0	163	15	0	6	1	22	1	190	0	0	191	378
07:15 AM	0	0	1	0	1	0	185	1	0	186	10	0	9	0	19	3	199	0	0	202	408
07:30 AM	1	0	3	0	4	1	180	3	0	184	16	0	10	1	27	0	226	1	0	227	442
07:45 AM	0	0	0	0	0	1	180	0	0	181	17	1	11	0	29	1	202	0	0	203	413
Total	1	0	6	0	7	2	708	4	0	714	58	1	36	2	97	5	817	1	0	823	1641
08:00 AM	1	0	0	0	1	0	179	7	0	186	19	0	8	0	27	0	218	1	0	219	433
08:15 AM	0	0	3	0	3	0	173	8	0	181	8	0	2	1	11	3	214	0	0	217	412
08:30 AM	0	0	1	0	1	0	137	4	0	141	7	0	3	1	11	5	174	0	0	179	332
08:45 AM	0	0	1	0	1	1	101	2	0	104	4	0	6	1	11	3	175	1	0	179	295
Total	1	0	5	0	6	1	590	21	0	612	38	0	19	3	60	11	781	2	0	794	1472
09:00 AM	1	0	1	0	2	0	125	2	0	127	5	0	1	0	6	5	145	0	0	150	285
09:15 AM	0	0	0	0	0	0	113	1	0	114	5	0	0	0	5	1	136	1	0	138	257
*** BREAK ***																					
Total	1	0	1	0	2	0	238	3	0	241	10	0	1	0	11	6	281	1	0	288	542
*** BREAK ***																					
03:30 PM	0	0	1	0	1	0	206	4	0	210	4	0	2	0	6	2	179	0	0	181	398
03:45 PM	0	0	0	0	0	2	202	7	0	211	5	0	3	0	8	3	149	0	0	152	371
Total	0	0	1	0	1	2	408	11	0	421	9	0	5	0	14	5	328	0	0	333	769
04:00 PM	0	0	3	0	3	2	175	2	0	179	4	0	2	1	7	2	175	0	0	177	366
04:15 PM	1	0	0	0	1	1	193	8	0	202	3	0	0	2	5	7	153	0	0	160	368
04:30 PM	1	0	0	0	1	3	180	11	0	194	4	0	2	2	8	2	156	0	0	158	361
04:45 PM	1	0	0	0	1	0	204	6	0	210	7	0	2	0	9	2	183	0	0	185	405
Total	3	0	3	0	6	6	752	27	0	785	18	0	6	5	29	13	667	0	0	680	1500
05:00 PM	0	0	0	0	0	0	192	13	0	205	7	0	4	0	11	3	148	0	0	151	367
05:15 PM	0	1	0	0	1	0	200	5	0	205	5	0	3	1	9	6	164	0	0	170	385
05:30 PM	0	0	0	0	0	1	183	14	0	198	7	0	2	1	10	4	180	0	0	184	392
05:45 PM	0	0	0	0	0	2	167	10	0	179	5	0	1	0	6	4	168	0	0	172	357
Total	0	1	0	0	1	3	742	42	0	787	24	0	10	2	36	17	660	0	0	677	1501
06:00 PM	1	0	0	0	1	0	158	10	0	168	6	0	3	0	9	2	155	0	0	157	335
06:15 PM	0	0	1	0	1	1	187	5	0	193	6	1	3	1	11	2	141	0	0	143	348
Grand Total	7	1	18	0	26	17	4037	128	0	4182	185	2	91	13	291	63	4147	4	0	4214	8713
Apprch %	26.9	3.8	69.2	0		0.4	96.5	3.1	0		63.6	0.7	31.3	4.5		1.5	98.4	0.1	0		
Total %	0.1	0	0.2	0	0.3	0.2	46.3	1.5	0	48	2.1	0	1	0.1	3.3	0.7	47.6	0	0	48.4	
Autos	7	1	18	0	26	17	3764										3951				
% Autos	100	100	100	0	100	100	93.2	96.1	0	93.4	99.5	100	96.7	76.9	97.6	95.2	95.3	100	0	95.3	94.4
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	6.8	3.9	0	6.6	0.5	0	3.3	23.1	2.4	4.8	4.7	0	0	4.7	5.6

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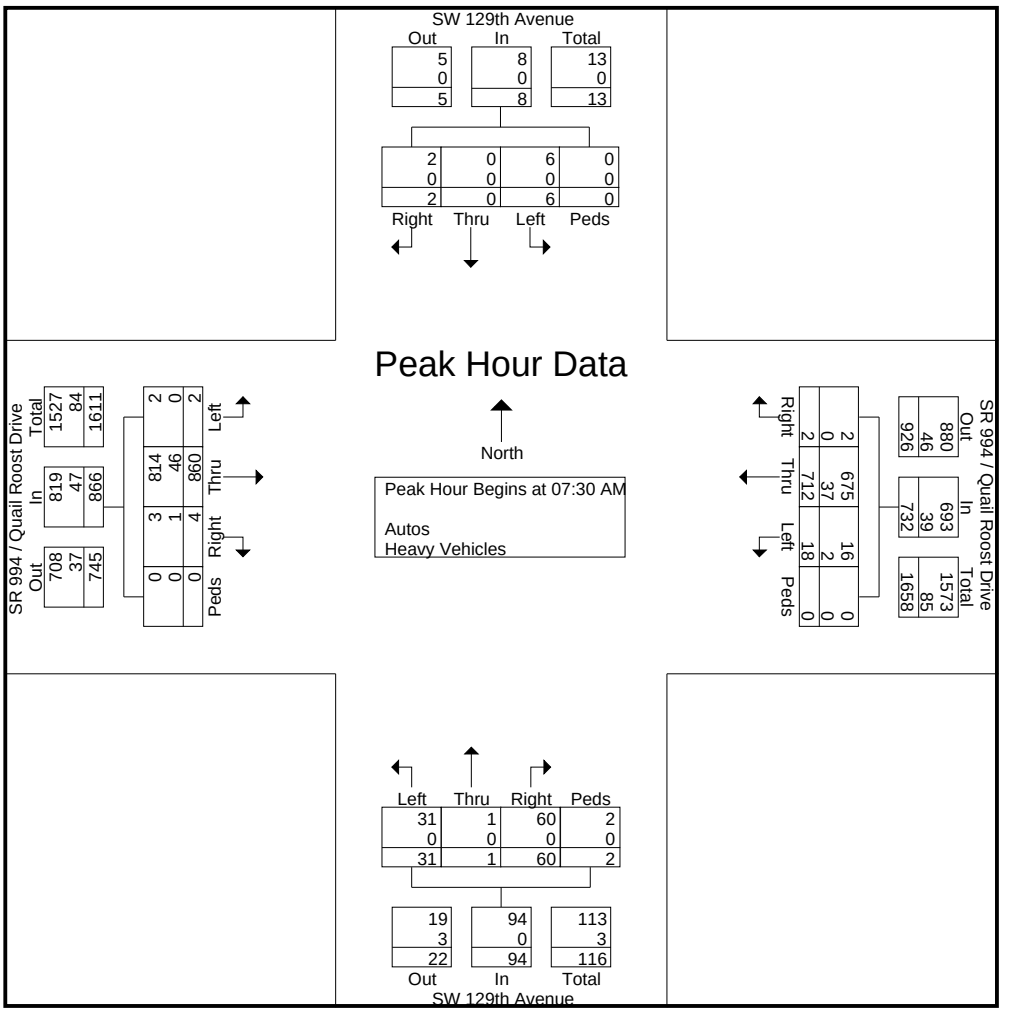
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 129 Ave
Site Code : 99412913
Start Date : 9/14/2021
Page No : 2

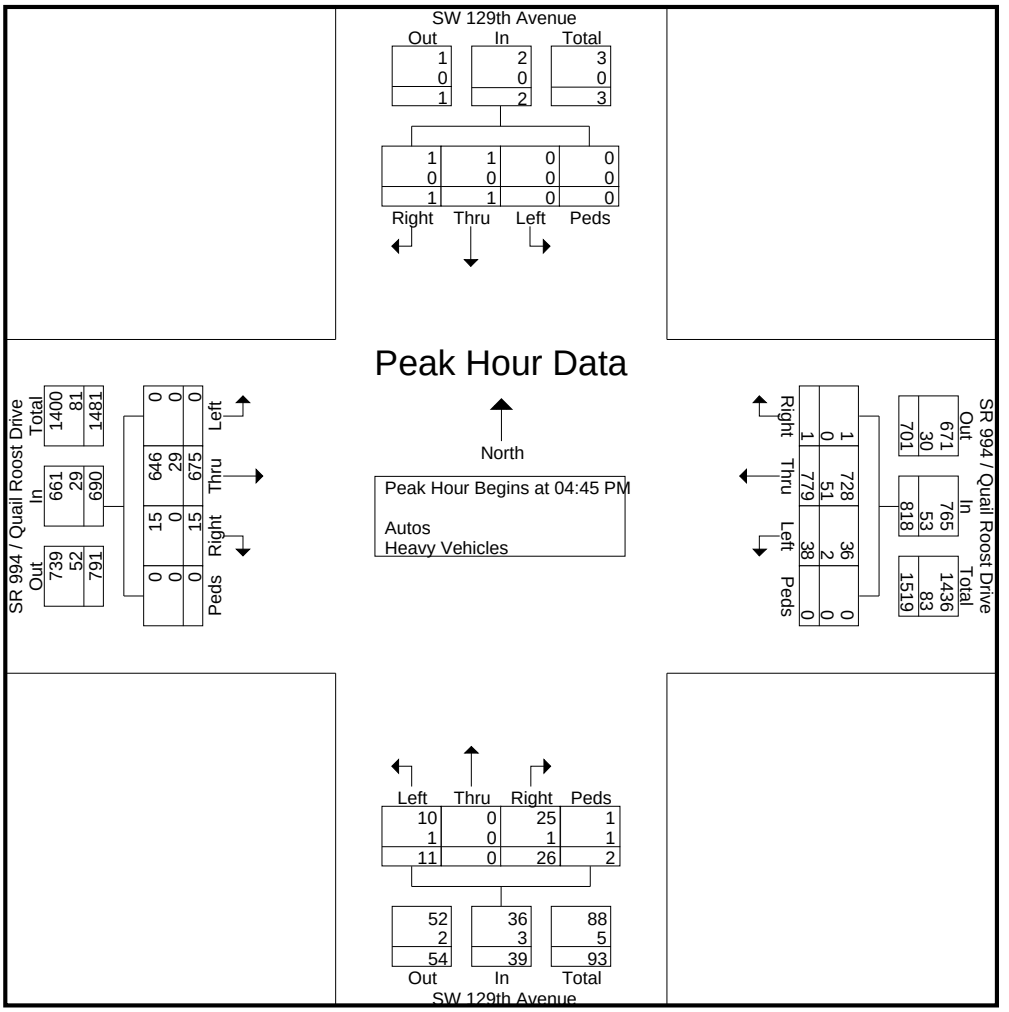
Start Time	SW 129th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					SW 129th Avenue Northbound					SR 994 / Quail Roost Drive Eastbound					Int. Total
	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	
Peak Hour Analysis From 06:30 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	**1**	0	**3**	0	**4**	**1**	**180**	3	0	184	16	0	10	**1**	27	0	**226**	**1**	0	**227**	**442**
07:45 AM	0	0	0	0	0	1	180	0	0	181	17	**1**	**11**	0	**29**	1	202	0	0	203	413
08:00 AM	1	0	0	0	1	0	179	7	0	**186**	**19**	0	8	0	27	0	218	1	0	219	433
08:15 AM	0	0	3	0	3	0	173	**8**	0	181	8	0	2	1	11	**3**	214	0	0	217	412
Total Volume	2	0	6	0	8	2	712	18	0	732	60	1	31	2	94	4	860	2	0	866	1700
% App. Total	25	0	75	0		0.3	97.3	2.5	0		63.8	1.1	33	2.1		0.5	99.3	0.2	0		
PHF	.500	.000	.500	.000	.500	.500	.989	.563	.000	.984	.789	.250	.705	.500	.810	.333	.951	.500	.000	.954	.962
Autos	2	0	6	0	8	2	675	16	0	693	60	1	31	2	94	3	814	2	0	819	1614
% Autos	100	0	100	0	100	100	94.8	88.9	0	94.7	100	100	100	100	100	75.0	94.7	100	0	94.6	94.9
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	5.2	11.1	0	5.3	0	0	0	0	0	25.0	5.3	0	0	5.4	5.1



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 129 Ave
Site Code : 99412913
Start Date : 9/14/2021
Page No : 3

	SW 129th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					SW 129th Avenue Northbound					SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**1**	0	0	0	**1**	0	**204**	6	0	**210**	**7**	0	2	0	9	2	**183**	0	0	**185**	**405**
05:00 PM	0	0	0	0	0	0	192	13	0	205	7	0	**4**	0	**11**	3	148	0	0	151	367
05:15 PM	0	**1**	0	0	1	0	200	5	0	205	5	0	3	**1**	9	**6**	164	0	0	170	385
05:30 PM	0	0	0	0	0	**1**	183	**14**	0	198	7	0	2	1	10	4	180	0	0	184	392
Total Volume	1	1	0	0	2	1	779	38	0	818	26	0	11	2	39	15	675	0	0	690	1549
% App. Total	50	50	0	0		0.1	95.2	4.6	0		66.7	0	28.2	5.1		2.2	97.8	0	0		
PHF	.250	.250	.000	.000	.500	.250	.955	.679	.000	.974	.929	.000	.688	.500	.886	.625	.922	.000	.000	.932	.956
Autos	1	1	0	0	2	1	728	36	0	765	25	0	10	1	36	15	646	0	0	661	1464
% Autos	100	100	0	0	100	100	93.5	94.7	0	93.5	96.2	0	90.9	50.0	92.3	100	95.7	0	0	95.8	94.5
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	6.5	5.3	0	6.5	3.8	0	9.1	50.0	7.7	0	4.3	0	0	4.2	5.5



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

Trucks

SR 994/Quail Roost Dr and SW 129th Ave
Tuesday, Sept 14, 2001
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 129 Ave
Site Code : 99412913
Start Date : 9/14/2021
Page No : 1

Groups Printed- Heavy Vehicles

	SW 129th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					SW 129th Avenue Northbound					SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
06:30 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	1	19	0	0	20	25
06:45 AM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	8	0	0	8	16
Total	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	1	27	0	0	28	41
07:00 AM	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	10	0	0	10	20
07:15 AM	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	1	12	0	0	13	29
07:30 AM	0	0	0	0	0	0	11	1	0	12	0	0	0	0	0	0	10	0	0	10	22
07:45 AM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	16	0	0	16	25
Total	0	0	0	0	0	0	46	1	0	47	0	0	0	0	0	1	48	0	0	49	96
08:00 AM	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	13	0	0	13	23
08:15 AM	0	0	0	0	0	0	7	1	0	8	0	0	0	0	0	1	7	0	0	8	16
08:30 AM	0	0	0	0	0	0	12	1	0	13	0	0	0	0	0	0	4	0	0	4	17
08:45 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	10
Total	0	0	0	0	0	0	35	2	0	37	0	0	0	0	0	1	28	0	0	29	66
09:00 AM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	13	0	0	13	20
09:15 AM	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	13	0	0	13	25
*** BREAK ***																					
Total	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	26	0	0	26	45
*** BREAK ***																					
03:30 PM	0	0	0	0	0	0	20	0	0	20	0	0	0	0	0	0	12	0	0	12	32
03:45 PM	0	0	0	0	0	0	24	0	0	24	0	0	1	0	1	0	4	0	0	4	29
Total	0	0	0	0	0	0	44	0	0	44	0	0	1	0	1	0	16	0	0	16	61
04:00 PM	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	2	0	0	2	13
04:15 PM	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	0	5	0	0	5	23
04:30 PM	0	0	0	0	0	0	11	0	0	11	0	0	0	1	1	0	6	0	0	6	18
04:45 PM	0	0	0	0	0	0	16	2	0	18	0	0	0	0	0	0	9	0	0	9	27
Total	0	0	0	0	0	0	56	2	0	58	0	0	0	1	1	0	22	0	0	22	81
05:00 PM	0	0	0	0	0	0	7	0	0	7	1	0	0	0	1	0	6	0	0	6	14
05:15 PM	0	0	0	0	0	0	17	0	0	17	0	0	1	0	1	0	8	0	0	8	26
05:30 PM	0	0	0	0	0	0	11	0	0	11	0	0	0	1	1	0	6	0	0	6	18
05:45 PM	0	0	0	0	0	0	6	0	0	6	0	0	1	0	1	0	3	0	0	3	10
Total	0	0	0	0	0	0	41	0	0	41	1	0	2	1	4	0	23	0	0	23	68
06:00 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	4	0	0	4	11
06:15 PM	0	0	0	0	0	0	12	0	0	12	0	0	0	1	1	0	2	0	0	2	15
Grand Total	0	0	0	0	0	0	273	5	0	278	1	0	3	3	7	3	196	0	0	199	484
Apprch %	0	0	0	0		0	98.2	1.8	0		14.3	0	42.9	42.9		1.5	98.5	0	0		
Total %	0	0	0	0	0	0	56.4	1	0	57.4	0.2	0	0.6	0.6	1.4	0.6	40.5	0	0	41.1	

Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

SR 994/Quail Roost Dr and SW 127th Ave
Wednesday, Sept 8, 2021
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 127 Ave
Site Code : 20012702
Start Date : 9/8/2021
Page No : 1

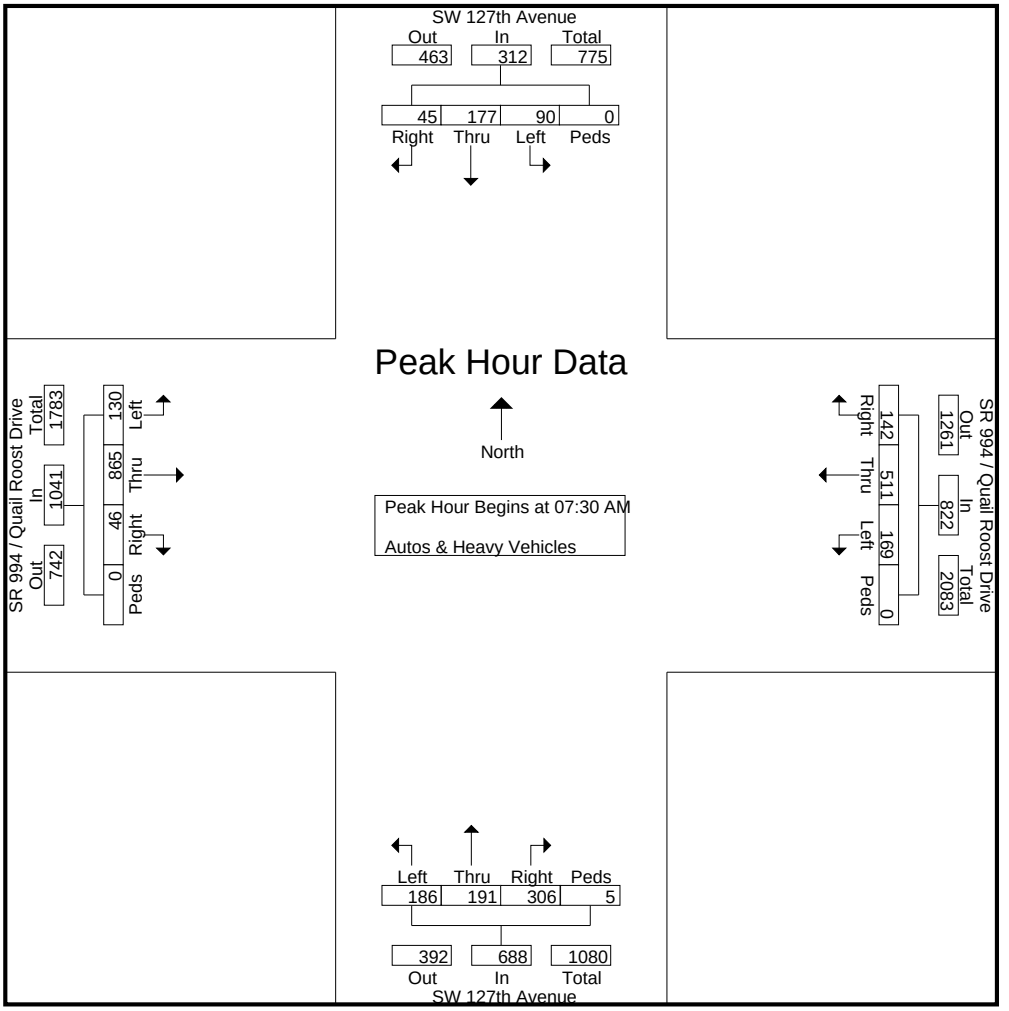
Groups Printed- Autos & Heavy Vehicles

	SW 127th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					SW 127th Avenue Northbound					SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Peds & Bicycles	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	Int. Total
06:30 AM	6	27	9	0	42	10	88	14	0	112	82	45	36	0	163	10	167	11	0	188	505
06:45 AM	5	33	18	0	56	24	103	22	0	149	74	52	44	0	170	7	174	20	0	201	576
Total	11	60	27	0	98	34	191	36	0	261	156	97	80	0	333	17	341	31	0	389	1081
07:00 AM	15	36	20	0	71	32	110	32	0	174	60	63	56	0	179	11	164	22	0	197	621
07:15 AM	9	42	28	0	79	53	112	23	0	188	50	76	61	0	187	10	207	27	0	244	698
07:30 AM	4	30	20	0	54	37	143	41	0	221	59	56	51	0	166	8	214	26	0	248	689
07:45 AM	17	48	23	0	88	47	121	52	0	220	95	36	65	0	196	11	195	25	0	231	735
Total	45	156	91	0	292	169	486	148	0	803	264	231	233	0	728	40	780	100	0	920	2743
08:00 AM	17	57	26	0	100	25	128	31	0	184	73	44	36	4	157	5	215	39	0	259	700
08:15 AM	7	42	21	0	70	33	119	45	0	197	79	55	34	1	169	22	241	40	0	303	739
08:30 AM	14	42	30	0	86	23	83	37	1	144	59	61	51	0	171	15	189	25	0	229	630
08:45 AM	12	40	32	0	84	14	90	31	0	135	45	37	39	0	121	18	173	15	0	206	546
Total	50	181	109	0	340	95	420	144	1	660	256	197	160	5	618	60	818	119	0	997	2615
09:00 AM	8	40	34	0	82	21	90	25	0	136	62	42	24	0	128	13	115	13	0	141	487
09:15 AM	3	25	24	1	53	17	100	24	0	141	57	27	22	1	107	15	141	11	0	167	468
*** BREAK ***																					
Total	11	65	58	1	135	38	190	49	0	277	119	69	46	1	235	28	256	24	0	308	955
*** BREAK ***																					
03:30 PM	11	41	22	0	74	21	103	47	0	171	29	37	25	0	91	15	136	13	0	164	500
03:45 PM	13	85	26	0	124	21	120	56	0	197	41	67	36	0	144	24	182	14	0	220	685
Total	24	126	48	0	198	42	223	103	0	368	70	104	61	0	235	39	318	27	0	384	1185
04:00 PM	14	80	41	0	135	28	138	62	0	228	42	41	38	0	121	21	149	6	0	176	660
04:15 PM	13	70	38	0	121	24	126	74	0	224	52	47	28	0	127	26	145	15	0	186	658
04:30 PM	17	74	30	0	121	24	159	56	0	239	36	62	37	0	135	13	169	12	0	194	689
04:45 PM	16	85	27	1	129	27	146	65	0	238	47	81	57	0	185	31	200	25	0	256	808
Total	60	309	136	1	506	103	569	257	0	929	177	231	160	0	568	91	663	58	0	812	2815
05:00 PM	12	76	37	0	125	27	144	58	0	229	19	28	25	0	72	15	78	5	0	98	524
05:15 PM	8	72	49	0	129	24	137	73	4	238	39	54	39	0	132	13	155	18	0	186	685
05:30 PM	8	79	44	0	131	26	141	70	0	237	52	39	46	0	137	17	164	10	0	191	696
05:45 PM	13	88	29	0	130	16	101	68	1	186	48	42	44	0	134	13	120	5	0	138	588
Total	41	315	159	0	515	93	523	269	5	890	158	163	154	0	475	58	517	38	0	613	2493
06:00 PM	7	74	21	0	102	23	122	55	2	202	39	58	46	1	144	21	164	6	0	191	639
06:15 PM	8	56	29	1	94	20	126	58	1	205	25	58	32	0	115	16	116	10	0	142	556
Grand Total	257	1342	678	3	2280	617	2850	1119	9	4595	1264	1208	972	7	3451	370	3973	413	0	4756	15082
Apprch %	11.3	58.9	29.7	0.1		13.4	62	24.4	0.2		36.6	35	28.2	0.2		7.8	83.5	8.7	0		
Total %	1.7	8.9	4.5	0	15.1	4.1	18.9	7.4	0.1	30.5	8.4	8	6.4	0	22.9	2.5	26.3	2.7	0	31.5	

Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 127 Ave
Site Code : 20012702
Start Date : 9/8/2021
Page No : 2

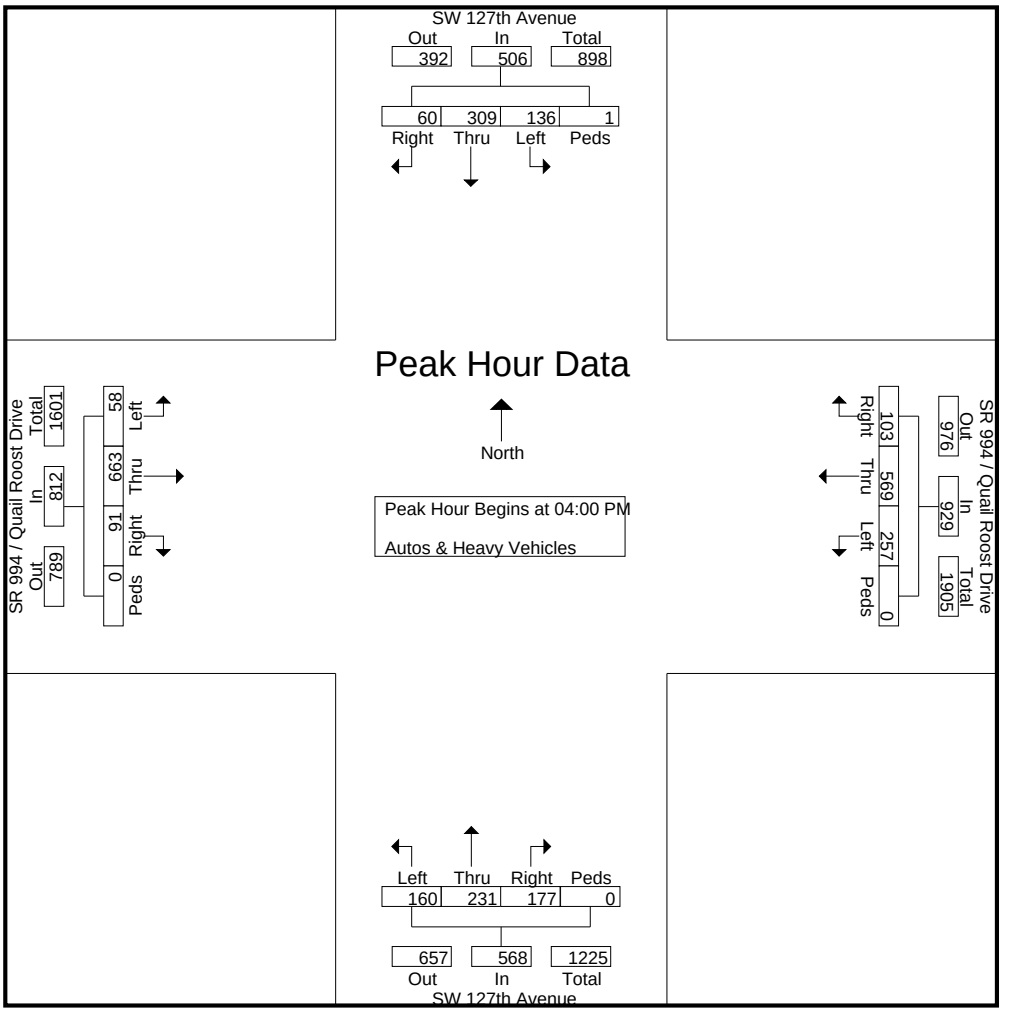
	SW 127th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					SW 127th Avenue Northbound					SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Peds & Bicycles	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	4	30	20	0	54	37	**143**	41	0	**221**	59	**56**	51	0	166	8	214	26	0	248	689
07:45 AM	**17**	48	23	0	88	**47**	121	**52**	0	220	**95**	36	**65**	0	**196**	11	195	25	0	231	735
08:00 AM	17	**57**	**26**	0	**100**	25	128	31	0	184	73	44	36	**4**	157	5	215	39	0	259	700
08:15 AM	7	42	21	0	70	33	119	45	0	197	79	55	34	1	169	**22**	**241**	**40**	0	**303**	**739**
Total Volume	45	177	90	0	312	142	511	169	0	822	306	191	186	5	688	46	865	130	0	1041	2863
% App. Total	14.4	56.7	28.8	0		17.3	62.2	20.6	0		44.5	27.8	27	0.7		4.4	83.1	12.5	0		
PHF	.662	.776	.865	.000	.780	.755	.893	.813	.000	.930	.805	.853	.715	.313	.878	.523	.897	.813	.000	.859	.969



Choice Engineering Consultants, Inc
12855 SW 132nd Street, Suite 200
Miami, FL. 33186

File Name : SW 127 Ave
Site Code : 20012702
Start Date : 9/8/2021
Page No : 3

	SW 127th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					SW 127th Avenue Northbound					SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Peds & Bicycles	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	Right	Thru	Left	Peds & Bicycles	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	14	80	**41**	0	**135**	**28**	138	62	0	228	42	41	38	0	121	21	149	6	0	176	660
04:15 PM	13	70	38	0	121	24	126	**74**	0	224	**52**	47	28	0	127	26	145	15	0	186	658
04:30 PM	**17**	74	30	0	121	24	**159**	56	0	**239**	36	62	37	0	135	13	169	12	0	194	689
04:45 PM	16	**85**	27	**1**	129	27	146	65	0	238	47	**81**	**57**	0	**185**	**31**	**200**	**25**	0	**256**	**808**
Total Volume	60	309	136	1	506	103	569	257	0	929	177	231	160	0	568	91	663	58	0	812	2815
% App. Total	11.9	61.1	26.9	0.2		11.1	61.2	27.7	0		31.2	40.7	28.2	0		11.2	81.7	7.1	0		
PHF	.882	.909	.829	.250	.937	.920	.895	.868	.000	.972	.851	.713	.702	.000	.768	.734	.829	.580	.000	.793	.871



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12855 SW 132nd Street, Suite 200
Miami, FL. 33186

Trucks

SR 994/Quail Roost Dr and SW 127th Ave
Wednesday, Sept 8, 2021
Time: 6:30 AM-9:30 AM & 3:30 PM-6:30 PM
Weather: Partly Cloudy

File Name : SW 127 Ave
Site Code : 20012702
Start Date : 9/8/2021
Page No : 1

Groups Printed- Heavy Vehicles

	SW 127th Avenue Southbound					SR 994 / Quail Roost Drive Westbound					SW 127th Avenue Northbound					SR 994 / Quail Roost Drive Eastbound					
Start Time	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Right	Thru	Left	Bicycles	App. Total	Int. Total
06:30 AM	0	1	0	0	1	0	3	0	0	3	5	3	0	0	8	1	19	1	0	21	33
06:45 AM	0	0	0	0	0	1	3	0	0	4	8	1	1	0	10	1	13	2	0	16	30
Total	0	1	0	0	1	1	6	0	0	7	13	4	1	0	18	2	32	3	0	37	63
07:00 AM	0	1	1	0	2	0	3	1	0	4	2	3	1	0	6	2	8	1	0	11	23
07:15 AM	1	1	2	0	4	0	4	2	0	6	3	2	5	0	10	1	17	0	0	18	38
07:30 AM	0	0	1	0	1	0	5	1	0	6	4	1	4	0	9	2	15	0	0	17	33
07:45 AM	0	2	0	0	2	0	0	0	0	0	10	3	3	0	16	3	18	1	0	22	40
Total	1	4	4	0	9	0	12	4	0	16	19	9	13	0	41	8	58	2	0	68	134
08:00 AM	0	0	0	0	0	0	5	1	0	6	7	3	3	0	13	1	14	2	0	17	36
08:15 AM	0	2	1	0	3	1	4	0	0	5	5	5	1	0	11	2	26	1	0	29	48
08:30 AM	1	1	0	0	2	1	3	0	0	4	5	3	4	0	12	0	22	2	0	24	42
08:45 AM	1	0	0	0	1	0	3	0	0	3	1	5	2	0	8	3	12	1	0	16	28
Total	2	3	1	0	6	2	15	1	0	18	18	16	10	0	44	6	74	6	0	86	154
09:00 AM	0	1	0	0	1	0	4	0	0	4	8	3	3	0	14	2	17	0	0	19	38
09:15 AM	0	0	2	0	2	0	3	0	0	3	7	1	1	0	9	2	19	0	0	21	35
*** BREAK ***																					
Total	0	1	2	0	3	0	7	0	0	7	15	4	4	0	23	4	36	0	0	40	73
*** BREAK ***																					
03:30 PM	2	0	1	0	3	0	4	1	0	5	3	1	2	0	6	1	6	0	0	7	21
03:45 PM	2	0	0	0	2	0	4	1	0	5	3	3	1	0	7	1	10	0	0	11	25
Total	4	0	1	0	5	0	8	2	0	10	6	4	3	0	13	2	16	0	0	18	46
04:00 PM	2	3	0	0	5	1	4	0	0	5	2	2	3	0	7	1	4	0	0	5	22
04:15 PM	2	1	0	0	3	1	3	1	0	5	0	3	3	0	6	1	5	2	0	8	22
04:30 PM	1	1	2	0	4	1	2	1	0	4	2	5	3	0	10	0	15	0	0	15	33
04:45 PM	0	2	0	0	2	0	3	3	0	6	3	3	2	0	8	0	9	1	0	10	26
Total	5	7	2	0	14	3	12	5	0	20	7	13	11	0	31	2	33	3	0	38	103
05:00 PM	0	2	0	0	2	1	3	0	0	4	0	4	1	0	5	0	10	0	0	10	21
05:15 PM	0	2	0	0	2	0	0	2	0	2	2	0	0	0	2	0	8	1	0	9	15
05:30 PM	0	1	0	0	1	0	4	1	0	5	2	1	3	0	6	0	5	1	0	6	18
05:45 PM	0	1	0	0	1	0	5	3	0	8	2	1	0	0	3	1	2	0	0	3	15
Total	0	6	0	0	6	1	12	6	0	19	6	6	4	0	16	1	25	2	0	28	69
06:00 PM	0	0	0	0	0	0	1	0	1	2	1	1	3	0	5	1	5	0	0	6	13
06:15 PM	0	0	0	1	1	0	2	0	1	3	0	4	1	0	5	0	2	0	0	2	11
Grand Total	12	22	10	1	45	7	75	18	2	102	85	61	50	0	196	26	281	16	0	323	666
Apprch %	26.7	48.9	22.2	2.2		6.9	73.5	17.6	2		43.4	31.1	25.5	0		8	87	5	0		
Total %	1.8	3.3	1.5	0.2	6.8	1.1	11.3	2.7	0.3	15.3	12.8	9.2	7.5	0	29.4	3.9	42.2	2.4	0	48.5	

Appendix C: Signal Timing and Phasing

TOD Schedule Report

for 6507: Quail Roost Dr&SW 137 Av

Print Date: 10/4/2021

Print Time: 9:30 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
6507	Quail Roost Dr&SW 137 Av	DOW-2	TOD	Free	0	0	N/A	1	Max 1

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	-	NBT	-	EBT	-	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk Phase Bank 1 2 3	Don't Walk 1 2 3	Min Initial 1 2 3	Veh Ext 1 2 3	Max Limit 1 2 3	Max 2 1 2 3	Yellow	Red
1 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2.5 - 2.5 - 2.5	10 - 10 - 10	15 - 15 - 15	4	2
2 WBT	0 - 0 - 0	0 - 0 - 0	16 - 16 - 16	1 - 1 - 1	35 - 40 - 40	0 - 55 - 0	4.4	2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 NBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	3.5 - 3.5 - 3.5	20 - 40 - 20	25 - 40 - 0	4.4	2
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 EBT	0 - 0 - 0	0 - 0 - 0	16 - 16 - 16	1 - 1 - 1	35 - 40 - 40	0 - 55 - 0	4.4	2
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 SBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	3.5 - 3.5 - 3.5	20 - 40 - 20	25 - 40 - 0	4.4	2

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12-4-6-8
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

Current TOD Schedule	Plan	Cycle	1 EBL	2 WBT	3 -	4 NBT	5 -	6 EBT	7 -	8 SBT	Ring Offset	Offset

Local TOD Schedule

Time	Plan	DOW
0000	Flash	Su M T W Th F S
0500	Free	Su M T W Th F S

TOD Schedule Report

for 6507: Quail Roost Dr&SW 137 Av

Print Date: 10/4/2021

Print Time: 9:30 PM

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0500	TOD OUTPUTS	-------1	M T W ThF
0630	TOD OUTPUTS	------2-	M T W ThF
0900	TOD OUTPUTS	-------1	M T W ThF
1600	TOD OUTPUTS	------2-	M T W ThF
1900	TOD OUTPUTS	-------1	M T W ThF
2100	TOD OUTPUTS	--------	M T W ThF

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0500	TOD OUTPUTS	-------1	M T W ThF
0630	TOD OUTPUTS	------2-	M T W ThF
0900	TOD OUTPUTS	-------1	M T W ThF
1600	TOD OUTPUTS	------2-	M T W ThF
1900	TOD OUTPUTS	-------1	M T W ThF
2100	TOD OUTPUTS	--------	M T W ThF

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

TOD Schedule Report

for 5751: Quail Roost Dr&SW 127 Av

Print Date: 10/4/2021

Print Time: 8:41 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
5751	Quail Roost Dr&SW 127 Av	DOW-2	TOD	N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	SBL	NBT	WBL	EBT	NBL	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk Phase Bank 1 2 3	Don't Walk 1 2 3	Min Initial 1 2 3	Veh Ext 1 2 3	Max Limit 1 2 3	Max 2 1 2 3	Yellow	Red
1 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2.5 - 2.5 - 2.5	10 - 10 - 10	15 - 15 - 15	4.4	2
2 WBT	7 - 7 - 7	15 - 15 - 15	7 - 7 - 7	1 - 1 - 1	45 - 35 - 45	0 - 45 - 45	4.4	2
3 SBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2.5 - 2.5 - 2.5	10 - 10 - 10	15 - 15 - 15	4.4	2
4 NBT	7 - 7 - 7	20 - 20 - 20	7 - 7 - 7	3.5 - 3.5 - 3.5	50 - 35 - 50	70 - 45 - 55	4.4	2
5 WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2.5 - 2.5 - 2.5	10 - 10 - 20	15 - 15 - 18	4.4	2
6 EBT	7 - 7 - 7	15 - 15 - 15	7 - 7 - 7	1 - 1 - 1	45 - 35 - 45	0 - 45 - 45	4.4	2
7 NBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2.5 - 2.5 - 2.5	10 - 10 - 10	15 - 15 - 15	4.4	2
8 SBT	7 - 7 - 7	20 - 20 - 20	7 - 7 - 7	3.5 - 3.5 - 3.5	50 - 35 - 50	70 - 45 - 55	4.4	2

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12345678
External Permit 0	--------
External Permit 1	-2-4-6-8
External Permit 2	-2-4-6-8

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 SBL	4 NBT	5 WBL	6 EBT	7 NBL	8 SBT	Ring Offset	Offset
	1	160	14	59	13	50	14	59	13	50	0	53
	3	70	0	44	0	14	0	44	0	14	0	24
	5	100	9	30	11	26	9	30	11	26	0	58
	6	150	9	92	11	14	9	92	11	14	0	10
	7	130	0	94	0	24	0	94	0	24	0	87
	8	100	0	65	0	23	0	65	0	23	0	65
	10	100	0	65	0	23	0	65	0	23	0	65
	12	150	11	58	11	46	16	53	11	46	0	116
	16	100	0	67	0	21	0	67	0	21	0	58
	19	100	9	34	9	24	9	34	9	24	0	55

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su S
0000	Free	M T W Th F
0500	5	M T W Th F
0630	1	M T W Th F
0900	Free	M T W Th F
1600	12	M T W Th F
1900	Free	M T W Th F

TOD Schedule Report

for 5751: Quail Roost Dr&SW 127 Av

Print Date: 10/4/2021

Print Time: 8:41 PM

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0900	TOD OUTPUTS	------2-	M T W ThF
1500	TOD OUTPUTS	-----3--	M T W ThF
1800	TOD OUTPUTS	------2-	M T W ThF
2000	TOD OUTPUTS	--------	M T W ThF

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0000	TOD OUTPUTS	--------	Su S
0900	TOD OUTPUTS	------2-	M T W ThF
1500	TOD OUTPUTS	-----3--	M T W ThF
1500	TOD OUTPUTS	-------1	Su S
1800	TOD OUTPUTS	------2-	M T W ThF
1900	TOD OUTPUTS	--------	Su S
2000	TOD OUTPUTS	--------	M T W ThF

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

Appendix D: Existing Synchro Analysis Worksheets

ARTERIAL ANALYSIS –
EXISTING AM

Arterial Level of Service: EB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 137 AVE	III	40	25.0	19.4	44.4	0.23	18.4	C
SW 127 AVE	III	30	106.6	49.3	155.9	0.89	20.5	C
Total	III		131.6	68.7	200.3	1.11	20.0	C

Arterial Level of Service: WB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 127 AVE	III	30	33.9	37.5	71.4	0.27	13.4	E
SW1 137 AVE	III	32	99.7	15.3	115.0	0.89	28.0	B
Total	III		133.6	52.8	186.4	1.16	22.4	C

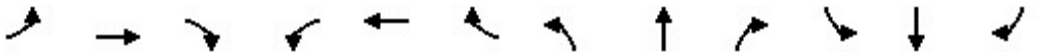
TIMINGS, QUEUES, & LOS –
EXISTING AM

Lane Group	EBL	EBT	WBT	WBR	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	67	386	396	500	2	36
Future Volume (vph)	67	386	396	500	2	36
Turn Type	pm+pt	NA	NA	Prot	NA	Prot
Protected Phases	1	6	2	2	8	8
Permitted Phases	6					
Detector Phase	1	6	2	2	8	8
Switch Phase						
Minimum Initial (s)	5.0	16.0	16.0	16.0	7.0	7.0
Minimum Split (s)	11.0	22.4	22.4	22.4	13.4	13.4
Total Split (s)	11.0	69.0	58.0	58.0	51.0	51.0
Total Split (%)	9.2%	57.5%	48.3%	48.3%	42.5%	42.5%
Yellow Time (s)	4.0	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	Max	Max	None	None

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 98.2
Natural Cycle: 70
Control Type: Semi Act-Uncoord

Splits and Phases: 137: SW 137 AVE/SW1 137 AVE & SR 994





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	386	0	0	396	500	0	0	0	339	2	36
Future Volume (vph)	67	386	0	0	396	500	0	0	0	339	2	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4			6.4	6.4					6.4	6.4
Lane Util. Factor		1.00			1.00	1.00					1.00	1.00
Frt		1.00			1.00	0.85					1.00	0.85
Flt Protected		0.99			1.00	1.00					0.95	1.00
Satd. Flow (prot)		1663			1727	1509					1654	1380
Flt Permitted		0.87			1.00	1.00					0.95	1.00
Satd. Flow (perm)		1461			1727	1509					1654	1380
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	76	439	0	0	450	568	0	0	0	385	2	41
RTOR Reduction (vph)	0	0	0	0	0	180	0	0	0	0	0	29
Lane Group Flow (vph)	0	515	0	0	450	388	0	0	0	0	387	12
Heavy Vehicles (%)	16%	13%	0%	0%	10%	7%	0%	0%	0%	9%	97%	17%
Turn Type	pm+pt	NA			NA	Prot				Split	NA	Prot
Protected Phases	1	6			2	2				8	8	8
Permitted Phases	6											
Actuated Green, G (s)		56.4			56.4	56.4					28.8	28.8
Effective Green, g (s)		56.4			56.4	56.4					28.8	28.8
Actuated g/C Ratio		0.58			0.58	0.58					0.29	0.29
Clearance Time (s)		6.4			6.4	6.4					6.4	6.4
Vehicle Extension (s)		1.0			1.0	1.0					3.5	3.5
Lane Grp Cap (vph)		840			993	868					486	405
v/s Ratio Prot					0.26	0.26					c0.23	0.01
v/s Ratio Perm		c0.35										
v/c Ratio		0.61			0.45	0.45					0.80	0.03
Uniform Delay, d1		13.6			11.9	11.9					31.9	24.6
Progression Factor		1.00			1.00	1.00					1.00	1.00
Incremental Delay, d2		0.9			1.5	1.7					9.0	0.0
Delay (s)		14.6			13.4	13.5					40.9	24.7
Level of Service		B			B	B					D	C
Approach Delay (s)		14.6			13.5			0.0			39.4	
Approach LOS		B			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	98.0	Sum of lost time (s)	18.8
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	WBT	WBR	SBT	SBR
Lane Group Flow (vph)	515	450	568	387	41
v/c Ratio	0.62	0.45	0.54	0.80	0.09
Control Delay	19.4	15.3	5.7	45.2	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.4	15.3	5.7	45.2	0.5
Queue Length 50th (ft)	202	154	40	205	0
Queue Length 95th (ft)	383	287	135	343	1
Internal Link Dist (ft)	1118	581		1066	
Turn Bay Length (ft)			135		250
Base Capacity (vph)	948	991	1047	765	684
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.54	0.45	0.54	0.51	0.06

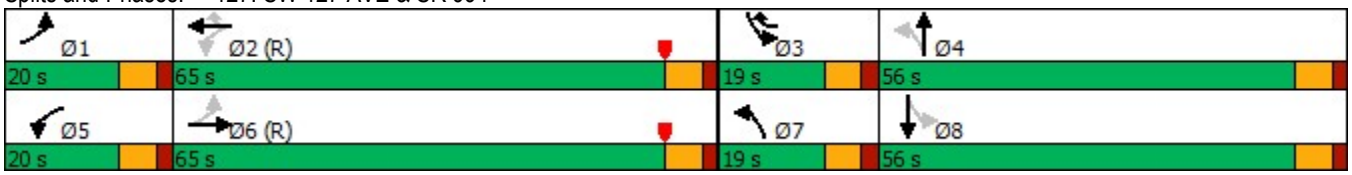
Intersection Summary

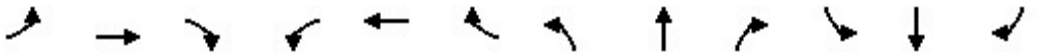
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	134	891	174	526	146	192	197	93	182
Future Volume (vph)	134	891	174	526	146	192	197	93	182
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	3	7	4	3	8
Permitted Phases	6		2		2	4		8	
Detector Phase	1	6	5	2	3	7	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	7.0	5.0	7.0	5.0	5.0	7.0	5.0	7.0
Minimum Split (s)	11.4	28.4	11.4	28.4	11.4	11.4	28.4	11.4	28.4
Total Split (s)	20.0	65.0	20.0	65.0	19.0	19.0	56.0	19.0	56.0
Total Split (%)	12.5%	40.6%	12.5%	40.6%	11.9%	11.9%	35.0%	11.9%	35.0%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 53 (33%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 127: SW 127 AVE & SR 994





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	891	47	174	526	146	192	197	315	93	182	46
Future Volume (veh/h)	134	891	47	174	526	146	192	197	315	93	182	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1648	1885	1856	1885	1811	1811	1781	1870	1870	1900
Adj Flow Rate, veh/h	138	919	48	179	542	151	198	203	325	96	188	50
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.92
Percent Heavy Veh, %	3	8	17	1	3	1	6	6	8	2	2	0
Cap, veh/h	384	1339	70	276	1486	754	371	194	311	134	401	107
Arrive On Green	0.06	0.41	0.41	0.07	0.42	0.42	0.08	0.31	0.31	0.05	0.28	0.28
Sat Flow, veh/h	1767	3272	171	1795	3526	1598	1725	627	1004	1781	1424	379
Grp Volume(v), veh/h	138	475	492	179	542	151	198	0	528	96	0	238
Grp Sat Flow(s),veh/h/ln	1767	1692	1751	1795	1763	1598	1725	0	1630	1781	0	1802
Q Serve(g_s), s	7.2	36.9	36.9	9.2	16.8	8.8	12.6	0.0	49.6	6.1	0.0	17.5
Cycle Q Clear(g_c), s	7.2	36.9	36.9	9.2	16.8	8.8	12.6	0.0	49.6	6.1	0.0	17.5
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.62	1.00		0.21
Lane Grp Cap(c), veh/h	384	692	716	276	1486	754	371	0	505	134	0	507
V/C Ratio(X)	0.36	0.69	0.69	0.65	0.36	0.20	0.53	0.00	1.04	0.71	0.00	0.47
Avail Cap(c_a), veh/h	431	692	716	302	1486	754	371	0	505	185	0	559
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.5	38.8	38.8	30.2	31.6	24.6	38.7	0.0	55.2	44.1	0.0	47.6
Incr Delay (d2), s/veh	0.4	5.5	5.3	3.7	0.7	0.6	1.2	0.0	52.2	6.1	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	16.5	17.0	4.3	7.5	3.6	5.8	0.0	27.7	2.9	0.0	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	44.3	44.1	33.9	32.3	25.2	39.9	0.0	107.4	50.2	0.0	48.4
LnGrp LOS	C	D	D	C	C	C	D	A	F	D	A	D
Approach Vol, veh/h		1105			872			726			334	
Approach Delay, s/veh		41.9			31.4			89.0			48.9	
Approach LOS		D			C			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.7	73.9	14.4	56.0	17.7	71.9	19.0	51.4
Change Period (Y+Rc), s	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Max Green Setting (Gmax), s	13.6	58.6	12.6	49.6	13.6	58.6	12.6	49.6
Max Q Clear Time (g_c+I1), s	9.2	0.0	8.1	51.6	11.2	0.0	14.6	19.5
Green Ext Time (p_c), s	0.1	0.0	0.1	0.0	0.1	0.0	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	50.9
HCM 6th LOS	D



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	138	967	179	542	151	198	528	96	238
v/c Ratio	0.36	0.78	0.76	0.40	0.18	0.50	0.96	0.53	0.42
Control Delay	25.4	49.3	45.4	37.5	3.6	35.7	76.3	39.4	45.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.4	49.3	45.4	37.5	3.6	35.7	76.3	39.4	45.1
Queue Length 50th (ft)	78	474	104	219	0	133	499	60	191
Queue Length 95th (ft)	123	564	#189	278	39	196	#762	101	276
Internal Link Dist (ft)		550		1328			1420		1118
Turn Bay Length (ft)	300		225		225	120		100	
Base Capacity (vph)	404	1247	247	1346	879	397	552	208	567
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.78	0.72	0.40	0.17	0.50	0.96	0.46	0.42

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	774	895	3	3	2
Future Vol, veh/h	0	774	895	3	3	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	2	7	0	0	49
Mvmt Flow	0	851	984	3	3	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	987	0	-	0	1837	986
Stage 1	-	-	-	-	986	-
Stage 2	-	-	-	-	851	-
Critical Hdwy	4.1	-	-	-	6.4	6.69
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.741
Pot Cap-1 Maneuver	708	-	-	-	84	246
Stage 1	-	-	-	-	364	-
Stage 2	-	-	-	-	422	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	708	-	-	-	84	246
Mov Cap-2 Maneuver	-	-	-	-	84	-
Stage 1	-	-	-	-	364	-
Stage 2	-	-	-	-	422	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	38.2
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	708	-	-	-	114
HCM Lane V/C Ratio	-	-	-	-	0.048
HCM Control Delay (s)	0	-	-	-	38.2
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰		↱		↕	
Traffic Vol, veh/h	4	906	8	19	808	2	35	1	62	6	0	2
Future Vol, veh/h	4	906	8	19	808	2	35	1	62	6	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	90	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	5	24	11	5	0	0	0	0	0	0	0
Mvmt Flow	4	944	8	20	842	2	36	1	65	6	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	844	0	0	952	0	0	1840	1840	948	1872	1843	843
Stage 1	-	-	-	-	-	-	956	956	-	883	883	-
Stage 2	-	-	-	-	-	-	884	884	-	989	960	-
Critical Hdwy	4.1	-	-	4.21	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.299	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	801	-	-	686	-	-	59	76	319	56	76	367
Stage 1	-	-	-	-	-	-	313	339	-	343	367	-
Stage 2	-	-	-	-	-	-	343	366	-	300	338	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	801	-	-	686	-	-	56	71	319	42	71	367
Mov Cap-2 Maneuver	-	-	-	-	-	-	56	71	-	42	71	-
Stage 1	-	-	-	-	-	-	310	335	-	339	347	-
Stage 2	-	-	-	-	-	-	322	346	-	236	334	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.2	65.9	83.5
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	56	319	801	-	-	686	-	-	54
HCM Lane V/C Ratio	0.651	0.202	0.005	-	-	0.029	-	-	0.154
HCM Control Delay (s)	148.9	19.1	9.5	0	-	10.4	0	-	83.5
HCM Lane LOS	F	C	A	A	-	B	A	-	F
HCM 95th %tile Q(veh)	2.7	0.7	0	-	-	0.1	-	-	0.5

Intersection	
Int Delay, s/veh	7.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	116	906	3	0	809	25	4	0	0	11	0	94
Future Vol, veh/h	116	906	3	0	809	25	4	0	0	11	0	94
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	4	10	32	0	5	8	0	0	0	9	0	2
Mvmt Flow	129	1007	3	0	899	28	4	0	0	12	0	104

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	927	0	0	1010	0	0	2232	2194	1009	2180	2181	913
Stage 1	-	-	-	-	-	-	1267	1267	-	913	913	-
Stage 2	-	-	-	-	-	-	965	927	-	1267	1268	-
Critical Hdwy	4.14	-	-	4.1	-	-	7.1	6.5	6.2	7.19	6.5	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.19	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.19	5.5	-
Follow-up Hdwy	2.236	-	-	2.2	-	-	3.5	4	3.3	3.581	4	3.318
Pot Cap-1 Maneuver	729	-	-	694	-	-	31	46	294	32	47	331
Stage 1	-	-	-	-	-	-	209	242	-	318	355	-
Stage 2	-	-	-	-	-	-	309	350	-	200	242	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	729	-	-	694	-	-	15	27	294	22	28	331
Mov Cap-2 Maneuver	-	-	-	-	-	-	15	27	-	22	28	-
Stage 1	-	-	-	-	-	-	125	144	-	190	355	-
Stage 2	-	-	-	-	-	-	211	350	-	119	144	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0	$ 325.6	109.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	15	729	-	-	694	-	-	134
HCM Lane V/C Ratio	0.296	0.177	-	-	-	-	-	0.871
HCM Control Delay (s)	$ 325.6	11	0	-	0	-	-	109.4
HCM Lane LOS	F	B	A	-	A	-	-	F
HCM 95th %tile Q(veh)	0.8	0.6	-	-	0	-	-	5.6

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	24.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	822	12	67	839	40	204
Future Vol, veh/h	822	12	67	839	40	204
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	9	0	6	5	5	4
Mvmt Flow	856	13	70	874	42	213

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	869	0	1877	863
Stage 1	-	-	-	-	863	-
Stage 2	-	-	-	-	1014	-
Critical Hdwy	-	-	4.16	-	6.45	6.24
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.254	-	3.545	3.336
Pot Cap-1 Maneuver	-	-	759	-	77	351
Stage 1	-	-	-	-	408	-
Stage 2	-	-	-	-	346	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	759	-	63	351
Mov Cap-2 Maneuver	-	-	-	-	63	-
Stage 1	-	-	-	-	408	-
Stage 2	-	-	-	-	284	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	199.6
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	201	-	-	759	-
HCM Lane V/C Ratio	1.265	-	-	0.092	-
HCM Control Delay (s)	199.6	-	-	10.2	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	13.6	-	-	0.3	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	724	955	10	4	6
Future Vol, veh/h	4	724	955	10	4	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	9	6	10	24	0
Mvmt Flow	4	770	1016	11	4	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1027	0	-	0	1800	1022
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	778	-
Critical Hdwy	4.1	-	-	-	6.64	6.2
Critical Hdwy Stg 1	-	-	-	-	5.64	-
Critical Hdwy Stg 2	-	-	-	-	5.64	-
Follow-up Hdwy	2.2	-	-	-	3.716	3.3
Pot Cap-1 Maneuver	684	-	-	-	77	289
Stage 1	-	-	-	-	316	-
Stage 2	-	-	-	-	417	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	684	-	-	-	76	289
Mov Cap-2 Maneuver	-	-	-	-	76	-
Stage 1	-	-	-	-	313	-
Stage 2	-	-	-	-	417	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	33.7
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	684	-	-	-	136
HCM Lane V/C Ratio	0.006	-	-	-	0.078
HCM Control Delay (s)	10.3	0	-	-	33.7
HCM Lane LOS	B	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	21.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	650	111	57	796	108	99	36	32	46	42	3
Future Vol, veh/h	15	650	111	57	796	108	99	36	32	46	42	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	225	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	26	9	4	0	3	3	6	8	16	0	12	65
Mvmt Flow	16	691	118	61	847	115	105	38	34	49	45	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	962	0	0	691	0	0	1774	1807	691	1786	1750	905
Stage 1	-	-	-	-	-	-	723	723	-	1027	1027	-
Stage 2	-	-	-	-	-	-	1051	1084	-	759	723	-
Critical Hdwy	4.36	-	-	4.1	-	-	5	5	5	5	5	5
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.58	-	6.1	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.58	-	6.1	5.62	-
Follow-up Hdwy	2.434	-	-	2.2	-	-	3.554	4.072	3.444	3.5	4.108	3.885
Pot Cap-1 Maneuver	627	-	-	913	-	-	183	169	547	181	178	413
Stage 1	-	-	-	-	-	-	411	422	-	285	299	-
Stage 2	-	-	-	-	-	-	269	286	-	402	416	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	627	-	-	913	-	-	119	137	547	115	144	413
Mov Cap-2 Maneuver	-	-	-	-	-	-	119	137	-	115	144	-
Stage 1	-	-	-	-	-	-	391	402	-	271	255	-
Stage 2	-	-	-	-	-	-	188	244	-	325	396	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.5	208	87.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	145	627	-	-	913	-	-	130
HCM Lane V/C Ratio	1.225	0.025	-	-	0.066	-	-	0.745
HCM Control Delay (s)	208	10.9	0	-	9.2	0	-	87.4
HCM Lane LOS	F	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	10.5	0.1	-	-	0.2	-	-	4.3

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	762	893	4	11	4
Future Vol, veh/h	0	762	893	4	11	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	2	3	0	0	0
Mvmt Flow	0	837	981	4	12	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	985	0	-	0	1820	983
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	837	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	709	-	-	-	86	305
Stage 1	-	-	-	-	366	-
Stage 2	-	-	-	-	428	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	709	-	-	-	86	305
Mov Cap-2 Maneuver	-	-	-	-	86	-
Stage 1	-	-	-	-	366	-
Stage 2	-	-	-	-	428	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	45.1
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	709	-	-	-	106
HCM Lane V/C Ratio	-	-	-	-	0.156
HCM Control Delay (s)	0	-	-	-	45.1
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	918	823	22	0	10
Future Vol, veh/h	0	918	823	22	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	6	3	0	0	0
Mvmt Flow	0	946	848	23	0	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	860
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	359
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	359
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.3
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	359
HCM Lane V/C Ratio	-	-	-	0.029
HCM Control Delay (s)	-	-	-	15.3
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	777	858	22	58	12
Future Vol, veh/h	21	777	858	22	58	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	3	5	2	0
Mvmt Flow	22	818	903	23	61	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	926	0	-	0	1777	915
Stage 1	-	-	-	-	915	-
Stage 2	-	-	-	-	862	-
Critical Hdwy	4.1	-	-	-	6.42	6.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.2	-	-	-	3.518	3.3
Pot Cap-1 Maneuver	746	-	-	-	91	333
Stage 1	-	-	-	-	390	-
Stage 2	-	-	-	-	414	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	746	-	-	-	86	333
Mov Cap-2 Maneuver	-	-	-	-	86	-
Stage 1	-	-	-	-	369	-
Stage 2	-	-	-	-	414	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	108.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	746	-	-	-	99
HCM Lane V/C Ratio	0.03	-	-	-	0.744
HCM Control Delay (s)	10	0	-	-	108.3
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	3.9

Intersection	
Int Delay, s/veh	25.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	715	13	13	857	108	82
Future Vol, veh/h	715	13	13	857	108	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	8	0	7	5	2	2
Mvmt Flow	745	14	14	893	113	85

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	759	0	1673	752
Stage 1	-	-	-	-	752	-
Stage 2	-	-	-	-	921	-
Critical Hdwy	-	-	4.17	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	830	-	~ 105	410
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	388	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	830	-	~ 102	410
Mov Cap-2 Maneuver	-	-	-	-	~ 102	-
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	375	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	236.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	151	-	-	830	-
HCM Lane V/C Ratio	1.311	-	-	0.016	-
HCM Control Delay (s)	236.4	-	-	9.4	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	12	-	-	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

ARTERIAL ANALYSIS –
EXISTING PM

Arterial Level of Service: EB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 137 AVE	II	40	25.0	15.8	40.8	0.23	20.0	D
SW 127 AVE	II	40	80.9	38.6	119.5	0.89	26.7	C
Total	II		105.9	54.4	160.3	1.11	25.0	C

Arterial Level of Service: WB SR 994

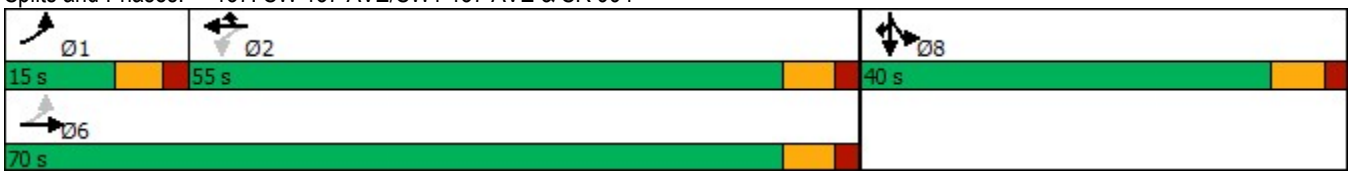
Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 127 AVE	II	40	29.3	28.5	57.8	0.27	16.6	E
SW1 137 AVE	II	39	81.5	14.8	96.3	0.89	33.4	B
Total	II		110.8	43.3	154.1	1.16	27.1	C

TIMINGS, QUEUES, & LOS –
EXISTING PM

Lane Group	EBL	EBT	WBL	WBT	WBR	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	41	402	4	373	355	3	40
Future Volume (vph)	41	402	4	373	355	3	40
Turn Type	pm+pt	NA	Perm	NA	Prot	NA	Prot
Protected Phases	1	6		2	2	8	8
Permitted Phases	6		2				
Detector Phase	1	6	2	2	2	8	8
Switch Phase							
Minimum Initial (s)	5.0	16.0	16.0	16.0	16.0	7.0	7.0
Minimum Split (s)	11.0	22.4	22.4	22.4	22.4	13.4	13.4
Total Split (s)	15.0	70.0	55.0	55.0	55.0	40.0	40.0
Total Split (%)	13.6%	63.6%	50.0%	50.0%	50.0%	36.4%	36.4%
Yellow Time (s)	4.0	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)		6.4		6.4	6.4	6.4	6.4
Lead/Lag	Lead		Lag	Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		
Recall Mode	None	Max	Max	Max	Max	None	None

Intersection Summary
Cycle Length: 110
Actuated Cycle Length: 110
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Splits and Phases: 137: SW 137 AVE/SW1 137 AVE & SR 994



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	402	0	4	373	355	0	0	0	489	3	40
Future Volume (vph)	41	402	0	4	373	355	0	0	0	489	3	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4			6.4	6.4					6.4	6.4
Lane Util. Factor		1.00			1.00	1.00					1.00	1.00
Frt		1.00			1.00	0.85					1.00	0.85
Flt Protected		1.00			1.00	1.00					0.95	1.00
Satd. Flow (prot)		1760			1598	1495					1659	1380
Flt Permitted		0.93			1.00	1.00					0.95	1.00
Satd. Flow (perm)		1650			1593	1495					1659	1380
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	43	419	0	4	389	370	0	0	0	509	3	42
RTOR Reduction (vph)	0	0	0	0	0	149	0	0	0	0	0	29
Lane Group Flow (vph)	0	462	0	0	393	221	0	0	0	0	512	13
Heavy Vehicles (%)	12%	7%	0%	0%	19%	8%	0%	0%	0%	9%	32%	17%
Turn Type	pm+pt	NA		Perm	NA	Prot				Split	NA	Prot
Protected Phases	1	6			2	2				8	8	8
Permitted Phases	6			2								
Actuated Green, G (s)		63.6			63.6	63.6					33.6	33.6
Effective Green, g (s)		63.6			63.6	63.6					33.6	33.6
Actuated g/C Ratio		0.58			0.58	0.58					0.31	0.31
Clearance Time (s)		6.4			6.4	6.4					6.4	6.4
Vehicle Extension (s)		1.0			1.0	1.0					3.5	3.5
Lane Grp Cap (vph)		954			921	864					506	421
v/s Ratio Prot						0.15					c0.31	0.01
v/s Ratio Perm		c0.28			0.25							
v/c Ratio		0.48			0.43	0.26					1.01	0.03
Uniform Delay, d1		13.6			13.0	11.5					38.2	26.8
Progression Factor		1.00			1.00	1.00					1.00	1.00
Incremental Delay, d2		0.3			1.4	0.7					43.0	0.0
Delay (s)		13.9			14.4	12.2					81.2	26.8
Level of Service		B			B	B					F	C
Approach Delay (s)		13.9			13.4			0.0			77.1	
Approach LOS		B			B			A			E	

Intersection Summary			
HCM 2000 Control Delay	33.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.8
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	WBT	WBR	SBT	SBR
Lane Group Flow (vph)	462	393	370	512	42
v/c Ratio	0.48	0.43	0.37	1.01	0.09
Control Delay	15.8	14.8	2.5	81.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.8	14.8	2.5	81.9	0.3
Queue Length 50th (ft)	180	146	5	~368	0
Queue Length 95th (ft)	263	218	44	#589	0
Internal Link Dist (ft)	1118	581		1066	
Turn Bay Length (ft)			135		250
Base Capacity (vph)	954	921	1013	506	486
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.48	0.43	0.37	1.01	0.09

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

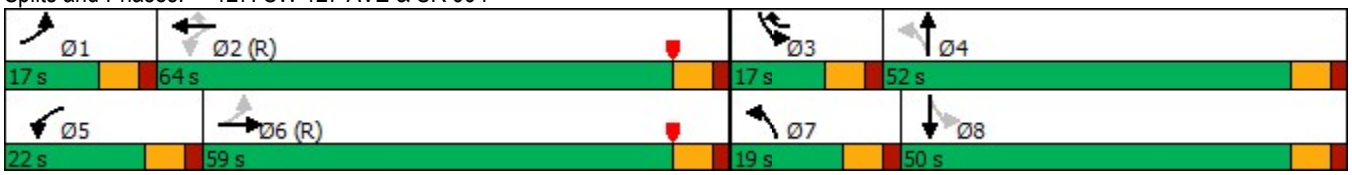
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

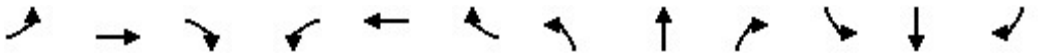
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	49	630	246	565	97	147	198	131	284
Future Volume (vph)	49	630	246	565	97	147	198	131	284
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	3	7	4	3	8
Permitted Phases	6		2		2	4		8	
Detector Phase	1	6	5	2	3	7	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	7.0	5.0	7.0	5.0	5.0	7.0	5.0	7.0
Minimum Split (s)	11.4	28.4	11.4	28.4	11.4	11.4	28.4	11.4	28.4
Total Split (s)	17.0	59.0	22.0	64.0	17.0	19.0	52.0	17.0	50.0
Total Split (%)	11.3%	39.3%	14.7%	42.7%	11.3%	12.7%	34.7%	11.3%	33.3%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 116 (77%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 127: SW 127 AVE & SR 994





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	630	89	246	565	97	147	198	169	131	284	65
Future Volume (veh/h)	49	630	89	246	565	97	147	198	169	131	284	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1826	1885	1856	1870	1811	1826	1826	1885	1885	1722
Adj Flow Rate, veh/h	54	692	98	270	621	107	162	218	186	144	312	71
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	4	4	5	1	3	2	6	5	5	1	1	12
Cap, veh/h	358	1240	176	385	1667	861	233	233	199	196	362	82
Arrive On Green	0.03	0.40	0.40	0.10	0.47	0.47	0.08	0.26	0.26	0.07	0.24	0.24
Sat Flow, veh/h	1753	3076	435	1795	3526	1585	1725	910	776	1795	1486	338
Grp Volume(v), veh/h	54	393	397	270	621	107	162	0	404	144	0	383
Grp Sat Flow(s),veh/h/ln	1753	1749	1762	1795	1763	1585	1725	0	1686	1795	0	1824
Q Serve(g_s), s	2.7	26.0	26.0	12.9	16.9	5.0	10.5	0.0	35.2	9.0	0.0	30.1
Cycle Q Clear(g_c), s	2.7	26.0	26.0	12.9	16.9	5.0	10.5	0.0	35.2	9.0	0.0	30.1
Prop In Lane	1.00		0.25	1.00		1.00	1.00		0.46	1.00		0.19
Lane Grp Cap(c), veh/h	358	705	711	385	1667	861	233	0	432	196	0	444
V/C Ratio(X)	0.15	0.56	0.56	0.70	0.37	0.12	0.70	0.00	0.94	0.73	0.00	0.86
Avail Cap(c_a), veh/h	430	705	711	394	1667	861	234	0	513	196	0	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.0	34.4	34.5	25.0	25.3	16.8	41.2	0.0	54.6	42.6	0.0	54.3
Incr Delay (d2), s/veh	0.1	3.2	3.2	5.0	0.6	0.3	8.1	0.0	23.2	12.7	0.0	12.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	11.6	11.7	5.9	7.2	1.9	5.0	0.0	17.7	4.7	0.0	15.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.2	37.6	37.6	29.9	25.9	17.1	49.3	0.0	77.8	55.2	0.0	66.7
LnGrp LOS	C	D	D	C	C	B	D	A	E	E	A	E
Approach Vol, veh/h		844			998			566			527	
Approach Delay, s/veh		36.8			26.1			69.6			63.6	
Approach LOS		D			C			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	77.3	17.0	44.8	21.3	66.9	18.9	42.9
Change Period (Y+Rc), s	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Max Green Setting (Gmax), s	10.6	57.6	10.6	45.6	15.6	52.6	12.6	43.6
Max Q Clear Time (g_c+I1), s	4.7	0.0	11.0	37.2	14.9	0.0	12.5	32.1
Green Ext Time (p_c), s	0.0	0.0	0.0	1.2	0.1	0.0	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	44.3
HCM 6th LOS	D



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	54	790	270	621	107	162	404	144	383
v/c Ratio	0.14	0.58	0.75	0.38	0.11	0.74	0.89	0.70	0.86
Control Delay	19.7	38.6	34.2	28.5	3.5	53.1	71.1	50.3	71.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	38.6	34.2	28.5	3.5	53.1	71.1	50.3	71.5
Queue Length 50th (ft)	25	329	140	212	0	109	356	95	352
Queue Length 95th (ft)	52	413	#233	292	32	#157	468	140	458
Internal Link Dist (ft)		550		1328			1420		1118
Turn Bay Length (ft)	300		225		225	120		100	
Base Capacity (vph)	414	1352	367	1646	967	223	532	209	526
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.58	0.74	0.38	0.11	0.73	0.76	0.69	0.73

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	856	732	5	2	0
Future Vol, veh/h	0	856	732	5	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	7	0	0	0
Mvmt Flow	0	892	763	5	2	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	768	0	-	0	1658	766
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	892	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	855	-	-	-	109	406
Stage 1	-	-	-	-	462	-
Stage 2	-	-	-	-	404	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	855	-	-	-	109	406
Mov Cap-2 Maneuver	-	-	-	-	109	-
Stage 1	-	-	-	-	462	-
Stage 2	-	-	-	-	404	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	38.7
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	855	-	-	-	109
HCM Lane V/C Ratio	-	-	-	-	0.019
HCM Control Delay (s)	0	-	-	-	38.7
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰		↱		↕	
Traffic Vol, veh/h	1	677	49	22	832	5	8	0	16	4	0	2
Future Vol, veh/h	1	677	49	22	832	5	8	0	16	4	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	90	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	3	0	0	9	0	12	0	0	0	0	0
Mvmt Flow	1	720	52	23	885	5	9	0	17	4	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	890	0	0	772	0	0	1683	-	746	1691	1708	888
Stage 1	-	-	-	-	-	-	748	-	-	934	934	-
Stage 2	-	-	-	-	-	-	935	-	-	757	774	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.22	-	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.22	-	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.22	-	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.608	-	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	770	-	-	852	-	-	71	0	417	75	92	345
Stage 1	-	-	-	-	-	-	389	0	-	322	347	-
Stage 2	-	-	-	-	-	-	306	0	-	403	411	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	770	-	-	852	-	-	68	-	417	69	87	345
Mov Cap-2 Maneuver	-	-	-	-	-	-	68	-	-	69	87	-
Stage 1	-	-	-	-	-	-	388	-	-	321	329	-
Stage 2	-	-	-	-	-	-	288	-	-	386	410	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.2	31.1	46.1
HCM LOS			D	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	68	417	770	-	-	852	-	-	94
HCM Lane V/C Ratio	0.125	0.041	0.001	-	-	0.027	-	-	0.068
HCM Control Delay (s)	65.4	14	9.7	0	-	9.3	0	-	46.1
HCM Lane LOS	F	B	A	A	-	A	A	-	E
HCM 95th %tile Q(veh)	0.4	0.1	0	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	42	716	4	0	829	29	1	0	1	10	3	62
Future Vol, veh/h	42	716	4	0	829	29	1	0	1	10	3	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	9	5	0	0	6	3	0	0	0	0	0	5
Mvmt Flow	44	754	4	0	873	31	1	0	1	11	3	65

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	904	0	0	758	0	0	1767	1748	756	1734	1735	889
Stage 1	-	-	-	-	-	-	844	844	-	889	889	-
Stage 2	-	-	-	-	-	-	923	904	-	845	846	-
Critical Hdwy	4.19	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.281	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.345
Pot Cap-1 Maneuver	724	-	-	862	-	-	66	87	411	70	89	338
Stage 1	-	-	-	-	-	-	361	382	-	341	364	-
Stage 2	-	-	-	-	-	-	326	358	-	360	381	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	724	-	-	862	-	-	48	78	411	64	80	338
Mov Cap-2 Maneuver	-	-	-	-	-	-	48	78	-	64	80	-
Stage 1	-	-	-	-	-	-	323	342	-	305	364	-
Stage 2	-	-	-	-	-	-	261	358	-	321	341	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	47.9	34.5
HCM LOS			E	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	86	724	-	-	862	-	-	199
HCM Lane V/C Ratio	0.024	0.061	-	-	-	-	-	0.397
HCM Control Delay (s)	47.9	10.3	0	-	0	-	-	34.5
HCM Lane LOS	E	B	A	-	A	-	-	D
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0	-	-	1.8

Intersection	
Int Delay, s/veh	4.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	696	55	174	718	25	66
Future Vol, veh/h	696	55	174	718	25	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	92
Heavy Vehicles, %	5	0	8	10	12	3
Mvmt Flow	710	56	178	733	26	72

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	766	0	1827	738
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	1089	-
Critical Hdwy	-	-	4.18	-	6.52	6.23
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	5.52	-
Follow-up Hdwy	-	-	2.272	-	3.608	3.327
Pot Cap-1 Maneuver	-	-	821	-	80	416
Stage 1	-	-	-	-	455	-
Stage 2	-	-	-	-	309	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	821	-	51	416
Mov Cap-2 Maneuver	-	-	-	-	51	-
Stage 1	-	-	-	-	455	-
Stage 2	-	-	-	-	196	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.1	69.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	145	-	-	821	-
HCM Lane V/C Ratio	0.671	-	-	0.216	-
HCM Control Delay (s)	69.7	-	-	10.6	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	3.8	-	-	0.8	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	713	713	12	6	2
Future Vol, veh/h	6	713	713	12	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	16	7	9	24	32	97
Mvmt Flow	8	891	891	15	8	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	906	0	-	0	1806	899
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	907	-
Critical Hdwy	4.26	-	-	-	6.72	7.17
Critical Hdwy Stg 1	-	-	-	-	5.72	-
Critical Hdwy Stg 2	-	-	-	-	5.72	-
Follow-up Hdwy	2.344	-	-	-	3.788	4.173
Pot Cap-1 Maneuver	696	-	-	-	73	232
Stage 1	-	-	-	-	352	-
Stage 2	-	-	-	-	349	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	696	-	-	-	71	232
Mov Cap-2 Maneuver	-	-	-	-	71	-
Stage 1	-	-	-	-	344	-
Stage 2	-	-	-	-	349	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	52.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	696	-	-	-	86
HCM Lane V/C Ratio	0.011	-	-	-	0.116
HCM Control Delay (s)	10.2	0	-	-	52.3
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	19.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	648	210	65	632	18	103	24	40	31	23	2
Future Vol, veh/h	0	648	210	65	632	18	103	24	40	31	23	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	225	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	4	3	5	6	6	7	0	10	0	0	0
Mvmt Flow	0	790	256	79	771	22	126	29	49	38	28	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	793	0	0	790	0	0	1745	1741	790	1769	1730	782
Stage 1	-	-	-	-	-	-	790	790	-	940	940	-
Stage 2	-	-	-	-	-	-	955	951	-	829	790	-
Critical Hdwy	4.1	-	-	4.15	-	-	5	5	5	5	5	5
Critical Hdwy Stg 1	-	-	-	-	-	-	6.17	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.17	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.245	-	-	3.563	4	3.39	3.5	4	3.3
Pot Cap-1 Maneuver	837	-	-	817	-	-	188	181	503	185	183	516
Stage 1	-	-	-	-	-	-	376	404	-	319	345	-
Stage 2	-	-	-	-	-	-	304	341	-	368	404	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	837	-	-	817	-	-	140	150	503	124	151	516
Mov Cap-2 Maneuver	-	-	-	-	-	-	140	150	-	124	151	-
Stage 1	-	-	-	-	-	-	376	404	-	319	285	-
Stage 2	-	-	-	-	-	-	225	282	-	308	404	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.9	183.6	54.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	171	837	-	-	817	-	-	138
HCM Lane V/C Ratio	1.191	-	-	-	0.097	-	-	0.495
HCM Control Delay (s)	183.6	0	-	-	9.9	0	-	54.3
HCM Lane LOS	F	A	-	-	A	A	-	F
HCM 95th %tile Q(veh)	11	0	-	-	0.3	-	-	2.3

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	849	727	5	7	5
Future Vol, veh/h	1	849	727	5	7	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	3	5	0	14	0
Mvmt Flow	1	894	765	5	7	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	770	0	-	0	1664	768
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	896	-
Critical Hdwy	4.1	-	-	-	6.54	6.2
Critical Hdwy Stg 1	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	-	5.54	-
Follow-up Hdwy	2.2	-	-	-	3.626	3.3
Pot Cap-1 Maneuver	854	-	-	-	100	405
Stage 1	-	-	-	-	437	-
Stage 2	-	-	-	-	380	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	854	-	-	-	100	405
Mov Cap-2 Maneuver	-	-	-	-	100	-
Stage 1	-	-	-	-	436	-
Stage 2	-	-	-	-	380	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	32
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	854	-	-	-	146
HCM Lane V/C Ratio	0.001	-	-	-	0.087
HCM Control Delay (s)	9.2	0	-	-	32
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↱			↗
Traffic Vol, veh/h	0	727	837	5	0	21
Future Vol, veh/h	0	727	837	5	0	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	3	8	0	0	0
Mvmt Flow	0	782	900	5	0	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	903
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	339
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	339
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16.4
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	339
HCM Lane V/C Ratio	-	-	-	0.067
HCM Control Delay (s)	-	-	-	16.4
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	732	730	12	19	5
Future Vol, veh/h	0	732	730	12	19	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	4	0	0	19
Mvmt Flow	0	771	768	13	20	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	781	0	-	0	1546	775
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	771	-
Critical Hdwy	4.1	-	-	-	6.4	6.39
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.471
Pot Cap-1 Maneuver	845	-	-	-	127	372
Stage 1	-	-	-	-	458	-
Stage 2	-	-	-	-	460	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	845	-	-	-	127	372
Mov Cap-2 Maneuver	-	-	-	-	127	-
Stage 1	-	-	-	-	458	-
Stage 2	-	-	-	-	460	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	34.5
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	845	-	-	-	147
HCM Lane V/C Ratio	-	-	-	-	0.172
HCM Control Delay (s)	0	-	-	-	34.5
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	711	8	30	706	20	22
Future Vol, veh/h	711	8	30	706	20	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	5	24	3	8	0	0
Mvmt Flow	781	9	33	776	22	24

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	790	0	1628	786
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	842	-
Critical Hdwy	-	-	4.13	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.227	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	826	-	113	395
Stage 1	-	-	-	-	453	-
Stage 2	-	-	-	-	426	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	826	-	105	395
Mov Cap-2 Maneuver	-	-	-	-	105	-
Stage 1	-	-	-	-	453	-
Stage 2	-	-	-	-	396	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	33.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	171	-	-	826	-
HCM Lane V/C Ratio	0.27	-	-	0.04	-
HCM Control Delay (s)	33.7	-	-	9.5	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	1	-	-	0.1	-

Appendix E: Crash Summary

LOCATION INFORMATION
CONFIDENCE LEVEL COMPUTATIONS

Location:	SR 994/SW 200 Street between SW 127 Ave and SW 137 Ave
State Section:	87091000 County: Miami-Dade
State Road:	994 District: 6
Roadway Limits:	Between SW 127 Ave and SW 137 Ave
Engineer:	FDOT
Area Type:	Urban
Spot/Segment:	Segment
Spot Type:	2-3Ln 2Wy Undivd
Begin Milepost:	4.075
End Milepost:	5.212
Begin Year:	2014
End Year:	2018
Number of Years:	5

CRASH STATISTICS

Year	2014	2015	2016	2017	2018
Number of Crashes	58	67	80	88	97
Average Daily Traffic (ADT)	22,296	22,612	21,709	1,476,047	20,604
Actual Crash Rate (ACR)	6.268	7.140	8.880	0.144	11.344
District 6 Average Crash Rate (A)	5.540	6.910	8.075	9.841	10.439
Average Vehicle Exposure (M)	9.253	9.384	9.009	612.567	8.551
Critical Crash Rate (CCR)	8.032	9.681	11.135	10.257	14.017
Safety Ratio	0.780	0.738	0.797	0.014	0.809
Statistical Significance	1.011	0.330	0.908	-76.502	0.872
Confidence Level	80.00%	50.00%	80.00%	50.00%	80.00%

ADT – Average Daily Traffic
ACR – Actual Crash Rate = No. of crashes in a year / Average Vehicle Exposure (M)
M – Average Vehicle Exposure (million vehicles or million vehicles miles) = [(ADT * 365 * L) / 1,000,000]
L = Length of the Segment for Segment Analysis, 1 for Spot Analysis
A – Average Crash Rate
CCR – Critical Crash Rate = A + K * (SQRT[A/M]) - (1/[2 * M])
(Ref: FDOT Highway Safety Improvement Program Guidelines)
K = 3.291 for Urban, 1.960 for Suburban, 1.645 for Rural K = 3.291
Safety Ratio = ACR/CCR
Level of statistical significance = (ACR - A + (1/2M))/SQRT(A/M)
Confidence Level = Percent probability that the crash rate is abnormally high for the location under study, using the district-wide average as a CL Threshold = 99.95%

FDOT DISTRICT 6
EXPECTED VALUES ANALYSIS

SR 994/SW 200 Street between SW 127 Ave and SW 137 Ave Segment/Spot with No Expected Values Available		Number of Crashes Year 2014	2015	2016	2017	2018	5 Year Total Crashes	Mean Crashes Per Year	%	Expected Annual Crash Value Abnormally High Crashes per year 90th percentile	95th percentile	90 %ile	95 %ile
CRASH TYPE	Rear End	27	33	38	48	41	187	37.40	47.9%	0.00	0.00		
	Head On	1	1	1	0	2	5	1.00	1.3%	0.00	0.00		
	Angle	10	9	21	22	15	77	15.40	19.7%	0.00	0.00		
	Left Turn	8	7	9	6	10	40	8.00	10.3%	0.00	0.00		
	Right Turn	3	1	1	3	4	12	2.40	3.1%	0.00	0.00		
	Sideswipe	6	8	7	5	17	43	8.60	11.0%	0.00	0.00		
	Backed Into	0	0	0	0	0	0	0.00	0.0%	0.00	0.00		
	Pedestrian	0	0	0	0	1	1	0.20	0.3%	0.00	0.00		
	Bicycle	0	0	0	1	0	1	0.20	0.3%	0.00	0.00		
	Fixed Object	1	6	3	3	5	18	3.60	4.6%	0.00	0.00		
	Other Non-Collisions	1	1	0	0	0	2	0.40	0.5%	0.00	0.00		
	Overturn/Rollover	0	0	0	0	0	0	0.00	0.0%	0.00	0.00		
	Others	1	1	0	0	2	4	0.80	1.0%	0.00	0.00		
	Total Crashes	**58**	**67**	**80**	**88**	**97**	**390**	**78.00**	**100.0%**	**0.00**	**0.00**		
SEVERITY	PDO Crashes	35	48	55	54	62	254	50.80	65.1%	0.00	0.00		
	Fatal Crashes	0	0	1	0	0	1	0.20	0.3%	0.00	0.00		
	Injury Crashes	23	19	24	34	35	135	27.00	34.6%	0.00	0.00		
LIGHTING CONDITIONS	Daylight	36	51	65	58	70	280	56.00	71.8%	0.00	0.00		
	Dusk	0	1	0	4	3	8	1.60	2.1%	0.00	0.00		
	Dawn	0	0	1	1	0	2	0.40	0.5%	0.00	0.00		
	Dark	21	15	14	25	23	98	19.60	25.1%	0.00	0.00		
	Unknown	1	0	0	0	1	2	0.40	0.5%	0.00	0.00		
SURFACE CONDITIONS	Dry	44	52	67	78	80	321	64.20	82.3%	0.00	0.00		
	Wet	13	15	13	10	16	67	13.40	17.2%	0.00	0.00		
	Others	1	0	0	0	1	2	0.40	0.5%	0.00	0.00		
MONTH OF YEAR	January	7	5	5	10	8	35	7.00	9.0%	0.00	0.00		
	February	6	9	5	9	6	35	7.00	9.0%	0.00	0.00		
	March	5	4	7	8	3	27	5.40	6.9%	0.00	0.00		
	April	1	1	5	10	9	26	5.20	6.7%	0.00	0.00		
	May	0	4	12	8	3	27	5.40	6.9%	0.00	0.00		
	June	5	6	6	3	10	30	6.00	7.7%	0.00	0.00		
	July	7	3	6	5	11	32	6.40	8.2%	0.00	0.00		
	August	7	4	5	6	12	34	6.80	8.7%	0.00	0.00		
	September	5	11	7	13	11	47	9.40	12.1%	0.00	0.00		
	October	4	3	8	11	4	30	6.00	7.7%	0.00	0.00		
	November	8	9	7	1	12	37	7.40	9.5%	0.00	0.00		
	December	3	8	7	4	8	30	6.00	7.7%	0.00	0.00		
DAY OF WEEK	Monday	8	7	11	12	9	47	9.40	12.1%	0.00	0.00		
	Tuesday	9	10	11	23	18	71	14.20	18.2%	0.00	0.00		
	Wednesday	9	12	12	12	9	54	10.80	13.8%	0.00	0.00		
	Thursday	6	10	14	11	17	58	11.60	14.9%	0.00	0.00		
	Friday	12	11	19	14	22	78	15.60	20.0%	0.00	0.00		
	Saturday	6	13	8	11	12	50	10.00	12.8%	0.00	0.00		
	Sunday	8	4	5	5	10	32	6.40	8.2%	0.00	0.00		
HOUR OF DAY	00:00-06:00	7	1	2	4	6	20	4.00	5.1%	0.00	0.00		
	06:00-09:00	11	16	16	27	15	85	17.00	21.8%	0.00	0.00		
	09:00-11:00	3	8	6	10	6	33	6.60	8.5%	0.00	0.00		
	11:00-13:00	1	9	6	3	7	26	5.20	6.7%	0.00	0.00		
	13:00-15:00	7	7	4	6	9	33	6.60	8.5%	0.00	0.00		
	15:00-18:00	14	12	26	12	27	91	18.20	23.3%	0.00	0.00		
	18:00-24:00	15	14	20	26	27	102	20.40	26.2%	0.00	0.00		

State of Florida Department of Transportation
CRASH SUMMARY

SECTION: 87091000 STATE ROUTE: 994

ROADWAY LIMITS: Between SW 127 Ave and SW 137 Ave M.P. 4.075 TO 5.212 ENGINEER: FDOT

STUDY PERIOD: FROM 1/ 2014 TO 12/ 2014 COUNTY: Miami-Dade

NO.	MILE POST	INTERSECTION	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURIES	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE (VEHICLE ONLY)
1	4.037	SW 137 AVE	08/25/14	Mon	0740	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
2	4.056	SW 137 AVE	08/20/14	Wed	0830	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
3	4.071	SW 137 AVE	01/06/14	Mon	1615	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
4	4.073	SW 137 AVE	06/24/14	Tue	2048	Rear-End	0	0	1	Night	Wet	Careless or Negligent Manner
5	4.073	SW 127 AVE	07/19/14	Sat	2104	Sideswipe	0	0	1	Night	Wet	Careless or Negligent Manner
6	4.075	SW 137 AVE	01/10/14	Fri	1734	Rear-End	0	2	0	Day	Dry	Careless or Negligent Manner
7	4.075	SW 137 AVE	10/26/14	Sun	1018	Rear-End	0	0	1	Day	Dry	Followed too Closely
8	4.196	SW 135 AVE	03/01/14	Sat	1952	Rear-End	0	4	0	Night	Dry	Careless or Negligent Manner
9	4.200	SW 135 AVE	07/30/14	Wed	1613	Head-On	0	2	0	Day	Dry	Failed To Keep In Proper Lane
10	4.300	SW 134 AVE	11/07/14	Fri	2218	Angle	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
11	4.309	SW 134 AVE	03/07/14	Fri	1448	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
12	4.309	SW 134 AVE	06/17/14	Tue	0430	Animal	0	0	1	Night	Dry	No Contributing Action
13	4.322	SW 134 AVE	01/29/14	Wed	0825	Rear-End	0	1	0	Day	Wet	Careless or Negligent Manner
14	4.322	SW 134 AVE	08/20/14	Wed	0005	Rear-End	0	0	1	Night	Dry	Other Contributing Action
15	4.328	SW 134 AVE	04/22/14	Tue	1655	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
16	4.328	SW 134 AVE	03/10/14	Mon	1000	Angle	0	0	1	Day	Dry	Improper Passing
17	4.328	SW 134 AVE	06/01/14	Sun	0310	Sideswipe	0	0	1	Night	Dry	#N/A
18	4.328	SW 134 AVE	07/16/14	Wed	1020	Right-Turn	0	0	1	Day	Dry	Ran Stop Sign
19	4.328	SW 134 AVE	09/09/14	Tue	0805	Rear-End	0	2	0	Day	Dry	Followed too Closely
20	4.328	SW 134 AVE	11/05/14	Wed	1530	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
21	4.328	SW 134 AVE	08/24/14	Sun	1855	Angle	0	4	0	Day	Dry	Ran Stop Sign
22	4.328	SW 134 AVE	09/11/14	Thu	2020	Angle	0	0	1	Night	Wet	#N/A
23	4.328	SW 134 AVE	12/28/14	Sun	0008	Angle	0	2	0	Night	Dry	#N/A
24	4.330	SW 134 AVE	02/10/14	Mon	0751	Rear-End	0	2	0	Day	Dry	No Contributing Action
25	4.425	SW 133 AVE	02/06/14	Thu	0741	Right-Turn	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
26	4.490	SW 132 PL	03/25/14	Tue	1305	Angle	0	1	0	Day	Dry	Improper Turn
27	4.490	SW 132 PL	11/08/14	Sat	1945	Rear-End	0	2	0	Night	Dry	Careless or Negligent Manner
28	4.584	SW 132 AVE	01/08/14	Wed	1448	Cargo/Equipment Loss or Shift	0	0	1	Day	Dry	Other Contributing Action
29	4.584	SW 132 AVE	08/28/14	Thu	1340	Rear-End	0	2	0	Day	Dry	Careless or Negligent Manner
30	4.586	SW 132 AVE	01/30/14	Thu	1720	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
31	4.588	SW 132 AVE	12/05/14	Fri	0823	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
32	4.590	SW 132 AVE	01/13/14	Mon	1729	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
33	4.593	SW 132 AVE	02/27/14	Thu	1810	Rear-End	0	1	0	Night	Wet	Careless or Negligent Manner
34	4.711	SW 130 AVE	11/25/14	Tue	1715	Right-Turn	0	0	1	Night	Dry	Ran Stop Sign
35	4.835	SW 129 AVE	03/01/14	Sat	0530	Left-Turn	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
36	4.835	SW 129 AVE	09/26/14	Fri	0830	Rear-End	0	0	1	Day	Wet	No Contributing Action
37	4.846	SW 129 AVE	10/18/14	Sat	1532	Rear-End	0	2	0	Day	Dry	Other Contributing Action
38	4.995	SW 127 AVE	11/14/14	Fri	2232	Angle	0	0	1	Night	Dry	Careless or Negligent Manner
39	5.071	SW 127 AVE	07/30/14	Wed	2030	Sideswipe	0	0	1	Night	Wet	Failed To Keep In Proper Lane
40	5.088	SW 127 AVE	07/29/14	Tue	1456	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
41	5.090	SW 127 AVE	02/24/14	Mon	0800	Angle	0	3	0	Day	Dry	No Contributing Action
42	5.090	SW 127 AVE	08/15/14	Fri	1722	Left-Turn	0	2	0	Day	Wet	Failed to Yield Right-Of-Way
43	5.090	SW 127 AVE	07/27/14	Sun	2200	Left-Turn	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
44	5.090	SW 127 AVE	07/05/14	Sat	1342	Left-Turn	0	1	0	Day	Wet	Failed to Yield Right-Of-Way
45	5.090	SW 127 AVE	06/01/14	Sun	1145	Rear-End	0	0	1	Day	Dry	No Contributing Action
46	5.090	SW 127 AVE	01/10/14	Fri	0341	Tree (Standing)	0	1	0	Night	Dry	Drove too Fast for Conditions

State of Florida Department of Transportation
CRASH SUMMARY

SECTION: **87091000** STATE ROUTE: **994**

ROADWAY LIMITS: **Between SW 127 Ave and SW 137 Ave** M.P. **4.075** TO **5.212** ENGINEER: **FDOT**

STUDY PERIOD: FROM **1/ 2014** TO **12/ 2014** COUNTY: **Miami-Dade**

NO.	MILE POST	INTERSECTION	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURIES	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE (VEHICLE ONLY)
47	5.090	SW 127 AVE	02/06/14	Thu	1719	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
48	5.090	SW 127 AVE	02/04/14	Tue	1614	Left-Turn	0	1	0	Day	Dry	Careless or Negligent Manner
49	5.090	SW 127 AVE	06/13/14	Fri	2200	Rear-End	0	0	1	Night	Other	Other Contributing Action
50	5.090	SW 127 AVE	09/19/14	Fri	0556	Left-Turn	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
51	5.090	SW 127 AVE	10/19/14	Sun	2016	Left-Turn	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
52	5.090	SW 127 AVE	09/22/14	Mon	0730	Angle	0	1	0	Day	Dry	Ran Stop Sign
53	5.090	SW 127 AVE	11/14/14	Fri	1630	Sideswipe	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
54	5.090	SW 127 AVE	10/27/14	Mon	2045	Angle	0	0	1	Night	Dry	Careless or Negligent Manner
55	5.090	SW 127 AVE	11/25/14	Tue	0625	Rear-End	0	1	0	Night	Dry	#N/A
56	5.090	SW 127 AVE	11/09/14	Sun	1745	Left-Turn	0	0	1	Day	Wet	Failed to Yield Right-Of-Way
57	5.092	SW 127 AVE	12/31/14	Wed	1916	Sideswipe	0	0	1	Night	Dry	Improper Passing
58	5.118	SW 127 AVE	08/29/14	Fri	1346	Sideswipe	0	0	1	Day	Dry	Careless or Negligent Manner

Total No.	Fatal		Injury	PDO	Rear-End	Head-On	Angle	Left-Turn	Right-Turn	Sideswipe	Backed Into	Ped/Bike	Parked Car	Fixed Object	Ran into Water	Other
58	**0**		**23**	**35**	**27**	**1**	**10**	**8**	**3**	**6**	**0**	**0**	**0**	**1**	**0**	**0**
Percent	*0.00%*		*39.66%*	*60.34%*	*46.55%*	*1.72%*	*17.24%*	*13.79%*	*5.17%*	*10.34%*	*0.00%*	*0.00%*	*0.00%*	*1.72%*	*0.00%*	*0.00%*
Contrib. Cause	Day		Night	Wet	Dry	Careless Driving	FTYRW	Improper Turn	Ran Red Light	Exceeded Speed	Improper Passing	Disreg Cntl Dev	Erratic/ Aggress	Ran off Road	DUI	Wrong Way
Total	**36**		**22**	**13**	**44**	**23**	**10**	**1**	**0**	**1**	**2**	**0**	**0**	**0**	**1**	**0**
Percent	*62.07%*		*37.93%*	*22.41%*	*75.86%*	*39.66%*	*17.24%*	*1.72%*	*0.00%*	*1.72%*	*3.45%*	*0.00%*	*0.00%*	*0.00%*	*1.72%*	*0.00%*

TOTAL ENTERING VEHICLES/ADT: **22,296**

SEGMENT CRASH RATE: **6.268** CRASHES PER MILLION VEHICLE MILES

State of Florida Department of Transportation
CRASH SUMMARY

SECTION: 87091000 STATE ROUTE: 994

ROADWAY LIMITS: Between SW 127 Ave and SW 137 Ave M.P. 4.075 TO 5.212 ENGINEER: FDOT

STUDY PERIOD: FROM 1/ 2015 TO 12/ 2015 COUNTY: Miami-Dade

NO.	MILE POST	INTERSECTION	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURIES	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE (VEHICLE ONLY)
1	4.037	SW 137 AVE	01/02/15	Fri	1740	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
2	4.056	SW 137 AVE	02/02/15	Mon	0900	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
3	4.066	SW 137 AVE	02/25/15	Wed	1207	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
4	4.068	SW 137 AVE	12/07/15	Mon	1301	Rear-End	0	2	0	Day	Wet	No Contributing Action
5	4.072	SW 137 AVE	04/29/15	Wed	2113	Rear-End	0	0	1	Night	Wet	Careless or Negligent Manner
6	4.073	SW 137 AVE	06/18/15	Thu	0940	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
7	4.073	SW 137 AVE	10/04/15	Sun	1510	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
8	4.073	SW 137 AVE	12/29/15	Tue	1000	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
9	4.074	SW 137 AVE	08/23/15	Sun	1549	Rear-End	0	5	0	Day	Dry	Careless or Negligent Manner
10	4.075	SW 137 AVE	12/22/15	Tue	2255	Rear-End	0	0	1	Night	Wet	Careless or Negligent Manner
11	4.075	SW 137 AVE	12/19/15	Sat	1045	Left-Turn	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
12	4.075	SW 137 AVE	02/09/15	Mon	0655	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
13	4.075	SW 137 AVE	09/22/15	Tue	0617	Left-Turn	0	2	0	Night	Wet	No Contributing Action
14	4.075	SW 137 AVE	12/21/15	Mon	0701	Head-On	0	2	0	Night	Wet	Failed To Keep In Proper Lane
15	4.075	SW 137 AVE	06/27/15	Sat	1127	Fence	0	0	1	Day	Wet	Careless or Negligent Manner
16	4.075	SW 137 AVE	11/08/15	Sun	0100	Angle	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
17	4.084	SW 137 AVE	09/23/15	Wed	1710	Sideswipe	0	0	1	Day	Dry	Failed To Keep In Proper Lane
18	4.084	SW 137 AVE	12/10/15	Thu	1717	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
19	4.170	SW 135 AVE	03/17/15	Tue	2225	Tree (Standing)	0	0	1	Night	Dry	Over-Correcting/Over-Steering
20	4.198	SW 135 AVE	06/06/15	Sat	1255	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
21	4.325	SW 134 AVE	07/17/15	Fri	1621	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
22	4.328	SW 134 AVE	12/14/15	Mon	1700	Left-Turn	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
23	4.328	SW 134 AVE	03/07/15	Sat	0835	Angle	0	2	0	Day	Dry	Failed to Yield Right-Of-Way
24	4.328	SW 134 AVE	05/01/15	Fri	2041	Rear-End	0	0	1	Night	Dry	Careless or Negligent Manner
25	4.328	SW 134 AVE	10/03/15	Sat	1440	Angle	0	2	0	Day	Dry	Failed to Yield Right-Of-Way
26	4.328	SW 134 AVE	02/06/15	Fri	1553	Sideswipe	0	0	1	Day	Dry	Other Contributing Action
27	4.328	SW 134 AVE	03/02/15	Mon	0716	Left-Turn	0	1	0	Day	Dry	Failed to Yield Right-Of-Way
28	4.328	SW 134 AVE	02/25/15	Wed	1306	Right-Turn	0	0	1	Day	Dry	Careless or Negligent Manner
29	4.328	SW 134 AVE	08/19/15	Wed	2245	Rear-End	0	0	1	Night	Dry	Followed too Closely
30	4.328	SW 134 AVE	08/05/15	Wed	0605	Angle	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
31	4.397	SW 134 AVE	06/04/15	Thu	0920	Other Non-Collision	0	0	1	Day	Dry	#N/A
32	4.421	SW 133 AVE	01/24/15	Sat	2115	Other Post, Pole Or Support	0	0	1	Night	Dry	Careless or Negligent Manner
33	4.423	SW 133 AVE	09/04/15	Fri	0800	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
34	4.434	SW 132 PL	02/25/15	Wed	1332	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
35	4.457	SW 133 AVE	07/21/15	Tue	1044	Angle	0	1	0	Day	Dry	Failed to Yield Right-Of-Way
36	4.584	SW 132 AVE	11/20/15	Fri	1225	Angle	0	1	0	Day	Dry	Failed to Yield Right-Of-Way
37	4.584	SW 132 AVE	01/16/15	Fri	1545	Rear-End	0	0	1	Day	Dry	Followed too Closely
38	4.584	SW 132 AVE	11/15/15	Sun	1030	Fence	0	0	1	Day	Wet	Swerved Or Avoided
39	4.593	SW 132 AVE	06/27/15	Sat	1145	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
40	4.603	SW 132 AVE	09/03/15	Thu	0850	Bridge Rail	0	0	1	Day	Dry	#N/A
41	4.612	SW 132 AVE	10/14/15	Wed	0815	Rear-End	0	3	0	Day	Dry	No Contributing Action
42	4.692	SW 130 AVE	09/04/15	Fri	0730	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
43	4.692	SW 130 AVE	11/19/15	Thu	0800	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
44	4.702	SW 130 AVE	03/05/15	Thu	1925	Rear-End	0	0	1	Night	Dry	Careless or Negligent Manner
45	4.709	SW 130 AVE	06/03/15	Wed	1654	Rear-End	0	0	1	Day	Dry	Followed too Closely
46	4.711	SW 130 AVE	09/10/15	Thu	1427	Angle	0	0	1	Day	Dry	Ran Stop Sign

State of Florida Department of Transportation
CRASH SUMMARY

SECTION: 87091000 STATE ROUTE: 994

ROADWAY LIMITS: Between SW 127 Ave and SW 137 Ave M.P. 4.075 TO 5.212 ENGINEER: FDOT

STUDY PERIOD: FROM 1/ 2015 TO 12/ 2015 COUNTY: Miami-Dade

NO.	MILE POST	INTERSECTION	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURIES	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE (VEHICLE ONLY)
47	4.717	SW 130 AVE	11/06/15	Fri	1723	Animal	0	0	1	Day	Dry	No Contributing Action
48	4.835	SW 129 AVE	05/05/15	Tue	0830	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
49	4.854	SW 129 AVE	09/17/15	Thu	1839	Rear-End	0	1	0	Day	Wet	Careless or Negligent Manner
50	4.995	SW 127 AVE	11/12/15	Thu	0700	Sideswipe	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
51	5.052	SW 127 AVE	12/05/15	Sat	1100	Curb	0	1	0	Day	Wet	Careless or Negligent Manner
52	5.071	SW 127 AVE	11/04/15	Wed	1535	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
53	5.090	SW 127 AVE	02/10/15	Tue	0810	Sideswipe	0	0	1	Day	Dry	Failed To Keep In Proper Lane
54	5.090	SW 127 AVE	01/24/15	Sat	1220	Rear-End	0	0	1	Day	Dry	Followed too Closely
55	5.090	SW 127 AVE	01/10/15	Sat	1820	Left-Turn	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
56	5.090	SW 127 AVE	05/26/15	Tue	2131	Left-Turn	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
57	5.090	SW 127 AVE	09/18/15	Fri	2012	Sideswipe	0	0	1	Day	Dry	Careless or Negligent Manner
58	5.090	SW 127 AVE	09/12/15	Sat	0850	Sideswipe	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
59	5.090	SW 127 AVE	09/12/15	Sat	1910	Left-Turn	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
60	5.090	SW 127 AVE	11/26/15	Thu	1125	Angle	0	0	1	Day	Dry	Ran Red Light
61	5.090	SW 127 AVE	05/19/15	Tue	1430	Sideswipe	0	0	1	Day	Dry	Careless or Negligent Manner
62	5.090	SW 127 AVE	07/29/15	Wed	2021	Rear-End	0	0	1	Day	Dry	Other Contributing Action
63	5.090	SW 127 AVE	11/11/15	Wed	1154	Sideswipe	0	0	1	Day	Dry	Careless or Negligent Manner
64	5.092	SW 127 AVE	09/22/15	Tue	0600	Rear-End	0	0	1	Night	Dry	Careless or Negligent Manner
65	5.118	SW 127 AVE	02/13/15	Fri	1347	Angle	0	0	1	Day	Dry	Careless or Negligent Manner
66	5.137	SW 127 AVE	08/01/15	Sat	1045	Rear-End	0	2	0	Day	Dry	No Contributing Action
67	5.212	SW 127 AVE	02/09/15	Mon	1924	Rear-End	0	1	0	Night	Wet	Careless or Negligent Manner

State of Florida Department of Transportation
CRASH SUMMARY

SECTION: **87091000** STATE ROUTE: **994**

ROADWAY LIMITS: **Between SW 127 Ave and SW 137 Ave** M.P. **4.075** TO **5.212** ENGINEER: **FDOT**

STUDY PERIOD: FROM **1/ 2015** TO **12/ 2015** COUNTY: **Miami-Dade**

NO.	MILE POST	INTERSECTION	DATE	DAY	TIME	CRASH TYPE			FATAL	INJURIES	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE (VEHICLE ONLY)		
Total No.	Fatal		Injury	PDO	Rear-End	Head-On	Angle	Left-Turn	Right-Turn	Sideswipe	Backed Into	Ped/Bike	Parked Car	Fixed Object	Ran into Water	Other
67	**0**		**19**	**48**	**33**	**1**	**9**	**7**	**1**	**8**	**0**	**0**	**0**	**6**	**0**	**0**
Percent	*0.00%*		*28.36%*	*71.64%*	*49.25%*	*1.49%*	*13.43%*	*10.45%*	*1.49%*	*11.94%*	*0.00%*	*0.00%*	*0.00%*	*8.96%*	*0.00%*	*0.00%*
Contrib. Cause	Day		Night	Wet	Dry	Careless Driving	FTYRW	Improper Turn	Ran Red Light	Exceeded Speed	Improper Passing	Disreg Cntl Dev	Erratic/ Aggress	Ran off Road	DUI	Wrong Way
Total	**51**		**16**	**15**	**52**	**33**	**14**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**
Percent	*76.12%*		*23.88%*	*22.39%*	*77.61%*	*49.25%*	*20.90%*	*0.00%*	*1.49%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*2.99%*	*0.00%*

TOTAL ENTERING VEHICLES/ADT: **22,612**

SEGMENT CRASH RATE: **7.140** CRASHES PER MILLION VEHICLE MILES

State of Florida Department of Transportation
CRASH SUMMARY

SECTION: 87091000 STATE ROUTE: 994

ROADWAY LIMITS: Between SW 127 Ave and SW 137 Ave M.P. 4.075 TO 5.212 ENGINEER: FDOT

STUDY PERIOD: FROM 1/ 2016 TO 12/ 2016 COUNTY: Miami-Dade

NO.	MILE POST	INTERSECTION	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURIES	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE (VEHICLE ONLY)
1	4.018	SW 137 AVE	05/26/16	Thu	0659	Rear-End	0	2	0	Day	Dry	Careless or Negligent Manner
2	4.037	SW 137 AVE	04/11/16	Mon	1755	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
3	4.066	SW 137 AVE	04/01/16	Fri	1241	Rear-End	0	2	0	Day	Dry	Careless or Negligent Manner
4	4.066	SW 137 AVE	09/04/16	Sun	1912	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
5	4.070	SW 137 AVE	06/20/16	Mon	1641	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
6	4.073	SW 137 AVE	02/05/16	Fri	1525	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
7	4.075	SW 137 AVE	02/11/16	Thu	0800	Angle	0	0	1	Day	Dry	Ran Red Light
8	4.075	SW 137 AVE	11/25/16	Fri	0045	Guardrail Face	0	0	1	Night	Dry	No Contributing Action
9	4.075	SW 137 AVE	05/02/16	Mon	0605	Left-Turn	0	0	1	Night	Dry	Careless or Negligent Manner
10	4.084	SW 137 AVE	10/08/16	Sat	1020	Angle	0	0	1	Day	Dry	Careless or Negligent Manner
11	4.084	SW 137 AVE	10/25/16	Tue	1739	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
12	4.084	SW 137 AVE	10/25/16	Tue	1739	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
13	4.094	SW 137 AVE	11/05/16	Sat	1500	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
14	4.113	SW 137 AVE	05/13/16	Fri	1700	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
15	4.113	SW 137 AVE	12/27/16	Tue	1941	Rear-End	0	0	1	Night	Dry	Careless or Negligent Manner
16	4.181	SW 135 AVE	07/26/16	Tue	1618	Angle	0	0	1	Day	Dry	Improper Turn
17	4.181	SW 135 AVE	11/19/16	Sat	0555	Left-Turn	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
18	4.228	SW 135 AVE	12/15/16	Thu	1719	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
19	4.328	SW 134 AVE	01/04/16	Mon	0645	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
20	4.328	SW 134 AVE	02/21/16	Sun	1039	Angle	0	2	0	Day	Dry	Failed to Yield Right-Of-Way
21	4.328	SW 134 AVE	03/04/16	Fri	1300	Angle	0	0	1	Day	Dry	Ran Stop Sign
22	4.328	SW 134 AVE	08/15/16	Mon	0650	Angle	0	1	0	Day	Dry	Failed to Yield Right-Of-Way
23	4.328	SW 134 AVE	09/08/16	Thu	1555	Angle	0	0	1	Day	Dry	#N/A
24	4.328	SW 134 AVE	12/02/16	Fri	0623	Angle	0	2	0	Day	Wet	Failed to Yield Right-Of-Way
25	4.328	SW 134 AVE	01/17/16	Sun	1254	Angle	0	0	1	Day	Dry	No Contributing Action
26	4.328	SW 134 AVE	06/15/16	Wed	1237	Angle	0	1	0	Day	Dry	Careless or Negligent Manner
27	4.328	SW 134 AVE	06/16/16	Thu	1545	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
28	4.328	SW 134 AVE	12/06/16	Tue	1645	Sideswipe	0	0	1	Day	Dry	Erratic, Reckless or Aggressive
29	4.328	SW 134 AVE	12/16/16	Fri	0647	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
30	4.406	SW 134 AVE	10/20/16	Thu	1801	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
31	4.425	SW 132 AVE	03/30/16	Wed	1900	Right-Turn	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
32	4.425	SW 133 AVE	05/28/16	Sat	1702	Tree (Standing)	0	0	1	Day	Dry	Careless or Negligent Manner
33	4.429	SW 132 PL	07/16/16	Sat	1620	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
34	4.430	SW 132 PL	11/16/16	Wed	0703	Rear-End	0	2	0	Day	Dry	Careless or Negligent Manner
35	4.584	SW 132 AVE	03/20/16	Sun	2040	Left-Turn	1	0	0	Night	Wet	Other Contributing Action
36	4.584	SW 132 AVE	10/19/16	Wed	0910	Head-On	0	2	0	Day	Dry	Swerved Or Avoided
37	4.586	SW 132 AVE	06/08/16	Wed	1515	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
38	4.588	SW 132 AVE	07/18/16	Mon	2150	Rear-End	0	1	0	Night	Wet	Careless or Negligent Manner
39	4.590	SW 132 AVE	09/21/16	Wed	1600	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
40	4.591	SW 132 AVE	07/06/16	Wed	1005	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
41	4.593	SW 132 AVE	07/18/16	Mon	2130	Rear-End	0	0	1	Night	Wet	Careless or Negligent Manner
42	4.593	SW 132 AVE	11/08/16	Tue	2007	Rear-End	0	1	0	Night	Dry	Careless or Negligent Manner
43	4.603	SW 130 AVE	03/04/16	Fri	0845	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
44	4.603	SW 130 AVE	03/04/16	Fri	0846	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
45	4.622	SW 132 AVE	04/21/16	Thu	1000	Rear-End	0	2	0	Day	Dry	Followed too Closely
46	4.705	SW 130 AVE	04/05/16	Tue	2019	Rear-End	0	1	0	Night	Dry	Careless or Negligent Manner

State of Florida Department of Transportation
CRASH SUMMARY

SECTION: **87091000** STATE ROUTE: **994**

ROADWAY LIMITS: **Between SW 127 Ave and SW 137 Ave** M.P. **4.075** TO **5.212** ENGINEER: **FDOT**

STUDY PERIOD: FROM **1/ 2016** TO **12/ 2016** COUNTY: **Miami-Dade**

NO.	MILE POST	INTERSECTION	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURIES	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE (VEHICLE ONLY)
47	4.711	SW 130 AVE	09/26/16	Mon	2025	Angle	0	0	1	Night	Dry	Ran Stop Sign
48	4.712	SW 130 AVE	08/18/16	Thu	0718	Angle	0	4	0	Day	Wet	Failed to Yield Right-Of-Way
49	4.830	SW 129 AVE	10/17/16	Mon	1733	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
50	4.835	SW 129 AVE	09/09/16	Fri	1816	Angle	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
51	4.835	SW 129 AVE	11/24/16	Thu	1230	Tree (Standing)	0	0	1	Day	Dry	Other Contributing Action
52	4.838	SW 129 AVE	10/05/16	Wed	0623	Left-Turn	0	2	0	Day	Wet	Failed to Yield Right-Of-Way
53	4.839	SW 129 AVE	06/16/16	Thu	1909	Sideswipe	0	0	1	Day	Dry	#N/A
54	4.938	SW 127 AVE	10/25/16	Tue	2240	Rear-End	0	0	1	Night	Dry	Careless or Negligent Manner
55	4.995	SW 127 AVE	01/15/16	Fri	1412	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
56	5.062	SW 127 AVE	05/13/16	Fri	1500	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
57	5.071	SW 127 AVE	04/13/16	Wed	0654	Sideswipe	0	2	0	Day	Dry	Careless or Negligent Manner
58	5.081	SW 127 AVE	12/08/16	Thu	0900	Rear-End	0	0	1	Day	Dry	Followed too Closely
59	5.084	SW 127 AVE	03/28/16	Mon	2118	Angle	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
60	5.090	SW 127 AVE	06/12/16	Sun	2220	Left-Turn	0	0	1	Night	Dry	Ran Red Light
61	5.090	SW 127 AVE	05/20/16	Fri	1641	Left-Turn	0	1	0	Day	Dry	Failed to Yield Right-Of-Way
62	5.090	SW 127 AVE	07/08/16	Fri	1150	Angle	0	0	1	Day	Dry	Ran Red Light
63	5.090	SW 127 AVE	05/31/16	Tue	1429	Angle	0	0	1	Day	Wet	Ran Red Light
64	5.090	SW 127 AVE	08/18/16	Thu	1600	Angle	0	2	0	Day	Dry	Careless or Negligent Manner
65	5.090	SW 127 AVE	09/10/16	Sat	0706	Left-Turn	0	2	0	Day	Dry	Failed to Yield Right-Of-Way
66	5.090	SW 127 AVE	11/25/16	Fri	2320	Left-Turn	0	1	0	Night	Dry	Other Contributing Action
67	5.090	SW 127 AVE	01/14/16	Thu	1911	Angle	0	0	1	Night	Wet	Disregarded other Road Markings
68	5.090	SW 127 AVE	02/12/16	Fri	1548	Angle	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
69	5.090	SW 127 AVE	01/20/16	Wed	0724	Sideswipe	0	0	1	Day	Dry	Careless or Negligent Manner
70	5.090	SW 127 AVE	02/26/16	Fri	1706	Sideswipe	0	0	1	Day	Dry	Careless or Negligent Manner
71	5.090	SW 127 AVE	03/18/16	Fri	1512	Angle	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
72	5.090	SW 127 AVE	05/19/16	Thu	0730	Angle	0	0	1	Day	Dry	Improper Passing
73	5.090	SW 127 AVE	05/14/16	Sat	1432	Sideswipe	0	1	0	Day	Dry	Failed To Keep In Proper Lane
74	5.090	SW 127 AVE	05/18/16	Wed	1800	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
75	5.090	SW 127 AVE	08/22/16	Mon	2121	Left-Turn	0	0	1	Night	Dry	Careless or Negligent Manner
76	5.090	SW 127 AVE	09/14/16	Wed	1656	Sideswipe	0	0	1	Day	Dry	Careless or Negligent Manner
77	5.095	SW 127 AVE	05/17/16	Tue	1500	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
78	5.109	SW 127 AVE	05/03/16	Tue	1805	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
79	5.147	SW 127 AVE	12/02/16	Fri	1645	Rear-End	0	0	1	Day	Dry	Improper Turn
80	5.209	SW 127 AVE	08/06/16	Sat	1211	Rear-End	0	3	0	Day	Dry	Careless or Negligent Manner

Total No.	Fatal		Injury	PDO	Rear-End	Head-On	Angle	Left-Turn	Right-Turn	Sideswipe	Backed Into	Ped/Bike	Parked Car	Fixed Object	Ran into Water	Other
80	**1**		**24**	**55**	**38**	**1**	**21**	**9**	**1**	**7**	**0**	**0**	**0**	**3**	**0**	**0**
Percent	*1.25%*		*30.00%*	*68.75%*	*47.50%*	*1.25%*	*26.25%*	*11.25%*	*1.25%*	*8.75%*	*0.00%*	*0.00%*	*0.00%*	*3.75%*	*0.00%*	*0.00%*
Contrib. Cause	Day		Night	Wet	Dry	Careless Driving	FTYRW	Improper Turn	Ran Red Light	Exceeded Speed	Improper Passing	Disreg Cntl Dev	Erratic/ Aggress	Ran off Road	DUI	Wrong Way
Total	**65**		**15**	**13**	**67**	**45**	**13**	**2**	**4**	**0**	**1**	**1**	**1**	**0**	**0**	**0**
Percent	*81.25%*		*18.75%*	*16.25%*	*83.75%*	*56.25%*	*16.25%*	*2.50%*	*5.00%*	*0.00%*	*1.25%*	*1.25%*	*1.25%*	*0.00%*	*0.00%*	*0.00%*

TOTAL ENTERING VEHICLES/ADT: **21,709**

SEGMENT CRASH RATE: **8.880** CRASHES PER MILLION VEHICLE MILES

State of Florida Department of Transportation
CRASH SUMMARY

SECTION: 87091000 STATE ROUTE: 994

ROADWAY LIMITS: Between SW 127 Ave and SW 137 Ave M.P. 4.075 TO 5.212 ENGINEER: FDOT

STUDY PERIOD: FROM 1/ 2017 TO 12/ 2017 COUNTY: Miami-Dade

NO.	MILE POST	INTERSECTION	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURIES	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE (VEHICLE ONLY)
1	4.892	SW 129 AVE	10/15/17	Sun	0125	Other Post, Pole Or Support	0	0	1	Night	Dry	No Contributing Action
2	4.420	SW 133 AVE	06/08/17	Thu	0820	Rear-End	0	1	0	Day	Wet	Drove too Fast for Conditions
3	4.584	SW 132 AVE	01/18/17	Wed	2223	Rear-End	0	3	0	Night	Dry	Careless or Negligent Manner
4	5.185	SW 127 AVE	01/12/17	Thu	0815	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
5	4.181	SW 135 AVE	04/11/17	Tue	0715	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
6	5.090	SW 127 AVE	02/04/17	Sat	0123	Angle	0	4	0	Night	Dry	Failed to Yield Right-Of-Way
7	4.590	SW 132 PL	02/07/17	Tue	2224	Guardrail Face	0	0	1	Night	Dry	No Contributing Action
8	4.453	SW 133 AVE	03/28/17	Tue	0800	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
9	5.090	SW 127 AVE	05/06/17	Sat	0700	Right-Turn	0	1	0	Day	Dry	Failed to Yield Right-Of-Way
10	4.195	SW 135 AVE	01/13/17	Fri	0845	Rear-End	0	2	0	Day	Dry	Careless or Negligent Manner
11	4.622	SW 130 AVE	01/31/17	Tue	1733	Rear-End	0	1	0	Night	Dry	Careless or Negligent Manner
12	4.584	SW 132 AVE	02/21/17	Tue	2020	Rear-End	0	0	1	Night	Dry	Careless or Negligent Manner
13	4.565	SW 132 AVE	03/21/17	Tue	0804	Tree (Standing)	0	0	1	Day	Dry	Careless or Negligent Manner
14	4.774	SW 129 AVE	03/25/17	Sat	1940	Rear-End	0	1	0	Night	Dry	Careless or Negligent Manner
15	4.328	SW 134 AVE	01/20/17	Fri	1032	Angle	0	2	0	Day	Dry	Failed to Yield Right-Of-Way
16	5.067	SW 127 AVE	02/01/17	Wed	0740	Angle	0	1	0	Day	Dry	Failed to Yield Right-Of-Way
17	4.425	SW 133 AVE	04/22/17	Sat	2145	Right-Turn	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
18	4.492	SW 129 AVE	02/23/17	Thu	2040	Rear-End	0	2	0	Night	Dry	Careless or Negligent Manner
19	4.956	SW 132 AVE	02/03/17	Fri	0819	Rear-End	0	2	0	Day	Dry	Careless or Negligent Manner
20	4.170	SW 137 AVE	03/03/17	Fri	1705	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
21	5.095	SW 127 AVE	04/19/17	Wed	1753	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
22	4.328	SW 134 AVE	04/01/17	Sat	1400	Angle	0	2	0	Day	Dry	Disregarded other Road Markings
23	4.588	SW 132 AVE	04/24/17	Mon	1345	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
24	5.084	SW 127 AVE	03/14/17	Tue	1500	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
25	4.073	SW 137 AVE	05/31/17	Wed	2245	Rear-End	0	0	1	Night	Dry	Careless or Negligent Manner
26	4.328	SW 134 AVE	03/24/17	Fri	0728	Angle	0	0	1	Day	Wet	Other Contributing Action
27	5.092	SW 127 AVE	03/07/17	Tue	2120	Rear-End	0	0	1	Night	Dry	Careless or Negligent Manner
28	5.090	SW 127 AVE	05/14/17	Sun	0047	Left-Turn	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
29	5.090	SW 127 AVE	05/15/17	Mon	2030	Left-Turn	0	2	0	Night	Dry	Improper Turn
30	4.463	SW 132 PL	05/06/17	Sat	1721	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
31	4.709	SW 130 AVE	04/29/17	Sat	2124	Rear-End	0	1	0	Night	Wet	Careless or Negligent Manner
32	4.328	SW 134 AVE	05/25/17	Thu	1251	Sideswipe	0	2	0	Day	Dry	Careless or Negligent Manner
33	5.090	SW 127 AVE	12/26/17	Tue	1810	Rear-End	0	2	0	Night	Dry	Failed to Yield Right-Of-Way
34	4.586	SW 132 AVE	10/31/17	Tue	1955	Rear-End	0	1	0	Night	Dry	Careless or Negligent Manner
35	4.453	SW 133 AVE	05/27/17	Sat	1038	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
36	4.328	SW 134 AVE	05/29/17	Mon	0910	Angle	0	0	1	Day	Dry	Ran Stop Sign
37	5.071	SW 127 AVE	07/21/17	Fri	0940	Angle	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
38	4.434	SW 133 AVE	08/22/17	Tue	0750	Rear-End	0	1	0	Day	Wet	Careless or Negligent Manner
39	4.589	SW 132 AVE	09/05/17	Tue	0945	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
40	4.072	SW 137 AVE	06/29/17	Thu	2118	Rear-End	0	2	0	Night	Wet	Careless or Negligent Manner
41	5.085	SW 127 AVE	09/26/17	Tue	1714	Sideswipe	0	0	1	Day	Dry	Other Contributing Action
42	4.589	SW 132 AVE	06/23/17	Fri	1601	Rear-End	0	3	0	Day	Dry	Careless or Negligent Manner
43	4.706	SW 130 AVE	07/24/17	Mon	2100	Pedalcycle	0	1	0	Night	Dry	Careless or Negligent Manner
44	5.090	SW 127 AVE	07/04/17	Tue	0958	Left-Turn	0	4	0	Day	Dry	Improper Turn
45	4.427	SW 133 AVE	08/29/17	Tue	0717	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
46	4.070	SW 137 AVE	11/09/17	Thu	1232	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner

State of Florida Department of Transportation
CRASH SUMMARY

SECTION: 87091000 STATE ROUTE: 994

ROADWAY LIMITS: Between SW 127 Ave and SW 137 Ave M.P. 4.075 TO 5.212 ENGINEER: FDOT

STUDY PERIOD: FROM 1/ 2017 TO 12/ 2017 COUNTY: Miami-Dade

NO.	MILE POST	INTERSECTION	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURIES	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE (VEHICLE ONLY)
47	4.328	SW 134 AVE	10/07/17	Sat	1915	Angle	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
48	5.084	SW 127 AVE	10/10/17	Tue	1700	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
49	5.090	SW 127 AVE	09/17/17	Sun	1350	Angle	0	0	1	Day	Dry	Other Contributing Action
50	4.073	SW 137 AVE	10/24/17	Tue	1941	Rear-End	0	1	0	Night	Wet	Careless or Negligent Manner
51	4.834	SW 129 AVE	09/22/17	Fri	0720	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
52	4.546	SW 132 AVE	10/05/17	Thu	0815	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
53	4.141	SW 137 AVE	09/13/17	Wed	1530	Rear-End	0	0	1	Day	Wet	Drove too Fast for Conditions
54	5.071	SW 127 AVE	09/27/17	Wed	0605	Angle	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
55	4.328	SW 134 AVE	10/26/17	Thu	1100	Angle	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
56	5.109	SW 127 AVE	12/23/17	Sat	1848	Sideswipe	0	1	0	Night	Dry	Failed To Keep In Proper Lane
57	5.090	SW 127 AVE	01/26/17	Thu	0840	Left-Turn	0	0	1	Day	Dry	Other Contributing Action
58	4.328	SW 134 AVE	01/30/17	Mon	2052	Rear-End	0	0	1	Night	Dry	Careless or Negligent Manner
59	5.090	SW 127 AVE	01/19/17	Thu	2115	Left-Turn	0	1	0	Night	Dry	Failed to Yield Right-Of-Way
60	4.328	SW 134 AVE	04/25/17	Tue	0013	Angle	0	1	0	Night	Dry	Failed to Yield Right-Of-Way
61	4.075	SW 137 AVE	02/06/17	Mon	0825	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
62	5.090	SW 127 AVE	01/15/17	Sun	1516	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
63	5.090	SW 127 AVE	01/25/17	Wed	1015	Right-Turn	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
64	5.090	SW 127 AVE	04/28/17	Fri	0730	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
65	4.075	SW 137 AVE	03/29/17	Wed	1340	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
66	5.076	SW 127 AVE	02/06/17	Mon	1940	Sideswipe	0	0	1	Night	Dry	Other Contributing Action
67	4.835	SW 129 AVE	04/05/17	Wed	0809	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
68	4.075	SW 137 AVE	02/07/17	Tue	0619	Rear-End	0	0	1	Night	Dry	Drove too Fast for Conditions
69	5.090	SW 127 AVE	04/24/17	Mon	1927	Angle	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
70	5.090	SW 127 AVE	09/08/17	Fri	0840	Angle	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
71	4.328	SW 134 AVE	12/29/17	Fri	0908	Angle	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
72	4.319	SW 134 AVE	10/25/17	Wed	1627	Rear-End	0	3	0	Day	Dry	Careless or Negligent Manner
73	4.328	SW 134 AVE	10/02/17	Mon	1924	Left-Turn	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
74	5.090	SW 127 AVE	07/20/17	Thu	1435	Sideswipe	0	0	1	Day	Dry	Failed To Keep In Proper Lane
75	5.090	SW 127 AVE	07/04/17	Tue	2100	Rear-End	0	0	1	Night	Dry	Careless or Negligent Manner
76	5.071	SW 127 AVE	10/01/17	Sun	1913	Angle	0	0	1	Night	Dry	No Contributing Action
77	4.328	SW 134 AVE	08/07/17	Mon	1714	Angle	0	0	1	Day	Dry	Improper Turn
78	5.090	SW 127 AVE	09/01/17	Fri	1932	Rear-End	0	0	1	Day	Dry	No Contributing Action
79	5.090	SW 127 AVE	08/12/17	Sat	1035	Rear-End	0	0	1	Day	Dry	Followed too Closely
80	4.711	SW 130 AVE	08/30/17	Wed	1854	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
81	4.328	SW 134 AVE	08/28/17	Mon	0745	Angle	0	0	1	Day	Dry	Careless or Negligent Manner
82	4.084	SW 137 AVE	10/04/17	Wed	0730	Angle	0	1	0	Day	Wet	Careless or Negligent Manner
83	5.156	SW 127 AVE	09/25/17	Mon	1420	Rear-End	0	0	1	Day	Wet	Followed too Closely
84	4.995	SW 127 AVE	09/05/17	Tue	0740	Rear-End	0	0	1	Day	Dry	Followed too Closely
85	4.328	SW 134 AVE	09/19/17	Tue	0845	Angle	0	1	0	Day	Dry	Ran Stop Sign
86	4.328	SW 134 AVE	09/01/17	Fri	0640	Angle	0	1	0	Day	Dry	Improper Turn
87	5.090	SW 127 AVE	09/12/17	Tue	1019	Angle	0	0	1	Day	Dry	Ran Stop Sign
88	5.090	SW 127 AVE	12/29/17	Fri	0650	Rear-End	0	3	0	Day	Dry	Careless or Negligent Manner

Total No.	Fatal		Injury	PDO	Rear-End	Head-On	Angle	Left-Turn	Right-Turn	Sideswipe	Backed Into	Ped/Bike	Parked Car	Fixed Object	Ran into Water	Other
88	**0**		**34**	**54**	**48**	**0**	**22**	**6**	**3**	**5**	**0**	**1**	**0**	**3**	**0**	**0**
Percent	*0.00%*		*38.64%*	*61.36%*	*54.55%*	*0.00%*	*25.00%*	*6.82%*	*3.41%*	*5.68%*	*0.00%*	*1.14%*	*0.00%*	*3.41%*	*0.00%*	*0.00%*

State of Florida Department of Transportation
CRASH SUMMARY

SECTION: **87091000** STATE ROUTE: **994**

ROADWAY LIMITS: **Between SW 127 Ave and SW 137 Ave** M.P. **4.075** TO **5.212** ENGINEER: **FDOT**

STUDY PERIOD: FROM **1/ 2017** TO **12/ 2017** COUNTY: **Miami-Dade**

NO.	MILE POST	INTERSECTION	DATE	DAY	TIME	CRASH TYPE			FATAL	INJURIES	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE (VEHICLE ONLY)		
Contrib. Cause	Day		Night	Wet	Dry	Careless Driving	FTYRW	Improper Turn	Ran Red Light	Exceeded Speed	Improper Passing	Disreg Cntl Dev	Erratic/ Aggress	Ran off Road	DUI	Wrong Way
Total	**58**		**30**	**10**	**78**	**45**	**18**	**4**	**0**	**3**	**0**	**1**	**0**	**0**	**0**	**0**
Percent	*65.91%*		*34.09%*	*11.36%*	*88.64%*	*51.14%*	*20.45%*	*4.55%*	*0.00%*	*3.41%*	*0.00%*	*1.14%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*

TOTAL ENTERING VEHICLES/ADT: **21,709**

SEGMENT CRASH RATE: **8.880** CRASHES PER MILLION VEHICLE MILES

State of Florida Department of Transportation
CRASH SUMMARY

SECTION: 87091000 STATE ROUTE: 994

ROADWAY LIMITS: Between SW 127 Ave and SW 137 Ave M.P. 4.075 TO 5.212 ENGINEER: FDOT

STUDY PERIOD: FROM 1/ 2018 TO 12/ 2018 COUNTY: Miami-Dade

NO.	MILE POST	INTERSECTION	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURIES	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE (VEHICLE ONLY)
1	4.018	SW 137 AVE	08/28/18	Tue	0818	Rear-End	0	2	0	Day	Dry	Careless or Negligent Manner
2	4.070	SW 137 AVE	06/29/18	Fri	1523	Rear-End	0	1	0	Day	Wet	Careless or Negligent Manner
3	4.075	SW 137 AVE	04/17/18	Tue	1531	Angle	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
4	4.075	SW 137 AVE	06/03/18	Sun	1828	Sideswipe	0	0	1	Day	Dry	Failed To Keep In Proper Lane
5	4.075	SW 137 AVE	09/04/18	Tue	2150	Rear-End	0	0	1	Night	Dry	Careless or Negligent Manner
6	4.075	SW 137 AVE	08/17/18	Fri	2040	Angle	0	0	1	Night	Dry	Other Contributing Action
7	4.081	SW 137 AVE	03/02/18	Fri	1835	Rear-End	0	0	1	Night	Wet	#N/A
8	4.086	SW 137 AVE	11/09/18	Fri	0625	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
9	4.094	SW 137 AVE	05/01/18	Tue	1500	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
10	4.103	SW 137 AVE	12/25/18	Tue	0104	Rear-End	0	1	0	Night	Dry	Drove too Fast for Conditions
11	4.105	SW 137 AVE	08/31/18	Fri	1500	Rear-End	0	4	0	Day	Dry	Careless or Negligent Manner
12	4.122	SW 137 AVE	09/28/18	Fri	2105	Rear-End	0	0	1	Night	Dry	Careless or Negligent Manner
13	4.200	SW 135 AVE	10/20/18	Sat	0554	Rear-End	0	1	0	Night	Dry	Careless or Negligent Manner
14	4.209	SW 135 AVE	02/22/18	Thu	0653	Rear-End	0	1	0	Day	Wet	Careless or Negligent Manner
15	4.264	SW 134 AVE	03/26/18	Mon	2309	Animal	0	1	0	Night	Dry	No Contributing Action
16	4.325	SW 137 AVE	11/02/18	Fri	1645	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
17	4.328	SW 134 AVE	08/07/18	Tue	1350	Right-Turn	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
18	4.328	SW 134 AVE	08/15/18	Wed	1730	Angle	0	0	1	Day	Dry	Careless or Negligent Manner
19	4.328	SW 134 AVE	09/03/18	Mon	0045	Angle	0	1	0	Night	Wet	Ran Stop Sign
20	4.328	SW 134 AVE	02/08/18	Thu	2115	Tree (Standing)	0	0	1	Night	Dry	No Contributing Action
21	4.328	SW 134 AVE	02/01/18	Thu	1948	Left-Turn	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
22	4.328	SW 134 AVE	01/25/18	Thu	0813	Angle	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
23	4.328	SW 134 AVE	04/26/18	Thu	1742	Angle	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
24	4.328	SW 134 AVE	06/12/18	Tue	1800	Left-Turn	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
25	4.328	SW 134 AVE	09/29/18	Sat	1959	Left-Turn	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
26	4.328	SW 134 AVE	11/29/18	Thu	1550	Left-Turn	0	0	1	Day	Dry	Careless or Negligent Manner
27	4.328	SW 134 AVE	12/15/18	Sat	2137	Tree (Standing)	0	0	1	Night	Dry	Careless or Negligent Manner
28	4.328	SW 134 AVE	11/11/18	Sun	1917	Sideswipe	0	0	1	Night	Dry	Careless or Negligent Manner
29	4.328	SW 134 AVE	11/25/18	Sun	1245	Angle	0	0	1	Day	Dry	Careless or Negligent Manner
30	4.328	SW 134 AVE	12/31/18	Mon	1418	Right-Turn	0	0	1	Day	Dry	Ran Stop Sign
31	4.328	SW 134 AVE	11/15/18	Thu	0820	Left-Turn	0	6	0	Day	Wet	Failed to Yield Right-Of-Way
32	4.328	SW 134 AVE	12/21/18	Fri	1240	Left-Turn	0	2	0	Day	Dry	Failed to Yield Right-Of-Way
33	4.330	SW 134 AVE	09/01/18	Sat	1525	Other Fixed Object	0	2	0	Day	Dry	Failed to Yield Right-Of-Way
34	4.337	SW 134 AVE	08/11/18	Sat	2300	Concrete Traffic Barrier	0	0	1	Night	Wet	Careless or Negligent Manner
35	4.356	SW 134 AVE	04/29/18	Sun	0000	Mailbox	0	1	0	Unknown	Other	Other Contributing Action
36	4.416	SW 134 AVE	08/23/18	Thu	1609	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
37	4.499	SW 132 PL	09/18/18	Tue	0747	Rear-End	0	1	0	Day	Wet	Careless or Negligent Manner
38	4.584	SW 132 AVE	07/23/18	Mon	2040	Right-Turn	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
39	4.598	SW 132 AVE	07/11/18	Wed	0721	Rear-End	0	2	0	Day	Dry	Careless or Negligent Manner
40	4.603	SW 132 AVE	06/08/18	Fri	1645	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
41	4.603	SW 132 AVE	04/28/18	Sat	1528	Rear-End	0	2	0	Day	Dry	Careless or Negligent Manner
42	4.622	SW 132 AVE	01/24/18	Wed	1723	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
43	4.679	SW 130 AVE	06/29/18	Fri	1545	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
44	4.679	SW 130 AVE	08/14/18	Tue	0958	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
45	4.679	SW 130 AVE	08/03/18	Fri	1747	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
46	4.702	SW 130 AVE	04/30/18	Mon	1820	Sideswipe	0	0	1	Day	Dry	Swerved Or Avoided

State of Florida Department of Transportation
CRASH SUMMARY

SECTION: 87091000 STATE ROUTE: 994

ROADWAY LIMITS: Between SW 127 Ave and SW 137 Ave M.P. 4.075 TO 5.212 ENGINEER: FDOT

STUDY PERIOD: FROM 1/ 2018 TO 12/ 2018 COUNTY: Miami-Dade

NO.	MILE POST	INTERSECTION	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURIES	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE (VEHICLE ONLY)
47	4.706	SW 130 AVE	06/01/18	Fri	1900	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
48	4.711	SW 130 AVE	12/25/18	Tue	2124	Angle	0	3	0	Night	Dry	Ran Stop Sign
49	4.826	SW 129 AVE	04/25/18	Wed	1500	Head-On	0	1	0	Day	Dry	Careless or Negligent Manner
50	4.826	SW 129 AVE	06/03/18	Sun	0215	Animal	0	0	1	Night	Dry	No Contributing Action
51	4.833	SW 129 AVE	07/16/18	Mon	1748	Rear-End	0	0	1	Day	Wet	Followed too Closely
52	4.835	SW 129 AVE	04/17/18	Tue	0756	Right-Turn	0	1	0	Day	Dry	Failed to Yield Right-Of-Way
53	4.844	SW 129 AVE	06/20/18	Wed	1407	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
54	4.873	SW 129 AVE	08/08/18	Wed	1500	Head-On	0	1	0	Day	Dry	Careless or Negligent Manner
55	5.052	SW 127 AVE	02/02/18	Fri	1806	Sideswipe	0	0	1	Night	Dry	Careless or Negligent Manner
56	5.052	SW 127 AVE	10/20/18	Sat	1400	Sideswipe	0	0	1	Day	Dry	Failed To Keep In Proper Lane
57	5.062	SW 127 AVE	07/01/18	Sun	2240	Sideswipe	0	2	0	Night	Dry	Failed To Keep In Proper Lane
58	5.076	SW 127 AVE	12/04/18	Tue	0832	Angle	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
59	5.079	SW 127 AVE	09/30/18	Sun	0927	Sideswipe	0	0	1	Day	Dry	Careless or Negligent Manner
60	5.081	SW 127 AVE	11/09/18	Fri	1412	Sideswipe	0	0	1	Day	Dry	Other Contributing Action
61	5.085	SW 127 AVE	09/28/18	Fri	2038	Rear-End	0	3	0	Night	Wet	Careless or Negligent Manner
62	5.090	SW 127 AVE	01/08/18	Mon	2210	Angle	0	1	0	Night	Dry	Other Contributing Action
63	5.090	SW 127 AVE	11/03/18	Sat	1210	Left-Turn	0	0	1	Day	Dry	Failed to Yield Right-Of-Way
64	5.090	SW 127 AVE	02/09/18	Fri	1620	Sideswipe	0	0	1	Day	Dry	Careless or Negligent Manner
65	5.090	SW 127 AVE	01/12/18	Fri	1558	Angle	0	1	0	Day	Dry	Careless or Negligent Manner
66	5.090	SW 127 AVE	01/09/18	Tue	1856	Rear-End	0	0	1	Night	Dry	Careless or Negligent Manner
67	5.090	SW 127 AVE	01/18/18	Thu	0850	Rear-End	0	0	1	Day	Dry	No Contributing Action
68	5.090	SW 127 AVE	02/01/18	Thu	1217	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
69	5.090	SW 127 AVE	04/07/18	Sat	1000	Sideswipe	0	0	1	Day	Dry	Failed To Keep In Proper Lane
70	5.090	SW 127 AVE	05/25/18	Fri	0841	Sideswipe	0	0	1	Day	Dry	Other Contributing Action
71	5.090	SW 127 AVE	08/29/18	Wed	1620	Angle	0	0	1	Day	Dry	Careless or Negligent Manner
72	5.090	SW 127 AVE	07/01/18	Sun	1920	Left-Turn	0	0	1	Day	Dry	Ran Red Light
73	5.090	SW 127 AVE	07/12/18	Thu	1235	Rear-End	0	0	1	Day	Dry	No Contributing Action
74	5.090	SW 127 AVE	07/01/18	Sun	1335	Rear-End	0	0	1	Day	Wet	Followed too Closely
75	5.090	SW 127 AVE	07/05/18	Thu	1257	Angle	0	0	1	Day	Dry	Careless or Negligent Manner
76	5.090	SW 127 AVE	07/25/18	Wed	1900	Sideswipe	0	1	0	Day	Dry	Careless or Negligent Manner
77	5.090	SW 127 AVE	09/22/18	Sat	1354	Left-Turn	0	0	1	Day	Dry	Improper Turn
78	5.090	SW 127 AVE	08/22/18	Wed	0738	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
79	5.090	SW 127 AVE	09/21/18	Fri	1217	Sideswipe	0	0	1	Day	Dry	Careless or Negligent Manner
80	5.090	SW 127 AVE	10/02/18	Tue	0725	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
81	5.090	SW 127 AVE	11/01/18	Thu	0835	Angle	0	0	1	Day	Dry	Careless or Negligent Manner
82	5.090	SW 127 AVE	11/18/18	Sun	1900	Angle	0	0	1	Night	Dry	Failed to Yield Right-Of-Way
83	5.090	SW 127 AVE	11/06/18	Tue	1558	Sideswipe	0	1	0	Day	Dry	Other Contributing Action
84	5.090	SW 127 AVE	11/29/18	Thu	1640	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
85	5.090	SW 127 AVE	12/07/18	Fri	1940	Rear-End	0	0	1	Night	Dry	Followed too Closely
86	5.090	SW 127 AVE	12/13/18	Thu	1041	Sideswipe	0	0	1	Day	Dry	Failed To Keep In Proper Lane
87	5.095	SW 127 AVE	06/07/18	Thu	1546	Rear-End	0	0	1	Day	Wet	Careless or Negligent Manner
88	5.095	SW 127 AVE	06/26/18	Tue	0958	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
89	5.098	SW 127 AVE	10/12/18	Fri	1445	Sideswipe	0	0	1	Day	Dry	Careless or Negligent Manner
90	5.099	SW 127 AVE	01/26/18	Fri	2329	Rear-End	0	1	0	Night	Dry	Careless or Negligent Manner
91	5.106	SW 127 AVE	09/04/18	Tue	0636	Rear-End	0	1	0	Day	Wet	Careless or Negligent Manner
92	5.128	SW 127 AVE	07/21/18	Sat	1500	Sideswipe	0	0	1	Day	Dry	Failed To Keep In Proper Lane

State of Florida Department of Transportation
CRASH SUMMARY

SECTION: **87091000** STATE ROUTE: **994**

ROADWAY LIMITS: **Between SW 127 Ave and SW 137 Ave** M.P. **4.075** TO **5.212** ENGINEER: **FDOT**

STUDY PERIOD: FROM **1/ 2018** TO **12/ 2018** COUNTY: **Miami-Dade**

NO.	MILE POST	INTERSECTION	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURIES	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE (VEHICLE ONLY)
93	5.147	SW 127 AVE	05/14/18	Mon	0530	Pedestrian	0	1	0	Night	Wet	No Contributing Action
94	5.185	SW 127 AVE	04/24/18	Tue	1737	Left-Turn	0	0	1	Day	Dry	Careless or Negligent Manner
95	5.193	SW 127 AVE	01/04/18	Thu	1541	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner
96	5.193	SW 127 AVE	07/23/18	Mon	0930	Rear-End	0	0	1	Day	Dry	Careless or Negligent Manner
97	5.210	SW 127 AVE	03/17/18	Sat	1415	Rear-End	0	1	0	Day	Dry	Careless or Negligent Manner

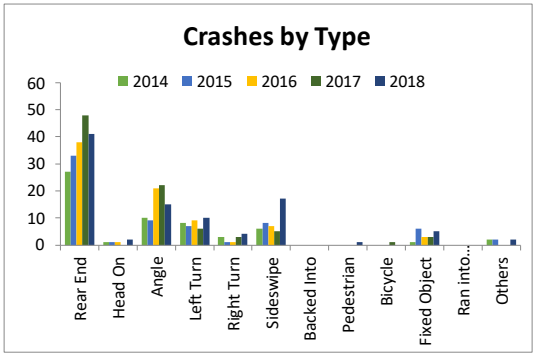
Total No.	Fatal		Injury	PDO	Rear-End	Head-On	Angle	Left-Turn	Right-Turn	Sideswipe	Backed Into	Ped/Bike	Parked Car	Fixed Object	Ran into Water	Other
97	**0**		**35**	**62**	**41**	**2**	**15**	**10**	**4**	**17**	**0**	**1**	**0**	**5**	**0**	**0**
Percent	*0.00%*		*36.08%*	*63.92%*	*42.27%*	*2.06%*	*15.46%*	*10.31%*	*4.12%*	*17.53%*	*0.00%*	*1.03%*	*0.00%*	*5.15%*	*0.00%*	*0.00%*
Contrib. Cause	Day		Night	Wet	Dry	Careless Driving	FTYRW	Improper Turn	Ran Red Light	Exceeded Speed	Improper Passing	Disreg Cntl Dev	Erratic/ Aggress	Ran off Road	DUI	Wrong Way
Total	**70**		**26**	**16**	**80**	**53**	**15**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**0**
Percent	*72.16%*		*26.80%*	*16.49%*	*82.47%*	*54.64%*	*15.46%*	*1.03%*	*1.03%*	*1.03%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*1.03%*	*0.00%*

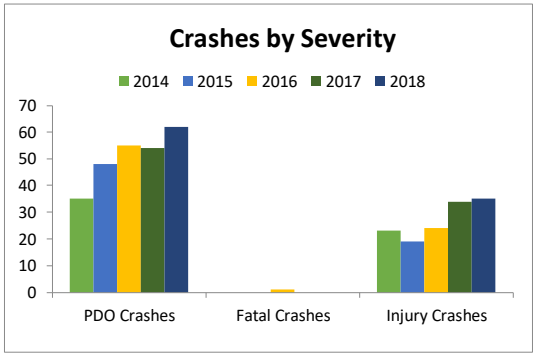
TOTAL ENTERING VEHICLES/ADT: **21,709**

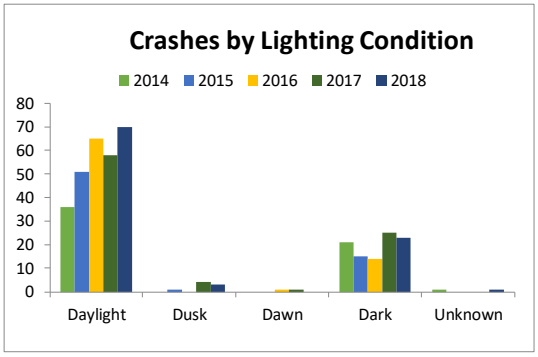
SEGMENT CRASH RATE: **8.880** CRASHES PER MILLION VEHICLE MILES

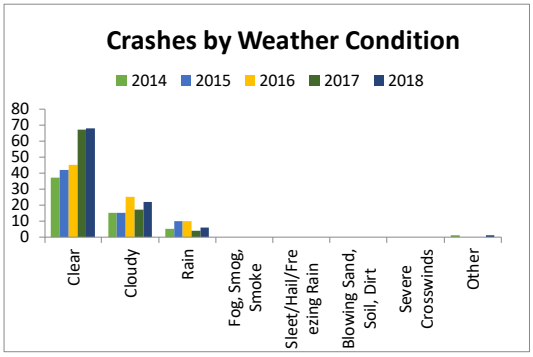
CRASH HISTOGRAMS

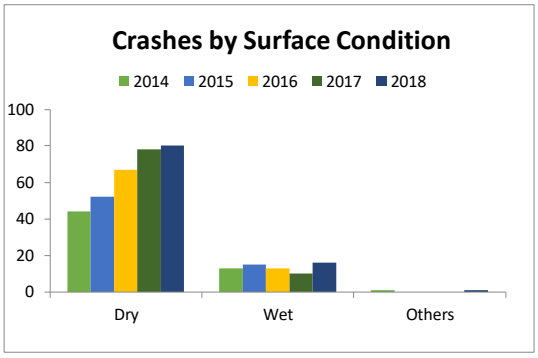
SR 994/SW 200 Street between SW 127 Ave and SW 137 Ave

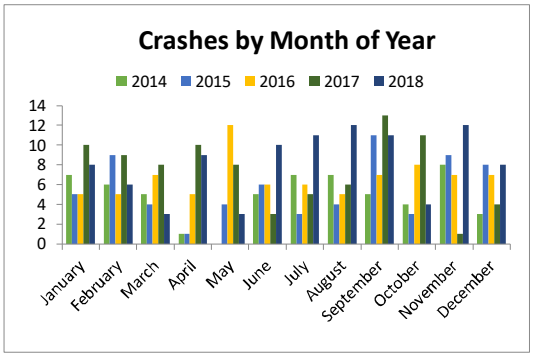


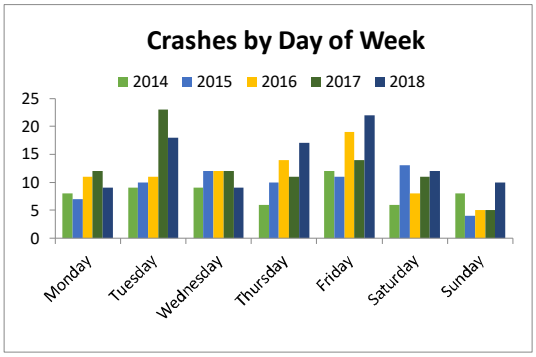


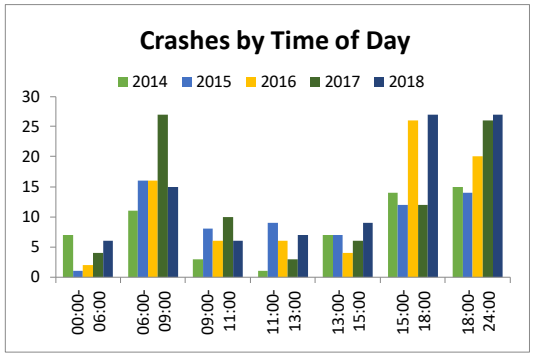












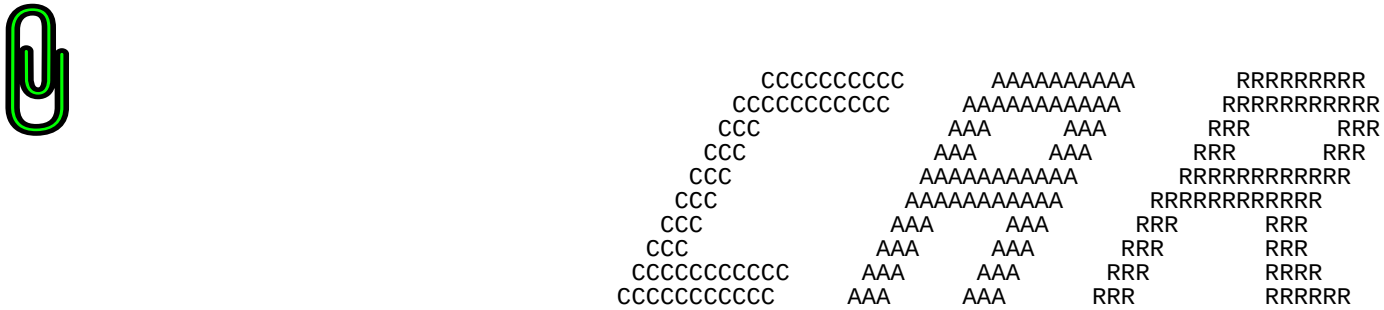
SR 994/Quail Roost Drive/ SW 200 St		Study Segment								SW 137 Ave							
		Number of Crashes					5 Year Total Crashes	Mean Crashes Per Year	%	Number of Crashes					5 Year Total Crashes	Mean Crashes Per Year	%
		Year								Year							
		2014	2015	2016	2017	2018				2014	2015	2016	2017	2018			
CRASH TYPE	Rear End	27	33	38	48	41	187	37.40	47.9%	6	12	10	9	10	47	9.40	75.8%
	Head On	1	1	1	0	2	5	1.00	1.3%	0	1	0	0	0	1	0.20	1.6%
	Angle	10	9	21	22	15	77	15.40	19.7%	0	1	2	1	2	6	1.20	9.7%
	Left Turn	8	7	9	6	10	40	8.00	10.3%	0	2	2	0	0	4	0.80	6.5%
	Right Turn	3	1	1	3	4	12	2.40	3.1%	0	0	0	0	0	0	0.00	0.0%
	Sideswipe	6	8	7	5	17	43	8.60	11.0%	0	1	0	0	1	2	0.40	3.2%
	Backed Into	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Pedestrian	0	0	0	0	1	1	0.20	0.3%	0	0	0	0	0	0	0.00	0.0%
	Bicycle	0	0	0	1	0	1	0.20	0.3%	0	0	0	0	0	0	0.00	0.0%
	Fixed Object	1	6	3	3	5	18	3.60	4.6%	0	1	1	0	0	2	0.40	3.2%
	Other Non-Collisions	1	1	0	0	0	2	0.40	0.5%	0	0	0	0	0	0	0.00	0.0%
	Overturn/Rollover	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Others	1	1	0	0	2	4	0.80	1.0%	0	0	0	0	0	0	0.00	0.0%
	Total Crashes	**58**	**67**	**80**	**88**	**97**	**390**	**78.00**	**100.0%**	**6**	**18**	**15**	**10**	**13**	**62**	**12.40**	**100.0%**
SEVERITY	PDO Crashes	35	48	55	54	62	254	50.80	65.1%	5	11	12	6	9	43	8.60	69.4%
	Fatal Crashes	0	0	1	0	0	1	0.20	0.3%	0	0	0	0	0	0	0.00	0.0%
	Injury Crashes	23	19	24	34	35	135	27.00	34.6%	1	7	3	4	4	19	3.80	30.6%
LIGHTING CONDITIONS	Daylight	36	51	65	58	70	280	56.00	71.8%	5	13	12	6	8	44	8.80	71.0%
	Dusk	0	1	0	4	3	8	1.60	2.1%	0	0	0	0	1	1	0.20	1.6%
	Dawn	0	0	1	1	0	2	0.40	0.5%	0	0	1	0	0	1	0.20	1.6%
	Dark	21	15	14	25	23	98	19.60	25.1%	1	5	2	4	4	16	3.20	25.8%
	Unknown	1	0	0	0	1	2	0.40	0.5%	0	0	0	0	0	0	0.00	0.0%
SURFACE CONDITIONS	Dry	44	52	67	78	80	321	64.20	82.3%	4	11	15	6	11	47	9.40	75.8%
	Wet	13	15	13	10	16	67	13.40	17.2%	2	7	0	4	2	15	3.00	24.2%
	Others	1	0	0	0	1	2	0.40	0.5%	0	0	0	0	0	0	0.00	0.0%
HOUR OF DAY	00:00-06:00	7	1	2	4	6	20	4.00	5.1%	0	1	1	0	1	3	0.60	4.8%
	06:00-09:00	11	16	16	27	15	85	17.00	21.8%	2	3	3	3	2	13	2.60	21.0%
	09:00-11:00	3	8	6	10	6	33	6.60	8.5%	1	4	1	0	0	6	1.20	9.7%
	11:00-13:00	1	9	6	3	7	26	5.20	6.7%	0	2	1	1	0	4	0.80	6.5%
	13:00-15:00	7	7	4	6	9	33	6.60	8.5%	0	1	0	1	0	2	0.40	3.2%
	15:00-18:00	14	12	26	12	27	91	18.20	23.3%	2	5	7	2	5	21	4.20	33.9%
	18:00-24:00	15	14	20	26	27	102	20.40	26.2%	1	2	2	3	5	13	2.60	21.0%

SR 994/Quail Roost Drive/ SW 200 St		SW 135 Ave								SW 134 Ave							
		Number of Crashes					5 Year Total Crashes	Mean Crashes Per Year	%	Number of Crashes					5 Year Total Crashes	Mean Crashes Per Year	%
		Year								Year							
		2014	2015	2016	2017	2018				2014	2015	2016	2017	2018			
CRASH TYPE	Rear End	1	1	1	2	2	7	1.40	63.6%	6	3	4	2	1	16	3.20	21.6%
	Head On	1	0	0	0	0	1	0.20	9.1%	0	0	0	0	0	0	0.00	0.0%
	Angle	0	0	1	0	0	1	0.20	9.1%	5	3	7	12	5	32	6.40	43.2%
	Left Turn	0	0	1	0	0	1	0.20	9.1%	0	2	0	1	6	9	1.80	12.2%
	Right Turn	0	0	0	0	0	0	0.00	0.0%	1	1	0	0	2	4	0.80	5.4%
	Sideswipe	0	0	0	0	0	0	0.00	0.0%	1	1	1	1	1	5	1.00	6.8%
	Backed Into	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Pedestrian	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Bicycle	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Fixed Object	0	1	0	0	0	1	0.20	9.1%	0	0	0	0	5	5	1.00	6.8%
	Other Non-Collisions	0	0	0	0	0	0	0.00	0.0%	0	1	0	0	0	1	0.20	1.4%
	Overturn/Rollover	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Others	0	0	0	0	0	0	0.00	0.0%	1	0	0	0	1	2	0.40	2.7%
	Total Crashes	**2**	**2**	**3**	**2**	**2**	**11**	**2.20**	**100.0%**	**14**	**11**	**12**	**16**	**21**	**74**	**14.80**	**100.0%**
SEVERITY	PDO Crashes	0	2	3	1	0	6	1.20	54.5%	8	8	7	9	14	46	9.20	62.2%
	Fatal Crashes	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Injury Crashes	2	0	0	1	2	5	1.00	45.5%	6	3	5	7	7	28	5.60	37.8%
LIGHTING CONDITIONS	Daylight	1	1	3	2	1	8	1.60	72.7%	8	8	12	13	12	53	10.60	71.6%
	Dusk	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Dawn	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Dark	1	1	0	0	1	3	0.60	27.3%	6	3	0	3	8	20	4.00	27.0%
	Unknown	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	1	1	0.20	1.4%
SURFACE CONDITIONS	Dry	2	2	3	2	1	10	2.00	90.9%	12	10	9	15	17	63	12.60	85.1%
	Wet	0	0	0	0	1	1	0.20	9.1%	2	1	3	1	3	10	2.00	13.5%
	Others	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	1	1	0.20	1.4%
HOUR OF DAY	00:00-06:00	0	0	1	0	1	2	0.40	18.2%	4	0	0	1	2	7	1.40	9.5%
	06:00-09:00	0	0	0	2	1	3	0.60	27.3%	2	3	4	4	2	15	3.00	20.3%
	09:00-11:00	0	0	0	0	0	0	0.00	0.0%	2	1	1	3	0	7	1.40	9.5%
	11:00-13:00	0	1	0	0	0	1	0.20	9.1%	0	0	2	2	2	6	1.20	8.1%
	13:00-15:00	0	0	0	0	0	0	0.00	0.0%	1	2	1	1	2	7	1.40	9.5%
	15:00-18:00	1	0	2	0	0	3	0.60	27.3%	2	3	3	2	5	15	3.00	20.3%
	18:00-24:00	1	1	0	0	0	2	0.40	18.2%	3	2	1	3	8	17	3.40	23.0%

SR 994/Quail Roost Drive/ SW 200 St		SW 133 Ave								SW 132 Pl							
		Number of Crashes					5 Year Total Crashes	Mean Crashes Per Year	%	Number of Crashes					5 Year Total Crashes	Mean Crashes Per Year	%
		Year								Year							
		2014	2015	2016	2017	2018				2014	2015	2016	2017	2018			
CRASH TYPE	Rear End	0	1	0	5	0	6	1.20	54.5%	1	1	2	1	1	6	1.20	75.0%
	Head On	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Angle	0	1	0	0	0	1	0.20	9.1%	1	0	0	0	0	1	0.20	12.5%
	Left Turn	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Right Turn	1	0	0	1	0	2	0.40	18.2%	0	0	0	0	0	0	0.00	0.0%
	Sideswipe	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Backed Into	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Pedestrian	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Bicycle	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Fixed Object	0	1	1	0	0	2	0.40	18.2%	0	0	0	1	0	1	0.20	12.5%
	Other Non-Collisions	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Overturn/Rollover	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Others	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Total Crashes	**1**	**3**	**1**	**6**	**0**	**11**	**2.20**	**100.0%**	**2**	**1**	**2**	**2**	**1**	**8**	**1.60**	**100.0%**
SEVERITY	PDO Crashes	1	2	1	4	0	8	1.60	72.7%	0	1	1	2	0	4	0.80	50.0%
	Fatal Crashes	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Injury Crashes	0	1	0	2	0	3	0.60	27.3%	2	0	1	0	1	4	0.80	50.0%
LIGHTING CONDITIONS	Daylight	1	2	1	5	0	9	1.80	81.8%	1	1	2	1	1	6	1.20	75.0%
	Dusk	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Dawn	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Dark	0	1	0	1	0	2	0.40	18.2%	1	0	0	1	0	2	0.40	25.0%
	Unknown	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
SURFACE CONDITIONS	Dry	1	3	1	4	0	9	1.80	81.8%	2	1	2	2	0	7	1.40	87.5%
	Wet	0	0	0	2	0	2	0.40	18.2%	0	0	0	0	1	1	0.20	12.5%
	Others	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
HOUR OF DAY	00:00-06:00	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	06:00-09:00	1	1	0	4	0	6	1.20	54.5%	0	0	1	0	1	2	0.40	25.0%
	09:00-11:00	0	1	0	1	0	2	0.40	18.2%	0	0	0	0	0	0	0.00	0.0%
	11:00-13:00	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	13:00-15:00	0	0	0	0	0	0	0.00	0.0%	1	1	0	0	0	2	0.40	25.0%
	15:00-18:00	0	0	1	0	0	1	0.20	9.1%	0	0	1	1	0	2	0.40	25.0%
	18:00-24:00	0	1	0	1	0	2	0.40	18.2%	1	0	0	1	0	2	0.40	25.0%

SR 994/Quail Roost Drive/ SW 200 St		SW 132 Ave								SW 130 Ave Rd							
		Number of Crashes					5 Year Total Crashes	Mean Crashes Per Year	%	Number of Crashes					5 Year Total Crashes	Mean Crashes Per Year	%
		Year								Year							
		2014	2015	2016	2017	2018				2014	2015	2016	2017	2018			
CRASH TYPE	Rear End	5	3	7	8	4	27	5.40	75.0%	0	4	1	2	4	11	2.20	57.9%
	Head On	0	0	1	0	0	1	0.20	2.8%	0	0	0	0	0	0	0.00	0.0%
	Angle	0	1	0	0	0	1	0.20	2.8%	0	1	2	0	1	4	0.80	21.1%
	Left Turn	0	0	1	0	0	1	0.20	2.8%	0	0	0	0	0	0	0.00	0.0%
	Right Turn	0	0	1	0	1	2	0.40	5.6%	1	0	0	0	0	1	0.20	5.3%
	Sideswipe	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	1	1	0.20	5.3%
	Backed Into	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Pedestrian	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Bicycle	0	0	0	0	0	0	0.00	0.0%	0	0	0	1	0	1	0.20	5.3%
	Fixed Object	0	2	0	1	0	3	0.60	8.3%	0	0	0	0	0	0	0.00	0.0%
	Other Non-Collisions	1	0	0	0	0	1	0.20	2.8%	0	0	0	0	0	0	0.00	0.0%
	Overturn/Rollover	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Others	0	0	0	0	0	0	0.00	0.0%	0	1	0	0	0	1	0.20	5.3%
	Total Crashes	**6**	**6**	**10**	**9**	**5**	**36**	**7.20**	**100.0%**	**1**	**6**	**3**	**3**	**6**	**19**	**3.80**	**100.0%**
SEVERITY	PDO Crashes	3	4	4	3	2	16	3.20	44.4%	1	5	1	1	4	12	2.40	63.2%
	Fatal Crashes	0	0	1	0	0	1	0.20	2.8%	0	0	0	0	0	0	0.00	0.0%
	Injury Crashes	3	2	5	6	3	19	3.80	52.8%	0	1	2	2	2	7	1.40	36.8%
LIGHTING CONDITIONS	Daylight	5	6	6	5	4	26	5.20	72.2%	0	5	1	1	5	12	2.40	63.2%
	Dusk	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Dawn	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	Dark	1	0	4	4	1	10	2.00	27.8%	1	1	2	2	1	7	1.40	36.8%
	Unknown	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
SURFACE CONDITIONS	Dry	4	4	6	8	5	27	5.40	75.0%	1	5	2	2	4	14	2.80	73.7%
	Wet	2	2	4	1	0	9	1.80	25.0%	0	1	1	1	2	5	1.00	26.3%
	Others	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
HOUR OF DAY	00:00-06:00	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%
	06:00-09:00	1	2	0	2	1	6	1.20	16.7%	0	2	1	0	0	3	0.60	15.8%
	09:00-11:00	0	1	3	1	0	5	1.00	13.9%	0	0	0	0	1	1	0.20	5.3%
	11:00-13:00	0	2	0	0	0	2	0.40	5.6%	0	0	0	0	0	0	0.00	0.0%
	13:00-15:00	2	0	0	1	0	3	0.60	8.3%	0	1	0	0	0	1	0.20	5.3%
	15:00-18:00	2	1	2	1	3	9	1.80	25.0%	1	2	0	0	2	5	1.00	26.3%
	18:00-24:00	1	0	5	4	1	11	2.20	30.6%	0	1	2	3	3	9	1.80	47.4%

SR 994/Quail Roost Drive/ SW 200 St		SW 129 Ave								SW 127 Ave									
		Number of Crashes					5 Year Total Crashes	Mean Crashes Per Year	%	Number of Crashes					5 Year Total Crashes	Mean Crashes Per Year	%	90 %ile	95 %ile
		Year								Year									
		2014	2015	2016	2017	2018				2014	2015	2016	2017	2018					
CRASH TYPE	Rear End	2	2	1	4	2	11	2.20	52.4%	5	6	9	14	17	51	10.20	35.9%		
	Head On	0	0	0	0	2	2	0.40	9.5%	0	0	0	0	0	0	0.00	0.0%		
	Angle	0	0	1	0	0	1	0.20	4.8%	4	2	8	8	7	29	5.80	20.4%		
	Left Turn	1	0	1	0	0	2	0.40	9.5%	7	3	5	5	4	24	4.80	16.9%	X	X
	Right Turn	0	0	0	0	1	1	0.20	4.8%	0	0	0	2	0	2	0.40	1.4%		
	Sideswipe	0	0	1	0	0	1	0.20	4.8%	4	6	5	4	14	33	6.60	23.2%	X	X
	Backed Into	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%		
	Pedestrian	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	1	1	0.20	0.7%		
	Bicycle	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%		
	Fixed Object	0	0	1	1	0	2	0.40	9.5%	1	1	0	0	0	2	0.40	1.4%		
	Other Non-Collisions	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%		
	Overturn/Rollover	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%		
	Others	0	0	0	0	1	1	0.20	4.8%	0	0	0	0	0	0	0.00	0.0%		
	Total Crashes	**3**	**2**	**5**	**5**	**6**	**21**	**4.20**	**100.0%**	**21**	**18**	**27**	**33**	**43**	**142**	**28.40**	**100.0%**	**X**	
SEVERITY	PDO Crashes	2	1	4	3	2	12	2.40	57.1%	14	14	20	24	31	103	20.60	72.5%		
	Fatal Crashes	0	0	0	0	0	0	0.00	0.0%	0	0	0	0	0	0	0.00	0.0%		
	Injury Crashes	1	1	1	2	4	9	1.80	42.9%	7	4	7	9	12	39	7.80	27.5%	X	X
LIGHTING CONDITIONS	Daylight	2	2	5	2	5	16	3.20	76.2%	12	13	21	21	34	101	20.20	71.1%	X	
	Dusk	0	0	0	0	0	0	0.00	0.0%	0	1	0	3	2	6	1.20	4.2%	X	X
	Dawn	0	0	0	0	0	0	0.00	0.0%	0	0	0	1	0	1	0.20	0.7%		
	Dark	1	0	0	3	1	5	1.00	23.8%	8	4	6	8	7	33	6.60	23.2%		
	Unknown	0	0	0	0	0	0	0.00	0.0%	1	0	0	0	0	1	0.20	0.7%	X	X
SURFACE CONDITIONS	Dry	2	0	4	5	5	16	3.20	76.2%	15	16	23	32	37	123	24.60	86.6%	X	
	Wet	1	2	1	0	1	5	1.00	23.8%	5	2	4	1	6	18	3.60	12.7%	X	
	Others	0	0	0	0	0	0	0.00	0.0%	1	0	0	0	0	1	0.20	0.7%		
HOUR OF DAY	00:00-06:00	1	0	0	1	1	3	0.60	14.3%	2	0	0	2	1	5	1.00	3.5%		
	06:00-09:00	1	1	1	2	1	6	1.20	28.6%	3	4	4	9	7	27	5.40	19.0%	X	X
	09:00-11:00	0	0	0	0	0	0	0.00	0.0%	0	1	1	4	5	11	2.20	7.7%		
	11:00-13:00	0	0	1	0	0	1	0.20	4.8%	1	4	2	0	5	12	2.40	8.5%		
	13:00-15:00	0	0	0	0	1	1	0.20	4.8%	3	2	3	3	6	17	3.40	12.0%		
	15:00-18:00	1	0	1	0	3	5	1.00	23.8%	5	1	9	5	9	29	5.80	20.4%		
	18:00-24:00	0	1	2	2	0	5	1.00	23.8%	7	6	8	10	10	41	8.20	28.9%	X	X



C R A S H R E P O R T I N G S Y S T E M

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```
I/O NAME: ..............  CARI122
PROGRAM ID: ............  CARPJ122
REPORT NUMBER: .........  01
RUN CLASS: .............  A
MESSAGE CLASS: .........  Q
PRINTER DEST: ..........  LOCAL
# COPIES: ..............  01
ACCOUNT #: .............  5565945
SUBMIT W/HOLD? .........  N
USERID: ................  KNCHOEL
DETAIL SORT ORDER: .....  1 - SORT BY ROADWAY, MILE POINT
PRINT SEGMENTS? ........  Y
PRINT INTERSECTIONS? ...  N
SUMMARY FORMAT: ........  2 - TOP LINE ALL BREAKS
OVERRIDE VALUES:
 MAX # OF BREAKS: ......  06
 CRASH RATE CATEGORY: ...
 AVERAGE DAILY TRAFFIC:..
 # OF LEGS: ............
```

COMMENT: 1 - SORT BY ROADWAY, MILE POINT
FROM: 01/01/2014 TO 12/31/2018 RAMPS INCL
FROM CO/SEC/SUB: 87 091 000 MP: 004.000 INFL INCL
TO CO/SEC/SUB: 87 091 000 MP: 005.212 CR/OS INCL

C R N A U S M H B E R	ROADWYID C S T I O N O E C T I Y	S E SC UT BI S T	M I L E P O T	N EN AO RD EE S	S TR AO TA ED	ADT VAR EIA RLF AYF G I E C	Y E A R	M O N T H	D A Y	H O U R	CRCC RALA ATAT SESE H SG Y	A L C	H AE RV ME FN I V	MO AF NC EO UT N L	L IC GO HN TD RL 1	W EC AO TN HD IT GS	R D S U R F S	R OC AO DN D T N S	DL OO TC A ST S EN	R O A D L I I #	A C C S N R	V 1 DY YP E	V 1 1 OT E	VF 1U N P C	VM 1A N U E	VA 1C T RO DI R V	V 1A G DE R I V R1 R	V 2 M D R	V 2N 2N OD DE /S C	V 2N M UL NO CC /	V 2M M F VI RO /R	VN 2M MP NR TT 1N /1	VN AA CC	N M C T N 2	V 2N M GE E	# RA AG L S	# H C L E D	# V K I N D
853219020	87091000	04.018	2946	994	007100	16	05	26	06	R-2UN	0	14	01	01	02	01	01	01	R	1	E	01	01	01	02	19	E	01	01	13	01		47	3	0	02
872825840	87091000	04.018	2946	994	008500	18	08	28	08	R-2UN	0	14	01	01	02	01	01	01	R	1	E	01	01	01	02	35	E	01	01	13	01		30	3	0	02
838100430	87091000	04.037	2946	994	007200	14	08	25	07	R-2UN	0	14	01	01	01	01	01	03	R	1	E	01	01	01	02	19	E	02	01	13	01		52	2	0	00
845513230	87091000	04.037	2946	994	007200	15	01	02	17	R-2UN	0	14	01	01	01	01	01	01	R	2	E	16	01	01	02	46	E	16	01	77	01		42	3	0	00
852268660	87091000	04.037	2946	994	007100	16	04	11	17	R-2UN	0	14	01	01	01	01	01	01	R	1	E	03	01	01	02	57	E	01	01	13	01		29	2	0	01
837614740	87091000	04.056	2946	994	007200	14	08	20	08	R-2UN	0	14	01	01	02	01	01	03	R	1	E	01	01	01	02	22	E	02	01	13	01		46	2	0	00
845542650	87091000	04.056	2946	994	007200	15	02	02	09	R-2UN	0	14	01	01	01	01	01	03	R	1	E	01	01	01	02	19	E	01	01	13	01		23	2	0	00
845538250	87091000	04.066	2946	994	007200	15	02	25	12	R-2UN	0	14	01	01	01	01	01	02	R	1	E	02	01	01	02	54	E	03	01	13	01		41	3	0	00
853032130	87091000	04.066	2946	994	007100	16	04	01	12	R-2UN	0	14	01	01	02	01	01	03	R	1	E	01	01	01	02	23	E	16	01	13	01		70	2	0	02
866998440	87091000	04.066	2946	994	007100	16	09	04	19	R-2UN	0	14	01	01	01	01	01	02	R	1	E	01	01	01	02	28	W	01	01	03	01		33	2	0	00
852256840	87091000	04.068	2946	994	007200	15	12	07	13	R-2UN	0	14	01	01	03	02	01	02	R	1	E	01	01	01	01	66	E	01	01	13	01		69	2	0	02
853506010	87091000	04.070	2946	994	007100	16	06	20	16	R-2UN	0	14	01	01	02	01	01	03	R	1	E	16	01	01	02	25	E	02	01	13			00	2	0	00
855715260	87091000	04.070	2946	994	007100	17	11	09	12	R-2UN	0	14	01	01	01	01	01	03	R	1	E	03	01	01	02	61	E	01	01	13	01		58	2	0	00
871877830	87091000	04.070	2946	994	008500	18	06	29	15	R-2UN	0	14	01	01	02	02	01	03	R	1	E	16	01	01	02	59	E	03	01	13	01		29	2	0	01
837327670	87091000	04.071	2946	994	007200	14	01	06	16	R-2UN	0	14	01	01	02	02	01	02	R	1	E	03	01	01	02	38	E	01	01	13	01		22	2	0	00
845626860	87091000	04.072	2946	994	007200	15	04	29	21	R-2UN	0	14	01	05	02	02	01	02	R	1	E	03	01	01	02	36	E	01	01	03	01		29	2	0	00
855421400	87091000	04.072	2946	994	007100	17	06	29	21	R-2UN	0	14	01	04	02	02	01	03	R	1	E	01	01	01	02	50	E	01	01	13	01		31	2	0	02
843674580	87091000	04.073	2946	994	007200	14	06	24	20	R-2UN	0	14	01	05	02	02	01	02	R	1	E	03	01	01	02	42	E	01	01	13	01		61	2	0	00
844831150	87091000	04.073	2946	994	007200	14	07	19	21	R-2UN	0	14	88	04	02	02	01	02	R	2	E	01	01	05	02	26	E	01	01	01	01		58	2	0	00
851204490	87091000	04.073	2946	994	007200	15	06	18	09	R-2UN	0	14	01	01	01	01	01	02	R	1	E	01	01	01	02	47	E	01	01	01	01		66	3	0	01
851881750	87091000	04.073	2946	994	007200	15	10	04	15	R-2UN	0	14	01	01	01	01	01	02	R	1	E	01	01	14	02	25	E	01	01	13	01		48	2	0	01
852410130	87091000	04.073	2946	994	007200	15	12	29	10	R-2UN	0	14	01	01	01	01	01	02	R	1	E	16	01	01	02	39	E	01	01	13	01		63	2	0	01
852385100	87091000	04.073	2946	994	007100	16	02	05	15	R-2UN	0	14	01	01	02	01	01	03	R	1	E	16	01	01	02	39	E	03	01	13	01		46	2	0	00
854922250	87091000	04.073	2946	994	007100	17	05	31	22	R-2UN	0	14	01	05	01	01	01	03	R	1	E	03	01	01	02	24	E	16	01	13	01		53	2	0	00
855871830	87091000	04.073	2946	994	007100	17	10	24	19	R-2UN	0	14	01	05	02	02	01	01	R	1	E	01	01	14	02	26	E	01	01	13	01		44	2	0	01
851810590	87091000	04.074	2946	994	007200	15	08	23	15	R-2UN	1	14	01	01	01	01	01	02	R	1	E	16	01	01	02	42	E	16	01	13	01		52	4	0	05
843461020	87091000	04.075	2946	994	007200	14	01	10	17	R-2UN	0	14	01	01	01	01	01	02	R	1	E	02	01	01	02	81	E	01	01	13	01		48	2	0	02
843811800	87091000	04.075	2946	994	007200	14	10	26	10	R-2UN	0	14	01	01	01	01	01	02	T	1	S	01	01	01	10	19	S	03	01	01	01		50	2	0	00
845095870	87091000	04.075	2946	994	007200	15	02	09	06	R-2UN	0	14	01	01	03	02	01	02	T	1	S	01	01	01	02	16	S	03	01	13	01		47	2	0	00
856670910	87091000	04.075	2946	994	007200	15	06	27	11	R-2UN	0	37	77	01	03	02	01	02	R	S	S	03	01	01	02	49	S	03	01	08			00	3	0	00
851956080	87091000	04.075	2946	994	007200	15	09	22	06	R-2UN	0	14	03	06	02	02	01	02	R	1	E	01	01	03	01	60	W	16	01	01	01		22	2	0	02
860005010	87091000	04.075	2946	994	007200	15	11	08	01	R-2UN	0	14	03	05	01	01	01	02	R	1	S	01	01	03	03	25	E	16	01	01	01		23	2	0	00
843445240	87091000	04.075	2946	994	007200	15	12	19	10	R-2UN	0	14	03	01	01	01	01	02	L	1	E	20	01	03	03	57	W	16	01	01	01		68	2	0	00
852362580	87091000	04.075	2946	994	007200	15	12	21	07	R-2UN	0	14	02	06	03	02	01	02	R	1	W	11	01	01	25	63	E	02	01	01	01		23	2	0	02
843363810Y	87091000	04.075	2946	994	007200	15	12	22	22	R-2UN	0	14	01	05	02	02	10	03	T	L	S	01	88	01	02	00	S	01	01	13	01		46	2	0	00
852410430	87091000	04.075	2946	994	007100	16	02	11	08	R-2UN	0	14	03	01	01	01	01	02	I	M	W	01	01	01	11	35	S	03	01	03	01		38	2	0	00
865115230	87091000	04.075	2946	994	007100	16	05	02	06	R-2UN	0	14	03	03	02	01	01	03	T	L	N	01	01	03	02	77	S	01	01	01	01		30	2	0	00

COMMENT: 1 - SORT BY ROADWAY, MILE POINT
FROM: 01/01/2014 TO 12/31/2018 RAMPS INCL
FROM CO/SEC/SUB: 87 091 000 MP: 004.000 INFL INCL
TO CO/SEC/SUB: 87 091 000 MP: 005.212 CR/OS INCL

C R N A U S M H B E R	ROADWYID C S T I O N O E C T I O N	S E UT BI S T	M I P O S T	N EN AO RD EE	S TR AO TA ED	ADT VAR EIA RLF AYF G I E C	Y E A R	M O N T H	D A Y	H O U R	CRCC RALA ATAT SESE Y	A L C	H AE RV ME FN	MO AF NC EO UT	L IC GO HN TD RL	W EC AO TN HD IT	R D S U R	R OC AO DN D D	DL OO TC A ST L	R O C A II S	A C 1 1 N R	V DY E P C	VF 1U SC E DI RO I V	VM 1A N T U V	VA 1C T E R R1	V 1A G DE R I R	V 2 M 2N D B OD DE /S C	V 2N 2N F UL NO CC /	V M VI MP NR RO /R	VN VN 2M 2M TT 1N /1	N M 2N V AA CC 1N 2	# # # V RA AG GE E	K I L J E R S D
853732670	87091000	04.075	2946	994	007100	16	11	25	00	R-2UN	0	27	03	04	01	01	01	02	R	S	W	03	01	01	01	30	S	16	01	03			00	2	0	00
868833630Y	87091000	04.075	2946	994	007100	17	02	06	08	R-2UN	0	14	01	01	01	01	01	03	T	L	S	03	01	01	02	54	S	03	01	13	01		34	2	0	00
869008030Y	87091000	04.075	2946	994	007100	17	02	07	06	R-2UN	0	14	01	04	01	01	01	03	T	L	S	01	01	01	12	48	S	01	01	13	01		28	2	0	00
868969840	87091000	04.075	2946	994	007100	17	03	29	13	R-2UN	0	14	01	01	01	01	01	03	T	1	S	19	01	01	02	29	S	01	01	01	01		42	2	0	00
876335850Y	87091000	04.075	2946	994	008500	18	04	17	15	R-2UN	0	14	03	01	01	01	01	04	T	R	S	01	01	03	03	34	S	03	01	01	01		72	2	0	00
876394270Y	87091000	04.075	2946	994	008500	18	06	03	18	R-2UN	0	14	04	01	01	01	01	03	T	1	S	16	01	11	25	18	S	16	01	01	01		74	2	0	00
876489450	87091000	04.075	2946	994	008500	18	08	17	20	R-2UN	0	14	03	04	01	01	01	02	I	M	E	01	01	01	77	19	S	01	01	01	77		22	2	0	00
876473560	87091000	04.075	2946	994	008500	18	09	04	21	R-2UN	0	14	01	04	01	01	01	03	T	1	S	01	01	01	02	45	S	01	01	01	01		79	2	0	00
871551740	87091000	04.081	2946	994	019700	18	03	02	18	S-2UN	0	14	01	02	03	02	10	03	L	1	W	00	01	01		00	W	01	01	13	01		68	2	0	00
851881580	87091000	04.084	2946	994	017900	15	09	23	17	S-2UN	0	14	03	01	01	01	01	02	L	1	W	01	01	06	25	25	W	03	01	01	01		58	2	0	00
852424860	87091000	04.084	2946	994	017900	15	12	10	17	S-2UN	0	14	01	01	02	01	01	02	L	1	E	03	01	01	02	24	E	01	01	13	01		30	3	0	00
853844170	87091000	04.084	2946	994	018500	16	10	08	10	S-2UN	0	14	02	01	01	01	01	03	L	L	E	16	01	03	02	19	W	01	01	13	01		57	2	0	00
854154670	87091000	04.084	2946	994	018500	16	10	25	17	S-2UN	0	14	01	01	02	01	01	03	R	1	E	03	01	01	02	45	E	02	01	13	01		35	2	0	00
854154680	87091000	04.084	2946	994	018500	16	10	25	17	S-2UN	0	14	01	01	02	01	01	03	R	1	E	02	01	01	02	44	E	03	01	13	01		45	3	0	00
873215840	87091000	04.084	2946	994	018700	17	10	04	07	S-2UN	0	14	03	01	03	02	01	03	R	1	E	21	01	05	02	57	E	03	01	01	01		58	2	0	01
876602770	87091000	04.086	2946	994	019700	18	11	09	06	S-2UN	0	14	01	01	01	01	01	01	R	1	E	16	01	01	02	71	E	01	01	01	01		31	2	0	00
854166150	87091000	04.094	2946	994	018500	16	11	05	15	S-2UN	0	14	01	01	01	01	01	03	L	1	W	01	01	01	02	29	W	01	01	13	01		64	2	0	00
872227850	87091000	04.094	2946	994	019700	18	05	01	15	S-2UN	0	14	01	01	02	01	01	01	R	1	E	03	01	01	02	22	E	01	01	13	01		33	2	0	00
880270260	87091000	04.103	2946	994	019700	18	12	25	01	S-2UN	0	14	01	05	01	01	01	03	L	1	W	88	01	01	12	00	W	02	01	01	01		49	2	0	01
872836060	87091000	04.105	2946	994	019700	18	08	31	15	S-2UN	0	14	01	01	01	01	01	01	R	2	E	01	01	01	02	32	E	16	01	14	01		40	2	0	04
853164430	87091000	04.113	2946	994	018500	16	05	13	17	S-2UN	0	14	01	01	01	01	01	03	L	2	W	16	01	01	02	28	W	16	01	13	01		22	3	0	00
868826890	87091000	04.113	2946	994	018500	16	12	27	19	S-2UN	0	14	01	04	01	01	01	03	L	1	W	01	01	01	02	38	W	16	01	13	01		48	2	0	00
880055240	87091000	04.122	2946	994	019700	18	09	28	21	S-2UN	0	14	05	05	01	01	01	03	L	1	W	01	01	01	02	30	W	01	01	13	01		43	2	0	00
855938290	87091000	04.141	6805	994	018700	17	09	13	15	S-2UN	0	14	01	01	03	02	01	01	L	1	W	01	01	01	12	21	W	17	01	13	01		28	2	0	00
856514400	87091000	04.170	6805	994	017900	15	03	17	22	S-2UN	0	32	77	04	01	01	01	01	L	S	W	01	01	01	29	24								1	0	00
854768310	87091000	04.170	6805	994	018700	17	03	03	17	S-2UN	0	14	01	01	01	01	01	01	L	2	W	02	01	01	02	24	W	03	01	13	01		52	2	0	01
853546330	87091000	04.181	6805	994	018500	16	07	26	16	S-2UN	0	14	03	01	01	01	01	03	R	1	E	01	01	10	06	39	E	03	01	01	01		26	2	0	00
854253020	87091000	04.181	6805	994	018500	16	11	19	05	S-2UN	0	14	03	01	01	01	01	03	R	1	W	17	01	03	03	57	E	03	01	01	01		49	2	0	00
854253540	87091000	04.181	6805	994	018700	17	04	11	07	S-2UN	0	14	01	01	01	01	01	01	L	2	W	03	01	01	02	43	W	01	01	13	01		50	3	0	00
854428740	87091000	04.195	6805	994	018700	17	01	13	08	S-2UN	0	14	01	01	01	01	01	03	R	2	E	20	01	01	02	30	E	16	01	14	01		40	3	0	02
843530490	87091000	04.196	6805	994	017500	14	03	01	19	S-2UN	1	14	01	05	01	01	01	02	R	1	E	16	88	01	02	49	E	01	01	13	01		30	4	0	04
851128500	87091000	04.198	6805	994	017900	15	06	06	12	S-2UN	0	14	01	01	01	01	01	02	R	1	E	16	01	01	02	55	E	16	01	13	01		53	3	0	00
837193210	87091000	04.200	6805	994	017500	14	07	30	16	S-2UN	0	14	02	01	02	01	01	02	R	1	W	16	01	01	25	18	E	02	01	01	01		35	4	0	02
876550530	87091000	04.200	6805	994	019700	18	10	20	05	S-2UN	1	14	01	05	01	01	01	02	R	1	E	11	01	01	02	22	E	01	03	01	01		29	2	0	01
871783090	87091000	04.209	6805	994	019700	18	02	22	06	S-2UN	0	14	01	01	03	02	01	01	L	2	W	01	01	01	02	37	W	01	01	13	01		58	2	0	01
867143420	87091000	04.228	6805	994	018500	16	12	15	17	S-2UN	0	14	01	01	01	01	01	03	L	1	W	01	01	01	02	19	W	01	01	01	01		47	2	0	00
876198900	87091000	04.264	6804	994	019700	18	03	26	23	S-2UN	0	13	77	05	01	01	01	02	L	1	W	11	01	01	01	46								1	0	01

COMMENT: 1 - SORT BY ROADWAY, MILE POINT
FROM: 01/01/2014 TO 12/31/2018 RAMPS INCL
FROM CO/SEC/SUB: 87 091 000 MP: 004.000 INFL INCL
TO CO/SEC/SUB: 87 091 000 MP: 005.212 CR/OS INCL

C R N A U S M H B E R	ROADWYID C S T I O N O E C T I O T	ID S SC UT BI S T	M I L E P O S T	N EN AO RD EE S	S TR AO TA ED	ADT VAR EIA RLF AYF G I E C	Y E A R	M O N T H	D A Y	H O U R	CRCC RALA ATAT SESE O G Y	A L C	H AE RV ME FN EO TD IT RL NN GS	MO AF NC HN EO HD ET L RN S	L IC GO TN U R F S	W EC AO D R	R OC AO DN D T H	DL OO TC A ST S EN	R A C L I N R	A V C D OT DY YP #	V 1 1 B P E DI RO IN E V R1	VF 1U N SC E R	VM 1A N E U V	VA 1C T DI RO IN E R1	V 1A G DE R I R R	V 2 M OD UL NO CC RO /S C	V 2N M B F /R /1	V 2N M MP VI NR /1	VN 2M M AA TT 1N	NV M CT NG E2	# 2N M RA AG GE E	# V E H C L S	# K I L U R D
838044830	87091000	04.300	3335	994	017500	14	11	07	22	S-2UN	0	14	03	05	01	01	01	02	L	1	N	16	01	03	03	17	E	03	01	01	01	49	2	0	00
837631670	87091000	04.309	3335	994	017500	14	03	07	14	S-2UN	0	14	01	01	01	01	01	03	R	1	E	02	01	01	02	46	E	01	01	13	01	27	2	0	01
838019590	87091000	04.309	3335	994	017500	14	06	17	04	S-2UN	0	13	77	05	02	01	01	03	L	1	W	01	01	01	01	42							1	0	00
871129720	87091000	04.319	3335	994	018700	17	10	25	16	S-2UN	0	14	01	01	01	01	01	03	R	2	E	16	01	01	02	20	E	01	01	13	01	19	4	0	03
837181130	87091000	04.322	3335	994	017500	14	01	29	08	S-2UN	0	14	01	01	03	02	01	02	R	1	E	01	01	01	02	25	E	03	01	13	01	23	2	0	01
843456940	87091000	04.322	3335	994	017500	14	08	20	00	S-2UN	0	14	01	05	01	01	01	02	R	1	E	01	88	01	77	00	E	01	01	01	01	53	2	0	00
851214760	87091000	04.325	3335	994	017900	15	07	17	16	S-2UN	0	14	01	01	03	02	01	02	R	1	E	01	01	01	02	88	E	01	01	13	01	26	2	0	00
880134830	87091000	04.325	3335	994	019700	18	11	02	16	S-2UN	0	14	01	01	01	01	01	01	L	1	W	01	01	01	02	35	W	03	01	14	01	59	2	0	00
836736050	87091000	04.328	3335	994	017500	14	03	10	10	S-2UN	0	14	03	01	01	01	01	02	R	1	W	01	01	11	15	21	N	01	01	01	01	34	2	0	00
831471890	87091000	04.328	3335	994	017500	14	04	22	16	S-2UN	0	14	01	01	01	01	01	02	R	1	E	01	01	01	02	36	E	01	01	01	01	41	2	0	01
837181500	87091000	04.328	3335	994	017500	14	06	01	03	S-2UN	0	14	05	05	02	01	01	02	R	1	W	00	01	01		00	E	01	01	01	01	24	2	0	00
838003880	87091000	04.328	3335	994	017500	14	07	16	10	S-2UN	0	14	03	01	01	01	01	02	I	M	N	01	01	05	13	82	E	01	01	01	01	85	2	0	00
844755760	87091000	04.328	3335	994	017500	14	08	24	18	S-2UN	0	14	03	01	01	01	01	02	L	1	S	01	01	03	13	47	W	01	01	03	01	21	3	0	04
843757050	87091000	04.328	3335	994	017500	14	09	09	08	S-2UN	0	14	01	01	01	01	01	02	S	1	N	16	01	01	10	24	N	01	01	13	01	33	2	0	02
845075540	87091000	04.328	3335	994	017500	14	09	11	20	S-2UN	0	14	03	04	03	02	01	02	S	1	E	01	01	05		00	N	01	01	13	01	24	2	0	00
843809170	87091000	04.328	3335	994	017500	14	11	05	15	S-2UN	0	14	01	01	01	01	01	02	S	1	N	01	01	01	02	19	N	01	01	13	01	40	2	0	00
845537310	87091000	04.328	3335	994	017500	14	12	28	00	S-2UN	0	14	03	04	01	01	01	02	R	1	0	00	01	00		00	E	01	01	01	01	22	2	0	02
856571260	Y87091000	04.328	3335	994	017900	15	02	06	15	S-2UN	0	14	03	01	01	01	01	04	S	1	S	01	01	77	77	19	S	03	01	05	01	40	2	0	00
856605140	87091000	04.328	3335	994	017900	15	02	25	13	S-2UN	0	14	03	01	01	01	01	02	S	1	E	03	01	05	02	70	N	01	01	13	01	43	2	0	00
856604800	87091000	04.328	3335	994	017900	15	03	02	07	S-2UN	0	14	03	01	01	01	01	02	R	1	S	17	01	03	03	43	E	01	01	01	01	27	3	0	01
845537460	87091000	04.328	3335	994	017900	15	03	07	08	S-2UN	0	14	03	01	01	01	01	02	L	1	N	01	01	01	03	73	W	20	01	01	01	45	2	0	02
848895560	87091000	04.328	3335	994	017900	15	05	01	20	S-2UN	0	14	01	05	02	01	01	02	R	1	E	01	01	01	02	22	E	01	01	13	01	24	2	0	00
859783330	87091000	04.328	3335	994	017900	15	08	05	06	S-2UN	0	14	02	05	01	01	01	02	I	M	N	01	01	03	03	44	S	16	01	03	06	24	2	0	00
856682400	87091000	04.328	3335	994	017900	15	08	19	22	S-2UN	0	14	01	05	01	01	01	02	S	1	N	01	88	88	10	00	N	01	01	01	01	45	2	0	00
851642360	87091000	04.328	3335	994	017900	15	10	03	14	S-2UN	0	14	03	01	01	01	01	02	R	1	N	01	01	01	03	21	E	16	01	01	01	31	2	0	02
843405290	87091000	04.328	3335	994	017900	15	12	14	17	S-2UN	0	14	03	01	01	01	01	02	I	M	N	01	01	03	03	25	S	01	01	01	01	20	2	0	00
851241330	87091000	04.328	3335	994	018500	16	01	04	06	S-2UN	0	14	01	01	03	02	01	02	S	1	N	03	01	01	02	25	N	02	01	13	01	41	2	0	00
859729140	87091000	04.328	3335	994	018500	16	01	17	12	S-2UN	0	14	03	01	01	01	01	01	L	S	W	01	03	01	01	50	N	01	01	03	03	76	2	0	00
852780800	87091000	04.328	3335	994	018500	16	02	21	10	S-2UN	0	14	03	01	02	01	01	02	I	M	N	01	01	03	03	49	E	01	01	01	01	49	2	0	02
852899300	87091000	04.328	3335	994	018500	16	03	04	13	S-2UN	0	14	03	01	02	01	01	02	R	1	N	01	01	03	13	22	E	16	01	01	01	52	2	0	00
865140440	87091000	04.328	3335	994	018500	16	06	15	12	S-2UN	0	14	03	01	01	01	01	02	R	1	N	01	01	03	02	18	E	03	01	01	01	56	2	0	01
865148430	87091000	04.328	3335	994	018500	16	06	16	15	S-2UN	0	14	01	01	01	01	01	02	S	1	N	01	01	01	02	17	N	02	01	01	01	34	2	0	00
853277280	87091000	04.328	3335	994	018500	16	08	15	06	S-2UN	0	14	03	01	01	01	01	02	L	1	N	01	01	03	03	19	W	01	01	01	01	59	2	0	01
853726990	87091000	04.328	3335	994	018500	16	09	08	15	S-2UN	0	14	03	01	01	01	01	02	R	1	N	01	01	01		00	E	16	01	01	01	43	2	0	00
854337040	87091000	04.328	3335	994	018500	16	12	02	06	S-2UN	0	14	03	01	03	02	01	02	R	2	N	16	01	01	03	56	E	16	01	01	01	69	2	0	02
867142370	87091000	04.328	3335	994	018500	16	12	06	16	S-2UN	0	14	05	01	01	01	01	03	S	1	S	03	00	01	31	06	N	16	01	01	01	40	2	0	00
867158020	87091000	04.328	3335	994	018500	16	12	16	06	S-2UN	0	14	01	01	01	01	01	03	T	1	S	16	01	01	02	42	S	02	01	13	01	48	2	0	01

COMMENT: 1 - SORT BY ROADWAY, MILE POINT
FROM: 01/01/2014 TO 12/31/2018 RAMPS INCL
FROM CO/SEC/SUB: 87 091 000 MP: 004.000 INFL INCL
TO CO/SEC/SUB: 87 091 000 MP: 005.212 CR/OS INCL

C R N A U S M H B E R	ROADWYID C S T I O N O E C T I Y	M I EN AO RD TA EIA RLF AYF	N EN TR VAR A R	S TR AO TA ED	ADT VAR EIA RLF AYF G I E C	Y E A R	M O N T H	D A Y	H O U R	CRCC RALA ATAT SESE H SG Y	A L C	H AE RV ME FN I V	MO AF NC EO UT RL Y	L IC GO HN TD IT NN GS	W EC AO TN HD ET RN S	R D U R	R OC AO DN D T F S	DL OO TC A ST N TO EN	R O C D L I S R E D #	A N C	V 1	V 1	VF 1U SC P C	VM 1A N E U V	VA 1C T DI RO IN V R1	V 1A G DE R I V R	V 2	V 2N M OD DE /S C	V 2N M F UL CC /	V 2M M MP NR VI /R	VN AA CC TT 1N /1	VN 2M M N GE 2	V 2N M E S	# V RA AG L E	# K H C L E	# I N U R D
854624000	87091000	04.328	3335	994	018700	17	01	20	10	S-2UN	0	14	03	01	02	01	01	02	L	1	N	01	01	03	03	49	W	01	01	01	01	26	2	0	02
867083090Y	87091000	04.328	3335	994	018700	17	01	30	20	S-2UN	0	14	01	05	01	01	01	03	S	1	N	01	01	14	02	20	N	01	01	13	01	19	2	0	00
854924770	87091000	04.328	3335	994	018700	17	03	24	07	S-2UN	0	14	03	01	02	02	01	02	L	1	N	88	01	01	77	00	W	01	01	01	01	53	3	0	00
854900890	87091000	04.328	3335	994	018700	17	04	01	14	S-2UN	0	14	03	01	02	01	01	02	I	M	E	16	01	01	28	38	N	03	01	01	01	22	2	0	02
867159950	87091000	04.328	3335	994	018700	17	04	25	00	S-2UN	0	14	03	04	01	01	01	02	R	1	N	01	01	03	03	19	E	01	01	01	01	56	2	0	01
855193880	87091000	04.328	3335	994	018700	17	05	25	12	S-2UN	0	14	03	01	02	01	01	02	L	1	W	16	01	01	02	75	W	01	01	03	01	30	2	0	02
855353820	87091000	04.328	3335	994	018700	17	05	29	09	S-2UN	0	14	03	01	01	01	01	02	R	1	N	03	01	03	13	53	E	01	01	01	01	21	2	0	00
873137730	87091000	04.328	3335	994	018700	17	08	07	17	S-2UN	0	14	03	01	01	01	01	02	L	1	N	16	01	03	06	46	W	01	01	03	01	47	2	0	00
873213430	87091000	04.328	3335	994	018700	17	08	28	07	S-2UN	0	14	03	01	01	01	01	02	R	1	N	16	01	01	02	47	E	01	01	01	01	28	2	0	00
873241660Y	87091000	04.328	3335	994	018700	17	09	01	06	S-2UN	0	14	03	01	01	01	01	01	S	1	S	16	01	03	06	49	N	03	01	13	01	38	2	0	01
873240060	87091000	04.328	3335	994	018700	17	09	19	08	S-2UN	0	14	03	01	01	01	01	02	I	M	N	01	01	01	13	56	W	20	01	01	01	40	3	0	01
873094700	87091000	04.328	3335	994	018700	17	10	02	19	S-2UN	0	14	03	04	01	01	01	02	I	M	E	03	01	03	03	42	E	03	01	01	01	52	2	0	00
855787540	87091000	04.328	3335	994	018700	17	10	07	19	S-2UN	0	14	03	01	01	01	01	02	R	1	N	01	01	03	03	23	E	01	01	01	01	33	2	0	00
855962300	87091000	04.328	3335	994	018700	17	10	26	11	S-2UN	0	14	03	01	01	01	01	02	R	1	N	01	01	01	03	60	E	16	01	01	01	52	2	0	00
871073660	87091000	04.328	3335	994	018700	17	12	29	09	S-2UN	0	14	03	01	01	01	01	02	R	1	N	01	01	01	03	61	E	01	01	01	01	62	2	0	00
876241370	87091000	04.328	3335	994	019700	18	01	25	08	S-2UN	0	14	03	01	01	01	01	02	R	1	N	03	01	03	03	46	E	01	01	01	01	49	2	0	00
876236070	87091000	04.328	3335	994	019700	18	02	01	19	S-2UN	0	14	01	04	01	01	01	02	R	1	W	01	01	03	03	20	E	01	01	01	01	28	2	0	00
873291700Y	87091000	04.328	3335	994	019700	18	02	08	21	S-2UN	0	32	77	05	01	01	01	01	S	1	S	01	01	01	01	27							1	0	00
876337400	87091000	04.328	3335	994	019700	18	04	26	17	S-2UN	0	14	03	01	01	01	01	02	R	1	N	16	01	01	03	22	E	01	01	01	01	34	2	0	00
876407230	87091000	04.328	3335	994	019700	18	06	12	18	S-2UN	0	14	03	01	01	01	01	02	I	M	N	01	01	03	03	33	S	03	01	01	01	29	2	0	00
872152180	87091000	04.328	3335	994	019700	18	08	07	13	S-2UN	0	14	03	01	01	01	01	02	R	1	N	03	01	05	03	47	E	01	01	01	01	66	2	0	00
872504440	87091000	04.328	3335	994	019700	18	08	15	17	S-2UN	0	14	03	01	01	01	01	02	R	1	S	00	01	01	02	00	E	01	01	01	01	92	2	0	00
872639170	87091000	04.328	3335	994	019700	18	09	03	00	S-2UN	0	14	03	05	03	02	01	02	L	1	W	01	01	01	13	19	N	02	01	01	01	32	2	0	01
876529260	87091000	04.328	3335	994	019700	18	09	29	19	S-2UN	0	14	02	05	01	01	01	02	R	1	W	01	01	03	03	23	E	01	01	01	01	54	2	0	00
876610450	87091000	04.328	3335	994	019700	18	11	11	19	S-2UN	0	14	03	05	01	01	01	03	S	1	S	01	01	05	02	27	N	01	01	13	01	20	2	0	00
880312290	87091000	04.328	3335	994	019700	18	11	15	08	S-2UN	0	14	03	01	02	02	01	02	R	1	W	16	01	03	03	63	E	03	01	01	01	43	3	0	06
876626110	87091000	04.328	3335	994	019700	18	11	25	12	S-2UN	0	14	03	01	01	01	01	02	R	1	W	02	01	01	02	00	N	16	01	01	01	71	2	0	00
876546760	87091000	04.328	3335	994	019700	18	11	29	15	S-2UN	0	14	03	01	01	01	01	02	I	M	N	16	01	03	02	37	S	03	01	01	01	49	2	0	00
876595630Y	87091000	04.328	3335	994	019700	18	12	15	21	S-2UN	0	32	77	05	01	01	01	01	S	S	S	01	01	01	02	49							1	0	00
880587760	87091000	04.328	3335	994	019700	18	12	21	12	S-2UN	0	14	03	01	02	01	01	02	R	1	W	01	01	03	03	27	E	01	01	01	01	54	2	0	02
880227240	87091000	04.328	3335	994	019700	18	12	31	14	S-2UN	0	14	03	01	01	01	01	02	L	1	S	03	01	05	13	24	W	01	01	01	01	17	2	0	00
837198920	87091000	04.330	3335	994	017500	14	02	10	07	S-2UN	0	14	01	01	01	01	01	02	L	1	W	02	01	01	01	61	W	01	01	13	01	41	2	0	02
872869210	87091000	04.330	3335	994	019700	18	09	01	15	S-2UN	0	39	77	01	02	01	01	03	R	S	N	01	01	03	03	24	E	16	01	01	01	16	2	0	02
872639030	87091000	04.337	3335	994	019700	18	08	11	23	S-2UN	0	30	77	05	02	02	01	03	R	S	E	01	01	05	02	49							1	0	00
876199850	87091000	04.356	3335	994	019700	18	04	29	00	S-2UN	0	38	88	88	77	88	88	01	L	S	U	77	88	88	77	00							1	0	01
848677070	87091000	04.397	8551	994	017900	15	06	04	09	S-2UN	0	09	77	01	02	01	01	03	L	S	W	01	00	77		00	W	01	01	01	01	27	2	0	00
867057730	87091000	04.406	8551	994	018500	16	10	20	18	S-2UN	0	14	01	01	03	02	01	03	L	1	W	01	01	01	02	32	W	03	01	01	01	56	2	0	00

COMMENT: 1 - SORT BY ROADWAY, MILE POINT
FROM: 01/01/2014 TO 12/31/2018 RAMPS INCL
FROM CO/SEC/SUB: 87 091 000 MP: 004.000 INFL INCL
TO CO/SEC/SUB: 87 091 000 MP: 005.212 CR/OS INCL

C R N A U S M H B E R	ROADWYID C S O E U C N T Y O N	S I E L A O E P O S T	M I L A O E A O T H	N EN AO RD EE S	S TR TA ED	ADT VAR EIA RLF AYF G I E C	Y E A R	M O N T	D A Y	H O U R	CRCC RALA ATAT SESE H SG O R Y	A L C	H AE RV ME FN I N V	MO AF N NC EO RL L	L IC GO HN TD IT NN GS	W EC AO TN HD ET RN S	R D U R F S	R OC AO DN D ST TII EN	DL OO TC A L D N S	R O C A I R #	A C	V 1	V 1	VF 1U N	VM 1A N	VA 1C E	V 1A T	V 2 G	V 2N M	V 2N M	VN 2M	VN 2M	N V M 2E	# # # M V K I N E I L U E R S D D
872481230	87091000	04.416	8551	994	019700	18	08	23	16	S-2UN	0	14	01	01	01	01	01	01	L	2	W	01	01	01	02	16	W	01	01	13	01		70	2	0	01
852699290	87091000	04.420	8551	994	018700	17	06	08	08	S-2UN	0	14	01	01	03	02	01	01	L	2	W	01	01	01	12	16	W	01	01	13	01		64	3	0	01
845450470	87091000	04.421	8551	994	017900	15	01	24	21	S-2UN	0	36	77	04	01	01	01	02	R	S	E	01	01	01	02	59								1	0	00
851233630	87091000	04.423	8551	994	017900	15	09	04	08	S-2UN	0	14	01	01	01	01	01	02	R	1	E	01	01	01	02	49	E	16	01	14	01		29	2	0	00
843475620	87091000	04.425	8551	994	017500	14	02	06	07	S-2UN	0	14	04	01	01	01	01	02	R	1	N	01	01	05	03	31	E	01	01	01	01		16	2	0	00
852713670	87091000	04.425	8551	994	018500	16	03	30	19	S-2UN	0	14	01	01	01	01	01	02	R	1	N	01	01	05	03	56	E	02	01	01	01		38	2	0	00
852917760	87091000	04.425	8551	994	018500	16	05	28	17	S-2UN	0	32	77	01	02	01	01	02	R	S	E	03	01	01	02	64								1	0	00
854728440	87091000	04.425	8551	994	018700	17	04	22	21	S-2UN	0	14	77	04	02	01	01	02	I	M	E	02	01	10	03	67	E	16	01	01	01		60	2	0	00
855714920	87091000	04.427	8551	994	018700	17	08	29	07	S-2UN	0	14	01	01	01	01	01	03	L	1	W	02	01	01	02	50	W	16	01	13	01		40	2	0	00
853335350	87091000	04.429	8551	994	018500	16	07	16	16	S-2UN	0	14	01	01	02	01	01	03	L	1	W	01	01	01	02	27	W	01	01	14	01		19	2	0	00
854226150	87091000	04.430	8551	994	018500	16	11	16	07	S-2UN	0	14	01	01	01	01	01	03	L	1	W	16	01	01	02	60	W	01	01	13	01		43	2	0	02
845281810	87091000	04.434	8551	994	017900	15	02	25	13	S-2UN	0	14	01	01	02	01	01	02	L	2	W	16	01	01	02	20	W	16	01	13	01		30	3	0	00
855354250	87091000	04.434	8551	994	018700	17	08	22	07	S-2UN	0	14	01	01	02	02	01	03	L	2	W	01	01	01	02	28	W	01	01	14	01		28	2	0	01
854374270	87091000	04.453	8552	994	018700	17	03	28	08	S-2UN	0	14	01	01	02	01	01	03	L	1	W	01	01	01	02	40	W	01	01	14	01		44	2	0	00
855306620	87091000	04.453	8552	994	018700	17	05	27	10	S-2UN	0	14	01	01	01	01	01	04	L	1	W	01	01	01	02	33	W	01	01	01	01		69	2	0	00
859804910	87091000	04.457	8552	994	017900	15	07	21	10	S-2UN	0	14	03	01	01	01	01	02	R	1	N	03	01	03	03	26	E	01	01	01	01		35	2	0	01
855146510	87091000	04.463	8552	994	018700	17	05	06	17	S-2UN	0	14	01	01	01	01	01	03	R	1	E	16	01	01	02	25	E	01	01	13	01		47	2	0	00
843557550	87091000	04.490	8553	994	017500	14	03	25	13	S-2UN	0	14	03	01	01	01	01	02	L	1	E	01	01	03	06	20	S	03	01	14	01		56	2	0	01
845021000	87091000	04.490	8553	994	017500	14	11	08	19	S-2UN	0	14	01	04	01	01	01	02	L	1	W	01	01	01	02	20	W	03	01	01	01		56	2	0	02
854768210	87091000	04.492	8553	994	018700	17	02	23	20	S-2UN	0	14	01	04	01	01	01	01	L	1	W	01	01	01	02	37	W	16	01	13	01		47	4	0	02
872948500	87091000	04.499	8553	994	019700	18	09	18	07	S-2UN	0	14	01	01	02	02	01	03	L	1	W	02	01	01	02	30	W	01	01	13	01		39	3	0	01
855915850	87091000	04.546	3376	994	018700	17	10	05	08	S-2UN	0	14	01	01	03	02	01	01	R	1	E	01	01	01	02	69	E	01	01	01	01		58	2	0	00
854536810	87091000	04.565	3376	994	018700	17	03	21	08	S-2UN	0	32	77	01	01	01	01	03	R	S	E	03	01	01	02	29								1	0	00
837513480	87091000	04.584	3376	994	017500	14	01	08	14	S-2UN	0	05	77	01	02	01	01	02	L	1	W	20	01	13	77	46	W	01	01	13	01		40	2	0	00
844905170	87091000	04.584	3376	994	017500	14	08	28	13	S-2UN	0	14	01	01	02	01	01	02	L	1	W	16	01	01	02	28	W	01	01	13	01		18	2	0	02
856560690	87091000	04.584	3376	994	017900	15	01	16	15	S-2UN	0	14	01	01	01	01	01	03	R	1	N	01	03	01	10	49	N	16	01	01	01		50	2	0	00
859959690	87091000	04.584	3376	994	017900	15	11	15	10	S-2UN	0	37	77	01	03	02	01	02	T	S	W	03	01	77	30	70								1	0	00
851956670	87091000	04.584	3376	994	017900	15	11	20	12	S-2UN	0	14	03	01	01	01	01	02	R	1	N	01	01	03	03	18	E	12	01	01	01		64	2	0	01
852268560	87091000	04.584	3376	994	018500	16	03	20	20	S-2UN	0	14	03	04	03	02	01	02	R	1	E	11	01	01	77	24	W	16	01	03	01		49	2	1	00
853877170	87091000	04.584	3376	994	018500	16	10	19	09	S-2UN	0	14	02	01	01	01	01	02	R	1	W	01	01	01	30	25	E	01	01	01	01		45	2	0	02
854155290	87091000	04.584	3376	994	018700	17	01	18	22	S-2UN	0	14	01	05	01	01	01	02	R	1	W	01	01	01	02	19	W	01	01	13	01		19	3	0	03
854460650	87091000	04.584	3376	994	018700	17	02	21	20	S-2UN	0	14	01	04	01	01	01	02	L	1	W	16	01	01	02	29	W	01	01	13	01		46	2	0	00
872635920	87091000	04.584	3376	994	019700	18	07	23	20	S-2UN	0	14	03	04	01	01	01	02	R	1	N	01	01	05	03	23	E	16	01	01	01		76	2	0	00
837046460	87091000	04.586	3376	994	017500	14	01	30	17	S-2UN	0	14	01	01	03	02	01	02	L	2	W	16	01	01	02	41	W	01	01	13	01		53	2	0	00
852917840	87091000	04.586	3376	994	018500	16	06	08	15	S-2UN	0	14	01	01	03	02	01	03	L	1	W	03	01	01	02	40	W	16	01	13	01		64	2	0	00
855305660	87091000	04.586	3376	994	018700	17	10	31	19	S-2UN	0	14	01	04	01	01	01	03	L	2	W	01	01	01	02	21	W	01	01	13	01		37	2	0	01
845191090	87091000	04.588	3376	994	017500	14	12	05	08	S-2UN	0	14	01	01	01	01	01	02	L	2	W	01	01	01	02	20	W	03	01	13	01		41	2	0	00

COMMENT: 1 - SORT BY ROADWAY, MILE POINT
FROM: 01/01/2014 TO 12/31/2018 RAMPS INCL
FROM CO/SEC/SUB: 87 091 000 MP: 004.000 INFL INCL
TO CO/SEC/SUB: 87 091 000 MP: 005.212 CR/OS INCL

C R N A U S M H B E R	ROADWYID C S T I O N O E C T I Y	S E SC UT BI O N	M I L E P O S T	N EN AO RD EE S	S TR AO TA ED	ADT VAR EIA RLF AYF G I E C	Y E A R	M O N T H	D A Y	H O U R	CRCC RALA ATAT SESE H SG Y	A L C	H AE RV ME FN I V	MO AF NC EO TD RL L 1	L IC GO HN IT NN GS	W EC AO TN HD ET RN S	R D U R	R OC AO DN D T S	DL OO TC A ST II EN	R A D S	A C L N I R	V 1 DY P E C	V 1 D B SC E DI RO V R1	VF 1U N T P E V C	VM 1A N T U IN V	VA 1C T G SE DI R	V 1A G DE I R R	V 2 M B OD NO C /	V 2N 2N F UL CC /R	VN 2M M MP NR VI 1N /1	VN 2M AA CC TT	N M 2N M RA AG GE 2	V # D E H L E S	# # K I L J R D
853647190	87091000	04.588	3376	994	018500	16	07	18	21	S-2UN 0	14	01	05	03	02	01	03	L	1	W	01	01	01	02	30	W	03	01	14	01		45	2	0	01
854901100	87091000	04.588	3376	994	018700	17	04	24	13	S-2UN 0	14	01	01	01	01	01	01	L	1	W	01	01	01	02	57	W	16	01	13	01		40	2	0	01
855504910	87091000	04.589	3376	994	018700	17	06	23	16	S-2UN 0	14	01	01	01	01	01	03	L	2	W	01	01	01	02	20	W	03	01	13	01		34	2	0	03
855354420	87091000	04.589	3376	994	018700	17	09	05	09	S-2UN 0	14	01	01	02	01	01	03	L	1	W	16	01	01	02	30	W	03	01	14	01		61	2	0	01
843443950	87091000	04.590	3376	994	017500	14	01	13	17	S-2UN 0	14	01	01	01	01	01	02	L	1	W	01	01	01	02	20	W	16	01	13	01		74	2	0	01
853797870	87091000	04.590	3376	994	018500	16	09	21	16	S-2UN 0	14	01	01	01	01	01	03	L	1	W	16	01	01	02	29	W	01	01	13	01		30	3	0	00
854333960	87091000	04.590	3376	994	018700	17	02	07	22	S-2UN 0	27	77	04	01	01	01	03	R	S	E	01	01	01	01	44									1	0	00
853513620	87091000	04.591	3376	994	018500	16	07	06	10	S-2UN 0	14	01	01	02	01	01	02	L	1	W	03	01	01	02	67	W	03	01	13	01		18	2	0	01
843525610	87091000	04.593	3376	994	017500	14	02	27	18	S-2UN 0	14	01	04	02	02	01	02	L	1	W	01	01	01	02	26	W	01	01	13	01		30	3	0	01
848677150	87091000	04.593	3376	994	017900	15	06	27	11	S-2UN 0	14	01	01	03	02	01	02	L	1	W	01	01	01	02	53	W	01	01	14	01		31	3	0	00
853335430	87091000	04.593	3376	994	018500	16	07	18	21	S-2UN 0	14	01	05	03	02	01	03	L	1	W	01	01	01	02	22	W	01	01	13	01		49	2	0	00
854154780	87091000	04.593	3376	994	018500	16	11	08	20	S-2UN 0	14	01	05	02	01	01	03	L	1	W	01	01	01	02	27	W	01	01	14	01		21	2	0	01
872580130	87091000	04.598	3376	994	019700	18	07	11	07	S-2UN 0	14	01	01	02	01	01	03	L	1	W	02	01	01	02	43	W	03	01	13	01		32	2	0	02
851233620	87091000	04.603	3376	994	017900	15	09	03	08	S-2UN 0	22	77	01	02	01	01	01	L	S	W	00	01	11		00	W	19	01	01	01		43	2	0	00
852338810	87091000	04.603	3376	994	018500	16	03	04	08	S-2UN 0	14	01	01	02	01	01	03	R	1	E	01	01	01	02	31	E	01	01	13	01		22	3	0	00
852338820	87091000	04.603	3376	994	018500	16	03	04	08	S-2UN 0	14	01	01	02	01	01	03	R	1	E	01	01	01	02	34	E	01	01	14	01		31	2	0	00
876344630	87091000	04.603	3376	994	019700	18	04	28	15	S-2UN 0	14	01	01	01	01	01	01	R	1	W	03	01	01	02	54	W	01	01	13	01		26	3	0	02
872420220	87091000	04.603	3376	994	019700	18	06	08	16	S-2UN 0	14	01	01	01	01	01	03	L	2	W	01	01	01	02	27	W	16	01	14	01		19	3	0	00
852034690	87091000	04.612	3376	994	017900	15	10	14	08	S-2UN 0	14	01	01	02	01	01	03	L	1	W	16	01	01	01	26	W	03	01	13	01		30	3	0	03
852699190	87091000	04.622	3336	994	018500	16	04	21	10	S-2UN 0	14	01	01	01	01	01	03	L	2	W	01	01	01	10	57	W	03	01	13	01		54	2	0	02
854455170	87091000	04.622	3336	994	018700	17	01	31	17	S-2UN 0	14	01	02	01	01	01	01	R	2	E	16	01	01	02	34	E	01	01	77	01		70	3	0	01
871130180	87091000	04.622	3336	994	019700	18	01	24	17	S-2UN 0	14	01	01	01	01	01	03	L	2	W	01	01	01	02	61	W	01	01	13	01		45	2	0	01
872151930	87091000	04.679	7385	994	019700	18	06	29	15	S-2UN 0	14	01	01	03	02	01	01	L	2	W	01	01	01	02	21	W	16	01	01	01		53	2	0	00
872481100	87091000	04.679	7385	994	019700	18	08	03	17	S-2UN 0	14	01	01	01	01	01	01	L	2	W	16	01	01	02	63	W	03	01	13	01		65	2	0	01
872414630	87091000	04.679	7385	994	019700	18	08	14	09	S-2UN 0	14	01	01	02	02	01	01	R	2	E	16	01	01	02	22	E	01	01	13	01		52	3	0	00
851233640	87091000	04.692	3337	994	017900	15	09	04	07	S-2UN 0	14	01	01	01	01	01	03	R	1	E	20	01	01	02	56	E	01	01	14	01		29	3	0	01
852121180	87091000	04.692	3337	994	017900	15	11	19	08	S-2UN 0	14	01	01	02	02	01	03	R	1	E	16	01	01	02	51	E	01	01	14	01		17	2	0	00
845399670	87091000	04.702	3337	994	017900	15	03	05	19	S-2UN 0	14	01	05	01	01	01	02	L	1	W	16	01	01	02	38	W	01	01	13	01		28	3	0	00
872148300	87091000	04.702	3337	994	019700	18	04	30	18	S-2UN 0	14	01	01	01	01	01	01	L	1	E	03	01	16	30	36	W	01	01	01	01		36	2	0	00
852687820	87091000	04.705	3337	994	018500	16	04	05	20	S-2UN 0	14	01	05	01	01	01	03	R	1	E	03	01	01	02	29	E	01	01	13	01		23	3	0	01
855505110	87091000	04.706	3337	994	018700	17	07	24	21	S-2UN 0	11	01	05	01	01	01	03	R	2	E	03	01	01	02	61	*	03	05	03	01	00	16	1	0	01
872062900	87091000	04.706	3337	994	019700	18	06	01	19	S-2UN 0	14	01	01	01	01	01	03	R	2	E	01	01	01	02	40	E	01	01	13	01		22	2	0	00
859745270	87091000	04.709	3337	994	017900	15	06	03	16	S-2UN 0	14	01	01	01	01	01	02	R	1	E	03	01	01	10	72	E	01	01	14	01		40	2	0	00
855149020	87091000	04.709	3337	994	018700	17	04	29	21	S-2UN 0	14	01	05	02	02	01	03	R	2	E	01	01	01	02	20	E	01	01	13	01		21	2	0	01
845025960	87091000	04.711	3337	994	017500	14	11	25	17	S-2UN 0	14	03	04	01	01	01	02	L	1	S	01	01	05	13	23	W	03	01	01	01		40	2	0	00
851798710	87091000	04.711	3337	994	017900	15	09	10	14	S-2UN 0	14	03	01	02	01	01	02	L	1	S	01	01	03	13	27	W	16	01	01	01		45	2	0	00
853506560	87091000	04.711	3337	994	018500	16	09	26	20	S-2UN 0	14	03	05	01	01	01	02	R	1	N	01	01	01	13	21	E	03	01	01	01		40	2	0	00

COMMENT: 1 - SORT BY ROADWAY, MILE POINT
FROM: 01/01/2014 TO 12/31/2018 RAMPS INCL
FROM CO/SEC/SUB: 87 091 000 MP: 004.000 INFL INCL
TO CO/SEC/SUB: 87 091 000 MP: 005.212 CR/OS INCL

C R N A U S M H B E R	ROADWYID C S O E U C N T Y O N	S I E L A O E P O S T	M I L A O R D E E P E T	N E N T R A O T A R L F A Y F G I E C	S T R A T A E D	ADT VAR EIA RLF AYF	Y E A R	M O N T H	D A Y	H O U R	CRCC RALA ATAT SESE Y	A L C	H AE RV ME FN	MO AF N NC EO UT	L IC GO HN TD RL	W EC AO TN HD IT	R D S U R	R OC AO DN D T	DL OO TC A ST II	R O A C L S	A C 1 N I	V 1 16 SC P C	VF 1U 1A E U V	VM 1A 1C N T RO IN V	VA 1C 1A T G R I V	V 2 R DI DE I	V 2N 2N M M DE NO /S	V 2N M F UL CC	VN 2M MP NR VI /R	VN 2M AA CC TT /1	N M A C T 2	V 2N RA AG GE E	# # # V K L L S	I N J U R D
873203150	87091000	04.711	3337	994	018700	17	08	30	18	S-2UN 0	14	01	01	01	01	01	03	S	1	N	16	01	01	02	24	N	01	01	13	01	23	2	0	00
880321190	87091000	04.711	3337	994	019700	18	12	25	21	S-2UN 0	14	03	05	01	01	01	02	L	1	S	03	01	01	13	39	W	01	01	01	01	30	2	0	03
853686100	87091000	04.712	3337	994	018500	16	08	18	07	S-2UN 0	14	03	01	03	02	01	02	L	1	S	16	01	01	03	90	W	01	01	01	01	53	2	0	04
859961520	87091000	04.717	3337	994	017900	15	11	06	17	S-2UN 0	13	77	01	01	01	01	02	L	1	W	16	01	01	01	63							1	0	00
854551140	87091000	04.774	9395	994	018700	17	03	25	19	S-2UN 0	14	01	05	02	01	01	02	L	2	W	01	01	01	02	25	W	16	01	13	01	63	2	0	01
871767230	87091000	04.826	3374	994	019700	18	04	25	15	S-2UN 0	14	02	01	01	01	01	03	R	1	W	16	01	16	02	18	E	16	01	01	01	53	2	0	01
872213190	87091000	04.826	3374	994	019700	18	06	03	02	S-2UN 0	13	77	05	01	01	01	03	R	1	W	01	01	01	01	28							1	0	00
853506660	87091000	04.830	3374	994	018500	16	10	17	17	S-2UN 0	14	01	01	01	01	01	03	L	1	W	02	01	01	02	40	W	03	01	13	01	63	3	0	00
876431530	87091000	04.833	3374	994	019700	18	07	16	17	S-2UN 0	14	01	01	03	02	01	03	R	1	W	01	01	01	10	21	W	02	01	01	01	33	2	0	00
855915750	87091000	04.834	3374	994	018700	17	09	22	07	S-2UN 0	14	01	01	02	01	01	03	R	1	E	01	01	01	02	61	E	03	01	13	01	53	2	0	00
837181260	87091000	04.835	3374	994	017500	14	03	01	05	S-2UN 0	14	02	05	02	01	01	02	R	1	W	01	01	03	03	23	E	01	01	01	01	51	2	0	00
844866520	87091000	04.835	3374	994	017500	14	09	26	08	S-2UN 0	14	01	01	02	02	01	02	R	1	E	01	01	01	01	41	E	02	01	13	01	39	2	0	00
845542800	87091000	04.835	3374	994	017900	15	05	05	08	S-2UN 0	14	01	01	03	02	01	02	L	1	W	17	01	01	02	42	W	16	01	13	01	35	2	0	00
853647690	87091000	04.835	3374	994	018500	16	09	09	18	S-2UN 0	14	03	01	02	01	01	02	L	1	S	01	01	03	03	17	W	02	01	01	01	36	2	0	00
867121100	87091000	04.835	3374	994	018500	16	11	24	12	S-2UN 0	32	01	01	01	01	01	03	S	M	W	01	01	01	77	71							1	0	00
868988650	87091000	04.835	3374	994	018700	17	04	05	08	S-2UN 0	14	01	01	01	01	01	03	S	2	S	01	01	01	02	28	N	16	01	13	01	31	2	0	00
872156410	87091000	04.835	3374	994	019700	18	04	17	07	S-2UN 0	14	03	01	02	01	01	02	R	1	N	01	01	05	03	47	E	01	01	01	01	49	2	0	01
854060260	87091000	04.838	3374	994	018500	16	10	05	06	S-2UN 0	14	03	01	02	02	01	02	L	1	E	01	01	03	03	25	W	16	01	01	01	32	2	0	02
831602150	87091000	04.839	3374	994	018500	16	06	16	19	S-2UN 0	14	04	01	02	01	01	03	L	1	W	01	01	01		00	W	16	01	13	01	27	2	0	00
871669520	87091000	04.844	3374	994	019700	18	06	20	14	S-2UN 0	14	01	01	01	01	01	03	L	1	W	20	01	01	02	24	W	01	01	01	01	56	2	0	01
845120900	87091000	04.846	3374	994	017500	14	10	18	15	S-2UN 0	14	01	01	01	01	01	01	L	1	W	01	01	77	77	22	W	16	01	77	77	39	3	0	02
851881520	87091000	04.854	3374	994	017900	15	09	17	18	S-2UN 0	14	01	01	03	02	01	03	L	2	W	01	01	01	02	20	W	01	01	13	01	38	2	0	01
872152200	87091000	04.873	3374	994	019700	18	08	08	15	S-2UN 0	14	02	01	01	01	01	01	L	1	E	01	01	01	02	78	W	03	01	01	01	80	2	0	01
848597630	87091000	04.892	3374	994	018700	17	10	15	01	S-2UN 0	36	77	04	01	01	01	01	R	2	E	16	01	01	01	53							1	0	00
853902780	87091000	04.938	3374	994	018500	16	10	25	22	S-2UN 0	14	01	04	01	01	01	01	R	2	E	03	01	01	02	18	E	03	01	13	01	24	2	0	00
854753790	87091000	04.956	3374	994	018700	17	02	03	08	S-2UN 0	14	01	01	01	01	01	01	L	1	W	02	01	01	02	25	W	03	01	13	01	45	2	0	02
843789390	87091000	04.995	3375	994	038000	14	11	14	22	U-2DP 0	14	03	04	01	01	01	04	L	1	S	02	01	10	02	53	W	01	03	01	01	41	2	0	00
850885870	87091000	04.995	3375	994	034500	15	11	12	07	U-2DP 0	14	04	01	01	01	01	L	U	W	01	01	77	03	62	W	08	12	01	01	41	2	0	00
856597440	87091000	04.995	3375	994	035000	16	01	15	14	U-2DP 0	14	01	01	03	02	01	01	R	2	E	02	01	01	02	71	E	01	01	01	01	39	2	0	00
873231990	87091000	04.995	3375	994	032000	17	09	05	07	U-2DP 0	14	01	01	01	01	01	01	R	1	E	01	01	01	10	27	E	01	01	01	01	31	2	0	00
852338530	87091000	05.052	3375	994	034500	15	12	05	11	U-2DP 1	24	77	01	03	02	01	03	R	S	E	03	01	01	02	58							1	0	01
873267170	87091000	05.052	3375	994	019700	18	02	02	18	U-2DP 0	14	03	02	01	01	01	01	L	1	W	01	01	10	02	00	W	01	01	01	01	42	2	0	00
880207690	87091000	05.052	3375	994	019700	18	10	20	14	U-2DP 0	14	04	01	01	01	01	01	L	1	W	01	01	06	25	21	W	01	01	01	01	53	2	0	00
853050190	87091000	05.062	3375	994	035000	16	05	13	15	U-2DP 0	14	01	01	02	01	01	01	R	2	E	01	01	01	02	23	E	01	01	13	01	49	2	0	00
872112220	87091000	05.062	3375	994	019700	18	07	01	22	U-2DP 0	14	05	05	01	01	01	04	L	1	E	01	01	01	25	43	W	16	01	01	01	48	2	0	02
854667230	87091000	05.067	3375	994	032000	17	02	01	07	U-2DP 0	14	03	01	01	01	01	03	R	L	E	01	01	05	03	29	E	01	01	01	01	19	2	0	01
838016870	87091000	05.071	3375	994	038000	14	07	30	20	U-2DP 0	14	04	04	02	02	01	01	R	1	W	16	01	06	25	36	W	01	01	01	01	46	2	0	00

COMMENT: 1 - SORT BY ROADWAY, MILE POINT
FROM: 01/01/2014 TO 12/31/2018 RAMPS INCL
FROM CO/SEC/SUB: 87 091 000 MP: 004.000 INFL INCL
TO CO/SEC/SUB: 87 091 000 MP: 005.212 CR/OS INCL

C R N A U S M H B E R	ROADWY ID C S E C T I O N	S I E L A O R D E E T P O S T	M E N A O R D E E T P O S T	N T R A O T A D	S V A R E I A G I E C	ADT E A R	Y O A U R T	M O N T H	D A Y	H O U R	CRCC RALA ATAT SESE H SG Y	A L C I V	H AE RV ME FN UT L	MO AF NC EO RL	L IC GO HN TD IT NN	W EC AO TN HD ET RN	R D U R	R OC AO DN D T S	DL OO TC A ST II EN	R O C D L S #	A N C	V 1	V 1	VF 1U N DI YP E	VM 1A N E V R	VA 1C T DI RO R1	V 1A G DE I R R	V 2	V 2N M OD DE /S C	V 2N M B UL CC /	V 2M M F NO RO /R	VN MP VI NR 1N /1	VN AA TT CC 1N 2	N C T A R E	V 2N M RA AG GE E	# V E H C L S	# K I L U R D	# I N J D D
852233960	87091000	05.071	3375	994	034500	15	11	04	15	U-2DP	0	14	01	01	02	01	01	01	R	2	E	11	01	01	02	24	E	01	01	14	01		28	2	0	01
853032220	87091000	05.071	3375	994	035000	16	04	13	06	U-2DP	0	14	03	01	01	01	01	01	L	1	W	01	01	03	02	51	W	01	01	01	01		28	2	0	02
855354110	87091000	05.071	3375	994	032000	17	07	21	09	U-2DP	0	14	03	01	02	01	01	01	M	T	N	16	01	03	03	49	E	01	01	01	01		65	2	0	00
855962070	87091000	05.071	3375	994	032000	17	09	27	06	U-2DP	0	14	03	04	01	01	01	04	R	1	N	01	01	17	03	21	E	16	01	01	01		40	2	0	00
873135710	87091000	05.071	3375	994	032000	17	10	01	19	U-2DP	0	14	03	02	01	01	01	01	L	1	W	03	01	01	01	57	W	01	01	01	01		27	2	0	00
868984090	87091000	05.076	3375	994	032000	17	02	06	19	U-2DP	0	14	04	02	01	01	01	03	R	2	E	02	01	01	77	63	E	16	01	01	77		17	2	0	00
880381440	87091000	05.076	3375	994	019700	18	12	04	08	U-2DP	0	14	03	01	02	01	01	04	R	1	N	01	01	03	03	00	E	01	01	01	01		36	2	0	00
876548780	87091000	05.079	3375	994	019700	18	09	30	09	U-2DP	0	14	04	01	01	01	01	01	L	1	W	03	88	06	02	00	W	16	01	01	01		47	2	0	00
866910500	87091000	05.081	3375	994	035000	16	12	08	09	U-2DP	0	14	01	01	02	01	01	03	R	1	E	08	12	01	10	37	E	01	01	03	01		25	2	0	00
880226890	87091000	05.081	3375	994	019700	18	11	09	14	U-2DP	0	14	04	01	01	01	01	03	L	1	W	01	01	06	77	31	W	20	01	01	01		38	2	0	00
865108870	87091000	05.084	3375	994	035000	16	03	28	21	U-2DP	0	14	03	04	01	01	01	04	R	1	N	01	01	03	03	34	E	11	01	01	01		18	2	0	00
854914640	87091000	05.084	3375	994	032000	17	03	14	15	U-2DP	0	14	01	01	01	01	01	03	R	2	E	03	01	01	02	35	E	16	01	13	01		41	2	0	00
855787580	87091000	05.084	3375	994	032000	17	10	10	17	U-2DP	0	14	01	01	01	01	01	03	R	2	E	01	01	01	02	28	E	01	01	13	01		30	2	0	00
855421770	87091000	05.085	3375	994	032000	17	09	26	17	U-2DP	0	14	04	01	01	01	01	01	L	1	W	16	01	88	77	39	W	01	01	88	77		24	2	0	00
872481450	87091000	05.085	3375	994	019700	18	09	28	20	U-2DP	0	14	01	04	02	02	01	03	R	2	E	01	01	01	02	72	E	16	01	13	01		27	3	0	03
844841310	87091000	05.088	3375	994	038000	14	07	29	14	U-2DP	0	14	01	01	02	02	01	02	R	1	E	03	01	01	02	58	E	16	01	13	01		54	2	0	00
843443320	87091000	05.090	3375	994	038000	14	01	10	03	U-2DP	0	32	01	04	01	01	01	02	L	S	W	03	01	03	12	47									1	0	01
843496340	87091000	05.090	3375	994	038000	14	02	04	16	U-2DP	0	14	02	01	01	01	01	02	L	1	N	01	01	03	02	62	S	01	01	01	01		31	2	0	01
843469960	87091000	05.090	3375	994	038000	14	02	06	17	U-2DP	0	14	01	01	01	01	01	02	T	1	N	01	01	01	02	22	N	01	01	14	01		70	2	0	00
837199070	87091000	05.090	3375	994	038000	14	02	24	08	U-2DP	0	14	03	01	01	01	01	02	R	1	E	16	01	01	01	26	N	16	01	01	01		39	2	0	03
838084980	87091000	05.090	3375	994	038000	14	06	01	11	U-2DP	0	10	01	01	01	01	01	02	R	1	N	03	01	01	01	51	N	03	01	13	01		50	2	0	00
843598620	87091000	05.090	3375	994	038000	14	06	13	22	U-2DP	0	14	88	88	77	88	88	02	R	2	U	77	01	88	77	00	U	01	01	01	01		20	2	0	00
838079770	87091000	05.090	3375	994	038000	14	07	05	13	U-2DP	0	14	03	01	03	02	01	02	R	2	W	01	01	03	03	35	E	02	01	01	01		30	2	0	01
838003960	87091000	05.090	3375	994	038000	14	07	27	22	U-2DP	0	14	03	04	01	01	01	02	L	1	E	16	01	03	03	35	W	01	01	01	01		48	2	0	00
838000850	87091000	05.090	3375	994	038000	14	08	15	17	U-2DP	0	14	03	01	02	02	01	02	R	1	W	03	01	03	03	70	E	01	01	01	01		20	2	0	02
843710990	87091000	05.090	3375	994	038000	14	09	19	05	U-2DP	0	14	03	01	01	01	01	02	L	1	E	01	01	03	03	34	W	01	01	01	01		23	2	0	00
843775620	87091000	05.090	3375	994	038000	14	09	22	07	U-2DP	0	14	03	01	01	01	01	02	R	1	S	02	01	01	13	26	W	03	01	01	01		53	3	0	01
843763630	87091000	05.090	3375	994	038000	14	10	19	20	U-2DP	0	14	05	04	01	01	01	02	I	M	S	01	01	03	03	43	N	01	01	01	01		20	2	0	00
844970900	87091000	05.090	3375	994	038000	14	10	27	20	U-2DP	0	14	03	04	01	01	01	02	S	1	N	03	01	05	02	41	N	01	01	13	01		21	2	0	00
845199220	87091000	05.090	3375	994	038000	14	11	09	17	U-2DP	0	14	03	01	03	02	01	02	I	M	N	16	01	03	03	73	S	03	01	01	01		56	2	0	00
843844790Y	87091000	05.090	3375	994	038000	14	11	14	16	U-2DP	0	14	04	01	01	01	01	03	T	1	S	01	01	06	03	21	S	03	01	01	01		34	3	0	00
845019210	87091000	05.090	3375	994	038000	14	11	25	06	U-2DP	0	14	01	04	01	01	01	02	S	1	N	01	01	01		00	N	01	01	13	01		54	2	0	01
845566410	87091000	05.090	3375	994	034500	15	01	10	18	U-2DP	0	14	03	04	01	01	01	02	R	3	W	01	01	03	03	69	E	01	01	01	01		28	2	0	00
843809950	87091000	05.090	3375	994	034500	15	01	24	12	U-2DP	0	14	01	01	02	01	01	02	S	1	S	03	01	01	10	50	S	16	01	14	01		52	2	0	00
843413720Y	87091000	05.090	3375	994	034500	15	02	10	08	U-2DP	0	14	03	01	01	01	01	04	S	S	N	01	01	77	25	19	N	01	01	05	01		26	2	0	00
856675690	87091000	05.090	3375	994	034500	15	05	19	14	U-2DP	0	14	04	01	01	01	01	02	S	L	N	01	01	01	02	63	N	02	01	01	01		64	2	0	00
848873630	87091000	05.090	3375	994	034500	15	05	26	21	U-2DP	0	14	01	04	01	01	01	02	L	1	S	01	01	03	03	24	N	01	01	01	01		52	2	0	00

COMMENT: 1 - SORT BY ROADWAY, MILE POINT
FROM: 01/01/2014 TO 12/31/2018 RAMPS INCL
FROM CO/SEC/SUB: 87 091 000 MP: 004.000 INFL INCL
TO CO/SEC/SUB: 87 091 000 MP: 005.212 CR/OS INCL

C R N A U S M H B E R	ROADWYID C S O E U C N T Y O N	S E SC UT BI O T	M I L AO RD P O T	N EN AO RD EE S T	S TR AO TA ED	ADT VAR EIA RLF AYF G I E C	Y E A R	M O N T H	D A Y	H O U R	CRCC RALA ATAT SESE Y	A L C	H AE RV ME FN EO TD UT RL 1	MO N NC HN IT NN GS	L IC GO TN HD ET RL S	W EC AO U R S	R D OC AO D T N	DL OO TC A D ST S	R O C A L II TO EN	A C D I S R	V 1 1 D B OT DY YP E	VF 1U SC P E C	VM 1A N E U V E	VA 1C T DI RO IN V R1	V 1A G DE R I V R	V 2 M OD NO /S C	V 2N 2M F UL CC /	VN 2M MP NR VI RO /R	VN 2M AA CC TT 1N /1	N V M 2N M C RA AG GE 2 E	# # # V H L E S	K I N L U R D
859812810	87091000	05.090	3375	994	034500	15	07	29	20	U-2DP	0	14	01	01	01	01	01	02	S	1	N	03	01	01	77	00	N	03	01	13	01	46	2	0	00
851204970	87091000	05.090	3375	994	034500	15	09	12	08	U-2DP	0	14	04	01	01	01	01	02	L	2	W	01	01	05	03	51	W	01	01	01	01	23	2	0	00
851881480	87091000	05.090	3375	994	034500	15	09	12	19	U-2DP	0	14	03	02	01	01	01	02	R	2	W	03	01	03	03	69	E	01	01	01	01	19	2	0	00
850884050	87091000	05.090	3375	994	034500	15	09	18	20	U-2DP	0	14	04	01	01	01	01	02	S	1	N	20	01	06	02	36	N	08	12	77	01	52	2	0	00
859952230Y	87091000	05.090	3375	994	034500	15	11	11	11	U-2DP	0	14	04	01	01	01	01	03	S	1	N	16	01	01	02	63	N	01	01	01	01	50	2	0	00
851985020	87091000	05.090	3375	994	034500	15	11	26	11	U-2DP	0	14	03	01	01	01	01	02	L	2	W	01	01	01	11	45	N	01	01	01	01	41	3	0	00
856582310	87091000	05.090	3375	994	035000	16	01	14	19	U-2DP	0	14	02	04	03	02	01	02	I	M	S	01	01	13	28	29	N	03	01	03	01	32	2	0	00
859807280Y	87091000	05.090	3375	994	035000	16	01	20	07	U-2DP	0	14	04	01	01	01	01	03	S	L	N	01	01	01	02	20	N	01	01	01	01	33	2	0	00
859797590	87091000	05.090	3375	994	035000	16	02	12	15	U-2DP	0	14	03	01	01	01	01	04	L	2	W	01	01	01	03	57	S	01	01	01	01	33	2	0	00
863303030	87091000	05.090	3375	994	035000	16	02	26	17	U-2DP	0	14	04	01	01	01	01	03	L	L	S	01	01	06	02	47	S	01	01	01	01	31	2	0	00
863315260	87091000	05.090	3375	994	035000	16	03	18	15	U-2DP	0	14	77	01	01	01	01	04	L	1	E	01	01	01	03	18	S	01	01	01	01	16	2	0	00
865180930	87091000	05.090	3375	994	035000	16	05	14	14	U-2DP	0	14	05	01	01	01	01	02	S	1	S	12	01	05	25	51	N	01	01	13	01	75	2	0	01
865192380Y	87091000	05.090	3375	994	035000	16	05	18	18	U-2DP	0	14	01	01	01	01	01	03	S	1	S	02	01	01	02	30	S	01	01	13	30	45	2	0	00
865093790Y	87091000	05.090	3375	994	035000	16	05	19	07	U-2DP	0	14	03	01	01	01	01	04	S	1	N	01	01	11	15	27	W	01	01	01	03	20	2	0	00
852917660	87091000	05.090	3375	994	035000	16	05	20	16	U-2DP	0	14	03	01	01	01	01	02	R	2	W	01	01	03	03	22	E	03	01	01		00	2	0	01
853334800	87091000	05.090	3375	994	035000	16	05	31	14	U-2DP	0	14	03	01	02	02	01	02	R	2	E	01	01	01	11	34	S	01	01	01	01	30	2	0	00
852899970	87091000	05.090	3375	994	035000	16	06	12	22	U-2DP	0	14	03	04	01	01	01	02	R	1	E	01	01	01	11	17	W	01	01	03	01	50	2	0	00
853277040	87091000	05.090	3375	994	035000	16	07	08	11	U-2DP	0	14	03	01	01	01	01	02	R	2	E	16	01	01	11	74	S	16	01	01	01	38	2	0	00
853482210	87091000	05.090	3375	994	035000	16	08	18	16	U-2DP	0	14	77	01	02	01	01	02	R	2	E	16	01	01	02	26	S	03	01	01	02	33	2	0	02
865250850	87091000	05.090	3375	994	035000	16	08	22	21	U-2DP	0	14	02	04	01	01	01	03	S	1	N	01	01	03	02	18	S	01	01	01	01	28	2	0	00
853632400	87091000	05.090	3375	994	035000	16	09	10	07	U-2DP	0	14	03	01	01	01	01	02	R	2	W	01	01	03	03	49	E	19	01	01	01	28	3	0	02
866988300Y	87091000	05.090	3375	994	035000	16	09	14	16	U-2DP	0	14	03	01	01	01	01	03	T	L	S	16	01	06	02	53	S	01	01	13	01	44	2	0	00
854067420	87091000	05.090	3375	994	035000	16	11	25	23	U-2DP	0	14	03	04	01	01	01	02	L	2	W	01	01	03	77	20	E	01	01	01	01	24	2	0	01
868846210	87091000	05.090	3375	994	032000	17	01	15	15	U-2DP	0	14	01	01	01	01	01	01	L	1	S	01	01	01	02	53	S	01	01	01	01	59	2	0	00
867137170	87091000	05.090	3375	994	032000	17	01	19	21	U-2DP	0	14	03	04	01	01	01	02	I	M	E	03	01	03	03	72	W	02	01	01	01	20	2	0	01
868862090Y	87091000	05.090	3375	994	032000	17	01	25	10	U-2DP	0	14	03	01	01	01	01	04	S	1	W	01	01	05	03	61	N	01	01	01	01	35	2	0	00
866911550	87091000	05.090	3375	994	032000	17	01	26	08	U-2DP	0	14	03	01	01	01	01	02	R	1	W	08	01	03	77	00	E	01	01	01	01	34	2	0	00
854333940	87091000	05.090	3375	994	032000	17	02	04	01	U-2DP	0	14	03	04	01	01	01	02	L	2	S	16	01	01	03	32	W	16	01	01	01	42	2	0	04
869030320Y	87091000	05.090	3375	994	032000	17	04	24	19	U-2DP	0	14	03	04	01	01	01	01	T	1	W	03	01	03	03	50	N	01	01	01	01	59	2	0	00
868927970	87091000	05.090	3375	994	032000	17	04	28	07	U-2DP	0	14	01	01	01	01	01	03	S	1	N	16	01	01	02	26	N	01	01	01	01	48	2	0	00
854374290	87091000	05.090	3375	994	032000	17	05	06	07	U-2DP	0	14	03	01	02	01	01	02	R	2	E	00	01	01	03	00	N	01	01	05	01	22	2	0	01
855029520	87091000	05.090	3375	994	032000	17	05	14	00	U-2DP	0	14	03	04	01	01	01	02	I	M	N	01	01	03	03	38	S	01	01	01	01	22	2	0	00
855100500	87091000	05.090	3375	994	032000	17	05	15	20	U-2DP	0	14	03	04	01	01	01	02	L	L	W	16	01	03	06	42	E	01	01	01	01	59	2	0	02
855511140	87091000	05.090	3375	994	032000	17	07	04	09	U-2DP	0	14	03	01	02	01	01	02	L	L	W	01	01	03	06	37	E	01	01	01	01	47	2	0	04
873128700	87091000	05.090	3375	994	032000	17	07	04	21	U-2DP	0	14	01	04	01	01	01	03	S	1	N	16	01	01	02	70	N	16	01	13	01	73	2	0	00
873126940	87091000	05.090	3375	994	032000	17	07	20	14	U-2DP	0	14	04	01	01	01	01	03	S	L	N	16	01	01	25	56	N	02	01	01	25	70	2	0	00
873193290Y	87091000	05.090	3375	994	032000	17	08	12	10	U-2DP	0	14	01	01	01	01	01	03	T	1	S	02	01	01	10	24	S	01	01	13	01	22	2	0	00

COMMENT: 1 - SORT BY ROADWAY, MILE POINT
FROM: 01/01/2014 TO 12/31/2018 RAMPS INCL
FROM CO/SEC/SUB: 87 091 000 MP: 004.000 INFL INCL
TO CO/SEC/SUB: 87 091 000 MP: 005.212 CR/OS INCL

C R N A U S M H B E R	ROADWYID C S E C T I O N	S U B	M I L E P O S T	N E A R O A D E T	S T R A T A	ADT VAR EIA RLF AYF	Y E A R	M O N T H	D A Y	H O U R	CRCC RALA ATAT SESE	A L C	H AE RV ME FN EO UT	MO AF N NC TD RL	L IC GO HN IT L	W EC AO TN HD ET NN	R D U S R F	R OC DN D T N	DL OO AO ST TO EN	R O C A L D #	A C D I I S D	V 1 B OT DY YP E	V 1 SC P E C	VF 1U N T E	VM 1A N E V	VA 1C T DI RO IN V R1	V 1A G DE R I R	V 2 M OD DE /S C	V 2N 2M UL NO CC /	V 2N M F CC /R	VN 2M MP RO VI TT /1	VN M AA 1N	N V M 2N A D E 2	# RA AG GE E	# H C L S	# V K L E D
873170380	87091000	05.090	3375	994	032000	17	09	01	19	U-2DP	0	14	01	01	01	01	01	03	S	1	N	01	01	05	01	36	N	01	01	03	01	66	2	0	00
869030740Y	87091000	05.090	3375	994	032000	17	09	08	08	U-2DP	0	14	03	01	01	01	01	04	S	D	E	02	01	01	03	37	S	16	01	01	01	52	2	0	00
873250920	87091000	05.090	3375	994	032000	17	09	12	10	U-2DP	0	14	03	01	01	01	01	02	L	1	W	03	01	01	13	39	N	01	01	01	01	74	2	0	00
855835950	87091000	05.090	3375	994	032000	17	09	17	13	U-2DP	0	14	03	01	01	01	01	02	R	2	S	88	01	01	77	00	N	16	01	01	01	87	2	0	00
855221440	87091000	05.090	3375	994	032000	17	12	26	18	U-2DP	0	14	77	03	01	01	01	02	R	1	E	01	01	03	03	69	E	01	01	01	01	25	2	0	02
873297640Y	87091000	05.090	3375	994	032000	17	12	29	06	U-2DP	0	14	01	01	01	01	01	03	S	1	N	16	01	01	02	52	N	01	01	01	01	60	3	0	03
871501960	87091000	05.090	3375	994	019700	18	01	08	22	U-2DP	0	14	03	04	01	01	01	02	R	1	E	01	01	01	77	21	S	01	01	01	01	31	2	0	01
876208880Y	87091000	05.090	3375	994	019700	18	01	09	18	U-2DP	0	14	01	04	01	01	01	03	T	1	S	01	01	01	02	42	S	03	01	13	01	63	2	0	00
873306120	87091000	05.090	3375	994	019700	18	01	12	15	U-2DP	0	14	03	01	01	01	01	02	I	M	E	01	01	01	02	22	S	01	01	01	01	50	2	0	01
876218430Y	87091000	05.090	3375	994	019700	18	01	18	08	U-2DP	0	14	01	01	01	01	01	01	T	1	N	16	01	01	01	45	N	01	01	13	01	37	2	0	00
876230120	87091000	05.090	3375	994	019700	18	02	01	12	U-2DP	0	14	01	01	01	01	01	03	T	1	S	16	01	01	02	38	S	01	01	13	01	52	2	0	00
873273000	87091000	05.090	3375	994	019700	18	02	09	16	U-2DP	0	14	04	01	01	01	01	03	S	1	N	16	01	01	02	20	N	16	01	01	01	37	2	0	00
876321810	87091000	05.090	3375	994	019700	18	04	07	10	U-2DP	0	14	04	01	01	01	01	03	T	1	S	20	01	05	25	54	S	01	01	13	01	25	2	0	00
876384980	87091000	05.090	3375	994	019700	18	05	25	08	U-2DP	0	14	04	01	02	01	01	03	S	1	N	88	01	01	77	00	N	02	01	01	01	23	2	0	00
876425660	87091000	05.090	3375	994	019700	18	07	01	19	U-2DP	0	14	02	01	01	01	01	02	I	M	S	01	01	01	11	18	N	01	01	03	11	60	2	0	00
876432120Y	87091000	05.090	3375	994	019700	18	07	01	13	U-2DP	0	14	01	01	02	02	01	01	S	1	S	01	01	01	10	39	S	01	01	13	01	40	2	0	00
876436670	87091000	05.090	3375	994	019700	18	07	05	12	U-2DP	0	14	03	01	01	01	01	03	T	1	N	16	01	05	02	62	S	16	01	13	01	54	2	0	00
876431260	87091000	05.090	3375	994	019700	18	07	12	12	U-2DP	0	14	01	01	01	01	01	03	S	2	N	19	01	01	01	39	N	03	01	01	01	59	2	0	00
876459520	87091000	05.090	3375	994	019700	18	07	25	19	U-2DP	0	14	01	01	01	01	01	03	T	1	0	16	01	06	02	36	S	01	01	13	01	38	2	0	01
876491660	87091000	05.090	3375	994	019700	18	08	22	07	U-2DP	0	14	01	01	01	01	01	03	T	1	S	16	01	01	02	40	S	01	01	13	01	45	2	0	00
876397170Y	87091000	05.090	3375	994	019700	18	08	29	16	U-2DP	0	14	77	01	01	01	01	04	S	1	O	03	01	03	02	57	N	01	01	01	01	29	2	0	00
876531220	87091000	05.090	3375	994	019700	18	09	21	12	U-2DP	0	14	04	01	01	01	01	03	T	1	S	01	01	01	02	18	S	16	01	13	01	28	2	0	00
876460290	87091000	05.090	3375	994	019700	18	09	22	13	U-2DP	0	14	03	01	01	01	01	02	R	2	W	03	01	03	06	31	E	03	01	01	01	22	2	0	00
876533540	87091000	05.090	3375	994	019700	18	10	02	07	U-2DP	0	14	01	01	03	02	01	03	S	1	S	16	01	01	02	31	N	01	01	01	01	36	2	0	00
876559570Y	87091000	05.090	3375	994	019700	18	11	01	08	U-2DP	0	14	03	01	01	01	01	04	S	1	W	01	01	01	02	34	S	01	01	01	01	18	2	0	00
872880130	87091000	05.090	3375	994	019700	18	11	03	12	U-2DP	0	14	03	01	01	01	01	02	I	M	S	03	01	03	03	50	N	16	01	01	01	41	2	0	00
876598490Y	87091000	05.090	3375	994	019700	18	11	06	15	U-2DP	0	14	04	01	01	01	01	01	S	1	0	77	88	88	77	00	N	01	01	13	01	45	2	0	01
876562040Y	87091000	05.090	3375	994	019700	18	11	18	19	U-2DP	0	14	03	04	01	01	01	04	S	1	O	01	01	01	03	40	S	01	01	01	01	47	2	0	00
876633590	87091000	05.090	3375	994	019700	18	11	29	16	U-2DP	0	14	01	01	01	01	01	03	S	3	N	01	01	01	02	45	N	16	01	13	01	33	2	0	00
876634720Y	87091000	05.090	3375	994	019700	18	12	07	19	U-2DP	0	14	01	02	01	01	01	01	S	1	S	01	01	01	10	50	S	16	01	14	01	39	2	0	00
876652290	87091000	05.090	3375	994	019700	18	12	13	10	U-2DP	0	14	03	01	02	01	01	03	S	L	N	16	01	01	25	54	N	16	01	13	01	28	2	0	00
845232330	87091000	05.092	3375	994	038000	14	12	31	19	U-4DP	0	14	04	04	01	01	01	02	L	R	W	16	01	06	15	52	W	01	01	13	01	32	2	0	00
851881560	87091000	05.092	3375	994	034500	15	09	22	06	U-4DP	0	14	01	04	01	01	01	02	L	L	W	01	01	01	02	22	W	03	01	13	01	49	2	0	00
854939180	87091000	05.092	3375	994	032000	17	03	07	21	U-4DP	0	14	01	04	01	01	01	03	L	1	W	01	01	01	02	56	W	01	01	13	01	50	2	0	00
852917610	87091000	05.095	3375	994	035000	16	05	17	15	U-4DP	0	14	01	01	02	01	01	03	L	R	W	16	01	01	02	67	W	01	01	14	01	24	2	0	00
854850520	87091000	05.095	3375	994	032000	17	04	19	17	U-4DP	0	14	01	01	01	01	01	03	L	2	W	16	01	01	02	54	W	01	01	13	01	21	2	0	00
871876750	87091000	05.095	3375	994	034000	18	06	07	15	U-4DP	0	14	01	01	02	02	01	03	L	1	W	01	01	01	02	31	W	16	01	13	01	74	2	0	00

COMMENT: 1 - SORT BY ROADWAY, MILE POINT
FROM: 01/01/2014 TO 12/31/2018 RAMPS INCL
FROM CO/SEC/SUB: 87 091 000 MP: 004.000 INFL INCL
TO CO/SEC/SUB: 87 091 000 MP: 005.212 CR/OS INCL

C R N A U S M H B E R	ROADWYID C S O E U C N T I Y O N	M I L E P O T	N EN AO RD EE ED	S TR AO TA ES S	ADT VAR EIA RLF AYF G I E C	Y E A R	M O N T H	D A Y	H O U R	CRCC RALA ATAT SESE H SG O R Y	A L C	H AE RV ME FN EO UT RL 1	MO AF N NC EO TD RL	L IC GO HN IT L	W EC AO TN HD ET NN GS	R D U R F S	R OC AO DN D T N	DL OO TC A ST II EN	R A D S N TO D #	A C L I R DY YP E	V 1 1 OT E C	VF 1U N P E	VM 1A N U V	VA 1C T RO IN R1	V 1A G R I V R	V 2 M OD DE C	V 2N 2N DE UL CC /	VN 2M M NO VI NN /R	VN 2M M CC TT 1N /1	N V M T N 2	# 2N M RA AG E	# V K H C L S	# I N L U R D
872340250	87091000	05.095	3375	994	034000	18	06	26	09	U-4DP	0	14	01	01	02	01	01	03	L	1	W	03	01	01	02	26	W	01	01	13	01		71	3	0	01
876553630	87091000	05.098	3375	994	034000	18	10	12	14	U-4DP	0	14	04	01	02	01	01	03	L	L	W	01	01	06	02	74	W	16	01	13	01		48	2	0	00
873242880	87091000	05.099	3375	994	034000	18	01	26	23	U-4DP	0	14	01	04	01	01	01	01	R	1	E	01	01	01	02	18	E	01	01	14	01		26	2	0	01
872948390	87091000	05.106	3375	994	034000	18	09	04	06	U-4DP	0	14	01	01	02	02	01	03	L	1	W	01	01	01	02	40	W	01	01	13	01		23	2	0	01
852917470	87091000	05.109	3375	994	035000	16	05	03	18	U-4DP	0	14	01	01	02	02	01	01	R	2	E	01	01	01	02	20	E	01	01	13	01		60	2	0	00
856068310	87091000	05.109	3375	994	032000	17	12	23	18	U-4DP	0	14	04	02	01	01	01	03	L	1	W	01	01	06	25	17	W	16	01	01	01		45	2	0	01
843732310	87091000	05.118	3375	994	038000	14	08	29	13	U-4DP	0	14	04	01	01	01	01	03	R	1	E	01	01	06	02	18	E	01	03	01	01		36	2	0	00
856570450	87091000	05.118	3375	994	034500	15	02	13	13	U-4DP	0	14	03	01	01	01	01	03	L	1	W	01	01	06	02	18	W	01	01	01	01		47	2	0	00
872228560	87091000	05.128	3375	994	034000	18	07	21	15	U-4DP	0	14	04	01	01	01	01	03	L	1	W	16	01	06	25	25	W	03	01	06	25		53	2	0	00
851369260	87091000	05.137	3375	994	034500	15	08	01	10	U-4DP	0	14	01	01	02	01	01	04	R	2	E	01	01	01	01	17	E	01	01	05	01		30	2	0	02
867137270	87091000	05.147	7386	994	035000	16	12	02	16	U-4DP	0	14	01	01	01	01	01	04	R	2	E	16	01	05	06	20	E	16	01	01	01		40	2	0	00
871868040	87091000	05.147	7386	994	034000	18	05	14	05	U-4DP	0	10	77	05	02	02	01	01	R	2	E	01	01	01	01	00	*	01	77	01	03	00	68	1	0	01
873231780	87091000	05.156	7386	994	032000	17	09	25	14	U-4DP	0	14	01	01	02	02	01	04	R	S	N	03	01	01	10	31	N	01	01	05	01		47	2	0	00
854253300	87091000	05.185	7386	994	032000	17	01	12	08	U-4DP	0	14	01	01	01	01	01	01	R	2	E	01	01	01	02	34	E	01	01	14	01		34	2	0	00
876335160	87091000	05.185	7386	994	034000	18	04	24	17	U-4DP	0	14	03	01	01	01	01	01	R	1	W	01	01	10	02	27	E	03	01	01	01		51	2	0	00
871551370	87091000	05.193	7386	994	034000	18	01	04	15	U-4DP	0	14	01	01	01	01	01	03	R	2	E	19	01	01	02	52	E	16	01	13	01		65	2	0	01
872638910	87091000	05.193	7386	994	034000	18	07	23	09	U-4DP	0	14	01	01	02	01	01	03	R	2	E	01	01	01	02	22	E	01	01	14	01		29	2	0	00
853591910	87091000	05.209	3377	994	035000	16	08	06	12	U-4DP	0	14	03	01	02	01	01	02	R	1	E	01	01	01	02	72	E	01	01	13	01		44	3	0	03
871693670	87091000	05.210	3377	994	034000	18	03	17	14	U-4DP	0	14	01	01	01	01	01	03	R	2	E	01	01	01	02	22	W	16	01	05	01		29	2	0	01
845437370	87091000	05.212	3377	994	034500	15	02	09	19	U-4DP	0	14	01	04	02	02	01	04	R	2	E	01	01	01	02	50	E	01	01	05	01		48	2	0	01
880207700	87091000	05.212	3377	994	034000	18	10	21	18	U-4DP	0	14	77	01	01	01	01	02	L	2	S	01	01	03	03	36	W	01	01	01	01		46	2	0	03
880227090	87091000	05.212	3377	994	034000	18	12	02	20	U-4DP	0	14	03	04	01	01	01	02	R	2	W	01	01	03	03	47	E	03	01	01	01		29	2	0	00

COMMENT: 1 - SORT BY ROADWAY, MILE POINT
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FROM CO/SEC/SUB: 87 091 000 MP: 004.000 INFL INCL
TO CO/SEC/SUB: 87 091 000 MP: 005.212 CR/OS INCL

FOR YEAR	FATAL CRASH STATISTICS			INJURY CRASH STATS		PROPERTY DAMAGE ONLY	TOTALS			INFLUENCE CRASHES OCCURRING ON INTERSECTING RDWYS	
	CRASHES	FATALITIES	INJURIES	CRASHES	INJURIES	CRASHES	CRASHES	FATALITIES	INJURIES	AT INT.	INFL AREA
2014	0	0	0	23	40	35	58	0	40	7	1
2015	0	0	0	19	31	48	67	0	31	8	4
2016	1	1	0	24	40	55	80	1	40	8	4
2017	0	0	0	34	57	54	88	0	57	7	9
2018	0	0	0	36	56	63	99	0	56	14	12
TOTAL	1	1	0	136	224	255	392	1	224	44	30

N O T I C E: THE INFORMATION CONTAINED IN THIS DOCUMENT (REPORT, SCHEDULE, LIST, OR DATA) HAS BEEN COMPILED FROM INFORMATION COLLECTED FOR THE PURPOSE OF IDENTIFYING, EVALUATING, OR PLANNING SAFETY ENHANCEMENTS. THIS PRODUCT IDENTIFIES INFORMATION USED FOR THE PURPOSE OF DEVELOPING HIGHWAY SAFETY CONSTRUCTION IMPROVEMENT PROJECTS WHICH MAY BE IMPLEMENTED UTILIZING FEDERAL-AID HIGHWAY FUNDS. ANY DOCUMENT DISPLAYING THIS NOTICE SHALL BE USED ONLY FOR THOSE PURPOSES DEEMED APPROPRIATE BY THE FLORIDA DEPARTMENT OF TRANSPORTATION. SEE TITLE 23, UNITED STATES CODE, SECTION 409.

*** REPORT TOTALS ***

CUMULATIVE TOTALS FOR ALL LOCATIONS SUBMITTED - OVERLAPPING OR INTERSECTING LOCATIONS MAY RESULT IN CRASHES COUNTED MORE THAN ONCE

FOR	FATAL CRASH STATISTICS			INJURY CRASH STATS		PROPERTY DAMAGE ONLY	TOTALS			INFLUENCE CRASHES OCCURRING ON INTERSECTING RDWYS	
YEAR	CRASHES	FATALITIES	INJURIES	CRASHES	INJURIES	CRASHES	CRASHES	FATALITIES	INJURIES	AT INT.	INFL AREA
2014	0	0	0	23	40	35	58	0	40	7	1
2015	0	0	0	19	31	48	67	0	31	8	4
2016	1	1	0	24	40	55	80	1	40	8	4
2017	0	0	0	34	57	54	88	0	57	7	9
2018	0	0	0	36	56	63	99	0	56	14	12
TOTAL	1	1	0	136	224	255	392	1	224	44	30

N O T I C E: THE INFORMATION CONTAINED IN THIS DOCUMENT (REPORT, SCHEDULE, LIST, OR DATA) HAS BEEN COMPILED FROM INFORMATION COLLECTED FOR THE PURPOSE OF IDENTIFYING, EVALUATING, OR PLANNING SAFETY ENHANCEMENTS. THIS PRODUCT IDENTIFIES INFORMATION USED FOR THE PURPOSE OF DEVELOPING HIGHWAY SAFETY CONSTRUCTION IMPROVEMENT PROJECTS WHICH MAY BE IMPLEMENTED UTILIZING FEDERAL-AID HIGHWAY FUNDS. ANY DOCUMENT DISPLAYING THIS NOTICE SHALL BE USED ONLY FOR THOSE PURPOSES DEEMED APPROPRIATE BY THE FLORIDA DEPARTMENT OF TRANSPORTATION. SEE TITLE 23, UNITED STATES CODE, SECTION 409.

Appendix F: Signal Warrant Analysis for SW 134 Avenue

1. Traffic Data

1.1 72-HOUR TRAFFIC VOLUME COUNTS

Seventy-two hourly traffic volume counts were collected on all approaches to the study intersection from Tuesday, August 31, 2021, to Thursday, September 2, 2021. **Table 1** summarizes the daily hourly volumes and the average of the three-day, 72-hour counts. The graph in **Figure 1** shows the variation of the average three-day hourly traffic volumes versus time of day. Based on this data, the study intersection experienced a morning peak period between 6:30 AM and 8:30 AM and an afternoon peak period between 2:00 PM and 4:00 PM. This AM peak period corresponds to the AM peak period identified in the previous study effort (FPID No. 249726-4-32-01). However, the PM peak period was previously identified as 4:00 PM to 6:00 PM. Details of the traffic data collected, in 15-minute intervals is included in **Appendix B**.

Table 1: Summary of Traffic Volume Counts by Intersection Approach

Time	Eastbound SR 994 / Quail Roost Dr	Westbound SR 994 / Quail Roost Dr	Northbound SW 134 Ave	Southbound SW 134 Ave	Average Intersection	Total Intersection
0:00	64	38	17	0	30	**119**
1:00	42	23	19	0	21	**84**
2:00	27	16	15	1	15	**59**
3:00	26	23	22	0	18	**71**
4:00	42	54	36	1	33	**133**
5:00	143	194	153	5	124	**495**
6:00	480	472	262	13	307	**1227**
7:00	782	918	329	50	520	**2079**
8:00	819	758	235	92	476	**1904**
9:00	503	475	223	19	305	**1220**
10:00	466	406	189	19	270	**1080**
11:00	496	436	160	15	277	**1107**
12:00	570	470	205	17	316	**1262**
13:00	588	552	202	23	341	**1365**
14:00	753	643	203	30	407	**1629**
15:00	863	736	195	49	461	**1843**
16:00	819	670	180	39	427	**1708**
17:00	885	616	176	62	435	**1739**
18:00	751	549	170	26	374	**1496**
19:00	550	425	130	20	281	**1125**
20:00	411	282	89	16	200	**798**
21:00	260	216	71	8	139	**555**
22:00	203	121	50	4	95	**378**
23:00	115	72	32	2	55	**221**
Total	**10,658**	**9,165**	**3,363**	**511**	**5,927**	**23,697**

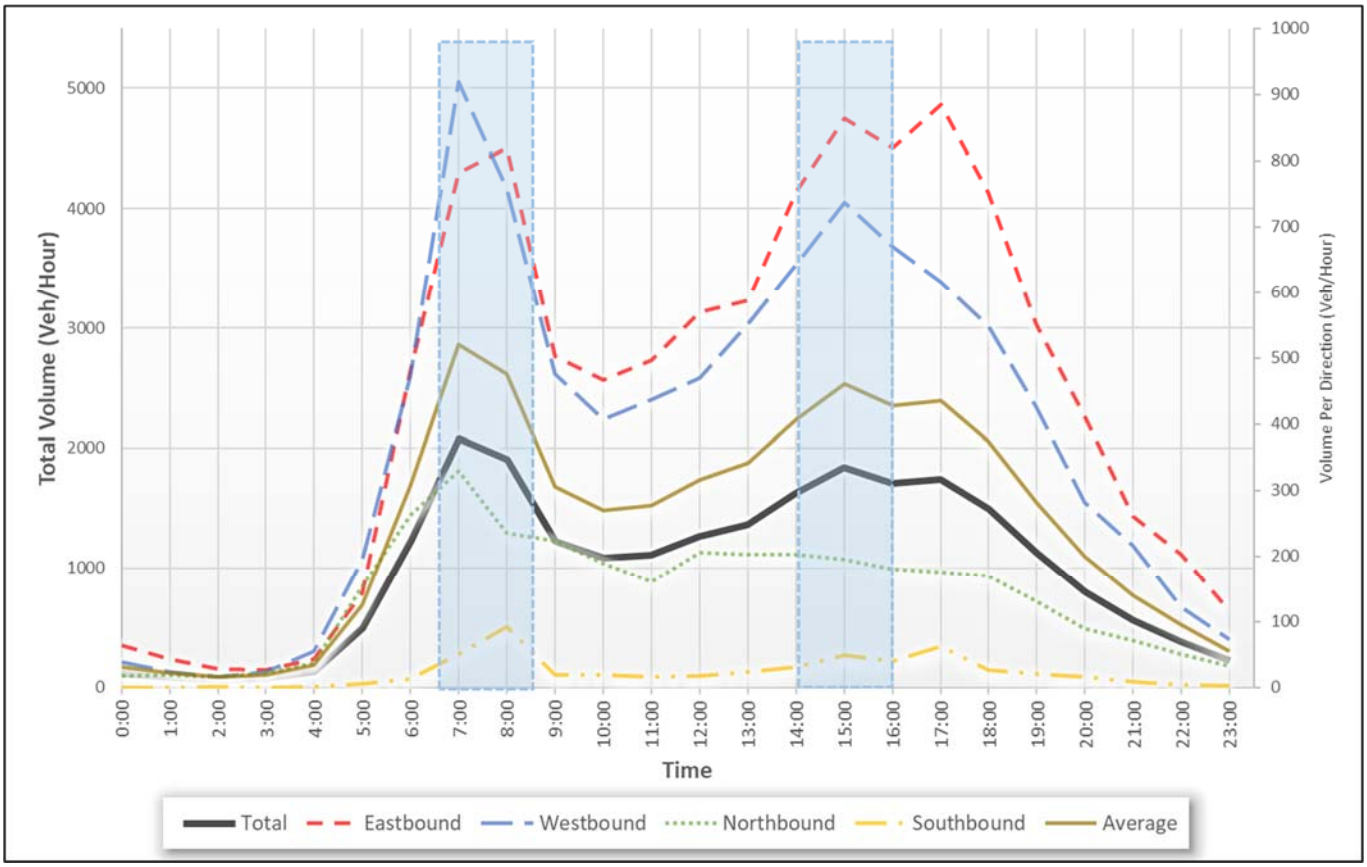


Figure 1: Hourly Traffic Volumes vs Time of Day

1.2 TURNING MOVEMENT COUNTS

Six-hour turning movement counts (TMCs) were collected in 15-minute intervals at the study intersection on Wednesday, September 8, 2021, from 6:30 AM to 9:30 AM and from 3:30 PM to 6:30 PM. The data collection periods correspond to the peak periods identified in the 72-hour volume counts. **Table 2** summarizes the TMCs for the peak hours which occurred between 7:30 AM and 8:30 AM during the morning period and 3:30 PM to 4:30 PM during the afternoon period. Detailed results of the six-hour TMCs are included in **Appendix B**.

Table 2: Summary of Turning Movement Counts

Study Period	Eastbound				Westbound				Northbound				Southbound				Intersection	
	SR 994 / Quail Roost Dr				SR 994 / Quail Roost Dr				SW 134 Avenue				SW 134 Avenue					
		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	PHF	Total Volume
Weekday AM Peak Hour (7:30 AM - 8:30 AM)	Veh+ Trucks	16	671	115	Veh+ Trucks	55	698	105	Veh+ Trucks	85	35	30	Veh+ Trucks	45	41	3	0.94	1899
	Trucks	4	60	5	Trucks	0	22	3	Trucks	6	3	5	Trucks	0	5	2		
	%T	25%	9%	4%	%T	0%	3%	3%	%T	7%	9%	17%	%T	0%	12%	67%		
		802				858				150				89				
		% of Intersection 42.2%				% of Intersection 45.2%				% of Intersection 7.9%				% of Intersection 4.7%				
Weekday PM Peak Hour (3:30 PM - 4:30 PM)	Veh+ Trucks	0	657	213	Veh+ Trucks	63	512	17	Veh+ Trucks	83	23	39	Veh+ Trucks	30	22	2	0.82	1661
	Trucks	0	28	7	Trucks	3	35	1	Trucks	7	0	4	Trucks	0	0	0		
	%T	0%	4%	3%	%T	5%	7%	6%	%T	8%	0%	10%	%T	0%	0%	0%		
		870				592				145				54				
		% of Intersection 52.4%				% of Intersection 35.6%				% of Intersection 8.7%				% of Intersection 3.3%				

1.3 INTERSECTION DELAY STUDY

An intersection delay study was not conducted for this study effort. As part of the previous study effort (FPID No. 249726-4-32-01), vehicle delay data was collected on Tuesday, November 29, 2016, from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM for the northbound and southbound approaches at the study intersection. A summary of the vehicle delay data is shown in **Table 3**.

Table 3: Vehicle Delay Summary

	SR 994 / Quail Roost Dr and SW 134 Avenue			
	Northbound Approach		Southbound Approach	
	7:00 to 9:00 AM	4:00 to 6:00 PM	7:00 to 9:00 AM	4:00 to 6:00 PM
Total Vehicles	392	280	52	74
Average Stopped Time (in seconds)	222.89	80.25	58.21	80.07
Maximum Stopped Time (in seconds)	548	271	171	239
Average Queue (in vehicles)	11.89	3.02	0.53	0.84
Maximum Queue (in vehicles)	22	16	5	8

Overall, the highest volumes occurred on the northbound approach during both peak periods observed. The longest stopped time was experienced on the northbound approach during the AM peak period with an average stopped time of approximately 4 minutes and a maximum stopped time of approximately 9 minutes. Additionally, the northbound approach experienced a maximum queue of at least 16 vehicles in both peak periods.

2. CRASH REVIEW AND SUMMARY

Crash data for the five most recent years (from January 2014 to December 2018) was downloaded from the FDOT's Crash Analysis Reporting System (CARS) on-line database. The crash data includes crashes along SR 994 (Section 87091000) that occurred within 500-feet east (MP 4.233) and west (MP 4.423) of the study intersection (MP 4.328). A crash summary for the study intersection is provided in **Table 4**.

There was a total of 74 crashes that occurred at the study intersection during the referenced five-year period with 14 crashes in 2014, 11 crashes in 2015, 12 crashes in 2016, 16 crashes in 2017, and 21 crashes in 2018. The leading crash types consisted of Angle with 32 (43%) crashes, Rear-end with 16 (22%) crashes, and Left-turn with 9 (12%) crashes. The leading contributing causes for all crashes included "failed to yield right-of way" with 24 (32%) crashes, "careless or negligent manner" with 23 (31%) crashes, and "other contributing action" with 9 (12%) crashes. Based on crash severity, 46 (62%) crashes were property damaged only (PDO) and 28 (38%) were injury type crashes; no fatal crashes were reported during the referenced five-year period. There were no Pedestrian and Bicycle related crash that occurred within the five-year period. There were 20 (27%) night/dusk/dawn crashes which is lower than the 2014-2018 Districtwide average for all roadways of 29%. There were 10 (14%) crashes that occurred under wet/slippery pavement conditions which is slightly greater than the 2014-2018 Districtwide average for all roadways of 12%.

An Expected Values Analysis (EVA) was not performed at the study intersection because there are no statistics available for other District-wide spots to compare with similar geometric features. Based on the confidence level analysis performed, the study intersection is considered to have an abnormally high number of crashes for year 2018, as presented in **Table 5**. The Highway Safety Improvement Program identifies urban intersections and segments within a confidence level of 99.95% or greater to be locations with abnormally high crashes. Based on the Department's high crash lists for segments and intersections for the crash period, the study intersection is considered a high crash intersection and belongs to a high crash segment from MP 4.075 to MP 4.961.

Table 4: Crash Summary (2014-2018)

SR 994/Quail Roost Dr at SW 134 Avenue Segment/Spot with No Expected Values Available		Number of Crashes Year 2014	2015	2016	2017	2018	5 Year Total Crashes	Mean Crashes Per Year	%	Expected Annual Crash Value Abnormally High Crashes per year 90th percentile	95th percentile	90 %ile	95 %ile
CRASH TYPE	Rear End	6	3	4	2	1	16	3.20	21.6%	0.00	0.00		
	Head On	0	0	0	0	0	0	0.00	0.0%	0.00	0.00		
	Angle	5	3	7	12	5	32	6.40	43.2%	0.00	0.00		
	Left Turn	0	2	0	1	6	9	1.80	12.2%	0.00	0.00		
	Right Turn	1	1	0	0	2	4	0.80	5.4%	0.00	0.00		
	Sideswipe	1	1	1	1	1	5	1.00	6.8%	0.00	0.00		
	Backed Into	0	0	0	0	0	0	0.00	0.0%	0.00	0.00		
	Pedestrian	0	0	0	0	0	0	0.00	0.0%	0.00	0.00		
	Bicycle	0	0	0	0	0	0	0.00	0.0%	0.00	0.00		
	Fixed Object	0	0	0	0	5	5	1.00	6.8%	0.00	0.00		
	Other Non-Collisions	0	1	0	0	0	1	0.20	1.4%	0.00	0.00		
	Overturn/Rollover	0	0	0	0	0	0	0.00	0.0%	0.00	0.00		
	Others	1	0	0	0	1	2	0.40	2.7%	0.00	0.00		
	Total Crashes	**14**	**11**	**12**	**16**	**21**	**74**	**14.80**	**100.0%**	**0.00**	**0.00**		
SEVERITY	PDO Crashes	8	8	7	9	14	46	9.20	62.2%	0.00	0.00		
	Fatal Crashes	0	0	0	0	0	0	0.00	0.0%	0.00	0.00		
	Injury Crashes	6	3	5	7	7	28	5.60	37.8%	0.00	0.00		
LIGHTING CONDITIONS	Daylight	8	8	12	13	12	53	10.60	71.6%	0.00	0.00		
	Dusk	0	0	0	0	0	0	0.00	0.0%	0.00	0.00		
	Dawn	0	0	0	0	0	0	0.00	0.0%	0.00	0.00		
	Dark	6	3	0	3	8	20	4.00	27.0%	0.00	0.00		
	Unknown	0	0	0	0	1	1	0.20	1.4%	0.00	0.00		
SURFACE CONDITIONS	Dry	12	10	9	15	17	63	12.60	85.1%	0.00	0.00		
	Wet	2	1	3	1	3	10	2.00	13.5%	0.00	0.00		
	Others	0	0	0	0	1	1	0.20	1.4%	0.00	0.00		

Table 5. Crash Statistics

Year	2014	2015	2016	2017	2018
Number of Crashes	14	11	12	16	21
Average Daily Traffic (ADT)	17,500	17,900	18,500	18,700	19,700
Actual Crash Rate (ACR)	2.192	1.684	1.777	2.344	2.921
District 6 Average Crash Rate (A)	1.291	0.858	1.036	1.291	1.280
Average Vehicle Exposure (M)	6.388	6.534	6.753	6.826	7.191
Critical Crash Rate (CCR)	2.693	1.974	2.251	2.649	2.600
Safety Ratio	0.814	0.853	0.789	0.885	1.123
Statistical Significance	2.177	2.490	2.081	2.589	4.051
Confidence Level	97.50%	99.00%	97.50%	99.50%	99.99%

2.1 COLLISION DIAGRAM

Figure 4 represents the collision diagram for SW 134 Avenue, originally prepared for the SR 994 PD&E Traffic Report, to identify any abnormal crash characteristics or patterns at the study intersection that may have occurred during the five years of interest (2014 through 2018).

Based on a review of the crash types, Angle type crashes accounted for 32 (43%) of total crashes. Of the 32 Angle crashes reported, 12 (38%) were injury crashes and 21 (62%) were PDO crashes. Most angle crashes, 16 (50%) out of 32, involved a northbound through vehicle and an eastbound through vehicle, followed by 6 (19%) of the 32 angle crashes which involved a northbound through vehicle and a westbound through vehicle.

Rear-end collisions were identified as the second leading crash type with 16 (22%) crashes. Of the 16 Rear-end crashes reported, 8 (50%) were injury crashes and 8 (50%) were PDO crashes. There was a pattern for Rear-end collision identified along the eastbound approach, with 7 (44%) of the 16 Rear-end crashes, and along the northbound approach with 6 (38%) of the 16 Rear-end crashes.

Left-turn collisions were identified as the third leading crash type with 9 (12%) crashes. Of the 9 Left-turn crashes reported, 4 (44%) were injury crashes and 5 (56%) were PDO crashes. There was a pattern for Left-turn crashes identified between westbound left-turning vehicles and eastbound through vehicles with 6 (67%) of the 9 Left-turn crashes.

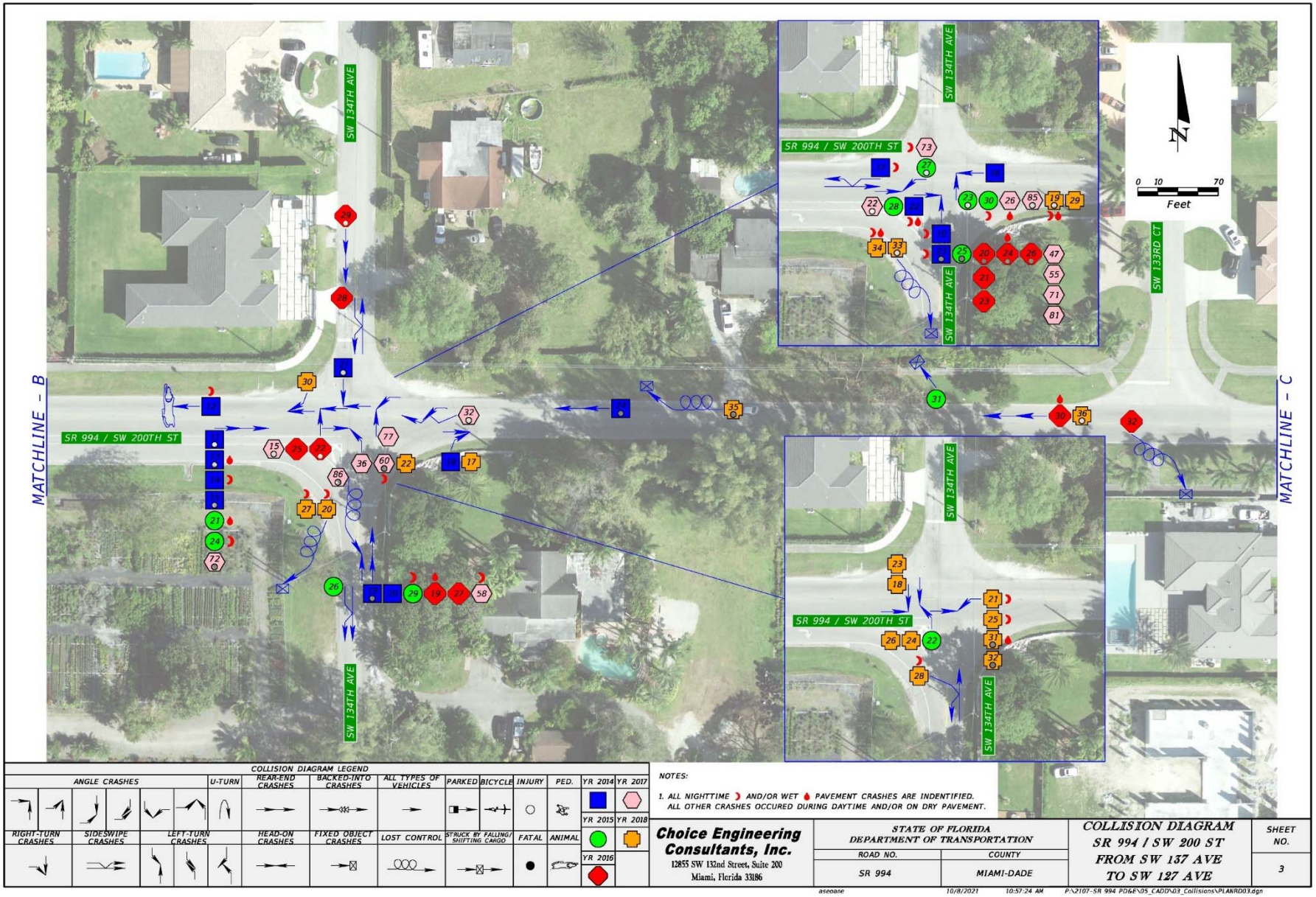


Figure 4. SW 134 Avenue Collision Diagram

3. SIGNAL WARRANT ANALYSIS

The *Manual on Uniform Traffic Control Devices* (MUTCD) is the national standard published by the FHWA that defines the use and application of traffic control devices. The MUTCD (2009 Edition) defines nine warrants for a traffic signal control. At a minimum, one or more of these warrants must be satisfied to justify the installation of a new traffic signal. However, as indicated in Section 4C.01 of the MUTCD, "*the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal*". Delay, congestion, confusion, or other evidence of the need for right-of-way assignment must be shown. Alternative improvements which may eliminate the need for a signal should also be considered. The nine MUTCD warrants are as follows:

- Warrant 1, Eight-Hour Vehicular Volume
- Warrant 2, Four-Hour Vehicular Volume
- Warrant 3, Peak Hour
- Warrant 4, Pedestrian Volume
- Warrant 5, School Crossing
- Warrant 6, Coordinated Signal System
- Warrant 7, Crash Experience
- Warrant 8, Roadway Network
- Warrant 9, Intersection Near a Grade Crossing

The analysis of the signal warrants was conducted by completing the Traffic Signal Warrant Summary Forms provided in the Department's Manual on Uniform Traffic Studies (MUTS). These forms provide a useful tool for evaluating the signal warrants. The complete forms are attached at the end of this section and results are summarized below. The signal warrant analysis was performed using traffic and pedestrian data for weekday conditions. For analysis of Warrants 1, 2 and 7, SR 994/Quail Roost Drive was treated as the major street with 2 travel lanes and SW 134 Avenue was treated as the minor street with 2 travel lanes.

3.1 WARRANT 1 – EIGHT-HOUR VEHICULAR VOLUME

Warrant 1 covers the eight-hour vehicular volume for conditions A and B. The Minimum Vehicular Volume (Condition A) is intended where a large volume of intersecting traffic is the principal reason to consider installing a traffic signal. The Interruption of Continuous Traffic (Condition B) is intended where traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street. An assessment of the basic minimum hourly volume threshold (100%) for Warrant 1 is shown in **Table 6** for a typical weekday which indicates that Condition A and Condition B were met at the 100% volume threshold. As a result, **Warrant 1 is satisfied** for the study intersection.

Table 6: Warrant 1 (100%) Summary

No.	Time (hr)	Total of Both Approaches on Major Street	Highest Approach Volume on Minor Street (NB)	Condition A is met at 100% ?			Condition B is met at 100% ?			Warrant 1 is met by meeting Condition A or B for at least 8 hours?
				Requirement		Hourly Volume Met?	Requirement		Hourly Volume Met?	
				Major Street (1 Lane)	Minor Street (1 lane)		Major Street (1 Lane)	Minor Street (1 lane)		
1	12:00 AM	102	17	500	150	NO	750	75	NO	Yes, it does meet Conditions A and B at 100% for at least 8 hours in a 24-hour period
2	1:00 AM	65	19	500	150	NO	750	75	NO	
3	2:00 AM	43	15	500	150	NO	750	75	NO	
4	3:00 AM	49	22	500	150	NO	750	75	NO	
5	4:00 AM	96	36	500	150	NO	750	75	NO	
6	5:00 AM	337	153	500	150	NO	750	75	NO	
7	6:00 AM	952	262	500	150	YES	750	75	YES	
8	7:00 AM	1700	329	500	150	YES	750	75	YES	
9	8:00 AM	1577	235	500	150	YES	750	75	YES	
10	9:00 AM	978	223	500	150	YES	750	75	YES	
11	10:00 AM	872	189	500	150	YES	750	75	YES	
12	11:00 AM	932	160	500	150	YES	750	75	YES	
13	12:00 PM	1040	205	500	150	YES	750	75	YES	
14	1:00 PM	1140	202	500	150	YES	750	75	YES	
15	2:00 PM	1396	203	500	150	YES	750	75	YES	
16	3:00 PM	1599	195	500	150	YES	750	75	YES	
17	4:00 PM	1489	180	500	150	YES	750	75	YES	
18	5:00 PM	1501	176	500	150	YES	750	75	YES	
19	6:00 PM	1300	170	500	150	YES	750	75	YES	
20	7:00 PM	975	130	500	150	NO	750	75	YES	
21	8:00 PM	693	89	500	150	NO	750	75	NO	
22	9:00 PM	476	71	500	150	NO	750	75	NO	
23	10:00 PM	324	50	500	150	NO	750	75	NO	
24	11:00 PM	187	32	500	150	NO	750	75	NO	

3.2 WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

Warrant 2, the four-hour vehicular volume warrant, is intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic signal. An assessment of the basic minimum hourly volume threshold (100%) for Warrant 2 is shown in **Table 7** for a typical weekday which indicates that the minor street volumes does exceed the minimum thresholds for at least 4 hours. As a result, **Warrant 2 is satisfied** for the study intersection on the basis that the condition is met for at least 4 hours at a 100% volume threshold.

Table7: Warrant 2 (100%) Summary

No.	Time (hr)	Total of Both Approaches on Major Street	Highest Approach Volume on Minor Street (NB)	Hourly Volume Met? (Minimum threshold for NB is 80 veh)*	Warrant 2 is met by meeting the minimum threshold for at least 4 hours?
1	12:00 AM	102	17	NO	Yes, the minimum threshold is met for at least 4 hours.
2	1:00 AM	65	19	NO	
3	2:00 AM	43	15	NO	
4	3:00 AM	49	22	NO	
5	4:00 AM	96	36	NO	
6	5:00 AM	337	153	NO	
7	6:00 AM	952	262	YES	
8	7:00 AM	1700	329	YES	
9	8:00 AM	1577	235	YES	
10	9:00 AM	978	223	YES	
11	10:00 AM	872	189	YES	
12	11:00 AM	932	160	YES	
13	12:00 PM	1040	205	YES	
14	1:00 PM	1140	202	YES	
15	2:00 PM	1396	203	YES	
16	3:00 PM	1599	195	YES	
17	4:00 PM	1489	180	YES	
18	5:00 PM	1501	176	YES	
19	6:00 PM	1300	170	YES	
20	7:00 PM	975	130	YES	
21	8:00 PM	693	89	NO	
22	9:00 PM	476	71	NO	
23	10:00 PM	324	50	NO	
24	11:00 PM	187	32	NO	

Note: *80 vph applies as the lower threshold volume for a minor-street approach with one lane and a major street volume (total of both approaches) of approximately 1100 vph or greater as shown in Figure 4C-1 of the MUTCD, 2009 Edition.

3.3 WARRANT 3 – PEAK HOUR VOLUME

Warrant 3 is intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor street traffic suffers undue delay when entering or crossing the major street. The MUTCD stipulates that this warrant must only be used for unusual cases such as office complexes, manufacturing plants, industrial complexes or other high-occupancy vehicle facilities that attract or discharge copious amounts of vehicles over a short time. Warrant 3 is satisfied under one of the following conditions:

A) If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:
    1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach; and
    2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and
    3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.

B) The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 (MUTCD) for the existing combination of approach lanes.

Based on a review of the immediate surrounding land uses, **Warrant 3 is not applicable** for the study intersection.

3.4 WARRANT 4 – PEDESTRIAN VOLUME

Warrant 4 is intended for applications where the traffic volume on a major street is so heavy that pedestrians experience excessive delays in crossing the major street. Additionally, 70% volume threshold (Figure 4C-6 and Figure 4C-8, MUTCD) can be applied as a result of the major street having a posted speed limit exceeding 35 MPH (Posted Speed Limit is 40 MPH). Warrant 4 is satisfied under one of the following conditions:

A) For each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) all fall above the threshold represented by Figure 4C-5 (MUTCD) or Figure 4C-6. For Figure 4C-5 the absolute minimum pedestrian volume is 107 pedestrians per hour and for Figure 4C-6 the absolute minimum pedestrian volume is 75 pedestrian per hour.

B) For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) falls above the threshold represented by Figure 4C-7 (MUTCD) or Figure 4C-8. For Figure 4C-7 the absolute minimum pedestrian volume is 133 pedestrians per hour and for Figure 4C-8 the absolute minimum pedestrian volume is 93 pedestrian per hour.

Based on the traffic count data collected (see Section 3.1 and **Appendix B**) and in concurrence with the field observations (Section 3.2), **Warrant 4 is not applicable** for the study intersection due to the low pedestrian activity observed crossing the major street during the observed peak periods.

3.5 WARRANT 5 – SCHOOL CROSSING

Warrant 5 is applicable when the fact that school children crossing the major street is the principal reason to consider installing a traffic control signal. Based on a review of the surrounding land developments, there are no schools at or in the immediate vicinity of the study intersection and no school children were observed crossing at or near the study intersection during the field observations. Therefore, **Warrant 5 is not applicable** for the study intersection.

3.6 WARRANT 6 – COORDINATED SIGNAL SYSTEM

Warrant 6 is applicable when progressive movement in a coordinated system necessitates installing a traffic signal to maintain proper platooning of vehicles. The MUTCD indicates that this warrant is met if on a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation. **Warrant 6 is not applicable** for the study intersection.

3.7 WARRANT 7 – CRASH EXPERIENCE

Warrant 7 is examined when the crashes experienced at an intersection is the principal reason to consider installing a traffic control signal. This warrant is satisfied when the following three criteria are met:

A) Adequate trials of other remedial measures have failed to reduce crash frequency.

B) Traffic volumes at the study intersection meet 80% of Condition A or B under Warrant 1 or pedestrian volumes meet 80% of Warrant 4. The traffic volumes measured at the intersection satisfy this condition.

C) Five or more reported crashes, of types susceptible to correction by the installation of a traffic control signal, have occurred within a 12-month period – see **Table 8**.

Table 8: Warrant 7 Summary

Crash Type Susceptible to Correction by a Traffic Control Signal	2014	2015	2016	2017	2018	% of All Crashes
Angle	5	3	7	12	5	44.0 %
Left turn	0	2	0	1	6	12.0%
Total	**5**	**5**	**7**	**13**	**11**	**56.0%**

Traffic volumes at the study location satisfy Condition 2 and crash statistics satisfy Condition 3 (summarized in **Table 8**). Additionally, Condition 1, the implementation of less restrictive measures, is not satisfied at this time. Consequently, **Warrant 7 is not satisfied** for the study intersection.

3.8 WARRANT 8 – ROADWAY NETWORK

Warrant 8 is appropriate where installing a traffic signal might be justified to encourage concentration/organization of traffic flow on a roadway network and when two or more major routes intersect. A major route as used/defined in this signal warrant shall have at least one of the following characteristics:

A) It is part of the street or highway system that serves as the principal roadway network for through traffic flow.

B) It includes rural or suburban highways outside, entering, or traversing a city.

C) It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.

Therefore, as per the MUTCD Warrant 8 guidance SW 134 Avenue is not considered a major road and consequently, **Warrant 8 is not applicable** for the study intersection.

3.9 WARRANT 9 – INTERSECTION NEAR A GRADE CROSSING

Warrant 9 is appropriate where none of the conditions described in the other eight traffic signal warrants are met, but the proximity to the intersection of a grade crossing on an intersection approach controlled by a STOP or YIELD sign is the principal reason to consider installing a traffic control signal. Based on a review of the surrounding area, there are no grade crossings at or in the immediate vicinity of the study intersection. Consequently, **Warrant 9 is not applicable** for the study intersection.

3.10 WARRANT ANALYSIS SUMMARY

Table 9 is a compiled summary of the warrant analysis. Of the nine minimum warrants reviewed, three are applicable, and two are satisfied.

Table 92: Warrant Analysis Summary

Warrant 1	**Satisfied √**	**Warrant 6**	Not Applicable
Warrant 2	**Satisfied √**	**Warrant 7**	**Not Satisfied ×**
Warrant 3	Not Applicable	**Warrant 8**	Not Applicable
Warrant 4	Not Applicable	**Warrant 9**	Not Applicable
Warrant 5	Not Applicable		

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:
County: **87 – Miami Dade**
District: **Six**

Engineer: **Choice Engineering, Inc**
Date:

Major Street: **SR 994/SW 200 St/Quail Roost Dr** Lanes: **2** Major Approach Speed: **40**
Minor Street: **SW 134 Avenue** Lanes: **2** Minor Approach Speed: **35**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☐ Yes ☑ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☐ MAY ☐ 70% ☑ 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

*Warrant 1 is satisfied if Condition A **or** Condition B is "100%" satisfied for eight hours.* ☑ Yes ☐ No

*Warrant 1 is also satisfied if both Condition A **and** Condition B are "80%" satisfied (should only be applied after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems).* ☑ Yes ☐ No

*Warrant 1 is satisfied if Condition A **or** Condition B is "70%" satisfied for eight hours.* ☑ Yes ☐ No

Condition A - Minimum Vehicular Volume

Condition A is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Applicable: ☑ Yes ☐ No
100% Satisfied: ☐ Yes ☑ No
80% Satisfied: ☑ Yes ☐ No
70% Satisfied: ☑ Yes ☐ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	**Minor**	**100%[a]**	**80%[b]**	**70%[c]**	**100%[a]**	**80%[b]**	**70%[c]**
1	1	500	400	350	150	120	105
2 or more	1	600	480	420	150	120	105
2 or more	2 or more	600	480	420	200	160	140
1	2 or more	500	400	350	200	160	140

[a] Basic Minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Street	Eight Highest Hours							
	7:00 AM	**8:00 AM**	**3:00 PM**	**5:00 PM**	**4:00 PM**	**2:00 PM**	**6:00 PM**	**1:00 PM**
Major	1,700	1,577	1,599	1,501	1,489	1,396	1,300	1,140
Minor	329	235	195	176	180	203	170	202

Existing Volumes

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

Condition B - Interruption of Continuous Traffic

Condition B is intended for application where Condition A is not satisfied and the traffic volume on a major street is so heavy that traffic on the minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

Applicable:	☐ Yes	☑ No
100% Satisfied:	☑ Yes	☐ No
80% Satisfied:	☑ Yes	☐ No
70% Satisfied:	☑ Yes	☐ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	**Minor**	**100%[a]**	**80%[b]**	**70%[c]**	**100%[a]**	**80%[b]**	**70%[c]**
1	1	750	600	525	75	60	53
2 or more	1	900	720	630	75	60	53
2 or more	2 or more	900	720	630	100	80	70
1	2 or more	750	600	525	100	80	70

[a] Basic Minimum hourly volume

[b] Used for combination of Conditions A and B after adequate trial of other remedial measures

[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Eight Highest Hours								
Street	**7:00 AM**	**8:00 AM**	**3:00 PM**	**5:00 PM**	**4:00 PM**	**2:00 PM**	**6:00 PM**	**1:00 PM**
Major	1,700	1,577	1,599	1,501	1,489	1,396	1,300	1,140
Minor	329	235	195	176	180	203	170	202

Existing Volumes

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:		Engineer:	**Choice Engineering, Inc**
County:	**87 – Miami Dade**	Date:	
District:	**Six**		

Major Street:	**SR 994/SW 200 St/Quail Roost Dr**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 134 Avenue**	Lanes:	**2**	Minor Approach Speed:	**35**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☐ Yes ☑ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☐ MAY ☐ 70% ☑ 100%

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

If all four points lie above the appropriate line, then the warrant is satisfied.

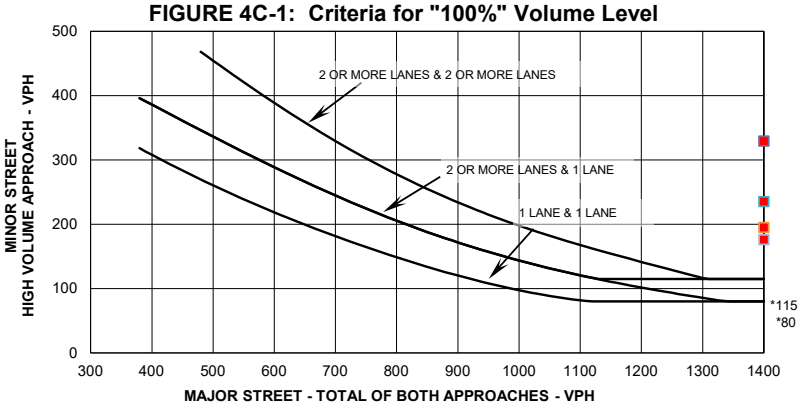
Applicable: ☑ Yes ☐ No
Satisfied: ☑ Yes ☐ No

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
7:00 AM	1700	329
8:00 AM	1577	235
3:00 PM	1599	195
5:00 PM	1501	176

Plot four volume combinations on the applicable figure below.

FIGURE 4C-1: Criteria for "100%" Volume Level



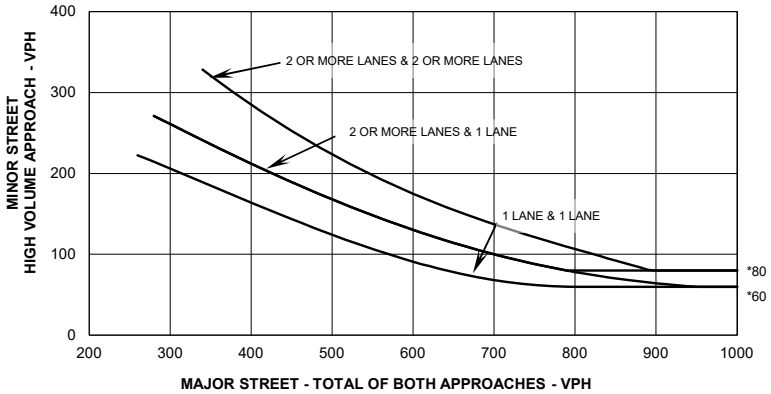
** Note: 115 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 80 mph applies as the lower threshold volume threshold for a minor street approach with one lane.*

70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street

FIGURE 4C-2: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr. (40 mph) on Major Street)



** Note: 80 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 60 ph. applies as the lower threshold volume threshold for a minor street approach with one lane.*

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:		Engineer:	**Choice Engineering, Inc**
County:	**87 – Miami Dade**	Date:	
District:	**Six**		

Major Street:	**SR 994/SW 200 St/Quail Roost Dr**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 134 Avenue**	Lanes:	**2**	Minor Approach Speed:	**35**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☐ Yes ☑ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☐ MAY ☐ 70% ☑ 100%

WARRANT 3 - PEAK HOUR

*If all three criteria are fulfilled **or** the plotted point lies above the appropriate line, then the warrant is satisfied.*

Applicable: ☐ Yes ☑ No
Satisfied: ☐ Yes ☐ No

Unusual condition justifying use of warrant:

Industrial Complex

-

Record hour when criteria are fulfilled and the corresponding delay or volume in boxes provided.

Peak Hour 100% Volume		
Time	Major Vol.	Minor Vol.
7:00 AM	1700	329

Peak Hour 70% Volume		
Time	Major Vol.	Minor Vol.

Criteria

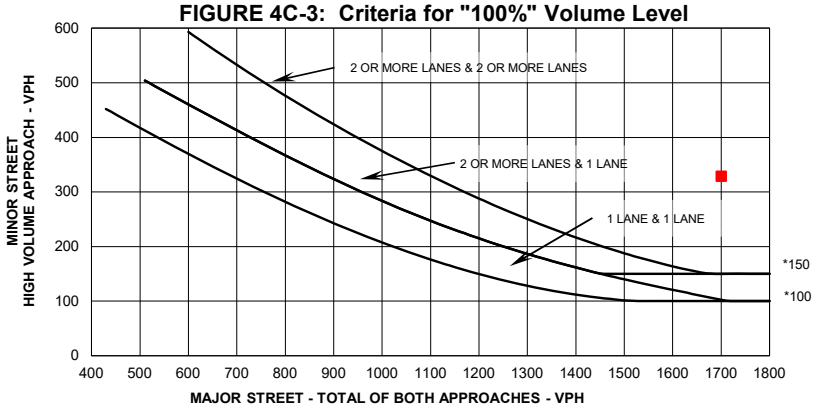
1. Delay on Minor Approach *(vehicle-hours)		
Approach Lanes	1	2
Delay Criteria*	4.0	5.0
Delay*		
Fulfilled?:	☐ Yes ☐ No	

2. Volume on Minor Approach One-Direction *(vehicles per hour)		
Approach Lanes	1	2
Volume Criteria*	100	150
Volume*		
Fulfilled?:	☐ Yes ☐ No	

3. Total Intersection Entering Volume *(vehicles per hour)		
No. of Approaches	3	4
Volume Criteria*	650	800
Volume*		
Fulfilled?:	☐ Yes ☐ No	

Plot volume combination on the applicable figure below.

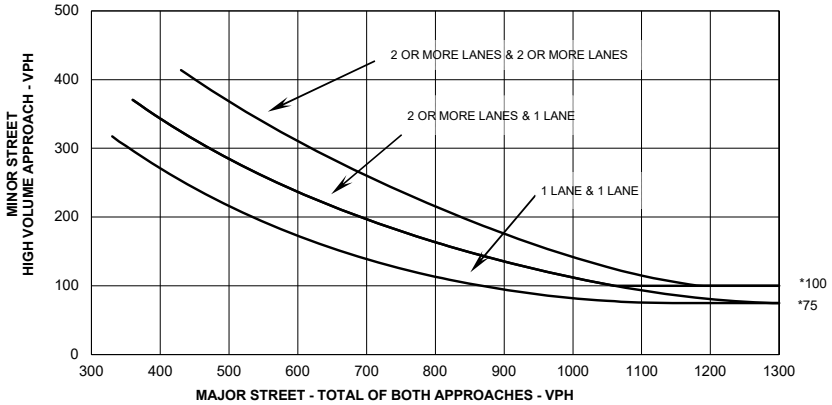
FIGURE 4C-3: Criteria for "100%" Volume Level



** Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

FIGURE 4C-4: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr. (40 mph) on Major Street)



** Note: 100 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 75 phi applies as the lower threshold volume threshold for a minor street approach with one lane.*

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:		Engineer:	**Choice Engineering, Inc**
County:	**87 – Miami Dade**	Date:	
District:	**Six**		

Major Street:	**SR 994/SW 200 St/Quail Roost Dr**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 134 Avenue**	Lanes:	**2**	Minor Approach Speed:	**35**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pd

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 35 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY ☑ 70% ☐ 100%

Option

*Pedestrian volume crossing the major street **may** be reduced as much as 50% if the 15th-percentile crossing speed of pedestrians is less than 3.5 ft/sec.* A walking speed study was conducted which reported a pedestrian speed less than 3.5 ft/sec for the 15th percentile. ☐ Yes ☐ No

WARRANT 4 - PEDESTRIAN VOLUME

For each of any 4 hours of an average day, the plotted points lie above the appropriate line, then the warrant is satisfied.

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☐ No

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Pedestrian Total

Plot four volume combinations on the applicable figure below.

Figure 4C-5. Criteria for "100%" Volume Level

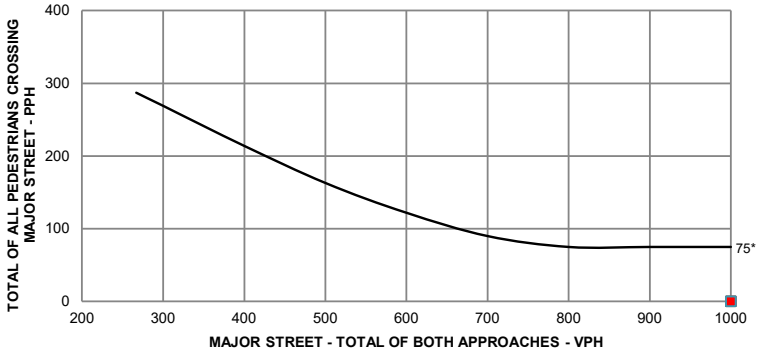


** Note: 107 pph applies as the lower threshold volume for 100% volume level*

70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Pedestrian Total
7:00 AM	1700	
8:00 AM	1577	
3:00 PM	1599	
5:00 PM	1501	

Figure 4C-6 Criteria for "70%" Volume Level



** Note: 75 pph applies as the lower threshold volume for 70% volume level*

WARRANT 4 - PEDESTRIAN VOLUME

For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point falls above the appropriate line, then the warrant is satisfied.

Applicable: ☐ Yes ☑ No

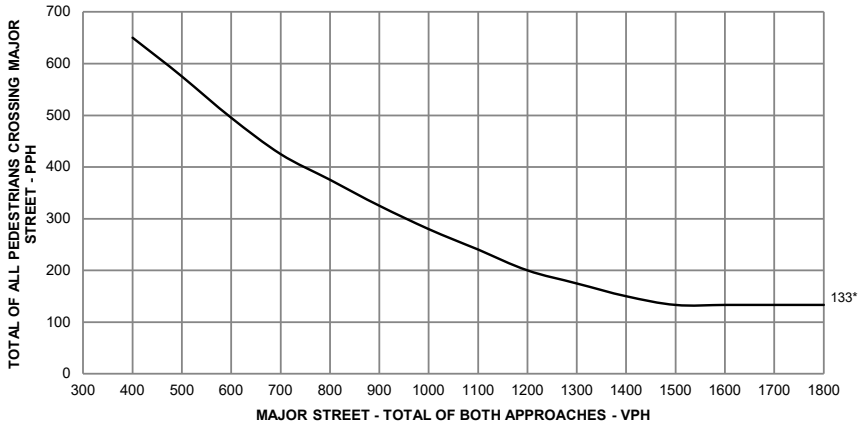
Satisfied: ☐ Yes ☐ No

Plot one volume combination on the applicable figure below.

100% Volume Level

Peak Hour	Volumes	
	Major Street	Pedestrian Total

Figure 4C-7. Criteria for "100%" Volume Level - Peak Hour

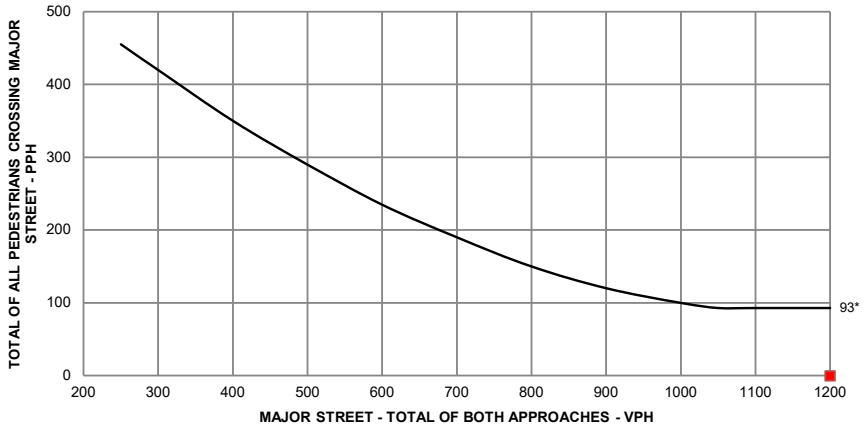


** Note: 133 pph applies as the lower threshold volume*

70% Volume Level

Peak Hour	Volumes	
	Major Street	Pedestrian Total
7:00 AM	1700	

Figure 4C-8 Criteria for "70%" Volume Level - Peak Hour



** Note: 93 pph applies as the lower threshold volume*

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:		Engineer:	**Choice Engineering, Inc**
County:	**87 – Miami Dade**	Date:	
District:	**Six**		

Major Street:	**SR 994/SW 200 St/Quail Roost Dr**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 134 Avenue**	Lanes:	**2**	Minor Approach Speed:	**35**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 5 - SCHOOL CROSSING

Record hours where criteria are fulfilled and the corresponding volume or gap frequency in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled.

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☐ No

Criteria				Fulfilled? Yes	Fulfilled? No
1. There are a minimum of 20 students crossing the major street during the highest crossing hour.	Students:	Hour:			
2. There are fewer adequate gaps in the major street traffic stream during the period when the children are using the established school crossing than the number of minutes in the same period.		Minutes:	Gaps:		
3. The nearest traffic signal along the major street is located more than 300 ft. (90 m) away, or the nearest signal is within 300 ft. (90 m) but the proposed traffic signal will not restrict the progressive movement of traffic.					

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:		Engineer:	**Choice Engineering, Inc**
County:	**87 – Miami Dade**	Date:	
District:	**Six**		

Major Street:	**SR 994/SW 200 St/Quail Roost Dr**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 134 Avenue**	Lanes:	**2**	Minor Approach Speed:	**35**

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WARRANT 6 - COORDINATED SIGNAL SYSTEM

Indicate if the criteria are fulfilled in the boxes provided. The warrant is satisfied if either criterion is fulfilled. This warrant should not be applied when the resulting signal spacing would be less than 300 m (1,000 ft.).

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☐ No

Criteria	Fulfilled? Yes	Fulfilled? No
1. On a one-way street or a street that has traffic predominately in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.		
2. On a two-way street, adjacent signals do not provide the necessary degree of platooning, and the proposed and adjacent signals will collectively provide a progressive operation.		

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:		Engineer:	**Choice Engineering, Inc**
County:	**87 – Miami Dade**	Date:	
District:	**Six**		

Major Street:	**SR 994/SW 200 St/Quail Roost Dr**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 134 Avenue**	Lanes:	**2**	Minor Approach Speed:	**35**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

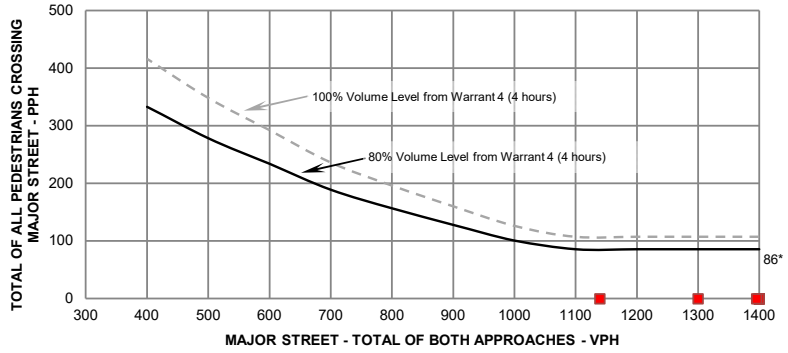
WARRANT 7 - CRASH EXPERIENCE

*Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if **all three** of the criteria are fulfilled.*

Applicable: ☑ Yes ☐ No
Satisfied: ☐ Yes ☑ No

Criteria					Fulfilled? Yes	Fulfilled? No
1. Adequate trial of other remedial measure has failed to reduce crash frequency.	Measure tried:					X
2. Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12-month period.	Observed Crash Types:	Angle and Left-turn crashes	Number of crashes per 12 months:	13	√	
3. **One of the following volume warrants is met:**				**Met?**	Yes	
Warrant 1, Condition A (80% satisfied), or				Yes		
Warrant 1, Condition B (80% satisfied), or				Yes		
Warrant 4, Pedestrian Volume satisfied at 80% of volume requirements for any 8 hours of an average day.	**Hour**	**Major Street Volume**	**Ped Crossings Volume**			
	7:00 AM	1700				
	8:00 AM	1577				
	3:00 PM	1599				
	5:00 PM	1501				
	4:00 PM	1489				
	2:00 PM	1396				
	6:00 PM	1300				
	1:00 PM	1140				

Figure 4C-5. Criteria for "100%" Volume Level



* Note: 86 pph applies as the lower threshold volume for the 80% volume threshold.

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:		Engineer:	**Choice Engineering, Inc**
County:	**87 – Miami Dade**	Date:	
District:	**Six**		

Major Street:	**SR 994/SW 200 St/Quail Roost Dr**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 134 Avenue**	Lanes:	**2**	Minor Approach Speed:	**35**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 8 - ROADWAY NETWORK

Record hours where criteria are fulfilled, and the corresponding volume or other information in the boxes provided. The warrant is satisfied if at least one of the criteria is fulfilled and if all intersecting routes have one or more of the Major Route characteristics listed.

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☐ No

Criteria								Met? Yes	Met? No	Fulfilled? Yes	Fulfilled? No
1. Both of the criteria to the right are met.	a. Total entering volume of at least 1,000 veh/hr during a typical weekday peak hour.			Entering Volume:							
	b. Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3.			Warrant:	1	2	3				
				Satisfied?:							
2. Total entering volume at least 1,000 veh/hr for each of any 5 hrs of a non-normal business day (Sat. or Sun.)								← Hour			
								←Volume			

Characteristics of Major Routes		Met? Yes	Met? No	Fulfilled? Yes	Fulfilled? No
1. Part of the street or highway system that serves as the principal roadway network for through traffic flow.	Major Street:				
	Minor Street:				
2. Rural or suburban highway outside of, entering, or traversing a city.	Major Street:				
	Minor Street:				
3. Appears as a major route on an official plan.	Major Street:				
	Minor Street:				

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:		Engineer:	**Choice Engineering, Inc**
County:	**87 – Miami Dade**	Date:	
District:	**Six**		

Major Street:	**SR 994/SW 200 St/Quail Roost Dr**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 134 Avenue**	Lanes:	**2**	Minor Approach Speed:	**35**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Approach Lane Criteria

1. How many approach lanes are there at the track crossing? ☐ 1 ☐ 2 or more

If there is 1 lane, use Figure 4C-9 and if there are 2 or more, use Figure 4C-10. ☐ Fig 4C-9 ☐ Fig 4C-10

WARRANT 9 - INTERSECTION NEAR A GRADE CROSSING

This signal warrant should be applied only after adequate consideration has been given to other alternatives or after a trial of an alternative has failed to alleviate the safety concerns associated with the grade crossing.

Indicate if both criteria are fulfilled in the boxes provided. The warrant is satisfied if both criteria are met.

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☐ No

Criteria	Fulfilled? Yes	Fulfilled? No
1. A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and	☐	☑
2. During the highest traffic volume hour during which the rail uses the crossing, the plotted point falls above the applicable curve for the existing combination of approach lanes over the track and the distance D (clear storage distance).	☐	☐

Use the following tables (4C-2, 4C-3, and 4C-4 to appropriately adjust the minor-street approach volume).

Inputs		Adjustment Factors from Tables
Occurrences of Rail traffic per day		
% of High Occupancy Buses on Approach Lane at Track Crossing		**1.00**
Enter D (feet)		
% of Tractor-Trailer Trucks on Approach Lane at Track Crossing		**0.50**

Table 4C-2. Adjustment Factor for Daily Frequency of Rail Traffic

Rail Traffic per Day	Adjustment Factor
1	0.67
2	0.91
3 to 5	1.00
6 to 8	1.18
9 to 11	1.25
12 or more	1.33

Table 4C-3. Adjustment Factor for Percentage of High-Occupancy Buses

% of High-Occupancy Buses* on Minor Street Approach	Adjustment Factor
0%	1.00
2%	1.09
4%	1.19
6% or more	1.32

* A high-occupancy bus is defined as a bus occupied by at least 20 people

Table 4C-4. Adjustment Factor for Percentage of Tractor-Trailer Trucks

% of Tractor-Trailer Trucks on Minor-Street Approach	Adjustment Factor	
	D less than 70 feet	D of 70 feet or more
0% to 2.5%	0.50	0.50
2.6% to 7.5%	0.75	0.75
7.6% to 12.5%	1.00	1.00
12.6% to 17.5%	2.30	1.15
17.6% to 22.5%	2.70	1.35
22.6% to 27.5%	3.28	1.64
More than 27.5%	4.18	2.09

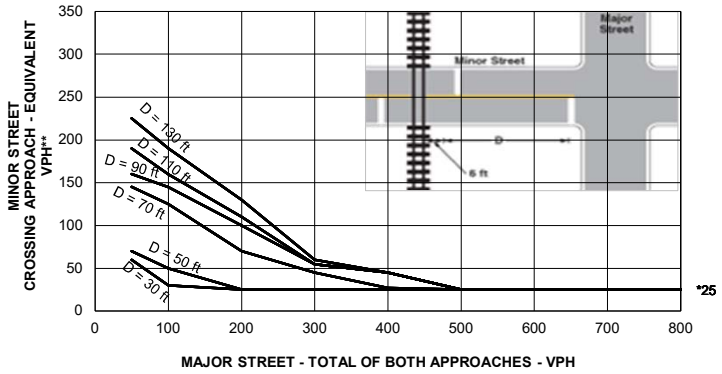
Input the major and minor street volumes before adjustment factors are applied

1 Approach Lane		
D (ft)	Major Vol.	Minor Vol.

After adjustment factors are applied

1 Approach Lane w/Factors		
D (ft)	Major Vol.	Minor Vol.

FIGURE 4C-9: Criteria for 1 Approach Lane at the Track Crossing



** Note: 25 vph applies as the lower threshold volume*

** *Note: VPH after applying the adjustment factors in Tables 4C-2, 4C, and or 4C-4, if appropriate*

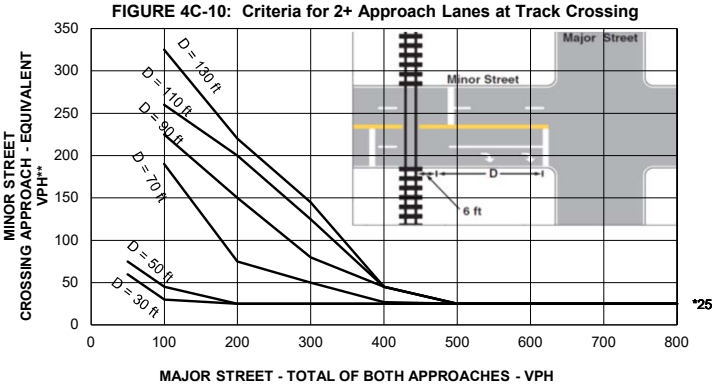
Input D and the major and minor street volumes before adjustment factors are applied

2 or more Approach Lanes		
D (ft)	Major Vol.	Minor Vol.

After adjustment factors are applied

2+ Approach Lane w/Factors		
D (ft)	Major Vol.	Minor Vol.

FIGURE 4C-10: Criteria for 2+ Approach Lanes at Track Crossing



** Note: 25 vph applies as the lower threshold volume*

** *Note: VPH after applying the adjustment factors in Tables 4C-2, 4C, and or 4C-4, if appropriate*

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:		Engineer:	**Choice Engineering, Inc**
County:	**87 – Miami Dade**	Date:	
District:	**Six**		

Major Street:	**SR 994/SW 200 St/Quail Roost Dr**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 134 Avenue**	Lanes:	**2**	Minor Approach Speed:	**35**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

CONCLUSIONS

Remarks:

WARRANTS SATISFIED:

	Not Applicable	Met	Not Met
Warrant 1	☐	☑	☐
Warrant 2	☐	☑	☐
Warrant 3	☑	☐	☐
Warrant 4	☑	☐	☐
Warrant 5	☑	☐	☐
Warrant 6	☑	☐	☐
Warrant 7	☐	☐	☑
Warrant 8	☑	☐	☐
Warrant 9	☑	☐	☐

Appendix G: Signal Warrant Analysis for SW 132 Avenue

1. Traffic Data

1.1 72-HOUR TRAFFIC VOLUME COUNTS

Seventy-two hourly traffic volume counts were collected on all approaches to the study intersection from Tuesday, August 31, 2021, to Thursday, September 2, 2021. **Table 1** summarizes the daily hourly volumes and the average of the three-day, 72-hour counts. The graph in **Figure 1** shows the variation of the average three-day hourly traffic volumes versus time of day. Based on this data, the study intersection experienced a morning peak period between 7:00 AM and 9:00 AM and an afternoon peak period between 3:00 PM and 5:00 PM. Details of the traffic data collected, in 15-minute intervals is included in **Appendix B**.

Table 1: Summary of Traffic Volume Counts by Intersection Approach

Time	Eastbound SR 994 / Quail Roost Dr	Westbound SR 994 / Quail Roost Dr	Northbound SW 132 Ave	Average Intersection	Total Intersection
0:00	39	74	10	41	**123**
1:00	30	39	4	24	**73**
2:00	25	30	4	20	**59**
3:00	23	36	6	22	**65**
4:00	41	73	31	48	**145**
5:00	174	283	135	197	**592**
6:00	485	648	367	500	**1500**
7:00	977	1171	459	869	**2607**
8:00	1018	1050	295	788	**2363**
9:00	473	553	217	414	**1243**
10:00	422	470	181	358	**1073**
11:00	436	504	176	372	**1116**
12:00	518	572	206	432	**1296**
13:00	527	654	217	466	**1398**
14:00	648	873	212	578	**1733**
15:00	705	1218	194	706	**2117**
16:00	627	1153	188	656	**1968**
17:00	671	1118	181	657	**1970**
18:00	557	870	184	537	**1611**
19:00	417	637	165	406	**1219**
20:00	332	443	117	297	**892**
21:00	190	361	88	213	**639**
22:00	139	220	65	141	**424**
23:00	79	134	24	79	**237**
Total	**9,553**	**13,184**	**3,726**	**8,821**	**26,463**

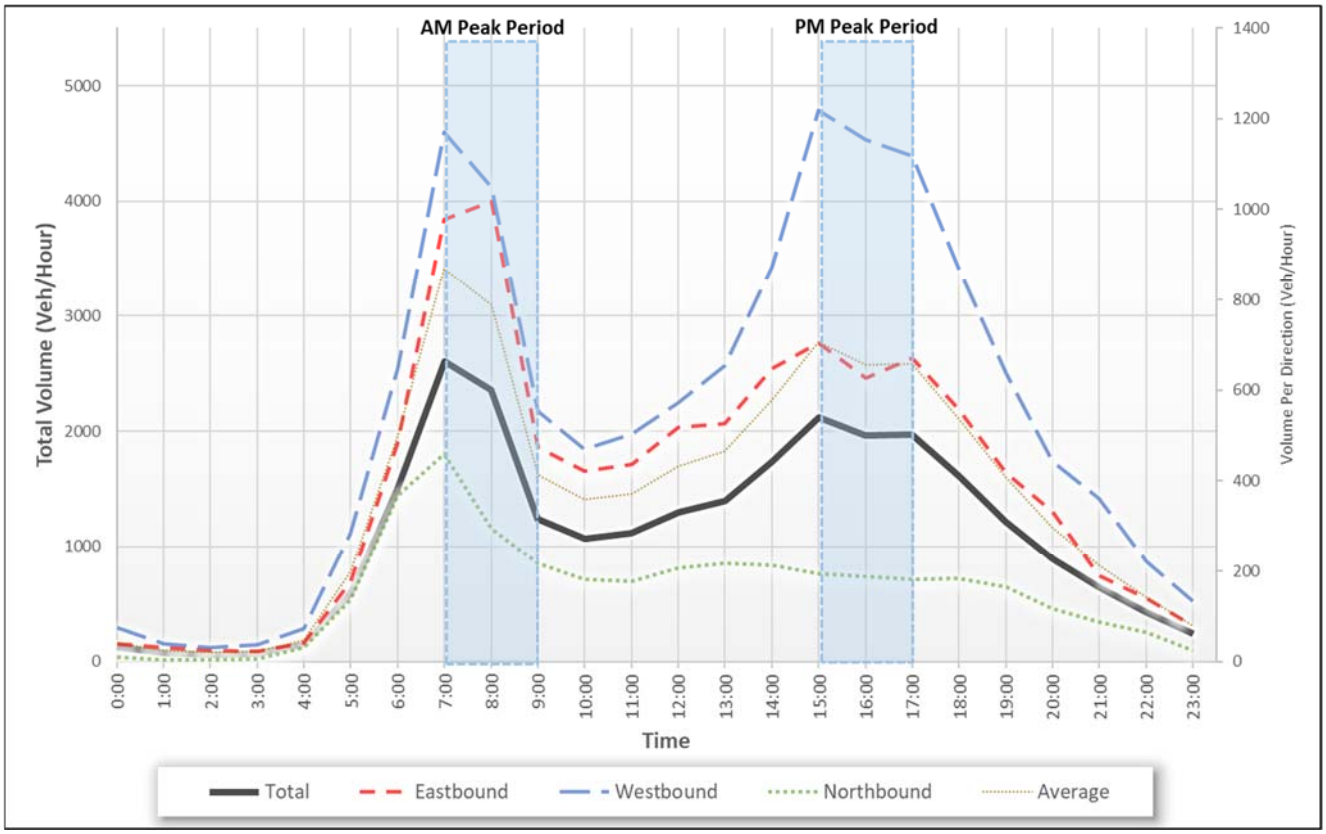


Figure 1: Hourly Traffic Volumes vs Time of Day

(This area was intentionally left blank.)

1.2 TURNING MOVEMENT COUNTS

Six-hour turning movement counts (TMCs) were collected in 15-minute intervals at the study intersection on Wednesday, September 8, 2021, from 6:30 AM to 9:30 AM and from 3:30 PM to 6:30 PM. The data collection periods correspond to the peak periods identified in the 72-hour volume counts. **Table 2** summarizes the TMCs for the peak hours which occurred between 7:30 AM and 8:30 AM during the morning period and 3:30 PM to 4:30 PM during the afternoon period. Detailed results of the six-hour TMCs are included in **Appendix B**.

Table 2: Summary of Turning Movement Counts

Study Period	Eastbound				Westbound				Northbound				Intersection	
	SR 994 / Quail Roost Dr				SR 994 / Quail Roost Dr				SW 132 Avenue					
		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	PHF	Total Volume
Weekday AM Peak Hour (7:30 AM - 8:30 AM)	Veh+ Trucks	0	755	11	Veh+ Trucks	65	768	0	Veh+ Trucks	37	0	198	0.96	1834
	Trucks	0	70	0	Trucks	4	40	0	Trucks	2	0	8		
	%T	0%	9%	0%	%T	6%	5%	0%	%T	5%	0%	4%		
		766				833				235				
		% of Intersection 41.8%				% of Intersection 45.4%				% of Intersection 12.8%				
Weekday PM Peak Hour (3:30 PM - 4:30 PM)	Veh+ Trucks	0	675	53	Veh+ Trucks	164	612	0	Veh+ Trucks	22	0	64	0.98	1590
	Trucks	0	38	0	Trucks	14	75	0	Trucks	3	0	2		
	%T	0%	6%	0%	%T	9%	12%	0%	%T	14%	0%	3%		
		728				776				86				
		% of Intersection 45.8%				% of Intersection 48.8%				% of Intersection 5.4%				

2. Crash Review and Summary

Crash data for the five most recent years (from January 2014 to December 2018) was downloaded from the FDOT's Crash Analysis Reporting System (CARS) on-line database. The crash data includes crashes along SR 994 (Section 87091000) that occurred within 500-feet east (MP 4.489) and west (MP 4.679) of the study intersection (MP 4.584). A crash summary for the study intersection is provided in **Table 4**.

There was a total of 36 crashes that occurred at the study intersection during the referenced five-year period with 6 crashes in 2014, 6 crashes in 2015, 10 crashes in 2016, 9 crashes in 2017, and 5 crashes in 2018. The leading crash types consisted of Rear-end with 27 (75%) crashes, Fixed Object with 3 (8%) crashes, and Right-turn with 2 (6%) crashes. The leading contributing causes for all crashes included "careless or negligent manner" with 25 (69%) crashes, "failed to yield right-of way" with 3 (8%) crashes, and "other contributing action" with 3 (8%) crashes. Based on crash severity, 16 (44%) crashes were property damaged only, 19 (53%) were injury type crashes, and one fatal crash (3%). There were no Pedestrian related crashes, and no Bicycle crashes that occurred within the five-year period. There were 10 (28%) night/dusk/dawn crashes which is equal to the Districtwide average of 29% night-time crashes. There were 9 (25%) crashes that occurred under wet/slippery pavement conditions which is greater than the Districtwide average of 12% wet related crashes.

An Expected Values Analysis (EVA) was not performed at the study intersection because there are no statistics available for other District-wide spots to compare with similar geometric features. A confidence level analysis was not performed for years 2014, 2015, and 2018 since the total number of crashes did not meet the minimum of eight (8) crashes per year to be statistically significant. Based on the confidence level analysis performed for 2016 and 2017, the study intersection is not considered to have an abnormally high number of crashes, as presented in **Table 5**. The Highway Safety Improvement Program identifies urban intersections and segments within a confidence level of 99.95% or greater to be locations with abnormally high crashes. Based on the Department's high crash lists for segments and intersections for the crash period, the study intersection is considered a high crash intersection and belongs to a high crash segment from MP 4.075 to MP 4.961.

Table 4: Crash Summary (2014-2018)

SR 994/Quail Roost Dr at SW 132 Avenue Segment/Spot with No Expected Values Available		Number of Crashes Year 2014	2015	2016	2017	2018	5 Year Total Crashes	Mean Crashes Per Year	%	Expected Annual Crash Value Abnormally High Crashes per year 90th percentile	95th percentile	90 %ile	95 %ile
CRASH TYPE	Rear End	5	3	7	8	4	27	5.40	75.0%	0.00	0.00		
	Head On	0	0	1	0	0	1	0.20	2.8%	0.00	0.00		
	Angle	0	1	0	0	0	1	0.20	2.8%	0.00	0.00		
	Left Turn	0	0	1	0	0	1	0.20	2.8%	0.00	0.00		
	Right Turn	0	0	1	0	1	2	0.40	5.6%	0.00	0.00		
	Sideswipe	0	0	0	0	0	0	0.00	0.0%	0.00	0.00		
	Backed Into	0	0	0	0	0	0	0.00	0.0%	0.00	0.00		
	Pedestrian	0	0	0	0	0	0	0.00	0.0%	0.00	0.00		
	Bicycle	0	0	0	0	0	0	0.00	0.0%	0.00	0.00		
	Fixed Object	0	2	0	1	0	3	0.60	8.3%	0.00	0.00		
	Other Non-Collisions	1	0	0	0	0	1	0.20	2.8%	0.00	0.00		
	Overturn/Rollover	0	0	0	0	0	0	0.00	0.0%	0.00	0.00		
	Others	0	0	0	0	0	0	0.00	0.0%	0.00	0.00		
	Total Crashes	**6**	**6**	**10**	**9**	**5**	**36**	**7.20**	**100.0%**	**0.00**	**0.00**		
SEVERITY	PDO Crashes	3	4	4	3	2	16	3.20	44.4%	0.00	0.00		
	Fatal Crashes	0	0	1	0	0	1	0.20	2.8%	0.00	0.00		
	Injury Crashes	3	2	5	6	3	19	3.80	52.8%	0.00	0.00		
LIGHTING CONDITIONS	Daylight	5	6	6	5	4	26	5.20	72.2%	0.00	0.00		
	Dusk	0	0	0	0	0	0	0.00	0.0%	0.00	0.00		
	Dawn	0	0	0	0	0	0	0.00	0.0%	0.00	0.00		
	Dark	1	0	4	4	1	10	2.00	27.8%	0.00	0.00		
	Unknown	0	0	0	0	0	0	0.00	0.0%	0.00	0.00		
SURFACE CONDITIONS	Dry	4	4	6	8	5	27	5.40	75.0%	0.00	0.00		
	Wet	2	2	4	1	0	9	1.80	25.0%	0.00	0.00		
	Others	0	0	0	0	0	0	0.00	0.0%	0.00	0.00		

Table 5. Crash Statistics

Year	2016	2017
Number of Crashes	10	9
Average Daily Traffic (ADT)	18,500	18,700
Actual Crash Rate (ACR)	1.481	1.319
District 6 Average Crash Rate (A)	0.988	0.903
Average Vehicle Exposure (M)	6.753	6.826
Critical Crash Rate (CCR)	2.174	2.026
Safety Ratio	0.681	0.651
Statistical Significance	1.481	1.345
Confidence Level	90.00%	90.00%

2.1 COLLISION DIAGRAM

Figures 4 to **5** represent the collision diagram for SW 132 Avenue, originally prepared for the SR 994 PD&E Traffic Report, to identify any abnormal crash characteristics or patterns at the study intersection that may have occurred during the five years of interest (2014 through 2018).

Based on a review of the crash types, Rear-end type crashes accounted for 27 (75%) of total crashes. Of the 27 Rear-end crashes reported, 18 (67%) were injury crashes and 9 (33%) were PDO crashes. Most Rear-end crashes, 24 (89%) out of 27, occurred in the westbound approach prior to crossing the study intersection.

A fatality occurred on March 20, 2016, at 8:40 PM at the study intersection due to an Angle crash involving a westbound left-turning vehicle and an eastbound through dirt bike. According to the police report (Report No. 852268560), the dirt bike was operating without a head light during dark-lighting conditions. Upon impact, the driver of the dirt bike was ejected and landed on the grass shoulder on the south side of SR 994/Quail Roost Drive.

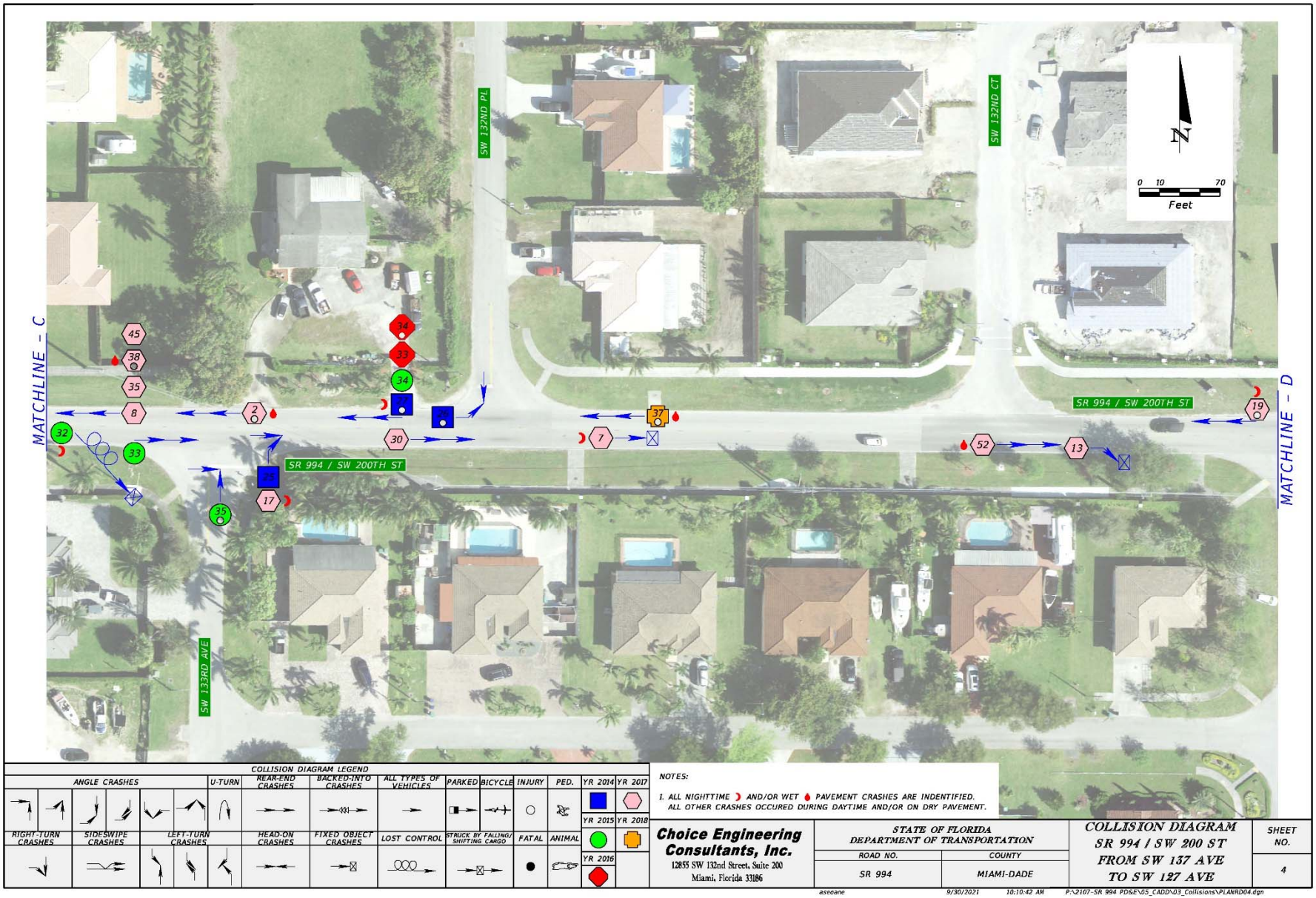


Figure 4. Collision Diagram for SW 132 Avenue (page 1 of 2)

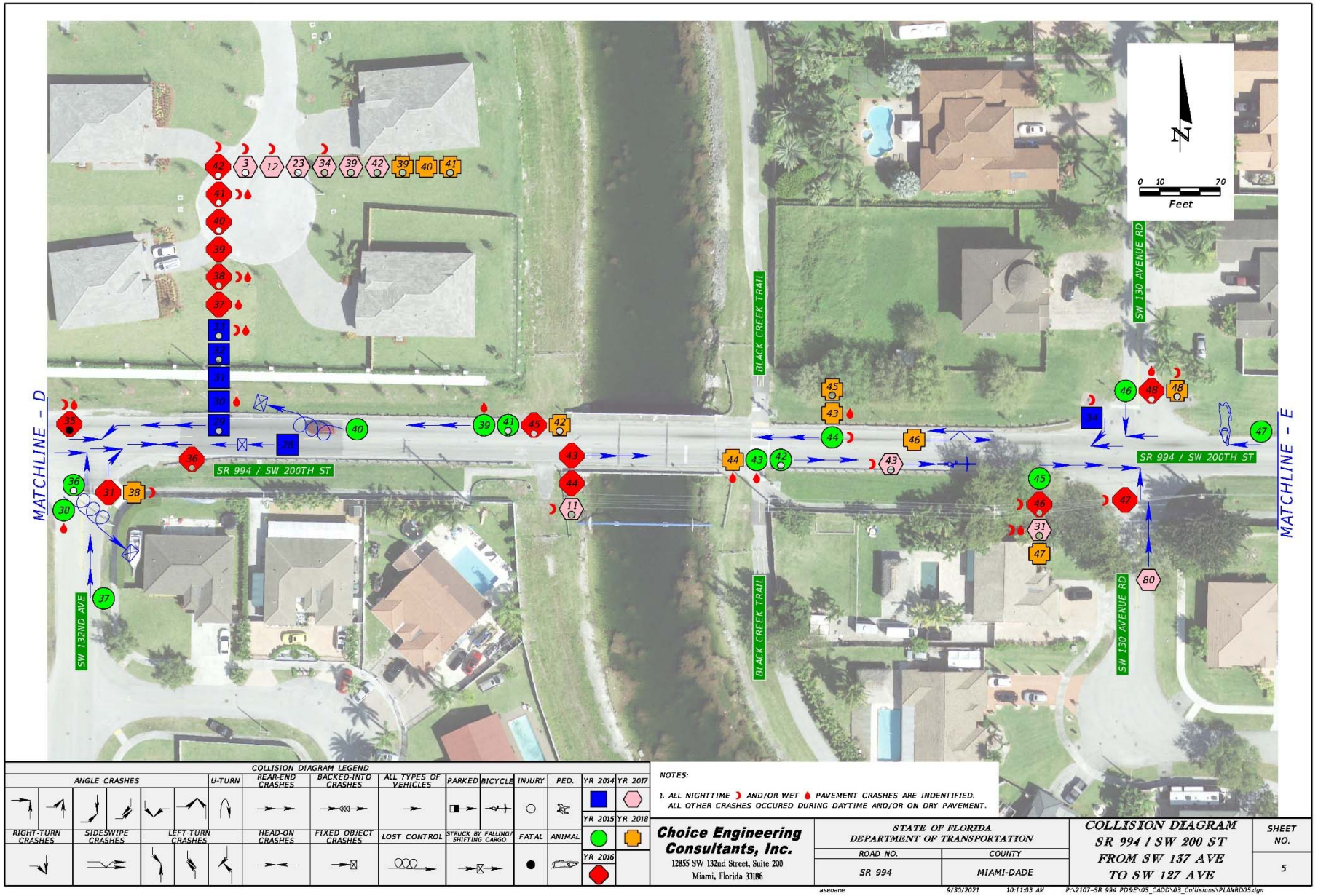


Figure 5. Collision Diagram for SW 132 Avenue (page 2 of 2)

3. SIGNAL WARRANT ANALYSIS

The *Manual on Uniform Traffic Control Devices* (MUTCD) is the national standard published by the FHWA that defines the use and application of traffic control devices. The MUTCD (2009 Edition) defines nine warrants for a traffic signal control. At a minimum, one or more of these warrants must be satisfied to justify the installation of a new traffic signal. However, as indicated in Section 4C.01 of the MUTCD, "*the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal*". Delay, congestion, confusion, or other evidence of the need for right-of-way assignment must be shown. Alternative improvements which may eliminate the need for a signal should also be considered. The nine MUTCD warrants are as follows:

- Warrant 1, Eight-Hour Vehicular Volume
- Warrant 2, Four-Hour Vehicular Volume
- Warrant 3, Peak Hour
- Warrant 4, Pedestrian Volume
- Warrant 5, School Crossing
- Warrant 6, Coordinated Signal System
- Warrant 7, Crash Experience
- Warrant 8, Roadway Network
- Warrant 9, Intersection Near a Grade Crossing

The analysis of the signal warrants was conducted by completing the Traffic Signal Warrant Summary Forms provided in the Department's Manual on Uniform Traffic Studies (MUTS). These forms provide a useful tool for evaluating the signal warrants. The complete forms are attached at the end of this section and results are summarized below. The signal warrant analysis was performed using traffic and pedestrian data for weekday conditions. For analysis of Warrants 1, 2 and 7, SR 994/Quail Roost Drive was treated as the major street with 2 travel lanes and SW 132 Avenue was treated as the minor street with 2 travel lanes.

3.1 WARRANT 1 – EIGHT-HOUR VEHICULAR VOLUME

Warrant 1 covers the eight-hour vehicular volume for conditions A and B. The Minimum Vehicular Volume (Condition A) is intended where a large volume of intersecting traffic is the principal reason to consider installing a traffic signal. The Interruption of Continuous Traffic (Condition B) is intended where traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street. An assessment of the basic minimum hourly volume threshold (100%) for Warrant 1 is shown in **Table 6** for a typical weekday which indicates that Condition A and Condition B were met at the 100% volume threshold. As a result, **Warrant 1 is satisfied** for the study intersection.

Table 6: Warrant 1 (100%) Summary

No.	Time (hr)	Total of Both Approaches on Major Street	Highest Approach Volume on Minor Street (NB)	Condition A is met at 100%?			Condition B is met at 100%?			Warrant 1 is met by meeting Condition A or B for at least 8 hours?
				Requirement		Hourly Volume Met?	Requirement		Hourly Volume Met?	
				Major Street (1 Lane)	Minor Street (1 lane)		Major Street (1 Lane)	Minor Street (1 lane)		
1	12:00 AM	113	10	500	150	NO	750	75	NO	Yes, it does meet Conditions A and B at 100% for at least 8 hours in a 24-hour period
2	1:00 AM	69	4	500	150	NO	750	75	NO	
3	2:00 AM	55	4	500	150	NO	750	75	NO	
4	3:00 AM	59	6	500	150	NO	750	75	NO	
5	4:00 AM	114	31	500	150	NO	750	75	NO	
6	5:00 AM	457	135	500	150	NO	750	75	NO	
7	6:00 AM	1133	367	500	150	YES	750	75	YES	
8	7:00 AM	2148	459	500	150	YES	750	75	YES	
9	8:00 AM	2068	295	500	150	YES	750	75	YES	
10	9:00 AM	1026	217	500	150	YES	750	75	YES	
11	10:00 AM	892	181	500	150	YES	750	75	YES	
12	11:00 AM	940	176	500	150	YES	750	75	YES	
13	12:00 PM	1090	206	500	150	YES	750	75	YES	
14	1:00 PM	1181	217	500	150	YES	750	75	YES	
15	2:00 PM	1521	212	500	150	YES	750	75	YES	
16	3:00 PM	1923	194	500	150	YES	750	75	YES	
17	4:00 PM	1780	188	500	150	YES	750	75	YES	
18	5:00 PM	1789	181	500	150	YES	750	75	YES	
19	6:00 PM	1427	184	500	150	YES	750	75	YES	
20	7:00 PM	1054	165	500	150	YES	750	75	YES	
21	8:00 PM	775	117	500	150	NO	750	75	YES	
22	9:00 PM	551	88	500	150	NO	750	75	NO	
23	10:00 PM	359	65	500	150	NO	750	75	NO	
24	11:00 PM	213	24	500	150	NO	750	75	NO	

3.2 WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

Warrant 2, the four-hour vehicular volume warrant, is intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic signal. An assessment of the basic minimum hourly volume threshold (100%) for Warrant 2 is shown in **Table 7** for a typical weekday which indicates that the minor street volumes does exceed the minimum thresholds for at least 4 hours. As a result, **Warrant 2 is satisfied** for the study intersection on the basis that the condition is met for at least 4 hours at a 100% volume threshold.

Table7: Warrant 2 (100%) Summary

No.	Time (hr)	Total of Both Approaches on Major Street	Highest Approach Volume on Minor Street (NB)	Hourly Volume Met? (Minimum threshold for NB is 80 veh)*	Warrant 2 is met by meeting the minimum threshold for at least 4 hours?
1	12:00 AM	113	10	NO	Yes, the minimum threshold is met for at least 4 hours.
2	1:00 AM	69	4	NO	
3	2:00 AM	55	4	NO	
4	3:00 AM	59	6	NO	
5	4:00 AM	114	31	NO	
6	5:00 AM	457	135	NO	
7	6:00 AM	1133	367	YES	
8	7:00 AM	2148	459	YES	
9	8:00 AM	2068	295	YES	
10	9:00 AM	1026	217	YES	
11	10:00 AM	892	181	YES	
12	11:00 AM	940	176	YES	
13	12:00 PM	1090	206	YES	
14	1:00 PM	1181	217	YES	
15	2:00 PM	1521	212	YES	
16	3:00 PM	1923	194	YES	
17	4:00 PM	1780	188	YES	
18	5:00 PM	1789	181	YES	
19	6:00 PM	1427	184	YES	
20	7:00 PM	1054	165	YES	
21	8:00 PM	775	117	NO	
22	9:00 PM	551	88	NO	
23	10:00 PM	359	65	NO	
24	11:00 PM	213	24	NO	

Note: *80 vph applies as the lower threshold volume for a minor-street approach with one lane and a major street volume (total of both approaches) of approximately 1100 vph or greater as shown in Figure 4C-1 of the MUTCD, 2009 Edition.

3.3 WARRANT 3 – PEAK HOUR VOLUME

Warrant 3 is intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor street traffic suffers undue delay when entering or crossing the major street. The MUTCD stipulates that this warrant must only be used for unusual cases such as office complexes, manufacturing plants, industrial complexes or other high-occupancy vehicle facilities that attract or discharge copious amounts of vehicles over a short time. Warrant 3 is satisfied under one of the following conditions:

A) If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:
    1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach; and
    2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and
    3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.

B) The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 (MUTCD) for the existing combination of approach lanes.

Based on a review of the immediate surrounding land uses, **Warrant 3 is not applicable** for the study intersection.

3.4 WARRANT 4 – PEDESTRIAN VOLUME

Warrant 4 is intended for applications where the traffic volume on a major street is so heavy that pedestrians experience excessive delays in crossing the major street. Additionally, 70% volume threshold (Figure 4C-6 and Figure 4C-8, MUTCD) can be applied as a result of the major street having a posted speed limit exceeding 35 MPH (Posted Speed Limit is 40 MPH). Warrant 4 is satisfied under one of the following conditions:

A) For each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) all fall above the threshold represented by Figure 4C-5 (MUTCD) or Figure 4C-6. For Figure 4C-5 the absolute minimum pedestrian volume is 107 pedestrians per hour and for Figure 4C-6 the absolute minimum pedestrian volume is 75 pedestrian per hour.

B) For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) falls above the threshold represented by Figure 4C-7 (MUTCD) or Figure 4C-8. For Figure 4C-7 the absolute minimum pedestrian volume is 133 pedestrians per hour and for Figure 4C-8 the absolute minimum pedestrian volume is 93 pedestrian per hour.

Based on the traffic count data collected (see Section 3.1 and **Appendix B**) and in concurrence with the field observations (Section 3.2), **Warrant 4 is not applicable** for the study intersection due to the low pedestrian activity observed crossing the major street during the observed peak periods.

3.5 WARRANT 5 – SCHOOL CROSSING

Warrant 5 is applicable when the fact that school children crossing the major street is the principal reason to consider installing a traffic control signal. Based on a review of the surrounding land developments, there are no schools at or in the immediate vicinity of the study intersection and no school children were observed crossing at or near the study intersection during the field observations. Therefore, **Warrant 5 is not applicable** for the study intersection.

3.6 WARRANT 6 – COORDINATED SIGNAL SYSTEM

Warrant 6 is applicable when progressive movement in a coordinated system necessitates installing a traffic signal to maintain proper platooning of vehicles. The MUTCD indicates that this warrant is met if on a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation. **Warrant 6 is not applicable** for the study intersection.

3.7 WARRANT 7 – CRASH EXPERIENCE

Warrant 7 is examined when the crashes experienced at an intersection is the principal reason to consider installing a traffic control signal. This warrant is satisfied when the following three criteria are met:

A) Adequate trials of other remedial measures have failed to reduce crash frequency.

B) Traffic volumes at the study intersection meet 80% of Condition A or B under Warrant 1 or pedestrian volumes meet 80% of Warrant 4. The traffic volumes measured at the intersection satisfy this condition.

C) Five or more reported crashes, of types susceptible to correction by the installation of a traffic control signal, have occurred within a 12-month period – see **Table 8**.

Table 8: Warrant 7 Summary

Crash Type Susceptible to Correction by a Traffic Control Signal	2014	2015	2016	2017	2018	% of All Crashes
Angle	0	1	0	0	0	2.8 %
Left turn	0	0	1	0	0	2.8 %
Total	**0**	**1**	**1**	**0**	**0**	**5.6 %**

Traffic volumes at the study location satisfy Condition 2 but the crash statistics do not satisfy Condition 3 (summarized in **Table 8**). Additionally, Condition 1, the implementation of less restrictive measures, is not satisfied at this time. Consequently, **Warrant 7 is not satisfied** for the study intersection.

3.8 WARRANT 8 – ROADWAY NETWORK

Warrant 8 is appropriate where installing a traffic signal might be justified to encourage concentration/organization of traffic flow on a roadway network and when two or more major routes intersect. A major route as used/defined in this signal warrant shall have at least one of the following characteristics:

A) It is part of the street or highway system that serves as the principal roadway network for through traffic flow.

B) It includes rural or suburban highways outside, entering, or traversing a city.

C) It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.

Therefore, as per the MUTCD Warrant 8 guidance SW 132 Avenue is not considered a major road and consequently, **Warrant 8 is not applicable** for the study intersection.

3.9 WARRANT 9 – INTERSECTION NEAR A GRADE CROSSING

Warrant 9 is appropriate where none of the conditions described in the other eight traffic signal warrants are met, but the proximity to the intersection of a grade crossing on an intersection approach controlled by a STOP or YIELD sign is the principal reason to consider installing a traffic control signal. Based on a review of the surrounding area, there are no grade crossings at or in the immediate vicinity of the study intersection. Consequently, **Warrant 9 is not applicable** for the study intersection.

3.10 WARRANT ANALYSIS SUMMARY

Table 9 is a compiled summary of the warrant analysis. Of the nine minimum warrants reviewed, three are applicable, and two are satisfied.

Table 92: Warrant Analysis Summary

Warrant 1	**Satisfied √**	**Warrant 6**	Not Applicable
Warrant 2	**Satisfied √**	**Warrant 7**	**Not Satisfied ×**
Warrant 3	Not Applicable	**Warrant 8**	Not Applicable
Warrant 4	Not Applicable	**Warrant 9**	Not Applicable
Warrant 5	Not Applicable		

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:
County: **87 – Miami Dade**
District: **Six**

Engineer: **Choice Engineering, Inc**
Date:

Major Street: **SR 994/ SW 200 St/Quail Roost Dr** Lanes: **2** Major Approach Speed: **40**
Minor Street: **SW 132 Avenue** Lanes: **2** Minor Approach Speed: **30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☐ Yes ☑ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☐ MAY ☐ 70% ☑ 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

*Warrant 1 is satisfied if Condition A **or** Condition B is "100%" satisfied for eight hours.* ☑ Yes ☐ No

*Warrant 1 is also satisfied if both Condition A **and** Condition B are "80%" satisfied (should only be applied after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems).* ☑ Yes ☐ No

*Warrant 1 is satisfied if Condition A **or** Condition B is "70%" satisfied for eight hours.* ☑ Yes ☐ No

Condition A - Minimum Vehicular Volume

Condition A is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Applicable: ☑ Yes ☐ No
100% Satisfied: ☑ Yes ☐ No
80% Satisfied: ☑ Yes ☐ No
70% Satisfied: ☑ Yes ☐ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	**Minor**	**100%[a]**	**80%[b]**	**70%[c]**	**100%[a]**	**80%[b]**	**70%[c]**
1	1	500	400	350	150	120	105
2 or more	1	600	480	420	150	120	105
2 or more	2 or more	600	480	420	200	160	140
1	2 or more	500	400	350	200	160	140

[a] Basic Minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Street	Eight Highest Hours							
	7:00 AM	**8:00 AM**	**3:00 PM**	**5:00 PM**	**4:00 PM**	**2:00 PM**	**5:00 PM**	**1:00 PM**
Major	2,148	2,068	1,923	1,789	1,780	1,521	1,427	1,181
Minor	459	295	194	181	188	212	184	217

Existing Volumes

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

Condition B - Interruption of Continuous Traffic

Condition B is intended for application where Condition A is not satisfied and the traffic volume on a major street is so heavy that traffic on the minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

Applicable:	☐ Yes	☑ No
100% Satisfied:	☑ Yes	☐ No
80% Satisfied:	☑ Yes	☐ No
70% Satisfied:	☑ Yes	☐ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	**Minor**	**100%[a]**	**80%[b]**	**70%[c]**	**100%[a]**	**80%[b]**	**70%[c]**
1	1	750	600	525	75	60	53
2 or more	1	900	720	630	75	60	53
2 or more	2 or more	900	720	630	100	80	70
1	2 or more	750	600	525	100	80	70

[a] Basic Minimum hourly volume

[b] Used for combination of Conditions A and B after adequate trial of other remedial measures

[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Eight Highest Hours								
Street	**7:00 AM**	**8:00 AM**	**3:00 PM**	**5:00 PM**	**4:00 PM**	**2:00 PM**	**5:00 PM**	**1:00 PM**
Major	2,148	2,068	1,923	1,789	1,780	1,521	1,427	1,181
Minor	459	295	194	181	188	212	184	217

Existing Volumes

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:		Engineer:	**Choice Engineering, Inc**
County:	**87 – Miami Dade**	Date:	
District:	**Six**		

Major Street:	**SR 994/ SW 200 St/Quail Roost Dr**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 132 Avenue**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☐ Yes ☑ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☐ MAY ☐ 70% ☑ 100%

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

If all four points lie above the appropriate line, then the warrant is satisfied.

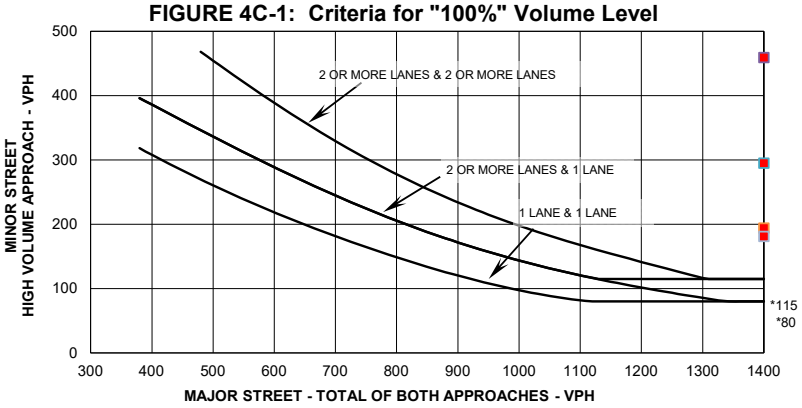
Applicable: ☑ Yes ☐ No
Satisfied: ☑ Yes ☐ No

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
7:00 AM	2148	459
8:00 AM	2068	295
3:00 PM	1923	194
5:00 PM	1789	181

Plot four volume combinations on the applicable figure below.

FIGURE 4C-1: Criteria for "100%" Volume Level



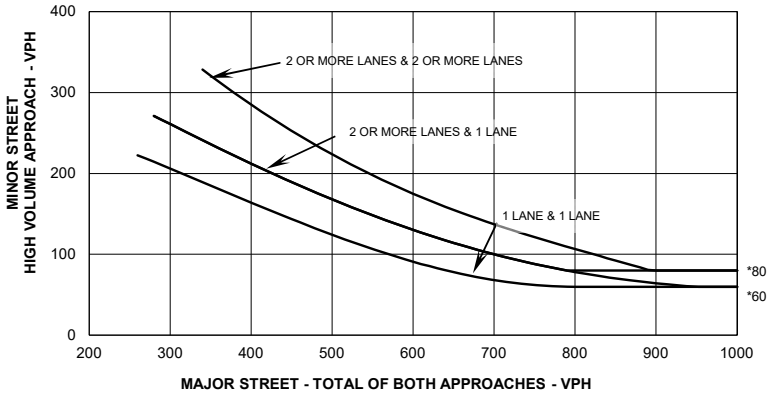
** Note: 115 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 80 mph applies as the lower threshold volume threshold for a minor street approach with one lane.*

70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street

FIGURE 4C-2: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr. (40 mph) on Major Street)



** Note: 80 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 60 ph. applies as the lower threshold volume threshold for a minor street approach with one lane.*

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:		Engineer:	**Choice Engineering, Inc**
County:	**87 – Miami Dade**	Date:	
District:	**Six**		

Major Street:	**SR 994/ SW 200 St/Quail Roost Dr**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 132 Avenue**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☐ Yes ☑ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☐ MAY ☐ 70% ☑ 100%

WARRANT 3 - PEAK HOUR

*If all three criteria are fulfilled **or** the plotted point lies above the appropriate line, then the warrant is satisfied.*

Applicable: ☐ Yes ☑ No
Satisfied: ☐ Yes ☐ No

Unusual condition justifying use of warrant:

Industrial Complex

-

Record hour when criteria are fulfilled and the corresponding delay or volume in boxes provided.

Peak Hour 100% Volume		
Time	Major Vol.	Minor Vol.
7:00 AM	2148	459

Peak Hour 70% Volume		
Time	Major Vol.	Minor Vol.

Criteria

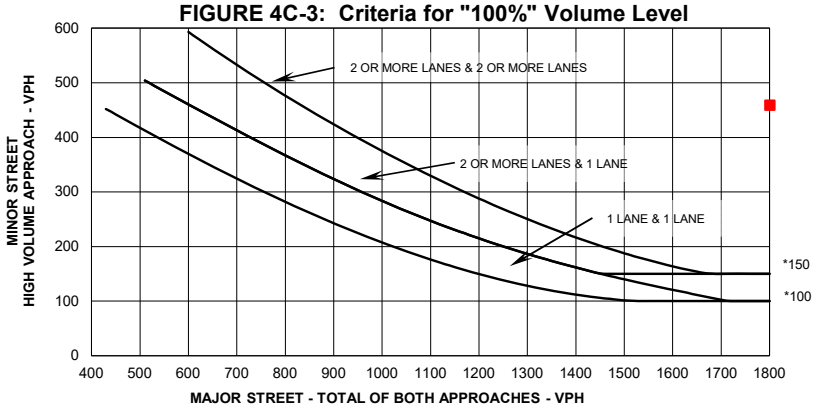
1. Delay on Minor Approach *(vehicle-hours)		
Approach Lanes	1	2
Delay Criteria*	4.0	5.0
Delay*		
Fulfilled?:	☐ Yes ☐ No	

2. Volume on Minor Approach One-Direction *(vehicles per hour)		
Approach Lanes	1	2
Volume Criteria*	100	150
Volume*		
Fulfilled?:	☐ Yes ☐ No	

3. Total Intersection Entering Volume *(vehicles per hour)		
No. of Approaches	3	4
Volume Criteria*	650	800
Volume*		
Fulfilled?:	☐ Yes ☐ No	

Plot volume combination on the applicable figure below.

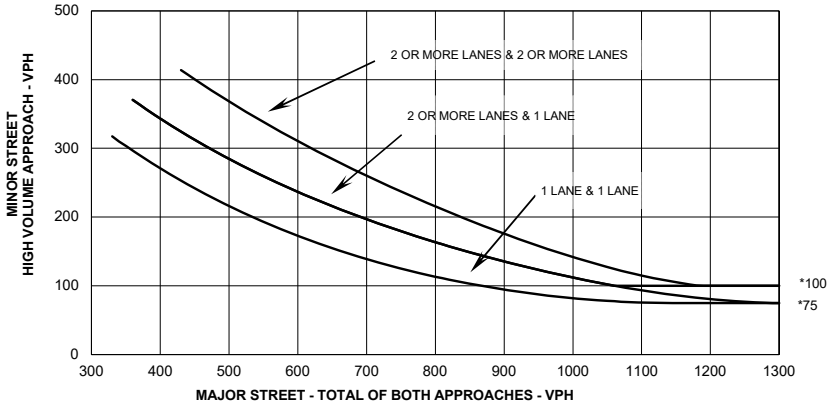
FIGURE 4C-3: Criteria for "100%" Volume Level



** Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

FIGURE 4C-4: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr. (40 mph) on Major Street)



** Note: 100 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 75 phi applies as the lower threshold volume threshold for a minor street approach with one lane.*

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:		Engineer:	**Choice Engineering, Inc**
County:	**87 – Miami Dade**	Date:	
District:	**Six**		

Major Street:	**SR 994/ SW 200 St/Quail Roost Dr**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 132 Avenue**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pd

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 35 mph? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ MAY ☑ 70% ☐ 100%

Option

*Pedestrian volume crossing the major street **may** be reduced as much as 50% if the 15th-percentile crossing speed of pedestrians is less than 3.5 ft/sec.* A walking speed study was conducted which reported a pedestrian speed less than 3.5 ft/sec for the 15th percentile. ☐ Yes ☐ No

WARRANT 4 - PEDESTRIAN VOLUME

For each of any 4 hours of an average day, the plotted points lie above the appropriate line, then the warrant is satisfied.

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☐ No

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Pedestrian Total

Plot four volume combinations on the applicable figure below.

Figure 4C-5. Criteria for "100%" Volume Level

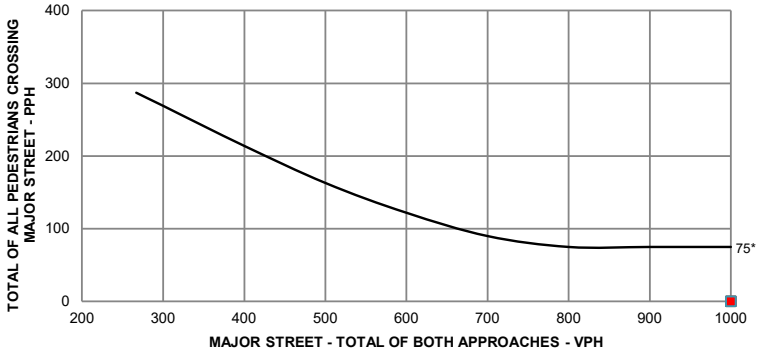


** Note: 107 pph applies as the lower threshold volume for 100% volume level*

70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Pedestrian Total
7:00 AM	2148	
8:00 AM	2068	
3:00 PM	1923	
5:00 PM	1789	

Figure 4C-6 Criteria for "70%" Volume Level



** Note: 75 pph applies as the lower threshold volume for 70% volume level*

WARRANT 4 - PEDESTRIAN VOLUME

For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point falls above the appropriate line, then the warrant is satisfied.

Applicable: ☐ Yes ☑ No

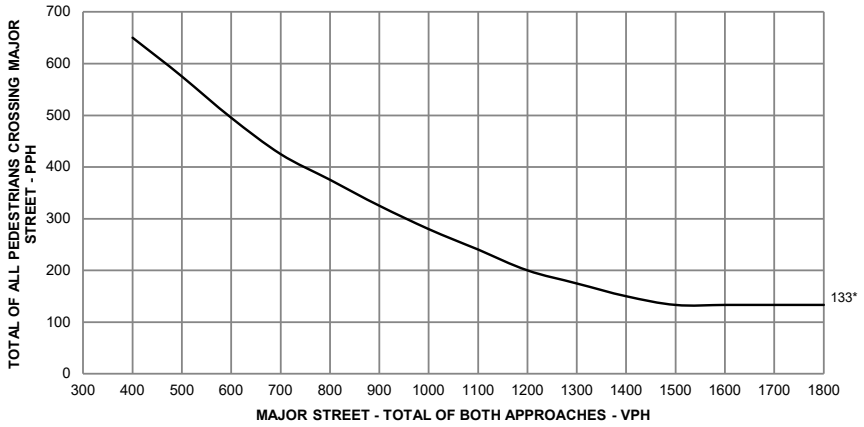
Satisfied: ☐ Yes ☐ No

Plot one volume combination on the applicable figure below.

100% Volume Level

Peak Hour	Volumes	
	Major Street	Pedestrian Total

Figure 4C-7. Criteria for "100%" Volume Level - Peak Hour

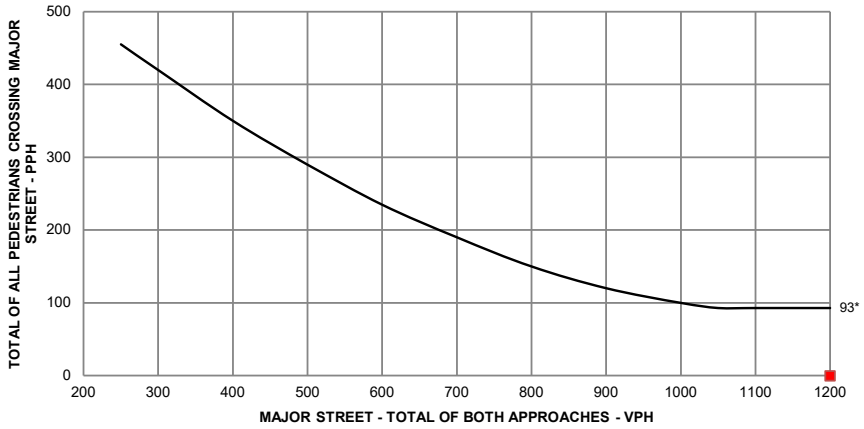


** Note: 133 pph applies as the lower threshold volume*

70% Volume Level

Peak Hour	Volumes	
	Major Street	Pedestrian Total
12:00 AM	2148	

Figure 4C-8 Criteria for "70%" Volume Level - Peak Hour



** Note: 93 pph applies as the lower threshold volume*

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:		Engineer:	**Choice Engineering, Inc**
County:	**87 – Miami Dade**	Date:	
District:	**Six**		

Major Street:	**SR 994/ SW 200 St/Quail Roost Dr**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 132 Avenue**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 5 - SCHOOL CROSSING

Record hours where criteria are fulfilled and the corresponding volume or gap frequency in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled.

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☐ No

Criteria				Fulfilled? Yes	Fulfilled? No
1. There are a minimum of 20 students crossing the major street during the highest crossing hour.	Students:	Hour:			
2. There are fewer adequate gaps in the major street traffic stream during the period when the children are using the established school crossing than the number of minutes in the same period.		Minutes:	Gaps:		
3. The nearest traffic signal along the major street is located more than 300 ft. (90 m) away, or the nearest signal is within 300 ft. (90 m) but the proposed traffic signal will not restrict the progressive movement of traffic.					

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:		Engineer:	**Choice Engineering, Inc**
County:	**87 – Miami Dade**	Date:	
District:	**Six**		

Major Street:	**SR 994/ SW 200 St/Quail Roost Dr**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 132 Avenue**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 6 - COORDINATED SIGNAL SYSTEM

Indicate if the criteria are fulfilled in the boxes provided. The warrant is satisfied if either criterion is fulfilled. This warrant should not be applied when the resulting signal spacing would be less than 300 m (1,000 ft.).

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☐ No

Criteria	Fulfilled? Yes	Fulfilled? No
1. On a one-way street or a street that has traffic predominately in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.		
2. On a two-way street, adjacent signals do not provide the necessary degree of platooning, and the proposed and adjacent signals will collectively provide a progressive operation.		

State of Florida Department of Transportation

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County:	**87 – Miami Dade**	Date:	
District:	**Six**		

Major Street:	**SR 994/ SW 200 St/Quail Roost Dr**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 132 Avenue**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 7 - CRASH EXPERIENCE

*Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if **all three** of the criteria are fulfilled.*

Applicable: ☑ Yes ☐ No
Satisfied: ☐ Yes ☑ No

Criteria					Fulfilled? Yes	Fulfilled? No
1. Adequate trial of other remedial measure has failed to reduce crash frequency.	Measure tried:					X
2. Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12-month period.	Observed Crash Types:	Angle and Left-turn crashes	Number of crashes per 12 months:	1		X

3. **One of the following volume warrants is met:** — **Met?**

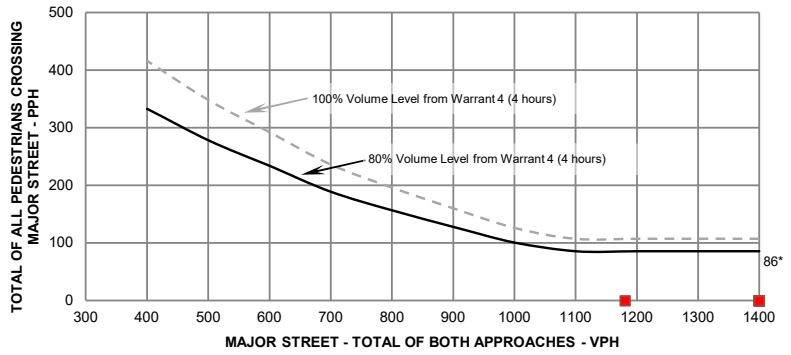
	Met?
Warrant 1, Condition A (80% satisfied), or	Yes
Warrant 1, Condition B (80% satisfied), or	Yes

Warrant 4, Pedestrian Volume satisfied at 80% of volume requirements for any 8 hours of an average day.

Hour	Major Street Volume	Ped Crossings Volume
7:00 AM	2148	
8:00 AM	2068	
3:00 PM	1923	
5:00 PM	1789	
4:00 PM	1780	
2:00 PM	1521	
5:00 PM	1427	
1:00 PM	1181	

Yes

Figure 4C-5. Criteria for "100%" Volume Level



* Note: 86 pph applies as the lower threshold volume for the 80% volume threshold.

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

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District:	**Six**		

Major Street:	**SR 994/ SW 200 St/Quail Roost Dr**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 132 Avenue**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 8 - ROADWAY NETWORK

Record hours where criteria are fulfilled, and the corresponding volume or other information in the boxes provided. The warrant is satisfied if at least one of the criteria is fulfilled and if all intersecting routes have one or more of the Major Route characteristics listed.

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☐ No

Criteria								Met? Yes	Met? No	Fulfilled? Yes	Fulfilled? No
1. Both of the criteria to the right are met.	a. Total entering volume of at least 1,000 veh/hr during a typical weekday peak hour.		Entering Volume:								
	b. Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3.		Warrant:	1	2	3					
			Satisfied?:								
2. Total entering volume at least 1,000 veh/hr for each of any 5 hrs of a non-normal business day (Sat. or Sun.)							← Hour				
							←Volume				

Characteristics of Major Routes		Met? Yes	Met? No	Fulfilled? Yes	Fulfilled? No
1. Part of the street or highway system that serves as the principal roadway network for through traffic flow.	Major Street:				
	Minor Street:				
2. Rural or suburban highway outside of, entering, or traversing a city.	Major Street:				
	Minor Street:				
3. Appears as a major route on an official plan.	Major Street:				
	Minor Street:				

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:		Engineer:	**Choice Engineering, Inc**
County:	**87 – Miami Dade**	Date:	
District:	**Six**		

Major Street:	**SR 994/ SW 200 St/Quail Roost Dr**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 132 Avenue**	Lanes:	**2**	Minor Approach Speed:	**30**

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Approach Lane Criteria

1. How many approach lanes are there at the track crossing? ☐ 1 ☐ 2 or more

If there is 1 lane, use Figure 4C-9 and if there are 2 or more, use Figure 4C-10. ☐ Fig 4C-9 ☐ Fig 4C-10

WARRANT 9 - INTERSECTION NEAR A GRADE CROSSING

This signal warrant should be applied only after adequate consideration has been given to other alternatives or after a trial of an alternative has failed to alleviate the safety concerns associated with the grade crossing.

Indicate if both criteria are fulfilled in the boxes provided. The warrant is satisfied if both criteria are met.

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☐ No

Criteria	Fulfilled? Yes	Fulfilled? No
1. A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and	☐	☑
2. During the highest traffic volume hour during which the rail uses the crossing, the plotted point falls above the applicable curve for the existing combination of approach lanes over the track and the distance D (clear storage distance).	☐	☐

Use the following tables (4C-2, 4C-3, and 4C-4 to appropriately adjust the minor-street approach volume).

Inputs		Adjustment Factors from Tables
Occurrences of Rail traffic per day		
% of High Occupancy Buses on Approach Lane at Track Crossing		**1.00**
Enter D (feet)		
% of Tractor-Trailer Trucks on Approach Lane at Track Crossing		**0.50**

Table 4C-2. Adjustment Factor for Daily Frequency of Rail Traffic

Rail Traffic per Day	Adjustment Factor
1	0.67
2	0.91
3 to 5	1.00
6 to 8	1.18
9 to 11	1.25
12 or more	1.33

Table 4C-3. Adjustment Factor for Percentage of High-Occupancy Buses

% of High-Occupancy Buses* on Minor Street Approach	Adjustment Factor
0%	1.00
2%	1.09
4%	1.19
6% or more	1.32

* A high-occupancy bus is defined as a bus occupied by at least 20 people

Table 4C-4. Adjustment Factor for Percentage of Tractor-Trailer Trucks

% of Tractor-Trailer Trucks on Minor-Street Approach	Adjustment Factor	
	D less than 70 feet	D of 70 feet or more
0% to 2.5%	0.50	0.50
2.6% to 7.5%	0.75	0.75
7.6% to 12.5%	1.00	1.00
12.6% to 17.5%	2.30	1.15
17.6% to 22.5%	2.70	1.35
22.6% to 27.5%	3.28	1.64
More than 27.5%	4.18	2.09

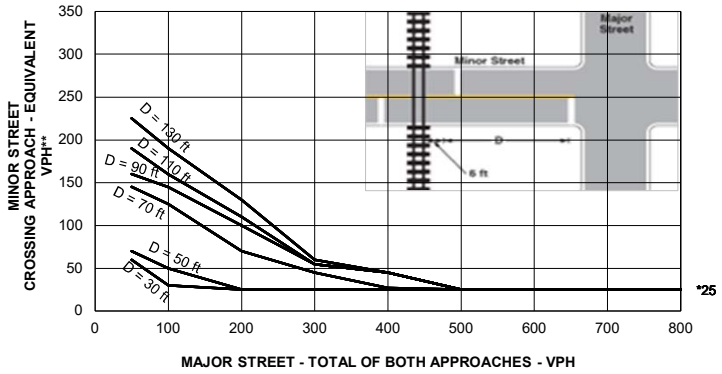
Input the major and minor street volumes before adjustment factors are applied

1 Approach Lane		
D (ft)	Major Vol.	Minor Vol.

After adjustment factors are applied

1 Approach Lane w/Factors		
D (ft)	Major Vol.	Minor Vol.

FIGURE 4C-9: Criteria for 1 Approach Lane at the Track Crossing



** Note: 25 vph applies as the lower threshold volume*

** *Note: VPH after applying the adjustment factors in Tables 4C-2, 4C, and or 4C-4, if appropriate*

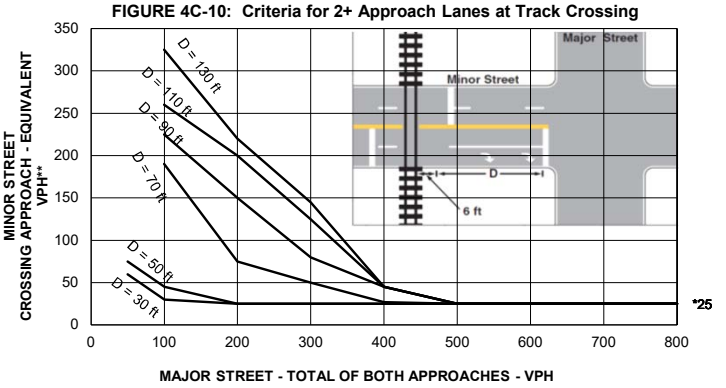
Input D and the major and minor street volumes before adjustment factors are applied

2 or more Approach Lanes		
D (ft)	Major Vol.	Minor Vol.

After adjustment factors are applied

2+ Approach Lane w/Factors		
D (ft)	Major Vol.	Minor Vol.

FIGURE 4C-10: Criteria for 2+ Approach Lanes at Track Crossing



** Note: 25 vph applies as the lower threshold volume*

** *Note: VPH after applying the adjustment factors in Tables 4C-2, 4C, and or 4C-4, if appropriate*

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:		Engineer:	**Choice Engineering, Inc**
County:	**87 – Miami Dade**	Date:	
District:	**Six**		

Major Street:	**SR 994/ SW 200 St/Quail Roost Dr**	Lanes:	**2**	Major Approach Speed:	**40**
Minor Street:	**SW 132 Avenue**	Lanes:	**2**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

CONCLUSIONS

Remarks:

WARRANTS SATISFIED:

Warrant 1	☐ Not Applicable	☑ Met	☐ Not Met
Warrant 2	☐ Not Applicable	☑ Met	☐ Not Met
Warrant 3	☑ Not Applicable	☐ Met	☐ Not Met
Warrant 4	☑ Not Applicable	☐ Met	☐ Not Met
Warrant 5	☑ Not Applicable	☐ Met	☐ Not Met
Warrant 6	☑ Not Applicable	☐ Met	☐ Not Met
Warrant 7	☐ Not Applicable	☐ Met	☑ Not Met
Warrant 8	☑ Not Applicable	☐ Met	☐ Not Met
Warrant 9	☑ Not Applicable	☐ Met	☐ Not Met

Appendix H: Intersection Control Evaluation for SW 137 Avenue

DocuSign Envelope ID: 18004A6A-E69C-4901-A820-8BDF53D41949

SR 994/Quail Roost Drive at SW 137 Avenue

Financial Project No.: 445804-1-22-01

ICE STUDY

(STAGE 1)

Prepared for:

Florida Department of Transportation

District Six

Elsa Riverol, P.E.
FDOT Project Manager

Prepared By:
Choice Engineering Consultants, Inc.

January 2022

DocuSign Envelope ID: 18004A6A-E69C-4901-A820-8BDF53D41949

Date: January 5, 2022

To: Elsa Riverol, P.E., FDOT Project Manager

From: Eugenio S. Lopez, P.E.; Jessica Garcia, MSCE, E.I.

Subject: ICE Study (Stage 1) – SR 994/Quail Roost Drive at SW 137 Avenue

FPID No.: 445804-1-22-01

The Florida Department of Transportation (FDOT) District Six Traffic Operations' Office (Department) assigned Choice Engineering Consultants, Inc. to perform an Intersection Control Evaluation (ICE) to identify and select a control strategy for the intersection of SR 994/Quail Roost Drive (hereafter referred to as SR 994) at SW 137 Avenue, located in Miami-Dade County, Florida, meeting the goals and needs of the community and reflecting the overall best value. The review focuses on assessing the vehicular traffic demands based on a review of the traffic data and crash data. This study originated from the development of the PD&E scope for SR 994/SW 200 Street/Quail Roost Drive from SW 137 Avenue to SW 127 Avenue. In addition, a RRR Safety Review performed at this location (FPID No. 250650-4-32-01) considered the installation of an eastbound left-turn lane.

The study location is the three-legged intersection of SR 994 (Roadway Section 87091000) at SW 137 Avenue (MP 4.075) – see **Figure 1**. However, Miami-Dade County project for SW 137 Avenue Roadway Improvements (FM No. 20040343) is currently under construction and will open the south leg of the intersection to traffic by year 2025. In addition, County Project PW168 will widen SW 137 Avenue from two lanes to four lanes from US 1 to SW 184th Street by 2045 (no plans available yet). Within the study area, SR 994 is a two-lane two-way undivided road oriented in the east to west direction with a posted speed limit of 40 MPH. The north leg of the study intersection, SW 137 Avenue, is a two-lane two-way undivided roadway oriented in the north to south direction with a posted speed limit of 40 MPH. The functional and context classification of SR 994 are Urban Minor Arterial and C3R Suburban Residential, respectively. FDOT defines this C3R context classification as "mostly residential uses within large blocks and a disconnected or sparse roadway network." Within the study area, there are no pedestrian facilities such as sidewalks or bus stops. The area immediately surrounding the study intersection includes a Calvary Pentecostal Church in the northeast corner and residential homes with agricultural lands in the northwest, southwest, and southeast corners of the study intersection.

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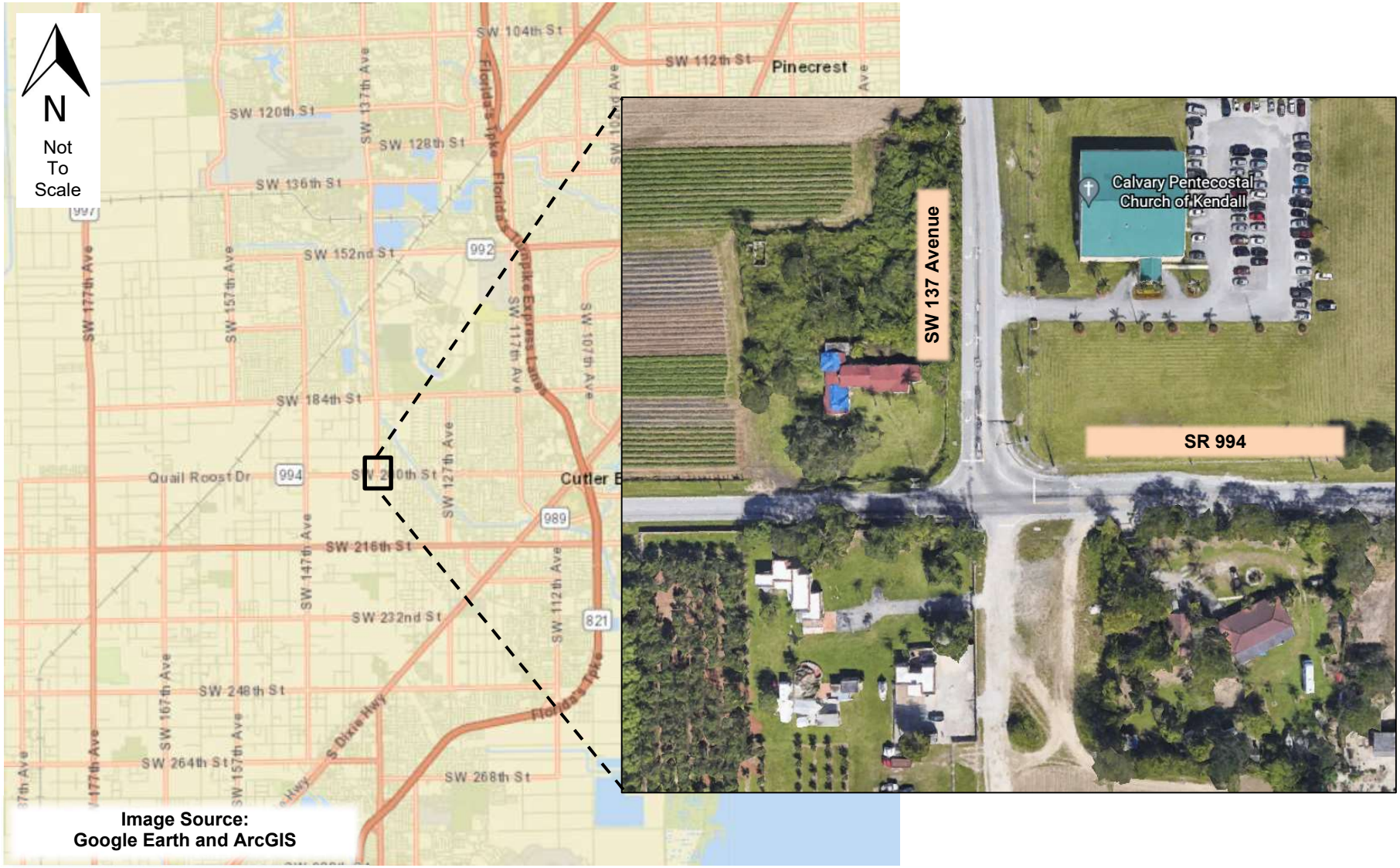

Figure 1. Study Location Map

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The ICE activities consist of three stages. This report includes the items for stage 1 (screening), which utilizes FHWA's Capacity Analysis for Planning of Junctions (CAP-X) and FHWA's Safety Performance of Intersection Control Evaluations (SPICE). The CAP-X tool intends to evaluate selected types of innovative intersection designs and the SPICE tool conducts a safety analysis.

The Stage 1 Screening ICE form was completed first to identify potential control strategies to be advanced. This evaluation was performed for SR 994 design year traffic conditions 2045. Based on the planning model for the SR 994 PD&E Study, two sets of traffic volumes were developed for 2045, No-Build and Build traffic conditions as presented in **Figure 2**. The Stage 1 Screening ICE forms were populated using these two sets of 2045 traffic volumes. The first analysis used 2045 No-Build traffic volumes and included the screening of the following alternatives: signalized intersection per Miami-Dade County projects (FM No. 20040343 and PW168); signalized intersection per SR 994 PD&E TSM Alternative; 2-lane roundabout. The second analysis (separate form populated) was conducted using the 2045 Build traffic volumes and included the screening of the SR 994 PD&E Build Alternative and the 2-lane roundabout. Two separate forms were populated due to having developed two sets of traffic volumes. The TSM Alternative was evaluated using the No Build 2045 traffic volumes, since it is more representative of the 2045 No Build intersection conditions (four-legged intersection with widened SW 137 Avenue per Miami-Dade County projects) than the Build Alternative (greater capacity along SR 994, which means higher volumes). These control strategies were then further developed through the CAP-X and SPICE forms.

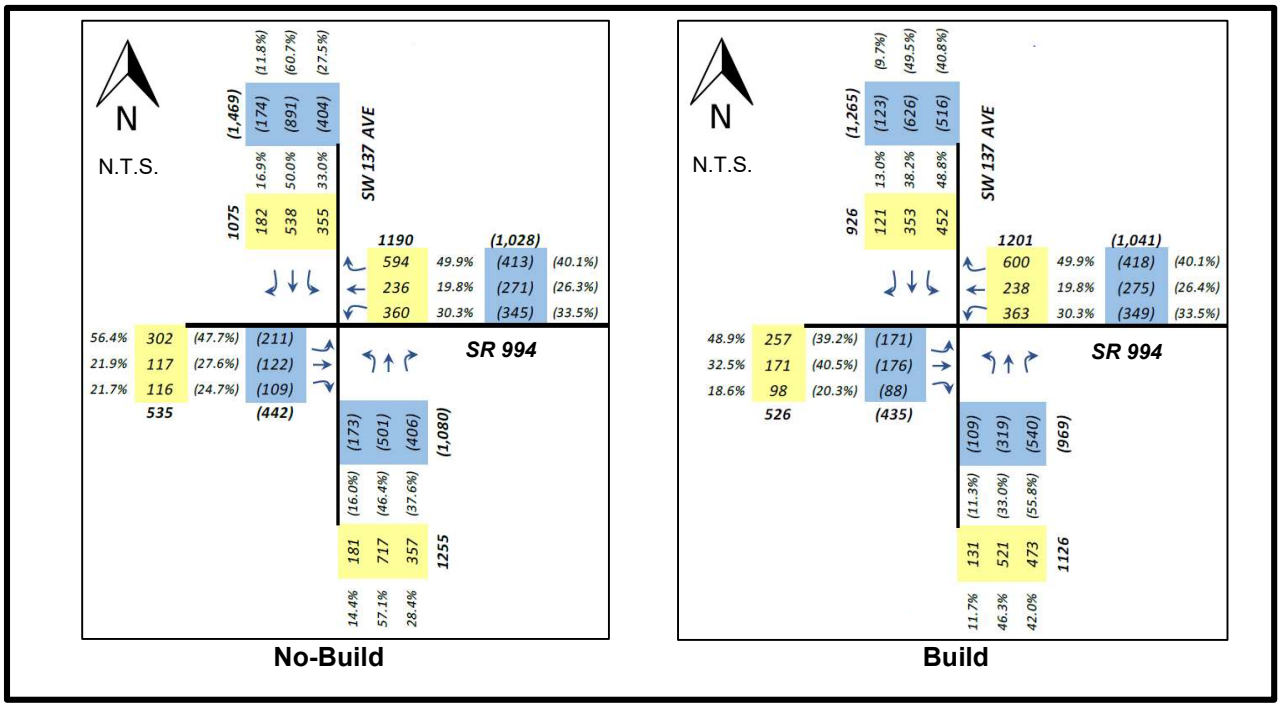

Figure 2. No-Build and Build 2045 Traffic Volumes

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The control strategies considered using the 2045 no-build traffic volumes are as follows:

- No-Build Alternative (see **Figure 3**)

Note: Intersection is converted to a four-legged intersection with additional lanes along SW 137 Avenue per Miami-Dade County projects (FM No. 20040343 and PW168).

  - Eastbound (SR 994) – 1 shared left/through/right-turn lane.
  - Westbound (SR 994) – 1 shared through/left-turn lane and 1 right-turn bay.
  - Northbound (SW 137 Avenue) – 1 left-turn bay, 1 through lane, and 1 shared through/right-turn lane.
  - Southbound (SW 137 Avenue) – 1 left-turn bay, 1 through lane, and 1 shared through/right-turn lane.

- TSM&O Alternative (see **Figure 3**)
  - Eastbound (SR 994) – 2 left-turn bays, and 1 shared through/right-turn lane.
  - Westbound (SR 994) – 2 left-turn bays, 1 through lane, and 1 right-turn bay.
  - Northbound (SW 137 Avenue) – 1 left-turn bay, 2 through lanes, and 1 right-turn bay.
  - Southbound (SW 137 Avenue) – 2 left-turn bays, 2 through lanes, and 1 right-turn bay.
- 2-lane roundabout

Note: 1-lane roundabout was excluded due to insufficient capacity.

The control strategies considered using the 2045 build traffic volumes are as follows:

- Build Alternative (see **Figure 4**)
  - Eastbound (SR 994) – 2 left-turn bays, 1 through lane, and 1 shared through/right-turn lane.
  - Westbound (SR 994) – 2 left-turn bays, 2 through lanes, and 1 right-turn bay.
  - Northbound (SW 137 Avenue) – 1 left-turn bay, 2 through lanes, and 1 right-turn bay.
  - Southbound (SW 137 Avenue) – 2 left-turn bays, 2 through lanes, and 1 right-turn bay.
- 2-lane roundabout

Note: 1-lane roundabout was excluded due to insufficient capacity.

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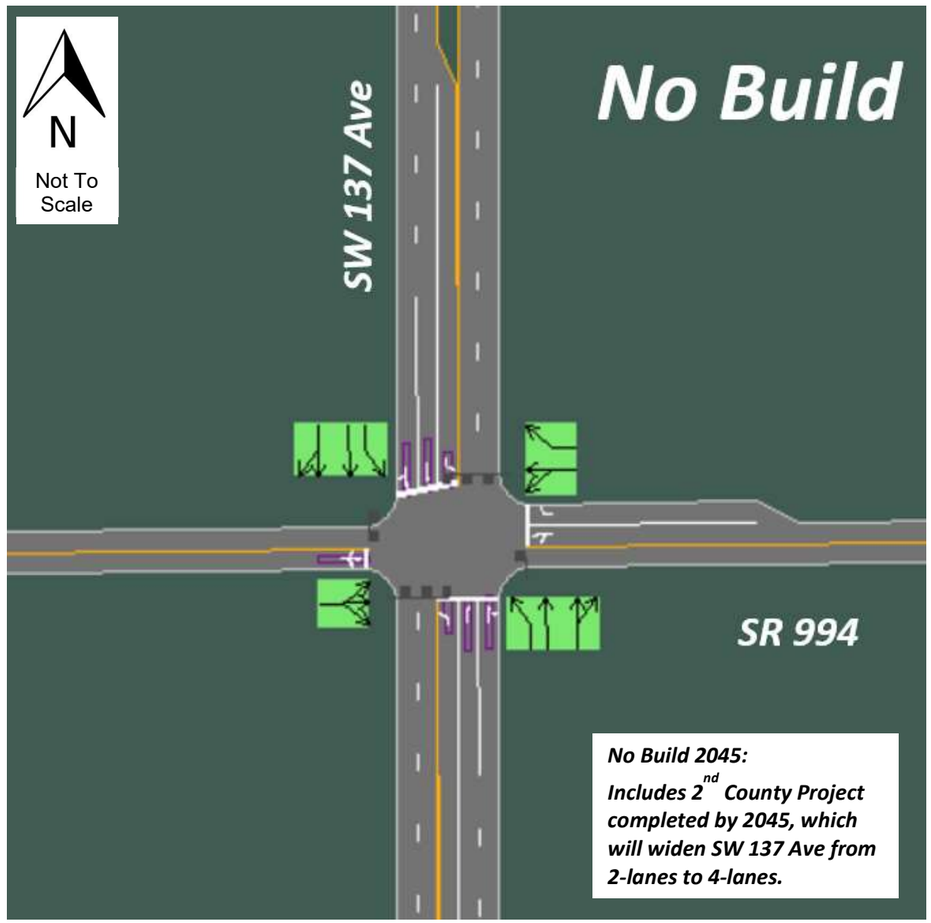

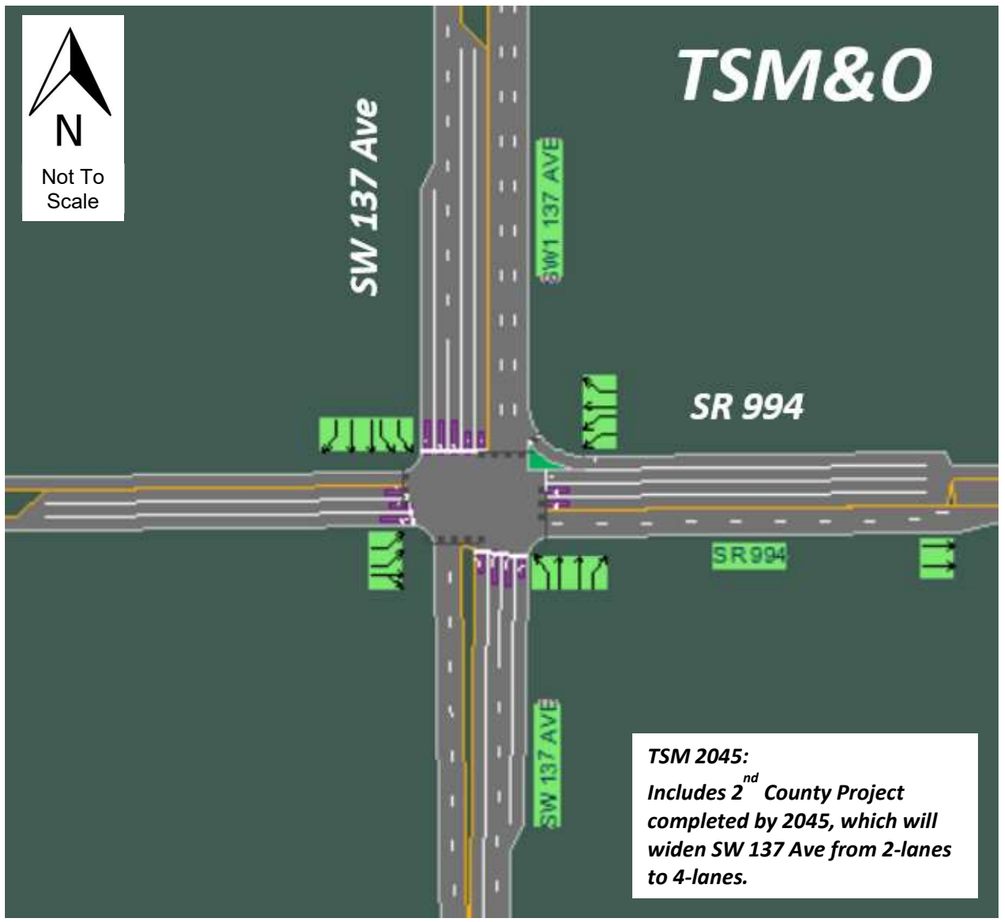

Figure 3. No-Build Volume Traffic Signal Alternatives

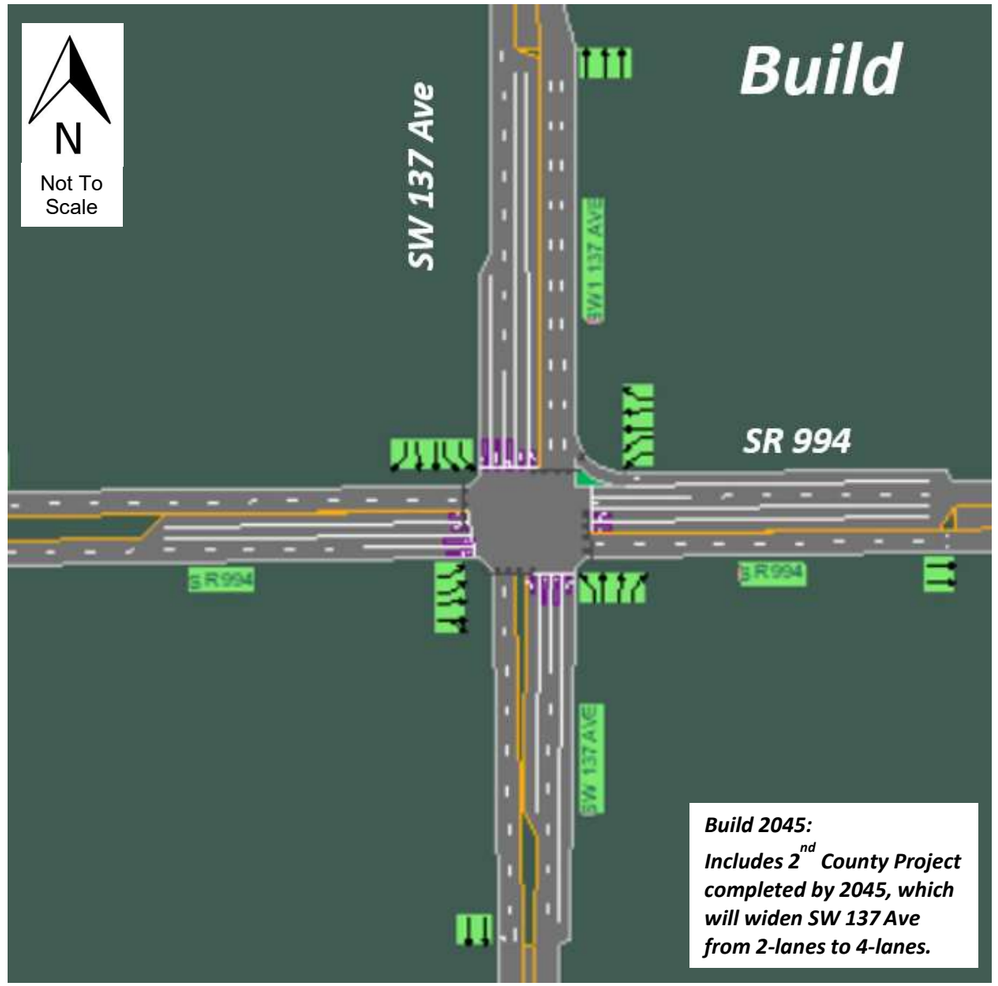

Figure 4. Build Volume Traffic Signal Alternative

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The following items are included within this document:

- Stage 1 Screening ICE forms x2 (**Attachment A**)
  - ICE Form #1 – Alternatives analyzed using No Build 2045 traffic volumes.
  - ICE Form #2 – Alternatives analyzed using Build 2045 traffic volumes.
- CAP-X forms x6 (**Attachment B**)
  - CAP-X Form #1 – AM peak period using no-build 2045 traffic volumes.
  - CAP-X Form #2 – AM peak period using no-build 2045 traffic volumes with the traffic signal option representing the TSM&O recommendations.
  - CAP-X Form #3 – AM peak period using build 2045 traffic volumes.
  - CAP-X Form #4 – PM peak period using no-build 2045 traffic volumes.
  - CAP-X Form #5 – PM peak period using no-build 2045 traffic volumes with the traffic signal option representing the TSM&O recommendations.
  - CAP-X Form #6 – PM peak period using build 2045 traffic volumes.
- SPICE forms x2 (**Attachment C**)
  - SPICE Form #1 –Alternatives analyzed using No Build 2045 traffic volumes.
  - SPICE Form #2 –Alternatives analyzed using Build 2045 traffic volumes.
- One FDOT traffic trend analysis worksheet for SR 994 (**Attachment D**)
  - Historic AADT was obtained from FDOT Florida Traffic Online (FTO) Station #871116
- Crash statistics (included as **Attachment E**)

Amongst the 2045 No-Build traffic volume alternatives, the TSM&O alternative exhibited the top score in the CAP-X forms with V/C ratios of 0.77 and 0.67 for the AM and PM peak periods, respectively. Amongst the 2045 Build traffic volume alternatives, the build signalized control intersection, per SR 994 PD&E, exhibited the top score in the CAP-X forms with V/C ratios of 0.76 and 0.65 for the AM and PM peak periods, respectively. The 2-lane roundabout will not to be advanced since the AM and PM V/C ratios are near or above capacity (>1.0) when analyzed using the 2045 No Build and Build traffic conditions. Additionally, the 2-lane roundabout obtained a SPICE safety ranking below the intersection's existing condition in 2045. **Figure 5** represents the ICE results for all the alternatives considered.

Upon the Department's approval of the Stage 1 screening, the project will proceed to Stage 2 for a preliminary control strategy assessment which intends to help differentiate the remaining control strategies with a more detailed vetting and conceptual designs. The strategies moving to Stage 2 are:

- SR 994 PD&E TSM&O Alternative
- SR 994 PD&E Build Alternative

Alternatives Evaluated per 2045 No-Build Traffic Volumes	Control Strategy Evaluation						
	Provide a brief justification as to why each of the following control strategies should be advanced or not. Justification should consider potential environmental impacts.						
	Control Strategy	CAP-X Outputs			SPICE Ranking	Strategy to Be Advanced?	Justification
		V/C Ratio		Multimodal Score			
		Weekday AM Peak	Weekday PM Peak				
	Signalized Control (Miami-Dade County Project)	0.96	0.97	7.2	2	No	Strategy is not to be advanced since this would be the existing intersection condition in 2045 as per the Miami-Dade County projects.
	Roundabout (2-lane)	1.42	1.27	8.3	3	No	Strategy is not to be advanced since the AM and PM V/C ratios are above capacity (>1.0). SPICE ranking is also worse than the 2045 existing condition.
	Signalized Control (TSM&O)	0.77	0.67	7.2	1	Yes	Strategy to be advanced since the CAP-X output and SPICE ranking are better than the intersection's existing condition in 2045.

Alternatives Evaluated per 2045 Build Traffic Volumes	Control Strategy Evaluation						
	Provide a brief justification as to why each of the following control strategies should be advanced or not. Justification should consider potential environmental impacts.						
	Control Strategy	CAP-X Outputs			SPICE Ranking	Strategy to Be Advanced?	Justification
		V/C Ratio		Multimodal Score			
		Weekday AM Peak	Weekday PM Peak				
	Signalized Control (Build per SR 994 PD&E)	0.76	0.65	7.2	1	Yes	Strategy to be advanced since the CAP-X output and SPICE ranking are better than the intersection's existing condition in 2045.
	Roundabout (2-lane)	1.09	1.04	8.3	2	No	Strategy is not to be advanced since the AM and PM V/C ratios are near or above capacity (>1.0). SPICE ranking is also worse than the 2045 existing condition.

Figure 5. Summary of ICE Results

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ATTACHMENT A – ICE Forms

DocuSign Envelope ID: 18004A6A-E69C-4901-A820-8BDF53D41949

ICE Form #1

(Alternatives analyzed using No Build 2045 traffic volumes**)**

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Florida Department of Transportation
Intersection Control Evaluation (ICE) Form
Stage 1: Screening

To fulfill the requirements of Stage 1 (Screening) of FDOT's ICE procedures, complete the following form and append all supporting documentation. Completed forms can be submitted to the District Traffic Operations Engineer (DTOE) and District Design Engineer (DDE) for the project's approval.

Project Name	SR 994/Quail Roost Drive at SW 137 Avenue			FDOT Project #	445804-1-22-01	
Submitted By	Eugenio Lopez	Agency/Company		Choice Engineering Consultants	Date	1/5/2022
Email	elopez@choiceeng.com	FDOT District		District 6	County	Miami-Dade
Project Locality (*City/Town/Village*)	Redland			Project Type	Corridor Improvement Project	
Project Funding Source	Non-federal	FDOT Context Classification		C3R - Suburban Residential		
Project Purpose (*What is the catalyst for this project and why is it being undertaken?*)	This project was initiated due to the need to evaluate traffic control strategies at the intersection of SR 994/Quail Roost Drive at SW 137 Avenue as a result of major reconstruction of the existing signalized intersection as per the Miami-Dade County projects FM No. 20040343 and PW168. This ICE form considers the 2045 No-Build volumes with the alternatives of the no-build traffic signal, TSM&O traffic signal, and 2-lane roundabout.					
Project Setting Description (*Describe the area surrounding the intersection*)	The area immediately surrounding the study intersection includes a Calvary Pentecostal Church in the northeast corner and residential homes with agricultural lands in the northwest, southwest, and southeast corners of the study intersection.					
Multimodal Context (*Describe the pedestrian, bicycle, and transit activity in the area and the potential for activity based on surrounding land uses and development patterns*)	The study intersection offers no sidewalks or crosswalks. There are no designated bicycle lanes or markings along SR 994/Quail Roost Drive. Low, if any, pedestrian/bicycle activity is anticipated at the study intersection. However, the proposed alternatives and Miami-Dade County project (FM No. 20040343) will include multimodal facilities such as bike lanes along SW 137 Avenue.					

Major Street Information

Route #:	87091000	Route Name(s)	SR 994/Quail Roost Drive			Milepost	4.075	
Existing Control Type	Signal	Existing AADT	11,700	Design Year AADT	12,608			
Design Vehicle	Florida Interstate Semitrailer (WB-62FL)	Control Vehicle	Florida Interstate Semitrailer (WB-62FL)					
Primary Functional Classification	Urban Minor Arterial			Design Speed (mph)	40			
Secondary Functional Classification (if app.)				Target Speed (mph) [if app.]				

Approach #1	Direction	Eastbound	Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes	
	Sidewalks along	Neither side of the approach	Left-Turn					
	Crosswalk on Approach?	No	Left-Through		Weekday AM Peak		Weekday PM Peak	
	On-Street Bike Facilities?	No	Through		Left	302	Left	211
	Multi-Use Path?	No	Left-Through-Right	1	Through	117	Through	122
	Scheduled Bus Service?	No	Through-Right		Right	116	Right	109
	Bus Stop on Approach?	No	Right-Turn		Daily Truck %		10.7%	
Approach #2	Direction	Westbound	Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes	
	Sidewalks along:	Neither side of the approach	Left-Turn					
	Crosswalk on Approach?	No	Left-Through	1	Weekday AM Peak		Weekday PM Peak	
	On-Street Bike Facilities?	No	Through		Left	360	Left	345
	Multi-Use Path?	No	Left-Through-Right		Through	236	Through	271
	Scheduled Bus Service?	No	Through-Right		Right	594	Right	413
	Bus Stop on Approach?	No	Right-Turn	1	Daily Truck %		10.9%	

Note: The "major street" and "minor street" sections use the 2045 No-Build traffic volumes and the lane geometry for the 2045 existing traffic signal, per Miami-Dade County projects, for informational purposes.

Minor Street Information											
Route #:		Route Name(s)	SW 137 Avenue					Milepost (if app.)			
Existing Control Type	Signal			Existing AADT	20,800			Design Year AADT	22,414		
Design Vehicle	Florida Interstate Semitrailer (WB-62FL)			Control Vehicle	Florida Interstate Semitrailer (WB-62FL)						
Primary Functional Classification	Urban Minor Collector							Design Speed (mph)	40		
Secondary Functional Classification (if app.)								Target Speed (mph) [if app.]			

Approach #1	Direction	Northbound	Number of Lanes		Study Period #1 Traffic Volumes			Study Period #2 Traffic Volumes			
	Sidewalks along:	Neither side of the approach	Left-Turn	1							
	Crosswalk on Approach?	No	Left-Through		Weekday AM Peak			Weekday PM Peak			
	On-Street Bike Facilities?	No	Through	1	Left	181		Left	173		
	Multi-Use Path?	No	Left-Through-Right		Through	717		Through	501		
	Scheduled Bus Service?	No	Through-Right	1	Right	357		Right	406		
	Bus Stop on Approach?	No	Right-Turn		Daily Truck %			2.0%			
Approach #2	Direction	Southbound	Number of Lanes		Study Period #1 Traffic Volumes			Study Period #2 Traffic Volumes			
	Sidewalks along:	Neither side of the approach	Left-Turn	1							
	Crosswalk on Approach?	No	Left-Through		Weekday AM Peak			Weekday PM Peak			
	On-Street Bike Facilities?	No	Through	1	Left	355		Left	404		
	Multi-Use Path?	No	Left-Through-Right		Through	538		Through	891		
	Scheduled Bus Service?	No	Through-Right	1	Right	182		Right	174		
	Bus Stop on Approach?	No	Right-Turn		Daily Truck %			10.0%			
Approach #3	Direction		Number of Lanes		Study Period #1 Traffic Volumes			Study Period #2 Traffic Volumes			
	Sidewalks along:		Left-Turn								
	Crosswalk on Approach?		Left-Through		Weekday AM Peak			Weekday PM Peak			
	On-Street Bike Facilities?		Through		Left			Left			
	Multi-Use Path?		Left-Through-Right		Through			Through			
	Scheduled Bus Service?		Through-Right		Right			Right			
	Bus Stop on Approach?		Right-Turn		Daily Truck %						

Crash History (Existing Intersections Only)
Append the most recent five-years of crash data for the intersection from the CAR System. If the crash data evidences any issues relating to safety performance, discuss briefly here:
There was a total of 62 crashes in the five-year period with a yearly breakdown of 6, 18, 15, 10, and 13 crashes (2014, 2015, 2016, 2017, and 2018). The leading crash types consisted of Rear-End with 47 (76%) crashes, Angle with 6 (10%) crashes, and Left-turn with 4 (7%) crashes. Based on crash severity, 43 (69%) crashes were property damaged only (PDO) and 19 (31%) were injury type crashes. Based on the 2020 FDOT's 5-year high crash lists for spots and segments, the study intersection is a high crash spot and segment (MP 4.075 to 4.961). Additionally, there were 18 (29%) nighttime crashes and 15 (24%) crashes that occured under wet/slippery pavement conditions which is above the district-wide average of 29% and 12%, respectively.

Control Strategy Evaluation						
Provide a brief justification as to why each of the following control strategies should be advanced or not. Justification should consider potential environmental impacts.						
	CAP-X Outputs					
	V/C Ratio					
Control Strategy	Weekday AM Peak	Weekday PM Peak	Multimodal Score	SPICE Ranking	Strategy to Be Advanced?	Justification
Two-Way Stop-Controlled					No	An interim measure to the existing condition.
All-Way Stop-Controlled					No	An interim measure to the existing condition.
Signalized Control (Miami-Dade County Project)	0.96	0.97	7.2	2	No	Strategy is not to be advanced since this would be the existing intersection condition in 2045 as per the Miami-Dade County projects.
Roundabout (2-lane)	1.42	1.27	8.3	3	No	Strategy is not to be advanced since the AM and PM V/C ratios are above capacity (>1.0). SPICE ranking is also worse than the 2045 existing condition.
Median U-Turn					No	Not feasible with existing roadway geometry and insufficient R/W.
RCUT (Signalized)					No	Not feasible with existing roadway geometry and insufficient R/W.
RCUT (Unsignalized)					No	Not feasible with existing roadway geometry and insufficient R/W.
Jughandle					No	Not feasible with existing roadway geometry and insufficient R/W.
Displaced Left-Turn					No	Not feasible with existing roadway geometry and insufficient R/W.
Continuous Green Tee					No	Not feasible with existing roadway geometry and insufficient R/W.
Quadrant Roadway					No	Not feasible with existing roadway geometry and insufficient R/W.
Signalized Control (TSM&O)	0.77	0.67	7.2	1	Yes	Strategy to be advanced since the CAP-X output and SPICE ranking are better than the intersection's existing condition in 2045.
Other					No	

Resolution					
To be filled out by FDOT District Traffic Operations Engineer and District Design Engineer					
Project Determination					
Comments					
DTOE Name	Meitin, Omar	Signature	DocuSigned by: Meitin, Omar CA0A65627D7244D...	Date	2/22/2022 | 3:
DDE Name	Karina Fuentes	Signature	DocuSigned by: Karina Fuentes 928260846A474B5...	Date	2/24/2022 | 1

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ICE Form #2

(Alternatives analyzed using Build 2045 traffic volumes**)**

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Florida Department of Transportation
Intersection Control Evaluation (ICE) Form
Stage 1: Screening

To fulfill the requirements of Stage 1 (Screening) of FDOT's ICE procedures, complete the following form and append all supporting documentation. Completed forms can be submitted to the District Traffic Operations Engineer (DTOE) and District Design Engineer (DDE) for the project's approval.

Project Name	SR 994/Quail Roost Drive at SW 137 Avenue			FDOT Project #	445804-1-22-01	
Submitted By	Eugenio Lopez	Agency/Company		Choice Engineering Consultants	Date	1/5/2022
Email	elopez@choiceeng.com	FDOT District		District 6	County	Miami-Dade
Project Locality (*City/Town/Village*)	Redland			Project Type	Corridor Improvement Project	
Project Funding Source	Non-federal	FDOT Context Classification		C3R - Suburban Residential		
Project Purpose (*What is the catalyst for this project and why is it being undertaken?*)	This project was initiated due to the need to evaluate traffic control strategies at the intersection of SR 994/Quail Roost Drive at SW 137 Avenue as a result of major reconstruction of the existing signalized intersection as per the Miami-Dade County projects FM No. 20040343 and PW168. This ICE form considers the 2045 Build volumes with the alternatives of the build traffic signal and 2-lane roundabout.					
Project Setting Description (*Describe the area surrounding the intersection*)	The area immediately surrounding the study intersection includes a Calvary Pentecostal Church in the northeast corner and residential homes with agricultural lands in the northwest, southwest, and southeast corners of the study intersection.					
Multimodal Context (*Describe the pedestrian, bicycle, and transit activity in the area and the potential for activity based on surrounding land uses and development patterns*)	The study intersection offers no sidewalks or crosswalks. There are no designated bicycle lanes or markings along SR 994/Quail Roost Drive. Low, if any, pedestrian/bicycle activity is anticipated at the study intersection. However, the proposed alternatives and Miami-Dade County project (FM No. 20040343) will include multimodal facilities such as bike lanes along SW 137 Avenue.					

Major Street Information

Route #:	87091000	Route Name(s)	SR 994/Quail Roost Drive				Milepost	4.075	
Existing Control Type	Signal		Existing AADT	11,700		Design Year AADT	12,608		
Design Vehicle	Florida Interstate Semitrailer (WB-62FL)		Control Vehicle	Florida Interstate Semitrailer (WB-62FL)					
Primary Functional Classification	Urban Minor Arterial					Design Speed (mph)	40		
Secondary Functional Classification (if app.)						Target Speed (mph) [if app.]			

Approach #1	Direction	Eastbound	Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes	
	Sidewalks along	Neither side of the approach	Left-Turn	2				
	Crosswalk on Approach?	No	Left-Through		Weekday AM Peak		Weekday PM Peak	
	On-Street Bike Facilities?	No	Through	1	Left	257	Left	171
	Multi-Use Path?	No	Left-Through-Right		Through	171	Through	176
	Scheduled Bus Service?	No	Through-Right	1	Right	98	Right	88
	Bus Stop on Approach?	No	Right-Turn		Daily Truck %		10.7%	
Approach #2	Direction	Westbound	Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes	
	Sidewalks along:	Neither side of the approach	Left-Turn	2				
	Crosswalk on Approach?	No	Left-Through		Weekday AM Peak		Weekday PM Peak	
	On-Street Bike Facilities?	No	Through	2	Left	363	Left	349
	Multi-Use Path?	No	Left-Through-Right		Through	238	Through	275
	Scheduled Bus Service?	No	Through-Right		Right	600	Right	418
	Bus Stop on Approach?	No	Right-Turn	1	Daily Truck %		10.9%	

Note: The "major street" and "minor street" sections use the 2045 Build traffic volumes and the lane geometry for the 2045 build traffic signal for informational purposes.

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Minor Street Information												
Route #:		Route Name(s)	SW 137 Avenue					Milepost (if app.)				
Existing Control Type	Signal		Existing AADT	20,800				Design Year AADT	22,414			
Design Vehicle	Florida Interstate Semitrailer (WB-62FL)		Control Vehicle	Florida Interstate Semitrailer (WB-62FL)								
Primary Functional Classification	Urban Minor Collector							Design Speed (mph)	40			
Secondary Functional Classification (if app.)								Target Speed (mph) [if app.]				
Approach #1	Direction	Northbound	Number of Lanes		Study Period #1 Traffic Volumes			Study Period #2 Traffic Volumes				
	Sidewalks along:	Neither side of the approach	Left-Turn	1								
	Crosswalk on Approach?	No	Left-Through		Weekday AM Peak			Weekday PM Peak				
	On-Street Bike Facilities?	No	Through	2	Left	131		Left	109			
	Multi-Use Path?	No	Left-Through-Right		Through	521		Through	319			
	Scheduled Bus Service?	No	Through-Right		Right	473		Right	540			
	Bus Stop on Approach?	No	Right-Turn	1	Daily Truck %			2.0%				
Approach #2	Direction	Southbound	Number of Lanes		Study Period #1 Traffic Volumes			Study Period #2 Traffic Volumes				
	Sidewalks along:	Neither side of the approach	Left-Turn	2								
	Crosswalk on Approach?	No	Left-Through		Weekday AM Peak			Weekday PM Peak				
	On-Street Bike Facilities?	No	Through	2	Left	452		Left	516			
	Multi-Use Path?	No	Left-Through-Right		Through	353		Through	626			
	Scheduled Bus Service?	No	Through-Right		Right	121		Right	123			
	Bus Stop on Approach?	No	Right-Turn	1	Daily Truck %			10.0%				
Approach #3	Direction		Number of Lanes		Study Period #1 Traffic Volumes			Study Period #2 Traffic Volumes				
	Sidewalks along:		Left-Turn									
	Crosswalk on Approach?		Left-Through		Weekday AM Peak			Weekday PM Peak				
	On-Street Bike Facilities?		Through		Left			Left				
	Multi-Use Path?		Left-Through-Right		Through			Through				
	Scheduled Bus Service?		Through-Right		Right			Right				
	Bus Stop on Approach?		Right-Turn		Daily Truck %							

Crash History (Existing Intersections Only)
Append the most recent five-years of crash data for the intersection from the CAR System. If the crash data evidences any issues relating to safety performance, discuss briefly here:
There was a total of 62 crashes in the five-year period with a yearly breakdown of 6, 18, 15, 10, and 13 crashes (2014, 2015, 2016, 2017, and 2018). The leading crash types consisted of Rear-End with 47 (76%) crashes, Angle with 6 (10%) crashes, and Left-turn with 4 (7%) crashes. Based on crash severity, 43 (69%) crashes were property damaged only (PDO) and 19 (31%) were injury type crashes. Based on the 2020 FDOT's 5-year high crash lists for spots and segments, the study intersection is a high crash spot and segment (MP 4.075 to 4.961). Additionally, there were 18 (29%) nighttime crashes and 15 (24%) crashes that occured under wet/slippery pavement conditions which is above the district-wide average of 29% and 12%, respectively.

Control Strategy Evaluation						
Provide a brief justification as to why each of the following control strategies should be advanced or not. Justification should consider potential environmental impacts.						
	CAP-X Outputs					
	V/C Ratio					
Control Strategy	Weekday AM Peak	Weekday PM Peak	Multimodal Score	SPICE Ranking	Strategy to Be Advanced?	Justification
Two-Way Stop-Controlled					No	An interim measure to the existing condition.
All-Way Stop-Controlled					No	An interim measure to the existing condition.
Signalized Control (Build per SR 994 PD&E)	0.76	0.65	7.2	1	Yes	Strategy to be advanced since the CAP-X output and SPICE ranking are better than the intersection's existing condition in 2045.
Roundabout (2-lane)	1.09	1.04	8.3	2	No	Strategy is not to be advanced since the AM and PM V/C ratios are near or above capacity (>1.0). SPICE ranking is also worse than the 2045 existing condition.
Median U-Turn					No	Not feasible with existing roadway geometry and insufficient R/W.
RCUT (Signalized)					No	Not feasible with existing roadway geometry and insufficient R/W.
RCUT (Unsignalized)					No	Not feasible with existing roadway geometry and insufficient R/W.
Jughandle					No	Not feasible with existing roadway geometry and insufficient R/W.
Displaced Left-Turn					No	Not feasible with existing roadway geometry and insufficient R/W.
Continuous Green Tee					No	Not feasible with existing roadway geometry and insufficient R/W.
Quadrant Roadway					No	Not feasible with existing roadway geometry and insufficient R/W.
Partial MUT					No	Not feasible with existing roadway geometry and insufficient R/W.
Other					No	

Resolution					
To be filled out by FDOT District Traffic Operations Engineer and District Design Engineer					
Project Determination					
Comments					
DTOE Name		Signature		Date	
DDE Name		Signature		Date	

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ATTACHMENT B – CAP-X Forms

DocuSign Envelope ID: 18004A6A-E69C-4901-A820-8BDF53D41949

CAP-X Form #1

(AM peak period using no-build 2045 traffic volumes)

DocuSign Envelope ID: 18004A6A-E69C-4901-A820-8BDF53D41949

Capacity Analysis for Planning of Junctions

Summary Report - Page 1 of 2

Project Name:	SR 994/Quail Roost Drive at SW 137 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (AM - No Build)
Number of Intersection Legs:	4
Major Street Direction	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	302	117	116	13.70%	0.00%
Westbound	0	360	236	594	7.90%	0.00%
Southbound	0	355	538	182	10.00%	0.00%
Northbound	0	181	717	357	2.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Summary Report - Page 2 of 2

TYPE OF INTERSECTION	Overall v/c Ratio	V/C Ranking	Multimodal Score	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
Traffic Signal (Existing)	**0.96**	**1**	**7.2**	**Good**	**Good**	**Excellent**
2 X 2	**1.42**	**2**	**8.3**	**Good**	**Excellent**	**Excellent**
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Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name:	SR 994/Quail Roost Drive at SW 137 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (AM - No Build)
Number of Intersection Legs:	4
Major Street Direction:	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	302	117	116	13.70%	0.00%
Westbound	0	360	236	594	7.90%	0.00%
Southbound	0	355	538	182	10.00%	0.00%
Northbound	0	181	717	357	2.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	FULL		1	2	0		1	2	0		0	1	0		0	1	1

Number of Lanes for Interchanges

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

Results for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				
Traffic Signal	FULL									1624	0.96	0.96	Good	Good	Excellent

Capacity Analysis for Planning of Junctions

Detailed Report - Page 4 of 4

Results for Roundabouts

TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3				
2 X 2	0.88	0.89		1.42	1.40		0.99	1.00		0.90	*0.60*		1.42	Good	Excellent	Excellent

Results for Interchanges

TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				

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CAP-X Form #2

(AM peak period using no-build 2045 traffic volumes with the traffic signal option representing the TSM&O recommendations)

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Capacity Analysis for Planning of Junctions

Summary Report - Page 1 of 2

Project Name:	SR 994/Quail Roost Drive at SW 137 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (AM - No Build_TSM&O)
Number of Intersection Legs:	4
Major Street Direction	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	302	117	116	13.70%	0.00%
Westbound	0	360	236	594	7.90%	0.00%
Southbound	0	355	538	182	10.00%	0.00%
Northbound	0	181	717	357	2.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Summary Report - Page 2 of 2

TYPE OF INTERSECTION	Overall v/c Ratio	V/C Ranking	Multimodal Score	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
Traffic Signal (TSM&O)	**0.77**	**1**	**7.2**	**Good**	**Good**	**Excellent**
2 X 2	**1.42**	**2**	**8.3**	**Good**	**Excellent**	**Excellent**
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Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name:	SR 994/Quail Roost Drive at SW 137 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (AM - No Build_TSM&O)
Number of Intersection Legs:	4
Major Street Direction:	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	302	117	116	13.70%	0.00%
Westbound	0	360	236	594	7.90%	0.00%
Southbound	0	355	538	182	10.00%	0.00%
Northbound	0	181	717	357	2.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	FULL		1	2	1		2	2	1		2	1	0		2	1	1

Number of Lanes for Interchanges

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

Results for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				
Traffic Signal	FULL									1311	0.77	0.77	Good	Good	Excellent

Capacity Analysis for Planning of Junctions

Detailed Report - Page 4 of 4

Results for Roundabouts

TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3				
2 X 2	0.88	0.89		1.42	1.40		0.99	1.00		0.90	0.60		1.42	Good	Excellent	Excellent

Results for Interchanges

TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				

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CAP-X Form #3

(AM peak period using build 2045 traffic volumes)

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Capacity Analysis for Planning of Junctions

Summary Report - Page 1 of 2

Project Name:	SR 994/Quail Roost Drive at SW 137 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (AM - Build)
Number of Intersection Legs:	4
Major Street Direction	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	257	171	98	13.70%	0.00%
Westbound	0	363	238	600	7.90%	0.00%
Southbound	0	452	353	121	10.00%	0.00%
Northbound	0	131	521	473	2.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Summary Report - Page 2 of 2

TYPE OF INTERSECTION	Overall v/c Ratio	V/C Ranking	Multimodal Score	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
Traffic Signal (Build)	**0.76**	**1**	**7.2**	**Good**	**Good**	**Excellent**
2 X 2	**1.09**	**2**	**8.3**	**Good**	**Excellent**	**Excellent**
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Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name:	SR 994/Quail Roost Drive at SW 137 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (AM - Build)
Number of Intersection Legs:	4
Major Street Direction:	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	257	171	98	13.70%	0.00%
Westbound	0	363	238	600	7.90%	0.00%
Southbound	0	452	353	121	10.00%	0.00%
Northbound	0	131	521	473	2.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	FULL		1	2	1		2	2	1		2	2	0		2	2	1

Number of Lanes for Interchanges

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

Results for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				
Traffic Signal	FULL									1290	0.76	0.76	Good	Good	Excellent

Capacity Analysis for Planning of Junctions

Detailed Report - Page 4 of 4

Results for Roundabouts

TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3				
2 X 2	0.76	0.71		1.09	1.09		0.99	0.99		0.70	0.64		1.09	Good	Excellent	Excellent

Results for Interchanges

TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				

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CAP-X Form #4

(PM peak period using no-build 2045 traffic volumes)

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Capacity Analysis for Planning of Junctions

Summary Report - Page 1 of 2

Project Name:	SR 994/Quail Roost Drive at SW 137 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (PM - No Build)
Number of Intersection Legs:	4
Major Street Direction	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	211	122	109	7.70%	0.00%
Westbound	0	345	271	413	13.80%	0.00%
Southbound	0	404	891	174	10.00%	0.00%
Northbound	0	173	501	406	2.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Summary Report - Page 2 of 2

TYPE OF INTERSECTION	Overall v/c Ratio	V/C Ranking	Multimodal Score	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
Traffic Signal (Existing)	**0.97**	**1**	**7.2**	**Good**	**Good**	**Excellent**
2 X 2	**1.27**	**2**	**8.3**	**Good**	**Excellent**	**Excellent**
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Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name:	SR 994/Quail Roost Drive at SW 137 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (PM - No Build)
Number of Intersection Legs:	4
Major Street Direction:	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	211	122	109	7.70%	0.00%
Westbound	0	345	271	413	13.80%	0.00%
Southbound	0	404	891	174	10.00%	0.00%
Northbound	0	173	501	406	2.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	FULL		1	2	0		1	2	0		0	1	0		0	1	1

Number of Lanes for Interchanges

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

Results for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				
Traffic Signal	FULL									1655	0.97	0.97	Good	Good	Excellent

Capacity Analysis for Planning of Junctions

Detailed Report - Page 4 of 4

Results for Roundabouts

TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3				
2 X 2	1.26	1.27		0.95	0.95		0.80	0.81		0.89	0.82		1.27	Good	Excellent	Excellent

Results for Interchanges

TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				

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CAP-X Form #5

(PM peak period using no-build 2045 traffic volumes with the traffic signal option representing the TSM&O recommendations)

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Capacity Analysis for Planning of Junctions

Summary Report - Page 1 of 2

Project Name:	SR 994/Quail Roost Drive at SW 137 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (PM - No Build__TSM&O)
Number of Intersection Legs:	4
Major Street Direction	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	211	122	109	7.70%	0.00%
Westbound	0	345	271	413	13.80%	0.00%
Southbound	0	404	891	174	10.00%	0.00%
Northbound	0	173	501	406	2.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Summary Report - Page 2 of 2

TYPE OF INTERSECTION	Overall v/c Ratio	V/C Ranking	Multimodal Score	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
Traffic Signal (TSM&O)	**0.67**	**1**	**7.2**	**Good**	**Good**	**Excellent**
2 X 2	**1.27**	**2**	**8.3**	**Good**	**Excellent**	**Excellent**
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Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name:	SR 994/Quail Roost Drive at SW 137 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (PM - No Build__TSM&O)
Number of Intersection Legs:	4
Major Street Direction:	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	211	122	109	7.70%	0.00%
Westbound	0	345	271	413	13.80%	0.00%
Southbound	0	404	891	174	10.00%	0.00%
Northbound	0	173	501	406	2.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	FULL		1	2	1		2	2	1		2	1	0		2	1	1

Number of Lanes for Interchanges

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

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Results for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				
Traffic Signal	FULL									1140	0.67	0.67	Good	Good	Excellent

Capacity Analysis for Planning of Junctions

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Results for Roundabouts

TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3				
2 X 2	1.26	1.27		0.95	0.95		0.80	0.81		0.89	0.82		1.27	Good	Excellent	Excellent

Results for Interchanges

TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				

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CAP-X Form #6

(PM peak period using build 2045 traffic volumes)

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Capacity Analysis for Planning of Junctions

Summary Report - Page 1 of 2

Project Name:	SR 994/Quail Roost Drive at SW 137 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (PM - Build)
Number of Intersection Legs:	4
Major Street Direction	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	171	176	88	7.70%	0.00%
Westbound	0	349	275	418	13.80%	0.00%
Southbound	0	516	626	123	10.00%	0.00%
Northbound	0	109	319	540	2.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Summary Report - Page 2 of 2

TYPE OF INTERSECTION	Overall v/c Ratio	V/C Ranking	Multimodal Score	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
Traffic Signal (Build)	**0.65**	**1**	**7.2**	**Good**	**Good**	**Excellent**
2 X 2	**1.04**	**2**	**8.3**	**Good**	**Excellent**	**Excellent**
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Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name:	SR 994/Quail Roost Drive at SW 137 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (PM - Build)
Number of Intersection Legs:	4
Major Street Direction:	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	171	176	88	7.70%	0.00%
Westbound	0	349	275	418	13.80%	0.00%
Southbound	0	516	626	123	10.00%	0.00%
Northbound	0	109	319	540	2.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	FULL		1	2	1		2	2	1		2	2	0		2	2	1

Number of Lanes for Interchanges

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

Results for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				
Traffic Signal	FULL									1112	0.65	0.65	Good	Good	Excellent

Capacity Analysis for Planning of Junctions

Detailed Report - Page 4 of 4

Results for Roundabouts

TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3				
2 X 2	1.03	1.04		0.73	0.75		0.77	0.86		0.75	0.71		1.04	Good	Excellent	Excellent

Results for Interchanges

TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				

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ATTACHMENT C – SPICE Forms

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SPICE Form #1

(Alternatives analyzed using No Build 2045 traffic volumes**)**

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Federal Highway Administration (FHWA)

Safety Performance for Intersection Control Evaluation Tool

Results

Summary of crash prediction results for each alternative

Project Information

Project Name:	SR 994/Quail Roost Drive PD&E	**Intersection Type**	At-Grade Intersections
Intersection:	SR 994/Quail Roost Drive at SW 137 Avenue (No-Build)	**Opening Year**	2025
Agency:	FDOT	**Design Year**	2045
Project Reference:	445804-1-22-01	**Facility Type**	On Urban and Suburban Arterial
City:	Miami-Dade County	**Number of Legs**	4-leg
State:	FL	**1-Way/2-Way**	2-way Intersecting 2-way
Date:	12/29/2021	**# of Major Street Lanes (both directions)**	5 or fewer
Analyst:	Choice Engineering Consultants	**Major Street Approach Speed**	Less than 55 mph

Crash Prediction Summary

Control Strategy	Crash Type	Opening Year	Design Year	Total Project Life Cycle	Rank	AADT Within Prediction Range?	Source of Prediction
Traffic Signal (Existing)	Total	6.68	9.85	173.07	2	Yes	Calibrated SPF
	Fatal & Injury	2.15	3.23	56.30			
Traffic Signal (TSM&O)	Total	5.00	7.37	129.60	1	Yes	Calibrated SPF
	Fatal & Injury	1.62	2.43	42.38			
2-lane Roundabout	Total	13.51	19.60	347.17	3	No	Uncalibrated SPF
	Fatal & Injury	2.48	3.73	65.00			

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SPICE Form #2

(Alternatives analyzed using Build 2045 traffic volumes**)**

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Federal Highway Administration (FHWA)

Safety Performance for Intersection Control Evaluation Tool

Results

Summary of crash prediction results for each alternative

Project Information

Project Name:	SR 994/Quail Roost Drive PD&E	**Intersection Type**	At-Grade Intersections
Intersection:	SR 994/Quail Roost Drive at SW 137 Avenue (Build)	**Opening Year**	2025
Agency:	FDOT	**Design Year**	2045
Project Reference:	445804-1-22-01	**Facility Type**	On Urban and Suburban Arterial
City:	Miami-Dade County	**Number of Legs**	4-leg
State:	FL	**1-Way/2-Way**	2-way Intersecting 2-way
Date:	12/29/2021	**# of Major Street Lanes (both directions)**	5 or fewer
Analyst:	Choice Engineering Consultants	**Major Street Approach Speed**	Less than 55 mph

Crash Prediction Summary

Control Strategy	Crash Type	Opening Year	Design Year	Total Project Life Cycle	Rank	AADT Within Prediction Range?	Source of Prediction
Traffic Signal (Build)	Total	5.00	6.92	124.95	1	Yes	Calibrated SPF
	Fatal & Injury	1.62	2.27	40.83			
2-lane Roundabout	Total	13.51	17.59	326.31	2	No	Uncalibrated SPF
	Fatal & Injury	2.48	3.31	60.69			

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ATTACHMENT D – FDOT Traffic Trend Analysis

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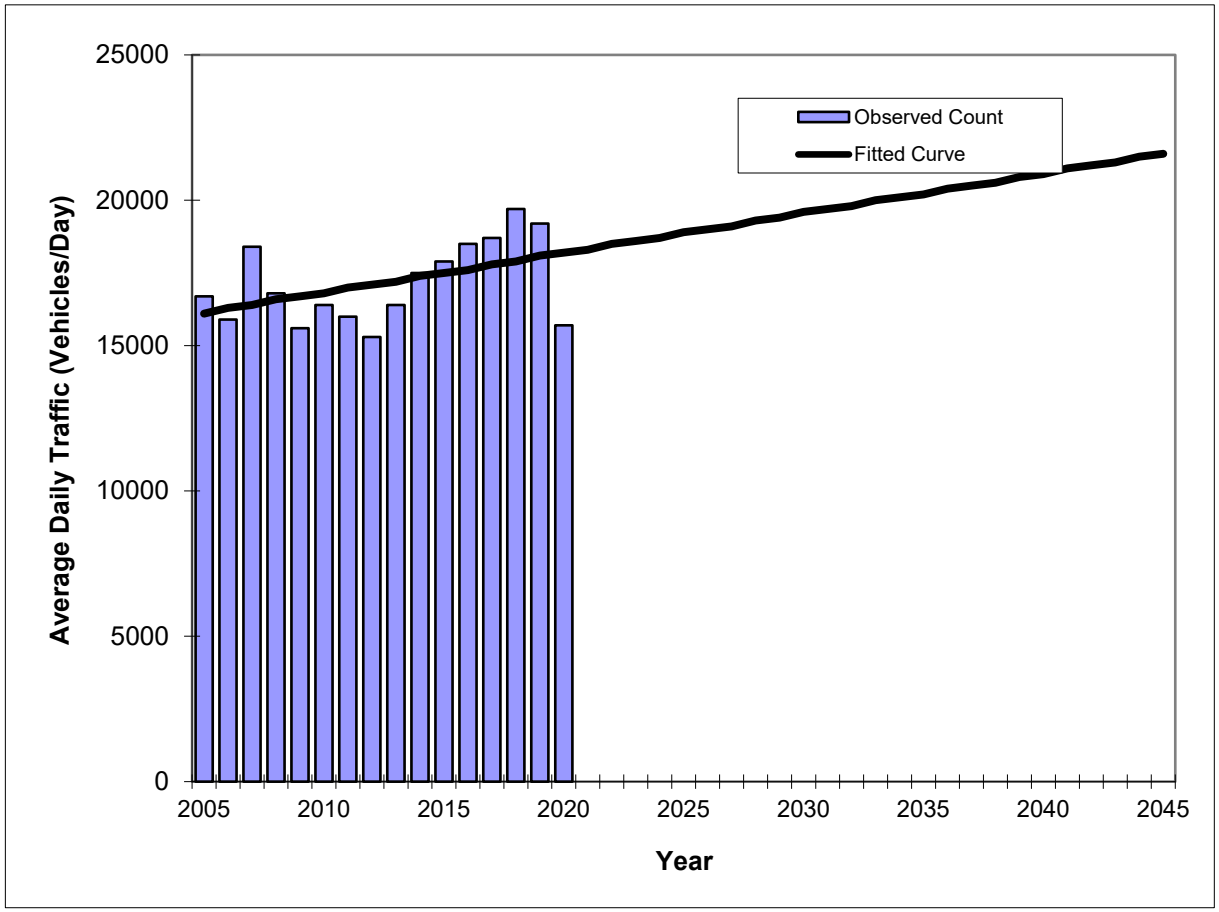
Traffic Trends - V03.a

SW 200 ST --

FIN#	1234
Location	1

County:	Miami-Dade (87)
Station #:	871116
Highway:	SW 200 ST



Year	Traffic (ADT/AADT) Count*	Trend**
2005	16700	16100
2006	15900	16300
2007	18400	16400
2008	16800	16600
2009	15600	16700
2010	16400	16800
2011	16000	17000
2012	15300	17100
2013	16400	17200
2014	17500	17400
2015	17900	17500
2016	18500	17600
2017	18700	17800
2018	19700	17900
2019	19200	18100
2020	15700	18200
2025 Opening Year Trend		
2025	N/A	18900
2035 Mid-Year Trend		
2035	N/A	20200
2045 Design Year Trend		
2045	N/A	21600
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	136
Trend R-squared:	21.47%
Trend Annual Historic Growth Rate:	0.87%
Trend Growth Rate (2020 to Design Year):	0.75%
Printed:	15-Oct-21

Straight Line Growth Option

*Axle-Adjusted

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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 1116 - SR 994/QUAIL ROOST DR, 200' W SW 127 AV

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2020	15700 C	E 7900	W 7800	9.00	56.00	5.90
2019	19200 C	E 9600	W 9600	9.00	56.00	3.20
2018	19700 C	E 9700	W 10000	9.00	54.30	5.50
2017	18700 C	E 9300	W 9400	9.00	55.70	10.50
2016	18500 C	E 9500	W 9000	9.00	56.10	6.00
2015	17900 C	E 9400	W 8500	9.00	57.40	7.60
2014	17500 C	E 8900	W 8600	9.00	59.30	4.80
2013	16400 C	E 8400	W 8000	9.00	58.90	6.20
2012	15300 C	E 7900	W 7400	9.00	59.70	5.20
2011	16000 C	E 8100	W 7900	9.00	58.20	6.20
2010	16400 C	E 8300	W 8100	7.87	58.27	6.20
2009	15600 C	E 7400	W 8200	7.98	59.96	7.50
2008	16800 C	E 8500	W 8300	8.07	66.31	5.20
2007	18400 C	E 8900	W 9500	7.90	63.12	6.90
2006	15900 C	E 7800	W 8100	7.39	58.66	5.10
2005	16700 C	E 8400	W 8300	7.70	65.70	6.00

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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ATTACHMENT E – Crash Statistics

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SR 994/Krome Ave/SW 200 St		SW 137 Ave							
		Number of Crashes					5 Year Total Crashes	Mean Crashes Per Year	%
		Year							
		2014	2015	2016	2017	2018			
CRASH TYPE	Rear End	6	12	10	9	10	47	9.40	75.8%
	Head On	0	1	0	0	0	1	0.20	1.6%
	Angle	0	1	2	1	2	6	1.20	9.7%
	Left Turn	0	2	2	0	0	4	0.80	6.5%
	Right Turn	0	0	0	0	0	0	0.00	0.0%
	Sideswipe	0	1	0	0	1	2	0.40	3.2%
	Backed Into	0	0	0	0	0	0	0.00	0.0%
	Pedestrian	0	0	0	0	0	0	0.00	0.0%
	Bicycle	0	0	0	0	0	0	0.00	0.0%
	Fixed Object	0	1	1	0	0	2	0.40	3.2%
	Other Non-Collisions	0	0	0	0	0	0	0.00	0.0%
	Overturn/Rollover	0	0	0	0	0	0	0.00	0.0%
	Others	0	0	0	0	0	0	0.00	0.0%
	Total Crashes	**6**	**18**	**15**	**10**	**13**	**62**	**12.40**	**100.0%**
SEVERITY	PDO Crashes	5	11	12	6	9	43	8.60	69.4%
	Fatal Crashes	0	0	0	0	0	0	0.00	0.0%
	Injury Crashes	1	7	3	4	4	19	3.80	30.6%
LIGHTING CONDITIONS	Daylight	5	13	12	6	8	44	8.80	71.0%
	Dusk	0	0	0	0	1	1	0.20	1.6%
	Dawn	0	0	1	0	0	1	0.20	1.6%
	Dark	1	5	2	4	4	16	3.20	25.8%
	Unknown	0	0	0	0	0	0	0.00	0.0%
SURFACE CONDITIONS	Dry	4	11	15	6	11	47	9.40	75.8%
	Wet	2	7	0	4	2	15	3.00	24.2%
	Others	0	0	0	0	0	0	0.00	0.0%
HOUR OF DAY	00:00-06:00	0	1	1	0	1	3	0.60	4.8%
	06:00-09:00	2	3	3	3	2	13	2.60	21.0%
	09:00-11:00	1	4	1	0	0	6	1.20	9.7%
	11:00-13:00	0	2	1	1	0	4	0.80	6.5%
	13:00-15:00	0	1	0	1	0	2	0.40	3.2%
	15:00-18:00	2	5	7	2	5	21	4.20	33.9%
	18:00-24:00	1	2	2	3	5	13	2.60	21.0%

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Appendix I: Intersection Control Evaluation for SW 134 Avenue

Appendix I: Intersection Control Evaluation for SW 134 Avenue

SR 994/Quail Roost Drive at SW 134 Avenue

Financial Project No.: 445804-1-22-01

ICE STUDY - STAGE 2

(DRAFT)

Prepared for:

Florida Department of Transportation

District Six

Elsa Riverol, P.E.
FDOT Project Manager

Prepared By:
Choice Engineering Consultants, Inc.

September 2022

Date: September 6, 2022

To: Elsa Riverol, P.E., FDOT Project Manager

From: Eugenio S. Lopez, P.E.; Jessica Garcia, MSCE, E.I.

Subject: ICE Study Stage 2 (DRAFT) – SR 994/Quail Roost Drive at SW 134 Avenue

FPID No.: 445804-1-22-01

Introduction:

The Florida Department of Transportation (FDOT) District Six Traffic Operations' Office (Department) assigned Choice Engineering Consultants, Inc. to perform an Intersection Control Evaluation (ICE) to identify and select a traffic control strategy for the intersection of SR 994/Quail Roost Drive (hereafter referred to as SR 994) at SW 134 Avenue, located in Miami-Dade County, Florida, meeting the goals and needs of the community and reflecting the overall best value. The review focuses on assessing the vehicular traffic demands based on a review of the traffic data and crash data. This study originated from the development of the PD&E scope for SR 994/SW 200 Street/Quail Roost Drive from SW 137 Avenue to SW 127 Avenue. In addition, a Signal Warrant Analysis (2017) performed at this location (FPID No. 249726-4-32-01) recommended the installation of a traffic signal. The following is documented in this memorandum:

- ***Existing Conditions***
- ***Background – ICE Stage 1***
- ***ICE Stage 2***
    - *Operational Analysis for ICE Stage 2*
    - *Other Considerations for ICE Stage 2*
        - *Safety Performance and Anticipated Safety Impacts*
        - *Multimodal Accommodations*
        - *Environmental, Utility, and Right-of-Way Impacts*
- ***Conclusion & Recommendation***

Existing Conditions:

The study location is the four-legged intersection of SR 994 (Roadway Section 87091000) at SW 134 Avenue (MP 4.328) – see **Figure 1**. Within the study area, SR 994 is a two-lane two-way undivided road oriented in the east to west direction with a posted speed limit of 40 MPH. SW 134 Avenue is a two-lane two-way undivided roadway oriented in the north to south direction with a posted speed limit of 35 MPH. The functional and context classifications of SR 994 are Urban Minor Arterial and C3R Suburban Residential, respectively. FDOT defines this C3R context classification as "mostly residential uses within large blocks and a disconnected or sparse roadway network." The study intersection offers a sidewalk along the northwest corner and provides no crosswalks or transit stops. There are no designated bicycle lanes or markings along SR 994. The area immediately surrounding the study intersection includes a plant nursery in the southwest corner and residential homes in the northwest, northeast, and southeast corners of the study intersection.

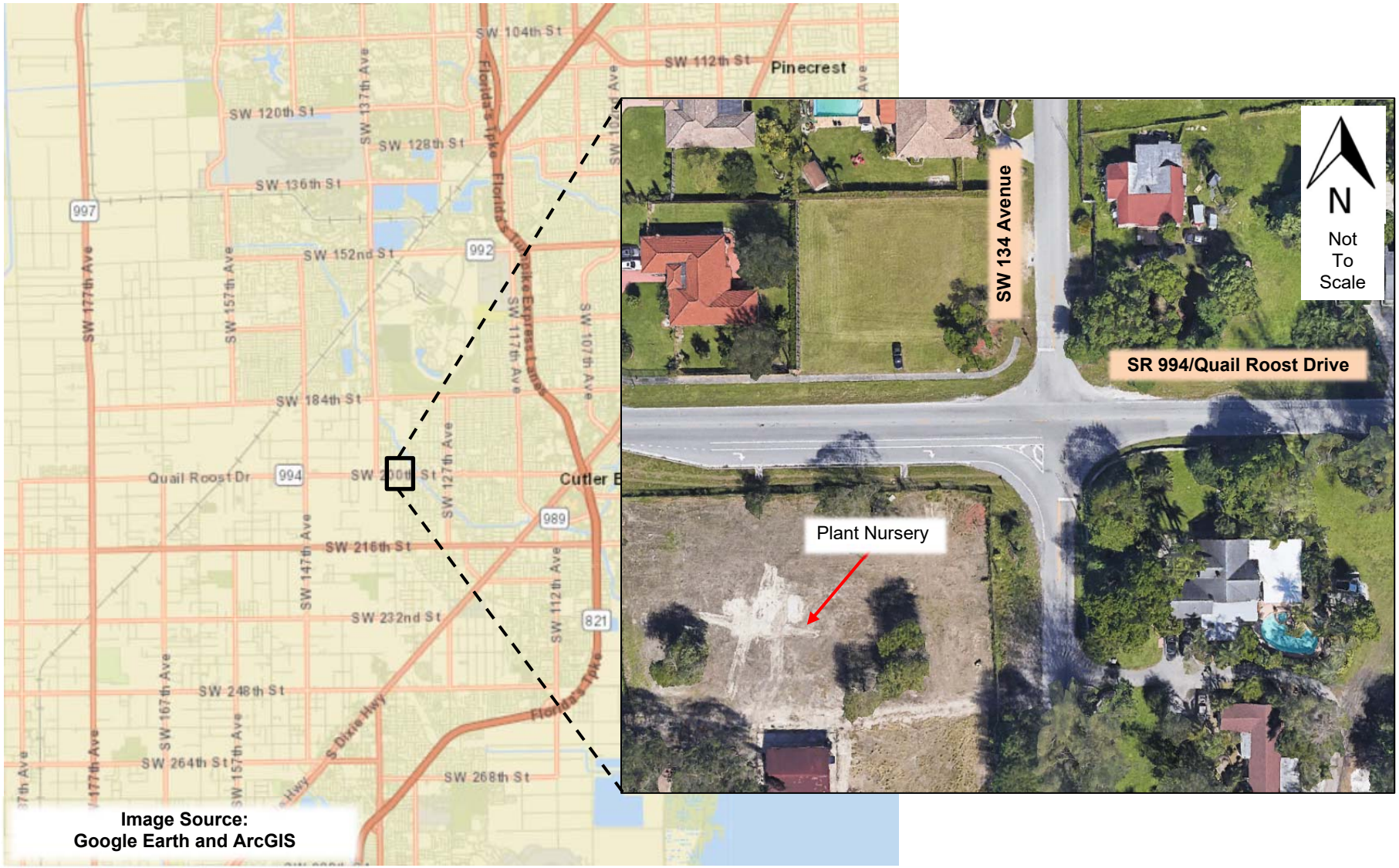

Figure 1. Study Location Map

Background – ICE Stage 1:

The Stage 1 Screening form was completed and approved on February 24, 2022 – included as **Attachment A**. This report includes the items for ICE Stage 2 (Preliminary Control Strategy Assessment), which utilizes FHWA's Safety Performance of Intersection Control Evaluations (SPICE) and Synchro 11.1.1.6. The SPICE tool conducts a safety analysis and Synchro conducts an operational analysis utilizing the Highway Capacity Manual (HCM), 6th edition methodologies. **Figure 1** exhibits the projected 2045 vehicle turning movements.

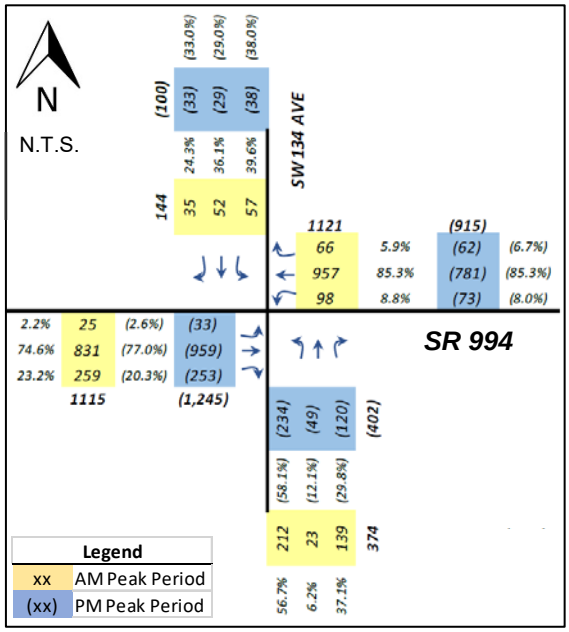

Figure 2. Build 2045 Traffic Volumes

ICE Stage 2:

The Stage 2 Preliminary Control Strategy Assessment is intended to differentiate between the remaining control strategies identified in Stage 1 – included as **Attachment B**. This evaluation consisted of conceptual designs in addition to the items previously mentioned. The two control strategies selected in Stage 1 for further analysis were as follows:

1. SR 994 PD&E Build Alternative – Traffic Signal (see **Figure 3**)
    - Eastbound (SR 994) – 1 left-turn bay, 2 through lanes, and 1 right-turn bay.
    - Westbound (SR 994) – 1 left-turn bay, 2 through lanes, and 1 right-turn bay.
    - Northbound (SW 134 Avenue) – 1 left-turn bay and 1 shared through/right-turn lane.
    - Southbound (SW 134 Avenue) – 1 left-turn bay and 1 shared through/right-turn lane.
2. 2-Lane Roundabout Alternative (see **Figure 4**)

The concept plans are also included as **Attachment C.**

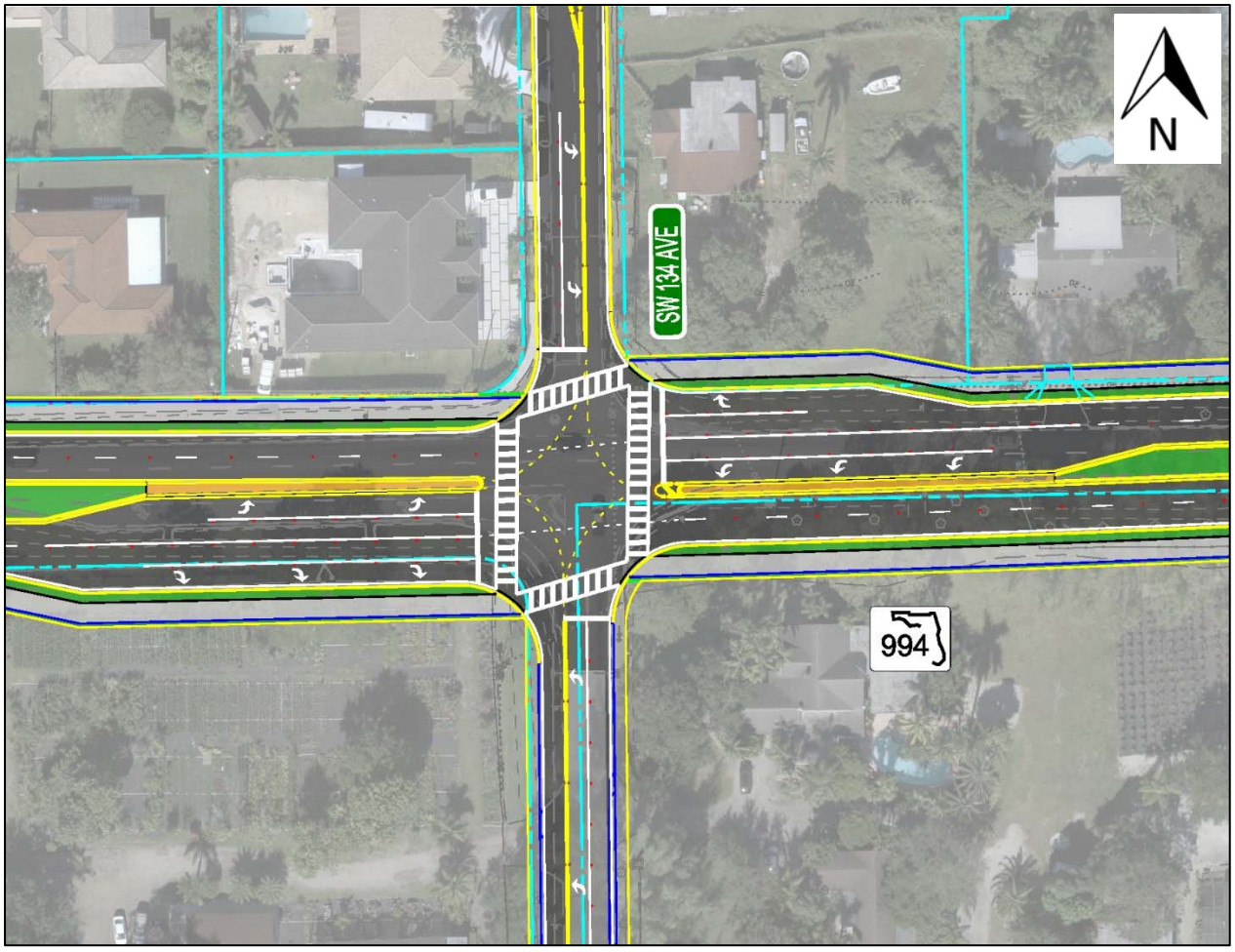

Figure 3. Build Alternative 2045

Operational Analysis for ICE Stage 2:

An operational analysis of the study intersection was performed utilizing Synchro, Version 11, to evaluate the performance of the existing and proposed conditions for the weekday 2045 AM and PM peak periods. The operational assessment was performed in accordance with the standard FDOT methodologies and consistent with the Highway Capacity Manual (HCM) 6th Edition. The main Measures of Effectiveness (MOE) used to evaluate the performance of the study intersection were level of service (LOS), control delay (seconds/vehicle), volume/capacity (v/c), and the 95th percentile queue (feet). The HCM utilizes LOS as the quantitative measure to represent the level of service at an intersection or arterial. The LOS grading criteria ranges from LOS A to LOS F, where LOS A is under-saturated/free-flow conditions and LOS F is over-saturated conditions.

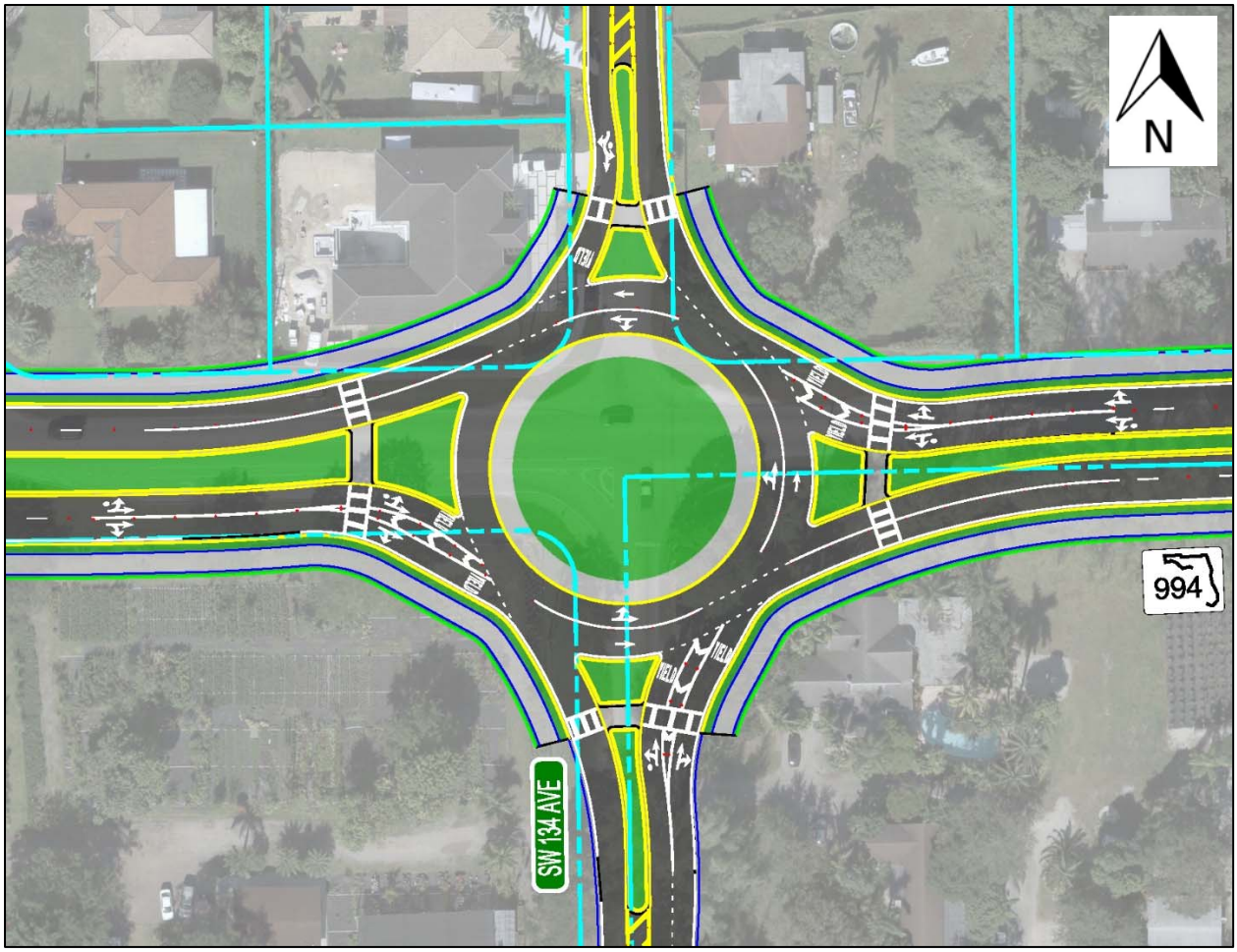

Figure 4. Roundabout Alternative 2045

The operational analyses are summarized in **Table 1**. The traffic analysis output reports are included as **Attachment D**. It is noted that the AM and PM peak hours demonstrated similar results. During the AM peak hour, the build alternative operates at LOS C with an intersection delay of 23.6 seconds, and the roundabout operates at LOS B with an intersection delay of 10.7 seconds. During the PM peak hour, the build alternative operates at LOS C with an intersection delay of 23.9 seconds, and the roundabout operates at LOS B with an intersection delay of 10.6 seconds. According to the 95th percentile queues reported, all queues are accommodated.

Table 1. Operational Results for the Selected Control Strategies

ROUNDABOUT							BUILD SIGNALIZED CONTROL						
Intersection Approach	Movement	*2045 AM Future Volume*	*Avg Delay (sec/veh)*	*LOS*	*v/c*	*Queue (veh)*	*Intersection Approach*	Movement	*2045 AM Future Volume*	*Avg Delay (sec/veh)*	*LOS*	*v/c*	*Queue (ft)*
Eastbound	Left	25	8.7	A	0.49	3	Eastbound	Left	25	24.1	C	0.11	m18
	Thru	831	9.8	A	0.55	4		Thru	831	22.3	C	0.53	365
	Right	259	---	---	---	---		Right	259	11.1	B	0.28	M71
Westbound	Left	98	9.5	A	0.52	3	Westbound	Left	98	16.5	B	0.35	59
	Thru	957	10.9	B	0.59	4		Thru	957	16.4	B	0.50	277
	Right	66	---	---	---	---		Right	66	11.7	B	0.08	19
Northbound	Left	212	13.6	B	0.44	2	Northbound	Left	212	47.3	D	0.71	203
	Thru	23	9.9	A	0.26	1		Thru	23	39.1	D	0.45	62
	Right	139	---	---	---	---		Right*	139	---	---	---	---
Southbound	Left	57	---	---	---	---	Southbound	Left	57	55.4	E	0.39	87
	Thru	52	22.0	C	0.46	2		Thru	52	63.0	E	0.75	102
	Right	35	---	---	---	---		Right*	35	---	---	---	---
Intersection		*2754*	*10.7*	*B*			*Intersection*		*2754*	*23.6*	*C*		
		Total Int Delay		*8.5*	*veh-hr*				*Total Int Delay*		*18.1*	*veh-hr*	
Intersection Approach	Movement	*2045 PM Future Volume*	*Avg Delay (sec/veh)*	*LOS*	*v/c*	*Queue (veh)*	*Intersection Approach*	Movement	*2045 PM Future Volume*	*Avg Delay (sec/veh)*	*LOS*	*v/c*	*Queue (ft)*
Eastbound	Left	33	8.6	A	0.51	3	Eastbound	Left	33	21.1	C	0.12	m14
	Thru	959	9.9	A	0.58	4		Thru	959	23.6	C	0.61	377
	Right	253	---	---	---	---		Right	253	9.9	A	0.27	m13
Westbound	Left	73	8.7	A	0.45	2	Westbound	Left	73	17.3	B	0.31	43
	Thru	781	9.6	A	0.51	3		Thru	781	15.0	B	0.41	201
	Right	62	---	---	---	---		Right	62	11.7	B	0.07	17
Northbound	Left	234	20.2	C	0.60	4	Northbound	Left	234	49.0	D	0.73	231
	Thru	49	10.9	B	0.26	1		Thru	49	39.4	D	0.46	94
	Right	120	---	---	---	---		Right*	120	---	---	---	---
Southbound	Left	38	---	---	---	---	Southbound	Left	38	56.0	E	0.30	65
	Thru	29	13.4	B	0.26	1		Thru	29	64.2	E	0.70	68
	Right	33	---	---	---	---		Right*	33	---	---	---	---
Intersection		*2664*	*10.6*	*B*			*Intersection*		*2664*	*23.9*	*C*		
		Total Int Delay		*8.0*	*veh-hr*				*Total Int Delay*		*17.7*	*veh-hr*	

Note(s): 1)- "*" indicates shared movement with through movement. 2) "---" indicates the information is not applicable or unavailable. 3) For the 95th percentile queue length, "#" indicates that capacity is exceeded, and the queue may be longer. 4) For the 95th percentile queue length, "m" indicates that the queue is metered by upstream signal. 5) LOS F and E are highlighted in red and orange, respectively.

Other Considerations for ICE Stage 2:

In addition to the concept plans and operational analysis, the Stage 2 Preliminary Control Strategy Assessment also considers the following items:

- Safety performance and anticipated safety impacts. The SPICE form, included as **Attachment E**, was utilized to predict the number of crashes for the opening and design year – see **Table 2**.

Table 2. Spice Tool Results

Control Strategy	Anticipated Impact on Safety Performance	Opening Year		Design Year	
		Predicted Total Crashes	Predicted Fatal+Injury Crashes	Predicted Total Crashes	Predicted Fatal+Injury Crashes
Signalized Control – Build Condition	Expected to decrease crash rates; left-turn lanes will provide space for deceleration and storage for turning vehicles.	4.38	1.47	6.55	2.24
Roundabout (2-lane) – Build Condition	Expected to decrease crash rates by eliminating conflict points.	7.06	1.21	10.02	1.78

- Multimodal accommodations. **Table 3** lists the anticipated multimodal impacts for the build signalized control and roundabout alternatives.

Table 3. Multimodal Accommodation Impacts

Impact	Signalized Control – Build Condition	Roundabout – Build Condition
Transit stops?	None	None
Crosswalks at which legs?	All four legs	All four legs
Pedestrian signals at which legs?	All four legs	None
Bicycle lanes?	Shared use path	Shared use path
Sidewalk connectivity to crosswalks?	All four legs	All four legs
Largest design vehicle accommodated?	WB-62	WB-50
Speed Limit?	40 mph	40 mph

- Environmental, utility, and right-of-way impacts. **Table 4** lists the anticipated environmental, utility, and right-of-way impacts for the build signalized control and roundabout alternatives. Additionally, **Table 4** presents the expected cost of each alternative.

Table 4. Multimodal Accommodation Impacts

Impact	Signalized Control – Build Condition	Roundabout – Build Condition
Utility Impacts. (Type and locations)	• Two Electric poles containing Overhead Electric and Overhead TV cables. (NE of the intersection) • Two Electric poles containing Overhead Electric and Overhead TV cables. (SE of the intersection) • Water valve and water Main Pipes (North of the intersection) • Buried TV cable (North of the intersection) • Buried Telephone cable (North of the intersection)	• Electric pole containing Overhead Electric cables (NW of the intersection) • Electric pole containing Overhead Electric, Telephone, and TV cables (SW of the intersection) • Three Electric poles containing Overhead Electric and Overhead TV cables. (NE of the intersection) • Three Electric poles containing Overhead Electric and Overhead TV cables. (SE of the intersection) • Water valve and water Main Pipes (North of the intersection) • Buried TV cable (North of the intersection) • Buried Telephone cable (North of the intersection)
Right-of-Way Impacts	58,595.04 SF	336,714 SF
Environmental impacts. (Land, animals, and special trees)	• Noise: The turn lanes will bring traffic closer to noise sensitive receptors • Increased impact to adjacent properties • Increased impact to trees • Impact to Nursery in Southwest corner that has potential contamination	• The roundabout concept will bring a travel lane closer to noise sensitive receptors • Increased impact to the adjacent properties and buildings that may require relocations • Increased impact to trees that may require tree relocation or replacement • Impacts to the Talbot House on the southeast quadrant due to the larger footprint, this will require Section 106 coordination and an Individual Section 4f document. • Southwest corner is a nursery that has potential contamination
Cost	$ 1,299,628.02	$1,931,320.88

Conclusion & Recommendation:

In conclusion, it is recommended to the Department that the signalized control condition be implemented at the study location of SR 994/Quail Roost Drive at SW 134 Avenue, located in Miami-Dade County, Florida. This alternative is recommended due to the following findings:

- Based on the operational analysis performed, the roundabout is expected to experience a LOS B with an average control delay of 11 seconds per vehicle during the AM and PM peak periods. The signalized control is expected to experience a LOS C with an average control delay of 24 seconds per vehicle during the AM and PM peak periods. It is noted that although the signalized control alternative has a lower LOS than the roundabout, the difference in average control delay per vehicle is 13 seconds. Additionally, all volume to capacity (v/c) ratios for the signalized alternative are below capacity.
- Based on the safety performance, the signalized control alternative is expected to experience the least total number of crashes in comparison to the roundabout.
- Based on the multimodal accommodations, the only difference between the alternatives is that the signalized control can accommodate a larger vehicle (WB-62) than the roundabout (WB-50).
- Based on the utility impacts, both build alternatives propose comparable results. The primary difference between the alternatives is that the roundabout impacts four additional electric poles containing overhead electric cables than the signalized control alternative.
- Based on the right-of-way impacts, the signalized control is preferable, requiring an acquisition of approximately 278,119 square feet (SF) less than the roundabout alternative.
- Based on the environmental impacts, both build alternatives propose comparable results and needs. The primary difference between the alternatives is that the roundabout impacts the Talbot House on the southeast quadrant due to the larger footprint which would require Section 106 coordination and an Individual Section 4f document.
- Based on the expected costs of the proposed alternatives, the signalized control is preferable with an expected cost of $1,299,628. The expected cost for the roundabout alternative is $1,931.31, which is approximately $631,693 more than the signalized control strategy.

An alternative matrix was developed for both alternatives, as presented in **Table 5**. This table presents a comparison of both alternatives by assigning a point range value from 0 to 5, with 0 being no impact or change at all to 5 being the most beneficial to the project. Based on this approach analysis, the signal alternative is the preferred option with a total of 46 points versus the roundabout alternative with 35 points.

Table 5. Matrix – Considerations and Results for Evaluating the Alternatives

Measuring Item	Signal	Roundabout	Comment(s)
Avg Vehicle Delay (sec/veh)	3	5	Roundabout will reduce avg. vehicle delay by 10 seconds.
Predicted Crashes Design Year	5	4	Signal Option is expected to reduce 3.5 more crashes.
Transit Stops	0	0	Neither option includes transit stops.
Crosswalks	5	5	Both options will provide similar benefits.
Pedestrian Signals	5	0	Roundabout does not include pedestrian signals.
Bicycle Lanes	5	5	Both options will provide similar benefits.
Sidewalk Connectivity	5	5	Both options will provide similar benefits.
Large Vehicle Accommodation	5	4	Signal Option can accommodate a slightly larger vehicle.
Speed Limit Change	0	0	No speed limit change is expected.
Lack of Utility Impacts	2	3	Signal Option has 4 more poles impacted.
Lack of Right-of-Way Impacts	4	0	Roundabout requires 278,119 SF more of ROW.
Lack of Environmental Impacts	3	1	Roundabout may impact buildings.
Lack of High Cost	4	2	Roundabout costs $632,000 more; 50% more than Signal Option.
Total Points	**46**	**34**	**Signal Option is the preferred alternative.**

In conclusion, the build signalized control alternative is recommended for implementation as it is expected to meet the goals and needs of the community and reflect the overall best value. Therefore, an ICE Stage 3 (Detailed Control Strategy Assessment) is not required.

LIST OF ATTACHMENTS:

Attachment A: Stage 1 Screening Study and Forms

Attachment B: Stage 2 Preliminary Control Strategy Assessment ICE

Attachment C: Concept Plans

Attachment D: Synchro HCM Operational Results

Attachment E: SPICE Form

ATTACHMENT A – Stage 1 Screening Study and Forms

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SR 994/Quail Roost Drive at SW 134 Avenue

Financial Project No.: 445804-1-22-01

ICE STUDY

(STAGE 1)

Prepared for:

Florida Department of Transportation

District Six

Elsa Riverol, P.E.
FDOT Project Manager

Prepared By:
Choice Engineering Consultants, Inc.

January 2022

DocuSign Envelope ID: 236F42E2-8E70-4190-A01C-56B39D2C2D39

Date: January 5, 2022

To: Elsa Riverol, P.E., FDOT Project Manager

From: Eugenio S. Lopez, P.E.; Jessica Garcia, MSCE, E.I.

Subject: ICE Study (Stage 1) – SR 994/Quail Roost Drive at SW 134 Avenue

FPID No.: 445804-1-22-01

The Florida Department of Transportation (FDOT) District Six Traffic Operations' Office (Department) assigned Choice Engineering Consultants, Inc. to perform an Intersection Control Evaluation (ICE) to identify and select a traffic control strategy for the intersection of SR 994/Quail Roost Drive (hereafter referred to as SR 994) at SW 134 Avenue, located in Miami-Dade County, Florida, meeting the goals and needs of the community and reflecting the overall best value. The review focuses on assessing the vehicular traffic demands based on a review of the traffic data and crash data. This study originated from the development of the PD&E scope for SR 994/SW 200 Street/Quail Roost Drive from SW 137 Avenue to SW 127 Avenue. In addition, a Signal Warrant Analysis (2017) performed at this location (FPID No. 249726-4-32-01) recommended the installation of a traffic signal.

The study location is the four-legged intersection of SR 994 (Roadway Section 87091000) at SW 134 Avenue (MP 4.328) – see **Figure 1**. Within the study area, SR 994 is a two-lane two-way undivided road oriented in the east to west direction with a posted speed limit of 40 MPH. SW 134 Avenue is a two-lane two-way undivided roadway oriented in the north to south direction with a posted speed limit of 35 MPH. The functional and context classification of SR 994 are Urban Minor Arterial and C3R Suburban Residential, respectively. FDOT defines this C3R context classification as "mostly residential uses within large blocks and a disconnected or sparse roadway network." The study intersection offers a sidewalk along the northwest corner and provides no crosswalks or transit stops. There are no designated bicycle lanes or markings along SR 994. The area immediately surrounding the study intersection includes a plant nursery in the southwest corner and residential homes in the northwest, northeast, and southeast corners of the study intersection.

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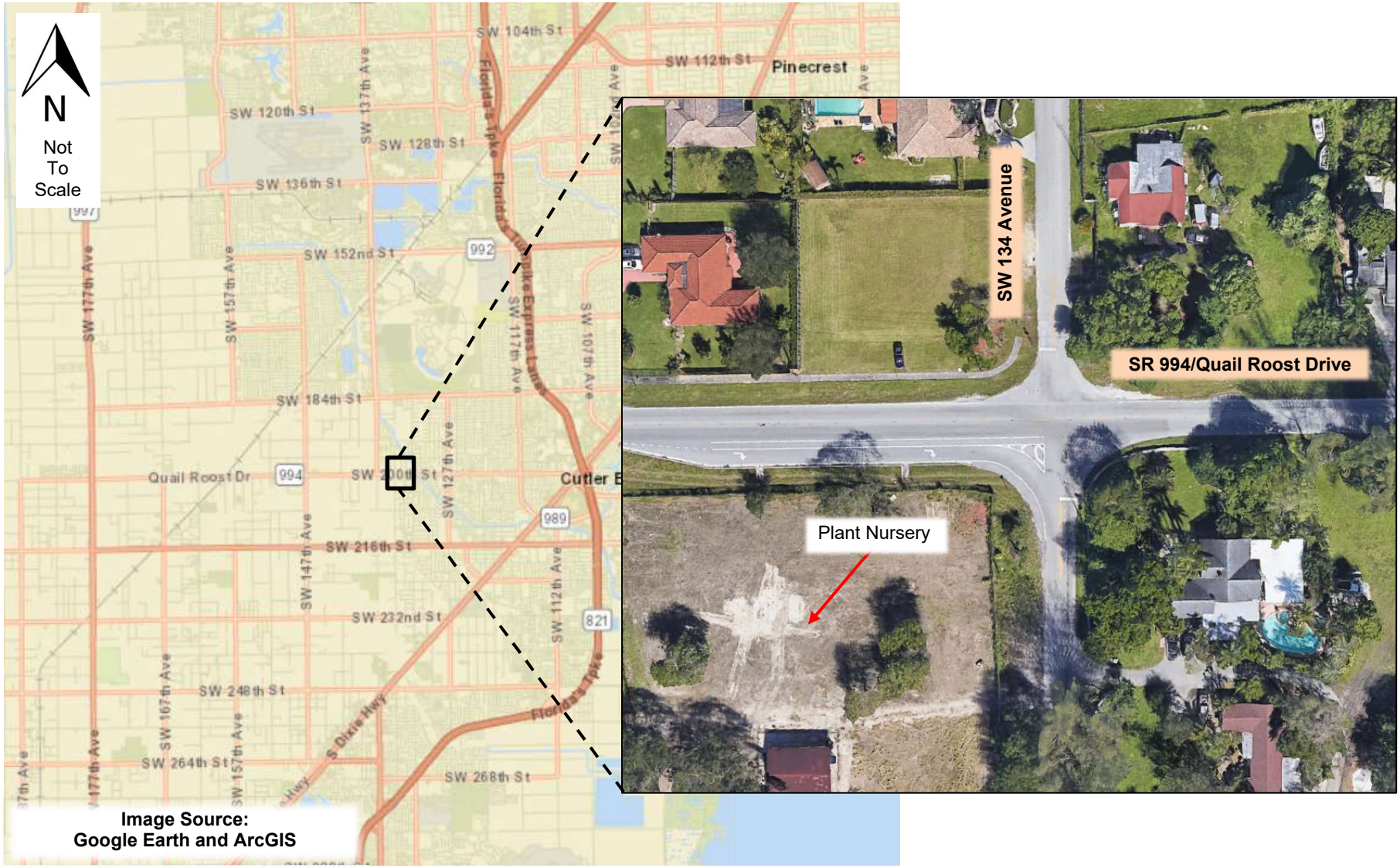

Figure 1. Study Location Map

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The ICE activities consist of three stages. This report includes the items for stage 1 (screening), which utilizes FHWA's Capacity Analysis for Planning of Junctions (CAP-X) and FHWA's Safety Performance of Intersection Control Evaluations (SPICE). The CAP-X tool intends to evaluate selected types of innovative intersection designs and the SPICE tool conducts a safety analysis.

The Stage 1 Screening ICE form was completed first to identify potential control strategies to be advanced. This evaluation was performed for SR 994 design year traffic conditions 2045. Based on the planning model for the SR 994 PD&E Study, two sets of traffic volumes were developed for 2045, No Build and Build traffic conditions as presented in **Figure 2**. The Stage 1 Screening ICE forms were populated using these two sets of 2045 traffic volumes. The first analysis used 2045 No Build traffic volumes and included the screening of the following alternatives: signalized intersection per signal warrant analysis conducted by FDOT in 2017; signalized intersection per SR 994 PD&E TSM Alternative; 1-lane roundabout; 2-lane roundabout. The second analysis (separate form populated) was conducted using the 2045 Build traffic volumes and included the screening of the SR 994 PD&E Build Alternative and the 1-lane/2-lane roundabouts. Two separate forms were populated due to having developed two sets of traffic volumes. The TSM Alternative was evaluated using the No Build 2045 traffic volumes, since it is more representative of the 2045 No Build intersection conditions (signalized intersection per FDOT signal warrant analysis) than the Build Alternative (greater capacity along SR 994, which means higher volumes). These control strategies were then further developed through the CAP-X and SPICE forms.

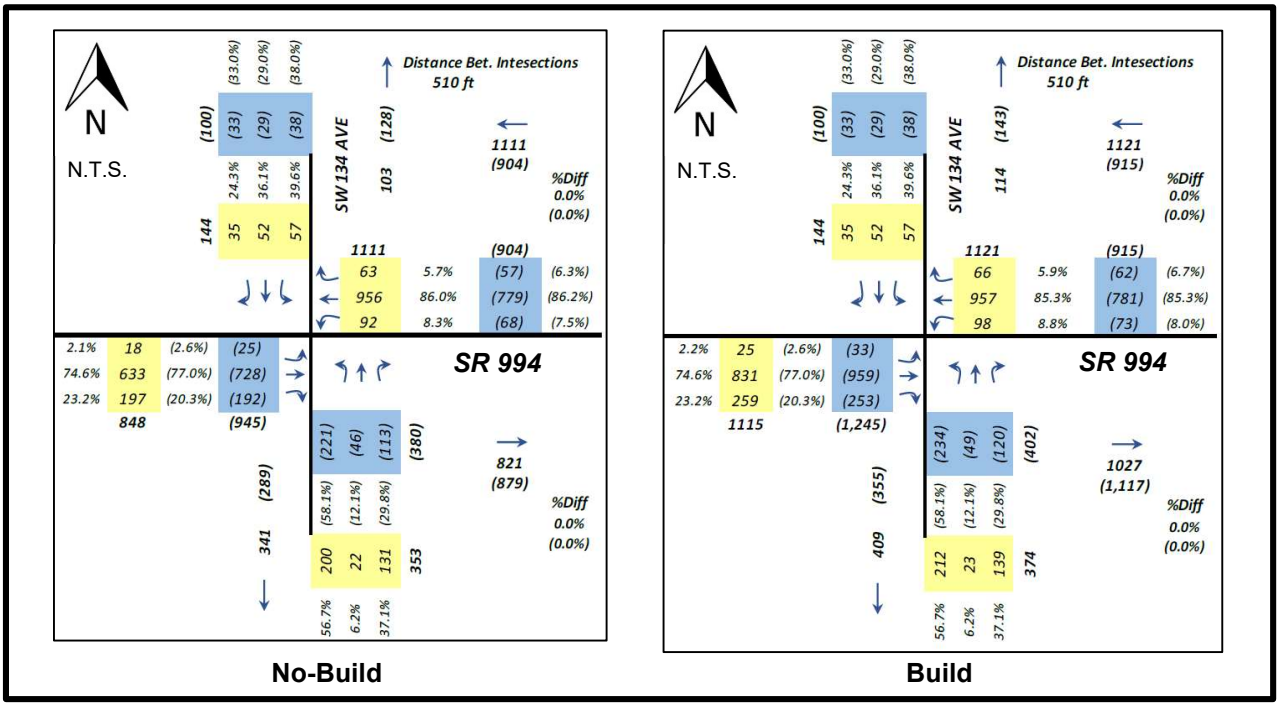

Figure 2. No-Build and Build 2045 Traffic Volumes

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The control strategies considered using the 2045 no-build traffic volumes are as follows:

- No-Build Alternative (see **Figure 3**)

Note: Intersection is Upgraded to Signal Control per FDOT Signal Warrant Analysis (2017)

  - Eastbound (SR 994) – 1 left-turn bay, 1 through lane, and 1 right-turn bay.
  - Westbound (SR 994) – 1 left-turn bay, and 1 shared through/right-turn lane.
  - Northbound (SW 134 Avenue) – 1 left-turn bay, and 1 shared through/right-turn lane.
  - Southbound (SW 134 Avenue) – 1 shared left/through/right-turn lane.

- TSM&O Alternative (see **Figure 3**)
  - Eastbound (SR 994) – 1 left-turn bay, 1 through lane, and 1 right-turn bay.
  - Westbound (SR 994) – 1 left-turn bay, 1 through lane, and 1 right-turn bay.
  - Northbound (SW 134 Avenue) – 1 left-turn bay, and 1 shared through/right-turn lane.
  - Southbound (SW 134 Avenue) – 1 shared left/through/right-turn lane.
- 1-lane roundabout
- 2-lane roundabout

The control strategies considered using the 2045 build traffic volumes are as follows:

- Build Alternative (see **Figure 4**)
  - Eastbound (SR 994) – 1 left-turn bay, 2 through lanes, and 1 right-turn bay.
  - Westbound (SR 994) – 1 left-turn bay, 2 through lanes, and 1 right-turn bay.
  - Northbound (SW 134 Avenue) – 1 left-turn bay, and 1 shared through/right-turn lane.
  - Southbound (SW 134 Avenue) – 1 shared left/through/right-turn lane.
- 1-lane roundabout
- 2-lane roundabout

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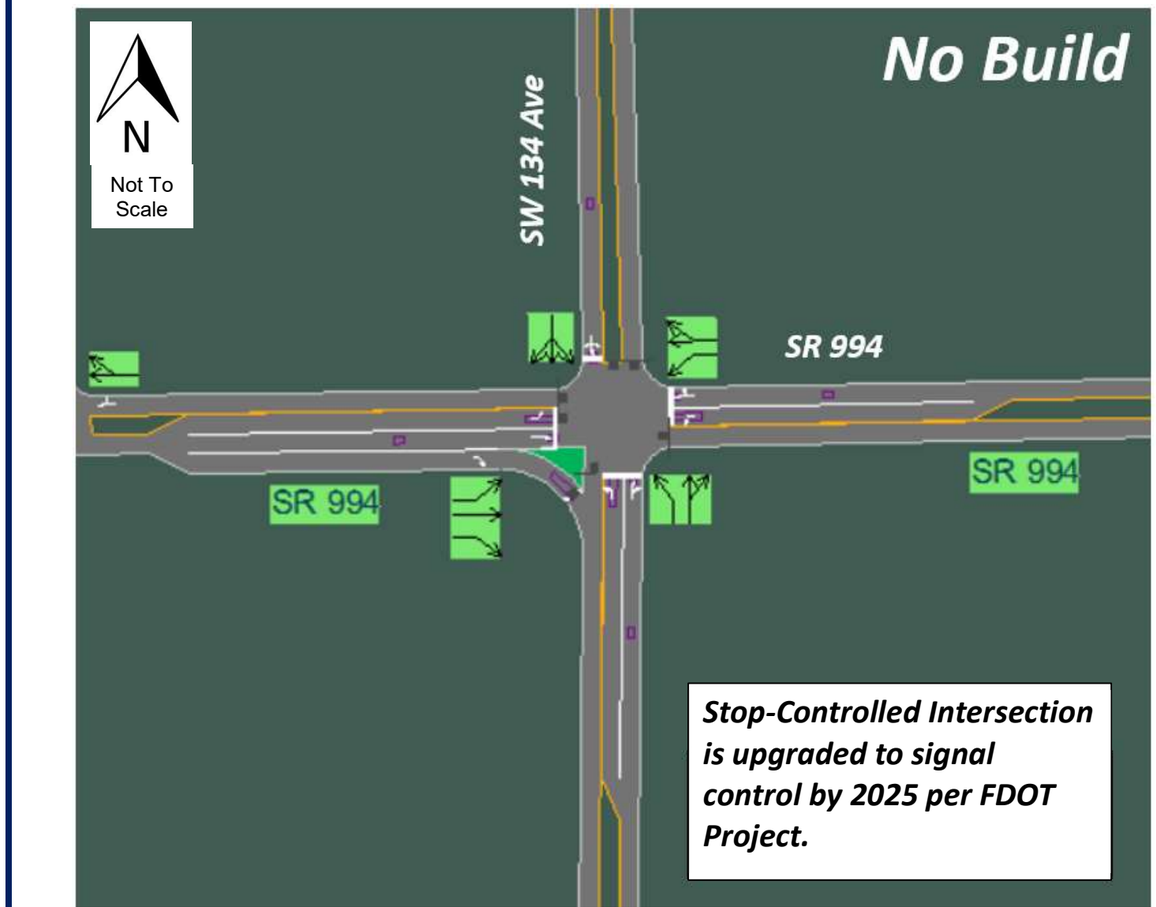



Figure 3. No-Build Volume Traffic Signal Alternatives

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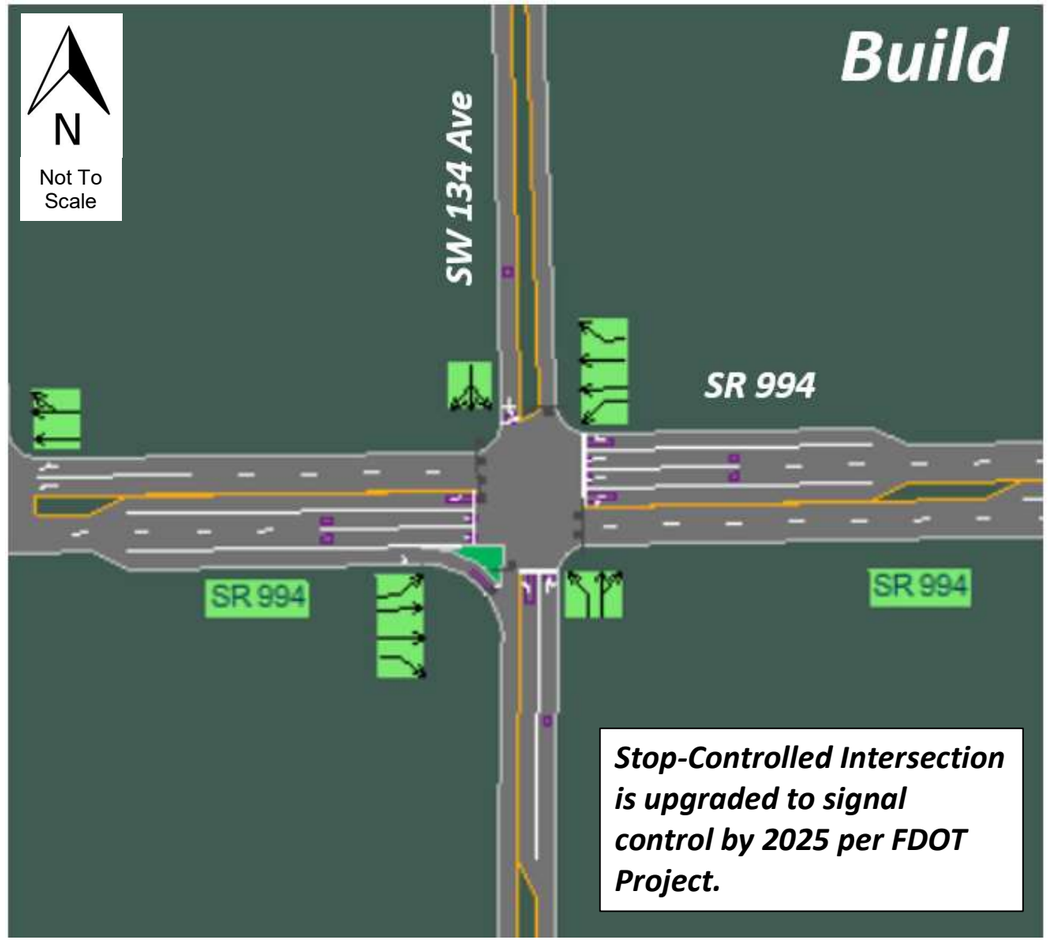

Figure 4. Build Volume Traffic Signal Alternative

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The following items are included within this document:

- Stage 1 Screening ICE forms x2 (**Attachment A**)
  - ICE Form #1 – Alternatives analyzed using No Build 2045 traffic volumes.
  - ICE Form #2 – Alternatives analyzed using Build 2045 traffic volumes.
- CAP-X forms x6 (**Attachment B**)
  - CAP-X Form #1 – AM peak period using no-build 2045 traffic volumes.
  - CAP-X Form #2 – AM peak period using no-build 2045 traffic volumes with the traffic signal option representing the TSM&O recommendations.
  - CAP-X Form #3 – AM peak period using build 2045 traffic volumes.
  - CAP-X Form #4 – PM peak period using no-build 2045 traffic volumes.
  - CAP-X Form #5 – PM peak period using no-build 2045 traffic volumes with the traffic signal option representing the TSM&O recommendations.
  - CAP-X Form #6 – PM peak period using build 2045 traffic volumes.
- SPICE forms x2 (**Attachment C**)
  - SPICE Form #1 –Alternatives analyzed using No Build 2045 traffic volumes.
  - SPICE Form #2 –Alternatives analyzed using Build 2045 traffic volumes.
- One FDOT traffic trend analysis worksheet for SR 994 (**Attachment D**)
  - Historic AADT was obtained from FDOT Florida Traffic Online (FTO) Station #871116
- Crash statistics (included as **Attachment E**)

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Amongst the 2045 No-Build traffic volume alternatives, the 2-lane roundabout exhibited the top score in the CAP-X forms with V/C ratios of 0.53 and 0.46 for the AM and PM peak periods, respectively. This was followed by the signalized control intersection with the TSM&O recommendations with V/C ratios of 0.83 and 0.73 for the AM and PM peak periods, respectively. Similarly, amongst the 2045 Build traffic volume alternatives, the 2-lane roundabout exhibited the top score in the CAP-X forms with V/C ratios of 0.55 and 0.57 for the AM and PM peak periods, respectively. This was closely followed by the build signalized control intersection, per SR 994 PD&E, with V/C ratios of 0.57 and 0.58 for the AM and PM peak periods, respectively. In the SPICE forms, the 1-lane roundabout obtained the top score. However, this strategy is not to be advanced since the AM and PM V/C ratios are near or above capacity (>1.0) when analyzed using the 2045 No Build and Build traffic conditions. It is also outperformed by the 2-lane roundabout. **Figure 5** represents the ICE results for all the alternatives considered.

Upon the Department's approval of the Stage 1 screening, the project will proceed to Stage 2 for a preliminary control strategy assessment which intends to help differentiate the remaining control strategies with a more detailed vetting and conceptual designs. The strategies moving to Stage 2 are:

- SR 994 PD&E TSM&O Alternative
- SR 994 PD&E Build Alternative
- 2-Lane Roundabout Alternative

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	Control Strategy Evaluation						
	Provide a brief justification as to why each of the following control strategies should be advanced or not. Justification should consider potential environmental impacts.						
		CAP-X Outputs					
		V/C Ratio					
	Control Strategy	Weekday AM Peak	Weekday PM Peak	Multimodal Score	SPICE Ranking	Strategy to Be Advanced?	Justification
Alternatives Evaluated per 2045 No-Build Traffic Volumes	Signalized Control (FDOT SWA)	0.86	0.74	7.2	4	No	Strategy is not to be advanced since this would be the existing intersection condition in 2045 as per FDOT Signal Warrant Analysis.
	Roundabout (1-lane)	1.08	0.93	10.0	1	No	Strategy is not to be advanced since the AM and PM V/C ratios are near or above capacity (>1.0). It is also outperformed by the 2-lane roundabout.
	Roundabout (2-lane)	0.53	0.46	8.3	2	Yes	Strategy to be advanced since the CAP-X output and SPICE ranking are better than the intersection's existing condition in 2045.
	Signalized Control (TSM&O)	0.83	0.73	7.2	3	Yes	Strategy to be advanced since the CAP-X output is very similar and has a better SPICE ranking to the intersection's existing condition in 2045.

	Control Strategy Evaluation						
	Provide a brief justification as to why each of the following control strategies should be advanced or not. Justification should consider potential environmental impacts.						
		CAP-X Outputs					
		V/C Ratio					
	Control Strategy	Weekday AM Peak	Weekday PM Peak	Multimodal Score	SPICE Ranking	Strategy to Be Advanced?	Justification
Alternatives Evaluated per 2045 Build Traffic Volumes	Signalized Control (Build per SR 994 PD&E)	0.57	0.58	7.2	3	Yes	Strategy to be advanced since the CAP-X output is better than the 1-lane roundabout and similar to the 2-lane roundabout with improved capacity.
	Roundabout (1-lane)	1.12	1.14	10.0	1	No	Strategy is not to be advanced since the AM and PM V/C ratios are near or above capacity (>1.0). It is also outperformed by the 2-lane roundabout.
	Roundabout (2-lane)	0.55	0.57	8.3	2	Yes	Strategy to be advanced since the CAP-X output and SPICE ranking are better than the intersection's existing condition in 2045.

Figure 5. Summary of ICE Results

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ATTACHMENT A – ICE Forms

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ICE Form #1

(Alternatives analyzed using No Build 2045 traffic volumes**)**

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Florida Department of Transportation
Intersection Control Evaluation (ICE) Form
Stage 1: Screening

To fulfill the requirements of Stage 1 (Screening) of FDOT's ICE procedures, complete the following form and append all supporting documentation. Completed forms can be submitted to the District Traffic Operations Engineer (DTOE) and District Design Engineer (DDE) for the project's approval.

Project Name	SR 994/Quail Roost Drive at SW 134th Avenue			FDOT Project #	445804-1-22-01	
Submitted By	Eugenio Lopez	Agency/Company		Choice Engineering Consultants	Date	1/4/2022
Email	elopez@choiceeng.com	FDOT District		District 6	County	Miami-Dade
Project Locality (*City/Town/Village*)	Redland			Project Type	Corridor Improvement Project	
Project Funding Source	Non-federal	FDOT Context Classification		C3R - Suburban Residential		
Project Purpose (*What is the catalyst for this project and why is it being undertaken?*)	This project was initiated due to the need for a traffic control signal at the intersection of SR 994/Quail Roost Drive at SW 134 Avenue as a result of a signal warrant analysis performed under this PD&E Study. This ICE form considers the 2045 No-Build volumes with the alternatives of the no-build traffic signal, TSM&O traffic signal, 1-lane roundabout, and 2-lane roundabout.					
Project Setting Description (*Describe the area surrounding the intersection*)	Surrounding the intersection are private homes in the northeast, northwest and southeast corners, and a plant nursery occupying the southwest corner of the study intersection.					
Multimodal Context (*Describe the pedestrian, bicycle, and transit activity in the area and the potential for activity based on surrounding land uses and development patterns*)	The study intersection offers a sidewalk along the northwest corner and provides no crosswalks or transit stops. There are no designated bicycle lanes or markings along SR 994/Quail Roost Drive. Low, if any, pedestrian/bicycle activity is anticipated at the study intersection. However, the proposed alternatives will include additional multimodal facilities.					

Major Street Information

Route #:	87091000	Route Name(s)	SR 994/Quail Roost Drive				Milepost	4.328	
Existing Control Type	Two-way Stop-Control		Existing AADT	19,621		Design Year AADT	21,785		
Design Vehicle	Florida Interstate Semitrailer (WB-62FL)		Control Vehicle	Florida Interstate Semitrailer (WB-62FL)					
Primary Functional Classification	Urban Minor Arterial					Design Speed (mph)	40		
Secondary Functional Classification (if app.)						Target Speed (mph) [if app.]			

Approach #1	Direction	Eastbound	Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes	
	Sidewalks along	Neither side of the approach	Left-Turn	1				
	Crosswalk on Approach?	No	Left-Through		Weekday AM Peak		Weekday PM Peak	
	On-Street Bike Facilities?	No	Through	1	Left	18	Left	25
	Multi-Use Path?	No	Left-Through-Right		Through	633	Through	728
	Scheduled Bus Service?	No	Through-Right		Right	197	Right	192
	Bus Stop on Approach?	No	Right-Turn	1	Daily Truck %		6.3%	
Approach #2	Direction	Westbound	Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes	
	Sidewalks along:	Neither side of the approach	Left-Turn	1				
	Crosswalk on Approach?	No	Left-Through		Weekday AM Peak		Weekday PM Peak	
	On-Street Bike Facilities?	No	Through		Left	92	Left	68
	Multi-Use Path?	No	Left-Through-Right		Through	956	Through	779
	Scheduled Bus Service?	No	Through-Right	1	Right	63	Right	57
	Bus Stop on Approach?	No	Right-Turn		Daily Truck %		4.7%	

Note: The "major street" and "minor street" sections use the 2045 No-Build traffic volumes and the lane geometry for the 2045 existing traffic signal, per FDOT Signal Warrant Analysis, for informational purposes.

Minor Street Information												
Route #:		Route Name(s)	SW 134 Avenue					Milepost (if app.)				
Existing Control Type	Two-way Stop-Control			Existing AADT	3,834			Design Year AADT	4,257			
Design Vehicle	Florida Interstate Semitrailer (WB-62FL)			Control Vehicle	Florida Interstate Semitrailer (WB-62FL)							
Primary Functional Classification	Urban Minor Collector							Design Speed (mph)	35			
Secondary Functional Classification (if app.)								Target Speed (mph) [if app.]				
Approach #1	Direction	Northbound		Number of Lanes				Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes		
	Sidewalks along:	Neither side of the approach		Left-Turn	1							
	Crosswalk on Approach?	No		Left-Through				Weekday AM Peak		Weekday PM Peak		
	On-Street Bike Facilities?	No		Through				Left	200	Left	221	
	Multi-Use Path?	No		Left-Through-Right				Through	22	Through	46	
	Scheduled Bus Service?	No		Through-Right	1			Right	131	Right	113	
	Bus Stop on Approach?	No		Right-Turn				Daily Truck %		8.5%		
Approach #2	Direction	Southbound		Number of Lanes				Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes		
	Sidewalks along:	Neither side of the approach		Left-Turn								
	Crosswalk on Approach?	No		Left-Through				Weekday AM Peak		Weekday PM Peak		
	On-Street Bike Facilities?	No		Through				Left	57	Left	38	
	Multi-Use Path?	No		Left-Through-Right	1			Through	52	Through	29	
	Scheduled Bus Service?	No		Through-Right				Right	35	Right	33	
	Bus Stop on Approach?	No		Right-Turn				Daily Truck %		4.0%		
Approach #3	Direction			Number of Lanes				Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes		
	Sidewalks along:			Left-Turn								
	Crosswalk on Approach?			Left-Through				Weekday AM Peak		Weekday PM Peak		
	On-Street Bike Facilities?			Through				Left		Left		
	Multi-Use Path?			Left-Through-Right				Through		Through		
	Scheduled Bus Service?			Through-Right				Right		Right		
	Bus Stop on Approach?			Right-Turn				Daily Truck %				

Crash History (Existing Intersections Only)
Append the most recent five-years of crash data for the intersection from the CAR System. If the crash data evidences any issues relating to safety performance, discuss briefly here:
There was a total of 74 crashes in the five-year period with a yearly breakdown of 14, 11, 12, 16, and 21 crashes (2014, 2015, 2016, 2017, and 2018). The leading crash types consisted of Angle with 32 (43%) crashes, Rear-end with 16 (22%) crashes, and Left-turn with 9 (12%) crashes. Based on crash severity, 46 (62%) crashes were property damaged only (PDO) and 28 (38%) were injury type crashes; no fatal crashes were reported during the referenced five-year period. Based on the 2020 FDOT's 5-year high crash lists for spots and segments, the study intersection is a high crash spot and segment (MP 4.075 to 4.961). Additionally, there were 20 (27%) nighttime crashes and 10 (14%) crashes that occured under wet/slippery pavement conditions which is above the district-wide average of 29% and 12%, respectively.

Control Strategy Evaluation						
Provide a brief justification as to why each of the following control strategies should be advanced or not. Justification should consider potential environmental impacts.						
	CAP-X Outputs			SPICE Ranking	Strategy to Be Advanced?	Justification
	V/C Ratio		Multimodal Score			
Control Strategy	Weekday AM Peak	Weekday PM Peak				
Two-Way Stop-Controlled					No	Preceding configuration (existing in 2021).
All-Way Stop-Controlled					No	An interim measure to the existing condition.
Signalized Control (FDOT SWA)	0.86	0.74	7.2	4	No	Strategy is not to be advanced since this would be the existing intersection condition in 2045 as per FDOT Signal Warrant Analysis.
Roundabout (1-lane)	1.08	0.93	10.0	1	No	Strategy is not to be advanced since the AM and PM V/C ratios are near or above capacity (>1.0). It is also outperformed by the 2-lane roundabout.
Median U-Turn					No	Not feasible with existing roadway geometry and insufficient R/W.
RCUT (Signalized)					No	Not feasible with existing roadway geometry and insufficient R/W.
RCUT (Unsignalized)					No	Not feasible with existing roadway geometry and insufficient R/W.
Jughandle					No	Not feasible with existing roadway geometry and insufficient R/W.
Displaced Left-Turn					No	Not feasible with existing roadway geometry and insufficient R/W.
Continuous Green Tee					No	Not feasible with existing roadway geometry and insufficient R/W.
Quadrant Roadway					No	Not feasible with existing roadway geometry and insufficient R/W.
Roundabout (2-lane)	0.53	0.46	8.3	2	Yes	Strategy to be advanced since the CAP-X output and SPICE ranking are better than the intersection's existing condition in 2045.
Signalized Control (TSM&O)	0.83	0.73	7.2	3	Yes	Strategy to be advanced since the CAP-X output is very similar and has a better SPICE ranking to the intersection's existing condition in 2045.

Resolution					
To be filled out by FDOT District Traffic Operations Engineer and District Design Engineer					
Project Determination					
Comments					
DTOE Name	Meitin, Omar	Signature	DocuSigned by: Meitin, Omar CA0A65627D7244D...	Date	2/22/2022 | 4:1
DDE Name	Karina Fuentes	Signature	DocuSigned by: Karina Fuentes 928260846A474B5...	Date	2/24/2022 |

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ICE Form #2

(Alternatives analyzed using Build 2045 traffic volumes**)**

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Florida Department of Transportation
Intersection Control Evaluation (ICE) Form
Stage 1: Screening

To fulfill the requirements of Stage 1 (Screening) of FDOT's ICE procedures, complete the following form and append all supporting documentation. Completed forms can be submitted to the District Traffic Operations Engineer (DTOE) and District Design Engineer (DDE) for the project's approval.

Project Name	SR 994/Quail Roost Drive at SW 134th Avenue			FDOT Project #	445804-1-22-01	
Submitted By	Eugenio Lopez	Agency/Company		Choice Engineering Consultants	Date	1/4/2022
Email	elopez@choiceeng.com	FDOT District		District 6	County	Miami-Dade
Project Locality (*City/Town/Village*)	Redland			Project Type	Corridor Improvement Project	
Project Funding Source	Non-federal	FDOT Context Classification		C3R - Suburban Residential		
Project Purpose (*What is the catalyst for this project and why is it being undertaken?*)	This project was initiated due to the need for a traffic control signal at the intersection of SR 994/Quail Roost Drive at SW 134 Avenue as a result of a signal warrant analysis performed under this PD&E Study. This ICE form considers the 2045 Build volumes with the alternatives of the build traffic signal, 1-lane roundabout, and 2-lane roundabout.					
Project Setting Description (*Describe the area surrounding the intersection*)	Surrounding the intersection are private homes in the northeast, northwest and southeast corners, and a plant nursery occupying the southwest corner of the study intersection.					
Multimodal Context (*Describe the pedestrian, bicycle, and transit activity in the area and the potential for activity based on surrounding land uses and development patterns*)	The study intersection offers a sidewalk along the northwest corner and provides no crosswalks or transit stops. There are no designated bicycle lanes or markings along SR 994/Quail Roost Drive. Low, if any, pedestrian/bicycle activity is anticipated at the study intersection. However, the proposed alternatives will include additional multimodal facilities.					

Major Street Information

Route #:	87091000	Route Name(s)	SR 994/Quail Roost Drive				Milepost	4.328	
Existing Control Type	Two-way Stop-Control		Existing AADT	19,621		Design Year AADT	21,785		
Design Vehicle	Florida Interstate Semitrailer (WB-62FL)		Control Vehicle	Florida Interstate Semitrailer (WB-62FL)					
Primary Functional Classification	Urban Minor Arterial					Design Speed (mph)	40		
Secondary Functional Classification (if app.)						Target Speed (mph) [if app.]			

Approach #1	Direction	Eastbound	Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes	
	Sidewalks along	Neither side of the approach	Left-Turn	1				
	Crosswalk on Approach?	No	Left-Through		Weekday AM Peak		Weekday PM Peak	
	On-Street Bike Facilities?	No	Through	2	Left	25	Left	33
	Multi-Use Path?	No	Left-Through-Right		Through	831	Through	959
	Scheduled Bus Service?	No	Through-Right		Right	259	Right	253
	Bus Stop on Approach?	No	Right-Turn	1	Daily Truck %		6.3%	
Approach #2	Direction	Westbound	Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes	
	Sidewalks along:	Neither side of the approach	Left-Turn	1				
	Crosswalk on Approach?	No	Left-Through		Weekday AM Peak		Weekday PM Peak	
	On-Street Bike Facilities?	No	Through	2	Left	66	Left	73
	Multi-Use Path?	No	Left-Through-Right		Through	957	Through	781
	Scheduled Bus Service?	No	Through-Right		Right	98	Right	62
	Bus Stop on Approach?	No	Right-Turn	1	Daily Truck %		4.7%	

Note: The "major street" and "minor street" sections use the 2045 Build traffic volumes and the lane geometry for the 2045 build traffic signal for informational purposes.

Minor Street Information												
Route #:		Route Name(s)	SW 134 Avenue					Milepost (if app.)				
Existing Control Type	Two-way Stop-Control			Existing AADT	3,834			Design Year AADT	4,257			
Design Vehicle	Florida Interstate Semitrailer (WB-62FL)			Control Vehicle	Florida Interstate Semitrailer (WB-62FL)							
Primary Functional Classification	Urban Minor Collector							Design Speed (mph)	35			
Secondary Functional Classification (if app.)								Target Speed (mph) [if app.]				
Approach #1	Direction	Northbound		Number of Lanes				Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes		
	Sidewalks along:	Neither side of the approach		Left-Turn	1							
	Crosswalk on Approach?	No		Left-Through				Weekday AM Peak		Weekday PM Peak		
	On-Street Bike Facilities?	No		Through				Left	212	Left	234	
	Multi-Use Path?	No		Left-Through-Right				Through	23	Through	49	
	Scheduled Bus Service?	No		Through-Right	1			Right	139	Right	120	
	Bus Stop on Approach?	No		Right-Turn				Daily Truck %		8.5%		
Approach #2	Direction	Southbound		Number of Lanes				Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes		
	Sidewalks along:	Neither side of the approach		Left-Turn								
	Crosswalk on Approach?	No		Left-Through				Weekday AM Peak		Weekday PM Peak		
	On-Street Bike Facilities?	No		Through				Left	57	Left	33	
	Multi-Use Path?	No		Left-Through-Right	1			Through	52	Through	29	
	Scheduled Bus Service?	No		Through-Right				Right	35	Right	38	
	Bus Stop on Approach?	No		Right-Turn				Daily Truck %		4.0%		
Approach #3	Direction			Number of Lanes				Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes		
	Sidewalks along:			Left-Turn								
	Crosswalk on Approach?			Left-Through				Weekday AM Peak		Weekday PM Peak		
	On-Street Bike Facilities?			Through				Left		Left		
	Multi-Use Path?			Left-Through-Right				Through		Through		
	Scheduled Bus Service?			Through-Right				Right		Right		
	Bus Stop on Approach?			Right-Turn				Daily Truck %				

Crash History (Existing Intersections Only)
Append the most recent five-years of crash data for the intersection from the CAR System. If the crash data evidences any issues relating to safety performance, discuss briefly here:
There was a total of 74 crashes in the five-year period with a yearly breakdown of 14, 11, 12, 16, and 21 crashes (2014, 2015, 2016, 2017, and 2018). The leading crash types consisted of Angle with 32 (43%) crashes, Rear-end with 16 (22%) crashes, and Left-turn with 9 (12%) crashes. Based on crash severity, 46 (62%) crashes were property damaged only (PDO) and 28 (38%) were injury type crashes; no fatal crashes were reported during the referenced five-year period. Based on the 2020 FDOT's 5-year high crash lists for spots and segments, the study intersection is a high crash spot and segment (MP 4.075 to 4.961). Additionally, there were 20 (27%) nighttime crashes and 10 (14%) crashes that occured under wet/slippery pavement conditions which is above the district-wide average of 29% and 12%, respectively.

Control Strategy Evaluation						
Provide a brief justification as to why each of the following control strategies should be advanced or not. Justification should consider potential environmental impacts.						
	CAP-X Outputs			SPICE Ranking	Strategy to Be Advanced?	Justification
	V/C Ratio		Multimodal Score			
Control Strategy	Weekday AM Peak	Weekday PM Peak				
Two-Way Stop-Controlled					No	Preceding configuration (existing in 2021).
All-Way Stop-Controlled					No	An interim measure to the existing condition.
Signalized Control (Build per SR 994 PD&E)	0.57	0.58	7.2	3	Yes	Strategy to be advanced since the CAP-X output is better than the 1-lane roundabout and similar to the 2-lane roundabout with improved capacity.
Roundabout (1-lane)	1.12	1.14	10.0	1	No	Strategy is not to be advanced since the AM and PM V/C ratios are near or above capacity (>1.0). It is also outperformed by the 2-lane roundabout.
Median U-Turn					No	Not feasible with existing roadway geometry and insufficient R/W.
RCUT (Signalized)					No	Not feasible with existing roadway geometry and insufficient R/W.
RCUT (Unsignalized)					No	Not feasible with existing roadway geometry and insufficient R/W.
Jughandle					No	Not feasible with existing roadway geometry and insufficient R/W.
Displaced Left-Turn					No	Not feasible with existing roadway geometry and insufficient R/W.
Continuous Green Tee					No	Not feasible with existing roadway geometry and insufficient R/W.
Quadrant Roadway					No	Not feasible with existing roadway geometry and insufficient R/W.
Roundabout (2-lane)	0.55	0.57	8.3	2	Yes	Strategy to be advanced since the CAP-X output and SPICE ranking are better than the intersection's existing condition in 2045.
Other 2					No	

Resolution					
To be filled out by FDOT District Traffic Operations Engineer and District Design Engineer					
Project Determination					
Comments					
DTOE Name	Meitin, Omar	Signature	DocuSigned by: Meitin, Omar CA0A65627D7244D...	Date	2/22/2022 | 4
DDE Name	Karina Fuentes	Signature	DocuSigned by: Karina Fuentes 928260846A474B5...	Date	2/24/2022 | 1

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ATTACHMENT B – CAP-X Forms

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CAP-X Form #1

(AM peak period using no-build 2045 traffic volumes)

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Capacity Analysis for Planning of Junctions

Summary Report - Page 1 of 2

Project Name:	SR 994/Quail Roost Drive at SW 134 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (AM - No Build)
Number of Intersection Legs:	4
Major Street Direction	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	18	633	197	8.60%	0.00%
Westbound	0	92	956	63	2.90%	0.00%
Southbound	0	57	52	35	7.90%	0.00%
Northbound	0	200	22	131	9.30%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Summary Report - Page 2 of 2

TYPE OF INTERSECTION	Overall v/c Ratio	V/C Ranking	Multimodal Score	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
2 X 2	**0.53**	**1**	**8.3**	**Good**	**Excellent**	**Excellent**
Traffic Signal (Existing)	**0.86**	**2**	**7.2**	**Good**	**Good**	**Excellent**
1 X 1	**1.08**	**3**	**10.0**	**Excellent**	**Excellent**	**Excellent**
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Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name:	SR 994/Quail Roost Drive at SW 134 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (AM - No Build)
Number of Intersection Legs:	4
Major Street Direction:	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	18	633	197	8.60%	0.00%
Westbound	0	92	956	63	2.90%	0.00%
Southbound	0	57	52	35	7.90%	0.00%
Northbound	0	200	22	131	9.30%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor	**Suggested = 2.00**	2.00
FDOT Context Zone	**C2-Rural**	
Critical Lane Volume Threshold: 2-phase signal	**Suggested = 1800**	**1800**
Critical Lane Volume Threshold: 3-phase signal	**Suggested = 1750**	**1750**
Critical Lane Volume Threshold: 4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	FULL		1	1	0		0	1	0		1	1	1		1	1	0

Number of Lanes for Interchanges

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

Results for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				
Traffic Signal	FULL									1469	0.86	0.86	Good	Good	Excellent

Capacity Analysis for Planning of Junctions

Detailed Report - Page 4 of 4

Results for Roundabouts

TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3				
1 X 1	0.42			0.83			0.61			1.08			1.08	Excellent	Excellent	Excellent
2 X 2	0.18	0.18		0.51	0.53		0.33	0.23		0.39	0.41		0.53	Good	Excellent	Excellent

Results for Interchanges

TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				

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CAP-X Form #2

(AM peak period using no-build 2045 traffic volumes with the traffic signal option representing the TSM&O recommendations)

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Capacity Analysis for Planning of Junctions

Summary Report - Page 1 of 2

Project Name:	SR 994/Quail Roost Drive at SW 134 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (AM - No Build_TSM&O)
Number of Intersection Legs:	4
Major Street Direction	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	18	633	197	8.60%	0.00%
Westbound	0	92	956	63	2.90%	0.00%
Southbound	0	57	52	35	7.90%	0.00%
Northbound	0	200	22	131	9.30%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Summary Report - Page 2 of 2

TYPE OF INTERSECTION	Overall v/c Ratio	V/C Ranking	Multimodal Score	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
2 X 2	**0.53**	**1**	**8.3**	**Good**	**Excellent**	**Excellent**
Traffic Signal (TSM&O)	**0.83**	**2**	**7.2**	**Good**	**Good**	**Excellent**
1 X 1	**1.08**	**3**	**10.0**	**Excellent**	**Excellent**	**Excellent**
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Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name:	SR 994/Quail Roost Drive at SW 134 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (AM - No Build_TSM&O)
Number of Intersection Legs:	4
Major Street Direction:	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	18	633	197	8.60%	0.00%
Westbound	0	92	956	63	2.90%	0.00%
Southbound	0	57	52	35	7.90%	0.00%
Northbound	0	200	22	131	9.30%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor	**Suggested = 2.00**	2.00
FDOT Context Zone	**C2-Rural**	
Critical Lane Volume Threshold: 2-phase signal	**Suggested = 1800**	**1800**
Critical Lane Volume Threshold: 3-phase signal	**Suggested = 1750**	**1750**
Critical Lane Volume Threshold: 4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	FULL		1	1	0		0	1	0		1	1	1		1	1	1

Number of Lanes for Interchanges

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

Results for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				
Traffic Signal	FULL									1404	0.83	0.83	Good	Good	Excellent

Capacity Analysis for Planning of Junctions

Detailed Report - Page 4 of 4

Results for Roundabouts

TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3				
1 X 1	0.42			0.83			0.61			1.08			1.08	Excellent	Excellent	Excellent
2 X 2	0.18	0.18		0.51	0.53		0.33	0.23		0.39	0.41		0.53	Good	Excellent	Excellent

Results for Interchanges

TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				

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CAP-X Form #3

(AM peak period using build 2045 traffic volumes)

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Capacity Analysis for Planning of Junctions

Summary Report - Page 1 of 2

Project Name:	SR 994/Quail Roost Drive at SW 134 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (AM - Build)
Number of Intersection Legs:	4
Major Street Direction	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	25	831	259	8.60%	0.00%
Westbound	0	98	957	66	2.90%	0.00%
Southbound	0	57	52	35	7.90%	0.00%
Northbound	0	212	23	139	9.30%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Summary Report - Page 2 of 2

TYPE OF INTERSECTION	Overall v/c Ratio	V/C Ranking	Multimodal Score	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
2 X 2	**0.55**	**1**	**8.3**	**Good**	**Excellent**	**Excellent**
Traffic Signal (Build)	**0.57**	**2**	**7.2**	**Good**	**Good**	**Excellent**
1 X 1	**1.12**	**3**	**10.0**	**Excellent**	**Excellent**	**Excellent**
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Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name:	SR 994/Quail Roost Drive at SW 134 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (AM - Build)
Number of Intersection Legs:	4
Major Street Direction:	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	25	831	259	8.60%	0.00%
Westbound	0	98	957	66	2.90%	0.00%
Southbound	0	57	52	35	7.90%	0.00%
Northbound	0	212	23	139	9.30%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	FULL		1	1	0		0	1	0		1	2	1		1	2	1

Number of Lanes for Interchanges

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

Results for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				
Traffic Signal	FULL									970	0.57	0.57	Good	Good	Excellent

Capacity Analysis for Planning of Junctions

Detailed Report - Page 4 of 4

Results for Roundabouts

TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3				
1 X 1	*0.43*			1.10			0.81			1.12			1.12	Excellent	Excellent	Excellent
2 X 2	*0.18*	*0.18*		*0.52*	*0.55*		*0.43*	*0.29*		*0.52*	*0.54*		0.55	Good	Excellent	Excellent

Results for Interchanges

TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				

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CAP-X Form #4

(PM peak period using no-build 2045 traffic volumes)

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Capacity Analysis for Planning of Junctions

Summary Report - Page 1 of 2

Project Name:	SR 994/Quail Roost Drive at SW 134 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (PM - No Build)
Number of Intersection Legs:	4
Major Street Direction	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	25	728	192	8.60%	0.00%
Westbound	0	68	779	57	2.90%	0.00%
Southbound	0	38	29	33	7.90%	0.00%
Northbound	0	221	46	113	9.30%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Summary Report - Page 2 of 2

TYPE OF INTERSECTION	Overall v/c Ratio	V/C Ranking	Multimodal Score	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
2 X 2	**0.46**	**1**	**8.3**	**Good**	**Excellent**	**Excellent**
Traffic Signal (Existing)	**0.74**	**2**	**7.2**	**Good**	**Good**	**Excellent**
1 X 1	**0.93**	**3**	**10.0**	**Excellent**	**Excellent**	**Excellent**
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Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name:	SR 994/Quail Roost Drive at SW 134 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (PM - No Build)
Number of Intersection Legs:	4
Major Street Direction:	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	25	728	192	8.60%	0.00%
Westbound	0	68	779	57	2.90%	0.00%
Southbound	0	38	29	33	7.90%	0.00%
Northbound	0	221	46	113	9.30%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	FULL		1	1	0		0	1	0		1	1	1		1	1	0

Number of Lanes for Interchanges

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

Results for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				
Traffic Signal	FULL									1266	0.74	0.74	Good	Good	Excellent

Capacity Analysis for Planning of Junctions

Detailed Report - Page 4 of 4

Results for Roundabouts

TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3				
1 X 1	*0.24*			*0.86*			*0.72*			*0.93*			0.93	Excellent	Excellent	Excellent
2 X 2	*0.10*	*0.10*		*0.43*	*0.46*		*0.40*	*0.25*		*0.41*	*0.43*		0.46	Good	Excellent	Excellent

Results for Interchanges

TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				

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CAP-X Form #5

(PM peak period using no-build 2045 traffic volumes with the traffic signal option representing the TSM&O recommendations)

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Capacity Analysis for Planning of Junctions

Summary Report - Page 1 of 2

Project Name:	SR 994/Quail Roost Drive at SW 134 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (PM - No Build_TSM&O)
Number of Intersection Legs:	4
Major Street Direction	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	25	728	192	8.60%	0.00%
Westbound	0	68	779	57	2.90%	0.00%
Southbound	0	38	29	33	7.90%	0.00%
Northbound	0	221	46	113	9.30%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Summary Report - Page 2 of 2

TYPE OF INTERSECTION	Overall v/c Ratio	V/C Ranking	Multimodal Score	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
2 X 2	**0.46**	**1**	**8.3**	**Good**	**Excellent**	**Excellent**
Traffic Signal (TSM&O)	**0.73**	**2**	**7.2**	**Good**	**Good**	**Excellent**
1 X 1	**0.93**	**3**	**10.0**	**Excellent**	**Excellent**	**Excellent**
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Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name:	SR 994/Quail Roost Drive at SW 134 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (PM - No Build_TSM&O)
Number of Intersection Legs:	4
Major Street Direction:	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	25	728	192	8.60%	0.00%
Westbound	0	68	779	57	2.90%	0.00%
Southbound	0	38	29	33	7.90%	0.00%
Northbound	0	221	46	113	9.30%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor	**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**
Critical Lane Volume Threshold: 2-phase signal	**Suggested = 1800**	**1800**
Critical Lane Volume Threshold: 3-phase signal	**Suggested = 1750**	**1750**
Critical Lane Volume Threshold: 4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	FULL		1	1	0		0	1	0		1	1	1		1	1	1

Number of Lanes for Interchanges

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

Results for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				
Traffic Signal	FULL									1241	0.73	0.73	Good	Good	Excellent

Capacity Analysis for Planning of Junctions

Detailed Report - Page 4 of 4

Results for Roundabouts

TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3				
1 X 1	*0.24*			*0.86*			*0.72*			*0.93*			0.93	Excellent	Excellent	Excellent
2 X 2	*0.10*	*0.10*		*0.43*	*0.46*		*0.40*	*0.25*		*0.41*	*0.43*		0.46	Good	Excellent	Excellent

Results for Interchanges

TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				

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CAP-X Form #6

(PM peak period using build 2045 traffic volumes)

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Capacity Analysis for Planning of Junctions

Summary Report - Page 1 of 2

Project Name:	SR 994/Quail Roost Drive at SW 134 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (PM - Build)
Number of Intersection Legs:	4
Major Street Direction	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	33	959	253	8.60%	0.00%
Westbound	0	73	781	62	2.90%	0.00%
Southbound	0	38	29	33	7.90%	0.00%
Northbound	0	234	49	120	9.30%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor		**Suggested = 2.00**	2.00
FDOT Context Zone		**C2-Rural**	
Critical Lane Volume Threshold	2-phase signal	**Suggested = 1800**	**1800**
	3-phase signal	**Suggested = 1750**	**1750**
	4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Summary Report - Page 2 of 2

TYPE OF INTERSECTION	Overall v/c Ratio	V/C Ranking	Multimodal Score	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
2 X 2	**0.57**	**1**	**8.3**	**Good**	**Excellent**	**Excellent**
Traffic Signal (Build)	**0.58**	**2**	**7.2**	**Good**	**Good**	**Excellent**
1 X 1	**1.14**	**3**	**10.0**	**Excellent**	**Excellent**	**Excellent**
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Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name:	SR 994/Quail Roost Drive at SW 134 Avenue
Project Number:	445804-1-22-01
Location:	Miami-Dade County, FL
Date:	12/29/2021 (PM - Build)
Number of Intersection Legs:	4
Major Street Direction:	East-West

Traffic Volume Demand

	Volume (Veh/hr)				Percent (%)	
	U-Turn	Left	Thru	Right	Heavy Vehicles	Volume Growth
Eastbound	0	33	959	253	8.60%	0.00%
Westbound	0	73	781	62	2.90%	0.00%
Southbound	0	38	29	33	7.90%	0.00%
Northbound	0	234	49	120	9.30%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	**0.80**	**0.95**		**0.85**		

Truck to PCE Factor	**Suggested = 2.00**	2.00
FDOT Context Zone	**C2-Rural**	
Critical Lane Volume Threshold: 2-phase signal	**Suggested = 1800**	**1800**
Critical Lane Volume Threshold: 3-phase signal	**Suggested = 1750**	**1750**
Critical Lane Volume Threshold: 4-phase signal	**Suggested = 1700**	**1700**

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	FULL		1	1	0		0	1	0		1	2	1		1	2	1

Number of Lanes for Interchanges

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

Results for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				
Traffic Signal	FULL									991	0.58	0.58	Good	Good	Excellent

Capacity Analysis for Planning of Junctions

Detailed Report - Page 4 of 4

Results for Roundabouts

TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3				
1 X 1	0.25			1.14			1.00			0.97			1.14	Excellent	Excellent	Excellent
2 X 2	0.11	0.11		0.45	0.47		0.53	0.34		0.54	0.57		0.57	Good	Excellent	Excellent

Results for Interchanges

TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C				

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ATTACHMENT C – SPICE Forms

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SPICE Form #1

(Alternatives analyzed using No Build 2045 traffic volumes**)**

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Federal Highway Administration (FHWA)

Safety Performance for Intersection Control Evaluation Tool

Results

Summary of crash prediction results for each alternative

Project Information

Project Name:	SR 994/Quail Roost Drive PD&E	**Intersection Type**	At-Grade Intersections
Intersection:	SR 994/Quail Roost Drive at SW 134 Avenue (No Build)	**Opening Year**	2025
Agency:	FDOT	**Design Year**	2045
Project Reference:	445804-1-22-01	**Facility Type**	On Urban and Suburban Arterial
City:	Miami-Dade County	**Number of Legs**	4-leg
State:	FL	**1-Way/2-Way**	2-way Intersecting 2-way
Date:	12/29/2021	**# of Major Street Lanes (both directions)**	5 or fewer
Analyst:	Choice Engineering Consultants	**Major Street Approach Speed**	Less than 55 mph

Crash Prediction Summary

Control Strategy	Crash Type	Opening Year	Design Year	Total Project Life Cycle	Rank	AADT Within Prediction Range?	Source of Prediction
Traffic Signal (Existing)	Total	7.20	5.55	135.52	4	Yes	Calibrated SPF
	Fatal & Injury	2.45	1.90	46.24			
Traffic Signal (TSM&O)	Total	6.90	5.32	129.89	3	Yes	Calibrated SPF
	Fatal & Injury	2.35	1.83	44.34			
1-lane Roundabout	Total	2.68	2.42	53.54	1	No	Uncalibrated SPF
	Fatal & Injury	0.54	0.47	10.64			
2-lane Roundabout	Total	9.59	8.19	186.68	2	Yes	Uncalibrated SPF
	Fatal & Injury	1.70	1.43	32.78			

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SPICE Form #2

(Alternatives analyzed using Build 2045 traffic volumes**)**

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Federal Highway Administration (FHWA)

Safety Performance for Intersection Control Evaluation Tool

Results

Summary of crash prediction results for each alternative

Project Information

Project Name:	SR 994/Quail Roost Drive PD&E	**Intersection Type**	At-Grade Intersections
Intersection:	SR 994/Quail Roost Drive at SW 134 Avenue (Build)	**Opening Year**	2025
Agency:	FDOT	**Design Year**	2045
Project Reference:	445804-1-22-01	**Facility Type**	On Urban and Suburban Arterial
City:	Miami-Dade County	**Number of Legs**	4-leg
State:	FL	**1-Way/2-Way**	2-way Intersecting 2-way
Date:	12/29/2021	**# of Major Street Lanes (both directions)**	5 or fewer
Analyst:	Choice Engineering Consultants	**Major Street Approach Speed**	Less than 55 mph

Crash Prediction Summary

Control Strategy	Crash Type	Opening Year	Design Year	Total Project Life Cycle	Rank	AADT Within Prediction Range?	Source of Prediction
Traffic Signal (Build)	Total	6.90	6.23	140.02	3	Yes	Calibrated SPF
	Fatal & Injury	2.35	2.16	48.06			
1-lane Roundabout	Total	2.68	2.67	56.16	1	No	Uncalibrated SPF
	Fatal & Injury	0.54	0.54	11.28			
2-lane Roundabout	Total	9.59	9.55	200.97	2	Yes	Uncalibrated SPF
	Fatal & Injury	1.70	1.69	35.55			

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ATTACHMENT D – FDOT Traffic Trend Analysis

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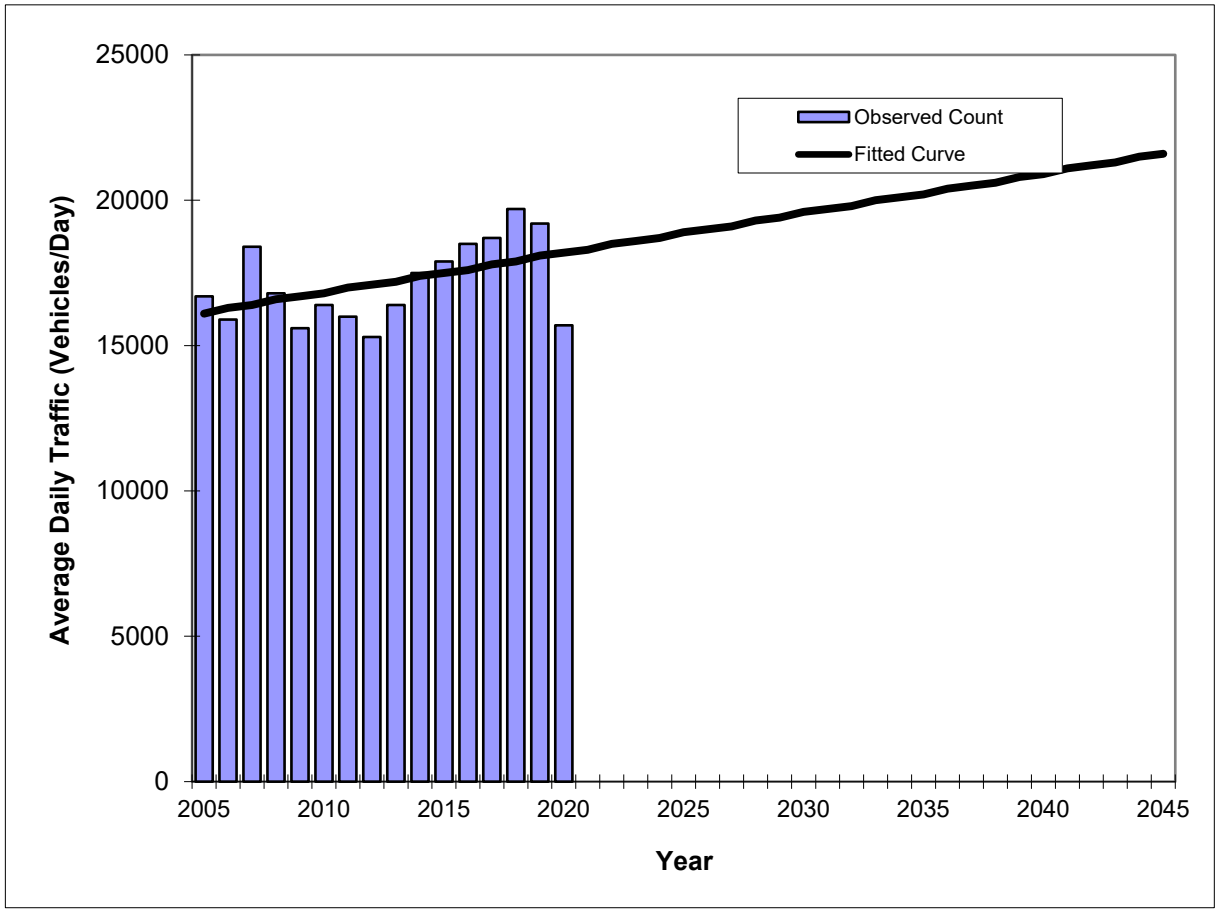
Traffic Trends - V03.a

SW 200 ST --

FIN#	1234
Location	1

County:	Miami-Dade (87)
Station #:	871116
Highway:	SW 200 ST



Year	Traffic (ADT/AADT) Count*	Trend**
2005	16700	16100
2006	15900	16300
2007	18400	16400
2008	16800	16600
2009	15600	16700
2010	16400	16800
2011	16000	17000
2012	15300	17100
2013	16400	17200
2014	17500	17400
2015	17900	17500
2016	18500	17600
2017	18700	17800
2018	19700	17900
2019	19200	18100
2020	15700	18200
2025 Opening Year Trend		
2025	N/A	18900
2035 Mid-Year Trend		
2035	N/A	20200
2045 Design Year Trend		
2045	N/A	21600
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	136
Trend R-squared:	21.47%
Trend Annual Historic Growth Rate:	0.87%
Trend Growth Rate (2020 to Design Year):	0.75%
Printed:	15-Oct-21

Straight Line Growth Option

*Axle-Adjusted

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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 1116 - SR 994/QUAIL ROOST DR, 200' W SW 127 AV

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2020	15700 C	E 7900	W 7800	9.00	56.00	5.90
2019	19200 C	E 9600	W 9600	9.00	56.00	3.20
2018	19700 C	E 9700	W 10000	9.00	54.30	5.50
2017	18700 C	E 9300	W 9400	9.00	55.70	10.50
2016	18500 C	E 9500	W 9000	9.00	56.10	6.00
2015	17900 C	E 9400	W 8500	9.00	57.40	7.60
2014	17500 C	E 8900	W 8600	9.00	59.30	4.80
2013	16400 C	E 8400	W 8000	9.00	58.90	6.20
2012	15300 C	E 7900	W 7400	9.00	59.70	5.20
2011	16000 C	E 8100	W 7900	9.00	58.20	6.20
2010	16400 C	E 8300	W 8100	7.87	58.27	6.20
2009	15600 C	E 7400	W 8200	7.98	59.96	7.50
2008	16800 C	E 8500	W 8300	8.07	66.31	5.20
2007	18400 C	E 8900	W 9500	7.90	63.12	6.90
2006	15900 C	E 7800	W 8100	7.39	58.66	5.10
2005	16700 C	E 8400	W 8300	7.70	65.70	6.00

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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ATTACHMENT E – Crash Statistics

DocuSign Envelope ID: 236F42E2-8E70-4190-A01C-56B39D2C2D39

SR 994/Krome Ave/SW 200 St		SW 134 Ave							
		Number of Crashes					5 Year Total Crashes	Mean Crashes Per Year	%
		Year							
		2014	2015	2016	2017	2018			
CRASH TYPE	Rear End	6	3	4	2	1	16	3.20	21.6%
	Head On	0	0	0	0	0	0	0.00	0.0%
	Angle	5	3	7	12	5	32	6.40	43.2%
	Left Turn	0	2	0	1	6	9	1.80	12.2%
	Right Turn	1	1	0	0	2	4	0.80	5.4%
	Sideswipe	1	1	1	1	1	5	1.00	6.8%
	Backed Into	0	0	0	0	0	0	0.00	0.0%
	Pedestrian	0	0	0	0	0	0	0.00	0.0%
	Bicycle	0	0	0	0	0	0	0.00	0.0%
	Fixed Object	0	0	0	0	5	5	1.00	6.8%
	Other Non-Collisions	0	1	0	0	0	1	0.20	1.4%
	Overturn/Rollover	0	0	0	0	0	0	0.00	0.0%
	Others	1	0	0	0	1	2	0.40	2.7%
	Total Crashes	**14**	**11**	**12**	**16**	**21**	**74**	**14.80**	**100.0%**
SEVERITY	PDO Crashes	8	8	7	9	14	46	9.20	62.2%
	Fatal Crashes	0	0	0	0	0	0	0.00	0.0%
	Injury Crashes	6	3	5	7	7	28	5.60	37.8%
LIGHTING CONDITIONS	Daylight	8	8	12	13	12	53	10.60	71.6%
	Dusk	0	0	0	0	0	0	0.00	0.0%
	Dawn	0	0	0	0	0	0	0.00	0.0%
	Dark	6	3	0	3	8	20	4.00	27.0%
	Unknown	0	0	0	0	1	1	0.20	1.4%
SURFACE CONDITIONS	Dry	12	10	9	15	17	63	12.60	85.1%
	Wet	2	1	3	1	3	10	2.00	13.5%
	Others	0	0	0	0	1	1	0.20	1.4%
HOUR OF DAY	00:00-06:00	4	0	0	1	2	7	1.40	9.5%
	06:00-09:00	2	3	4	4	2	15	3.00	20.3%
	09:00-11:00	2	1	1	3	0	7	1.40	9.5%
	11:00-13:00	0	0	2	2	2	6	1.20	8.1%
	13:00-15:00	1	2	1	1	2	7	1.40	9.5%
	15:00-18:00	2	3	3	2	5	15	3.00	20.3%
	18:00-24:00	3	2	1	3	8	17	3.40	23.0%

ATTACHMENT B – Stage 2 Preliminary Control Strategy Assessment ICE

Florida Department of Transportation
Intersection Control Evaluation (ICE) Form
Stage 2: Initial Control Strategy Assessment

To fulfill the requirements of Stage 2 (Intersection Control Strategy) of FDOT's ICE procedures, complete the following form and append all supporting documentation. Completed forms can be submitted to the District Traffic Operations Engineer (DTOE) and District Design Engineer (DDE) for the project's approval.

Project Name	SR 994/Quail Roost Drive at SW 134th Avenue	FDOT Project #	445804-1-22-01	Date	08/26/22
Submitted By	Eugenio Lopez	Agency/Company	Choice Engineering Consultants	Email	elopez@choiceeng.com

List all viable intersection control strategies identified in Stage 1 (Screening):

Signalized Control	Roundabout (2-lane)	

Operational Analyses

Summarize the results of the peak hour analysis performed for each control strategy. Select analysis year based on guidance in the ICE procedures document. Refer to Exhibit 19-8 of the *Highway Capacity Manual, 6th Edition* (HCM6) to determine the appropriate LOS based on intersection delay (*hover over this cell for Exhibit 19-8*).

Design Vehicle	Florida Interstate Semitrailer (WB-62FL)	Control Vehicle	Florida Interstate Semitrailer (WB-62FL)
Design Year	2045		

Control Strategy	Critical Peak Hour		Weekday PM Peak
	LOS	Delay (sec.)	All Queues Accommodated?
Signalized Control	C	23.9	Yes
Roundabout (2-lane)	B	10.6	Yes

Provide any additional discussion necessary regarding the results of the operational analysis:	Both alternatives exhibit satisfactory results with undersaturated volume to capacity conditions.

Safety Performance							
Enter the most recent five (5) years of crash data from the CAR System.					Most recent year of crash data available		2018
Crash Type		2014	2015	2016	2017	2018	Total
Combined	Total						
	Fatal/Injury						
	PDO						
Single-Vehicle	Total						
	Fatal/Injury						
	PDO						
Multi-Vehicle	Total	14	11	12	16	21	74
	Fatal/Injury	8	8	7	9	14	46
	PDO	6	3	5	7	7	28
Vehicle-Pedestrian	Fatal/Injury						
Vehicle-Bicycle	Fatal/Injury						
Total	All	14	11	12	16	21	74

Apply the FDOT SPICE Tool to model anticipated safety performance of each control strategy. For intersection types not accommodated in the tool, manually apply crash modification factors detailed in the ICE procedures document or qualitatively describe anticipated safety impacts.

Control Strategy	Anticipated Impact on Safety Performance	Opening Year		Design Year	
		Predicted Total Crashes	Predicted Fatal+Injury Crashes	Predicted Total Crashes	Predicted Fatal+Injury Crashes
Signalized Control	Expected to decrease crash rates; left-turn lanes will provide space for decelaration and storage for turning vehicles.	4.38	1.47	6.55	2.24
Roundabout (2-lane)	Expected to decrease crash rates by eliminating conflict points.	7.06	1.21	10.02	1.78

Multimodal Accommodations								
Note the existing/anticipated level of pedestrian/bicyclist activity at the study intersection during the peak hours of the typical day. See ICE procedures document for activity level thresholds:								
Peak Hour:							Activity Level	
	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Ped.	Bicycles
# of ped. crossings (both approaches, if app.):							Low	Low
# of cyclists (both approaches, if app.):								

Summarize the ability of each viable control strategy to accommodate the existing/anticipated level of:

Control Strategy	Pedestrians and Bicyclists	Transit Services	Freight Needs
Signalized Control	Crosswalks with sidewalk connectivity and pedestrian signals will be provided across all four legs.	No transit accommodations are currently available or anticipated.	Designed to service up to a WB-62 vehicle.
Roundabout (2-lane)	Crosswalks with sidewalk connectivity and pedestrian signals will be provided across all four legs.	No transit accommodations are currently available or anticipated.	Designed to service up to a WB-50 vehicle.

Environmental, Utility, and Right-of-Way Impacts	
Summarize any issues related to environmental, utility, or right-of-way (including relocation) impacts specific to each control strategy. Be sure to consider the NEPA requirements for each control type.	
Signalized Control	Approximately 4 electric poles, water valve and main pipes, and 2 buried cables will be impacted. Approximately 58,595 SF of right-of-way acqusition will be required. Adjacent properties and trees/nursery will be affected.
Roundabout (2-lane)	Approximately 8 electric poles, water valve and main pipes, and 2 buried cables will be impacted. Approximately 336,714 SF of right-of-way acqusition will be required. Adjacent properties and trees/nursery will be affected.

Public Input/Feedback (if appropriate)
Summarize any agency or public input regarding the control strategies:
No agency or public input has been provided at this time.

Control Strategy Evaluation		
Provide a brief justification as to why each of the following is either viable or not viable. If a single control strategy is recommended, select it as the only strategy to be advanced.		
Control Strategy	Strategy to be Advanced?	Justification
Signalized Control	Yes	This alternative is expected to experience the least total number of crashes. Based on the operational analysis, the operations are satisfactory with a LOS C during the AM and PM peak hours. The right-of-way impact is significantly less than the roundabout.
Roundabout (2-lane)	No	This alternative is expected to experience more crashes than the traffic signal. The right-of-way impacts are significantly greater. Similarly, it is expected to have more utility and environmental impacts. The roundabout would not be able to service a WB-62 vehicle.

Resolution					
To be filled out by FDOT District Traffic Operations Engineer and District Design Engineer					
Project Determination					
Comments					
DTOE Name		Signature		Date	
DDE Name		Signature		Date	

ATTACHMENT C – Concept Plans

SW 134 AVE

SW 135 AVE

SW 134 CT

SW 133 CT

994

SW 133 AVE

SW 134 AVE

SR 994/QUAIL ROOST DR. PD&E
BUILD 1 ALTERNATIVE

SW 134 AVE

SW 135 AVE

SW 133 CT

SW 133 AVE

994

SW 134 AVE

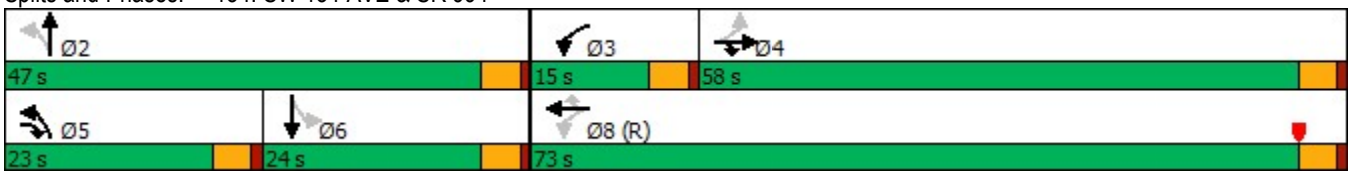
SR 994/QUAIL ROOST DR. PD&E
ROUNDABOUT ALTERNATIVE

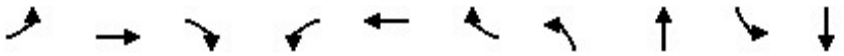
ATTACHMENT D – Synchro HCM Operational Results

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	25	831	259	98	957	66	212	23	57	52
Future Volume (vph)	25	831	259	98	957	66	212	23	57	52
Turn Type	Perm	NA	pt+ov	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases		4	4 5	3	8		5	2		6
Permitted Phases	4			8		8	2		6	
Detector Phase	4	4	4 5	3	8	8	5	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5		9.5	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	58.0	58.0		15.0	73.0	73.0	23.0	47.0	24.0	24.0
Total Split (%)	48.3%	48.3%		12.5%	60.8%	60.8%	19.2%	39.2%	20.0%	20.0%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag		Lead			Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes
Recall Mode	Max	Max		None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	64.7	64.7	86.7	77.4	77.4	77.4	33.6	33.6	11.6	11.6
Actuated g/C Ratio	0.54	0.54	0.72	0.64	0.64	0.64	0.28	0.28	0.10	0.10
v/c Ratio	0.11	0.49	0.23	0.27	0.45	0.07	0.63	0.33	0.50	0.61
Control Delay	12.9	16.6	2.1	11.0	12.1	2.5	43.1	8.8	64.5	54.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.9	16.6	2.1	11.0	12.1	2.5	43.1	8.8	64.5	54.2
LOS	B	B	A	B	B	A	D	A	E	D
Approach Delay		13.1			11.5			28.2		58.3
Approach LOS		B			B			C		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 102 (85%), Referenced to phase 8:WBTL, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 16.9	Intersection LOS: B
Intersection Capacity Utilization 62.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 134: SW 134 AVE & SR 994

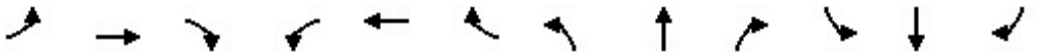




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	26	875	273	103	1007	69	223	170	60	92
v/c Ratio	0.11	0.49	0.23	0.27	0.45	0.07	0.63	0.33	0.50	0.61
Control Delay	12.9	16.6	2.1	11.0	12.1	2.5	43.1	8.8	64.5	54.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.9	16.6	2.1	11.0	12.1	2.5	43.1	8.8	64.5	54.2
Queue Length 50th (ft)	7	291	0	28	193	0	142	14	45	51
Queue Length 95th (ft)	m18	365	m71	59	277	19	203	62	87	102
Internal Link Dist (ft)		272			408			1264		1117
Turn Bay Length (ft)	225		225	185		185	185		150	
Base Capacity (vph)	229	1785	1208	407	2260	1035	362	604	200	237
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.49	0.23	0.25	0.45	0.07	0.62	0.28	0.30	0.39

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	831	259	98	957	66	212	23	139	57	52	35
Future Volume (veh/h)	25	831	259	98	957	66	212	23	139	57	52	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1515	1767	1841	1900	1856	1856	1811	1781	1663	1900	1722	937
Adj Flow Rate, veh/h	26	875	273	103	1007	69	223	24	146	60	55	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	26	9	4	0	3	3	6	8	16	0	12	65
Cap, veh/h	230	1645	972	293	2012	898	315	54	327	154	73	49
Arrive On Green	0.49	0.49	0.49	0.04	0.57	0.57	0.13	0.25	0.25	0.08	0.08	0.08
Sat Flow, veh/h	425	3357	1560	1810	3526	1572	1725	218	1325	1234	960	646
Grp Volume(v), veh/h	26	875	273	103	1007	69	223	0	170	60	0	92
Grp Sat Flow(s),veh/h/ln	425	1678	1560	1810	1763	1572	1725	0	1543	1234	0	1606
Q Serve(g_s), s	4.7	21.6	9.6	3.3	20.6	2.4	13.8	0.0	11.2	5.7	0.0	6.7
Cycle Q Clear(g_c), s	15.6	21.6	9.6	3.3	20.6	2.4	13.8	0.0	11.2	5.7	0.0	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.86	1.00		0.40
Lane Grp Cap(c), veh/h	230	1645	972	293	2012	898	315	0	381	154	0	123
V/C Ratio(X)	0.11	0.53	0.28	0.35	0.50	0.08	0.71	0.00	0.45	0.39	0.00	0.75
Avail Cap(c_a), veh/h	230	1645	972	373	2012	898	352	0	546	261	0	261
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.1	21.1	10.3	15.8	15.5	11.6	41.7	0.0	38.2	53.8	0.0	54.3
Incr Delay (d2), s/veh	1.0	1.2	0.7	0.7	0.9	0.2	5.7	0.0	0.8	1.6	0.0	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	8.6	3.4	1.4	8.3	0.9	6.4	0.0	4.3	1.8	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.1	22.3	11.1	16.5	16.4	11.7	47.3	0.0	39.1	55.4	0.0	63.0
LnGrp LOS	C	C	B	B	B	B	D	A	D	E	A	E
Approach Vol, veh/h		1174			1179			393			152	
Approach Delay, s/veh		19.7			16.1			43.7			60.0	
Approach LOS		B			B			D			E	

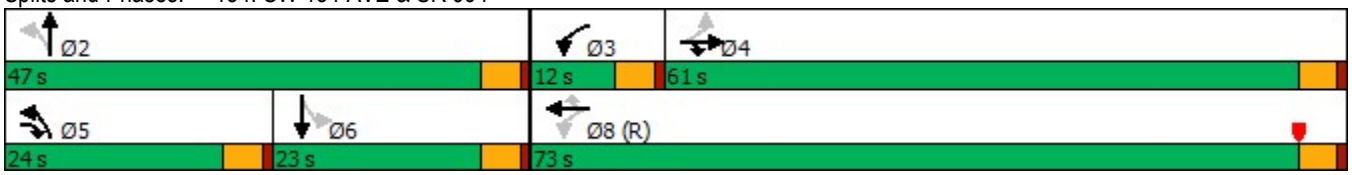
Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		34.1	9.7	63.3	20.4	13.7		73.0				
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		42.5	10.5	53.5	18.5	19.5		68.5				
Max Q Clear Time (g_c+I1), s		13.2	5.3	23.6	15.8	8.7		22.6				
Green Ext Time (p_c), s		1.1	0.1	9.0	0.2	0.4		9.7				

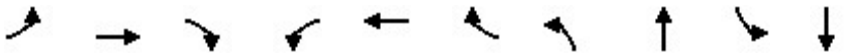
Intersection Summary	
HCM 6th Ctrl Delay	23.6
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	33	959	253	73	781	62	234	49	38	29
Future Volume (vph)	33	959	253	73	781	62	234	49	38	29
Turn Type	Perm	NA	pt+ov	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases		4	4 5	3	8		5	2		6
Permitted Phases	4			8		8	2		6	
Detector Phase	4	4	4 5	3	8	8	5	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5		9.5	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	61.0	61.0		12.0	73.0	73.0	24.0	47.0	23.0	23.0
Total Split (%)	50.8%	50.8%		10.0%	60.8%	60.8%	20.0%	39.2%	19.2%	19.2%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag		Lead			Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes
Recall Mode	Max	Max		None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	70.5	70.5	94.5	80.4	80.4	80.4	30.6	30.6	9.5	9.5
Actuated g/C Ratio	0.59	0.59	0.79	0.67	0.67	0.67	0.26	0.26	0.08	0.08
v/c Ratio	0.12	0.52	0.21	0.22	0.35	0.06	0.71	0.38	0.41	0.51
Control Delay	8.8	11.8	1.1	10.0	10.0	2.4	49.4	15.2	64.1	41.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.8	11.8	1.1	10.0	10.0	2.4	49.4	15.2	64.1	41.5
LOS	A	B	A	A	A	A	D	B	E	D
Approach Delay		9.5			9.5			35.0		50.0
Approach LOS		A			A			D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 102 (85%), Referenced to phase 8:WBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 14.9	Intersection LOS: B
Intersection Capacity Utilization 62.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 134: SW 134 AVE & SR 994

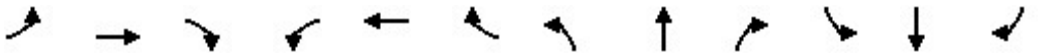




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	1009	266	77	822	65	246	178	40	66
v/c Ratio	0.12	0.52	0.21	0.22	0.35	0.06	0.71	0.38	0.41	0.51
Control Delay	8.8	11.8	1.1	10.0	10.0	2.4	49.4	15.2	64.1	41.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.8	11.8	1.1	10.0	10.0	2.4	49.4	15.2	64.1	41.5
Queue Length 50th (ft)	7	280	2	20	142	0	161	38	30	23
Queue Length 95th (ft)	m14	377	m13	43	201	17	231	94	65	68
Internal Link Dist (ft)		272			408			1264		1117
Turn Bay Length (ft)	225		225	185		185	185		150	
Base Capacity (vph)	303	1946	1279	350	2349	1072	359	602	189	222
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.52	0.21	0.22	0.35	0.06	0.69	0.30	0.21	0.30

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	959	253	73	781	62	234	49	120	38	29	33
Future Volume (veh/h)	33	959	253	73	781	62	234	49	120	38	29	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1515	1767	1841	1900	1856	1856	1811	1781	1663	1900	1722	937
Adj Flow Rate, veh/h	35	1009	266	77	822	65	246	52	126	40	31	35
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	26	9	4	0	3	3	6	8	16	0	12	65
Cap, veh/h	283	1661	1001	252	2012	898	338	113	274	134	45	50
Arrive On Green	0.49	0.49	0.49	0.04	0.57	0.57	0.15	0.24	0.24	0.06	0.06	0.06
Sat Flow, veh/h	507	3357	1560	1810	3526	1572	1725	462	1119	1225	738	834
Grp Volume(v), veh/h	35	1009	266	77	822	65	246	0	178	40	0	66
Grp Sat Flow(s),veh/h/ln	507	1678	1560	1810	1763	1572	1725	0	1580	1225	0	1572
Q Serve(g_s), s	5.0	26.1	8.8	2.4	15.7	2.2	15.5	0.0	11.5	3.8	0.0	4.9
Cycle Q Clear(g_c), s	11.5	26.1	8.8	2.4	15.7	2.2	15.5	0.0	11.5	3.8	0.0	4.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.71	1.00		0.53
Lane Grp Cap(c), veh/h	283	1661	1001	252	2012	898	338	0	387	134	0	95
V/C Ratio(X)	0.12	0.61	0.27	0.31	0.41	0.07	0.73	0.00	0.46	0.30	0.00	0.70
Avail Cap(c_a), veh/h	283	1661	1001	296	2012	898	365	0	560	249	0	242
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.2	21.9	9.3	16.7	14.4	11.5	42.4	0.0	38.6	54.8	0.0	55.3
Incr Delay (d2), s/veh	0.9	1.7	0.6	0.7	0.6	0.2	6.6	0.0	0.9	1.2	0.0	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	10.5	3.1	1.0	6.3	0.8	7.2	0.0	4.6	1.2	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.1	23.6	9.9	17.3	15.0	11.7	49.0	0.0	39.4	56.0	0.0	64.2
LnGrp LOS	C	C	A	B	B	B	D	A	D	E	A	E
Approach Vol, veh/h		1310			964			424			106	
Approach Delay, s/veh		20.7			15.0			45.0			61.1	
Approach LOS		C			B			D			E	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		33.9	9.1	63.9	22.1	11.7		73.0				
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		42.5	7.5	56.5	19.5	18.5		68.5				
Max Q Clear Time (g_c+I1), s		13.5	4.4	28.1	17.5	6.9		17.7				
Green Ext Time (p_c), s		1.1	0.0	10.4	0.1	0.3		7.4				

Intersection Summary	
HCM 6th Ctrl Delay	23.9
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	1187	1192	398	153
Demand Flow Rate, veh/h	1212	1215	406	156
Vehicles Circulating, veh/h	224	283	992	1375
Vehicles Exiting, veh/h	1307	1115	444	123
Ped Vol Crossing Leg, #/h	0	0	50	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	9.3	10.3	12.2	22.0
Approach LOS	A	B	B	C

Lane	Left	Right	Left	Right	Left	Right	Left	
Designated Moves	LT	TR	LT	TR	LT	R	LTR	
Assumed Moves	LT	TR	LT	TR	LT	R	LTR	
RT Channelized								
Lane Util	0.470	0.530	0.470	0.530	0.628	0.372	1.000	
Follow-Up Headway, s	2.535	2.535	2.535	2.535	2.535	2.535	2.609	
Critical Headway, s	4.544	4.544	4.544	4.544	4.544	4.544	4.976	
Entry Flow, veh/h	570	642	571	644	255	151	156	
Cap Entry Lane, veh/h	1158	1158	1098	1098	576	576	339	
Entry HV Adj Factor	0.979	0.980	0.981	0.981	0.979	0.980	0.980	
Flow Entry, veh/h	558	629	560	632	250	148	153	
Cap Entry, veh/h	1134	1135	1077	1076	563	564	333	
V/C Ratio	0.492	0.554	0.520	0.587	0.443	0.262	0.460	
Control Delay, s/veh	8.7	9.8	9.5	10.9	13.6	9.9	22.0	
LOS	A	A	A	B	B	A	C	
95th %tile Queue, veh	3	4	3	4	2	1	2	

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	1324	975	429	106
Demand Flow Rate, veh/h	1350	995	438	109
Vehicles Circulating, veh/h	153	343	1117	1182
Vehicles Exiting, veh/h	1138	1212	386	156
Ped Vol Crossing Leg, #/h	0	0	50	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	9.3	9.2	17.4	13.4
Approach LOS	A	A	C	B

Lane	Left	Right	Left	Right	Left	Right	Left
Designated Moves	LT	TR	LT	TR	LT	R	LTR
Assumed Moves	LT	TR	LT	TR	LT	R	LTR
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	0.701	0.299	1.000
Follow-Up Headway, s	2.535	2.535	2.535	2.535	2.535	2.535	2.609
Critical Headway, s	4.544	4.544	4.544	4.544	4.544	4.544	4.976
Entry Flow, veh/h	634	716	468	527	307	131	109
Cap Entry Lane, veh/h	1236	1236	1039	1039	514	514	413
Entry HV Adj Factor	0.981	0.980	0.980	0.981	0.980	0.977	0.976
Flow Entry, veh/h	622	702	458	517	301	128	106
Cap Entry, veh/h	1212	1211	1018	1019	504	502	403
V/C Ratio	0.513	0.580	0.450	0.507	0.597	0.255	0.264
Control Delay, s/veh	8.6	9.9	8.7	9.6	20.2	10.9	13.4
LOS	A	A	A	A	C	B	B
95th %tile Queue, veh	3	4	2	3	4	1	1

ATTACHMENT E – SPICE Form

Federal Highway Administration (FHWA)

Safety Performance for Intersection Control Evaluation Tool

Results

Summary of crash prediction results for each alternative

Project Information

Project Name:	SR 994/Quail Roost Drive PD&E	**Intersection Type**	At-Grade Intersections
Intersection:	SR 994/Quail Roost Drive at SW 134 Avenue (Build)	**Opening Year**	2025
Agency:	FDOT	**Design Year**	2045
Project Reference:	445804-1-22-01	**Facility Type**	On Urban and Suburban Arterial
City:	Miami-Dade County	**Number of Legs**	4-leg
State:	FL	**1-Way/2-Way**	2-way Intersecting 2-way
Date:	6/6/2022	**# of Major Street Lanes (both directions)**	5 or fewer
Analyst:	Choice Engineering Consultants	**Major Street Approach Speed**	Less than 55 mph

Crash Prediction Summary

Control Strategy	Crash Type	Opening Year	Design Year	Total Project Life Cycle	Rank	AADT Within Prediction Range?	Source of Prediction
Traffic Signal	Total	4.38	6.55	114.59	2	Yes	Calibrated SPF
	Fatal & Injury	1.47	2.24	38.89			
2-lane Roundabout	Total	7.06	10.02	179.17	1	Yes	Uncalibrated SPF
	Fatal & Injury	1.21	1.78	31.34			

Appendix J: TMTOOL Worksheets

SERPM Model AADTs Growth Rates from 2025 No-Build and Build to 2045 No-Build and Build

Location	Direction	Project Traffic Volumes (SERPM)				Annual Growth Rates 2025 vs. 2045	
		2025 No-Build	2025 Build	2045 No-Build	2045 Build	2045 No-Build	2045 Build
SW 137 Ave, west leg	EB	5,000	5,100	6,000	6,100	1.00%	1.0%
	WB	4,900	4,800	5,500	5,500	0.61%	0.7%
	Total	***9,900***	***9,900***	***11,500***	***11,600***	***0.81%***	***0.9%***
SW 137 Ave, east leg	EB	7,400	7,700	10,500	11,500	2.09%	2.5%
	WB	6,100	6,600	8,100	9,300	1.64%	2.0%
	Total	***13,500***	***14,300***	***18,600***	***20,800***	***1.89%***	***2.3%***
SW 137 Ave, north leg	NB	9,700	9,800	13,500	13,500	1.96%	1.9%
	SB	10,500	10,500	14,000	14,500	1.67%	1.9%
	Total	***20,200***	***20,300***	***27,500***	***28,000***	***1.81%***	***1.9%***
SW 137 Ave, south leg	NB	11,000	11,500	14,000	14,500	1.36%	1.3%
	SB	11,000	11,000	14,500	14,500	1.59%	1.6%
	Total	***22,000***	***22,500***	***28,500***	***29,000***	***1.48%***	***1.4%***
SW 134 Ave, west leg	EB	8,700	8,900	11,000	11,500	1.32%	1.5%
	WB	6,000	6,400	7,900	9,100	1.58%	2.1%
	Total	***14,700***	***15,300***	***18,900***	***20,600***	***1.43%***	***1.7%***
SW 134 Ave, east leg	EB	8,400	8,600	9,900	10,500	0.89%	1.1%
	WB	8,300	8,700	9,900	11,000	0.96%	1.3%
	Total	***16,700***	***17,300***	***19,800***	***21,500***	***0.93%***	***1.2%***
SW 134 Ave, south leg	NB	650	650	850	950	1.54%	2.3%
	SB	1,300	1,600	2,400	3,100	4.23%	4.7%
	Total	***1,950***	***2,250***	***3,250***	***4,050***	***3.33%***	***4.0%***
SW 127 Ave, west leg	EB	11,500	11,500	13,500	14,000	0.87%	1.1%
	WB	9,400	9,800	11,000	12,500	0.85%	1.4%
	Total	***20,900***	***21,300***	***24,500***	***26,500***	***0.86%***	***1.2%***
SW 127 Ave, east leg	EB	10,500	10,000	14,500	14,500	1.90%	2.3%
	WB	10,500	11,000	15,000	15,500	2.14%	2.0%
	Total	***21,000***	***21,000***	***29,500***	***30,000***	***2.02%***	***2.1%***
SW 127 Ave, north leg	NB	4,500	4,600	5,600	5,500	1.22%	1.0%
	SB	5,100	5,200	6,200	6,400	1.08%	1.2%
	Total	***9,600***	***9,800***	***11,800***	***11,900***	***1.15%***	***1.1%***
SW 127 Ave, south leg	NB	8,700	8,600	10,500	10,500	1.03%	1.1%
	SB	6,100	6,100	7,800	7,800	1.39%	1.4%
	Total	***14,800***	***14,700***	***18,300***	***18,300***	***1.18%***	***1.2%***

SERPM Model Growth Rates from Base Year 2015 to 2025 and 2045 No-Build and Build

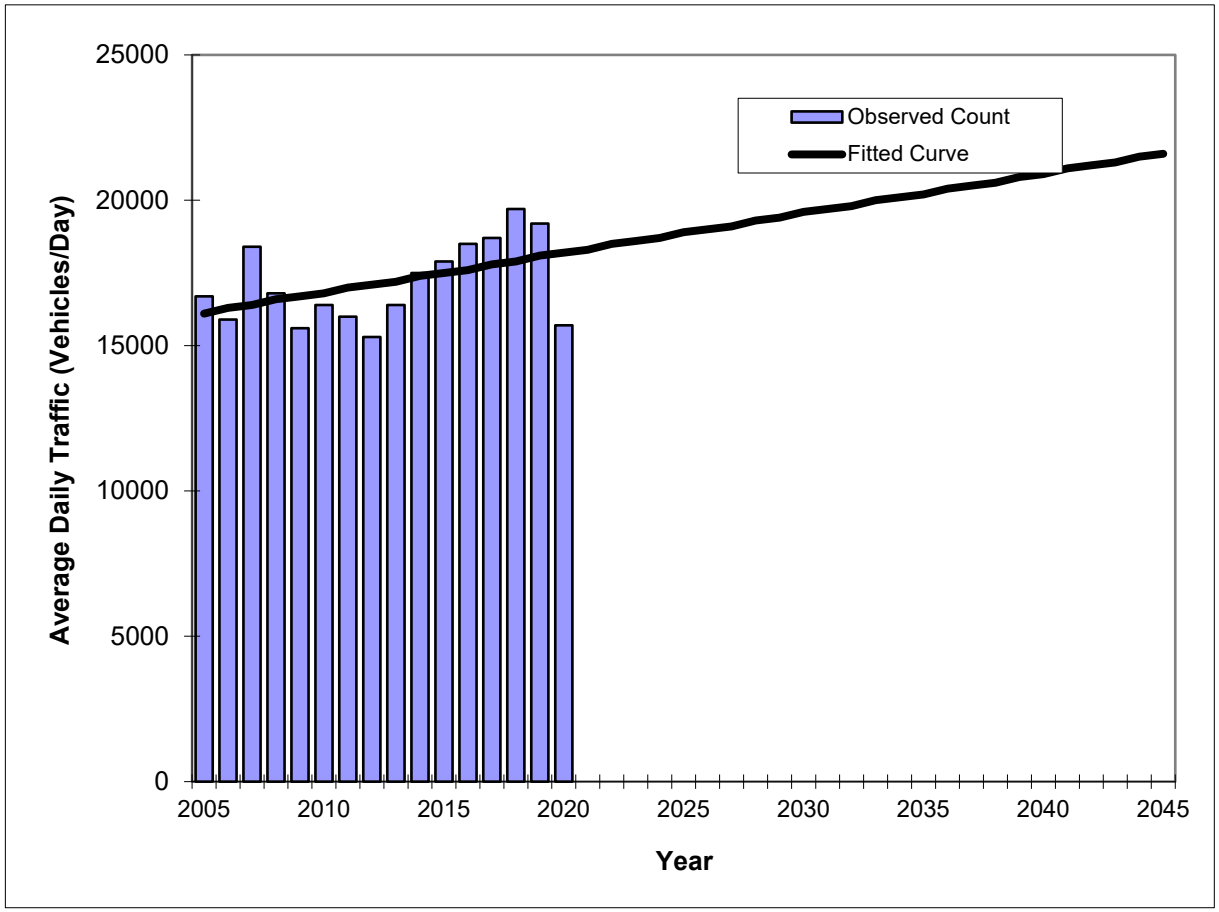
Location	Direction	Project Traffic Volumes (SERPM)					Annual Growth Rates 2015 Base Year vs. SERPM Outputs			
		2015 Base	2025 No-Build	2025 Build	2045 No-Build	2045 Build	2025 No-Build	2045 No-Build	2025 Build	2045 Build
SW 137 Ave, west leg	EB	5550	5,000	5,100	6,000	6,100	-0.99%	0.27%	-0.81%	0.33%
	WB	4530	4,900	4,800	5,500	5,500	0.82%	0.71%	0.60%	0.71%
	Total	***10,080***	***9,900***	***9,900***	***11,500***	***11,600***	***-0.18%***	***0.47%***	***-0.18%***	***0.50%***
SW 137 Ave, east leg	EB	5040	7,400	7,700	10,500	11,500	4.68%	3.61%	5.28%	4.27%
	WB	5500	6,100	6,600	8,100	9,300	1.09%	1.58%	2.00%	2.30%
	Total	***10,540***	***13,500***	***14,300***	***18,600***	***20,800***	***2.81%***	***2.55%***	***3.57%***	***3.24%***
SW 137 Ave, north leg	NB	6430	9,700	9,800	13,500	13,500	5.09%	3.67%	5.24%	3.67%
	SB	4830	10,500	10,500	14,000	14,500	11.74%	6.33%	11.74%	6.67%
	Total	***11,260***	***20,200***	***20,300***	***27,500***	***28,000***	***7.94%***	***4.81%***	***8.03%***	***4.96%***
SW 137 Ave, south leg	NB	N/A	11,000	11,500	14,000	14,500	N/A	N/A	N/A	N/A
	SB	N/A	11,000	11,000	14,500	14,500	N/A	N/A	N/A	N/A
	Total	***N/A***	***22,000***	***22,500***	***28,500***	***29,000***	***N/A***	***N/A***	***N/A***	***N/A***
SW 134 Ave, west leg	EB	5040	8,700	8,900	11,000	11,500	7.26%	3.94%	7.66%	4.27%
	WB	5620	6,000	6,400	7,900	9,100	0.68%	1.35%	1.39%	2.06%
	Total	***10,660***	***14,700***	***15,300***	***18,900***	***20,600***	***3.79%***	***2.58%***	***4.35%***	***3.11%***
SW 134 Ave, east leg	EB	2660	8,400	8,600	9,900	10,500	21.58%	9.07%	22.33%	9.82%
	WB	3170	8,300	8,700	9,900	11,000	16.18%	7.08%	17.44%	8.23%
	Total	***5,830***	***16,700***	***17,300***	***19,800***	***21,500***	***18.64%***	***7.99%***	***19.67%***	***8.96%***
SW 134 Ave, south leg	NB	3090	650	650	850	950	-7.90%	-2.42%	-7.90%	-2.31%
	SB	3020	1,300	1,600	2,400	3,100	-5.70%	-0.68%	-4.70%	0.09%
	Total	***6,110***	***1,950***	***2,250***	***3,250***	***4,050***	***-6.81%***	***-1.56%***	***-6.32%***	***-1.12%***
SW 127 Ave, west leg	EB	3920	11,500	11,500	13,500	14,000	19.34%	8.15%	19.34%	8.57%
	WB	4240	9,400	9,800	11,000	12,500	12.17%	5.31%	13.11%	6.49%
	Total	***8,160***	***20,900***	***21,300***	***24,500***	***26,500***	***15.61%***	***6.67%***	***16.10%***	***7.49%***
SW 127 Ave, east leg	EB	9910	10,500	10,000	14,500	14,500	0.60%	1.54%	0.09%	1.54%
	WB	9910	10,500	11,000	15,000	15,500	0.60%	1.71%	1.10%	1.88%
	Total	***19,820***	***21,000***	***21,000***	***29,500***	***30,000***	***0.60%***	***1.63%***	***0.60%***	***1.71%***
SW 127 Ave, north leg	NB	4820	4,500	4,600	5,600	5,500	-0.66%	0.54%	-0.46%	0.47%
	SB	5280	5,100	5,200	6,200	6,400	-0.34%	0.58%	-0.15%	0.71%
	Total	***10,100***	***9,600***	***9,800***	***11,800***	***11,900***	***-0.50%***	***0.56%***	***-0.30%***	***0.59%***
SW 127 Ave, south leg	NB	8010	8,700	8,600	10,500	10,500	0.86%	1.04%	0.74%	1.04%
	SB	7550	6,100	6,100	7,800	7,800	-1.92%	0.11%	-1.92%	0.11%
	Total	***15,560***	***14,800***	***14,700***	***18,300***	***18,300***	***-0.49%***	***0.59%***	***-0.55%***	***0.59%***

Traffic Trends - V03.a

SR 994/SW 200 ST --

FIN#	1234
Location	1

County:	Miami-Dade (87)
Station #:	871116
Highway:	SR 994/SW 200 ST



Year	Traffic (ADT/AADT) Count*	Trend**
2005	16700	16100
2006	15900	16300
2007	18400	16400
2008	16800	16600
2009	15600	16700
2010	16400	16800
2011	16000	17000
2012	15300	17100
2013	16400	17200
2014	17500	17400
2015	17900	17500
2016	18500	17600
2017	18700	17800
2018	19700	17900
2019	19200	18100
2020	15700	18200
2025 Opening Year Trend		
2025	N/A	18900
2035 Mid-Year Trend		
2035	N/A	20200
2045 Design Year Trend		
2045	N/A	21600
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

** Annual Trend Increase:	136
Trend R-squared:	21.47%
Trend Annual Historic Growth Rate:	0.87%
Trend Growth Rate (2020 to Design Year):	0.75%
Printed:	16-Jun-24

Straight Line Growth Option

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	CHOICE
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	6/16/2024
DESIGN YEAR:	No Build 2045		
INTERSECTION:	SR 994/SW 200 Street and SW 137 Avenue		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
	2021	11,000	20,300	N/A	11,500
	2025	20,200	13,500	22,000	9,900
Model Volume:	2045	27,500	18,600	28,500	11,500

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	1.00%	LGR	1.00%	LGR	1.00%	LGR	1.00%	LGR
Historic + Model Trend GR =	1.81%	LGR	1.89%	LGR	1.48%	LGR	1.43%	LGR
Base Year Model to Future Year Model GR =	4.81%	LGR	2.55%	LGR	N/A	LGR	0.47%	LGR
Recommended Growth Rate:	**1.75%**	**LGR**	**1.75%**	**LGR**	**1.25%**	**LGR**	**1.00%**	**LGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		NORTH LEG: 2		EAST LEG: 2		SOUTH LEG: 2		WEST LEG: 2	
	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
	2025		20,200		13,500		22,000		9,900
NO. YEARS 0	2025	1.000	20,200	1.000	13,500	1.000	22,000	1.000	9,900
NO. YEARS 10	2035	1.175	23,700	1.175	15,900	1.125	24,800	1.100	10,900
NO. YEARS 20	2045	1.350	27,300	1.350	18,200	1.250	27,500	1.200	11,900

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:		1,119			1,074			954			792		
Est. 2025		25	317	167	169	324	50	67	409	99	12	299	33	1,969
% TURNS:		5%	62%	33%	31%	60%	9%	12%	71%	17%	4%	87%	9%	
P.M.	2-Way Pk Hr Vol:		1,234			1,190			916			753		
Est. 2025		27	471	242	195	311	52	58	276	33	27	333	23	2,046
% TURNS:		4%	64%	33%	35%	56%	9%	16%	75%	9%	7%	87%	6%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2025	5%	62%	33%	31%	60%	9%	12%	71%	17%	4%	87%	9%
2025	7%	61%	32%	32%	56%	12%	14%	69%	18%	7%	81%	12%
2035	7%	61%	33%	32%	55%	13%	14%	68%	18%	8%	79%	13%
2045	8%	60%	33%	33%	53%	15%	15%	67%	18%	9%	77%	14%
P.M.												
2025	4%	64%	33%	35%	56%	9%	16%	75%	9%	7%	87%	6%
2025	5%	62%	32%	35%	52%	13%	17%	72%	10%	10%	81%	9%
2035	6%	62%	32%	36%	51%	13%	18%	72%	11%	11%	79%	10%
2045	6%	61%	33%	36%	49%	15%	19%	71%	11%	12%	77%	11%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2025	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2025	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2035	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2045	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
D FACTOR								
2025	44.0%	56.0%	56.0%	44.0%	56.0%	44.0%	44.0%	56.0%
2025	44.0%	56.0%	56.0%	44.0%	56.0%	44.0%	44.0%	56.0%
2035	44.0%	56.0%	56.0%	44.0%	56.0%	44.0%	44.0%	56.0%
2045	44.0%	56.0%	56.0%	44.0%	56.0%	44.0%	44.0%	56.0%

Notes: 1- 2021 AADTs come from 2021 daily counts. 2- 2025 and 2045 AADTs come from SERPM AADTs. 3- Historic growth comes from trend analysis per FDOT station on SR 994 west of SW 127 Ave, since there is no station nearby. 4- Historic+Model Trend growth comes from 2025 to 2045 SERPM AADTs, since there are no historical AADTs available for this intersection. 5- Base Year Model to Future Year Model growth comes from 2015 to 2045 SERPM AADTs.6- Recommended Growth Rate is based on the rates presented and engineering judgment. 7- Linear growth rate was selected. 8- Since south leg was closed during 2021 traffic counts, counts collected in 2023 once south leg opened were grown to 2025 by applying 1% annual growth rate to determine 2025 counts and used as base year for TMTOOL. 9- Turning movement volumes outputs from TMTOOL were balanced by reviewing 2021 counts, 2023 counts, and considering that some SERPM AADTs were underestimating traffic.

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO: 0
FM NO.: 0
PROJECT LIMITS: 0
DESIGN YEAR: No Build 2045
INTERSECTION: SR 994/SW 200 Street and SW 137 Avenue
PREPARED BY: CHOICE
FILE:

DATE: 6/16/2024
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2025	20,200	13,500	22,000	9,900
24 HR EST. AADT	2025	20,200	13,500	22,000	9,900
24 HR EST. AADT	2035	23,700	15,900	24,800	10,900
24 HR EST. AADT	2045	27,300	18,200	27,500	11,900

Percent Turns Calculated From Base Year AADTs:

JKTURNS		FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	2025 2-WAY ADT	20,200			13,500			22,000			9,900		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		9,900	22,000	13,500	20,200	9,900	22,000	13,500	20,200	9,900	22,000	13,500	20,200
		22%	48%	30%	39%	19%	42%	31%	46%	23%	39%	24%	36%
	2025 2-WAY ADT	20,200			13,500			22,000			9,900		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		9,900	22,000	13,500	20,200	9,900	22,000	13,500	20,200	9,900	22,000	13,500	20,200
		22%	48%	30%	39%	19%	42%	31%	46%	23%	39%	24%	36%
	2035 2-WAY ADT	23,700			15,900			24,800			10,900		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		10,900	24,800	15,900	23,700	10,900	24,800	15,900	23,700	10,900	24,800	15,900	23,700
		21%	48%	31%	40%	18%	42%	31%	47%	22%	39%	25%	37%
	2045 2-WAY ADT	27,300			18,200			27,500			11,900		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		11,900	27,500	18,200	27,300	11,900	27,500	18,200	27,300	11,900	27,500	18,200	27,300
		21%	48%	32%	41%	18%	41%	32%	48%	21%	38%	25%	37%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2025	EST. TURNS	18	687	121	196	319	146	109	784	161	38	310	40
2025	EST. TURNS	28	645	137	201	299	165	127	769	171	62	350	50
2035	EST. TURNS	36	725	179	256	335	189	150	876	177	66	301	59
2045	EST. TURNS	47	805	229	318	365	216	175	987	187	74	319	74
P.M. DESIGN HR. TURNS													
2025	EST. TURNS	22	906	160	145	279	111	131	629	90	92	394	28
2025	EST. TURNS	35	632	178	150	255	134	148	612	101	114	359	41
2035	EST. TURNS	43	971	233	192	283	158	173	694	105	119	394	50
2045	EST. TURNS	56	1,078	297	241	304	184	199	779	110	129	423	64

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		800	1,020	1,820	680	540	1,220	1,109	871	1,980	392	498	890
2025	TURN SUMMARY	826	1,020	1,846	661	540	1,201	1,054	871	1,925	388	498	886
CONTROL LINK VOLUMES		800	1,020	1,820	680	540	1,220	1,109	871	1,980	392	498	890
2025	TURN SUMMARY	810	1,020	1,830	664	613	1,278	1,067	871	1,938	462	498	960
CONTROL LINK VOLUMES		939	1,191	2,130	801	629	1,430	1,250	980	2,230	432	548	980
2035	TURN SUMMARY	940	1,191	2,131	780	629	1,409	1,203	980	2,183	426	548	974
CONTROL LINK VOLUMES		1,081	1,379	2,460	917	723	1,640	1,386	1,094	2,480	471	599	1,070
2045	TURN SUMMARY	1,080	1,379	2,459	899	723	1,622	1,349	1,094	2,443	466	599	1,065
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,018	802	1,820	535	685	1,220	871	1,109	1,980	499	391	890
2025	TURN SUMMARY	1,088	802	1,890	535	685	1,220	850	1,109	1,959	515	391	906
CONTROL LINK VOLUMES		1,018	802	1,820	535	685	1,220	871	1,109	1,980	499	391	890
2025	TURN SUMMARY	845	802	1,647	539	685	1,224	860	881	1,741	514	391	905
CONTROL LINK VOLUMES		1,194	936	2,130	630	800	1,430	982	1,248	2,230	549	431	980
2035	TURN SUMMARY	1,246	936	2,182	634	800	1,434	972	1,248	2,220	563	431	994
CONTROL LINK VOLUMES		1,376	1,084	2,460	721	919	1,640	1,089	1,391	2,480	600	470	1,070
2045	TURN SUMMARY	1,431	1,084	2,515	729	919	1,648	1,088	1,391	2,479	616	470	1,086

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	CHOICE
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	6/16/2024
DESIGN YEAR:	No Build 2045		
INTERSECTION:	SR 994/SW 200 Street and SW 134 Avenue		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
		*2025 Estimated			
	2021	1,700	17,900	7,200	20,500
	2025*	1,800	16,700	1,950	14,700
Model Volume:	2045	N/A	19,800	3,250	18,900

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	1.00%	LGR	1.00%	LGR	1.00%	LGR	1.00%	LGR
Historic + Model Trend GR =	N/A	LGR	0.93%	LGR	3.33%	LGR	1.43%	LGR
Base Year Model to Future Year Model GR =	N/A	LGR	7.99%	LGR	-1.56%	LGR	2.58%	LGR
Recommended Growth Rate:	**1.00%**	**LGR**	**1.00%**	**LGR**	**2.10%**	**LGR**	**1.40%**	**LGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		NORTH LEG: 2		EAST LEG: 2		SOUTH LEG: 2		WEST LEG: 2	
	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
	2025		1,800		16,700		1,950		14,700
NO. YEARS 0	2025	1.000	1,800	1.000	16,700	1.000	2,000	1.000	14,700
NO. YEARS 10	2035	1.100	2,000	1.100	18,400	1.210	2,400	1.140	16,800
NO. YEARS 20	2045	1.200	2,200	1.200	20,000	1.420	2,800	1.280	18,800

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:	260			1,757			392			1,741		
Estimated 2025	3	44	48	112	828	59	33	37	103	115	676	16	2,075
% TURNS:	3%	46%	51%	11%	83%	6%	19%	22%	59%	14%	84%	2%	
P.M.	2-Way Pk Hr Vol:	102			1,491			484			1,659		
Estimated 2025	2	24	32	19	657	68	42	25	107	218	674	0	1,868
% TURNS:	4%	41%	55%	3%	88%	9%	24%	14%	62%	24%	76%	0%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2025	3%	46%	51%	11%	83%	6%	19%	22%	59%	14%	84%	2%
2025	7%	42%	50%	11%	82%	6%	22%	20%	58%	14%	84%	3%
2035	8%	41%	50%	11%	82%	7%	23%	20%	58%	14%	83%	3%
2045	10%	40%	50%	11%	82%	7%	24%	19%	57%	14%	83%	3%
P.M.												
2025	4%	41%	55%	3%	88%	9%	24%	14%	62%	24%	76%	0%
2025	8%	38%	55%	3%	87%	9%	27%	13%	60%	23%	76%	1%
2035	9%	37%	55%	3%	87%	9%	27%	13%	60%	23%	76%	1%
2045	11%	35%	54%	4%	87%	10%	28%	13%	59%	22%	76%	1%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2025	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2025	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2035	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2045	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
D FACTOR								
2025	72.0%	28.0%	56.0%	44.0%	45.0%	55.0%	44.0%	56.0%
2025	72.0%	28.0%	56.0%	44.0%	45.0%	55.0%	44.0%	56.0%
2035	72.0%	28.0%	56.0%	44.0%	45.0%	55.0%	44.0%	56.0%
2045	72.0%	28.0%	56.0%	44.0%	45.0%	55.0%	44.0%	56.0%

Notes: 1- 2021 AADTs come from 2021 daily counts. 2- 2025 and 2045 AADTs come from SERPM AADTs. 3- Historic growth comes from trend analysis per FDOT station on SR 994 west of SW 127 Ave, since there is no station nearby. 4- Historic+Model Trend growth comes from 2025 to 2045 SERPM AADTs, since there are no historical AADTs available for this intersection. 5- Base Year Model to Future Year Model growth comes from 2015 to 2045 SERPM AADTs.6- Recommended Growth Rate is based on the rates presented and engineering judgment. 7- Linear growth rate was selected. 8- North leg 2025 AADT was estimated from 2021 counts since leg is not coded in SERPM model. 9- Used 2025 as base year since opening of south leg SW 137 Ave affected this intersection. 10- Turning movement volumes outputs from TMTOOL were balanced by reviewing 2021 counts, 2023 counts, and considering that some SERPM AADTs were underestimating traffic.

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO: 0
FM NO.: 0
PROJECT LIMITS: 0
DESIGN YEAR: No Build 2045
INTERSECTION: SR 994/SW 200 Street and SW 134 Avenue
PREPARED BY: CHOICE
FILE:

DATE: 6/16/2024
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2025	1,800	16,700	1,950	14,700
24 HR EST. AADT	2025	1,800	16,700	2,000	14,700
24 HR EST. AADT	2035	2,000	18,400	2,400	16,800
24 HR EST. AADT	2045	2,200	20,000	2,800	18,800

Percent Turns Calculated From Base Year AADTs:

JKTURNS		FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	2025 2-WAY ADT		1,800			16,700			1,950			14,700	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		14,700	1,950	16,700	1,800	14,700	1,950	16,700	1,800	14,700	1,950	16,700	1,800
		44%	6%	50%	10%	80%	11%	50%	5%	44%	10%	82%	9%
	2025 2-WAY ADT		1,800			16,700			2,000			14,700	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		14,700	2,000	16,700	1,800	14,700	2,000	16,700	1,800	14,700	2,000	16,700	1,800
		44%	6%	50%	10%	79%	11%	50%	5%	44%	10%	81%	9%
	2035 2-WAY ADT		2,000			18,400			2,400			16,800	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		16,800	2,400	18,400	2,000	16,800	2,400	18,400	2,000	16,800	2,400	18,400	2,000
		45%	6%	49%	9%	79%	11%	49%	5%	45%	11%	81%	9%
	2045 2-WAY ADT		2,200			20,000			2,800			18,800	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		18,800	2,800	20,000	2,200	18,800	2,800	20,000	2,200	18,800	2,800	20,000	2,200
		45%	7%	48%	9%	79%	12%	49%	5%	46%	11%	80%	9%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2025	EST. TURNS	3	30	84	35	692	34	25	6	43	37	549	3
2025	EST. TURNS	7	27	83	34	689	37	29	5	42	35	547	4
2035	EST. TURNS	10	33	86	38	781	43	32	7	54	47	615	5
2045	EST. TURNS	15	36	89	42	865	45	34	8	66	56	668	7
P.M. DESIGN HR. TURNS													
2025	EST. TURNS	1	6	42	78	546	27	29	37	32	50	768	0
2025	EST. TURNS	2	17	41	73	542	29	38	29	35	47	760	13
2035	EST. TURNS	3	7	44	77	614	33	43	33	46	61	844	19
2045	EST. TURNS	5	8	46	80	679	34	48	36	58	70	914	29

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		117	43	160	842	658	1,500	79	101	180	582	738	1,320
2025	TURN SUMMARY	117	43	160	761	658	1,419	74	101	175	588	738	1,326
CONTROL LINK VOLUMES		117	43	160	842	658	1,500	81	99	180	582	738	1,320
2025	TURN SUMMARY	116	43	159	760	658	1,418	76	99	175	586	738	1,324
CONTROL LINK VOLUMES		130	50	180	927	733	1,660	97	123	220	665	845	1,510
2035	TURN SUMMARY	129	50	179	863	733	1,596	93	123	216	667	845	1,512
CONTROL LINK VOLUMES		143	57	200	1,008	792	1,800	113	137	250	744	946	1,690
2045	TURN SUMMARY	140	57	197	953	792	1,745	108	137	245	732	946	1,678
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		45	115	160	661	839	1,500	97	83	180	741	579	1,320
2025	TURN SUMMARY	49	115	164	650	839	1,489	99	83	182	818	579	1,397
CONTROL LINK VOLUMES		45	115	160	661	839	1,500	99	81	180	741	579	1,320
2025	TURN SUMMARY	61	115	176	644	839	1,483	101	92	194	819	579	1,398
CONTROL LINK VOLUMES		50	130	180	729	931	1,660	119	101	220	847	663	1,510
2035	TURN SUMMARY	54	130	184	724	931	1,655	123	101	224	924	663	1,587
CONTROL LINK VOLUMES		55	145	200	792	1,008	1,800	139	111	250	948	742	1,690
2045	TURN SUMMARY	58	145	203	793	1,008	1,801	143	111	254	1,012	742	1,754

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	CHOICE
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	6/16/2024
DESIGN YEAR:	No Build 2045		
INTERSECTION:	SR 994/SW 200 Street and SW 127 Avenue		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
	2019				19,200
	2020				15,700
	2021	10,500	24,700	17,900	22,000
	2025	9,600	21,000	14,800	20,900
Model Volume:	2045	11,800	29,500	18,300	24,500

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	1.00%	LGR	1.00%	LGR	1.00%	LGR	1.00%	LGR
Historic + Model Trend GR =	1.15%	LGR	2.02%	LGR	1.18%	LGR	0.86%	LGR
Base Year Model to Future Year Model GR =	0.56%	LGR	1.63%	LGR	0.59%	LGR	6.67%	LGR
Recommended Growth Rate:	**1.00%**	**LGR**	**1.60%**	**LGR**	**1.00%**	**LGR**	**0.70%**	**LGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		NORTH LEG: 2		EAST LEG: 2		SOUTH LEG: 2		WEST LEG: 2	
	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
	2021		9,600		21,000		14,800		20,900
NO. YEARS 4	2025	1.040	10,000	1.064	22,300	1.040	15,400	1.028	21,500
NO. YEARS 14	2035	1.140	10,900	1.224	25,700	1.140	16,900	1.098	22,900
NO. YEARS 24	2045	1.240	11,900	1.384	29,100	1.240	18,400	1.168	24,400

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:	798			2,145			1,107			1,836		
Year 2021	46	182	93	146	526	174	315	197	192	47	891	134	2,944
% TURNS:	14%	57%	29%	17%	62%	21%	45%	28%	27%	4%	83%	12%	
P.M.	2-Way Pk Hr Vol:	824			1,839			1,133			1,546		
Year 2021	65	284	131	97	565	246	169	198	147	89	630	49	2,671
% TURNS:	14%	59%	27%	11%	62%	27%	33%	38%	29%	12%	82%	6%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2021	14%	57%	29%	17%	62%	21%	45%	28%	27%	4%	83%	12%
2025	17%	54%	30%	18%	61%	22%	44%	27%	29%	7%	79%	13%
2035	17%	53%	30%	18%	60%	22%	45%	27%	29%	8%	79%	13%
2045	18%	52%	31%	18%	59%	23%	45%	26%	29%	9%	77%	14%
P.M.												
2021	14%	59%	27%	11%	62%	27%	33%	38%	29%	12%	82%	6%
2025	16%	56%	28%	12%	61%	28%	34%	36%	30%	14%	79%	8%
2035	16%	55%	29%	12%	60%	28%	34%	36%	30%	14%	78%	8%
2045	17%	54%	29%	13%	59%	28%	35%	35%	30%	15%	77%	9%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2021	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2025	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2035	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2045	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
D FACTOR								
2021	44.0%	56.0%	44.0%	56.0%	56.0%	44.0%	56.0%	44.0%
2025	44.0%	56.0%	44.0%	56.0%	56.0%	44.0%	56.0%	44.0%
2035	44.0%	56.0%	44.0%	56.0%	56.0%	44.0%	56.0%	44.0%
2045	44.0%	56.0%	44.0%	56.0%	56.0%	44.0%	56.0%	44.0%

Notes: 1- 2021 AADTs come from 2021 daily counts. 2- 2025 and 2045 AADTs come from SERPM AADTs. 3- Historic growth comes from trend analysis per FDOT station on SR 994 west of SW 127 Ave. 4- Historic+Model Trend growth comes from 2025 to 2045 SERPM AADTs, since there are no historical AADTs available for this intersection. 5- Base Year Model to Future Year Model growth comes from 2015 to 2045 SERPM AADTs.6- Recommended Growth Rate is based on the rates presented and engineering judgment. 7- Linear growth rate was selected. 8- Turning movement volumes outputs from TMTOOL were balanced by reviewing 2021 counts, 2023 counts, and considering that some SERPM AADTs were underestimating traffic.

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO: 0
FM NO.: 0
PROJECT LIMITS: 0
DESIGN YEAR: No Build 2045
INTERSECTION: SR 994/SW 200 Street and SW 127 Avenue
PREPARED BY: CHOICE
FILE:

DATE: 6/16/2024
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2021	9,600	21,000	14,800	20,900
24 HR EST. AADT	2025	10,000	22,300	15,400	21,500
24 HR EST. AADT	2035	10,900	25,700	16,900	22,900
24 HR EST. AADT	2045	11,900	29,100	18,400	24,400

Percent Turns Calculated From Base Year AADTs:

JKTURNS		FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	2021 2-WAY ADT		9,600			21,000			14,800			20,900	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		20,900	14,800	21,000	9,600	20,900	14,800	21,000	9,600	20,900	14,800	21,000	9,600
		37%	26%	37%	21%	46%	33%	41%	19%	41%	33%	46%	21%
	2025 2-WAY ADT		10,000			22,300			15,400			21,500	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		21,500	15,400	22,300	10,000	21,500	15,400	22,300	10,000	21,500	15,400	22,300	10,000
		36%	26%	38%	21%	46%	33%	41%	19%	40%	32%	47%	21%
	2035 2-WAY ADT		10,900			25,700			16,900			22,900	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		22,900	16,900	25,700	10,900	22,900	16,900	25,700	10,900	22,900	16,900	25,700	10,900
		35%	26%	39%	21%	45%	33%	43%	18%	38%	32%	48%	20%
	2045 2-WAY ADT		11,900			29,100			18,400			24,400	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		24,400	18,400	29,100	11,900	24,400	18,400	29,100	11,900	24,400	18,400	29,100	11,900
		34%	26%	40%	22%	45%	34%	44%	18%	37%	31%	49%	20%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2021	EST. TURNS	52	269	57	107	504	219	244	213	271	97	757	159
2025	EST. TURNS	64	254	76	128	522	231	281	214	270	129	770	162
2035	EST. TURNS	66	264	98	159	577	275	347	229	264	129	846	159
2045	EST. TURNS	71	274	126	194	634	322	417	242	265	137	925	162
P.M. DESIGN HR. TURNS													
2021	EST. TURNS	85	322	86	87	730	275	137	222	237	148	610	66
2025	EST. TURNS	98	282	104	105	747	306	163	216	243	162	618	76
2035	EST. TURNS	98	325	131	129	816	369	207	228	240	157	676	74
2045	EST. TURNS	103	337	164	157	889	434	255	236	242	160	734	77

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		380	480	860	832	1,058	1,890	746	584	1,330	1,053	827	1,880
2021	TURN SUMMARY	378	480	858	830	1,058	1,888	729	584	1,313	1,013	827	1,840
CONTROL LINK VOLUMES		396	504	900	883	1,127	2,010	776	614	1,390	1,084	856	1,940
2025	TURN SUMMARY	393	504	897	881	1,127	2,008	766	614	1,380	1,061	856	1,917
CONTROL LINK VOLUMES		432	548	980	1,018	1,292	2,310	852	668	1,520	1,154	906	2,060
2035	TURN SUMMARY	428	548	976	1,011	1,292	2,303	841	668	1,509	1,134	906	2,040
CONTROL LINK VOLUMES		471	599	1,070	1,152	1,468	2,620	927	733	1,660	1,230	970	2,200
2045	TURN SUMMARY	470	599	1,069	1,151	1,468	2,619	924	733	1,657	1,225	970	2,195
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		484	376	860	1,058	832	1,890	586	744	1,330	828	1,052	1,880
2021	TURN SUMMARY	493	376	869	1,092	832	1,924	596	744	1,340	824	1,052	1,876
CONTROL LINK VOLUMES		504	396	900	1,124	886	2,010	610	780	1,390	851	1,089	1,940
2025	TURN SUMMARY	484	396	880	1,158	886	2,044	622	750	1,372	856	1,089	1,945
CONTROL LINK VOLUMES		549	431	980	1,295	1,015	2,310	669	851	1,520	907	1,153	2,060
2035	TURN SUMMARY	554	431	985	1,313	1,015	2,328	674	851	1,525	908	1,153	2,061
CONTROL LINK VOLUMES		600	470	1,070	1,467	1,153	2,620	729	931	1,660	966	1,234	2,200
2045	TURN SUMMARY	604	470	1,074	1,480	1,153	2,633	734	931	1,665	970	1,234	2,204

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	CHOICE
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	6/16/2024
DESIGN YEAR:	Build 2045		
INTERSECTION:	SR 994/SW 200 Street and SW 137 Avenue		

NOTES:

See notes at bottom of TMTOOL sheet for No-Build.

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
	2021	11,000	20,300	N/A	11,500
	2025	20,300	14,300	22,500	9,900
Model Volume:	2045	28,000	20,800	29,000	11,600

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	1.00%	LGR	1.00%	LGR	1.00%	LGR	1.00%	LGR
Historic + Model Trend GR =	1.90%	LGR	2.30%	LGR	1.40%	LGR	0.90%	LGR
Base Year Model to Future Year Model GR =	4.96%	LGR	3.24%	LGR	N/A	LGR	0.50%	LGR
Recommended Growth Rate:	**2.00%**	**LGR**	**2.00%**	**LGR**	**1.45%**	**LGR**	**1.00%**	**LGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

			NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
			2		**2**		**2**		**2**	
		YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
		2025		20,300		14,300		22,500		9,900
NO. YEARS	0	2025	1.000	20,300	1.000	14,300	1.000	22,500	1.000	9,900
NO. YEARS	10	2035	1.200	24,400	1.200	17,200	1.145	25,800	1.100	10,900
NO. YEARS	20	2045	1.400	28,400	1.400	20,000	1.290	29,000	1.200	11,900

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:		1,123			1,078			957			794		
Est. 2025		25	318	167	170	326	50	67	410	100	12	299	33	1,976
% TURNS:		5%	62%	33%	31%	60%	9%	12%	71%	17%	4%	87%	9%	
P.M.	2-Way Pk Hr Vol:		1,239			1,194			920			754		
Est. 2025		27	473	243	196	312	52	59	277	33	27	333	23	2,054
% TURNS:		4%	64%	33%	35%	56%	9%	16%	75%	9%	7%	87%	6%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2025	5%	62%	33%	31%	60%	9%	12%	71%	17%	4%	87%	9%
2025	7%	61%	33%	32%	56%	13%	14%	69%	18%	7%	81%	12%
2035	7%	61%	33%	32%	54%	13%	14%	68%	18%	8%	79%	13%
2045	7%	60%	33%	33%	53%	15%	15%	67%	18%	9%	77%	14%
P.M.												
2025	4%	64%	33%	35%	56%	9%	16%	75%	9%	7%	87%	6%
2025	5%	62%	33%	35%	52%	13%	18%	72%	10%	10%	81%	9%
2035	6%	62%	33%	36%	51%	13%	18%	72%	10%	11%	79%	10%
2045	6%	61%	33%	36%	49%	15%	19%	70%	11%	12%	77%	11%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2025	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2025	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2035	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2045	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
D FACTOR								
2025	44.0%	56.0%	56.0%	44.0%	56.0%	44.0%	44.0%	56.0%
2025	44.0%	56.0%	56.0%	44.0%	56.0%	44.0%	44.0%	56.0%
2035	44.0%	56.0%	56.0%	44.0%	56.0%	44.0%	44.0%	56.0%
2045	44.0%	56.0%	56.0%	44.0%	56.0%	44.0%	44.0%	56.0%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO: 0
FM NO.: 0
PROJECT LIMITS: 0
DESIGN YEAR: Build 2045
INTERSECTION: SR 994/SW 200 Street and SW 137 Avenue
PREPARED BY: CHOICE
FILE:

DATE: 6/16/2024
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2025	20,300	14,300	22,500	9,900
24 HR EST. AADT	2025	20,300	14,300	22,500	9,900
24 HR EST. AADT	2035	24,400	17,200	25,800	10,900
24 HR EST. AADT	2045	28,400	20,000	29,000	11,900

Percent Turns Calculated From Base Year AADTs:

JKTURNS		FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	2025 2-WAY ADT	20,300			14,300			22,500			9,900		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		9,900	22,500	14,300	20,300	9,900	22,500	14,300	20,300	9,900	22,500	14,300	20,300
		21%	48%	31%	39%	19%	43%	32%	46%	22%	39%	25%	36%
	2025 2-WAY ADT	20,300			14,300			22,500			9,900		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		9,900	22,500	14,300	20,300	9,900	22,500	14,300	20,300	9,900	22,500	14,300	20,300
		21%	48%	31%	39%	19%	43%	32%	46%	22%	39%	25%	36%
	2035 2-WAY ADT	24,400			17,200			25,800			10,900		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		10,900	25,800	17,200	24,400	10,900	25,800	17,200	24,400	10,900	25,800	17,200	24,400
		20%	48%	32%	40%	18%	42%	33%	46%	21%	38%	26%	36%
	2045 2-WAY ADT	28,400			20,000			29,000			11,900		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		11,900	29,000	20,000	28,400	11,900	29,000	20,000	28,400	11,900	29,000	20,000	28,400
		20%	48%	33%	41%	17%	42%	33%	47%	20%	37%	26%	37%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2025	EST. TURNS	16	689	127	204	324	170	126	786	158	37	316	35
2025	EST. TURNS	25	647	142	209	305	188	145	772	168	61	282	45
2035	EST. TURNS	32	739	197	279	345	218	176	901	171	63	310	54
2045	EST. TURNS	42	824	254	350	377	254	210	1,019	180	70	328	66
P.M. DESIGN HR. TURNS													
2025	EST. TURNS	19	918	168	153	284	130	152	630	88	91	404	25
2025	EST. TURNS	31	635	187	157	261	155	169	614	99	113	368	36
2035	EST. TURNS	39	999	258	211	292	185	203	713	100	115	408	45
2045	EST. TURNS	49	1,117	331	267	315	220	239	805	106	124	438	58

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		804	1,026	1,830	721	569	1,290	1,134	896	2,030	392	498	890
2025	TURN SUMMARY	832	1,026	1,858	698	569	1,267	1,070	896	1,966	389	498	887
CONTROL LINK VOLUMES		804	1,026	1,830	721	569	1,290	1,134	896	2,030	392	498	890
2025	TURN SUMMARY	815	1,026	1,841	702	569	1,271	1,085	896	1,981	388	498	886
CONTROL LINK VOLUMES		966	1,234	2,200	867	683	1,550	1,300	1,020	2,320	432	548	980
2035	TURN SUMMARY	968	1,234	2,202	842	683	1,525	1,248	1,020	2,268	426	548	974
CONTROL LINK VOLUMES		1,125	1,435	2,560	1,008	792	1,800	1,462	1,148	2,610	471	599	1,070
2045	TURN SUMMARY	1,120	1,435	2,555	980	792	1,772	1,410	1,148	2,558	464	599	1,063
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,023	807	1,830	566	724	1,290	891	1,139	2,030	499	391	890
2025	TURN SUMMARY	1,105	807	1,912	567	724	1,291	869	1,139	2,008	519	391	910
CONTROL LINK VOLUMES		1,023	807	1,830	566	724	1,290	891	1,139	2,030	499	391	890
2025	TURN SUMMARY	853	807	1,660	573	724	1,297	882	904	1,786	518	391	909
CONTROL LINK VOLUMES		1,230	970	2,200	681	869	1,550	1,022	1,298	2,320	549	431	980
2035	TURN SUMMARY	1,295	970	2,265	688	869	1,557	1,016	1,298	2,314	568	431	999
CONTROL LINK VOLUMES		1,431	1,129	2,560	792	1,008	1,800	1,148	1,462	2,610	600	470	1,070
2045	TURN SUMMARY	1,498	1,129	2,627	802	1,008	1,810	1,149	1,462	2,611	620	470	1,090

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	CHOICE
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	6/16/2024
DESIGN YEAR:	Build 2045		
INTERSECTION:	SR 994/SW 200 Street and SW 134 Avenue		

NOTES:

See notes at bottom of TMTOOL sheet for No-Build.

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
		*2025 Estimated			
	2021	1,700	17,900	7,200	20,500
	2025*	1,800	17,300	2,250	15,300
Model Volume:	2045	N/A	21,500	4,050	20,600

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	1.00%	LGR	1.00%	LGR	1.00%	LGR	1.00%	LGR
Historic + Model Trend GR =	N/A	LGR	1.20%	LGR	4.00%	LGR	1.70%	LGR
Base Year Model to Future Year Model GR =	N/A	LGR	8.96%	LGR	-1.12%	LGR	3.11%	LGR
Recommended Growth Rate:	**1.00%**	**LGR**	**1.20%**	**LGR**	**2.70%**	**LGR**	**1.70%**	**LGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
		2		**2**		**2**		**2**	
	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
	2025		1,800		17,300		2,250		15,300
NO. YEARS 0	2025	1.000	1,800	1.000	17,300	1.000	2,300	1.000	15,300
NO. YEARS 10	2035	1.100	2,000	1.120	19,400	1.270	2,900	1.170	17,900
NO. YEARS 20	2045	1.200	2,200	1.240	21,500	1.540	3,500	1.340	20,500

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:		260			1,757			392			1,741		
Estimated 2025		3	44	48	112	828	59	33	37	103	115	676	16	2,075
% TURNS:		3%	46%	51%	11%	83%	6%	19%	22%	59%	14%	84%	2%	
P.M.	2-Way Pk Hr Vol:		102			1,491			484			1,659		
Estimated 2025		2	24	32	19	657	68	42	25	107	218	674	0	1,868
% TURNS:		4%	41%	55%	3%	88%	9%	24%	14%	62%	24%	76%	0%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2025	3%	46%	51%	11%	83%	6%	19%	22%	59%	14%	84%	2%
2025	7%	42%	50%	11%	82%	7%	22%	20%	58%	14%	83%	3%
2035	8%	41%	50%	11%	82%	7%	23%	19%	58%	14%	83%	3%
2045	10%	40%	50%	11%	82%	7%	24%	19%	57%	14%	83%	3%
P.M.												
2025	4%	41%	55%	3%	88%	9%	24%	14%	62%	24%	76%	0%
2025	8%	38%	55%	3%	87%	9%	27%	13%	60%	23%	76%	1%
2035	9%	37%	54%	3%	87%	10%	27%	13%	60%	23%	76%	1%
2045	10%	36%	54%	3%	87%	10%	28%	13%	59%	23%	76%	1%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2025	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2025	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2035	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2045	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
D FACTOR								
2025	72.0%	28.0%	56.0%	44.0%	45.0%	55.0%	44.0%	56.0%
2025	72.0%	28.0%	56.0%	44.0%	45.0%	55.0%	44.0%	56.0%
2035	72.0%	28.0%	56.0%	44.0%	45.0%	55.0%	44.0%	56.0%
2045	72.0%	28.0%	56.0%	44.0%	45.0%	55.0%	44.0%	56.0%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO: 0
FM NO.: 0
PROJECT LIMITS: 0
DESIGN YEAR: Build 2045
INTERSECTION: SR 994/SW 200 Street and SW 134 Avenue
PREPARED BY: CHOICE
FILE:

DATE: 6/16/2024
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2025	1,800	17,300	2,250	15,300
24 HR EST. AADT	2025	1,800	17,300	2,300	15,300
24 HR EST. AADT	2035	2,000	19,400	2,900	17,900
24 HR EST. AADT	2045	2,200	21,500	3,500	20,500

Percent Turns Calculated From Base Year AADTs:

JKTURNS		FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2025 2-WAY ADT		1,800			17,300			2,250			15,300		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		15,300	2,250	17,300	1,800	15,300	2,250	17,300	1,800	15,300	2,250	17,300	1,800
		44%	6%	50%	9%	79%	12%	50%	5%	44%	11%	81%	8%
2025 2-WAY ADT		1,800			17,300			2,300			15,300		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		15,300	2,300	17,300	1,800	15,300	2,300	17,300	1,800	15,300	2,300	17,300	1,800
		44%	7%	50%	9%	79%	12%	50%	5%	44%	11%	81%	8%
2035 2-WAY ADT		2,000			19,400			2,900			17,900		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		17,900	2,900	19,400	2,000	17,900	2,900	19,400	2,000	17,900	2,900	19,400	2,000
		45%	7%	48%	9%	79%	13%	49%	5%	46%	12%	80%	8%
2045 2-WAY ADT		2,200			21,500			3,500			20,500		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		20,500	3,500	21,500	2,200	20,500	3,500	21,500	2,200	20,500	3,500	21,500	2,200
		45%	8%	47%	8%	78%	13%	49%	5%	46%	13%	79%	8%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2025	EST. TURNS	3	31	84	34	721	38	29	6	50	40	575	3
2025	EST. TURNS	7	30	81	34	719	45	34	6	49	42	573	3
2035	EST. TURNS	10	35	84	37	825	51	38	8	66	56	650	5
2045	EST. TURNS	14	42	85	41	938	61	44	9	85	75	727	7
P.M. DESIGN HR. TURNS													
2025	EST. TURNS	1	6	42	75	570	29	35	40	38	54	798	0
2025	EST. TURNS	2	17	41	71	566	34	45	32	41	55	789	12
2035	EST. TURNS	3	8	43	74	648	38	52	38	57	71	887	18
2045	EST. TURNS	5	9	44	76	736	45	60	42	76	93	985	27

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		117	43	160	872	688	1,560	91	109	200	606	774	1,380
2025	TURN SUMMARY	118	43	161	793	688	1,481	86	109	195	618	774	1,392
CONTROL LINK VOLUMES		117	43	160	872	688	1,560	93	117	210	606	774	1,380
2025	TURN SUMMARY	118	43	161	797	688	1,485	89	117	206	619	774	1,393
CONTROL LINK VOLUMES		130	50	180	978	772	1,750	117	143	260	709	901	1,610
2035	TURN SUMMARY	129	50	179	914	772	1,686	112	143	255	711	901	1,612
CONTROL LINK VOLUMES		143	57	200	1,084	856	1,940	142	178	320	812	1,038	1,850
2045	TURN SUMMARY	142	57	199	1,040	856	1,896	138	178	316	809	1,038	1,847
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		45	115	160	685	875	1,560	111	89	200	771	609	1,380
2025	TURN SUMMARY	49	115	164	673	875	1,548	113	89	202	852	609	1,461
CONTROL LINK VOLUMES		45	115	160	685	875	1,560	114	96	210	771	609	1,380
2025	TURN SUMMARY	60	115	175	671	875	1,546	118	106	224	857	609	1,466
CONTROL LINK VOLUMES		50	130	180	768	982	1,750	144	116	260	902	708	1,610
2035	TURN SUMMARY	54	130	184	759	982	1,741	147	116	263	976	708	1,684
CONTROL LINK VOLUMES		55	145	200	851	1,089	1,940	173	147	320	1,033	817	1,850
2045	TURN SUMMARY	58	145	203	857	1,089	1,946	178	147	325	1,105	817	1,922

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	CHOICE
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	6/16/2024
DESIGN YEAR:	Build 2045		
INTERSECTION:	SR 994/SW 200 Street and SW 127 Avenue		

NOTES:

See notes at bottom of TMTOOL sheet for No-Build.

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
	2019				19,200
	2020				15,700
	2021	10,500	24,700	17,900	22,000
	2025	9,800	21,000	14,700	21,300
Model Volume:	2045	11,900	30,000	18,300	26,500

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	1.00%	LGR	1.00%	LGR	1.00%	LGR	1.00%	LGR
Historic + Model Trend GR =	1.10%	LGR	2.10%	LGR	1.20%	LGR	1.20%	LGR
Base Year Model to Future Year Model GR =	0.59%	LGR	1.71%	LGR	0.59%	LGR	7.49%	LGR
Recommended Growth Rate:	**0.65%**	**LGR**	**1.00%**	**LGR**	**0.20%**	**LGR**	**0.95%**	**LGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

			NORTH LEG: 2		EAST LEG: 2		SOUTH LEG: 2		WEST LEG: 2	
		YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
		2021		9,800		21,000		14,700		21,300
NO. YEARS	4	2025	1.026	10,100	1.040	21,800	1.008	14,800	1.038	22,100
NO. YEARS	14	2035	1.091	10,700	1.140	23,900	1.028	15,100	1.133	24,100
NO. YEARS	24	2045	1.156	11,300	1.240	26,000	1.048	15,400	1.228	26,200

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:		798			2,145			1,107			1,836		
Year 2021		46	182	93	146	526	174	315	197	192	47	891	134	2,944
% TURNS:		14%	57%	29%	17%	62%	21%	45%	28%	27%	4%	83%	12%	
P.M.	2-Way Pk Hr Vol:		824			1,839			1,133			1,546		
Year 2021		65	284	131	97	565	246	169	198	147	89	630	49	2,671
% TURNS:		14%	59%	27%	11%	62%	27%	33%	38%	29%	12%	82%	6%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2021	14%	57%	29%	17%	62%	21%	45%	28%	27%	4%	83%	12%
2025	17%	54%	30%	18%	61%	22%	44%	27%	29%	7%	79%	13%
2035	17%	53%	30%	18%	60%	22%	44%	27%	29%	8%	79%	14%
2045	18%	51%	30%	18%	60%	22%	44%	26%	30%	9%	77%	14%
P.M.												
2021	14%	59%	27%	11%	62%	27%	33%	38%	29%	12%	82%	6%
2025	16%	56%	28%	12%	61%	28%	34%	36%	30%	14%	79%	8%
2035	17%	55%	29%	12%	61%	27%	34%	36%	30%	14%	78%	8%
2045	18%	53%	29%	12%	60%	27%	34%	35%	31%	14%	77%	9%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2021	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2025	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2035	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2045	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
D FACTOR								
2021	44.0%	56.0%	44.0%	56.0%	56.0%	44.0%	56.0%	44.0%
2025	44.0%	56.0%	44.0%	56.0%	56.0%	44.0%	56.0%	44.0%
2035	44.0%	56.0%	44.0%	56.0%	56.0%	44.0%	56.0%	44.0%
2045	44.0%	56.0%	44.0%	56.0%	56.0%	44.0%	56.0%	44.0%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO: 0
FM NO.: 0
PROJECT LIMITS: 0
DESIGN YEAR: Build 2045
INTERSECTION: SR 994/SW 200 Street and SW 127 Avenue
PREPARED BY: CHOICE
FILE:

DATE: 6/16/2024
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2021	9,800	21,000	14,700	21,300
24 HR EST. AADT	2025	10,100	21,800	14,800	22,100
24 HR EST. AADT	2035	10,700	23,900	15,100	24,100
24 HR EST. AADT	2045	11,300	26,000	15,400	26,200

Percent Turns Calculated From Base Year AADTs:

JKTURNS		FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	2021 2-WAY ADT		9,800			21,000			14,700			21,300	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		21,300	14,700	21,000	9,800	21,300	14,700	21,000	9,800	21,300	14,700	21,000	9,800
		37%	26%	37%	21%	47%	32%	40%	19%	41%	32%	46%	22%
	2025 2-WAY ADT		10,100			21,800			14,800			22,100	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		22,100	14,800	21,800	10,100	22,100	14,800	21,800	10,100	22,100	14,800	21,800	10,100
		38%	25%	37%	21%	47%	31%	40%	19%	41%	32%	47%	22%
	2035 2-WAY ADT		10,700			23,900			15,100			24,100	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		24,100	15,100	23,900	10,700	24,100	15,100	23,900	10,700	24,100	15,100	23,900	10,700
		38%	24%	38%	21%	48%	30%	41%	18%	41%	30%	48%	22%
	2045 2-WAY ADT		11,300			26,000			15,400			26,200	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		26,200	15,400	26,000	11,300	26,200	15,400	26,000	11,300	26,200	15,400	26,000	11,300
		39%	23%	38%	21%	50%	29%	41%	18%	41%	29%	49%	21%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2021	EST. TURNS	56	272	58	108	514	209	234	215	276	97	766	169
2025	EST. TURNS	72	249	74	123	529	205	249	208	275	129	774	179
2035	EST. TURNS	83	250	87	138	591	213	262	206	281	136	855	192
2045	EST. TURNS	97	246	101	156	654	220	274	205	289	149	934	212
P.M. DESIGN HR. TURNS													
2021	EST. TURNS	92	326	87	89	745	262	129	225	240	150	617	72
2025	EST. TURNS	111	284	100	103	758	271	140	211	246	166	621	87
2035	EST. TURNS	126	307	114	116	839	283	148	208	251	172	683	97
2045	EST. TURNS	145	305	129	133	919	294	156	206	258	181	744	112

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		388	492	880	832	1,058	1,890	741	579	1,320	1,074	846	1,920
2021	TURN SUMMARY	386	492	878	831	1,058	1,889	725	579	1,304	1,033	846	1,879
CONTROL LINK VOLUMES		400	510	910	863	1,097	1,960	746	584	1,330	1,114	876	1,990
2025	TURN SUMMARY	395	510	905	858	1,097	1,955	732	584	1,316	1,082	876	1,958
CONTROL LINK VOLUMES		424	536	960	946	1,204	2,150	761	599	1,360	1,215	955	2,170
2035	TURN SUMMARY	419	536	955	942	1,204	2,146	749	599	1,348	1,184	955	2,139
CONTROL LINK VOLUMES		447	573	1,020	1,030	1,310	2,340	776	614	1,390	1,320	1,040	2,360
2045	TURN SUMMARY	444	573	1,017	1,030	1,310	2,340	768	614	1,382	1,295	1,040	2,335
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		494	386	880	1,058	832	1,890	582	738	1,320	843	1,077	1,920
2021	TURN SUMMARY	504	386	890	1,096	832	1,928	594	738	1,332	839	1,077	1,916
CONTROL LINK VOLUMES		509	401	910	1,099	861	1,960	586	744	1,330	875	1,115	1,990
2025	TURN SUMMARY	495	401	896	1,132	861	1,993	597	721	1,318	874	1,115	1,989
CONTROL LINK VOLUMES		539	421	960	1,205	945	2,150	598	762	1,360	954	1,216	2,170
2035	TURN SUMMARY	547	421	968	1,238	945	2,183	608	762	1,370	951	1,216	2,167
CONTROL LINK VOLUMES		570	450	1,020	1,310	1,030	2,340	610	780	1,390	1,038	1,322	2,360
2045	TURN SUMMARY	579	450	1,029	1,346	1,030	2,376	620	780	1,400	1,037	1,322	2,359

Note: Boxed number indicates manual adjustment.

Appendix K: Future Synchro Analysis Worksheets

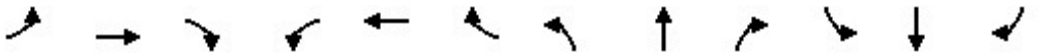
NO BUILD 2025

Arterial Level of Service: EB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 137 AVE	III	40	25.0	68.4	93.4	0.23	8.7	F
SW 127 AVE	III	30	106.6	53.5	160.1	0.89	20.0	C
Total	III		131.6	121.9	253.5	1.11	15.8	D

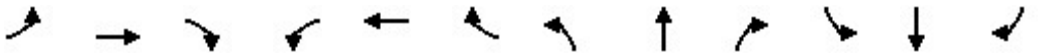
Arterial Level of Service: WB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 127 AVE	III	30	33.9	29.7	63.6	0.27	15.1	D
SW1 137 AVE	III	32	99.7	94.0	193.7	0.89	16.6	D
Total	III		133.6	123.7	257.3	1.16	16.2	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	401	93	201	390	245	145	417	127	137	283	146
Future Volume (vph)	70	401	93	201	390	245	145	417	127	137	283	146
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4			6.4	6.4	4.5	6.4		4.5	6.4	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.96		1.00	0.95	
Flt Protected		0.99			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1660			1741	1509	1770	1797		1656	1062	
Flt Permitted		0.65			0.60	1.00	0.17	1.00		0.12	1.00	
Satd. Flow (perm)		1089			1068	1509	312	1797		208	1062	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	74	422	98	212	411	258	153	439	134	144	298	154
RTOR Reduction (vph)	0	6	0	0	0	67	0	9	0	0	16	0
Lane Group Flow (vph)	0	588	0	0	623	191	153	564	0	144	436	0
Heavy Vehicles (%)	16%	13%	0%	2%	10%	7%	2%	2%	2%	9%	97%	17%
Turn Type	pm+pt	NA		Perm	NA	Prot	pm+pt	NA		pm+pt	NA	
Protected Phases	1	6			2	2	7	4		3	8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)		64.1			64.1	64.1	38.1	33.1		39.1	33.6	
Effective Green, g (s)		64.1			64.1	64.1	38.1	33.1		39.1	33.6	
Actuated g/C Ratio		0.53			0.53	0.53	0.32	0.28		0.33	0.28	
Clearance Time (s)		6.4			6.4	6.4	4.5	6.4		4.5	6.4	
Vehicle Extension (s)		1.0			1.0	1.0	3.0	3.5		3.0	3.5	
Lane Grp Cap (vph)		581			570	806	159	495		134	297	
v/s Ratio Prot						0.13	0.04	0.31		c0.05	c0.41	
v/s Ratio Perm		0.54			c0.58		0.26			0.30		
v/c Ratio		1.01			1.09	0.24	0.96	1.14		1.07	1.47	
Uniform Delay, d1		28.0			28.0	14.9	39.8	43.5		38.5	43.2	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		40.3			65.5	0.7	59.8	84.4		99.1	228.4	
Delay (s)		68.3			93.5	15.6	99.5	127.9		137.7	271.6	
Level of Service		E			F	B	F	F		F	F	
Approach Delay (s)		68.3			70.7			121.9			239.2	
Approach LOS		E			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	119.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.3
Intersection Capacity Utilization	119.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	897	106	266	498	161	201	219	356	104	241	50
Future Volume (veh/h)	126	897	106	266	498	161	201	219	356	104	241	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1648	1885	1856	1885	1811	1811	1781	1870	1870	1900
Adj Flow Rate, veh/h	133	944	112	280	524	169	212	231	375	109	254	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	8	17	1	3	1	6	6	8	2	2	0
Cap, veh/h	433	1336	158	323	1703	827	264	485	404	238	290	61
Arrive On Green	0.05	0.44	0.44	0.10	0.48	0.48	0.11	0.27	0.27	0.04	0.19	0.19
Sat Flow, veh/h	1767	3047	361	1795	3526	1598	1725	1811	1510	1781	1501	313
Grp Volume(v), veh/h	133	524	532	280	524	169	212	231	375	109	0	307
Grp Sat Flow(s),veh/h/ln	1767	1692	1716	1795	1763	1598	1725	1811	1510	1781	0	1814
Q Serve(g_s), s	6.6	40.3	40.3	13.3	14.4	9.1	15.4	17.1	38.7	5.6	0.0	26.3
Cycle Q Clear(g_c), s	6.6	40.3	40.3	13.3	14.4	9.1	15.4	17.1	38.7	5.6	0.0	26.3
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	433	742	752	323	1703	827	264	485	404	238	0	351
V/C Ratio(X)	0.31	0.71	0.71	0.87	0.31	0.20	0.80	0.48	0.93	0.46	0.00	0.88
Avail Cap(c_a), veh/h	477	742	752	433	1703	827	297	584	487	238	0	415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.5	36.6	36.6	30.1	25.1	20.8	45.8	49.2	57.1	52.6	0.0	62.6
Incr Delay (d2), s/veh	0.3	5.6	5.5	12.3	0.5	0.6	12.6	0.9	22.3	1.0	0.0	17.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	17.9	18.2	6.8	6.3	3.6	7.6	8.0	17.3	1.2	0.0	13.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.8	42.2	42.1	42.5	25.6	21.3	58.4	50.0	79.4	53.7	0.0	79.6
LnGrp LOS	C	D	D	D	C	C	E	D	E	D	A	E
Approach Vol, veh/h		1189			973			818			416	
Approach Delay, s/veh		40.0			29.7			65.7			72.8	
Approach LOS		D			C			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.1	83.7	12.0	49.3	22.2	76.5	23.9	37.3
Change Period (Y+Rc), s	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Max Green Setting (Gmax), s	12.6	64.6	5.6	51.6	25.6	51.6	20.6	36.6
Max Q Clear Time (g_c+I1), s	8.6	0.0	7.6	40.7	15.3	0.0	17.4	28.3
Green Ext Time (p_c), s	0.1	0.0	0.0	2.1	0.5	0.0	0.2	0.8

Intersection Summary	
HCM 6th Ctrl Delay	47.2
HCM 6th LOS	D

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	126	897	266	498	161	201	219	356	104	241
Future Volume (vph)	126	897	266	498	161	201	219	356	104	241
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	1	6	5	2	3	7	4		3	8
Permitted Phases	6		2		2	4		4	8	
Detector Phase	1	6	5	2	3	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	7.0	5.0	7.0	5.0	5.0	7.0	7.0	5.0	7.0
Minimum Split (s)	11.4	28.4	11.4	28.4	11.4	11.4	28.4	28.4	11.4	28.4
Total Split (s)	19.0	58.0	32.0	71.0	12.0	27.0	58.0	58.0	12.0	43.0
Total Split (%)	11.9%	36.3%	20.0%	44.4%	7.5%	16.9%	36.3%	36.3%	7.5%	26.9%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 53 (33%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 127: SW 127 AVE & SR 994



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	70	401	201	390	245	145	417	137	283
Future Volume (vph)	70	401	201	390	245	145	417	137	283
Turn Type	pm+pt	NA	Perm	NA	Prot	pm+pt	NA	pm+pt	NA
Protected Phases	1	6		2	2	7	4	3	8
Permitted Phases	6		2			4		8	
Detector Phase	1	6	2	2	2	7	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	16.0	16.0	16.0	16.0	5.0	7.0	5.0	7.0
Minimum Split (s)	11.0	22.4	22.4	22.4	22.4	9.5	13.4	9.5	13.4
Total Split (s)	11.0	70.5	59.5	59.5	59.5	9.5	39.5	10.0	40.0
Total Split (%)	9.2%	58.8%	49.6%	49.6%	49.6%	7.9%	32.9%	8.3%	33.3%
Yellow Time (s)	4.0	4.4	4.4	4.4	4.4	3.5	4.4	3.5	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.0	2.0	1.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.4		6.4	6.4	4.5	6.4	4.5	6.4
Lead/Lag	Lead		Lag	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	Max	Max	Max	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 6:EBTL, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 137: SW 137 AVE/SW1 137 AVE & SR 994





Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	133	1056	280	524	169	212	231	375	109	307
v/c Ratio	0.31	0.85	0.85	0.33	0.18	0.77	0.46	0.57	0.38	0.86
Control Delay	21.2	53.5	59.2	29.7	3.4	55.4	49.6	10.8	43.4	82.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	53.5	59.2	29.7	3.4	55.4	49.6	10.8	43.4	82.9
Queue Length 50th (ft)	66	557	206	187	0	160	197	38	77	306
Queue Length 95th (ft)	111	#740	#353	252	42	222	272	134	119	411
Internal Link Dist (ft)		550		1328			1420			1118
Turn Bay Length (ft)	300		225		225	120		260	100	
Base Capacity (vph)	459	1246	359	1608	932	288	577	702	285	420
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.85	0.78	0.33	0.18	0.74	0.40	0.53	0.38	0.73

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	594	623	258	153	573	144	452
v/c Ratio	1.01	1.09	0.30	0.93	1.13	1.05	1.44
Control Delay	68.4	94.0	7.5	87.7	121.9	123.4	249.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.4	94.0	7.5	87.7	121.9	123.4	249.1
Queue Length 50th (ft)	~454	~544	43	80	~510	~81	~467
Queue Length 95th (ft)	#707	#770	93	#197	#735	#207	#677
Internal Link Dist (ft)	1118	581			1157		1066
Turn Bay Length (ft)			135	200		220	
Base Capacity (vph)	587	570	872	164	505	137	313
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.01	1.09	0.30	0.93	1.13	1.05	1.44

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	672	834	3	6	2
Future Vol, veh/h	2	672	834	3	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	7	0	0	49
Mvmt Flow	2	707	878	3	6	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	881	0	-	0	1591	880
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	711	-
Critical Hdwy	4.1	-	-	-	6.4	6.69
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.741
Pot Cap-1 Maneuver	776	-	-	-	119	286
Stage 1	-	-	-	-	409	-
Stage 2	-	-	-	-	490	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	776	-	-	-	119	286
Mov Cap-2 Maneuver	-	-	-	-	119	-
Stage 1	-	-	-	-	407	-
Stage 2	-	-	-	-	490	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	32.6
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	776	-	-	-	139
HCM Lane V/C Ratio	0.003	-	-	-	0.061
HCM Control Delay (s)	9.7	0	-	-	32.6
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰		↱		↕	
Traffic Vol, veh/h	2	1028	5	16	776	2	29	2	56	6	1	2
Future Vol, veh/h	2	1028	5	16	776	2	29	2	56	6	1	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	90	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	5	24	11	5	0	0	0	0	0	0	0
Mvmt Flow	2	1082	5	17	817	2	31	2	59	6	1	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	819	0	0	1087	0	0	1943	1942	1085	1971	1943	818
Stage 1	-	-	-	-	-	-	1089	1089	-	852	852	-
Stage 2	-	-	-	-	-	-	854	853	-	1119	1091	-
Critical Hdwy	4.1	-	-	4.21	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.299	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	818	-	-	609	-	-	50	66	266	47	66	379
Stage 1	-	-	-	-	-	-	263	294	-	357	379	-
Stage 2	-	-	-	-	-	-	356	378	-	253	293	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	818	-	-	609	-	-	47	62	266	34	62	379
Mov Cap-2 Maneuver	-	-	-	-	-	-	47	62	-	34	62	-
Stage 1	-	-	-	-	-	-	261	292	-	355	360	-
Stage 2	-	-	-	-	-	-	335	359	-	194	291	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.2	73.3	105.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	47	266	818	-	-	609	-	-	45
HCM Lane V/C Ratio	0.649	0.222	0.003	-	-	0.028	-	-	0.211
HCM Control Delay (s)	171.9	22.3	9.4	0	-	11.1	0	-	105.2
HCM Lane LOS	F	C	A	A	-	B	A	-	F
HCM 95th %tile Q(veh)	2.5	0.8	0	-	-	0.1	-	-	0.7

Intersection	
Int Delay, s/veh	9.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	113	1015	3	1	771	24	5	1	4	16	1	78
Future Vol, veh/h	113	1015	3	1	771	24	5	1	4	16	1	78
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	4	10	32	0	5	8	0	0	0	9	0	2
Mvmt Flow	119	1068	3	1	812	25	5	1	4	17	1	82

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	837	0	0	1071	0	0	2176	2147	1070	2137	2136	825
Stage 1	-	-	-	-	-	-	1308	1308	-	827	827	-
Stage 2	-	-	-	-	-	-	868	839	-	1310	1309	-
Critical Hdwy	4.14	-	-	4.1	-	-	7.1	6.5	6.2	7.19	6.5	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.19	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.19	5.5	-
Follow-up Hdwy	2.236	-	-	2.2	-	-	3.5	4	3.3	3.581	4	3.318
Pot Cap-1 Maneuver	789	-	-	658	-	-	34	49	271	34	50	372
Stage 1	-	-	-	-	-	-	198	231	-	356	389	-
Stage 2	-	-	-	-	-	-	350	384	-	189	231	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	789	-	-	658	-	-	18	31	271	23	31	372
Mov Cap-2 Maneuver	-	-	-	-	-	-	18	31	-	23	31	-
Stage 1	-	-	-	-	-	-	124	145	-	223	388	-
Stage 2	-	-	-	-	-	-	271	383	-	116	145	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0	172.1	164.5
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	31	789	-	-	658	-	-	101
HCM Lane V/C Ratio	0.34	0.151	-	-	0.002	-	-	0.99
HCM Control Delay (s)	172.1	10.4	0	-	10.5	0	-	164.5
HCM Lane LOS	F	B	A	-	B	A	-	F
HCM 95th %tile Q(veh)	1.1	0.5	-	-	0	-	-	6.1

Intersection	
Int Delay, s/veh	32.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	896	15	66	788	34	235
Future Vol, veh/h	896	15	66	788	34	235
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	0	6	5	5	4
Mvmt Flow	943	16	69	829	36	247

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	959	0	1918	951
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	967	-
Critical Hdwy	-	-	4.16	-	6.45	6.24
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.254	-	3.545	3.336
Pot Cap-1 Maneuver	-	-	701	-	73	312
Stage 1	-	-	-	-	371	-
Stage 2	-	-	-	-	364	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	701	-	60	312
Mov Cap-2 Maneuver	-	-	-	-	60	-
Stage 1	-	-	-	-	371	-
Stage 2	-	-	-	-	297	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	246.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	204	-	-	701	-
HCM Lane V/C Ratio	1.388	-	-	0.099	-
HCM Control Delay (s)	246.5	-	-	10.7	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	16.4	-	-	0.3	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	773	883	10	7	6
Future Vol, veh/h	4	773	883	10	7	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	6	10	24	0
Mvmt Flow	4	814	929	11	7	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	940	0	-	0	1757	935
Stage 1	-	-	-	-	935	-
Stage 2	-	-	-	-	822	-
Critical Hdwy	4.1	-	-	-	6.64	6.2
Critical Hdwy Stg 1	-	-	-	-	5.64	-
Critical Hdwy Stg 2	-	-	-	-	5.64	-
Follow-up Hdwy	2.2	-	-	-	3.716	3.3
Pot Cap-1 Maneuver	737	-	-	-	82	325
Stage 1	-	-	-	-	349	-
Stage 2	-	-	-	-	396	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	737	-	-	-	81	325
Mov Cap-2 Maneuver	-	-	-	-	81	-
Stage 1	-	-	-	-	346	-
Stage 2	-	-	-	-	396	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	37.6
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	737	-	-	-	124
HCM Lane V/C Ratio	0.006	-	-	-	0.11
HCM Control Delay (s)	9.9	0	-	-	37.6
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	9.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	626	38	74	765	50	44	18	105	46	42	28
Future Vol, veh/h	14	626	38	74	765	50	44	18	105	46	42	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	225	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	26	9	4	0	3	3	6	8	16	0	12	65
Mvmt Flow	15	659	40	78	805	53	46	19	111	48	44	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	858	0	0	659	0	0	1713	1703	659	1742	1677	832
Stage 1	-	-	-	-	-	-	689	689	-	988	988	-
Stage 2	-	-	-	-	-	-	1024	1014	-	754	689	-
Critical Hdwy	4.36	-	-	4.1	-	-	5	5	5	5	5	5
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.58	-	6.1	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.58	-	6.1	5.62	-
Follow-up Hdwy	2.434	-	-	2.2	-	-	3.554	4.072	3.444	3.5	4.108	3.885
Pot Cap-1 Maneuver	690	-	-	939	-	-	195	187	564	190	192	442
Stage 1	-	-	-	-	-	-	429	438	-	300	313	-
Stage 2	-	-	-	-	-	-	279	309	-	404	432	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	690	-	-	939	-	-	122	151	564	118	155	442
Mov Cap-2 Maneuver	-	-	-	-	-	-	122	151	-	118	155	-
Stage 1	-	-	-	-	-	-	414	422	-	289	263	-
Stage 2	-	-	-	-	-	-	182	259	-	299	416	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.8	47.1	77
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	251	690	-	-	939	-	-	160
HCM Lane V/C Ratio	0.7	0.021	-	-	0.083	-	-	0.763
HCM Control Delay (s)	47.1	10.3	0	-	9.2	0	-	77
HCM Lane LOS	E	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	4.7	0.1	-	-	0.3	-	-	4.8

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	663	832	4	11	4
Future Vol, veh/h	1	663	832	4	11	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	3	0	0	0
Mvmt Flow	1	698	876	4	12	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	880	0	-	0	1578	878
Stage 1	-	-	-	-	878	-
Stage 2	-	-	-	-	700	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	777	-	-	-	122	350
Stage 1	-	-	-	-	410	-
Stage 2	-	-	-	-	496	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	777	-	-	-	122	350
Mov Cap-2 Maneuver	-	-	-	-	122	-
Stage 1	-	-	-	-	409	-
Stage 2	-	-	-	-	496	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	32.2
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	777	-	-	-	148
HCM Lane V/C Ratio	0.001	-	-	-	0.107
HCM Control Delay (s)	9.6	0	-	-	32.2
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1035	786	21	0	9
Future Vol, veh/h	0	1035	786	21	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	6	3	0	0	0
Mvmt Flow	0	1089	827	22	0	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	838
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	369
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	369
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	369
HCM Lane V/C Ratio	-	-	-	0.026
HCM Control Delay (s)	-	-	-	15
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	847	805	17	64	11
Future Vol, veh/h	20	847	805	17	64	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	3	5	2	0
Mvmt Flow	21	892	847	18	67	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	865	0	-	0	1790	856
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	934	-
Critical Hdwy	4.1	-	-	-	6.42	6.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.2	-	-	-	3.518	3.3
Pot Cap-1 Maneuver	787	-	-	-	89	360
Stage 1	-	-	-	-	416	-
Stage 2	-	-	-	-	382	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	787	-	-	-	84	360
Mov Cap-2 Maneuver	-	-	-	-	84	-
Stage 1	-	-	-	-	394	-
Stage 2	-	-	-	-	382	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	129.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	787	-	-	-	95
HCM Lane V/C Ratio	0.027	-	-	-	0.831
HCM Control Delay (s)	9.7	0	-	-	129.8
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	4.5

Intersection	
Int Delay, s/veh	22.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	767	13	13	802	91	100
Future Vol, veh/h	767	13	13	802	91	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	8	0	7	5	2	2
Mvmt Flow	807	14	14	844	96	105

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	821	0	1686	814
Stage 1	-	-	-	-	814	-
Stage 2	-	-	-	-	872	-
Critical Hdwy	-	-	4.17	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	787	-	103	378
Stage 1	-	-	-	-	436	-
Stage 2	-	-	-	-	409	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	787	-	99	378
Mov Cap-2 Maneuver	-	-	-	-	99	-
Stage 1	-	-	-	-	436	-
Stage 2	-	-	-	-	395	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	208.6
HCM LOS			F

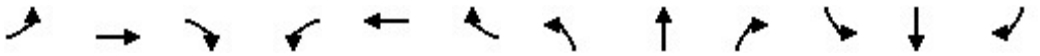
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	161	-	-	787	-
HCM Lane V/C Ratio	1.249	-	-	0.017	-
HCM Control Delay (s)	208.6	-	-	9.7	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	11.5	-	-	0.1	-

Arterial Level of Service: EB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 137 AVE	III	40	25.0	92.8	117.8	0.23	6.9	F
SW 127 AVE	III	30	106.6	61.3	167.9	0.89	19.0	C
Total	III		131.6	154.1	285.7	1.11	14.0	D

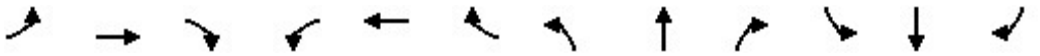
Arterial Level of Service: WB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 127 AVE	III	30	33.9	27.8	61.7	0.27	15.6	D
SW1 137 AVE	III	32	99.7	160.6	260.3	0.89	12.4	E
Total	III		133.6	188.4	322.0	1.16	13.0	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	418	87	162	338	181	138	256	148	178	501	139
Future Volume (vph)	43	418	87	162	338	181	138	256	148	178	501	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4			6.4	6.4	4.5	6.4		4.5	6.4	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.94		1.00	0.97	
Flt Protected		1.00			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1666			1741	1509	1770	1760		1656	1023	
Flt Permitted		0.73			0.55	1.00	0.10	1.00		0.26	1.00	
Satd. Flow (perm)		1228			975	1509	184	1760		445	1023	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	45	440	92	171	356	191	145	269	156	187	527	146
RTOR Reduction (vph)	0	6	0	0	0	94	0	17	0	0	8	0
Lane Group Flow (vph)	0	571	0	0	527	97	145	408	0	187	665	0
Heavy Vehicles (%)	16%	13%	0%	2%	10%	7%	2%	2%	2%	9%	97%	17%
Turn Type	pm+pt	NA		Perm	NA	Prot	pm+pt	NA		pm+pt	NA	
Protected Phases	1	6			2	2	7	4		3	8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)		52.1			52.1	52.1	45.5	40.5		55.1	45.6	
Effective Green, g (s)		52.1			52.1	52.1	45.5	40.5		55.1	45.6	
Actuated g/C Ratio		0.43			0.43	0.43	0.38	0.34		0.46	0.38	
Clearance Time (s)		6.4			6.4	6.4	4.5	6.4		4.5	6.4	
Vehicle Extension (s)		1.0			1.0	1.0	3.0	3.5		3.0	3.5	
Lane Grp Cap (vph)		533			423	655	135	594		306	388	
v/s Ratio Prot						0.06	c0.04	0.23		0.05	c0.65	
v/s Ratio Perm		0.47			c0.54		0.36			0.23		
v/c Ratio		1.07			1.25	0.15	1.07	0.69		0.61	1.71	
Uniform Delay, d1		34.0			34.0	20.5	34.8	34.3		22.5	37.2	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		59.7			129.1	0.5	98.7	3.4		3.6	332.0	
Delay (s)		93.6			163.1	21.0	133.4	37.7		26.1	369.2	
Level of Service		F			F	C	F	D		C	F	
Approach Delay (s)		93.6			125.3			62.0			294.6	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	158.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.53		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.3
Intersection Capacity Utilization	118.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	725	128	346	570	125	164	208	212	146	308	73
Future Volume (veh/h)	62	725	128	346	570	125	164	208	212	146	308	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1648	1885	1856	1885	1811	1811	1781	1870	1870	1900
Adj Flow Rate, veh/h	65	763	135	364	600	132	173	219	223	154	324	77
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	8	17	1	3	1	6	6	8	2	2	0
Cap, veh/h	375	1091	193	389	1706	898	213	443	370	318	343	81
Arrive On Green	0.03	0.38	0.38	0.14	0.48	0.48	0.09	0.24	0.24	0.08	0.23	0.23
Sat Flow, veh/h	1767	2874	508	1795	3526	1598	1725	1811	1510	1781	1461	347
Grp Volume(v), veh/h	65	449	449	364	600	132	173	219	223	154	0	401
Grp Sat Flow(s),veh/h/ln	1767	1692	1690	1795	1763	1598	1725	1811	1510	1781	0	1808
Q Serve(g_s), s	3.6	35.9	35.9	19.2	16.9	6.3	12.1	16.6	20.9	10.4	0.0	34.9
Cycle Q Clear(g_c), s	3.6	35.9	35.9	19.2	16.9	6.3	12.1	16.6	20.9	10.4	0.0	34.9
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	375	642	641	389	1706	898	213	443	370	318	0	424
V/C Ratio(X)	0.17	0.70	0.70	0.94	0.35	0.15	0.81	0.49	0.60	0.48	0.00	0.95
Avail Cap(c_a), veh/h	390	642	641	519	1706	898	229	448	374	363	0	459
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.7	41.9	41.9	31.4	25.7	16.7	45.0	51.9	53.5	42.2	0.0	60.2
Incr Delay (d2), s/veh	0.2	6.2	6.2	20.0	0.6	0.3	17.8	1.0	2.9	0.9	0.0	27.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	16.2	16.2	10.4	7.4	2.5	6.3	7.8	8.3	4.7	0.0	19.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.8	48.2	48.2	51.4	26.2	17.1	62.8	52.9	56.5	43.0	0.0	88.1
LnGrp LOS	C	D	D	D	C	B	E	D	E	D	A	F
Approach Vol, veh/h		963			1096			615			555	
Approach Delay, s/veh		46.9			33.5			57.0			75.6	
Approach LOS		D			C			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	83.8	18.9	45.6	28.4	67.1	20.5	44.0
Change Period (Y+Rc), s	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Max Green Setting (Gmax), s	6.6	71.6	16.6	39.6	33.6	44.6	15.6	40.6
Max Q Clear Time (g_c+I1), s	5.6	0.0	12.4	22.9	21.2	0.0	14.1	36.9
Green Ext Time (p_c), s	0.0	0.0	0.1	1.7	0.8	0.0	0.1	0.7

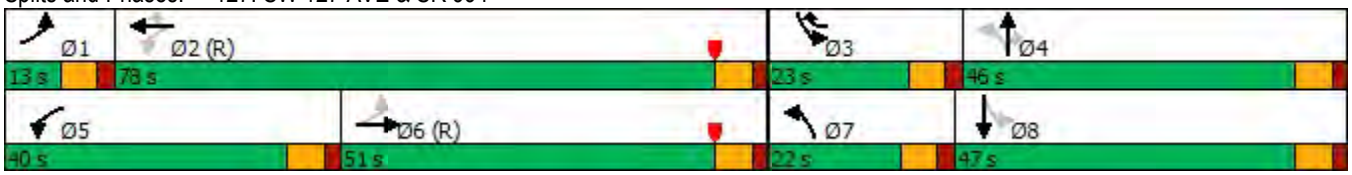
Intersection Summary	
HCM 6th Ctrl Delay	49.2
HCM 6th LOS	D

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	62	725	346	570	125	164	208	212	146	308
Future Volume (vph)	62	725	346	570	125	164	208	212	146	308
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	1	6	5	2	3	7	4		3	8
Permitted Phases	6		2		2	4		4	8	
Detector Phase	1	6	5	2	3	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	7.0	5.0	7.0	5.0	5.0	7.0	7.0	5.0	7.0
Minimum Split (s)	11.4	28.4	11.4	28.4	11.4	11.4	28.4	28.4	11.4	28.4
Total Split (s)	13.0	51.0	40.0	78.0	23.0	22.0	46.0	46.0	23.0	47.0
Total Split (%)	8.1%	31.9%	25.0%	48.8%	14.4%	13.8%	28.8%	28.8%	14.4%	29.4%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 116 (73%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 127: SW 127 AVE & SR 994

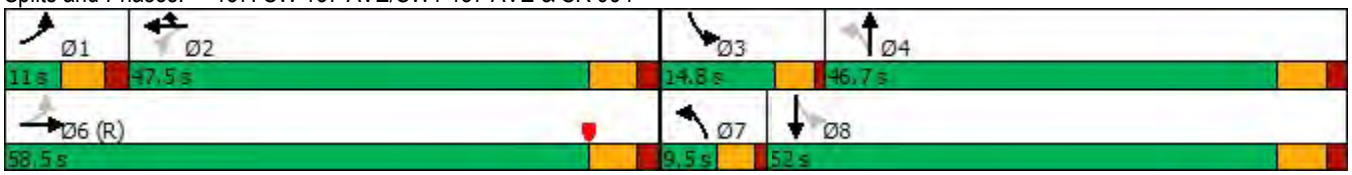


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	43	418	162	338	181	138	256	178	501
Future Volume (vph)	43	418	162	338	181	138	256	178	501
Turn Type	pm+pt	NA	Perm	NA	Prot	pm+pt	NA	pm+pt	NA
Protected Phases	1	6		2	2	7	4	3	8
Permitted Phases	6		2			4		8	
Detector Phase	1	6	2	2	2	7	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	16.0	16.0	16.0	16.0	5.0	7.0	5.0	7.0
Minimum Split (s)	11.0	22.4	22.4	22.4	22.4	9.5	13.4	9.5	13.4
Total Split (s)	11.0	58.5	47.5	47.5	47.5	9.5	46.7	14.8	52.0
Total Split (%)	9.2%	48.8%	39.6%	39.6%	39.6%	7.9%	38.9%	12.3%	43.3%
Yellow Time (s)	4.0	4.4	4.4	4.4	4.4	3.5	4.4	3.5	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.0	2.0	1.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.4		6.4	6.4	4.5	6.4	4.5	6.4
Lead/Lag	Lead		Lag	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	Max	Max	Max	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 6:EBTL, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 137: SW 137 AVE/SW1 137 AVE & SR 994





Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	65	898	364	600	132	173	219	223	154	401
v/c Ratio	0.20	0.87	0.89	0.35	0.13	0.80	0.50	0.42	0.43	0.92
Control Delay	23.3	61.3	64.7	27.8	2.4	64.6	56.4	7.9	37.9	84.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.3	61.3	64.7	27.8	2.4	64.6	56.4	7.9	37.9	84.7
Queue Length 50th (ft)	33	490	296	217	0	122	194	0	107	398
Queue Length 95th (ft)	59	#641	#460	269	29	#234	288	71	164	#576
Internal Link Dist (ft)		550		1328			1420			1118
Turn Bay Length (ft)	300		225		225	120		260	100	
Base Capacity (vph)	322	1035	441	1694	1052	221	450	542	390	466
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.87	0.83	0.35	0.13	0.78	0.49	0.41	0.39	0.86

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	577	527	191	145	425	187	673
v/c Ratio	1.07	1.25	0.26	1.05	0.70	0.60	1.70
Control Delay	92.8	160.6	5.3	116.4	39.3	27.6	352.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.8	160.6	5.3	116.4	39.3	27.6	352.4
Queue Length 50th (ft)	~493	~508	11	~68	268	83	~766
Queue Length 95th (ft)	#717	#724	55	#204	389	133	#1000
Internal Link Dist (ft)	1118	581			1157		1066
Turn Bay Length (ft)			135	200		220	
Base Capacity (vph)	538	423	749	138	611	314	396
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.07	1.25	0.26	1.05	0.70	0.60	1.70

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	750	679	5	6	1
Future Vol, veh/h	1	750	679	5	6	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	7	0	0	49
Mvmt Flow	1	789	715	5	6	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	720	0	-	0	1509	718
Stage 1	-	-	-	-	718	-
Stage 2	-	-	-	-	791	-
Critical Hdwy	4.1	-	-	-	6.4	6.69
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.741
Pot Cap-1 Maneuver	891	-	-	-	134	360
Stage 1	-	-	-	-	487	-
Stage 2	-	-	-	-	450	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	891	-	-	-	134	360
Mov Cap-2 Maneuver	-	-	-	-	134	-
Stage 1	-	-	-	-	486	-
Stage 2	-	-	-	-	450	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	30.8
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	891	-	-	-	147
HCM Lane V/C Ratio	0.001	-	-	-	0.05
HCM Control Delay (s)	9	0	-	-	30.8
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰		↱		↕	
Traffic Vol, veh/h	1	843	54	19	835	5	7	1	27	6	1	2
Future Vol, veh/h	1	843	54	19	835	5	7	1	27	6	1	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	90	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	5	24	11	5	0	0	0	0	0	0	0
Mvmt Flow	1	887	57	20	879	5	7	1	28	6	1	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	884	0	0	944	0	0	1841	1842	916	1854	1868	882
Stage 1	-	-	-	-	-	-	918	918	-	922	922	-
Stage 2	-	-	-	-	-	-	923	924	-	932	946	-
Critical Hdwy	4.1	-	-	4.21	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.299	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	774	-	-	691	-	-	59	76	333	57	73	348
Stage 1	-	-	-	-	-	-	328	353	-	327	352	-
Stage 2	-	-	-	-	-	-	326	351	-	322	343	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	774	-	-	691	-	-	55	71	333	49	69	348
Mov Cap-2 Maneuver	-	-	-	-	-	-	55	71	-	49	69	-
Stage 1	-	-	-	-	-	-	327	352	-	326	332	-
Stage 2	-	-	-	-	-	-	305	331	-	293	342	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.2	29.9	72
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	55	333	774	-	-	691	-	-	63
HCM Lane V/C Ratio	0.134	0.085	0.001	-	-	0.029	-	-	0.15
HCM Control Delay (s)	80.3	16.8	9.7	0	-	10.4	0	-	72
HCM Lane LOS	F	C	A	A	-	B	A	-	F
HCM 95th %tile Q(veh)	0.4	0.3	0	-	-	0.1	-	-	0.5

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	40	880	4	1	829	28	2	1	2	16	3	53
Future Vol, veh/h	40	880	4	1	829	28	2	1	2	16	3	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	4	10	32	0	5	8	0	0	0	9	0	2
Mvmt Flow	42	926	4	1	873	29	2	1	2	17	3	56

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	902	0	0	930	0	0	1931	1916	928	1904	1904	888
Stage 1	-	-	-	-	-	-	1012	1012	-	890	890	-
Stage 2	-	-	-	-	-	-	919	904	-	1014	1014	-
Critical Hdwy	4.14	-	-	4.1	-	-	7.1	6.5	6.2	7.19	6.5	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.19	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.19	5.5	-
Follow-up Hdwy	2.236	-	-	2.2	-	-	3.5	4	3.3	3.581	4	3.318
Pot Cap-1 Maneuver	745	-	-	744	-	-	51	68	328	50	70	343
Stage 1	-	-	-	-	-	-	291	319	-	328	364	-
Stage 2	-	-	-	-	-	-	328	358	-	279	319	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	745	-	-	744	-	-	37	60	328	45	62	343
Mov Cap-2 Maneuver	-	-	-	-	-	-	37	60	-	45	62	-
Stage 1	-	-	-	-	-	-	257	282	-	290	363	-
Stage 2	-	-	-	-	-	-	271	357	-	244	282	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	65.2	66.6
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	65	745	-	-	744	-	-	129
HCM Lane V/C Ratio	0.081	0.057	-	-	0.001	-	-	0.588
HCM Control Delay (s)	65.2	10.1	0	-	9.8	0	-	66.6
HCM Lane LOS	F	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.3	0.2	-	-	0	-	-	3

Intersection	
Int Delay, s/veh	7.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	817	47	155	729	21	107
Future Vol, veh/h	817	47	155	729	21	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	0	6	5	5	4
Mvmt Flow	860	49	163	767	22	113

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	909	0	1978	885
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	1093	-
Critical Hdwy	-	-	4.16	-	6.45	6.24
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.254	-	3.545	3.336
Pot Cap-1 Maneuver	-	-	733	-	67	341
Stage 1	-	-	-	-	398	-
Stage 2	-	-	-	-	317	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	733	-	41	341
Mov Cap-2 Maneuver	-	-	-	-	41	-
Stage 1	-	-	-	-	398	-
Stage 2	-	-	-	-	194	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2	98.6
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	155	-	-	733	-
HCM Lane V/C Ratio	0.869	-	-	0.223	-
HCM Control Delay (s)	98.6	-	-	11.3	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	6	-	-	0.8	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	800	721	12	10	2
Future Vol, veh/h	6	800	721	12	10	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	6	10	24	0
Mvmt Flow	6	842	759	13	11	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	772	0	-	0	1620	766
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	854	-
Critical Hdwy	4.1	-	-	-	6.64	6.2
Critical Hdwy Stg 1	-	-	-	-	5.64	-
Critical Hdwy Stg 2	-	-	-	-	5.64	-
Follow-up Hdwy	2.2	-	-	-	3.716	3.3
Pot Cap-1 Maneuver	852	-	-	-	101	406
Stage 1	-	-	-	-	422	-
Stage 2	-	-	-	-	382	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	852	-	-	-	100	406
Mov Cap-2 Maneuver	-	-	-	-	100	-
Stage 1	-	-	-	-	417	-
Stage 2	-	-	-	-	382	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	40.5
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	852	-	-	-	114
HCM Lane V/C Ratio	0.007	-	-	-	0.111
HCM Control Delay (s)	9.3	0	-	-	40.5
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	685	51	54	623	46	35	37	90	30	23	26
Future Vol, veh/h	20	685	51	54	623	46	35	37	90	30	23	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	225	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	26	9	4	0	3	3	6	8	16	0	12	65
Mvmt Flow	21	721	54	57	656	48	37	39	95	32	24	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	704	0	0	721	0	0	1583	1581	721	1624	1557	680
Stage 1	-	-	-	-	-	-	763	763	-	794	794	-
Stage 2	-	-	-	-	-	-	820	818	-	830	763	-
Critical Hdwy	4.36	-	-	4.1	-	-	5	5	5	5	5	5
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.58	-	6.1	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.58	-	6.1	5.62	-
Follow-up Hdwy	2.434	-	-	2.2	-	-	3.554	4.072	3.444	3.5	4.108	3.885
Pot Cap-1 Maneuver	792	-	-	890	-	-	222	211	532	214	216	509
Stage 1	-	-	-	-	-	-	391	404	-	384	386	-
Stage 2	-	-	-	-	-	-	363	381	-	367	399	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	792	-	-	890	-	-	168	180	532	131	184	509
Mov Cap-2 Maneuver	-	-	-	-	-	-	168	180	-	131	184	-
Stage 1	-	-	-	-	-	-	373	385	-	366	345	-
Stage 2	-	-	-	-	-	-	286	341	-	258	380	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.7	36.5	36.5
HCM LOS			E	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	278	792	-	-	890	-	-	195
HCM Lane V/C Ratio	0.613	0.027	-	-	0.064	-	-	0.426
HCM Control Delay (s)	36.5	9.7	0	-	9.3	0	-	36.5
HCM Lane LOS	E	A	A	-	A	A	-	E
HCM 95th %tile Q(veh)	3.7	0.1	-	-	0.2	-	-	2

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	744	675	5	7	5
Future Vol, veh/h	2	744	675	5	7	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	3	0	0	0
Mvmt Flow	2	783	711	5	7	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	716	0	-	0	1501	714
Stage 1	-	-	-	-	714	-
Stage 2	-	-	-	-	787	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	894	-	-	-	136	435
Stage 1	-	-	-	-	489	-
Stage 2	-	-	-	-	452	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	894	-	-	-	135	435
Mov Cap-2 Maneuver	-	-	-	-	135	-
Stage 1	-	-	-	-	487	-
Stage 2	-	-	-	-	452	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	25.4
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	894	-	-	-	189
HCM Lane V/C Ratio	0.002	-	-	-	0.067
HCM Control Delay (s)	9	0	-	-	25.4
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	898	840	5	0	17
Future Vol, veh/h	0	898	840	5	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	6	3	0	0	0
Mvmt Flow	0	945	884	5	0	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	887
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	346
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	346
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	346
HCM Lane V/C Ratio	-	-	-	0.052
HCM Control Delay (s)	-	-	-	16
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	835	740	10	28	5
Future Vol, veh/h	1	835	740	10	28	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	3	5	2	0
Mvmt Flow	1	879	779	11	29	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	790	0	-	0	1666	785
Stage 1	-	-	-	-	785	-
Stage 2	-	-	-	-	881	-
Critical Hdwy	4.1	-	-	-	6.42	6.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.2	-	-	-	3.518	3.3
Pot Cap-1 Maneuver	839	-	-	-	106	396
Stage 1	-	-	-	-	449	-
Stage 2	-	-	-	-	405	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	839	-	-	-	106	396
Mov Cap-2 Maneuver	-	-	-	-	106	-
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	405	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	47.3
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	839	-	-	-	119
HCM Lane V/C Ratio	0.001	-	-	-	0.292
HCM Control Delay (s)	9.3	0	-	-	47.3
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	1.1

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	802	8	29	716	17	34
Future Vol, veh/h	802	8	29	716	17	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	8	0	7	5	2	2
Mvmt Flow	844	8	31	754	18	36

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	852	0	1664	848
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	816	-
Critical Hdwy	-	-	4.17	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	766	-	107	361
Stage 1	-	-	-	-	420	-
Stage 2	-	-	-	-	435	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	766	-	100	361
Mov Cap-2 Maneuver	-	-	-	-	100	-
Stage 1	-	-	-	-	420	-
Stage 2	-	-	-	-	405	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	30.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	193	-	-	766	-
HCM Lane V/C Ratio	0.278	-	-	0.04	-
HCM Control Delay (s)	30.7	-	-	9.9	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	1.1	-	-	0.1	-

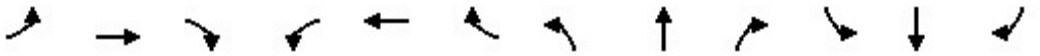
NO BUILD 2045

Arterial Level of Service: EB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 137 AVE	III	40	25.0	389.7	414.7	0.23	2.0	F
SW 127 AVE	III	30	106.6	116.0	222.6	0.89	14.4	D
Total	III		131.6	505.7	637.3	1.11	6.3	F

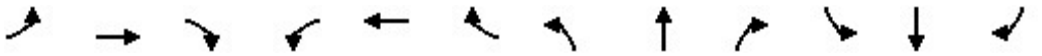
Arterial Level of Service: WB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 127 AVE	III	30	33.9	31.9	65.8	0.27	14.6	D
SW1 137 AVE	III	32	99.7	343.1	442.8	0.89	7.3	F
Total	III		133.6	375.0	508.6	1.16	8.2	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	450	116	377	434	256	181	521	165	215	353	182
Future Volume (vph)	83	450	116	377	434	256	181	521	165	215	353	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4			6.4	6.4	4.5	6.4		4.5	6.4	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.98			1.00	0.85	1.00	0.96		1.00	0.95	
Flt Protected		0.99			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1659			1747	1509	1770	3411		1656	2018	
Flt Permitted		0.40			0.50	1.00	0.32	1.00		0.15	1.00	
Satd. Flow (perm)		666			897	1509	598	3411		267	2018	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	87	474	122	397	457	269	191	548	174	226	372	192
RTOR Reduction (vph)	0	7	0	0	0	73	0	25	0	0	55	0
Lane Group Flow (vph)	0	676	0	0	854	196	191	697	0	226	509	0
Heavy Vehicles (%)	16%	13%	0%	2%	10%	7%	2%	2%	2%	9%	97%	17%
Turn Type	pm+pt	NA		Perm	NA	Prot	pm+pt	NA		pm+pt	NA	
Protected Phases	1	6			2	2	7	4		3	8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)		67.6			67.6	67.6	29.1	21.6		39.6	27.6	
Effective Green, g (s)		67.6			67.6	67.6	29.1	21.6		39.6	27.6	
Actuated g/C Ratio		0.56			0.56	0.56	0.24	0.18		0.33	0.23	
Clearance Time (s)		6.4			6.4	6.4	4.5	6.4		4.5	6.4	
Vehicle Extension (s)		1.0			1.0	1.0	3.0	3.5		3.0	3.5	
Lane Grp Cap (vph)		375			505	850	218	613		244	464	
v/s Ratio Prot						0.13	0.05	0.20		c0.10	c0.25	
v/s Ratio Perm		c1.02			0.95		0.16			0.20		
v/c Ratio		1.80			1.69	0.23	0.88	1.14		0.93	1.10	
Uniform Delay, d1		26.2			26.2	13.1	41.3	49.2		33.5	46.2	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		372.2			319.5	0.6	30.1	80.1		37.8	71.0	
Delay (s)		398.4			345.7	13.8	71.3	129.3		71.3	117.2	
Level of Service		F			F	B	E	F		E	F	
Approach Delay (s)		398.4			266.2			117.2			104.0	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	216.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.3
Intersection Capacity Utilization	130.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	1112	132	333	622	201	251	274	445	130	301	62
Future Volume (veh/h)	157	1112	132	333	622	201	251	274	445	130	301	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1648	1885	1856	1885	1811	1811	1781	1870	1870	1900
Adj Flow Rate, veh/h	165	1171	139	351	655	212	264	288	468	137	317	65
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	8	17	1	3	1	6	6	8	2	2	0
Cap, veh/h	371	1078	128	332	1558	792	267	494	411	236	297	61
Arrive On Green	0.07	0.35	0.35	0.16	0.44	0.44	0.13	0.27	0.27	0.05	0.20	0.20
Sat Flow, veh/h	1767	3048	361	1795	3526	1598	1725	1811	1510	1781	1506	309
Grp Volume(v), veh/h	165	649	661	351	655	212	264	288	468	137	0	382
Grp Sat Flow(s),veh/h/ln	1767	1692	1716	1795	1763	1598	1725	1811	1510	1781	0	1815
Q Serve(g_s), s	9.5	56.6	56.6	25.6	20.4	12.3	20.3	22.0	43.6	8.6	0.0	31.6
Cycle Q Clear(g_c), s	9.5	56.6	56.6	25.6	20.4	12.3	20.3	22.0	43.6	8.6	0.0	31.6
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	371	599	607	332	1558	792	267	494	411	236	0	358
V/C Ratio(X)	0.44	1.08	1.09	1.06	0.42	0.27	0.99	0.58	1.14	0.58	0.00	1.07
Avail Cap(c_a), veh/h	383	599	607	332	1558	792	267	494	411	236	0	358
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.3	51.7	51.7	55.2	30.6	23.5	49.8	50.3	58.2	50.4	0.0	64.2
Incr Delay (d2), s/veh	0.6	61.6	63.0	65.0	0.8	0.8	51.7	5.0	87.5	3.0	0.0	66.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	34.2	34.9	19.6	9.0	5.0	12.6	10.8	26.7	1.0	0.0	21.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.9	113.3	114.7	120.2	31.4	24.3	101.5	55.3	145.7	53.4	0.0	130.3
LnGrp LOS	C	F	F	F	C	C	F	E	F	D	A	F
Approach Vol, veh/h		1475			1218			1020			519	
Approach Delay, s/veh		104.6			55.8			108.7			110.0	
Approach LOS		F			E			F			F	

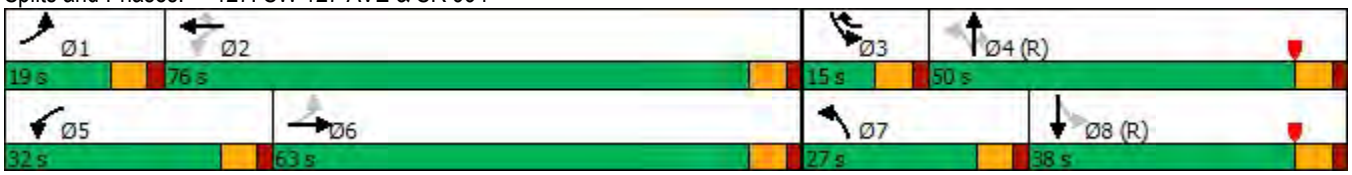
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.9	77.1	15.0	50.0	32.0	63.0	27.0	38.0
Change Period (Y+Rc), s	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Max Green Setting (Gmax), s	12.6	69.6	8.6	43.6	25.6	56.6	20.6	31.6
Max Q Clear Time (g_c+I1), s	11.5	0.0	10.6	45.6	27.6	0.0	22.3	33.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	92.2
HCM 6th LOS	F

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	157	1112	333	622	201	251	274	445	130	301
Future Volume (vph)	157	1112	333	622	201	251	274	445	130	301
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	1	6	5	2	3	7	4		3	8
Permitted Phases	6		2		2	4		4	8	
Detector Phase	1	6	5	2	3	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	7.0	5.0	7.0	5.0	5.0	7.0	7.0	5.0	7.0
Minimum Split (s)	11.4	28.4	11.4	28.4	11.4	11.4	28.4	28.4	11.4	28.4
Total Split (s)	19.0	63.0	32.0	76.0	15.0	27.0	50.0	50.0	15.0	38.0
Total Split (%)	11.9%	39.4%	20.0%	47.5%	9.4%	16.9%	31.3%	31.3%	9.4%	23.8%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	68.0	56.6	88.6	70.8	85.8	58.6	43.6	43.6	40.2	31.6
Actuated g/C Ratio	0.42	0.35	0.55	0.44	0.54	0.37	0.27	0.27	0.25	0.20
v/c Ratio	0.43	1.13	1.06	0.42	0.22	1.00	0.59	0.75	0.48	1.05
Control Delay	22.9	116.0	112.8	31.9	2.8	102.7	56.3	27.8	44.7	119.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.9	116.0	112.8	31.9	2.8	102.7	56.3	27.8	44.7	119.7
LOS	C	F	F	C	A	F	E	C	D	F
Approach Delay		105.6		50.1			55.2			99.9
Approach LOS		F		D			E			F

Intersection Summary	
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 53 (33%), Referenced to phase 4:NBTL and 8:SBTL, Start of Yellow	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.13	
Intersection Signal Delay: 76.8	Intersection LOS: E
Intersection Capacity Utilization 108.2%	ICU Level of Service G
Analysis Period (min) 15	

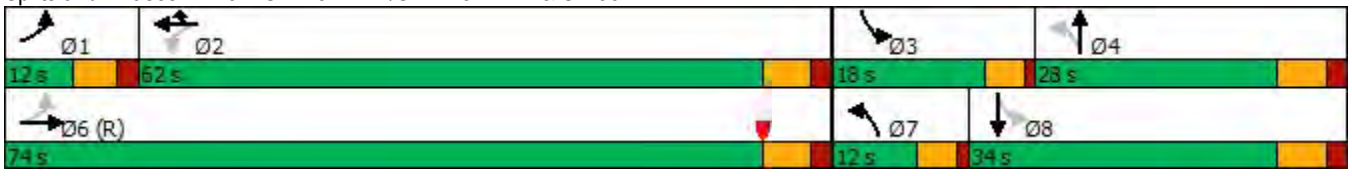
Splits and Phases: 127: SW 127 AVE & SR 994



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	83	450	377	434	256	181	521	215	353
Future Volume (vph)	83	450	377	434	256	181	521	215	353
Turn Type	pm+pt	NA	Perm	NA	Prot	pm+pt	NA	pm+pt	NA
Protected Phases	1	6		2	2	7	4	3	8
Permitted Phases	6		2			4		8	
Detector Phase	1	6	2	2	2	7	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	16.0	16.0	16.0	16.0	5.0	7.0	5.0	7.0
Minimum Split (s)	11.0	22.4	22.4	22.4	22.4	9.5	13.4	9.5	13.4
Total Split (s)	12.0	74.0	62.0	62.0	62.0	12.0	28.0	18.0	34.0
Total Split (%)	10.0%	61.7%	51.7%	51.7%	51.7%	10.0%	23.3%	15.0%	28.3%
Yellow Time (s)	4.0	4.4	4.4	4.4	4.4	3.5	4.4	3.5	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.0	2.0	1.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.4		6.4	6.4	4.5	6.4	4.5	6.4
Lead/Lag	Lead		Lag	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	Max	Max	Max	None	None	None	None
Act Effct Green (s)		67.6		67.6	67.6	31.0	21.6	41.5	27.6
Actuated g/C Ratio		0.56		0.56	0.56	0.26	0.18	0.35	0.23
v/c Ratio		1.79		1.69	0.29	0.84	1.13	0.91	1.09
Control Delay		389.7		343.1	5.9	64.3	119.8	70.6	104.1
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		389.7		343.1	5.9	64.3	119.8	70.6	104.1
LOS		F		F	A	E	F	E	F
Approach Delay		389.7		262.3			108.2		94.5
Approach LOS		F		F			F		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 6:EBTL, Start of Yellow	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.79	
Intersection Signal Delay: 209.2	Intersection LOS: F
Intersection Capacity Utilization 130.4%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 137: SW 137 AVE/SW1 137 AVE & SR 994





Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	165	1310	351	655	212	264	288	468	137	382
v/c Ratio	0.43	1.13	1.06	0.42	0.22	1.00	0.59	0.75	0.48	1.05
Control Delay	22.9	116.0	112.8	31.9	2.8	102.7	56.3	27.8	44.7	119.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.9	116.0	112.8	31.9	2.8	102.7	56.3	27.8	44.7	119.7
Queue Length 50th (ft)	83	~832	~349	247	0	~231	263	178	98	~428
Queue Length 95th (ft)	126	#974	#559	304	41	#430	367	328	154	#648
Internal Link Dist (ft)		550		1328			1420			1118
Turn Bay Length (ft)	300		225		225	120		260	100	
Base Capacity (vph)	398	1159	332	1550	955	263	488	620	284	364
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	1.13	1.06	0.42	0.22	1.00	0.59	0.75	0.48	1.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	683	854	269	191	722	226	564
v/c Ratio	1.79	1.69	0.29	0.84	1.13	0.91	1.09
Control Delay	389.7	343.1	5.9	64.3	119.8	70.6	104.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	389.7	343.1	5.9	64.3	119.8	70.6	104.1
Queue Length 50th (ft)	~502	~969	35	108	~331	132	~235
Queue Length 95th (ft)	#736	#830	80	#222	#457	#274	#352
Internal Link Dist (ft)	1118	581			1157		1066
Turn Bay Length (ft)			135	200		220	
Base Capacity (vph)	381	505	922	227	639	248	518
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.79	1.69	0.29	0.84	1.13	0.91	1.09

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	840	1064	4	8	3
Future Vol, veh/h	2	840	1064	4	8	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	7	0	0	49
Mvmt Flow	2	884	1120	4	8	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1124	0	-	0	2010	1122
Stage 1	-	-	-	-	1122	-
Stage 2	-	-	-	-	888	-
Critical Hdwy	4.1	-	-	-	6.4	6.69
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.741
Pot Cap-1 Maneuver	629	-	-	-	66	203
Stage 1	-	-	-	-	314	-
Stage 2	-	-	-	-	405	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	629	-	-	-	66	203
Mov Cap-2 Maneuver	-	-	-	-	66	-
Stage 1	-	-	-	-	312	-
Stage 2	-	-	-	-	405	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	56.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	629	-	-	-	81
HCM Lane V/C Ratio	0.003	-	-	-	0.143
HCM Control Delay (s)	10.7	0	-	-	56.7
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Intersection	
Int Delay, s/veh	15.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰		↱		↕	
Traffic Vol, veh/h	3	1275	7	21	971	3	36	0	70	7	1	3
Future Vol, veh/h	3	1275	7	21	971	3	36	0	70	7	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	90	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	5	24	11	5	0	0	0	0	0	0	0
Mvmt Flow	3	1342	7	22	1022	3	38	0	74	7	1	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1025	0	0	1349	0	0	2422	-	1346	2457	2423	1024
Stage 1	-	-	-	-	-	-	1352	-	-	1068	1068	-
Stage 2	-	-	-	-	-	-	1070	-	-	1389	1355	-
Critical Hdwy	4.1	-	-	4.21	-	-	7.1	-	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	-	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	-	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.299	-	-	3.5	-	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	685	-	-	482	-	-	~ 23	0	187	21	33	288
Stage 1	-	-	-	-	-	-	187	0	-	271	301	-
Stage 2	-	-	-	-	-	-	270	0	-	178	220	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	685	-	-	482	-	-	~ 20	-	187	12	29	288
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 20	-	-	12	29	-
Stage 1	-	-	-	-	-	-	184	-	-	266	269	-
Stage 2	-	-	-	-	-	-	238	-	-	106	216	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	$ 304.7	$ 378.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	20	187	685	-	-	482	-	-	18
HCM Lane V/C Ratio	1.895	0.394	0.005	-	-	0.046	-	-	0.643
HCM Control Delay (s)	$ 826.8	36.2	10.3	0	-	12.8	0	-	$ 378.4
HCM Lane LOS	F	E	B	A	-	B	A	-	F
HCM 95th %tile Q(veh)	5.1	1.7	0	-	-	0.1	-	-	1.7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	179.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	141	1259	4	1	964	30	6	1	5	20	1	98
Future Vol, veh/h	141	1259	4	1	964	30	6	1	5	20	1	98
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	4	10	32	0	5	8	0	0	0	9	0	2
Mvmt Flow	148	1325	4	1	1015	32	6	1	5	21	1	103

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1047	0	0	1329	0	0	2708	2672	1327	2659	2658	1031
Stage 1	-	-	-	-	-	-	1623	1623	-	1033	1033	-
Stage 2	-	-	-	-	-	-	1085	1049	-	1626	1625	-
Critical Hdwy	4.14	-	-	4.1	-	-	7.1	6.5	6.2	7.19	6.5	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.19	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.19	5.5	-
Follow-up Hdwy	2.236	-	-	2.2	-	-	3.5	4	3.3	3.581	4	3.318
Pot Cap-1 Maneuver	657	-	-	526	-	-	14	23	192	~ 14	23	283
Stage 1	-	-	-	-	-	-	131	163	-	272	312	-
Stage 2	-	-	-	-	-	-	265	307	-	124	162	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	657	-	-	526	-	-	~ 2	3	192	~ 3	3	283
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 2	3	-	~ 3	3	-
Stage 1	-	-	-	-	-	-	18	22	-	37	310	-
Stage 2	-	-	-	-	-	-	167	305	-	~ 16	22	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0	$ 2621.3	$ 3542.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	4	657	-	-	526	-	-	16
HCM Lane V/C Ratio	3.158	0.226	-	-	0.002	-	-	7.829
HCM Control Delay (s)	$ 2621.3	12.1	0	-	11.9	0	-	$ 3542.3
HCM Lane LOS	F	B	A	-	B	A	-	F
HCM 95th %tile Q(veh)	2.8	0.9	-	-	0	-	-	16.5

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	141.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1111	18	82	985	42	294
Future Vol, veh/h	1111	18	82	985	42	294
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	0	6	5	5	4
Mvmt Flow	1169	19	86	1037	44	309

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1188	0	2388	1179
Stage 1	-	-	-	-	1179	-
Stage 2	-	-	-	-	1209	-
Critical Hdwy	-	-	4.16	-	6.45	6.24
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.254	-	3.545	3.336
Pot Cap-1 Maneuver	-	-	574	-	~ 37	~ 230
Stage 1	-	-	-	-	288	-
Stage 2	-	-	-	-	279	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	574	-	~ 24	~ 230
Mov Cap-2 Maneuver	-	-	-	-	~ 24	-
Stage 1	-	-	-	-	288	-
Stage 2	-	-	-	-	181	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	$ 1066.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	111	-	-	574	-
HCM Lane V/C Ratio	3.186	-	-	0.15	-
HCM Control Delay (s)	$ 1066.5	-	-	12.4	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	34.2	-	-	0.5	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	956	1104	12	9	7
Future Vol, veh/h	5	956	1104	12	9	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	6	10	24	0
Mvmt Flow	5	1006	1162	13	9	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1175	0	-	0	2185	1169
Stage 1	-	-	-	-	1169	-
Stage 2	-	-	-	-	1016	-
Critical Hdwy	4.1	-	-	-	6.64	6.2
Critical Hdwy Stg 1	-	-	-	-	5.64	-
Critical Hdwy Stg 2	-	-	-	-	5.64	-
Follow-up Hdwy	2.2	-	-	-	3.716	3.3
Pot Cap-1 Maneuver	602	-	-	-	43	237
Stage 1	-	-	-	-	267	-
Stage 2	-	-	-	-	318	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	602	-	-	-	42	237
Mov Cap-2 Maneuver	-	-	-	-	42	-
Stage 1	-	-	-	-	262	-
Stage 2	-	-	-	-	318	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	77.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	602	-	-	-	66
HCM Lane V/C Ratio	0.009	-	-	-	0.255
HCM Control Delay (s)	11	0	-	-	77.3
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	0.9

Intersection	
Int Delay, s/veh	71.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	774	56	74	974	63	66	22	131	57	42	28
Future Vol, veh/h	18	774	56	74	974	63	66	22	131	57	42	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	225	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	26	9	4	0	3	3	6	8	16	0	12	65
Mvmt Flow	19	815	59	78	1025	66	69	23	138	60	44	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1091	0	0	874	0	0	2104	2100	815	2177	2126	1058
Stage 1	-	-	-	-	-	-	853	853	-	1214	1214	-
Stage 2	-	-	-	-	-	-	1251	1247	-	963	912	-
Critical Hdwy	4.36	-	-	4.1	-	-	5	5	5	5	5	5
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.58	-	6.1	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.58	-	6.1	5.62	-
Follow-up Hdwy	2.434	-	-	2.2	-	-	3.554	4.072	3.444	3.5	4.108	3.885
Pot Cap-1 Maneuver	558	-	-	781	-	-	129	125	485	120	122	358
Stage 1	-	-	-	-	-	-	348	367	-	224	243	-
Stage 2	-	-	-	-	-	-	207	239	-	310	340	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	558	-	-	781	-	-	~ 54	86	485	~ 52	84	358
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 54	86	-	~ 52	84	-
Stage 1	-	-	-	-	-	-	325	342	-	209	180	-
Stage 2	-	-	-	-	-	-	106	177	-	193	317	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.7	$ 468.7	$ 481.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	125	558	-	-	781	-	-	76
HCM Lane V/C Ratio	1.844	0.034	-	-	0.1	-	-	1.759
HCM Control Delay (s)	$ 468.7	11.7	0	-	10.1	0	-	$ 481.3
HCM Lane LOS	F	B	A	-	B	A	-	F
HCM 95th %tile Q(veh)	18	0.1	-	-	0.3	-	-	11.6

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	828	1062	5	13	5
Future Vol, veh/h	1	828	1062	5	13	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	3	0	0	0
Mvmt Flow	1	872	1118	5	14	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1123	0	-	0	1995	1121
Stage 1	-	-	-	-	1121	-
Stage 2	-	-	-	-	874	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	629	-	-	-	67	253
Stage 1	-	-	-	-	314	-
Stage 2	-	-	-	-	412	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	629	-	-	-	67	253
Mov Cap-2 Maneuver	-	-	-	-	67	-
Stage 1	-	-	-	-	313	-
Stage 2	-	-	-	-	412	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	59.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	629	-	-	-	84
HCM Lane V/C Ratio	0.002	-	-	-	0.226
HCM Control Delay (s)	10.7	0	-	-	59.9
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	0.8

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1285	983	27	0	11
Future Vol, veh/h	0	1285	983	27	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	6	3	0	0	0
Mvmt Flow	0	1353	1035	28	0	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1049
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	279
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	279
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	18.5
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	279
HCM Lane V/C Ratio	-	-	-	0.042
HCM Control Delay (s)	-	-	-	18.5
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	28.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	1050	1006	22	80	13
Future Vol, veh/h	26	1050	1006	22	80	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	3	5	2	0
Mvmt Flow	27	1105	1059	23	84	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1082	0	-	0	2230	1071
Stage 1	-	-	-	-	1071	-
Stage 2	-	-	-	-	1159	-
Critical Hdwy	4.1	-	-	-	6.42	6.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.2	-	-	-	3.518	3.3
Pot Cap-1 Maneuver	652	-	-	-	~ 47	271
Stage 1	-	-	-	-	329	-
Stage 2	-	-	-	-	299	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	652	-	-	-	~ 42	271
Mov Cap-2 Maneuver	-	-	-	-	~ 42	-
Stage 1	-	-	-	-	294	-
Stage 2	-	-	-	-	299	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	$ 665.4
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	652	-	-	-	48
HCM Lane V/C Ratio	0.042	-	-	-	2.039
HCM Control Delay (s)	10.8	0	-	-	$ 665.4
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	9.9

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	92.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	950	16	16	1003	113	125
Future Vol, veh/h	950	16	16	1003	113	125
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	8	0	7	5	2	2
Mvmt Flow	1000	17	17	1056	119	132

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1017	0	2099	1009
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	1090	-
Critical Hdwy	-	-	4.17	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	663	-	~ 57	292
Stage 1	-	-	-	-	352	-
Stage 2	-	-	-	-	322	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	663	-	~ 53	292
Mov Cap-2 Maneuver	-	-	-	-	~ 53	-
Stage 1	-	-	-	-	352	-
Stage 2	-	-	-	-	302	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	$ 863.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	93	-	-	663	-
HCM Lane V/C Ratio	2.694	-	-	0.025	-
HCM Control Delay (s)	$ 863.2	-	-	10.6	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	23.7	-	-	0.1	-

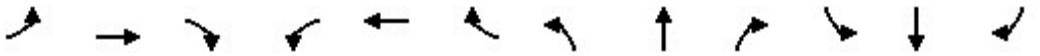
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Arterial Level of Service: EB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 137 AVE	III	40	25.0	55.9	80.9	0.23	10.1	E
SW 127 AVE	III	30	106.6	96.7	203.3	0.89	15.7	D
Total	III		131.6	152.6	284.2	1.11	14.1	D

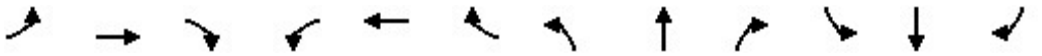
Arterial Level of Service: WB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 127 AVE	III	30	33.9	35.0	68.9	0.27	13.9	E
SW1 137 AVE	III	32	99.7	138.2	237.9	0.89	13.5	E
Total	III		133.6	173.2	306.8	1.16	13.6	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	466	109	218	361	286	173	319	186	278	626	174
Future Volume (vph)	51	466	109	218	361	286	173	319	186	278	626	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4			6.4	6.4	4.5	6.4		4.5	6.4	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.98			1.00	0.85	1.00	0.94		1.00	0.97	
Flt Protected		1.00			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1665			1743	1509	1770	3344		1656	1944	
Flt Permitted		0.76			0.54	1.00	0.16	1.00		0.22	1.00	
Satd. Flow (perm)		1273			954	1509	291	3344		384	1944	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	54	491	115	229	380	301	182	336	196	293	659	183
RTOR Reduction (vph)	0	6	0	0	0	78	0	70	0	0	21	0
Lane Group Flow (vph)	0	654	0	0	609	223	182	462	0	293	821	0
Heavy Vehicles (%)	16%	13%	0%	2%	10%	7%	2%	2%	2%	9%	97%	17%
Turn Type	pm+pt	NA		Perm	NA	Prot	pm+pt	NA		pm+pt	NA	
Protected Phases	1	6			2	2	7	4		3	8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)		63.6			63.6	63.6	32.1	25.6		43.6	32.6	
Effective Green, g (s)		63.6			63.6	63.6	32.1	25.6		43.6	32.6	
Actuated g/C Ratio		0.53			0.53	0.53	0.27	0.21		0.36	0.27	
Clearance Time (s)		6.4			6.4	6.4	4.5	6.4		4.5	6.4	
Vehicle Extension (s)		1.0			1.0	1.0	3.0	3.5		3.0	3.5	
Lane Grp Cap (vph)		674			505	799	157	713		282	528	
v/s Ratio Prot						0.15	0.06	0.14		c0.12	c0.42	
v/s Ratio Perm		0.51			c0.64		0.25			0.26		
v/c Ratio		0.97			1.21	0.28	1.16	0.65		1.04	1.55	
Uniform Delay, d1		27.3			28.2	15.5	40.3	43.1		33.2	43.7	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		27.3			110.2	0.9	121.1	2.1		64.1	258.8	
Delay (s)		54.6			138.4	16.4	161.4	45.2		97.3	302.5	
Level of Service		D			F	B	F	D		F	F	
Approach Delay (s)		54.6			98.1			74.8			249.5	
Approach LOS		D			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	135.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.41		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.3
Intersection Capacity Utilization	117.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	900	160	433	712	156	205	260	265	183	385	91
Future Volume (veh/h)	77	900	160	433	712	156	205	260	265	183	385	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1648	1885	1856	1885	1811	1811	1781	1870	1870	1900
Adj Flow Rate, veh/h	81	947	168	456	749	164	216	274	279	193	405	96
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	8	17	1	3	1	6	6	8	2	2	0
Cap, veh/h	308	978	173	340	1618	789	236	552	460	262	334	79
Arrive On Green	0.04	0.34	0.34	0.16	0.46	0.46	0.11	0.30	0.30	0.04	0.23	0.23
Sat Flow, veh/h	1767	2873	509	1795	3526	1598	1725	1811	1510	1781	1462	346
Grp Volume(v), veh/h	81	558	557	456	749	164	216	274	279	193	0	501
Grp Sat Flow(s),veh/h/ln	1767	1692	1690	1795	1763	1598	1725	1811	1510	1781	0	1808
Q Serve(g_s), s	4.8	51.9	51.9	25.6	23.4	9.3	15.6	19.8	25.2	5.6	0.0	36.6
Cycle Q Clear(g_c), s	4.8	51.9	51.9	25.6	23.4	9.3	15.6	19.8	25.2	5.6	0.0	36.6
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	308	576	575	340	1618	789	236	552	460	262	0	414
V/C Ratio(X)	0.26	0.97	0.97	1.34	0.46	0.21	0.91	0.50	0.61	0.74	0.00	1.21
Avail Cap(c_a), veh/h	374	576	575	340	1618	789	267	584	487	262	0	414
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.1	51.9	51.9	53.0	29.7	22.8	47.0	45.6	47.5	56.1	0.0	61.7
Incr Delay (d2), s/veh	0.3	30.4	30.6	171.7	1.0	0.6	30.7	0.8	2.2	9.9	0.0	115.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	26.8	26.9	30.1	10.3	3.7	8.8	9.2	9.9	5.5	0.0	30.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.4	82.3	82.6	224.7	30.7	23.4	77.7	46.4	49.7	66.0	0.0	177.3
LnGrp LOS	C	F	F	F	C	C	E	D	D	E	A	F
Approach Vol, veh/h		1196			1369			769			694	
Approach Delay, s/veh		79.1			94.4			56.4			146.4	
Approach LOS		E			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	79.8	12.0	55.1	32.0	60.9	24.1	43.0
Change Period (Y+Rc), s	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Max Green Setting (Gmax), s	12.6	64.6	5.6	51.6	25.6	51.6	20.6	36.6
Max Q Clear Time (g_c+I1), s	6.8	0.0	7.6	27.2	27.6	0.0	17.6	38.6
Green Ext Time (p_c), s	0.1	0.0	0.0	2.5	0.0	0.0	0.2	0.0

Intersection Summary	
HCM 6th Ctrl Delay	91.6
HCM 6th LOS	F

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	77	900	433	712	156	205	260	265	183	385
Future Volume (vph)	77	900	433	712	156	205	260	265	183	385
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	1	6	5	2	3	7	4		3	8
Permitted Phases	6		2		2	4		4	8	
Detector Phase	1	6	5	2	3	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	7.0	5.0	7.0	5.0	5.0	7.0	7.0	5.0	7.0
Minimum Split (s)	11.4	28.4	11.4	28.4	11.4	11.4	28.4	28.4	11.4	28.4
Total Split (s)	19.0	58.0	32.0	71.0	12.0	27.0	58.0	58.0	12.0	43.0
Total Split (%)	11.9%	36.3%	20.0%	44.4%	7.5%	16.9%	36.3%	36.3%	7.5%	26.9%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 116 (73%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 127: SW 127 AVE & SR 994



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	51	466	218	361	286	173	319	278	626
Future Volume (vph)	51	466	218	361	286	173	319	278	626
Turn Type	pm+pt	NA	Perm	NA	Prot	pm+pt	NA	pm+pt	NA
Protected Phases	1	6		2	2	7	4	3	8
Permitted Phases	6		2			4		8	
Detector Phase	1	6	2	2	2	7	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	16.0	16.0	16.0	16.0	5.0	7.0	5.0	7.0
Minimum Split (s)	11.0	22.4	22.4	22.4	22.4	9.5	13.4	9.5	13.4
Total Split (s)	12.0	70.0	58.0	58.0	58.0	11.0	32.0	18.0	39.0
Total Split (%)	10.0%	58.3%	48.3%	48.3%	48.3%	9.2%	26.7%	15.0%	32.5%
Yellow Time (s)	4.0	4.4	4.4	4.4	4.4	3.5	4.4	3.5	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.0	2.0	1.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.4		6.4	6.4	4.5	6.4	4.5	6.4
Lead/Lag	Lead		Lag	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	Max	Max	Max	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 6:EBTL, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 137: SW 137 AVE/SW1 137 AVE & SR 994





Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	81	1115	456	749	164	216	274	279	193	501
v/c Ratio	0.27	1.06	1.37	0.50	0.19	0.85	0.47	0.42	0.61	1.17
Control Delay	23.3	96.7	223.0	35.0	3.4	70.9	46.7	6.0	52.6	148.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.3	96.7	223.0	35.0	3.4	70.9	46.7	6.0	52.6	148.7
Queue Length 50th (ft)	42	~669	~578	297	0	173	230	0	136	~626
Queue Length 95th (ft)	72	#811	#809	371	41	#313	324	69	201	#861
Internal Link Dist (ft)		550		1328			1420			1118
Turn Bay Length (ft)	300		225		225	120		260	100	
Base Capacity (vph)	346	1048	333	1500	885	263	577	671	319	429
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	1.06	1.37	0.50	0.19	0.82	0.47	0.42	0.61	1.17

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	660	609	301	182	532	293	842
v/c Ratio	0.97	1.21	0.34	1.12	0.68	1.02	1.53
Control Delay	55.9	138.2	7.9	138.9	40.9	89.3	280.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.9	138.2	7.9	138.9	40.9	89.3	280.4
Queue Length 50th (ft)	470	~574	52	~107	167	~173	~476
Queue Length 95th (ft)	#743	#798	108	#253	230	#333	#606
Internal Link Dist (ft)	1118	581			1157		1066
Turn Bay Length (ft)			135	200		220	
Base Capacity (vph)	680	505	878	162	783	288	549
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	1.21	0.34	1.12	0.68	1.02	1.53

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	938	864	6	7	1
Future Vol, veh/h	1	938	864	6	7	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	7	0	0	49
Mvmt Flow	1	987	909	6	7	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	915	0	-	0	1901	912
Stage 1	-	-	-	-	912	-
Stage 2	-	-	-	-	989	-
Critical Hdwy	4.1	-	-	-	6.4	6.69
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.741
Pot Cap-1 Maneuver	754	-	-	-	77	273
Stage 1	-	-	-	-	395	-
Stage 2	-	-	-	-	363	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	754	-	-	-	77	273
Mov Cap-2 Maneuver	-	-	-	-	77	-
Stage 1	-	-	-	-	394	-
Stage 2	-	-	-	-	363	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	52
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	754	-	-	-	85
HCM Lane V/C Ratio	0.001	-	-	-	0.099
HCM Control Delay (s)	9.8	0	-	-	52
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰		↱		↕	
Traffic Vol, veh/h	2	1047	66	24	1044	6	9	1	33	8	1	3
Future Vol, veh/h	2	1047	66	24	1044	6	9	1	33	8	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	90	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	5	24	11	5	0	0	0	0	0	0	0
Mvmt Flow	2	1102	69	25	1099	6	9	1	35	8	1	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1105	0	0	1171	0	0	2295	2296	1137	2311	2327	1102
Stage 1	-	-	-	-	-	-	1141	1141	-	1152	1152	-
Stage 2	-	-	-	-	-	-	1154	1155	-	1159	1175	-
Critical Hdwy	4.1	-	-	4.21	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.299	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	639	-	-	565	-	-	28	39	248	27	38	260
Stage 1	-	-	-	-	-	-	246	278	-	243	275	-
Stage 2	-	-	-	-	-	-	242	274	-	241	268	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	639	-	-	565	-	-	24	34	248	21	33	260
Mov Cap-2 Maneuver	-	-	-	-	-	-	24	34	-	21	33	-
Stage 1	-	-	-	-	-	-	244	275	-	241	243	-
Stage 2	-	-	-	-	-	-	211	242	-	205	266	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	66.8	213.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	24	248	639	-	-	565	-	-	28
HCM Lane V/C Ratio	0.395	0.14	0.003	-	-	0.045	-	-	0.451
HCM Control Delay (s)	231.4	21.9	10.7	0	-	11.7	0	-	213.4
HCM Lane LOS	F	C	B	A	-	B	A	-	F
HCM 95th %tile Q(veh)	1.2	0.5	0	-	-	0.1	-	-	1.4

Intersection	
Int Delay, s/veh	18.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	50	1093	5	1	1036	35	2	1	2	20	4	67
Future Vol, veh/h	50	1093	5	1	1036	35	2	1	2	20	4	67
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	4	10	32	0	5	8	0	0	0	9	0	2
Mvmt Flow	53	1151	5	1	1091	37	2	1	2	21	4	71

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1128	0	0	1156	0	0	2409	2390	1154	2373	2374	1110
Stage 1	-	-	-	-	-	-	1260	1260	-	1112	1112	-
Stage 2	-	-	-	-	-	-	1149	1130	-	1261	1262	-
Critical Hdwy	4.14	-	-	4.1	-	-	7.1	6.5	6.2	7.19	6.5	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.19	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.19	5.5	-
Follow-up Hdwy	2.236	-	-	2.2	-	-	3.5	4	3.3	3.581	4	3.318
Pot Cap-1 Maneuver	612	-	-	612	-	-	23	34	242	23	35	255
Stage 1	-	-	-	-	-	-	211	244	-	246	287	-
Stage 2	-	-	-	-	-	-	244	281	-	202	243	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	612	-	-	612	-	-	12	26	242	~ 18	26	255
Mov Cap-2 Maneuver	-	-	-	-	-	-	12	26	-	~ 18	26	-
Stage 1	-	-	-	-	-	-	160	185	-	186	286	-
Stage 2	-	-	-	-	-	-	173	280	-	151	184	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	203	$ 446.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	23	612	-	-	612	-	-	60
HCM Lane V/C Ratio	0.229	0.086	-	-	0.002	-	-	1.596
HCM Control Delay (s)	203	11.4	0	-	10.9	0	-	$ 446.4
HCM Lane LOS	F	B	A	-	B	A	-	F
HCM 95th %tile Q(veh)	0.7	0.3	-	-	0	-	-	8.6

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	96.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1014	59	194	911	27	134
Future Vol, veh/h	1014	59	194	911	27	134
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	0	6	5	5	4
Mvmt Flow	1067	62	204	959	28	141

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1129	0	2465	1098
Stage 1	-	-	-	-	1098	-
Stage 2	-	-	-	-	1367	-
Critical Hdwy	-	-	4.16	-	6.45	6.24
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.254	-	3.545	3.336
Pot Cap-1 Maneuver	-	-	604	-	33	256
Stage 1	-	-	-	-	315	-
Stage 2	-	-	-	-	233	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	604	-	~ 9	256
Mov Cap-2 Maneuver	-	-	-	-	~ 9	-
Stage 1	-	-	-	-	315	-
Stage 2	-	-	-	-	65	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	$ 1390.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	46	-	-	604	-
HCM Lane V/C Ratio	3.684	-	-	0.338	-
HCM Control Delay (s)	$ 1390.4	-	-	14	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	18.8	-	-	1.5	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	994	901	15	12	3
Future Vol, veh/h	7	994	901	15	12	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	6	10	24	0
Mvmt Flow	7	1046	948	16	13	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	964	0	-	0	2016	956
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	1060	-
Critical Hdwy	4.1	-	-	-	6.64	6.2
Critical Hdwy Stg 1	-	-	-	-	5.64	-
Critical Hdwy Stg 2	-	-	-	-	5.64	-
Follow-up Hdwy	2.2	-	-	-	3.716	3.3
Pot Cap-1 Maneuver	722	-	-	-	56	316
Stage 1	-	-	-	-	341	-
Stage 2	-	-	-	-	303	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	722	-	-	-	55	316
Mov Cap-2 Maneuver	-	-	-	-	55	-
Stage 1	-	-	-	-	333	-
Stage 2	-	-	-	-	303	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	75.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	722	-	-	-	66
HCM Lane V/C Ratio	0.01	-	-	-	0.239
HCM Control Delay (s)	10	0	-	-	75.9
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	0.8

Intersection	
Int Delay, s/veh	40

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	850	70	68	779	57	58	46	113	38	29	33
Future Vol, veh/h	25	850	70	68	779	57	58	46	113	38	29	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	225	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	26	9	4	0	3	3	6	8	16	0	12	65
Mvmt Flow	26	895	74	72	820	60	61	48	119	40	31	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	880	0	0	969	0	0	1974	1971	895	2062	2015	850
Stage 1	-	-	-	-	-	-	947	947	-	994	994	-
Stage 2	-	-	-	-	-	-	1027	1024	-	1068	1021	-
Critical Hdwy	4.36	-	-	4.1	-	-	5	5	5	5	5	5
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.58	-	6.1	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.58	-	6.1	5.62	-
Follow-up Hdwy	2.434	-	-	2.2	-	-	3.554	4.072	3.444	3.5	4.108	3.885
Pot Cap-1 Maneuver	676	-	-	719	-	-	148	143	449	136	136	435
Stage 1	-	-	-	-	-	-	308	332	-	298	310	-
Stage 2	-	-	-	-	-	-	278	305	-	271	301	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	676	-	-	719	-	-	84	105	449	52	100	435
Mov Cap-2 Maneuver	-	-	-	-	-	-	84	105	-	52	100	-
Stage 1	-	-	-	-	-	-	282	304	-	273	248	-
Stage 2	-	-	-	-	-	-	180	244	-	153	275	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.8	289.9	227.6
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	157	676	-	-	719	-	-	91
HCM Lane V/C Ratio	1.455	0.039	-	-	0.1	-	-	1.157
HCM Control Delay (s)	289.9	10.5	0	-	10.6	0	-	227.6
HCM Lane LOS	F	B	A	-	B	A	-	F
HCM 95th %tile Q(veh)	14.7	0.1	-	-	0.3	-	-	7.2

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	930	859	6	9	6
Future Vol, veh/h	2	930	859	6	9	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	3	0	0	0
Mvmt Flow	2	979	904	6	9	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	910	0	-	0	1890	907
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	983	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	757	-	-	-	78	337
Stage 1	-	-	-	-	397	-
Stage 2	-	-	-	-	366	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	757	-	-	-	78	337
Mov Cap-2 Maneuver	-	-	-	-	78	-
Stage 1	-	-	-	-	395	-
Stage 2	-	-	-	-	366	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	42
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	757	-	-	-	113
HCM Lane V/C Ratio	0.003	-	-	-	0.14
HCM Control Delay (s)	9.8	0	-	-	42
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1115	1050	6	0	22
Future Vol, veh/h	0	1115	1050	6	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	6	3	0	0	0
Mvmt Flow	0	1174	1105	6	0	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1108
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	258
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	258
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	20.3
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	258
HCM Lane V/C Ratio	-	-	-	0.09
HCM Control Delay (s)	-	-	-	20.3
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.3

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1037	925	12	36	6
Future Vol, veh/h	1	1037	925	12	36	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	3	5	2	0
Mvmt Flow	1	1092	974	13	38	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	987	0	-	0	2075	981
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	1094	-
Critical Hdwy	4.1	-	-	-	6.42	6.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.2	-	-	-	3.518	3.3
Pot Cap-1 Maneuver	708	-	-	-	59	305
Stage 1	-	-	-	-	363	-
Stage 2	-	-	-	-	321	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	708	-	-	-	59	305
Mov Cap-2 Maneuver	-	-	-	-	59	-
Stage 1	-	-	-	-	362	-
Stage 2	-	-	-	-	321	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	129.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	708	-	-	-	67
HCM Lane V/C Ratio	0.001	-	-	-	0.66
HCM Control Delay (s)	10.1	0	-	-	129.9
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	2.9

Intersection	
Int Delay, s/veh	2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	996	10	37	895	22	43
Future Vol, veh/h	996	10	37	895	22	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	8	0	7	5	2	2
Mvmt Flow	1048	11	39	942	23	45

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1059	0	2074	1054
Stage 1	-	-	-	-	1054	-
Stage 2	-	-	-	-	1020	-
Critical Hdwy	-	-	4.17	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	639	-	59	275
Stage 1	-	-	-	-	335	-
Stage 2	-	-	-	-	348	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	639	-	51	275
Mov Cap-2 Maneuver	-	-	-	-	51	-
Stage 1	-	-	-	-	335	-
Stage 2	-	-	-	-	303	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	79.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	111	-	-	639	-
HCM Lane V/C Ratio	0.616	-	-	0.061	-
HCM Control Delay (s)	79.4	-	-	11	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	3.1	-	-	0.2	-

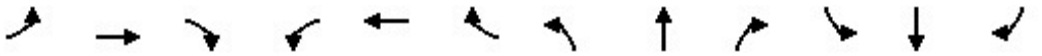
BUILD 1 2025

Arterial Level of Service: EB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 134 AVE	III	30	32.5	12.5	45.0	0.26	20.5	C
SW 127 AVE	III	30	90.9	32.9	123.8	0.76	22.0	C
Total	III		123.4	45.4	168.8	1.01	21.6	C

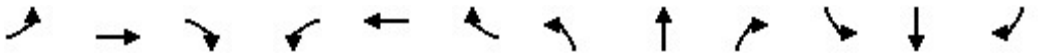
Arterial Level of Service: WB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 134 AVE	III	30	90.9	10.9	101.8	0.76	26.8	B
SW1 137 AVE	III	38	28.2	47.2	75.4	0.26	12.2	E
Total	III		119.1	58.1	177.2	1.01	20.6	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	519	79	219	379	244	105	417	180	178	283	97
Future Volume (vph)	71	519	79	219	379	244	105	417	180	178	283	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.4		4.5	6.4	4.5	4.5	6.4	6.4	4.5	6.4	6.4
Lane Util. Factor	0.97	1.00		0.97	1.00	0.88	1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3019	1674		3433	1727	2656	1770	1863	1583	3213	964	1380
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.54	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3019	1674		3433	1727	2656	1006	1863	1583	3213	964	1380
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	75	546	83	231	399	257	111	439	189	187	298	102
RTOR Reduction (vph)	0	4	0	0	0	139	0	0	129	0	0	66
Lane Group Flow (vph)	75	625	0	231	399	118	111	439	60	187	298	36
Heavy Vehicles (%)	16%	13%	0%	2%	10%	7%	2%	2%	2%	9%	97%	17%
Turn Type	Prot	NA		Prot	NA	pm+ov	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases						2	4		4			8
Actuated Green, G (s)	6.8	37.5		13.4	42.6	54.9	40.5	35.0	35.0	12.3	41.8	41.8
Effective Green, g (s)	6.8	37.5		13.4	42.6	54.9	40.5	35.0	35.0	12.3	41.8	41.8
Actuated g/C Ratio	0.06	0.31		0.11	0.36	0.46	0.34	0.29	0.29	0.10	0.35	0.35
Clearance Time (s)	6.0	6.4		4.5	6.4	4.5	4.5	6.4	6.4	4.5	6.4	6.4
Vehicle Extension (s)	2.5	1.0		3.0	1.0	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Lane Grp Cap (vph)	171	523		383	613	1215	374	543	461	329	335	480
v/s Ratio Prot	0.02	c0.37		c0.07	0.23	0.01	0.01	0.24		c0.06	c0.31	
v/s Ratio Perm						0.03	0.09		0.04			0.03
v/c Ratio	0.44	1.19		0.60	0.65	0.10	0.30	0.81	0.13	0.57	0.89	0.07
Uniform Delay, d1	54.8	41.2		50.8	32.5	18.5	28.1	39.4	31.3	51.3	36.9	26.2
Progression Factor	1.00	1.00		0.89	1.24	4.07	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	105.2		2.2	4.5	0.0	0.4	8.9	0.2	2.3	24.1	0.1
Delay (s)	56.1	146.5		47.4	44.6	75.3	28.6	48.3	31.4	53.6	61.0	26.2
Level of Service	E	F		D	D	E	C	D	C	D	E	C
Approach Delay (s)		136.9			54.2			41.0			52.6	
Approach LOS		F			D			D			D	

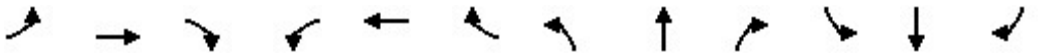
Intersection Summary			
HCM 2000 Control Delay	70.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.3
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	1043	120	217	560	131	168	144	235	67	156	38
Future Volume (veh/h)	143	1043	120	217	560	131	168	144	235	67	156	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1648	1885	1856	1885	1811	1811	1781	1870	1870	1900
Adj Flow Rate, veh/h	151	1098	126	228	589	138	177	152	247	71	164	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	8	17	1	3	1	6	6	8	2	2	0
Cap, veh/h	477	1592	182	283	1928	945	230	309	381	225	275	237
Arrive On Green	0.05	0.52	0.52	0.08	0.55	0.55	0.07	0.17	0.17	0.04	0.15	0.15
Sat Flow, veh/h	1767	3060	351	3483	3526	1598	3346	1811	1510	1781	1870	1610
Grp Volume(v), veh/h	151	607	617	228	589	138	177	152	247	71	164	40
Grp Sat Flow(s),veh/h/ln	1767	1692	1718	1742	1763	1598	1673	1811	1510	1781	1870	1610
Q Serve(g_s), s	5.6	37.5	37.7	9.0	12.7	5.4	7.3	10.6	20.5	4.7	11.5	3.0
Cycle Q Clear(g_c), s	5.6	37.5	37.7	9.0	12.7	5.4	7.3	10.6	20.5	4.7	11.5	3.0
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	477	880	894	283	1928	945	230	309	381	225	275	237
V/C Ratio(X)	0.32	0.69	0.69	0.80	0.31	0.15	0.77	0.49	0.65	0.32	0.60	0.17
Avail Cap(c_a), veh/h	540	880	894	463	1928	945	468	461	507	229	302	260
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.2	25.1	25.1	63.2	17.3	12.8	64.1	52.5	46.8	47.8	55.8	52.2
Incr Delay (d2), s/veh	0.3	4.4	4.4	4.0	0.4	0.3	4.1	1.5	2.2	0.6	3.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	16.0	16.3	4.2	5.3	2.0	3.2	5.0	8.0	2.1	5.7	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	29.5	29.5	67.2	17.7	13.1	68.2	54.0	49.1	48.4	58.9	52.6
LnGrp LOS	B	C	C	E	B	B	E	D	D	D	E	D
Approach Vol, veh/h		1375			955			576			275	
Approach Delay, s/veh		27.9			28.8			56.2			55.3	
Approach LOS		C			C			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.1	83.0	12.7	30.3	17.8	79.2	16.0	27.0
Change Period (Y+Rc), s	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Max Green Setting (Gmax), s	12.6	59.6	6.6	35.6	18.6	53.6	19.6	22.6
Max Q Clear Time (g_c+I1), s	7.6	0.0	6.7	22.5	11.0	0.0	9.3	13.5
Green Ext Time (p_c), s	0.1	0.0	0.0	1.4	0.4	0.0	0.3	0.5

Intersection Summary	
HCM 6th Ctrl Delay	35.7
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	823	42	79	765	53	51	19	111	65	42	28
Future Volume (veh/h)	20	823	42	79	765	53	51	19	111	65	42	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1515	1767	1841	1900	1856	1856	1811	1781	1663	1900	1722	937
Adj Flow Rate, veh/h	21	866	44	83	805	56	54	20	117	68	44	29
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	26	9	4	0	3	3	6	8	16	0	12	65
Cap, veh/h	353	1199	1117	341	1396	1183	161	35	205	152	70	46
Arrive On Green	0.68	0.68	0.68	0.03	0.75	0.75	0.04	0.16	0.16	0.07	0.07	0.07
Sat Flow, veh/h	520	1767	1560	1810	1856	1572	1725	225	1319	1272	969	638
Grp Volume(v), veh/h	21	866	44	83	805	56	54	0	137	68	0	73
Grp Sat Flow(s),veh/h/ln	520	1767	1560	1810	1856	1572	1725	0	1544	1272	0	1607
Q Serve(g_s), s	2.2	37.1	1.0	1.6	22.8	1.1	3.4	0.0	9.9	6.3	0.0	5.3
Cycle Q Clear(g_c), s	16.1	37.1	1.0	1.6	22.8	1.1	3.4	0.0	9.9	6.3	0.0	5.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.85	1.00		0.40
Lane Grp Cap(c), veh/h	353	1199	1117	341	1396	1183	161	0	241	152	0	116
V/C Ratio(X)	0.06	0.72	0.04	0.24	0.58	0.05	0.34	0.00	0.57	0.45	0.00	0.63
Avail Cap(c_a), veh/h	353	1199	1117	343	1396	1183	175	0	405	277	0	275
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.9	12.2	5.0	12.2	6.5	3.8	47.5	0.0	46.9	54.5	0.0	54.1
Incr Delay (d2), s/veh	0.3	3.8	0.1	0.4	1.7	0.1	1.2	0.0	2.1	2.0	0.0	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	14.6	0.3	0.8	8.3	0.3	1.5	0.0	3.9	2.1	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.3	15.9	5.0	12.5	8.2	3.9	48.7	0.0	49.0	56.6	0.0	59.5
LnGrp LOS	B	B	A	B	A	A	D	A	D	E	A	E
Approach Vol, veh/h		931			944			191			141	
Approach Delay, s/veh		15.3			8.3			48.9			58.1	
Approach LOS		B			A			D			E	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		24.2	8.9	86.9	10.0	14.2		95.8				
Change Period (Y+Rc), s		5.5	5.5	5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s		31.5	3.5	68.5	5.5	20.5		77.5				
Max Q Clear Time (g_c+I1), s		11.9	3.6	39.1	5.4	8.3		24.8				
Green Ext Time (p_c), s		0.7	0.0	8.3	0.0	0.4		7.8				

Intersection Summary												
HCM 6th Ctrl Delay			18.0									
HCM 6th LOS			B									

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	143	1043	217	560	131	168	144	235	67	156	38
Future Volume (vph)	143	1043	217	560	131	168	144	235	67	156	38
Turn Type	pm+pt	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	pm+pt	NA	Perm
Protected Phases	1	6	5	2	3	7	4	5	3	8	
Permitted Phases	6				2			4	8		8
Detector Phase	1	6	5	2	3	7	4	5	3	8	8
Switch Phase											
Minimum Initial (s)	5.0	7.0	5.0	7.0	5.0	5.0	7.0	5.0	5.0	7.0	7.0
Minimum Split (s)	11.4	28.4	11.4	28.4	11.4	11.4	28.4	11.4	11.4	28.4	28.4
Total Split (s)	19.0	60.0	25.0	66.0	13.0	26.0	42.0	25.0	13.0	29.0	29.0
Total Split (%)	13.6%	42.9%	17.9%	47.1%	9.3%	18.6%	30.0%	17.9%	9.3%	20.7%	20.7%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 53 (38%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 127: SW 127 AVE & SR 994

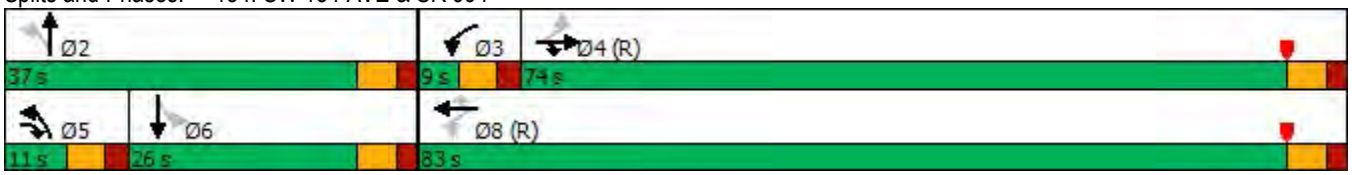


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	20	823	42	79	765	53	51	19	65	42
Future Volume (vph)	20	823	42	79	765	53	51	19	65	42
Turn Type	Perm	NA	pt+ov	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases		4	4 5	3	8		5	2		6
Permitted Phases	4			8		8	2		6	
Detector Phase	4	4	4 5	3	8	8	5	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0		3.5	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5		9.0	23.5	23.5	10.5	23.5	24.0	24.0
Total Split (s)	74.0	74.0		9.0	83.0	83.0	11.0	37.0	26.0	26.0
Total Split (%)	61.7%	61.7%		7.5%	69.2%	69.2%	9.2%	30.8%	21.7%	21.7%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag		Lead			Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 101 (84%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 134: SW 134 AVE & SR 994

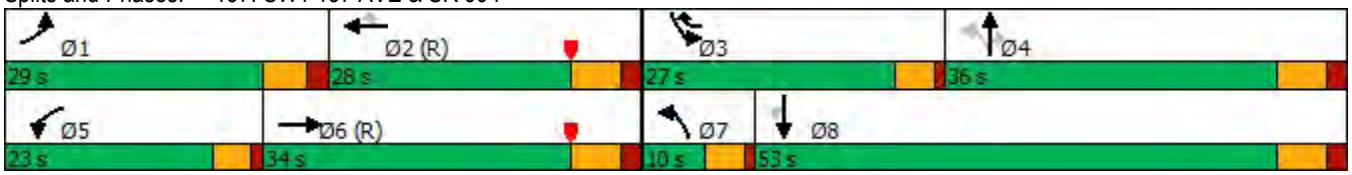


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	71	519	219	379	244	105	417	180	178	283	97
Future Volume (vph)	71	519	219	379	244	105	417	180	178	283	97
Turn Type	Prot	NA	Prot	NA	pm+ov	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	1	6	5	2	3	7	4		3	8	
Permitted Phases					2	4		4			8
Detector Phase	1	6	5	2	3	7	4	4	3	8	8
Switch Phase											
Minimum Initial (s)	5.0	16.0	5.0	16.0	5.0	5.0	7.0	7.0	5.0	7.0	7.0
Minimum Split (s)	11.0	22.4	9.5	22.4	9.5	9.5	13.4	13.4	9.5	13.4	13.4
Total Split (s)	29.0	34.0	23.0	28.0	27.0	10.0	36.0	36.0	27.0	53.0	53.0
Total Split (%)	24.2%	28.3%	19.2%	23.3%	22.5%	8.3%	30.0%	30.0%	22.5%	44.2%	44.2%
Yellow Time (s)	4.0	4.4	3.5	4.4	3.5	3.5	4.4	4.4	3.5	4.4	4.4
All-Red Time (s)	2.0	2.0	1.0	2.0	1.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.4	4.5	6.4	4.5	4.5	6.4	6.4	4.5	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 30.6 (26%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 137: SW1 137 AVE & SR 994

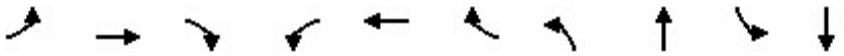




Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	151	1224	228	589	138	177	152	247	71	164	40
v/c Ratio	0.30	0.75	0.66	0.32	0.13	0.61	0.50	0.47	0.30	0.69	0.11
Control Delay	12.9	32.9	69.7	20.7	2.6	70.3	57.0	25.5	41.7	72.5	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.9	32.9	69.7	20.7	2.6	70.3	57.0	25.5	41.7	72.5	0.6
Queue Length 50th (ft)	50	453	104	154	0	81	127	115	50	145	0
Queue Length 95th (ft)	97	#694	145	240	33	118	185	169	83	214	0
Internal Link Dist (ft)		550		1328			526			1118	
Turn Bay Length (ft)	300		425		195	320		575	335		155
Base Capacity (vph)	539	1639	460	1857	1048	462	455	578	241	304	411
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.75	0.50	0.32	0.13	0.38	0.33	0.43	0.29	0.54	0.10

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	21	866	44	83	805	56	54	137	68	73
v/c Ratio	0.07	0.76	0.04	0.26	0.59	0.05	0.29	0.40	0.55	0.48
Control Delay	2.4	12.5	0.0	7.5	10.9	1.0	43.2	13.4	66.9	45.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.4	12.5	0.0	7.5	10.9	1.0	43.2	13.4	66.9	45.0
Queue Length 50th (ft)	1	686	0	17	275	0	35	13	51	36
Queue Length 95th (ft)	m2	m641	m0	37	456	9	69	65	96	82
Internal Link Dist (ft)		272			408			1264		1117
Turn Bay Length (ft)	225		225	185		185	185		150	
Base Capacity (vph)	311	1138	1175	324	1359	1175	186	465	217	249
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.76	0.04	0.26	0.59	0.05	0.29	0.29	0.31	0.29

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	75	629	231	399	257	111	439	189	187	298	102
v/c Ratio	0.38	1.19	0.60	0.63	0.17	0.28	0.81	0.32	0.57	0.89	0.18
Control Delay	58.6	141.1	50.7	47.2	9.1	21.9	51.9	6.5	57.9	64.7	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.6	141.1	50.7	47.2	9.1	21.9	51.9	6.5	57.9	64.7	4.3
Queue Length 50th (ft)	29	~610	90	305	11	48	307	4	72	210	0
Queue Length 95th (ft)	53	#917	128	#453	59	80	#440	58	107	#358	30
Internal Link Dist (ft)		1118		377			510			573	
Turn Bay Length (ft)	320		425		385	340		240	360		235
Base Capacity (vph)	578	528	529	630	1711	390	544	591	602	374	605
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	1.19	0.44	0.63	0.15	0.28	0.81	0.32	0.31	0.80	0.17

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	885	840	4	0	2
Future Vol, veh/h	0	885	840	4	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	7	0	0	49
Mvmt Flow	0	932	884	4	0	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	886
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.69
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.741
Pot Cap-1 Maneuver	0	-	-	-	0	284
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	284
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	17.8
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	284
HCM Lane V/C Ratio	-	-	-	0.007
HCM Control Delay (s)	-	-	-	17.8
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1196	7	18	797	3	29	2	60	6	1	2
Future Vol, veh/h	3	1196	7	18	797	3	29	2	60	6	1	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	90	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	5	24	11	5	0	0	0	0	0	0	0
Mvmt Flow	3	1259	7	19	839	3	31	2	63	6	1	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	842	0	0	1266	0	0	2149	2149	1263	2180	2151	841
Stage 1	-	-	-	-	-	-	1269	1269	-	879	879	-
Stage 2	-	-	-	-	-	-	880	880	-	1301	1272	-
Critical Hdwy	4.1	-	-	4.21	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.299	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	802	-	-	519	-	-	35	49	209	34	49	368
Stage 1	-	-	-	-	-	-	208	242	-	345	368	-
Stage 2	-	-	-	-	-	-	345	368	-	200	241	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	802	-	-	519	-	-	33	47	209	22	47	368
Mov Cap-2 Maneuver	-	-	-	-	-	-	33	47	-	22	47	-
Stage 1	-	-	-	-	-	-	207	241	-	344	354	-
Stage 2	-	-	-	-	-	-	329	354	-	138	240	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	121.2	172.9
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	33	209	802	-	-	519	-	-	30
HCM Lane V/C Ratio	0.925	0.302	0.004	-	-	0.037	-	-	0.316
HCM Control Delay (s)	$ 311	29.5	9.5	-	-	12.2	-	-	172.9
HCM Lane LOS	F	D	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	3.2	1.2	0	-	-	0.1	-	-	1

Intersection	
Int Delay, s/veh	11.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	130	1186	5	2	787	25	5	1	4	16	1	78
Future Vol, veh/h	130	1186	5	2	787	25	5	1	4	16	1	78
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	4	10	32	0	5	8	0	0	0	9	0	2
Mvmt Flow	137	1248	5	2	828	26	5	1	4	17	1	82

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	854	0	0	1253	0	0	2412	2383	1251	2372	2372	841
Stage 1	-	-	-	-	-	-	1525	1525	-	845	845	-
Stage 2	-	-	-	-	-	-	887	858	-	1527	1527	-
Critical Hdwy	4.14	-	-	4.1	-	-	7.1	6.5	6.2	7.19	6.5	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.19	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.19	5.5	-
Follow-up Hdwy	2.236	-	-	2.2	-	-	3.5	4	3.3	3.581	4	3.318
Pot Cap-1 Maneuver	777	-	-	562	-	-	23	35	213	23	35	365
Stage 1	-	-	-	-	-	-	149	182	-	348	382	-
Stage 2	-	-	-	-	-	-	341	376	-	142	181	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	777	-	-	562	-	-	15	29	213	19	29	365
Mov Cap-2 Maneuver	-	-	-	-	-	-	15	29	-	19	29	-
Stage 1	-	-	-	-	-	-	123	150	-	287	380	-
Stage 2	-	-	-	-	-	-	263	374	-	114	149	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0	217.3	230.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	26	777	-	-	562	-	-	87
HCM Lane V/C Ratio	0.405	0.176	-	-	0.004	-	-	1.149
HCM Control Delay (s)	217.3	10.6	-	-	11.4	-	-	230.1
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	1.2	0.6	-	-	0	-	-	7

Intersection	
Int Delay, s/veh	15.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1085	18	70	800	34	235
Future Vol, veh/h	1085	18	70	800	34	235
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	0	6	5	5	4
Mvmt Flow	1142	19	74	842	36	247

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1161	0	2142	1152
Stage 1	-	-	-	-	1152	-
Stage 2	-	-	-	-	990	-
Critical Hdwy	-	-	4.16	-	6.45	6.24
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.254	-	3.545	3.336
Pot Cap-1 Maneuver	-	-	588	-	53	~ 238
Stage 1	-	-	-	-	297	-
Stage 2	-	-	-	-	355	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	588	-	46	~ 238
Mov Cap-2 Maneuver	-	-	-	-	46	-
Stage 1	-	-	-	-	297	-
Stage 2	-	-	-	-	310	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	125.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	46	238	-	-	588	-
HCM Lane V/C Ratio	0.778	1.039	-	-	0.125	-
HCM Control Delay (s)	206.2	113.6	-	-	12	-
HCM Lane LOS	F	F	-	-	B	-
HCM 95th %tile Q(veh)	3.1	10.2	-	-	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	968	891	11	52	6
Future Vol, veh/h	31	968	891	11	52	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	6	10	24	0
Mvmt Flow	33	1019	938	12	55	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	950	0	-	0	2029	944
Stage 1	-	-	-	-	944	-
Stage 2	-	-	-	-	1085	-
Critical Hdwy	4.1	-	-	-	6.64	6.2
Critical Hdwy Stg 1	-	-	-	-	5.64	-
Critical Hdwy Stg 2	-	-	-	-	5.64	-
Follow-up Hdwy	2.2	-	-	-	3.716	3.3
Pot Cap-1 Maneuver	731	-	-	-	55	321
Stage 1	-	-	-	-	346	-
Stage 2	-	-	-	-	294	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	731	-	-	-	~ 53	321
Mov Cap-2 Maneuver	-	-	-	-	~ 53	-
Stage 1	-	-	-	-	330	-
Stage 2	-	-	-	-	294	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	250.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	731	-	-	-	58
HCM Lane V/C Ratio	0.045	-	-	-	1.053
HCM Control Delay (s)	10.2	-	-	-	250.8
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	5

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	877	837	5	0	4
Future Vol, veh/h	0	877	837	5	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	3	0	0	0
Mvmt Flow	0	923	881	5	0	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	884
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	347
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	347
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	347
HCM Lane V/C Ratio	-	-	-	0.012
HCM Control Delay (s)	-	-	-	15.5
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1206	805	23	0	9
Future Vol, veh/h	0	1206	805	23	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	6	3	0	0	0
Mvmt Flow	0	1269	847	24	0	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	859
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	359
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	359
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.3
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	359
HCM Lane V/C Ratio	-	-	-	0.026
HCM Control Delay (s)	-	-	-	15.3
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↱			↗
Traffic Vol, veh/h	0	1103	814	19	0	11
Future Vol, veh/h	0	1103	814	19	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	3	5	2	0
Mvmt Flow	0	1161	857	20	0	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	867
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	355
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	355
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	355
HCM Lane V/C Ratio	-	-	-	0.033
HCM Control Delay (s)	-	-	-	15.5
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	42.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1003	17	14	811	91	100
Future Vol, veh/h	1003	17	14	811	91	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	8	0	7	5	2	2
Mvmt Flow	1056	18	15	854	96	105

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1074	0	1949	1065
Stage 1	-	-	-	-	1065	-
Stage 2	-	-	-	-	884	-
Critical Hdwy	-	-	4.17	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	631	-	~ 71	270
Stage 1	-	-	-	-	331	-
Stage 2	-	-	-	-	404	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	631	-	~ 69	270
Mov Cap-2 Maneuver	-	-	-	-	~ 69	-
Stage 1	-	-	-	-	331	-
Stage 2	-	-	-	-	394	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	$ 449.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	113	-	-	631	-
HCM Lane V/C Ratio	1.779	-	-	0.023	-
HCM Control Delay (s)	$ 449.3	-	-	10.8	-
HCM Lane LOS	F	-	-	B	-
HCM 95th %tile Q(veh)	15.8	-	-	0.1	-

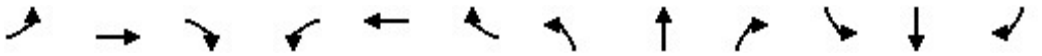
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Arterial Level of Service: EB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 134 AVE	III	30	32.5	28.4	60.9	0.26	15.1	D
SW 127 AVE	III	30	90.9	34.1	125.0	0.76	21.8	C
Total	III		123.4	62.5	185.9	1.01	19.6	C

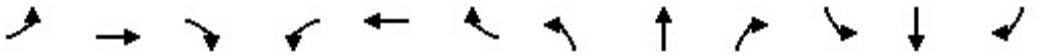
Arterial Level of Service: WB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 134 AVE	III	30	90.9	9.3	100.2	0.76	27.2	B
SW1 137 AVE	III	36	30.8	55.3	86.1	0.26	10.7	E
Total	III		121.7	64.6	186.3	1.01	19.6	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	488	71	178	327	180	87	256	214	237	501	98
Future Volume (vph)	43	488	71	178	327	180	87	256	214	237	501	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.4		4.5	6.4	4.5	4.5	6.4	6.4	4.5	6.4	6.4
Lane Util. Factor	0.97	1.00		0.97	1.00	0.88	1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3019	1674		3433	1727	2656	1770	1863	1583	3213	964	1380
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.36	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3019	1674		3433	1727	2656	663	1863	1583	3213	964	1380
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	45	514	75	187	344	189	92	269	225	249	527	103
RTOR Reduction (vph)	0	4	0	0	0	119	0	0	138	0	0	55
Lane Group Flow (vph)	45	585	0	187	344	70	92	269	87	249	527	48
Heavy Vehicles (%)	16%	13%	0%	2%	10%	7%	2%	2%	2%	9%	97%	17%
Turn Type	Prot	NA		Prot	NA	pm+ov	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases						2	4		4			8
Actuated Green, G (s)	5.7	25.6		11.5	29.9	44.5	52.0	46.5	46.5	14.6	55.6	55.6
Effective Green, g (s)	5.7	25.6		11.5	29.9	44.5	52.0	46.5	46.5	14.6	55.6	55.6
Actuated g/C Ratio	0.05	0.21		0.10	0.25	0.37	0.43	0.39	0.39	0.12	0.46	0.46
Clearance Time (s)	6.0	6.4		4.5	6.4	4.5	4.5	6.4	6.4	4.5	6.4	6.4
Vehicle Extension (s)	2.5	1.0		3.0	1.0	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Lane Grp Cap (vph)	143	357		328	430	984	338	721	613	390	446	639
v/s Ratio Prot	0.01	c0.35		c0.05	c0.20	0.01	0.01	0.14		c0.08	c0.55	
v/s Ratio Perm						0.02	0.11		0.06			0.03
v/c Ratio	0.31	1.64		0.57	0.80	0.07	0.27	0.37	0.14	0.64	1.18	0.07
Uniform Delay, d1	55.3	47.2		51.9	42.2	24.4	20.9	26.3	23.8	50.2	32.2	17.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	299.9		2.4	14.4	0.0	0.4	0.4	0.1	3.4	102.6	0.1
Delay (s)	56.2	347.1		54.3	56.7	24.4	21.3	26.7	23.9	53.6	134.8	18.0
Level of Service	E	F		D	E	C	C	C	C	D	F	B
Approach Delay (s)		326.4			47.6			24.8			98.1	
Approach LOS		F			D			C			F	

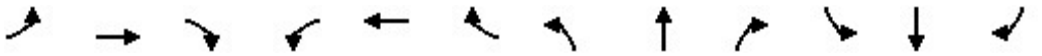
Intersection Summary			
HCM 2000 Control Delay	121.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.3
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	848	155	286	641	104	134	138	140	94	198	57
Future Volume (veh/h)	74	848	155	286	641	104	134	138	140	94	198	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1648	1885	1856	1885	1811	1811	1781	1870	1870	1900
Adj Flow Rate, veh/h	78	893	163	301	675	109	141	145	147	99	208	60
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	8	17	1	3	1	6	6	8	2	2	0
Cap, veh/h	454	1505	275	361	2102	1051	190	227	346	214	243	209
Arrive On Green	0.03	0.53	0.53	0.10	0.60	0.60	0.06	0.13	0.13	0.06	0.13	0.13
Sat Flow, veh/h	1767	2858	522	3483	3526	1598	3346	1811	1510	1781	1870	1610
Grp Volume(v), veh/h	78	529	527	301	675	109	141	145	147	99	208	60
Grp Sat Flow(s),veh/h/ln	1767	1692	1688	1742	1763	1598	1673	1811	1510	1781	1870	1610
Q Serve(g_s), s	2.8	30.1	30.1	11.9	13.4	3.5	5.8	10.7	11.6	6.7	15.2	4.7
Cycle Q Clear(g_c), s	2.8	30.1	30.1	11.9	13.4	3.5	5.8	10.7	11.6	6.7	15.2	4.7
Prop In Lane	1.00		0.31	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	454	891	889	361	2102	1051	190	227	346	214	243	209
V/C Ratio(X)	0.17	0.59	0.59	0.83	0.32	0.10	0.74	0.64	0.42	0.46	0.86	0.29
Avail Cap(c_a), veh/h	477	891	889	587	2102	1051	349	461	540	278	462	398
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.2	22.8	22.8	61.6	14.1	8.8	65.0	58.2	46.1	49.5	59.6	55.0
Incr Delay (d2), s/veh	0.1	2.9	2.9	4.3	0.4	0.2	4.2	3.6	1.0	1.1	9.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	12.6	12.6	5.5	5.5	1.3	2.6	5.1	4.5	3.1	7.9	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.3	25.7	25.7	65.9	14.5	9.0	69.2	61.7	47.1	50.6	69.5	55.9
LnGrp LOS	B	C	C	E	B	A	E	E	D	D	E	E
Approach Vol, veh/h		1134			1085			433			367	
Approach Delay, s/veh		24.9			28.2			59.2			62.2	
Approach LOS		C			C			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	89.9	15.0	24.0	20.9	80.1	14.4	24.6
Change Period (Y+Rc), s	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Max Green Setting (Gmax), s	6.6	58.6	13.6	35.6	23.6	41.6	14.6	34.6
Max Q Clear Time (g_c+I1), s	4.8	0.0	8.7	13.6	13.9	0.0	7.8	17.2
Green Ext Time (p_c), s	0.0	0.0	0.1	1.2	0.6	0.0	0.2	1.0

Intersection Summary	
HCM 6th Ctrl Delay	35.6
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	909	55	58	625	49	41	39	96	38	23	26
Future Volume (veh/h)	26	909	55	58	625	49	41	39	96	38	23	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1515	1767	1841	1900	1856	1856	1811	1781	1663	1900	1722	937
Adj Flow Rate, veh/h	27	957	58	61	658	52	43	41	101	40	24	27
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	26	9	4	0	3	3	6	8	16	0	12	65
Cap, veh/h	449	1224	1130	311	1437	1218	148	61	151	122	43	48
Arrive On Green	0.69	0.69	0.69	0.04	0.77	0.77	0.03	0.13	0.13	0.06	0.06	0.06
Sat Flow, veh/h	599	1767	1560	1810	1856	1572	1725	456	1123	1266	740	832
Grp Volume(v), veh/h	27	957	58	61	658	52	43	0	142	40	0	51
Grp Sat Flow(s),veh/h/ln	599	1767	1560	1810	1856	1572	1725	0	1579	1266	0	1572
Q Serve(g_s), s	2.0	43.9	1.3	1.1	15.0	0.9	2.8	0.0	10.3	3.8	0.0	3.8
Cycle Q Clear(g_c), s	7.1	43.9	1.3	1.1	15.0	0.9	2.8	0.0	10.3	4.8	0.0	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.71	1.00		0.53
Lane Grp Cap(c), veh/h	449	1224	1130	311	1437	1218	148	0	213	122	0	91
V/C Ratio(X)	0.06	0.78	0.05	0.20	0.46	0.04	0.29	0.00	0.67	0.33	0.00	0.56
Avail Cap(c_a), veh/h	449	1224	1130	320	1437	1218	272	0	463	237	0	234
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.7	12.5	4.8	13.8	4.8	3.2	49.7	0.0	49.8	56.5	0.0	55.5
Incr Delay (d2), s/veh	0.3	5.0	0.1	0.3	1.1	0.1	1.1	0.0	3.6	1.5	0.0	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	17.2	0.4	0.7	5.2	0.3	1.2	0.0	4.3	1.3	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.0	17.5	4.9	14.1	5.8	3.3	50.8	0.0	53.3	58.0	0.0	60.8
LnGrp LOS	A	B	A	B	A	A	D	A	D	E	A	E
Approach Vol, veh/h		1042			771			185			91	
Approach Delay, s/veh		16.5			6.3			52.7			59.6	
Approach LOS		B			A			D			E	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		21.8	9.9	89.3	9.3	12.5		99.2				
Change Period (Y+Rc), s		5.5	5.5	5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s		35.5	5.0	63.5	12.5	18.0		73.5				
Max Q Clear Time (g_c+I1), s		12.3	3.1	45.9	4.8	6.8		17.0				
Green Ext Time (p_c), s		0.8	0.0	7.8	0.0	0.2		5.6				

Intersection Summary												
HCM 6th Ctrl Delay			17.8									
HCM 6th LOS			B									

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	74	848	286	641	104	134	138	140	94	198	57
Future Volume (vph)	74	848	286	641	104	134	138	140	94	198	57
Turn Type	pm+pt	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	pm+pt	NA	Prot
Protected Phases	1	6	5	2	3	7	4	5	3	8	8
Permitted Phases	6				2			4	8		
Detector Phase	1	6	5	2	3	7	4	5	3	8	8
Switch Phase											
Minimum Initial (s)	5.0	7.0	5.0	7.0	5.0	5.0	7.0	5.0	5.0	7.0	7.0
Minimum Split (s)	11.4	28.4	11.4	28.4	11.4	11.4	28.4	11.4	11.4	28.4	28.4
Total Split (s)	13.0	48.0	30.0	65.0	20.0	21.0	42.0	30.0	20.0	41.0	41.0
Total Split (%)	9.3%	34.3%	21.4%	46.4%	14.3%	15.0%	30.0%	21.4%	14.3%	29.3%	29.3%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 116 (83%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 127: SW 127 AVE & SR 994

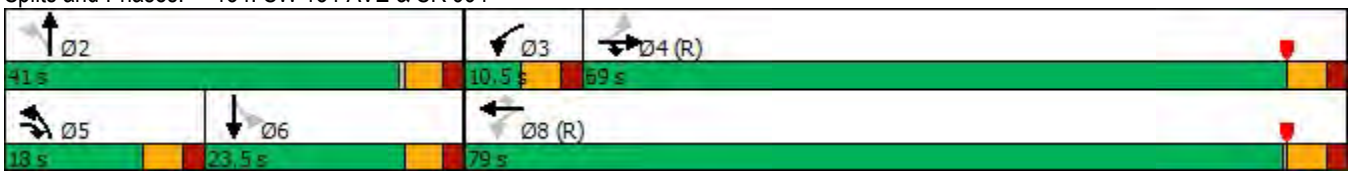


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	26	909	55	58	625	49	41	39	38	23
Future Volume (vph)	26	909	55	58	625	49	41	39	38	23
Turn Type	Perm	NA	pt+ov	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases		4	4 5	3	8		5	2		6
Permitted Phases	4			8		8	2		6	
Detector Phase	4	4	4 5	3	8	8	5	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5		10.5	23.5	23.5	10.5	23.5	23.5	23.5
Total Split (s)	69.0	69.0		10.5	79.0	79.0	18.0	41.0	23.5	23.5
Total Split (%)	57.0%	57.0%		8.7%	65.3%	65.3%	14.9%	33.9%	19.4%	19.4%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag		Lead			Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 121
Actuated Cycle Length: 121
Offset: 101 (83%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 134: SW 134 AVE & SR 994

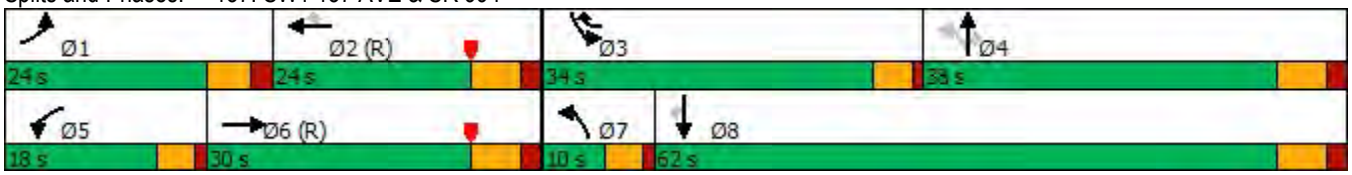


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	43	488	178	327	180	87	256	214	237	501	98
Future Volume (vph)	43	488	178	327	180	87	256	214	237	501	98
Turn Type	Prot	NA	Prot	NA	pm+ov	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	1	6	5	2	3	7	4		3	8	
Permitted Phases					2	4		4			8
Detector Phase	1	6	5	2	3	7	4	4	3	8	8
Switch Phase											
Minimum Initial (s)	5.0	16.0	5.0	16.0	5.0	5.0	7.0	7.0	5.0	7.0	7.0
Minimum Split (s)	11.0	22.4	9.5	22.4	9.5	9.5	13.4	13.4	9.5	13.4	13.4
Total Split (s)	24.0	30.0	18.0	24.0	34.0	10.0	38.0	38.0	34.0	62.0	62.0
Total Split (%)	20.0%	25.0%	15.0%	20.0%	28.3%	8.3%	31.7%	31.7%	28.3%	51.7%	51.7%
Yellow Time (s)	4.0	4.4	3.5	4.4	3.5	3.5	4.4	4.4	3.5	4.4	4.4
All-Red Time (s)	2.0	2.0	1.0	2.0	1.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.4	4.5	6.4	4.5	4.5	6.4	6.4	4.5	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 137: SW1 137 AVE & SR 994

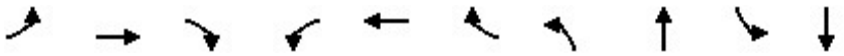




Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	78	1056	301	675	109	141	145	147	99	208	60
v/c Ratio	0.18	0.70	0.72	0.36	0.10	0.55	0.53	0.25	0.34	0.73	0.15
Control Delay	13.6	34.1	69.0	21.0	2.2	70.2	60.9	5.2	40.4	71.2	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.6	34.1	69.0	21.0	2.2	70.2	60.9	5.2	40.4	71.2	0.8
Queue Length 50th (ft)	26	388	138	180	0	64	124	0	70	183	0
Queue Length 95th (ft)	57	#583	182	274	25	99	184	43	107	257	0
Internal Link Dist (ft)		550		1328			526			1118	
Turn Bay Length (ft)	300		425		195	320		575	335		155
Base Capacity (vph)	435	1511	584	1869	1116	344	455	641	325	460	531
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.70	0.52	0.36	0.10	0.41	0.32	0.23	0.30	0.45	0.11

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	957	58	61	658	52	43	142	40	51
v/c Ratio	0.07	0.84	0.05	0.24	0.48	0.04	0.21	0.42	0.41	0.42
Control Delay	12.0	28.4	1.1	8.1	9.3	0.9	40.8	17.2	64.9	40.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	28.4	1.1	8.1	9.3	0.9	40.8	17.2	64.9	40.2
Queue Length 50th (ft)	8	593	0	12	200	0	28	27	30	18
Queue Length 95th (ft)	26	#1036	9	31	344	8	57	81	66	58
Internal Link Dist (ft)		272			408			1264		1117
Turn Bay Length (ft)	225		225	185		185	185		150	
Base Capacity (vph)	395	1137	1255	258	1357	1172	242	514	188	208
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.84	0.05	0.24	0.48	0.04	0.18	0.28	0.21	0.25

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	45	589	187	344	189	92	269	225	249	527	103
v/c Ratio	0.27	1.64	0.57	0.77	0.15	0.26	0.37	0.30	0.64	1.18	0.15
Control Delay	57.7	329.8	58.6	55.3	3.1	15.3	29.0	4.5	57.4	133.7	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.7	329.8	58.6	55.3	3.1	15.3	29.0	4.5	57.4	133.7	3.2
Queue Length 50th (ft)	17	~665	72	254	0	31	148	0	95	~490	0
Queue Length 95th (ft)	37	#911	109	#427	23	57	233	53	135	#705	26
Internal Link Dist (ft)		1118		377			510			573	
Turn Bay Length (ft)	320		425		385	340		240	360		235
Base Capacity (vph)	452	360	386	447	1566	348	721	750	789	446	700
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	1.64	0.48	0.77	0.12	0.26	0.37	0.30	0.32	1.18	0.15

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	990	686	6	0	1
Future Vol, veh/h	0	990	686	6	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	7	0	0	49
Mvmt Flow	0	1042	722	6	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	725
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.69
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.741
Pot Cap-1 Maneuver	0	-	-	-	0	356
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	356
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.1
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	356
HCM Lane V/C Ratio	-	-	-	0.003
HCM Control Delay (s)	-	-	-	15.1
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	1036	60	21	864	5	7	1	29	7	1	2
Future Vol, veh/h	2	1036	60	21	864	5	7	1	29	7	1	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	90	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	5	24	11	5	0	0	0	0	0	0	0
Mvmt Flow	2	1091	63	22	909	5	7	1	31	7	1	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	914	0	0	1154	0	0	2084	2085	1123	2099	2114	912
Stage 1	-	-	-	-	-	-	1127	1127	-	956	956	-
Stage 2	-	-	-	-	-	-	957	958	-	1143	1158	-
Critical Hdwy	4.1	-	-	4.21	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.299	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	754	-	-	574	-	-	39	54	253	38	51	335
Stage 1	-	-	-	-	-	-	251	282	-	313	339	-
Stage 2	-	-	-	-	-	-	312	338	-	246	273	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	754	-	-	574	-	-	37	52	253	32	49	335
Mov Cap-2 Maneuver	-	-	-	-	-	-	37	52	-	32	49	-
Stage 1	-	-	-	-	-	-	250	281	-	312	326	-
Stage 2	-	-	-	-	-	-	297	325	-	215	272	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	41.4	120.8
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	37	253	754	-	-	574	-	-	41
HCM Lane V/C Ratio	0.199	0.121	0.003	-	-	0.039	-	-	0.257
HCM Control Delay (s)	125.1	21.2	9.8	-	-	11.5	-	-	120.8
HCM Lane LOS	F	C	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0.6	0.4	0	-	-	0.1	-	-	0.8

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	48	1080	6	2	854	29	2	1	2	16	3	53
Future Vol, veh/h	48	1080	6	2	854	29	2	1	2	16	3	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	4	10	32	0	5	8	0	0	0	9	0	2
Mvmt Flow	51	1137	6	2	899	31	2	1	2	17	3	56

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	930	0	0	1143	0	0	2190	2176	1140	2163	2164	915
Stage 1	-	-	-	-	-	-	1242	1242	-	919	919	-
Stage 2	-	-	-	-	-	-	948	934	-	1244	1245	-
Critical Hdwy	4.14	-	-	4.1	-	-	7.1	6.5	6.2	7.19	6.5	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.19	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.19	5.5	-
Follow-up Hdwy	2.236	-	-	2.2	-	-	3.5	4	3.3	3.581	4	3.318
Pot Cap-1 Maneuver	727	-	-	619	-	-	33	47	247	33	48	331
Stage 1	-	-	-	-	-	-	216	249	-	316	353	-
Stage 2	-	-	-	-	-	-	316	347	-	206	248	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	727	-	-	619	-	-	24	44	247	30	44	331
Mov Cap-2 Maneuver	-	-	-	-	-	-	24	44	-	30	44	-
Stage 1	-	-	-	-	-	-	201	232	-	294	352	-
Stage 2	-	-	-	-	-	-	260	346	-	189	231	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	97.6	122.6
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	44	727	-	-	619	-	-	95
HCM Lane V/C Ratio	0.12	0.069	-	-	0.003	-	-	0.798
HCM Control Delay (s)	97.6	10.3	-	-	10.8	-	-	122.6
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0.4	0.2	-	-	0	-	-	4.3

Intersection	
Int Delay, s/veh	5.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1028	59	167	742	21	107
Future Vol, veh/h	1028	59	167	742	21	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	0	6	5	5	4
Mvmt Flow	1082	62	176	781	22	113

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1144	0	2246	1113
Stage 1	-	-	-	-	1113	-
Stage 2	-	-	-	-	1133	-
Critical Hdwy	-	-	4.16	-	6.45	6.24
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.254	-	3.545	3.336
Pot Cap-1 Maneuver	-	-	596	-	45	251
Stage 1	-	-	-	-	310	-
Stage 2	-	-	-	-	303	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	596	-	32	251
Mov Cap-2 Maneuver	-	-	-	-	32	-
Stage 1	-	-	-	-	310	-
Stage 2	-	-	-	-	214	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	66.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	32	251	-	-	596	-
HCM Lane V/C Ratio	0.691	0.449	-	-	0.295	-
HCM Control Delay (s)	247.5	30.5	-	-	13.5	-
HCM Lane LOS	F	D	-	-	B	-
HCM 95th %tile Q(veh)	2.3	2.2	-	-	1.2	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	1033	729	13	30	2
Future Vol, veh/h	10	1033	729	13	30	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	6	10	24	0
Mvmt Flow	11	1087	767	14	32	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	781	0	-	0	1883	774
Stage 1	-	-	-	-	774	-
Stage 2	-	-	-	-	1109	-
Critical Hdwy	4.1	-	-	-	6.64	6.2
Critical Hdwy Stg 1	-	-	-	-	5.64	-
Critical Hdwy Stg 2	-	-	-	-	5.64	-
Follow-up Hdwy	2.2	-	-	-	3.716	3.3
Pot Cap-1 Maneuver	845	-	-	-	68	402
Stage 1	-	-	-	-	418	-
Stage 2	-	-	-	-	286	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	845	-	-	-	67	402
Mov Cap-2 Maneuver	-	-	-	-	67	-
Stage 1	-	-	-	-	413	-
Stage 2	-	-	-	-	286	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	95
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	845	-	-	-	71
HCM Lane V/C Ratio	0.012	-	-	-	0.474
HCM Control Delay (s)	9.3	-	-	-	95
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	1.9

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↱			↗
Traffic Vol, veh/h	0	986	681	6	0	5
Future Vol, veh/h	0	986	681	6	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	3	0	0	0
Mvmt Flow	0	1038	717	6	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	720
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	431
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	431
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.5
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	431
HCM Lane V/C Ratio	-	-	-	0.012
HCM Control Delay (s)	-	-	-	13.5
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↱			↗
Traffic Vol, veh/h	0	1098	868	6	0	17
Future Vol, veh/h	0	1098	868	6	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	6	3	0	0	0
Mvmt Flow	0	1156	914	6	0	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	917
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	332
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	332
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16.5
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	332
HCM Lane V/C Ratio	-	-	-	0.054
HCM Control Delay (s)	-	-	-	16.5
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1086	752	11	0	5
Future Vol, veh/h	0	1086	752	11	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	3	5	2	0
Mvmt Flow	0	1143	792	12	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	798
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	389
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	389
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	389
HCM Lane V/C Ratio	-	-	-	0.014
HCM Control Delay (s)	-	-	-	14.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1052	11	32	725	17	34
Future Vol, veh/h	1052	11	32	725	17	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	8	0	7	5	2	2
Mvmt Flow	1107	12	34	763	18	36

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1119	0	1944	1113
Stage 1	-	-	-	-	1113	-
Stage 2	-	-	-	-	831	-
Critical Hdwy	-	-	4.17	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	606	-	71	254
Stage 1	-	-	-	-	314	-
Stage 2	-	-	-	-	428	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	606	-	67	254
Mov Cap-2 Maneuver	-	-	-	-	67	-
Stage 1	-	-	-	-	314	-
Stage 2	-	-	-	-	404	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	49.8
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	132	-	-	606	-
HCM Lane V/C Ratio	0.407	-	-	0.056	-
HCM Control Delay (s)	49.8	-	-	11.3	-
HCM Lane LOS	E	-	-	B	-
HCM 95th %tile Q(veh)	1.7	-	-	0.2	-

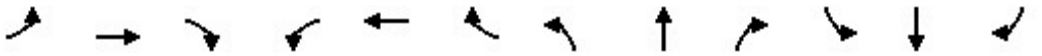
BUILD 1 2045

Arterial Level of Service: EB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 134 AVE	III	30	32.5	51.4	83.9	0.26	11.0	E
SW 127 AVE	III	30	90.9	63.7	154.6	0.76	17.6	D
Total	III		123.4	115.1	238.5	1.01	15.3	D

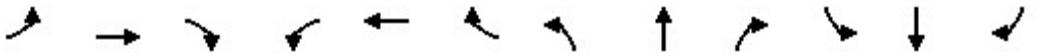
Arterial Level of Service: WB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 134 AVE	III	30	90.9	16.7	107.6	0.76	25.3	B
SW1 137 AVE	III	38	28.2	34.8	63.0	0.26	14.6	D
Total	III		119.1	51.5	170.6	1.01	21.4	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	561	98	278	413	383	131	521	243	292	353	121
Future Volume (vph)	84	561	98	278	413	383	131	521	243	292	353	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.4		4.5	6.4	4.5	4.5	6.4	6.4	4.5	6.4	6.4
Lane Util. Factor	0.97	1.00		0.97	1.00	0.88	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3019	1673		3433	1727	2656	1770	3539	1583	3213	1832	1380
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.53	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3019	1673		3433	1727	2656	988	3539	1583	3213	1832	1380
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	88	591	103	293	435	403	138	548	256	307	372	127
RTOR Reduction (vph)	0	5	0	0	0	190	0	0	203	0	0	88
Lane Group Flow (vph)	88	689	0	293	435	213	138	548	53	307	372	39
Heavy Vehicles (%)	16%	13%	0%	2%	10%	7%	2%	2%	2%	9%	97%	17%
Turn Type	Prot	NA		Prot	NA	pm+ov	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases						2	4		4			8
Actuated Green, G (s)	8.4	40.8		15.3	46.2	63.4	30.4	24.9	24.9	17.2	36.6	36.6
Effective Green, g (s)	8.4	40.8		15.3	46.2	63.4	30.4	24.9	24.9	17.2	36.6	36.6
Actuated g/C Ratio	0.07	0.34		0.13	0.39	0.53	0.25	0.21	0.21	0.14	0.31	0.31
Clearance Time (s)	6.0	6.4		4.5	6.4	4.5	4.5	6.4	6.4	4.5	6.4	6.4
Vehicle Extension (s)	2.5	1.0		3.0	1.0	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Lane Grp Cap (vph)	211	568		437	664	1403	286	734	328	460	558	420
v/s Ratio Prot	0.03	c0.41		c0.09	0.25	0.02	0.02	c0.15		c0.10	0.20	
v/s Ratio Perm						0.06	0.10		0.03			0.03
v/c Ratio	0.42	1.21		0.67	0.66	0.15	0.48	0.75	0.16	0.67	0.67	0.09
Uniform Delay, d1	53.5	39.6		49.9	30.3	14.5	36.5	44.6	39.0	48.7	36.4	29.8
Progression Factor	1.00	1.00		0.86	0.93	4.35	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	111.7		2.7	3.4	0.0	1.3	4.3	0.3	3.6	3.1	0.1
Delay (s)	54.4	151.3		45.9	31.6	63.1	37.8	48.9	39.3	52.3	39.5	29.9
Level of Service	D	F		D	C	E	D	D	D	D	D	C
Approach Delay (s)		140.4			46.6			44.6			42.9	
Approach LOS		F			D			D			D	

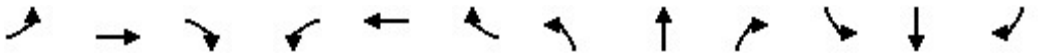
Intersection Summary			
HCM 2000 Control Delay	65.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.3
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	179	1285	150	271	701	164	210	180	294	84	195	47
Future Volume (veh/h)	179	1285	150	271	701	164	210	180	294	84	195	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1648	1885	1856	1885	1811	1811	1781	1870	1870	1900
Adj Flow Rate, veh/h	188	1353	158	285	738	173	221	189	309	88	205	49
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	8	17	1	3	1	6	6	8	2	2	0
Cap, veh/h	392	1413	164	340	1725	866	275	370	456	246	327	282
Arrive On Green	0.07	0.46	0.46	0.10	0.49	0.49	0.08	0.20	0.20	0.05	0.17	0.17
Sat Flow, veh/h	1767	3055	355	3483	3526	1598	3346	1811	1510	1781	1870	1610
Grp Volume(v), veh/h	188	746	765	285	738	173	221	189	309	88	205	49
Grp Sat Flow(s),veh/h/ln	1767	1692	1718	1742	1763	1598	1673	1811	1510	1781	1870	1610
Q Serve(g_s), s	7.8	59.3	60.5	11.3	18.9	7.8	9.1	13.0	25.1	5.6	14.2	3.6
Cycle Q Clear(g_c), s	7.8	59.3	60.5	11.3	18.9	7.8	9.1	13.0	25.1	5.6	14.2	3.6
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	392	783	794	340	1725	866	275	370	456	246	327	282
V/C Ratio(X)	0.48	0.95	0.96	0.84	0.43	0.20	0.80	0.51	0.68	0.36	0.63	0.17
Avail Cap(c_a), veh/h	426	783	794	463	1725	866	492	461	531	249	327	282
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.3	36.2	36.5	62.1	23.1	16.5	63.1	49.5	42.9	44.2	53.5	49.1
Incr Delay (d2), s/veh	0.7	22.5	24.2	8.7	0.8	0.5	4.1	1.3	3.1	0.7	4.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	28.9	30.2	5.4	8.1	3.0	4.0	6.1	9.8	2.6	7.1	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.9	58.7	60.7	70.8	23.9	17.0	67.2	50.8	46.0	44.9	57.6	49.5
LnGrp LOS	B	E	E	E	C	B	E	D	D	D	E	D
Approach Vol, veh/h		1699			1196			719			342	
Approach Delay, s/veh		55.2			34.1			53.8			53.1	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.3	74.9	13.8	35.0	20.1	71.1	17.9	30.9
Change Period (Y+Rc), s	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Max Green Setting (Gmax), s	12.6	58.6	7.6	35.6	18.6	52.6	20.6	22.6
Max Q Clear Time (g_c+I1), s	9.8	0.0	7.6	27.1	13.3	0.0	11.1	16.2
Green Ext Time (p_c), s	0.1	0.0	0.0	1.5	0.4	0.0	0.4	0.5

Intersection Summary	
HCM 6th Ctrl Delay	48.4
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	1007	75	98	957	66	85	23	139	81	52	35
Future Volume (veh/h)	25	1007	75	98	957	66	85	23	139	81	52	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1515	1767	1841	1900	1856	1856	1811	1781	1663	1900	1722	937
Adj Flow Rate, veh/h	26	1060	79	103	1007	69	89	24	146	85	55	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	26	9	4	0	3	3	6	8	16	0	12	65
Cap, veh/h	225	1128	1054	174	1337	1133	188	41	249	168	100	67
Arrive On Green	0.64	0.64	0.64	0.04	0.72	0.72	0.04	0.19	0.19	0.10	0.10	0.10
Sat Flow, veh/h	425	1767	1560	1810	1856	1572	1725	218	1325	1234	960	646
Grp Volume(v), veh/h	26	1060	79	103	1007	69	89	0	170	85	0	92
Grp Sat Flow(s),veh/h/ln	425	1767	1560	1810	1856	1572	1725	0	1543	1234	0	1606
Q Serve(g_s), s	4.8	65.1	2.1	2.2	39.8	1.5	4.5	0.0	12.1	8.1	0.0	6.5
Cycle Q Clear(g_c), s	34.7	65.1	2.1	2.2	39.8	1.5	4.5	0.0	12.1	10.2	0.0	6.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.86	1.00		0.40
Lane Grp Cap(c), veh/h	225	1128	1054	174	1337	1133	188	0	290	168	0	168
V/C Ratio(X)	0.12	0.94	0.07	0.59	0.75	0.06	0.47	0.00	0.59	0.51	0.00	0.55
Avail Cap(c_a), veh/h	225	1128	1054	236	1337	1133	188	0	366	229	0	248
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.9	19.6	6.6	29.1	10.2	4.9	46.5	0.0	44.5	53.7	0.0	51.0
Incr Delay (d2), s/veh	1.0	15.8	0.1	3.2	4.0	0.1	1.9	0.0	1.9	2.4	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	29.2	0.7	2.1	15.7	0.5	0.5	0.0	4.8	2.6	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.9	35.4	6.8	32.3	14.2	5.0	48.4	0.0	46.4	56.1	0.0	53.8
LnGrp LOS	C	D	A	C	B	A	D	A	D	E	A	D
Approach Vol, veh/h		1165			1179			259			177	
Approach Delay, s/veh		33.2			15.3			47.1			54.9	
Approach LOS		C			B			D			D	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		28.0	9.9	82.1	10.0	18.0		92.0				
Change Period (Y+Rc), s		5.5	5.5	5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s		28.5	8.5	66.5	4.5	18.5		80.5				
Max Q Clear Time (g_c+I1), s		14.1	4.2	67.1	6.5	12.2		41.8				
Green Ext Time (p_c), s		0.8	0.1	0.0	0.0	0.4		11.3				

Intersection Summary												
HCM 6th Ctrl Delay			28.3									
HCM 6th LOS			C									

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	179	1285	271	701	164	210	180	294	84	195	47
Future Volume (vph)	179	1285	271	701	164	210	180	294	84	195	47
Turn Type	pm+pt	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	pm+pt	NA	Perm
Protected Phases	1	6	5	2	3	7	4	5	3	8	
Permitted Phases	6				2			4	8		8
Detector Phase	1	6	5	2	3	7	4	5	3	8	8
Switch Phase											
Minimum Initial (s)	5.0	7.0	5.0	7.0	5.0	5.0	7.0	5.0	5.0	7.0	7.0
Minimum Split (s)	11.4	28.4	11.4	28.4	11.4	11.4	28.4	11.4	11.4	28.4	28.4
Total Split (s)	19.0	59.0	25.0	65.0	14.0	27.0	42.0	25.0	14.0	29.0	29.0
Total Split (%)	13.6%	42.1%	17.9%	46.4%	10.0%	19.3%	30.0%	17.9%	10.0%	20.7%	20.7%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 53 (38%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 127: SW 127 AVE & SR 994

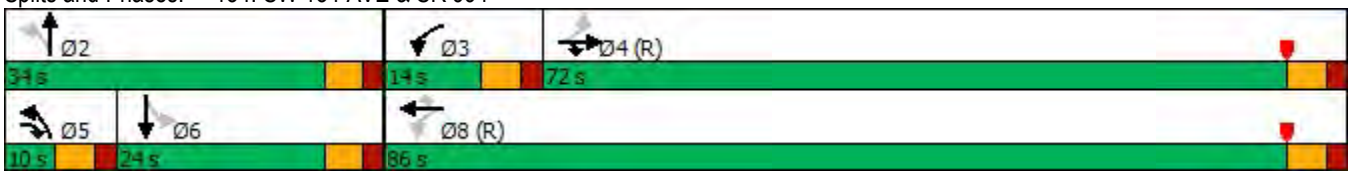


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	25	1007	75	98	957	66	85	23	81	52
Future Volume (vph)	25	1007	75	98	957	66	85	23	81	52
Turn Type	Perm	NA	pt+ov	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases		4	4 5	3	8		5	2		6
Permitted Phases	4			8		8	2		6	
Detector Phase	4	4	4 5	3	8	8	5	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0		4.5	5.0	5.0	4.5	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0		10.0	24.0	24.0	10.0	24.0	24.0	24.0
Total Split (s)	72.0	72.0		14.0	86.0	86.0	10.0	34.0	24.0	24.0
Total Split (%)	60.0%	60.0%		11.7%	71.7%	71.7%	8.3%	28.3%	20.0%	20.0%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag		Lead			Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 134: SW 134 AVE & SR 994

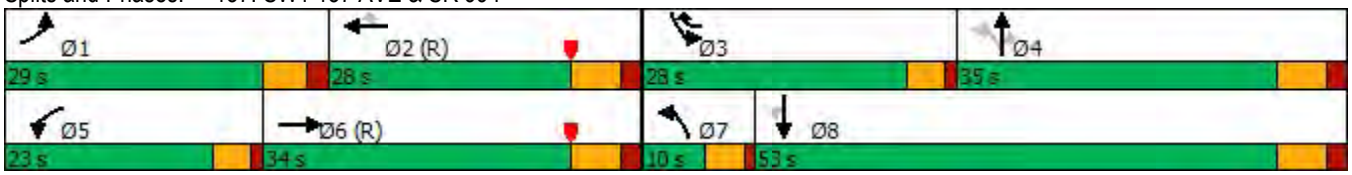


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	84	561	278	413	383	131	521	243	292	353	121
Future Volume (vph)	84	561	278	413	383	131	521	243	292	353	121
Turn Type	Prot	NA	Prot	NA	pm+ov	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	1	6	5	2	3	7	4		3	8	
Permitted Phases					2	4		4			8
Detector Phase	1	6	5	2	3	7	4	4	3	8	8
Switch Phase											
Minimum Initial (s)	5.0	16.0	5.0	16.0	5.0	5.0	7.0	7.0	5.0	7.0	7.0
Minimum Split (s)	11.0	22.4	9.5	22.4	9.5	9.5	13.4	13.4	9.5	13.4	13.4
Total Split (s)	29.0	34.0	23.0	28.0	28.0	10.0	35.0	35.0	28.0	53.0	53.0
Total Split (%)	24.2%	28.3%	19.2%	23.3%	23.3%	8.3%	29.2%	29.2%	23.3%	44.2%	44.2%
Yellow Time (s)	4.0	4.4	3.5	4.4	3.5	3.5	4.4	4.4	3.5	4.4	4.4
All-Red Time (s)	2.0	2.0	1.0	2.0	1.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.4	4.5	6.4	4.5	4.5	6.4	6.4	4.5	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 30.6 (26%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 137: SW1 137 AVE & SR 994



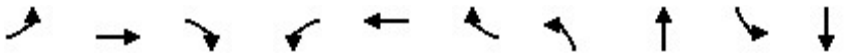


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	188	1511	285	738	173	221	189	309	88	205	49
v/c Ratio	0.46	1.01	0.73	0.43	0.17	0.66	0.54	0.54	0.33	0.76	0.13
Control Delay	17.4	63.7	70.9	25.4	2.7	70.0	55.6	28.9	39.5	74.6	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.4	63.7	70.9	25.4	2.7	70.0	55.6	28.9	39.5	74.6	0.7
Queue Length 50th (ft)	71	~769	130	226	0	101	156	167	59	181	0
Queue Length 95th (ft)	126	#1033	177	318	37	142	221	230	95	262	0
Internal Link Dist (ft)		550		1328			526			1118	
Turn Bay Length (ft)	300		425		195	320		575	335		155
Base Capacity (vph)	432	1494	460	1722	1016	486	455	604	269	309	415
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	1.01	0.62	0.43	0.17	0.45	0.42	0.51	0.33	0.66	0.12

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	26	1060	79	103	1007	69	89	170	85	92
v/c Ratio	0.15	1.01	0.07	0.58	0.76	0.06	0.45	0.43	0.62	0.54
Control Delay	10.0	51.4	2.9	30.0	16.7	1.5	47.6	12.5	69.7	48.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.0	51.4	2.9	30.0	16.7	1.5	47.6	12.5	69.7	48.1
Queue Length 50th (ft)	9	~885	9	25	439	0	59	15	64	50
Queue Length 95th (ft)	m15	m#931	m18	88	735	14	103	74	114	101
Internal Link Dist (ft)		272			408			1264		1117
Turn Bay Length (ft)	225		225	185		185	185		150	
Base Capacity (vph)	179	1053	1090	193	1317	1140	199	453	190	226
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	1.01	0.07	0.53	0.76	0.06	0.45	0.38	0.45	0.41

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	88	694	293	435	403	138	548	256	307	372	127
v/c Ratio	0.42	1.21	0.67	0.66	0.24	0.46	0.75	0.48	0.67	0.67	0.25
Control Delay	59.0	145.6	48.4	34.8	6.3	30.8	51.0	7.7	55.6	41.5	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.0	145.6	48.4	34.8	6.3	30.8	51.0	7.7	55.6	41.5	5.5
Queue Length 50th (ft)	34	~664	109	304	39	68	211	0	117	131	0
Queue Length 95th (ft)	60	#1044	m141	#529	63	97	259	65	158	165	39
Internal Link Dist (ft)		1118		377			510			573	
Turn Bay Length (ft)	320		425		385	340		240	360		235
Base Capacity (vph)	578	573	529	664	1831	301	852	575	629	711	613
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	1.21	0.55	0.66	0.22	0.46	0.64	0.45	0.49	0.52	0.21

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1107	1072	5	0	3
Future Vol, veh/h	0	1107	1072	5	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	7	0	0	49
Mvmt Flow	0	1165	1128	5	0	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1131
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.69
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.741
Pot Cap-1 Maneuver	0	-	-	-	0	200
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	200
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	23.3
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	200
HCM Lane V/C Ratio	-	-	-	0.016
HCM Control Delay (s)	-	-	-	23.3
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	24.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	1477	8	22	996	3	36	0	75	8	1	3
Future Vol, veh/h	4	1477	8	22	996	3	36	0	75	8	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	90	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	5	24	11	5	0	0	0	0	0	0	0
Mvmt Flow	4	1555	8	23	1048	3	38	0	79	8	1	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1051	0	0	1563	0	0	2665	-	1559	2703	2667	1050
Stage 1	-	-	-	-	-	-	1567	-	-	1096	1096	-
Stage 2	-	-	-	-	-	-	1098	-	-	1607	1571	-
Critical Hdwy	4.1	-	-	4.21	-	-	7.1	-	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	-	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	-	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.299	-	-	3.5	-	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	670	-	-	398	-	-	~ 15	0	140	14	23	278
Stage 1	-	-	-	-	-	-	141	0	-	261	292	-
Stage 2	-	-	-	-	-	-	260	0	-	134	173	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	670	-	-	398	-	-	~ 14	-	140	~ 6	22	278
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 14	-	-	~ 6	22	-
Stage 1	-	-	-	-	-	-	140	-	-	259	275	-
Stage 2	-	-	-	-	-	-	241	-	-	58	172	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	$ 470	$ 1006.5
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	14	140	670	-	-	398	-	-	9
HCM Lane V/C Ratio	2.707	0.564	0.006	-	-	0.058	-	-	1.404
HCM Control Delay (s)	$ 1324.9	59.7	10.4	-	-	14.6	-	-	$ 1006.5
HCM Lane LOS	F	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	5.5	2.8	0	-	-	0.2	-	-	2.4

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	76.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	162	1463	6	2	984	32	6	1	5	20	1	98
Future Vol, veh/h	162	1463	6	2	984	32	6	1	5	20	1	98
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	4	10	32	0	5	8	0	0	0	9	0	2
Mvmt Flow	171	1540	6	2	1036	34	6	1	5	21	1	103

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1070	0	0	1546	0	0	2994	2959	1543	2945	2945	1053
Stage 1	-	-	-	-	-	-	1885	1885	-	1057	1057	-
Stage 2	-	-	-	-	-	-	1109	1074	-	1888	1888	-
Critical Hdwy	4.14	-	-	4.1	-	-	7.1	6.5	6.2	7.19	6.5	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.19	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.19	5.5	-
Follow-up Hdwy	2.236	-	-	2.2	-	-	3.5	4	3.3	3.581	4	3.318
Pot Cap-1 Maneuver	644	-	-	435	-	-	9	15	143	~ 9	15	275
Stage 1	-	-	-	-	-	-	92	121	-	264	304	-
Stage 2	-	-	-	-	-	-	257	299	-	87	120	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	644	-	-	435	-	-	~ 4	11	143	~ 6	11	275
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 4	11	-	~ 6	11	-
Stage 1	-	-	-	-	-	-	68	89	-	194	302	-
Stage 2	-	-	-	-	-	-	159	298	-	61	88	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0	$ 1371.4	$ 1629.5
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	7	644	-	-	435	-	-	31
HCM Lane V/C Ratio	1.805	0.265	-	-	0.005	-	-	4.041
HCM Control Delay (s)	$ 1371.4	12.6	-	-	13.3	-	-	$ 1629.5
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	2.6	1.1	-	-	0	-	-	14.9

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	63.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1338	22	88	999	42	294
Future Vol, veh/h	1338	22	88	999	42	294
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	0	6	5	5	4
Mvmt Flow	1408	23	93	1052	44	309

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1431	0	2658	1420
Stage 1	-	-	-	-	1420	-
Stage 2	-	-	-	-	1238	-
Critical Hdwy	-	-	4.16	-	6.45	6.24
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.254	-	3.545	3.336
Pot Cap-1 Maneuver	-	-	463	-	~ 25	~ 166
Stage 1	-	-	-	-	220	-
Stage 2	-	-	-	-	270	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	463	-	~ 20	~ 166
Mov Cap-2 Maneuver	-	-	-	-	~ 20	-
Stage 1	-	-	-	-	220	-
Stage 2	-	-	-	-	216	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	$ 520.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	20	166	-	-	463	-
HCM Lane V/C Ratio	2.211	1.864	-	-	0.2	-
HCM Control Delay (s)	$ 960.6	$ 457.8	-	-	14.7	-
HCM Lane LOS	F	F	-	-	B	-
HCM 95th %tile Q(veh)	5.9	23	-	-	0.7	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	35.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	39	1188	1114	13	65	7
Future Vol, veh/h	39	1188	1114	13	65	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	6	10	24	0
Mvmt Flow	41	1251	1173	14	68	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1187	0	-	0	2513	1180
Stage 1	-	-	-	-	1180	-
Stage 2	-	-	-	-	1333	-
Critical Hdwy	4.1	-	-	-	6.64	6.2
Critical Hdwy Stg 1	-	-	-	-	5.64	-
Critical Hdwy Stg 2	-	-	-	-	5.64	-
Follow-up Hdwy	2.2	-	-	-	3.716	3.3
Pot Cap-1 Maneuver	595	-	-	-	~ 26	234
Stage 1	-	-	-	-	264	-
Stage 2	-	-	-	-	221	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	595	-	-	-	~ 24	234
Mov Cap-2 Maneuver	-	-	-	-	~ 24	-
Stage 1	-	-	-	-	246	-
Stage 2	-	-	-	-	221	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	$ 1180.4
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	595	-	-	-	26
HCM Lane V/C Ratio	0.069	-	-	-	2.915
HCM Control Delay (s)	11.5	-	-	-	$ 1180.4
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	9.3

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1096	1069	6	0	5
Future Vol, veh/h	0	1096	1069	6	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	3	0	0	0
Mvmt Flow	0	1154	1125	6	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1128
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	251
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	251
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	19.7
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	251
HCM Lane V/C Ratio	-	-	-	0.021
HCM Control Delay (s)	-	-	-	19.7
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1489	1006	29	0	11
Future Vol, veh/h	0	1489	1006	29	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	6	3	0	0	0
Mvmt Flow	0	1567	1059	31	0	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1075
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	269
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	269
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	19
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	269
HCM Lane V/C Ratio	-	-	-	0.043
HCM Control Delay (s)	-	-	-	19
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1360	1018	24	0	13
Future Vol, veh/h	0	1360	1018	24	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	3	5	2	0
Mvmt Flow	0	1432	1072	25	0	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1085
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	266
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	266
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	19.3
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	266
HCM Lane V/C Ratio	-	-	-	0.051
HCM Control Delay (s)	-	-	-	19.3
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection	
Int Delay, s/veh	142.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1232	21	17	1014	113	125
Future Vol, veh/h	1232	21	17	1014	113	125
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	8	0	7	5	2	2
Mvmt Flow	1297	22	18	1067	119	132

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1319	0	2411	1308
Stage 1	-	-	-	-	1308	-
Stage 2	-	-	-	-	1103	-
Critical Hdwy	-	-	4.17	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	508	-	~ 36	195
Stage 1	-	-	-	-	253	-
Stage 2	-	-	-	-	318	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	508	-	~ 35	195
Mov Cap-2 Maneuver	-	-	-	-	~ 35	-
Stage 1	-	-	-	-	253	-
Stage 2	-	-	-	-	307	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	$ 1504.6
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	62	-	-	508	-
HCM Lane V/C Ratio	4.041	-	-	0.035	-
HCM Control Delay (s)	$ 1504.6	-	-	12.3	-
HCM Lane LOS	F	-	-	B	-
HCM 95th %tile Q(veh)	27	-	-	0.1	-

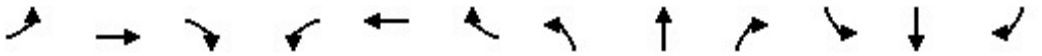
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Arterial Level of Service: EB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 134 AVE	III	30	32.5	61.3	93.8	0.26	9.8	F
SW 127 AVE	III	30	90.9	69.7	160.6	0.76	17.0	D
Total	III		123.4	131.0	254.4	1.01	14.3	D

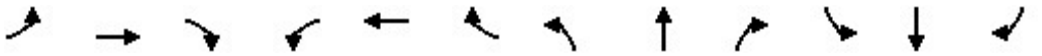
Arterial Level of Service: WB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 134 AVE	III	30	90.9	10.3	101.2	0.76	26.9	B
SW1 137 AVE	III	36	30.8	36.0	66.8	0.26	13.8	E
Total	III		121.7	46.3	168.0	1.01	21.7	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	529	88	241	347	295	109	319	274	379	626	123
Future Volume (vph)	51	529	88	241	347	295	109	319	274	379	626	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.4		4.5	6.4	4.5	4.5	6.4	6.4	4.5	6.4	6.4
Lane Util. Factor	0.97	1.00		0.97	1.00	0.88	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3019	1673		3433	1727	2656	1770	3539	1583	3213	1832	1380
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.40	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3019	1673		3433	1727	2656	747	3539	1583	3213	1832	1380
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	54	557	93	254	365	311	115	336	288	399	659	129
RTOR Reduction (vph)	0	5	0	0	0	159	0	0	212	0	0	79
Lane Group Flow (vph)	54	645	0	254	365	152	115	336	76	399	659	50
Heavy Vehicles (%)	16%	13%	0%	2%	10%	7%	2%	2%	2%	9%	97%	17%
Turn Type	Prot	NA		Prot	NA	pm+ov	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases						2	4		4			8
Actuated Green, G (s)	6.1	32.7		13.6	38.7	58.8	37.3	31.8	31.8	20.1	46.4	46.4
Effective Green, g (s)	6.1	32.7		13.6	38.7	58.8	37.3	31.8	31.8	20.1	46.4	46.4
Actuated g/C Ratio	0.05	0.27		0.11	0.32	0.49	0.31	0.27	0.27	0.17	0.39	0.39
Clearance Time (s)	6.0	6.4		4.5	6.4	4.5	4.5	6.4	6.4	4.5	6.4	6.4
Vehicle Extension (s)	2.5	1.0		3.0	1.0	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Lane Grp Cap (vph)	153	455		389	556	1301	279	937	419	538	708	533
v/s Ratio Prot	0.02	c0.39		c0.07	0.21	0.02	0.02	0.09		c0.12	c0.36	
v/s Ratio Perm						0.04	0.11		0.05			0.04
v/c Ratio	0.35	1.42		0.65	0.66	0.12	0.41	0.36	0.18	0.74	0.93	0.09
Uniform Delay, d1	55.0	43.6		50.9	34.9	16.6	30.5	35.8	34.1	47.5	35.3	23.4
Progression Factor	1.00	1.00		0.94	0.86	1.77	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	200.4		3.3	5.0	0.0	1.0	0.3	0.2	5.5	19.1	0.1
Delay (s)	56.1	244.1		51.2	34.9	29.4	31.5	36.1	34.3	52.9	54.4	23.5
Level of Service	E	F		D	C	C	C	D	C	D	D	C
Approach Delay (s)		229.6			37.5			34.7			50.5	
Approach LOS		F			D			C			D	

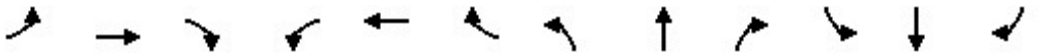
Intersection Summary			
HCM 2000 Control Delay	79.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.3
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	1091	193	357	801	130	168	172	175	117	247	71
Future Volume (veh/h)	92	1091	193	357	801	130	168	172	175	117	247	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1648	1885	1856	1885	1811	1811	1781	1870	1870	1900
Adj Flow Rate, veh/h	97	1148	203	376	843	137	177	181	184	123	260	75
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	8	17	1	3	1	6	6	8	2	2	0
Cap, veh/h	358	1340	236	435	1936	992	227	280	422	241	296	255
Arrive On Green	0.04	0.47	0.47	0.13	0.55	0.55	0.07	0.15	0.15	0.07	0.16	0.16
Sat Flow, veh/h	1767	2876	506	3483	3526	1598	3346	1811	1510	1781	1870	1610
Grp Volume(v), veh/h	97	673	678	376	843	137	177	181	184	123	260	75
Grp Sat Flow(s),veh/h/ln	1767	1692	1690	1742	1763	1598	1673	1811	1510	1781	1870	1610
Q Serve(g_s), s	4.0	49.4	50.0	14.8	19.8	5.0	7.3	13.1	14.0	8.0	19.0	5.8
Cycle Q Clear(g_c), s	4.0	49.4	50.0	14.8	19.8	5.0	7.3	13.1	14.0	8.0	19.0	5.8
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	358	789	788	435	1936	992	227	280	422	241	296	255
V/C Ratio(X)	0.27	0.85	0.86	0.86	0.44	0.14	0.78	0.65	0.44	0.51	0.88	0.29
Avail Cap(c_a), veh/h	367	789	788	587	1936	992	349	461	573	286	462	398
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.2	33.1	33.3	60.1	18.7	11.0	64.2	55.6	41.4	45.7	57.6	52.0
Incr Delay (d2), s/veh	0.3	11.4	11.8	9.0	0.7	0.3	4.6	3.0	0.9	1.2	12.6	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	22.5	22.8	7.1	8.3	1.9	3.3	6.3	5.4	3.7	10.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	44.5	45.2	69.1	19.4	11.3	68.9	58.6	42.2	47.0	70.2	52.8
LnGrp LOS	B	D	D	E	B	B	E	E	D	D	E	D
Approach Vol, veh/h		1448			1356			542			458	
Approach Delay, s/veh		43.1			32.4			56.4			61.1	
Approach LOS		D			C			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	83.3	16.4	28.0	23.9	71.6	15.9	28.6
Change Period (Y+Rc), s	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Max Green Setting (Gmax), s	6.6	58.6	13.6	35.6	23.6	41.6	14.6	34.6
Max Q Clear Time (g_c+I1), s	6.0	0.0	10.0	16.0	16.8	0.0	9.3	21.0
Green Ext Time (p_c), s	0.0	0.0	0.1	1.5	0.7	0.0	0.2	1.1

Intersection Summary	
HCM 6th Ctrl Delay	43.3
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	1112	93	73	781	62	76	49	120	49	29	33
Future Volume (veh/h)	33	1112	93	73	781	62	76	49	120	49	29	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1515	1767	1841	1900	1856	1856	1811	1781	1663	1900	1722	937
Adj Flow Rate, veh/h	35	1171	98	77	822	65	80	52	126	52	31	35
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	26	9	4	0	3	3	6	8	16	0	12	65
Cap, veh/h	332	1162	1097	130	1376	1166	183	77	186	134	55	62
Arrive On Green	0.66	0.66	0.66	0.04	0.74	0.74	0.05	0.17	0.17	0.07	0.07	0.07
Sat Flow, veh/h	507	1767	1560	1810	1856	1572	1725	462	1119	1225	738	834
Grp Volume(v), veh/h	35	1171	98	77	822	65	80	0	178	52	0	66
Grp Sat Flow(s),veh/h/ln	507	1767	1560	1810	1856	1572	1725	0	1580	1225	0	1572
Q Serve(g_s), s	4.1	78.9	2.4	1.5	24.6	1.3	5.0	0.0	12.7	5.0	0.0	4.9
Cycle Q Clear(g_c), s	18.6	78.9	2.4	1.5	24.6	1.3	5.0	0.0	12.7	6.7	0.0	4.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.71	1.00		0.53
Lane Grp Cap(c), veh/h	332	1162	1097	130	1376	1166	183	0	263	134	0	118
V/C Ratio(X)	0.11	1.01	0.09	0.59	0.60	0.06	0.44	0.00	0.68	0.39	0.00	0.56
Avail Cap(c_a), veh/h	332	1162	1097	143	1376	1166	183	0	388	232	0	242
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.8	20.6	5.6	32.4	7.2	4.2	47.0	0.0	47.0	55.3	0.0	53.6
Incr Delay (d2), s/veh	0.6	28.4	0.2	5.5	1.9	0.1	1.6	0.0	3.0	1.8	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	38.2	0.8	1.7	9.2	0.4	2.2	0.0	5.2	1.6	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	49.0	5.8	37.9	9.1	4.3	48.7	0.0	50.0	57.1	0.0	57.7
LnGrp LOS	B	F	A	D	A	A	D	A	D	E	A	E
Approach Vol, veh/h		1304			964			258			118	
Approach Delay, s/veh		44.8			11.1			49.6			57.5	
Approach LOS		D			B			D			E	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		25.5	10.1	84.4	11.0	14.5		94.5				
Change Period (Y+Rc), s		5.5	5.5	5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s		29.5	5.5	68.5	5.5	18.5		79.5				
Max Q Clear Time (g_c+I1), s		14.7	3.5	80.9	7.0	8.7		26.6				
Green Ext Time (p_c), s		0.8	0.0	0.0	0.0	0.3		8.1				

Intersection Summary												
HCM 6th Ctrl Delay			33.5									
HCM 6th LOS			C									

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	92	1091	357	801	130	168	172	175	117	247	71
Future Volume (vph)	92	1091	357	801	130	168	172	175	117	247	71
Turn Type	pm+pt	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	pm+pt	NA	Prot
Protected Phases	1	6	5	2	3	7	4	5	3	8	8
Permitted Phases	6				2			4	8		
Detector Phase	1	6	5	2	3	7	4	5	3	8	8
Switch Phase											
Minimum Initial (s)	5.0	7.0	5.0	7.0	5.0	5.0	7.0	5.0	5.0	7.0	7.0
Minimum Split (s)	11.4	28.4	11.4	28.4	11.4	11.4	28.4	11.4	11.4	28.4	28.4
Total Split (s)	13.0	48.0	30.0	65.0	20.0	21.0	42.0	30.0	20.0	41.0	41.0
Total Split (%)	9.3%	34.3%	21.4%	46.4%	14.3%	15.0%	30.0%	21.4%	14.3%	29.3%	29.3%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 116 (83%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 127: SW 127 AVE & SR 994

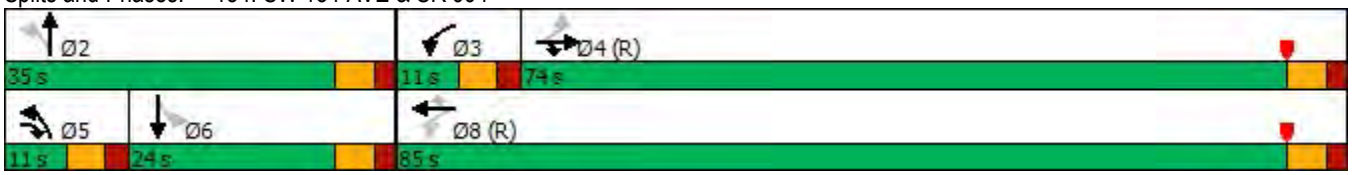


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	33	1112	93	73	781	62	76	49	49	29
Future Volume (vph)	33	1112	93	73	781	62	76	49	49	29
Turn Type	Perm	NA	pt+ov	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases		4	4 5	3	8		5	2		6
Permitted Phases	4			8		8	2		6	
Detector Phase	4	4	4 5	3	8	8	5	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5		10.5	23.5	23.5	10.5	23.5	23.5	23.5
Total Split (s)	74.0	74.0		11.0	85.0	85.0	11.0	35.0	24.0	24.0
Total Split (%)	61.7%	61.7%		9.2%	70.8%	70.8%	9.2%	29.2%	20.0%	20.0%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag		Lead			Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 134: SW 134 AVE & SR 994

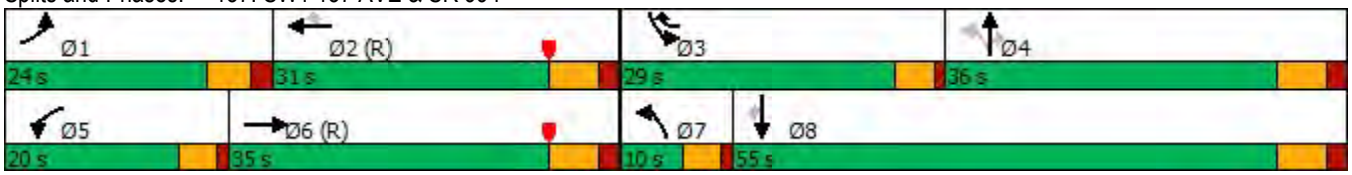


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	51	529	241	347	295	109	319	274	379	626	123
Future Volume (vph)	51	529	241	347	295	109	319	274	379	626	123
Turn Type	Prot	NA	Prot	NA	pm+ov	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	1	6	5	2	3	7	4		3	8	
Permitted Phases					2	4		4			8
Detector Phase	1	6	5	2	3	7	4	4	3	8	8
Switch Phase											
Minimum Initial (s)	5.0	16.0	5.0	16.0	5.0	5.0	7.0	7.0	5.0	7.0	7.0
Minimum Split (s)	11.0	22.4	9.5	22.4	9.5	9.5	13.4	13.4	9.5	13.4	13.4
Total Split (s)	24.0	35.0	20.0	31.0	29.0	10.0	36.0	36.0	29.0	55.0	55.0
Total Split (%)	20.0%	29.2%	16.7%	25.8%	24.2%	8.3%	30.0%	30.0%	24.2%	45.8%	45.8%
Yellow Time (s)	4.0	4.4	3.5	4.4	3.5	3.5	4.4	4.4	3.5	4.4	4.4
All-Red Time (s)	2.0	2.0	1.0	2.0	1.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.4	4.5	6.4	4.5	4.5	6.4	6.4	4.5	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 137: SW1 137 AVE & SR 994



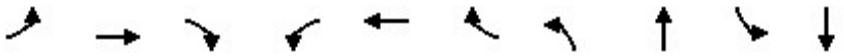


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	97	1351	376	843	137	177	181	184	123	260	75
v/c Ratio	0.29	1.02	0.76	0.49	0.13	0.62	0.55	0.29	0.40	0.78	0.17
Control Delay	17.9	69.7	68.1	26.2	2.4	71.4	57.6	8.6	37.8	70.0	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	69.7	68.1	26.2	2.4	71.4	57.6	8.6	37.8	70.0	0.9
Queue Length 50th (ft)	36	~683	172	265	0	81	152	28	83	228	0
Queue Length 95th (ft)	75	#997	219	373	30	120	216	69	121	309	0
Internal Link Dist (ft)		550		1328			526			1118	
Turn Bay Length (ft)	300		425		195	320		575	335		155
Base Capacity (vph)	331	1326	590	1733	1069	344	455	678	336	460	531
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	1.02	0.64	0.49	0.13	0.51	0.40	0.27	0.37	0.57	0.14

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	1171	98	77	822	65	80	178	52	66
v/c Ratio	0.11	1.01	0.08	0.46	0.60	0.05	0.47	0.56	0.49	0.47
Control Delay	21.7	61.3	7.0	21.4	10.3	1.2	51.3	27.0	66.6	38.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.7	61.3	7.0	21.4	10.3	1.2	51.3	27.0	66.6	38.5
Queue Length 50th (ft)	20	~1036	12	15	272	0	54	56	39	23
Queue Length 95th (ft)	m33	m#1027	m31	60	447	11	97	123	79	67
Internal Link Dist (ft)		272			408			1264		1117
Turn Bay Length (ft)	225		225	185		185	185		150	
Base Capacity (vph)	312	1154	1203	168	1380	1191	170	439	189	222
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	1.01	0.08	0.46	0.60	0.05	0.47	0.41	0.28	0.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	54	650	254	365	311	115	336	288	399	659	129
v/c Ratio	0.31	1.41	0.65	0.63	0.19	0.40	0.36	0.46	0.74	0.93	0.21
Control Delay	58.0	230.7	54.7	36.0	2.9	24.1	37.3	6.6	56.0	56.2	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	230.7	54.7	36.0	2.9	24.1	37.3	6.6	56.0	56.2	4.7
Queue Length 50th (ft)	21	~708	87	259	27	46	108	0	153	246	0
Queue Length 95th (ft)	42	#957	131	#380	29	80	159	69	199	#364	38
Internal Link Dist (ft)		1118		377			510			573	
Turn Bay Length (ft)	320		425		385	340		240	360		235
Base Capacity (vph)	452	461	443	575	1695	290	936	630	655	741	635
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	1.41	0.57	0.63	0.18	0.40	0.36	0.46	0.61	0.89	0.20

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1238	883	7	0	1
Future Vol, veh/h	0	1238	883	7	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	7	0	0	49
Mvmt Flow	0	1303	929	7	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	933
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.69
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.741
Pot Cap-1 Maneuver	0	-	-	-	0	265
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	265
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	18.6
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	265
HCM Lane V/C Ratio	-	-	-	0.004
HCM Control Delay (s)	-	-	-	18.6
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	1270	76	26	1080	7	9	1	36	9	1	3
Future Vol, veh/h	2	1270	76	26	1080	7	9	1	36	9	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	90	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	5	24	11	5	0	0	0	0	0	0	0
Mvmt Flow	2	1337	80	27	1137	7	9	1	38	9	1	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1144	0	0	1417	0	0	2578	2579	1377	2596	2616	1141
Stage 1	-	-	-	-	-	-	1381	1381	-	1195	1195	-
Stage 2	-	-	-	-	-	-	1197	1198	-	1401	1421	-
Critical Hdwy	4.1	-	-	4.21	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.299	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	618	-	-	454	-	-	17	26	179	17	25	247
Stage 1	-	-	-	-	-	-	180	213	-	230	262	-
Stage 2	-	-	-	-	-	-	229	261	-	175	204	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	618	-	-	454	-	-	15	24	179	12	23	247
Mov Cap-2 Maneuver	-	-	-	-	-	-	15	24	-	12	23	-
Stage 1	-	-	-	-	-	-	179	212	-	229	247	-
Stage 2	-	-	-	-	-	-	212	246	-	137	203	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	111.5	$ 493.5
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	15	179	618	-	-	454	-	-	16
HCM Lane V/C Ratio	0.632	0.212	0.003	-	-	0.06	-	-	0.855
HCM Control Delay (s)	$ 436.1	30.4	10.8	-	-	13.4	-	-	$ 493.5
HCM Lane LOS	F	D	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	1.6	0.8	0	-	-	0.2	-	-	2.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	28.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	1326	8	2	1067	37	2	1	2	20	4	67
Future Vol, veh/h	60	1326	8	2	1067	37	2	1	2	20	4	67
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	4	10	32	0	5	8	0	0	0	9	0	2
Mvmt Flow	63	1396	8	2	1123	39	2	1	2	21	4	71

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1162	0	0	1404	0	0	2710	2692	1400	2675	2677	1143
Stage 1	-	-	-	-	-	-	1526	1526	-	1147	1147	-
Stage 2	-	-	-	-	-	-	1184	1166	-	1528	1530	-
Critical Hdwy	4.14	-	-	4.1	-	-	7.1	6.5	6.2	7.19	6.5	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.19	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.19	5.5	-
Follow-up Hdwy	2.236	-	-	2.2	-	-	3.5	4	3.3	3.581	4	3.318
Pot Cap-1 Maneuver	594	-	-	493	-	-	14	22	174	~ 14	22	244
Stage 1	-	-	-	-	-	-	149	182	-	235	276	-
Stage 2	-	-	-	-	-	-	233	270	-	141	181	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	594	-	-	493	-	-	8	20	174	~ 12	20	244
Mov Cap-2 Maneuver	-	-	-	-	-	-	8	20	-	~ 12	20	-
Stage 1	-	-	-	-	-	-	133	163	-	210	275	-
Stage 2	-	-	-	-	-	-	162	269	-	124	162	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	$ 315.9	$ 792.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	16	594	-	-	493	-	-	42
HCM Lane V/C Ratio	0.329	0.106	-	-	0.004	-	-	2.281
HCM Control Delay (s)	$ 315.9	11.8	-	-	12.3	-	-	$ 792.4
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0.9	0.4	-	-	0	-	-	10.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	19.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1260	74	209	927	27	134
Future Vol, veh/h	1260	74	209	927	27	134
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	0	6	5	5	4
Mvmt Flow	1326	78	220	976	28	141

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1404	0	2781	1365
Stage 1	-	-	-	-	1365	-
Stage 2	-	-	-	-	1416	-
Critical Hdwy	-	-	4.16	-	6.45	6.24
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.254	-	3.545	3.336
Pot Cap-1 Maneuver	-	-	474	-	~ 20	178
Stage 1	-	-	-	-	234	-
Stage 2	-	-	-	-	221	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	474	-	~ 11	178
Mov Cap-2 Maneuver	-	-	-	-	~ 11	-
Stage 1	-	-	-	-	234	-
Stage 2	-	-	-	-	118	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.5	297.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	11	178	-	-	474	-
HCM Lane V/C Ratio	2.584	0.792	-	-	0.464	-
HCM Control Delay (s)	$ 1401	75.4	-	-	19	-
HCM Lane LOS	F	F	-	-	C	-
HCM 95th %tile Q(veh)	4.5	5.3	-	-	2.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	1268	912	16	37	3
Future Vol, veh/h	13	1268	912	16	37	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	6	10	24	0
Mvmt Flow	14	1335	960	17	39	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	977	0	-	0	2332	969
Stage 1	-	-	-	-	969	-
Stage 2	-	-	-	-	1363	-
Critical Hdwy	4.1	-	-	-	6.64	6.2
Critical Hdwy Stg 1	-	-	-	-	5.64	-
Critical Hdwy Stg 2	-	-	-	-	5.64	-
Follow-up Hdwy	2.2	-	-	-	3.716	3.3
Pot Cap-1 Maneuver	714	-	-	-	~ 35	310
Stage 1	-	-	-	-	336	-
Stage 2	-	-	-	-	213	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	714	-	-	-	~ 34	310
Mov Cap-2 Maneuver	-	-	-	-	~ 34	-
Stage 1	-	-	-	-	329	-
Stage 2	-	-	-	-	213	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	$ 375.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	714	-	-	-	36
HCM Lane V/C Ratio	0.019	-	-	-	1.17
HCM Control Delay (s)	10.1	-	-	-	$ 375.7
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	4.4

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↱			↗
Traffic Vol, veh/h	0	1232	877	7	0	6
Future Vol, veh/h	0	1232	877	7	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	3	0	0	0
Mvmt Flow	0	1297	923	7	0	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	927
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	328
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	328
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16.2
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	328
HCM Lane V/C Ratio	-	-	-	0.019
HCM Control Delay (s)	-	-	-	16.2
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↱			↗
Traffic Vol, veh/h	0	1348	1084	7	0	22
Future Vol, veh/h	0	1348	1084	7	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	6	3	0	0	0
Mvmt Flow	0	1419	1141	7	0	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1145
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	245
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	245
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	21.2
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	245
HCM Lane V/C Ratio	-	-	-	0.095
HCM Control Delay (s)	-	-	-	21.2
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.3

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↱			↗
Traffic Vol, veh/h	0	1334	940	13	0	6
Future Vol, veh/h	0	1334	940	13	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	3	5	2	0
Mvmt Flow	0	1404	989	14	0	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	996
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	299
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	299
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	17.3
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	299
HCM Lane V/C Ratio	-	-	-	0.021
HCM Control Delay (s)	-	-	-	17.3
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	5.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1292	13	40	907	22	43
Future Vol, veh/h	1292	13	40	907	22	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	8	0	7	5	2	2
Mvmt Flow	1360	14	42	955	23	45

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1374	0	2406	1367
Stage 1	-	-	-	-	1367	-
Stage 2	-	-	-	-	1039	-
Critical Hdwy	-	-	4.17	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	484	-	36	180
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	341	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	484	-	33	180
Mov Cap-2 Maneuver	-	-	-	-	33	-
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	311	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	190.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	72	-	-	484	-
HCM Lane V/C Ratio	0.95	-	-	0.087	-
HCM Control Delay (s)	190.5	-	-	13.1	-
HCM Lane LOS	F	-	-	B	-
HCM 95th %tile Q(veh)	4.8	-	-	0.3	-

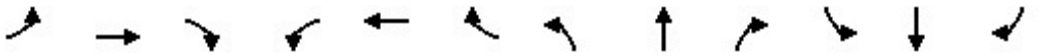
BUILD 2 2025

Arterial Level of Service: EB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 134 AVE	III	30	32.5	28.7	61.2	0.26	15.1	D
SW 127 AVE	III	30	90.9	33.3	124.2	0.76	21.9	C
Total	III		123.4	62.0	185.4	1.01	19.7	C

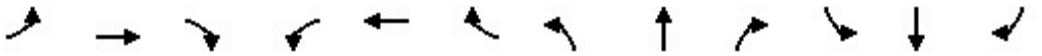
Arterial Level of Service: WB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 134 AVE	III	30	90.9	6.8	97.7	0.76	27.9	B
SW1 137 AVE	III	38	28.2	31.6	59.8	0.26	15.4	D
Total	III		119.1	38.4	157.5	1.01	23.2	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	519	79	219	379	243	105	417	181	177	283	97
Future Volume (vph)	71	519	79	219	379	243	105	417	181	177	283	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.4		4.5	6.4	6.4	4.5	6.4	6.4	4.5	6.4	6.4
Lane Util. Factor	0.97	0.95		0.97	0.95	0.88	0.97	1.00	1.00	0.97	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3019	3180		3433	3282	2656	3433	1863	1583	3213	964	1380
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3019	3180		3433	3282	2656	3433	1863	1583	3213	964	1380
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	75	546	83	231	399	256	111	439	191	186	298	102
RTOR Reduction (vph)	0	8	0	0	0	51	0	0	128	0	0	65
Lane Group Flow (vph)	75	621	0	231	399	205	111	439	63	186	298	37
Heavy Vehicles (%)	16%	13%	0%	2%	10%	7%	2%	2%	2%	9%	97%	17%
Turn Type	Prot	NA		Prot	NA	custom	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	2 3	7	4		3	8	
Permitted Phases						4			4			8
Actuated Green, G (s)	6.8	33.0		13.4	38.1	96.3	8.6	39.5	39.5	12.3	43.2	43.2
Effective Green, g (s)	6.8	33.0		13.4	38.1	96.3	8.6	39.5	39.5	12.3	43.2	43.2
Actuated g/C Ratio	0.06	0.28		0.11	0.32	0.80	0.07	0.33	0.33	0.10	0.36	0.36
Clearance Time (s)	6.0	6.4		4.5	6.4		4.5	6.4	6.4	4.5	6.4	6.4
Vehicle Extension (s)	2.5	1.0		3.0	1.0		3.0	3.5	3.5	3.0	3.5	3.5
Lane Grp Cap (vph)	171	874		383	1042	2131	246	613	521	329	347	496
v/s Ratio Prot	0.02	c0.20		c0.07	0.12	0.05	0.03	0.24		c0.06	c0.31	
v/s Ratio Perm						0.03			0.04			0.03
v/c Ratio	0.44	0.71		0.60	0.38	0.10	0.45	0.72	0.12	0.57	0.86	0.07
Uniform Delay, d1	54.8	39.2		50.8	31.8	2.5	53.4	35.3	28.1	51.3	35.6	25.2
Progression Factor	1.00	1.00		0.86	0.87	10.96	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	4.9		2.6	1.0	0.0	1.3	4.1	0.1	2.2	19.0	0.1
Delay (s)	56.1	44.1		46.1	28.7	27.8	54.8	39.4	28.2	53.5	54.5	25.3
Level of Service	E	D		D	C	C	D	D	C	D	D	C
Approach Delay (s)		45.3			33.0			38.9			49.1	
Approach LOS		D			C			D			D	

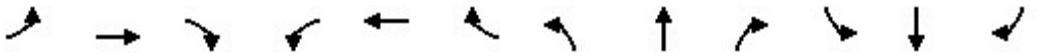
Intersection Summary			
HCM 2000 Control Delay	40.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.3
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	1043	120	217	560	131	168	144	235	67	156	38
Future Volume (veh/h)	143	1043	120	217	560	131	168	144	235	67	156	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1648	1885	1856	1885	1811	1811	1781	1870	1870	1900
Adj Flow Rate, veh/h	151	1098	126	228	589	138	177	152	247	71	164	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	8	17	1	3	1	6	6	8	2	2	0
Cap, veh/h	477	1762	727	283	1928	947	260	307	378	226	210	181
Arrive On Green	0.05	0.52	0.52	0.08	0.55	0.55	0.10	0.17	0.17	0.05	0.11	0.11
Sat Flow, veh/h	1767	3385	1397	3483	3526	1598	1725	1811	1510	1781	1870	1610
Grp Volume(v), veh/h	151	1098	126	228	589	138	177	152	247	71	164	40
Grp Sat Flow(s),veh/h/ln	1767	1692	1397	1742	1763	1598	1725	1811	1510	1781	1870	1610
Q Serve(g_s), s	5.6	32.2	6.7	9.0	12.7	5.4	12.3	10.7	20.5	4.9	11.9	3.2
Cycle Q Clear(g_c), s	5.6	32.2	6.7	9.0	12.7	5.4	12.3	10.7	20.5	4.9	11.9	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	477	1762	727	283	1928	947	260	307	378	226	210	181
V/C Ratio(X)	0.32	0.62	0.17	0.81	0.31	0.15	0.68	0.50	0.65	0.31	0.78	0.22
Avail Cap(c_a), veh/h	540	1762	727	438	1928	947	311	409	463	265	302	260
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.2	23.8	17.7	63.2	17.3	12.7	47.1	52.7	47.0	51.6	60.5	56.6
Incr Delay (d2), s/veh	0.3	1.7	0.5	4.9	0.4	0.3	3.9	1.5	2.7	0.6	9.1	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	13.2	2.3	4.2	5.3	2.0	5.6	5.0	8.0	2.2	6.2	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	25.5	18.2	68.2	17.7	13.0	51.0	54.2	49.8	52.2	69.5	57.3
LnGrp LOS	B	C	B	E	B	B	D	D	D	D	E	E
Approach Vol, veh/h		1375			955			576			275	
Approach Delay, s/veh		23.6			29.1			51.3			63.3	
Approach LOS		C			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.1	82.9	12.9	30.1	17.8	79.3	20.9	22.1
Change Period (Y+Rc), s	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Max Green Setting (Gmax), s	12.6	60.6	9.6	31.6	17.6	55.6	18.6	22.6
Max Q Clear Time (g_c+I1), s	7.6	0.0	6.9	22.5	11.0	8.7	14.3	13.9
Green Ext Time (p_c), s	0.1	0.0	0.0	1.2	0.3	0.0	0.1	0.5

Intersection Summary	
HCM 6th Ctrl Delay	33.7
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	823	42	79	765	53	51	19	111	65	42	28
Future Volume (veh/h)	20	823	42	79	765	53	51	19	111	65	42	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1515	1767	1841	1900	1856	1856	1811	1781	1663	1900	1722	937
Adj Flow Rate, veh/h	21	866	44	83	805	56	54	20	117	68	44	29
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	26	9	4	0	3	3	6	8	16	0	12	65
Cap, veh/h	389	2127	1046	446	2533	1130	207	24	142	167	103	68
Arrive On Green	0.63	0.63	0.63	0.04	0.72	0.72	0.04	0.11	0.11	0.04	0.11	0.11
Sat Flow, veh/h	520	3357	1560	1810	3526	1572	1725	225	1319	1810	969	638
Grp Volume(v), veh/h	21	866	44	83	805	56	54	0	137	68	0	73
Grp Sat Flow(s),veh/h/ln	520	1678	1560	1810	1763	1572	1725	0	1544	1810	0	1607
Q Serve(g_s), s	1.9	15.3	1.1	1.8	10.0	1.2	3.3	0.0	10.4	4.0	0.0	5.1
Cycle Q Clear(g_c), s	1.9	15.3	1.1	1.8	10.0	1.2	3.3	0.0	10.4	4.0	0.0	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.85	1.00		0.40
Lane Grp Cap(c), veh/h	389	2127	1046	446	2533	1130	207	0	166	167	0	172
V/C Ratio(X)	0.05	0.41	0.04	0.19	0.32	0.05	0.26	0.00	0.83	0.41	0.00	0.43
Avail Cap(c_a), veh/h	389	2127	1046	519	2533	1130	265	0	290	214	0	288
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.4	10.9	6.7	7.5	6.2	4.9	45.5	0.0	52.4	45.3	0.0	50.1
Incr Delay (d2), s/veh	0.3	0.6	0.1	0.2	0.3	0.1	0.7	0.0	9.8	1.6	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	5.6	0.4	0.7	3.5	0.4	1.5	0.0	4.5	1.9	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.7	11.4	6.8	7.7	6.5	5.0	46.2	0.0	62.3	46.9	0.0	51.8
LnGrp LOS	A	B	A	A	A	A	D	A	E	D	A	D
Approach Vol, veh/h		931			944			191			141	
Approach Delay, s/veh		11.2			6.5			57.7			49.5	
Approach LOS		B			A			E			D	

Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	9.9	18.4	10.2	81.5	10.0	18.3		91.7				
Change Period (Y+Rc), s	4.5	5.5	5.5	5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	8.5	22.5	9.5	58.5	8.5	21.5		73.5				
Max Q Clear Time (g_c+I1), s	6.0	12.4	3.8	17.3	5.3	7.1		12.0				
Green Ext Time (p_c), s	0.0	0.5	0.1	8.2	0.0	0.2		7.2				

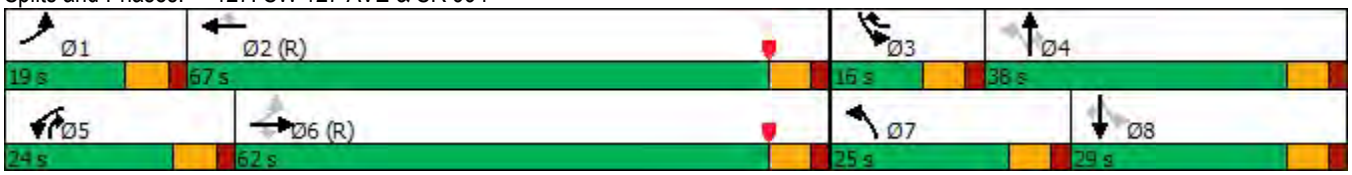
Intersection Summary			
HCM 6th Ctrl Delay		15.6	
HCM 6th LOS		B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	1043	120	217	560	131	168	144	235	67	156	38
Future Volume (vph)	143	1043	120	217	560	131	168	144	235	67	156	38
Turn Type	pm+pt	NA	Perm	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases	6		6			2	4		4	8		8
Detector Phase	1	6	6	5	2	3	7	4	5	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0	5.0	5.0	7.0	5.0	5.0	7.0	7.0
Minimum Split (s)	11.4	28.4	28.4	11.4	28.4	11.4	11.4	28.4	11.4	11.4	28.4	28.4
Total Split (s)	19.0	62.0	62.0	24.0	67.0	16.0	25.0	38.0	24.0	16.0	29.0	29.0
Total Split (%)	13.6%	44.3%	44.3%	17.1%	47.9%	11.4%	17.9%	27.1%	17.1%	11.4%	20.7%	20.7%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 53 (38%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 127: SW 127 AVE & SR 994

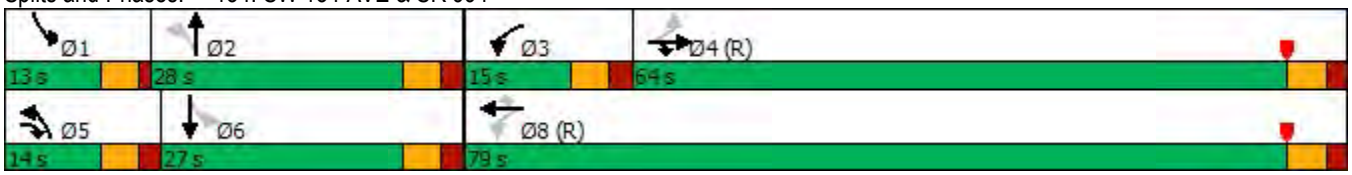


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	20	823	42	79	765	53	51	19	65	42
Future Volume (vph)	20	823	42	79	765	53	51	19	65	42
Turn Type	Perm	NA	pt+ov	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4	4 5	3	8		5	2	1	6
Permitted Phases	4			8		8	2		6	
Detector Phase	4	4	4 5	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5		10.5	23.5	23.5	10.5	23.5	9.5	23.5
Total Split (s)	64.0	64.0		15.0	79.0	79.0	14.0	28.0	13.0	27.0
Total Split (%)	53.3%	53.3%		12.5%	65.8%	65.8%	11.7%	23.3%	10.8%	22.5%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5	4.5	5.5
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 134: SW 134 AVE & SR 994

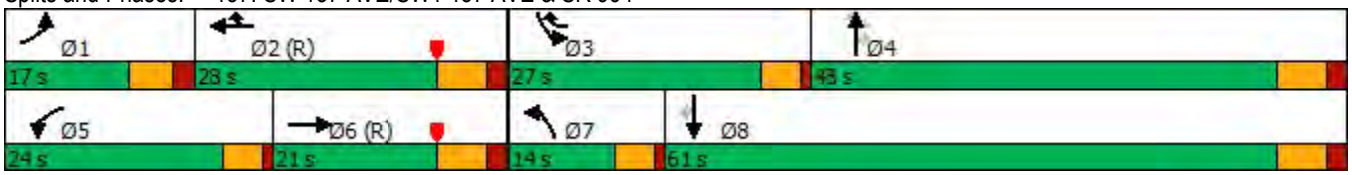


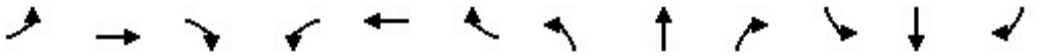
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	71	519	219	379	243	105	417	181	177	283	97
Future Volume (vph)	71	519	219	379	243	105	417	181	177	283	97
Turn Type	Prot	NA	Prot	NA	custom	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6	5	2	2 3	7	4		3	8	
Permitted Phases					4			4			8
Detector Phase	1	6	5	2	2 3	7	4	4	3	8	8
Switch Phase											
Minimum Initial (s)	5.0	13.6	5.0	16.0		5.0	7.0	7.0	5.0	7.0	7.0
Minimum Split (s)	11.0	20.0	9.5	22.4		9.5	13.4	13.4	9.5	13.4	13.4
Total Split (s)	17.0	21.0	24.0	28.0		14.0	48.0	48.0	27.0	61.0	61.0
Total Split (%)	14.2%	17.5%	20.0%	23.3%		11.7%	40.0%	40.0%	22.5%	50.8%	50.8%
Yellow Time (s)	4.0	4.4	3.5	4.4		3.5	4.4	4.4	3.5	4.4	4.4
All-Red Time (s)	2.0	2.0	1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.4	4.5	6.4		4.5	6.4	6.4	4.5	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max		None	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

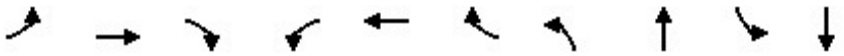
Splits and Phases: 137: SW 137 AVE/SW1 137 AVE & SR 994





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	151	1098	126	228	589	138	177	152	247	71	164	40
v/c Ratio	0.32	0.69	0.17	0.66	0.33	0.13	0.60	0.47	0.43	0.27	0.70	0.11
Control Delay	14.6	33.3	1.4	70.0	22.8	2.5	47.2	54.9	19.5	38.4	73.8	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.6	33.3	1.4	70.0	22.8	2.5	47.2	54.9	19.5	38.4	73.8	0.6
Queue Length 50th (ft)	56	412	0	104	168	0	126	124	87	47	145	0
Queue Length 95th (ft)	100	562	12	146	240	31	183	188	149	82	217	0
Internal Link Dist (ft)		1222			1328			526			1118	
Turn Bay Length (ft)	300		250	385		190	385		385	275		160
Base Capacity (vph)	511	1588	748	435	1765	1040	315	404	605	276	300	408
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.69	0.17	0.52	0.33	0.13	0.56	0.38	0.41	0.26	0.55	0.10

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	21	866	44	83	805	56	54	137	68	73
v/c Ratio	0.06	0.41	0.04	0.19	0.31	0.05	0.27	0.58	0.35	0.54
Control Delay	27.8	28.7	8.5	6.8	6.8	1.5	41.8	22.7	43.4	51.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.8	28.7	8.5	6.8	6.8	1.5	41.8	22.7	43.4	51.0
Queue Length 50th (ft)	13	310	0	17	110	0	35	15	44	37
Queue Length 95th (ft)	m29	418	m15	39	164	12	68	75	80	84
Internal Link Dist (ft)		272			408			1264		1117
Turn Bay Length (ft)	225		225	185		185	185		150	
Base Capacity (vph)	338	2138	1201	472	2569	1166	214	365	204	260
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.41	0.04	0.18	0.31	0.05	0.25	0.38	0.33	0.28

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	75	629	231	399	256	111	439	191	186	298	102
v/c Ratio	0.38	0.71	0.60	0.37	0.11	0.45	0.72	0.29	0.57	0.86	0.17
Control Delay	58.8	46.2	49.9	31.6	3.0	59.2	41.4	3.6	57.9	57.9	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.8	46.2	49.9	31.6	3.0	59.2	41.4	3.6	57.9	57.9	0.8
Queue Length 50th (ft)	29	233	90	135	7	43	290	0	71	208	0
Queue Length 95th (ft)	53	#457	129	209	32	73	370	36	106	293	3
Internal Link Dist (ft)		500		377			374			423	
Turn Bay Length (ft)	300		350		405	240		440	425		195
Base Capacity (vph)	276	883	557	1076	2322	271	679	709	602	438	718
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.71	0.41	0.37	0.11	0.41	0.65	0.27	0.31	0.68	0.14

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	885	840	4	0	2
Future Vol, veh/h	0	885	840	4	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	7	0	0	49
Mvmt Flow	0	932	884	4	0	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	444
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.88
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.79
Pot Cap-1 Maneuver	0	-	-	-	0	450
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	450
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	450
HCM Lane V/C Ratio	-	-	-	0.005
HCM Control Delay (s)	-	-	-	13
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1196	7	18	797	3	29	2	60	6	1	2
Future Vol, veh/h	3	1196	7	18	797	3	29	2	60	6	1	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	90	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	5	24	11	5	0	0	0	0	0	0	0
Mvmt Flow	3	1259	7	19	839	3	31	2	63	6	1	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	842	0	0	1266	0	0	1727	2149	633	1516	2151	421
Stage 1	-	-	-	-	-	-	1269	1269	-	879	879	-
Stage 2	-	-	-	-	-	-	458	880	-	637	1272	-
Critical Hdwy	4.1	-	-	4.32	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.31	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	802	-	-	498	-	-	58	49	427	84	49	587
Stage 1	-	-	-	-	-	-	181	242	-	313	368	-
Stage 2	-	-	-	-	-	-	557	368	-	437	241	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	802	-	-	498	-	-	55	47	427	67	47	587
Mov Cap-2 Maneuver	-	-	-	-	-	-	55	47	-	67	47	-
Stage 1	-	-	-	-	-	-	180	241	-	312	354	-
Stage 2	-	-	-	-	-	-	532	354	-	368	240	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	53.3	56.7
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	55	427	802	-	-	498	-	-	79
HCM Lane V/C Ratio	0.555	0.148	0.004	-	-	0.038	-	-	0.12
HCM Control Delay (s)	132.7	14.9	9.5	-	-	12.5	-	-	56.7
HCM Lane LOS	F	B	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	2.2	0.5	0	-	-	0.1	-	-	0.4

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	130	1186	5	2	787	25	5	1	4	16	1	78
Future Vol, veh/h	130	1186	5	2	787	25	5	1	4	16	1	78
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	4	10	32	0	5	8	0	0	0	9	0	2
Mvmt Flow	137	1248	5	2	828	26	5	1	4	17	1	82

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	854	0	0	1253	0	0	1944	2383	627	1744	2372	427
Stage 1	-	-	-	-	-	-	1525	1525	-	845	845	-
Stage 2	-	-	-	-	-	-	419	858	-	899	1527	-
Critical Hdwy	4.18	-	-	4.1	-	-	7.5	6.5	6.9	7.68	6.5	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.68	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.68	5.5	-
Follow-up Hdwy	2.24	-	-	2.2	-	-	3.5	4	3.3	3.59	4	3.32
Pot Cap-1 Maneuver	769	-	-	562	-	-	40	35	431	51	35	576
Stage 1	-	-	-	-	-	-	126	182	-	309	382	-
Stage 2	-	-	-	-	-	-	588	376	-	286	181	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	769	-	-	562	-	-	29	29	431	42	29	576
Mov Cap-2 Maneuver	-	-	-	-	-	-	29	29	-	42	29	-
Stage 1	-	-	-	-	-	-	104	150	-	254	380	-
Stage 2	-	-	-	-	-	-	501	374	-	231	149	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0	105.1	51.5
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	46	769	-	-	562	-	-	172
HCM Lane V/C Ratio	0.229	0.178	-	-	0.004	-	-	0.581
HCM Control Delay (s)	105.1	10.7	-	-	11.4	-	-	51.5
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0.8	0.6	-	-	0	-	-	3.1

Intersection	
Int Delay, s/veh	4.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1085	18	70	800	34	235
Future Vol, veh/h	1085	18	70	800	34	235
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	0	6	5	5	4
Mvmt Flow	1142	19	74	842	36	247

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1161	0	1721	581
Stage 1	-	-	-	-	1152	-
Stage 2	-	-	-	-	569	-
Critical Hdwy	-	-	4.22	-	6.9	6.98
Critical Hdwy Stg 1	-	-	-	-	5.9	-
Critical Hdwy Stg 2	-	-	-	-	5.9	-
Follow-up Hdwy	-	-	2.26	-	3.55	3.34
Pot Cap-1 Maneuver	-	-	575	-	78	452
Stage 1	-	-	-	-	257	-
Stage 2	-	-	-	-	521	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	575	-	68	452
Mov Cap-2 Maneuver	-	-	-	-	68	-
Stage 1	-	-	-	-	257	-
Stage 2	-	-	-	-	454	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	32.8
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	68	452	-	-	575	-
HCM Lane V/C Ratio	0.526	0.547	-	-	0.128	-
HCM Control Delay (s)	106	22.2	-	-	12.2	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	2.2	3.2	-	-	0.4	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	968	891	11	52	6
Future Vol, veh/h	31	968	891	11	52	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	6	10	24	0
Mvmt Flow	33	1019	938	12	55	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	950	0	-	0	1520	475
Stage 1	-	-	-	-	944	-
Stage 2	-	-	-	-	576	-
Critical Hdwy	4.1	-	-	-	7.28	6.9
Critical Hdwy Stg 1	-	-	-	-	6.28	-
Critical Hdwy Stg 2	-	-	-	-	6.28	-
Follow-up Hdwy	2.2	-	-	-	3.74	3.3
Pot Cap-1 Maneuver	731	-	-	-	89	541
Stage 1	-	-	-	-	291	-
Stage 2	-	-	-	-	468	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	731	-	-	-	85	541
Mov Cap-2 Maneuver	-	-	-	-	85	-
Stage 1	-	-	-	-	278	-
Stage 2	-	-	-	-	468	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	98.4
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	731	-	-	-	93
HCM Lane V/C Ratio	0.045	-	-	-	0.656
HCM Control Delay (s)	10.2	-	-	-	98.4
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	3.2

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	877	837	5	0	4
Future Vol, veh/h	0	877	837	5	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	3	0	0	0
Mvmt Flow	0	923	881	5	0	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	443
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	568
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	568
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	568
HCM Lane V/C Ratio	-	-	-	0.007
HCM Control Delay (s)	-	-	-	11.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1206	805	23	0	9
Future Vol, veh/h	0	1206	805	23	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	6	3	0	0	0
Mvmt Flow	0	1269	847	24	0	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	436
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	574
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	574
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	574
HCM Lane V/C Ratio	-	-	-	0.017
HCM Control Delay (s)	-	-	-	11.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1103	814	19	0	11
Future Vol, veh/h	0	1103	814	19	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	3	5	2	0
Mvmt Flow	0	1161	857	20	0	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	439
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	571
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	571
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	571
HCM Lane V/C Ratio	-	-	-	0.02
HCM Control Delay (s)	-	-	-	11.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	14.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1003	17	14	811	91	100
Future Vol, veh/h	1003	17	14	811	91	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	8	0	7	5	2	2
Mvmt Flow	1056	18	15	854	96	105

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1074	0	1522	537
Stage 1	-	-	-	-	1065	-
Stage 2	-	-	-	-	457	-
Critical Hdwy	-	-	4.24	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.27	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	616	-	109	488
Stage 1	-	-	-	-	292	-
Stage 2	-	-	-	-	604	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	616	-	106	488
Mov Cap-2 Maneuver	-	-	-	-	106	-
Stage 1	-	-	-	-	292	-
Stage 2	-	-	-	-	590	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	155
HCM LOS			F

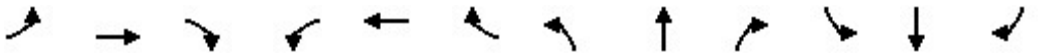
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	180	-	-	616	-
HCM Lane V/C Ratio	1.117	-	-	0.024	-
HCM Control Delay (s)	155	-	-	11	-
HCM Lane LOS	F	-	-	B	-
HCM 95th %tile Q(veh)	10.1	-	-	0.1	-

Arterial Level of Service: EB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 134 AVE	III	30	32.5	17.4	49.9	0.26	18.5	C
SW 127 AVE	III	30	90.9	34.6	125.5	0.76	21.7	C
Total	III		123.4	52.0	175.4	1.01	20.8	C

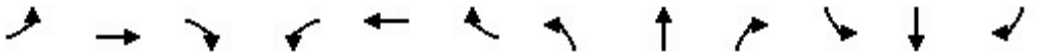
Arterial Level of Service: WB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 134 AVE	III	30	90.9	6.4	97.3	0.76	28.0	B
SW1 137 AVE	III	38	28.2	36.8	65.0	0.26	14.2	D
Total	III		119.1	43.2	162.3	1.01	22.5	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	535	71	178	327	180	87	256	214	237	501	98
Future Volume (vph)	43	535	71	178	327	180	87	256	214	237	501	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.4		4.5	6.4	6.4	4.5	6.4	6.4	4.5	6.4	6.4
Lane Util. Factor	0.97	0.95		0.97	0.95	0.88	0.97	1.00	1.00	0.97	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3019	3181		3433	3282	2656	3433	1863	1583	3213	964	1380
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.33	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3019	3181		3433	3282	2656	1181	1863	1583	3213	964	1380
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	45	563	75	187	344	189	92	269	225	249	527	103
RTOR Reduction (vph)	0	8	0	0	0	109	0	0	138	0	0	57
Lane Group Flow (vph)	45	630	0	187	344	80	92	269	87	249	527	46
Heavy Vehicles (%)	16%	13%	0%	2%	10%	7%	2%	2%	2%	9%	97%	17%
Turn Type	Prot	NA		Prot	NA	pt+ov	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	2 3	7	4		3	8	
Permitted Phases							4		4			8
Actuated Green, G (s)	5.7	25.2		11.9	29.9	51.0	54.0	46.4	46.4	14.7	53.5	53.5
Effective Green, g (s)	5.7	25.2		11.9	29.9	51.0	54.0	46.4	46.4	14.7	53.5	53.5
Actuated g/C Ratio	0.05	0.21		0.10	0.25	0.42	0.45	0.39	0.39	0.12	0.45	0.45
Clearance Time (s)	6.0	6.4		4.5	6.4		4.5	6.4	6.4	4.5	6.4	6.4
Vehicle Extension (s)	2.5	1.0		3.0	1.0		3.0	3.5	3.5	3.0	3.5	3.5
Lane Grp Cap (vph)	143	668		340	817	1128	674	720	612	393	429	615
v/s Ratio Prot	0.01	c0.20		c0.05	0.10	0.03	0.01	0.14		c0.08	c0.55	
v/s Ratio Perm							0.05		0.05			0.03
v/c Ratio	0.31	0.94		0.55	0.42	0.07	0.14	0.37	0.14	0.63	1.23	0.07
Uniform Delay, d1	55.3	46.7		51.5	37.8	20.5	19.5	26.4	23.9	50.1	33.2	19.1
Progression Factor	1.00	1.00		0.90	0.93	3.85	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	23.4		1.9	1.6	0.0	0.1	0.4	0.1	3.3	121.8	0.1
Delay (s)	56.2	70.1		48.4	36.5	78.7	19.6	26.8	24.0	53.4	155.1	19.1
Level of Service	E	E		D	D	E	B	C	C	D	F	B
Approach Delay (s)		69.2			50.7			24.6			110.4	
Approach LOS		E			D			C			F	

Intersection Summary			
HCM 2000 Control Delay	68.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.3
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	892	155	286	641	104	134	138	140	94	198	57
Future Volume (veh/h)	74	892	155	286	641	104	134	138	140	94	198	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1648	1885	1856	1885	1811	1811	1781	1870	1870	1900
Adj Flow Rate, veh/h	78	939	163	301	675	109	141	145	147	99	208	60
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	8	17	1	3	1	6	6	8	2	2	0
Cap, veh/h	431	1694	699	355	2002	1006	220	278	385	247	243	209
Arrive On Green	0.03	0.50	0.50	0.10	0.57	0.57	0.08	0.15	0.15	0.06	0.13	0.13
Sat Flow, veh/h	1767	3385	1397	3483	3526	1598	1725	1811	1510	1781	1870	1610
Grp Volume(v), veh/h	78	939	163	301	675	109	141	145	147	99	208	60
Grp Sat Flow(s),veh/h/ln	1767	1692	1397	1742	1763	1598	1725	1811	1510	1781	1870	1610
Q Serve(g_s), s	3.0	26.9	9.2	11.9	14.3	3.8	9.8	10.3	11.2	6.7	15.2	4.7
Cycle Q Clear(g_c), s	3.0	26.9	9.2	11.9	14.3	3.8	9.8	10.3	11.2	6.7	15.2	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	431	1694	699	355	2002	1006	220	278	385	247	243	209
V/C Ratio(X)	0.18	0.55	0.23	0.85	0.34	0.11	0.64	0.52	0.38	0.40	0.86	0.29
Avail Cap(c_a), veh/h	529	1694	699	463	2002	1006	279	409	495	387	462	398
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	24.2	19.8	61.8	16.2	10.3	48.0	54.6	43.0	48.7	59.6	55.0
Incr Delay (d2), s/veh	0.1	1.3	0.8	10.1	0.5	0.2	2.4	1.8	0.7	0.8	9.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	11.1	3.2	5.8	5.9	1.4	4.4	4.9	4.3	3.0	7.9	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.1	25.5	20.6	71.9	16.6	10.5	50.4	56.4	43.8	49.4	69.5	55.9
LnGrp LOS	B	C	C	E	B	B	D	E	D	D	E	E
Approach Vol, veh/h		1180			1085			433			367	
Approach Delay, s/veh		24.2			31.3			50.2			61.9	
Approach LOS		C			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	85.9	15.0	27.9	20.7	76.5	18.3	24.6
Change Period (Y+Rc), s	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Max Green Setting (Gmax), s	12.6	50.6	19.6	31.6	18.6	44.6	16.6	34.6
Max Q Clear Time (g_c+I1), s	5.0	0.0	8.7	13.2	13.9	11.2	11.8	17.2
Green Ext Time (p_c), s	0.1	0.0	0.1	1.1	0.4	0.0	0.1	1.0

Intersection Summary	
HCM 6th Ctrl Delay	34.9
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	909	55	58	625	49	41	39	96	38	23	26
Future Volume (veh/h)	26	909	55	58	625	49	41	39	96	38	23	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1515	1767	1841	1900	1856	1856	1811	1781	1663	1900	1722	937
Adj Flow Rate, veh/h	27	957	58	61	658	52	43	41	101	40	24	27
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	26	9	4	0	3	3	6	8	16	0	12	65
Cap, veh/h	474	2320	1128	446	2726	1216	149	62	152	123	43	48
Arrive On Green	0.69	0.69	0.69	0.04	0.77	0.77	0.03	0.14	0.14	0.06	0.06	0.06
Sat Flow, veh/h	599	3357	1560	1810	3526	1572	1725	456	1123	1266	740	832
Grp Volume(v), veh/h	27	957	58	61	658	52	43	0	142	40	0	51
Grp Sat Flow(s),veh/h/ln	599	1678	1560	1810	1763	1572	1725	0	1579	1266	0	1572
Q Serve(g_s), s	1.7	14.8	1.3	1.1	6.2	0.9	2.7	0.0	10.3	3.7	0.0	3.8
Cycle Q Clear(g_c), s	1.7	14.8	1.3	1.1	6.2	0.9	2.7	0.0	10.3	4.7	0.0	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.71	1.00		0.53
Lane Grp Cap(c), veh/h	474	2320	1128	446	2726	1216	149	0	213	123	0	90
V/C Ratio(X)	0.06	0.41	0.05	0.14	0.24	0.04	0.29	0.00	0.67	0.33	0.00	0.56
Avail Cap(c_a), veh/h	474	2320	1128	494	2726	1216	302	0	507	245	0	242
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.0	8.0	4.8	5.4	3.8	3.2	49.3	0.0	49.3	56.0	0.0	55.1
Incr Delay (d2), s/veh	0.2	0.5	0.1	0.1	0.2	0.1	1.1	0.0	3.6	1.5	0.0	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	5.1	0.4	0.4	2.0	0.3	1.2	0.0	4.3	1.2	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.2	8.5	4.9	5.5	4.0	3.3	50.4	0.0	52.9	57.5	0.0	60.5
LnGrp LOS	A	A	A	A	A	A	D	A	D	E	A	E
Approach Vol, veh/h		1042			771			185			91	
Approach Delay, s/veh		8.3			4.1			52.3			59.2	
Approach LOS		A			A			D			E	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		21.7	9.8	88.5	9.3	12.4		98.3				
Change Period (Y+Rc), s		5.5	5.5	5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s		38.5	7.5	57.5	14.5	18.5		70.5				
Max Q Clear Time (g_c+I1), s		12.3	3.1	16.8	4.7	6.7		8.2				
Green Ext Time (p_c), s		0.8	0.0	9.4	0.0	0.2		5.6				

Intersection Summary												
HCM 6th Ctrl Delay			12.8									
HCM 6th LOS			B									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	892	155	286	641	104	134	138	140	94	198	57
Future Volume (vph)	74	892	155	286	641	104	134	138	140	94	198	57
Turn Type	pm+pt	NA	Perm	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases	6		6			2	4		4	8		8
Detector Phase	1	6	6	5	2	3	7	4	5	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0	5.0	5.0	7.0	5.0	5.0	7.0	7.0
Minimum Split (s)	11.4	28.4	28.4	11.4	28.4	11.4	11.4	28.4	11.4	11.4	28.4	28.4
Total Split (s)	19.0	51.0	51.0	25.0	57.0	26.0	23.0	38.0	25.0	26.0	41.0	41.0
Total Split (%)	13.6%	36.4%	36.4%	17.9%	40.7%	18.6%	16.4%	27.1%	17.9%	18.6%	29.3%	29.3%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 116 (83%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 127: SW 127 AVE & SR 994

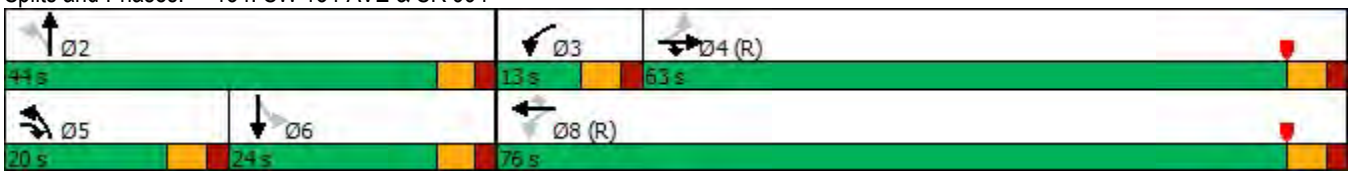


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	26	909	55	58	625	49	41	39	38	23
Future Volume (vph)	26	909	55	58	625	49	41	39	38	23
Turn Type	Perm	NA	pt+ov	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases		4	4 5	3	8		5	2		6
Permitted Phases	4			8		8	2		6	
Detector Phase	4	4	4 5	3	8	8	5	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5		10.5	23.5	23.5	10.5	23.5	23.5	23.5
Total Split (s)	63.0	63.0		13.0	76.0	76.0	20.0	44.0	24.0	24.0
Total Split (%)	52.5%	52.5%		10.8%	63.3%	63.3%	16.7%	36.7%	20.0%	20.0%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag		Lead			Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 101 (84%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 134: SW 134 AVE & SR 994

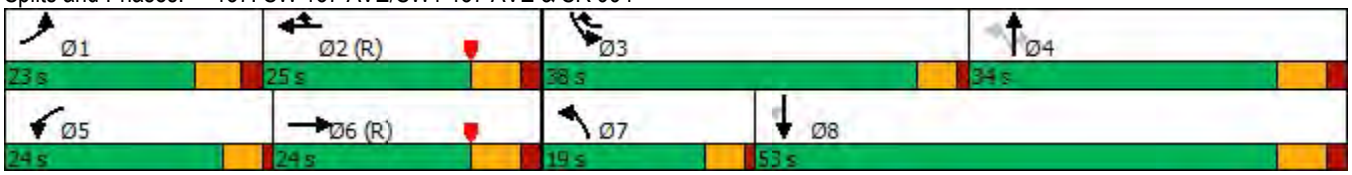


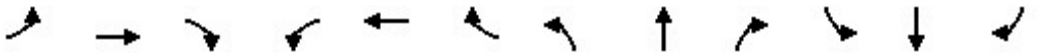
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	43	535	178	327	180	87	256	214	237	501	98
Future Volume (vph)	43	535	178	327	180	87	256	214	237	501	98
Turn Type	Prot	NA	Prot	NA	pt+ov	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	1	6	5	2	2 3	7	4		3	8	
Permitted Phases						4		4			8
Detector Phase	1	6	5	2	2 3	7	4	4	3	8	8
Switch Phase											
Minimum Initial (s)	5.0	4.0	5.0	16.0		2.5	7.0	7.0	5.0	7.0	7.0
Minimum Split (s)	11.0	10.4	9.5	22.4		7.0	13.4	13.4	9.5	13.4	13.4
Total Split (s)	23.0	24.0	24.0	25.0		19.0	34.0	34.0	38.0	53.0	53.0
Total Split (%)	19.2%	20.0%	20.0%	20.8%		15.8%	28.3%	28.3%	31.7%	44.2%	44.2%
Yellow Time (s)	4.0	4.4	3.5	4.4		3.5	4.4	4.4	3.5	4.4	4.4
All-Red Time (s)	2.0	2.0	1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.4	4.5	6.4		4.5	6.4	6.4	4.5	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max		None	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

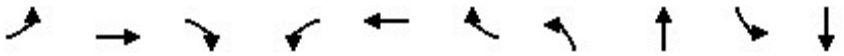
Splits and Phases: 137: SW 137 AVE/SW1 137 AVE & SR 994





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	78	939	163	301	675	109	141	145	147	99	208	60
v/c Ratio	0.19	0.63	0.24	0.72	0.38	0.10	0.53	0.46	0.24	0.31	0.73	0.17
Control Delay	15.1	34.6	7.9	69.2	23.1	2.5	43.4	55.8	4.8	37.5	71.2	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.1	34.6	7.9	69.2	23.1	2.5	43.4	55.8	4.8	37.5	71.2	1.0
Queue Length 50th (ft)	28	345	13	138	192	0	98	120	0	67	183	0
Queue Length 95th (ft)	60	497	69	182	284	26	142	181	42	104	257	0
Internal Link Dist (ft)		1222			1328			526			1118	
Turn Bay Length (ft)	300		250	385		190	385		385	275		160
Base Capacity (vph)	474	1485	689	474	1787	1145	297	404	628	423	460	493
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.63	0.24	0.64	0.38	0.10	0.47	0.36	0.23	0.23	0.45	0.12

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	957	58	61	658	52	43	142	40	51
v/c Ratio	0.07	0.44	0.05	0.15	0.26	0.04	0.21	0.41	0.41	0.42
Control Delay	11.3	17.4	5.5	6.8	6.4	0.9	40.3	17.0	64.3	39.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.3	17.4	5.5	6.8	6.4	0.9	40.3	17.0	64.3	39.7
Queue Length 50th (ft)	11	381	11	12	82	0	28	27	30	18
Queue Length 95th (ft)	m23	m428	m24	31	133	8	57	80	65	58
Internal Link Dist (ft)		272			408			1264		1117
Turn Bay Length (ft)	225		225	185		185	185		150	
Base Capacity (vph)	394	2153	1273	415	2572	1170	261	547	195	215
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.44	0.05	0.15	0.26	0.04	0.16	0.26	0.21	0.24

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	45	638	187	344	189	92	269	225	249	527	103
v/c Ratio	0.27	0.94	0.55	0.40	0.15	0.13	0.37	0.30	0.64	1.23	0.15
Control Delay	57.7	69.8	52.5	36.8	12.0	13.0	29.0	4.5	57.3	152.8	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.7	69.8	52.5	36.8	12.0	13.0	29.0	4.5	57.3	152.8	2.5
Queue Length 50th (ft)	17	254	73	122	7	15	148	0	95	~504	0
Queue Length 95th (ft)	37	#409	108	173	53	27	234	53	134	#726	22
Internal Link Dist (ft)		500		377			374			423	
Turn Bay Length (ft)	300		350		405	240		440	425		195
Base Capacity (vph)	427	676	557	850	1609	890	720	750	896	429	685
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.94	0.34	0.40	0.12	0.10	0.37	0.30	0.28	1.23	0.15

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	990	686	6	0	1
Future Vol, veh/h	0	990	686	6	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	7	0	0	49
Mvmt Flow	0	1042	722	6	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	364
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.88
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.79
Pot Cap-1 Maneuver	0	-	-	-	0	515
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	515
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	515
HCM Lane V/C Ratio	-	-	-	0.002
HCM Control Delay (s)	-	-	-	12
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	1036	60	21	864	5	7	1	29	7	1	2
Future Vol, veh/h	2	1036	60	21	864	5	7	1	29	7	1	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	90	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	5	24	11	5	0	0	0	0	0	0	0
Mvmt Flow	2	1091	63	22	909	5	7	1	31	7	1	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	914	0	0	1154	0	0	1626	2085	577	1506	2114	457
Stage 1	-	-	-	-	-	-	1127	1127	-	956	956	-
Stage 2	-	-	-	-	-	-	499	958	-	550	1158	-
Critical Hdwy	4.1	-	-	4.32	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.31	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	754	-	-	552	-	-	69	54	465	85	51	556
Stage 1	-	-	-	-	-	-	221	282	-	281	339	-
Stage 2	-	-	-	-	-	-	527	338	-	492	273	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	754	-	-	552	-	-	65	52	465	76	49	556
Mov Cap-2 Maneuver	-	-	-	-	-	-	65	52	-	76	49	-
Stage 1	-	-	-	-	-	-	220	281	-	280	325	-
Stage 2	-	-	-	-	-	-	502	324	-	457	272	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	23.8	52.6
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	65	465	754	-	-	552	-	-	86
HCM Lane V/C Ratio	0.113	0.066	0.003	-	-	0.04	-	-	0.122
HCM Control Delay (s)	67.3	13.3	9.8	-	-	11.8	-	-	52.6
HCM Lane LOS	F	B	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0.4	0.2	0	-	-	0.1	-	-	0.4

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	48	1080	6	2	854	29	2	1	2	16	3	53
Future Vol, veh/h	48	1080	6	2	854	29	2	1	2	16	3	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	4	10	32	0	5	8	0	0	0	9	0	2
Mvmt Flow	51	1137	6	2	899	31	2	1	2	17	3	56

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	930	0	0	1143	0	0	1697	2176	572	1590	2164	465
Stage 1	-	-	-	-	-	-	1242	1242	-	919	919	-
Stage 2	-	-	-	-	-	-	455	934	-	671	1245	-
Critical Hdwy	4.18	-	-	4.1	-	-	7.5	6.5	6.9	7.68	6.5	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.68	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.68	5.5	-
Follow-up Hdwy	2.24	-	-	2.2	-	-	3.5	4	3.3	3.59	4	3.32
Pot Cap-1 Maneuver	719	-	-	619	-	-	61	47	468	67	48	544
Stage 1	-	-	-	-	-	-	188	249	-	278	353	-
Stage 2	-	-	-	-	-	-	560	347	-	396	248	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	719	-	-	619	-	-	49	44	468	62	44	544
Mov Cap-2 Maneuver	-	-	-	-	-	-	49	44	-	62	44	-
Stage 1	-	-	-	-	-	-	175	231	-	258	352	-
Stage 2	-	-	-	-	-	-	496	346	-	365	230	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	57.3	42.2
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	74	719	-	-	619	-	-	170
HCM Lane V/C Ratio	0.071	0.07	-	-	0.003	-	-	0.446
HCM Control Delay (s)	57.3	10.4	-	-	10.8	-	-	42.2
HCM Lane LOS	F	B	-	-	B	-	-	E
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0	-	-	2.1

Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1028	59	167	742	21	107
Future Vol, veh/h	1028	59	167	742	21	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	0	6	5	5	4
Mvmt Flow	1082	62	176	781	22	113

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1144	0	1856	572
Stage 1	-	-	-	-	1113	-
Stage 2	-	-	-	-	743	-
Critical Hdwy	-	-	4.22	-	6.9	6.98
Critical Hdwy Stg 1	-	-	-	-	5.9	-
Critical Hdwy Stg 2	-	-	-	-	5.9	-
Follow-up Hdwy	-	-	2.26	-	3.55	3.34
Pot Cap-1 Maneuver	-	-	584	-	63	458
Stage 1	-	-	-	-	270	-
Stage 2	-	-	-	-	423	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	584	-	44	458
Mov Cap-2 Maneuver	-	-	-	-	44	-
Stage 1	-	-	-	-	270	-
Stage 2	-	-	-	-	296	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	37.6
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	44	458	-	-	584	-
HCM Lane V/C Ratio	0.502	0.246	-	-	0.301	-
HCM Control Delay (s)	151	15.4	-	-	13.8	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	1.8	1	-	-	1.3	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	1033	729	13	30	2
Future Vol, veh/h	10	1033	729	13	30	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	6	10	24	0
Mvmt Flow	11	1087	767	14	32	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	781	0	-	0	1340	391
Stage 1	-	-	-	-	774	-
Stage 2	-	-	-	-	566	-
Critical Hdwy	4.1	-	-	-	7.28	6.9
Critical Hdwy Stg 1	-	-	-	-	6.28	-
Critical Hdwy Stg 2	-	-	-	-	6.28	-
Follow-up Hdwy	2.2	-	-	-	3.74	3.3
Pot Cap-1 Maneuver	845	-	-	-	119	614
Stage 1	-	-	-	-	363	-
Stage 2	-	-	-	-	474	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	845	-	-	-	117	614
Mov Cap-2 Maneuver	-	-	-	-	117	-
Stage 1	-	-	-	-	358	-
Stage 2	-	-	-	-	474	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	45
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	845	-	-	-	123
HCM Lane V/C Ratio	0.012	-	-	-	0.274
HCM Control Delay (s)	9.3	-	-	-	45
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	1

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	986	681	6	0	5
Future Vol, veh/h	0	986	681	6	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	3	0	0	0
Mvmt Flow	0	1038	717	6	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	362
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	641
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	641
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	641
HCM Lane V/C Ratio	-	-	-	0.008
HCM Control Delay (s)	-	-	-	10.7
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1098	868	6	0	17
Future Vol, veh/h	0	1098	868	6	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	6	3	0	0	0
Mvmt Flow	0	1156	914	6	0	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	460
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	554
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	554
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	554
HCM Lane V/C Ratio	-	-	-	0.032
HCM Control Delay (s)	-	-	-	11.7
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1086	752	11	0	5
Future Vol, veh/h	0	1086	752	11	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	3	5	2	0
Mvmt Flow	0	1143	792	12	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	402
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	604
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	604
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	604
HCM Lane V/C Ratio	-	-	-	0.009
HCM Control Delay (s)	-	-	-	11
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1052	11	32	725	17	34
Future Vol, veh/h	1052	11	32	725	17	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	8	0	7	5	2	2
Mvmt Flow	1107	12	34	763	18	36

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1119	0	1563	560
Stage 1	-	-	-	-	1113	-
Stage 2	-	-	-	-	450	-
Critical Hdwy	-	-	4.24	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.27	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	592	-	102	472
Stage 1	-	-	-	-	276	-
Stage 2	-	-	-	-	609	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	592	-	96	472
Mov Cap-2 Maneuver	-	-	-	-	96	-
Stage 1	-	-	-	-	276	-
Stage 2	-	-	-	-	574	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	28.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	205	-	-	592	-
HCM Lane V/C Ratio	0.262	-	-	0.057	-
HCM Control Delay (s)	28.7	-	-	11.4	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	1	-	-	0.2	-

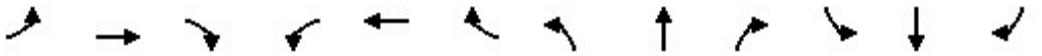
BUILD 2 2045

Arterial Level of Service: EB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 134 AVE	III	30	32.5	30.4	62.9	0.26	14.7	D
SW 127 AVE	III	30	90.9	45.5	136.4	0.76	20.0	C
Total	III		123.4	75.9	199.3	1.01	18.3	C

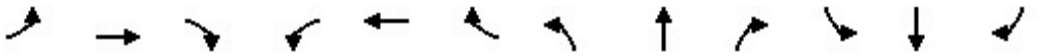
Arterial Level of Service: WB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 134 AVE	III	30	90.9	10.4	101.3	0.76	26.9	B
SW1 137 AVE	III	38	28.2	23.6	51.8	0.26	17.8	D
Total	III		119.1	34.0	153.1	1.01	23.8	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	562	98	278	413	383	131	521	242	292	353	121
Future Volume (vph)	84	562	98	278	413	383	131	521	242	292	353	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.4		4.5	6.4	6.4	4.5	6.4	6.4	4.5	6.4	6.4
Lane Util. Factor	0.97	0.95		0.97	0.95	0.88	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3019	3178		3433	3282	2656	3433	3539	1583	3213	1832	1380
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3019	3178		3433	3282	2656	3433	3539	1583	3213	1832	1380
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	88	592	103	293	435	403	138	548	255	307	372	127
RTOR Reduction (vph)	0	10	0	0	0	24	0	0	174	0	0	92
Lane Group Flow (vph)	88	685	0	293	435	379	138	548	81	307	372	35
Heavy Vehicles (%)	16%	13%	0%	2%	10%	7%	2%	2%	2%	9%	97%	17%
Turn Type	Prot	NA		Prot	NA	custom	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	2 3	7	4		3	8	
Permitted Phases						4			4			8
Actuated Green, G (s)	8.3	40.5		15.3	46.0	94.8	9.5	25.4	25.4	17.0	32.9	32.9
Effective Green, g (s)	8.3	40.5		15.3	46.0	94.8	9.5	25.4	25.4	17.0	32.9	32.9
Actuated g/C Ratio	0.07	0.34		0.13	0.38	0.79	0.08	0.21	0.21	0.14	0.27	0.27
Clearance Time (s)	6.0	6.4		4.5	6.4		4.5	6.4	6.4	4.5	6.4	6.4
Vehicle Extension (s)	2.5	1.0		3.0	1.0		3.0	3.5	3.5	3.0	3.5	3.5
Lane Grp Cap (vph)	208	1072		437	1258	2098	271	749	335	455	502	378
v/s Ratio Prot	0.03	c0.22		c0.09	0.13	0.10	0.04	0.15		c0.10	c0.20	
v/s Ratio Perm						0.04			0.05			0.03
v/c Ratio	0.42	0.64		0.67	0.35	0.18	0.51	0.73	0.24	0.67	0.74	0.09
Uniform Delay, d1	53.6	33.6		49.9	26.3	3.1	53.0	44.1	39.3	48.9	39.7	32.4
Progression Factor	1.00	1.00		0.81	0.80	3.41	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	2.9		3.7	0.7	0.0	1.5	3.8	0.4	3.9	6.0	0.1
Delay (s)	54.6	36.5		44.1	21.8	10.6	54.5	47.9	39.7	52.8	45.7	32.6
Level of Service	D	D		D	C	B	D	D	D	D	D	C
Approach Delay (s)		38.5			23.6			46.7			46.3	
Approach LOS		D			C			D			D	

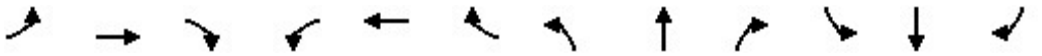
Intersection Summary			
HCM 2000 Control Delay	37.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.3
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	179	1284	150	271	701	164	210	180	294	84	195	47
Future Volume (veh/h)	179	1284	150	271	701	164	210	180	294	84	195	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1648	1885	1856	1885	1811	1811	1781	1870	1870	1900
Adj Flow Rate, veh/h	188	1352	158	285	738	173	221	189	309	88	205	49
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	8	17	1	3	1	6	6	8	2	2	0
Cap, veh/h	392	1571	648	339	1731	871	290	365	451	246	257	221
Arrive On Green	0.07	0.46	0.46	0.10	0.49	0.49	0.12	0.20	0.20	0.05	0.14	0.14
Sat Flow, veh/h	1767	3385	1397	3483	3526	1598	1725	1811	1510	1781	1870	1610
Grp Volume(v), veh/h	188	1352	158	285	738	173	221	189	309	88	205	49
Grp Sat Flow(s),veh/h/ln	1767	1692	1397	1742	1763	1598	1725	1811	1510	1781	1870	1610
Q Serve(g_s), s	7.8	49.9	9.6	11.3	18.9	7.7	15.0	13.0	25.3	5.9	14.9	3.8
Cycle Q Clear(g_c), s	7.8	49.9	9.6	11.3	18.9	7.7	15.0	13.0	25.3	5.9	14.9	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	392	1571	648	339	1731	871	290	365	451	246	257	221
V/C Ratio(X)	0.48	0.86	0.24	0.84	0.43	0.20	0.76	0.52	0.69	0.36	0.80	0.22
Avail Cap(c_a), veh/h	427	1571	648	438	1731	871	290	409	488	246	302	260
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.1	33.5	22.7	62.1	22.9	16.2	44.1	49.8	43.3	48.2	58.5	53.7
Incr Delay (d2), s/veh	0.7	6.4	0.9	10.2	0.8	0.5	10.9	1.4	3.9	0.7	12.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	21.6	3.4	5.5	8.1	3.0	7.3	6.1	10.0	2.7	8.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.8	39.9	23.6	72.4	23.7	16.7	55.0	51.2	47.2	48.9	71.4	54.4
LnGrp LOS	B	D	C	E	C	B	D	D	D	D	E	D
Approach Vol, veh/h		1698			1196			719			342	
Approach Delay, s/veh		36.0			34.3			50.6			63.1	
Approach LOS		D			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.3	75.1	14.0	34.6	20.0	71.4	23.0	25.6
Change Period (Y+Rc), s	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Max Green Setting (Gmax), s	12.6	62.6	7.6	31.6	17.6	57.6	16.6	22.6
Max Q Clear Time (g_c+I1), s	9.8	0.0	7.9	27.3	13.3	11.6	17.0	16.9
Green Ext Time (p_c), s	0.1	0.0	0.0	0.9	0.3	0.0	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	40.5
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	1009	73	98	957	66	85	23	139	81	52	35
Future Volume (veh/h)	25	1009	73	98	957	66	85	23	139	81	52	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1515	1767	1841	1900	1856	1856	1811	1781	1663	1900	1722	937
Adj Flow Rate, veh/h	26	1062	77	103	1007	69	89	24	146	85	55	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	26	9	4	0	3	3	6	8	16	0	12	65
Cap, veh/h	328	2211	1121	384	2597	1158	209	41	250	169	88	59
Arrive On Green	0.66	0.66	0.66	0.04	0.74	0.74	0.06	0.19	0.19	0.09	0.09	0.09
Sat Flow, veh/h	425	3357	1560	1810	3526	1572	1725	218	1325	1234	960	646
Grp Volume(v), veh/h	26	1062	77	103	1007	69	89	0	170	85	0	92
Grp Sat Flow(s),veh/h/ln	425	1678	1560	1810	1763	1572	1725	0	1543	1234	0	1606
Q Serve(g_s), s	2.9	19.0	1.8	2.1	12.6	1.5	5.4	0.0	12.1	8.1	0.0	6.6
Cycle Q Clear(g_c), s	6.2	19.0	1.8	2.1	12.6	1.5	5.4	0.0	12.1	8.5	0.0	6.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.86	1.00		0.40
Lane Grp Cap(c), veh/h	328	2211	1121	384	2597	1158	209	0	291	169	0	146
V/C Ratio(X)	0.08	0.48	0.07	0.27	0.39	0.06	0.43	0.00	0.58	0.50	0.00	0.63
Avail Cap(c_a), veh/h	328	2211	1121	470	2597	1158	371	0	546	257	0	261
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.7	10.2	5.0	7.4	5.8	4.4	44.2	0.0	44.4	53.6	0.0	52.6
Incr Delay (d2), s/veh	0.5	0.8	0.1	0.4	0.4	0.1	1.4	0.0	1.9	2.3	0.0	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	6.8	0.6	0.8	4.3	0.5	2.4	0.0	4.8	2.6	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.2	11.0	5.1	7.8	6.3	4.5	45.5	0.0	46.3	55.9	0.0	56.9
LnGrp LOS	A	B	A	A	A	A	D	A	D	E	A	E
Approach Vol, veh/h		1165			1179			259			177	
Approach Delay, s/veh		10.5			6.3			46.0			56.5	
Approach LOS		B			A			D			E	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		27.1	9.3	83.5	11.7	15.4		92.9				
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		42.5	10.5	53.5	18.5	19.5		68.5				
Max Q Clear Time (g_c+I1), s		14.1	4.1	21.0	7.4	10.5		14.6				
Green Ext Time (p_c), s		1.1	0.1	10.5	0.1	0.5		9.9				

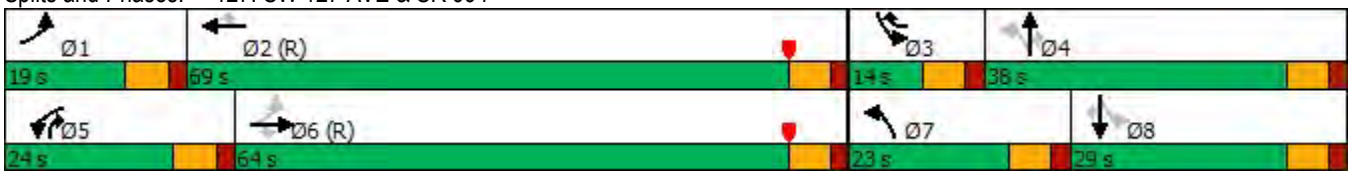
Intersection Summary												
HCM 6th Ctrl Delay			15.0									
HCM 6th LOS			B									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	179	1284	150	271	701	164	210	180	294	84	195	47
Future Volume (vph)	179	1284	150	271	701	164	210	180	294	84	195	47
Turn Type	pm+pt	NA	Perm	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases	6		6			2	4		4	8		8
Detector Phase	1	6	6	5	2	3	7	4	5	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0	5.0	5.0	7.0	5.0	5.0	7.0	7.0
Minimum Split (s)	11.4	28.4	28.4	11.4	28.4	11.4	11.4	28.4	11.4	11.4	28.4	28.4
Total Split (s)	19.0	64.0	64.0	24.0	69.0	14.0	23.0	38.0	24.0	14.0	29.0	29.0
Total Split (%)	13.6%	45.7%	45.7%	17.1%	49.3%	10.0%	16.4%	27.1%	17.1%	10.0%	20.7%	20.7%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 53 (38%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 127: SW 127 AVE & SR 994

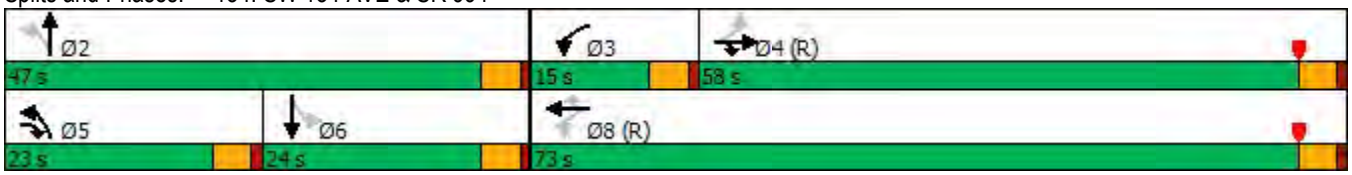


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	25	1009	73	98	957	66	85	23	81	52
Future Volume (vph)	25	1009	73	98	957	66	85	23	81	52
Turn Type	Perm	NA	pt+ov	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases		4	4 5	3	8		5	2		6
Permitted Phases	4			8		8	2		6	
Detector Phase	4	4	4 5	3	8	8	5	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5		9.5	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	58.0	58.0		15.0	73.0	73.0	23.0	47.0	24.0	24.0
Total Split (%)	48.3%	48.3%		12.5%	60.8%	60.8%	19.2%	39.2%	20.0%	20.0%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag		Lead			Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 102 (85%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 134: SW 134 AVE & SR 994

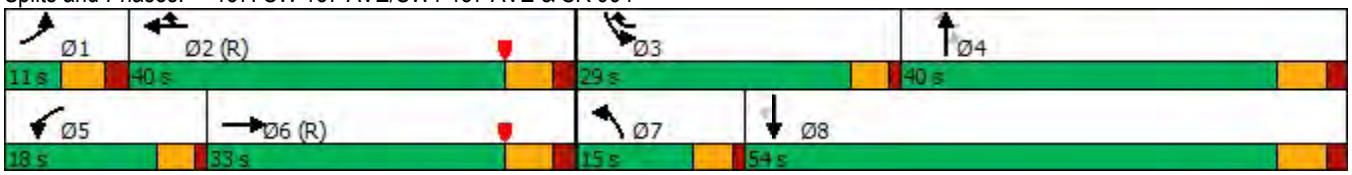


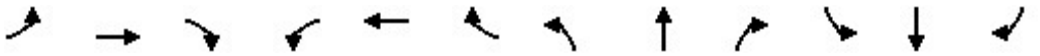
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	84	562	278	413	383	131	521	242	292	353	121
Future Volume (vph)	84	562	278	413	383	131	521	242	292	353	121
Turn Type	Prot	NA	Prot	NA	custom	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6	5	2	2 3	7	4		3	8	
Permitted Phases					4			4			8
Detector Phase	1	6	5	2	2 3	7	4	4	3	8	8
Switch Phase											
Minimum Initial (s)	5.0	13.6	5.0	16.0		5.0	7.0	7.0	5.0	7.0	7.0
Minimum Split (s)	11.0	20.0	9.5	22.4		9.5	13.4	13.4	9.5	13.4	13.4
Total Split (s)	11.0	33.0	18.0	40.0		15.0	40.0	40.0	29.0	54.0	54.0
Total Split (%)	9.2%	27.5%	15.0%	33.3%		12.5%	33.3%	33.3%	24.2%	45.0%	45.0%
Yellow Time (s)	4.0	4.4	3.5	4.4		3.5	4.4	4.4	3.5	4.4	4.4
All-Red Time (s)	2.0	2.0	1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.4	4.5	6.4		4.5	6.4	6.4	4.5	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max		None	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 137: SW 137 AVE/SW1 137 AVE & SR 994

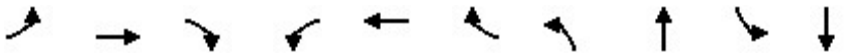




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	188	1352	158	285	738	173	221	189	309	88	205	49
v/c Ratio	0.47	0.90	0.22	0.74	0.44	0.17	0.79	0.52	0.53	0.34	0.78	0.13
Control Delay	17.5	45.5	3.2	72.1	25.6	2.5	59.1	54.6	28.8	40.0	78.4	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	45.5	3.2	72.1	25.6	2.5	59.1	54.6	28.8	40.0	78.4	0.7
Queue Length 50th (ft)	74	610	0	130	235	0	159	153	162	58	181	0
Queue Length 95th (ft)	117	#801	34	179	301	34	#249	230	246	100	268	0
Internal Link Dist (ft)		1222			1328			526			1118	
Turn Bay Length (ft)	300		250	385		190	385		385	275		160
Base Capacity (vph)	422	1504	717	435	1693	1004	286	404	607	263	300	408
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.90	0.22	0.66	0.44	0.17	0.77	0.47	0.51	0.33	0.68	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	26	1062	77	103	1007	69	89	170	85	92
v/c Ratio	0.11	0.56	0.07	0.31	0.42	0.06	0.30	0.37	0.61	0.53
Control Delay	23.9	30.4	8.1	10.5	10.4	2.4	36.2	9.5	68.2	47.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.9	30.4	8.1	10.5	10.4	2.4	36.2	9.5	68.2	47.1
Queue Length 50th (ft)	13	432	4	25	168	0	55	14	64	50
Queue Length 95th (ft)	m35	518	m49	58	275	19	89	62	113	100
Internal Link Dist (ft)		272			408			1264		1117
Turn Bay Length (ft)	225		225	185		185	185		150	
Base Capacity (vph)	246	1898	1205	366	2376	1085	341	604	200	238
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.56	0.06	0.28	0.42	0.06	0.26	0.28	0.42	0.39

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	88	695	293	435	403	138	548	255	307	372	127
v/c Ratio	0.43	0.64	0.67	0.35	0.18	0.51	0.73	0.50	0.67	0.74	0.25
Control Delay	59.7	38.4	47.7	23.6	5.4	59.5	49.9	11.0	56.1	48.3	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.7	38.4	47.7	23.6	5.4	59.5	49.9	11.0	56.1	48.3	2.8
Queue Length 50th (ft)	34	232	111	132	57	53	210	22	118	140	0
Queue Length 95th (ft)	61	#405	135	204	107	87	254	90	158	173	20
Internal Link Dist (ft)		500		377			374			423	
Turn Bay Length (ft)	300		350		405	240		440	425		195
Base Capacity (vph)	207	1083	447	1259	2195	300	990	602	655	726	648
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.64	0.66	0.35	0.18	0.46	0.55	0.42	0.47	0.51	0.20

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1107	1072	5	0	3
Future Vol, veh/h	0	1107	1072	5	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	7	0	0	49
Mvmt Flow	0	1165	1128	5	0	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	567
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.88
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.79
Pot Cap-1 Maneuver	0	-	-	-	0	365
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	365
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	365
HCM Lane V/C Ratio	-	-	-	0.009
HCM Control Delay (s)	-	-	-	14.9
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	1472	8	22	996	3	36	0	75	8	1	3
Future Vol, veh/h	4	1472	8	22	996	3	36	0	75	8	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	90	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	5	24	11	5	0	0	0	0	0	0	0
Mvmt Flow	4	1549	8	23	1048	3	38	0	79	8	1	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1051	0	0	1557	0	0	2132	-	779	1879	2661	526
Stage 1	-	-	-	-	-	-	1561	-	-	1096	1096	-
Stage 2	-	-	-	-	-	-	571	-	-	783	1565	-
Critical Hdwy	4.1	-	-	4.32	-	-	7.5	-	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	-	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	-	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.31	-	-	3.5	-	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	670	-	-	380	-	-	~ 29	0	343	45	23	502
Stage 1	-	-	-	-	-	-	119	0	-	231	292	-
Stage 2	-	-	-	-	-	-	478	0	-	357	174	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	670	-	-	380	-	-	~ 26	-	343	33	21	502
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 26	-	-	33	21	-
Stage 1	-	-	-	-	-	-	118	-	-	230	274	-
Stage 2	-	-	-	-	-	-	445	-	-	273	173	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	195.7	127.9
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	26	343	670	-	-	380	-	-	41
HCM Lane V/C Ratio	1.457	0.23	0.006	-	-	0.061	-	-	0.308
HCM Control Delay (s)	$ 564.8	18.6	10.4	-	-	15.1	-	-	127.9
HCM Lane LOS	F	C	B	-	-	C	-	-	F
HCM 95th %tile Q(veh)	4.6	0.9	0	-	-	0.2	-	-	1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	19.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	162	1462	6	2	984	32	6	1	5	20	1	98
Future Vol, veh/h	162	1462	6	2	984	32	6	1	5	20	1	98
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	4	10	32	0	5	8	0	0	0	9	0	2
Mvmt Flow	171	1539	6	2	1036	34	6	1	5	21	1	103

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1070	0	0	1545	0	0	2407	2958	773	2169	2944	535
Stage 1	-	-	-	-	-	-	1884	1884	-	1057	1057	-
Stage 2	-	-	-	-	-	-	523	1074	-	1112	1887	-
Critical Hdwy	4.18	-	-	4.1	-	-	7.5	6.5	6.9	7.68	6.5	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.68	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.68	5.5	-
Follow-up Hdwy	2.24	-	-	2.2	-	-	3.5	4	3.3	3.59	4	3.32
Pot Cap-1 Maneuver	635	-	-	435	-	-	18	15	346	24	15	490
Stage 1	-	-	-	-	-	-	75	121	-	228	304	-
Stage 2	-	-	-	-	-	-	510	299	-	211	120	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	635	-	-	435	-	-	10	11	346	~ 17	11	490
Mov Cap-2 Maneuver	-	-	-	-	-	-	10	11	-	~ 17	11	-
Stage 1	-	-	-	-	-	-	55	88	-	167	302	-
Stage 2	-	-	-	-	-	-	399	298	-	150	88	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0	$ 431.3	$ 387
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	17	635	-	-	435	-	-	81
HCM Lane V/C Ratio	0.743	0.269	-	-	0.005	-	-	1.546
HCM Control Delay (s)	$ 431.3	12.7	-	-	13.3	-	-	$ 387
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	1.9	1.1	-	-	0	-	-	10.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	12.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1337	22	88	999	42	294
Future Vol, veh/h	1337	22	88	999	42	294
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	0	6	5	5	4
Mvmt Flow	1407	23	93	1052	44	309

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1430	0	2131	715
Stage 1	-	-	-	-	1419	-
Stage 2	-	-	-	-	712	-
Critical Hdwy	-	-	4.22	-	6.9	6.98
Critical Hdwy Stg 1	-	-	-	-	5.9	-
Critical Hdwy Stg 2	-	-	-	-	5.9	-
Follow-up Hdwy	-	-	2.26	-	3.55	3.34
Pot Cap-1 Maneuver	-	-	451	-	~ 41	369
Stage 1	-	-	-	-	184	-
Stage 2	-	-	-	-	439	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	451	-	~ 33	369
Mov Cap-2 Maneuver	-	-	-	-	~ 33	-
Stage 1	-	-	-	-	184	-
Stage 2	-	-	-	-	349	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	100.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	33	369	-	-	451	-
HCM Lane V/C Ratio	1.34	0.839	-	-	0.205	-
HCM Control Delay (s)	$ 458.1	49.2	-	-	15	-
HCM Lane LOS	F	E	-	-	C	-
HCM 95th %tile Q(veh)	4.8	7.7	-	-	0.8	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	13.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	39	1190	1114	13	65	7
Future Vol, veh/h	39	1190	1114	13	65	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	6	10	24	0
Mvmt Flow	41	1253	1173	14	68	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1187	0	-	0	1889	594
Stage 1	-	-	-	-	1180	-
Stage 2	-	-	-	-	709	-
Critical Hdwy	4.1	-	-	-	7.28	6.9
Critical Hdwy Stg 1	-	-	-	-	6.28	-
Critical Hdwy Stg 2	-	-	-	-	6.28	-
Follow-up Hdwy	2.2	-	-	-	3.74	3.3
Pot Cap-1 Maneuver	595	-	-	-	~ 48	453
Stage 1	-	-	-	-	213	-
Stage 2	-	-	-	-	395	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	595	-	-	-	~ 45	453
Mov Cap-2 Maneuver	-	-	-	-	~ 45	-
Stage 1	-	-	-	-	198	-
Stage 2	-	-	-	-	395	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	$ 458.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	595	-	-	-	49
HCM Lane V/C Ratio	0.069	-	-	-	1.547
HCM Control Delay (s)	11.5	-	-	-	$ 458.9
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	7.3

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	1096	1069	6	0	5
Future Vol, veh/h	0	1096	1069	6	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	3	0	0	0
Mvmt Flow	0	1154	1125	6	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	566
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	473
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	473
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	473
HCM Lane V/C Ratio	-	-	-	0.011
HCM Control Delay (s)	-	-	-	12.7
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1484	1006	29	0	11
Future Vol, veh/h	0	1484	1006	29	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	6	3	0	0	0
Mvmt Flow	0	1562	1059	31	0	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	545
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	488
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	488
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	488
HCM Lane V/C Ratio	-	-	-	0.024
HCM Control Delay (s)	-	-	-	12.6
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1360	1018	24	0	13
Future Vol, veh/h	0	1360	1018	24	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	3	5	2	0
Mvmt Flow	0	1432	1072	25	0	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	549
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	485
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	485
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	485
HCM Lane V/C Ratio	-	-	-	0.028
HCM Control Delay (s)	-	-	-	12.6
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	62.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1234	21	17	1014	113	125
Future Vol, veh/h	1234	21	17	1014	113	125
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	8	0	7	5	2	2
Mvmt Flow	1299	22	18	1067	119	132

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1321	0	1880	661
Stage 1	-	-	-	-	1310	-
Stage 2	-	-	-	-	570	-
Critical Hdwy	-	-	4.24	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.27	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	493	-	~ 63	405
Stage 1	-	-	-	-	217	-
Stage 2	-	-	-	-	529	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	493	-	~ 61	405
Mov Cap-2 Maneuver	-	-	-	-	~ 61	-
Stage 1	-	-	-	-	217	-
Stage 2	-	-	-	-	509	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	$ 666
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	110	-	-	493	-
HCM Lane V/C Ratio	2.278	-	-	0.036	-
HCM Control Delay (s)	$ 666	-	-	12.6	-
HCM Lane LOS	F	-	-	B	-
HCM 95th %tile Q(veh)	21.9	-	-	0.1	-

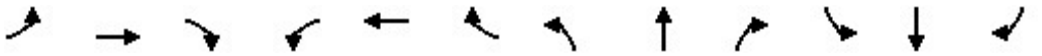
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Arterial Level of Service: EB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 134 AVE	III	30	32.5	19.6	52.1	0.26	17.7	D
SW 127 AVE	III	30	90.9	49.4	140.3	0.76	19.4	C
Total	III		123.4	69.0	192.4	1.01	19.0	C

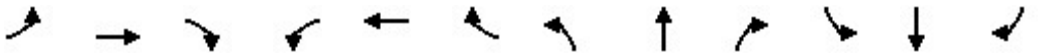
Arterial Level of Service: WB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 134 AVE	III	30	90.9	7.4	98.3	0.76	27.7	B
SW1 137 AVE	III	38	28.2	35.8	64.0	0.26	14.4	D
Total	III		119.1	43.2	162.3	1.01	22.5	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	529	88	242	347	294	109	319	274	379	626	123
Future Volume (vph)	51	529	88	242	347	294	109	319	274	379	626	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.4		4.5	6.4	6.4	4.5	6.4	6.4	4.5	6.4	6.4
Lane Util. Factor	0.97	0.95		0.97	0.95	0.88	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3019	3178		3433	3282	2656	3433	3539	1583	3213	1832	1380
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.40	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3019	3178		3433	3282	2656	1450	3539	1583	3213	1832	1380
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	54	557	93	255	365	309	115	336	288	399	659	129
RTOR Reduction (vph)	0	10	0	0	0	59	0	0	202	0	0	74
Lane Group Flow (vph)	54	640	0	255	365	250	115	336	86	399	659	55
Heavy Vehicles (%)	16%	13%	0%	2%	10%	7%	2%	2%	2%	9%	97%	17%
Turn Type	Prot	NA		Prot	NA	custom	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	2 3	7	4		3	8	
Permitted Phases						4	4		4			8
Actuated Green, G (s)	6.1	28.6		13.2	34.2	97.0	41.4	35.9	35.9	20.5	50.9	50.9
Effective Green, g (s)	6.1	28.6		13.2	34.2	97.0	41.4	35.9	35.9	20.5	50.9	50.9
Actuated g/C Ratio	0.05	0.24		0.11	0.29	0.81	0.34	0.30	0.30	0.17	0.42	0.42
Clearance Time (s)	6.0	6.4		4.5	6.4		4.5	6.4	6.4	4.5	6.4	6.4
Vehicle Extension (s)	2.5	1.0		3.0	1.0		3.0	3.5	3.5	3.0	3.5	3.5
Lane Grp Cap (vph)	153	757		377	935	2146	591	1058	473	548	777	585
v/s Ratio Prot	0.02	c0.20		c0.07	0.11	0.06	0.01	0.09		c0.12	c0.36	
v/s Ratio Perm						0.03	0.06		0.05			0.04
v/c Ratio	0.35	0.85		0.68	0.39	0.12	0.19	0.32	0.18	0.73	0.85	0.09
Uniform Delay, d1	55.0	43.6		51.3	34.5	2.4	26.6	32.6	31.2	47.1	31.1	20.7
Progression Factor	1.00	1.00		0.90	0.94	0.51	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	11.2		4.6	1.2	0.0	0.2	0.2	0.2	4.8	8.8	0.1
Delay (s)	56.1	54.8		50.7	33.5	1.3	26.8	32.8	31.4	51.9	39.8	20.8
Level of Service	E	D		D	C	A	C	C	C	D	D	C
Approach Delay (s)		54.9			27.5			31.3			41.8	
Approach LOS		D			C			C			D	

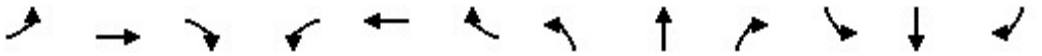
Intersection Summary			
HCM 2000 Control Delay	38.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.3
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	1091	193	357	801	130	168	172	175	117	247	71
Future Volume (veh/h)	92	1091	193	357	801	130	168	172	175	117	247	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1648	1885	1856	1885	1811	1811	1781	1870	1870	1900
Adj Flow Rate, veh/h	97	1148	203	376	843	137	177	181	184	123	260	75
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	8	17	1	3	1	6	6	8	2	2	0
Cap, veh/h	336	1479	610	426	1816	938	246	337	466	277	296	255
Arrive On Green	0.04	0.44	0.44	0.12	0.52	0.52	0.10	0.19	0.19	0.07	0.16	0.16
Sat Flow, veh/h	1767	3385	1397	3483	3526	1598	1725	1811	1510	1781	1870	1610
Grp Volume(v), veh/h	97	1148	203	376	843	137	177	181	184	123	260	75
Grp Sat Flow(s),veh/h/ln	1767	1692	1397	1742	1763	1598	1725	1811	1510	1781	1870	1610
Q Serve(g_s), s	4.2	40.5	13.4	14.9	21.3	5.4	11.9	12.7	13.4	8.0	19.0	5.8
Cycle Q Clear(g_c), s	4.2	40.5	13.4	14.9	21.3	5.4	11.9	12.7	13.4	8.0	19.0	5.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	336	1479	610	426	1816	938	246	337	466	277	296	255
V/C Ratio(X)	0.29	0.78	0.33	0.88	0.46	0.15	0.72	0.54	0.40	0.44	0.88	0.29
Avail Cap(c_a), veh/h	417	1479	610	463	1816	938	279	409	525	398	462	398
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.4	33.6	26.0	60.5	21.6	13.1	44.5	51.5	38.1	44.9	57.6	52.0
Incr Delay (d2), s/veh	0.3	4.1	1.5	16.7	0.9	0.3	6.9	1.6	0.7	0.8	12.6	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	17.4	4.8	7.6	9.1	2.1	5.6	5.9	5.1	3.6	10.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	37.7	27.4	77.2	22.5	13.4	51.4	53.1	38.8	45.7	70.2	52.8
LnGrp LOS	C	D	C	E	C	B	D	D	D	D	E	D
Approach Vol, veh/h		1448			1356			542			458	
Approach Delay, s/veh		35.1			36.7			47.7			60.7	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	78.5	16.5	32.5	23.5	67.6	20.4	28.6
Change Period (Y+Rc), s	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Max Green Setting (Gmax), s	12.6	50.6	19.6	31.6	18.6	44.6	16.6	34.6
Max Q Clear Time (g_c+I1), s	6.2	0.0	10.0	15.4	16.9	15.4	13.9	21.0
Green Ext Time (p_c), s	0.1	0.0	0.2	1.4	0.2	0.0	0.1	1.1

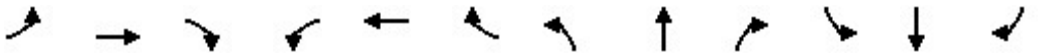
Intersection Summary	
HCM 6th Ctrl Delay	40.6
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	1112	93	73	781	62	76	49	120	49	29	33
Future Volume (veh/h)	33	1112	93	73	781	62	76	49	120	49	29	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1515	1767	1841	1900	1856	1856	1811	1781	1663	1900	1722	937
Adj Flow Rate, veh/h	35	1171	98	77	822	65	80	52	126	52	31	35
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	26	9	4	0	3	3	6	8	16	0	12	65
Cap, veh/h	406	2291	1151	357	2674	1193	198	77	186	134	55	62
Arrive On Green	0.68	0.68	0.68	0.04	0.76	0.76	0.06	0.17	0.17	0.07	0.07	0.07
Sat Flow, veh/h	507	3357	1560	1810	3526	1572	1725	462	1119	1225	738	834
Grp Volume(v), veh/h	35	1171	98	77	822	65	80	0	178	52	0	66
Grp Sat Flow(s),veh/h/ln	507	1678	1560	1810	1763	1572	1725	0	1580	1225	0	1572
Q Serve(g_s), s	2.8	20.4	2.1	1.4	8.8	1.2	5.0	0.0	12.7	5.0	0.0	4.9
Cycle Q Clear(g_c), s	2.8	20.4	2.1	1.4	8.8	1.2	5.0	0.0	12.7	6.6	0.0	4.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.71	1.00		0.53
Lane Grp Cap(c), veh/h	406	2291	1151	357	2674	1193	198	0	263	134	0	116
V/C Ratio(X)	0.09	0.51	0.09	0.22	0.31	0.05	0.40	0.00	0.68	0.39	0.00	0.57
Avail Cap(c_a), veh/h	406	2291	1151	400	2674	1193	383	0	560	233	0	242
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.5	9.3	4.4	6.8	4.6	3.7	46.1	0.0	47.0	55.3	0.0	53.7
Incr Delay (d2), s/veh	0.4	0.8	0.1	0.3	0.3	0.1	1.3	0.0	3.0	1.8	0.0	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	7.2	0.7	0.5	2.9	0.4	2.2	0.0	5.2	1.6	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.9	10.1	4.6	7.1	4.9	3.7	47.4	0.0	50.0	57.1	0.0	58.0
LnGrp LOS	A	B	A	A	A	A	D	A	D	E	A	E
Approach Vol, veh/h		1304			964			258			118	
Approach Delay, s/veh		9.6			5.0			49.2			57.6	
Approach LOS		A			A			D			E	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		24.5	9.1	86.4	11.1	13.4		95.5				
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		42.5	7.5	56.5	19.5	18.5		68.5				
Max Q Clear Time (g_c+I1), s		14.7	3.4	22.4	7.0	8.6		10.8				
Green Ext Time (p_c), s		1.1	0.0	12.2	0.1	0.3		7.5				

Intersection Summary												
HCM 6th Ctrl Delay			13.9									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	529	88	242	347	294	109	319	274	379	626	123
Future Volume (veh/h)	51	529	88	242	347	294	109	319	274	379	626	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1663	1707	1900	1870	1752	1796	1870	1870	1870	1767	462	1648
Adj Flow Rate, veh/h	54	557	93	255	365	309	115	336	288	399	659	129
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	16	13	0	2	10	7	2	2	2	9	97	17
Cap, veh/h	107	542	90	314	794	639	244	1377	614	474	436	694
Arrive On Green	0.03	0.19	0.19	0.09	0.24	0.24	0.04	0.39	0.39	0.15	0.50	0.50
Sat Flow, veh/h	3072	2783	463	3456	3328	2679	3456	3554	1585	3264	879	1397
Grp Volume(v), veh/h	54	324	326	255	365	309	115	336	288	399	659	129
Grp Sat Flow(s),veh/h/ln	1536	1622	1624	1728	1664	1340	1728	1777	1585	1632	439	1397
Q Serve(g_s), s	2.1	23.4	23.4	8.7	11.3	11.9	2.4	7.7	16.3	14.3	59.6	6.1
Cycle Q Clear(g_c), s	2.1	23.4	23.4	8.7	11.3	11.9	2.4	7.7	16.3	14.3	59.6	6.1
Prop In Lane	1.00		0.29	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	107	316	316	314	794	639	244	1377	614	474	436	694
V/C Ratio(X)	0.51	1.03	1.03	0.81	0.46	0.48	0.47	0.24	0.47	0.84	1.51	0.19
Avail Cap(c_a), veh/h	512	316	316	389	794	639	278	1377	614	775	436	694
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.9	48.3	48.3	53.5	39.1	39.3	29.6	24.9	27.5	50.0	30.2	16.7
Incr Delay (d2), s/veh	2.7	57.4	58.9	10.1	1.9	2.6	1.4	0.1	0.7	4.6	241.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	14.2	14.4	4.2	4.7	4.1	1.0	3.2	6.1	6.0	20.4	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.6	105.7	107.2	63.6	41.0	41.9	31.0	25.0	28.2	54.5	271.3	16.9
LnGrp LOS	E	F	F	E	D	D	C	C	C	D	F	B
Approach Vol, veh/h		704			929			739			1187	
Approach Delay, s/veh		102.9			47.5			27.2			170.8	
Approach LOS		F			D			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	35.0	21.9	52.9	15.4	29.8	8.8	66.0
Change Period (Y+Rc), s	6.0	6.4	4.5	6.4	4.5	6.4	4.5	6.4
Max Green Setting (Gmax), s	20.0	11.6	28.5	36.6	13.5	19.6	5.5	59.6
Max Q Clear Time (g_c+I1), s	4.1	0.0	16.3	18.3	10.7	25.4	4.4	61.6
Green Ext Time (p_c), s	0.1	0.0	1.1	2.7	0.2	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	95.4
HCM 6th LOS	F

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	1091	193	357	801	130	168	172	175	117	247	71
Future Volume (vph)	92	1091	193	357	801	130	168	172	175	117	247	71
Turn Type	pm+pt	NA	Perm	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases	6		6			2	4		4	8		8
Detector Phase	1	6	6	5	2	3	7	4	5	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0	5.0	5.0	7.0	5.0	5.0	7.0	7.0
Minimum Split (s)	11.4	28.4	28.4	11.4	28.4	11.4	11.4	28.4	11.4	11.4	28.4	28.4
Total Split (s)	19.0	51.0	51.0	25.0	57.0	26.0	23.0	38.0	25.0	26.0	41.0	41.0
Total Split (%)	13.6%	36.4%	36.4%	17.9%	40.7%	18.6%	16.4%	27.1%	17.9%	18.6%	29.3%	29.3%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 116 (83%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 127: SW 127 AVE & SR 994

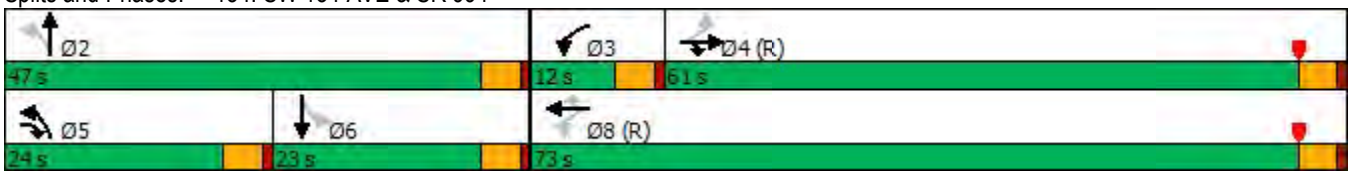


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	33	1112	93	73	781	62	76	49	49	29
Future Volume (vph)	33	1112	93	73	781	62	76	49	49	29
Turn Type	Perm	NA	pt+ov	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases		4	4 5	3	8		5	2		6
Permitted Phases	4			8		8	2		6	
Detector Phase	4	4	4 5	3	8	8	5	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5		9.5	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	61.0	61.0		12.0	73.0	73.0	24.0	47.0	23.0	23.0
Total Split (%)	50.8%	50.8%		10.0%	60.8%	60.8%	20.0%	39.2%	19.2%	19.2%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag		Lead			Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 102 (85%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 134: SW 134 AVE & SR 994

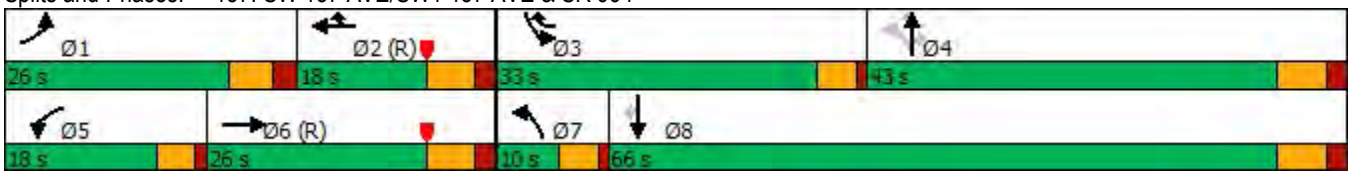


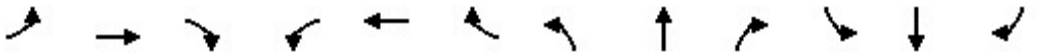
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	51	529	242	347	294	109	319	274	379	626	123
Future Volume (vph)	51	529	242	347	294	109	319	274	379	626	123
Turn Type	Prot	NA	Prot	NA	custom	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	1	6	5	2	2 3	7	4		3	8	
Permitted Phases					4	4		4			8
Detector Phase	1	6	5	2	2 3	7	4	4	3	8	8
Switch Phase											
Minimum Initial (s)	5.0	4.0	5.0	11.6		2.5	7.0	7.0	5.0	7.0	7.0
Minimum Split (s)	11.0	10.4	9.5	18.0		7.0	13.4	13.4	9.5	13.4	13.4
Total Split (s)	26.0	26.0	18.0	18.0		10.0	43.0	43.0	33.0	66.0	66.0
Total Split (%)	21.7%	21.7%	15.0%	15.0%		8.3%	35.8%	35.8%	27.5%	55.0%	55.0%
Yellow Time (s)	4.0	4.4	3.5	4.4		3.5	4.4	4.4	3.5	4.4	4.4
All-Red Time (s)	2.0	2.0	1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.4	4.5	6.4		4.5	6.4	6.4	4.5	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max		None	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 137: SW 137 AVE/SW1 137 AVE & SR 994

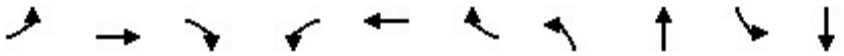




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	97	1148	203	376	843	137	177	181	184	123	260	75
v/c Ratio	0.31	0.88	0.32	0.79	0.52	0.14	0.64	0.50	0.27	0.36	0.78	0.19
Control Delay	19.1	49.4	12.8	70.7	29.3	2.7	44.1	53.6	4.7	35.1	70.0	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.1	49.4	12.8	70.7	29.3	2.7	44.1	53.6	4.7	35.1	70.0	1.6
Queue Length 50th (ft)	39	523	38	171	284	0	118	146	4	79	228	0
Queue Length 95th (ft)	77	#751	111	228	400	32	166	215	49	118	309	4
Internal Link Dist (ft)		1222			1328			526			1118	
Turn Bay Length (ft)	300		250	385		190	385		385	275		160
Base Capacity (vph)	366	1306	625	496	1636	1090	295	410	693	435	460	493
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.88	0.32	0.76	0.52	0.13	0.60	0.44	0.27	0.28	0.57	0.15

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	1171	98	77	822	65	80	178	52	66
v/c Ratio	0.11	0.55	0.08	0.24	0.32	0.06	0.33	0.46	0.49	0.47
Control Delay	12.1	19.6	5.0	8.2	7.4	2.0	40.6	18.4	66.6	38.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.1	19.6	5.0	8.2	7.4	2.0	40.6	18.4	66.6	38.5
Queue Length 50th (ft)	14	465	18	16	113	0	51	42	39	23
Queue Length 95th (ft)	m29	553	m36	40	185	16	87	98	79	67
Internal Link Dist (ft)		272			408			1264		1117
Turn Bay Length (ft)	225		225	185		185	185		150	
Base Capacity (vph)	333	2143	1310	336	2549	1158	325	602	189	222
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.55	0.07	0.23	0.32	0.06	0.25	0.30	0.28	0.30

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	54	650	255	365	309	115	336	288	399	659	129
v/c Ratio	0.31	0.85	0.67	0.38	0.13	0.19	0.32	0.43	0.73	0.85	0.19
Control Delay	58.0	55.9	55.0	35.8	0.2	15.6	32.9	5.4	54.9	41.6	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	55.9	55.0	35.8	0.2	15.6	32.9	5.4	54.9	41.6	1.6
Queue Length 50th (ft)	21	255	100	127	0	21	104	0	153	233	0
Queue Length 95th (ft)	42	#445	145	192	3	30	141	61	195	283	16
Internal Link Dist (ft)		500		377			374			423	
Turn Bay Length (ft)	300		350		405	240		440	425		195
Base Capacity (vph)	503	766	402	968	2324	614	1111	694	763	909	769
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.85	0.63	0.38	0.13	0.19	0.30	0.41	0.52	0.72	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1238	883	7	0	1
Future Vol, veh/h	0	1238	883	7	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	7	0	0	49
Mvmt Flow	0	1303	929	7	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	468
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.88
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.79
Pot Cap-1 Maneuver	0	-	-	-	0	432
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	432
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	432
HCM Lane V/C Ratio	-	-	-	0.002
HCM Control Delay (s)	-	-	-	13.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	1270	76	26	1080	7	9	1	36	9	1	3
Future Vol, veh/h	2	1270	76	26	1080	7	9	1	36	9	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	90	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	5	24	11	5	0	0	0	0	0	0	0
Mvmt Flow	2	1337	80	27	1137	7	9	1	38	9	1	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1144	0	0	1417	0	0	2004	2579	709	1868	2616	572
Stage 1	-	-	-	-	-	-	1381	1381	-	1195	1195	-
Stage 2	-	-	-	-	-	-	623	1198	-	673	1421	-
Critical Hdwy	4.1	-	-	4.32	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.31	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	618	-	-	433	-	-	36	26	381	46	25	468
Stage 1	-	-	-	-	-	-	154	213	-	201	262	-
Stage 2	-	-	-	-	-	-	445	261	-	416	204	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	618	-	-	433	-	-	33	24	381	38	23	468
Mov Cap-2 Maneuver	-	-	-	-	-	-	33	24	-	38	23	-
Stage 1	-	-	-	-	-	-	154	212	-	200	246	-
Stage 2	-	-	-	-	-	-	413	245	-	372	203	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	43	116.7
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	33	381	618	-	-	433	-	-	45
HCM Lane V/C Ratio	0.287	0.099	0.003	-	-	0.063	-	-	0.304
HCM Control Delay (s)	153.2	15.5	10.8	-	-	13.9	-	-	116.7
HCM Lane LOS	F	C	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0.9	0.3	0	-	-	0.2	-	-	1

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	1326	8	2	1067	37	2	1	2	20	4	67
Future Vol, veh/h	60	1326	8	2	1067	37	2	1	2	20	4	67
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	4	10	32	0	5	8	0	0	0	9	0	2
Mvmt Flow	63	1396	8	2	1123	39	2	1	2	21	4	71

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1162	0	0	1404	0	0	2094	2692	702	1972	2677	581
Stage 1	-	-	-	-	-	-	1526	1526	-	1147	1147	-
Stage 2	-	-	-	-	-	-	568	1166	-	825	1530	-
Critical Hdwy	4.18	-	-	4.1	-	-	7.5	6.5	6.9	7.68	6.5	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.68	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.68	5.5	-
Follow-up Hdwy	2.24	-	-	2.2	-	-	3.5	4	3.3	3.59	4	3.32
Pot Cap-1 Maneuver	586	-	-	493	-	-	31	22	385	34	22	457
Stage 1	-	-	-	-	-	-	126	182	-	200	276	-
Stage 2	-	-	-	-	-	-	480	270	-	318	181	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	586	-	-	493	-	-	20	20	385	30	20	457
Mov Cap-2 Maneuver	-	-	-	-	-	-	20	20	-	30	20	-
Stage 1	-	-	-	-	-	-	112	162	-	178	275	-
Stage 2	-	-	-	-	-	-	398	269	-	280	161	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	138.5	198.6
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	32	586	-	-	493	-	-	90
HCM Lane V/C Ratio	0.164	0.108	-	-	0.004	-	-	1.064
HCM Control Delay (s)	138.5	11.9	-	-	12.3	-	-	198.6
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0.5	0.4	-	-	0	-	-	6.4

Intersection	
Int Delay, s/veh	10.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1260	74	209	927	27	134
Future Vol, veh/h	1260	74	209	927	27	134
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	0	6	5	5	4
Mvmt Flow	1326	78	220	976	28	141

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1404	0	2293	702
Stage 1	-	-	-	-	1365	-
Stage 2	-	-	-	-	928	-
Critical Hdwy	-	-	4.22	-	6.9	6.98
Critical Hdwy Stg 1	-	-	-	-	5.9	-
Critical Hdwy Stg 2	-	-	-	-	5.9	-
Follow-up Hdwy	-	-	2.26	-	3.55	3.34
Pot Cap-1 Maneuver	-	-	462	-	32	376
Stage 1	-	-	-	-	197	-
Stage 2	-	-	-	-	338	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	462	-	~ 17	376
Mov Cap-2 Maneuver	-	-	-	-	~ 17	-
Stage 1	-	-	-	-	197	-
Stage 2	-	-	-	-	177	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.6	150.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	17	376	-	-	462	-
HCM Lane V/C Ratio	1.672	0.375	-	-	0.476	-
HCM Control Delay (s)	$ 794.7	20.2	-	-	19.7	-
HCM Lane LOS	F	C	-	-	C	-
HCM 95th %tile Q(veh)	4.1	1.7	-	-	2.5	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	1268	912	16	37	3
Future Vol, veh/h	13	1268	912	16	37	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	6	10	24	0
Mvmt Flow	14	1335	960	17	39	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	977	0	-	0	1665	489
Stage 1	-	-	-	-	969	-
Stage 2	-	-	-	-	696	-
Critical Hdwy	4.1	-	-	-	7.28	6.9
Critical Hdwy Stg 1	-	-	-	-	6.28	-
Critical Hdwy Stg 2	-	-	-	-	6.28	-
Follow-up Hdwy	2.2	-	-	-	3.74	3.3
Pot Cap-1 Maneuver	714	-	-	-	70	530
Stage 1	-	-	-	-	282	-
Stage 2	-	-	-	-	402	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	714	-	-	-	69	530
Mov Cap-2 Maneuver	-	-	-	-	69	-
Stage 1	-	-	-	-	276	-
Stage 2	-	-	-	-	402	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	104.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	714	-	-	-	74
HCM Lane V/C Ratio	0.019	-	-	-	0.569
HCM Control Delay (s)	10.1	-	-	-	104.5
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	2.5

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	1232	877	7	0	6
Future Vol, veh/h	0	1232	877	7	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	3	0	0	0
Mvmt Flow	0	1297	923	7	0	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	465
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	550
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	550
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	550
HCM Lane V/C Ratio	-	-	-	0.011
HCM Control Delay (s)	-	-	-	11.6
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1348	1084	7	0	22
Future Vol, veh/h	0	1348	1084	7	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	6	3	0	0	0
Mvmt Flow	0	1419	1141	7	0	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	574
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	467
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	467
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.1
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	467
HCM Lane V/C Ratio	-	-	-	0.05
HCM Control Delay (s)	-	-	-	13.1
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1334	940	13	0	6
Future Vol, veh/h	0	1334	940	13	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	3	5	2	0
Mvmt Flow	0	1404	989	14	0	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	502
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	520
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	520
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	520
HCM Lane V/C Ratio	-	-	-	0.012
HCM Control Delay (s)	-	-	-	12
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1292	13	40	907	22	43
Future Vol, veh/h	1292	13	40	907	22	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	8	0	7	5	2	2
Mvmt Flow	1360	14	42	955	23	45

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1374	0	1929	687
Stage 1	-	-	-	-	1367	-
Stage 2	-	-	-	-	562	-
Critical Hdwy	-	-	4.24	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.27	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	470	-	58	389
Stage 1	-	-	-	-	202	-
Stage 2	-	-	-	-	534	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	470	-	53	389
Mov Cap-2 Maneuver	-	-	-	-	53	-
Stage 1	-	-	-	-	202	-
Stage 2	-	-	-	-	486	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	65
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	124	-	-	470	-
HCM Lane V/C Ratio	0.552	-	-	0.09	-
HCM Control Delay (s)	65	-	-	13.4	-
HCM Lane LOS	F	-	-	B	-
HCM 95th %tile Q(veh)	2.7	-	-	0.3	-

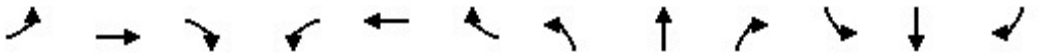
BUILD 3 2025

Arterial Level of Service: EB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 134 AVE	III	30	32.5	28.0	60.5	0.26	15.2	D
SW 127 AVE	III	30	90.9	31.8	122.7	0.76	22.2	C
Total	III		123.4	59.8	183.2	1.01	19.9	C

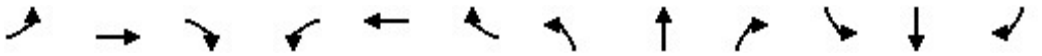
Arterial Level of Service: WB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 134 AVE	III	30	90.9	8.6	99.5	0.76	27.4	B
SW1 137 AVE	III	38	28.2	31.6	59.8	0.26	15.4	D
Total	III		119.1	40.2	159.3	1.01	22.9	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	518	79	206	357	230	105	417	181	177	283	97
Future Volume (vph)	71	518	79	206	357	230	105	417	181	177	283	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.4		4.5	6.4	4.5	4.5	6.4	6.4	4.5	6.4	6.4
Lane Util. Factor	0.97	0.95		0.97	0.95	0.88	0.97	1.00	1.00	0.97	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3019	3180		3433	3282	2656	3433	1863	1583	3213	964	1380
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3019	3180		3433	3282	2656	3433	1863	1583	3213	964	1380
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	75	545	83	217	376	242	111	439	191	186	298	102
RTOR Reduction (vph)	0	8	0	0	0	140	0	0	128	0	0	65
Lane Group Flow (vph)	75	620	0	217	376	102	111	439	63	186	298	37
Heavy Vehicles (%)	16%	13%	0%	2%	10%	7%	2%	2%	2%	9%	97%	17%
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases						2			4			8
Actuated Green, G (s)	6.8	33.5		12.9	38.1	50.4	8.6	39.5	39.5	12.3	43.2	43.2
Effective Green, g (s)	6.8	33.5		12.9	38.1	50.4	8.6	39.5	39.5	12.3	43.2	43.2
Actuated g/C Ratio	0.06	0.28		0.11	0.32	0.42	0.07	0.33	0.33	0.10	0.36	0.36
Clearance Time (s)	6.0	6.4		4.5	6.4	4.5	4.5	6.4	6.4	4.5	6.4	6.4
Vehicle Extension (s)	2.5	1.0		3.0	1.0	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Lane Grp Cap (vph)	171	887		369	1042	1115	246	613	521	329	347	496
v/s Ratio Prot	0.02	c0.20		c0.06	0.11	0.01	0.03	0.24		c0.06	c0.31	
v/s Ratio Perm						0.03			0.04			0.03
v/c Ratio	0.44	0.70		0.59	0.36	0.09	0.45	0.72	0.12	0.57	0.86	0.07
Uniform Delay, d1	54.8	38.7		51.0	31.6	21.0	53.4	35.3	28.1	51.3	35.6	25.2
Progression Factor	1.00	1.00		0.85	0.88	3.31	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	4.6		2.3	0.9	0.0	1.3	4.1	0.1	2.2	19.0	0.1
Delay (s)	56.1	43.3		45.9	28.6	69.5	54.8	39.4	28.2	53.5	54.5	25.3
Level of Service	E	D		D	C	E	D	D	C	D	D	C
Approach Delay (s)		44.7			44.9			38.9			49.1	
Approach LOS		D			D			D			D	

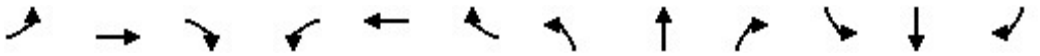
Intersection Summary			
HCM 2000 Control Delay	44.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.3
Intersection Capacity Utilization	67.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	969	120	217	560	131	168	144	235	67	156	38
Future Volume (veh/h)	143	969	120	217	560	131	168	144	235	67	156	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1648	1885	1856	1885	1811	1811	1781	1870	1870	1900
Adj Flow Rate, veh/h	151	1020	126	228	589	138	177	152	247	71	164	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	8	17	1	3	1	6	6	8	2	2	0
Cap, veh/h	477	1762	727	283	1928	947	260	307	378	226	210	181
Arrive On Green	0.05	0.52	0.52	0.08	0.55	0.55	0.10	0.17	0.17	0.05	0.11	0.11
Sat Flow, veh/h	1767	3385	1397	3483	3526	1598	1725	1811	1510	1781	1870	1610
Grp Volume(v), veh/h	151	1020	126	228	589	138	177	152	247	71	164	40
Grp Sat Flow(s),veh/h/ln	1767	1692	1397	1742	1763	1598	1725	1811	1510	1781	1870	1610
Q Serve(g_s), s	5.6	29.0	6.7	9.0	12.7	5.4	12.3	10.7	20.5	4.9	11.9	3.2
Cycle Q Clear(g_c), s	5.6	29.0	6.7	9.0	12.7	5.4	12.3	10.7	20.5	4.9	11.9	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	477	1762	727	283	1928	947	260	307	378	226	210	181
V/C Ratio(X)	0.32	0.58	0.17	0.81	0.31	0.15	0.68	0.50	0.65	0.31	0.78	0.22
Avail Cap(c_a), veh/h	540	1762	727	438	1928	947	311	409	463	265	302	260
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.2	23.0	17.7	63.2	17.3	12.7	47.1	52.7	47.0	51.6	60.5	56.6
Incr Delay (d2), s/veh	0.3	1.4	0.5	4.9	0.4	0.3	3.9	1.5	2.7	0.6	9.1	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	11.9	2.3	4.2	5.3	2.0	5.6	5.0	8.0	2.2	6.2	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	24.4	18.2	68.2	17.7	13.0	51.0	54.2	49.8	52.2	69.5	57.3
LnGrp LOS	B	C	B	E	B	B	D	D	D	D	E	E
Approach Vol, veh/h		1297			955			576			275	
Approach Delay, s/veh		22.7			29.1			51.3			63.3	
Approach LOS		C			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.1	82.9	12.9	30.1	17.8	79.3	20.9	22.1
Change Period (Y+Rc), s	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Max Green Setting (Gmax), s	12.6	60.6	9.6	31.6	17.6	55.6	18.6	22.6
Max Q Clear Time (g_c+I1), s	7.6	0.0	6.9	22.5	11.0	8.7	14.3	13.9
Green Ext Time (p_c), s	0.1	0.0	0.0	1.2	0.3	0.0	0.1	0.5

Intersection Summary	
HCM 6th Ctrl Delay	33.6
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	812	42	124	710	53	51	47	111	54	70	28
Future Volume (veh/h)	22	812	42	124	710	53	51	47	111	54	70	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1515	1767	1841	1900	1856	1856	1811	1781	1663	1900	1722	937
Adj Flow Rate, veh/h	23	855	44	131	747	56	54	49	117	57	74	29
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	26	9	4	0	3	3	6	8	16	0	12	65
Cap, veh/h	420	2201	1081	473	2618	1168	151	77	185	144	97	38
Arrive On Green	0.66	0.66	0.66	0.04	0.74	0.74	0.04	0.17	0.17	0.08	0.08	0.08
Sat Flow, veh/h	549	3357	1560	1810	3526	1572	1725	467	1114	1239	1178	461
Grp Volume(v), veh/h	23	855	44	131	747	56	54	0	166	57	0	103
Grp Sat Flow(s),veh/h/ln	549	1678	1560	1810	1763	1572	1725	0	1581	1239	0	1639
Q Serve(g_s), s	1.8	14.1	1.1	2.7	8.3	1.1	3.3	0.0	11.7	5.4	0.0	7.4
Cycle Q Clear(g_c), s	1.8	14.1	1.1	2.7	8.3	1.1	3.3	0.0	11.7	7.1	0.0	7.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.70	1.00		0.28
Lane Grp Cap(c), veh/h	420	2201	1081	473	2618	1168	151	0	262	144	0	135
V/C Ratio(X)	0.05	0.39	0.04	0.28	0.29	0.05	0.36	0.00	0.63	0.40	0.00	0.76
Avail Cap(c_a), veh/h	420	2201	1081	693	2618	1168	294	0	534	254	0	280
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.4	9.5	5.8	6.7	5.0	4.1	46.6	0.0	46.7	54.7	0.0	53.9
Incr Delay (d2), s/veh	0.2	0.5	0.1	0.3	0.3	0.1	1.4	0.0	2.5	1.8	0.0	8.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	5.1	0.4	1.0	2.8	0.4	1.5	0.0	4.8	1.8	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.7	10.1	5.9	7.0	5.3	4.2	48.0	0.0	49.2	56.4	0.0	62.5
LnGrp LOS	A	B	A	A	A	A	D	A	D	E	A	E
Approach Vol, veh/h		922			934			220			160	
Approach Delay, s/veh		9.8			5.5			48.9			60.4	
Approach LOS		A			A			D			E	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		25.4	10.4	84.2	10.0	15.4		94.6				
Change Period (Y+Rc), s		5.5	5.5	5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s		40.5	19.5	43.5	14.5	20.5		68.5				
Max Q Clear Time (g_c+I1), s		13.7	4.7	16.1	5.3	9.4		10.3				
Green Ext Time (p_c), s		1.0	0.3	7.3	0.1	0.5		6.6				

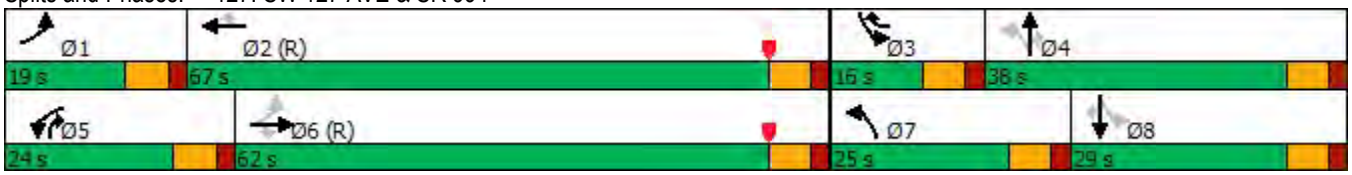
Intersection Summary												
HCM 6th Ctrl Delay			15.5									
HCM 6th LOS			B									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	969	120	217	560	131	168	144	235	67	156	38
Future Volume (vph)	143	969	120	217	560	131	168	144	235	67	156	38
Turn Type	pm+pt	NA	Perm	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases	6		6			2	4		4	8		8
Detector Phase	1	6	6	5	2	3	7	4	5	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0	5.0	5.0	7.0	5.0	5.0	7.0	7.0
Minimum Split (s)	11.4	28.4	28.4	11.4	28.4	11.4	11.4	28.4	11.4	11.4	28.4	28.4
Total Split (s)	19.0	62.0	62.0	24.0	67.0	16.0	25.0	38.0	24.0	16.0	29.0	29.0
Total Split (%)	13.6%	44.3%	44.3%	17.1%	47.9%	11.4%	17.9%	27.1%	17.1%	11.4%	20.7%	20.7%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 53 (38%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 127: SW 127 AVE & SR 994

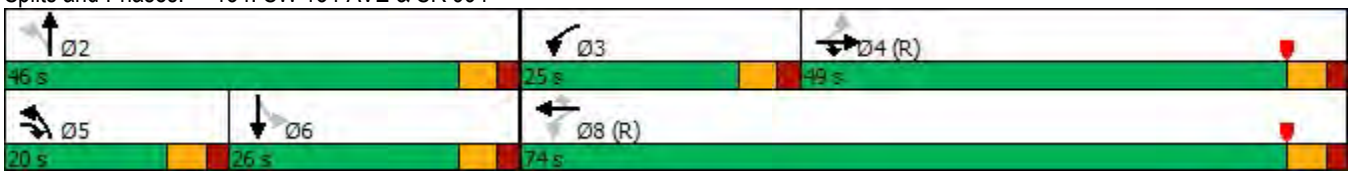


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	22	812	42	124	710	53	51	47	54	70
Future Volume (vph)	22	812	42	124	710	53	51	47	54	70
Turn Type	Perm	NA	pt+ov	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases		4	4 5	3	8		5	2		6
Permitted Phases	4			8		8	2		6	
Detector Phase	4	4	4 5	3	8	8	5	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5		10.5	23.5	23.5	10.5	23.5	23.5	23.5
Total Split (s)	49.0	49.0		25.0	74.0	74.0	20.0	46.0	26.0	26.0
Total Split (%)	40.8%	40.8%		20.8%	61.7%	61.7%	16.7%	38.3%	21.7%	21.7%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag		Lead			Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 101 (84%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 134: SW 134 AVE & SR 994

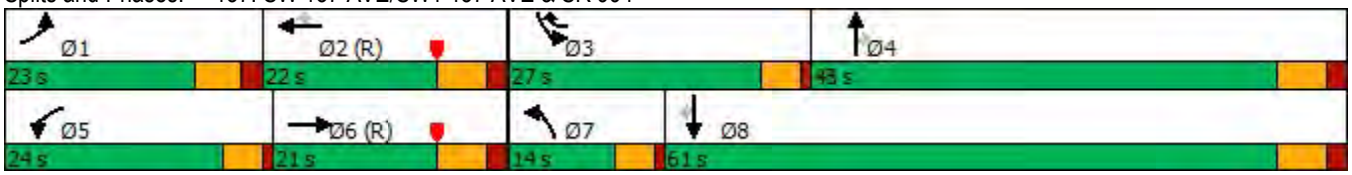


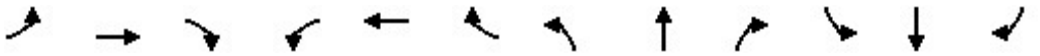
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	71	518	206	357	230	105	417	181	177	283	97
Future Volume (vph)	71	518	206	357	230	105	417	181	177	283	97
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6	5	2	3	7	4		3	8	
Permitted Phases					2			4			8
Detector Phase	1	6	5	2	3	7	4	4	3	8	8
Switch Phase											
Minimum Initial (s)	5.0	13.6	5.0	15.6	5.0	5.0	7.0	7.0	5.0	7.0	7.0
Minimum Split (s)	11.0	20.0	9.5	22.0	9.5	9.5	13.4	13.4	9.5	13.4	13.4
Total Split (s)	23.0	21.0	24.0	22.0	27.0	14.0	48.0	48.0	27.0	61.0	61.0
Total Split (%)	19.2%	17.5%	20.0%	18.3%	22.5%	11.7%	40.0%	40.0%	22.5%	50.8%	50.8%
Yellow Time (s)	4.0	4.4	3.5	4.4	3.5	3.5	4.4	4.4	3.5	4.4	4.4
All-Red Time (s)	2.0	2.0	1.0	2.0	1.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.4	4.5	6.4	4.5	4.5	6.4	6.4	4.5	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

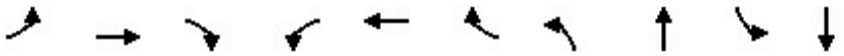
Splits and Phases: 137: SW 137 AVE/SW1 137 AVE & SR 994





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	151	1020	126	228	589	138	177	152	247	71	164	40
v/c Ratio	0.32	0.64	0.17	0.66	0.33	0.13	0.60	0.47	0.43	0.27	0.70	0.11
Control Delay	14.6	31.8	1.4	70.0	22.8	2.5	47.2	54.9	18.3	38.4	73.8	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.6	31.8	1.4	70.0	22.8	2.5	47.2	54.9	18.3	38.4	73.8	0.6
Queue Length 50th (ft)	56	370	0	104	168	0	126	124	82	47	145	0
Queue Length 95th (ft)	100	507	12	146	240	31	183	188	144	82	217	0
Internal Link Dist (ft)		1222			1328			526			1118	
Turn Bay Length (ft)	300		250	385		190	385		385	275		160
Base Capacity (vph)	511	1588	748	435	1765	1040	315	404	609	276	300	408
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.64	0.17	0.52	0.33	0.13	0.56	0.38	0.41	0.26	0.55	0.10

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	23	855	44	131	747	56	54	166	57	103
v/c Ratio	0.07	0.44	0.04	0.30	0.30	0.05	0.23	0.42	0.43	0.62
Control Delay	22.0	28.0	10.0	9.5	8.6	1.5	36.6	16.6	58.8	59.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	28.0	10.0	9.5	8.6	1.5	36.6	16.6	58.8	59.7
Queue Length 50th (ft)	13	344	8	32	112	0	34	36	42	67
Queue Length 95th (ft)	m31	420	m22	69	182	11	62	89	82	121
Internal Link Dist (ft)		272			408			1264		1117
Turn Bay Length (ft)	225		225	185		185	185		150	
Base Capacity (vph)	322	1923	1179	552	2450	1117	286	576	211	256
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.44	0.04	0.24	0.30	0.05	0.19	0.29	0.27	0.40

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	75	628	217	376	242	111	439	191	186	298	102
v/c Ratio	0.38	0.70	0.59	0.35	0.17	0.45	0.72	0.29	0.57	0.86	0.18
Control Delay	58.6	45.5	49.8	31.6	10.3	59.2	41.4	4.5	57.9	57.9	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.6	45.5	49.8	31.6	10.3	59.2	41.4	4.5	57.9	57.9	2.6
Queue Length 50th (ft)	29	231	85	127	18	43	290	0	71	208	0
Queue Length 95th (ft)	53	#449	122	197	69	73	370	45	106	293	21
Internal Link Dist (ft)		500		377			374			423	
Turn Bay Length (ft)	300		350		405	240		440	425		195
Base Capacity (vph)	427	897	557	1075	1614	271	679	699	602	438	696
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.70	0.39	0.35	0.15	0.41	0.65	0.27	0.31	0.68	0.15

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	876	785	4	0	2
Future Vol, veh/h	0	876	785	4	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	7	0	0	49
Mvmt Flow	0	922	826	4	0	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	415
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.88
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.79
Pot Cap-1 Maneuver	0	-	-	-	0	473
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	473
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	473
HCM Lane V/C Ratio	-	-	-	0.004
HCM Control Delay (s)	-	-	-	12.6
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1122	7	18	797	3	29	2	60	6	1	2
Future Vol, veh/h	3	1122	7	18	797	3	29	2	60	6	1	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	90	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	5	24	11	5	0	0	0	0	0	0	0
Mvmt Flow	3	1181	7	19	839	3	31	2	63	6	1	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	842	0	0	1188	0	0	1649	2071	594	1477	2073	421
Stage 1	-	-	-	-	-	-	1191	1191	-	879	879	-
Stage 2	-	-	-	-	-	-	458	880	-	598	1194	-
Critical Hdwy	4.1	-	-	4.32	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.31	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	802	-	-	535	-	-	67	55	453	89	55	587
Stage 1	-	-	-	-	-	-	202	263	-	313	368	-
Stage 2	-	-	-	-	-	-	557	368	-	461	262	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	802	-	-	535	-	-	64	53	453	72	53	587
Mov Cap-2 Maneuver	-	-	-	-	-	-	64	53	-	72	53	-
Stage 1	-	-	-	-	-	-	201	262	-	312	355	-
Stage 2	-	-	-	-	-	-	534	355	-	392	261	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	43.7	52.6
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	64	453	802	-	-	535	-	-	85
HCM Lane V/C Ratio	0.477	0.139	0.004	-	-	0.035	-	-	0.111
HCM Control Delay (s)	104.6	14.2	9.5	-	-	12	-	-	52.6
HCM Lane LOS	F	B	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	1.9	0.5	0	-	-	0.1	-	-	0.4

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	130	1112	5	2	787	25	5	1	4	16	1	78
Future Vol, veh/h	130	1112	5	2	787	25	5	1	4	16	1	78
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	4	10	32	0	5	8	0	0	0	9	0	2
Mvmt Flow	137	1171	5	2	828	26	5	1	4	17	1	82

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	854	0	0	1176	0	0	1867	2306	588	1705	2295	427
Stage 1	-	-	-	-	-	-	1448	1448	-	845	845	-
Stage 2	-	-	-	-	-	-	419	858	-	860	1450	-
Critical Hdwy	4.18	-	-	4.1	-	-	7.5	6.5	6.9	7.68	6.5	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.68	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.68	5.5	-
Follow-up Hdwy	2.24	-	-	2.2	-	-	3.5	4	3.3	3.59	4	3.32
Pot Cap-1 Maneuver	769	-	-	601	-	-	46	39	457	55	39	576
Stage 1	-	-	-	-	-	-	140	198	-	309	382	-
Stage 2	-	-	-	-	-	-	588	376	-	303	198	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	769	-	-	601	-	-	33	32	457	46	32	576
Mov Cap-2 Maneuver	-	-	-	-	-	-	33	32	-	46	32	-
Stage 1	-	-	-	-	-	-	115	163	-	254	381	-
Stage 2	-	-	-	-	-	-	501	375	-	245	163	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0	91	45.3
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	52	769	-	-	601	-	-	185
HCM Lane V/C Ratio	0.202	0.178	-	-	0.004	-	-	0.541
HCM Control Delay (s)	91	10.7	-	-	11	-	-	45.3
HCM Lane LOS	F	B	-	-	B	-	-	E
HCM 95th %tile Q(veh)	0.7	0.6	-	-	0	-	-	2.8

Intersection	
Int Delay, s/veh	8.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1011	18	70	800	70	235
Future Vol, veh/h	1011	18	70	800	70	235
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	0	6	5	5	4
Mvmt Flow	1064	19	74	842	74	247

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1083	0	1643	542
Stage 1	-	-	-	-	1074	-
Stage 2	-	-	-	-	569	-
Critical Hdwy	-	-	4.22	-	6.9	6.98
Critical Hdwy Stg 1	-	-	-	-	5.9	-
Critical Hdwy Stg 2	-	-	-	-	5.9	-
Follow-up Hdwy	-	-	2.26	-	3.55	3.34
Pot Cap-1 Maneuver	-	-	617	-	88	480
Stage 1	-	-	-	-	283	-
Stage 2	-	-	-	-	521	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	617	-	77	480
Mov Cap-2 Maneuver	-	-	-	-	77	-
Stage 1	-	-	-	-	283	-
Stage 2	-	-	-	-	458	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	57.9
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	77	480	-	-	617	-
HCM Lane V/C Ratio	0.957	0.515	-	-	0.119	-
HCM Control Delay (s)	184.3	20.2	-	-	11.6	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	5.1	2.9	-	-	0.4	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	946	874	11	0	13
Future Vol, veh/h	31	946	874	11	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	6	10	24	0
Mvmt Flow	33	996	920	12	0	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	932	0	-	0	-	466
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.1	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.2	-	-	-	-	3.3
Pot Cap-1 Maneuver	743	-	-	-	0	549
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	743	-	-	-	-	549
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	743	-	-	-	549
HCM Lane V/C Ratio	0.044	-	-	-	0.025
HCM Control Delay (s)	10.1	-	-	-	11.7
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	876	782	5	0	11
Future Vol, veh/h	0	876	782	5	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	3	0	0	0
Mvmt Flow	0	922	823	5	0	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	414
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	593
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	593
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	593
HCM Lane V/C Ratio	-	-	-	0.02
HCM Control Delay (s)	-	-	-	11.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1132	805	23	0	9
Future Vol, veh/h	0	1132	805	23	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	6	3	0	0	0
Mvmt Flow	0	1192	847	24	0	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	436
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	574
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	574
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	574
HCM Lane V/C Ratio	-	-	-	0.017
HCM Control Delay (s)	-	-	-	11.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1029	850	19	0	49
Future Vol, veh/h	0	1029	850	19	0	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	3	5	2	0
Mvmt Flow	0	1083	895	20	0	52

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	458
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	555
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	555
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	555
HCM Lane V/C Ratio	-	-	-	0.093
HCM Control Delay (s)	-	-	-	12.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	929	17	14	885	0	100
Future Vol, veh/h	929	17	14	885	0	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	8	0	7	5	2	2
Mvmt Flow	978	18	15	932	0	105

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	996	0	-	498
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.24	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.27	-	-	3.32
Pot Cap-1 Maneuver	-	-	661	-	0	518
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	661	-	-	518
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	13.7
HCM LOS			B

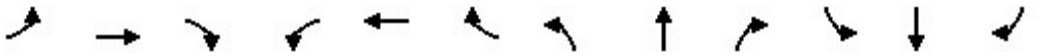
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	518	-	-	661	-
HCM Lane V/C Ratio	0.203	-	-	0.022	-
HCM Control Delay (s)	13.7	-	-	10.6	-
HCM Lane LOS	B	-	-	B	-
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-

Arterial Level of Service: EB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 134 AVE	III	30	32.5	16.9	49.4	0.26	18.7	C
SW 127 AVE	III	30	90.9	33.8	124.7	0.76	21.8	C
Total	III		123.4	50.7	174.1	1.01	20.9	C

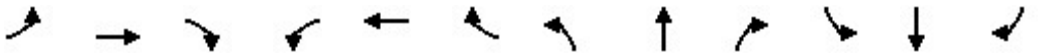
Arterial Level of Service: WB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 134 AVE	III	30	90.9	6.5	97.4	0.76	28.0	B
SW1 137 AVE	III	38	28.2	41.0	69.2	0.26	13.3	E
Total	III		119.1	47.5	166.6	1.01	21.9	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	487	71	177	325	179	87	256	214	236	501	98
Future Volume (vph)	43	487	71	177	325	179	87	256	214	236	501	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.4		4.5	6.4	6.4	4.5	6.4	6.4	4.5	6.4	6.4
Lane Util. Factor	0.97	0.95		0.97	0.95	0.88	0.97	1.00	1.00	0.97	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3019	3180		3433	3282	2656	3433	1863	1583	3213	964	1380
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3019	3180		3433	3282	2656	3433	1863	1583	3213	964	1380
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	45	513	75	186	342	188	92	269	225	248	527	103
RTOR Reduction (vph)	0	9	0	0	0	115	0	0	130	0	0	54
Lane Group Flow (vph)	45	579	0	186	342	73	92	269	95	248	527	49
Heavy Vehicles (%)	16%	13%	0%	2%	10%	7%	2%	2%	2%	9%	97%	17%
Turn Type	Prot	NA		Prot	NA	pt+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	2 3	7	4		3	8	
Permitted Phases									4			8
Actuated Green, G (s)	5.7	21.3		11.8	25.9	46.9	8.3	50.5	50.5	14.6	56.8	56.8
Effective Green, g (s)	5.7	21.3		11.8	25.9	46.9	8.3	50.5	50.5	14.6	56.8	56.8
Actuated g/C Ratio	0.05	0.18		0.10	0.22	0.39	0.07	0.42	0.42	0.12	0.47	0.47
Clearance Time (s)	6.0	6.4		4.5	6.4		4.5	6.4	6.4	4.5	6.4	6.4
Vehicle Extension (s)	2.5	1.0		3.0	1.0		3.0	3.5	3.5	3.0	3.5	3.5
Lane Grp Cap (vph)	143	564		337	708	1038	237	784	666	390	456	653
v/s Ratio Prot	0.01	c0.18		c0.05	0.10	0.03	0.03	0.14		c0.08	c0.55	
v/s Ratio Perm									0.06			0.04
v/c Ratio	0.31	1.03		0.55	0.48	0.07	0.39	0.34	0.14	0.64	1.16	0.07
Uniform Delay, d1	55.3	49.4		51.6	41.2	22.9	53.4	23.5	21.4	50.2	31.6	17.3
Progression Factor	1.00	1.00		0.91	0.94	3.70	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	44.8		1.9	2.3	0.0	1.1	0.3	0.1	3.4	92.3	0.1
Delay (s)	56.2	94.2		49.0	40.9	84.9	54.5	23.8	21.5	53.5	123.9	17.3
Level of Service	E	F		D	D	F	D	C	C	D	F	B
Approach Delay (s)		91.5			54.5			27.8			91.5	
Approach LOS		F			D			C			F	

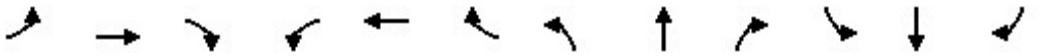
Intersection Summary			
HCM 2000 Control Delay	68.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.3
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	854	155	286	641	104	134	138	140	94	198	57
Future Volume (veh/h)	74	854	155	286	641	104	134	138	140	94	198	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1648	1885	1856	1885	1811	1811	1781	1870	1870	1900
Adj Flow Rate, veh/h	78	899	163	301	675	109	141	145	147	99	208	60
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	8	17	1	3	1	6	6	8	2	2	0
Cap, veh/h	431	1694	699	355	2002	1006	220	278	385	247	243	209
Arrive On Green	0.03	0.50	0.50	0.10	0.57	0.57	0.08	0.15	0.15	0.06	0.13	0.13
Sat Flow, veh/h	1767	3385	1397	3483	3526	1598	1725	1811	1510	1781	1870	1610
Grp Volume(v), veh/h	78	899	163	301	675	109	141	145	147	99	208	60
Grp Sat Flow(s),veh/h/ln	1767	1692	1397	1742	1763	1598	1725	1811	1510	1781	1870	1610
Q Serve(g_s), s	3.0	25.3	9.2	11.9	14.3	3.8	9.8	10.3	11.2	6.7	15.2	4.7
Cycle Q Clear(g_c), s	3.0	25.3	9.2	11.9	14.3	3.8	9.8	10.3	11.2	6.7	15.2	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	431	1694	699	355	2002	1006	220	278	385	247	243	209
V/C Ratio(X)	0.18	0.53	0.23	0.85	0.34	0.11	0.64	0.52	0.38	0.40	0.86	0.29
Avail Cap(c_a), veh/h	529	1694	699	463	2002	1006	279	409	495	387	462	398
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	23.8	19.8	61.8	16.2	10.3	48.0	54.6	43.0	48.7	59.6	55.0
Incr Delay (d2), s/veh	0.1	1.2	0.8	10.1	0.5	0.2	2.4	1.8	0.7	0.8	9.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	10.4	3.2	5.8	5.9	1.4	4.4	4.9	4.3	3.0	7.9	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.1	25.0	20.6	71.9	16.6	10.5	50.4	56.4	43.8	49.4	69.5	55.9
LnGrp LOS	B	C	C	E	B	B	D	E	D	D	E	E
Approach Vol, veh/h		1140			1085			433			367	
Approach Delay, s/veh		23.7			31.3			50.2			61.9	
Approach LOS		C			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	85.9	15.0	27.9	20.7	76.5	18.3	24.6
Change Period (Y+Rc), s	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Max Green Setting (Gmax), s	12.6	50.6	19.6	31.6	18.6	44.6	16.6	34.6
Max Q Clear Time (g_c+I1), s	5.0	0.0	8.7	13.2	13.9	11.2	11.8	17.2
Green Ext Time (p_c), s	0.1	0.0	0.1	1.1	0.4	0.0	0.1	1.0

Intersection Summary	
HCM 6th Ctrl Delay	34.9
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	902	55	85	615	49	41	44	96	37	36	26
Future Volume (veh/h)	27	902	55	85	615	49	41	44	96	37	36	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1515	1767	1841	1900	1856	1856	1811	1781	1663	1900	1722	937
Adj Flow Rate, veh/h	28	949	58	89	647	52	43	46	101	39	38	27
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	26	9	4	0	3	3	6	8	16	0	12	65
Cap, veh/h	475	2301	1119	451	2718	1212	141	68	150	122	56	40
Arrive On Green	0.69	0.69	0.69	0.04	0.77	0.77	0.03	0.14	0.14	0.06	0.06	0.06
Sat Flow, veh/h	605	3357	1560	1810	3526	1572	1725	496	1089	1260	937	666
Grp Volume(v), veh/h	28	949	58	89	647	52	43	0	147	39	0	65
Grp Sat Flow(s),veh/h/ln	605	1678	1560	1810	1763	1572	1725	0	1585	1260	0	1602
Q Serve(g_s), s	1.8	14.9	1.3	1.6	6.2	0.9	2.7	0.0	10.6	3.6	0.0	4.8
Cycle Q Clear(g_c), s	1.8	14.9	1.3	1.6	6.2	0.9	2.7	0.0	10.6	4.9	0.0	4.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.69	1.00		0.42
Lane Grp Cap(c), veh/h	475	2301	1119	451	2718	1212	141	0	218	122	0	96
V/C Ratio(X)	0.06	0.41	0.05	0.20	0.24	0.04	0.31	0.00	0.67	0.32	0.00	0.68
Avail Cap(c_a), veh/h	475	2301	1119	507	2718	1212	352	0	561	241	0	247
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.2	8.3	5.0	5.6	3.9	3.3	49.1	0.0	49.2	56.0	0.0	55.3
Incr Delay (d2), s/veh	0.2	0.5	0.1	0.2	0.2	0.1	1.2	0.0	3.6	1.5	0.0	8.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.2	0.4	0.6	2.0	0.3	1.2	0.0	4.4	1.2	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.5	8.8	5.1	5.8	4.1	3.3	50.3	0.0	52.8	57.4	0.0	63.3
LnGrp LOS	A	A	A	A	A	A	D	A	D	E	A	E
Approach Vol, veh/h		1035			788			190			104	
Approach Delay, s/veh		8.5			4.2			52.2			61.1	
Approach LOS		A			A			D			E	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		22.0	10.2	87.8	9.3	12.7		98.0				
Change Period (Y+Rc), s		5.5	5.5	5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s		42.5	8.5	52.5	18.5	18.5		66.5				
Max Q Clear Time (g_c+I1), s		12.6	3.6	16.9	4.7	6.9		8.2				
Green Ext Time (p_c), s		0.9	0.1	9.0	0.1	0.3		5.5				

Intersection Summary												
HCM 6th Ctrl Delay			13.4									
HCM 6th LOS			B									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	854	155	286	641	104	134	138	140	94	198	57
Future Volume (vph)	74	854	155	286	641	104	134	138	140	94	198	57
Turn Type	pm+pt	NA	Perm	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases	6		6			2	4		4	8		8
Detector Phase	1	6	6	5	2	3	7	4	5	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0	5.0	5.0	7.0	5.0	5.0	7.0	7.0
Minimum Split (s)	11.4	28.4	28.4	11.4	28.4	11.4	11.4	28.4	11.4	11.4	28.4	28.4
Total Split (s)	19.0	51.0	51.0	25.0	57.0	26.0	23.0	38.0	25.0	26.0	41.0	41.0
Total Split (%)	13.6%	36.4%	36.4%	17.9%	40.7%	18.6%	16.4%	27.1%	17.9%	18.6%	29.3%	29.3%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 116 (83%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 127: SW 127 AVE & SR 994

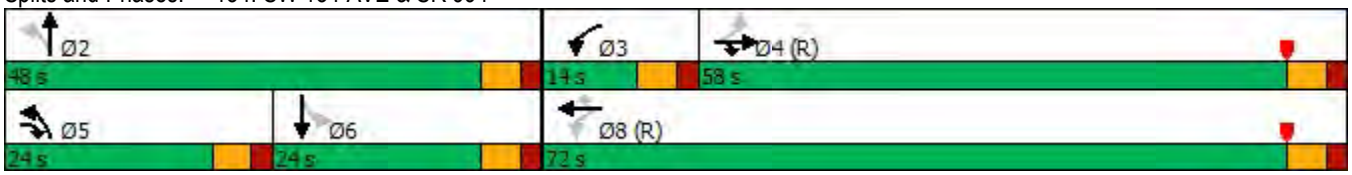


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	27	902	55	85	615	49	41	44	37	36
Future Volume (vph)	27	902	55	85	615	49	41	44	37	36
Turn Type	Perm	NA	pt+ov	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases		4	4 5	3	8		5	2		6
Permitted Phases	4			8		8	2		6	
Detector Phase	4	4	4 5	3	8	8	5	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5		10.5	23.5	23.5	10.5	23.5	23.5	23.5
Total Split (s)	58.0	58.0		14.0	72.0	72.0	24.0	48.0	24.0	24.0
Total Split (%)	48.3%	48.3%		11.7%	60.0%	60.0%	20.0%	40.0%	20.0%	20.0%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag		Lead			Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 101 (84%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 134: SW 134 AVE & SR 994

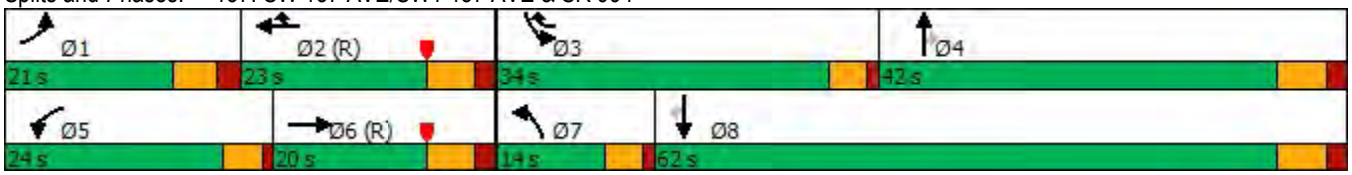


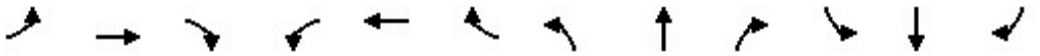
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	43	487	177	325	179	87	256	214	236	501	98
Future Volume (vph)	43	487	177	325	179	87	256	214	236	501	98
Turn Type	Prot	NA	Prot	NA	pt+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6	5	2	2 3	7	4		3	8	
Permitted Phases								4			8
Detector Phase	1	6	5	2	2 3	7	4	4	3	8	8
Switch Phase											
Minimum Initial (s)	5.0	4.0	5.0	16.0		2.5	7.0	7.0	5.0	7.0	7.0
Minimum Split (s)	11.0	10.4	9.5	22.4		7.0	13.4	13.4	9.5	13.4	13.4
Total Split (s)	21.0	20.0	24.0	23.0		14.0	42.0	42.0	34.0	62.0	62.0
Total Split (%)	17.5%	16.7%	20.0%	19.2%		11.7%	35.0%	35.0%	28.3%	51.7%	51.7%
Yellow Time (s)	4.0	4.4	3.5	4.4		3.5	4.4	4.4	3.5	4.4	4.4
All-Red Time (s)	2.0	2.0	1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.4	4.5	6.4		4.5	6.4	6.4	4.5	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max		None	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

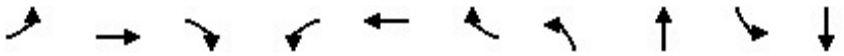
Splits and Phases: 137: SW 137 AVE/SW1 137 AVE & SR 994





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	78	899	163	301	675	109	141	145	147	99	208	60
v/c Ratio	0.19	0.61	0.24	0.72	0.38	0.10	0.53	0.46	0.24	0.31	0.73	0.17
Control Delay	15.1	33.8	7.3	69.2	23.1	2.5	43.4	55.8	4.8	37.5	71.2	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.1	33.8	7.3	69.2	23.1	2.5	43.4	55.8	4.8	37.5	71.2	1.0
Queue Length 50th (ft)	28	325	10	138	192	0	98	120	0	67	183	0
Queue Length 95th (ft)	60	470	64	182	284	26	142	181	42	104	257	0
Internal Link Dist (ft)		1222			1328			526			1118	
Turn Bay Length (ft)	300		250	385		190	385		385	275		160
Base Capacity (vph)	474	1485	692	474	1787	1145	297	404	628	423	460	493
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.61	0.24	0.64	0.38	0.10	0.47	0.36	0.23	0.23	0.45	0.12

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	28	949	58	89	647	52	43	147	39	65
v/c Ratio	0.07	0.46	0.05	0.22	0.25	0.04	0.21	0.42	0.39	0.51
Control Delay	11.0	16.9	4.9	7.2	6.5	0.9	40.0	17.7	62.8	48.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.0	16.9	4.9	7.2	6.5	0.9	40.0	17.7	62.8	48.3
Queue Length 50th (ft)	10	370	9	18	81	0	28	30	29	30
Queue Length 95th (ft)	m24	m405	m22	43	133	8	56	83	64	75
Internal Link Dist (ft)		272			408			1264		1117
Turn Bay Length (ft)	225		225	185		185	185		150	
Base Capacity (vph)	382	2071	1294	424	2568	1168	297	597	194	226
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.46	0.04	0.21	0.25	0.04	0.14	0.25	0.20	0.29

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	45	588	186	342	188	92	269	225	248	527	103
v/c Ratio	0.27	1.03	0.55	0.46	0.17	0.39	0.34	0.28	0.64	1.16	0.14
Control Delay	57.7	92.4	52.9	41.0	12.9	57.9	25.8	4.0	57.4	123.7	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.7	92.4	52.9	41.0	12.9	57.9	25.8	4.0	57.4	123.7	2.3
Queue Length 50th (ft)	17	~251	73	126	6	35	139	0	95	~484	0
Queue Length 95th (ft)	37	#407	108	180	54	62	220	50	134	#705	21
Internal Link Dist (ft)		500		377			374			423	
Turn Bay Length (ft)	300		350		405	240		440	425		195
Base Capacity (vph)	377	573	557	740	1444	271	784	796	789	456	719
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	1.03	0.33	0.46	0.13	0.34	0.34	0.28	0.31	1.16	0.14

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	984	676	6	0	1
Future Vol, veh/h	0	984	676	6	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	7	0	0	49
Mvmt Flow	0	1036	712	6	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	359
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.88
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.79
Pot Cap-1 Maneuver	0	-	-	-	0	520
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	520
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	520
HCM Lane V/C Ratio	-	-	-	0.002
HCM Control Delay (s)	-	-	-	11.9
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	998	60	21	864	5	7	1	29	7	1	2
Future Vol, veh/h	2	998	60	21	864	5	7	1	29	7	1	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	90	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	5	24	11	5	0	0	0	0	0	0	0
Mvmt Flow	2	1051	63	22	909	5	7	1	31	7	1	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	914	0	0	1114	0	0	1586	2045	557	1486	2074	457
Stage 1	-	-	-	-	-	-	1087	1087	-	956	956	-
Stage 2	-	-	-	-	-	-	499	958	-	530	1118	-
Critical Hdwy	4.1	-	-	4.32	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.31	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	754	-	-	573	-	-	74	57	479	88	54	556
Stage 1	-	-	-	-	-	-	234	295	-	281	339	-
Stage 2	-	-	-	-	-	-	527	338	-	506	285	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	754	-	-	573	-	-	70	55	479	79	52	556
Mov Cap-2 Maneuver	-	-	-	-	-	-	70	55	-	79	52	-
Stage 1	-	-	-	-	-	-	233	294	-	280	326	-
Stage 2	-	-	-	-	-	-	503	325	-	471	284	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	22.6	50.2
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	70	479	754	-	-	573	-	-	90
HCM Lane V/C Ratio	0.105	0.064	0.003	-	-	0.039	-	-	0.117
HCM Control Delay (s)	62.4	13	9.8	-	-	11.5	-	-	50.2
HCM Lane LOS	F	B	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0.3	0.2	0	-	-	0.1	-	-	0.4

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	48	1042	6	2	854	29	2	1	2	16	3	53
Future Vol, veh/h	48	1042	6	2	854	29	2	1	2	16	3	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	4	10	32	0	5	8	0	0	0	9	0	2
Mvmt Flow	51	1097	6	2	899	31	2	1	2	17	3	56

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	930	0	0	1103	0	0	1657	2136	552	1570	2124	465
Stage 1	-	-	-	-	-	-	1202	1202	-	919	919	-
Stage 2	-	-	-	-	-	-	455	934	-	651	1205	-
Critical Hdwy	4.18	-	-	4.1	-	-	7.5	6.5	6.9	7.68	6.5	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.68	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.68	5.5	-
Follow-up Hdwy	2.24	-	-	2.2	-	-	3.5	4	3.3	3.59	4	3.32
Pot Cap-1 Maneuver	719	-	-	640	-	-	66	50	483	70	51	544
Stage 1	-	-	-	-	-	-	199	260	-	278	353	-
Stage 2	-	-	-	-	-	-	560	347	-	407	259	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	719	-	-	640	-	-	53	46	483	65	47	544
Mov Cap-2 Maneuver	-	-	-	-	-	-	53	46	-	65	47	-
Stage 1	-	-	-	-	-	-	185	242	-	258	352	-
Stage 2	-	-	-	-	-	-	497	346	-	375	241	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	53.8	39.8
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	79	719	-	-	640	-	-	177
HCM Lane V/C Ratio	0.067	0.07	-	-	0.003	-	-	0.428
HCM Control Delay (s)	53.8	10.4	-	-	10.6	-	-	39.8
HCM Lane LOS	F	B	-	-	B	-	-	E
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0	-	-	1.9

Intersection	
Int Delay, s/veh	4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	990	59	167	742	28	107
Future Vol, veh/h	990	59	167	742	28	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	0	6	5	5	4
Mvmt Flow	1042	62	176	781	29	113

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1104	0	1816	552
Stage 1	-	-	-	-	1073	-
Stage 2	-	-	-	-	743	-
Critical Hdwy	-	-	4.22	-	6.9	6.98
Critical Hdwy Stg 1	-	-	-	-	5.9	-
Critical Hdwy Stg 2	-	-	-	-	5.9	-
Follow-up Hdwy	-	-	2.26	-	3.55	3.34
Pot Cap-1 Maneuver	-	-	605	-	67	472
Stage 1	-	-	-	-	283	-
Stage 2	-	-	-	-	423	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	605	-	48	472
Mov Cap-2 Maneuver	-	-	-	-	48	-
Stage 1	-	-	-	-	283	-
Stage 2	-	-	-	-	300	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	45.3
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	48	472	-	-	605	-
HCM Lane V/C Ratio	0.614	0.239	-	-	0.291	-
HCM Control Delay (s)	161.3	15	-	-	13.4	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	2.4	0.9	-	-	1.2	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	1025	736	13	0	12
Future Vol, veh/h	10	1025	736	13	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	6	10	24	0
Mvmt Flow	11	1079	775	14	0	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	789	0	-	0	-	395
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.1	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.2	-	-	-	-	3.3
Pot Cap-1 Maneuver	840	-	-	-	0	610
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	840	-	-	-	-	610
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	840	-	-	-	610
HCM Lane V/C Ratio	0.013	-	-	-	0.021
HCM Control Delay (s)	9.3	-	-	-	11
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	984	671	6	0	9
Future Vol, veh/h	0	984	671	6	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	3	0	0	0
Mvmt Flow	0	1036	706	6	0	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	356
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	646
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	646
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	646
HCM Lane V/C Ratio	-	-	-	0.015
HCM Control Delay (s)	-	-	-	10.7
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1060	868	6	0	17
Future Vol, veh/h	0	1060	868	6	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	6	3	0	0	0
Mvmt Flow	0	1116	914	6	0	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	460
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	554
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	554
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	554
HCM Lane V/C Ratio	-	-	-	0.032
HCM Control Delay (s)	-	-	-	11.7
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1048	759	11	0	22
Future Vol, veh/h	0	1048	759	11	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	3	5	2	0
Mvmt Flow	0	1103	799	12	0	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	406
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	600
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	600
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	600
HCM Lane V/C Ratio	-	-	-	0.039
HCM Control Delay (s)	-	-	-	11.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1014	11	32	749	0	34
Future Vol, veh/h	1014	11	32	749	0	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	8	0	7	5	2	2
Mvmt Flow	1067	12	34	788	0	36

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1079	0	-	540
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.24	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.27	-	-	3.32
Pot Cap-1 Maneuver	-	-	613	-	0	486
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	613	-	-	486
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	13
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	486	-	-	613	-
HCM Lane V/C Ratio	0.074	-	-	0.055	-
HCM Control Delay (s)	13	-	-	11.2	-
HCM Lane LOS	B	-	-	B	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-

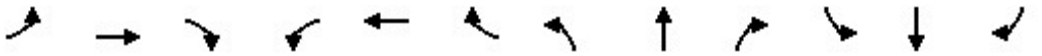
BUILD 3 2045

Arterial Level of Service: EB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 137 AVE	III	40	25.0	37.9	62.9	0.23	13.0	E
SW 134 AVE	III	30	32.5	32.4	64.9	0.26	14.2	D
SW 127 AVE	III	30	90.9	43.0	133.9	0.76	20.3	C
Total	III		148.4	113.3	261.7	1.24	17.1	D

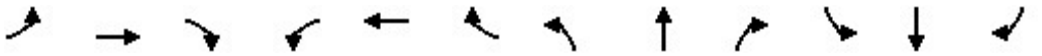
Arterial Level of Service: WB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 127 AVE	III	30	33.9	26.8	60.7	0.27	15.8	D
SW 134 AVE	III	30	90.9	10.7	101.6	0.76	26.8	B
SW1 137 AVE	III	38	28.2	23.6	51.8	0.26	17.8	D
Total	III		153.0	61.1	214.1	1.28	21.5	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	560	98	265	393	365	131	521	241	292	377	121
Future Volume (vph)	84	560	98	265	393	365	131	521	241	292	377	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.4		4.5	6.4	6.4	4.5	6.4	6.4	4.5	6.4	6.4
Lane Util. Factor	0.97	0.95		0.97	0.95	0.88	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3019	3178		3433	3282	2656	3433	3539	1583	3213	1832	1380
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3019	3178		3433	3282	2656	3433	3539	1583	3213	1832	1380
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	88	589	103	279	414	384	138	548	254	307	397	127
RTOR Reduction (vph)	0	10	0	0	0	24	0	0	175	0	0	92
Lane Group Flow (vph)	88	682	0	279	414	360	138	548	79	307	397	35
Heavy Vehicles (%)	16%	13%	0%	2%	10%	7%	2%	2%	2%	9%	97%	17%
Turn Type	Prot	NA		Prot	NA	custom	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	2 3	7	4		3	8	
Permitted Phases						4			4			8
Actuated Green, G (s)	8.3	41.0		14.8	46.0	94.8	9.5	25.4	25.4	17.0	32.9	32.9
Effective Green, g (s)	8.3	41.0		14.8	46.0	94.8	9.5	25.4	25.4	17.0	32.9	32.9
Actuated g/C Ratio	0.07	0.34		0.12	0.38	0.79	0.08	0.21	0.21	0.14	0.27	0.27
Clearance Time (s)	6.0	6.4		4.5	6.4		4.5	6.4	6.4	4.5	6.4	6.4
Vehicle Extension (s)	2.5	1.0		3.0	1.0		3.0	3.5	3.5	3.0	3.5	3.5
Lane Grp Cap (vph)	208	1085		423	1258	2098	271	749	335	455	502	378
v/s Ratio Prot	0.03	c0.21		c0.08	0.13	0.10	0.04	0.15		c0.10	c0.22	
v/s Ratio Perm						0.04			0.05			0.03
v/c Ratio	0.42	0.63		0.66	0.33	0.17	0.51	0.73	0.24	0.67	0.79	0.09
Uniform Delay, d1	53.6	33.1		50.2	26.1	3.1	53.0	44.1	39.2	48.9	40.4	32.4
Progression Factor	1.00	1.00		0.80	0.81	3.65	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	2.8		3.5	0.7	0.0	1.5	3.8	0.4	3.9	8.5	0.1
Delay (s)	54.6	35.9		43.8	21.7	11.2	54.5	47.9	39.7	52.8	48.9	32.6
Level of Service	D	D		D	C	B	D	D	D	D	D	C
Approach Delay (s)		38.0			23.7			46.7			47.8	
Approach LOS		D			C			D			D	

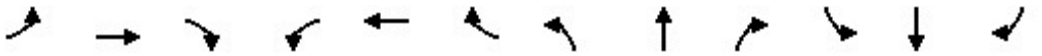
Intersection Summary			
HCM 2000 Control Delay	38.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.3
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	179	1189	150	271	701	164	210	180	294	84	195	47
Future Volume (veh/h)	179	1189	150	271	701	164	210	180	294	84	195	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1648	1885	1856	1885	1811	1811	1781	1870	1870	1900
Adj Flow Rate, veh/h	188	1252	158	285	738	173	221	189	309	88	205	49
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	8	17	1	3	1	6	6	8	2	2	0
Cap, veh/h	392	1570	648	339	1729	871	292	365	451	246	251	216
Arrive On Green	0.07	0.46	0.46	0.10	0.49	0.49	0.12	0.20	0.20	0.05	0.13	0.13
Sat Flow, veh/h	1767	3385	1397	3483	3526	1598	1725	1811	1510	1781	1870	1610
Grp Volume(v), veh/h	188	1252	158	285	738	173	221	189	309	88	205	49
Grp Sat Flow(s),veh/h/ln	1767	1692	1397	1742	1763	1598	1725	1811	1510	1781	1870	1610
Q Serve(g_s), s	7.8	44.1	9.6	11.3	18.9	7.7	15.0	13.0	25.3	5.9	14.9	3.8
Cycle Q Clear(g_c), s	7.8	44.1	9.6	11.3	18.9	7.7	15.0	13.0	25.3	5.9	14.9	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	392	1570	648	339	1729	871	292	365	451	246	251	216
V/C Ratio(X)	0.48	0.80	0.24	0.84	0.43	0.20	0.76	0.52	0.69	0.36	0.82	0.23
Avail Cap(c_a), veh/h	427	1570	648	438	1729	871	311	409	488	271	302	260
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.2	31.9	22.7	62.1	23.0	16.2	44.0	49.8	43.3	48.5	58.9	54.1
Incr Delay (d2), s/veh	0.7	4.3	0.9	10.2	0.8	0.5	9.1	1.4	3.9	0.6	14.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	18.8	3.4	5.5	8.1	3.0	7.2	6.1	10.0	2.7	8.1	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.9	36.3	23.6	72.4	23.8	16.8	53.1	51.2	47.2	49.2	73.3	54.8
LnGrp LOS	B	D	C	E	C	B	D	D	D	D	E	D
Approach Vol, veh/h		1598			1196			719			342	
Approach Delay, s/veh		33.0			34.3			50.1			64.4	
Approach LOS		C			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.3	75.1	14.1	34.6	20.0	71.3	23.5	25.2
Change Period (Y+Rc), s	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Max Green Setting (Gmax), s	12.6	60.6	9.6	31.6	17.6	55.6	18.6	22.6
Max Q Clear Time (g_c+I1), s	9.8	0.0	7.9	27.3	13.3	11.6	17.0	16.9
Green Ext Time (p_c), s	0.1	0.0	0.0	0.9	0.3	0.0	0.1	0.5

Intersection Summary	
HCM 6th Ctrl Delay	39.4
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	994	75	155	889	66	85	57	139	67	87	35
Future Volume (veh/h)	27	994	75	155	889	66	85	57	139	67	87	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1515	1767	1841	1900	1856	1856	1811	1781	1663	1900	1722	937
Adj Flow Rate, veh/h	28	1046	79	163	936	69	89	60	146	71	92	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	26	9	4	0	3	3	6	8	16	0	12	65
Cap, veh/h	344	2152	1092	389	2558	1141	194	92	223	155	120	48
Arrive On Green	0.64	0.64	0.64	0.05	0.73	0.73	0.06	0.20	0.20	0.10	0.10	0.10
Sat Flow, veh/h	454	3357	1560	1810	3526	1572	1725	460	1120	1195	1168	470
Grp Volume(v), veh/h	28	1046	79	163	936	69	89	0	206	71	0	129
Grp Sat Flow(s),veh/h/ln	454	1678	1560	1810	1763	1572	1725	0	1580	1195	0	1638
Q Serve(g_s), s	2.9	19.5	1.9	3.5	11.9	1.5	5.4	0.0	14.4	7.0	0.0	9.2
Cycle Q Clear(g_c), s	4.7	19.5	1.9	3.5	11.9	1.5	5.4	0.0	14.4	9.8	0.0	9.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.71	1.00		0.29
Lane Grp Cap(c), veh/h	344	2152	1092	389	2558	1141	194	0	315	155	0	168
V/C Ratio(X)	0.08	0.49	0.07	0.42	0.37	0.06	0.46	0.00	0.65	0.46	0.00	0.77
Avail Cap(c_a), veh/h	344	2152	1092	462	2558	1141	357	0	560	226	0	266
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.9	11.2	5.7	8.6	6.1	4.7	43.3	0.0	44.2	54.1	0.0	52.5
Incr Delay (d2), s/veh	0.5	0.8	0.1	0.7	0.4	0.1	1.7	0.0	2.3	2.1	0.0	7.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	7.1	0.6	1.3	4.1	0.5	2.4	0.0	5.8	2.2	0.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.4	12.0	5.8	9.3	6.6	4.8	45.0	0.0	46.5	56.2	0.0	59.6
LnGrp LOS	A	B	A	A	A	A	D	A	D	E	A	E
Approach Vol, veh/h		1153			1168			295			200	
Approach Delay, s/veh		11.5			6.8			46.1			58.4	
Approach LOS		B			A			D			E	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		28.4	10.2	81.4	11.6	16.8		91.6				
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		42.5	10.5	53.5	18.5	19.5		68.5				
Max Q Clear Time (g_c+I1), s		16.4	5.5	21.5	7.4	11.8		13.9				
Green Ext Time (p_c), s		1.3	0.2	10.2	0.1	0.5		8.9				

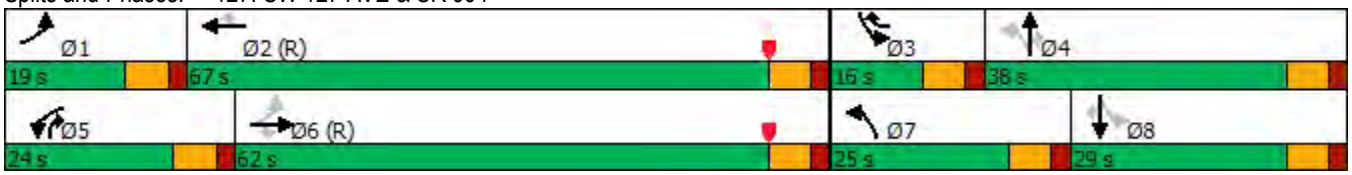
Intersection Summary												
HCM 6th Ctrl Delay			16.5									
HCM 6th LOS			B									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	179	1189	150	271	701	164	210	180	294	84	195	47
Future Volume (vph)	179	1189	150	271	701	164	210	180	294	84	195	47
Turn Type	pm+pt	NA	Perm	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases	6		6			2	4		4	8		8
Detector Phase	1	6	6	5	2	3	7	4	5	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0	5.0	5.0	7.0	5.0	5.0	7.0	7.0
Minimum Split (s)	11.4	28.4	28.4	11.4	28.4	11.4	11.4	28.4	11.4	11.4	28.4	28.4
Total Split (s)	19.0	62.0	62.0	24.0	67.0	16.0	25.0	38.0	24.0	16.0	29.0	29.0
Total Split (%)	13.6%	44.3%	44.3%	17.1%	47.9%	11.4%	17.9%	27.1%	17.1%	11.4%	20.7%	20.7%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 53 (38%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 127: SW 127 AVE & SR 994

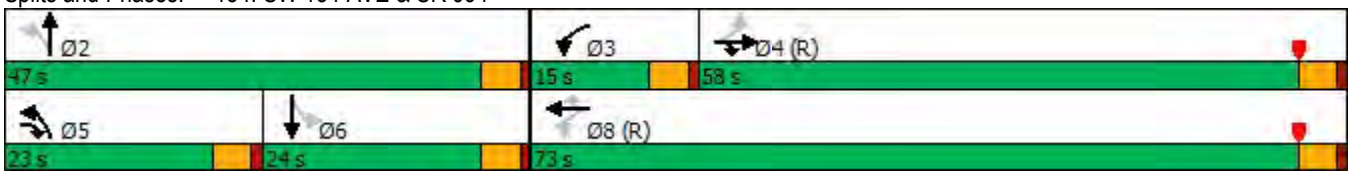


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	27	994	75	155	889	66	85	57	67	87
Future Volume (vph)	27	994	75	155	889	66	85	57	67	87
Turn Type	Perm	NA	pt+ov	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases		4	4 5	3	8		5	2		6
Permitted Phases	4			8		8	2		6	
Detector Phase	4	4	4 5	3	8	8	5	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5		9.5	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	58.0	58.0		15.0	73.0	73.0	23.0	47.0	24.0	24.0
Total Split (%)	48.3%	48.3%		12.5%	60.8%	60.8%	19.2%	39.2%	20.0%	20.0%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag		Lead			Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 102 (85%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 134: SW 134 AVE & SR 994

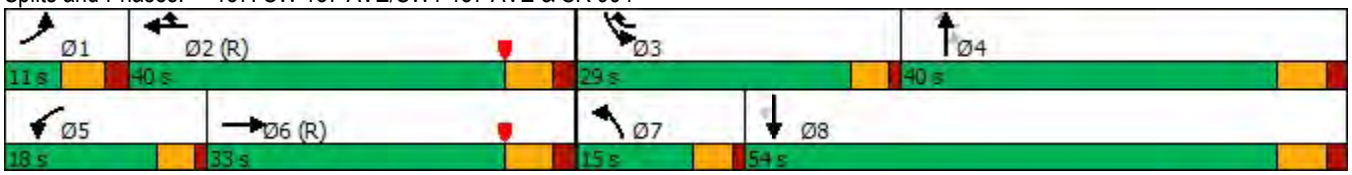


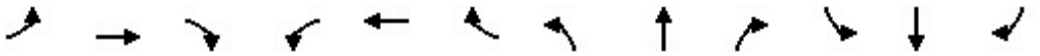
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	84	560	265	393	365	131	521	241	292	377	121
Future Volume (vph)	84	560	265	393	365	131	521	241	292	377	121
Turn Type	Prot	NA	Prot	NA	custom	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6	5	2	2 3	7	4		3	8	
Permitted Phases					4			4			8
Detector Phase	1	6	5	2	2 3	7	4	4	3	8	8
Switch Phase											
Minimum Initial (s)	5.0	13.6	5.0	16.0		5.0	7.0	7.0	5.0	7.0	7.0
Minimum Split (s)	11.0	20.0	9.5	22.4		9.5	13.4	13.4	9.5	13.4	13.4
Total Split (s)	11.0	33.0	18.0	40.0		15.0	40.0	40.0	29.0	54.0	54.0
Total Split (%)	9.2%	27.5%	15.0%	33.3%		12.5%	33.3%	33.3%	24.2%	45.0%	45.0%
Yellow Time (s)	4.0	4.4	3.5	4.4		3.5	4.4	4.4	3.5	4.4	4.4
All-Red Time (s)	2.0	2.0	1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.4	4.5	6.4		4.5	6.4	6.4	4.5	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max		None	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 137: SW 137 AVE/SW1 137 AVE & SR 994

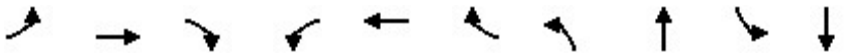




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	188	1252	158	285	738	173	221	189	309	88	205	49
v/c Ratio	0.48	0.85	0.22	0.74	0.45	0.17	0.74	0.52	0.52	0.32	0.78	0.13
Control Delay	18.5	43.0	3.4	72.1	26.8	2.5	53.1	54.6	25.8	37.7	78.4	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.5	43.0	3.4	72.1	26.8	2.5	53.1	54.6	25.8	37.7	78.4	0.7
Queue Length 50th (ft)	77	552	0	130	243	0	155	153	146	57	181	0
Queue Length 95th (ft)	122	#724	35	179	310	34	228	230	229	98	268	0
Internal Link Dist (ft)		1222			1328			526			1118	
Turn Bay Length (ft)	300		250	385		190	385		385	275		160
Base Capacity (vph)	413	1470	705	435	1656	1009	308	404	620	289	300	408
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.85	0.22	0.66	0.45	0.17	0.72	0.47	0.50	0.30	0.68	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	28	1046	79	163	936	69	89	206	71	129
v/c Ratio	0.11	0.57	0.07	0.47	0.40	0.06	0.32	0.44	0.48	0.68
Control Delay	26.0	32.4	8.9	13.3	10.7	2.6	35.7	18.0	58.0	61.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.0	32.4	8.9	13.3	10.7	2.6	35.7	18.0	58.0	61.4
Queue Length 50th (ft)	14	428	4	42	158	0	54	57	52	86
Queue Length 95th (ft)	m38	514	m59	90	258	20	87	113	95	145
Internal Link Dist (ft)		272			408			1264		1117
Turn Bay Length (ft)	225		225	185		185	185		150	
Base Capacity (vph)	254	1831	1176	363	2342	1070	335	602	198	248
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.57	0.07	0.45	0.40	0.06	0.27	0.34	0.36	0.52

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	88	692	279	414	384	138	548	254	307	397	127
v/c Ratio	0.43	0.63	0.66	0.33	0.17	0.51	0.73	0.50	0.67	0.79	0.25
Control Delay	59.7	37.9	47.5	23.6	5.6	59.5	49.8	10.8	56.1	51.5	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.7	37.9	47.5	23.6	5.6	59.5	49.8	10.8	56.1	51.5	2.8
Queue Length 50th (ft)	34	230	104	125	56	53	210	20	118	152	0
Queue Length 95th (ft)	61	#402	128	194	105	87	254	88	158	186	20
Internal Link Dist (ft)		500		377			374			423	
Turn Bay Length (ft)	300		350		405	240		440	425		195
Base Capacity (vph)	207	1095	437	1258	2195	300	990	603	655	726	648
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.63	0.64	0.33	0.17	0.46	0.55	0.42	0.47	0.55	0.20

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1096	1004	5	0	11
Future Vol, veh/h	0	1096	1004	5	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	7	0	0	49
Mvmt Flow	0	1154	1057	5	0	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	531
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.88
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.79
Pot Cap-1 Maneuver	0	-	-	-	0	388
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	388
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.6
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	388
HCM Lane V/C Ratio	-	-	-	0.03
HCM Control Delay (s)	-	-	-	14.6
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	7.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	1381	8	22	1007	3	36	2	75	8	1	3
Future Vol, veh/h	4	1381	8	22	1007	3	36	2	75	8	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	90	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	5	24	11	5	0	0	0	0	0	0	0
Mvmt Flow	4	1454	8	23	1060	3	38	2	79	8	1	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1063	0	0	1462	0	0	2043	2575	731	1844	2578	532
Stage 1	-	-	-	-	-	-	1466	1466	-	1108	1108	-
Stage 2	-	-	-	-	-	-	577	1109	-	736	1470	-
Critical Hdwy	4.1	-	-	4.32	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.31	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	663	-	-	416	-	-	~ 34	26	369	47	26	497
Stage 1	-	-	-	-	-	-	137	194	-	227	288	-
Stage 2	-	-	-	-	-	-	474	288	-	381	193	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	663	-	-	416	-	-	~ 31	24	369	33	24	497
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 31	24	-	33	24	-
Stage 1	-	-	-	-	-	-	136	193	-	226	272	-
Stage 2	-	-	-	-	-	-	443	272	-	294	192	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	150.8	127.9
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	31	369	663	-	-	416	-	-	41
HCM Lane V/C Ratio	1.222	0.214	0.006	-	-	0.056	-	-	0.308
HCM Control Delay (s)	$ 428.8	17.4	10.5	-	-	14.2	-	-	127.9
HCM Lane LOS	F	C	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	4.2	0.8	0	-	-	0.2	-	-	1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	16.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	162	1368	6	2	994	32	6	1	5	20	1	98
Future Vol, veh/h	162	1368	6	2	994	32	6	1	5	20	1	98
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	4	10	32	0	5	8	0	0	0	9	0	2
Mvmt Flow	171	1440	6	2	1046	34	6	1	5	21	1	103

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1080	0	0	1446	0	0	2313	2869	723	2130	2855	540
Stage 1	-	-	-	-	-	-	1785	1785	-	1067	1067	-
Stage 2	-	-	-	-	-	-	528	1084	-	1063	1788	-
Critical Hdwy	4.18	-	-	4.1	-	-	7.5	6.5	6.9	7.68	6.5	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.68	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.68	5.5	-
Follow-up Hdwy	2.24	-	-	2.2	-	-	3.5	4	3.3	3.59	4	3.32
Pot Cap-1 Maneuver	630	-	-	475	-	-	21	17	373	26	17	486
Stage 1	-	-	-	-	-	-	86	135	-	225	301	-
Stage 2	-	-	-	-	-	-	507	296	-	226	135	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	630	-	-	475	-	-	12	12	373	~ 19	12	486
Mov Cap-2 Maneuver	-	-	-	-	-	-	12	12	-	~ 19	12	-
Stage 1	-	-	-	-	-	-	63	98	-	164	300	-
Stage 2	-	-	-	-	-	-	396	295	-	161	98	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0	$ 343	$ 321.6
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	20	630	-	-	475	-	-	89
HCM Lane V/C Ratio	0.632	0.271	-	-	0.004	-	-	1.407
HCM Control Delay (s)	$ 343	12.8	-	-	12.6	-	-	$ 321.6
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	1.8	1.1	-	-	0	-	-	9.5

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	34.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1243	22	98	1000	87	294
Future Vol, veh/h	1243	22	98	1000	87	294
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	0	6	5	5	4
Mvmt Flow	1308	23	103	1053	92	309

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1331	0	2053	666
Stage 1	-	-	-	-	1320	-
Stage 2	-	-	-	-	733	-
Critical Hdwy	-	-	4.22	-	6.9	6.98
Critical Hdwy Stg 1	-	-	-	-	5.9	-
Critical Hdwy Stg 2	-	-	-	-	5.9	-
Follow-up Hdwy	-	-	2.26	-	3.55	3.34
Pot Cap-1 Maneuver	-	-	494	-	~ 46	397
Stage 1	-	-	-	-	208	-
Stage 2	-	-	-	-	428	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	494	-	~ 36	397
Mov Cap-2 Maneuver	-	-	-	-	~ 36	-
Stage 1	-	-	-	-	208	-
Stage 2	-	-	-	-	339	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	244.6
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	36	397	-	-	494	-
HCM Lane V/C Ratio	2.544	0.78	-	-	0.209	-
HCM Control Delay (s)	$ 937.3	39.6	-	-	14.2	-
HCM Lane LOS	F	E	-	-	B	-
HCM 95th %tile Q(veh)	10.3	6.6	-	-	0.8	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	39	1161	1094	13	0	16
Future Vol, veh/h	39	1161	1094	13	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	6	10	24	0
Mvmt Flow	41	1222	1152	14	0	17

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1166	0	-	0	-	583
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.1	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.2	-	-	-	-	3.3
Pot Cap-1 Maneuver	606	-	-	-	0	461
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	606	-	-	-	-	461
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	13.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	606	-	-	-	461
HCM Lane V/C Ratio	0.068	-	-	-	0.037
HCM Control Delay (s)	11.4	-	-	-	13.1
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	1093	1009	6	0	13
Future Vol, veh/h	0	1093	1009	6	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	3	0	0	0
Mvmt Flow	0	1151	1062	6	0	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	534
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	496
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	496
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	496
HCM Lane V/C Ratio	-	-	-	0.028
HCM Control Delay (s)	-	-	-	12.5
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1393	1017	29	0	11
Future Vol, veh/h	0	1393	1017	29	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	6	3	0	0	0
Mvmt Flow	0	1466	1071	31	0	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	551
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	483
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	483
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	483
HCM Lane V/C Ratio	-	-	-	0.024
HCM Control Delay (s)	-	-	-	12.6
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1266	1063	24	0	61
Future Vol, veh/h	0	1266	1063	24	0	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	3	5	2	0
Mvmt Flow	0	1333	1119	25	0	64

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	572
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	468
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	468
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	468
HCM Lane V/C Ratio	-	-	-	0.137
HCM Control Delay (s)	-	-	-	13.9
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.5

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1140	21	17	1107	0	125
Future Vol, veh/h	1140	21	17	1107	0	125
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	8	0	7	5	2	2
Mvmt Flow	1200	22	18	1165	0	132

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1222	0	-	611
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.24	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.27	-	-	3.32
Pot Cap-1 Maneuver	-	-	539	-	0	437
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	539	-	-	437
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	16.7
HCM LOS			C

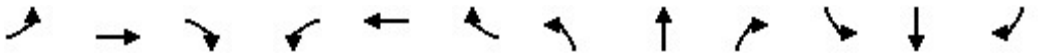
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	437	-	-	539	-
HCM Lane V/C Ratio	0.301	-	-	0.033	-
HCM Control Delay (s)	16.7	-	-	11.9	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	1.3	-	-	0.1	-

Arterial Level of Service: EB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 137 AVE	III	34	27.2	58.1	85.3	0.23	9.6	F
SW 134 AVE	III	30	32.5	21.2	53.7	0.26	17.2	D
SW 127 AVE	III	30	90.9	46.8	137.7	0.76	19.8	C
Total	III		150.6	126.1	276.7	1.24	16.1	D

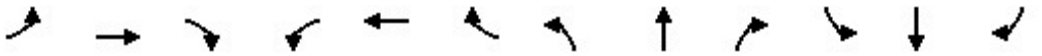
Arterial Level of Service: WB SR 994

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SW 127 AVE	III	30	33.9	29.3	63.2	0.27	15.2	D
SW 134 AVE	III	30	90.9	7.5	98.4	0.76	27.7	B
SW1 137 AVE	III	38	28.2	36.5	64.7	0.26	14.3	D
Total	III		153.0	73.3	226.3	1.28	20.4	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	527	88	242	346	293	109	319	274	378	640	123
Future Volume (vph)	51	527	88	242	346	293	109	319	274	378	640	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.4		4.5	6.4	6.4	4.5	6.4	6.4	4.5	6.4	6.4
Lane Util. Factor	0.97	0.95		0.97	0.95	0.88	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3019	3178		3433	3282	2656	3433	3539	1583	3213	1832	1380
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.40	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3019	3178		3433	3282	2656	1429	3539	1583	3213	1832	1380
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	54	555	93	255	364	308	115	336	288	398	674	129
RTOR Reduction (vph)	0	10	0	0	0	59	0	0	200	0	0	74
Lane Group Flow (vph)	54	638	0	255	364	249	115	336	88	398	674	55
Heavy Vehicles (%)	16%	13%	0%	2%	10%	7%	2%	2%	2%	9%	97%	17%
Turn Type	Prot	NA		Prot	NA	custom	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2	2 3	7	4		3	8	
Permitted Phases						4	4		4			8
Actuated Green, G (s)	6.1	27.9		13.2	33.5	97.0	42.2	36.7	36.7	20.4	51.6	51.6
Effective Green, g (s)	6.1	27.9		13.2	33.5	97.0	42.2	36.7	36.7	20.4	51.6	51.6
Actuated g/C Ratio	0.05	0.23		0.11	0.28	0.81	0.35	0.31	0.31	0.17	0.43	0.43
Clearance Time (s)	6.0	6.4		4.5	6.4		4.5	6.4	6.4	4.5	6.4	6.4
Vehicle Extension (s)	2.5	1.0		3.0	1.0		3.0	3.5	3.5	3.0	3.5	3.5
Lane Grp Cap (vph)	153	738		377	916	2146	594	1082	484	546	787	593
v/s Ratio Prot	0.02	c0.20		c0.07	0.11	0.06	0.01	0.09		c0.12	c0.37	
v/s Ratio Perm						0.04	0.06		0.06			0.04
v/c Ratio	0.35	0.86		0.68	0.40	0.12	0.19	0.31	0.18	0.73	0.86	0.09
Uniform Delay, d1	55.0	44.2		51.3	35.1	2.4	26.1	31.9	30.6	47.2	30.9	20.3
Progression Factor	1.00	1.00		0.90	0.94	0.49	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	12.9		4.6	1.2	0.0	0.2	0.2	0.2	4.8	9.3	0.1
Delay (s)	56.1	57.1		50.7	34.3	1.2	26.3	32.1	30.8	52.0	40.2	20.4
Level of Service	E	E		D	C	A	C	C	C	D	D	C
Approach Delay (s)		57.0			27.8			30.7			42.0	
Approach LOS		E			C			C			D	

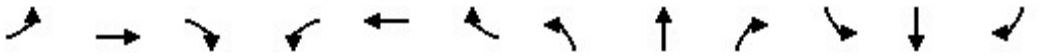
Intersection Summary			
HCM 2000 Control Delay	38.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.3
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	1042	193	357	801	130	168	172	175	117	247	71
Future Volume (veh/h)	92	1042	193	357	801	130	168	172	175	117	247	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1648	1885	1856	1885	1811	1811	1781	1870	1870	1900
Adj Flow Rate, veh/h	97	1097	203	376	843	137	177	181	184	123	260	75
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	8	17	1	3	1	6	6	8	2	2	0
Cap, veh/h	336	1479	610	426	1816	938	246	337	466	277	296	255
Arrive On Green	0.04	0.44	0.44	0.12	0.52	0.52	0.10	0.19	0.19	0.07	0.16	0.16
Sat Flow, veh/h	1767	3385	1397	3483	3526	1598	1725	1811	1510	1781	1870	1610
Grp Volume(v), veh/h	97	1097	203	376	843	137	177	181	184	123	260	75
Grp Sat Flow(s),veh/h/ln	1767	1692	1397	1742	1763	1598	1725	1811	1510	1781	1870	1610
Q Serve(g_s), s	4.2	37.8	13.4	14.9	21.3	5.4	11.9	12.7	13.4	8.0	19.0	5.8
Cycle Q Clear(g_c), s	4.2	37.8	13.4	14.9	21.3	5.4	11.9	12.7	13.4	8.0	19.0	5.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	336	1479	610	426	1816	938	246	337	466	277	296	255
V/C Ratio(X)	0.29	0.74	0.33	0.88	0.46	0.15	0.72	0.54	0.40	0.44	0.88	0.29
Avail Cap(c_a), veh/h	417	1479	610	463	1816	938	279	409	525	398	462	398
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.4	32.8	26.0	60.5	21.6	13.1	44.5	51.5	38.1	44.9	57.6	52.0
Incr Delay (d2), s/veh	0.3	3.4	1.5	16.7	0.9	0.3	6.9	1.6	0.7	0.8	12.6	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	16.1	4.8	7.6	9.1	2.1	5.6	5.9	5.1	3.6	10.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	36.2	27.4	77.2	22.5	13.4	51.4	53.1	38.8	45.7	70.2	52.8
LnGrp LOS	C	D	C	E	C	B	D	D	D	D	E	D
Approach Vol, veh/h		1397			1356			542			458	
Approach Delay, s/veh		33.9			36.7			47.7			60.7	
Approach LOS		C			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	78.5	16.5	32.5	23.5	67.6	20.4	28.6
Change Period (Y+Rc), s	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Max Green Setting (Gmax), s	12.6	50.6	19.6	31.6	18.6	44.6	16.6	34.6
Max Q Clear Time (g_c+I1), s	6.2	0.0	10.0	15.4	16.9	15.4	13.9	21.0
Green Ext Time (p_c), s	0.1	0.0	0.2	1.4	0.2	0.0	0.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	40.2
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	1103	93	107	768	62	76	56	120	46	46	33
Future Volume (veh/h)	34	1103	93	107	768	62	76	56	120	46	46	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1515	1767	1841	1900	1856	1856	1811	1781	1663	1900	1722	937
Adj Flow Rate, veh/h	36	1161	98	113	808	65	80	59	126	48	48	35
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	26	9	4	0	3	3	6	8	16	0	12	65
Cap, veh/h	409	2278	1145	362	2669	1190	187	85	182	131	70	51
Arrive On Green	0.68	0.68	0.68	0.04	0.76	0.76	0.06	0.17	0.17	0.08	0.08	0.08
Sat Flow, veh/h	514	3357	1560	1810	3526	1572	1725	506	1081	1218	926	675
Grp Volume(v), veh/h	36	1161	98	113	808	65	80	0	185	48	0	83
Grp Sat Flow(s),veh/h/ln	514	1678	1560	1810	1763	1572	1725	0	1587	1218	0	1601
Q Serve(g_s), s	2.9	20.4	2.1	2.1	8.7	1.3	5.0	0.0	13.2	4.6	0.0	6.1
Cycle Q Clear(g_c), s	2.9	20.4	2.1	2.1	8.7	1.3	5.0	0.0	13.2	6.7	0.0	6.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.42
Lane Grp Cap(c), veh/h	409	2278	1145	362	2669	1190	187	0	267	131	0	121
V/C Ratio(X)	0.09	0.51	0.09	0.31	0.30	0.05	0.43	0.00	0.69	0.37	0.00	0.69
Avail Cap(c_a), veh/h	409	2278	1145	401	2669	1190	372	0	562	227	0	247
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.7	9.5	4.5	7.2	4.6	3.7	46.0	0.0	47.0	55.4	0.0	54.1
Incr Delay (d2), s/veh	0.4	0.8	0.1	0.5	0.3	0.1	1.6	0.0	3.2	1.7	0.0	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	7.2	0.7	0.8	2.8	0.4	2.2	0.0	5.4	1.5	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.1	10.3	4.7	7.7	4.9	3.8	47.6	0.0	50.2	57.1	0.0	60.8
LnGrp LOS	A	B	A	A	A	A	D	A	D	E	A	E
Approach Vol, veh/h		1295			986			265			131	
Approach Delay, s/veh		9.8			5.1			49.4			59.5	
Approach LOS		A			A			D			E	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		24.7	9.4	86.0	11.1	13.6		95.3				
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		42.5	7.5	56.5	19.5	18.5		68.5				
Max Q Clear Time (g_c+I1), s		15.2	4.1	22.4	7.0	8.7		10.7				
Green Ext Time (p_c), s		1.1	0.1	12.1	0.1	0.3		7.3				

Intersection Summary												
HCM 6th Ctrl Delay			14.4									
HCM 6th LOS			B									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	1042	193	357	801	130	168	172	175	117	247	71
Future Volume (vph)	92	1042	193	357	801	130	168	172	175	117	247	71
Turn Type	pm+pt	NA	Perm	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases	6		6			2	4		4	8		8
Detector Phase	1	6	6	5	2	3	7	4	5	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0	5.0	5.0	7.0	5.0	5.0	7.0	7.0
Minimum Split (s)	11.4	28.4	28.4	11.4	28.4	11.4	11.4	28.4	11.4	11.4	28.4	28.4
Total Split (s)	19.0	51.0	51.0	25.0	57.0	26.0	23.0	38.0	25.0	26.0	41.0	41.0
Total Split (%)	13.6%	36.4%	36.4%	17.9%	40.7%	18.6%	16.4%	27.1%	17.9%	18.6%	29.3%	29.3%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 116 (83%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 127: SW 127 AVE & SR 994

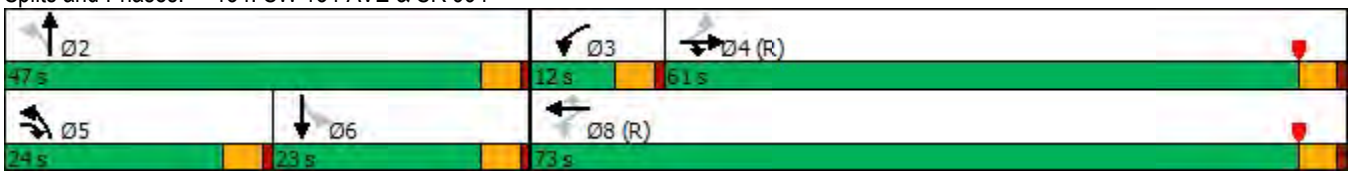


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	34	1103	93	107	768	62	76	56	46	46
Future Volume (vph)	34	1103	93	107	768	62	76	56	46	46
Turn Type	Perm	NA	pt+ov	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases		4	4 5	3	8		5	2		6
Permitted Phases	4			8		8	2		6	
Detector Phase	4	4	4 5	3	8	8	5	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5		9.5	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	61.0	61.0		12.0	73.0	73.0	24.0	47.0	23.0	23.0
Total Split (%)	50.8%	50.8%		10.0%	60.8%	60.8%	20.0%	39.2%	19.2%	19.2%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag		Lead			Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 102 (85%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 134: SW 134 AVE & SR 994

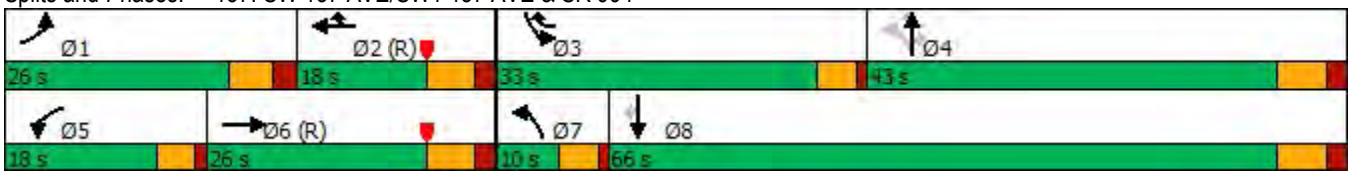


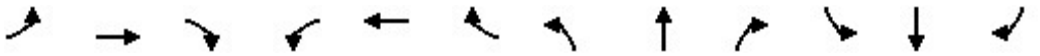
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	51	527	242	346	293	109	319	274	378	640	123
Future Volume (vph)	51	527	242	346	293	109	319	274	378	640	123
Turn Type	Prot	NA	Prot	NA	custom	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	1	6	5	2	2 3	7	4		3	8	
Permitted Phases					4	4		4			8
Detector Phase	1	6	5	2	2 3	7	4	4	3	8	8
Switch Phase											
Minimum Initial (s)	5.0	4.0	5.0	11.6		2.5	7.0	7.0	5.0	7.0	7.0
Minimum Split (s)	11.0	10.4	9.5	18.0		7.0	13.4	13.4	9.5	13.4	13.4
Total Split (s)	26.0	26.0	18.0	18.0		10.0	43.0	43.0	33.0	66.0	66.0
Total Split (%)	21.7%	21.7%	15.0%	15.0%		8.3%	35.8%	35.8%	27.5%	55.0%	55.0%
Yellow Time (s)	4.0	4.4	3.5	4.4		3.5	4.4	4.4	3.5	4.4	4.4
All-Red Time (s)	2.0	2.0	1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.4	4.5	6.4		4.5	6.4	6.4	4.5	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max		None	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 137: SW 137 AVE/SW1 137 AVE & SR 994

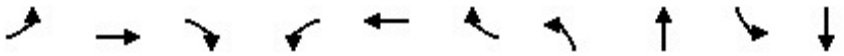




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	97	1097	203	376	843	137	177	181	184	123	260	75
v/c Ratio	0.31	0.84	0.32	0.79	0.52	0.14	0.64	0.50	0.27	0.36	0.78	0.19
Control Delay	19.1	46.8	12.0	70.7	29.3	2.7	44.1	53.6	4.7	35.1	70.0	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.1	46.8	12.0	70.7	29.3	2.7	44.1	53.6	4.7	35.1	70.0	1.6
Queue Length 50th (ft)	39	488	34	171	284	0	118	146	3	79	228	0
Queue Length 95th (ft)	77	#699	106	228	400	32	166	215	48	118	309	4
Internal Link Dist (ft)		1222			1328			526			1118	
Turn Bay Length (ft)	300		250	385		190	385		385	275		160
Base Capacity (vph)	366	1306	628	496	1636	1090	295	410	693	435	460	493
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.84	0.32	0.76	0.52	0.13	0.60	0.44	0.27	0.28	0.57	0.15

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	36	1161	98	113	808	65	80	185	48	83
v/c Ratio	0.11	0.56	0.08	0.34	0.32	0.06	0.34	0.49	0.44	0.58
Control Delay	13.1	21.2	5.5	9.3	7.5	2.0	40.6	21.9	62.9	52.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.1	21.2	5.5	9.3	7.5	2.0	40.6	21.9	62.9	52.3
Queue Length 50th (ft)	15	462	18	24	111	0	51	56	36	43
Queue Length 95th (ft)	m32	552	m35	56	186	16	86	114	73	93
Internal Link Dist (ft)		272			408			1264		1117
Turn Bay Length (ft)	225		225	185		185	185		150	
Base Capacity (vph)	325	2058	1293	338	2542	1155	322	596	187	226
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.56	0.08	0.33	0.32	0.06	0.25	0.31	0.26	0.37

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	54	648	255	364	308	115	336	288	398	674	129
v/c Ratio	0.31	0.87	0.67	0.38	0.13	0.19	0.31	0.42	0.73	0.86	0.19
Control Delay	58.0	58.1	55.0	36.5	0.2	15.3	32.3	5.3	55.0	41.9	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	58.1	55.0	36.5	0.2	15.3	32.3	5.3	55.0	41.9	1.6
Queue Length 50th (ft)	21	257	100	128	0	21	102	0	152	237	0
Queue Length 95th (ft)	42	#443	145	191	3	30	141	61	195	293	16
Internal Link Dist (ft)		500		377			374			423	
Turn Bay Length (ft)	300		350		405	240		440	425		195
Base Capacity (vph)	503	747	402	949	2324	616	1121	698	763	909	769
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.87	0.63	0.38	0.13	0.19	0.30	0.41	0.52	0.74	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1230	870	7	0	8
Future Vol, veh/h	0	1230	870	7	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	7	0	0	49
Mvmt Flow	0	1295	916	7	0	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	462
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.88
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.79
Pot Cap-1 Maneuver	0	-	-	-	0	436
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	436
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	436
HCM Lane V/C Ratio	-	-	-	0.019
HCM Control Delay (s)	-	-	-	13.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	1221	76	26	1093	7	9	1	36	9	1	3
Future Vol, veh/h	2	1221	76	26	1093	7	9	1	36	9	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	90	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	5	24	11	5	0	0	0	0	0	0	0
Mvmt Flow	2	1285	80	27	1151	7	9	1	38	9	1	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1158	0	0	1365	0	0	1959	2541	683	1856	2578	579
Stage 1	-	-	-	-	-	-	1329	1329	-	1209	1209	-
Stage 2	-	-	-	-	-	-	630	1212	-	647	1369	-
Critical Hdwy	4.1	-	-	4.32	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.31	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	611	-	-	455	-	-	39	27	396	46	26	463
Stage 1	-	-	-	-	-	-	166	226	-	197	258	-
Stage 2	-	-	-	-	-	-	441	257	-	431	216	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	611	-	-	455	-	-	36	25	396	38	24	463
Mov Cap-2 Maneuver	-	-	-	-	-	-	36	25	-	38	24	-
Stage 1	-	-	-	-	-	-	166	225	-	196	243	-
Stage 2	-	-	-	-	-	-	410	242	-	387	215	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	39.6	113.5
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	36	396	611	-	-	455	-	-	46
HCM Lane V/C Ratio	0.263	0.096	0.003	-	-	0.06	-	-	0.297
HCM Control Delay (s)	137.5	15.1	10.9	-	-	13.4	-	-	113.5
HCM Lane LOS	F	C	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0.9	0.3	0	-	-	0.2	-	-	1

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	1277	8	2	1081	37	2	1	2	20	4	67
Future Vol, veh/h	60	1277	8	2	1081	37	2	1	2	20	4	67
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	4	10	32	0	5	8	0	0	0	9	0	2
Mvmt Flow	63	1344	8	2	1138	39	2	1	2	21	4	71

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1177	0	0	1352	0	0	2049	2655	676	1961	2640	589
Stage 1	-	-	-	-	-	-	1474	1474	-	1162	1162	-
Stage 2	-	-	-	-	-	-	575	1181	-	799	1478	-
Critical Hdwy	4.18	-	-	4.1	-	-	7.5	6.5	6.9	7.68	6.5	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.68	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.68	5.5	-
Follow-up Hdwy	2.24	-	-	2.2	-	-	3.5	4	3.3	3.59	4	3.32
Pot Cap-1 Maneuver	578	-	-	516	-	-	33	23	401	35	24	452
Stage 1	-	-	-	-	-	-	135	192	-	196	272	-
Stage 2	-	-	-	-	-	-	475	266	-	330	192	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	578	-	-	516	-	-	22	20	401	31	21	452
Mov Cap-2 Maneuver	-	-	-	-	-	-	22	20	-	31	21	-
Stage 1	-	-	-	-	-	-	120	171	-	175	271	-
Stage 2	-	-	-	-	-	-	393	265	-	291	171	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	129.4	189.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	34	578	-	-	516	-	-	92
HCM Lane V/C Ratio	0.155	0.109	-	-	0.004	-	-	1.041
HCM Control Delay (s)	129.4	12	-	-	12	-	-	189.1
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0.5	0.4	-	-	0	-	-	6.2

Intersection	
Int Delay, s/veh	16.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1211	74	222	928	36	134
Future Vol, veh/h	1211	74	222	928	36	134
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	0	6	5	5	4
Mvmt Flow	1275	78	234	977	38	141

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1353	0	2271	677
Stage 1	-	-	-	-	1314	-
Stage 2	-	-	-	-	957	-
Critical Hdwy	-	-	4.22	-	6.9	6.98
Critical Hdwy Stg 1	-	-	-	-	5.9	-
Critical Hdwy Stg 2	-	-	-	-	5.9	-
Follow-up Hdwy	-	-	2.26	-	3.55	3.34
Pot Cap-1 Maneuver	-	-	484	-	~ 33	391
Stage 1	-	-	-	-	210	-
Stage 2	-	-	-	-	326	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	484	-	~ 17	391
Mov Cap-2 Maneuver	-	-	-	-	~ 17	-
Stage 1	-	-	-	-	210	-
Stage 2	-	-	-	-	169	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.7	233.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	17	391	-	-	484	-
HCM Lane V/C Ratio	2.229	0.361	-	-	0.483	-
HCM Control Delay (s)	$ 1030.8	19.3	-	-	19.2	-
HCM Lane LOS	F	C	-	-	C	-
HCM 95th %tile Q(veh)	5.3	1.6	-	-	2.6	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	1256	921	16	0	15
Future Vol, veh/h	13	1256	921	16	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	6	10	24	0
Mvmt Flow	14	1322	969	17	0	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	986	0	-	0	-	493
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.1	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.2	-	-	-	-	3.3
Pot Cap-1 Maneuver	709	-	-	-	0	527
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	709	-	-	-	-	527
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	709	-	-	-	527
HCM Lane V/C Ratio	0.019	-	-	-	0.03
HCM Control Delay (s)	10.2	-	-	-	12
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	1229	870	7	0	11
Future Vol, veh/h	0	1229	870	7	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	3	0	0	0
Mvmt Flow	0	1294	916	7	0	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	462
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	552
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	552
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	552
HCM Lane V/C Ratio	-	-	-	0.021
HCM Control Delay (s)	-	-	-	11.7
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1299	1098	7	0	22
Future Vol, veh/h	0	1299	1098	7	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	6	3	0	0	0
Mvmt Flow	0	1367	1156	7	0	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	582
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	461
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	461
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	461
HCM Lane V/C Ratio	-	-	-	0.05
HCM Control Delay (s)	-	-	-	13.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1285	949	13	0	28
Future Vol, veh/h	0	1285	949	13	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	3	5	2	0
Mvmt Flow	0	1353	999	14	0	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	507
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	516
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	516
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	516
HCM Lane V/C Ratio	-	-	-	0.057
HCM Control Delay (s)	-	-	-	12.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1243	13	40	938	0	43
Future Vol, veh/h	1243	13	40	938	0	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	8	0	7	5	2	2
Mvmt Flow	1308	14	42	987	0	45

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1322	0	-	661
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.24	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.27	-	-	3.32
Pot Cap-1 Maneuver	-	-	493	-	0	405
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	493	-	-	405
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	15
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	405	-	-	493	-
HCM Lane V/C Ratio	0.112	-	-	0.085	-
HCM Control Delay (s)	15	-	-	13	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.4	-	-	0.3	-

Appendix L: Predictive Method for Urban and Suburban Arterials Worksheets

Note: The SERPM forecast adjusted volumes for the SR 994 corridor (Figure 25) were utilized for this effort. For study areas located between the major intersections considered in the model, an average AADT was calculated for the neighboring roads and applied.

Segmentation Approach:

Segment 1 from center of 137 Ave to center of 134 Ave
Segment 2 from center of 134 Ave to center of 133 Ave
Segment 3 from center of 133 Ave to center of 132 Ave
Segment 4 from center of 132 Ave to center of 130 Ave
Segment 5 from center of 130 Ave to center of 129 Ave
Segment 6 from center of 129 Ave to center of 128 Ave
Segment 7 from center of 128 Ave to center of 127 Ave
Segment 8 from center of 127 Ave to center of 125 Ave

Intersection 1 - SW 137 Ave
Intersection 2 – SW 134 Ave
Intersection 3 – SW 133 Ave
Intersection 4 – SW 132 Pl
Intersection 5 – SW 132 Ave
Intersection 6 – SW 130 Ave
Intersection 7 – SW 129 Ave
Intersection 8 – SW 127 Ave

The following streets are being considered as driveways due to the low vehicular traffic and included as part of a segment:

SW 135 Ave, SW 134 Ct, SW 133 Ct, SW 132 Ct, and SW 129 Ct

Legend:

Segment

Intersection



Int 3 - 133 Ave Int 4 – 132 Pl

Intersections:

Int 1 - 137 Ave | Int 2 - 134 Ave | Int 5 - 132 Ave | Int 6 - 130 Ave | Int 7 - 129 Ave | Int 8 - 127 Ave

Segments:

Seg 1 with SW 135 Ave and SW 134 Ct as DWs

Seg 2 with SW 133 Ct as DW

Seg 3 with 2 Residential DWs (including SW 132 Ct)

Seg 4 with no DWs

Seg 5 with SW 129 Ct as DW

Seg 6 with 1 Residential DW

Seg 7 with 3 Residential DWs

Seg 8 with 3 Commercial & 3 Residential DWs

NO BUILD

Worksheet 3A -- Predicted Crashes by Severity and Site Type and Observed Crashes Using the Site-Specific EB Method for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Collision type / Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes, $N_{observed}$** (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency, $N_{expected}$**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Multiple-vehicle nondriveway							
Segment 1	0.945	0.274	0.671	3.0	0.840	0.558	1.854
Segment 2	0.520	0.151	0.370	1.4	0.840	0.696	0.788
Segment 3	0.485	0.140	0.344	0.4	0.840	0.711	0.460
Segment 4	0.687	0.198	0.489	1.4	0.840	0.634	0.948
Segment 5	0.738	0.213	0.525	0.6	0.840	0.617	0.685
Segment 6	0.738	0.213	0.525	0.2	0.840	0.617	0.532
Segment 7	0.473	0.131	0.342	2.2	1.320	0.616	1.137
Segment 8	0.609	0.166	0.443	2.2	1.320	0.554	1.318
Single-vehicle							
Segment 1	0.265	0.049	0.216	0.60	0.810	0.823	0.325
Segment 2	0.137	0.025	0.112	0.80	0.810	0.900	0.203
Segment 3	0.127	0.023	0.104	0.40	0.810	0.906	0.153
Segment 4	0.143	0.024	0.119	0.00	0.810	0.896	0.128
Segment 5	0.154	0.026	0.128	0.20	0.810	0.889	0.159
Segment 6	0.154	0.026	0.128	0.00	0.810	0.889	0.137
Segment 7	0.086	0.015	0.071	0.00	0.860	0.931	0.080
Segment 8	0.094	0.017	0.077	0.20	0.860	0.925	0.102
Multiple-vehicle driveway-related							
Segment 1	0.040	0.013	0.027	0.00	0.810	0.969	0.039
Segment 2	0.021	0.007	0.014	0.00	0.810	0.983	0.021
Segment 3	0.020	0.006	0.013	0.00	0.810	0.984	0.019
Segment 4	0.000	0.000	0.000	0.00	0.810	1.000	0.000
Segment 5	0.026	0.008	0.018	0.00	0.810	0.979	0.026
Segment 6	0.026	0.008	0.018	0.00	0.810	0.979	0.026
Segment 7	0.014	0.004	0.010	0.00	1.390	0.981	0.014
Segment 8	0.081	0.023	0.058	0.00	1.390	0.899	0.073
INTERSECTIONS							
Multiple-vehicle							
Intersection 1	3.961	1.239	2.722	11.0	0.390	0.393	8.234
Intersection 2	2.918	1.167	1.751	13.0	0.400	0.461	8.348
Intersection 3	2.236	0.749	1.488	1.6	0.800	0.359	1.828
Intersection 4	1.787	0.679	1.109	0.6	0.800	0.412	1.089
Intersection 5	2.796	0.892	1.904	6.0	0.800	0.309	5.010
Intersection 6	3.440	1.378	2.062	2.6	0.400	0.421	2.953
Intersection 7	3.172	1.258	1.914	3.0	0.400	0.441	3.076
Intersection 8	4.524	1.521	3.002	23.6	0.390	0.362	16.699
Single-vehicle							
Intersection 1	0.306	0.091	0.216	0.4	0.360	0.901	0.316
Intersection 2	0.286	0.082	0.204	0.8	0.650	0.843	0.367
Intersection 3	0.276	0.084	0.192	0.0	1.140	0.761	0.210
Intersection 4	0.189	0.059	0.131	0.0	1.140	0.822	0.156
Intersection 5	0.331	0.099	0.232	0.6	1.140	0.726	0.404
Intersection 6	0.330	0.101	0.229	0.4	0.650	0.823	0.342
Intersection 7	0.318	0.099	0.219	0.4	0.650	0.829	0.332
Intersection 8	0.271	0.068	0.203	0.4	0.360	0.911	0.283
COMBINED (sum of column)	33.725	11.327	22.398	78	--	--	58.872

BUILD 1

Worksheet 3A -- Predicted Crashes by Severity and Site Type and Observed Crashes Using the Site-Specific EB Method for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Collision type / Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes, $N_{observed}$** (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency, $N_{expected}$**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Multiple-vehicle nondriveway							
Segment 1	1.039	0.301	0.738	3.0	0.840	0.534	1.953
Segment 2	0.552	0.160	0.392	1.4	0.840	0.683	0.821
Segment 3	0.552	0.160	0.392	0.4	0.840	0.683	0.504
Segment 4	0.784	0.226	0.558	1.4	0.840	0.603	1.029
Segment 5	0.784	0.226	0.558	0.6	0.840	0.603	0.711
Segment 6	0.784	0.226	0.558	0.2	0.840	0.603	0.552
Segment 7	0.521	0.143	0.378	2.2	1.320	0.592	1.205
Segment 8	0.617	0.168	0.449	2.2	1.320	0.551	1.327
Single-vehicle							
Segment 1	0.261	0.047	0.215	0.60	0.810	0.825	0.320
Segment 2	0.133	0.023	0.110	0.80	0.810	0.903	0.198
Segment 3	0.133	0.023	0.110	0.40	0.810	0.903	0.159
Segment 4	0.150	0.025	0.125	0.00	0.810	0.892	0.133
Segment 5	0.150	0.025	0.125	0.20	0.810	0.892	0.155
Segment 6	0.150	0.025	0.125	0.00	0.810	0.892	0.133
Segment 7	0.088	0.016	0.073	0.00	0.860	0.929	0.082
Segment 8	0.094	0.017	0.077	0.20	0.860	0.925	0.102
Multiple-vehicle driveway-related							
Segment 1	0.041	0.013	0.028	0.00	0.810	0.968	0.040
Segment 2	0.021	0.007	0.014	0.00	0.810	0.983	0.021
Segment 3	0.043	0.014	0.029	0.00	0.810	0.967	0.041
Segment 4	0.000	0.000	0.000	0.00	0.810	1.000	0.000
Segment 5	0.026	0.009	0.018	0.00	0.810	0.979	0.026
Segment 6	0.026	0.009	0.018	0.00	0.810	0.979	0.026
Segment 7	0.015	0.004	0.011	0.00	1.390	0.979	0.015
Segment 8	0.082	0.023	0.059	0.00	1.390	0.898	0.073
INTERSECTIONS							
Multiple-vehicle							
Intersection 1	2.425	0.767	1.659	11.0	0.390	0.514	6.593
Intersection 2	2.599	0.867	1.732	13.0	0.390	0.497	7.834
Intersection 3	1.694	0.566	1.129	1.6	0.800	0.425	1.640
Intersection 4	1.825	0.691	1.134	0.6	0.800	0.406	1.098
Intersection 5	2.042	0.650	1.392	6.0	0.800	0.380	4.497
Intersection 6	1.794	0.725	1.069	2.6	0.400	0.582	2.131
Intersection 7	1.679	0.673	1.006	3.0	0.400	0.598	2.209
Intersection 8	4.046	1.378	2.668	23.6	0.390	0.388	16.015
Single-vehicle							
Intersection 1	0.181	0.052	0.129	0.4	0.360	0.939	0.194
Intersection 2	0.162	0.042	0.121	0.8	0.360	0.945	0.198
Intersection 3	0.188	0.057	0.132	0.0	1.140	0.823	0.155
Intersection 4	0.175	0.054	0.121	0.0	1.140	0.834	0.146
Intersection 5	0.224	0.067	0.158	0.6	1.140	0.796	0.301
Intersection 6	0.164	0.050	0.114	0.4	0.650	0.903	0.187
Intersection 7	0.160	0.049	0.111	0.4	0.650	0.906	0.183
Intersection 8	0.232	0.056	0.176	0.4	0.360	0.923	0.245
COMBINED (sum of column)	26.639	8.632	18.007	78	--	--	53.254

BUILD 2

Worksheet 3A -- Predicted Crashes by Severity and Site Type and Observed Crashes Using the Site-Specific EB Method for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Collision type / Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes, $N_{observed}$** (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency, $N_{expected}$**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Multiple-vehicle nondriveway							
Segment 1	0.747	0.209	0.538	3.0	1.320	0.503	1.866
Segment 2	0.392	0.110	0.283	1.4	1.320	0.659	0.736
Segment 3	0.392	0.110	0.283	0.4	1.320	0.659	0.395
Segment 4	0.521	0.143	0.378	1.4	1.320	0.592	0.879
Segment 5	0.521	0.143	0.378	0.6	1.320	0.592	0.553
Segment 6	0.521	0.143	0.378	0.2	1.320	0.592	0.390
Segment 7	0.521	0.143	0.378	2.2	1.320	0.592	1.205
Segment 8	0.617	0.168	0.449	2.2	1.320	0.551	1.327
Single-vehicle							
Segment 1	0.158	0.027	0.131	0.60	0.860	0.880	0.211
Segment 2	0.080	0.014	0.066	0.80	0.860	0.936	0.126
Segment 3	0.080	0.014	0.066	0.40	0.860	0.936	0.101
Segment 4	0.088	0.016	0.073	0.00	0.860	0.929	0.082
Segment 5	0.088	0.016	0.073	0.20	0.860	0.929	0.096
Segment 6	0.088	0.016	0.073	0.00	0.860	0.929	0.082
Segment 7	0.088	0.016	0.073	0.00	0.860	0.929	0.082
Segment 8	0.094	0.017	0.077	0.20	0.860	0.925	0.102
Multiple-vehicle driveway-related							
Segment 1	0.008	0.002	0.006	0.00	1.390	0.989	0.008
Segment 2	0.004	0.001	0.003	0.00	1.390	0.994	0.004
Segment 3	0.008	0.002	0.006	0.00	1.390	0.989	0.008
Segment 4	0.000	0.000	0.000	0.00	1.390	1.000	0.000
Segment 5	0.005	0.001	0.004	0.00	1.390	0.993	0.005
Segment 6	0.005	0.001	0.004	0.00	1.390	0.993	0.005
Segment 7	0.015	0.004	0.011	0.00	1.390	0.979	0.015
Segment 8	0.082	0.023	0.059	0.00	1.390	0.898	0.073
INTERSECTIONS							
Multiple-vehicle							
Intersection 1	2.303	0.728	1.575	11.0	0.390	0.527	6.418
Intersection 2	2.599	0.867	1.732	13.0	0.390	0.497	7.834
Intersection 3	1.694	0.566	1.129	1.6	0.800	0.425	1.640
Intersection 4	1.825	0.691	1.134	0.6	0.800	0.406	1.098
Intersection 5	2.042	0.650	1.392	6.0	0.800	0.380	4.497
Intersection 6	1.794	0.725	1.069	2.6	0.400	0.582	2.131
Intersection 7	1.679	0.673	1.006	3.0	0.400	0.598	2.209
Intersection 8	4.091	1.394	2.697	23.6	0.390	0.385	16.083
Single-vehicle							
Intersection 1	0.172	0.050	0.122	0.4	0.360	0.942	0.185
Intersection 2	0.162	0.042	0.121	0.8	0.360	0.945	0.198
Intersection 3	0.188	0.057	0.132	0.0	1.140	0.823	0.155
Intersection 4	0.175	0.054	0.121	0.0	1.140	0.834	0.146
Intersection 5	0.224	0.067	0.158	0.6	1.140	0.796	0.301
Intersection 6	0.164	0.050	0.114	0.4	0.650	0.903	0.187
Intersection 7	0.160	0.049	0.111	0.4	0.650	0.906	0.183
Intersection 8	0.234	0.057	0.177	0.4	0.360	0.922	0.247
COMBINED (sum of column)	24.634	8.059	16.574	78	--	--	51.866

BUILD 3

Worksheet 3A -- Predicted Crashes by Severity and Site Type and Observed Crashes Using the Site-Specific EB Method for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Collision type / Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes, $N_{observed}$** (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency, $N_{expected}$**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Multiple-vehicle nondriveway							
Segment 1	0.747	0.209	0.538	3.0	1.320	0.503	1.866
Segment 2	0.392	0.110	0.283	1.4	1.320	0.659	0.736
Segment 3	0.392	0.110	0.283	0.4	1.320	0.659	0.395
Segment 4	0.521	0.143	0.378	1.4	1.320	0.592	0.879
Segment 5	0.521	0.143	0.378	0.6	1.320	0.592	0.553
Segment 6	0.521	0.143	0.378	0.2	1.320	0.592	0.390
Segment 7	0.521	0.143	0.378	2.2	1.320	0.592	1.205
Segment 8	0.617	0.168	0.449	2.2	1.320	0.551	1.327
Single-vehicle							
Segment 1	0.158	0.027	0.131	0.60	0.860	0.880	0.211
Segment 2	0.080	0.014	0.066	0.80	0.860	0.936	0.126
Segment 3	0.080	0.014	0.066	0.40	0.860	0.936	0.101
Segment 4	0.088	0.016	0.073	0.00	0.860	0.929	0.082
Segment 5	0.088	0.016	0.073	0.20	0.860	0.929	0.096
Segment 6	0.088	0.016	0.073	0.00	0.860	0.929	0.082
Segment 7	0.088	0.016	0.073	0.00	0.860	0.929	0.082
Segment 8	0.094	0.017	0.077	0.20	0.860	0.925	0.102
Multiple-vehicle driveway-related							
Segment 1	0.008	0.002	0.006	0.00	1.390	0.989	0.008
Segment 2	0.004	0.001	0.003	0.00	1.390	0.994	0.004
Segment 3	0.008	0.002	0.006	0.00	1.390	0.989	0.008
Segment 4	0.000	0.000	0.000	0.00	1.390	1.000	0.000
Segment 5	0.005	0.001	0.004	0.00	1.390	0.993	0.005
Segment 6	0.005	0.001	0.004	0.00	1.390	0.993	0.005
Segment 7	0.015	0.004	0.011	0.00	1.390	0.979	0.015
Segment 8	0.082	0.023	0.059	0.00	1.390	0.898	0.073
INTERSECTIONS							
Multiple-vehicle							
Intersection 1	2.303	0.728	1.575	11.0	0.390	0.527	6.418
Intersection 2	2.599	0.867	1.732	13.0	0.390	0.497	7.834
Intersection 3	1.694	0.566	1.129	1.6	0.800	0.425	1.640
Intersection 4	1.825	0.691	1.134	0.6	0.800	0.406	1.098
Intersection 5	2.042	0.650	1.392	6.0	0.800	0.380	4.497
Intersection 6	1.794	0.725	1.069	2.6	0.400	0.582	2.131
Intersection 7	1.679	0.673	1.006	3.0	0.400	0.598	2.209
Intersection 8	4.091	1.394	2.697	23.6	0.390	0.385	16.083
Single-vehicle							
Intersection 1	0.172	0.050	0.122	0.4	0.360	0.942	0.185
Intersection 2	0.162	0.042	0.121	0.8	0.360	0.945	0.198
Intersection 3	0.188	0.057	0.132	0.0	1.140	0.823	0.155
Intersection 4	0.175	0.054	0.121	0.0	1.140	0.834	0.146
Intersection 5	0.224	0.067	0.158	0.6	1.140	0.796	0.301
Intersection 6	0.164	0.050	0.114	0.4	0.650	0.903	0.187
Intersection 7	0.160	0.049	0.111	0.4	0.650	0.906	0.183
Intersection 8	0.234	0.057	0.177	0.4	0.360	0.922	0.247
COMBINED (sum of column)	24.634	8.059	16.574	78	--	--	51.866

Appendix M: Clearinghouse CMFs

CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 2219

CMF Name: Install raised median

Description:

Prior Condition: No Prior Condition(s)

Category: Access management

Study ID: *Correlating Access Management to Crash Rate, Severity, and Collision Type*, Schultz et al. 2008

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.29
Adjusted Standard Error:	
Unadjusted Standard Error:	0.184

Crash Reduction Factor	
Value:	70.77
Adjusted Standard Error:	
Unadjusted Standard Error:	18.37

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Principal Arterial Other
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban
Traffic Volume:	Minimum of 1390 to Maximum of 51200 Average Daily Traffic (ADT)
Average Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	2002 to 2004
Municipality:	
State:	UT
Country:	
Type of Methodology Used:	Regression cross-section
Sample Size (site-years):	525 site-years

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Dec 01, 2009
Comments:	

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 7568

CMF Name: Convert 2 lane roadway to 4 lane divided roadway

Description: Conversion of urban and rural two-lane roadways to four-lane divi

Prior Condition: 2 lane roadway

Category: Roadway

Study ID: *Evaluation of the Safety Effectiveness of the Conversion of Two-Lane Roadways to Four-Lane Divided Roadways: Bayesian vs. Empirical Bayes*, Ahmed et al. 2015

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.367
Adjusted Standard Error:	
Unadjusted Standard Error:	0.089

Crash Reduction Factor	
Value:	63.27
Adjusted Standard Error:	
Unadjusted Standard Error:	8.87

Applicability	
Crash Type:	All
Crash Severity:	K (fatal),A (serious injury),B (minor injury),C (possible injury)
Roadway Types:	Not specified
Minimum Number of Lanes:	2
Maximum Number of Lanes:	2
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	Undivided
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	2002 to 2012
Municipality:	
State:	FL
Country:	USA
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size (crashes):	34 crashes before, 16 crashes after
Sample Size (sites):	41 sites before, 41 sites after
Sample Size (miles):	8.578 miles before

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Nov 01, 2015
Comments:	

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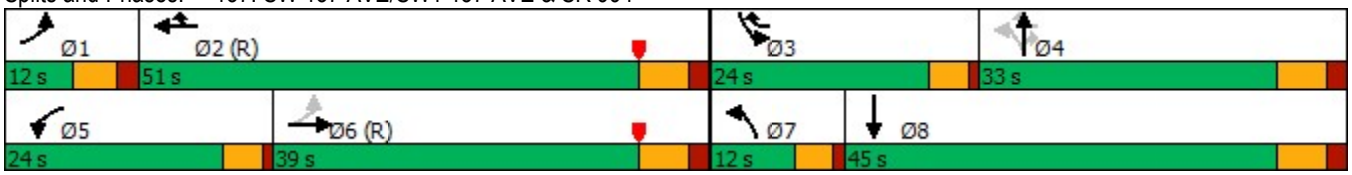
Appendix N: Refined Build 2 - Future Synchro Analysis Worksheets

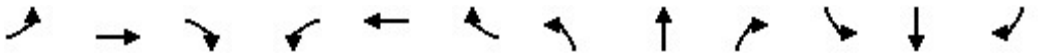
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	84	562	278	413	383	131	521	242	292	353
Future Volume (vph)	84	562	278	413	383	131	521	242	292	353
Turn Type	pm+pt	NA	Prot	NA	custom	pm+pt	NA	Perm	Prot	NA
Protected Phases	1	6	5	2	2 3	7	4		3	8
Permitted Phases	6				4	4		4		
Detector Phase	1	6	5	2	2 3	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	13.6	5.0	16.0		5.0	7.0	7.0	5.0	7.0
Minimum Split (s)	11.0	20.0	9.5	22.4		9.5	13.4	13.4	9.5	13.4
Total Split (s)	12.0	39.0	24.0	51.0		12.0	33.0	33.0	24.0	45.0
Total Split (%)	10.0%	32.5%	20.0%	42.5%		10.0%	27.5%	27.5%	20.0%	37.5%
Yellow Time (s)	4.0	4.4	3.5	4.4		3.5	4.4	4.4	3.5	4.4
All-Red Time (s)	2.0	2.0	1.0	2.0		1.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.4	4.5	6.4		4.5	6.4	6.4	4.5	6.4
Lead/Lag	Lead	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max		None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 37.1 (31%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 137: SW 137 AVE/SW1 137 AVE & SR 994





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	562	98	278	413	383	131	521	242	292	353	121
Future Volume (vph)	84	562	98	278	413	383	131	521	242	292	353	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.4		4.5	6.4	6.4	4.5	6.4	6.4	4.5	6.4	
Lane Util. Factor	1.00	0.95		0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1556	3178		3433	3282	1509	1770	3539	1583	3213	1966	
Flt Permitted	0.50	1.00		0.95	1.00	1.00	0.47	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	818	3178		3433	3282	1509	874	3539	1583	3213	1966	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	88	592	103	293	435	403	138	548	255	307	372	127
RTOR Reduction (vph)	0	10	0	0	0	79	0	0	204	0	30	0
Lane Group Flow (vph)	88	685	0	293	435	324	138	548	51	307	469	0
Heavy Vehicles (%)	16%	13%	0%	2%	10%	7%	2%	2%	2%	9%	97%	17%
Turn Type	pm+pt	NA		Prot	NA	custom	pm+pt	NA	Perm	Prot	NA	
Protected Phases	1	6		5	2	2 3	7	4		3	8	
Permitted Phases	6					4	4		4			
Actuated Green, G (s)	48.7	42.0		15.5	49.3	96.4	31.7	24.2	24.2	16.5	33.2	
Effective Green, g (s)	48.7	42.0		15.5	49.3	96.4	31.7	24.2	24.2	16.5	33.2	
Actuated g/C Ratio	0.41	0.35		0.13	0.41	0.80	0.26	0.20	0.20	0.14	0.28	
Clearance Time (s)	6.0	6.4		4.5	6.4		4.5	6.4	6.4	4.5	6.4	
Vehicle Extension (s)	2.5	1.0		3.0	1.0		3.0	3.5	3.5	3.0	3.5	
Lane Grp Cap (vph)	373	1112		443	1348	1212	286	713	319	441	543	
v/s Ratio Prot	0.01	c0.22		c0.09	0.13	0.16	0.03	0.15		c0.10	c0.24	
v/s Ratio Perm	0.08					0.05	0.10		0.03			
v/c Ratio	0.24	0.62		0.66	0.32	0.27	0.48	0.77	0.16	0.70	0.86	
Uniform Delay, d1	22.5	32.3		49.8	24.0	3.0	35.2	45.3	39.5	49.4	41.3	
Progression Factor	1.00	1.00		0.93	1.47	0.46	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	2.6		3.4	0.6	0.1	1.3	5.1	0.3	4.7	13.7	
Delay (s)	22.7	34.9		49.7	35.9	1.5	36.5	50.4	39.8	54.1	55.0	
Level of Service	C	C		D	D	A	D	D	D	D	D	
Approach Delay (s)		33.5			27.2			45.5			54.6	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	39.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.3
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	88	695	293	435	403	138	548	255	307	499
v/c Ratio	0.23	0.62	0.66	0.32	0.30	0.46	0.77	0.49	0.69	0.87
Control Delay	19.5	36.2	53.0	37.6	0.6	30.1	53.0	8.1	57.7	53.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.5	36.2	53.0	37.6	0.6	30.1	53.0	8.1	57.7	53.9
Queue Length 50th (ft)	34	231	114	157	0	69	211	0	118	178
Queue Length 95th (ft)	69	332	155	216	6	107	270	68	162	237
Internal Link Dist (ft)		500		377			374			423
Turn Bay Length (ft)	300		350		405	240		440	425	
Base Capacity (vph)	376	1124	557	1348	1311	300	785	549	522	660
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.62	0.53	0.32	0.31	0.46	0.70	0.46	0.59	0.76

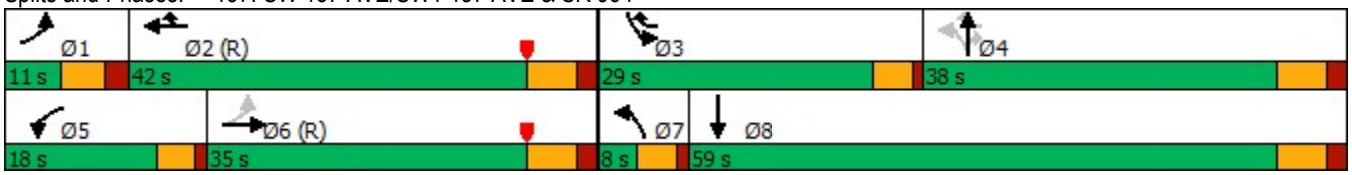
Intersection Summary

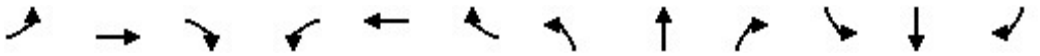
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	51	529	242	347	294	109	319	274	379	626
Future Volume (vph)	51	529	242	347	294	109	319	274	379	626
Turn Type	pm+pt	NA	Prot	NA	custom	pm+pt	NA	Perm	Prot	NA
Protected Phases	1	6	5	2	2 3	7	4		3	8
Permitted Phases	6				4	4		4		
Detector Phase	1	6	5	2	2 3	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	4.0	5.0	11.6		2.5	7.0	7.0	5.0	7.0
Minimum Split (s)	11.0	10.4	9.5	18.0		7.0	13.4	13.4	9.5	13.4
Total Split (s)	11.0	35.0	18.0	42.0		8.0	38.0	38.0	29.0	59.0
Total Split (%)	9.2%	29.2%	15.0%	35.0%		6.7%	31.7%	31.7%	24.2%	49.2%
Yellow Time (s)	4.0	4.4	3.5	4.4		3.5	4.4	4.4	3.5	4.4
All-Red Time (s)	2.0	2.0	1.0	2.0		1.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.4	4.5	6.4		4.5	6.4	6.4	4.5	6.4
Lead/Lag	Lead	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max		None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 137: SW 137 AVE/SW1 137 AVE & SR 994





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	529	88	242	347	294	109	319	274	379	626	123
Future Volume (vph)	51	529	88	242	347	294	109	319	274	379	626	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.4		4.5	6.4	6.4	4.5	6.4	6.4	4.5	6.4	
Lane Util. Factor	1.00	0.95		0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1556	3178		3433	3282	1509	1770	3539	1583	3213	1915	
Flt Permitted	0.53	1.00		0.95	1.00	1.00	0.35	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	875	3178		3433	3282	1509	659	3539	1583	3213	1915	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	54	557	93	255	365	309	115	336	288	399	659	129
RTOR Reduction (vph)	0	11	0	0	0	54	0	0	148	0	14	0
Lane Group Flow (vph)	54	639	0	255	365	255	115	336	140	399	774	0
Heavy Vehicles (%)	16%	13%	0%	2%	10%	7%	2%	2%	2%	9%	97%	17%
Turn Type	pm+pt	NA		Prot	NA	custom	pm+pt	NA	Perm	Prot	NA	
Protected Phases	1	6		5	2	2 3	7	4		3	8	
Permitted Phases	6					4	4		4			
Actuated Green, G (s)	35.0	30.9		12.7	38.0	99.0	38.0	34.5	34.5	20.1	51.1	
Effective Green, g (s)	35.0	30.9		12.7	38.0	99.0	38.0	34.5	34.5	20.1	51.1	
Actuated g/C Ratio	0.29	0.26		0.11	0.32	0.82	0.32	0.29	0.29	0.17	0.43	
Clearance Time (s)	6.0	6.4		4.5	6.4		4.5	6.4	6.4	4.5	6.4	
Vehicle Extension (s)	2.5	1.0		3.0	1.0		3.0	3.5	3.5	3.0	3.5	
Lane Grp Cap (vph)	278	818		363	1039	1244	241	1017	455	538	815	
v/s Ratio Prot	0.01	c0.20		c0.07	0.11	0.11	0.01	0.09		c0.12	c0.40	
v/s Ratio Perm	0.05					0.06	0.14		0.09			
v/c Ratio	0.19	0.78		0.70	0.35	0.20	0.48	0.33	0.31	0.74	0.95	
Uniform Delay, d1	31.2	41.4		51.8	31.5	2.2	30.6	33.7	33.4	47.5	33.2	
Progression Factor	1.00	1.00		0.88	0.91	11.55	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	7.3		5.8	0.9	0.1	1.5	0.2	0.5	5.5	20.2	
Delay (s)	31.4	48.7		51.6	29.7	25.6	32.0	33.9	33.9	52.9	53.4	
Level of Service	C	D		D	C	C	C	C	C	D	D	
Approach Delay (s)		47.4			34.3			33.6			53.3	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	43.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.3
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	54	650	255	365	309	115	336	288	399	788
v/c Ratio	0.18	0.78	0.70	0.34	0.23	0.46	0.33	0.48	0.74	0.95
Control Delay	25.6	48.9	56.3	30.2	2.2	28.7	35.1	13.4	56.0	53.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.6	48.9	56.3	30.2	2.2	28.7	35.1	13.4	56.0	53.9
Queue Length 50th (ft)	26	248	100	122	0	44	105	46	153	290
Queue Length 95th (ft)	54	#341	128	168	116	77	155	133	199	#428
Internal Link Dist (ft)		500		377			374			423
Turn Bay Length (ft)	300		350		405	240		440	425	
Base Capacity (vph)	294	830	386	1071	1355	251	1017	603	655	852
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.78	0.66	0.34	0.23	0.46	0.33	0.48	0.61	0.92

Intersection Summary

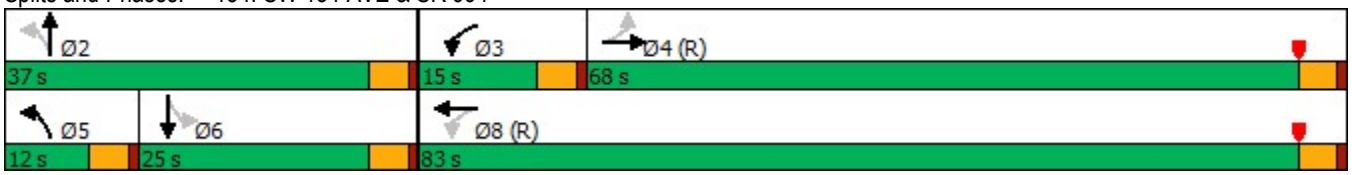
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

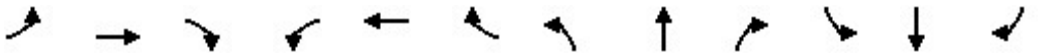
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	25	1009	98	957	85	23	81	52
Future Volume (vph)	25	1009	98	957	85	23	81	52
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	Perm	NA
Protected Phases		4	3	8	5	2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	3	8	5	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	68.0	68.0	15.0	83.0	12.0	37.0	25.0	25.0
Total Split (%)	56.7%	56.7%	12.5%	69.2%	10.0%	30.8%	20.8%	20.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead		Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes	Yes
Recall Mode	C-Max	C-Max	None	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 102 (85%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 134: SW 134 AVE & SR 994

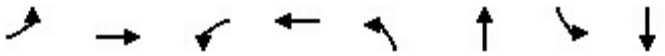




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	1009	73	98	957	66	85	23	139	81	52	35
Future Volume (veh/h)	25	1009	73	98	957	66	85	23	139	81	52	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1515	1767	1841	1900	1856	1856	1811	1781	1663	1900	1722	937
Adj Flow Rate, veh/h	26	1062	77	103	1007	69	89	24	146	85	55	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	26	9	4	0	3	3	6	8	16	0	12	65
Cap, veh/h	324	2090	151	377	2465	169	208	41	250	169	89	60
Arrive On Green	0.66	0.66	0.66	0.04	0.74	0.74	0.06	0.19	0.19	0.09	0.09	0.09
Sat Flow, veh/h	425	3173	230	1810	3348	229	1725	218	1325	1234	960	646
Grp Volume(v), veh/h	26	561	578	103	530	546	89	0	170	85	0	92
Grp Sat Flow(s),veh/h/ln	425	1678	1725	1810	1763	1814	1725	0	1543	1234	0	1606
Q Serve(g_s), s	3.0	20.6	20.6	2.1	13.6	13.6	5.4	0.0	12.1	8.1	0.0	6.6
Cycle Q Clear(g_c), s	7.2	20.6	20.6	2.1	13.6	13.6	5.4	0.0	12.1	8.6	0.0	6.6
Prop In Lane	1.00		0.13	1.00		0.13	1.00		0.86	1.00		0.40
Lane Grp Cap(c), veh/h	324	1105	1136	377	1298	1336	208	0	291	169	0	148
V/C Ratio(X)	0.08	0.51	0.51	0.27	0.41	0.41	0.43	0.00	0.58	0.50	0.00	0.62
Avail Cap(c_a), veh/h	324	1105	1136	463	1298	1336	215	0	418	266	0	274
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.1	10.5	10.5	7.8	6.0	6.0	44.1	0.0	44.4	53.6	0.0	52.4
Incr Delay (d2), s/veh	0.5	1.7	1.6	0.4	1.0	0.9	1.4	0.0	1.9	2.3	0.0	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	7.7	7.9	0.8	4.8	5.0	2.4	0.0	4.8	2.6	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.6	12.2	12.1	8.2	6.9	6.9	45.5	0.0	46.2	55.9	0.0	56.6
LnGrp LOS	A	B	B	A	A	A	D	A	D	E	A	E
Approach Vol, veh/h		1165			1179			259			177	
Approach Delay, s/veh		12.1			7.0			46.0			56.3	
Approach LOS		B			A			D			E	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		27.1	9.3	83.5	11.6	15.6		92.9				
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		32.5	10.5	63.5	7.5	20.5		78.5				
Max Q Clear Time (g_c+I1), s		14.1	4.1	22.6	7.4	10.6		15.6				
Green Ext Time (p_c), s		0.9	0.1	10.7	0.0	0.5		9.5				

Intersection Summary	
HCM 6th Ctrl Delay	15.9
HCM 6th LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	26	1139	103	1076	89	170	85	92
v/c Ratio	0.11	0.57	0.31	0.43	0.38	0.40	0.61	0.53
Control Delay	4.1	5.9	8.5	8.2	42.8	11.5	68.2	47.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.1	5.9	8.5	8.2	42.8	11.5	68.2	47.1
Queue Length 50th (ft)	2	42	22	160	58	15	64	50
Queue Length 95th (ft)	m4	123	47	240	99	71	113	100
Internal Link Dist (ft)		272		408		1264		1117
Turn Bay Length (ft)	225		185		185		150	
Base Capacity (vph)	245	2014	365	2477	233	496	210	248
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.57	0.28	0.43	0.38	0.34	0.40	0.37

Intersection Summary

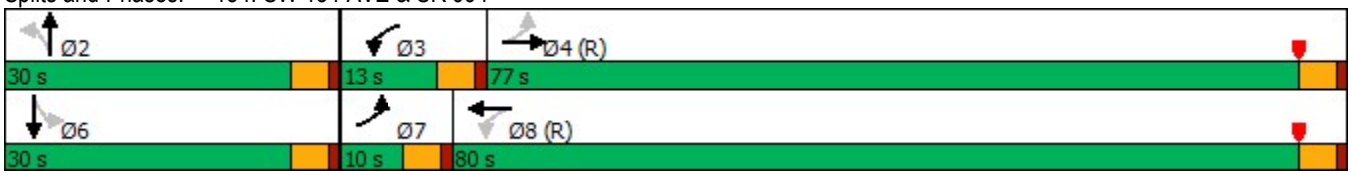
m Volume for 95th percentile queue is metered by upstream signal.

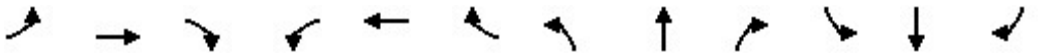
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	33	1112	73	781	76	49	49	29
Future Volume (vph)	33	1112	73	781	76	49	49	29
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	77.0	13.0	80.0	30.0	30.0	30.0	30.0
Total Split (%)	8.3%	64.2%	10.8%	66.7%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 134: SW 134 AVE & SR 994

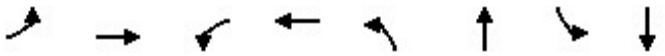




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	1112	93	73	781	62	76	49	120	49	29	33
Future Volume (veh/h)	33	1112	93	73	781	62	76	49	120	49	29	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1515	1767	1841	1900	1856	1856	1811	1781	1663	1900	1722	937
Adj Flow Rate, veh/h	35	1171	98	77	822	65	80	52	126	52	31	35
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	26	9	4	0	3	3	6	8	16	0	12	65
Cap, veh/h	401	2142	179	349	2293	181	227	77	186	133	122	138
Arrive On Green	0.03	0.68	0.68	0.04	0.69	0.69	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1443	3136	262	1810	3310	262	1293	462	1119	1225	738	834
Grp Volume(v), veh/h	35	626	643	77	438	449	80	0	178	52	0	66
Grp Sat Flow(s),veh/h/ln	1443	1678	1719	1810	1763	1808	1293	0	1580	1225	0	1572
Q Serve(g_s), s	0.9	22.6	22.7	1.5	12.2	12.2	6.9	0.0	12.7	5.0	0.0	4.4
Cycle Q Clear(g_c), s	0.9	22.6	22.7	1.5	12.2	12.2	11.3	0.0	12.7	17.7	0.0	4.4
Prop In Lane	1.00		0.15	1.00		0.14	1.00		0.71	1.00		0.53
Lane Grp Cap(c), veh/h	401	1147	1175	349	1222	1253	227	0	262	133	0	261
V/C Ratio(X)	0.09	0.55	0.55	0.22	0.36	0.36	0.35	0.00	0.68	0.39	0.00	0.25
Avail Cap(c_a), veh/h	426	1147	1175	407	1222	1253	288	0	336	191	0	334
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.6	9.6	9.6	7.5	7.5	7.5	48.5	0.0	47.0	55.4	0.0	43.6
Incr Delay (d2), s/veh	0.1	1.9	1.8	0.3	0.8	0.8	0.9	0.0	3.7	1.8	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	8.3	8.5	0.5	4.6	4.7	2.3	0.0	5.3	1.6	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.7	11.5	11.5	7.8	8.3	8.3	49.4	0.0	50.8	57.2	0.0	44.1
LnGrp LOS	A	B	B	A	A	A	D	A	D	E	A	D
Approach Vol, veh/h		1304			964			258			118	
Approach Delay, s/veh		11.3			8.3			50.4			49.9	
Approach LOS		B			A			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.4	9.1	86.5		24.4	7.9	87.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		25.5	8.5	72.5		25.5	5.5	75.5				
Max Q Clear Time (g_c+I1), s		14.7	3.5	24.7		19.7	2.9	14.2				
Green Ext Time (p_c), s		0.9	0.1	12.4		0.2	0.0	7.1				

Intersection Summary												
HCM 6th Ctrl Delay			15.7									
HCM 6th LOS			B									



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	1269	77	887	80	178	52	66
v/c Ratio	0.09	0.52	0.22	0.34	0.56	0.72	0.83	0.39
Control Delay	6.0	21.3	4.3	6.2	64.5	40.7	121.7	32.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.0	21.3	4.3	6.2	64.5	40.7	121.7	32.0
Queue Length 50th (ft)	8	494	9	112	60	64	40	22
Queue Length 95th (ft)	m18	588	25	188	106	134	#90	63
Internal Link Dist (ft)		272		408		1264		1117
Turn Bay Length (ft)	225		185		185		150	
Base Capacity (vph)	406	2428	377	2633	272	389	121	292
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.52	0.20	0.34	0.29	0.46	0.43	0.23

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.