PROJECT DEVELOPMENT & ENVIRONMENT STUDY

SR 997 / SW 177TH AVENUE / KROME AVENUE SOUTH

From SW 296th Street (Avocado Drive) to SW 136th Street (Howard Drive)

CORRIDOR ANALYSIS REPORT

Krome Avenue Today

FLORIDA DEPARTMENT OF TRANSPORTATION
District VI
1000 NW 111th Avenue
Miami, Florida 33172

Krome Avenue 1900's

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March 2011

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FROM SW 296TH STREET TO SW 136TH STREET

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CORRIDOR ANALYSIS REPORT

Submitted to:

Florida Department of Transportation
District VI

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March 2011

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1.0 Abstract

The Florida Department of Transportation (FDOT) is planning to evaluate roadway and safety improvement alternatives along a 10-mile segment of SR-997/Krome Avenue/SW 177th Avenue from SW 296th Street/Avocado Drive to SW 136th Street/Howard Drive in South Miami-Dade County, Florida. A project location map of the existing project corridor is shown on ***Exhibit 1.1***.

The Project Development and Environment (PD&E) study process is used to comply with the National Environmental Policy Act (NEPA) process, which requires the evaluation of the impacts (both positive and negative) that a project has on its physical, natural, social and cultural environment. This Corridor Analysis Report is the first step of the PD&E study process. The objective of the PD&E project is to consider improvements to the existing facility by developing solutions to corridor deficiencies and substandard conditions. The future roadway conditions throughout the study area are expected to further degrade, thereby requiring the implementation of improvements. The current project is in the PD&E study phase in which preliminary engineering is accomplished.

This report identifies and evaluates corridor alternates in the area surrounding the existing facility to determine reasonable alternate corridor solutions to problems associated with deficient safety elements on the existing corridor facility. Additionally all factors relating to the design and location of the facility as well as information and issues relevant to project development decision-making are considered. These include socio-economic, environmental and engineering issues, as well as the following alignment controls which may influence corridor location:

- Available right-of-way through which an improvement providing acceptable service could be routed;
- Cultural features including public and private development;

- Natural features which could be impacted by the project;
- Preservation of the rural character of lands outside the designated urban growth area;
- Logical termini giving consideration to directness, length, and service.

Each corridor alternate has been analyzed and evaluated to a point of rejection or selection as a viable corridor. The impacts for each alternate are identified and expressed in a form suitable for comparison to other corridor alternates through the use of an evaluation matrix.

The purpose of the corridor analysis is to evaluate alternate corridors and define roadway alignment concepts. The corridor analysis also builds upon the needs identified for the development of construction alternatives. Engineering judgment and aerial photography was used to identify viable alternate corridors. The evaluation matrix is a screening tool used to discover which alternate(s) provides the most reasonable and feasible solutions to existing safety concerns, and would provide the best overall service to the public interest.

The following corridors were selected and evaluated:

- SW 187th Avenue/Redland Road;
- SW 182nd Avenue/Roberts Road;
- SW 177th Avenue/Krome Avenue;
- SW 167th Avenue/Tennessee Road.

This Corridor Analysis Report documents the results of the alternate corridor analysis and was developed during the data collection and analysis phase of the PD&E study. The report states the impacts of each alternate and expresses the relative impacts in a form suitable for corridor comparison. The report also summarizes the project need, discusses the corridors evaluated, explains the qualitative results of the evaluation matrix and provides a recommendation for the best corridor(s) for further study.

EXHIBIT 1. 1 – PROJECT LOCATION MAP

END PROJECT
SW 136TH ST

BEGIN PROJECT
SW 296TH ST

2.0 Introduction

2.1 Purpose

In accordance with the National Environmental Policy Act (NEPA) an environmental study was conducted to evaluate and comprehensively examine various alternatives for roadway and safety improvements to a 10-mile segment of Krome Avenue (SR 997/SW 177th Avenue) from SW 296th Street (Avocado Drive) to SW 136th Street (Howard Drive) in unincorporated Miami-Dade County, Florida. Due to the potential for impacts on the environment, and the potential for significant controversy to be associated with improvements along the corridor, the level of study required to examine project impacts was determined to be an Environmental Impact Statement (EIS). In keeping with Florida Department of Transportation (FDOT) policy the EIS documentation includes an evaluation of alternate corridors and an associated Corridor Analysis Report[1].

The purpose of the corridor analysis is to evaluate alternate corridors and define adequate roadway alignment concepts. In accordance with EIS procedure, four (4) Alternate Corridors (including the existing Krome Avenue corridor) were evaluated as part of the analysis. Prior to the selection of a recommended corridor the alternates were analyzed and screened. The screening process was based on a set of goals developed for the purpose of selecting a corridor that provides solutions to engineering (safety, drainage, facility preservation, travel demand, etc.) problems, minimizes environmental (water quality, socio-economic, etc.) impacts and also minimizes the associated costs. The corridor analysis builds upon the needs identified for the development of construction alternatives.

[1] The Corridor Analysis Report is prepared as part of the alternate selection process, pursuant to 23 CFR 771, in accordance with Part 2, Chapter 6 of the FDOT PD&E Manual.

Alternate corridors were evaluated based on how well each prospective corridor addressed potential issues associated with the project specific needs. The purpose of this report is to document the generation and evaluation of the alternate corridors, in order to determine the optimum corridor(s) for further study. This report documents the evaluation and selection process, and explains the methodology used to determine the optimum corridor for the proposed project improvement.

2.2 Project Description

SR-997/Krome Avenue/SW 177th Avenue is a major north-south urban/rural/other principal arterial extending from SR-5/US-1 to the south to SR-25/US-27/Okeechobee Road to the north. This specific study will include a 10-mile segment of SR-997/Krome Avenue/SW 177th Avenue from SW 296th Street/Avocado Drive to SW 136th Street/Howard Drive.

The project proposes to develop and analyze alternatives including a No Build alternative, a Transportation System Management (TSM) alternative, and several build alternatives consisting of two, three and four-lane typical sections. All alternatives will look at preserving the rural character of the corridor while providing safety and operational enhancements.

The Krome Avenue corridor has been the subject of extensive study and discussion for the past two decades. It provides regional connectivity by serving as a principal link between roadway networks from as far south as the Florida Keys to Broward County and points north. Further, it is one of only three evacuation routes serving the Florida Keys and South Miami-Dade County. Other concerns include roadway crashes, sight distance problems at intersections, inconsistent roadway shoulders, and inadequate signage.

2.3 Need for Project

Krome Avenue, located in western Miami-Dade County, is part of the Florida Intrastate Highway System (FIHS), which the Florida Legislature adopted in 1990. The existing corridor is physically and functionally deficient and can meet neither the current needs nor future demands of the area with regard to safety, flooding, mobility, water quality, economic competitiveness and preservation of the existing roadway as a high quality transportation facility.

The need for improvements on this corridor is based on a combination of safety, physical and functional deficiencies within the corridor plus overall capacity needs. The primary objective of the project is to address safety deficiencies along this section of the Krome Avenue corridor. The secondary objectives of the project are to provide additional capacity to accommodate anticipated future area travel demand and to address other design deficiencies along the roadway. Additional secondary objectives include ensuring the effectiveness of the corridor as an emergency evacuation route and providing for regional connectivity.

Krome Avenue within the proposed limits of this project presents a higher order of crash rate compared to similar roadways in the State of Florida. Deficient geometric and operational conditions are the major contributing factors to the safety issues. These deficiencies include restricted passing and stopping sight distance, lack of adequate shoulders, lack of clear recovery zones, lack of median separation, lack of turn lanes at major intersections, lack of street lighting, composition of vehicles in the traffic mix, and restricted sight distance at various intersections.

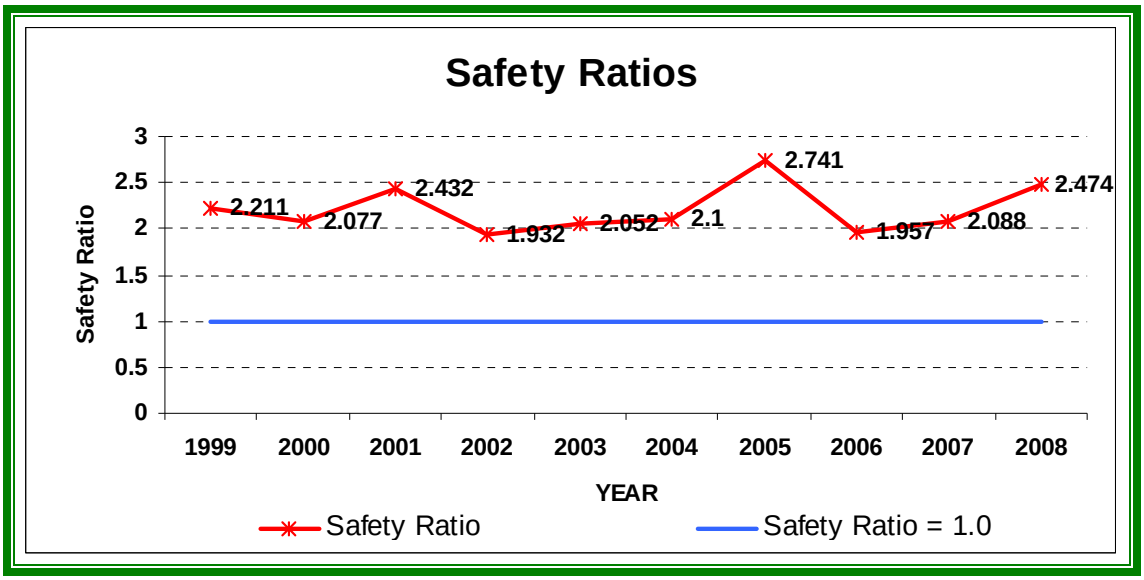
It is evident that traffic volume growth and the resulting congestion have contributed to driver frustration and attempts to make risky maneuvers along Krome Avenue. The fact that there is a very high percentage of truck traffic (ranging between 26% - 32%) along with slow moving farm vehicles exacerbates the poor safety conditions. The unsafe conditions have contributed to the high rate of crashes and the level of crash severity along the Krome Avenue study corridor. Several studies over the recent past have identified the Krome Avenue corridor as ranking among the highest crash segments in FDOT District Six.

High truck volumes and differential speeds contribute to severe crashes along the corridor.

The FDOT utilizes the 'Rate-Quality Control' method to identify hazardous locations along state roadways. The 'Rate-Quality Control' method uses the crash rate (Number of Crashes per Million Vehicle-Miles (MVM)) of a particular location of roadway and applies a statistical test to determine whether the crash rate is significantly abnormal compared to the predetermined crash rate for segments of roadways of similar characteristics (Ref.: FDOT TOPIC # 500-000-100-c). The abnormal crash location is identified by a Safety Ratio of greater than 1.0. The hazardous locations, referred to as High Crash Segments or Spots, are compiled annually and utilized to develop and prioritize improvements to reduce the frequency of crashes along the state roadways. FDOT crash data is available from the commencement of this study through the year 2008.

Within the study area of Krome Avenue are many sections which have appeared in the High Crash Segment lists for every one of the ten analysis years (1999 – 2008). The manually calculated Safety Ratios (weighted averages) for the entire study segment of Krome Avenue for the ten analysis years are presented graphically in **Exhibit 2.1** below.

EXHIBIT 2.1



A Safety Ratio higher than 1.0 is an indicator that a particular segment/location of a state roadway had experienced crash rates higher than statewide averages for similar roadways. The calculated Safety Ratio along the entire study segment of Krome Avenue has remained at or above twice the statewide average for the past ten years. A total of 1,154 crashes were reported along the corridor over the ten year period. A total of 27 fatalities in 21 fatal crashes were reported during this period with 57% of all crashes resulting in injuries. **Table 2-1** presents statistics for the entire study corridor in terms of injuries and fatalities. It should be noted that there were various construction projects within the study area from 2003-2004 and again during 2007.

Table 2-1 Crash Data by Severity Krome Avenue from SW 296 Street to SW 136 Street					
Year	**Number of Crashes**	**Number of Injury Crashes**	**Number of Injuries**	**Number of Fatal Crashes**	**Number of Fatalities**
1999	97	63	120	2	2
2000	94	64	120	3	3
2001	116	74	157	3	4
2002	91	60	106	2	2
2003	106	61	134	2	3
2004	121	68	125	0	0
2005	128	65	112	2	2
2006	128	60	100	2	3
2007	132	63	105	1	1
2008	141	79	158	4	7
Total	1154	657	1237	21	27
Avg. /Year	116	66	124	2.1	2.7

Along the ten mile long two-lane roadway there are eight (8) signalized intersections and numerous unsignalized intersections. Three (3) unsignalized intersections (280th, 272nd and 136th Street) are considered to be significant enough for specific evaluation due to the potential need for future signalization. There have been a variety of short term safety TSM improvement projects implemented at ten (10) intersections within the study area, in 2003-2004 and again in 2007. The intersection improvements primarily consisted of adding separate turn lanes or modifying the pavement markings to separate turn lanes where required. These TSM intersection improvements were anticipated to reduce crashes at the intersections. A before and after analysis of available crash data indicated that while the improvements did increase safety at some of the intersections, in some locations angle type crashes have actually increased over time. Crashes that occur in between the intersections, such as head-on and run-off-the-road type crashes, which are typically more severe crashes compared to intersection crashes, were not reduced by these TSM improvements.

A previous Krome Avenue study recognized the need for improvements along the long stretches of roadway between the intersections and recommended adding a median separator as a potential long-term solution to reduce/eliminate head-on and angle type crashes that have resulted in higher rate of crash severity. **Table 2-2** presents crash statistics for the entire study corridor by crash type.

Table 2-2
Crash Data by Type of Crash
Krome Avenue from SW 296 Street to SW 136 Street
1999-2008 Total Crashes = 1154

Type of Crash	Total Percentage	Number of Crashes
Rear End	35%	402
Angle	24%	276
Left Turn	11%	131
Sideswipe	8%	90
Head-On	2%	28

Crashes occuring along the Krome Avenue corridor have a high percentage of injury. The majority (56.8%) of the crashes resulted in bodily injury. In addition, the corridor has had 21 documented fatal crashes within the ten year study period.

Krome Avenue is one of three north/south corridors in the area designated for evacuation in the event of an emergency (US 1 and the Homestead Extension of Florida's Turnpike (HEFT) are the other two). Although recent improvements, such as additional shoulder pavement, turn lanes, signing and pavement marking improvements have helped, safety on Krome Avenue continues to be a critical issue.

In addition to the need for improvement based on safety, Krome Avenue exhibits capacity and design deficiencies that need to be addressed. These issues

include, but are not limited to: roadside clear zone, drainage, shoulder width, and access management.

The need for the proposed project is consistent with the Department of Community Affairs (DCA) approved Miami-Dade County Comprehensive Development Plan, as amended (required under Chapter 163, Florida Statutes) and with the Miami-Dade Comprehensive Development Master Plan (CDMP) through the DCA's review of the tentative Work Program pursuant to Section 339.135(4)(f), Florida Statutes. The project is consistent with the approved comprehensive Long Range Transportation Plan (LRTP) of the Metropolitan Planning Organization (MPO) and the local gubernatorial approved 2010/2011 Miami-Dade MPO Transportation Improvement Plan (TIP). The project is also consistent with the State Implementation Plan (SIP) for areas of ozone non-attainment. In addition, the improvement is part of an MPO-approved Congestion Management System (CMS) and is contained in a federally approved conforming TIP.

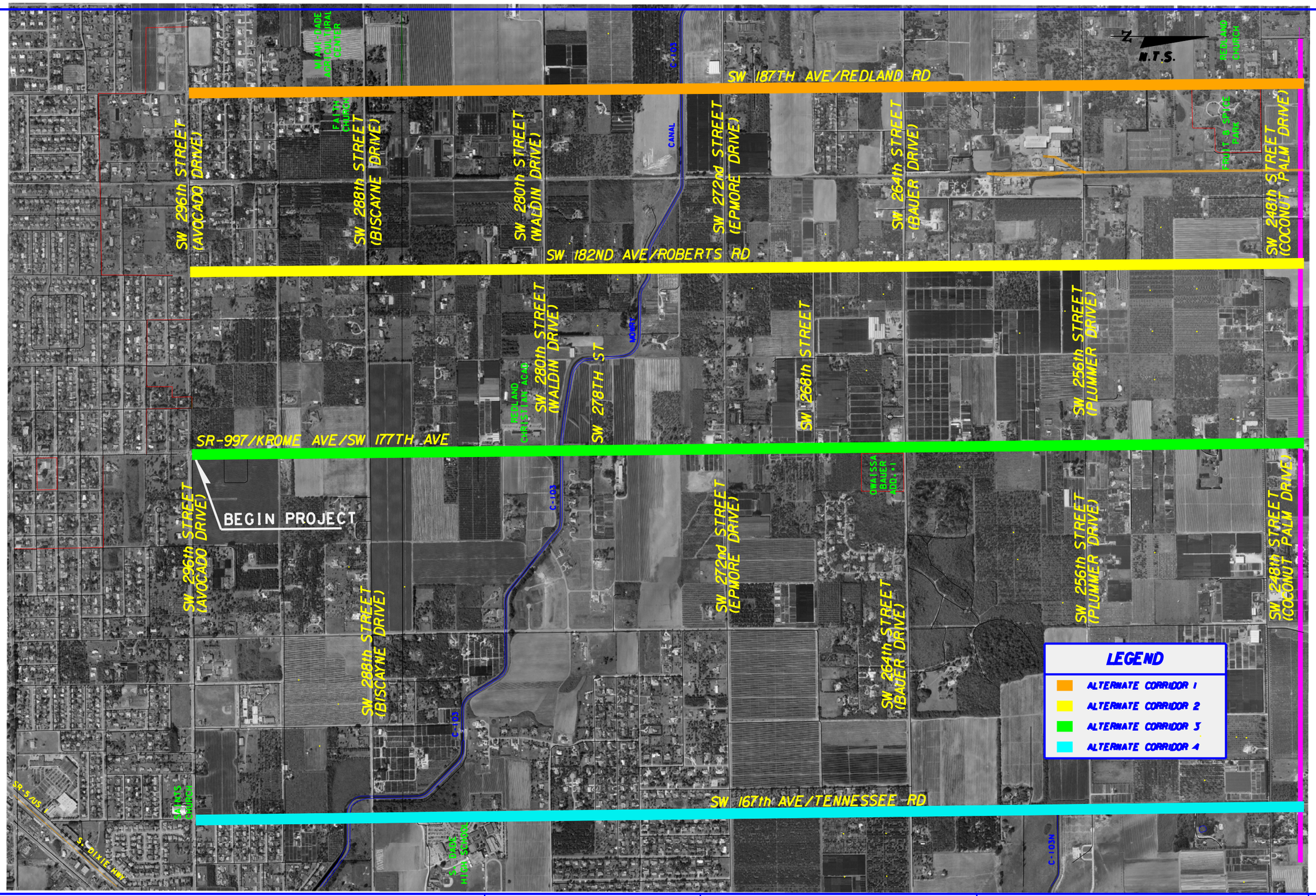
3.0 CORRIDOR ANALYSIS

The purpose of the corridor analysis is to evaluate alternate corridors and define roadway alignment concepts[2]. Four (4) Alternate Corridors (including the existing Krome Avenue corridor) were evaluated as part of the analysis. The corridors were each analyzed and screened based on their ability to provide a solution to the historical high crash and fatality problems along this stretch of SR-997/Krome Avenue, address other engineering (drainage, facility preservation, travel demand etc.) and environmental (water quality, socio-economic etc.) concerns on Krome Avenue, and also minimize the costs. The following are the alternate corridors that were selected for evaluation:

- SW 187th Avenue/Redland Road;
- SW 182nd Avenue/Roberts Road;
- SW 177th Avenue/Krome Avenue (existing); and
- SW 167th Avenue/Tennessee Road.

Exhibits 3.0 – A through C, illustrate the four alternate corridors. The three exhibits (A thru C) show the four alternate corridors in their relative locations traversing the project area, including the respective terminal points of each existing corridor facility. The four (4) alternate corridors were selected, using data analysis and engineering judgment, as the most likely area facilities to provide reasonable solutions to the safety and operational deficiencies on the Krome Avenue facility. The subsequent qualitative analysis will screen each of the corridors and identify the most viable (reasonable and feasible) corridor among the alternates.

[2] An assessment of variable alignment concepts was not required in order to evaluate the four candidate corridors.



REVISIONS					
BY	DESCRIPTION	DATE	BY	DESCRIPTION	

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 997	MIAMI-DADE	249614-4-22-01

ALTERNATE CORRIDORS
FIGURE 3.0.-A

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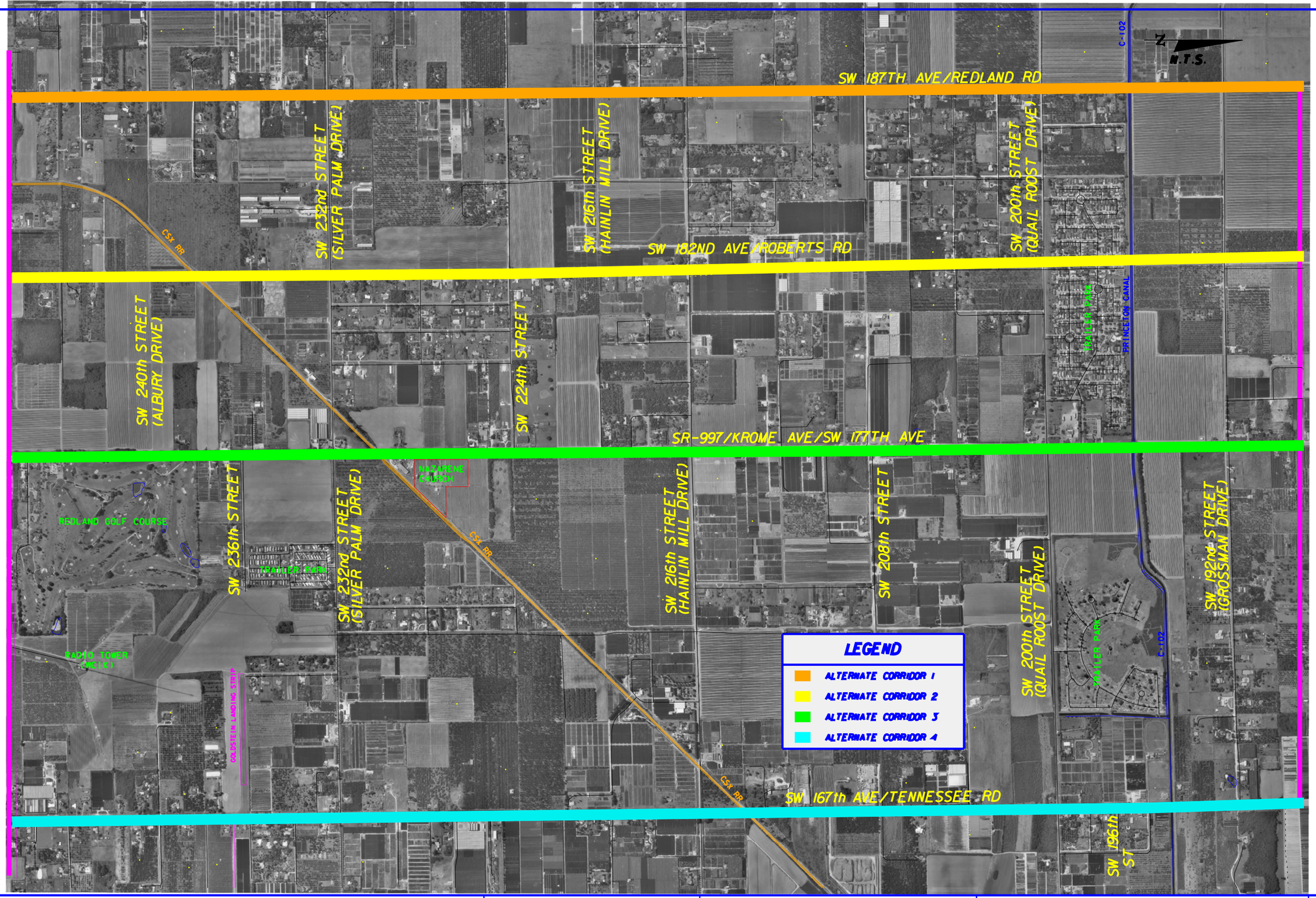

REVISIONS					
BY	DESCRIPTION	DATE	BY	DESCRIPTION	

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 997	MIAMI-DADE	249614-4-22-01

ALTERNATE CORRIDORS
FIGURE 3.0-B

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REVISIONS					
	BY	DESCRIPTION	DATE	BY	DESCRIPTION

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 997	MIAMI-DADE	249614-4-22-01

ALTERNATE CORRIDORS EXHIBIT 3.0-C

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3.1 Alternate Corridors

Four (4) alternate corridor locations were considered as part of the Krome Avenue South PD&E study process. The alternates included the consideration of the existing Krome Avenue corridor and three (3) parallel corridors. The analysis examines each of the corridors over the prescribed ten mile project length. The analysis for all corridors begins at SW 296th Street / Avocado Drive and ends at SW 136th Street / Howard Drive. There are no anticipated changes in land use designations for any of the study corridors at the time of this study. The distinctive elements of each of these alternates are discussed in more detail below. A description of the evaluation process and the results/recommendations then follows.

3.1.1 Alternate Corridor 1: SW 187th Avenue/Redland Road

This corridor alternate consists of a two-lane undivided typical section with no paved shoulders. The lanes vary from 10’ to 12’ in width with sodded swales on both sides. The right-of-way varies from 70’ to 80’ in width. The posted speed limit varies from 30 to 40 MPH. ***Exhibit 3.1-A*** at the end of this section illustrates the typical section of the SW 187th Avenue/Redland Road corridor.

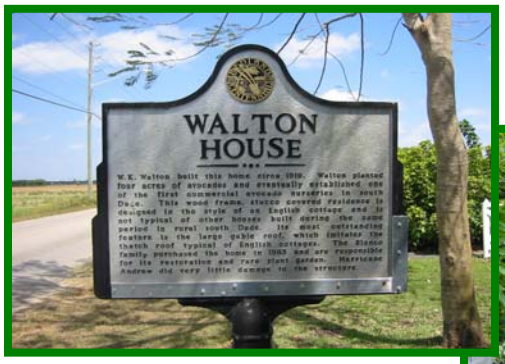
The typical land use through this corridor consists of agricultural land with some residential and institutional uses. The roadway crosses both the South Florida Water Management District (SFWMD) C-102/Princeton Canal and the C-103/Mowry Canal. The roadway also crosses the following major intersections: 1) SW 296th Street/Avocado Drive, 2) SW 288th Street/Biscayne Drive, 3) SW 280th Street/Waldin Drive, 4) SW 272nd Street/Epmore Drive, 5) SW 264th Street/Bauer Drive, 6) SW 256th Street/Plummer Drive 7) SW 248th Street/Coconut Palm Drive, 8) SW 232nd Street/Silver Palm Drive, 9) SW 216th Street/Hainlin Mill Drive, and 10) SW 200th Street/Quail Roost Drive.

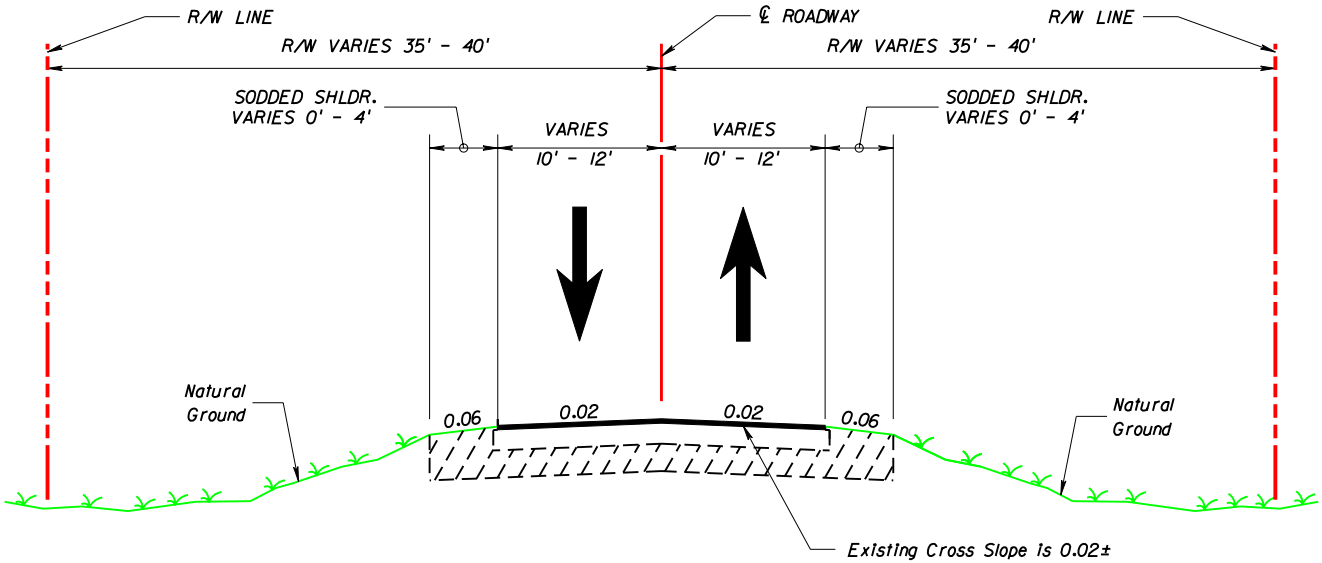
The University of Florida Miami-Dade County Cooperative Extension Service Agricultural Center / Institute of Food and Agricultural Sciences is located at the Miami-Dade County John D. Campbell Agricultural Center (18710 SW 288th Street) at the intersection of SW 187th Avenue with SW 288th Street. The Faith Church of the Redlands (28945 SW 187th Avenue) is located across from the Agricultural Center.

The Redland Community United Methodist Church (18700 SW 248th Street) is located at the intersection of SW 187th Avenue with SW 248th Street. The Miami-Dade County Preston B. Bird & Mary Heinlein Fruit & Spice Park (24801 SW 187th Avenue) is located across from the church.

There are two historical sites that exist along SW 187th Avenue. The Pioneer Guild Hall, founded by the women of Redland in 1907, is the last remaining

structure found in this area and is located at the intersection of SW 187th Avenue with SW 272nd Street/Epmore Drive. The Walton House (12801 SW 187th Avenue) was built by W. K. Walton circa 1919. This wood frame, stucco covered residence is designed in the style of an English cottage and is not typical of other houses built during the same period in rural South Dade.





EXISTING TYPICAL SECTION
ALTERNATE CORRIDOR 1
SW 187th AVENUE/REDLAND ROAD

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3.1.2 Alternate Corridor 2: SW 182nd Avenue/Roberts Road

This corridor alternate consists of a two-lane undivided typical section with no paved shoulders. The lanes vary from 10.5' to 12' in width with sodded swales on both sides. The right-of-way varies from 60' to 80' in width. The posted speed limit varies from 30 to 40 MPH. ***Exhibit 3.1-B*** at the end of section illustrates the typical section of the SW 182nd Avenue/Roberts Road corridor.

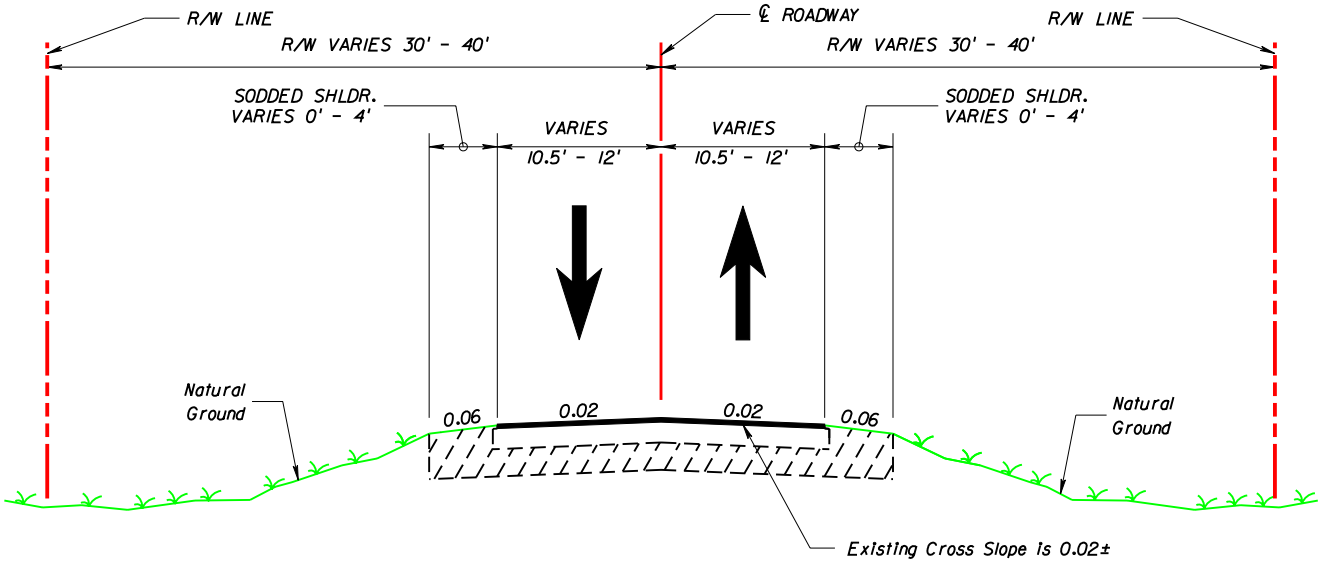
The typical land use through this corridor consists of agricultural land with some residential uses. The roadway crosses the C-103/Mowry Canal, the CSX railroad line, and the following major intersections: 1) SW 296th Street/Avocado Drive, 2) SW 288th Street/Biscayne Drive, 3) SW 280th Street/Waldin Drive, 4) SW 272nd Street/Epmore Drive, 5) SW 264th Street/Bauer Drive, 6) SW 248th Street/Coconut Palm Drive, and 7) SW 232nd Street/Silver Palm Drive.

Typical agricultural land use through the corridor

Typical residential land use with new construction

Paved roadway ends at SW 224th Street

North of SW 224th Street the existing typical section changes to an unimproved 2-lane / dirt road. The roadway crosses the following major intersections: 8) 216th Street/Hainlin Mill Drive, and 9) SW 200th Street/Quail Roost Drive. It continues north as a minor (pseudo-private) roadway, and is known as Ferry Avenue (running down the middle of a large well established residential and trailer park area) for the segment north of SW 200th Street and south of the C-102/Princeton Canal (approx. SW 196th Street). The road stops at this point as there is no existing bridge crossing at the C-102/Princeton Canal. SW 182nd Avenue picks up again on the north side of the C-102/Princeton Canal (approx. SW 196th Street) and from that point the corridor is comprised of discontinuous intermittent paved, dirt or gravel roadway segments interspersed among agricultural or unimproved parcels of land, until it reaches the northern project terminus at SW 136th Street.



EXISTING TYPICAL SECTION
ALTERNATE CORRIDOR 2
SW 182nd AVENUE/ROBERTS ROAD

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3.1.3 Alternate Corridor 3: SW 177th Avenue/Krome Avenue

This corridor alternate typical section varies slightly consisting primarily of two lanes, varying in width from 10.5 feet to 12 feet; paved shoulders ranging from zero (0) feet to four (4) feet; and roadside swales. The right-of-way varies from 35' to 200' in width. The existing speed limit is posted at 45 MPH along the Krome Avenue corridor. The corridor typical section is illustrated in ***Exhibit 3.1-C*** at the end of section. The existing Krome Avenue corridor traverses a rural farming and residential community. The rural land uses include numerous agricultural fields and herbaceous, ornamental, and fruit tree nurseries. The agricultural fields include seasonal "self-pick" fields with fruit/vegetable stands. There are many nurseries found scattered along much of the southern stretch of Krome Avenue; most are open to the public with direct access onto Krome Avenue.

Krome Avenue is diverse in its land use - agricultural, commercial, and residential.

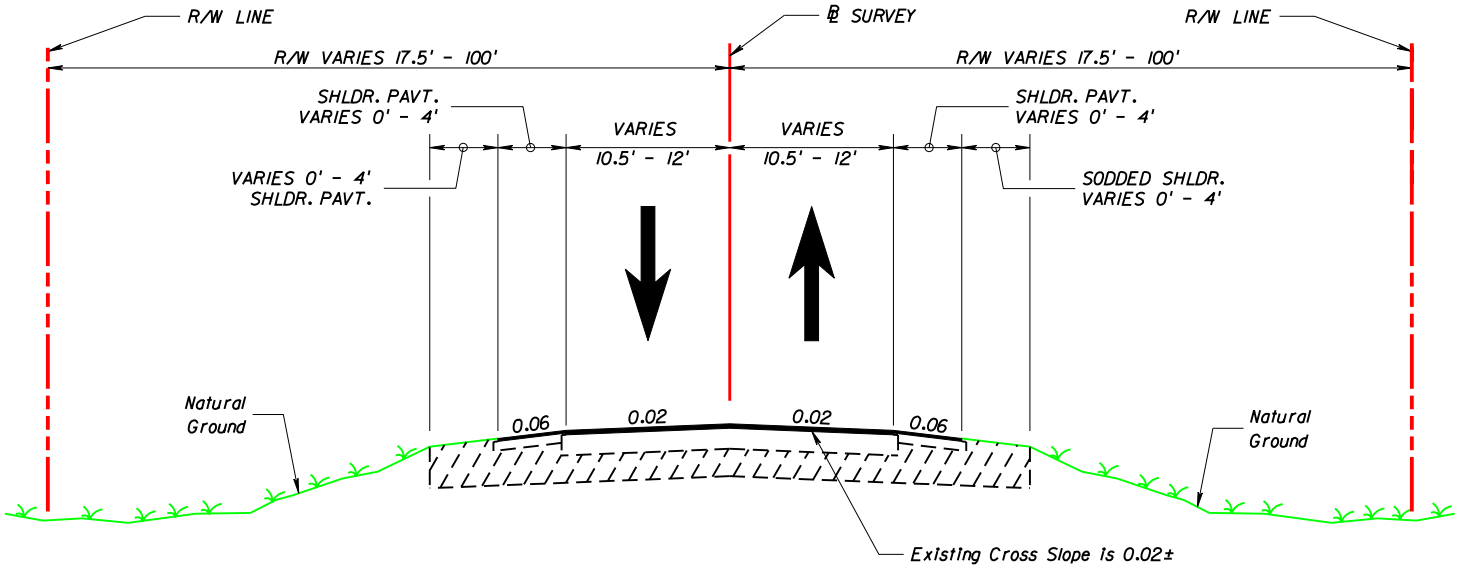
From SW 296th Street to SW 288th Street, residential estate densities of 1 to 2.5 dwelling units per acre occur on both sides of Krome Avenue. From SW 288th Street to SW 272nd Street, residential estates occur only on the east side of Krome Avenue, while agricultural land use occurs on the west side. North of SW 272nd Street, agriculture dominates land use along Krome Avenue, with the exception of some intersections that are designated business and office land uses. Office and business land uses along Krome Avenue are found at the intersections of SW 272nd Street, SW 248th Street, SW 232nd Street, and SW 200th Street. There are at least eight gas stations along the corridor. Along the southern portion of the Krome South corridor, between SW 288th Street and SW 184th Street, three establishments were found to have active horse hitching posts, which provide evidence of the historically preserved rural character of Krome

Avenue. Other land uses include an airplane glider facility on SW 168th Street and Krome Avenue, three churches and one religious school found along the corridor.

There is one ecologically significant parcel of land adjacent to the Krome Avenue corridor, the 9.39-acre Owaissa Bauer Pineland Preserve Addition #1 property, located south of SW 264th Street along the east side of Krome Avenue. This property is owned by the State of Florida (acquired with CARL Program funds) and is managed by the Miami-Dade County Environmentally Endangered Lands (EEL) Program. Significant habitats include hardwood hammock and Southern Biscayne pine rockland along with several protected plant species having been documented. The Federal Highway Administration (FHWA) has determined that section 4(f) does not apply to the Owaissa Bauer Pineland Preserve Addition #1.

The Mowry and Princeton trails, part of the South Dade Greenway Trail system, bisect Krome Avenue. The trails run parallel to the C-103/Mowry Canal and cross Krome Avenue alongside the canal north of SW 280th Street/Waldin Drive. These trails are not currently managed as recreational trails by the SFWMD and do not appear to represent section 4(f) protected resources.

The Redlands Golf and Country Club is located adjacent to the eastern Krome Avenue right-of-way, north of SW 248th Street/Coconut Palm Drive. In consideration of potential Section 4(f) impacts, only a *de minimis* is anticipated for the Redlands Golf and Country Club.



EXISTING TYPICAL SECTION
ALTERNATE CORRIDOR 3
SR - 997/ KROME AVENUE/ SW 177TH AVENUE

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3.1.4 Alternate Corridor 4: SW 167th Avenue/Tennessee Road

This corridor alternate consists of a two-lane undivided typical section with no paved shoulders. The lanes vary from 10' to 12' in width with sodded swales on both sides. The right-of-way varies from 50' to 80' in width. The posted speed limit varies from 35 to 40 MPH. ***Exhibit 3.1-D*** at the end of this section illustrates the typical section of the SW 167th Avenue/Tennessee Road corridor.

The typical land use through this corridor consists of agricultural land with substantial residential and institutional uses. The roadway crosses the C-103/Mowry Canal, the CSX railroad and the following major intersections: 1) SW 296th Street/Avocado Drive, 2) SW 288th Street/Biscayne Drive (signalized intersection), 3) SW 280th Street/Waldin Drive, 4) SW 272nd Street/Epmore Drive, 5) SW 264th Street/Bauer Drive, 6) SW 256th Street/Plummer Drive; 7) SW 248th Street/Coconut Palm Drive, 8) SW 232nd Street/Silver Palm Drive, 9) SW 216th Street/Hainlin Mill Drive, and 10) SW 200th Street/Quail Roost Drive.

Bridge crossing the C-103 Canal

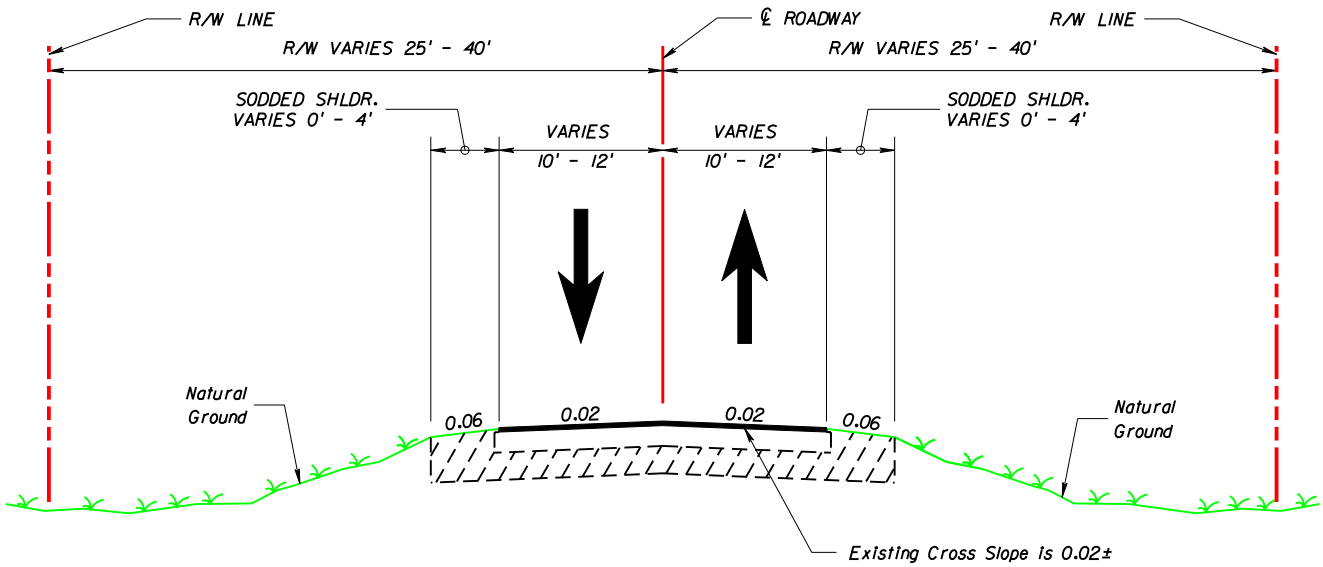
Roadway typical section

Roadway ends at SW 195th Street

North of SW 195th Street the SW 167th Avenue corridor is comprised of discontinuous intermittent paved, dirt or gravel roadway segments. The segments are interspersed among agricultural or unimproved parcels of land, until the road reaches the northern project terminus at SW 136th

Street/Howard Drive. SW 167th Avenue does not contain a bridge crossing for the C-102/Princeton Canal (approx. SW 196th Street).

The Church of Jesus Christ of Latter-Day Saints is located at the southwest corner of the SW 167th Avenue with SW 296th Street intersection. The South Dade Senior High School is located south of SW 282nd Street. The corridor borders the Camp Owaissa-Bauer protected natural area. The Miami-Dade Transit bus Route 70 services this area along this corridor from SW 296th Street/Avocado Drive to SW 280th Street/Waldin Drive. The service area includes SW 212th Street/SW 85th Avenue (midday only), South Dade Health Center, City of Homestead, Homestead High School, City of Florida City, and Prime Outlets at Florida City.



EXISTING TYPICAL SECTION
ALTERNATE CORRIDOR 4
SW 167th AVENUE/TENNESSEE ROAD

NTS

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		CORRIDOR ANALYSIS REPORT SR - 997 KROME AVENUE SOUTH PD&E STUDY	EXHIBIT 3.1 - D FM : 249614-4-22-01	PAGE NO. 28

3.2 Evaluation of Alternate Corridors

In order to evaluate the relative merits of each of the corridor alternates, a series of sixteen (16) different criteria including engineering, environmental, socio-economic, and cost considerations were taken into account. Subsequently, each criterion was rated based on its degree of impact or improvement. The evaluations were generally qualitative (based on field review, data analysis and engineering judgment) and were used for comparisons between the alternates. The resulting corridor evaluation matrix is presented in ***Exhibit 3.2***.

Based on an evaluation of the corridor alternates, as presented in the evaluation matrix, it has been determined that **Corridor Alternate # 3** is the most viable corridor for the improvement project. The summary of the corridor analysis is detailed in the following section.

EXHIBIT 3.2 – CORRIDOR EVALUATION MATRIX

	CRITERIA	ALTERNATE CORRIDORS			
		ALTERNATE 1 (SW 187th Avenue)	ALTERNATE 2 (SW 182nd Avenue)	ALTERNATE 3 (SW 177th Avenue)	ALTERNATE 4 (SW 167th Avenue)
ENGINEERING	Roadway Safety	Unspecified traffic diversion is anticipated to alleviate congestion issues with low - moderate residual safety improvement.	Unspecified traffic diversion is anticipated to alleviate congestion issues with low - moderate residual safety improvement.	Improved geometric and operational conditions including: median separator, uniform pavement width, striping, shoulder and intersections provide high safety benefit.	Unspecified traffic diversion is anticipated to alleviate congestion issues with low - moderate residual safety improvement.
	Local Land Use Plan Compliance	Maintain Status Quo.	Maintain Status Quo.	Maintain Status Quo.	Maintain Status Quo.
	Traffic Service /Travel Demand	Significant increase to existing volume of traffic.	Significant increase to existing volume of traffic.	Improved traffic service.	Significant increase to existing volume of traffic.
	Transportation Network / Regional Connectivity	Moderate local network improvements.	Moderate local network improvements.	Improved regional network connectivity.	Moderate local network improvements.
	Access Management	No significant impacts.	No significant impacts.	Some impacts anticipated.	No significant impacts.
	Maintenance of Traffic	Temporary impacts.	Temporary impacts.	Temporary impacts to businesses.	Temporary impacts.
	Utility Impacts	Moderate impacts expected no RR crossing.	Moderate impacts expected, with RR crossing.	Moderate impacts expected, with RR crossing.	Moderate impacts expected, with RR crossing.
ENVIRONMENT	Environmental Considerations	Significant increase in noise levels anticipated.	Significant increase in noise levels anticipated.	Moderate increase in noise levels anticipated.	Significant increase in noise levels anticipated.
	Physical Impacts	Temporary construction impact.	Temporary construction impact.	Temporary construction impact and temporary access disruption to businesses.	Temporary construction impact.
	Natural Habitat Impacts	Adjacent to protected natural areas with no potential for impacts during construction.	Adjacent to protected natural areas with a potential for impacts during construction.	Adjacent to protected natural areas with a potential for impacts during construction.	Adjacent to protected natural areas with a potential for impacts during construction.
COST	Corridor extension to the north and at various intersections	Corridor discontinuity and intersection development.	Corridor discontinuity and intersection development.	Some improvement at various intersections needed.	Corridor discontinuity and intersection development.
	Relocation Potential and Mitigation Cost	Moderate relocation potential.	Significant relocation potential.	Limited additional R/W needed.	Significant relocation potential.
	Construction and R/W Cost	High construction cost and moderate R/W cost anticipated.	High construction cost and high R/W cost anticipated.	Moderate construction cost and low R/W cost anticipated.	High construction cost and high R/W cost anticipated.
SOCIO-ECONOMIC	Social & Neighborhood Impacts	Significant impacts anticipated.	Significant impacts anticipated.	No significant changes.	Significant impacts anticipated.
	Economic Impacts	Minimal impact to local economy anticipated.	Minimal impact to local economy anticipated.	Benefit to local business economy anticipated. Moderate impact to agricultural land use anticipated.	Minimal impact to local economy anticipated.
	Community Facilities Impacts	Significant impacts to churches, park and other community facilities anticipated.	Limited community impacts.	Potential impacts to churches and other community facilities anticipated.	Potential impacts to school, church and parks anticipated.

KEY:

Least negative impacts and/or most favorable outcomes
Moderate impacts and/or moderate outcomes
Most negative impacts and/or least favorable outcomes

3.3 Alternate Evaluation Summary

Alternate 1 (SW 187th Avenue) does not adequately address the critical need for improved safety on Krome Avenue. The analysis also indicates that this Alternate is anticipated to create undesirable impacts to noise levels. Social, neighborhood and community facility impacts are anticipated along this corridor, including potential impacts to the rural residences in the area, as well as potential impacts to two churches and a park, among others. Implementing improvements along this corridor will require some right-of-way to be acquired from both residential and agricultural business parcels. There is not a high density of residential uses along the corridor and moderate right-of-way costs are anticipated. SW 187th Avenue is presently not a state road facility. Implementing the improvements will require attaining a State Road designation and an upgrade of the facility to FIHS standards.

Alternate 2 (SW 182nd Avenue) does not adequately address the critical need for improved safety on Krome Avenue. The analysis also indicates that this Alternate is anticipated to create undesirable impacts to noise levels. Social and neighborhood impacts are anticipated along this corridor, including impacts through the mobile home park. Implementing improvements along this corridor will produce significant residential relocation impacts and will require significant right-of-way to be acquired from both residential and agricultural business parcels. The unimproved segment of SW 182nd Avenue will require the construction of a bridge crossing at the C-102/Princeton Canal (approx. SW 196th Street). SW 182nd Avenue is presently not a state road facility. Implementing the improvements will require attaining a State Road designation and an upgrade of the facility to FIHS standards.

Alternate 3 (Krome Avenue / SW 177th Avenue) provides the only solution to the existing deficient safety issues on Krome Avenue and has the least impacts

and the greatest benefits. The analysis indicates that this Alternate improves safety on Krome Avenue resulting from better roadway geometrics and operational conditions. Implementing improvements along corridor Alternate 3 improves the regional network connectivity and the local business economy. The analysis also indicates that this Alternate is anticipated to create an increase over existing noise levels. Community facility impacts are anticipated along this corridor, including potential impacts to two churches and a park, among others. Implementing improvements along this corridor will not require residential relocations and right-of-way acquisitions (if required) will be limited, often for intersection improvements.

Alternate 4 (SW 167th Avenue) does not adequately address the critical need for improved safety on Krome Avenue. The analysis also indicates that this Alternate is anticipated to create undesirable impacts to noise levels. Social, neighborhood and community facility impacts are anticipated along this corridor, including potential impacts to the numerous existing residences along the corridor as well as potential impacts to a school and a church, among others. This Alternative is anticipated to negatively impact the less rural traffic patterns in the area. Implementing improvements along this corridor will produce high residential relocation impacts and will require significant right-of-way to be acquired from a variety of local area businesses, as well as from residential and agricultural parcels of land. The unimproved segment of SW 167th Avenue will require the construction of a bridge crossing for the C-102/Princeton Canal (approx. SW 196th Street). SW 167th Avenue is presently not a state road facility. Implementing the improvements would require attaining a State Road designation and an upgrade of the facility to FIHS standards.

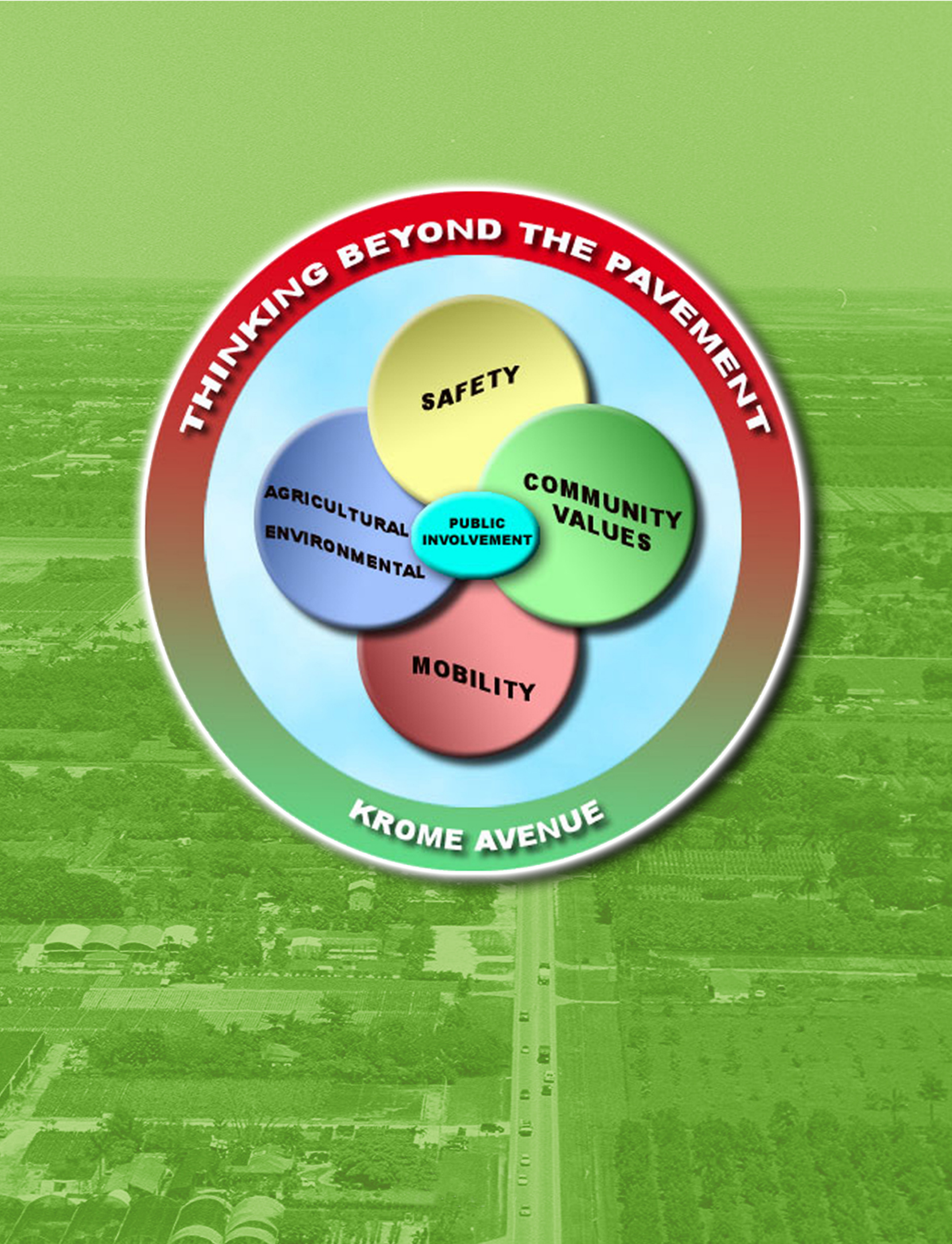
Alternate Comparison Any relocation of the existing corridor will require major social adjustments and produce impacts that result in significant increases to noise levels. A relocation of the existing corridor would also maintain the existing unsafe and substandard conditions along Krome Avenue and at intersections with local cross streets. Additionally, the Krome Avenue corridor provides regional connectivity that cannot be adequately replaced by any of the other corridors in the near future.

4.0 RECOMMENDATIONS

Based on the detailed evaluation presented in this report, it is determined that the Krome Avenue / SW 177th Avenue (existing corridor) location offers the only potential for fulfillment of the project needs and thus warrants further analysis and development.

The analysis indicates that there is no practical and/or viable alternate corridor to Krome Avenue, and needed improvements to this roadway must be implemented to improve safety and traffic operations. Selecting the existing Krome Avenue corridor provides the clearest separation between urban and rural land use in the area, and also provides capacity and system linkage solutions that could not be accomplished by the other alternates without impractical environmental and/or social impacts. Implementing improvements along the Krome Avenue / SW 177th Avenue corridor is the only way to meet the critical need for improved area safety and provides the best solution to problems associated with network connectivity and congestion, resulting in the best service to the overall public interest.

As a result, the existing SR-997 / Krome Avenue / SW 177th Avenue corridor is selected and recommended for further consideration. A more detailed investigation and evaluation of specific improvement alternatives to address safety, geometric, operational, and access issues for this corridor will be documented in the Preliminary Engineering Report (PER) prepared as part of the PD&E study effort.


THINKING BEYOND THE PAVEMENT
SAFETY
COMMUNITY VALUES
AGRICULTURAL
ENVIRONMENTAL
PUBLIC INVOLVEMENT
MOBILITY
KROME AVENUE