PROJECT TRAFFIC ANALYSIS REPORT

Florida Department of Transportation

District One

SR 70 Project Development and Environment (PD&E) Study

Limits of Project: From Lonesome Island Road to the Southern Leg of CR 721

Highlands County, Florida

Financial Management Number: 449851-1-22-01

ETDM Number: 14490

Date: January 2025

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.

PROFESSIONAL ENGINEER CERTIFICATE

I hereby certify that I am registered professional engineer in the State of Florida practicing with Kisinger Campo & Associates, and that I have supervised the preparation of, and approved the analysis, findings, opinions, conclusions, and technical advice reported in:

REPORT:	Project Traffic Analysis Report
PROJECT:	SR 70 from Lonesome Island Road to the Southern Leg of CR 721
LOCATION:	Highlands County
FPID NO.:	449851-1-22-01
CLIENT:	District 1

The following duly authorized engineering business performed the engineering work represented by this report:

Kisinger Campo & Associates, Corp.
201 N. Franklin St., Suite 400
Tampa, FL 33602
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I, M. Fathy Abdalla, Florida P.E. Number 63914, have prepared this Project Traffic Analysis Report (PTAR) for SR 70 from Lonesome Island Road to the Southern Leg of CR 721. This PTAR contains detailed engineering information that fulfills the purpose and need for this project.

I acknowledge that the procedures and references used to develop the results contained in this report are standard to the professional practice of transportation engineering as applied through design standards and criteria set forth by the federal, state, and local regulatory agencies as well as professional judgement and experience.

Name: M. Fathy Abdalla, P.E.

Signature: M. Fathy Abdalla 2025.01.27 09:41:50-05'00'

P.E. Number: 63914

Date: _____

This report has been digitally signed and sealed by M. Fathy Abdalla, P.E. on the date indicated here. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies

Executive Summary

The Florida Department of Transportation (FDOT) District One is conducting a Project Development and Environment (PD&E) study for proposed improvements to the State Road (SR) 70 corridor in Highlands County. The intent is to provide additional roadway capacity and enhance safety along the SR 70 corridor, a major east-west roadway spanning the state. The project limits extend approximately 7.6 miles from Lonesome Island Road to the southern leg of County Road (CR) 721 in Highlands County. SR 70 is a designated hurricane evacuation route and part of Florida's Strategic Intermodal System (SIS). Facilities on the SIS are subject to special standards and criteria for design speed, level of service and other requirements. The existing SR 70 does not meet SIS facility criteria.

The study focuses on improving capacity and safety of this section of SR 70. Alternatives to be evaluated include adding an additional through lane in each direction, adding a median, and widening travel lanes from 10 feet to 12 feet as part of the project. Multimodal facilities (i.e., a shared use path) will also be considered along the project segment. Each alternative will be evaluated to determine social and environmental impacts, safety enhancements, additional right-of-way needs, and traffic performance.

This Project Traffic Analysis Report (PTAR) is for SR 70 from Lonesome Island Rd to the Southern Leg of CR 721, a two-lane roadway segment approximately 7.6 miles long. The purpose of this PTAR is to analyze the existing and proposed conditions of SR 70 and make recommendations that will improve arterial level of service (LOS), driver safety, and reduce the number of crashes experienced along the corridor. This PTAR also evaluates additional capacity needs to maintain acceptable clearance time during emergency evacuation scenarios along the corridor in the coming years.

Purpose and Need: SR 70 project improvements are recommended based on historic crash data of the corridor, existing evacuation clearance times, and population growth in the project area. SR 70 serves as a major east-west corridor and evacuation route in Highlands County and across the state of Florida.

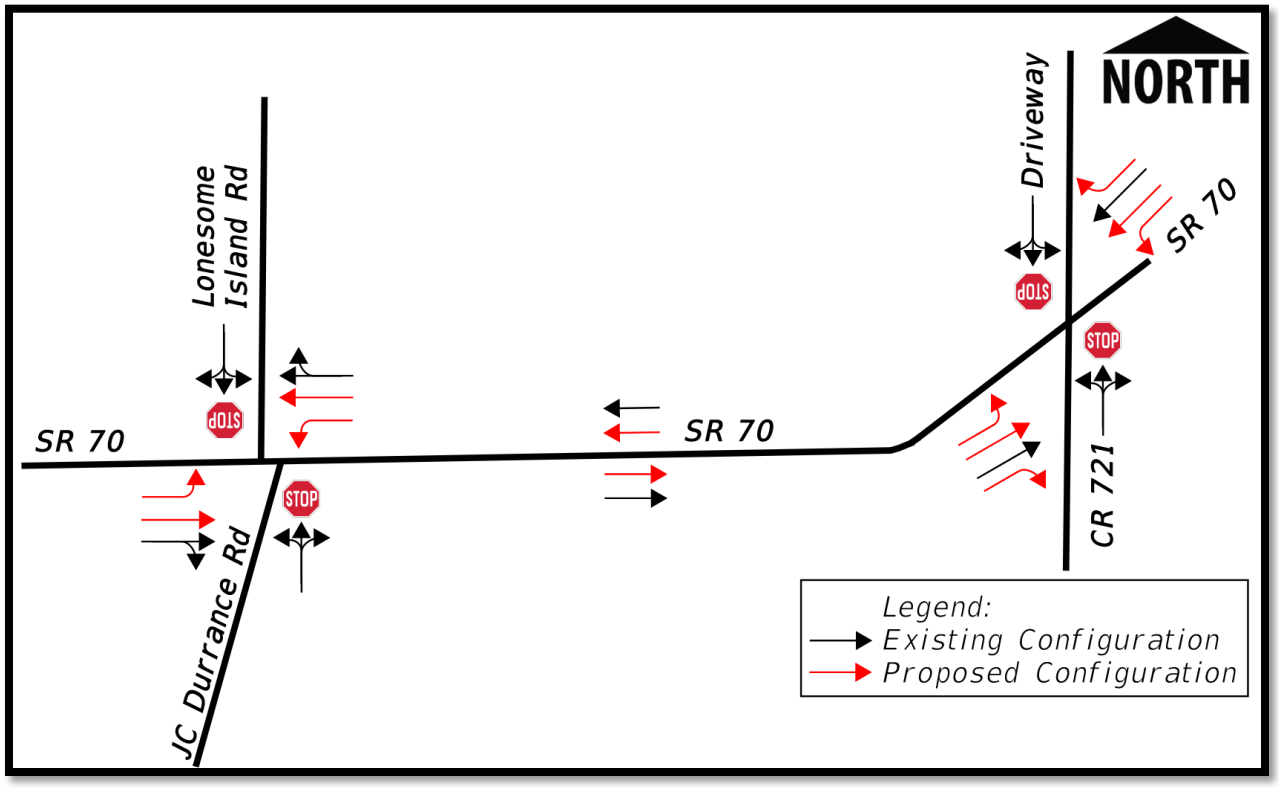
Existing Analysis: The Existing Year 2022 capacity analysis shows that SR 70 currently operates at an acceptable LOS. However, analysis of the crashes that have occurred along the corridor in the past 5 years show that the crash rate for the corridor is currently 36% higher than the statewide average for rural 2-3 lanes two-way undivided roadways. Existing evacuation scenarios for Highlands County show excessive evacuation clearance times for Out of County evacuations. Concerns about the road's ability to handle future evacuation scenarios have arisen due to the projected population growth of the surrounding areas.

Future Analysis: This study forecasts Opening Year 2032 and Design Year 2052 traffic volumes to assess the improvements needed to meet the expected demand within the study area. In addition, the following two different design alternatives were evaluated to compare LOS, safety, and evacuation clearance times:

1. No-Build scenario consisting of the existing two-lane undivided mainline and intersection configurations within the project area. The Design Year 2052 No-Build capacity analysis shows that SR 70 and both intersections are expected to operate at an acceptable LOS.
2. Build scenario consisting of widening SR 70 from a two-lane undivided roadway to a four-lane divided roadway with a median. At the intersections of SR 70 at Lonesome Island Rd/JC Durrance Rd and SR 70 at CR 721, the Build scenario consists of adding dedicated left turn storage lanes. Both intersections

would remain as two-way stop-controlled (TWSC) intersections under the Build scenario. The following figure shows the proposed lane geometry of the Build scenario.

Build Scenario Proposed Lane Geometry



The Design Year 2052 Build capacity analysis shows that SR 70 and both intersections are expected to operate at an acceptable LOS. Widening SR 70 from two to four lanes will decrease crashes by preventing drivers from using the oncoming lane to pass other vehicles. Also, by widening SR 70, the number of crashes in 2052 are predicted to decrease by approximately 54% (26.2 crashes per year) when compared to the predicted No-Build 2052 number of crashes of 48.2 crashes per year. The proposed widening of SR 70 will also increase the capacity of the roadway, leading to decreased evacuation clearance times for Highlands County in the future.

The Build Alternative is the recommended design alternative. Widening SR 70 from two lanes to four lanes from Lonesome Island Road to the Southern Leg of CR 721 is projected to decrease future number of crashes and evacuation clearance times, while maintaining an acceptable LOS throughout the corridor and at both intersections.

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Section 1 Introduction

The objective of the Project Development and Environment (PD&E) study is to assist the Florida Department of Transportation's (FDOT) Office of Environmental Management (OEM) in reaching a decision on the type, location, and conceptual design of the proposed improvements for the widening of SR 70. This study documents the need for the improvements as well as the procedures utilized to develop and evaluate various improvements, including elements such as proposed typical sections, preliminary horizontal alignments, stormwater management facility (SMF) and floodplain compensation (FPC) sites, and intersection enhancements.

The PD&E study satisfies all applicable requirements, including the National Environmental Policy Act (NEPA), to qualify for federal-aid funding of subsequent development phases (design, right of way acquisition, and construction). This project was screened through the FDOT's Efficient Transportation Decision Making (ETDM) process as ETDM Project No. 14490. The ETDM Programming Screen Summary Report was published on June 1, 2023, containing details concerning agency comments from the Environmental Technical Advisory Team (ETAT) on the project's potential effects to natural, cultural, and community resources; and provide additional documentation of activities related to the Programming Phase of the project. physical, and social resources. A Type 2 Categorical Exclusion is anticipated as the class of action for this PD&E study.

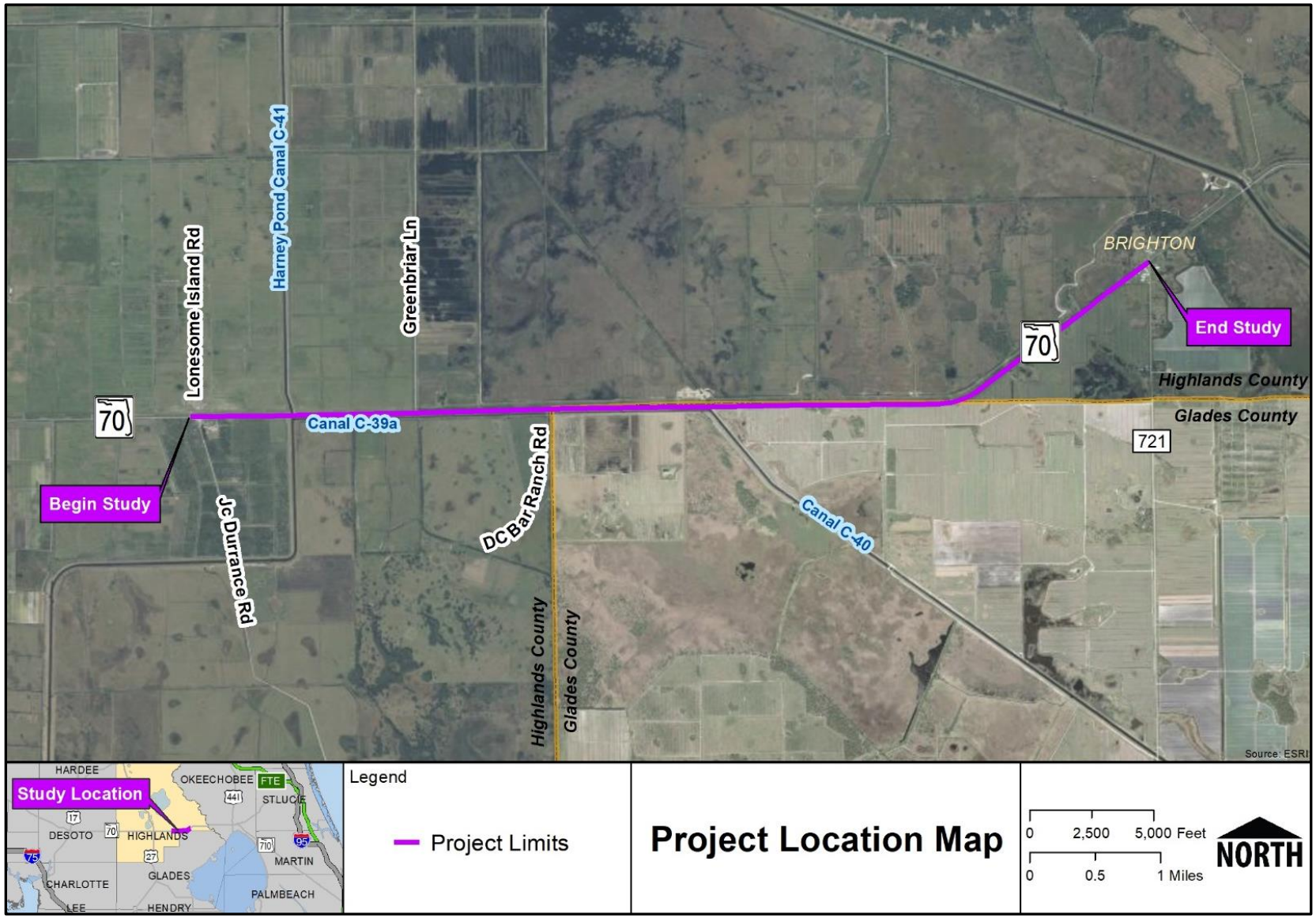
1.1 Project Description

This roadway project proposes the widening of a two-lane facility up to a four-lane, divided facility and/or the inclusion of operational improvements along 7.6 miles of SR 70 from Lonesome Island Road to the southern leg of CR 721 in Highlands County. Travel lane widths may be widened from 10 feet to 12 feet as part of the project. Multimodal facilities will also be considered along the project segment, where appropriate.

SR 70 is part of Florida's Strategic Intermodal System (SIS) highway network and designated state hurricane evacuation route network. As part of the National Highway System, SR 70 is critical to the transportation network as it facilitates local and regional traffic and the movement of goods/freight. SR 70 is functionally classified as "Rural Principal Arterial – Other' within the project area, and the project segment of the roadway has an existing context classification of C2-Rural. The existing typical section consists of a two-lane undivided facility with 10-foot (ft) travel lanes. There are 8-ft shoulders, 4-ft of which are paved; however, there are no designated bicycle lanes or sidewalks present on either side. The posted speed limit along the project corridor is 60 miles per hour.

The existing right-of-way (ROW) width along SR 70 project segment is generally 50-70 ft. A deep canal runs intermittently along the southern border of the project limits. Additional ROW is expected to accommodate the proposed improvements. A project location map is provided in Figure 1-1.

Figure 1-1 | Project Location Map



1.2 Purpose and Need

The purpose of this project is to address traffic safety conditions on State Road (SR) 70 from Lonesome Island Road to the southern leg of County Road (CR) 721 within Highlands County. Other goals of the project are to maintain important east-west connectivity within the regional transportation network and accommodate freight activity within the area.

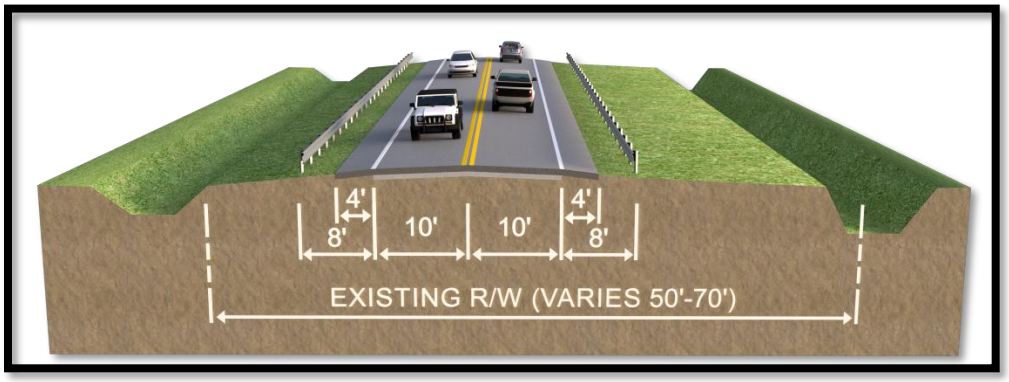
This project is needed to improve traffic safety conditions, emergency evacuation, and incident response times. Other goals of the project are to maintain important east-west connectivity within the regional transportation network and accommodate freight activity within the area.

1.3 Existing Roadway and Proposed Improvements

1.3.1 Existing Roadway

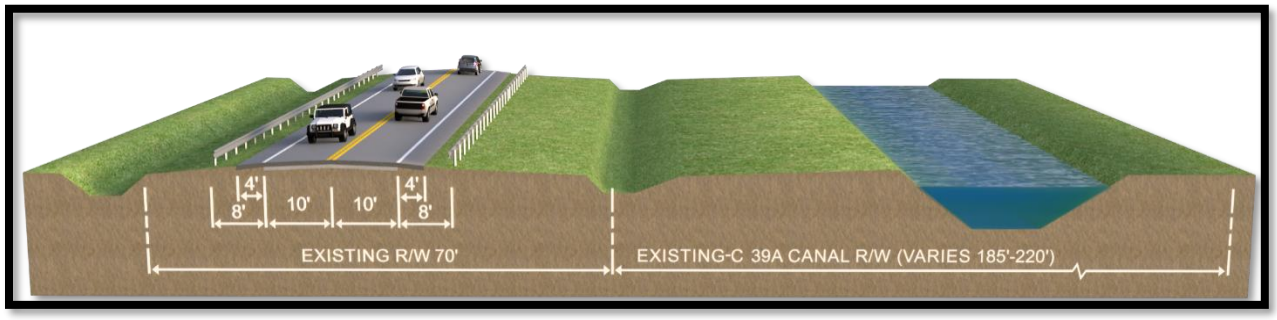
Within the project area, SR 70 is currently a two-lane undivided roadway functionally classified as a rural principal arterial other roadway with a posted speed limit of 60 miles per hour (mph). The roadway has one 10-foot (ft) lane in each direction, with shoulders that are approximately 8-ft wide (4-ft paved) on both the south and north side throughout the corridor with no dedicated bicycle lanes or sidewalk. The existing ROW width varies along the corridor, and is a minimum of 50 ft. There are two existing typical sections within the study limits. The limits of existing roadway Typical Section One is from Lonesome Island Road to Harvey Pond Canal C-41 and from Indian Prairie Canal C-40 to CR 721 (Southern Leg) and is provided as **Figure 1-2**. The limits of existing roadway Typical Section Two are from Harvey Pond Canal C-41 to Indian Prairie Canal C-40 and is provided as **Figure 1-3**.

Figure 1-2 | SR 70 – Existing Roadway Typical Section One



From Lonesome Island Road to Harvey Pond Canal C-41 and
From Indian Prairie Canal C-40 to CR 721 (Southern Leg)

Figure 1-3 | SR 70 – Existing Roadway Typical Section Two



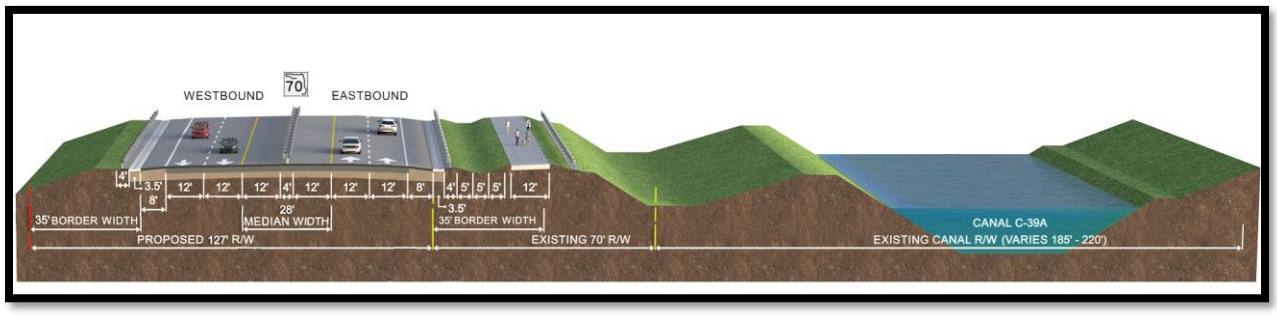
From Harvey Pond Canal C-41 to Indian Prairie Canal C-40

1.3.2 Proposed Improvements

The proposed typical sections show widening SR 70 to a four-lane divided rural roadway. There will be two 12-ft travel lanes in each direction, with outside shoulders. Throughout the corridor, a 12-ft shared use path is proposed along the south side of the road. The proposed ROW varies along the corridor, and is a minimum of an additional 60 ft. There are three proposed typical sections within the study limits. The proposed Typical Section One shows widening SR 70 to a four-lane divided rural roadway with a 4-ft guardrail. There will be two 12-ft travel lanes in each direction, with outside shoulders that are approximately 8-ft wide (3.5-ft paved). Proposed Typical Section One is from Lonesome Island Road to Indian Prairie Canal C-40 and is provided as **Figure 1-4**.

The proposed typical section is being evaluated to determine social and environmental impacts, safety enhancements, additional right-of-way needs, and traffic performance. The project includes the evaluation of SMF and FPC sites. Additional ROW will be required along SR 70 and for SMF and FPC sites.

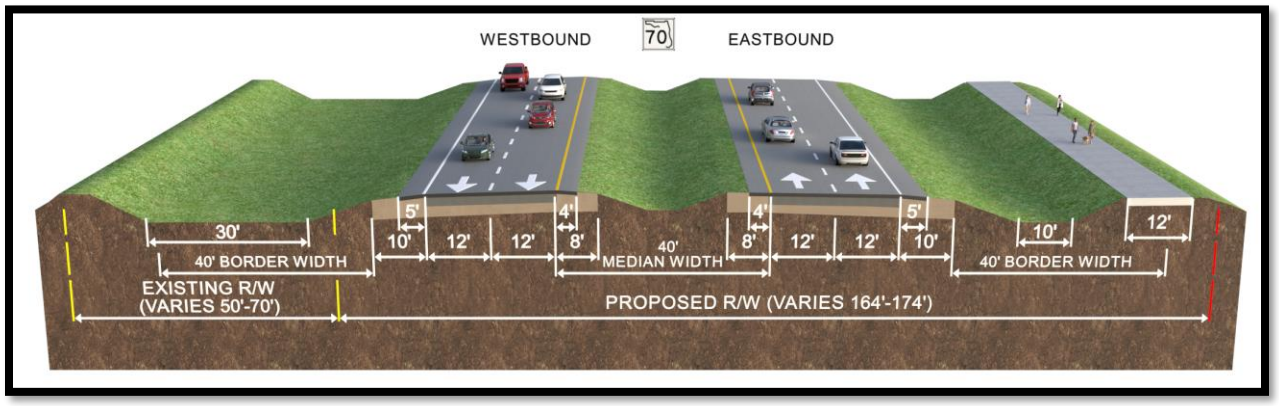
Figure 1-4 | SR 70 – Proposed Roadway Typical Section One



From Lonesome Island Road to Indian Prairie Canal C-40

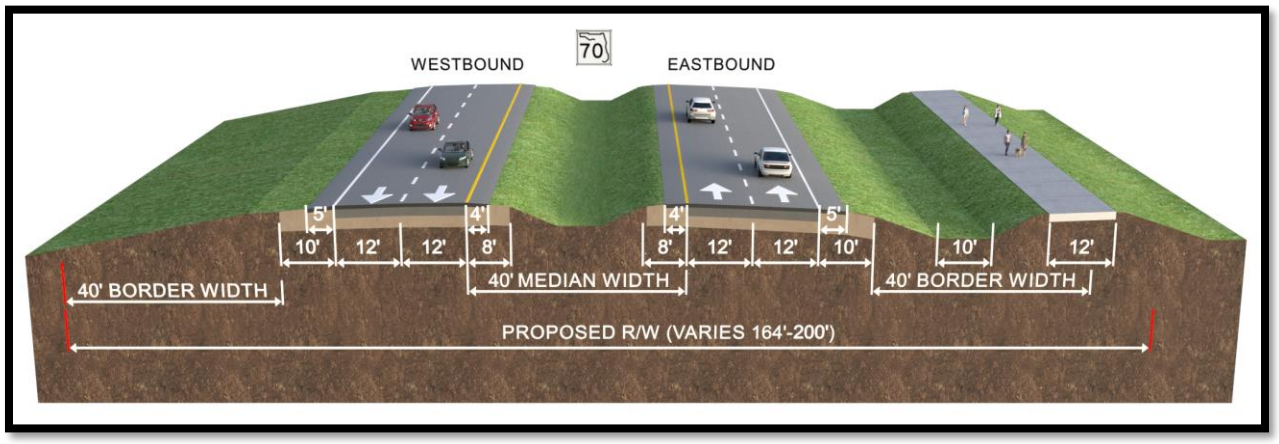
The proposed Typical Section Two and Three show widening SR 70 to a four-lane divided rural roadway with a 40-ft median. There will be two 12-ft travel lanes in each direction, with outside shoulders that are approximately 10-ft wide (5-ft paved). Proposed Typical Section Two is from Indian Prairie Canal C-40 to West of CR 721 (Southern Leg) and is provided as **Figure 1-5**. Pproposed Typical Section Three is from West of CR 721 (Southern Leg) to CR 721 (Southern Leg) and is provided as **Figure 1-6**.

Figure 1-5 | SR 70 – Proposed Roadway Typical Section Two



From East of Indian Prairie Canal C-40 to West of CR 721

Figure 1-6 | SR 70 – Proposed Roadway Typical Section Three



From West of CR 721 to CR 721

1.4 Report Purpose

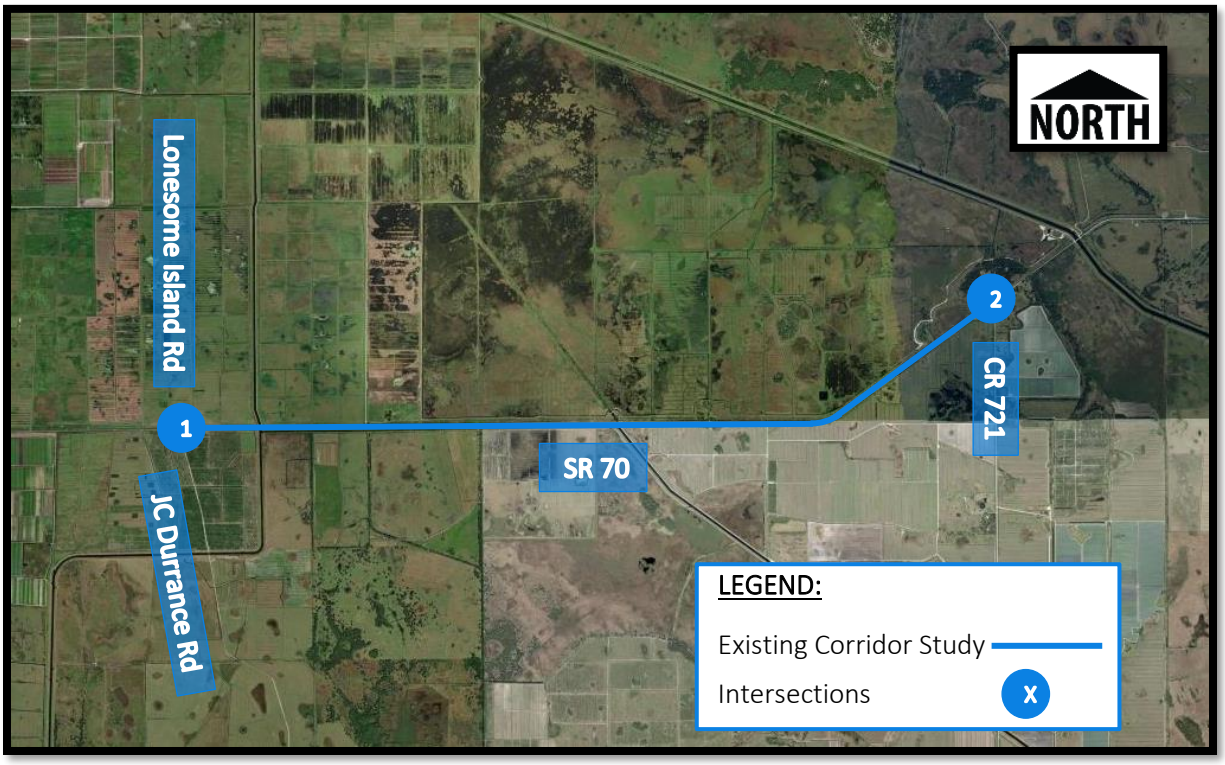
This Project Traffic Analysis Report (PTAR) summarizes the traffic data collected and the traffic level of service (LOS) analyses for the SR 70 project in Highlands County, Florida. The purpose of this PTAR is to analyze the existing and proposed conditions of SR 70 and make recommendations that will improve arterial LOS, driver safety, and reduce the number of crashes experienced along the corridor. This PTAR also evaluates additional capacity needs to maintain acceptable clearance time during emergency evacuation scenarios along the corridor in the coming years. **Appendix A** includes a copy of the Methodology Letter of Understanding (MLOU) for this project.

Section 2 Existing Conditions

The following section provides an evaluation of the existing conditions within the influence area. **Figure 2-1** shows the project study area. The discussion items include existing traffic data and existing operating conditions. The intersections along the study corridor as listed below are a part of this study:

1. SR 70 at Lonesome Island Road/JC Durrance Road
2. SR 70 at CR 721

Figure 2-1 | SR 70 – Project Study Area



2.1 Existing Geometry

The segment of SR 70 between Lonesome Island Road and CR 721 is a two-lane roadway approximately 7.6 miles long. There are existing unsignalized intersections at Lonesome Island Road/JC Durrance Road and CR 721, as well as driveways and side streets throughout the segment. The existing lane geometry is shown in **Figure 2-2**.

Lonesome Island Road/JC Durrance Road at SR 70 is a two-way stop-controlled (TWSC) intersection. The eastbound and westbound approaches consist of one shared through left-turn right-turn lane. The northbound approach consists of one shared left-turn right-turn lane. The southbound approach operates as stop-controlled despite the lack of an existing stop sign. The northbound and southbound approaches do not line up across from one another; however, for simplicity the two unpaved side streets were modeled together as one intersection. There are no existing pedestrian signals, crosswalks, bike lanes, curb ramps,

or sidewalks along any approaches to the intersection. The existing posted speed on SR 70 is 60 mph. The existing intersection conditions are shown in **Figure 2-3**.

Figure 2-2 | SR 70 – Existing Lane Geometry

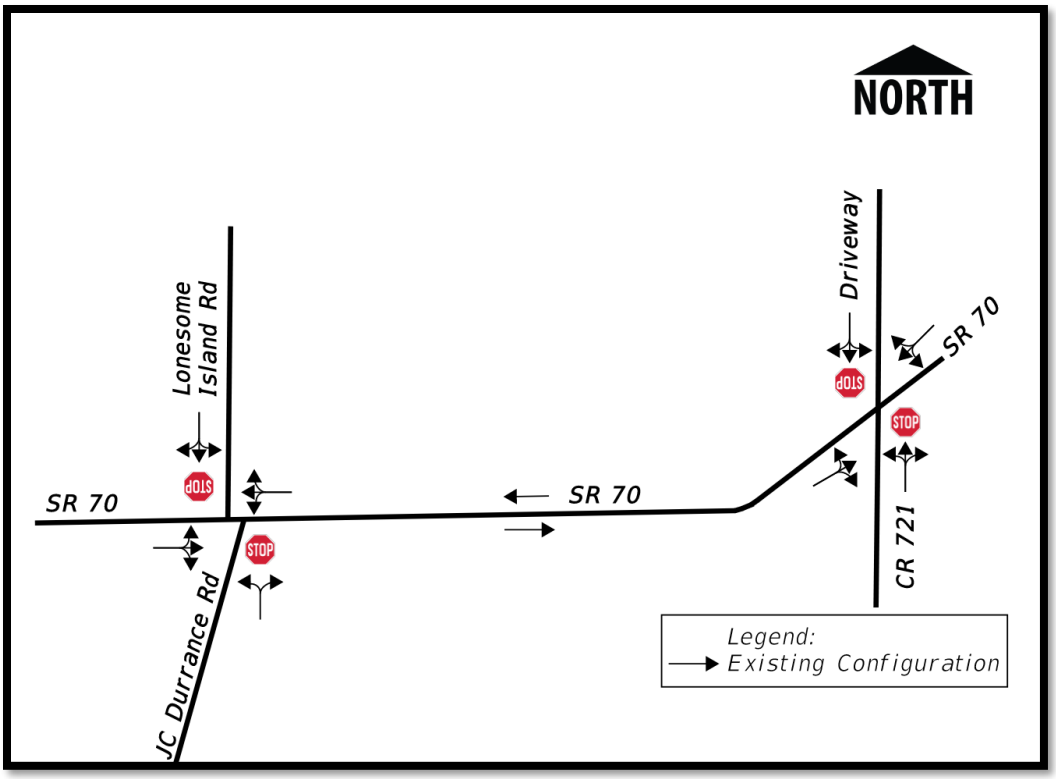


Figure 2-3 | Existing Conditions – Lonesome Island Road/JC Durrance Road at SR 70

CR 721 at SR 70 is a TWSC intersection and consists of two overhead yellow/red flashing signals along each approach. The existing signals are mast arm-mounted and give priority to the eastbound and westbound approaches. All approaches consist of one shared through left-turn right-turn lane. There are no existing pedestrian signals, crosswalks, curb ramps, or sidewalks along any approaches to the intersection. Along the westbound approach, there exists an unmarked shoulder that may serve as a de facto bike lane. Along the eastbound approach, there exists a wide, unmarked paved shoulder that may serve as a de facto right-turn lane. The existing posted speed limit on CR 721 is 45 mph. Additionally, there is an advisory speed of 45 mph along SR 70 through the intersection. The existing lane geometry is shown in **Figure 2-4**.

Figure 2-4 | Existing Conditions – CR 721 at SR 70

2.2 Traffic Counts

The Existing Year 2022 Annual Average Daily Traffic (AADT) volumes from the SR 70 Design Traffic Technical Memorandum (DTTM) prepared by RS&H, Inc. at the direction of FDOT District One in July 2023 are listed in **Table 2-1** and found in **Appendix B**.

Table 2-1 | Existing Year 2022 Annual Average Daily Traffic (AADT)

Roadway/Segment	2022 AADT	K %	D %	T%
SR 70, West of CR 721	5,600	9.5	55.0	32.0
SR 70, East of CR 721	5,400	9.5	58.0	25.0
CR 721, South of SR 70	1,900	9.5	70.0	15.0

Figure 2-5 depicts the Existing Year 2022 AADT volumes on the map. Four-hour manual turning movement counts (TMC) were conducted on Tuesday November 15th, 2022, at both study intersections from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM. The weather was clear during the time the traffic counts were conducted. **Appendix C** includes a copy of the manual TMC. **Figure 2-6** depicts the Existing Year 2022 AM and PM TMC.

Figure 2-5 | SR 70 Existing Year 2022 AADT

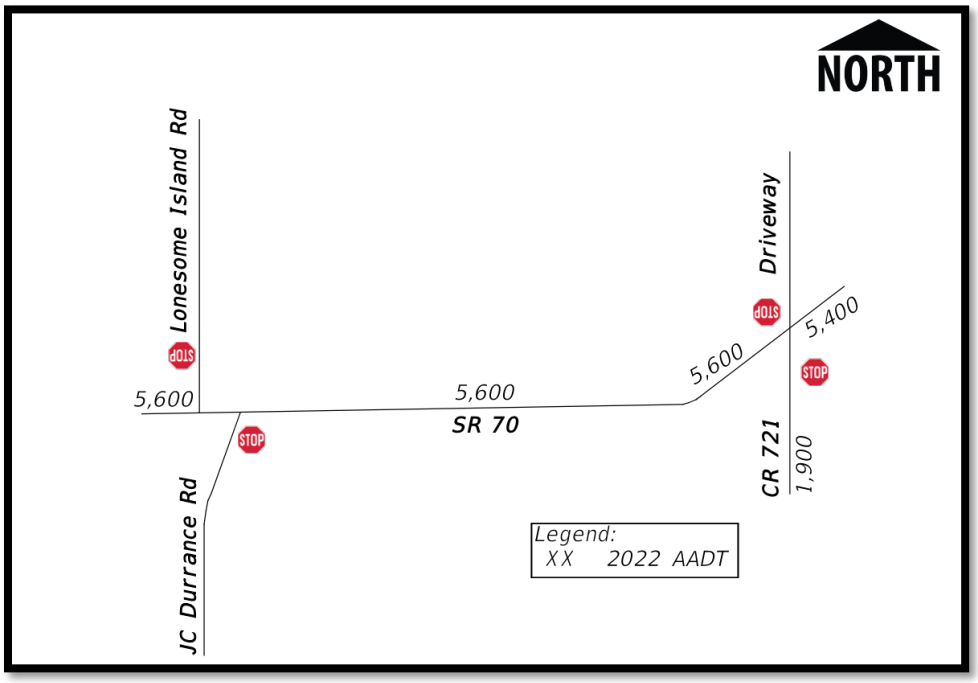
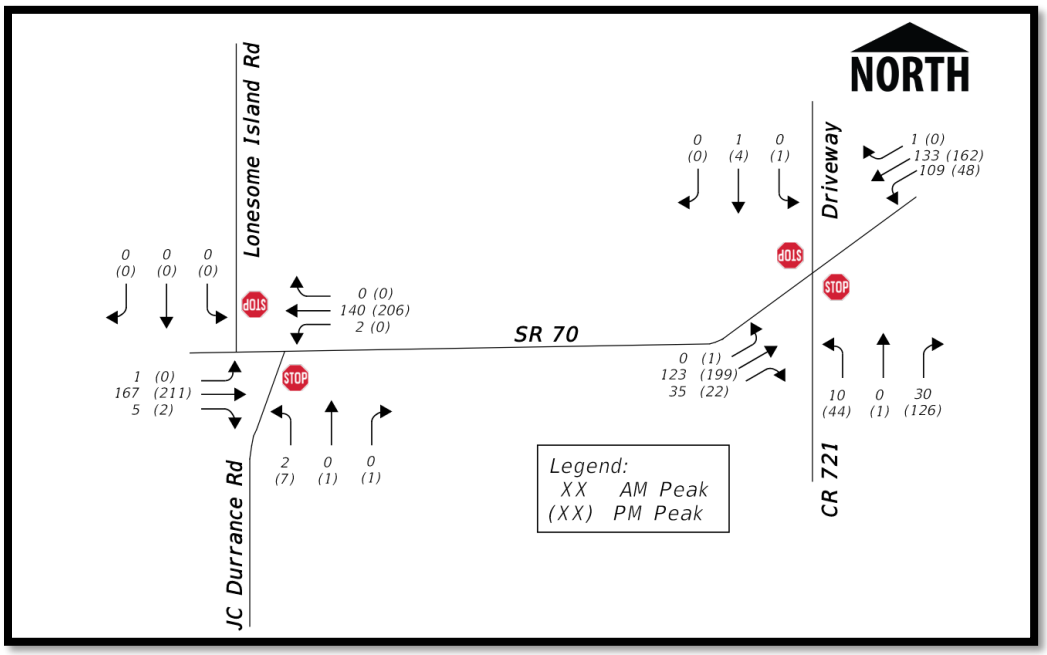


Figure 2-6 | SR 70 Existing Year 2022 TMC



2.3 Design Traffic Factors

Traffic design factors such as K, D, and T factors for this project were derived from Chapter 2.3 of the SR 70 DTTM. See **Table 2-1** for a full list of the design traffic factors that were used for this project. See **Appendix B** for the SR 70 DTTM where these design traffic factors were derived from.

2.3.1 K-Factor

The design hour factor (K-Factor) is the proportion of AADT occurring during the peak hour. Table 2-7 in the SR 70 DTTM provided the K-Factors that were used for this project. A K-Factor of 9.50% was reported for SR 70 and CR 721.

2.3.2 D-Factor

The Directional Distribution Factor (D-Factor) is the proportion of traffic traveling in the peak direction of a roadway segment during the peak hour. Table 2-3 in the SR 70 DTTM provided the D-Factors that were used for this project.

2.3.3 T-Factor

The truck percentage factor (T-Factor) is the percentage of trucks passing through a segment of road daily. Table 2-6 in the SR 70 DTTM provided the T-Factors that were used for this project.

2.4 Existing Year 2022 LOS Analysis

This section presents the analysis results for the existing lane configuration under Existing Year 2022 traffic conditions. An existing traffic operational analysis was conducted for intersections of SR 70 at Lonesome Island Road/JC Durrance Road and at CR 721. The analysis consisted of determining the Level of Service (LOS) and delay at each intersection of SR 70. The Highway Capacity Manual, 6th Edition classifies roadway capacity based on LOS A through F, where LOS A represents a roadway operating below capacity (free-flow conditions with little or no delays) and LOS F suggests a roadway is operating above design capacity (congested traffic with forced flow conditions at very low operating speeds). The analysis was conducted using the latest versions of the Highway Capacity Software 7 (HCS7) and Synchro 11.

The LOS for a TWSC intersection is defined in terms of the average vehicle's delay for each minor-street movement (or shared movement) as well as major-street left-turns. A vehicular delay will also quantify the increase in travel time that the vehicle experiences due to a stop sign or a traffic signal control. This will provide a surrogate measure for driver discomfort and fuel consumption.

Existing Year 2022 LOS analysis was conducted based on the methodology outlined in the Highway Capacity Manual, 6th Edition using Synchro 11. **Appendix D** includes the copies of the Synchro and HCS LOS computer outputs. The existing year intersection Synchro analysis shows that both intersections in this project are currently operating at an overall LOS of A. The existing year arterial HCS analysis shows that the corridor of SR 70 from Lonesome Island Road to CR 721 is also currently operating at a LOS of A. **Table 2-2** shows the overall LOS and delay experienced by both intersections, as well as the individual delay and LOS of each approach of each intersection. **Table 2-3** shows the overall arterial LOS, as well as the vehicle miles-traveled, vehicle-hours delay, and follower density, currently experienced on SR 70. **Figure 2-7** depicts the Existing Year 2022 LOS on the map for AM and PM peak hours.

Table 2-2 | Existing Year 2022 Existing Intersection LOS

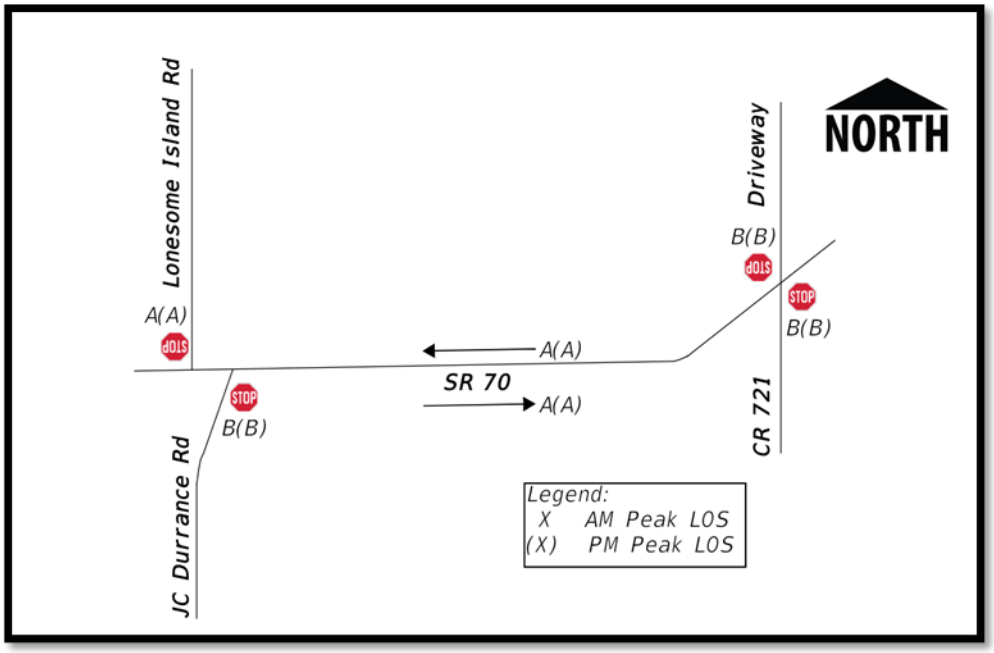
Intersection		Peak Hour	LOS	Overall Delay[1]	NB Delay[1] / LOS	SB Delay[1] / LOS	EB Delay[1] / LOS	WB Delay[1] / LOS
Lonesome Island Rd/JC Durrance Rd	STOP	AM	A	0.1	11.1 / B	0.0 / A	7.5 / A	8.2 / A
		PM	A	0.2	11.8 / B	0.0 / A	0.0 / A	0.0 / A
CR 721	STOP	AM	A	2.9	10.4 / B	13.8 / B	0.0 / A	7.8 / A
		PM	A	4.2	12.4 / B	13.7 / B	7.6 / A	7.8 / A

[1]Delay measured in seconds per vehicle

Table 2-3 | Existing Year 2022 Existing Arterial LOS

Segment	Peak Hour	LOS	Average Speed (mph)	Segment Travel Time (minutes)	Follower Density (followers/mi/ln)	Percent Followers (%)
SR 70 from Lonesome Island Rd to CR 721	AM	A	58.3	7.92	1.7	35.8
	PM	A	58.4	7.91	1.5	34.3

Figure 2-7 | SR 70 Existing Year 2022 LOS



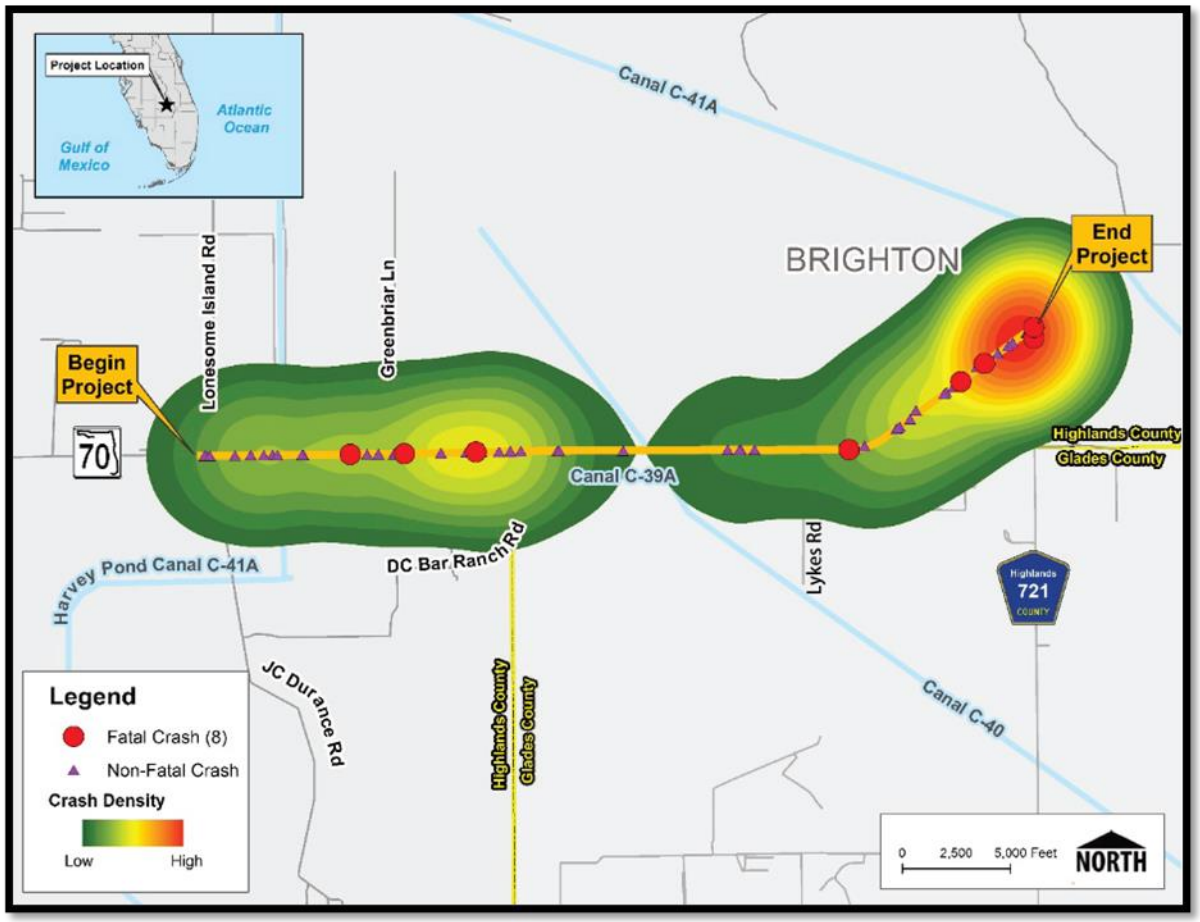
2.5 Historical Crash Data Analysis

A five (5) year historic crash analysis was completed in accordance with Part 2, Chapter 2 of the *PD&E Manual* for years 2018 to 2022. Crash Data for the five-year analysis period was obtained from the University of Florida's Signal Four Analytics database and verified through 2022 at the time the data was pulled. The crash data used for this study is provided in **Appendix E**.

2.5.1 Overall Crash Data along SR 70

The five-year crash analysis (2018-2022) found 84 total crashes (average of 17 crashes per year) for the overall study corridor along SR 70. Most of the reported crashes occur on the segments (68%). The segment from Lykes Road to the Southern Leg of CR 721 had the highest number of crashes (26 crashes). A heat map showing where crashes are concentrated along the study corridor is shown in **Figure 2-8**.

Figure 2-8 | Crash Data Heat Map (2018-2022)



Eight (8) fatal crashes were reported for this roadway during the five-year analysis period. The locations are shown by a red "dot" on **Figure 2-8**.

- A fatal crash reported in 2018 was a guardrail face crash type at the intersection of SR 70 and Greenbriar Lane under dark, not lighted, and dry conditions. Vehicle one was reported as heading east and Vehicle two was reported as heading west. Vehicle one goes out of the lane, hits the

guardrail face, and drives into the opposite direction lane, which causes vehicle one to hit vehicle two head on. The initial cause of this fatal crash was reported as the driver failed to keep in proper lane.

- A second fatal crash reported in 2018 was a fell/jumped from motor vehicle crash type on CR 721 near the intersection under daylight and dry conditions. The initial cause of this fatal crash was reported as running off roadway.

- A fatal crash reported in 2019 was a head on crash type on SR 70 near CR 721 under daylight and dry conditions. Vehicle one was traveling eastbound and vehicle two was traveling westbound. Vehicle one changed lanes to pass low speed traffic, does not notice vehicle two is approaching and hits vehicle two's front left. The initial cause of this fatal crash was reported as improper passing.

- A second fatal crash reported in 2019 was an angle crash type on SR 70 near Partnership Road under dark, not lighted, and dry conditions. There were three (3) vehicles reported to be involved in the crash. Vehicle one was stopped in the westbound lane facing south. Vehicle two was reported to be traveling westbound. Vehicle three came to a stop in the eastbound lane just west of vehicle one. Vehicle two did not see vehicle one stopped in the middle of the road and hit the left side of vehicle one. Vehicle one spins and hits vehicle three. The initial cause of this fatal crash was reported as "other contribution action".

- A fatal crash reported in 2020 was an opposing sideswipe crash about 1600 ft away from Greenbrier Lane under daylight and dry conditions. There were three (3) vehicles reported to be involved in the crash. Vehicle one that was a semi-trailer was reported as heading east, vehicle two was reported heading west going straight ahead and vehicle three was reported heading east going straight ahead. Vehicle one crosses the center lane causing vehicle two to collide with the front of vehicle one. Vehicle two was spinning out of control which hit vehicle three that was driving behind vehicle one. The initial cause of this fatal crash was reported as the driver failed to keep in proper lane.

- A second fatal crash reported in 2020 was an "other" crash type on SR 70 near CR 721 under dusk and dry conditions. Vehicle one was reported traveling eastbound and went off road hitting the southside guardrail. Vehicle one was redirected and traveled across both travel lanes and hit the guardrail on the northside of the roadway. The initial cause of this fatal crash was reported as operating motorized vehicle in careless or negligent manner.

- A fatal crash reported in 2022 was a minor street left turn crash at the intersection of SR 70 and CR 721 under daylight and dry conditions. Vehicle one was reported as stopped at the south leg of the intersection and vehicle two was reported as heading east going straight ahead. Vehicle one was a motorcycle that was stopped at the intersection and drove out in front of Vehicle two to make a left onto SR 70. This caused vehicle two to steer left onto the north grass shoulder. The initial cause of this fatal crash was reported as driver failed to yield right of way.

- A second fatal crash reported in 2022 was an angle crash near the SR 70 and CR 721 intersection under dark, not lighted, and dry conditions. Vehicle one was reported traveling westbound and vehicle two was also traveling westbound approaching vehicle one. Vehicle one attempted to make a U-turn causing vehicle two to hit the left rear side of vehicle one. This causes vehicle one to spin and hit the left side of vehicle two. The initial cause of this fatal crash was reported as an improper turn.

The crash data is also summarized by crash type on **Table 2-4**. The highest-ranking crash types for the study area were reported as opposing sideswipe and guardrail face crashes (both 15%), animal and rear end crashes (both 13%) as the second most prominent crash types, and angle crashes (8%) as the third most prominent crash type. The high percentage of opposing sideswipe collisions could be attributed to the vehicles wishing to pass a low-speed traffic and not seeing oncoming traffic. Guardrail face crashes could be attributed to distracted drivers, loss of control, and many other driver related causes. The animal crashes could be attributed to the surrounding area being rural and the ditches/canals located parallel to the roadway could potentially be attracting animal crossings. The rear end crashes are mainly due to operating the vehicle in a careless or negligent behavior. The most common types of crashes that can attributed to the current layout of the roadway are animal, guardrail face, head on, left leaving, and opposing sideswipe. These 5 types of crashes made up 49% of the crashes that occurred along SR 70 in the past 5 years. The likelihood and occurrence of these types of crashes can be reduced by widening the road from two lanes to four lanes, separating opposing directions of travel with a median, and restricting side streets to right turn only movements onto SR 70.

Table 2-4 | Crash Type Summary Along SR 70

Crash Type	Year					Total	Percentage
	2018	2019	2020	2021	2022		
Animal	2	3	1	4	1	11	13%
Cargo/Equipment Loss or Shift	0	0	0	0	1	1	1%
Ditch	2	0	1	0	0	3	4%
Fell/Jumped from Motor Vehicle	1	0	0	0	0	1	1%
Guardrail Face	4	2	3	2	2	13	15%
Angle	2	3	1	0	1	7	8%
Head On	0	1	0	1	1	3	4%
Left Leaving	0	0	0	1	1	2	2%
Opposing Sideswipe	1	4	4	3	1	13	15%
Other	0	0	2	1	0	3	4%
Rear End	4	2	2	2	1	11	13%
Same Direction Sideswipe	0	0	0	2	0	2	2%
Single Vehicle	0	0	0	1	0	1	1%
Unknown	0	0	0	1	0	1	1%
Other Non-Collision	0	1	1	0	1	3	4%
Other Non-Fixed Object	1	1	0	1	2	5	6%
Overturn/Rollover	2	0	0	0	0	2	2%
Struck by Falling, Shifting Cargo	0	1	0	0	0	1	1%
Thrown or Falling Object	0	0	0	0	1	1	1%
Total	19	18	15	19	13	84	100%

There were no pedestrian or bike crashes during the crash analysis years (2018-2022). The average percentage of wet and dark crashes for the five-year period in the study area is 9.5% and 38.1%, respectively. The number of wet pavement crashes is below the statewide average of 11.6% from data as published on page 36 in the Florida Highway Safety and Motor Vehicles *Traffic Crash Facts Annual Report 2022* (provided in **Appendix E**). The percentage of dark lighting condition crashes is above the statewide average of 24.5% from data as published on page 37 in the Florida Highway Safety and Motor Vehicles *Traffic Crash Facts Annual Report 2022*. A crash summary for SR 70 for the five-year analysis period is shown in **Table 2-5**.

Table 2-5 | Summary of Crashes Along SR 70

	Year					Total
	2018	2019	2020	2021	2022	
No. of Fatal Crashes	2	2	2	0	2	8
No. of Serious Injury Crashes	1	2	0	1	2	6
No. of Injury Crashes	4	3	3	3	3	16
No. of Property Damage Only Crashes	12	11	10	15	6	54
Total Crashes	***19***	***18***	***15***	***19***	***13***	***84***
Pedestrian Crashes	0	0	0	0	0	0
Bike Crashes	0	0	0	0	0	0
Wet Surfaces Crashes	2	2	4	0	0	8
Dark Crashes	6	10	2	9	5	32

2.5.2 Intersection and Segment Crash Data of SR 70

A five-year crash analysis (2018-2022) for the intersections and segments of SR 70 was completed. The top locations for crashes are the segment from Lykes Road to the Southern Leg of CR 721 (31%), the southern leg of CR 721 intersection (23%), and the segment from Lonesome Island Road to Greenbrier Lane (15%). Rear end crash types accounted for a majority of the crashes at intersections and segments. The high percentage of rear end collisions could be attributed to the high levels of congestion occurring along the corridor. **Table 2-6** provides a breakdown of intersection and segment crashes along SR 70.

Table 2-6 | Crash Summary for Segments and Intersections Along SR 70

Segment	Crashes	Fatalities	Highest Crash Type	% of Crash Type	Dark Crashes	% of Total Crashes
Lonesome Island Rd to Greenbrier Ln	13	1	Guardrail Face	31%	2	15%
Greenbrier Ln to DC Bar Ranch Rd	10	2	Opposing Sideswipe	40%	3	12%
DC Bar Ranch Rd to Lykes Rd	8	0	N/A	N/A	2	10%
Lykes Rd to Southern Leg of CR 721	26	3	Opposing Sideswipe	17%	13	31%
Intersection	**Crashes**	**Fatalities**	**Highest Crash Type**	**% of Crash Type**	**Dark Crashes**	**% of Total Crashes**
Lonesome Island Rd	0	0	N/A	N/A	N/A	0%
JC Durrance Rd	1	0	Rear End	100%	0	1%
Greenbrier Ln	4	0	Animal	50%	2	5%
DC Bar Ranch Rd (DW access road)	3	0	N/A	N/A	3	3%
Lykes Rd	0	0	N/A	N/A	N/A	0%
Southern Leg of CR 721	19	2	Rear End	21%	7	23%

2.5.3 Crash Rates

Crash rates for the study area were calculated in million vehicle miles traveled (MVMT) for segments and million entering vehicles (MEV) for intersections. Crash rates were calculated based on the number of crashes that occurred within the five-year crash analysis period, length of roadway and annual average daily traffic volumes. The following equations were used to develop the crash rates for this study:

$$Crash\ Rate\ for\ Segment = \frac{Total\ Number\ of\ Crashes\ x\ 1{,}000{,}000}{AADT\ x\ 365x\ Number\ of\ Years\ x\ Length\ of\ Roadway\ Segment}$$

$$Crash\ Rate\ for\ Intersection = \frac{Total\ Number\ of\ Crashes\ x\ 1{,}000{,}000}{Total\ Intersection\ Entering\ Volume\ Per\ Day\ x\ Number\ of\ Years\ x\ 365}$$

The crash rates calculated for the SR 70 study are shown in **Table 2-7** and **Table 2-8** which includes five (5) segments and six (6) intersections crash rates. This crash rate on the segment Lykes Road to the Southern Leg of CR 721 was the highest with a rate of 1.077 crashes per MVMT. The Southern Leg of CR 721 intersection exhibited the highest intersection crash rate with a rate of 1.589 crashes per MEV. The high number of crashes on the segment is due to vehicles wishing to pass low speed vehicles and not seeing the oncoming traffic. This could be fixed with widening improvements for the corridor to eliminate vehicles crossing into opposing traffic to get around a slow truck or vehicle.

Table 2-7 | Crash Rates for Segments

Segment		Crashes	Length (mi)	2022 AADT	Crash Rate (MVMT)	Statewide Average (1)	Above Statewide Average?
From	To						
Lonesome Island Rd	Greenbrier Ln	13	1.72	5,600	0.739	0.802	NO
Greenbrier Ln	DC Bar Ranch Rd	10	1.00	5,600	0.977	0.802	YES
DC Bar Ranch Rd	Lykes Rd	8	2.57	5,600	0.304	0.802	NO
Lykes Rd	Southern Leg of CR 721	26	2.36	5,600	1.077	0.802	YES

(1) Statewide rates from FDOT Safety Office for years 2015-2019

(1) Note: Crashes reported to occur within intersection turn lanes were extracted out of the segments.

Table 2-8 | Crash Rates for Intersections

SR 70 Intersection	Crashes	Entering Volume	Crash Rate (MEV)	Statewide Average (1)	Above Statewide Average?
Lonesome Island Rd	0	7,875	0.000	0.201	NO
JC Durrance Rd	1	7,900	0.097	0.201	NO
Greenbrier Ln	4	7,875	0.388	0.201	YES
DC Bar Ranch Rd	3	7,875	0.291	0.201	YES
Lykes Rd	0	7,875	0.000	0.201	NO
Southern Leg of CR 721	19	10,500	1.589	0.258	YES

(2) Statewide rates from FDOT Safety Office for years 2015-2019

Calculating one average crash rate for the corridor that includes the intersection crashes with an average AADT yields a crash rate of 1.073 MVMT. This overall crash rate is 34% higher than the statewide average of 0.802 MVMT for rural 2-3 lanes two-way undivided roadways.

Section 3 Signal Warrant Analysis

A signal warrant analysis was performed at the intersection of SR 70 and CR 721 to evaluate the need to convert the intersection from TWSC to a signalized intersection based on Opening Year 2032 conditions. The FDOT traffic signal warrant analysis sheet was used to evaluate this intersection. This analysis sheet breaks down the criteria that could justify the placement of a traffic signal at an intersection into 9 different warrants. None of the nine signal warrants were satisfied. As a result, the build scenario will only analyze unsignalized options for the intersection of SR 70 and CR 721. **Appendix F** includes the signal warrant analysis for SR 70 and CR 721.

Section 4 Future Traffic Forecast

Forecasted AADTs and directional design hour volumes were developed for the Design Year 2052 for the No-Build and Build scenarios. Future AADTs were developed using growth rates for the project area provided by the SR 70 DTTM. These growth rates were used to calculate Opening Year 2032 and Design Year 2052 AADTs for both No-Build and Build scenarios.

4.1 Recommended Annual Growth Rate

For traffic projection purposes, this study used the individual annual growth rates of each roadway segment of the project found in Table 3-1 of the SR 70 DTTM prepared by RS&H, Inc. at the direction of FDOT District One in July 2023. The full SR 70 DTTM can be found in Appendix B. The recommended annual growth rates used for each roadway segment in the development of future year AADTs can be found in Table 4-1.

Table 4-1 | Annual Growth Rate Calculation

Roadway	Segment	Annual No-Build Growth Rate % Used	Annual Build Growth Rate % Used
SR 70	West of JC Durrance Rd	2.5%	4.0%
	From JC Durrance Rd to Greenbrier Ln	2.5%	4.0%
	From Greenbrier Ln to CR 721	2.5%	4.0%
	East of CR 721	3.0%	4.5%
CR 721	South of SR 70	3.0%	4.0%

4.2 Evacuation Impact Analysis

SR 70 is one of the major designated east-west evacuation routes in Highlands County and across the state of Florida. As the population of the county continues to increase, concerns about the ability of SR 70 to handle the capacity of emergency evacuations in the surrounding areas have begun to arise. Current evacuation models for Highlands County project an average clearance time for shelter evacuations of around 12.5 hours, while out-of-county evacuation clearance times range from 16.5 hours to 40.5 hours depending on the severity of evacuation being measured. See Appendix G for a map of the major evacuation routes in Highlands County, as well as Transportation Interface for Modeling Evacuations (TIME) reports for the existing statistics for all evacuation scenarios in Highlands County prepared by the Statewide Regional Evacuation Study Program (SRESP). By widening the stretch of SR 70 from Lonesome Island Road to CR 721 from two lanes to four lanes, the capacity of the road will increase, allowing for lower evacuation clearance times in emergency situations.

Section 5 Future Traffic Demand

This section depicts the traffic volumes for future years from the SR 70 DTTM.

5.1 Future Year Daily Traffic Volumes

The traffic AADT volumes have been rounded according to the 2019 FDOT *Project Traffic Forecasting Handbook*. Table 5-1 shows the calculations for Design Year 2052 No-Build AADT based on the recommended annual growth rate for each roadway segment. Table 5-2 provides the AADT values of the Existing Year 2022, Opening Year 2032, and Design Year 2052 No-Build scenarios. Figure 5-1 shows Design Year 2052 No-Build AADT values on the project map.

Table 5-1 | Design Year 2052 No-Build AADT Calculation

Roadway	Segment	2022 AADT	Annual Growth Rate % Used	2052 AADT	2052 AADT (rounded)
SR 70	West of CR 721	5,600	2.5%	9,800	9,800
	East of CR 721	5,400	3.0%	10,260	10,500
CR 721	South of SR 70	1,900	3.0%	3,610	3,600

Table 5-2 | No-Build AADT Summary

Roadway	Segment	2022 AADT	2032 AADT	2052 AADT
SR 70	West of CR 721	5,600	7,000	9,800
	East of CR 721	5,400	7,000	10,500
CR 721	South of SR 70	1,900	2,500	3,600

Figure 5-1 | SR 70 Design Year 2052 No-Build AADT

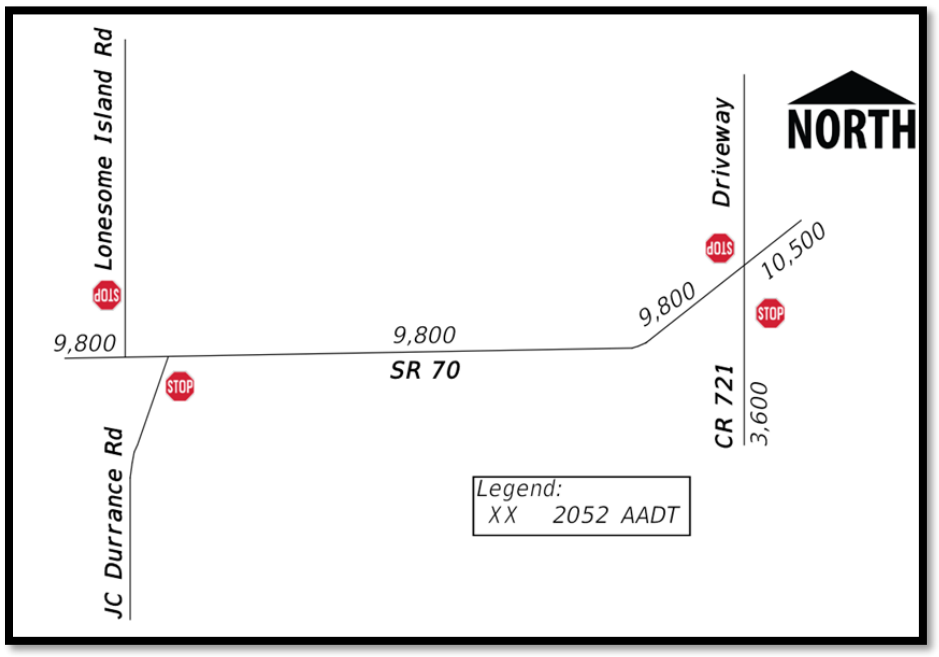


Table 5-3 shows the calculations for Design Year 2052 Build AADT values based on the recommended annual growth rate for each roadway segment. **Table 5-4** provides the AADT values of the Existing Year 2022, Opening Year 2032, and Design Year 2052 Build scenarios. **Figure 5-2** shows Opening Year 2032 Build AADT values on the project map. **Figure 5-3** shows Design Year 2052 Build AADT values on the project map.

Table 5-3 | Design Year 2052 Build AADT Calculation

Roadway	Segment	2022 AADT	Annual Growth Rate % Used	2052 AADT	2052 AADT (rounded)
SR 70	West of CR 721	5,600	4.0%	12,320	12,500
	East of CR 721	5,400	4.5%	12,690	12,500
CR 721	South of SR 70	1,900	4.0%	4,180	4,200

Table 5-4 | Build AADT Summary

Roadway	Segment	2022 AADT	2032 AADT	2052 AADT
SR 70	West of CR 721	5,600	7,800	12,500
	East of CR 721	5,400	7,800	12,500
CR 721	South of SR 70	1,900	2,700	4,200

Figure 5-2 | SR 70 Opening Year 2032 Build AADT

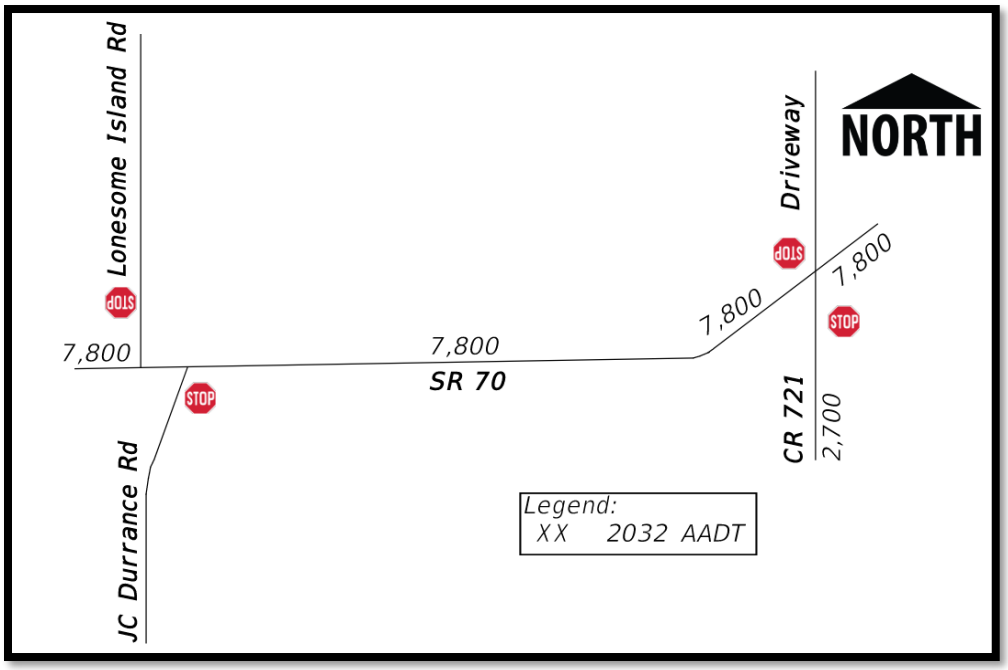
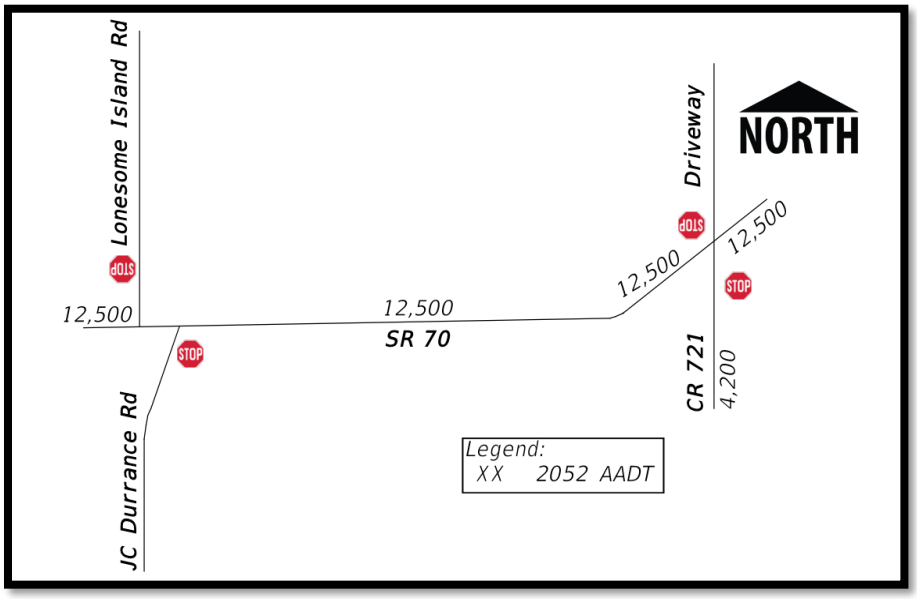


Figure 5-3 | SR 70 Design Year 2052 Build AADT



5.2 Future Year Turning Movement Volumes

Figure 5-4 depicts the AM and PM turning movement volumes for the Design Year 2052 No-Build scenario from the SR 70 DTTM. **Figure 5-5** depicts the AM and PM turning movement volumes for the Design Year 2032 Build scenario from the SR 70 DTTM. **Figure 5-6** depicts the AM and PM turning movement volumes for the Design Year 2052 Build scenario from the SR 70 DTTM.

Figure 5-4 | SR 70 Design Year 2052 No-Build Turning Movement Volumes

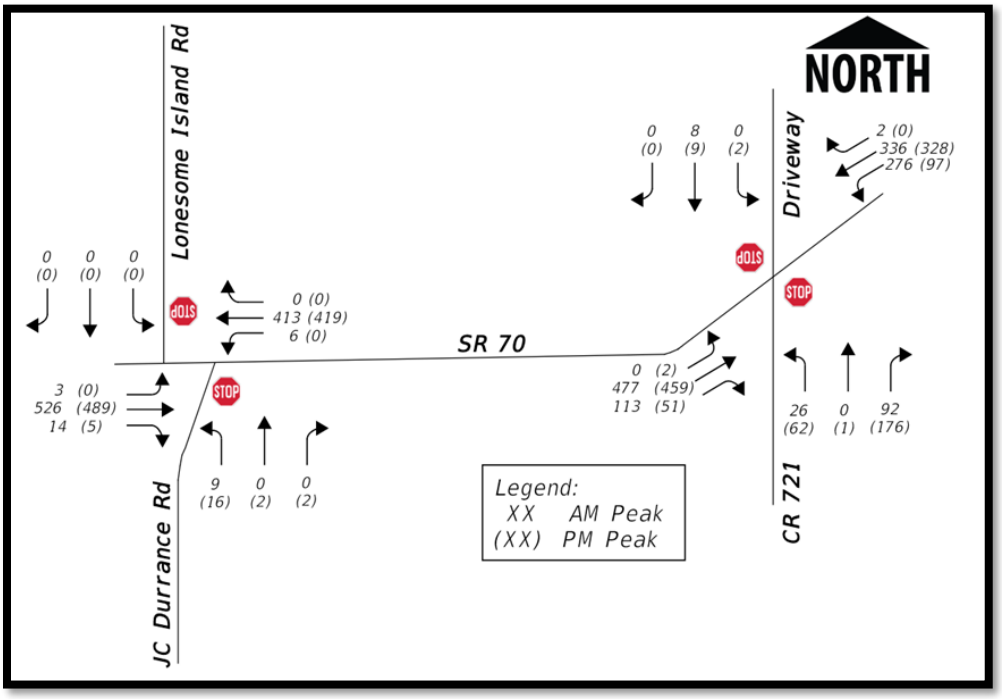


Figure 5-5 | SR 70 Opening Year 2032 Build Turning Movement Volumes

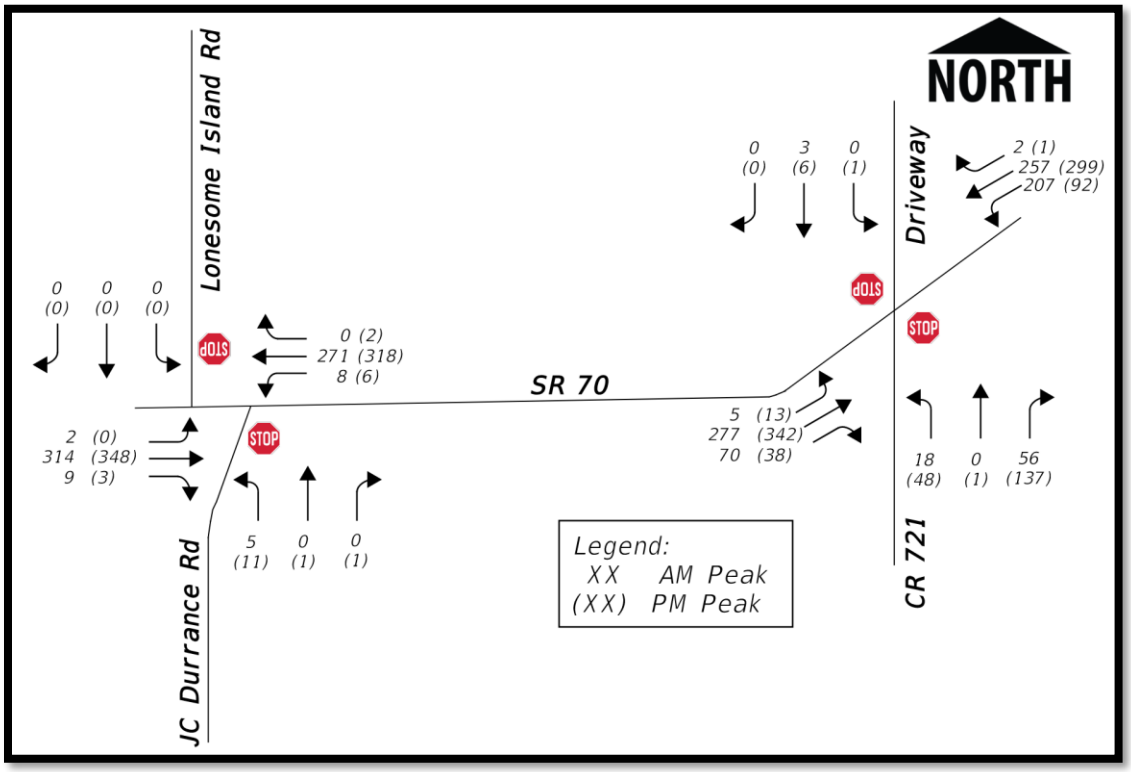
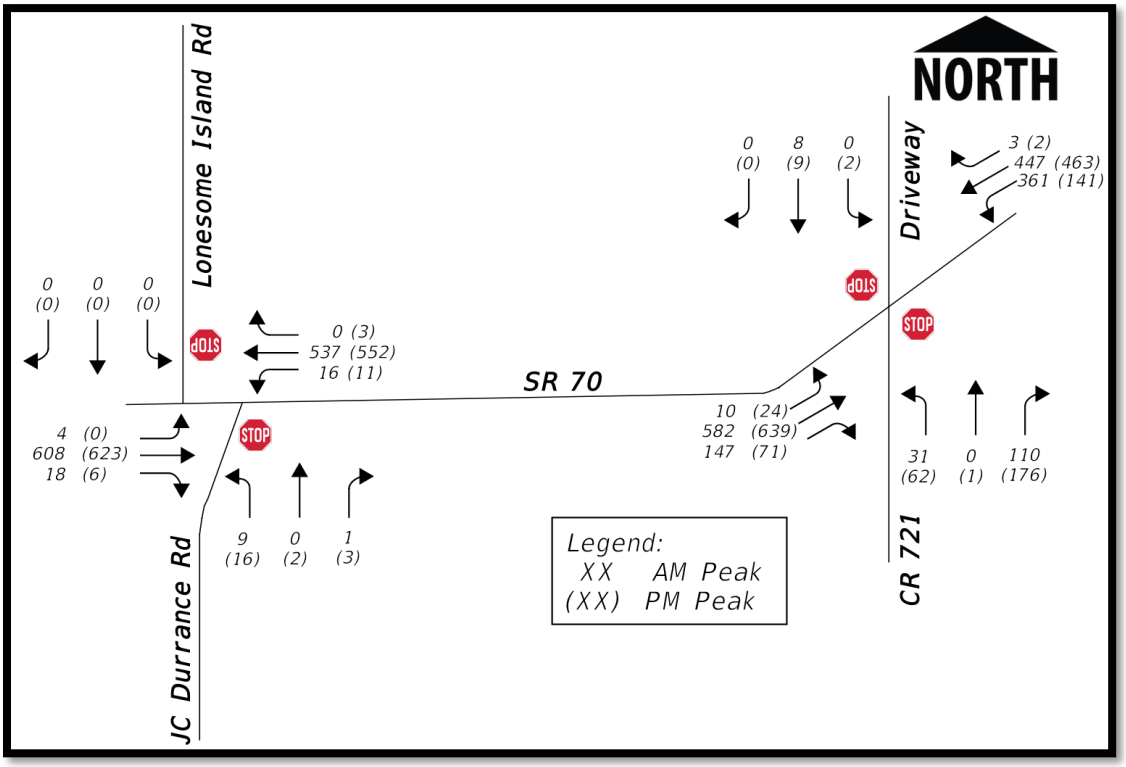


Figure 5-6 | SR 70 Design Year 2052 Build Turning Movement Volumes



Section 6 Capacity LOS Analysis

6.1 No-Build Analysis

Design Year 2052 LOS analysis was conducted based on the methodology outlined in the *Highway Capacity Manual, 6th Edition* using Synchro 11. **Appendix H** includes the copies of the Synchro, SIDRA, and HCS LOS computer outputs for future volumes. **Table 6-1** shows the overall LOS and Delay experienced by both intersections, as well as the individual delay and LOS of each approach of each intersection for the AM and PM peak hours for the Design Year 2052 No-Build scenario. **Table 6-2** shows the AM and PM Arterial LOS expected in the Design Year 2052 No-Build scenario. **Figure 6-1** depicts the No-Build Design Year 2052 LOS on the map.

Table 6-1 | Design Year 2052 No-Build Intersection LOS

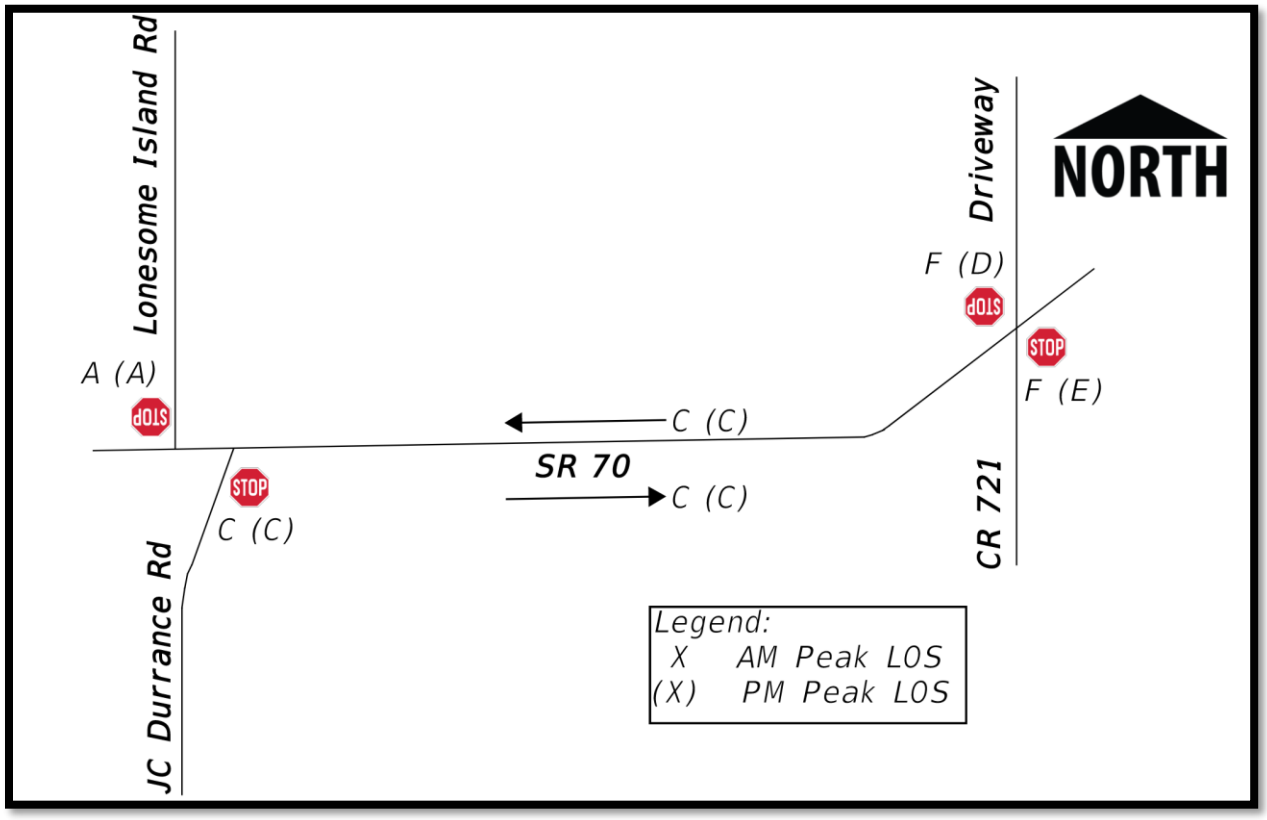
Intersection		Peak Hour	LOS	Overall Delay[1]	NB Delay[1] / LOS	SB Delay[1] / LOS	EB Delay[1] / LOS	WB Delay[1] / LOS
Lonesome Island Rd/JC Durrance Rd	STOP	AM	A	0.3	22.5 / C	0.0 / A	8.4 / A	8.9 / A
		PM	A	0.4	20.4 / C	0.0 / A	0.0 / A	0.0 / A
CR 721	STOP	AM	A	8.1	61.6 / F	64.8 / F	0.0 / A	10.8 / B
		PM	A	9.3	41.4 / E	27.6 / D	8.2 / A	9.1 / A

[1]Delay measured in seconds per vehicle

Table 6-2 | Design Year 2052 No-Build Arterial LOS

Segment	Peak Hour	LOS	Average Speed (mph)	Segment Travel Time (minutes)	Follower Density (followers/mi/ln)	Percent Followers (%)
SR 70 from Lonesome Island Rd to CR 721	AM	C	57.3	8.05	6.8	60.0
	PM	C	57.0	8.09	5.1	54.3

Figure 6-1 | SR 70 Design Year 2052 No-Build LOS



6.2 Proposed Geometry

The Build Alternative geometry consists of widening SR 70 from a two-lane undivided roadway to a four-lane divided roadway with a median. An Intersection Control Evaluation (ICE) was performed to determine the highest operation and safety rated intersection configuration and can be found in **Appendix I**. The unsignalized intersection configuration options that were analyzed include the No-Build TWSC, Restricted Crossing U-Turn (RCUT) and Roundabout. The Design Year 2052 AM and PM peak hour intersection LOS values as well as the LOS of each approach to the intersection was calculated, recorded, and compared. **Table 6-3** shows the LOS results for each intersection configuration that was analyzed. Full Synchro and SIDRA LOS outputs for each intersection build can be found in **Appendix H.**

Table 6-3 | SR 70 at CR 721 Design Year 2052 Intersection Configuration LOS Comparison

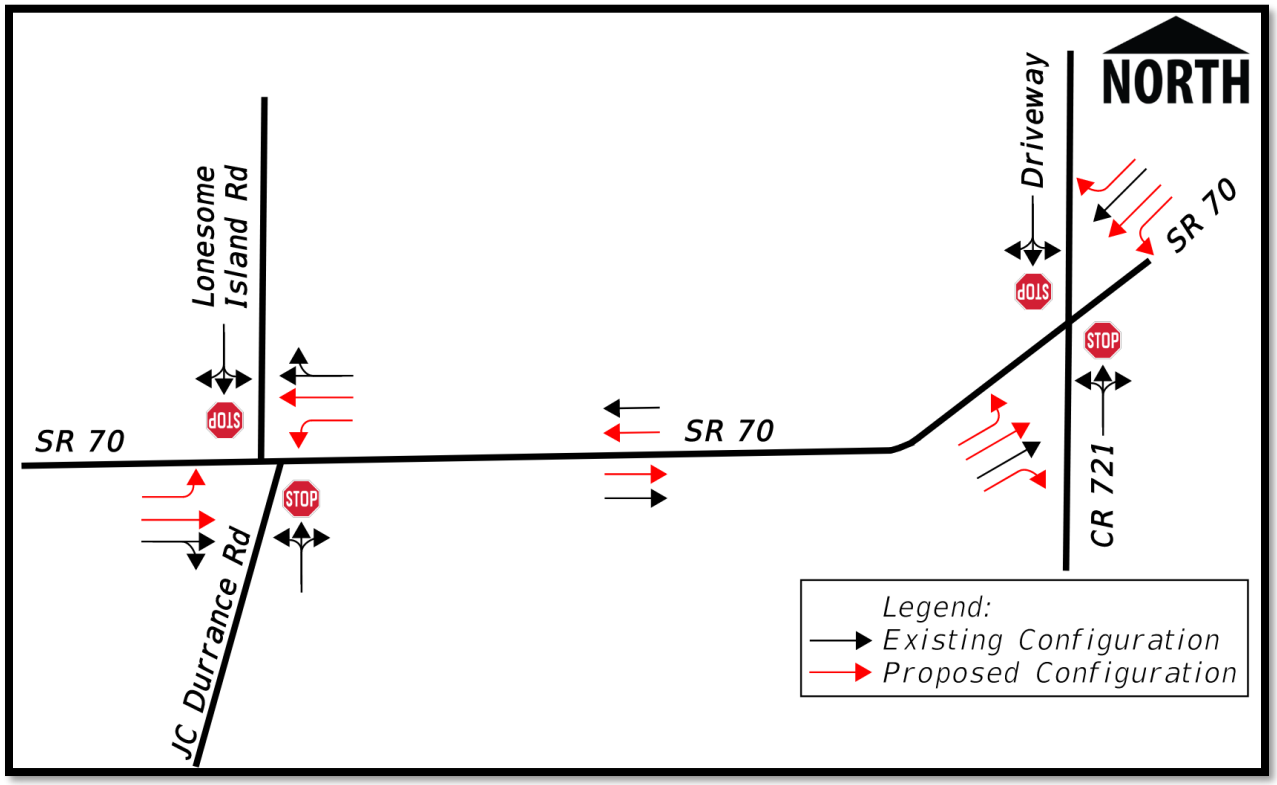
Intersection Configuration	Peak Hour	LOS	Overall Delay[1]	NB Delay[1] / LOS	SB Delay[1] / LOS	EB Delay[1] / LOS	WB Delay[1] / LOS
No-Build TWSC	AM	D	29.0	>300 / F	168.6 / F	8.7 / A	14.1 / B
	PM	C	19.5	120.0 / F	53.1 / F	8.8 / A	10.6 / B
Restricted Crossing U-Turn	AM	A	4.1	11.9 / B	9.7 / A	8.7 / A	14.1 / B
	PM	A	3.0	13.7 / B	9.8 / A	8.8 / A	10.6 / B
Roundabout	AM	A	8.8	8.2 / A	7.4 / A	12.0 / B	6.1 / A
	PM	A	7.5	12.2 / B	6.0 / A	7.5 / A	5.7 / A

[1]Delay measured in seconds per vehicle

Although the unsignalized RCUT intersection provides the best performing intersection and approach LOS, the preference is for the intersections to remain fully open with the TWSC intersection configuration.

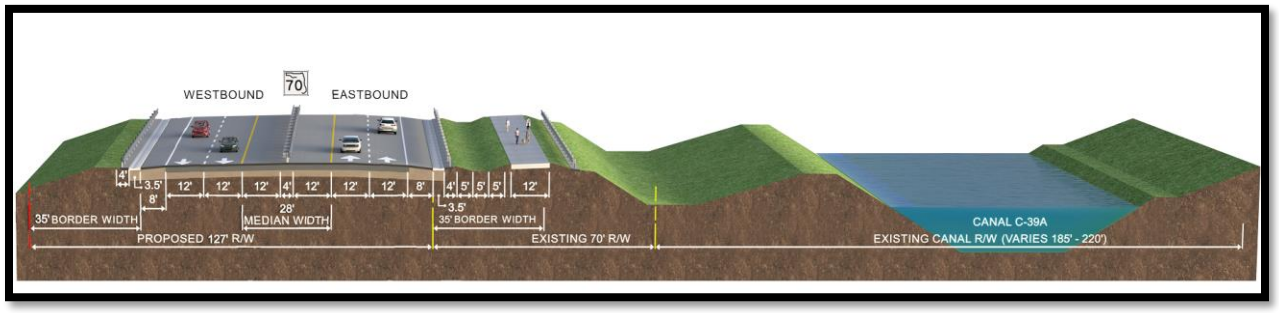
Figure 6-2 shows the proposed lane geometry for SR 70 and its intersections. Improvements to the intersections of SR 70 at Lonesome Island Rd/JC Durrance Rd and SR 70 at CR 721 consist of adding dedicated eastbound and westbound left turn lanes. Although volumes are low, exclusive left-turn lanes are recommended along SR 70 to improve safety and reduce the risk of rear-end crashes. The left-turn lanes will not require any additional widening since the storage will be within the proposed median.

Figure 6-2 | SR 70 Proposed Lane Geometry



The proposed typical sections show widening SR 70 to a four-lane divided rural roadway. There will be two 12-ft travel lanes in each direction, with outside shoulders. Throughout the corridor, a 12-ft shared use path is proposed along the south side of the road. The proposed ROW varies along the corridor, and is a minimum of an additional 60 ft. There are three proposed typical sections within the study limits. The proposed Typical Section One shows widening SR 70 to a four-lane divided rural roadway with a 4-ft guardrail. There will be two 12-ft travel lanes in each direction, with outside shoulders that are approximately 8-ft wide (3.5-ft paved). Proposed Typical Section One is from Lonesome Island Road to Indian Prairie Canal C-40 and is provided as **Figure 6-3**.

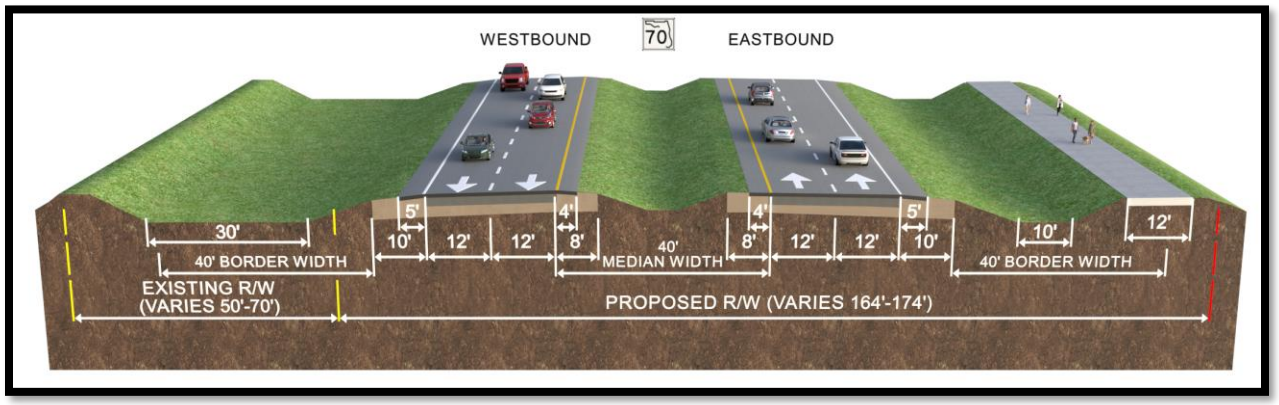
Figure 6-3 | SR 70 – Proposed Roadway Typical Section One



From Lonesome Island Road to Indian Prairie Canal C-40

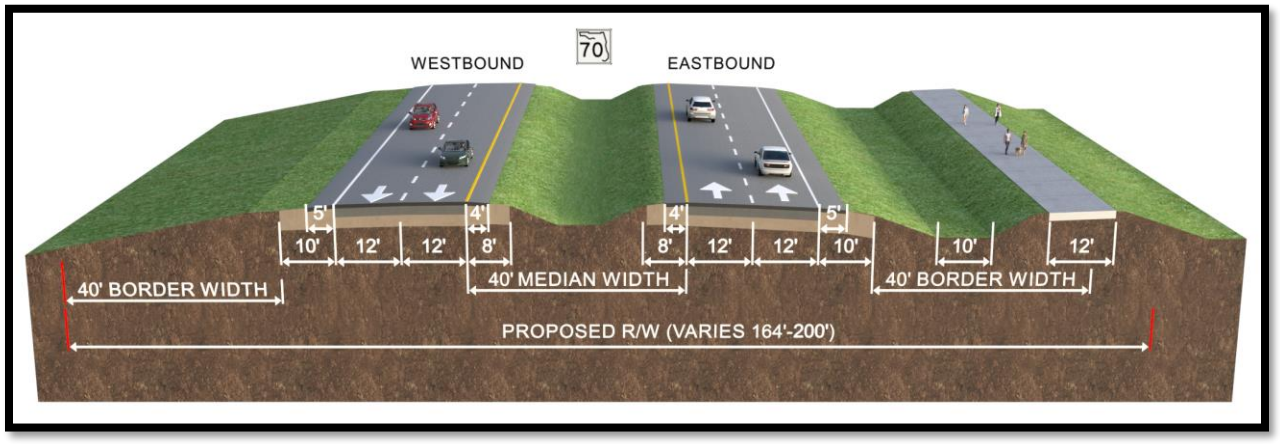
The proposed Typical Section Two and Three show widening SR 70 to a four-lane divided rural roadway with a 40-ft median. There will be two 12-ft travel lanes in each direction, with outside shoulders that are approximately 10-ft wide (5-ft paved). Proposed Typical Section Two is from Indian Prairie Canal C-40 to West of CR 721 (Southern Leg) and is provided as **Figure 6-4**. Proposed Typical Section Three is from West of CR 721 (Southern Leg) to CR 721 (Southern Leg) and is provided as **Figure 6-5**.

Figure 6-4 | SR 70 – Proposed Roadway Typical Section Two



From East of Indian Prairie Canal C-40 to West of CR 721

Figure 6-5 | SR 70 – Proposed Roadway Typical Section Three



From West of CR 721 to CR 721

6.3 Build Analysis

Table 6-4 shows the overall LOS and Delay expected at both intersections, as well as the individual delay and LOS of each approach of each intersection for the AM and PM peak hours for the Opening Year 2032 Build scenario. Table 6-5 shows the Arterial LOS, average speed, and density expected along SR 70 for the Opening Year 2032 Build scenario. Figure 6-6 depicts the Opening Year 2032 Build LOS on the map.

Table 6-4 | Opening Year 2032 Build LOS

Intersection		Peak Hour	LOS	Overall Delay[1]	NB Delay[1] / LOS	SB Delay[1] / LOS	EB Delay[1] / LOS	WB Delay[1] / LOS
Lonesome Island Rd/JC Durrance Rd	STOP	AM	A	0.2	13.0 / B	0.0 / A	8.1 / A	8.2 / A
		PM	A	0.3	13.8 / B	0.0 / A	0.0 / A	8.3 / A
CR 721	STOP	AM	A	3.4	14.6 / B	25.9 / D	8.0 / A	9.0 / A
		PM	A	4.1	16.1 / C	20.5 / C	8.2 / A	8.7 / A

[1]Delay measured in seconds per vehicle

Table 6-5 | Opening Year 2032 Build Arterial LOS

Segment	Peak Hour	LOS	Average Speed (mph)	Density (pc/mi/ln)
SR 70 from Lonesome Island Rd to CR 721	AM	A	65.0	4.3
	PM	A	65.0	3.6

Figure 6-6 | SR 70 Opening Year 2032 Build LOS

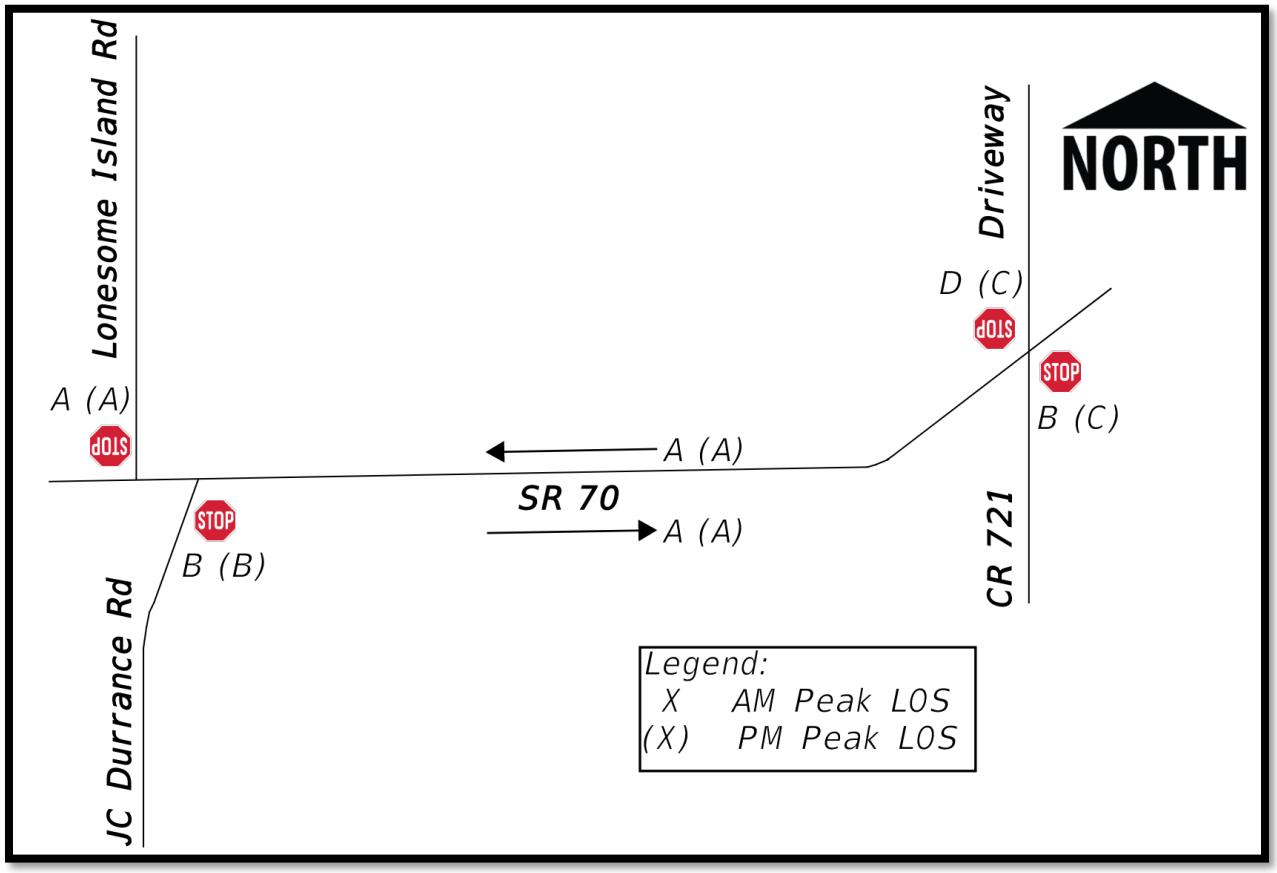


Table 6-6 shows the overall LOS and Delay expected at both intersections, as well as the individual delay and LOS of each approach of each intersection for the AM and PM peak hours for the Design Year 2052 Build scenario. Table 6-7 shows the Arterial LOS, average speed, and density expected along SR 70 for the Design Year 2052 Build scenario. Figure 6-7 depicts the Design Year 2052 Build LOS on the map.

Table 6-6 | Design Year 2052 Build Intersection LOS

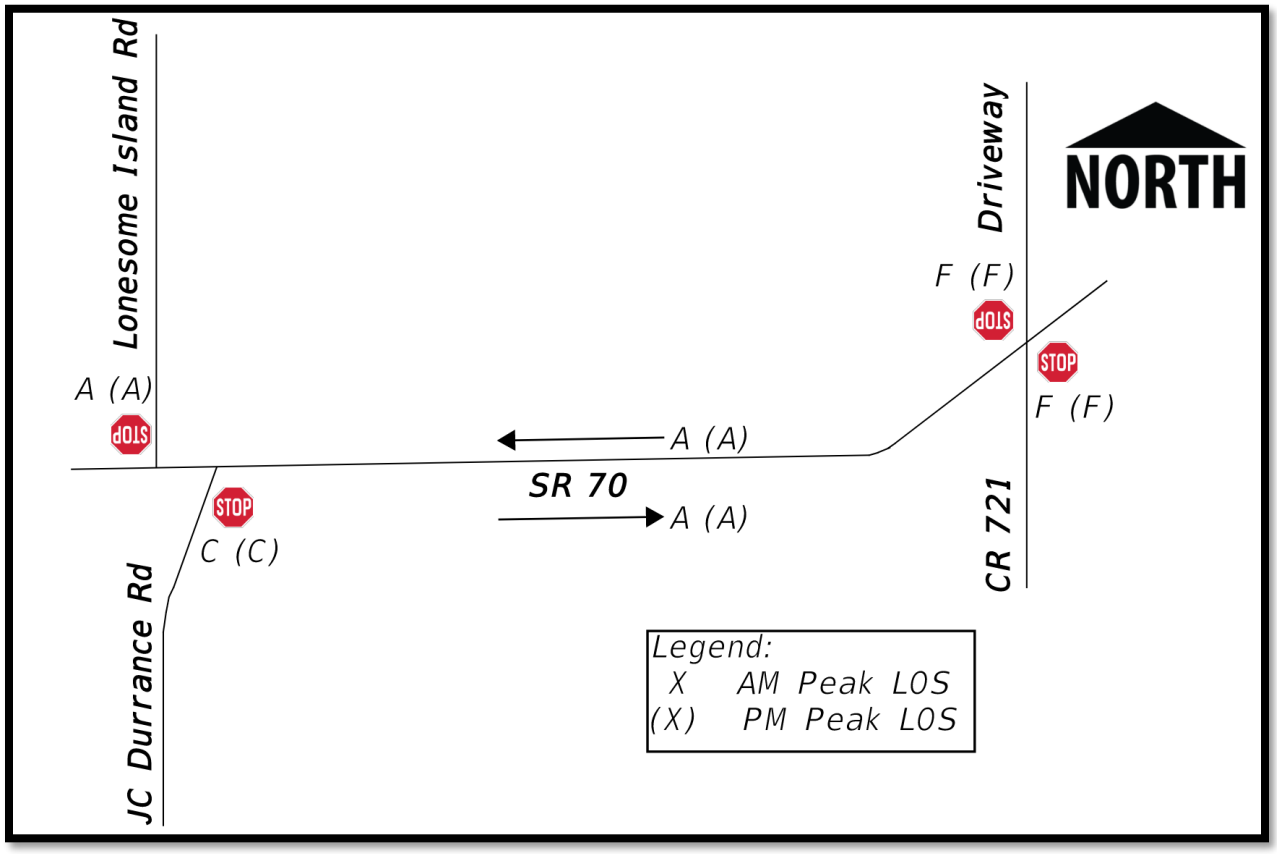
Intersection		Peak Hour	LOS	Overall Delay[1]	NB Delay[1] / LOS	SB Delay[1] / LOS	EB Delay[1] / LOS	WB Delay[1] / LOS
Lonesome Island Rd/JC Durrance Rd	STOP	AM	A	0.3	22.5 / C	0.0 / A	9.0 / A	9.4 / A
		PM	A	0.5	23.3 / C	0.0 / A	0.0 / A	9.4 / A
CR 721	STOP	AM	D	29.0	>300 / F	168.6 / F	8.7 / A	14.1 / B
		PM	C	19.5	120.0 / F	53.1 / F	8.8 / A	10.6 / B

[1]Delay measured in seconds per vehicle

Table 6-7 | Design Year 2052 Build Arterial LOS

Segment	Peak Hour	LOS	Average Speed (mph)	Density (pc/mi/ln)
SR 70 from Lonesome Island Rd to CR 721	AM	A	65.0	7.5
	PM	A	65.0	6.8

Figure 6-7 | SR 70 Design Year 2052 Build LOS



Section 7 Future Condition Safety Analysis

A safety analysis was conducted for the future conditions of SR 70 from Lonesome Island Road to the Southern Leg of CR 721. The safety predictive methods utilized in this evaluation were based on the Safety Performance Functions (SPFs) provided in the 2010 *Highway Safety Manual* (HSM) 1st Edition predictive methods Part C to forecast or predict crash frequency for the No-Build scenario. Predicted crash frequency for the SR 70 arterial segments and intersections was forecasted using the FDOT HSM spreadsheet tools available on the FDOT website. The FDOT HSM spreadsheets used to calculate the anticipated future crash frequencies are provided in **Appendix J**. The AADT traffic volumes utilized for the crash predictions for SR 70 and side streets in Opening Year (2032) and Design Year (2052) for No-Build and Build scenarios are summarized in **Table 7-1**.

Table 7-1 | SR 70 Mainline and Side Streets 2032 and 2052 AADT

Roadway	2032 AADT	2052 AADT
SR 70	7,800	12,500
Lonesome Island Rd	150	200
JC Durrance Rd	200	350
Greenbrier Ln	150	200
DC Bar Ranch Rd	150	200
Lykes Rd	150	200
Southern Leg of CR 721	2,700	4,200

7.1 No-Build Arterial Predictive Crashes

Predictive crash analysis was conducted for the No-Build arterial segments and intersections within the study limits. The area of influence (AOI) includes the SR 70 mainline between Lonesome Island Road and the Southern Leg of CR 721. The roadway in the study limits is considered a rural two-lane road. The predictive method analysis consisted of using the HSM 1st Edition, Volume 2, Chapter 10: Predictive Method for Rural Two-Lane, Two-Way Roads spreadsheets provided on the FDOT website. The intersection of SR 70 at the Southern Leg of CR 721 has an AADT of 4,200 which exceeds the AADT for a minor road of a four-leg stop controlled intersection. The HSM states that AADTs outside this range may not provide accurate results. The HSM spreadsheet extrapolates the predicted crash at this location. The SR 70 predicted crashes for the No-Build scenario are summarized in **Table 7-2**. The HSM spreadsheet results for this safety analysis are provided in **Appendix J**.

Table 7-2 | No-Build Scenario Predicted Crashes – 2032 and 2052

Crash Severity	Predicted (crashes/year)	
	Year 2032	Year 2052
Total Crashes	31.4	48.2
Fatal and injury (FI)	11.0	16.8
Property damage only (PDO)	20.4	31.4

7.2 Build Arterial Predictive Crashes

Predictive crash analysis was conducted for the Build arterial segments and intersections within the study limits. The Build scenario consists of SR 70 operating as a four-lane divided arterial and conservative assumptions were made regarding access management. Full or directional median openings were assumed at all unsignalized intersections. Right turn lane recommendations were made based on the *FDOT Access Management Guidebook (2019)* criteria. The roadway access class was determined to be 3 which requires 1,320 feet of spacing for directional median openings and 2,640 feet of spacing for full median openings. The spacing requirements are expected to be compliant in the design of this project since the existing side streets are spaced adequately. The predictive method analysis consisted of using the HSM 1st Edition, Volume 2, Chapter 11: Predictive Method for Rural Multilane Highways spreadsheets provided on the FDOT website. The SR 70 predicted crashes for the Build scenario are summarized in **Table 7-3**. The HSM spreadsheet results for this safety analysis are provided in **Appendix J**.

Table 7-3 | Build Scenario Predicted Crashes – 2032 and 2052

Crash Severity	Predicted (crashes/year)	
	Year 2032	Year 2052
Total Crashes	12.6	22.0
Fatal and injury (FI)	5.8	9.7
Property damage only (PDO)	6.8	12.2

7.3 Future Arterial Predictive Crash Comparisons

The predicted crashes for the No-Build and Build scenarios for Opening Year (2032) were compared and are summarized in **Table 7-4**. Compared to the No-Build scenario, the total number of predicted crashes for the build scenario decreases by 60%. The property damage only crashes decreased by about 67%. The fatal and injury crashes decreased by about 47%. The crash reduction is primarily attributed to improving the roadway from a two-lane undivided section to a four-lane divided section with a 40-ft wide median. Other factors of the Build scenario improving the number of predicted crashes include widening lanes from 10-feet wide to 12-feet wide, improved shoulders and adding left turn lanes at intersections.

Table 7-4 | No-Build and Build Predicted Crash Comparison – Year 2032

Crash Severity	Predicted (crashes/year)	
	No-Build	Build
Total Crashes	31.43	12.64
Fatal and injury (FI)	11.04	5.84
Property damage only (PDO)	20.39	6.80

The predicted crashes for the No-Build and Build scenarios for Design Year (2052) were compared and are summarized in **Table 7-5**. There is a 54% decrease in total crashes, a 42% decrease in fatal and injury crashes, and a 61% decrease in property damage only crashes comparing the No-Build and Build scenarios. The same factors stated above involved with the proposed Build scenario improvements influence the decrease in predicted crashes for year 2052.

Table 7-5 | No-Build and Build Predicted Crash Comparison – Year 2052

Crash Severity	Predicted (crashes/year)	
	No-Build	Build
Total Crashes	48.17	21.96
Fatal and injury (FI)	16.79	9.73
Property damage only (PDO)	31.38	12.23

7.4 Predictive Crash Costs

The average cost per crash and crash distribution factors for roadway facility types were obtained from the 2023 FDM Section 122.6. The rural two-lane undivided roadway facility type was utilized for the analysis of the No-Build SR 70 arterial segments and intersections. The present-day cumulative costs for the predicted crashes for the No-Build scenario from 2032 through 2052 totals approximately $304 million. The present-day cumulative costs for the Build scenario totals approximately $145 million. Overall, the cumulative predicted crash cost for the Build scenario is decreased by about 52% compared to the No-Build scenario. The property damage only costs decrease by about 65% and fatal and injury costs decrease by about 52% for the Build scenario compared to the No-Build scenario. The cost summary is provided in **Table 7-6**. The breakdown of the cost estimates is provided in **Appendix J**.

Table 7-6 | Cumulative Predicted Crash Cost Comparison – Years 2032-2052

Crash Severity	No-Build Scenario	Build Scenario	Build vs No-Build Difference %
Fatal and injury (FI)	$ 301,358,335	$ 144,376,651	52% decrease
Property damage only (PDO)	$ 2,193,045	$ 768,032	65% decrease
Total	**$ 303,551,379**	**$ 145,144,682**	**52% decrease**

(3) Note: All costs are calculated as 2023 present-day costs

Section 8 Conclusions and Recommendations

Improvements to SR 70 from Lonesome Island Road to the Southern Leg of CR 721 are recommended based on historic crash data of the corridor, existing evacuation clearance times, and population growth in the project area. SR 70 serves as a major east-west corridor and evacuation route in Highlands County and across the state of Florida.

SR 70 from Lonesome Island Road to the Southern Leg of CR 721 is currently a two-lane undivided roadway operating at an acceptable LOS with a crash rate that is 36% higher than the statewide average. Based on future population projections, existing evacuation studies, and predictive crash analysis, the number of crashes and evacuation clearance times along SR 70 are expected to worsen with time. Therefore, it is recommended SR 70 from Lonesome Island Road to the Southern Leg of CR 721 be widened from a two-lane undivided highway to a four-lane divided highway with a median.

By widening the corridor from two lanes to four lanes, the capacity of vehicles that SR 70 can support in an emergency evacuation scenario will increase, leading to a decrease in evacuation clearance times throughout Highlands County for all evacuation scenarios. Also, by converting SR 70 from two lanes to four lanes, the number of crashes is expected to decrease by approximately 52% by 2052 when compared to the predicted 2052 number of crashes of the No-Build alternative for SR 70. Historic crash data shows that the most common types of crashes along this stretch of SR 70 are opposing sideswipes and guardrail face crashes, many of which are caused by vehicles crossing into the opposing lane while attempting to pass traffic traveling in the same direction. By adding more lanes and providing a median barrier, it is predicted that the number of opposing sideswipes, guardrail face crashes, and overall number of crashes will all decrease. SR 70 from Lonesome Island Rd to the Southern Leg of CR 721 is projected to continue to operate at an acceptable LOS in 2052 with the widening from two lanes to four lanes as well. There are several adjacent SR 70 projects (FPID's: 451649-1, 414506-1, 414506-5, 449851-1) that involve widening the road as well. It is recommended to widen SR 70 from Lonesome Island Road to the Southern Leg of CR 721 from two lanes to four lanes in order to provide a more consistent typical section throughout the various corridors of SR 70.

APPENDICES

APPENDIX A: Methodology Letter of Understanding
APPENDIX B: SR 70 Design Traffic Technical Memorandum
APPENDIX C: Manual Turning Movement Counts
APPENDIX D: Existing Synchro and HCS LOS Computer Outputs
APPENDIX E: Crash Data and FDOT Statewide Crash Facts
APPENDIX F: Signal Warrant Analysis Report
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APPENDIX A: Methodology Letter of Understanding

Project Traffic Analysis Report

SR 70 from Lonesome Island Road to the Southern Leg of CR 721

F.P.I.D. 449851-1

METHODOLOGY LETTER OF UNDERSTANDING

District One

June 2023

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List of Exhibits

1. Introduction

This memorandum serves as the Methodology Letter of Understanding for the ongoing Project Traffic Analysis Report (PTAR) of SR 70 from Lonesome Island Road to the Southern Leg of CR 721 in Highlands County, Florida. This memorandum covers the criteria, assumptions, traffic analysis methodology, and documentation for the ongoing PTAR.

2. Purpose and Need for Project

The Project Traffic Analysis Report (PTAR) will summarize the traffic data collected and the traffic level of service (LOS) analyses for SR 70 from Lonesome Island Road to the Southern Leg of CR 721 in Highlands County, Florida. The purpose of the SR 70 project is to provide additional roadway capacity, enhance safety, and improve hurricane evacuation along the SR 70 corridor, a major east-west roadway spanning the state. The PTAR will evaluate safety issues and conduct traffic capacity analysis along SR 70 in order to determine the required number of through lanes to maintain acceptable LOS through the Design Year 2052. Two stop-controlled intersection within the project area will also be evaluated for turn lanes and intersection improvement requirements.

3. Project Location

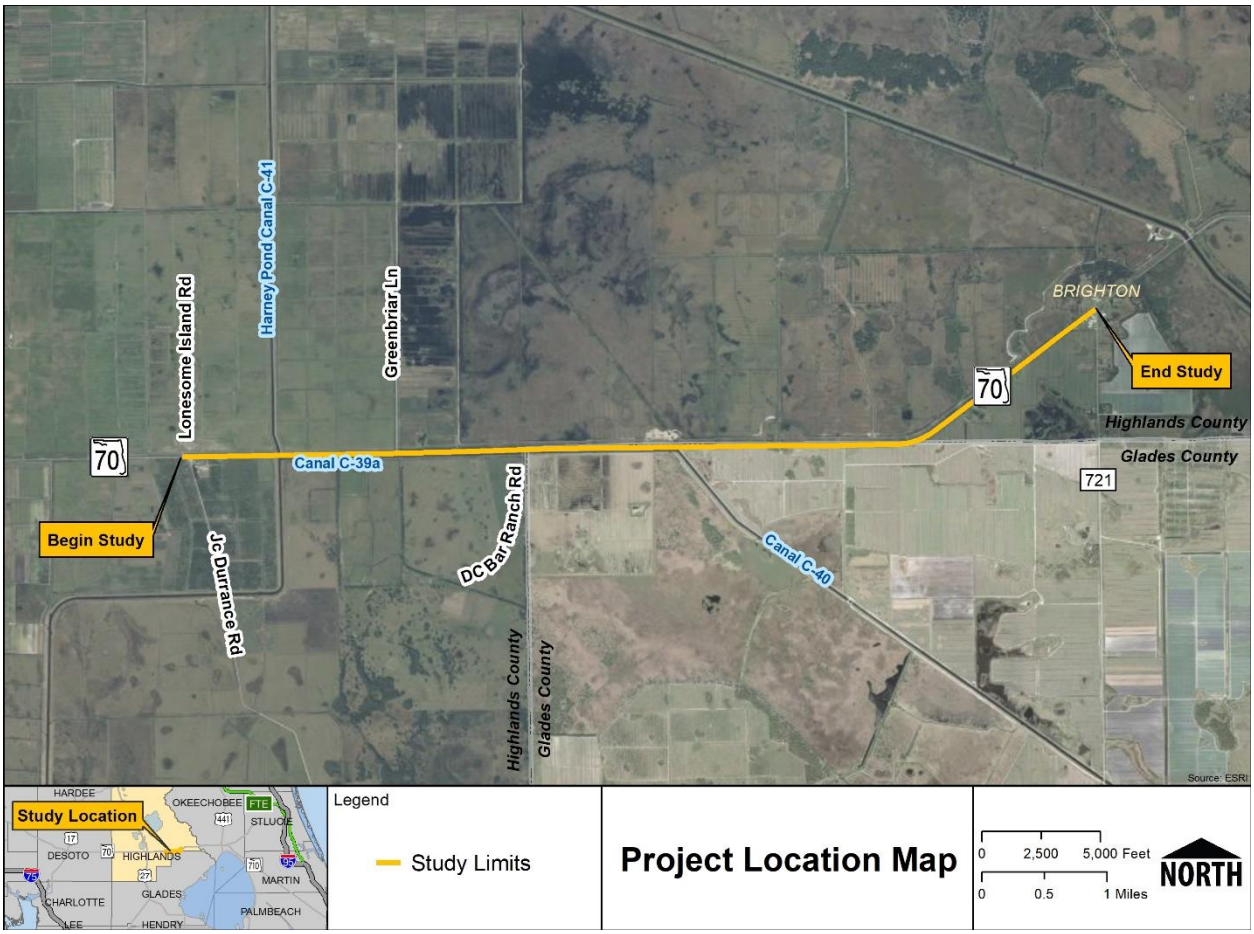
Exhibit 1 depicts the study area for this project. The project study area is rural agricultural with undeveloped land in southern Highlands County.

4. Project Schedule

The PTAR is anticipated to be completed in November 2023. Major milestones of the project are listed below:

- Methodology Letter of Understanding – May 2023
- Draft Project Traffic Analysis Report – September 2023
- Final Project Traffic Analysis Report – November 2023
- Final Preliminary Engineering Report – April 2024
- PD&E Study Complete – October 2025

Exhibit 1: Project Location Map



5. Analysis Years

Twenty four-hour bi-directional volume counts for this project will be provided by FDOT or utilize the available count stations from Florida Traffic Online. Twenty four-hour bi-directional volume counts will be multiplied by the appropriate adjustment factors to obtain the existing year volumes. The weekly seasonal adjustment factor and axle correction factor will be obtained from Florida Traffic Online. Manual Turning Movement Counts (TMC) for this project were completed in November 2022. The analysis years proposed for this project are:

- Existing Year 2022
- Opening Year 2032
- Design Year 2052

The travel demand model (District One Regional Planning Model) years proposed for this project are:

- Base Year 2015
- Horizon Year 2045

6. Considered Alternatives

The No-Build and Build alternatives shall be analyzed in the PTAR.

1. Alternative 1 – No-Build
2. Alternative 2 – Build

7. Traffic Data Collection and Sources

This study will include, but not limited to, the following sources of data:

- Field observations
- Plans, programs, and projects within the area of influence obtained from FDOT and Highlands County
- The latest available 5 years of certified crash data as well as more recent uncertified data that occurred in the study area
    - Source: Florida Signal Four Analytic crash database

The PTAR will include traffic counts provided by FDOT or found on Florida Traffic Online. The PTAR will include the following traffic counts completed in November 2022.

- Four-hour manual turning movement counts conducted for the AM and PM peak periods of a typical weekday at the following 2 locations:
    1. SR 70 at Jc Durance Road/Lonesome Island Road
    2. SR 70 at the southern leg of CR 721
- No Pedestrians or Bicycles crossed either intersection during the turning movement counts.

8. Travel Demand Forecasting

All future years' traffic forecasts will be provided by the Department.

Evacuation Scenarios

The Transportation Interface for Modeling Evacuations (TIME) software will be utilized as part of this study to determine the traffic demand projected during an evacuation scenario in the surrounding area. TIME was developed by the Florida Division of Emergency Management (FDEM) as part of the Statewide Regional Evacuation Study Program (SRESP) to analyze evacuation trips under a variety of evacuation conditions and to report evacuation clearance times. The clearance times from the TIME software for Highlands County will be utilized in this study and compared to the travel time along SR 70 within this study limits.

9. Adjustment Procedures

The 2052 AADTs will be developed by extrapolating the Future Year model output or using an appropriate established growth rate. The adjusted year 2052 AADTs will be balanced and evaluated using the latest 2022 traffic counts. The conversion of the AADT volumes into Directional Design Hour Volumes (DDHV) will be through the application of the K factor and D factor, in accordance with the 2019 FDOT Project Traffic Forecasting Handbook. The future peak direction of traffic flow will be developed based on existing traffic conditions with adjustments to account for any impacts as a result of future developments. Linear interpolation between Existing Year (2022) and Design Year (2052) traffic volumes will be employed to estimate Opening Year (2032) traffic volumes. The resulting project traffic turning movement volumes will be compared with the traffic counts as well as historic trends and other studies in the project area to ensure reasonability.

10. Traffic Factors

The PTAR will provide traffic design factors when all traffic counts are completed and prior to starting traffic analysis. The PTAR will include recommended traffic design factors with calculations.

The following traffic design factors will be used in the analysis and documentation in this study.

K-Factor

The K-Factor will be calculated using each of the 24-hour automatic volume approach count locations. This value will be compared to the appropriate standard K-Factor given in the 2019 FDOT Project Traffic Forecasting Handbook. A comparison will be made between the standard K-Factor and individual calculated factors, and engineering judgement will be used to determine the most appropriate K-Factor.

D-Factor

The D-Factor will be calculated using each of the 24-hour automatic volume approach count locations. The average measured D-Factor will be calculated based on the AM or PM peak hour. This value will be compared to the appropriate D-Factors given in the 2019 FDOT Project Traffic Forecasting Handbook. This will ensure the calculated value lies between the appropriate range of D-Factors.

T-Factor

The T-Factor will be calculated based on the 24-hour vehicle classification counts. The locations will be compared and evaluated.

11. Operations and Analysis Procedures

The Highway Capacity Manual, 6th Edition and Synchro 11 (Version 11, Build 140) will be used to analyze the roadway segments and intersections.

Operational Measures of Effectiveness (MOE) to be utilized for the evaluation of alternatives include:

- Arterial Segments – travel time, travel speed, density, LOS
- Unsignalized intersections – movement delay, movement LOS

12. Qualifying Provisions

The 2023 Multimodal Quality/Level of Service Handbook identifies the acceptable Level of Service (LOS) target for the State Highway System outside urbanized areas during peak travel hours as LOS C.

13. Safety Analysis

Crash analysis will be conducted with the latest available five years of certified crash data. A supplemental review of more recent uncertified crash data will also be performed to identify any changes in crash trends that may have occurred in the study area. Crashes along SR 70 will be evaluated and documented. The data collected will include crash type, location, severity, lighting conditions (day versus night), and pavement conditions (wet versus dry). Given the information obtained from the crash data, safety analysis will be performed to identify needs associated with the existing and future conditions. A predictive safety analysis will be performed to estimate the quantitative safety comparison between the no-build and build alternatives using the Highway Safety Manual Part C procedures.

APPENDIX B: SR 70 Design Traffic Technical Memorandum

July 2023

SR 70 from DeSoto/Highlands County Line to NW 128th Avenue

Final Design Traffic Technical Memorandum

SR 70
Final Design Traffic Technical Memorandum

July 2023
Highlands County and Okeechobee County, FL

Prepared by RS&H, Inc. at the direction of FDOT District One

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Appendix B: Existing Conditions Traffic Data
Appendix C: SR 70 Traffic Forecast Modeling Technical Memorandum (December 2022), D1RPM v2.0 Model Plots
Appendix D: Highlands County BEBR Population Projection Report, FTO Historical AADT Reports, Trends Analysis
Appendix E: ITE Trip Generation (11th Edition) Supporting Documents
Appendix F: Build Alternative Recommended Right Turn Lanes

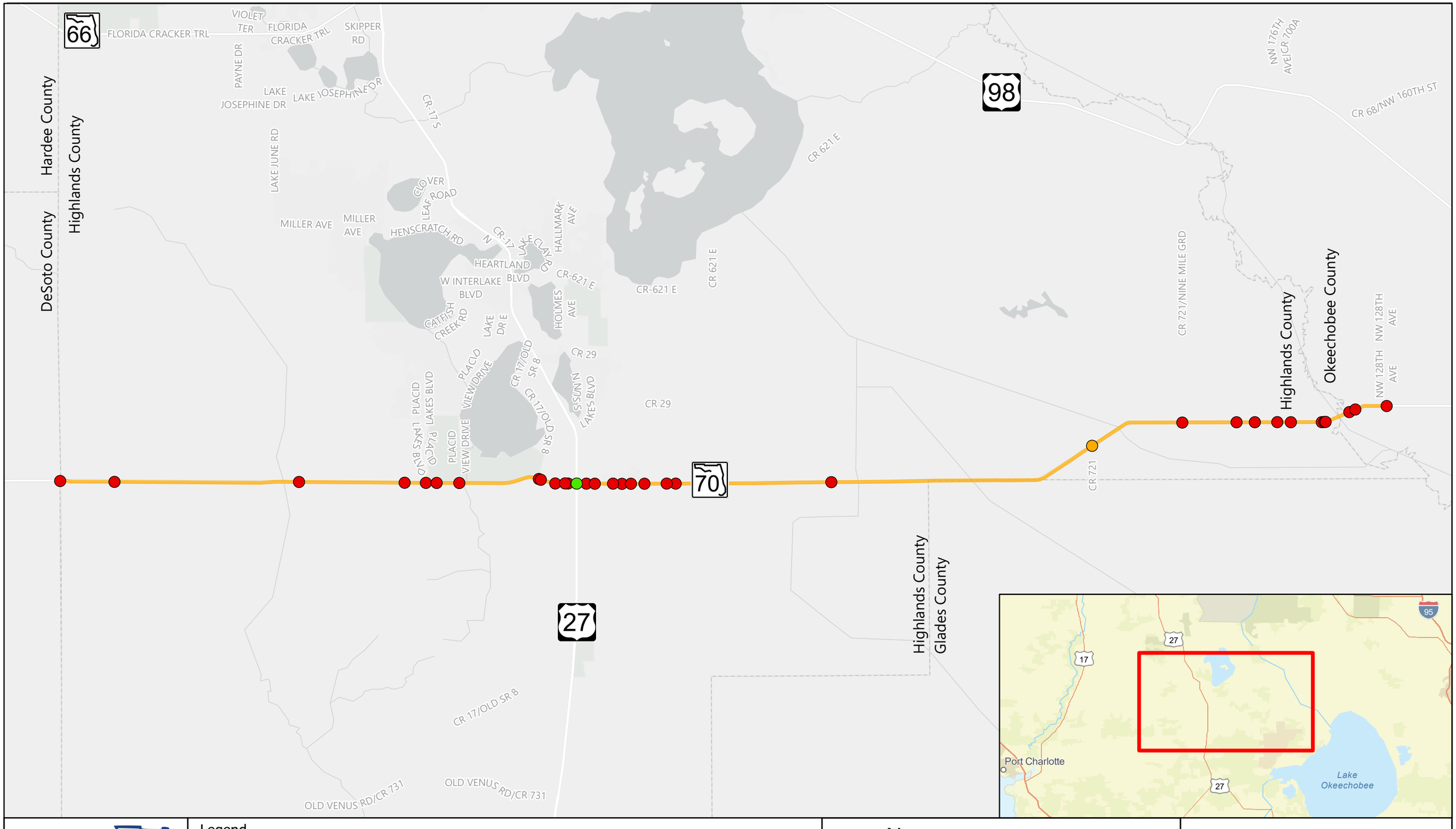
1 Introduction

1.1 Project Description

The purpose of this study is to evaluate capacity and safety improvements along SR 70 from the DeSoto County Line to NW 128th Avenue in Okeechobee County. The project limits are shown in **Figure 1-1** and the total project length is approximately 37.8 miles. This study is intended to develop updated traffic volumes for the study area using current traffic data and travel demand models to subsequently reevaluate the operational performance of a proposed condition for the corridor. The volumes developed will be used for upcoming PD&E studies.

1.2 Project Location

The SR 70 project limits spans from Highlands County Line Road to the Kissimmee River in Highlands County and from the Kissimmee River to NW 128th Avenue in Okeechobee County. SR 70 is a two-lane undivided facility with a posted speed limit of 60 miles per hour (mph) from Highlands County Line Road to Old State Route 8 (north), 55 mph from Old State Route 8 to Distribution Boulevard, 45 mph from Distribution Boulevard to Ekhoff Lane, 55 mph from Ekhoff Lane to Highlands Boulevard, and 60 mph from Highlands Boulevard to NW 128th Avenue. The existing typical section for SR 70 is a two-lane undivided rural roadway with one 12-foot lane in each direction and open ditches. There are no existing designated bicycle or pedestrian facilities. The SR 70 intersection at US 27 is the only signalized study intersection within the study limits. The SR 70 intersection at CR 721 South currently has flashing beacons. Overhead utilities are located throughout the project limits and agricultural land use is present along a majority of the corridor. The assigned SR 70 Context Classification within the project limits is C2 (Rural) from Highlands County Line Road to west of Jefferson Avenue, C1 (Natural) from west of Jefferson Avenue to Placid Lakes Boulevard, and C2 (Rural) from Placid Lakes Boulevard to NW 128th Avenue.



Legend

Project Limits

Study Intersection Control Type

- Unsignalized (32)
- Signalized (1)
- Flashing Yellow (1)

N

0 2.5 5 Miles

Figure 1-1: Project Location Map

2 Project History

2.1 Background

Multiple segments of SR 70 in Highlands County have been studied by FDOT in recent years. The SR 70 corridor from Jefferson Avenue to CR 29 was studied as part of the Project Development and Environment (PD&E) study that was conducted 2017 (see **Appendix A** for the Design Traffic Technical Memorandum). The intent of this document is to provide updated design traffic data to be utilized in ongoing and upcoming PD&E studies to obtain NEPA approval for project advancement. The following projects will be supported by this document:

- SR 70 from DeSoto County line to Jefferson Avenue (451649-1)
- SR 70 from Jefferson Avenue to US 27 (414506-3)
- SR 70 from US 27 to CR 29 (414506-4)
- SR 70 from CR 29 to Lonesome Island Road (414506-5)
- SR 70 from Lonesome Island Road to CR 721 (449851-1)
- SR 70 from CR 721 to NW 128th Avenue (450334-1)

2.2 Data Collection

A variety of transportation data was collected as part of this study. The following sections describe the types and methods of data collection that were employed. The raw data is included in **Appendix B**. **Figure 2-1** shows the data collection sites.

- 4-Hour Turning Movement Counts (TMC) were collected at the following locations from 7:00 AM – 9:00 AM and 4:00 PM – 6:00 PM:
    1. SR 70 at SE Highlands County Line Road
    2. SR 70 at Deer Run/Blue Head Street
    3. SR 70 at Robert McGee Road
    4. SR 70 at Lightsey Ranch Road
    5. SR 70 at Placid Lakes Boulevard/South Jefferson Avenue
    6. SR 70 at Park Land Drive
    7. SR 70 at Placid View Drive
    8. SR 70 at Old SR 8 North
    9. SR 70 at Old SR 8 South
    10. SR 70 at CNI Driveway
    11. SR 70 at Glades Electric Driveway
    12. SR 70 at Wedgeworth Driveway
    13. SR 70 at US 27
    14. SR 70 at Myers Road/Placid Pine Drive

15. SR 70 at North Edge
16. SR 70 at Broward Avenue
17. SR 70 at Highlands Boulevard
18. SR 70 at Citrus Boulevard
19. SR 70 at Bear Road
20. SR 70 at Hall Road/Turner Too Road
21. SR 70 at CR 29/KW Farms Road
22. SR 70 at Lonesome Island Road/JC Durrance Road
23. SR 70 at CR 721 South
24. SR 70 at CR 721 North
25. SR 70 at Boney Lane/Fulmar Terrace
26. SR 70 at NW New Pine Ridge Road
27. SR 70 at NW 175th Terrace
28. SR 70 at Jordan Terrace/SW Rucks Dairy Road
29. SR 70 at NW Riverside Road
30. SR 70 at Shellcracker Loop
31. SR 70 at Bream Cove
32. SR 70 at SW 144th Parkway
33. SR 70 at NW 141st Avenue
34. SR 70 at NW 128th Avenue

- 48-Hour Volume Count
  - US 27 south of SR 70
  - CR 29 north of SR 70
  - SR 70 east of CR 721
- 48-Hour Class Count
  - CR 721 south of SR 70
  - CR 721 north of SR 70
  - SR 70 west of CR 721
  - SR 70 east of Desoto County Line

Data was also gathered from other available sources, including sixteen (16) count stations included in FDOT's Florida Traffic Online (FTO) database. At some FTO count stations, data is not collected annually; values for 2021 are estimated and may not accurately reflect 2021 demand.

The development of Existing Year (2022) Average Annual Daily Traffic (AADT) values is documented in **Table 2-1** and **Table 2-2**. AADT values along SR 70 were developed using FTO Historical AADT data for 2021 and growing by one year using an assumed 2% annual growth rate. If FTO data was not available, volumes were developed using the collected volume/classification counts, seasonal factors, and axle correction factors (as necessary). AADTs for cross streets were developed a little differently as volume counts were not available for every

cross street. Based on the turning movement counts, the PM peak experienced the highest traffic volumes across most intersections. For intersections where an AADT from FTO was available, a "peak hour to daily volume factor" was developed, dividing the daily volume by the PM peak hour approach volume. On average, this factor was about 10. For cross streets without a volume count, the selected Existing Year (2022) AADT was calculated as the PM peak hour approach volume multiplied by 10. A minimum AADT was also assumed for cross streets where the calculated AADT was less than 100.

Existing AM and PM peak hour volumes collected as part of this study were utilized in the existing intersection analysis. Volumes were adjusted and balanced along the corridor by adding right-turn vehicles upstream/downstream of an intersection or using a dummy node as a sink/source to represent various minor access points (e.g., driveways).

The existing conditions lane configuration is shown in **Figure 2-2**. Existing Year (2022) daily and hourly traffic volumes are shown in **Figure 2-3**. SR 70 AADTs are only shown on **Figure 2-3** where counts were collected.

Table 2-1: Existing Year (2022) SR 70 AADT Development

SR 70 Roadway Segment	Raw Daily Class Count	Raw Daily Volume Count	Average	Seasonal Factor[1]	Axle Correction Factor[2]	Adjusted AADT	FTO AADT (2021)	Assumed Annual Growth %	Estimated (2022) AADT	Selected Existing (2022) AADT
DeSoto County Line to Robert McGee Road	4,911 5,205		5,058	0.98		4,957	5,700	2%	5,800	5,800
Robert McGee Road to Lightsey Ranch Road[3]	4,911 5,205		5,058	0.98		4,957				5,000
Lightsey Ranch Road to Placid Lakes Boulevard							4,400	2%	4,500	4,500
Placid Lakes Boulevard to US 27							5,000	2%	5,100	5,100
US 27 to CR 721 South[4]	5,469 5,506		5,488	0.98		5,378	5,500	2%	5,600	5,600
CR 721 South to 144th Parkway[5]		7,677 7,826	7,752	0.98	0.75	5,697	5,300	2%	5,400	5,400
144th Parkway to NW 128th Avenue							6,000	2%	6,100	6,100

Notes:

[1]Source: Highlands Countywide Report

[2]Source: 0912, SR 70, US 27 - Okeechobee

[3]Class counts were used for this segment as FTO counts were not available.

[4]Class count not used in developing existing AADTs. FTO counts were used.

[5]Volume count not used in developing existing AADTs. FTO counts were used.

Table 2-2: Existing Year (2022) Cross Street AADT Development

Intersecting Roadway Segment	Raw Daily Class Count	Raw Daily Volume Count	Average	Seasonal Factor	Axle Correction Factor	Adjusted AADT	2021 FTO AADT	PM Peak Hour Volume (5PM - 6PM)	PM Peak Hour to Daily Volume Factor	Selected K Factor	Estimated (2022) AADT	Selected Rounded Existing (2022) AADT
Highlands County Line Rd South of SR 70							-	5	-	9.5%	52.63	100
Deer Run Rd North of SR 70							-	0	-	9.5%	0.00	100
Blue Head Street South of SR 70							-	0	-	9.5%	0.00	100
Robert McGee Rd North of SR 70							-	4	-	9.5%	42.11	100
Lightsey Ranch Rd South of SR 70							-	0	-	9.5%	0.00	100
Placid Lakes Blvd North of SR 70							900	94	9.57	-	-	900
Jefferson Ave South of SR 70							-	24	-	9.5%	252.63	250
Park Land Dr South of SR 70							-	29	-	9.5%	305.26	300
Placid View Dr North of SR 70							1,250	35	35.71	9.5%	368.42	350
Old SR 8 North of SR 70							1,100	124	8.87	-	-	1,100
Old SR 8 South of SR 70							900	106	8.49	-	-	900
CNI Driveway South of SR 70							-	6	-	9.5%	63.16	100
Glades Driveway North of SR 70							-	13	-	9.5%	136.84	150
Wedgeworth Driveway South of SR 70							-	6	-	9.5%	63.16	100
US 27 North of SR 70							9,400	770	12.21	-	-	9,400
US 27 South of SR 70[1]		12,416 12,879	12,648	0.98[3]	0.73[5]	9,048	8,765	744	11.78	-	-	8,800
Myers Rd North of SR 70							-	0	-	9.5%	0.00	100
Placid Pines Dr South of SR 70							-	37	-	9.5%	389.47	400
North Edge Dr North of SR 70							-	5	-	9.5%	52.63	100
Broward Ave North of SR 70							-	30	-	9.5%	315.79	300

Intersecting Roadway Segment	Raw Daily Class Count	Raw Daily Volume Count	Average	Seasonal Factor	Axle Correction Factor	Adjusted AADT	2021 FTO AADT	PM Peak Hour Volume (5PM - 6PM)	PM Peak Hour to Daily Volume Factor	Selected K Factor	Estimated (2022) AADT	Selected Rounded Existing (2022) AADT
Highland Ave North of SR 70							-	49	-	9.5%	515.79	500
Citrus Blvd North of SR 70							-	20	-	9.5%	210.53	200
Bear Rd North of SR 70							-	8	-	9.5%	84.21	100
Hall Rd North of SR 70							-	4	-	9.5%	42.11	100
Turner Too Rd South of SR 70							-	0	-	9.5%	0.00	100
CR 29 North of SR 70[1]		512 493	503	0.98[4]	0.75[6]	369	750	39	19.23	-	-	750
KW Farms Road South of SR 70							-	2	-	9.5%	21.05	100
Lonesome Island Rd North of SR 70							-	2	-	9.5%	21.05	100
JC Durrance Rd South of SR 70							-	13	-	9.5%	136.84	150
Lykes Ranch Driveway North of SR 70							-	0	-	9.5%	0.00	100
CR 721 South of SR 70[2]	2,136 2,171		2,154	0.98[4]		2,110	1,900	218	8.72	-	-	1,900
CR 721 North of SR 70[2]	1,067 1,157		1,112	0.98[4]		1,090	700	79	8.86	-	-	700
Boney Ln North of SR 70							-	1	-	9.5%	10.53	100
Fulmar Terrace South of SR 70							-	15	-	9.5%	157.89	150
NW New Pine Ridge Rd North of SR 70							-	7	-	9.5%	73.68	100
175th Terrace North of SR 70							-	22	-	9.5%	231.58	250
172nd Terrace (Jordan Terrace) North of SR 70							-	37	-	9.5%	389.47	400
SW Rucks Dairy Rd South of SR 70							-	28	-	9.5%	294.74	300
Riverside Rd North of SR 70							-	11	-	9.5%	115.79	100

Intersecting Roadway Segment	Raw Daily Class Count	Raw Daily Volume Count	Average	Seasonal Factor	Axle Correction Factor	Adjusted AADT	2021 FTO AADT	PM Peak Hour Volume (5PM - 6PM)	PM Peak Hour to Daily Volume Factor	Selected K Factor	Estimated (2022) AADT	Selected Rounded Existing (2022) AADT
Shellcracker Loop North of SR 70							-	13	-	9.5%	136.84	150
Driveway South of SR 70							-	0	-	9.5%	0.00	100
Bream Cove North of SR 70							-	14	-	9.5%	147.37	150
144th Pkwy South of SR 70							-	27	-	9.5%	284.21	300
141st Ave North of SR 70							-	11	-	9.5%	115.79	100
NW 128th Ave North of SR 70							400	46	8.70	-	-	400
SW 128th Ave South of SR 70							-	5	-	9.5%	52.63	100

Notes:

[1]Volume count not used in developing existing AADTs. FTO counts were used.

[2]Class count not used in developing existing AADTs. FTO counts were used.

[3]Source: 0901, US 27

[4]Source: Highlands Countywide Report

[5]Source: 0914, US 27, SR 70 – Glades County Line

[6]Source: 0903, SR 64, Hardee County Line to Olivia Drive

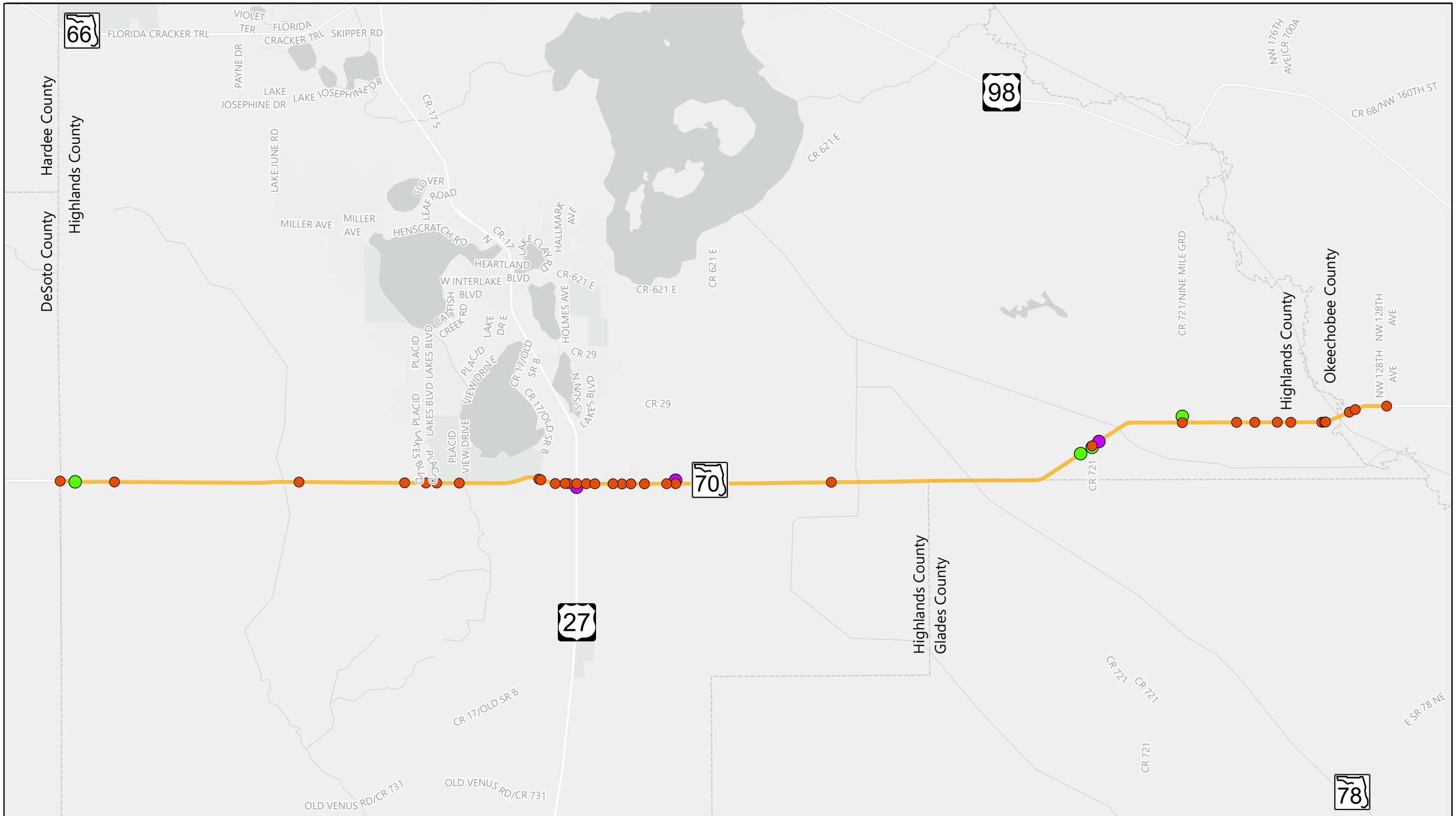


Figure 2-1: Data Collection Locations

DeSoto County

Highlands County

SE HIGHLANDS COUNTY LINE RD

BLUE HEAD ST

DEER RUN

70

ROBERT MCGEE RD

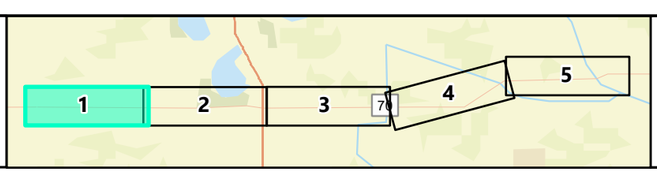
FDOT

Legend

Project Limits

Unsignalized (3)

Lane Configuration

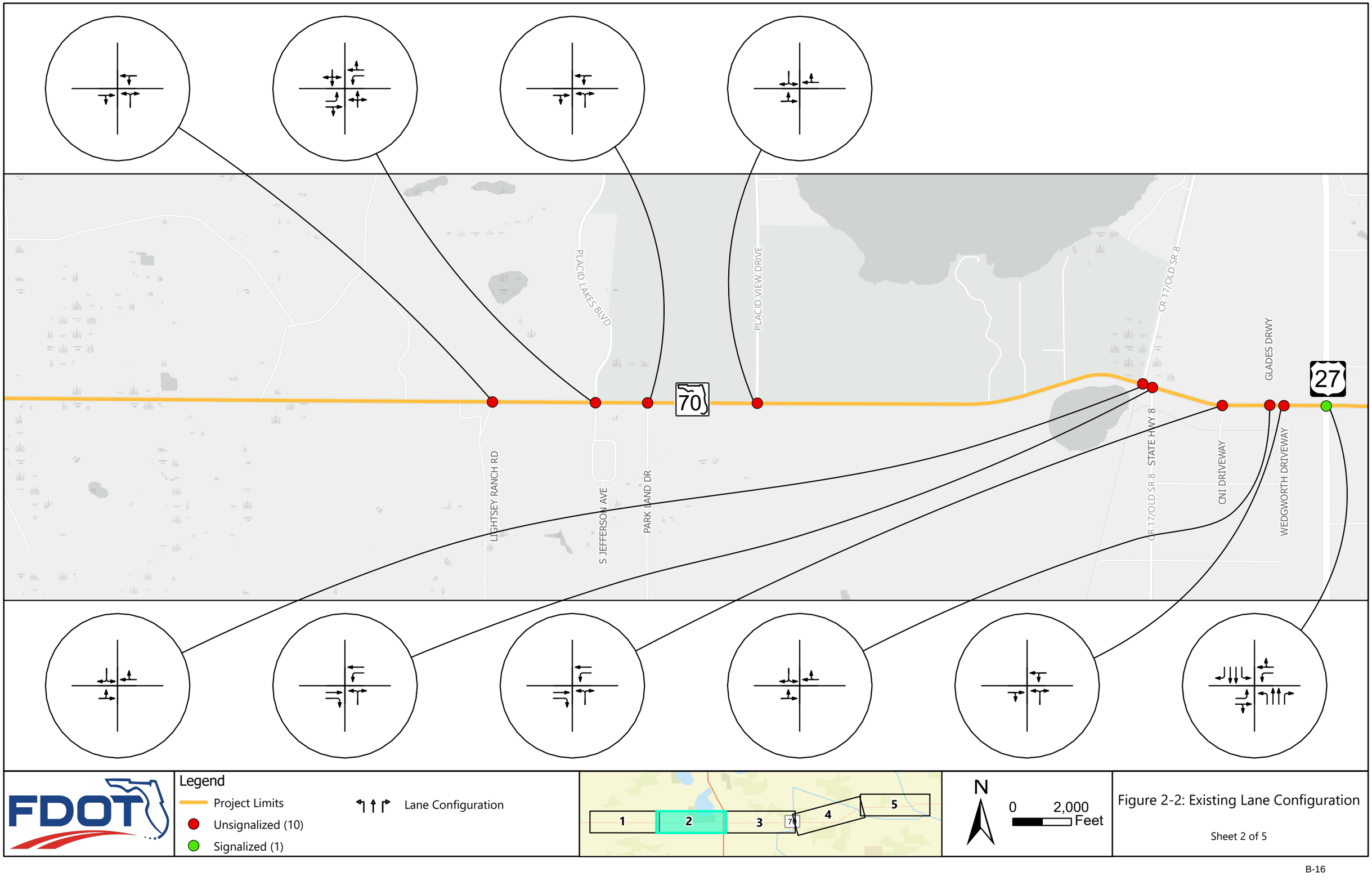


N

0 2,000 Feet

Figure 2-2: Existing Lane Configuration

Sheet 1 of 5



FDOT

Legend

- Project Limits
- Unsignalized (10)
- Signalized (1)
- Lane Configuration

N

0 2,000 Feet

Figure 2-2: Existing Lane Configuration

Sheet 2 of 5

MYERS RD
NORTHEDGE DR
BROWARD AVE
HIGHLAND AVE
CITRUS BLVD
BEAR RD
HALL RD
CR 29
TURNER TOO RD
LONESOME ISLAND RD
JC DURRANCE RD
PLACID PINE DR
70

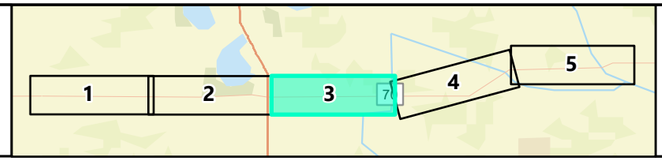
FDOT

Legend

Project Limits

Unsignalized (9)

Lane Configuration

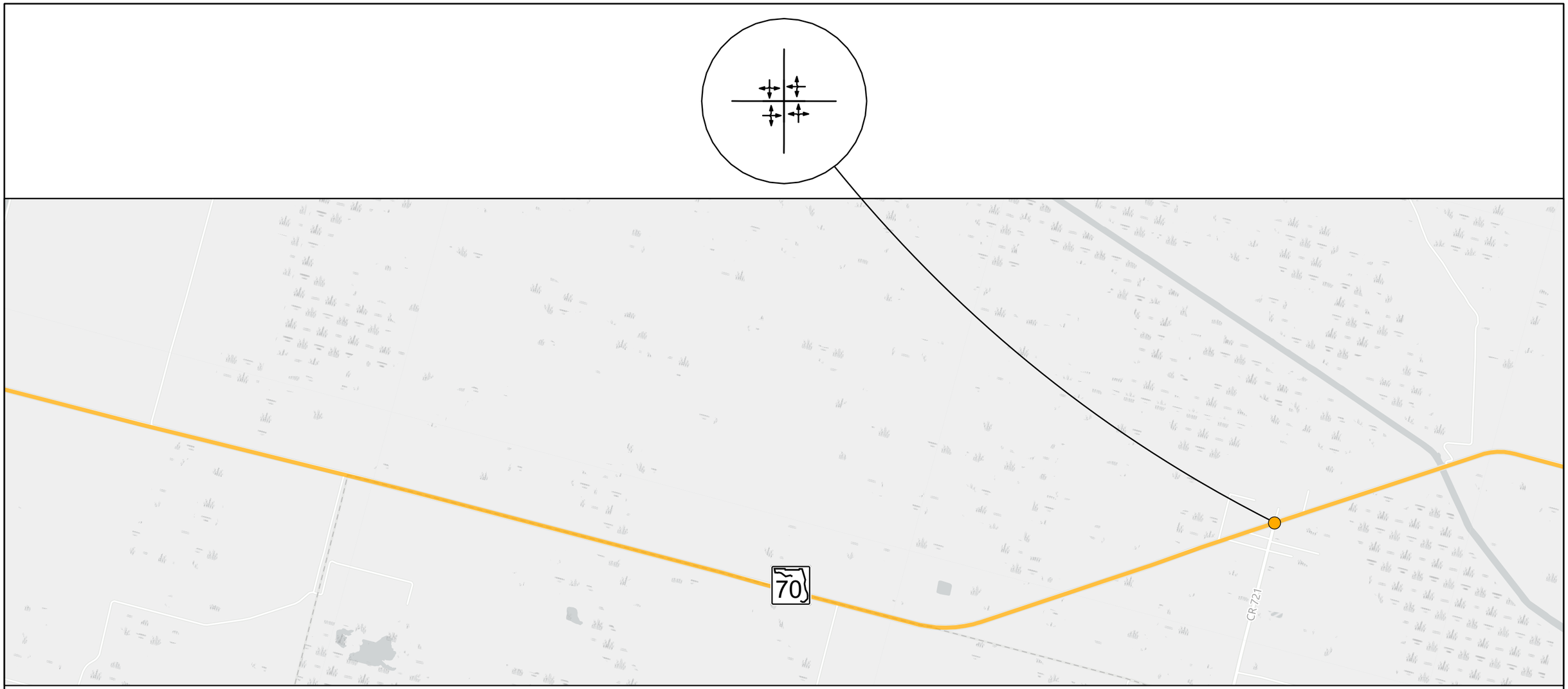


N

0 2,000 Feet

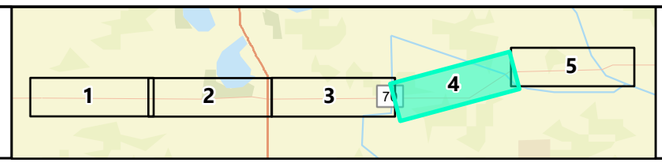
Figure 2-2: Existing Lane Configuration

Sheet 3 of 5



Legend

- Project Limits
- Flashing Yellow (1)
- Lane Configuration



N

0 2,000 Feet

Figure 2-2: Existing Lane Configuration

Sheet 4 of 5

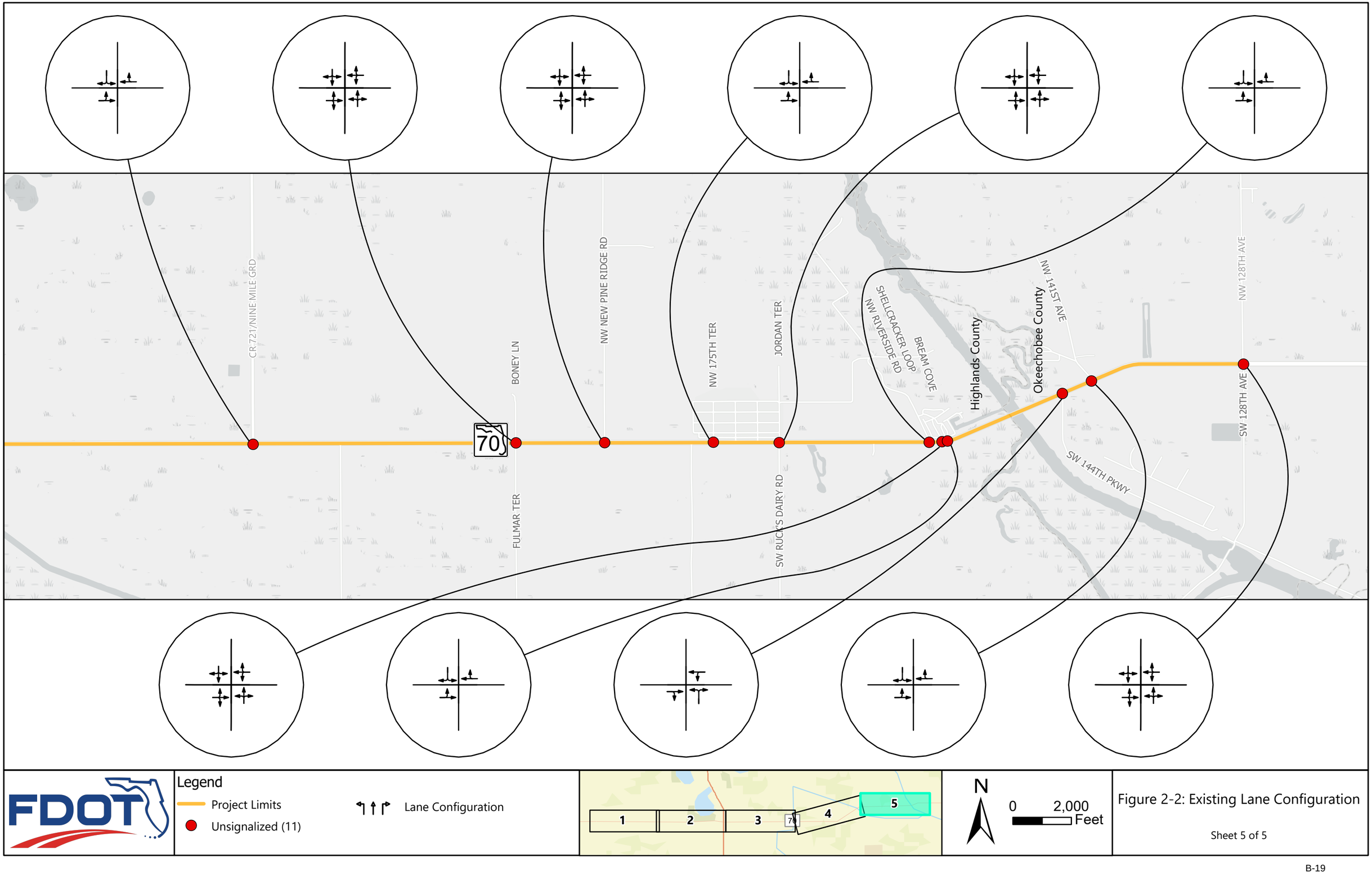
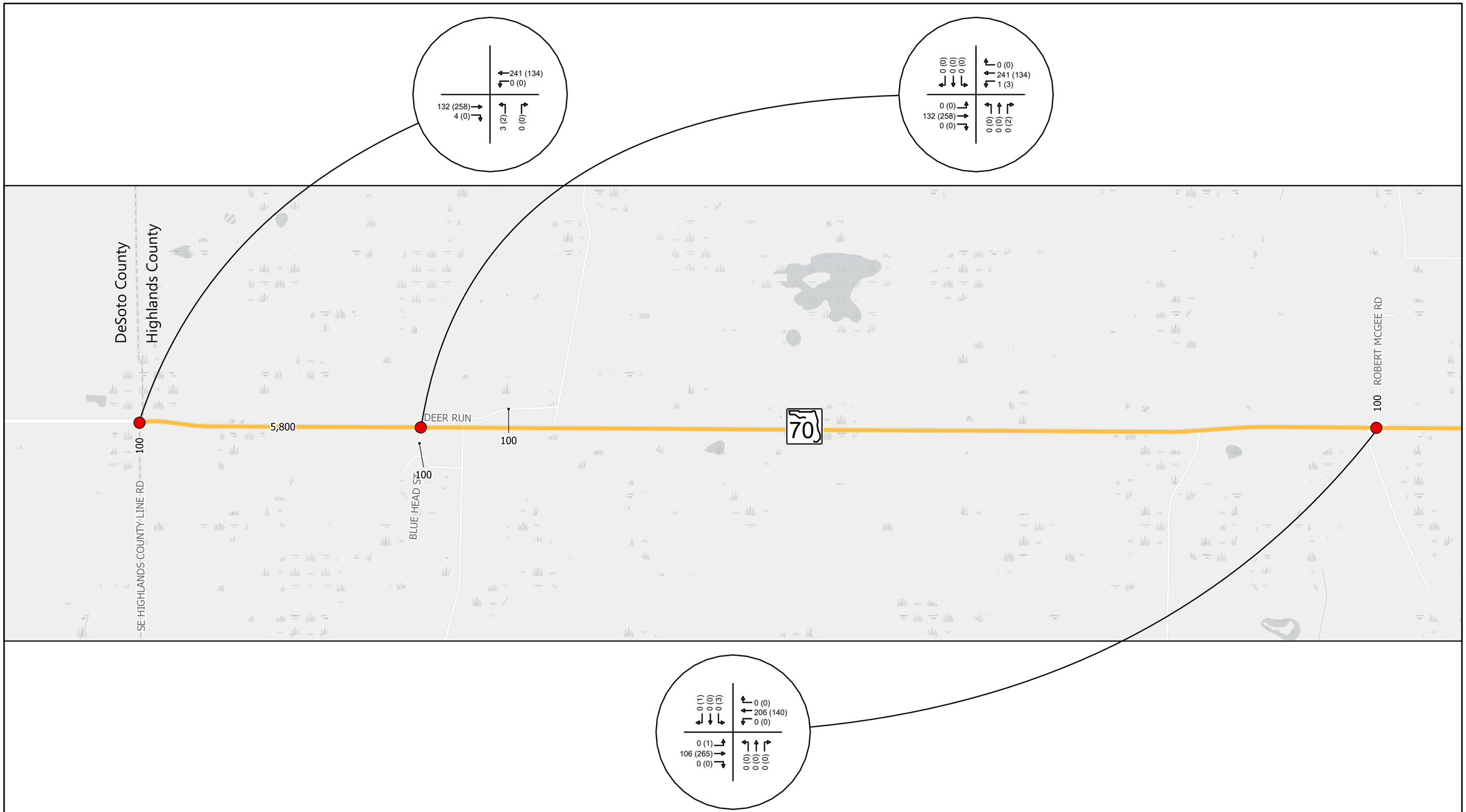


Figure 2-2: Existing Lane Configuration

Sheet 5 of 5



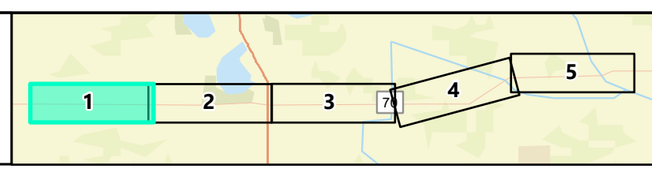
Legend

- Project Limits
- Unsignalized (3)

XX (XX) AM(PM) Peak Hour Volumes

X,XXX AADT

Turning Movements



N

0 2,000 Feet

Figure 2-3: Existing Year (2022) AADT and AM (PM) Turning Movement Volumes

Sheet 1 of 5

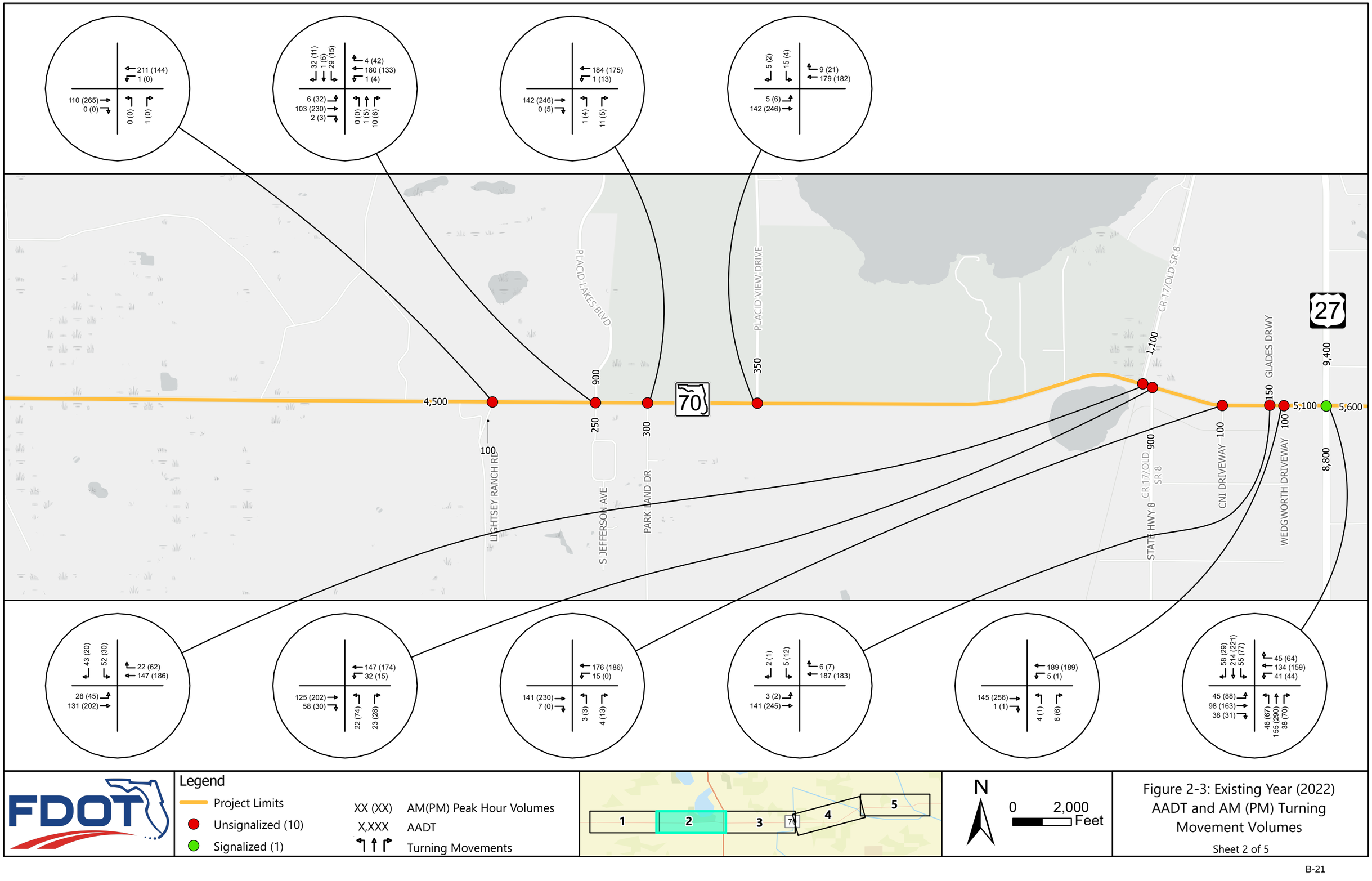
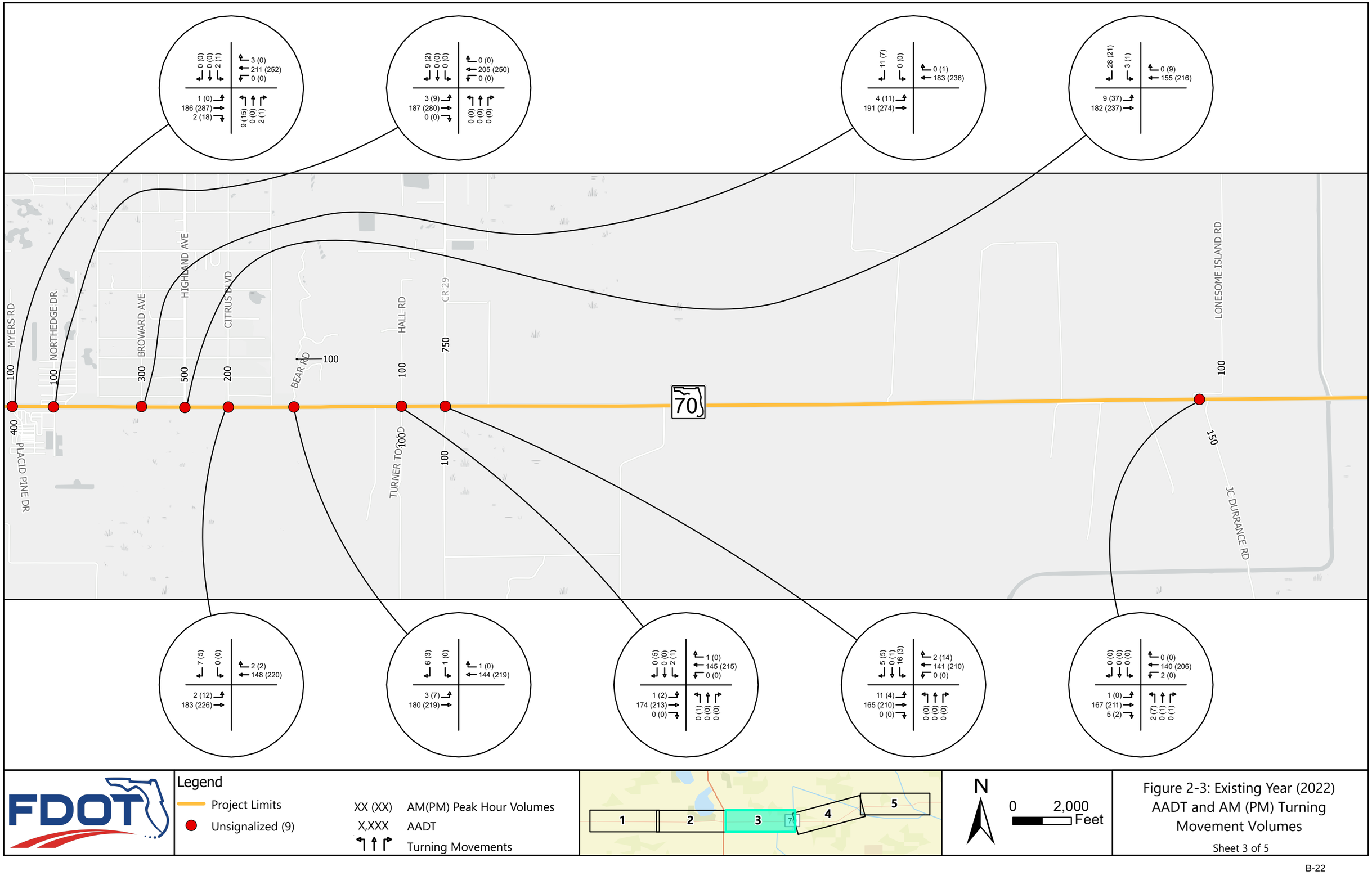


Figure 2-3: Existing Year (2022) AADT and AM (PM) Turning Movement Volumes

Sheet 2 of 5



FDOT

Legend

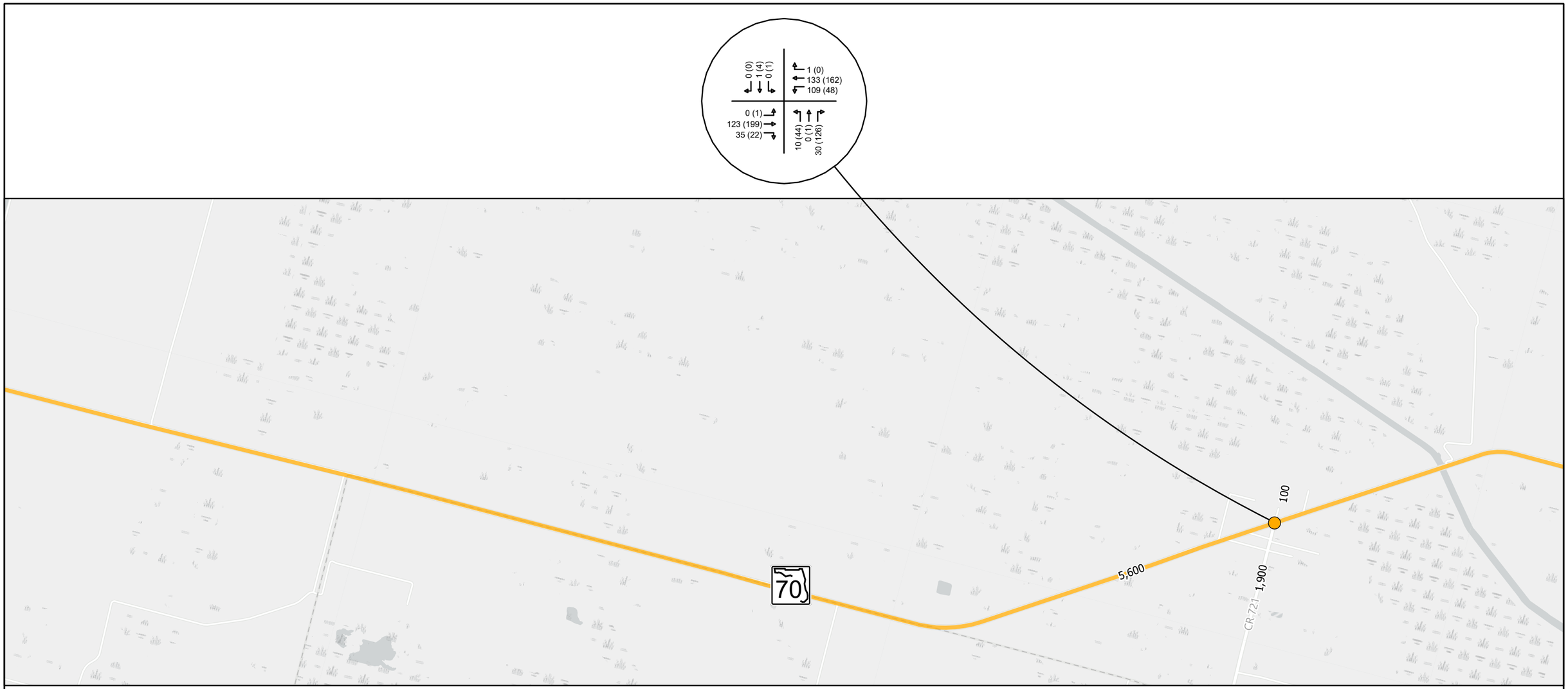
- Project Limits
- Unsignalized (9)
- XX (XX) AM(PM) Peak Hour Volumes
- X,XXX AADT
- Turning Movements

N

0 2,000 Feet

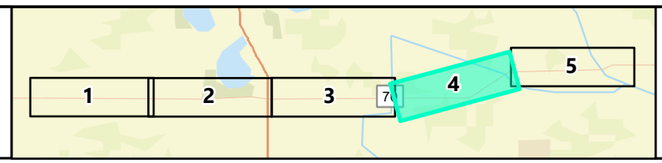
Figure 2-3: Existing Year (2022) AADT and AM (PM) Turning Movement Volumes

Sheet 3 of 5



Legend

- Project Limits
- Flashing Yellow (1)
- XX (XX) AM(PM) Peak Hour Volumes
- X,XXX AADT
- Turning Movements



N

0 2,000 Feet

Figure 2-3: Existing Year (2022) AADT and AM (PM) Turning Movement Volumes

Sheet 4 of 5

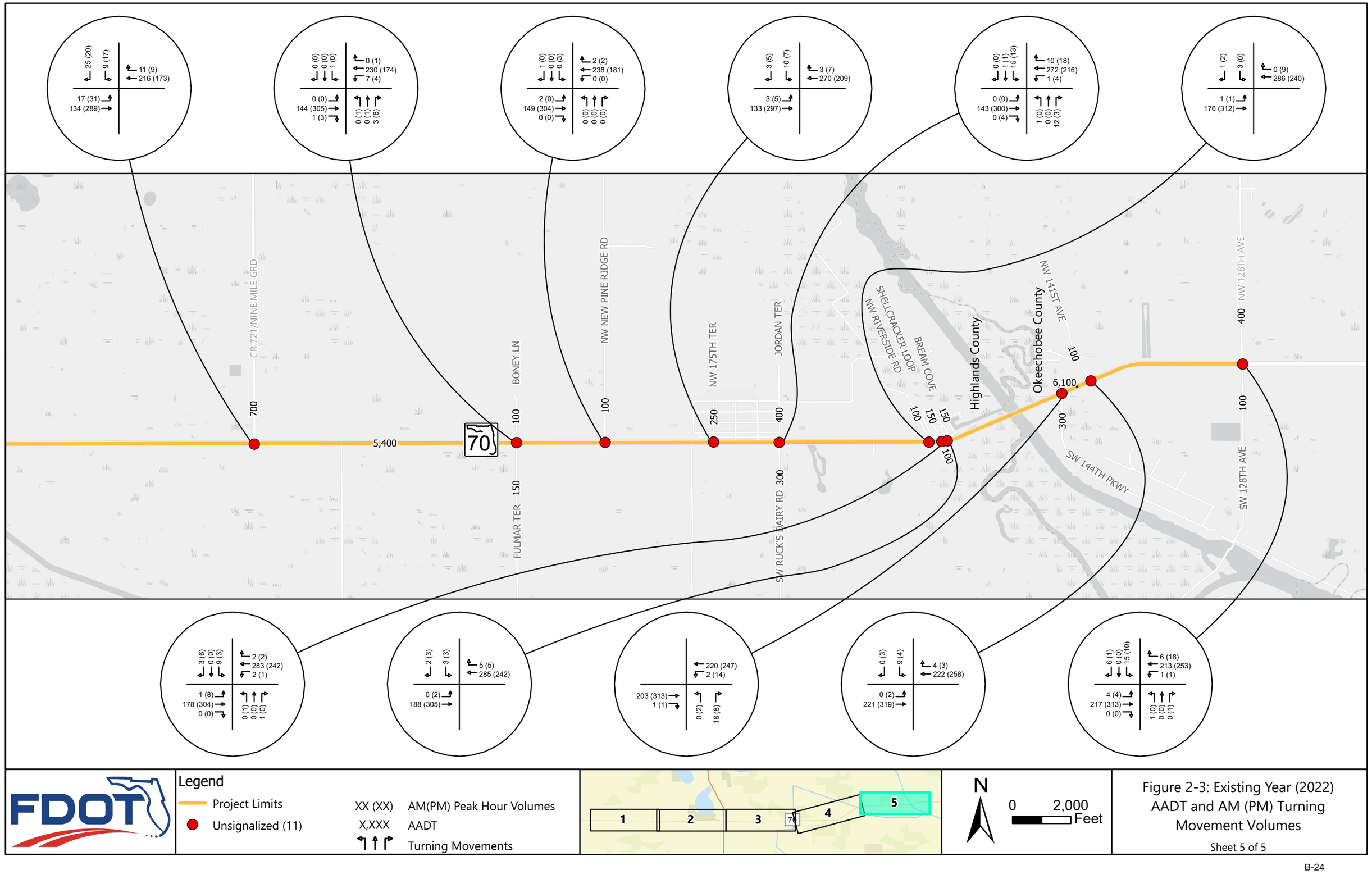


Figure 2-3: Existing Year (2022) AADT and AM (PM) Turning Movement Volumes

Sheet 5 of 5

2.3 Traffic Factors

The following subsections document the development and selection of the traffic factors used in the subsequent volume development and traffic analysis.

2.3.1 Directional Factors

Directional factors and accompanying peak directions were calculated and/or acquired for various locations within the study area based on data collected for this study and data available via FDOT's Florida Traffic Online (FTO) Database (**Table 2-3**). These directional factors were compared to *Recommended D-Factors for Project Traffic Forecasting* (included as **Table 2-4**) from FDOT's Project Traffic Forecasting Handbook to designate appropriate and realistic design-year directional factors. The selected D-factors and peak directions are listed in **Table 2-5.**

Table 2-3: Calculated Directional Factors

SR 70 Intersection	Intersection Leg	FTO D-Factor	AM Peak Hour		PM Peak Hour	
			Peak Direction	D-Factor	Peak Direction	D-Factor
Highlands County Line Road	East (SR 70)	-	WB	65%	EB	66%
	West (SR 70)	-	WB	64%	EB	65%
	South (Highlands County Line Rd)	-	SB	57%	NB	100%
Deer Run Road/Blue Head Street	East (SR 70)	-	WB	65%	EB	65%
	West (SR 70)	-	WB	65%	EB	66%
	North (Deer Run Road)	-	-	0%	-	0%
	South (Blue Head Street	-	SB	100%	SB	60%
Robert McGee Road	East (SR 70)	-	WB	66%	EB	66%
	West (SR 70)	-	WB	66%	EB	65%
	North (Robert McGee Road)	-	-	0%	SB	80%
Lightsey Ranch Road	East (SR 70)	-	WB	66%	EB	65%
	West (SR 70)	-	WB	66%	EB	65%
	South (Lightsey Ranch Rd)	-	-	50%	-	-
Placid Lakes Boulevard	East (SR 70)	-	WB	57%	EB	58%
	West (SR 70)	60.2%	WB	66%	EB	65%
	North (Placid Lakes Blvd)	60.5%	SB	85%	NB	72%
	South (Jefferson Ave)	-	NB	73%	SB	52%
Park Land Drive	East (SR 70)	-	WB	55%	EB	57%
	West (SR 70)	-	WB	57%	EB	58%
	South (Park Land Dr)	-	NB	92%	SB	67%
Placid View Drive	East (SR 70)	-	WB	54%	EB	55%
	West (SR 70)	-	WB	56%	EB	58%
	North (Placid View Dr)	60.5%	SB	59%	NB	82%
Old SR 8 North	East (SR 70)	-	EB	52%	WB	52%
	West (SR 70)	-	WB	54%	EB	54%
	North (Old SR 8)	60.5%	SB	66%	NB	68%

SR 70 Intersection	Intersection Leg	FTO D-Factor	AM Peak Hour		PM Peak Hour	
			Peak Direction	D-Factor	Peak Direction	D-Factor
Old SR 8 South	East (SR 70)	-	WB	55%	EB	55%
	West (SR 70)	-	EB	52%	WB	52%
	South (Old SR 8)	60.5%	SB	67%	NB	69%
Distribution Boulevard	East (SR 70)	-	WB	57%	EB	57%
	West (SR 70)	-	WB	55%	EB	55%
	South (Distribution Blvd)	-	SB	76%	NB	100%
Glades Driveway	East (SR 70)	-	WB	57%	EB	57%
	West (SR 70)	-	WB	57%	EB	57%
	North (Glades Driveway)	-	NB	56%	SB	59%
Wedgeworth Driveway	East (SR 70)	-	WB	56%	EB	58%
	West (SR 70)	-	WB	57%	EB	57%
	South (Wedgeworth Driveway)	-	NB	63%	NB	78%
US 27	East (SR 70)	60.2%	WB	54%	EB	53%
	West (SR 70)	60.2%	WB	57%	EB	53%
	North (US 27)	61.2%	SB	57%	NB	58%
	South (US 27)	61.1%	SB	55%	NB	59%
Myers Road/Placid Pines Drive	East (SR 70)	-	WB	53%	EB	53%
	West (SR 70)	-	WB	54%	EB	53%
	North (Myers Rd)	-	NB	67%	SB	100%
	South (Placid Pines Dr)	-	NB	85%	SB	53%
Northedge Drive	East (SR 70)	-	WB	52%	EB	53%
	West (SR 70)	-	WB	53%	EB	53%
	North (North Edge Dr)	-	SB	75%	NB	82%
Broward Avenue	East (SR 70)	-	EB	51%	EB	54%
	West (SR 70)	-	EB	50%	EB	54%
	North (Broward Ave)	-	SB	73%	NB	63%
Highlands Boulevard	East (SR 70)	-	EB	54%	EB	51%
	West (SR 70)	-	EB	51%	EB	54%
	North (Highlands Blvd)	-	SB	78%	NB	68%
Citrus Boulevard	East (SR 70)	-	EB	55%	EB	50%
	West (SR 70)	-	EB	54%	EB	51%
	North (Citrus Blvd)	-	SB	64%	NB	74%
Bear Road	East (SR 70)	-	EB	56%	-	50%
	West (SR 70)	-	EB	55%	EB	50%
	North (Bear Rd)	-	SB	64%	NB	70%
Hall Road/Turner Too Road	East (SR 70)	-	EB	55%	WB	50%
	West (SR 70)	-	EB	55%	WB	51%
	North (Hall Rd)	-	-	50%	SB	75%
	South (Turner Too Rd)	-	-	-	NB	100%

SR 70 Intersection	Intersection Leg	FTO D-Factor	AM Peak Hour		PM Peak Hour	
			Peak Direction	D-Factor	Peak Direction	D-Factor
CR 29/KW Farms Road	East (SR 70)	-	EB	56%	WB	51%
	West (SR 70)	-	EB	55%	WB	50%
	North (CR 29)	60.5%	SB	62%	NB	67%
	South (KW Farms Rd)	-	-	-	SB	100%
Lonesome Island Road/JC Durrance Road	East (SR 70)	-	EB	54%	EB	51%
	West (SR 70)	-	EB	55%	-	50%
	North (Lonesome Island Road)	-	NB	100%	NB	100%
	South (JC Durrance Road)	-	SB	78%	NB	82%
CR 721 South	East (SR 70)	-	WB	61%	EB	61%
	West (SR 70)	-	EB	52%	EB	52%
	North (Driveway)	60.5%	-	50%	SB	71%
	South (CR 721)	-	SB	78%	NB	70%
CR 721 North	East (SR 70)	60.2%	WB	61%	EB	63%
	West (SR 70)	-	WB	61%	EB	62%
	North (CR 721)	60.5%	SB	55%	NB	52%
Boney Lane/Fulmar Terrace	East (SR 70)	-	WB	62%	EB	63%
	West (SR 70)	-	WB	61%	EB	64%
	North (Boney Lane)	-	SB	100%	NB	100%
	South (Fulmar Terr)	-	SB	73%	NB	53%
NW New Pine Ridge Road	East (SR 70)	-	WB	62%	EB	63%
	West (SR 70)	-	WB	61%	EB	63%
	North (New Pine Ridge Rd)	-	NB	80%	SB	60%
175th Terrace	East (SR 70)	-	WB	66%	EB	58%
	West (SR 70)	-	WB	67%	EB	58%
	North (175th Terr)	-	SB	68%	-	50%
172nd Terrace/SW Rucks Dairy Road	East (SR 70)	-	WB	63%	EB	57%
	West (SR 70)	-	WB	66%	EB	58%
	North (172nd Terr)	-	SB	62%	NB	56%
	South (SW Rucks Dairy Rd)	-	NB	87%	SB	75%
Riverside Road	East (SR 70)	-	WB	62%	EB	56%
	West (SR 70)	-	WB	63%	EB	57%
	North (Riverside Rd)	-	SB	80%	NB	83%
Shellcracker Loop	East (SR 70)	-	WB	60%	EB	56%
	West (SR 70)	-	WB	61%	EB	56%
	North (Shellcracker Loop)	-	SB	80%	NB	53%
	South (Driveway)	-	SB	67%	-	50%
Bream Cove	East (SR 70)	-	WB	60%	EB	55%
	West (SR 70)	-	WB	60%	EB	56%
	North (Bream Cove)	-	-	50%	NB	54%

SR 70 Intersection	Intersection Leg	FTO D-Factor	AM Peak Hour		PM Peak Hour	
			Peak Direction	D-Factor	Peak Direction	D-Factor
144th Parkway	East (SR 70)	-	WB	51%	EB	55%
	West (SR 70)	58.0%	WB	53%	EB	56%
	South (144th Pkwy)	-	NB	86%	SB	60%
141st Avenue	East (SR 70)	-	EB	51%	EB	55%
	West (SR 70)	-	WB	51%	EB	55%
	North (141st Ave)	-	SB	69%	SB	58%
NW 128th Avenue	East (SR 70)	-	EB	51%	EB	54%
	West (SR 70)	-	EB	50%	EB	56%
	North (NW 128th Ave)	58.0%	SB	68%	NB	67%
	South (SW 128th Ave)	-	-	50%	-	50%

Table 2-4: Recommended D-Factors for Project Traffic Forecasting (FDOT)

Road Type	Low	D	High	Standard Deviation
Rural Freeway	52.3	54.8	57.3	1.73
Rural Arterial	51.1	58.1	79.6	6.29
Urban Freeway	50.4	55.8	61.2	4.11
Urban Arterial	50.8	57.9	67.1	4.60

Table 2-5: Selected D-Factors

SR 70 Intersection	Intersection Leg	Selected D-Factor	AM Direction	PM Direction
Highlands County Line Road	East (SR 70)	58.0%	WB	WB
	West (SR 70)	58.0%	WB	EB
	South (Highlands County Line Rd)	60.0%	SB	NB
Deer Run Road/Blue Head Street	East (SR 70)	58.0%	WB	EB
	West (SR 70)	58.0%	WB	EB
	North (Deer Run Road)	60.0%	-	-
	South (Blue Head Street	60.0%	SB	SB
Robert McGee Road	East (SR 70)	58.0%	WB	EB
	West (SR 70)	58.0%	WB	EB
	North (Robert McGee Road)	60.0%	-	SB
Lightsey Ranch Road	East (SR 70)	58.0%	WB	EB
	West (SR 70)	58.0%	WB	EB
	South (Lightsey Ranch Rd)	60.0%	-	-
Placid Lakes Boulevard	East (SR 70)	58.0%	WB	EB
	West (SR 70)	58.0%	WB	EB
	North (Placid Lakes Blvd)	75.0%	SB	NB
	South (Jefferson Ave)	60.0%	NB	SB

SR 70 Intersection	Intersection Leg	Selected D-Factor	AM Direction	PM Direction
Park Land Drive	East (SR 70)	58.0%	WB	EB
	West (SR 70)	58.0%	WB	EB
	South (Park Land Dr)	75.0%	NB	SB
Placid View Drive	East (SR 70)	58.0%	WB	EB
	West (SR 70)	58.0%	WB	EB
	North (Placid View Dr)	70.0%	SB	NB
Old SR 8 North	East (SR 70)	58.0%	EB	WB
	West (SR 70)	58.0%	WB	EB
	North (Old SR 8)	70.0%	SB	NB
Old SR 8 South	East (SR 70)	58.0%	WB	EB
	West (SR 70)	58.0%	EB	WB
	South (Old SR 8)	70.0%	SB	NB
Distribution Boulevard	East (SR 70)	58.0%	WB	EB
	West (SR 70)	58.0%	WB	EB
	South (Distribution Blvd)	75.0%	SB	NB
Glades Driveway	East (SR 70)	58.0%	WB	EB
	West (SR 70)	58.0%	WB	EB
	North (Glades Driveway)	60.0%	NB	SB
Wedgeworth Driveway	East (SR 70)	58.0%	WB	EB
	West (SR 70)	58.0%	WB	EB
	South (Wedgeworth Driveway)	70.0%	NB	NB
US 27	East (SR 70)	53.0%	WB	EB
	West (SR 70)	58.0%	WB	EB
	North (US 27)	60.0%	SB	NB
	South (US 27)	60.0%	SB	NB
Myers Road/Placid Pines Drive	East (SR 70)	53.0%	WB	EB
	West (SR 70)	53.0%	WB	EB
	North (Myers Rd)	75.0%	NB	SB
	South (Placid Pines Dr)	70.0%	NB	SB
Northedge Drive	East (SR 70)	53.0%	WB	EB
	West (SR 70)	53.0%	WB	EB
	North (North Edge Dr)	75.0%	SB	NB
Broward Avenue	East (SR 70)	53.0%	EB	EB
	West (SR 70)	53.0%	EB	EB
	North (Broward Ave)	70.0%	SB	NB
Highlands Boulevard	East (SR 70)	53.0%	EB	EB
	West (SR 70)	53.0%	EB	EB
	North (Highlands Blvd)	75.0%	SB	NB
Citrus Boulevard	East (SR 70)	53.0%	EB	EB
	West (SR 70)	53.0%	EB	EB
	North (Citrus Blvd)	70.0%	SB	NB

SR 70 Intersection	Intersection Leg	Selected D-Factor	AM Direction	PM Direction
Bear Road	East (SR 70)	53.0%	EB	-
	West (SR 70)	53.0%	EB	EB
	North (Bear Rd)	65.0%	SB	NB
Hall Road/Turner Too Road	East (SR 70)	53.0%	EB	WB
	West (SR 70)	53.0%	EB	WB
	North (Hall Rd)	65.0%	-	SB
	South (Turner Too Rd)	70.0%	-	NB
CR 29/KW Farms Road	East (SR 70)	53.0%	EB	WB
	West (SR 70)	53.0%	EB	WB
	North (CR 29)	65.0%	SB	NB
	South (KW Farms Rd)	70.0%	-	SB
Lonesome Island Road/JC Durrance Road	East (SR 70)	55.0%	EB	EB
	West (SR 70)	53.0%	EB	-
	North (Lonesome Island Road)	70.0%	NB	NB
	South (JC Durrance Road)	70.0%	SB	NB
CR 721 South	East (SR 70)	58.0%	WB	EB
	West (SR 70)	55.0%	EB	EB
	North (Driveway)	60.0%	-	SB
	South (CR 721)	70.0%	SB	NB
CR 721 North	East (SR 70)	58.0%	WB	EB
	West (SR 70)	58.0%	WB	EB
	North (CR 721)	60.0%	SB	NB
Boney Lane/Fulmar Terrace	East (SR 70)	58.0%	WB	EB
	West (SR 70)	58.0%	WB	EB
	North (Boney Lane)	70.0%	SB	NB
	South (Fulmar Terr)	60.0%	SB	NB
NW New Pine Ridge Road	East (SR 70)	58.0%	WB	EB
	West (SR 70)	58.0%	WB	EB
	North (New Pine Ridge Rd)	60.0%	NB	SB
175th Terrace	East (SR 70)	58.0%	WB	EB
	West (SR 70)	58.0%	WB	EB
	North (175th Terr)	60.0%	SB	-
172nd Terrace/SW Rucks Dairy Road	East (SR 70)	58.0%	WB	EB
	West (SR 70)	58.0%	WB	EB
	North (172nd Terr)	60.0%	SB	NB
	South (SW Rucks Dairy Rd)	70.0%	NB	SB
Riverside Road	East (SR 70)	58.0%	WB	EB
	West (SR 70)	58.0%	WB	EB
	North (Riverside Rd)	70.0%	SB	NB

SR 70 Intersection	Intersection Leg	Selected D-Factor	AM Direction	PM Direction
Shellcracker Loop	East (SR 70)	58.0%	WB	EB
	West (SR 70)	58.0%	WB	EB
	North (Shellcracker Loop)	60.0%	SB	NB
	South (Driveway)	60.0%	SB	-
Bream Cove	East (SR 70)	58.0%	WB	EB
	West (SR 70)	58.0%	WB	EB
	North (Bream Cove)	55.0%	-	NB
144th Parkway	East (SR 70)	58.0%	WB	EB
	West (SR 70)	58.0%	WB	EB
	South (144th Pkwy)	70.0%	NB	SB
141st Avenue	East (SR 70)	58.0%	EB	EB
	West (SR 70)	58.0%	WB	EB
	North (141st Ave)	60.0%	SB	SB
NW 128th Avenue	East (SR 70)	58.0%	EB	EB
	West (SR 70)	58.0%	EB	EB
	North (NW 128th Ave)	70.0%	SB	NB
	South (SW 128th Ave)	60.0%	-	-

2.3.2 Truck Factors

Hourly and daily truck factors were gathered from counts conducted for this study, including the four-hour turning movement count (TMC) data and class count data, as well as from FTO. These truck factors were used to select hourly truck factors for the study roadways for the subsequent traffic analysis. Daily truck factors were selected for each roadway segment based on a review of FTO data, project classification counts, and TMC truck percentages during the peak periods (where no other data was available). More consideration was given to FTO data and classification count data. In locations where only TMC data was available, approximate average peak period truck percentages were calculated and then rounded. Design hour truck percentages are estimated to be half of the daily truck percentage. The measured and selected truck factors are listed in **Table 2-6**. The count data and information from FTO are included in **Appendix B**.

Table 2-6: Truck Factors

SR 70 Intersection	Intersection Leg	AM Hourly T-Factor (Measured)	PM Hourly T-Factor (Measured)	Daily T-Factor (from FTO)	Hourly T-Factor (Selected)	Daily T-Factor (Selected)
Highlands County Line Road	East (SR 70)	24%	13%	-	16.0%	32%
	West (SR 70)	33%	10%	-	16.0%	32%
	South (Highlands County Line Rd)	67%	0%	-	15.0%	30%

SR 70 Intersection	Intersection Leg	AM Hourly T-Factor (Measured)	PM Hourly T-Factor (Measured)	Daily T-Factor (from FTO)	Hourly T-Factor (Selected)	Daily T-Factor (Selected)
Deer Run Road/Blue Head Street	East (SR 70)	25%	20%	-	16.0%	32%
	West (SR 70)	36%	10%	-	16.0%	32%
	North (Deer Run Road)	-	-	-	15.0%	30%
	South (Blue Head Street	-	0%	-	15.0%	30%
Robert McGee Road	East (SR 70)	23%	10%	-	16.0%	32%
	West (SR 70)	33%	13%	-	16.0%	32%
	North (Robert McGee Road)	-	0%	-	15.0%	30%
Lightsey Ranch Road	East (SR 70)	22%	10%	-	16.0%	32%
	West (SR 70)	32%	13%	-	16.0%	32%
	South (Lightsey Ranch Rd)	0%	0%	-	2.5%	5%
Placid Lakes Boulevard	East (SR 70)	26%	8%	-	16.0%	32%
	West (SR 70)	32%	12%	35%	16.0%	32%
	North (Placid Lakes Blvd)	2%	3%	15%	7.5%	15%
	South (Jefferson Ave)	9%	18%	-	7.5%	15%
Park Land Drive	East (SR 70)	25%	9%	-	16.0%	32%
	West (SR 70)	24%	14%	-	16.0%	32%
	South (Park Land Dr)	17%	11%	-	10.0%	20%
Placid View Drive	East (SR 70)	24%	9%	-	16.0%	32%
	West (SR 70)	24%	13%	-	16.0%	32%
	North (Placid View Dr)	5%	0%	15%	7.5%	15%
Old SR 8 North	East (SR 70)	27%	9%	-	16.0%	32%
	West (SR 70)	22%	14%	-	16.0%	32%
	North (Old SR 8)	1%	18%	15%	7.5%	15%
Old SR 8 South	East (SR 70)	26%	10%	-	16.0%	32%
	West (SR 70)	17%	18%	-	16.0%	32%
	South (Old SR 8)	16%	9%	15%	7.5%	15%
Distribution Boulevard	East (SR 70)	25%	10%	-	16.0%	32%
	West (SR 70)	25%	15%	-	16.0%	32%
	South (Distribution Blvd)	71%	25%	-	40.0%	80%
Glades Driveway	East (SR 70)	25%	12%	-	16.0%	32%
	West (SR 70)	26%	16%	-	16.0%	32%
	North (Glades Driveway)	29%	0%	-	15.0%	30%
Wedgeworth Driveway	East (SR 70)	24%	12%	-	16.0%	32%
	West (SR 70)	26%	15%	-	16.0%	32%
	South (Wedgeworth Driveway)	60%	0%	-	30.0%	60%
US 27	East (SR 70)	15%	10%	24%	16.0%	32%
	West (SR 70)	24%	16%	32%	16.0%	32%
	North (US 27)	24%	20%	35%	16.5%	33%
	South (US 27)	34%	18%	30%	16.5%	33%

SR 70 Intersection	Intersection Leg	AM Hourly T-Factor (Measured)	PM Hourly T-Factor (Measured)	Daily T-Factor (from FTO)	Hourly T-Factor (Selected)	Daily T-Factor (Selected)
Myers Road/Placid Pines Drive	East (SR 70)	24%	15%	-	16.0%	32%
	West (SR 70)	21%	13%	-	16.0%	32%
	North (Myers Rd)	0%	0%	-	2.5%	5%
	South (Placid Pines Dr)	0%	0%	-	2.5%	5%
Northedge Drive	East (SR 70)	25%	15%	-	16.0%	32%
	West (SR 70)	21%	15%	-	16.0%	32%
	North (North Edge Dr)	11%	0%	-	5.0%	10%
Broward Avenue	East (SR 70)	26%	15%	-	16.0%	32%
	West (SR 70)	20%	15%	-	16.0%	32%
	North (Broward Ave)	9%	0%	-	5.0%	10%
Highlands Boulevard	East (SR 70)	30%	15%	-	16.0%	32%
	West (SR 70)	21%	15%	-	16.0%	32%
	North (Highlands Blvd)	3%	5%	-	4.0%	8%
Citrus Boulevard	East (SR 70)	31%	15%	-	16.0%	32%
	West (SR 70)	21%	17%	-	16.0%	32%
	North (Citrus Blvd)	0%	0%	-	2.5%	5%
Bear Road	East (SR 70)	31%	15%	-	16.0%	32%
	West (SR 70)	21%	17%	-	16.0%	32%
	North (Bear Rd)	0%	0%	-	2.5%	5%
Hall Road/Turner Too Road	East (SR 70)	33%	16%	-	16.0%	32%
	West (SR 70)	22%	18%	-	16.0%	32%
	North (Hall Rd)	50%	0%	-	15.0%	30%
	South (Turner Too Rd)	0%	0%	-	2.5%	5%
CR 29/KW Farms Road	East (SR 70)	33%	15%	-	16.0%	32%
	West (SR 70)	24%	18%	-	16.0%	32%
	North (CR 29)	5%	0%	15%	7.5%	15%
	South (KW Farms Rd)	0%	0%	-	2.5%	5%
Lonesome Island Road/JC Durrance Road	East (SR 70)	30%	14%	-	16.0%	32%
	West (SR 70)	16%	18%	-	16.0%	32%
	North (Lonesome Island Road)	-	-	-	15.0%	30%
	South (JC Durrance Road)	50%	0%	-	15.0%	30%
CR 721 South	East (SR 70)	19%	15%	-	12.5%	25%
	West (SR 70)	17%	20%	-	16.0%	32%
	North (Driveway)	0%	0%	-	7.5%	15%
	South (CR 721)	0%	2%	15%	7.5%	15%
CR 721 North	East (SR 70)	17%	12%	25%	12.5%	25%
	West (SR 70)	17%	17%	-	12.5%	25%
	North (CR 721)	12%	16%	15%	7.5%	15%

SR 70 Intersection	Intersection Leg	AM Hourly T-Factor (Measured)	PM Hourly T-Factor (Measured)	Daily T-Factor (from FTO)	Hourly T-Factor (Selected)	Daily T-Factor (Selected)
Boney Lane/Fulmar Terrace	East (SR 70)	16%	12%	-	12.5%	25%
	West (SR 70)	17%	15%	-	12.5%	25%
	North (Boney Lane)	0%	-	-	7.5%	15%
	South (Fulmar Terr)	0%	0%	-	7.5%	15%
NW New Pine Ridge Road	East (SR 70)	16%	13%	-	12.5%	25%
	West (SR 70)	17%	15%	-	12.5%	25%
	North (New Pine Ridge Rd)	0%	0%	-	12.5%	25%
175th Terrace	East (SR 70)	12%	12%	-	12.5%	25%
	West (SR 70)	16%	15%	-	12.5%	25%
	North (175th Terr)	8%	0%	-	5.0%	10%
172nd Terrace/SW Rucks Dairy Road	East (SR 70)	12%	11%	-	12.5%	25%
	West (SR 70)	16%	15%	-	12.5%	25%
	North (172nd Terr)	6%	7%	-	5.0%	10%
	South (SW Rucks Dairy Rd)	8%	0%	-	7.5%	15%
Riverside Road	East (SR 70)	12%	11%	-	12.5%	25%
	West (SR 70)	14%	14%	-	12.5%	25%
	North (Riverside Rd)	25%	0%	-	5.0%	10%
Shellcracker Loop	East (SR 70)	12%	10%	-	12.5%	25%
	West (SR 70)	15%	15%	-	12.5%	25%
	North (Shellcracker Loop)	0%	0%	-	5.0%	10%
	South (Driveway)	0%	0%	-	5.0%	10%
Bream Cove	East (SR 70)	12%	10%	-	12.5%	25%
	West (SR 70)	14%	15%	-	12.5%	25%
	North (Bream Cove)	20%	0%	-	5.0%	10%
144th Parkway	East (SR 70)	14%	10%	-	12.5%	25%
	West (SR 70)	14%	15%	24%	12.5%	25%
	South (144th Pkwy)	0%	30%	-	5.0%	10%
141st Avenue	East (SR 70)	12%	10%	-	12.5%	25%
	West (SR 70)	13%	15%	-	12.5%	25%
	North (141st Ave)	0%	0%	-	5.0%	10%
NW 128th Avenue	East (SR 70)	12%	11%	-	12.5%	25%
	West (SR 70)	13%	16%	-	12.5%	25%
	North (NW 128th Ave)	5%	9%	27%	12.5%	25%
	South (SW 128th Ave)	0%	0%	-	10%	20%

2.3.3 K Factors

Peak hour-to-daily volume ratios (K factors) were evaluated based on the existing traffic volumes. These K factors and the standard K factor of 9.5 (from the FDOT Project Traffic Forecasting Handbook) were considered in the selection of K factors for traffic forecasting purposes, as documented in **Table 2-7**.

Table 2-7: K Factors

SR 70 Intersection	Intersection Leg	AM K-Factor (Calculated)	PM K-Factor (Calculated)	K-Factor (Selected)
Highlands County Line Road	East (SR 70)	7.5%	7.8%	9.5%
	West (SR 70)	6.6%	6.8%	9.5%
	South (Highlands County Line Rd)	-	-	9.5%
Deer Run Road/Blue Head Street	East (SR 70)	8.3%	8.8%	9.5%
	West (SR 70)	7.5%	7.8%	9.5%
	North (Deer Run Road)	-	-	9.5%
	South (Blue Head Street	-	-	9.5%
Robert McGee Road	East (SR 70)	6.9%	9.1%	9.5%
	West (SR 70)	6.9%	9.0%	9.5%
	North (Robert McGee Road)	-	-	9.5%
Lightsey Ranch Road	East (SR 70)	7.2%	9.1%	9.5%
	West (SR 70)	7.1%	9.1%	9.5%
	South (Lightsey Ranch Rd)	-	-	9.5%
Placid Lakes Boulevard	East (SR 70)	6.4%	8.4%	9.5%
	West (SR 70)	7.2%	9.1%	9.5%
	North (Placid Lakes Blvd)	8.1%	12.2%	9.5%
	South (Jefferson Ave)	-	-	9.5%
Park Land Drive	East (SR 70)	6.6%	8.6%	9.5%
	West (SR 70)	6.4%	8.4%	9.5%
	South (Park Land Dr)	-	-	9.5%
Placid View Drive	East (SR 70)	6.8%	8.9%	9.5%
	West (SR 70)	6.5%	8.5%	9.5%
	North (Placid View Dr)	9.7%	9.4%	9.5%
Old SR 8 North	East (SR 70)	6.9%	9.4%	9.5%
	West (SR 70)	6.8%	8.9%	9.5%
	North (Old SR 8)	13.2%	14.2%	9.5%
Old SR 8 South	East (SR 70)	6.4%	8.2%	9.5%
	West (SR 70)	6.9%	9.4%	9.5%
	South (Old SR 8)	15.0%	16.3%	9.5%
Distribution Boulevard	East (SR 70)	6.6%	8.4%	9.5%
	West (SR 70)	6.4%	8.2%	9.5%
	South (Distribution Blvd)	-	-	9.5%

SR 70 Intersection	Intersection Leg	AM K-Factor (Calculated)	PM K-Factor (Calculated)	K-Factor (Selected)
Glades Driveway	East (SR 70)	6.6%	8.8%	9.5%
	West (SR 70)	6.5%	8.5%	9.5%
	North (Glades Driveway)	-	-	9.5%
Wedgeworth Driveway	East (SR 70)	6.8%	8.9%	9.5%
	West (SR 70)	6.6%	8.8%	9.5%
	South (Wedgeworth Driveway)	-	-	9.5%
US 27	East (SR 70)	7.3%	10.2%	9.5%
	West (SR 70)	8.2%	10.5%	9.5%
	North (US 27)	6.1%	8.2%	9.5%
	South (US 27)	6.1%	8.3%	9.5%
Myers Road/Placid Pines Drive	East (SR 70)	7.2%	9.7%	9.5%
	West (SR 70)	7.3%	10.2%	9.5%
	North (Myers Rd)	-	-	9.5%
	South (Placid Pines Dr)	-	-	9.5%
Northedge Drive	East (SR 70)	7.0%	9.5%	9.5%
	West (SR 70)	7.2%	9.7%	9.5%
	North (North Edge Dr)	-	-	9.5%
Broward Avenue	East (SR 70)	6.7%	9.1%	9.5%
	West (SR 70)	6.9%	9.4%	9.5%
	North (Broward Ave)	-	-	9.5%
Highlands Boulevard	East (SR 70)	6.1%	8.3%	9.5%
	West (SR 70)	6.7%	9.1%	9.5%
	North (Highlands Blvd)	-	-	9.5%
Citrus Boulevard	East (SR 70)	5.9%	8.0%	9.5%
	West (SR 70)	6.1%	8.3%	9.5%
	North (Citrus Blvd)	-	-	9.5%
Bear Road	East (SR 70)	5.8%	7.8%	9.5%
	West (SR 70)	5.9%	8.0%	9.5%
	North (Bear Rd)	-	-	9.5%
Hall Road/Turner Too Road	East (SR 70)	5.8%	7.7%	9.5%
	West (SR 70)	5.7%	7.8%	9.5%
	North (Hall Rd)	-	-	9.5%
	South (Turner Too Rd)	-	-	9.5%
CR 29/KW Farms Road	East (SR 70)	5.8%	7.8%	9.5%
	West (SR 70)	5.8%	7.7%	9.5%
	North (CR 29)	4.5%	3.6%	9.5%
	South (KW Farms Rd)	-	-	9.5%

SR 70 Intersection	Intersection Leg	AM K-Factor (Calculated)	PM K-Factor (Calculated)	K-Factor (Selected)
Lonesome Island Road/JC Durrance Road	East (SR 70)	5.5%	7.5%	9.5%
	West (SR 70)	5.6%	7.6%	9.5%
	North (Lonesome Island Road)	-	-	9.5%
	South (JC Durrance Road)	-	-	9.5%
CR 721 South	East (SR 70)	7.3%	9.9%	9.5%
	West (SR 70)	5.4%	7.6%	9.5%
	North (Driveway)	-	-	9.5%
	South (CR 721)	9.7%	12.9%	9.5%
CR 721 North	East (SR 70)	6.9%	9.0%	9.5%
	West (SR 70)	7.0%	9.2%	9.5%
	North (CR 721)	8.7%	10.8%	9.5%
Boney Lane/Fulmar Terrace	East (SR 70)	7.1%	9.1%	9.5%
	West (SR 70)	6.7%	8.6%	9.5%
	North (Boney Lane)	-	-	9.5%
	South (Fulmar Terr)	-	-	9.5%
NW New Pine Ridge Road	East (SR 70)	7.2%	9.1%	9.5%
	West (SR 70)	7.0%	8.7%	9.5%
	North (New Pine Ridge Rd)	-	-	9.5%
175th Terrace	East (SR 70)	7.7%	9.6%	9.5%
	West (SR 70)	7.3%	9.2%	9.5%
	North (175th Terr)	-	-	9.5%
172nd Terrace/SW Rucks Dairy Road	East (SR 70)	8.4%	10.3%	9.5%
	West (SR 70)	7.4%	9.3%	9.5%
	North (172nd Terr)	-	-	9.5%
	South (SW Rucks Dairy Rd)	-	-	9.5%
Riverside Road	East (SR 70)	8.6%	10.4%	9.5%
	West (SR 70)	8.3%	9.9%	9.5%
	North (Riverside Rd)	-	-	9.5%
Shellcracker Loop	East (SR 70)	8.8%	10.2%	9.5%
	West (SR 70)	8.3%	10.0%	9.5%
	North (Shellcracker Loop)	-	-	9.5%
	South (Driveway)	-	-	9.5%
Bream Cove	East (SR 70)	8.9%	10.3%	9.5%
	West (SR 70)	8.5%	9.9%	9.5%
	North (Bream Cove)	-	-	9.5%
144th Parkway	East (SR 70)	7.3%	9.5%	9.5%
	West (SR 70)	7.9%	10.4%	9.5%
	South (144th Pkwy)	-	-	9.5%

SR 70 Intersection	Intersection Leg	AM K-Factor (Calculated)	PM K-Factor (Calculated)	K-Factor (Selected)
141st Avenue	East (SR 70)	7.5%	9.6%	9.5%
	West (SR 70)	7.3%	9.5%	9.5%
	North (141st Ave)	-	-	9.5%
NW 128th Avenue	East (SR 70)	7.4%	9.8%	9.5%
	West (SR 70)	7.2%	9.4%	9.5%
	North (NW 128th Ave)	7.6%	8.0%	9.5%
	South (SW 128th Ave)	-	-	9.5%

2.3.4 Selected Traffic Factors

Table 2-8 below summarizes the selected traffic factors for each roadway segment in the study area.

Table 2-8: Selected Traffic Factors

SR 70 Intersection	Intersection Leg	D-Factor	AM Direction	PM Direction	Hourly T-Factor	K-Factor
Highlands County Line Road	East (SR 70)	58.0%	WB	WB	16.0%	9.5%
	West (SR 70)	58.0%	WB	EB	16.0%	9.5%
	South (Highlands County Line Rd)	60.0%	SB	NB	15.0%	9.5%
Deer Run Road/Blue Head Street	East (SR 70)	58.0%	WB	EB	16.0%	9.5%
	West (SR 70)	58.0%	WB	EB	16.0%	9.5%
	North (Deer Run Road)	60.0%	-	-	15.0%	9.5%
	South (Blue Head Street	60.0%	SB	SB	15.0%	9.5%
Robert McGee Road	East (SR 70)	58.0%	WB	EB	16.0%	9.5%
	West (SR 70)	58.0%	WB	EB	16.0%	9.5%
	North (Robert McGee Road)	60.0%	-	SB	15.0%	9.5%
Lightsey Ranch Road	East (SR 70)	58.0%	WB	EB	16.0%	9.5%
	West (SR 70)	58.0%	WB	EB	16.0%	9.5%
	South (Lightsey Ranch Rd)	60.0%	-	-	2.5%	9.5%
Placid Lakes Boulevard	East (SR 70)	58.0%	WB	EB	16.0%	9.5%
	West (SR 70)	58.0%	WB	EB	16.0%	9.5%
	North (Placid Lakes Blvd)	75.0%	SB	NB	7.5%	9.5%
	South (Jefferson Ave)	60.0%	NB	SB	7.5%	9.5%
Park Land Drive	East (SR 70)	58.0%	WB	EB	16.0%	9.5%
	West (SR 70)	58.0%	WB	EB	16.0%	9.5%
	South (Park Land Dr)	75.0%	NB	SB	10.0%	9.5%
Placid View Drive	East (SR 70)	58.0%	WB	EB	16.0%	9.5%
	West (SR 70)	58.0%	WB	EB	16.0%	9.5%
	North (Placid View Dr)	70.0%	SB	NB	7.5%	9.5%

SR 70 Intersection	Intersection Leg	D-Factor	AM Direction	PM Direction	Hourly T-Factor	K-Factor
Old SR 8 North	East (SR 70)	58.0%	EB	WB	16.0%	9.5%
	West (SR 70)	58.0%	WB	EB	16.0%	9.5%
	North (Old SR 8)	70.0%	SB	NB	7.5%	9.5%
Old SR 8 South	East (SR 70)	58.0%	WB	EB	16.0%	9.5%
	West (SR 70)	58.0%	EB	WB	16.0%	9.5%
	South (Old SR 8)	70.0%	SB	NB	7.5%	9.5%
Distribution Boulevard	East (SR 70)	58.0%	WB	EB	16.0%	9.5%
	West (SR 70)	58.0%	WB	EB	16.0%	9.5%
	South (Distribution Blvd)	75.0%	SB	NB	40.0%	9.5%
Glades Driveway	East (SR 70)	58.0%	WB	EB	16.0%	9.5%
	West (SR 70)	58.0%	WB	EB	16.0%	9.5%
	North (Glades Driveway)	60.0%	NB	SB	15.0%	9.5%
Wedgeworth Driveway	East (SR 70)	58.0%	WB	EB	16.0%	9.5%
	West (SR 70)	58.0%	WB	EB	16.0%	9.5%
	South (Wedgeworth Driveway)	70.0%	NB	NB	30.0%	9.5%
US 27	East (SR 70)	53.0%	WB	EB	16.0%	9.5%
	West (SR 70)	58.0%	WB	EB	16.0%	9.5%
	North (US 27)	60.0%	SB	NB	16.5%	9.5%
	South (US 27)	60.0%	SB	NB	16.5%	9.5%
Myers Road/Placid Pines Drive	East (SR 70)	53.0%	WB	EB	16.0%	9.5%
	West (SR 70)	53.0%	WB	EB	16.0%	9.5%
	North (Myers Rd)	75.0%	NB	SB	2.5%	9.5%
	South (Placid Pines Dr)	70.0%	NB	SB	2.5%	9.5%
Northedge Drive	East (SR 70)	53.0%	WB	EB	16.0%	9.5%
	West (SR 70)	53.0%	WB	EB	16.0%	9.5%
	North (North Edge Dr)	75.0%	SB	NB	5.0%	9.5%
Broward Avenue	East (SR 70)	53.0%	EB	EB	16.0%	9.5%
	West (SR 70)	53.0%	EB	EB	16.0%	9.5%
	North (Broward Ave)	70.0%	SB	NB	5.0%	9.5%
Highlands Boulevard	East (SR 70)	53.0%	EB	EB	16.0%	9.5%
	West (SR 70)	53.0%	EB	EB	16.0%	9.5%
	North (Highlands Blvd)	75.0%	SB	NB	4.0%	9.5%
Citrus Boulevard	East (SR 70)	53.0%	EB	EB	16.0%	9.5%
	West (SR 70)	53.0%	EB	EB	16.0%	9.5%
	North (Citrus Blvd)	70.0%	SB	NB	2.5%	9.5%
Bear Road	East (SR 70)	53.0%	EB	-	16.0%	9.5%
	West (SR 70)	53.0%	EB	EB	16.0%	9.5%
	North (Bear Rd)	65.0%	SB	NB	2.5%	9.5%

SR 70 Intersection	Intersection Leg	D-Factor	AM Direction	PM Direction	Hourly T-Factor	K-Factor
Hall Road/Turner Too Road	East (SR 70)	53.0%	EB	WB	16.0%	9.5%
	West (SR 70)	53.0%	EB	WB	16.0%	9.5%
	North (Hall Rd)	65.0%	-	SB	15.0%	9.5%
	South (Turner Too Rd)	70.0%	-	NB	2.5%	9.5%
CR 29/KW Farms Road	East (SR 70)	53.0%	EB	WB	16.0%	9.5%
	West (SR 70)	53.0%	EB	WB	16.0%	9.5%
	North (CR 29)	65.0%	SB	NB	7.5%	9.5%
	South (KW Farms Rd)	70.0%	-	SB	2.5%	9.5%
Lonesome Island Road/JC Durrance Road	East (SR 70)	55.0%	EB	EB	16.0%	9.5%
	West (SR 70)	53.0%	EB	-	16.0%	9.5%
	North (Lonesome Island Road)	70.0%	NB	NB	15.0%	9.5%
	South (JC Durrance Road)	70.0%	SB	NB	15.0%	9.5%
CR 721 South	East (SR 70)	58.0%	WB	EB	12.5%	9.5%
	West (SR 70)	55.0%	EB	EB	16.0%	9.5%
	North (Driveway)	60.0%	-	SB	7.5%	9.5%
	South (CR 721)	70.0%	SB	NB	7.5%	9.5%
CR 721 North	East (SR 70)	58.0%	WB	EB	12.5%	9.5%
	West (SR 70)	58.0%	WB	EB	12.5%	9.5%
	North (CR 721)	60.0%	SB	NB	7.5%	9.5%
Boney Lane/Fulmar Terrace	East (SR 70)	58.0%	WB	EB	12.5%	9.5%
	West (SR 70)	58.0%	WB	EB	12.5%	9.5%
	North (Boney Lane)	70.0%	SB	NB	7.5%	9.5%
	South (Fulmar Terr)	60.0%	SB	NB	7.5%	9.5%
NW New Pine Ridge Road	East (SR 70)	58.0%	WB	EB	12.5%	9.5%
	West (SR 70)	58.0%	WB	EB	12.5%	9.5%
	North (New Pine Ridge Rd)	60.0%	NB	SB	12.5%	9.5%
175th Terrace	East (SR 70)	58.0%	WB	EB	12.5%	9.5%
	West (SR 70)	58.0%	WB	EB	12.5%	9.5%
	North (175th Terr)	60.0%	SB	-	5.0%	9.5%
172nd Terrace/SW Rucks Dairy Road	East (SR 70)	58.0%	WB	EB	12.5%	9.5%
	West (SR 70)	58.0%	WB	EB	12.5%	9.5%
	North (172nd Terr)	60.0%	SB	NB	5.0%	9.5%
	South (SW Rucks Dairy Rd)	70.0%	NB	SB	7.5%	9.5%
Riverside Road	East (SR 70)	58.0%	WB	EB	12.5%	9.5%
	West (SR 70)	58.0%	WB	EB	12.5%	9.5%
	North (Riverside Rd)	70.0%	SB	NB	5.0%	9.5%
Shellcracker Loop	East (SR 70)	58.0%	WB	EB	12.5%	9.5%
	West (SR 70)	58.0%	WB	EB	12.5%	9.5%
	North (Shellcracker Loop)	60.0%	SB	NB	5.0%	9.5%
	South (Driveway)	60.0%	SB	-	5.0%	9.5%

SR 70 Intersection	Intersection Leg	D-Factor	AM Direction	PM Direction	Hourly T-Factor	K-Factor
Bream Cove	East (SR 70)	58.0%	WB	EB	12.5%	9.5%
	West (SR 70)	58.0%	WB	EB	12.5%	9.5%
	North (Bream Cove)	55.0%	-	NB	5.0%	9.5%
144th Parkway	East (SR 70)	58.0%	WB	EB	12.5%	9.5%
	West (SR 70)	58.0%	WB	EB	12.5%	9.5%
	South (144th Pkwy)	70.0%	NB	SB	5.0%	9.5%
141st Avenue	East (SR 70)	58.0%	EB	EB	12.5%	9.5%
	West (SR 70)	58.0%	WB	EB	12.5%	9.5%
	North (141st Ave)	60.0%	SB	SB	5.0%	9.5%
NW 128th Avenue	East (SR 70)	58.0%	EB	EB	12.5%	9.5%
	West (SR 70)	58.0%	EB	EB	12.5%	9.5%
	North (NW 128th Ave)	70.0%	SB	NB	12.5%	9.5%
	South (SW 128th Ave)	60.0%	-	-	10%	9.5%

3 Future Traffic Forecasting

The following sections outline the future traffic forecasting conducted in support of the subsequent traffic analysis.

3.1 Travel Demand Model

The latest available future land use data was obtained as part of the travel demand forecasting process for this study. Anticipated socioeconomic and roadway network changes to the study subarea were incorporated into the modeling effort that is documented in the SR 70 Traffic Forecast Modeling Technical Memorandum completed in December 2022 (**Appendix C**). The modeling effort involved conducting a sub-area base year (2015) validation refinement for the study area, as well as development of refined horizon year (2045) models. The regional travel demand model applied for this study was based on the adopted District One 2045 Regional Planning Model (D1RPM v2.0), which was the current/latest model at the time in 2022. The D1RPM is a travel demand forecasting tool developed by FDOT District One, in conjunction with the six District Metropolitan Planning Organizations (MPO) and Transportation Planning Organizations (TPO) in support of their 2045 Long Range Transportation Plans (LRTP).

Following the development of the 2045 No-Build Model, which represents the traffic growth in the No-Build Alternative, a Build model was developed. The Base Year, No-Build, and Build Alternative model plots are also included in **Appendix C**. The 2045 No-Build Alternative only incorporates adjacent projects that are included in the respective LRTP Cost Feasible Plans. Two new developments are included in the No-Build scenario: a Recreational Vehicle Park and Mobile Home Park are expected to be constructed off SR 70 in the project limits. SR 70 remains a 2-lane undivided facility in the No-Build condition so full access will be permitted to these new

developments. The 2045 Build Alternative consists of SR 70 operating as a four-lane arterial from the DeSoto County line to the CR 559/NW 128th Avenue in Okeechobee County. In the Build scenario, conservative assumptions were made regarding access management. Directional median openings were assumed at all unsignalized intersections per direction from District One. Right turn lane recommendations were made based on the *FDOT Access Management Guidebook (2019)* criteria. The right turn lane lengths are based on the 95th percentile queue length and appropriate deceleration lane length based on assumed design speed. A table documenting the recommendations and preliminary right turn lane lengths is included in **Appendix F**. Further analysis during the individual PD&E studies will be used to develop the proposed access management plans. Lane configurations for No-Build and Build scenarios are shown in **Figure 3-1** and **Figure 3-2** respectively.

DeSoto County

Highlands County

SE HIGHLANDS COUNTY LINE RD

BLUE HEAD ST

DEER RUN

70

ROBERT MCGEE RD

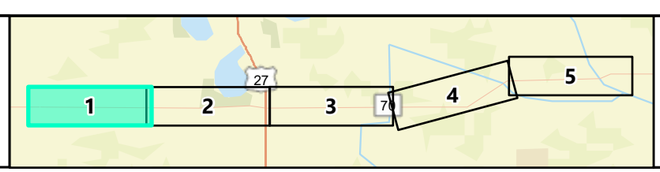
FDOT

Legend

Project Limits

Unsignalized (3)

Lane Configuration



N

0 2,000 Feet

Figure 3-1: No-Build Lane Configuration

Sheet 1 of 5

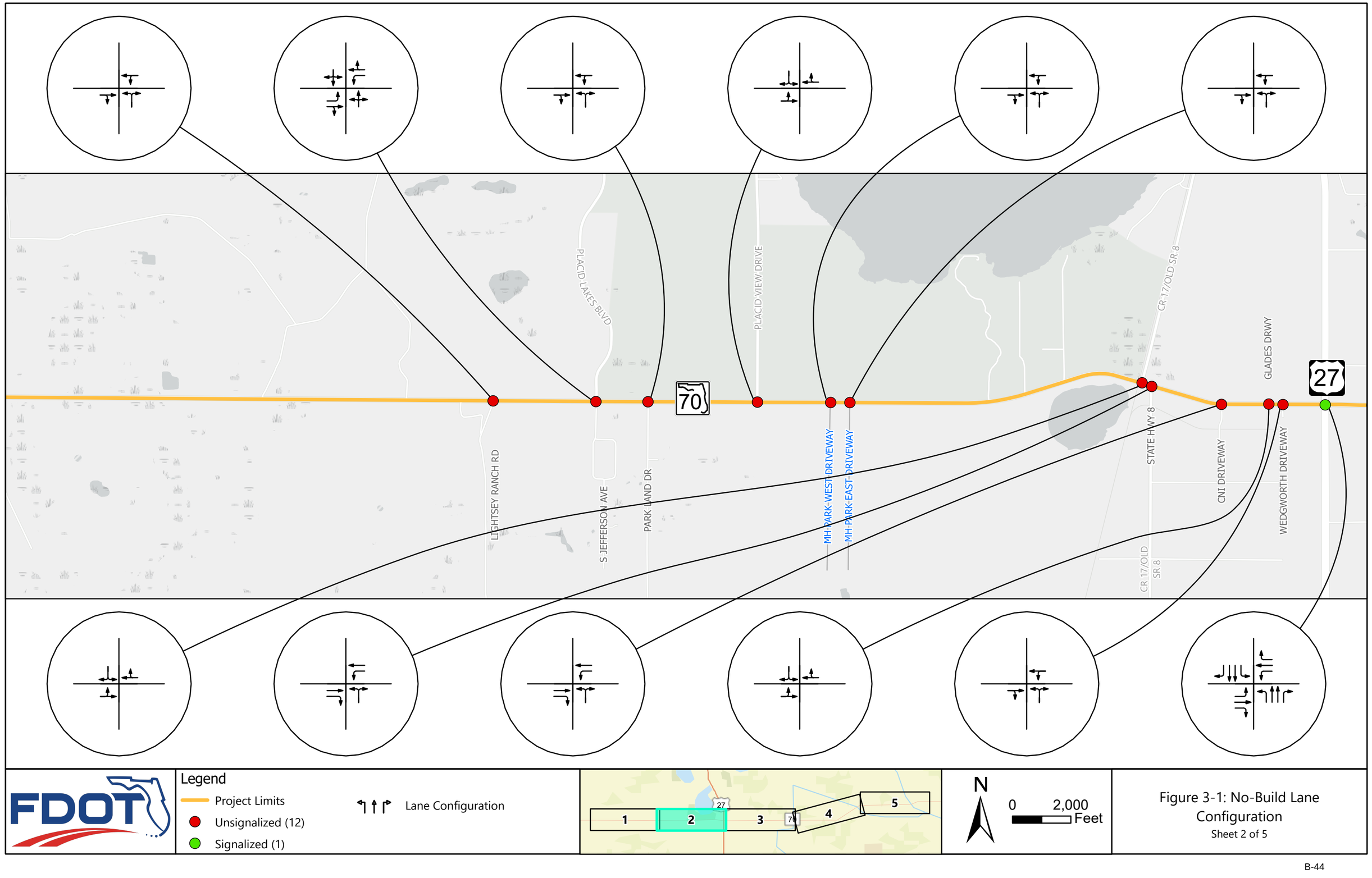


Figure 3-1: No-Build Lane Configuration

Sheet 2 of 5

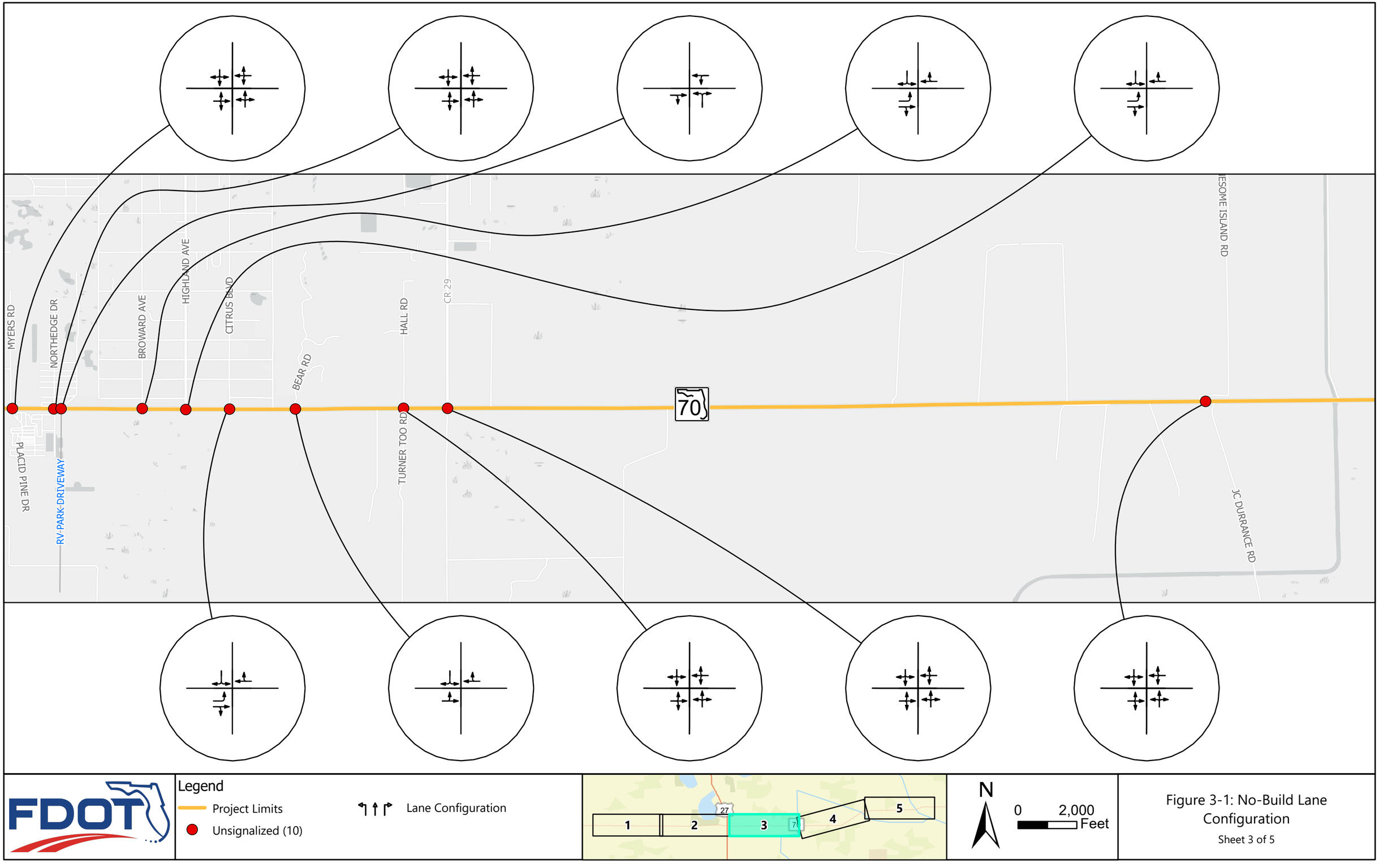
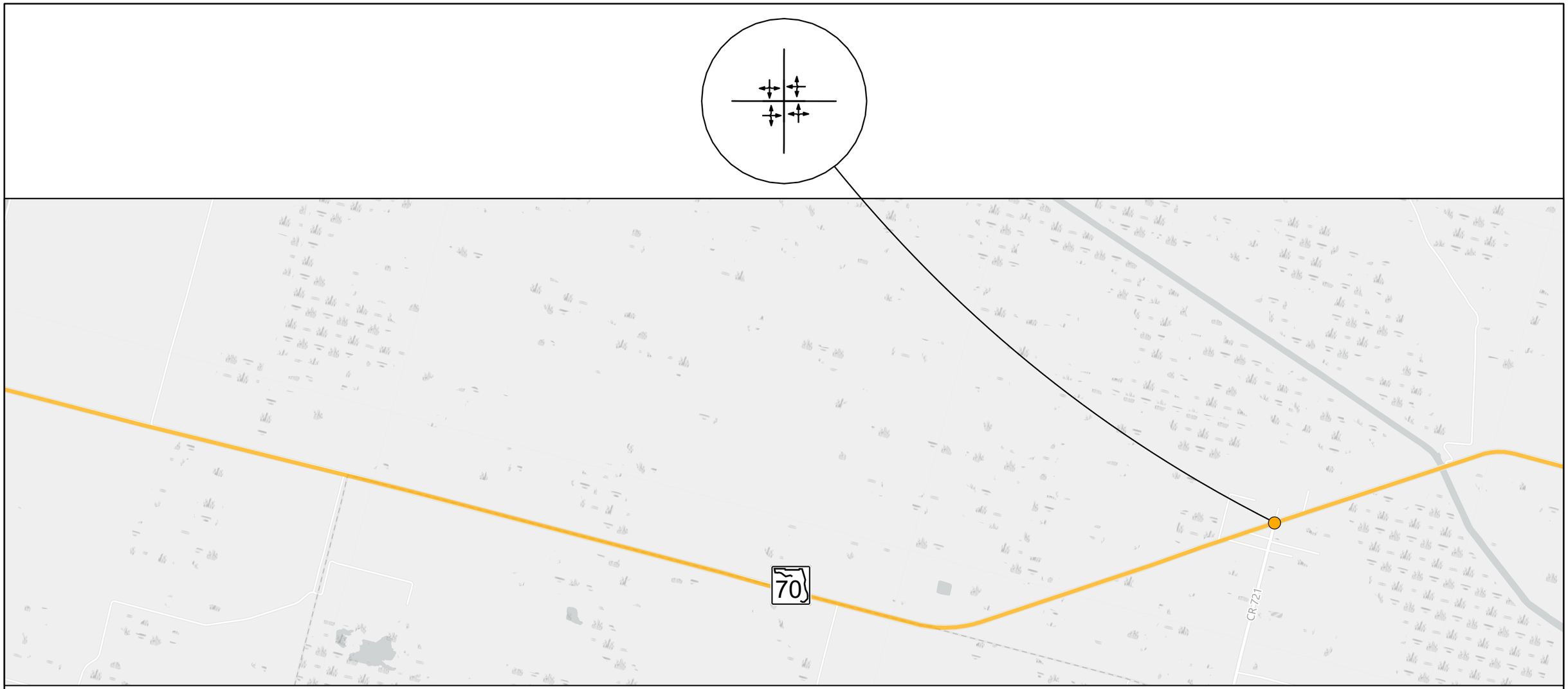


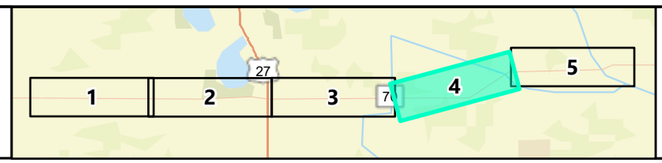
Figure 3-1: No-Build Lane Configuration

Sheet 3 of 5



Legend

- Project Limits
- Flashing Yellow (1)
- Lane Configuration



N

0 2,000 Feet

Figure 3-1: No-Build Lane Configuration

Sheet 4 of 5

CR 721/NINE MILE GRD

BONEY LN

NW NEW PINE RIDGE RD

NW 175TH TER

JORDAN TER

SHELLCRACKER LOOP
NW RIVERSIDE RD

BREAM COVE

Highlands County

Okeechobee County

NW 141ST AVE

NW 128TH AVE

SW 128TH AVE

SW 144TH PKWY

FULMAR TER

SW RUCK'S DAIRY RD

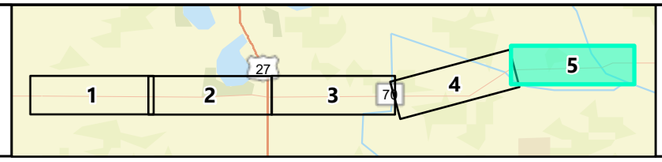
70

Legend

Project Limits

Unsignalized (11)

Lane Configuration



N

0 2,000 Feet

Figure 3-1: No-Build Lane Configuration

Sheet 5 of 5

DeSoto County

Highlands County

DEER RUN

BLUE HEAD ST

SE HIGHLANDS COUNTY LINE RD

ROBERT MCGEE RD

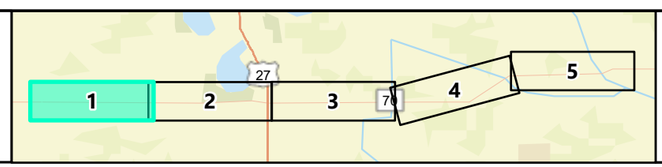
70

Legend

Project Limits

Unsignalized (3)

Lane Configuration

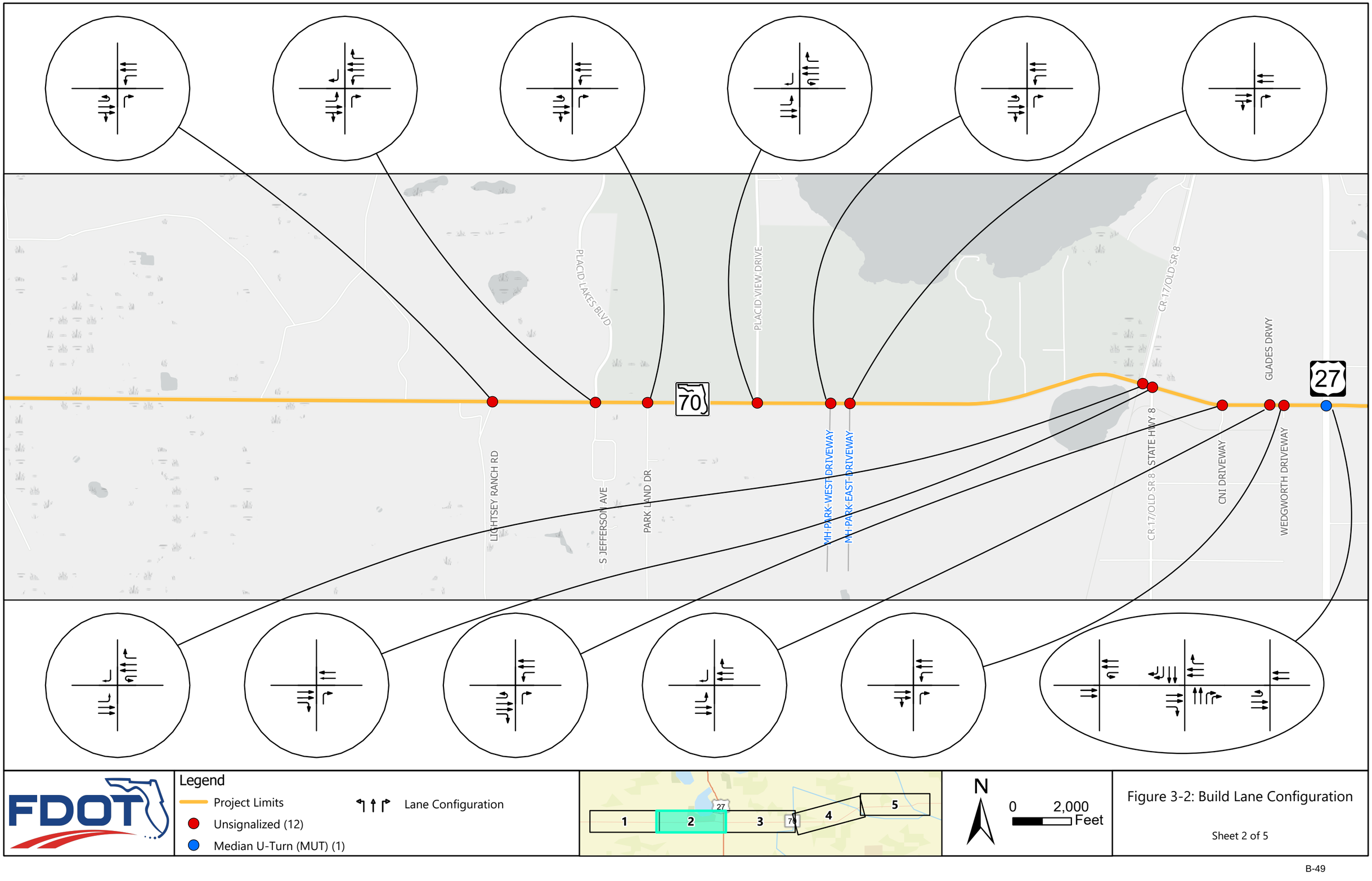


N

0 2,000 Feet

Figure 3-2: Build Lane Configuration

Sheet 1 of 5



Legend

- Project Limits
- Unsignalized (12)
- Median U-Turn (MUT) (1)
- Lane Configuration

N

0 2,000 Feet

Figure 3-2: Build Lane Configuration

Sheet 2 of 5

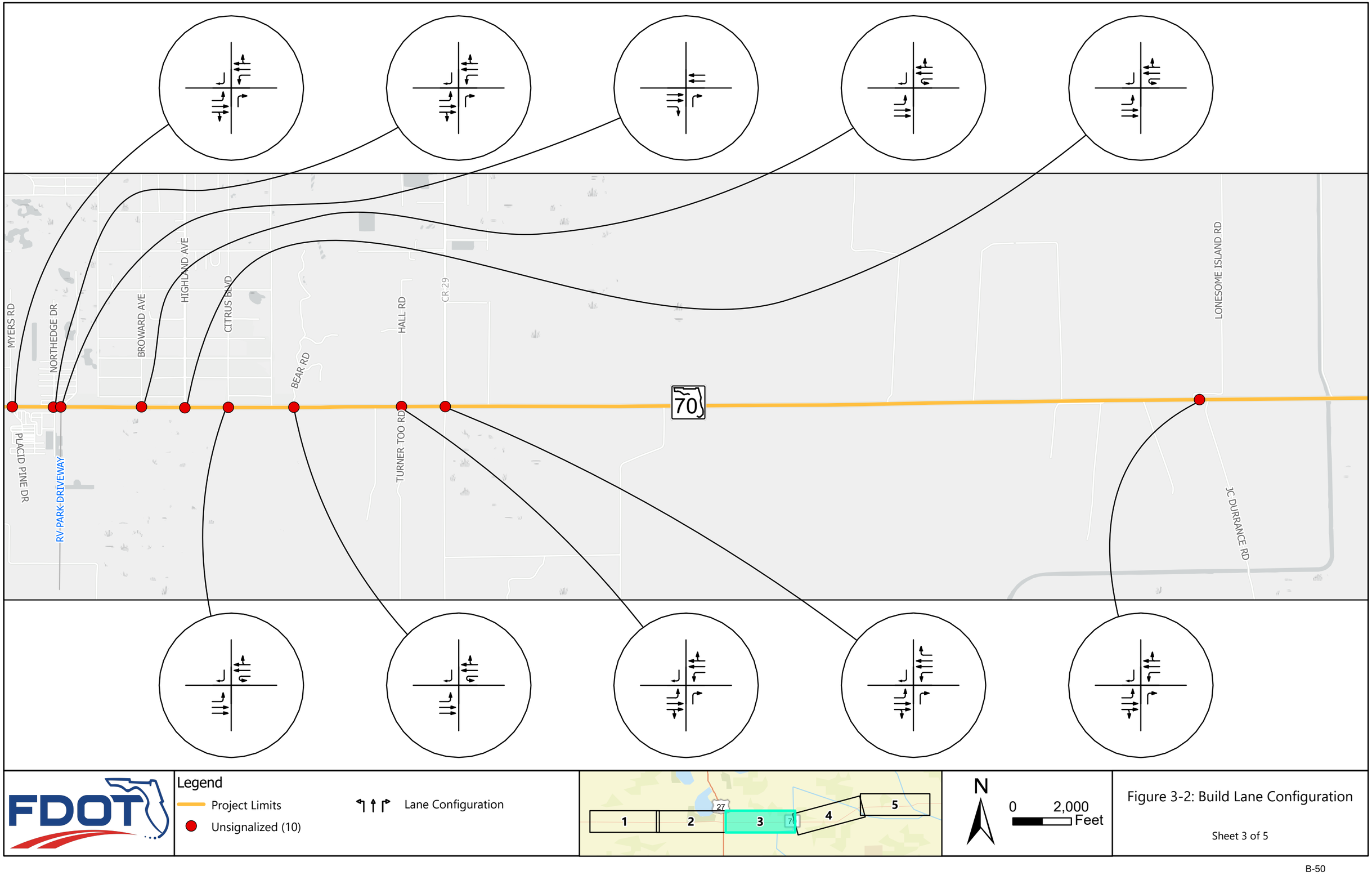
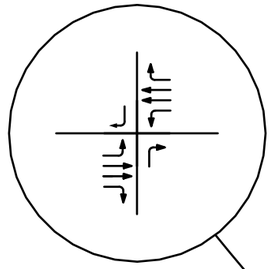
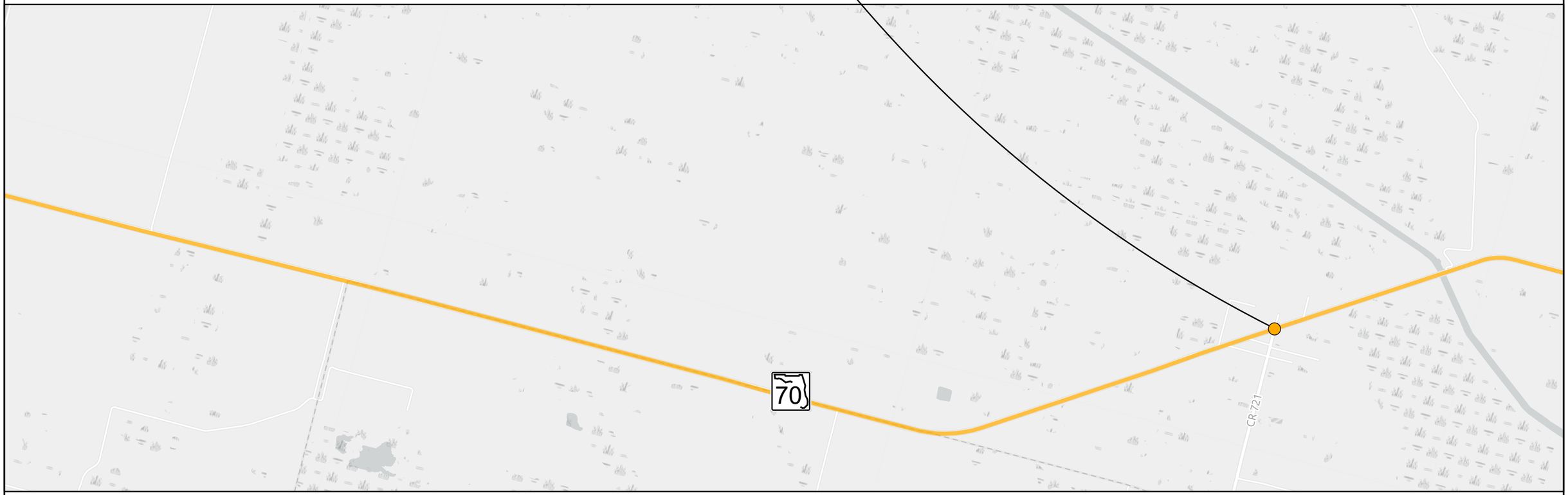


Figure 3-2: Build Lane Configuration

Sheet 3 of 5





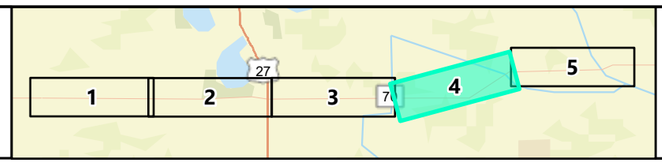
FDOT

Legend

Project Limits

Flashing Yellow (1)

Lane Configuration



N

0 2,000 Feet

Figure 3-2: Build Lane Configuration

Sheet 4 of 5

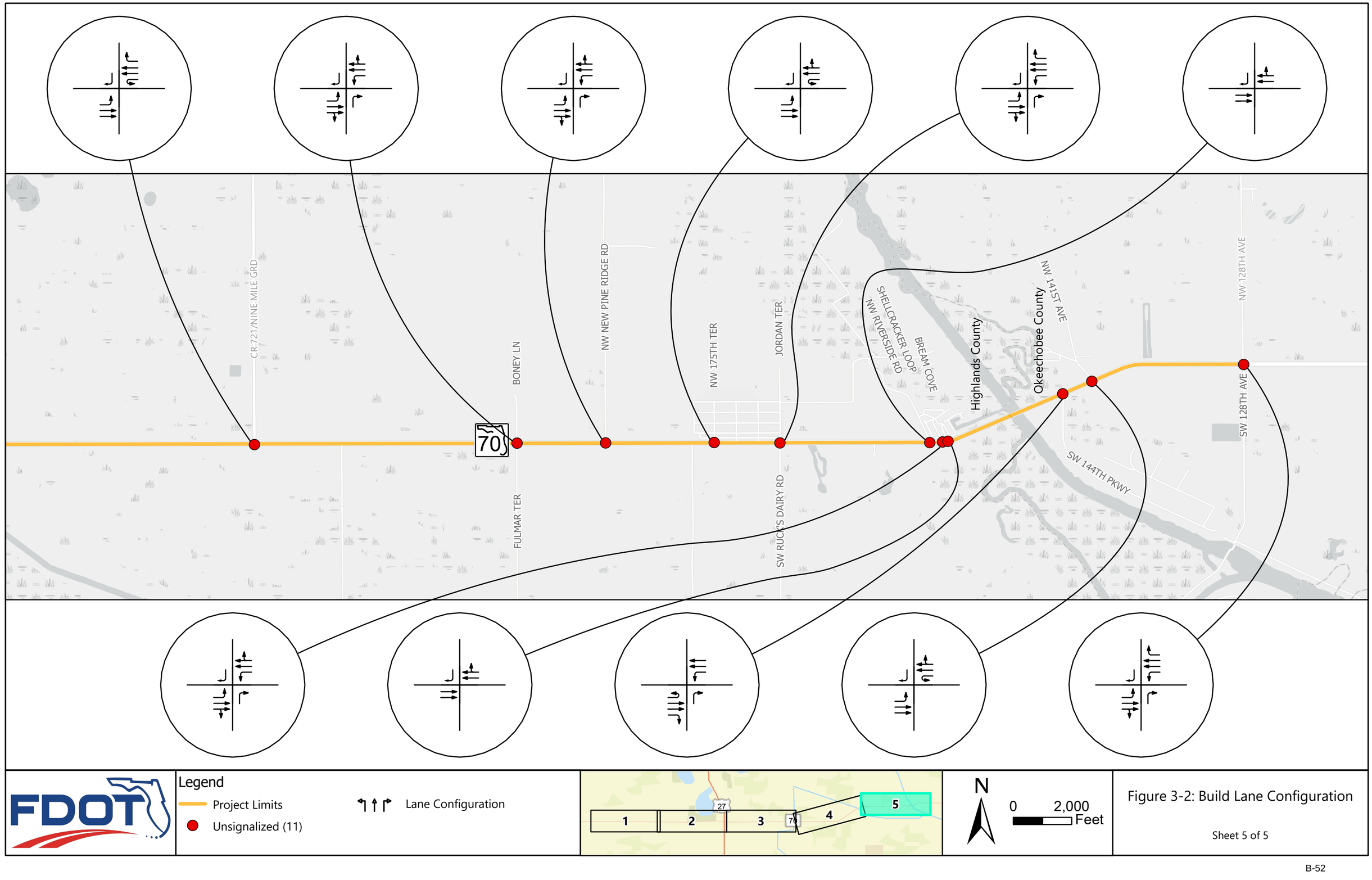


Figure 3-2: Build Lane Configuration

Sheet 5 of 5

3.2 Development of Design Year (2052) Traffic Volumes

The following subsections outline the development of the design year Annual Average Daily Traffic (AADT) and peak hour volumes.

3.2.1 Selection of Growth Rates

Both the TDM No-Build and Build volume forecasts have been reviewed for reasonableness by comparison to historical traffic trends analysis and population projections from the Bureau of Economic and Business Research (BEBR) where applicable. Based on this comparison, Build and No-Build Alternative growth rates for the study area have been developed and are presented in **Table 3-1**. After a review of model growth, historical trends, and population growth forecasts, the corridor was segmented based on anticipated growth rates. Growth rates for each segment were selected for each segment based primarily on average model growth estimates, with consideration given to other data sources where appropriate. On average, the Build scenario is expected to experience 1.0-1.5% more annual growth along SR 70 beyond the No Build scenario. Growth rates for minor side streets were based on regional historical trends, facility type, and network connection, with a minimum rate of 2% selected for side streets. The Highlands County BEBR Population Projection report, Florida Traffic Online (FTO) Historical AADT reports, and trends analysis are included in **Appendix D**.

Table 3-1: Design Year Effective Growth Rates

Location		Base Year TDM AADT (2015)	Future Year No-Build TDM AADT (2045)	No Build TDM Annual Growth Rate	Future Year Build TDM AADT (2045)	Build TDM Annual Growth Rate	Estimated Existing AADT Rounded	Historic Trends	R^2 Value	BEBR Low	BEBR Medium	BEBR High	Selected Growth Rate (No-Build)	Selected Growth Rate (Build)
SR 70	East of County Line to Robert McGee Rd	3,161	5,518	2.49%	6,656	3.69%				-0.42%	0.37%	1.16%	**3.0%**	**4.0%**
	Between Robert McGee Rd and Lightsey Ranch Rd	3,207	6,003	2.91%	7,175	4.12%								
	Between Lightsey Ranch Rd and Placid Lakes Blvd	3,755	7,128	2.99%	8,343	4.07%		4.20%	65.89%					
	Between Placid Lakes Blvd and Placid View Dr	2,688	5,579	3.59%	6,744	5.03%							**4.0%**	**5.0%**
	Between Placid View Dr and Old SR 8 (West)	2,338	5,165	4.03%	6,290	5.63%								
	Between Old SR 8 (West) and Old SR 8 (East)	2,359	5,221	4.04%	6,358	5.65%								
	Between Old SR 8 (East) and Distribution Blvd	2,335	5,156	4.03%	6,287	5.64%								
	Between Old SR 8 (East) and Distribution Blvd	2,335	5,156	4.03%	6,287	5.64%								
	Between Distribution Blvd and US 27	2,544	5,500	3.87%	6,624	5.35%		0.00%	0.16%					
	Between US 27 and Highlands Blvd	4,530	7,532	2.21%	9,743	3.84%		0.31%	3.08%					
	Between Highlands Blvd and CR 29	4,709	7,883	2.25%	10,166	3.86%								
	Between CR 29 and Denco Rd	4,939	7,968	2.04%	10,268	3.60%							**2.5%**	**4.0%**
	Between Denco Rd and Harney Pond Canal	4,946	8,000	2.06%	10,307	3.61%								
	Between Harney Pond Canal and Greenbrier Ln	4,890	7,945	2.08%	10,254	3.66%								
	Between Greenbrier Ln and CR 721 (West)	4,818	7,820	2.08%	10,131	3.68%								
	Between CR 721 (West) and CR 721 (East)	4,526	8,045	2.59%	10,286	4.24%		0.83%	13.92%					
	Between CR 721 (East) and Fulmar Terrace	4,516	7,995	2.57%	10,206	4.20%								
	Between Fulmar Terrace and SW Rucks Dairy Rd	4,507	8,195	2.73%	10,364	4.33%							**3.0%**	**4.5%**
	Between SW Rucks Dairy Rd and County Line	4,636	8,647	2.89%	10,766	4.41%								
	Between County Line and NW 128th Ave	4,451	8,345	2.92%	10,274	4.36%		1.42%	33.99%					
Side Streets	Highlands County Line Rd South of SR 70						100			-0.42%	0.37%	1.16%	**2.0%**	**3.0%**
	Deer Run Rd North of SR 70						100						**2.0%**	**3.0%**
	Blue Head Street South of SR 70						100						**3.0%**	**4.0%**
	Robert McGee Rd North of SR 70						100						**3.0%**	**4.0%**
	Lightsey Ranch Rd South of SR 70						100						**3.0%**	**4.0%**

Location		Base Year TDM AADT (2015)	Future Year No-Build TDM AADT (2045)	No Build TDM Annual Growth Rate	Future Year Build TDM AADT (2045)	Build TDM Annual Growth Rate	Estimated Existing AADT Rounded	Historic Trends	R^2 Value	BEBR Low	BEBR Medium	BEBR High	Selected Growth Rate (No-Build)	Selected Growth Rate (Build)
Side Streets	Placid Lakes Blvd North of SR 70	1,816	2,883	1.96%	3,090	2.34%	900	22.22%	90.19%	-0.42%	0.37%	1.16%	**3.0%**	**4.0%**
	Jefferson Ave South of SR 70						250						**3.0%**	**4.0%**
	Park Land Dr South of SR 70						300						**3.0%**	**4.0%**
	Placid View Dr North of SR 70	812	1,225	1.70%	1,310	2.04%	1250	5.56%	43.43%				**3.0%**	**4.0%**
	Old SR 8 (West) North of SR 70	71	140	3.24%	155	3.94%	1100	4.94%	48.76%					
	Old SR 8 (East) South of SR 70	24	86	8.61%	91	9.31%	900	11.11%	28.25%					
	CNI Driveway South of SR 70						100						**3.0%**	**4.0%**
	Glades Driveway North of SR 70						150						**3.0%**	**4.0%**
	Wedgeworth Driveway South of SR 70						100						**3.0%**	**4.0%**
	US 27 North of SR 70	8,027	15,910	3.27%	17,387	3.89%	9400	-0.81%	15.42%				**3.5%**	**4.0%**
	US 27 South of SR 70	7,072	14,464	3.48%	14,889	3.68%	8800	1.72%	8.17%				**3.0%**	**4.0%**
	Myers Rd North of SR 70						100						**3.0%**	**4.0%**
	Placid Pines Dr South of SR 70						400						**3.0%**	**4.0%**
	North Edge Dr North of SR 70						100						**3.0%**	**4.0%**
	Broward Ave North of SR 70						300						**3.0%**	**4.0%**
	Highland Ave North of SR 70						500						**3.0%**	**4.0%**
	Citrus Blvd North of SR 70						200						**3.0%**	**4.0%**
	Bear Rd North of SR 70						100						**3.0%**	**4.0%**
	Hall Rd North of SR 70						100						**3.0%**	**4.0%**
	Turner Too Rd South of SR 70						100						**3.0%**	**4.0%**
	CR 29 North of SR 70	371	581	1.89%	693	2.89%	750	13.89%	75.76%				**3.0%**	**4.0%**
	KW Farms Road South of SR 70						100						**3.0%**	**4.0%**
	Lonesome Island Rd North of SR 70						100						**3.0%**	**4.0%**
	JC Durrance Rd South of SR 70						150						**3.0%**	**4.0%**
	Lykes Ranch Driveway North of SR 70						100						**3.0%**	**4.0%**
	CR 721 (West) South of SR 70	864	815	-0.19%	935	0.27%	1900	-0.56%	10.61%				**3.0%**	**4.0%**
	CR 721 (East) North of SR 70	79	151	3.04%	178	4.18%	700	1.85%	63.64%					
	Boney Ln North of SR 70						100						**3.0%**	**4.0%**

Location		Base Year TDM AADT (2015)	Future Year No-Build TDM AADT (2045)	No Build TDM Annual Growth Rate	Future Year Build TDM AADT (2045)	Build TDM Annual Growth Rate	Estimated Existing AADT Rounded	Historic Trends	R^2 Value	BEBR Low	BEBR Medium	BEBR High	Selected Growth Rate (No-Build)	Selected Growth Rate (Build)
Side Streets	Fulmar Terrace South of SR 70						150			-0.42%	0.37%	1.16%	**3.0%**	**4.0%**
	NW New Pine Ridge Rd North of SR 70						100						**3.0%**	**4.0%**
	175th Terrace North of SR 70						250						**3.0%**	**4.0%**
	172nd Terrace (Jordan Terrace) North of SR 70						400						**3.0%**	**4.0%**
	SW Rucks Dairy Rd South of SR 70						300						**3.0%**	**4.0%**
	Riverside Rd North of SR 70						100						**3.0%**	**4.0%**
	Shellcracker Loop North of SR 70						150						**3.0%**	**4.0%**
	Driveway South of SR 70						100						**3.0%**	**4.0%**
	Bream Cove North of SR 70						150						**3.0%**	**4.0%**
	144th Pkwy South of SR 70						300						**3.0%**	**4.0%**
	141st Ave North of SR 70						100						**3.0%**	**4.0%**
	NW 128th Ave North of SR 70	103	251	4.79%	336	7.54%	400	2.50%	3.00%				**3.0%**	**4.0%**
	SW 128th Ave South of SR 70						100						**3.0%**	**4.0%**

Selected average annual growth rates along SR 70 range from 2.5% to 4.0% for the No-Build scenario and 4.0% to 5.0% in the Build scenario. The selected growth rates for the cross streets in the study area range from 2.0% to 3.5% for the No-Build scenario and 3.0% to 4.0% for all cross streets in the Build scenario.

3.2.2 Design Year (2052) Annual Average Daily Traffic (AADT) Volumes

Future design year daily (AADT) volumes were developed for the No-Build and Build Alternatives by linearly growing the Existing (2022) AADTs by the respective selected growth rates to the design year of 2052. Two new developments will also be completed by the design year: a Recreational Vehicle Park and Mobile Home Park are expected to be constructed off SR 70 in the project limits. AADTs for the driveways accessing these developments were estimated using the ITE Trip Generation Handbook (11th Edition). The supporting trip generation documents can be found in **Appendix E**. In both the No-Build and Build scenarios, some manual adjustments of AADTs were required to maintain AADT balance. **Table 3-2** displays Design Year No-Build and Build AADT development.

Table 3-2: Design Year No-Build and Build AADT

Location		Existing	No-Build			Build		
		2022 Existing AADT	Selected Growth Rate	Design Year AADT	Rounded AADT	Selected Growth Rate	Design Year AADT	Rounded AADT
SR 70	West of County Line to Robert McGee Rd	5,800	3.0%	11,020	**11,000**	4.0%	12,760	**13,000**
	Between Robert McGee Rd and Lightsey Ranch Rd	5,000		9,500	**9,500**		11,000	**11,000**
	West of Lightsey Ranch Rd to Placid Lakes Blvd	4,500		8,550	**8,600**		9,900	**9,900**
	Between Lightsey Ranch Rd and Placid Lakes Blvd							
	Between Placid Lakes Blvd and Park Land Dr	5,100	4.0%	10,500	**10,500**[1]	5.0%	12,000	**12,000**[1]
	Between Park Land Dr and Placid View Dr							
	Between Placid View Dr and Old SR 8 (West)			11,220	**11,000**		12,750	**13,000**
	Between Old SR 8 (West) and Old SR 8 (East)							
	Between Old SR 8 (East) and Distribution Blvd							
	Between Distribution Blvd and Glades Driveway							
	Between Glades Driveway and Wedgeworth Driveway							
	Between Wedgeworth Driveway and US 27							
	Between US 27 and Myers Rd/Placid Pines Dr	5,600	2.5%	9,800	**9,800**	4.0%	12,320	**12,500**
	Between Myers Rd/Placid Pines Dr and North Edge Dr							
	Between North Edge Dr and Broward Ave							
	Between Broward Ave and Highlands Ave							
	Between Highlands Ave and Citrus Blvd							
	Between Citrus Blvd and Bear Rd	5,600	2.5%	9,800	**9,800**	4.0%	12,320	**12,500**
	Between Bear Rd and Hall Rd							
	Between Hall Rd and CR 29							
	Between CR 29 and Lonesome Island Rd							
	Between Lonesome Island Rd and CR 721 South							
	Between CR 721 South and CR 721 North	5,400	3.0%	10,260	**10,500**	4.5%	12,690	**12,500**
	Between CR 721 North and Boney Ln/Fulmar Terr							
	Between Boney Ln/Fulmar Terr and NW New Pine Ridge Rd							
	Between NW New Pine Ridge Rd and 175th Terr							
	Between 175th Terr and 172nd Terr/SW Rucks Dairy Rd							

Location		Existing	No-Build			Build		
		2022 Existing AADT	Selected Growth Rate	Design Year AADT	Rounded AADT	Selected Growth Rate	Design Year AADT	Rounded AADT
SR 70	Between 172nd Terr/SW Rucks Dairy Rd and Riverside Rd	5,400	3.0%	10,260	**10,500**	4.5%	12,690	**12,500**
	Between Riverside Rd and Shellcracker Loop							
	Between Shellcracker Loop and Bream Cove							
	Between Bream Cove and 144th Pkwy							
	Between 144th Pkwy and 141st Ave	6,100		11,590	**11,500**		14,335	**14,500**
	Between 141st Ave and NW 128th Ave							
	East of NW 128th Ave							
Side Streets	Highlands County Line Rd South of SR 70	100	2.0%	160	**150**	3.0%	190	**200**
	Deer Run Rd North of SR 70	100	2.0%	160	**150**	3.0%	190	**200**
	Blue Head Street South of SR 70	100	3.0%	190	**200**	4.0%	220	**200**
	Robert McGee Rd North of SR 70	100	3.0%	190	**200**	4.0%	220	**200**
	Lightsey Ranch Rd South of SR 70	100	3.0%	190	**200**	4.0%	220	**200**
	Placid Lakes Blvd North of SR 70	900	3.0%	1,710	**1,700**	4.0%	1,980	**2,000**
	Jefferson Ave South of SR 70	250	3.0%	475	**500**	4.0%	550	**550**
	Park Land Dr South of SR 70	300	3.0%	570	**550**	4.0%	660	**650**
	Placid View Dr North of SR 70	350	3.0%	665	**650**	4.0%	770	**750**
	Old SR 8 (West) North of SR 70	1,100	3.0%	2,090	**2,100**	4.0%	2,420	**2,400**
	Old SR 8 (East) South of SR 70	900	3.0%	1,710	**1,700**	4.0%	1,980	**2,000**
	Distribution Blvd (CNI Driveway) South of SR 70	100	3.0%	190	**200**	4.0%	220	**200**
	Glades Driveway North of SR 70	150	3.0%	285	**300**	4.0%	330	**350**
	Wedgeworth Driveway South of SR 70	100	3.0%	190	**200**	4.0%	220	**200**
	US 27 North of SR 70	9,400	3.5%	19,270	**19,000**	4.0%	20,680	**20,500**
	US 27 South of SR 70	8,800	3.0%	16,720	**16,500**	4.0%	19,360	**19,500**
	Myers Rd North of SR 70	100	3.0%	190	**200**	4.0%	220	**200**
	Placid Pines Dr South of SR 70	400	3.0%	760	**750**	4.0%	880	**900**
	North Edge Dr North of SR 70	100	3.0%	190	**200**	4.0%	220	**200**
	Broward Ave North of SR 70	300	3.0%	570	**550**	4.0%	660	**650**
	Highland Ave North of SR 70	500	3.0%	950	**950**	4.0%	1,100	**1,100**

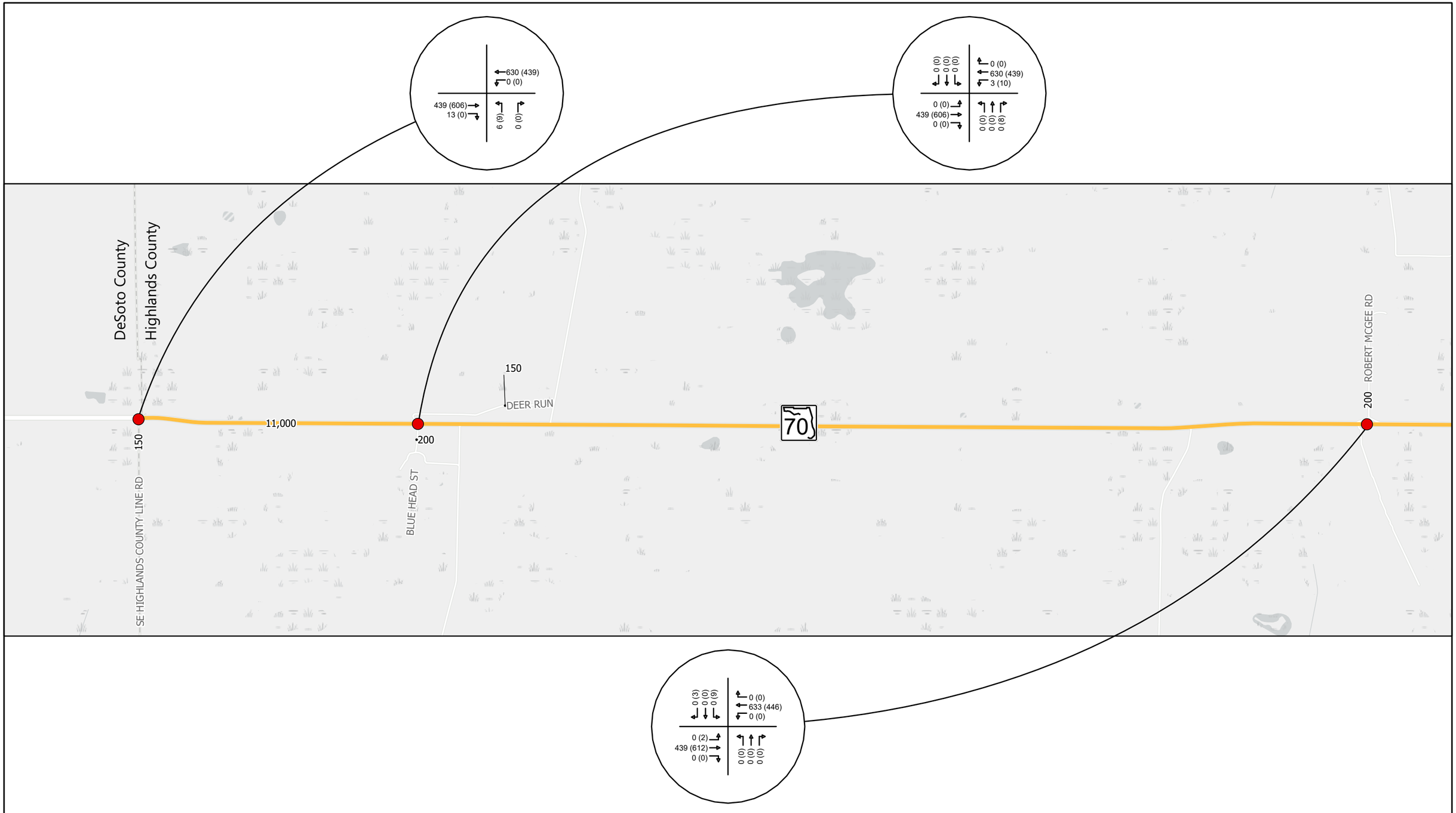
Location		Existing	No-Build			Build		
		2022 Existing AADT	Selected Growth Rate	Design Year AADT	Rounded AADT	Selected Growth Rate	Design Year AADT	Rounded AADT
Side Streets	Citrus Blvd North of SR 70	200	3.0%	380	**400**	4.0%	440	**450**
	Bear Rd North of SR 70	100	3.0%	190	**200**	4.0%	220	**200**
	Hall Rd North of SR 70	100	3.0%	190	**200**	4.0%	220	**200**
	Turner Too Rd South of SR 70	100	3.0%	190	**200**	4.0%	220	**200**
	CR 29 North of SR 70	750	3.0%	1,425	**1,400**	4.0%	1,650	**1,700**
	KW Farms Road South of SR 70	100	3.0%	190	**200**	4.0%	220	**200**
	Lonesome Island Rd North of SR 70	100	3.0%	190	**200**	4.0%	220	**200**
	JC Durrance Rd South of SR 70	150	3.0%	285	**300**	4.0%	330	**350**
	Lykes Ranch Driveway North of SR 70	100	3.0%	190	**200**	4.0%	220	**200**
	CR 721 (West) South of SR 70	1,900	3.0%	3,610	**3,600**	4.0%	4,180	**4,200**
	CR 721 (East) North of SR 70	700	3.0%	1,330	**1,300**	4.0%	1,540	**1,500**
	Boney Ln North of SR 70	100	3.0%	190	**200**	4.0%	220	**200**
	Fulmar Terrace South of SR 70	150	3.0%	285	**300**	4.0%	330	**350**
	NW New Pine Ridge Rd North of SR 70	100	3.0%	190	**200**	4.0%	220	**200**
	175th Terrace North of SR 70	250	3.0%	475	**500**	4.0%	550	**550**
	172nd Terrace (Jordan Terrace) North of SR 70	400	3.0%	760	**750**	4.0%	880	**900**
	SW Rucks Dairy Rd South of SR 70	300	3.0%	570	**550**	4.0%	660	**650**
	Riverside Rd North of SR 70	100	3.0%	190	**200**	4.0%	220	**200**
	Shellcracker Loop North of SR 70	150	3.0%	285	**300**	4.0%	330	**350**
	Driveway (across from Shellcracker) South of SR 70	100	3.0%	190	**200**	4.0%	220	**200**
	Bream Cove North of SR 70	150	3.0%	285	**300**	4.0%	330	**350**
	144th Pkwy South of SR 70	300	3.0%	570	**550**	4.0%	660	**650**
	141st Ave North of SR 70	100	3.0%	190	**200**	4.0%	220	**200**
	NW 128th Ave North of SR 70	400	3.0%	760	**750**	4.0%	880	**900**
	SW 128th Ave South of SR 70	100	3.0%	190	**200**	4.0%	220	**200**

Notes:
[1]AADT adjusted for balancing between intersections as needed.

3.2.3 Design Year (2052) Directional Design Hourly Volumes (DDHVs) and Turning Movement Volumes

The design year (2052) directional design hourly volumes (DDHVs) were developed in accordance with FDOT's Project Traffic Forecasting Handbook (2019) by applying selected K and D factors to the 2052 AADT values. Peak hour turning movement volumes were developed at study intersections by applying the existing turning movement percentages to the DDHVs. The resulting volume distribution was smoothed to replicate logical corridor distribution, ensuring that calculated values are not lower than existing values and accounting for volume imbalances between intersections (where appropriate). **Table 2-8** in Section 2.3.4 documents the K and D factors used in developing peak hour volumes for both the No-Build and Build scenarios. Also included in **Table 2-8** are the T-factors used in the No-Build and Build analysis.

For both the No-Build and Build scenarios, some manual adjustments were necessary to achieve better balance and proper traffic growth. No-Build AADTs and Hourly Volumes are shown in **Figure 3-3**. Build AADTs and Hourly Volumes are shown in **Figure 3-4**. SR 70 AADTs are only shown on **Figure 3-3** and **Figure 3-4** where counts were collected, but AADT volumes were estimated for the remaining segments to develop DDHVs.



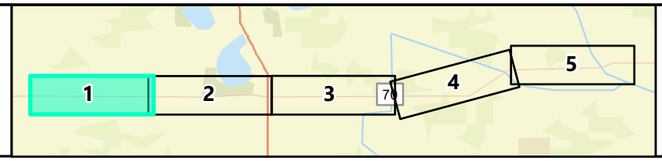
Legend

- Project Limits
- Unsignalized (3)

XX (XX) AM(PM) Peak Hour Volumes

X,XXX AADT

Turning Movements



N

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Figure 3-3: Design Year (2052) No-Build AADT and AM (PM) Turning Movement Volumes

Sheet 1 of 5

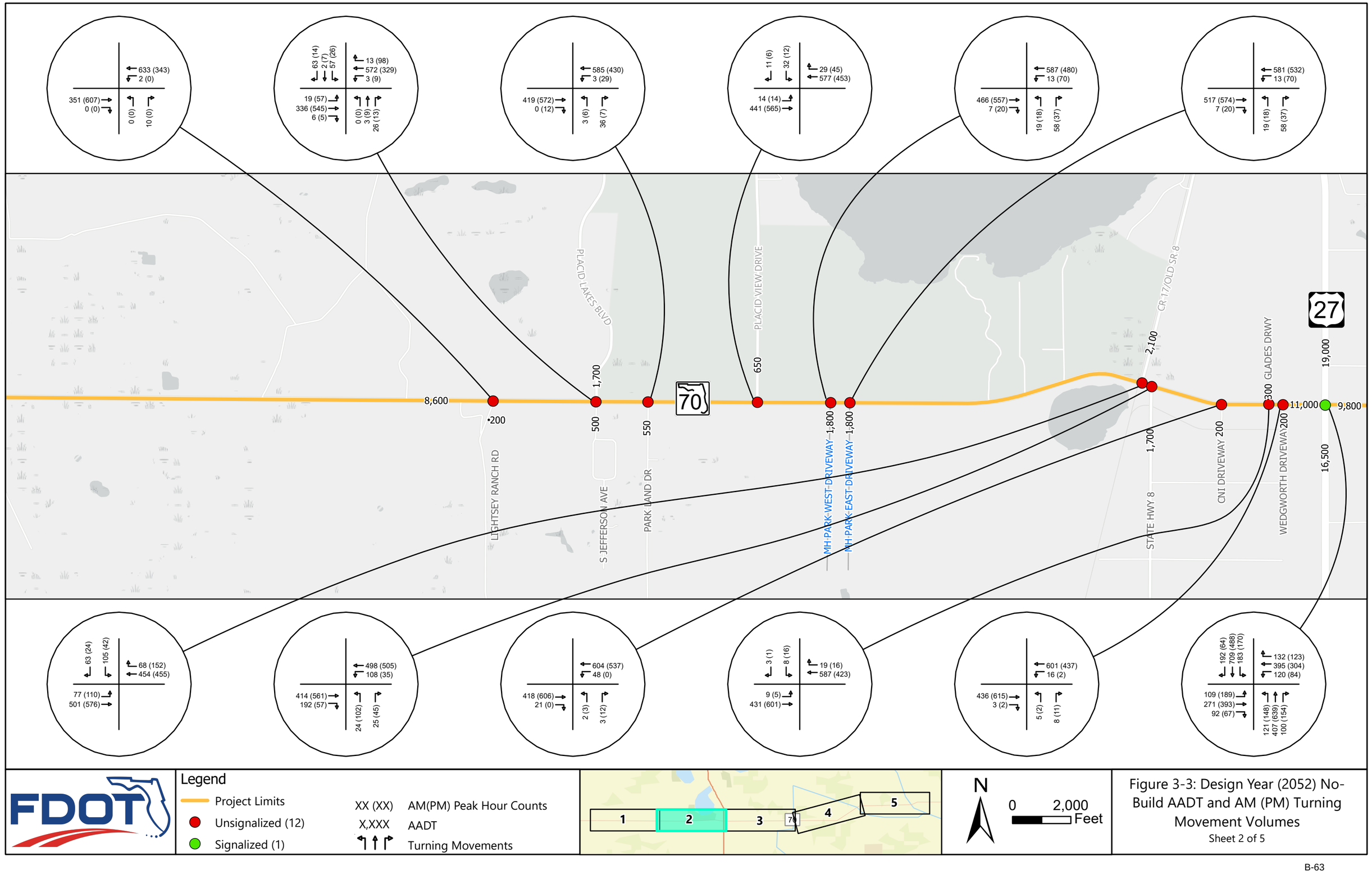


Figure 3-3: Design Year (2052) No-Build AADT and AM (PM) Turning Movement Volumes

Sheet 2 of 5

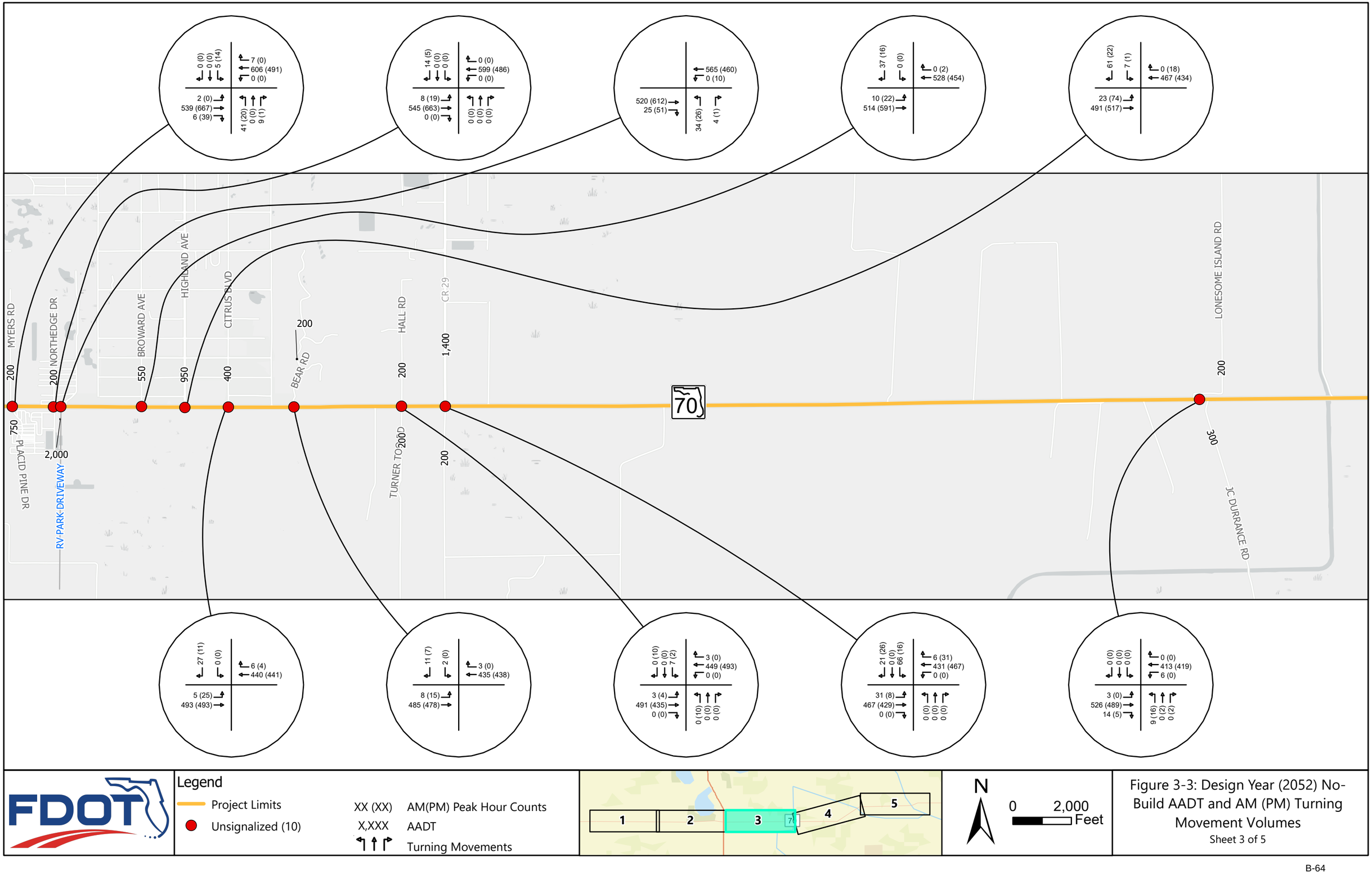
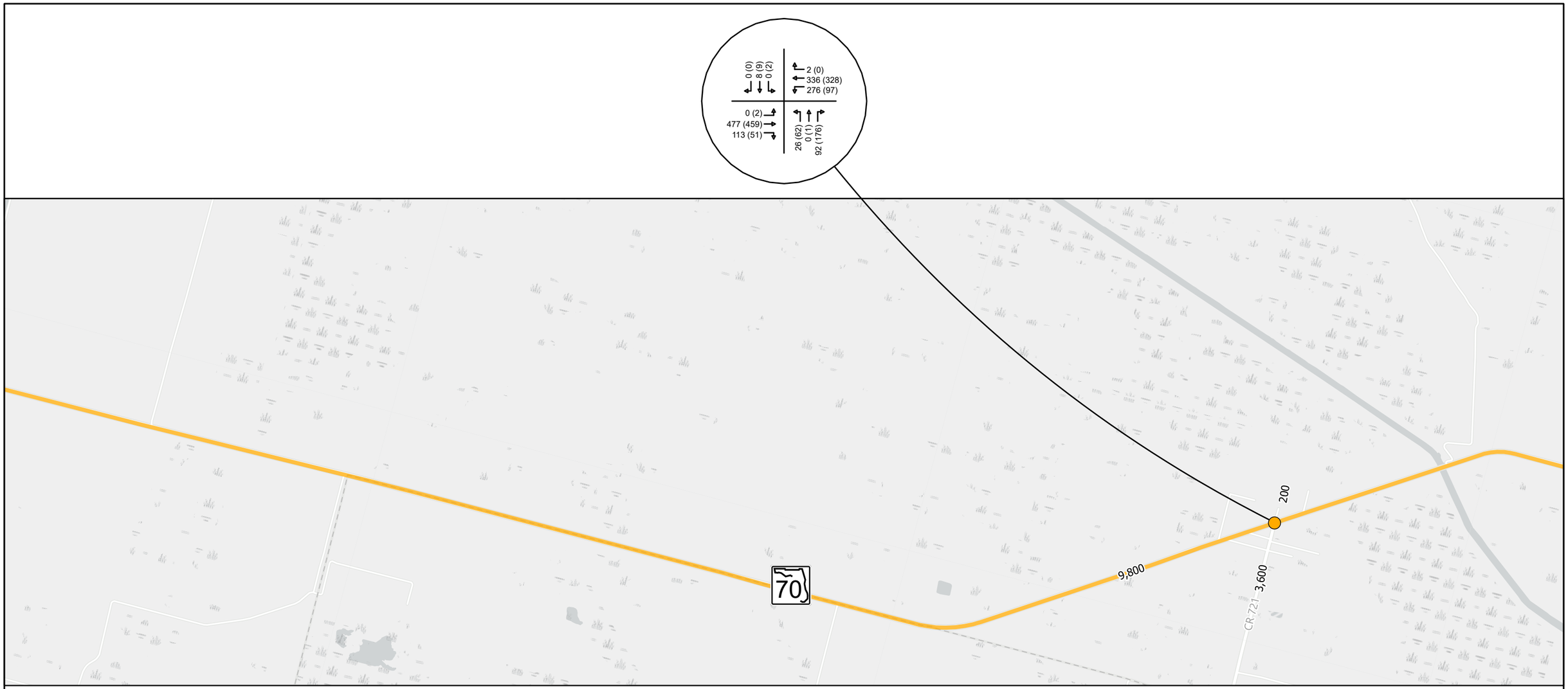


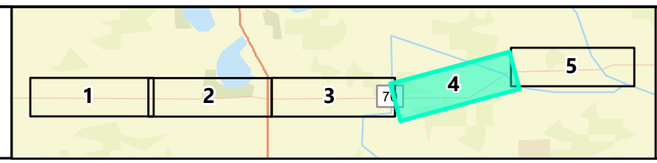
Figure 3-3: Design Year (2052) No-Build AADT and AM (PM) Turning Movement Volumes

Sheet 3 of 5



Legend

- Project Limits
- Flashing Yellow (1)
- XX (XX) AM(PM) Peak Hour Counts
- X,XXX AADT
- Turning Movements

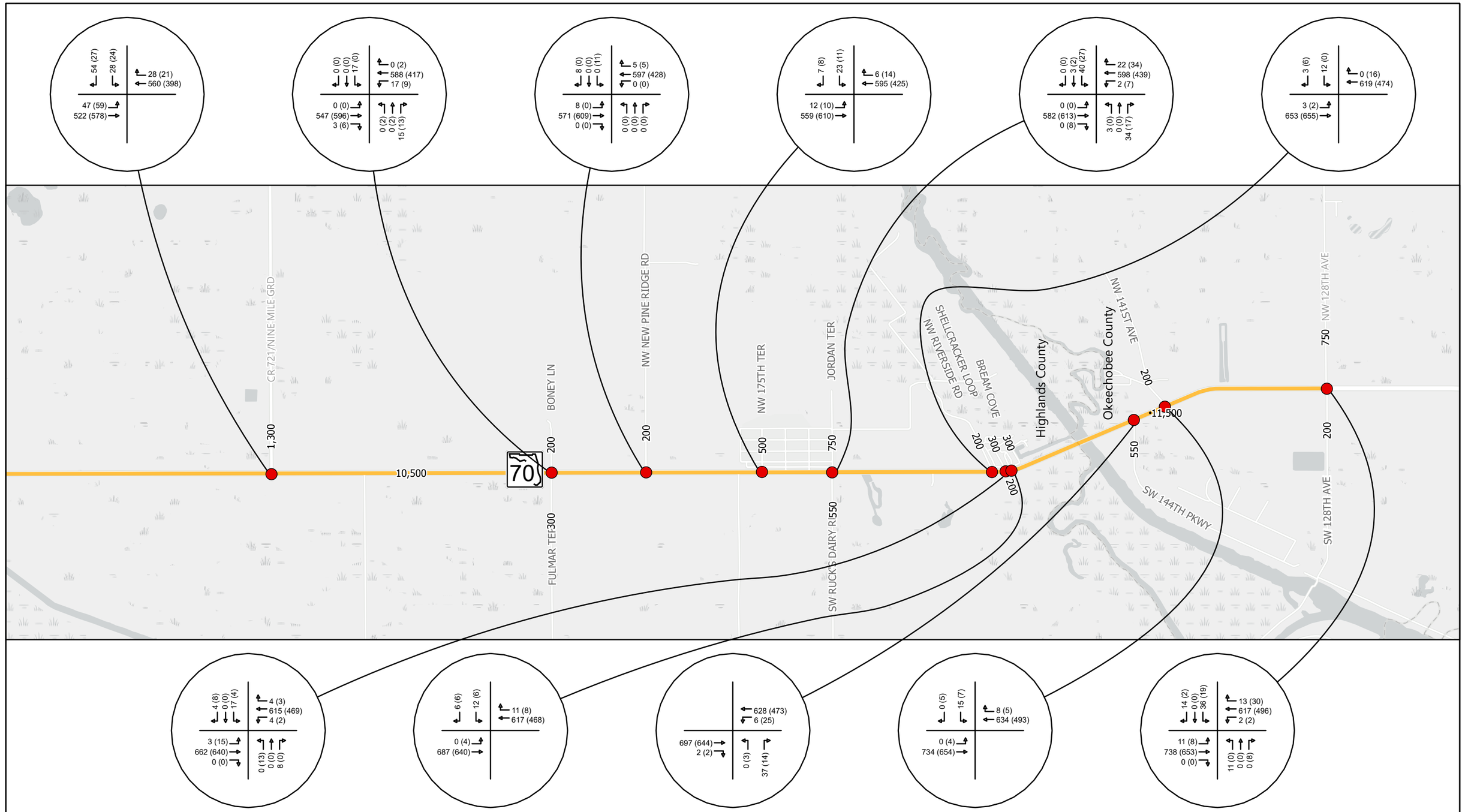


N

0 2,000 Feet

Figure 3-3: Design Year (2052) No-Build AADT and AM (PM) Turning Movement Volumes

Sheet 4 of 5



FDOT

Legend

- Project Limits
- Unsignalized (11)
- XX (XX) AM(PM) Peak Hour Volumes
- X,XXX AADT
- Turning Movements

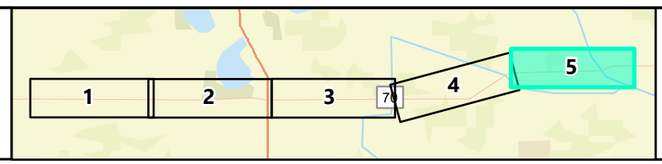


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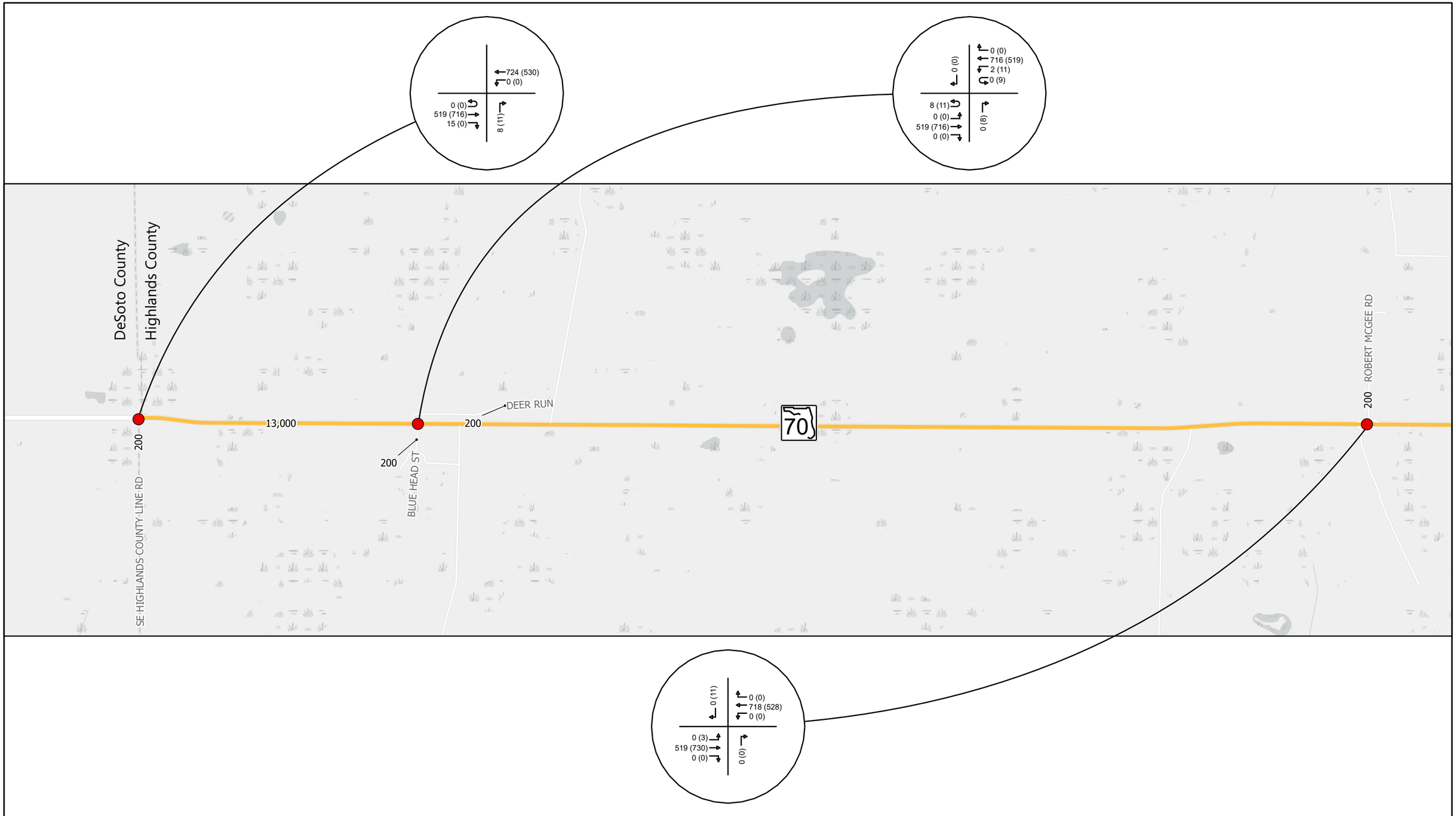
Figure 3-3: Design Year (2052) No-Build AADT and AM (PM) Turning Movement Volumes

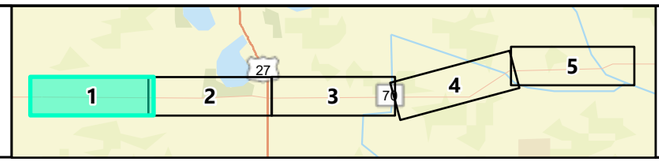
Sheet 5 of 5



Legend

- Project Limits
- Unsignalized (3)

XX (XX) AM(PM) Peak Hour Volumes
X,XXX AADT
Turning Movements



N

0 2,000 Feet

Figure 3-4: Design Year (2052) Build AADT and AM (PM) Turning Movement Volumes
Sheet 1 of 5

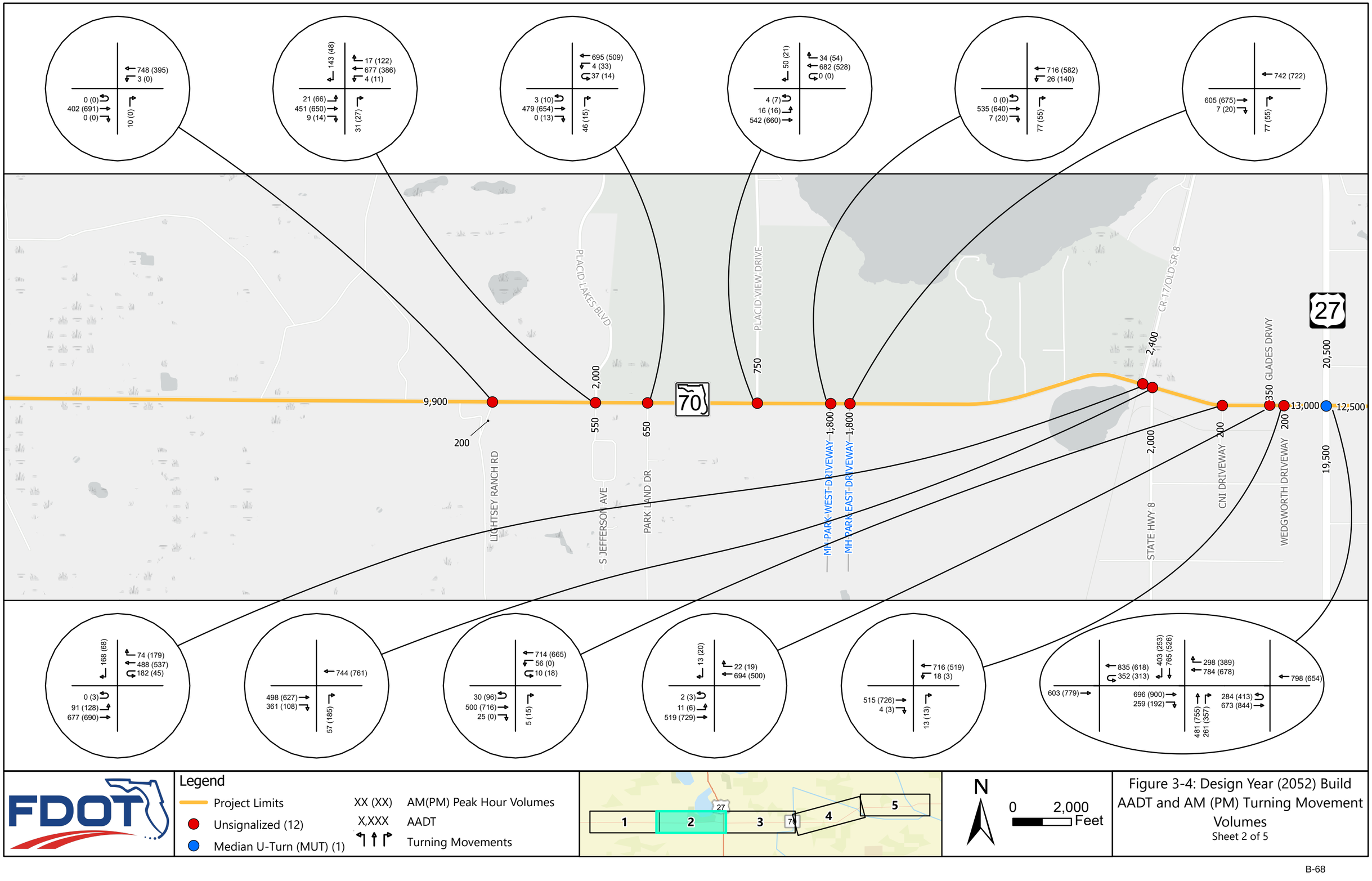
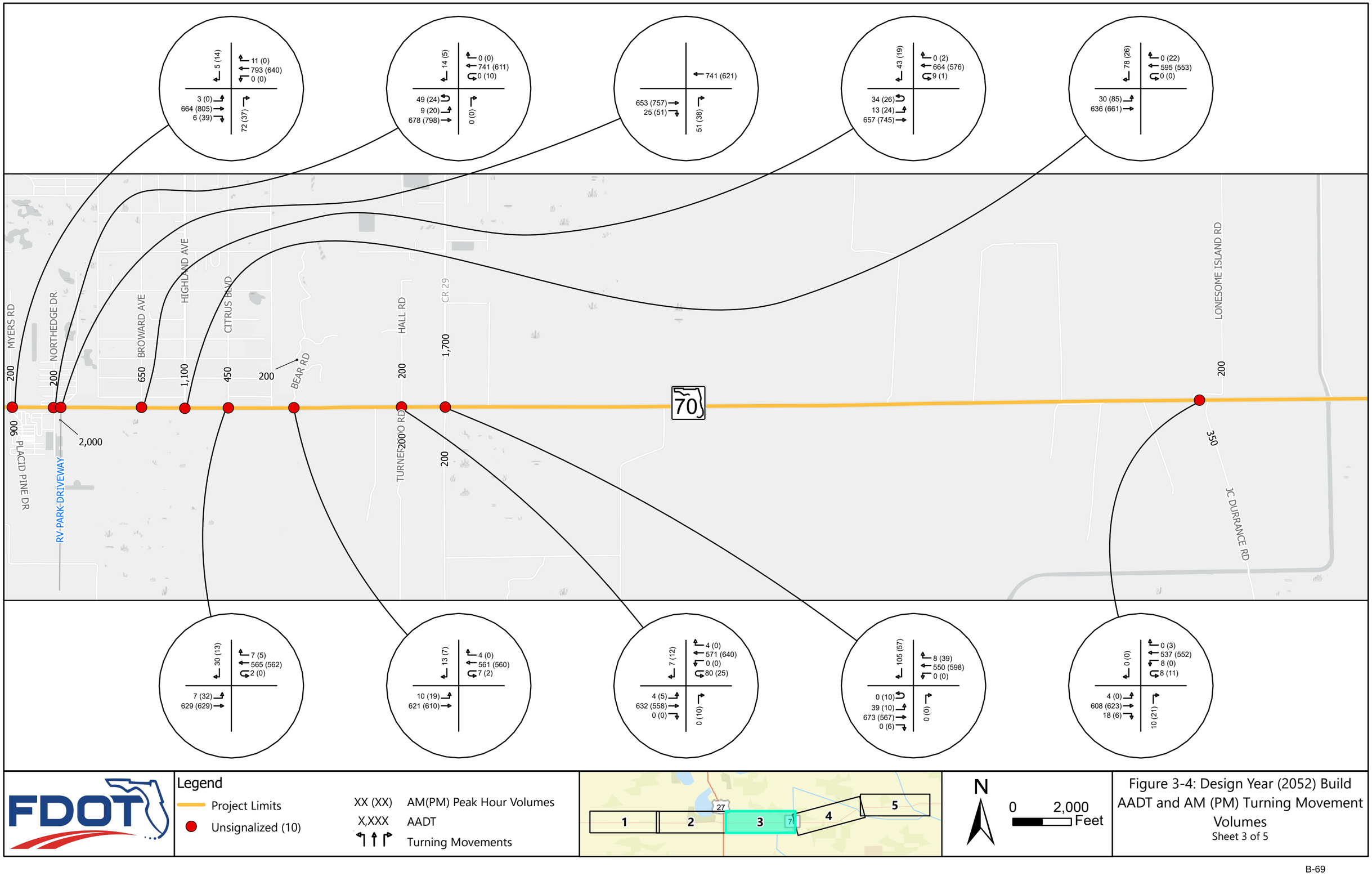


Figure 3-4: Design Year (2052) Build AADT and AM (PM) Turning Movement Volumes

Sheet 2 of 5



FDOT

Legend

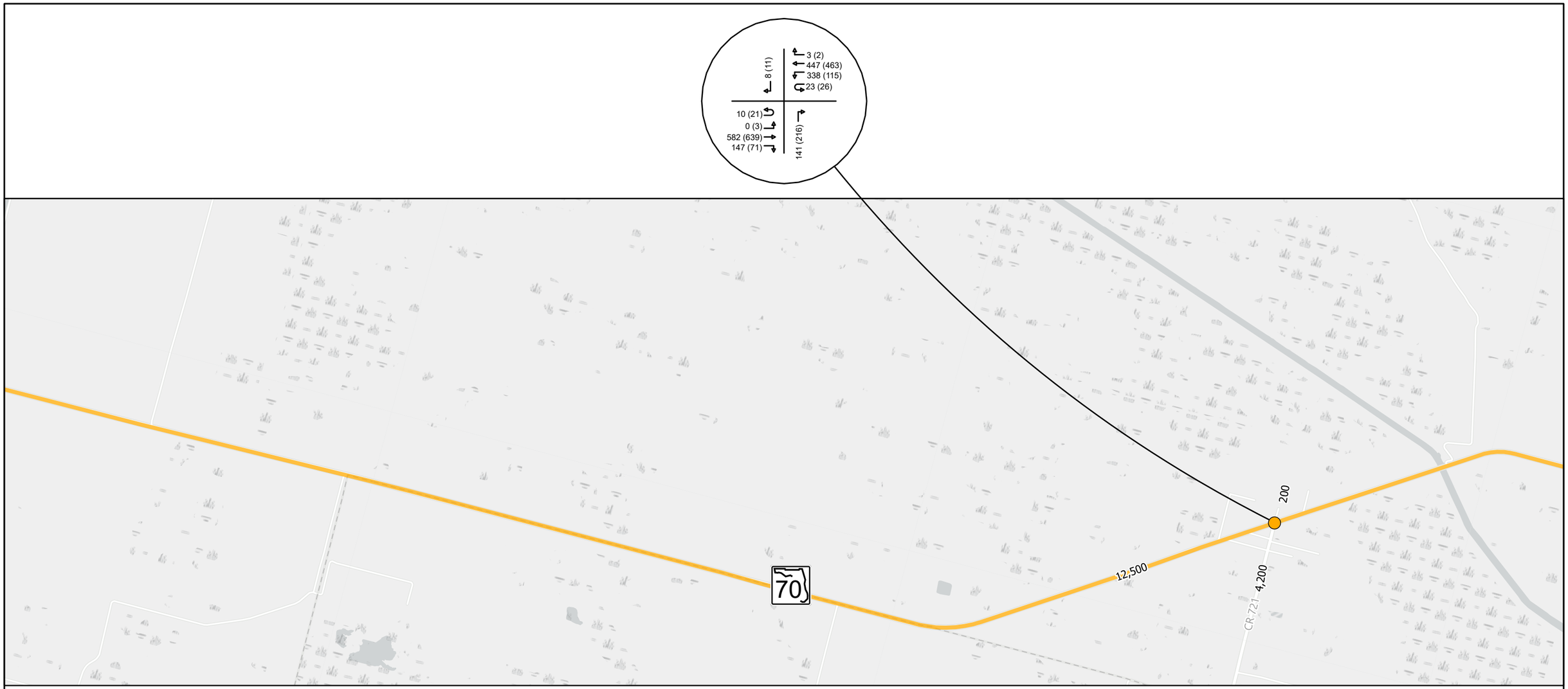
- Project Limits
- Unsignalized (10)
- XX (XX) AM(PM) Peak Hour Volumes
- X,XXX AADT
- Turning Movements

N

0 2,000 Feet

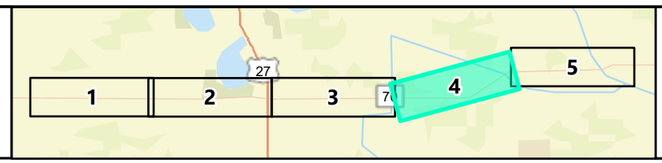
Figure 3-4: Design Year (2052) Build AADT and AM (PM) Turning Movement Volumes

Sheet 3 of 5



Legend

- Project Limits
- Flashing Yellow (1)
- XX (XX) AM(PM) Peak Hour Volumes
- X,XXX AADT
- Turning Movements

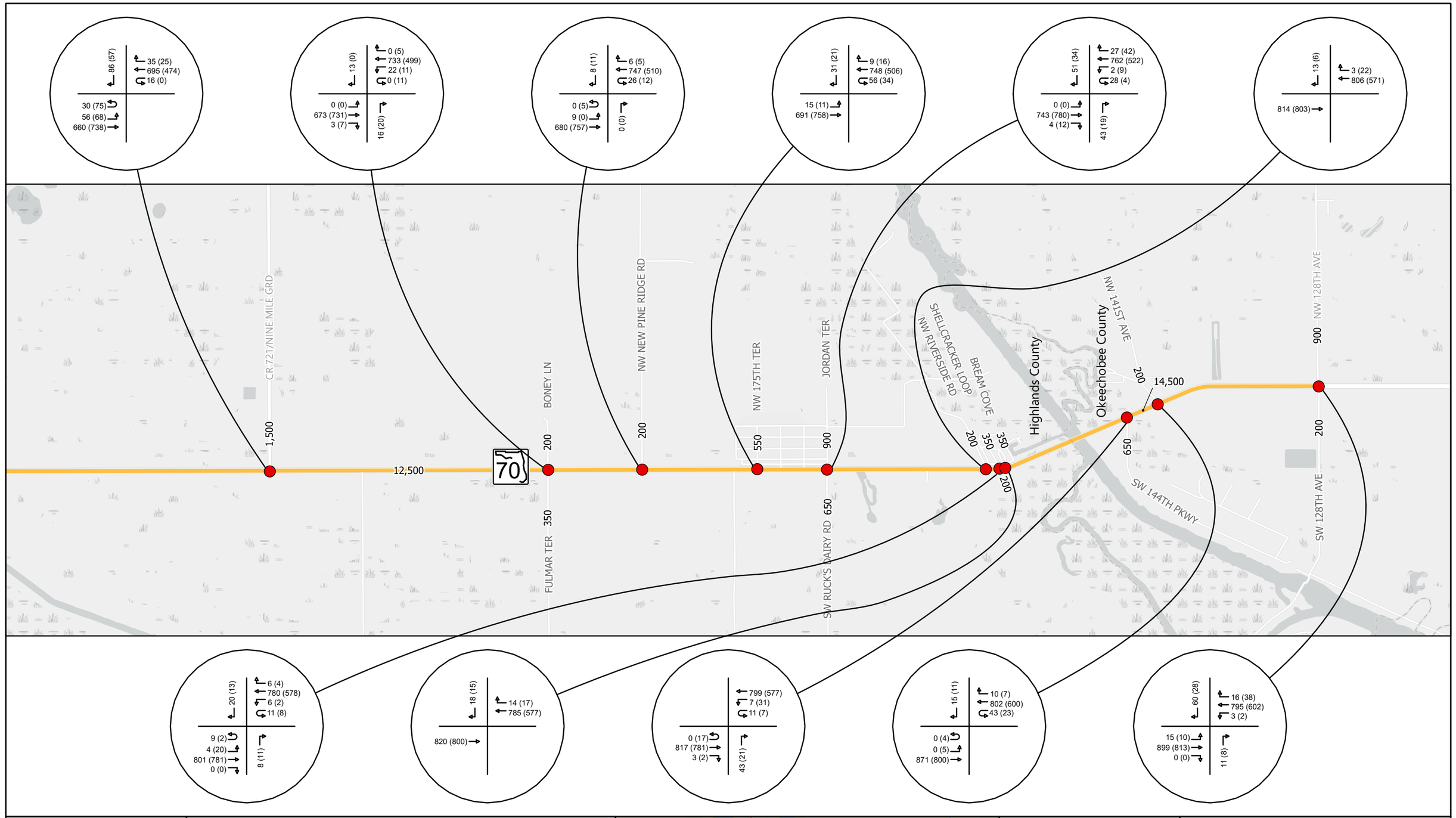


N

0 2,000 Feet

Figure 3-4: Design Year (2052) Build AADT and AM (PM) Turning Movement Volumes

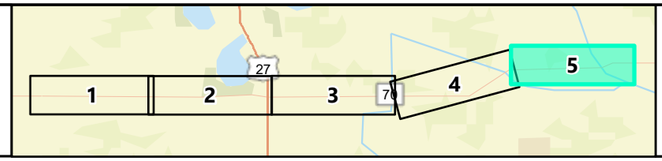
Sheet 4 of 5



FDOT

Legend

- Project Limits
- Unsignalized (11)
- XX (XX) AM(PM) Peak Hour Volumes
- X,XXX AADT
- Turning Movements



N

0 2,000 Feet

Figure 3-4: Design Year (2052) Build AADT and AM (PM) Turning Movement Volumes

Sheet 5 of 5

3.3 Development of Opening Year (2032) Traffic Volumes

The following sections document the development of the daily and peak hour opening year traffic volumes.

3.3.1 Opening Year (2032) AADTs

Opening year daily (AADT) volumes were developed for the No-Build and Build Alternatives through linear interpolation. The Existing (2022) AADTs and the Design Year (2052) AADTs were used to calculate AADTs for an opening year of 2032. Two new developments will also be completed by the opening year: a Recreational Vehicle Park and Mobile Home Park are expected to be constructed off SR 70 in the project limits. AADTs for the driveways accessing these developments were estimated using the ITE Trip Generation Handbook (11th Edition). The supporting trip generation documents can be found in **Appendix E**. In both the No-Build and Build scenarios, some manual adjustments of AADTs were required to maintain AADT balance. **Table 3-3** shows Opening Year No-Build and Build AADT development.

Table 3-3: Opening Year No-Build and Build AADT

Location		Existing	No-Build			Build		
		2022 Existing AADT	Selected Growth Rate	Opening Year AADT	Rounded Opening Year AADT	Selected Growth Rate	Opening Year AADT	Rounded Opening Year AADT
SR 70	West of County Line to Robert McGee Rd	5,800	3.0%	7,540	7,500	4.0%	8,120	8,100
	Between Robert McGee Rd and Lightsey Ranch Rd	5,000		6,500	6,500		7,000	7,000
	West of Lightsey Ranch Rd to Placid Lakes Blvd	4,500		5,850	5,900		6,300	6,300
	Between Lightsey Ranch Rd and Placid Lakes Blvd							
	Between Placid Lakes Blvd and Park Land Dr	5,100	4.0%	7,140	7,100	5.0%	7,650	7,700
	Between Park Land Dr and Placid View Dr							
	Between Placid View Dr and Old SR 8 (West)							
	Between Old SR 8 (West) and Old SR 8 (East)							
	Between Old SR 8 (East) and Distribution Blvd							
	Between Distribution Blvd and Glades Driveway							
	Between Glades Driveway and Wedgeworth Driveway							
	Between Wedgeworth Driveway and US 27							
	Between US 27 and Myers Rd/Placid Pines Dr	5,600	2.5%	7,000	7,000	4.0%	7,840	7,800
	Between Myers Rd/Placid Pines Dr and North Edge Dr							
	Between North Edge Dr and Broward Ave							
	Between Broward Ave and Highlands Ave							
	Between Highlands Ave and Citrus Blvd							
	Between Citrus Blvd and Bear Rd	5,600	2.5%	7,000	7,000	4.0%	7,840	7,800
	Between Bear Rd and Hall Rd							
	Between Hall Rd and CR 29							
	Between CR 29 and Lonesome Island Rd							
	Between Lonesome Island Rd and CR 721 South							
	Between CR 721 South and CR 721 North	5,400	3.0%	7,020	7,000	4.5%	7,830	7,800
	Between CR 721 North and Boney Ln/Fulmar Terr							
	Between Boney Ln/Fulmar Terr and NW New Pine Ridge Rd							
	Between NW New Pine Ridge Rd and 175th Terr							
	Between 175th Terr and 172nd Terr/SW Rucks Dairy Rd							

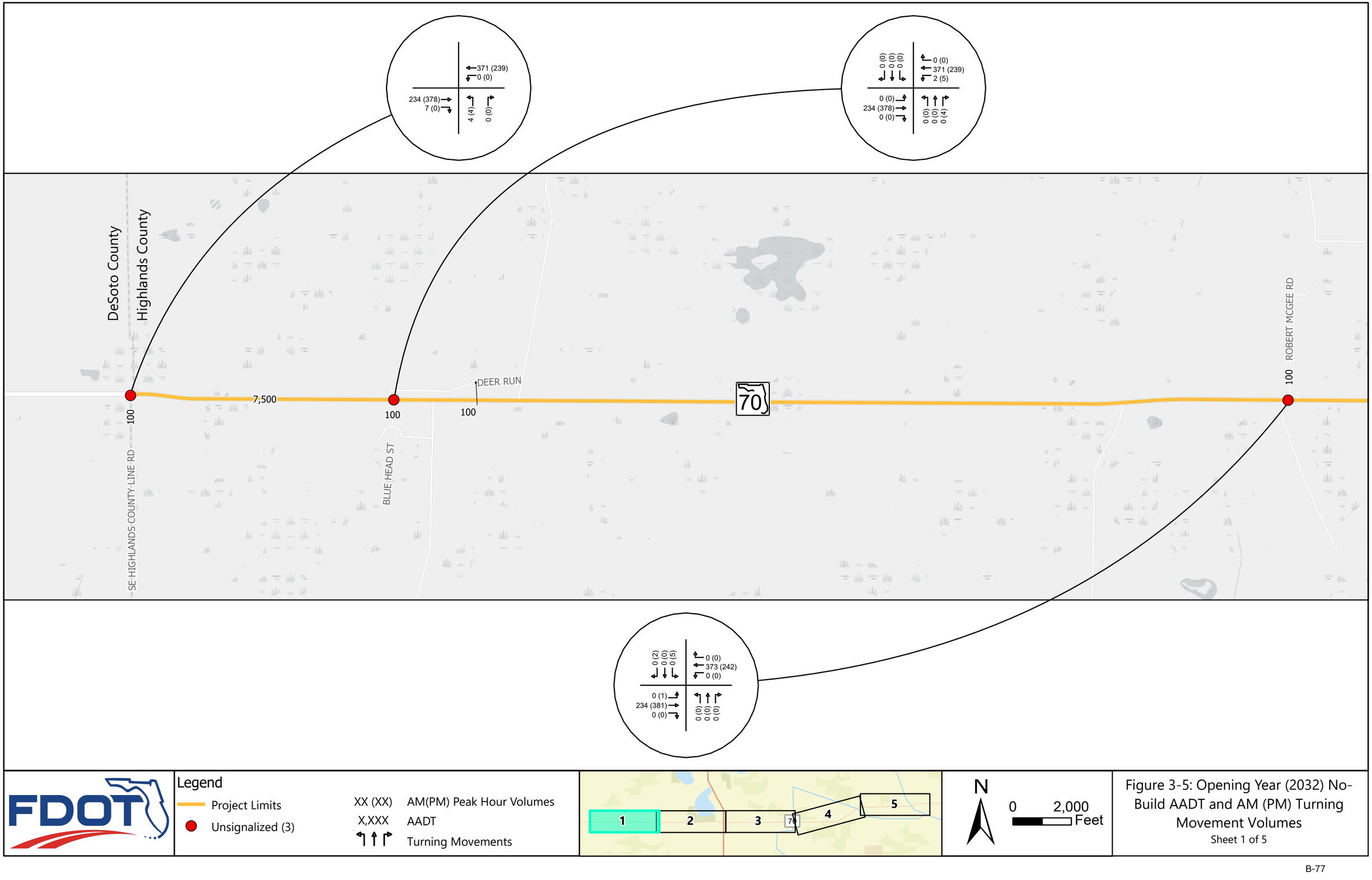
Location		Existing	No-Build			Build		
		2022 Existing AADT	Selected Growth Rate	Opening Year AADT	Rounded Opening Year AADT	Selected Growth Rate	Opening Year AADT	Rounded Opening Year AADT
SR 70	Between 172nd Terr/SW Rucks Dairy Rd and Riverside Rd	5,400	3.0%	7,020	7,000	4.5%	7,830	7,800
	Between Riverside Rd and Shellcracker Loop							
	Between Shellcracker Loop and Bream Cove							
	Between Bream Cove and 144th Pkwy							
	Between 144th Pkwy and 141st Ave	6,100		7,930	7,900		8,845	8,800
	Between 141st Ave and NW 128th Ave							
	East of NW 128th Ave							
Side Streets	Highlands County Line Rd South of SR 70	100	2.0%	120	100	3.0%	130	150
	Deer Run Rd North of SR 70	100	2.0%	120	100	3.0%	130	150
	Blue Head Street South of SR 70	100	3.0%	130	100	4.0%	140	150
	Robert McGee Rd North of SR 70	100	3.0%	130	100	4.0%	140	150
	Lightsey Ranch Rd South of SR 70	100	3.0%	130	100	4.0%	140	150
	Placid Lakes Blvd North of SR 70	900	3.0%	1,170	1,200	4.0%	1,260	1,300
	Jefferson Ave South of SR 70	250	3.0%	325	350	4.0%	350	350
	Park Land Dr South of SR 70	300	3.0%	390	400	4.0%	420	400
	Placid View Dr North of SR 70	350	3.0%	455	450	4.0%	490	500
	Old SR 8 (West) North of SR 70	1,100	3.0%	1,430	1,400	4.0%	1,540	1,500
	Old SR 8 (East) South of SR 70	900	3.0%	1,170	1,200	4.0%	1,260	1,300
	Distribution Blvd (CNI Driveway) South of SR 70	100	3.0%	130	150	4.0%	140	150
	Glades Driveway North of SR 70	150	3.0%	195	200	4.0%	210	200
	Wedgeworth Driveway South of SR 70	100	3.0%	130	150	4.0%	140	150
	US 27 North of SR 70	9,400	3.5%	12,690	12,500	4.0%	13,160	13,000
	US 27 South of SR 70	8,800	3.0%	11,440	11,500	4.0%	12,320	12,500
	Myers Rd North of SR 70	100	3.0%	130	150	4.0%	140	150
	Placid Pines Dr South of SR 70	400	3.0%	520	500	4.0%	560	550
	North Edge Dr North of SR 70	100	3.0%	130	150	4.0%	140	150
	Broward Ave North of SR 70	300	3.0%	390	400	4.0%	420	400
	Highland Ave North of SR 70	500	3.0%	650	650	4.0%	700	700

Location		Existing	No-Build			Build		
		2022 Existing AADT	Selected Growth Rate	Opening Year AADT	Rounded Opening Year AADT	Selected Growth Rate	Opening Year AADT	Rounded Opening Year AADT
	Citrus Blvd North of SR 70	200	3.0%	260	250	4.0%	280	300
	Bear Rd North of SR 70	100	3.0%	130	150	4.0%	140	150
	Hall Rd North of SR 70	100	3.0%	130	150	4.0%	140	150
	Turner Too Rd South of SR 70	100	3.0%	130	150	4.0%	140	150
	CR 29 North of SR 70	750	3.0%	975	1,000	4.0%	1,050	1,100
	KW Farms Road South of SR 70	100	3.0%	130	150	4.0%	140	150
	Lonesome Island Rd North of SR 70	100	3.0%	130	150	4.0%	140	150
	JC Durrance Rd South of SR 70	150	3.0%	195	200	4.0%	210	200
	Lykes Ranch Driveway North of SR 70	100	3.0%	130	150	4.0%	140	150
	CR 721 (West) South of SR 70	1,900	3.0%	2,470	2,500	4.0%	2,660	2,700
	CR 721 (East) North of SR 70	700	3.0%	910	900	4.0%	980	1,000
	Boney Ln North of SR 70	100	3.0%	130	150	4.0%	140	150
Side Streets	Fulmar Terrace South of SR 70	150	3.0%	195	200	4.0%	210	200
	NW New Pine Ridge Rd North of SR 70	100	3.0%	130	150	4.0%	140	150
	175th Terrace North of SR 70	250	3.0%	325	350	4.0%	350	350
	172nd Terrace (Jordan Terrace) North of SR 70	400	3.0%	520	500	4.0%	560	550
	SW Rucks Dairy Rd South of SR 70	300	3.0%	390	400	4.0%	420	400
	Riverside Rd North of SR 70	100	3.0%	130	150	4.0%	140	150
	Shellcracker Loop North of SR 70	150	3.0%	195	200	4.0%	210	200
	Driveway (across from Shellcracker) South of SR 70	100	3.0%	130	150	4.0%	140	150
	Bream Cove North of SR 70	150	3.0%	195	200	4.0%	210	200
	144th Pkwy South of SR 70	300	3.0%	390	400	4.0%	420	400
	141st Ave North of SR 70	100	3.0%	130	150	4.0%	140	150
	NW 128th Ave North of SR 70	400	3.0%	520	500	4.0%	560	550
	SW 128th Ave South of SR 70	100	3.0%	130	150	4.0%	140	150

3.3.2 Opening Year (2032) Directional Design Hourly Volumes (DDHVs) and Turning Movement Volumes

Opening year (2032) directional design hourly volumes (DDHVs) were developed slightly differently for the No-Build and Build scenarios due to differences in access points along the corridor. The Opening Year No-Build turning movement volumes were linearly interpolated between Existing and Design Year No-Build turning movement volumes. The Opening Year Build DDHVs were linearly interpolated between Existing and Design Year Build DDHVs. Design Year Build turning movement percentages were then applied to develop Opening Year turning movement volumes. The resulting volume distribution was smoothed to replicate logical corridor distribution, ensuring that calculated values are not lower than existing values and accounting for volume imbalances between intersections (where appropriate).

For both the No-Build and Build scenarios, some manual adjustments were necessary to achieve better balance and appropriate traffic growth. Opening Year No-Build AADTs and Hourly Volumes are shown in **Figure 3-5**. Opening Year Build AADTs and Hourly Volumes are shown in **Figure 3-6**. SR 70 AADTs are only shown on **Figure 3-5** and **Figure 3-6** where counts were collected, but AADT volumes were estimated for the remaining segments to develop DDHVs.



FDOT

Legend

- Project Limits
- Unsignalized (3)
- XX (XX) AM(PM) Peak Hour Volumes
- X,XXX AADT
- Turning Movements

N

0 2,000 Feet

Figure 3-5: Opening Year (2032) No-Build AADT and AM (PM) Turning Movement Volumes

Sheet 1 of 5

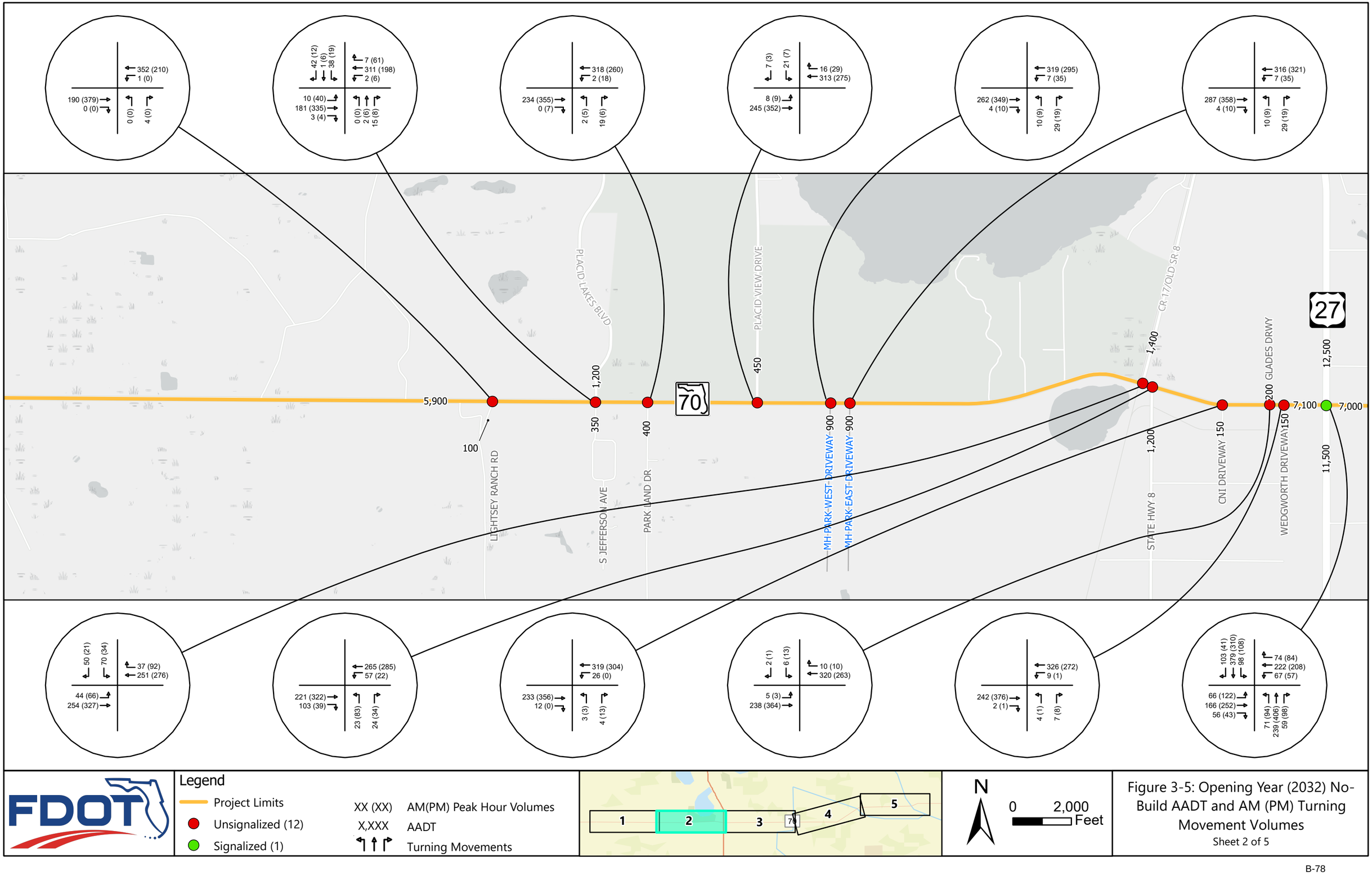


Figure 3-5: Opening Year (2032) No-Build AADT and AM (PM) Turning Movement Volumes

Sheet 2 of 5

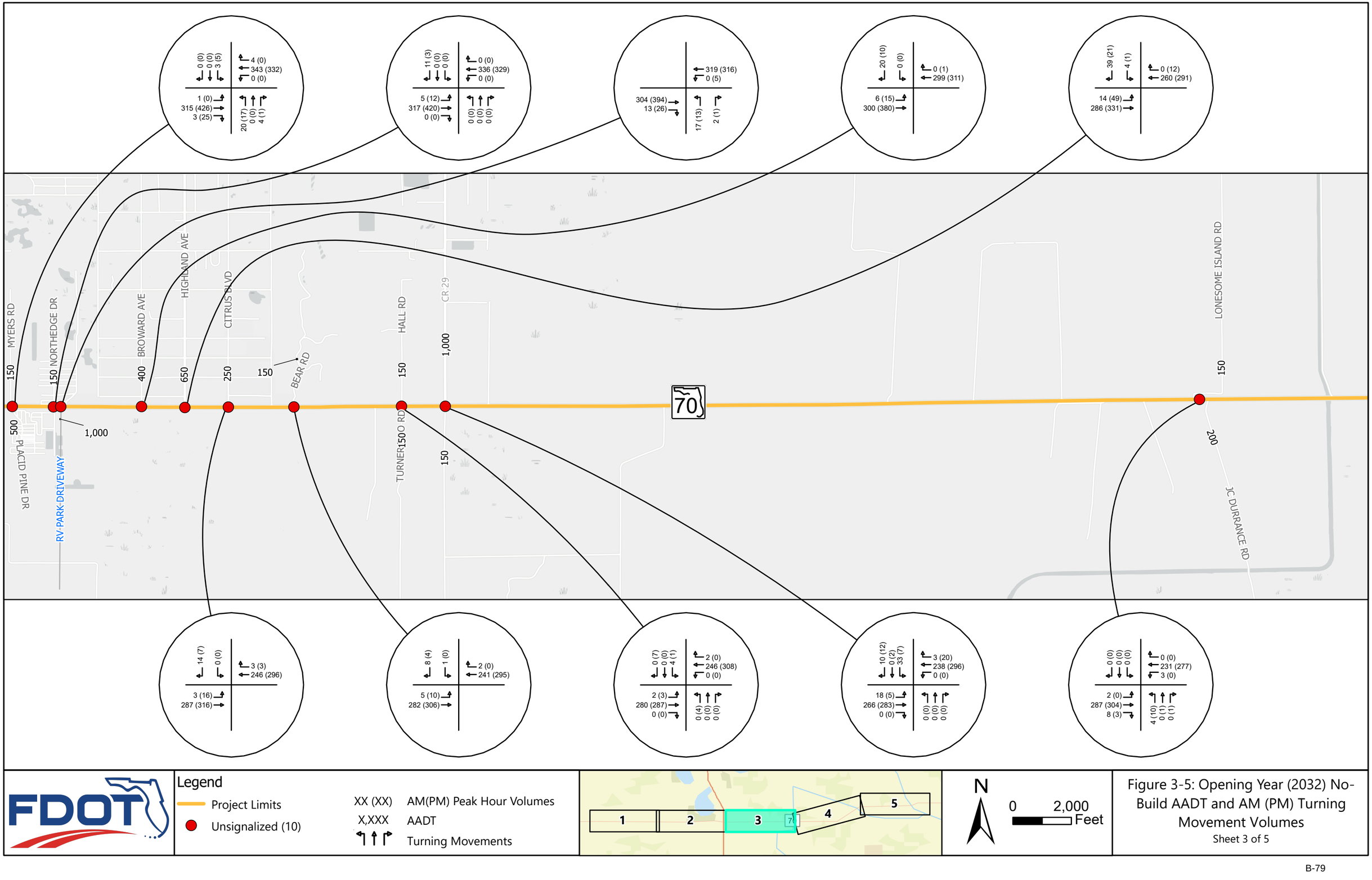
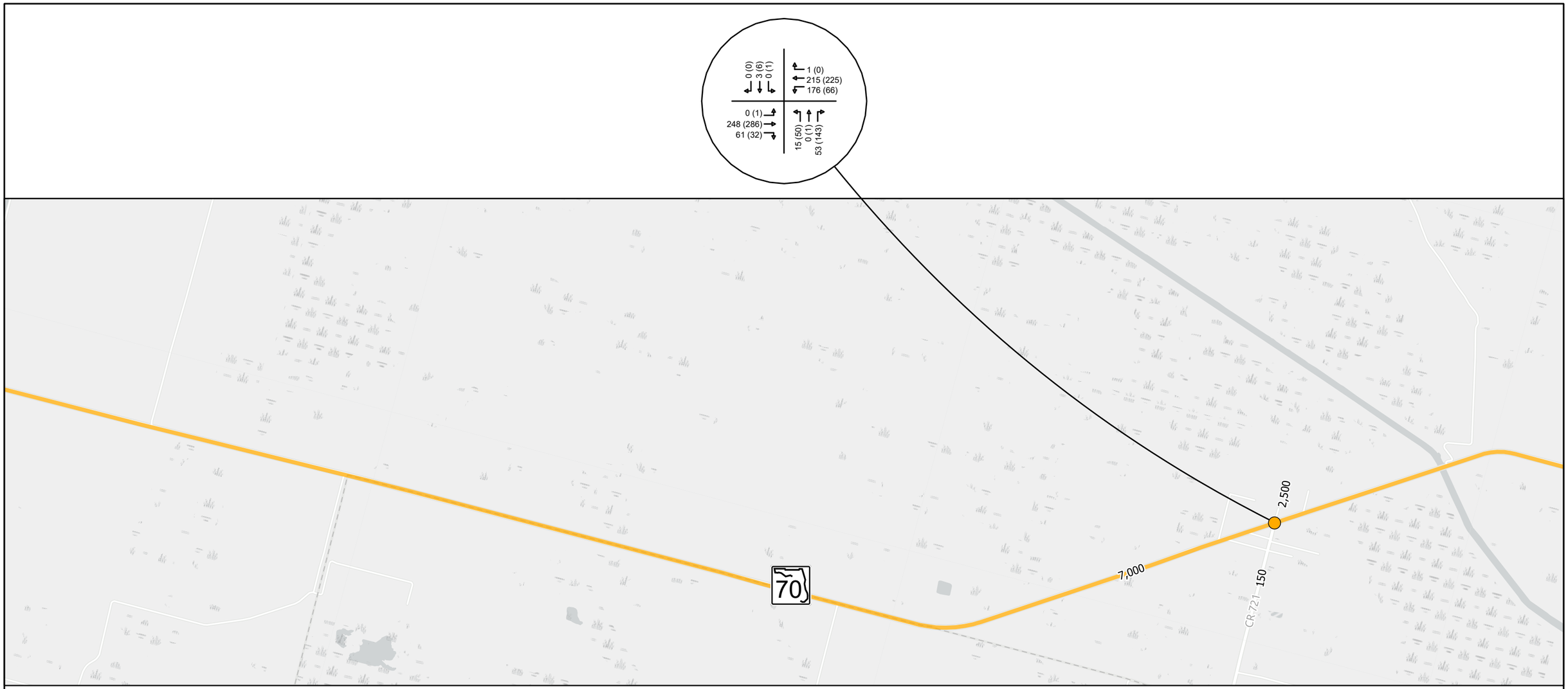
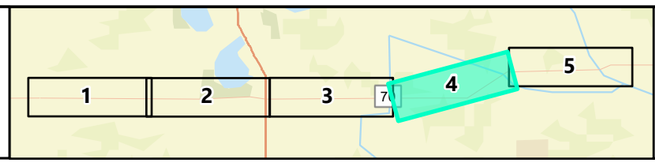


Figure 3-5: Opening Year (2032) No-Build AADT and AM (PM) Turning Movement Volumes

Sheet 3 of 5





Legend

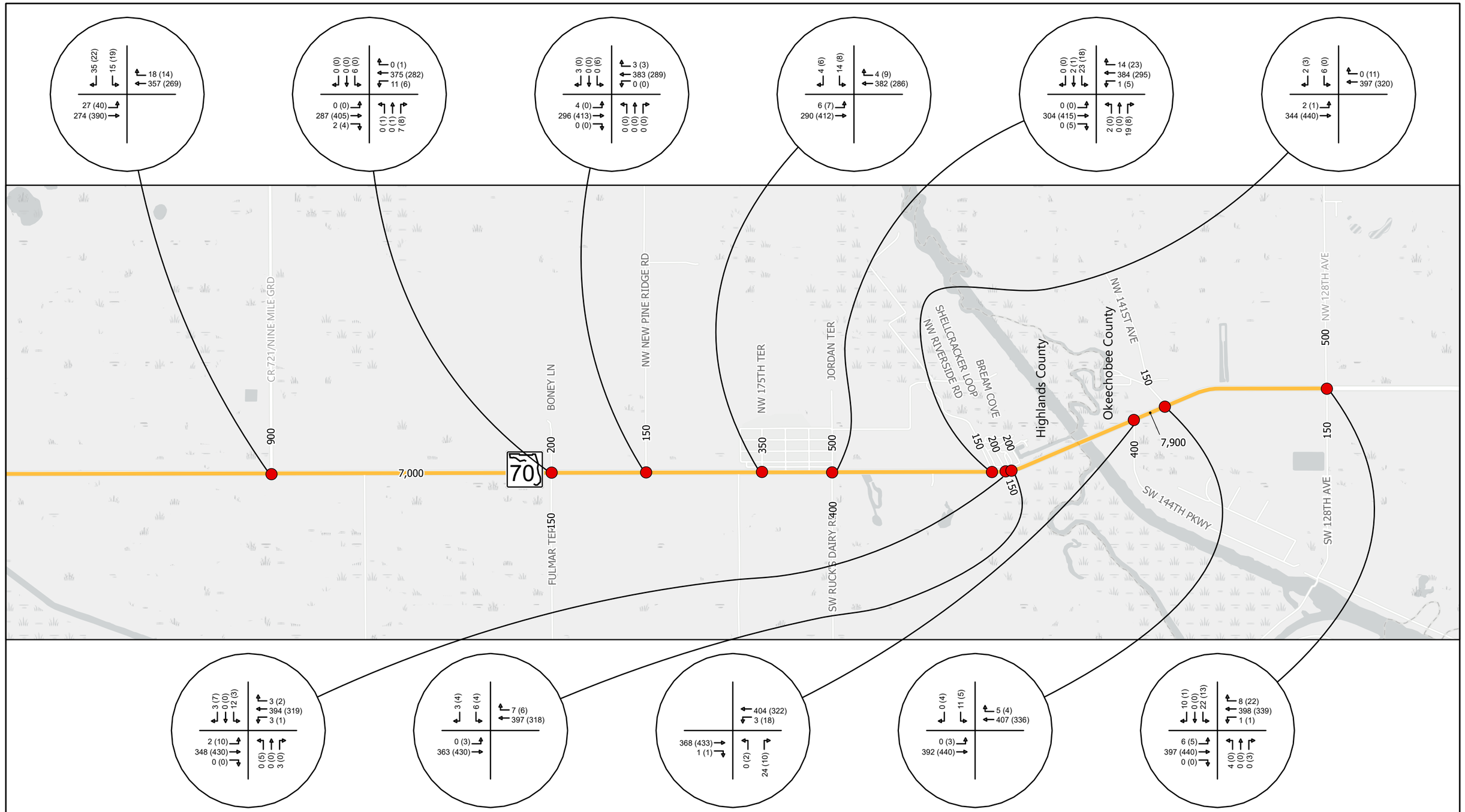
- Project Limits
- Flashing Yellow (1)
- XX (XX) AM(PM) Peak Hour Volumes
- X,XXX AADT
- Turning Movements

N

0 2,000 Feet

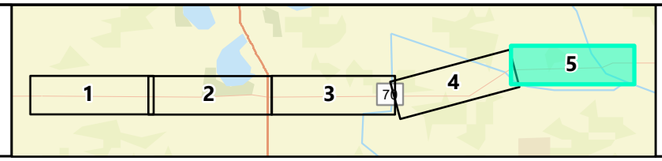
Figure 3-5: Opening Year (2032) No-Build AADT and AM (PM) Turning Movement Volumes

Sheet 4 of 5



Legend

- Project Limits
- Unsignalized (11)
- XX (XX) AM(PM) Peak Hour Volumes
- X,XXX AADT
- Turning Movements

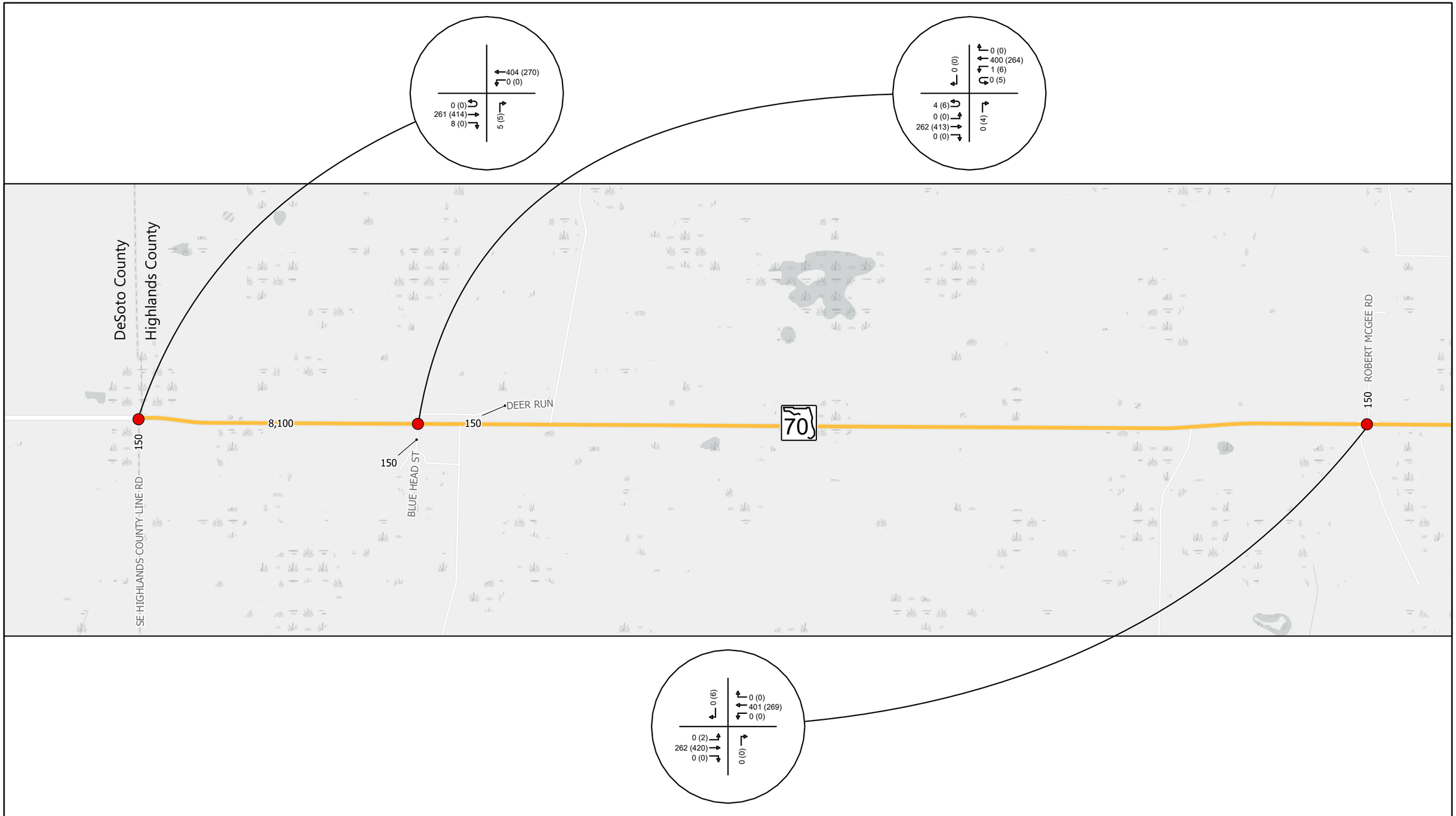


N

0 2,000 Feet

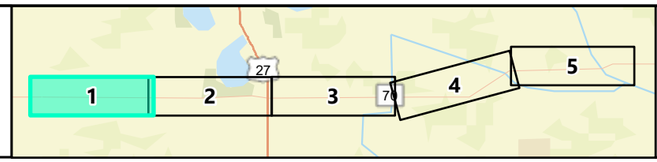
Figure 3-5: Opening Year (2032) No-Build AADT and AM (PM) Turning Movement Volumes

Sheet 5 of 5



Legend

- Project Limits
- Unsignalized (3)
- XX (XX) AM(PM) Peak Hour Volumes
- X,XXX AADT
- Turning Movements



N

0 2,000 Feet

Figure 3-6: Opening Year (2032) Build AADT and AM (PM) Turning Movement Volumes
Sheet 1 of 5

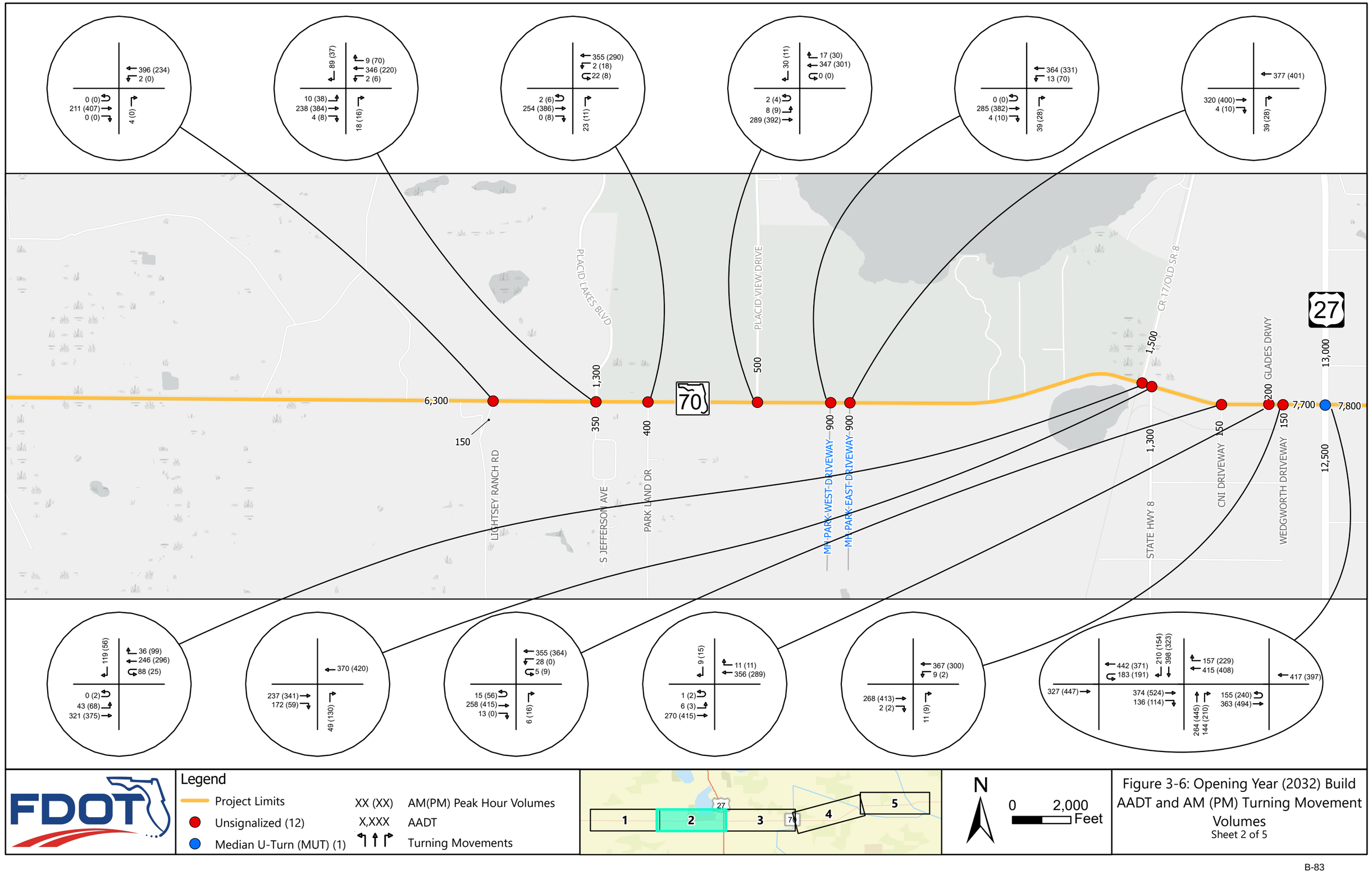
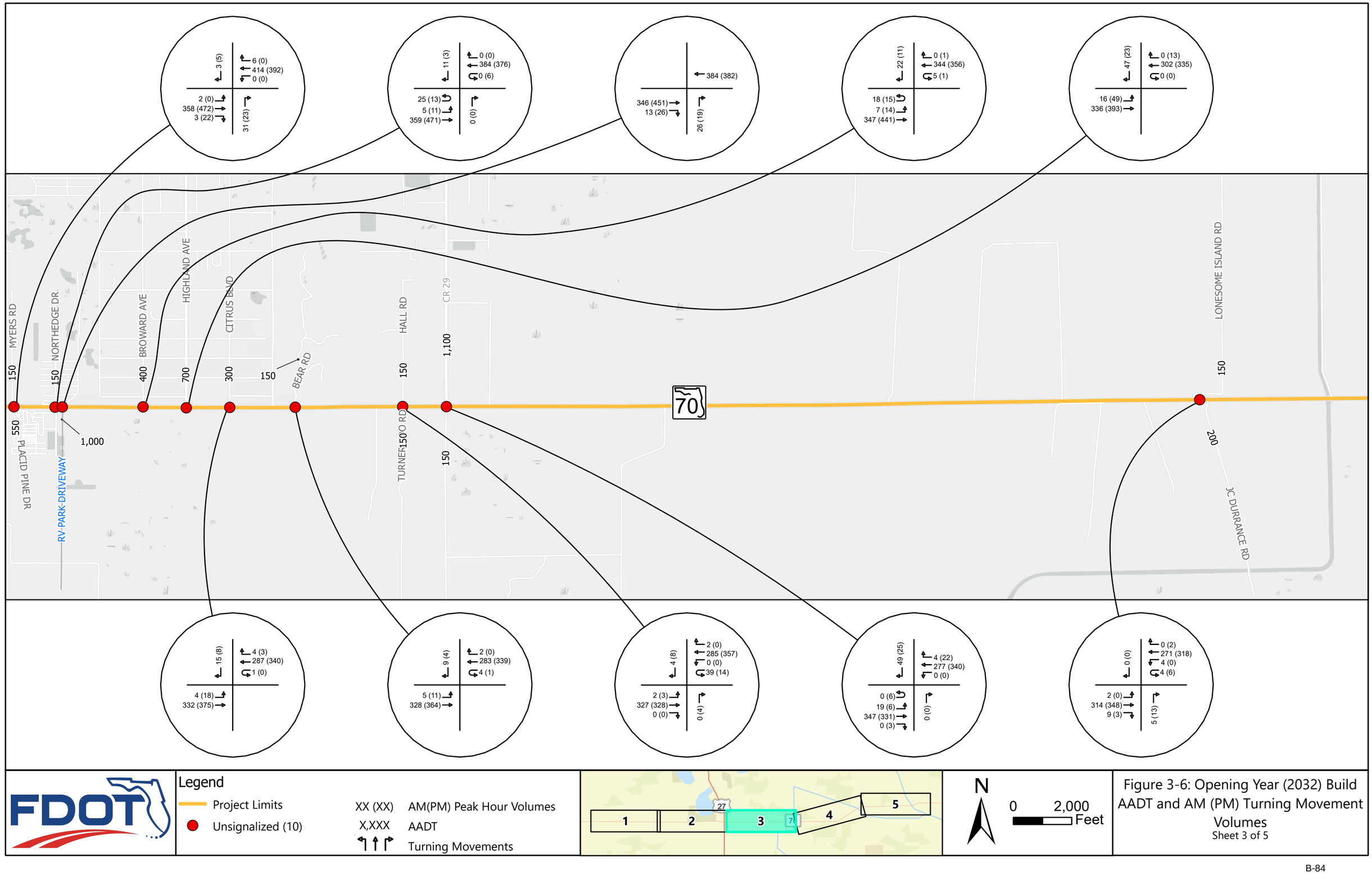


Figure 3-6: Opening Year (2032) Build AADT and AM (PM) Turning Movement Volumes

Sheet 2 of 5



FDOT

Legend

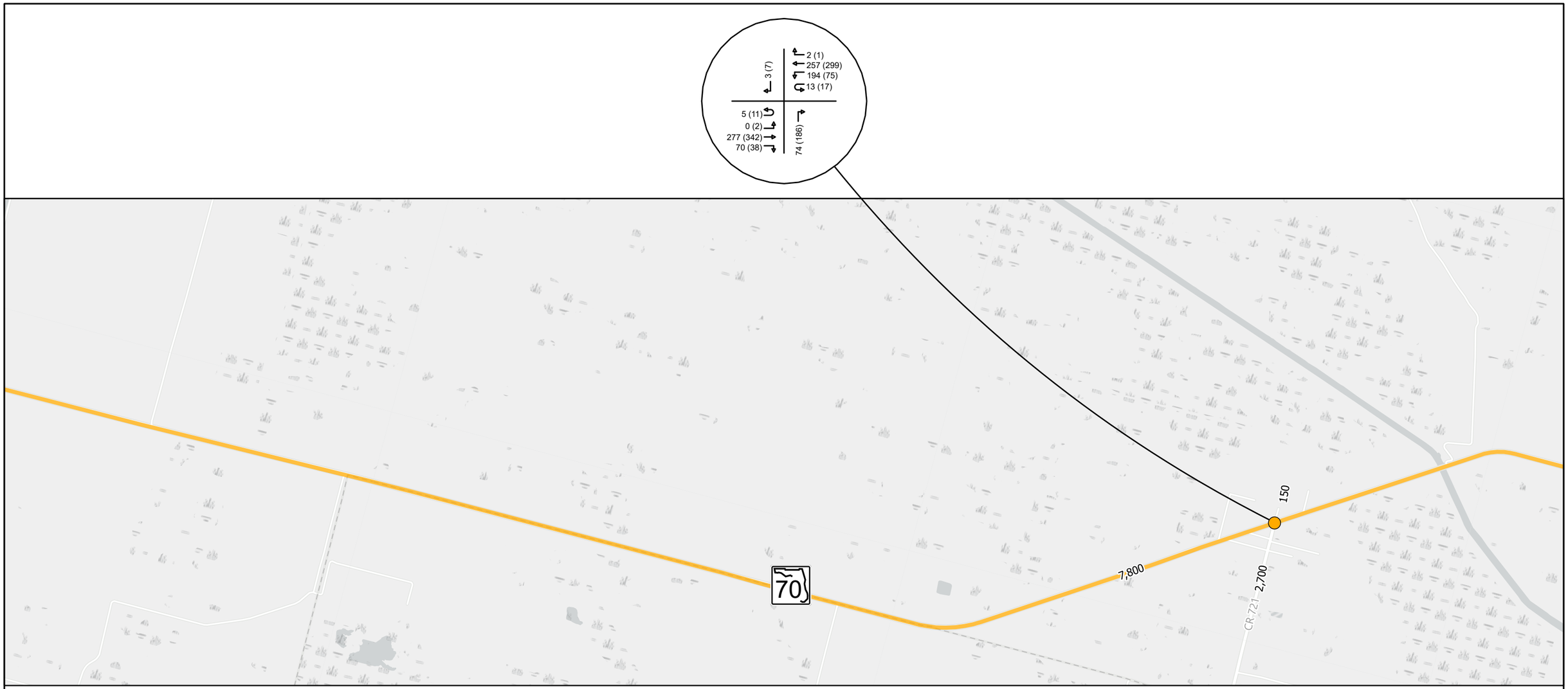
- Project Limits
- Unsignalized (10)
- XX (XX) AM(PM) Peak Hour Volumes
- X,XXX AADT
- Turning Movements

N

0 2,000 Feet

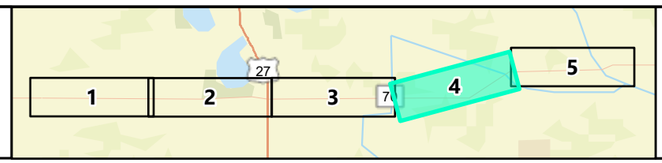
Figure 3-6: Opening Year (2032) Build AADT and AM (PM) Turning Movement Volumes

Sheet 3 of 5



Legend

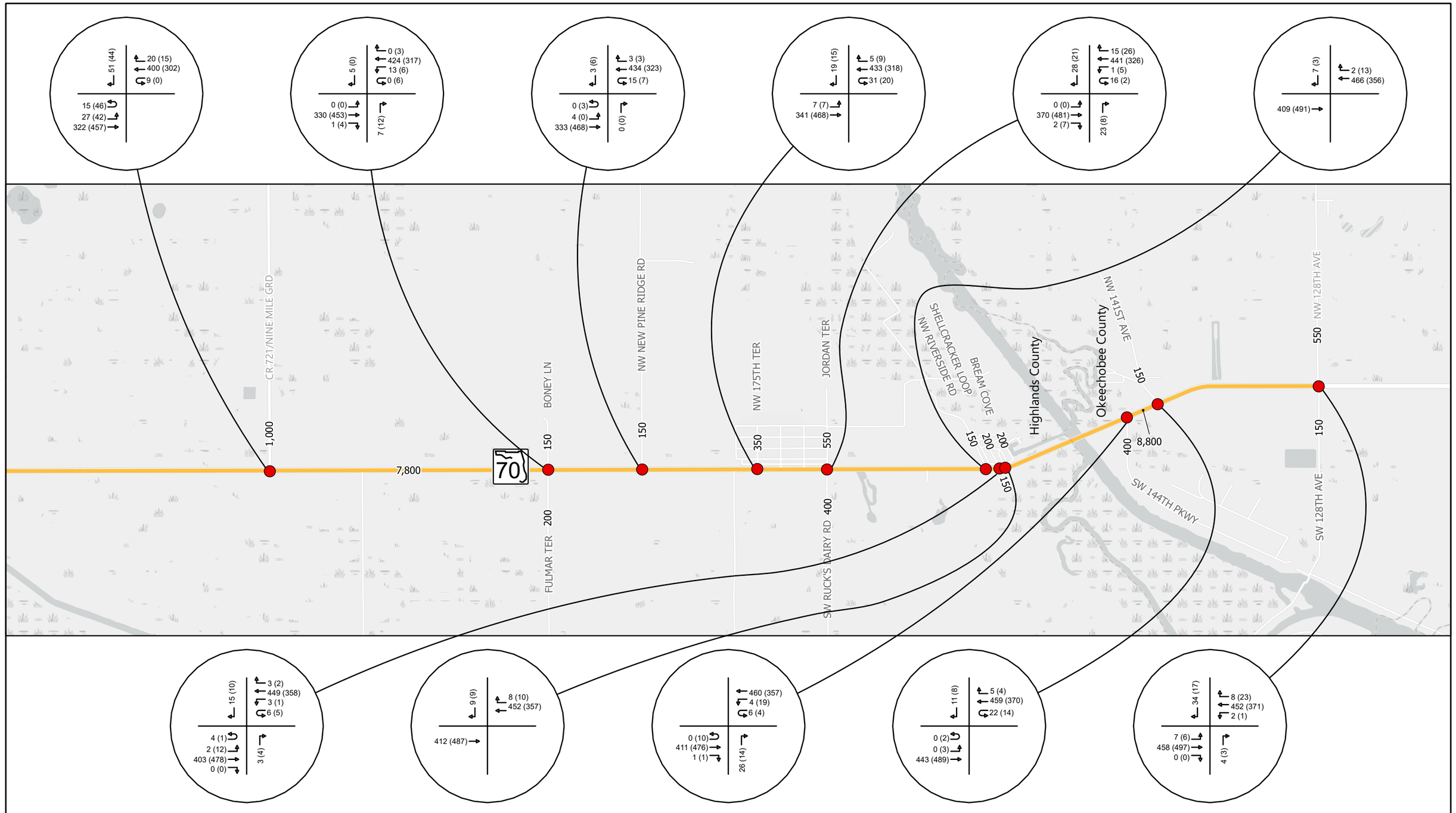
- Project Limits
- Flashing Yellow (1)
- XX (XX) AM(PM) Peak Hour Counts
- X,XXX AADT
- Turning Movements



N

0 2,000 Feet

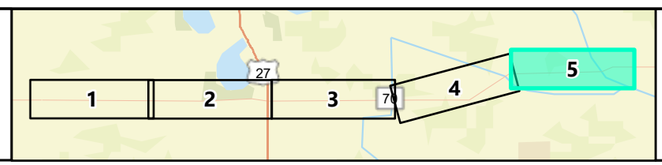
Figure 3-6: Opening Year (2032) Build AADT and AM (PM) Turning Movement Volumes
Sheet 4 of 5



Legend

- Project Limits
- Unsignalized (11)

XX (XX) AM(PM) Peak Hour Volumes
X,XXX AADT
Turning Movements



N

0 2,000 Feet

Figure 3-6: Opening Year (2032) Build AADT and AM (PM) Turning Movement Volumes
Sheet 5 of 5

APPENDIX C: Manual Turning Movement Counts

Intersection Turning Movement Count

City/County: Lake Placid/Highlands
Weather: Clear
Comments:

File Name : SR70&LonesomeIsland
Site Code : 1802507
Start Date : 11/15/2022
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - UTurns

	LONESOME ISLAND ROAD Southbound				SR 70 Westbound				JC DURRANCE ROAD DRIVEWAYS Northbound				SR 70 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	1	31	0	32	2	0	0	2	0	44	1	45	79
07:15 AM	0	0	0	0	0	35	0	35	0	0	0	0	1	48	1	50	85
07:30 AM	0	0	0	0	0	37	0	37	0	0	0	0	0	40	2	42	79
07:45 AM	0	0	0	0	1	37	0	38	0	0	0	0	0	35	1	36	74
Total	0	0	0	0	2	140	0	142	2	0	0	2	1	167	5	173	317
08:00 AM	0	0	0	0	1	34	0	35	0	0	0	0	0	35	1	36	71
08:15 AM	0	0	0	0	0	51	0	51	1	0	1	2	0	40	0	40	93
08:30 AM	0	0	0	0	2	40	0	42	1	0	0	1	0	39	1	40	83
08:45 AM	0	0	0	0	1	37	0	38	0	0	0	0	0	36	2	38	76
Total	0	0	0	0	4	162	0	166	2	0	1	3	0	150	4	154	323
*** BREAK ***																	
04:00 PM	0	0	0	0	0	48	0	48	0	0	1	1	0	41	0	41	90
04:15 PM	0	0	0	0	0	45	0	45	1	1	0	2	0	57	0	57	104
04:30 PM	0	0	0	0	0	55	0	55	1	0	1	2	0	61	0	61	118
04:45 PM	0	0	0	0	0	59	0	59	1	0	0	1	0	53	0	53	113
Total	0	0	0	0	0	207	0	207	3	1	2	6	0	212	0	212	425
05:00 PM	0	0	0	0	0	47	0	47	4	0	0	4	0	40	2	42	93
05:15 PM	0	0	0	0	0	54	0	54	1	0	2	3	0	43	1	44	101
05:30 PM	0	1	0	1	0	61	0	61	0	0	1	1	0	47	0	47	110
05:45 PM	0	0	1	1	0	53	0	53	1	0	0	1	0	46	0	46	101
Total	0	1	1	2	0	215	0	215	6	0	3	9	0	176	3	179	405
Grand Total	0	1	1	2	6	724	0	730	13	1	6	20	1	705	12	718	1470
Apprch %	0	50	50		0.8	99.2	0		65	5	30		0.1	98.2	1.7		
Total %	0	0.1	0.1	0.1	0.4	49.3	0	49.7	0.9	0.1	0.4	1.4	0.1	48	0.8	48.8	
Passenger Vehicles	0	1	1	2	4	591	0	595	12	1	5	18	1	566	11	578	1193
% Passenger Vehicles	0	100	100	100	66.7	81.6	0	81.5	92.3	100	83.3	90	100	80.3	91.7	80.5	81.2
Heavy Vehicles	0	0	0	0	2	133	0	135	1	0	1	2	0	139	1	140	277
% Heavy Vehicles	0	0	0	0	33.3	18.4	0	18.5	7.7	0	16.7	10	0	19.7	8.3	19.5	18.8
UTurns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% UTurns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	LONESOME ISLAND ROAD Southbound				SR 70 Westbound				JC DURRANCE ROAD DRIVEWAYS Northbound				SR 70 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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	0	0	0	0	1	34	0	35	0	0	0	0	0	35	1	36	71
08:15 AM	0	0	0	0	0	**51**	0	**51**	**1**	0	**1**	**2**	0	**40**	0	**40**	**93**
08:30 AM	0	0	0	0	**2**	40	0	42	1	0	0	1	0	39	1	40	83
08:45 AM	0	0	0	0	1	37	0	38	0	0	0	0	0	36	**2**	38	76
Total Volume	0	0	0	0	4	162	0	166	2	0	1	3	0	150	4	154	323
% App. Total	0	0	0		2.4	97.6	0		66.7	0	33.3		0	97.4	2.6		
PHF	.000	.000	.000	.000	.500	.794	.000	.814	.500	.000	.250	.375	.000	.938	.500	.963	.868

Intersection Turning Movement Count

Passenger Vehicles	0	0	0	0	2	133	0	135	2	0	0	2	0	110	3	113	250
% Passenger Vehicles	0	0	0	0	50.0	82.1	0	81.3	100	0	0	66.7	0	73.3	75.0	73.4	77.4
Heavy Vehicles	0	0	0	0	2	29	0	31	0	0	1	1	0	40	1	41	73
% Heavy Vehicles	0	0	0	0	50.0	17.9	0	18.7	0	0	100	33.3	0	26.7	25.0	26.6	22.6
UTurns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% UTurns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:45 AM				07:45 AM				07:00 AM			
+0 mins.	0	0	0	0	1	37	0	38	0	0	0	0	0	44	1	45
+15 mins.	0	0	0	0	1	34	0	35	0	0	0	0	**1**	**48**	1	**50**
+30 mins.	0	0	0	0	0	**51**	0	**51**	**1**	0	**1**	**2**	0	40	**2**	42
+45 mins.	0	0	0	0	**2**	40	0	42	1	0	0	1	0	35	1	36
Total Volume	0	0	0	0	4	162	0	166	2	0	1	3	1	167	5	173
% App. Total	0	0	0		2.4	97.6	0		66.7	0	33.3		0.6	96.5	2.9	
PHF	.000	.000	.000	.000	.500	.794	.000	.814	.500	.000	.250	.375	.250	.870	.625	.865
Passenger Vehicles	0	0	0	0	2	130	0	132	2	0	0	2	1	139	5	145
% Passenger Vehicles	0	0	0	0	50	80.2	0	79.5	100	0	0	66.7	100	83.2	100	83.8
Heavy Vehicles	0	0	0	0	2	32	0	34	0	0	1	1	0	28	0	28
% Heavy Vehicles	0	0	0	0	50	19.8	0	20.5	0	0	100	33.3	0	16.8	0	16.2
UTurns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% UTurns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:15 PM

04:15 PM	0	0	0	0	0	45	0	45	1	**1**	0	2	0	57	0	57	104
04:30 PM	0	0	0	0	0	55	0	55	1	0	**1**	2	0	**61**	0	**61**	**118**
04:45 PM	0	0	0	0	0	**59**	0	**59**	1	0	0	1	0	53	0	53	113
05:00 PM	0	0	0	0	0	47	0	47	**4**	0	0	**4**	0	40	**2**	42	93
Total Volume	0	0	0	0	0	206	0	206	7	1	1	9	0	211	2	213	428
% App. Total	0	0	0		0	100	0		77.8	11.1	11.1		0	99.1	0.9		
PHF	.000	.000	.000	.000	.000	.873	.000	.873	.438	.250	.250	.563	.000	.865	.250	.873	.907
Passenger Vehicles	0	0	0	0	0	178	0	178	7	1	1	9	0	173	2	175	362
% Passenger Vehicles	0	0	0	0	0	86.4	0	86.4	100	100	100	100	0	82.0	100	82.2	84.6
Heavy Vehicles	0	0	0	0	0	28	0	28	0	0	0	0	0	38	0	38	66
% Heavy Vehicles	0	0	0	0	0	13.6	0	13.6	0	0	0	0	0	18.0	0	17.8	15.4
UTurns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% UTurns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:45 PM				04:30 PM				04:15 PM			
+0 mins.	0	0	0	0	0	59	0	59	1	0	1	2	0	57	0	57
+15 mins.	0	0	0	0	0	47	0	47	1	0	0	1	0	**61**	0	**61**
+30 mins.	0	**1**	0	**1**	0	54	0	54	**4**	0	0	**4**	0	53	0	53
+45 mins.	0	0	**1**	1	0	**61**	0	**61**	1	0	**2**	3	0	40	**2**	42
Total Volume	0	1	1	2	0	221	0	221	7	0	3	10	0	211	2	213
% App. Total	0	50	50		0	100	0		70	0	30		0	99.1	0.9	
PHF	.000	.250	.250	.500	.000	.906	.000	.906	.438	.000	.375	.625	.000	.865	.250	.873
Passenger Vehicles	0	1	1	2	0	194	0	194	7	0	3	10	0	173	2	175

Intersection Turning Movement Count

% Passenger Vehicles	0	100	100	100	0	87.8	0	87.8	100	0	100	100	0	82	100	82.2
Heavy Vehicles	0	0	0	0	0	27	0	27	0	0	0	0	0	38	0	38
% Heavy Vehicles	0	0	0	0	0	12.2	0	12.2	0	0	0	0	0	18	0	17.8
UTurns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% UTurns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Turning Movement Count

City/County: Lake Placid/Highlands
Weather: Clear
Comments:

File Name : SR70&LonesomeIsland
Site Code : 1802507
Start Date : 11/15/2022
Page No : 1

Groups Printed- Passenger Vehicles

	LONESOME ISLAND ROAD Southbound				SR 70 Westbound				JC DURRANCE ROAD DRIVEWAYS Northbound				SR 70 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	1	24	0	25	1	0	0	1	0	39	1	40	66
07:15 AM	0	0	0	0	0	20	0	20	0	0	0	0	1	41	1	43	63
07:30 AM	0	0	0	0	0	25	0	25	0	0	0	0	0	36	2	38	63
07:45 AM	0	0	0	0	1	29	0	30	0	0	0	0	0	23	1	24	54
Total	0	0	0	0	2	98	0	100	1	0	0	1	1	139	5	145	246
08:00 AM	0	0	0	0	0	26	0	26	0	0	0	0	0	27	0	27	53
08:15 AM	0	0	0	0	0	43	0	43	1	0	0	1	0	35	0	35	79
08:30 AM	0	0	0	0	1	32	0	33	1	0	0	1	0	19	1	20	54
08:45 AM	0	0	0	0	1	32	0	33	0	0	0	0	0	29	2	31	64
Total	0	0	0	0	2	133	0	135	2	0	0	2	0	110	3	113	250
*** BREAK ***																	
04:00 PM	0	0	0	0	0	37	0	37	0	0	1	1	0	28	0	28	66
04:15 PM	0	0	0	0	0	38	0	38	1	1	0	2	0	43	0	43	83
04:30 PM	0	0	0	0	0	45	0	45	1	0	1	2	0	50	0	50	97
04:45 PM	0	0	0	0	0	53	0	53	1	0	0	1	0	45	0	45	99
Total	0	0	0	0	0	173	0	173	3	1	2	6	0	166	0	166	345
05:00 PM	0	0	0	0	0	42	0	42	4	0	0	4	0	35	2	37	83
05:15 PM	0	0	0	0	0	50	0	50	1	0	2	3	0	37	1	38	91
05:30 PM	0	1	0	1	0	49	0	49	0	0	1	1	0	39	0	39	90
05:45 PM	0	0	1	1	0	46	0	46	1	0	0	1	0	40	0	40	88
Total	0	1	1	2	0	187	0	187	6	0	3	9	0	151	3	154	352
Grand Total	0	1	1	2	4	591	0	595	12	1	5	18	1	566	11	578	1193
Apprch %	0	50	50		0.7	99.3	0		66.7	5.6	27.8		0.2	97.9	1.9		
Total %	0	0.1	0.1	0.2	0.3	49.5	0	49.9	1	0.1	0.4	1.5	0.1	47.4	0.9	48.4	

	LONESOME ISLAND ROAD Southbound				SR 70 Westbound				JC DURRANCE ROAD DRIVEWAYS Northbound				SR 70 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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	0	0	0	0	0	26	0	26	0	0	0	0	0	27	0	27	53
08:15 AM	0	0	0	0	0	**43**	0	**43**	**1**	0	0	**1**	0	**35**	0	**35**	**79**
08:30 AM	0	0	0	0	**1**	32	0	33	1	0	0	1	0	19	1	20	54
08:45 AM	0	0	0	0	1	32	0	33	0	0	0	0	0	29	**2**	31	64
Total Volume	0	0	0	0	2	133	0	135	2	0	0	2	0	110	3	113	250
% App. Total	0	0	0		1.5	98.5	0		100	0	0		0	97.3	2.7		
PHF	.000	.000	.000	.000	.500	.773	.000	.785	.500	.000	.000	.500	.000	.786	.375	.807	.791

Intersection Turning Movement Count

File Name : SR70&LonesomeIsland
Site Code : 1802507
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	LONESOME ISLAND ROAD Southbound				SR 70 Westbound				JC DURRANCE ROAD DRIVEWAYS Northbound				SR 70 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				08:00 AM				07:45 AM				07:00 AM				
+0 mins.	0	0	0	0	0	26	0	26	0	0	0	0	0	39	1	40	
+15 mins.	0	0	0	0	0	**43**	0	**43**	0	0	0	0	**1**	**41**	1	**43**	
+30 mins.	0	0	0	0	**1**	32	0	33	**1**	0	0	**1**	0	36	**2**	38	
+45 mins.	0	0	0	0	1	32	0	33	1	0	0	1	0	23	1	24	
Total Volume	0	0	0	0	2	133	0	135	2	0	0	2	1	139	5	145	
% App. Total	0	0	0		1.5	98.5	0		100	0	0		0.7	95.9	3.4		
PHF	.000	.000	.000	.000	.500	.773	.000	.785	.500	.000	.000	.500	.250	.848	.625	.843	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	45	0	45	1	0	1	2	0	**50**	0	**50**	97
04:45 PM	0	0	0	0	0	**53**	0	**53**	1	0	0	1	0	45	0	45	**99**
05:00 PM	0	0	0	0	0	42	0	42	**4**	0	0	**4**	0	35	**2**	37	83
05:15 PM	0	0	0	0	0	50	0	50	1	0	**2**	3	0	37	1	38	91
Total Volume	0	0	0	0	0	190	0	190	7	0	3	10	0	167	3	170	370
% App. Total	0	0	0		0	100	0		70	0	30		0	98.2	1.8		
PHF	.000	.000	.000	.000	.000	.896	.000	.896	.438	.000	.375	.625	.000	.835	.375	.850	.934

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:45 PM				04:30 PM				04:15 PM			
+0 mins.	0	0	0	0	0	**53**	0	**53**	1	0	1	2	0	43	0	43
+15 mins.	0	0	0	0	0	42	0	42	1	0	0	1	0	**50**	0	**50**
+30 mins.	0	**1**	0	**1**	0	50	0	50	**4**	0	0	**4**	0	45	0	45
+45 mins.	0	0	**1**	1	0	49	0	49	1	0	**2**	3	0	35	**2**	37
Total Volume	0	1	1	2	0	194	0	194	7	0	3	10	0	173	2	175
% App. Total	0	50	50		0	100	0		70	0	30		0	98.9	1.1	
PHF	.000	.250	.250	.500	.000	.915	.000	.915	.438	.000	.375	.625	.000	.865	.250	.875

Intersection Turning Movement Count

City/County: Lake Placid/Highlands
Weather: Clear
Comments:

File Name : SR70&LonesomeIsland
Site Code : 1802507
Start Date : 11/15/2022
Page No : 1

Groups Printed- Heavy Vehicles

	LONESOME ISLAND ROAD Southbound				SR 70 Westbound				JC DURRANCE ROAD DRIVEWAYS Northbound				SR 70 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	7	0	7	1	0	0	1	0	5	0	5	13
07:15 AM	0	0	0	0	0	15	0	15	0	0	0	0	0	7	0	7	22
07:30 AM	0	0	0	0	0	12	0	12	0	0	0	0	0	4	0	4	16
07:45 AM	0	0	0	0	0	8	0	8	0	0	0	0	0	12	0	12	20
Total	0	0	0	0	0	42	0	42	1	0	0	1	0	28	0	28	71
08:00 AM	0	0	0	0	1	8	0	9	0	0	0	0	0	8	1	9	18
08:15 AM	0	0	0	0	0	8	0	8	0	0	1	1	0	5	0	5	14
08:30 AM	0	0	0	0	1	8	0	9	0	0	0	0	0	20	0	20	29
08:45 AM	0	0	0	0	0	5	0	5	0	0	0	0	0	7	0	7	12
Total	0	0	0	0	2	29	0	31	0	0	1	1	0	40	1	41	73
*** BREAK ***																	
04:00 PM	0	0	0	0	0	11	0	11	0	0	0	0	0	13	0	13	24
04:15 PM	0	0	0	0	0	7	0	7	0	0	0	0	0	14	0	14	21
04:30 PM	0	0	0	0	0	10	0	10	0	0	0	0	0	11	0	11	21
04:45 PM	0	0	0	0	0	6	0	6	0	0	0	0	0	8	0	8	14
Total	0	0	0	0	0	34	0	34	0	0	0	0	0	46	0	46	80
05:00 PM	0	0	0	0	0	5	0	5	0	0	0	0	0	5	0	5	10
05:15 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	6	0	6	10
05:30 PM	0	0	0	0	0	12	0	12	0	0	0	0	0	8	0	8	20
05:45 PM	0	0	0	0	0	7	0	7	0	0	0	0	0	6	0	6	13
Total	0	0	0	0	0	28	0	28	0	0	0	0	0	25	0	25	53
Grand Total	0	0	0	0	2	133	0	135	1	0	1	2	0	139	1	140	277
Apprch %	0	0	0		1.5	98.5	0		50	0	50		0	99.3	0.7		
Total %	0	0	0	0	0.7	48	0	48.7	0.4	0	0.4	0.7	0	50.2	0.4	50.5	

	LONESOME ISLAND ROAD Southbound				SR 70 Westbound				JC DURRANCE ROAD DRIVEWAYS Northbound				SR 70 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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 07:45 AM																	
07:45 AM	0	0	0	0	0	**8**	0	8	0	0	0	0	0	12	0	12	20
08:00 AM	0	0	0	0	**1**	8	0	**9**	0	0	0	0	0	8	**1**	9	18
08:15 AM	0	0	0	0	0	8	0	8	0	0	**1**	**1**	0	5	0	5	14
08:30 AM	0	0	0	0	1	8	0	9	0	0	0	0	0	**20**	0	**20**	**29**
Total Volume	0	0	0	0	2	32	0	34	0	0	1	1	0	45	1	46	81
% App. Total	0	0	0		5.9	94.1	0		0	0	100		0	97.8	2.2		
PHF	.000	.000	.000	.000	.500	1.00	.000	.944	.000	.000	.250	.250	.000	.563	.250	.575	.698

Intersection Turning Movement Count

File Name : SR70&LonesomeIsland
Site Code : 1802507
Start Date : 11/15/2022
Page No : 2

	LONESOME ISLAND ROAD Southbound				SR 70 Westbound				JC DURRANCE ROAD DRIVEWAYS Northbound				SR 70 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:15 AM				07:00 AM				07:45 AM				
+0 mins.	0	0	0	0	0	**15**	0	**15**	**1**	0	0	**1**	0	12	0	12	
+15 mins.	0	0	0	0	0	12	0	12	0	0	0	0	0	8	**1**	9	
+30 mins.	0	0	0	0	0	8	0	8	0	0	0	0	0	5	0	5	
+45 mins.	0	0	0	0	**1**	8	0	9	0	0	0	0	0	**20**	0	**20**	
Total Volume	0	0	0	0	1	43	0	44	1	0	0	1	0	45	1	46	
% App. Total	0	0	0		2.3	97.7	0		100	0	0		0	97.8	2.2		
PHF	.000	.000	.000	.000	.250	.717	.000	.733	.250	.000	.000	.250	.000	.563	.250	.575	
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	0	0	0	0	0	**11**	0	**11**	0	0	0	0	0	13	0	13	**24**
04:15 PM	0	0	0	0	0	7	0	7	0	0	0	0	0	**14**	0	**14**	21
04:30 PM	0	0	0	0	0	10	0	10	0	0	0	0	0	11	0	11	21
04:45 PM	0	0	0	0	0	6	0	6	0	0	0	0	0	8	0	8	14
Total Volume	0	0	0	0	0	34	0	34	0	0	0	0	0	46	0	46	80
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.773	.000	.773	.000	.000	.000	.000	.000	.821	.000	.821	.833

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	**11**	0	**11**	0	0	0	0	0	13	0	13
+15 mins.	0	0	0	0	0	7	0	7	0	0	0	0	0	**14**	0	**14**
+30 mins.	0	0	0	0	0	10	0	10	0	0	0	0	0	11	0	11
+45 mins.	0	0	0	0	0	6	0	6	0	0	0	0	0	8	0	8
Total Volume	0	0	0	0	0	34	0	34	0	0	0	0	0	46	0	46
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.773	.000	.773	.000	.000	.000	.000	.000	.821	.000	.821

Intersection Pedestrian & Bicycle Count

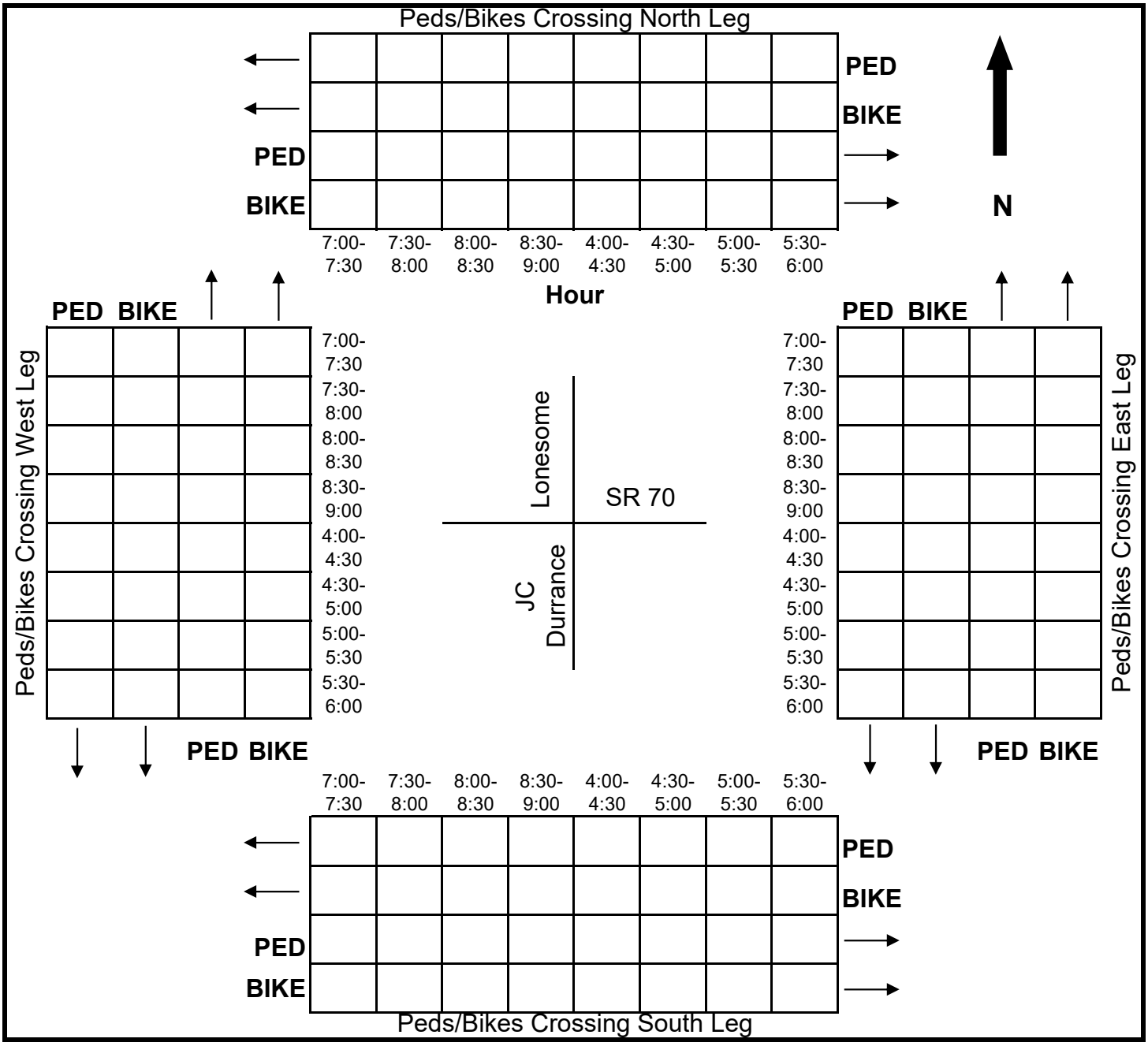
Date: 11/15/22 Day: Tuesday

Count Times: 7-9am & 4-6pm Weather: Clear

Intersection: SR 70 at Lonesome Island Road/JC Durrance Road Driveways

Comments: **NO PEDS/BIKES CROSSED INTERSECTION DURING COUNT**

C - Children under 12; S - Seniors 65 or over; D - Physical Disability



Intersection Turning Movement Count

City/County: Brighton/Highlands
Weather: Clear
Comments:

File Name : SR70&CR721S
Site Code : 1802507
Start Date : 11/15/2022
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - UTurns

	DRIVEWAY Southbound				SR 70 Westbound				CR 721 SOUTH Northbound				SR 70 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	20	27	0	47	2	0	5	7	0	25	11	36	90
07:15 AM	0	0	0	0	25	43	0	68	2	0	9	11	0	35	8	43	122
07:30 AM	0	1	0	1	33	28	1	62	1	0	5	6	0	32	9	41	110
07:45 AM	0	0	0	0	31	35	0	66	5	0	11	16	0	31	7	38	120
Total	0	1	0	1	109	133	1	243	10	0	30	40	0	123	35	158	442
08:00 AM	0	0	0	0	12	42	1	55	4	0	10	14	0	35	6	41	110
08:15 AM	0	1	0	1	13	34	0	47	7	0	9	16	0	34	6	40	104
08:30 AM	0	0	0	0	13	42	1	56	5	0	11	16	0	27	6	33	105
08:45 AM	0	1	0	1	9	38	0	47	2	0	5	7	0	37	5	42	97
Total	0	2	0	2	47	156	2	205	18	0	35	53	0	133	23	156	416
*** BREAK ***																	
04:00 PM	0	0	0	0	9	35	0	44	8	2	20	30	0	35	2	37	111
04:15 PM	0	1	0	1	15	48	0	63	12	1	28	41	1	34	5	40	145
04:30 PM	0	3	0	3	11	32	0	43	11	0	20	31	0	62	4	66	143
04:45 PM	1	0	0	1	16	43	0	59	13	0	25	38	0	61	6	67	165
Total	1	4	0	5	51	158	0	209	44	3	93	140	1	192	17	210	564
05:00 PM	0	0	0	0	6	39	0	45	8	0	53	61	0	42	7	49	155
05:15 PM	0	0	0	0	5	41	0	46	17	0	37	54	0	29	3	32	132
05:30 PM	0	0	0	0	12	57	0	69	8	0	18	26	0	43	5	48	143
05:45 PM	0	0	0	0	10	29	0	39	7	0	19	26	1	47	3	51	116
Total	0	0	0	0	33	166	0	199	40	0	127	167	1	161	18	180	546
Grand Total	1	7	0	8	240	613	3	856	112	3	285	400	2	609	93	704	1968
Apprch %	12.5	87.5	0		28	71.6	0.4		28	0.8	71.2		0.3	86.5	13.2		
Total %	0.1	0.4	0	0.4	12.2	31.1	0.2	43.5	5.7	0.2	14.5	20.3	0.1	30.9	4.7	35.8	
Passenger Vehicles	1	6	0	7	230	473	2	705	110	3	276	389	1	468	91	560	1661
% Passenger Vehicles	100	85.7	0	87.5	95.8	77.2	66.7	82.4	98.2	100	96.8	97.2	50	76.8	97.8	79.5	84.4
Heavy Vehicles	0	1	0	1	10	140	1	151	2	0	9	11	0	141	2	143	306
% Heavy Vehicles	0	14.3	0	12.5	4.2	22.8	33.3	17.6	1.8	0	3.2	2.8	0	23.2	2.2	20.3	15.5
UTurns	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% UTurns	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0.1	0.1

	DRIVEWAY Southbound				SR 70 Westbound				CR 721 SOUTH Northbound				SR 70 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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	0	0	0	0	25	**43**	0	**68**	2	0	9	11	0	**35**	8	**43**	**122**
07:30 AM	0	**1**	0	**1**	**33**	28	**1**	62	1	0	5	6	0	32	**9**	41	110
07:45 AM	0	0	0	0	31	35	0	66	**5**	0	**11**	**16**	0	31	7	38	120
08:00 AM	0	0	0	0	12	42	1	55	4	0	10	14	0	35	6	41	110
Total Volume	0	1	0	1	101	148	2	251	12	0	35	47	0	133	30	163	462
% App. Total	0	100	0		40.2	59	0.8		25.5	0	74.5		0	81.6	18.4		
PHF	.000	.250	.000	.250	.765	.860	.500	.923	.600	.000	.795	.734	.000	.950	.833	.948	.947
Passenger Vehicles	0	1	0	1	96	106	2	204	12	0	35	47	0	102	30	132	384

% Passenger Vehicles	0	100	0	100	95.0	71.6	100	81.3	100	0	100	100	0	76.7	100	81.0	83.1
Heavy Vehicles	0	0	0	0	5	42	0	47	0	0	0	0	0	31	0	31	78
% Heavy Vehicles	0	0	0	0	5.0	28.4	0	18.7	0	0	0	0	0	23.3	0	19.0	16.9
UTurns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% UTurns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:15 AM				07:45 AM				07:15 AM			
+0 mins.	0	**1**	0	**1**	25	**43**	0	**68**	5	0	**11**	**16**	0	**35**	8	**43**
+15 mins.	0	0	0	0	**33**	28	**1**	62	4	0	10	14	0	32	**9**	41
+30 mins.	0	0	0	0	31	35	0	66	**7**	0	9	16	0	31	7	38
+45 mins.	0	1	0	1	12	42	1	55	5	0	11	16	0	35	6	41
Total Volume	0	2	0	2	101	148	2	251	21	0	41	62	0	133	30	163
% App. Total	0	100	0		40.2	59	0.8		33.9	0	66.1		0	81.6	18.4	
PHF	.000	.500	.000	.500	.765	.860	.500	.923	.750	.000	.932	.969	.000	.950	.833	.948
Passenger Vehicles	0	2	0	2	96	106	2	204	19	0	38	57	0	102	30	132
% Passenger Vehicles	0	100	0	100	95	71.6	100	81.3	90.5	0	92.7	91.9	0	76.7	100	81
Heavy Vehicles	0	0	0	0	5	42	0	47	2	0	3	5	0	31	0	31
% Heavy Vehicles	0	0	0	0	5	28.4	0	18.7	9.5	0	7.3	8.1	0	23.3	0	19
UTurns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% UTurns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:15 PM

04:15 PM	0	1	0	1	15	**48**	0	**63**	12	**1**	28	41	**1**	34	5	40	145
04:30 PM	0	**3**	0	**3**	11	32	0	43	11	0	20	31	0	**62**	4	66	143
04:45 PM	**1**	0	0	1	**16**	43	0	59	**13**	0	25	38	0	61	6	**67**	**165**
05:00 PM	0	0	0	0	6	39	0	45	8	0	**53**	**61**	0	42	**7**	49	155
Total Volume	1	4	0	5	48	162	0	210	44	1	126	171	1	199	22	222	608
% App. Total	20	80	0		22.9	77.1	0		25.7	0.6	73.7		0.5	89.6	9.9		
PHF	.250	.333	.000	.417	.750	.844	.000	.833	.846	.250	.594	.701	.250	.802	.786	.828	.921
Passenger Vehicles	1	4	0	5	47	132	0	179	44	1	123	168	1	156	21	178	530
% Passenger Vehicles	100	100	0	100	97.9	81.5	0	85.2	100	100	97.6	98.2	100	78.4	95.5	80.2	87.2
Heavy Vehicles	0	0	0	0	1	30	0	31	0	0	3	3	0	43	1	44	78
% Heavy Vehicles	0	0	0	0	2.1	18.5	0	14.8	0	0	2.4	1.8	0	21.6	4.5	19.8	12.8
UTurns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% UTurns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:45 PM				04:30 PM				04:15 PM			
+0 mins.	0	0	0	0	**16**	43	0	59	11	0	20	31	**1**	34	5	40
+15 mins.	0	1	0	1	6	39	0	45	13	0	25	38	0	**62**	4	66
+30 mins.	0	**3**	0	**3**	5	41	0	46	8	0	**53**	**61**	0	61	6	**67**
+45 mins.	**1**	0	0	1	12	**57**	0	**69**	**17**	0	37	54	0	42	**7**	49
Total Volume	1	4	0	5	39	180	0	219	49	0	135	184	1	199	22	222
% App. Total	20	80	0		17.8	82.2	0		26.6	0	73.4		0.5	89.6	9.9	
PHF	.250	.333	.000	.417	.609	.789	.000	.793	.721	.000	.637	.754	.250	.802	.786	.828
Passenger Vehicles	1	4	0	5	39	149	0	188	49	0	132	181	1	156	21	178
% Passenger Vehicles	100	100	0	100	100	82.8	0	85.8	100	0	97.8	98.4	100	78.4	95.5	80.2

Intersection Turning Movement Count

Heavy Vehicles	0	0	0	0	0	31	0	31	0	0	3	3	0	43	1	44
% Heavy Vehicles	0	0	0	0	0	17.2	0	14.2	0	0	2.2	1.6	0	21.6	4.5	19.8
UTurns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% UTurns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Turning Movement Count

City/County: Brighton/Highlands
Weather: Clear
Comments:

File Name : SR70&CR721S
Site Code : 1802507
Start Date : 11/15/2022
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Groups Printed- Passenger Vehicles

	DRIVEWAY Southbound				SR 70 Westbound				CR 721 SOUTH Northbound				SR 70 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	20	18	0	38	2	0	5	7	0	19	11	30	75
07:15 AM	0	0	0	0	24	23	0	47	2	0	9	11	0	30	8	38	96
07:30 AM	0	1	0	1	33	22	1	56	1	0	5	6	0	25	9	34	97
07:45 AM	0	0	0	0	30	26	0	56	5	0	11	16	0	22	7	29	101
Total	0	1	0	1	107	89	1	197	10	0	30	40	0	96	35	131	369
08:00 AM	0	0	0	0	9	35	1	45	4	0	10	14	0	25	6	31	90
08:15 AM	0	1	0	1	12	24	0	36	6	0	8	14	0	28	5	33	84
08:30 AM	0	0	0	0	12	36	0	48	4	0	9	13	0	17	6	23	84
08:45 AM	0	0	0	0	9	30	0	39	2	0	4	6	0	22	5	27	72
Total	0	1	0	1	42	125	1	168	16	0	31	47	0	92	22	114	330
*** BREAK ***																	
04:00 PM	0	0	0	0	8	25	0	33	8	2	20	30	0	23	2	25	88
04:15 PM	0	1	0	1	14	39	0	53	12	1	28	41	1	25	5	31	126
04:30 PM	0	3	0	3	11	24	0	35	11	0	19	30	0	47	3	50	118
04:45 PM	1	0	0	1	16	34	0	50	13	0	23	36	0	50	6	56	143
Total	1	4	0	5	49	122	0	171	44	3	90	137	1	145	16	162	475
05:00 PM	0	0	0	0	6	35	0	41	8	0	53	61	0	34	7	41	143
05:15 PM	0	0	0	0	5	33	0	38	17	0	37	54	0	27	3	30	122
05:30 PM	0	0	0	0	12	47	0	59	8	0	16	24	0	38	5	43	126
05:45 PM	0	0	0	0	9	22	0	31	7	0	19	26	0	36	3	39	96
Total	0	0	0	0	32	137	0	169	40	0	125	165	0	135	18	153	487
Grand Total	1	6	0	7	230	473	2	705	110	3	276	389	1	468	91	560	1661
Apprch %	14.3	85.7	0		32.6	67.1	0.3		28.3	0.8	71		0.2	83.6	16.2		
Total %	0.1	0.4	0	0.4	13.8	28.5	0.1	42.4	6.6	0.2	16.6	23.4	0.1	28.2	5.5	33.7	

	DRIVEWAY Southbound				SR 70 Westbound				CR 721 SOUTH Northbound				SR 70 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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	0	0	0	0	24	23	0	47	2	0	9	11	0	**30**	8	**38**	96
07:30 AM	0	**1**	0	**1**	**33**	22	**1**	**56**	1	0	5	6	0	25	**9**	34	97
07:45 AM	0	0	0	0	30	26	0	56	**5**	0	**11**	**16**	0	22	7	29	**101**
08:00 AM	0	0	0	0	9	**35**	1	45	4	0	10	14	0	25	6	31	90
Total Volume	0	1	0	1	96	106	2	204	12	0	35	47	0	102	30	132	384
% App. Total	0	100	0		47.1	52	1		25.5	0	74.5		0	77.3	22.7		
PHF	.000	.250	.000	.250	.727	.757	.500	.911	.600	.000	.795	.734	.000	.850	.833	.868	.950

Intersection Turning Movement Count

File Name : SR70&CR721S
Site Code : 1802507
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	DRIVEWAY Southbound				SR 70 Westbound				CR 721 SOUTH Northbound				SR 70 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:15 AM				07:45 AM				07:15 AM				
+0 mins.	0	**1**	0	**1**	24	23	0	47	5	0	**11**	**16**	0	**30**	8	**38**	
+15 mins.	0	0	0	0	**33**	22	**1**	**56**	4	0	10	14	0	25	**9**	34	
+30 mins.	0	0	0	0	30	26	0	56	**6**	0	8	14	0	22	7	29	
+45 mins.	0	1	0	1	9	**35**	1	45	4	0	9	13	0	25	6	31	
Total Volume	0	2	0	2	96	106	2	204	19	0	38	57	0	102	30	132	
% App. Total	0	100	0		47.1	52	1		33.3	0	66.7		0	77.3	22.7		
PHF	.000	.500	.000	.500	.727	.757	.500	.911	.792	.000	.864	.891	.000	.850	.833	.868	
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	**1**	0	0	**1**	**16**	34	0	50	13	0	23	36	0	**50**	6	**56**	**143**
05:00 PM	0	0	0	0	6	35	0	41	8	0	**53**	**61**	0	34	**7**	41	143
05:15 PM	0	0	0	0	5	33	0	38	**17**	0	37	54	0	27	3	30	122
05:30 PM	0	0	0	0	12	**47**	0	**59**	8	0	16	24	0	38	5	43	126
Total Volume	1	0	0	1	39	149	0	188	46	0	129	175	0	149	21	170	534
% App. Total	100	0	0		20.7	79.3	0		26.3	0	73.7		0	87.6	12.4		
PHF	.250	.000	.000	.250	.609	.793	.000	.797	.676	.000	.608	.717	.000	.745	.750	.759	.934

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:45 PM				04:30 PM				04:15 PM				
+0 mins.	0	0	0	0	**16**	34	0	50	11	0	19	30	**1**	25	5	31	
+15 mins.	0	1	0	1	6	35	0	41	13	0	23	36	0	47	3	50	
+30 mins.	0	**3**	0	**3**	5	33	0	38	8	0	**53**	**61**	0	**50**	6	**56**	
+45 mins.	**1**	0	0	1	12	**47**	0	**59**	**17**	0	37	54	0	34	**7**	41	
Total Volume	1	4	0	5	39	149	0	188	49	0	132	181	1	156	21	178	
% App. Total	20	80	0		20.7	79.3	0		27.1	0	72.9		0.6	87.6	11.8		
PHF	.250	.333	.000	.417	.609	.793	.000	.797	.721	.000	.623	.742	.250	.780	.750	.795	

Intersection Turning Movement Count

City/County: Brighton/Highlands
Weather: Clear
Comments:

File Name : SR70&CR721S
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Start Date : 11/15/2022
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Groups Printed- Heavy Vehicles

	DRIVEWAY Southbound				SR 70 Westbound				CR 721 SOUTH Northbound				SR 70 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	9	0	9	0	0	0	0	0	6	0	6	15
07:15 AM	0	0	0	0	1	20	0	21	0	0	0	0	0	5	0	5	26
07:30 AM	0	0	0	0	0	6	0	6	0	0	0	0	0	7	0	7	13
07:45 AM	0	0	0	0	1	9	0	10	0	0	0	0	0	9	0	9	19
Total	0	0	0	0	2	44	0	46	0	0	0	0	0	27	0	27	73
08:00 AM	0	0	0	0	3	7	0	10	0	0	0	0	0	10	0	10	20
08:15 AM	0	0	0	0	1	10	0	11	1	0	1	2	0	6	1	7	20
08:30 AM	0	0	0	0	1	6	1	8	1	0	2	3	0	10	0	10	21
08:45 AM	0	1	0	1	0	8	0	8	0	0	1	1	0	15	0	15	25
Total	0	1	0	1	5	31	1	37	2	0	4	6	0	41	1	42	86
*** BREAK ***																	
04:00 PM	0	0	0	0	1	10	0	11	0	0	0	0	0	12	0	12	23
04:15 PM	0	0	0	0	1	9	0	10	0	0	0	0	0	9	0	9	19
04:30 PM	0	0	0	0	0	8	0	8	0	0	1	1	0	15	1	16	25
04:45 PM	0	0	0	0	0	9	0	9	0	0	2	2	0	11	0	11	22
Total	0	0	0	0	2	36	0	38	0	0	3	3	0	47	1	48	89
05:00 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	8	0	8	12
05:15 PM	0	0	0	0	0	8	0	8	0	0	0	0	0	2	0	2	10
05:30 PM	0	0	0	0	0	10	0	10	0	0	2	2	0	5	0	5	17
05:45 PM	0	0	0	0	1	7	0	8	0	0	0	0	0	11	0	11	19
Total	0	0	0	0	1	29	0	30	0	0	2	2	0	26	0	26	58
Grand Total	0	1	0	1	10	140	1	151	2	0	9	11	0	141	2	143	306
Apprch %	0	100	0		6.6	92.7	0.7		18.2	0	81.8		0	98.6	1.4		
Total %	0	0.3	0	0.3	3.3	45.8	0.3	49.3	0.7	0	2.9	3.6	0	46.1	0.7	46.7	

	DRIVEWAY Southbound				SR 70 Westbound				CR 721 SOUTH Northbound				SR 70 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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	0	0	0	0	**3**	7	0	10	0	0	0	0	0	10	0	10	20
08:15 AM	0	0	0	0	1	**10**	0	**11**	**1**	0	1	2	0	6	**1**	7	20
08:30 AM	0	0	0	0	1	6	**1**	8	1	0	**2**	**3**	0	10	0	10	21
08:45 AM	0	**1**	0	**1**	0	8	0	8	0	0	1	1	0	**15**	0	**15**	**25**
Total Volume	0	1	0	1	5	31	1	37	2	0	4	6	0	41	1	42	86
% App. Total	0	100	0		13.5	83.8	2.7		33.3	0	66.7		0	97.6	2.4		
PHF	.000	.250	.000	.250	.417	.775	.250	.841	.500	.000	.500	.500	.000	.683	.250	.700	.860

Intersection Turning Movement Count

File Name : SR70&CR721S
Site Code : 1802507
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	DRIVEWAY Southbound				SR 70 Westbound				CR 721 SOUTH Northbound				SR 70 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	08:00 AM				07:15 AM				08:00 AM				08:00 AM				
+0 mins.	0	0	0	0	1	**20**	0	**21**	0	0	0	0	0	10	0	10	
+15 mins.	0	0	0	0	0	6	0	6	**1**	0	1	2	0	6	**1**	7	
+30 mins.	0	0	0	0	1	9	0	10	1	0	**2**	**3**	0	10	0	10	
+45 mins.	0	**1**	0	**1**	**3**	7	0	10	0	0	1	1	0	**15**	0	**15**	
Total Volume	0	1	0	1	5	42	0	47	2	0	4	6	0	41	1	42	
% App. Total	0	100	0		10.6	89.4	0		33.3	0	66.7		0	97.6	2.4		
PHF	.000	.250	.000	.250	.417	.525	.000	.560	.500	.000	.500	.500	.000	.683	.250	.700	
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	0	0	0	0	**1**	**10**	0	**11**	0	0	0	0	0	12	0	12	23
04:15 PM	0	0	0	0	1	9	0	10	0	0	0	0	0	9	0	9	19
04:30 PM	0	0	0	0	0	8	0	8	0	0	1	1	0	**15**	**1**	**16**	**25**
04:45 PM	0	0	0	0	0	9	0	9	0	0	**2**	**2**	0	11	0	11	22
Total Volume	0	0	0	0	2	36	0	38	0	0	3	3	0	47	1	48	89
% App. Total	0	0	0		5.3	94.7	0		0	0	100		0	97.9	2.1		
PHF	.000	.000	.000	.000	.500	.900	.000	.864	.000	.000	.375	.375	.000	.783	.250	.750	.890

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:45 PM				04:00 PM				
+0 mins.	0	0	0	0	**1**	**10**	0	**11**	0	0	**2**	**2**	0	12	0	12	
+15 mins.	0	0	0	0	1	9	0	10	0	0	0	0	0	9	0	9	
+30 mins.	0	0	0	0	0	8	0	8	0	0	0	0	0	**15**	**1**	**16**	
+45 mins.	0	0	0	0	0	9	0	9	0	0	2	2	0	11	0	11	
Total Volume	0	0	0	0	2	36	0	38	0	0	4	4	0	47	1	48	
% App. Total	0	0	0		5.3	94.7	0		0	0	100		0	97.9	2.1		
PHF	.000	.000	.000	.000	.500	.900	.000	.864	.000	.000	.500	.500	.000	.783	.250	.750	

Intersection Turning Movement Count

City/County: Brighton/Highlands
Weather: Clear
Comments:

File Name : SR70&CR721S
Site Code : 1802507
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Groups Printed- UTurns

	DRIVEWAY Southbound				SR 70 Westbound				CR 721 SOUTH Northbound				SR 70 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
*** BREAK ***																	
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Apprch %	0	0	0		0	0	0		0	0	0		100	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	100	

	DRIVEWAY Southbound				SR 70 Westbound				CR 721 SOUTH Northbound				SR 70 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 05:00 PM

05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**	**1**
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% App. Total	0	0	0		0	0	0		0	0	0		100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.250

Intersection Turning Movement Count

File Name : SR70&CR721S
Site Code : 1802507
Start Date : 11/15/2022
Page No : 2

	DRIVEWAY Southbound				SR 70 Westbound				CR 721 SOUTH Northbound				SR 70 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				05:00 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
% App. Total	0	0	0		0	0	0		0	0	0		100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	

Intersection Pedestrian & Bicycle Count

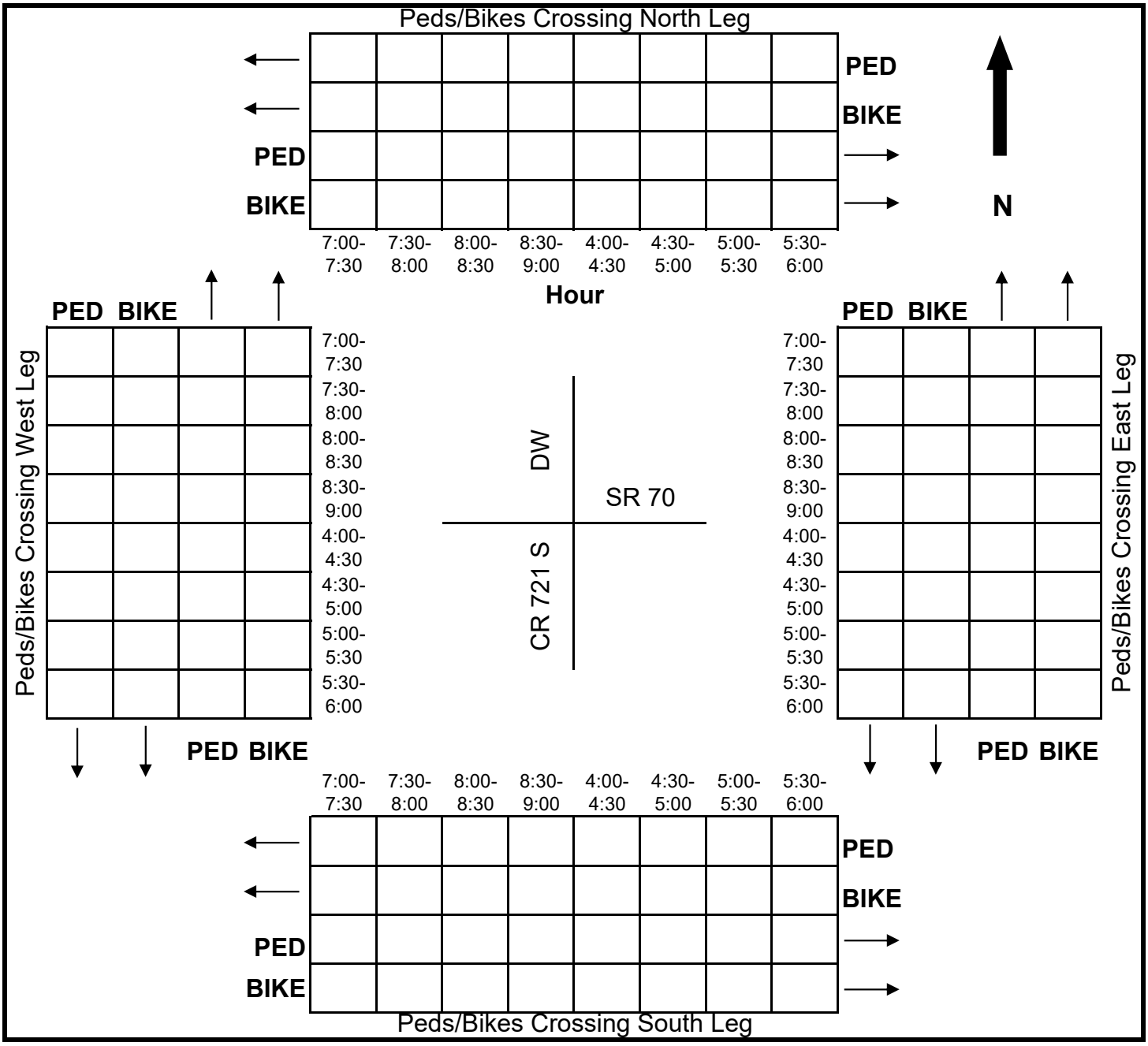
Date: 11/15/22 Day: Tuesday

Count Times: 7-9am & 4-6pm Weather: Clear

Intersection: SR 70 at CR 721 South

Comments: **NO PEDS/BIKES CROSSED INTERSECTION DURING COUNT**

C - Children under 12; S - Seniors 65 or over; D - Physical Disability



APPENDIX D: Existing Synchro and HCS LOS Computer Outputs

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	1	167	5	2	140	0	2	0	0	0	0	0
Future Vol, veh/h	1	167	5	2	140	0	2	0	0	0	0	0
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	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	27	25	50	18	0	0	0	100	0	0	0
Mvmt Flow	1	192	6	2	161	0	2	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	161	0	0	198	0	0	362	362	195	362	365	161
Stage 1	-	-	-	-	-	-	197	197	-	165	165	-
Stage 2	-	-	-	-	-	-	165	165	-	197	200	-
Critical Hdwy	4.1	-	-	4.6	-	-	7.1	6.5	7.2	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	-	-	2.65	-	-	3.5	4	4.2	3.5	4	3.3
Pot Cap-1 Maneuver	1430	-	-	1134	-	-	598	569	649	598	566	889
Stage 1	-	-	-	-	-	-	809	742	-	842	766	-
Stage 2	-	-	-	-	-	-	842	766	-	809	739	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1430	-	-	1134	-	-	597	567	649	597	564	889
Mov Cap-2 Maneuver	-	-	-	-	-	-	597	567	-	597	564	-
Stage 1	-	-	-	-	-	-	808	741	-	841	764	-
Stage 2	-	-	-	-	-	-	840	764	-	808	738	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.1	11.1	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	597	1430	-	-	1134	-	-	-
HCM Lane V/C Ratio	0.004	0.001	-	-	0.002	-	-	-
HCM Control Delay (s)	11.1	7.5	0	-	8.2	0	-	0
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	211	2	0	206	0	7	1	1	0	0	0
Future Vol, veh/h	0	211	2	0	206	0	7	1	1	0	0	0
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	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	18	0	0	14	0	0	0	0	0	0	0
Mvmt Flow	0	232	2	0	226	0	8	1	1	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	226	0	0	234	0	0	459	459	233	460	460	226
Stage 1	-	-	-	-	-	-	233	233	-	226	226	-
Stage 2	-	-	-	-	-	-	226	226	-	234	234	-
Critical Hdwy	4.1	-	-	4.1	-	-	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	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1354	-	-	1345	-	-	516	502	811	515	501	818
Stage 1	-	-	-	-	-	-	775	716	-	781	721	-
Stage 2	-	-	-	-	-	-	781	721	-	774	715	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1354	-	-	1345	-	-	516	502	811	513	501	818
Mov Cap-2 Maneuver	-	-	-	-	-	-	516	502	-	513	501	-
Stage 1	-	-	-	-	-	-	775	716	-	781	721	-
Stage 2	-	-	-	-	-	-	781	721	-	772	715	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	11.8	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	536	1354	-	-	1345	-	-	-
HCM Lane V/C Ratio	0.018	-	-	-	-	-	-	-
HCM Control Delay (s)	11.8	0	-	-	0	-	-	0
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	123	35	109	133	1	10	0	30	0	1	0
Future Vol, veh/h	0	123	35	109	133	1	10	0	30	0	1	0
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, %	0	23	0	5	29	0	0	0	0	0	0	0
Mvmt Flow	0	129	37	115	140	1	11	0	32	0	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	141	0	0	166	0	0	519	519	148	535	537	141
Stage 1	-	-	-	-	-	-	148	148	-	371	371	-
Stage 2	-	-	-	-	-	-	371	371	-	164	166	-
Critical Hdwy	4.1	-	-	4.15	-	-	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	-	-	2.245	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1455	-	-	1394	-	-	471	464	904	459	453	912
Stage 1	-	-	-	-	-	-	859	779	-	653	623	-
Stage 2	-	-	-	-	-	-	653	623	-	843	765	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1455	-	-	1394	-	-	438	422	904	413	412	912
Mov Cap-2 Maneuver	-	-	-	-	-	-	438	422	-	413	412	-
Stage 1	-	-	-	-	-	-	859	779	-	653	567	-
Stage 2	-	-	-	-	-	-	593	567	-	814	765	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	3.5	10.4	13.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	714	1455	-	-	1394	-	-	412
HCM Lane V/C Ratio	0.059	-	-	-	0.082	-	-	0.003
HCM Control Delay (s)	10.4	0	-	-	7.8	0	-	13.8
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.3	-	-	0

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	1	199	22	48	162	0	44	1	126	1	4	0
Future Vol, veh/h	1	199	22	48	162	0	44	1	126	1	4	0
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	22	5	2	18	0	0	0	2	0	0	0
Mvmt Flow	1	216	24	52	176	0	48	1	137	1	4	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	176	0	0	240	0	0	512	510	228	579	522	176
Stage 1	-	-	-	-	-	-	230	230	-	280	280	-
Stage 2	-	-	-	-	-	-	282	280	-	299	242	-
Critical Hdwy	4.1	-	-	4.12	-	-	7.1	6.5	6.22	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	-	-	2.218	-	-	3.5	4	3.318	3.5	4	3.3
Pot Cap-1 Maneuver	1412	-	-	1327	-	-	476	469	811	429	462	872
Stage 1	-	-	-	-	-	-	777	718	-	731	683	-
Stage 2	-	-	-	-	-	-	729	683	-	714	709	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1412	-	-	1327	-	-	456	448	811	344	442	872
Mov Cap-2 Maneuver	-	-	-	-	-	-	456	448	-	344	442	-
Stage 1	-	-	-	-	-	-	776	717	-	730	654	-
Stage 2	-	-	-	-	-	-	693	654	-	592	708	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.8	12.4	13.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	673	1412	-	-	1327	-	-	418
HCM Lane V/C Ratio	0.276	0.001	-	-	0.039	-	-	0.013
HCM Control Delay (s)	12.4	7.6	0	-	7.8	0	-	13.7
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	1.1	0	-	-	0.1	-	-	0

HCS Two-Lane Highway Report

Project Information

Analyst	Fathy Abdalla	Date	9/27/2023
Agency	KCA	Analysis Year	2022
Jurisdiction	Highlands County	Time Analyzed	AM
Project Description	SR 70 Widening from Lonesome Island Rd to CR 721 (No Build)	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	40600
Measured FFS	Measured	Free-Flow Speed, mi/h	60.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	278	Opposing Demand Flow Rate, veh/h	181
Peak Hour Factor	0.95	Total Trucks, %	14.70
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.16

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	60.0
Speed Slope Coefficient (m)	4.40580	Speed Power Coefficient (p)	0.54476
PF Slope Coefficient (m)	-1.21258	PF Power Coefficient (p)	0.78531
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	40600	-	-	58.3

Vehicle Results

Average Speed, mi/h	58.3	Percent Followers, %	35.8
Segment Travel Time, minutes	7.92	Follower Density (FD), followers/mi/ln	1.7
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	508	0.25	1.7	A

HCS Two-Lane Highway Report

Project Information

Analyst	Fathy Abdalla	Date	9/27/2023
Agency	KCA	Analysis Year	2022
Jurisdiction	Highlands County	Time Analyzed	PM
Project Description	SR 70 Widening from Lonesome Island Rd to CR 721 (No Build)	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	40600
Measured FFS	Measured	Free-Flow Speed, mi/h	60.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	254	Opposing Demand Flow Rate, veh/h	240
Peak Hour Factor	0.95	Total Trucks, %	14.70
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.15

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	60.0
Speed Slope Coefficient (m)	4.42691	Speed Power Coefficient (p)	0.52874
PF Slope Coefficient (m)	-1.22637	PF Power Coefficient (p)	0.78082
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	40600	-	-	58.4

Vehicle Results

Average Speed, mi/h	58.4	Percent Followers, %	34.3
Segment Travel Time, minutes	7.91	Follower Density (FD), followers/mi/ln	1.5
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	463	0.22	1.5	A

APPENDIX E: Crash Data and FDOT Statewide Crash Facts

FDOT State Safety Office GIS

Calendar Y	FDOT Crash Number	Reporting Agency Case Number	Crash Date	Day	On Roadway Name	Int Roadway Name	Nearest Inventory MP	Travel Direction Vehicle 1	Highest Injury in Crash	Lighting	Weather	Road Surface	Crash Harmful Event	Manner of Collision	Vehicle Movement	Driver Action Vehicle 1
2020	882524830	FHPF20OFF010503	27-Feb-20	FRIDAY	SR 70	CR 721	29.178	E EAST	1 NO INJURY	01 DAYLIGHT	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	01 FRONT TO REAR	01 STRAIGHT AHEAD	OPERATED MV IN CARLESS OR NEGL
2018	871269200	FHPF18OFF004358	18-Jan-18	FRIDAY	SR 70	GREENBRIER LN	23.352	E EAST	5 FATAL(WITHIN 30 DAYS) INJURY	05 DARK-NOT LIGHTED	01 CLEAR	01 DRY	27 GUARDRAIL FACE	02 FRONT TO FRONT	01 STRAIGHT AHEAD	FAILED TO KEEP IN PROPER LANE
2018	821284980	HCSO18CAD046338	12-Jul-18	FRIDAY	SR 70	CR 721	29.235	E EAST	1 NO INJURY	01 DAYLIGHT	03 RAIN	02 WET	18 OTHER NON-FIXED OBJECT	01 FRONT TO REAR	01 STRAIGHT AHEAD	FOLLOWED TOO CLOSELY
2018	872315400	FHPF18OFF046600	13-Jul-18	SATURDAY	SR 70	JC DURRANCE RD	22.125	E EAST	2 POSSIBLE INJURY	01 DAYLIGHT	01 CLEAR	01 DRY	13 ANIMAL	77 OTHER (SEE NARRATIVE)	01 STRAIGHT AHEAD	OPERATED MV IN CARLESS OR NEGL
2018	872040720	FHPF18OFF051242	3-Aug-18	SATURDAY	CR-721	SR-70	0.956	S SOUTH	5 FATAL(WITHIN 30 DAYS) INJURY	01 DAYLIGHT	01 CLEAR	01 DRY	06 FELL/JUMPED FROM MOTOR VEHICLE	77 OTHER (SEE NARRATIVE)	15 NEGOTIATING A CURVE	RAN OFF ROADWAY
2018	871558060	FHPF18OFF013577	25-Feb-18	MONDAY	SR 70	CR 721	29.238	S SOUTH	1 NO INJURY	05 DARK-NOT LIGHTED	04 FOG, SMOG, SMOKE	01 DRY	01 OVERTURN/ROLLOVER	77 OTHER (SEE NARRATIVE)	03 TURNING LEFT	RAN STOP SIGN
2018	871884620	FHPF18OFF056222	25-Aug-18	SUNDAY	SR 70	D C BAR RANCH RD	23.279	E EAST	3 NO-INCAPACITATING INJURY	02 DUSK	01 CLEAR	01 DRY	27 GUARDRAIL FACE	77 OTHER (SEE NARRATIVE)	01 STRAIGHT AHEAD	FAILED TO KEEP IN PROPER LANE
2018	880245340	FHPF18OFF079328	7-Dec-18	SATURDAY	SR 70	GREENBRIER LN	26.294	W WEST	4 INCAPACITATING INJURY	01 DAYLIGHT	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	01 FRONT TO REAR	01 STRAIGHT AHEAD	OPERATED MV IN CARLESS OR NEGL
2018	872511760	FHPF18OFF058900	6-Sep-18	FRIDAY	SR 70	CR 721	29.116	W WEST	3 NO-INCAPACITATING INJURY	05 DARK-NOT LIGHTED	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	01 FRONT TO REAR	01 STRAIGHT AHEAD	OPERATED MV IN CARLESS OR NEGL
2018	871269160	FHPF18OFF003419	14-Jan-18	MONDAY	SR 70	CR 721	29.216	N NORTH	1 NO INJURY	05 DARK-NOT LIGHTED	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	03 ANGLE	05 TURNING RIGHT	FAILED TO YIELD RIGHT-OF-WAY
2018	872050900	FHPF18OFF041874	22-Jun-18	SATURDAY	SR 70	CR 721	29.241	S SOUTH	1 NO INJURY	01 DAYLIGHT	01 CLEAR	01 DRY	27 GUARDRAIL FACE	77 OTHER (SEE NARRATIVE)	01 STRAIGHT AHEAD	RAN OFF ROADWAY
2018	871524010	FHPF18OFF028342	25-Apr-18	THURSDAY	SR 70	GREENBRIER LN	23.028	E EAST	1 NO INJURY	01 DAYLIGHT	01 CLEAR	01 DRY	01 OVERTURN/ROLLOVER	05 SIDESWIPE, OPPOSITE DIRECTION	01 STRAIGHT AHEAD	NOT CODED
2018	871555960	FHPF18OFF030933	5-May-18	SUNDAY	SR 70	CR 721	29.241	E EAST	1 NO INJURY	01 DAYLIGHT	01 CLEAR	01 DRY	25 DITCH	77 OTHER (SEE NARRATIVE)	01 STRAIGHT AHEAD	OPERATED MV IN CARLESS OR NEGL
2018	871269360	FHPF18OFF010889	15-Feb-18	FRIDAY	SR 70	CR 721	29.116	E EAST	1 NO INJURY	05 DARK-NOT LIGHTED	01 CLEAR	01 DRY	13 ANIMAL	77 OTHER (SEE NARRATIVE)	01 STRAIGHT AHEAD	NO CONTRIBUTING ACTION
2019	821276110	HCSO19CAD050084	3-Aug-19	SUNDAY	SR 70	D C BAR RANCH RD	24.029	E EAST	1 NO INJURY	01 DAYLIGHT	03 RAIN	02 WET	27 GUARDRAIL FACE	77 OTHER (SEE NARRATIVE)	88 UNKNOWN	NO CONTRIBUTING ACTION
2019	880872240	FHPF19OFF008689	14-Feb-19	FRIDAY	SR 70	CR 721	28.716	E EAST	1 NO INJURY	01 DAYLIGHT	01 CLEAR	01 DRY	18 OTHER NON-FIXED OBJECT	77 OTHER (SEE NARRATIVE)	01 STRAIGHT AHEAD	NO CONTRIBUTING ACTION
2019	880433250	FHPF19OFF028363	30-May-19	FRIDAY	SR 70	4D PARTNERSHIP RD	22.879	S SOUTH	5 FATAL(WITHIN 30 DAYS) INJURY	05 DARK-NOT LIGHTED	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	03 ANGLE	13 STOPPED IN TRAFFIC	OTHER CONTRIBUTING ACTION
2020	890949150	HCSO20CAD051810	6-Sep-20	MONDAY	SR 70 E	J C DURRANCE RD	21.606	W WEST	1 NO INJURY	01 DAYLIGHT	01 CLEAR	01 DRY	13 ANIMAL	77 OTHER (SEE NARRATIVE)	01 STRAIGHT AHEAD	NO CONTRIBUTING ACTION
2018	872050940	FHPF18OFF042984	27-Jun-18	THURSDAY	SR 70	CR 721	28.216	W WEST	1 NO INJURY	03 DAWN	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	05 SIDESWIPE, OPPOSITE DIRECTION	00 NOT CODED	NOT CODED
2018	871991140	FHPF18OFF035813	26-May-18	SUNDAY	SR 70	CR 721	29.207	E EAST	1 NO INJURY	01 DAYLIGHT	02 CLOUDY	02 WET	14 MOTOR VEHICLE IN TRANSPORT	01 FRONT TO REAR	01 STRAIGHT AHEAD	OPERATED MV IN CARLESS OR NEGL
2018	871523580	FHPF18OFF007270	31-Jan-18	THURSDAY	SR 70	D C BAR RANCH RD	24.029	W WEST	1 NO INJURY	01 DAYLIGHT	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	03 ANGLE	06 CHANGING LANES	OPERATED MV IN CARLESS OR NEGL
2020	882101700	FHPF20OFF012810	10-Mar-20	WEDNESDAY	SR 70	D C BAR RANCH RD	26.279	E EAST	1 NO INJURY	01 DAYLIGHT	01 CLEAR	01 DRY	09 OTHER NON-COLLISION	77 OTHER (SEE NARRATIVE)	01 STRAIGHT AHEAD	OPERATED MV IN CARLESS OR NEGL
2018	871524000	FHPF18OFF027511	21-Apr-18	SUNDAY	SR 70	SOUTHWIND RD	21.874	E EAST	2 POSSIBLE INJURY	01 DAYLIGHT	01 CLEAR	01 DRY	27 GUARDRAIL FACE	77 OTHER (SEE NARRATIVE)	01 STRAIGHT AHEAD	FAILED TO KEEP IN PROPER LANE
2020	882411270	FHPF20OFF022124	26-May-20	WEDNESDAY	SR 70	4D PARTNERSHIP RD	24.179	W WEST	2 POSSIBLE INJURY	01 DAYLIGHT	03 RAIN	02 WET	14 MOTOR VEHICLE IN TRANSPORT	05 SIDESWIPE, OPPOSITE DIRECTION	01 STRAIGHT AHEAD	OTHER CONTRIBUTING ACTION
2019	881710790	FHPF19OFF039631	3-Aug-19	SUNDAY	SR 70	CR 721	29.257	E EAST	1 NO INJURY	05 DARK-NOT LIGHTED	01 CLEAR	01 DRY	13 ANIMAL	77 OTHER (SEE NARRATIVE)	01 STRAIGHT AHEAD	NO CONTRIBUTING ACTION
2019	819849980	FHPF19OFF023728	5-May-19	MONDAY	SR 70	CR 721	28.238	E EAST	4 INCAPACITATING INJURY	01 DAYLIGHT	02 CLOUDY	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	01 FRONT TO REAR	01 STRAIGHT AHEAD	OPERATED MV IN CARLESS OR NEGL
2019	880872230	FHPF19OFF008629	14-Feb-19	FRIDAY	SR 70	US 27	23.99	W WEST	1 NO INJURY	05 DARK-NOT LIGHTED	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	05 SIDESWIPE, OPPOSITE DIRECTION	11 OVERTAKING/PASSING	IMPROPER PASSING
2019	858704990	HCSO19CAD002064	8-Jan-19	WEDNESDAY	SR 70	GREENBRIER LN	24.278	W WEST	1 NO INJURY	05 DARK-NOT LIGHTED	01 CLEAR	01 DRY	13 ANIMAL	77 OTHER (SEE NARRATIVE)	01 STRAIGHT AHEAD	NO CONTRIBUTING ACTION
2019	880186940	FHPF19OFF035618	11-Jul-19	FRIDAY	SR 70	CR 721	29.138	W WEST	3 NO-INCAPACITATING INJURY	01 DAYLIGHT	01 CLEAR	01 DRY	27 GUARDRAIL FACE	77 OTHER (SEE NARRATIVE)	11 OVERTAKING/PASSING	NO CONTRIBUTING ACTION
2019	882562960	FHPF19OFF062817	15-Dec-19	MONDAY	SR 70	CR 721	29.216	E EAST	1 NO INJURY	01 DAYLIGHT	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	03 ANGLE	11 OVERTAKING/PASSING	IMPROPER PASSING
2019	880888940	FHPF19OFF042644	20-Aug-19	WEDNESDAY	SR 70	CR 721	29.235	W WEST	1 NO INJURY	05 DARK-NOT LIGHTED	01 CLEAR	01 DRY	13 ANIMAL	77 OTHER (SEE NARRATIVE)	01 STRAIGHT AHEAD	NO CONTRIBUTING ACTION
2019	881482260	FHPF19OFF043621	25-Aug-19	MONDAY	SR 70	CR 721	28.216	E EAST	1 NO INJURY	01 DAYLIGHT	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	05 SIDESWIPE, OPPOSITE DIRECTION	11 OVERTAKING/PASSING	WRONG SIDE OF WRONG WAY
2019	881710740	FHPF19OFF037241	20-Jul-19	SUNDAY	SR 70	GREENBRIER LN	24.278	W WEST	3 NO-INCAPACITATING INJURY	05 DARK-NOT LIGHTED	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	03 ANGLE	01 STRAIGHT AHEAD	OPERATED MV IN CARLESS OR NEGL
2020	883411960	FHPF20OFF034809	16-Aug-20	MONDAY	SR 70	GREENBRIER LN	23.978	E EAST	5 FATAL(WITHIN 30 DAYS) INJURY	01 DAYLIGHT	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	05 SIDESWIPE, OPPOSITE DIRECTION	77 OTHER (SEE NARRATIVE)	FAILED TO KEEP IN PROPER LANE
2020	883516270	FHPF20OFF026252	21-Jun-20	MONDAY	SR 70	CR 721	27.696	W WEST	1 NO INJURY	05 DARK-NOT LIGHTED	02 CLOUDY	02 WET	25 DITCH	77 OTHER (SEE NARRATIVE)	15 NEGOTIATING A CURVE	NO CONTRIBUTING ACTION
2019	880245660	FHPF19OFF006196	1-Feb-19	SATURDAY	SR 70	CR 721	28.916	E EAST	1 NO INJURY	05 DARK-NOT LIGHTED	04 FOG, SMOG, SMOKE	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	01 FRONT TO REAR	01 STRAIGHT AHEAD	OPERATED MV IN CARLESS OR NEGL
2020	882988290	FHPF20OFF018748	2-May-20	SUNDAY	SR 70	D C BAR RANCH RD	25.264	O OFF-ROAD	2 POSSIBLE INJURY	01 DAYLIGHT	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	03 ANGLE	03 TURNING LEFT	FAILED TO YIELD RIGHT-OF-WAY
2020	898623340	HCSO20CAD028264	13-May-20	THURSDAY	SR 70	GREENBRIER LN	22.459	W WEST	1 NO INJURY	01 DAYLIGHT	02 CLOUDY	01 DRY	27 GUARDRAIL FACE	77 OTHER (SEE NARRATIVE)	01 STRAIGHT AHEAD	NO CONTRIBUTING ACTION
2019	858709560	HCSO19CAD067257	9-Oct-19	THURSDAY	SR 70	D C BAR RANCH RD	24.279	W WEST	3 NO-INCAPACITATING INJURY	05 DARK-NOT LIGHTED	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	05 SIDESWIPE, OPPOSITE DIRECTION	01 STRAIGHT AHEAD	OTHER CONTRIBUTING ACTION
2020	821263850	HCSO20CAD067258	18-Nov-20	THURSDAY	SR 70 E	CR 29	22.245	W WEST	1 NO INJURY	03 DAWN	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	01 FRONT TO REAR	01 STRAIGHT AHEAD	FOLLOWED TOO CLOSELY
2020	821305630	HCSO20CAD003372	15-Jan-20	THURSDAY	SR 70	D C BAR RANCH RD	23.995	E EAST	1 NO INJURY	01 DAYLIGHT	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	77 OTHER (SEE NARRATIVE)	01 STRAIGHT AHEAD	NOT CODED
2020	882411360	FHPF20OFF033873	10-Aug-20	TUESDAY	SR 70	CR 721	28.716	E EAST	1 NO INJURY	01 DAYLIGHT	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	77 OTHER (SEE NARRATIVE)	01 STRAIGHT AHEAD	NO CONTRIBUTING ACTION
2020	883768100	FHPF20OFF044637	15-Oct-20	FRIDAY	SR 70	CR 721	28.397	E EAST	5 FATAL(WITHIN 30 DAYS) INJURY	02 DUSK	01 CLEAR	01 DRY	27 GUARDRAIL FACE	77 OTHER (SEE NARRATIVE)	01 STRAIGHT AHEAD	OPERATED MV IN CARLESS OR NEGL
2020	883959480	FHPF20OFF048500	8-Nov-20	MONDAY	SR 70	GREENBRIER LN	23.126	E EAST	3 NO-INCAPACITATING INJURY	05 DARK-NOT LIGHTED	03 RAIN	02 WET	14 MOTOR VEHICLE IN TRANSPORT	05 SIDESWIPE, OPPOSITE DIRECTION	01 STRAIGHT AHEAD	NOT CODED
2020	883978700	FHPF20OFF044281	13-Oct-20	WEDNESDAY	SR 70	CR 721	28.966	W WEST	1 NO INJURY	01 DAYLIGHT	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	05 SIDESWIPE, OPPOSITE DIRECTION	01 STRAIGHT AHEAD	FAILED TO KEEP IN PROPER LANE
2021	885785830	FHPF21OFF052640	27-Oct-21	THURSDAY	SR 70	CR 721	28.801	W WEST	1 NO INJURY	05 DARK-NOT LIGHTED	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	05 SIDESWIPE, OPPOSITE DIRECTION	01 STRAIGHT AHEAD	NO CONTRIBUTING ACTION
2021	884708800	FHPF21OFF016809	8-Apr-21	FRIDAY	SR 70	CR 721	29.207	W WEST	4 INCAPACITATING INJURY	01 DAYLIGHT	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	01 FRONT TO REAR	01 STRAIGHT AHEAD	OPERATED MV IN CARLESS OR NEGL
2021	858703790	HCSO21CAD029709	5-May-21	THURSDAY	SR 70	CR 721	29.212	E EAST	1 NO INJURY	03 DAWN	04 FOG, SMOG, SMOKE	01 DRY	27 GUARDRAIL FACE	77 OTHER (SEE NARRATIVE)	01 STRAIGHT AHEAD	NO CONTRIBUTING ACTION
2021	885268740	FHPF21OFF033109	8-Jul-21	FRIDAY	SR 70	CR 721	27.846	E EAST	1 NO INJURY	05 DARK-NOT LIGHTED	01 CLEAR	01 DRY	13 ANIMAL	77 OTHER (SEE NARRATIVE)	01 STRAIGHT AHEAD	NO CONTRIBUTING ACTION
2019	880257780	FHPF19OFF002776	12-Jan-19	SUNDAY	SR 70	CR 721	27.238	E EAST	5 FATAL(WITHIN 30 DAYS) INJURY	01 DAYLIGHT	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	02 FRONT TO FRONT	01 STRAIGHT AHEAD	IMPROPER PASSING
2019	880872710	FHPF19OFF025301	14-May-19	WEDNESDAY	SR 70	GREENBRIER LN	23.894	E EAST	4 INCAPACITATING INJURY	05 DARK-NOT LIGHTED	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	05 SIDESWIPE, OPPOSITE DIRECTION	01 STRAIGHT AHEAD	FAILED TO KEEP IN PROPER LANE
2022	249379490	FHP22ON0310826	18-Jun-22	SUNDAY	SR 70	CR 721	28.657	S SOUTH	5 FATAL(WITHIN 30 DAYS) INJURY	05 DARK-NOT LIGHTED	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	03 ANGLE	10 MAKING U-TURN	IMPROPER TURN
2022	248961800	FHP22ON0181945	10-Apr-22	MONDAY	SR 70	CR 721	27.736	W WEST	2 POSSIBLE INJURY	05 DARK-NOT LIGHTED	01 CLEAR	01 DRY	27 GUARDRAIL FACE	77 OTHER (SEE NARRATIVE)	15 NEGOTIATING A CURVE	NO CONTRIBUTING ACTION
2022	249226900	FHP22ON0223429	3-May-22	WEDNESDAY	SR 70	CR 721	27.716	E EAST	4 INCAPACITATING INJURY	05 DARK-NOT LIGHTED	01 CLEAR	01 DRY	14 MOTOR VEHICLE IN TRANSPORT	02 FRONT TO FRONT	15 NEGOTIATING A CURVE	FAILED TO KEEP IN PROPER LANE

SignalFour Analytics

REPORT_NUMBER	CRASH_YEAR	CRASH_DATE_AND_TIME	INVESTIGATING_AGENCY_REPORT_NUMBER	ON_STREET_ROAD_HIGHWAY	LIGHT_CONDITION	WEATHER_CONDITION	ROAD_SURFACE_CONDITION	FIRST_HARMFUL_EVENT	S4_CRASH_TYPE	S4_CRASH_SEVERITY	S4_DAY_OR_NIGHT
88437567	2021	2/27/2021	FHPF21OFF009454	SR-70 W	Dark - Not Lighted	Clear	Dry	Motor Vehicle in Transport	Single Vehicle	Injury	DAY
24987484	2022	10/10/2022	FHP22ON0521573	SR-70	Dark - Not Lighted	Cloudy	Dry	Other Non-Fixed Object	Single Vehicle	No Injury	NIGHT
89862519	2021	6/23/2021	HCSO21CAD040499	SR 70 X SW CR721	Dark - Not Lighted	Clear	Dry	Motor Vehicle in Transport	Opposing Sideswipe	No Injury	NIGHT
88578582	2021	10/29/2021	FHPF21OFF052649	SR-70	Dark - Not Lighted	Clear	Dry	Other Non-Fixed Object	Single Vehicle	No Injury	NIGHT
24989666	2022	8/10/2022	FHP22ON0405295	STATE ROAD 70	Daylight	Clear	Dry	Thrown or Falling Object	Other	No Injury	DAY
88016200	2019	5/12/2019	FHPF19OFF024813	CR-721	Dark - Not Lighted	Rain	Wet	Other Non-Collision	Single Vehicle	No Injury	NIGHT
83790370	2021	6/23/2021	FHPF21OFF030232	SR-70	Dark - Not Lighted	Clear	Dry	Motor Vehicle in Transport	Left Leaving	No Injury	NIGHT
24959384	2022	8/31/2022	FHP22ON0443610	SR-70	Daylight	Clear	Dry	Guardrail Face	Off Road	Injury	DAY
88456329	2021	3/18/2021	FHPF21OFF012835	SR 70	Daylight	Clear	Dry	Motor Vehicle in Transport	Other	No Injury	DAY
25049365	2022	12/16/2022	FHP22ON0648770	STATE ROAD 70	Daylight	Clear	Dry	Cargo/Equipment Loss or Shift	Other	Injury	DAY
24962757	2022	10/10/2022	FHP22ON0521537	SR-70	Dark - Not Lighted	Clear	Dry	Motor Vehicle in Transport	Opposing Sideswipe	Serious Injury	NIGHT
88148219	2019	8/7/2019	FHPF19OFF040129	SR 70	Daylight	Cloudy	Dry	Struck by Falling, Shifting Cargo	Same Direction Sideswipe	No Injury	DAY
88397927	2021	2/8/2021	FHPF21OFF006007	SR 70	Daylight	Cloudy	Dry	Animal	Animal	No Injury	DAY
88545657	2021	7/26/2021	FHPF21OFF036258	SR 70	Daylight	Cloudy	Dry	Motor Vehicle in Transport	Same Direction Sideswipe	No Injury	DAY
89582881	2021	12/3/2021	FHP21ON0018731	STATE ROAD 70	Daylight	Clear	Dry	Motor Vehicle in Transport	Rear End	No Injury	DAY
88353354	2020	10/22/2020	FHPF20OFF045509	STATE ROAD 70	Daylight	Rain	Wet	Guardrail Face	Off Road	No Injury	DAY
24959395	2022	9/24/2022	FHP22ON0489559	SR-70	Daylight	Clear	Dry	Other Non-Fixed Object	Other	No Injury	DAY
24465943	2021	12/7/2021	HCSO21CAD076875	SR 70	Daylight	Clear	Dry	Motor Vehicle in Transport	Head On	No Injury	DAY
84644943	2021	3/26/2021	HCSO21CAD019543	SR 70	Dark - Not Lighted	Clear	Dry	Animal	Animal	No Injury	NIGHT
87891325	2021	3/25/2021	HCSO21CAD019511	SR 70	Dark - Not Lighted	Clear	Dry	Animal	Animal	Injury	NIGHT
24896192	2022	4/26/2022	FHP22ON0209412	SR-70	Daylight	Clear	Dry	Other Non-Collision	Single Vehicle	No Injury	DAY
88444567	2021	2/12/2021	FHPF21OFF006874	STATE ROAD 70	Daylight	Clear	Dry	Motor Vehicle in Transport	Same Direction Sideswipe	No Injury	DAY
88438595	2021	4/23/2021	FHPF21OFF019268	STATE ROAD 70	Dark - Not Lighted	Clear	Dry	Motor Vehicle in Transport	Unknown	Injury	NIGHT
87207048	2018	9/1/2018	FHPF18OFF057458	25750 SR-70	Dark - Not Lighted	Clear	Dry	Ditch	Off Road	No Injury	NIGHT
87178415	2018	2/20/2018	FHPF18OFF011986	STATE ROAD 70	Daylight	Clear	Dry	Motor Vehicle in Transport	Rear End	No Injury	DAY
25029987	2022	11/6/2022	FHP22ON0573911	SR-70	Daylight	Clear	Dry	Motor Vehicle in Transport	Left Leaving	Fatality	DAY
25439531	2022	10/27/2022	HCSO22OFF152776	STATE ROAD 70 E	Daylight	Clear	Dry	Motor Vehicle in Transport	Rear End	No Injury	DAY
89862733	2021	2/23/2021 14:45	HCSO21CAD012344	SR 70 E MM 95	Dusk	Clear	Dry	Motor Vehicle in Transport	Opposing Sideswipe	No Injury	DAY
85870233	2022	2/3/2022 17:55	HCSO22CAD007116	SR 70 E MM 95	Dusk	Clear	Dry	Animal	Animal	No Injury	DAY

FLHSMV
FLORIDA HIGHWAY SAFETY AND MOTOR VEHICLES

Traffic Crash Facts

Annual Report 2020

Providing Highway Safety and Security through Excellence in Service, Education, and Enforcement

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FLORIDA HIGHWAY SAFETY AND MOTOR VEHICLES

Environmental Factors & Injury Levels

Note: *The environmental factor titled "Road Contributing Circumstance" can be listed on the crash report with more than one value per crash event. Therefore injury totals may differ from the true count of fatalities and injuries found in the summary on pages 8 & 9.*

		Fatal	Incapacitating	Non-Incapacitating	Possible	No Injuries
Weather Conditions	Blowing Sand, Soil, Dirt	0	3	0	3	12
	Clear	2,524	12,025	47,419	100,650	439,938
	Cloudy	514	2,308	9,221	19,382	74,233
	Fog, Smog, Smoke	31	67	186	315	1,273
	Not Specified	0	0	1	3	92
	Other, Explain in Narrative	13	12	51	152	1,119
	Rain	250	1,197	5,851	13,547	56,889
	Severe Crosswinds	0	1	7	24	68
	Sleet/Hail/Freezing Rain	0	1	2	4	25
	Unknown	0	0	0	0	0
	Total	**3,332**	**15,614**	**62,738**	**134,080**	**573,649**
Road Surface Condition	Dry	2,875	13,515	53,165	112,672	485,085
	Ice/Frost	0	0	0	7	10
	Mud, Dirt, Gravel	6	62	153	143	751
	Not Specified	0	0	1	3	92
	Oil	0	4	9	17	25
	Other, Explain in Narrative	6	21	40	46	248
	Sand	0	20	28	39	208
	Unknown	9	10	41	154	1,295
	Water (standing/moving)	2	2	18	24	260
	Wet	434	1,980	9,283	20,975	85,675
	Total	**3,332**	**15,614**	**62,738**	**134,080**	**573,649**

14.99%

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FLORIDA HIGHWAY SAFETY AND MOTOR VEHICLES

Environmental Factors & Injury Levels

Note: *The environmental factor titled "Road Contributing Circumstance" can be listed on the crash report with more than one value per crash event. Therefore injury totals may differ from the true count of fatalities and injuries found in the summary on pages 8 & 9.*

		Fatal	Incapacitating	Non-Incapacitating	Possible	No Injuries
Lighting Condition	Dark-Lighted	996	3,341	13,041	27,101	112,157
	Dark-Not Lighted	809	2,150	5,373	7,868	31,426
	Dark-Unknown Lighting	19	23	97	213	1,290
	Dawn	62	303	1,188	2,298	9,624
	Daylight	1,309	9,206	40,721	91,158	398,016
	Dusk	127	569	2,271	5,249	19,119
	Not Specified	0	0	1	3	91
	Other, Explain in Narrative	4	11	23	44	290
	Unknown	6	11	23	146	1,636
	Total	**3,332**	**15,614**	**62,738**	**134,080**	**573,649**
Road Contributing Circumstance	Debris	4	17	70	109	1,120
	None	3,152	14,853	59,313	127,002	543,539
	Non-Highway Work	0	1	2	16	90
	Obstruction in Roadway	4	29	178	316	1,458
	Other, Explain in Narrative	11	80	398	785	3,653
	Road Surface Condition (wet, icy, snow, slush, etc.)	113	491	2,491	5,296	20,435
	Ruts, Holes, Bumps	5	38	85	85	325
	Shoulders (none, low, soft, high)	5	9	30	39	180
	Traffic Control Device Inoperative, Missing or Obscured	0	18	80	154	577
	Unknown	40	73	216	587	3,126
	Work Zone (construction/ maintenance/utility)	77	303	1,083	2,442	10,583
	Worn, Travel-Polished Surface	0	7	15	27	100
	Total	**3,411**	**15,919**	**63,961**	**136,858**	**585,186**

25.88%

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FLORIDA HIGHWAY SAFETY AND MOTOR VEHICLES

Environmental Factors & Injury Levels

Note: *The environmental factor titled "Road Contributing Circumstance" can be listed on the crash report with more than one value per crash event. Therefore injury totals may differ from the true count of fatalities and injuries found in the summary on pages 8 & 9.*

		Fatal	Incapacitating	Non-Incapacitating	Possible	No Injuries
Roadway Type	County	597	2,943	12,004	25,138	95,525
	Forest Road	0	11	29	17	103
	Interstate	360	1,576	5,781	12,319	60,450
	Local	789	4,356	19,228	42,663	182,489
	Not Specified	0	0	10	3	105
	Other, Explain in Narrative	6	87	263	509	2,875
	Parking Lot	26	385	1,935	4,523	40,985
	Private Roadway	13	119	454	667	4,261
	State	904	3,689	14,839	31,893	122,468
	Turnpike/Toll	50	264	981	1,673	11,553
	U.S.	587	2,184	7,214	14,675	52,835
	Unknown	0	0	0	0	0
	Total	**3,332**	**15,614**	**62,738**	**134,080**	**573,649**
First Harmful Event	Animal	7	31	168	361	2,463
	Bridge Overhead Structure	0	5	13	18	109
	Bridge Pier or Support	1	6	10	17	62
	Bridge Rail	2	10	28	54	166
	Cable Barrier	1	2	16	47	338
	Cargo/Equipment Loss or Shift	0	8	40	38	645
	Concrete Traffic Barrier	30	165	748	1,282	5,302
	Cross Centerline	0	0	0	0	0
	Cross Median	0	0	0	0	4
	Culvert	19	58	122	110	331

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FLORIDA HIGHWAY SAFETY AND MOTOR VEHICLES

Environmental Factors & Injury Levels

Note: *The environmental factor titled "Road Contributing Circumstance" can be listed on the crash report with more than one value per crash event. Therefore injury totals may differ from the true count of fatalities and injuries found in the summary on pages 8 & 9.*

		Fatal	Incapacitating	Non-Incapacitating	Possible	No Injuries
First Harmful Event	Curb	119	339	788	912	3,945
	Ditch	18	153	427	618	1,898
	Downhill Runaway	0	0	0	0	0
	Embankment	20	32	85	96	267
	Equipment Failure (blown tire, brake failure, etc.)	0	0	0	0	0
	Fell/Jumped From Motor Vehicle	23	101	257	98	279
	Fence	29	133	294	530	2,723
	Fire/Explosion	0	1	8	6	153
	Guardrail End	8	26	101	134	508
	Guardrail Face	53	210	668	1,131	4,366
	Immersion	2	1	5	19	86
	Impact Attenuator/Crash Cushion	4	31	89	140	441
	Jackknife	0	7	26	67	337
	Mailbox	12	57	135	274	1,760
	Motor Vehicle in Transport	1,522	9,962	46,993	114,441	476,700
	Not Specified	0	0	1	3	99
	Other Fixed Object (wall, building, tunnel, etc.)	48	187	731	1,094	6,090
	Other Non-Collision	96	264	760	934	3,565
	Other Non-Fixed Object	15	84	371	511	4,562
	Other Post, Pole, or Support	22	63	285	483	2,825
	Other Traffic Barrier	5	21	71	124	606
	Overturn/Rollover	165	760	1,710	1,628	3,765
	Parked Motor Vehicle	29	196	739	1,699	24,465

FLHSMV
FLORIDA HIGHWAY SAFETY AND MOTOR VEHICLES

Environmental Factors & Injury Levels

Note: *The environmental factor titled "Road Contributing Circumstance" can be listed on the crash report with more than one value per crash event. Therefore injury totals may differ from the true count of fatalities and injuries found in the summary on pages 8 & 9.*

		Fatal	Incapacitating	Non-Incapacitating	Possible	No Injuries
First Harmful Event	Pedalcycle	140	578	1,791	1,536	4,681
	Pedestrian	663	1,134	2,678	2,330	7,650
	Railway Vehicle (train, engine)	7	5	9	22	153
	Ran into Water/ Canal	10	10	65	85	515
	Ran Off Roadway, Left	0	1	1	0	0
	Ran Off Roadway, Right	0	0	1	1	4
	Struck By Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	1	9	29	50	1,480
	Separation of Units	0	0	0	0	0
	Thrown or Falling Object	0	2	10	32	350
	Traffic Sign Support	23	99	217	337	1,829
	Traffic Signal Support	5	16	40	38	222
	Tree (standing)	186	598	1,455	1,734	4,419
	Unknown	0	0	0	0	0
	Utility Pole/Light Support	37	229	724	1,006	3,179
	Work Zone/Maintenance Equipment	10	20	29	40	307
	Total	**3,332**	**15,614**	**62,738**	**134,080**	**573,649**

APPENDIX F: Signal Warrant Analysis Report

Signal Warrant Analysis

Florida Department of Transportation

District One

SR 70 from Lonesome Island Road to CR 721

Limits of Project: From Lonesome Island Road to the Southern Leg of CR 721

Highlands County, Florida

Financial Management Number: 449851-1

ETDM Number: 14490

Date: July 2024

PROFESSIONAL ENGINEER CERTIFICATE

I hereby certify that I am a registered professional engineer in the State of Florida practicing with Kisinger Campo & Associates, and that I have supervised the preparation of, and approved the analysis, findings, opinions, conclusions, and technical advice reported in:

REPORT:	Signal Warrant Analysis
PROJECT:	SR 70 from Lonesome Island Road to CR 721
LOCATION:	Highlands County
FPID NO.:	449851-1
CLIENT:	FDOT District One

The following duly authorized engineering business performed the engineering work represented by this report:

Kisinger Campo & Associates, Corp.
201 N. Franklin St., Suite 400
Tampa, FL 33602
Telephone: (813) 871-5331

I, M. Fathy Abdalla, Florida P.E. Number 63914, have prepared this Signal Warrant Analysis for SR 70 at CR 721. This Signal Warrant Analysis contains detailed engineering information that fulfills the purpose and need for this project.

I acknowledge that the procedures and references used to develop the results contained in this report are standard to the professional practice of transportation engineering as applied through design standards and criteria set forth by the federal, state, and local regulatory agencies as well as professional judgement and experience.

Name: M. Fathy Abdalla, P.E.

Signature: M. Fathy Abdalla 2024.07.03 13:02:43-04'00'

P.E. Number: 63914

Date: _____

This report has been digitally signed and sealed by M. Fathy Abdalla, P.E. on the date indicated here. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Executive Summary

The purpose of this study is to evaluate the feasibility of installing a traffic signal at the intersection of the SR 70 and CR 721 in Highlands County, Florida in the Opening Year of 2032 with proposed widening along SR 70 from a two to four lane road. The methodology used in this study is consistent with the FHWA Manual on Uniform Traffic Control Devices (MUTCD) and the FDOT Manual on Uniform Traffic Studies (MUTS).

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Project Description

The purpose of this project is to provide safety and capacity improvements along SR 70. Improvements are recommended based on historic crash data of the corridor, existing evacuation clearance times, and population growth in the project area. SR 70 serves as a major east-west corridor and evacuation route in Highlands County and across the state of Florida. The intersection currently operates under flashing signal control. Figure 1 shows an aerial photograph of the existing conditions, Figure 2 shows the existing typical section, and Figure 3 shows the existing lane configurations.

Figure 1 Existing Intersection Conditions

Figure 2 SR 70 – Existing Typical Section

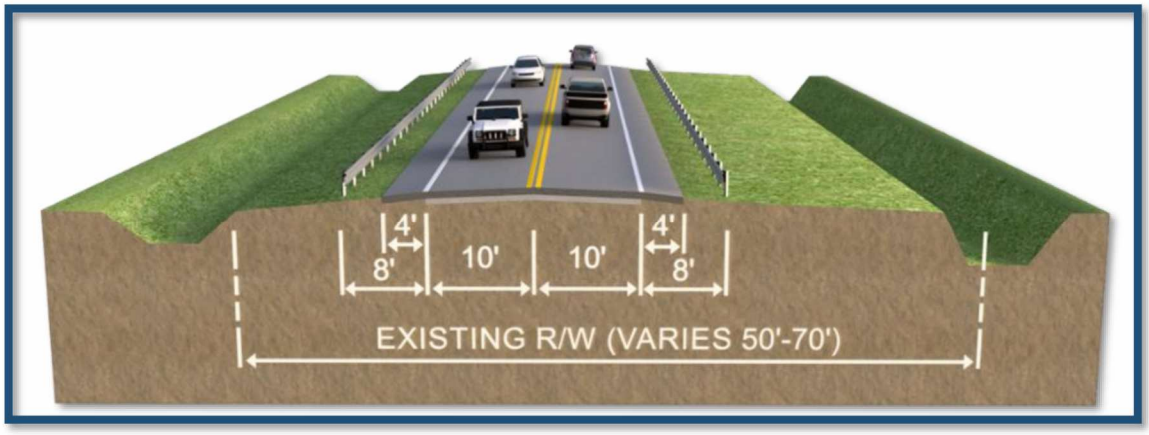
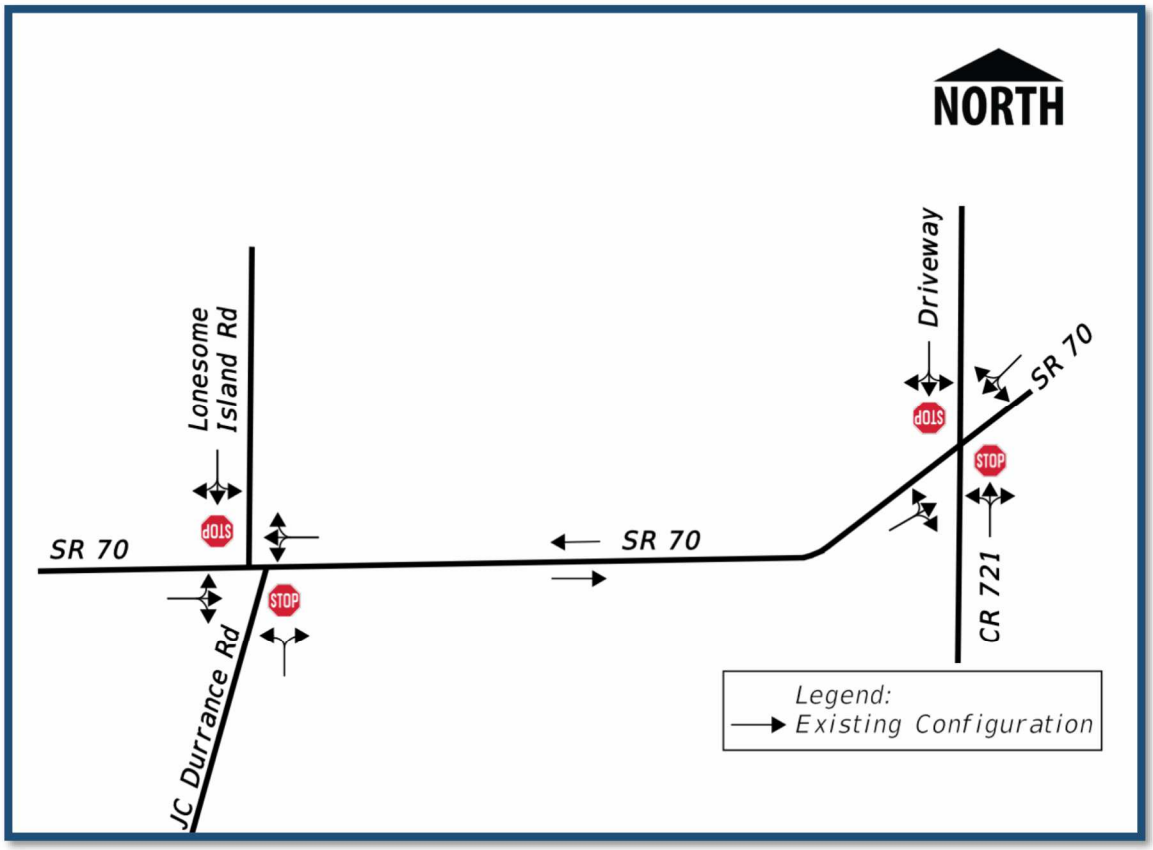


Figure 3 SR 70 – Existing Lane Configurations



Proposed Lane Configuration

The on-going FDOT District One design project along SR 70 (FPID 449851-1) is proposing improvements to the intersection of SR 70 at CR 721. This project is proposing to widen SR 70 from two to four lanes within the intersection of CR 721. The proposed typical section shows widening SR 70 to a four-lane divided rural roadway with a 40-foot median and is depicted in Figure 4. There will be two 12-ft travel lanes in each direction, with outside shoulders that are approximately 10-ft wide (5-ft paved) throughout the corridor. A 12-ft shared use path is proposed along the south side of the road. The proposed ROW varies along the corridor but is a minimum of an additional 60 feet. Figure 5 shows the proposed lane configuration.

Figure 4 SR 70 - Proposed Typical Section

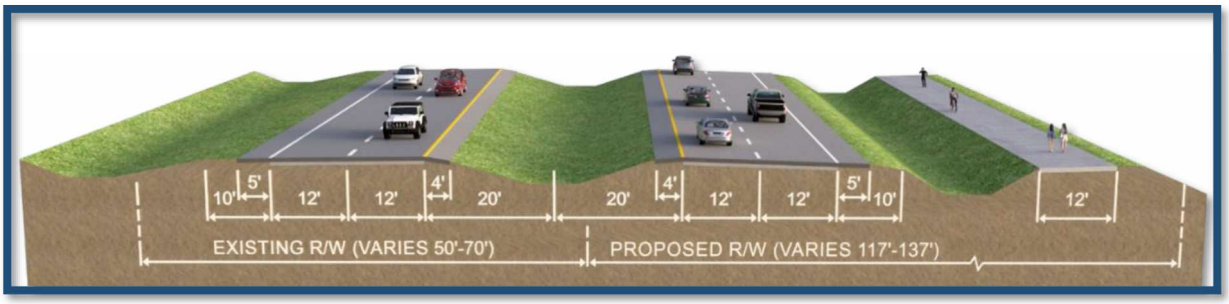
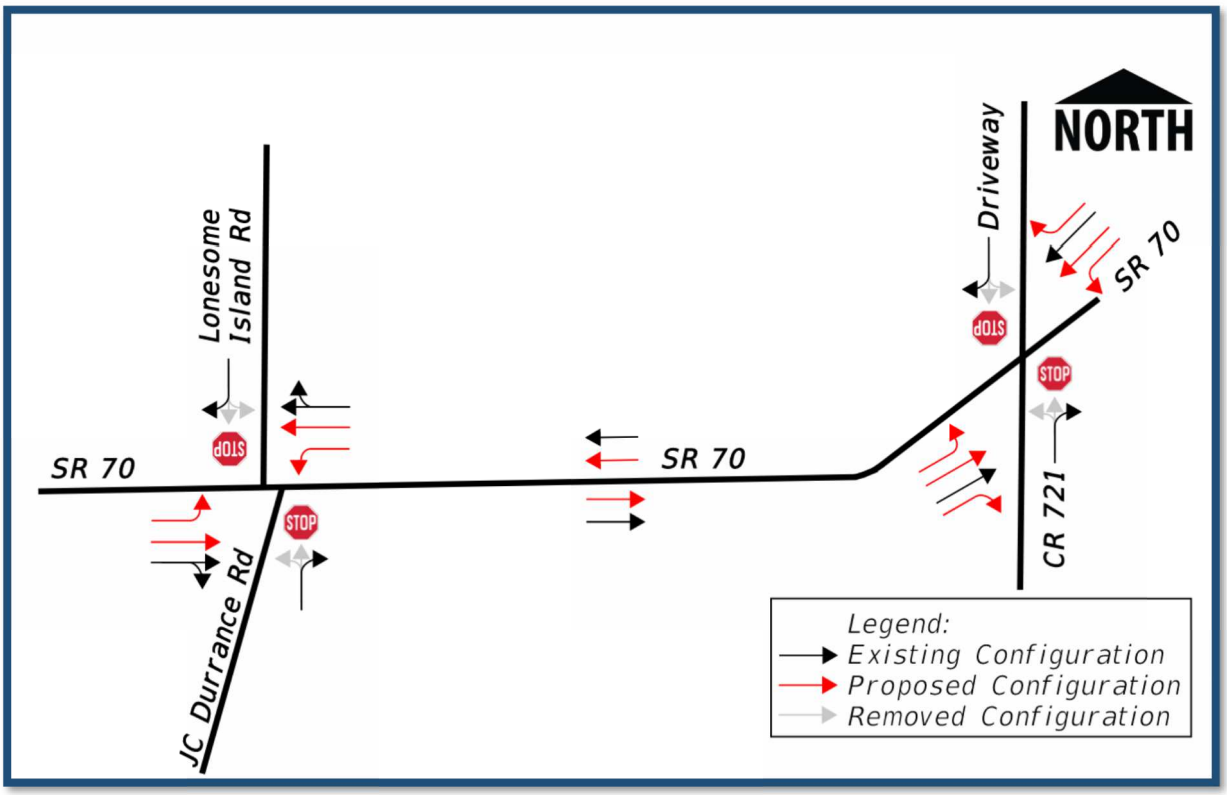


Figure 5 Build Scenario Proposed Lane Geometry



Traffic Data

Twenty-four hour bi-directional volume counts were conducted for all approaches on November 2nd, 2022. The traffic counts were used in conjunction with established growth rates for the intersection location to project traffic during the Opening Year 2032. Right turn traffic on the Minor Street approach was excluded in the traffic projection. Table 1 shows the 2032 Opening Year 8-hour traffic volumes that were developed for the study intersection based on the counts from November 2nd, 2022. For the purposes of this study SR 70 was considered the Major Street and CR 721 was considered the Minor Street.

Table 1 Opening Year 2032 8-Hour Volumes

Time	2022 Counts				Growth Rate	2032 Projection	
	SR 70 EB & WB	CR 721 NB Left Turn	CR 721 NB Through	CR 721 NB Right Turn		SR 70 EB & WB	CR 721 NB
8:00 AM	456	14	0	41	4%	675	21
12:00 PM	373	15	0	43		552	23
1:00 PM	458	18	0	52		678	27
2:00 PM	472	23	1	67		699	35
3:00 PM	631	27	1	78		934	41
4:00 PM	468	30	1	85		693	45
5:00 PM	398	31	1	89		589	47
6:00 PM	304	17	0	49		450	26

Evaluation of Signal Warranting Conditions

Warrant 1: Eight-Hour Vehicular Volumes

The minimum Vehicular Volume, Condition A, is intended for application where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal. The Interruption of Continuous Traffic, Condition B, is intended for application 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. Warrant 1 is met if the requirements for Condition A or Condition B are fulfilled for any eight hours of an average day or if a combination of warrants, 80% of Condition A and 80% of Condition B, is fulfilled for any eight hours of an average day. Figures 6 and 7 show that the 8-hour volumes did not meet any of the requirements for Condition A or B, therefore Warrant 1 is not satisfied.

Conclusion: Warrant 1 has not been met

Figure 6 Table 4C-1 for Warrant 1, Condition A

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

Figure 7 Table 4C-1 for Warrant 1, Condition B

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

Warrant 2: Four-Hour Vehicular Volumes

The Four-Hour Vehicular Volume signal warrant conditions are applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal. This warrant has not been met due to low traffic volumes on CR 721.

Conclusion: Warrant 2 has not been met

Warrant 3: Peak Hour Vehicular Volumes

The Peak Hour signal warrant is intended for use at a location where traffic conditions are such that for a minimum of one hour of an average day, the minor street traffic suffers undue delay when entering or crossing the major street. This warrant is intended for use at manufacturing plants, industrial complexes, or high-occupancy vehicle facilities attracting or discharging large numbers of vehicles over a short time. The warrant is not applicable to this intersection per MUTCD Section 4C.04 note 3.

Conclusion: Warrant 3 is Not Applicable

Warrant 4: Pedestrian Volume

This warrant is intended where the major street traffic causes pedestrians to experience excessive delays in crossing the major street. Either the average volume of vehicles per hour (vph) over any 4-hour period or the peak one-hour of an average day can be used to determine if this warrant is met. This warrant is not applicable because there were no observed pedestrians during the study period and pedestrian volumes are not projected to increase at this intersection.

Conclusion: Warrant 4 is Not Applicable

Warrant 5: School Crossing

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. This warrant does not apply to this intersection since schoolchildren are not anticipated to use this intersection as a school crossing with the proposed conditions.

Conclusion: Warrant 5 is Not Applicable

Warrant 6: Coordinated Signal System

The Coordinated Signal System warrant is intended for applications where installing traffic control signals at intersections, where they would not otherwise be needed, can be justified in order to maintain proper platooning of vehicles. This warrant does not apply because the intersection does not necessitate progressive movement in a coordinated signal system.

Conclusion: Warrant 6 is Not Applicable

Warrant 7: Crash Experience

This warrant is intended where the severity and frequency of crashes are the principal reason for the installation of a signal. This warrant requires five or more crashes of types susceptible to correction by a traffic signal to have occurred within a 12-month period. The intersection of SR 70 and CR 721 has been the site of 19 reported crashes between 2018 and 2022. Among these crashes, rear-ends were the most frequent, accounting for 21% of the total. Rear end crashes often result from road users operating their vehicles carelessly or negligently. There were two fatal crashes reported in the study period. The first fatal crash was reported in 2018 as a "fell/jumped from motor vehicle" crash on CR 721 near the intersection under daylight and dry conditions, the initial cause was reported as running off roadway. This crash cannot be attributed to the roadway characteristics with the available information. The second fatal crash was reported in 2019 as a head on crash on SR 70 near CR 721 under daylight and dry conditions, the initial cause was reported as improper passing. This warrant is not applicable because crashes are not projected for the proposed conditions and therefore cannot be evaluated.

Conclusion: Warrant 7 is Not Applicable

Warrant 8: Roadway Network

This warrant is intended where the installation of a signal would encourage concentrated and organized flow on the roadway network.

Conclusion: Warrant 8 is Not Applicable

Warrant 9: Intersection Near Grade Crossing

There is no grade crossing expected to be within the vicinity of the study.

Conclusion: Warrant 9 is Not Applicable

SWA Summary

This study investigated the warrants for a traffic signal at the intersection of SR 70 and CR 721 based on Opening Year 2032 proposed conditions. The MUTCD requires at least one warrant to be met to consider a new traffic signal. The SWA shows that no warrants were met for the intersection. Table 2 provides a summary of the SWA.

Table 2 SWA Summary

Warrant		Not Applicable	Met	Not Met
1	Eight-Hour Volume			X
2	Four-Hour Volume			X
3	Peak Hour	X		
4	Pedestrian Volume	X		
5	School Crossing	X		
6	Coordinated Signal System	X		
7	Crash Experience	X		
8	Roadway Network	X		
9	Intersection Near a Grade Crossing	X		

Recommendation

This study does not recommend the inclusion of signalized alternatives in an Intersection Control Evaluation (ICE) analysis. This intersection does not warrant a signal based on the projected traffic volumes and proposed conditions.

Attachments

Traffic Counts

Crash History

Signal Warrant Analysis Forms

Traffic Counts

CLASS COUNT REPORT

Location:	CR 721 (south leg) south of SR 70			GPS:	27.217675
Direction:	Northbound	City/County:	Brighton/Highlands		-81.094633
Start Date:	11/2/2022	Start Time:	00:00		
Stop Date:	11/2/2022	Stop Time:	24:00		

END TIME	VEHICLE CLASS															
	Cycle	Car	2A-4T	Bus	2A-SU	3A-SU	4A-SU	4A-ST	5A-ST	6A-ST	5A-MT	6A-MT	7A-MT	None	Unclass	Total
15	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	4
30	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
45	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	6
100	0	7	1	0	0	0	0	0	0	0	0	0	0	0	0	8
Hourly Total	**0**	**16**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**
115	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
130	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	4
Hourly Total	**0**	**5**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**
215	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
230	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
245	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	5
300	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
Hourly Total	**0**	**9**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**15**
315	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
330	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
345	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
400	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
Hourly Total	**0**	**2**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**
415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
430	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
500	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
515	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
530	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	3
545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
600	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	5
Hourly Total	**0**	**3**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**11**
615	0	3	4	1	1	0	0	0	1	0	0	0	0	0	0	10
630	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
645	0	2	3	0	0	0	0	1	0	0	0	0	0	0	1	7
700	0	1	5	0	0	0	0	0	1	0	0	0	0	0	0	7
Hourly Total	**0**	**7**	**12**	**1**	**1**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**25**
715	0	7	3	0	0	0	0	2	0	0	0	0	0	0	0	12
730	0	2	6	0	0	0	0	1	0	0	0	0	0	0	0	9
745	0	3	3	0	2	0	0	0	0	0	0	0	0	0	0	8
800	0	4	4	0	1	0	0	0	1	0	0	0	0	0	0	10
Hourly Total	**0**	**16**	**16**	**0**	**3**	**0**	**0**	**3**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**39**
815	0	7	3	0	0	0	0	1	0	0	0	0	0	0	0	11
830	0	3	4	0	2	0	0	0	0	0	0	0	0	0	1	10

845	0	11	8	0	1	0	0	1	0	0	0	0	0	0	1	22
900	0	5	6	0	0	0	0	1	0	0	0	0	0	0	0	12
Hourly Total	**0**	**26**	**21**	**0**	**3**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**55**
915	0	2	4	0	3	0	0	0	0	0	0	0	0	0	0	9
930	0	4	5	0	0	0	0	0	0	0	0	0	0	0	0	9
945	1	2	8	0	2	1	0	1	1	0	0	0	0	0	0	16
1000	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	6
Hourly Total	**1**	**10**	**21**	**0**	**5**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**40**
1015	0	4	3	0	1	1	0	1	0	0	0	0	0	0	0	10
1030	0	1	4	0	0	0	0	1	2	0	0	0	0	0	0	8
1045	0	8	2	0	0	0	0	0	0	0	0	0	0	0	0	10
1100	0	3	3	0	2	3	0	0	0	0	0	0	0	0	0	11
Hourly Total	**0**	**16**	**12**	**0**	**3**	**4**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**39**
1115	0	5	7	0	1	0	0	1	0	0	0	0	0	0	1	15
1130	0	3	7	0	1	0	0	0	1	0	0	0	0	0	0	12
1145	0	3	4	0	0	0	0	1	0	0	0	0	0	0	0	8
1200	0	3	1	0	1	2	0	0	1	0	0	0	0	0	1	9
Hourly Total	**0**	**14**	**19**	**0**	**3**	**2**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**44**
1215	0	12	6	0	1	0	0	0	0	0	0	0	0	0	0	19
1230	0	5	6	0	2	2	0	0	0	0	0	0	0	0	0	15
1245	0	6	5	0	0	0	0	0	0	0	0	0	0	0	0	11
1300	0	7	4	0	1	0	0	0	2	0	0	0	0	0	0	14
Hourly Total	**0**	**30**	**21**	**0**	**4**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**59**
1315	1	1	7	0	2	0	0	0	0	0	0	0	0	0	0	11
1330	0	8	9	0	1	0	0	0	2	0	0	0	0	0	0	20
1345	0	9	6	0	3	1	0	1	0	0	0	0	0	0	0	20
1400	1	10	7	0	0	1	0	0	0	0	0	0	0	0	0	19
Hourly Total	**2**	**28**	**29**	**0**	**6**	**2**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**70**
1415	0	12	12	0	1	0	0	2	1	0	0	0	0	0	0	28
1430	0	9	10	0	2	0	0	0	0	0	0	0	0	0	0	21
1445	1	11	7	0	2	2	0	0	0	0	0	0	0	0	1	24
1500	0	8	7	0	1	0	0	1	1	0	0	0	0	0	0	18
Hourly Total	**1**	**40**	**36**	**0**	**6**	**2**	**0**	**3**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**91**
1515	0	10	7	0	2	0	0	0	0	0	0	0	0	0	0	19
1530	0	16	10	0	2	0	0	1	0	0	0	0	0	0	0	29
1545	0	19	8	0	5	2	0	1	0	0	0	0	0	0	1	36
1600	0	9	10	0	2	0	0	1	0	0	0	0	0	0	0	22
Hourly Total	**0**	**54**	**35**	**0**	**11**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**106**
1615	0	17	12	0	2	0	0	0	0	0	0	0	0	0	0	31
1630	0	25	10	0	2	0	0	2	2	0	0	0	0	0	0	41
1645	0	14	12	0	3	0	0	0	0	0	0	0	0	0	0	29
1700	0	4	7	0	4	0	0	0	0	0	0	0	0	0	0	15
Hourly Total	**0**	**60**	**41**	**0**	**11**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**116**
1715	0	21	15	0	2	0	0	0	0	0	0	0	0	0	0	38
1730	0	18	15	0	2	0	0	0	0	0	0	0	0	0	0	35
1745	0	15	10	0	4	0	0	0	0	0	0	0	0	0	0	29
1800	0	12	7	0	0	0	0	0	0	0	0	0	0	0	0	19
Hourly Total	**0**	**66**	**47**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**121**
1815	0	9	5	0	2	1	0	3	0	0	0	0	0	0	0	20
1830	0	6	11	0	0	0	0	1	0	0	0	0	0	0	0	18
1845	0	5	7	1	1	1	0	1	0	0	0	0	0	0	0	16

1900	0	9	2	0	0	0	0	1	0	0	0	0	0	0	0	12
Hourly Total	**0**	**29**	**25**	**1**	**3**	**2**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**66**
1915	0	11	3	0	2	0	0	0	0	0	0	0	0	0	0	16
1930	0	9	2	0	0	0	0	0	0	0	0	0	0	0	1	12
1945	0	8	3	0	2	0	0	0	0	0	0	0	0	0	0	13
2000	0	6	4	0	1	0	0	0	0	0	0	0	0	0	0	11
Hourly Total	**0**	**34**	**12**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**52**
2015	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2030	0	3	2	0	0	0	0	0	1	0	0	0	0	0	0	6
2045	0	8	4	0	0	0	0	0	0	0	0	0	0	0	0	12
2100	0	5	3	0	0	0	0	0	0	0	0	0	0	0	0	8
Hourly Total	**0**	**18**	**9**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**28**
2115	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	5
2130	0	6	5	0	0	0	0	0	0	0	0	0	0	0	0	11
2145	0	8	1	0	0	0	0	0	0	0	0	0	0	0	1	10
2200	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	6
Hourly Total	**0**	**23**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**32**
2215	0	3	6	0	0	0	0	0	0	0	0	0	0	0	0	9
2230	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0	7
2245	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
2300	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	**0**	**10**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**21**
2315	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	6
2330	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
2345	0	6	0	0	1	0	0	0	0	0	0	0	0	0	0	7
2400	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	**0**	**14**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**18**
DAILY TOTAL	**4**	**532**	**399**	**3**	**74**	**17**	**0**	**27**	**17**	**0**	**0**	**0**	**0**	**0**	**11**	**1084**
Percentages	**0.4%**	**49.1%**	**36.8%**	**0.3%**	**6.8%**	**1.6%**	**0.0%**	**2.5%**	**1.6%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**1.0%**	**100.0%**

CLASS COUNT REPORT

Location:	SR 70 west of CR 721 (south leg)			GPS:	27.223264
Direction:	Eastbound	City/County:	Brighton/Highlands		-81.098127
Start Date:	11/2/2022	Start Time:	00:00		
Stop Date:	11/2/2022	Stop Time:	24:00		

END TIME	VEHICLE CLASS															
	Cycle	Car	2A-4T	Bus	2A-SU	3A-SU	4A-SU	4A-ST	5A-ST	6A-ST	5A-MT	6A-MT	7A-MT	None	Unclass	Total
15	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	3
30	0	0	3	0	0	0	0	0	4	0	0	0	0	0	0	7
45	0	1	2	0	1	0	0	0	1	0	0	0	0	0	0	5
100	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	**0**	**4**	**5**	**0**	**1**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**16**
115	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
130	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	3
145	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2
200	0	2	2	0	1	0	0	0	0	0	0	0	0	0	0	5
Hourly Total	**0**	**4**	**3**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**11**
215	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
230	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	3
245	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	3
300	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
Hourly Total	**1**	**1**	**2**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**9**
315	0	0	0	0	1	0	0	0	3	0	0	0	0	0	0	4
330	0	2	1	0	0	0	0	0	3	0	0	0	0	0	0	6
345	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	3
400	0	1	1	0	2	0	0	1	3	0	0	0	0	0	0	8
Hourly Total	**0**	**3**	**4**	**0**	**3**	**0**	**0**	**1**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**21**
415	0	0	0	0	2	0	0	1	1	0	0	0	0	0	0	4
430	0	2	1	0	0	0	0	1	1	0	0	0	0	0	0	5
445	0	3	3	0	1	0	0	1	4	0	0	0	0	0	0	12
500	0	4	3	0	0	0	0	0	1	0	0	0	0	0	0	8
Hourly Total	**0**	**9**	**7**	**0**	**3**	**0**	**0**	**3**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**29**
515	0	1	2	0	0	0	0	0	3	0	0	0	0	0	0	6
530	0	9	1	0	0	0	0	1	2	0	0	0	0	0	0	13
545	0	5	6	0	3	0	0	3	7	0	0	0	0	0	0	24
600	0	9	10	1	4	1	0	0	6	1	0	0	0	0	0	32
Hourly Total	**0**	**24**	**19**	**1**	**7**	**1**	**0**	**4**	**18**	**1**	**0**	**0**	**0**	**0**	**0**	**75**
615	0	13	7	0	5	1	0	0	7	0	0	0	0	0	0	33
630	0	13	13	1	4	2	0	1	5	0	0	0	0	0	0	39
645	0	10	15	0	4	0	0	2	6	0	0	0	0	0	0	37
700	0	13	13	0	3	0	0	2	4	0	0	0	0	0	0	35
Hourly Total	**0**	**49**	**48**	**1**	**16**	**3**	**0**	**5**	**22**	**0**	**0**	**0**	**0**	**0**	**0**	**144**
715	0	6	11	0	4	2	0	2	9	0	0	0	0	0	0	34
730	0	9	17	0	1	2	0	1	7	1	0	0	0	0	8	46
745	2	15	9	1	8	3	1	2	4	0	0	0	0	0	6	51
800	1	6	12	0	4	1	0	1	2	0	0	0	0	0	0	27
Hourly Total	**3**	**36**	**49**	**1**	**17**	**8**	**1**	**6**	**22**	**1**	**0**	**0**	**0**	**0**	**14**	**158**
815	1	9	13	0	6	0	0	0	5	0	0	0	0	0	1	35
830	0	13	17	0	2	0	0	5	6	0	0	0	0	0	0	43

845	0	14	10	1	4	2	0	1	6	0	0	0	0	0	0	38
900	1	16	16	0	6	1	1	4	2	0	0	0	0	0	0	47
Hourly Total	**2**	**52**	**56**	**1**	**18**	**3**	**1**	**10**	**19**	**0**	**0**	**0**	**0**	**0**	**1**	**163**
915	2	16	16	0	3	1	0	0	0	0	0	0	0	0	0	38
930	1	12	13	0	6	2	0	3	1	0	0	0	0	0	0	38
945	0	9	6	0	3	0	0	1	5	0	0	0	0	0	1	25
1000	0	17	10	1	6	0	0	3	7	0	0	0	0	0	0	44
Hourly Total	**3**	**54**	**45**	**1**	**18**	**3**	**0**	**7**	**13**	**0**	**0**	**0**	**0**	**0**	**1**	**145**
1015	0	15	7	0	4	0	0	4	1	0	0	0	0	0	1	32
1030	0	13	19	0	1	0	0	2	6	0	0	0	0	0	0	41
1045	0	20	7	0	5	0	0	4	3	1	0	0	0	0	0	40
1100	0	18	12	0	3	1	0	8	13	1	0	0	0	0	1	57
Hourly Total	**0**	**66**	**45**	**0**	**13**	**1**	**0**	**18**	**23**	**2**	**0**	**0**	**0**	**0**	**2**	**170**
1115	0	23	12	0	4	0	0	3	6	0	0	0	0	0	4	52
1130	0	15	12	0	1	0	0	1	11	0	0	0	0	0	1	41
1145	2	14	10	0	3	4	0	0	4	0	0	0	0	0	2	39
1200	1	18	7	0	2	1	0	0	2	2	0	0	0	0	0	33
Hourly Total	**3**	**70**	**41**	**0**	**10**	**5**	**0**	**4**	**23**	**2**	**0**	**0**	**0**	**0**	**7**	**165**
1215	0	11	7	1	1	0	0	6	9	0	0	0	0	0	0	35
1230	0	15	7	0	1	0	0	2	6	0	0	0	0	0	1	32
1245	0	9	7	1	8	0	1	3	5	0	0	0	0	0	1	35
1300	0	12	7	0	6	0	0	2	4	0	0	0	0	0	0	31
Hourly Total	**0**	**47**	**28**	**2**	**16**	**0**	**1**	**13**	**24**	**0**	**0**	**0**	**0**	**0**	**2**	**133**
1315	0	14	9	0	2	0	0	2	3	0	0	0	0	0	0	30
1330	0	28	16	1	3	0	0	2	3	0	0	0	0	0	0	53
1345	0	22	10	0	1	1	0	2	8	0	0	0	0	0	0	44
1400	0	18	8	0	2	0	0	7	6	0	0	0	0	0	1	42
Hourly Total	**0**	**82**	**43**	**1**	**8**	**1**	**0**	**13**	**20**	**0**	**0**	**0**	**0**	**0**	**1**	**169**
1415	0	32	11	0	6	0	0	3	7	0	0	0	0	0	1	60
1430	0	16	10	0	2	1	0	1	4	0	0	0	0	0	1	35
1445	0	29	25	0	6	0	0	3	4	0	0	0	0	0	0	67
1500	0	38	17	2	2	2	0	1	9	0	0	0	0	0	2	73
Hourly Total	**0**	**115**	**63**	**2**	**16**	**3**	**0**	**8**	**24**	**0**	**0**	**0**	**0**	**0**	**4**	**235**
1515	2	51	25	0	2	3	0	1	9	0	0	0	0	0	1	94
1530	0	27	18	1	5	0	0	1	3	0	0	0	0	0	0	55
1545	0	53	24	1	5	1	1	4	3	0	0	0	0	0	0	92
1600	0	39	17	0	7	0	0	8	7	0	0	0	0	0	0	78
Hourly Total	**2**	**170**	**84**	**2**	**19**	**4**	**1**	**14**	**22**	**0**	**0**	**0**	**0**	**0**	**1**	**319**
1615	0	28	17	2	10	0	0	3	5	1	0	0	0	0	0	66
1630	0	29	29	1	5	0	0	4	3	0	0	0	0	0	0	71
1645	0	14	16	0	4	0	1	0	9	0	0	0	0	0	4	48
1700	0	16	15	0	1	0	0	0	3	0	0	0	0	0	0	35
Hourly Total	**0**	**87**	**77**	**3**	**20**	**0**	**1**	**7**	**20**	**1**	**0**	**0**	**0**	**0**	**4**	**220**
1715	0	10	17	0	8	0	0	3	6	0	0	0	0	0	1	45
1730	0	18	18	0	4	3	0	1	1	0	0	0	0	0	0	45
1745	0	16	17	0	3	1	0	2	0	0	0	0	0	0	1	40
1800	0	15	15	0	2	0	0	3	5	0	0	0	0	0	0	40
Hourly Total	**0**	**59**	**67**	**0**	**17**	**4**	**0**	**9**	**12**	**0**	**0**	**0**	**0**	**0**	**2**	**170**
1815	2	12	7	0	6	4	0	2	0	0	0	0	0	0	1	34
1830	1	9	11	0	7	1	0	0	1	0	0	0	0	0	0	30
1845	1	15	10	0	6	2	0	2	0	0	0	0	0	0	0	36

1900	0	8	9	0	1	0	0	0	1	0	0	0	0	0	0	19
Hourly Total	**4**	**44**	**37**	**0**	**20**	**7**	**0**	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**119**
1915	0	9	10	0	4	3	0	4	2	0	0	0	0	0	0	32
1930	0	11	7	0	0	0	0	1	7	0	0	0	0	0	0	26
1945	0	11	7	2	0	0	0	0	2	0	0	0	0	0	0	22
2000	0	13	5	0	2	0	0	0	3	0	0	0	0	0	0	23
Hourly Total	**0**	**44**	**29**	**2**	**6**	**3**	**0**	**5**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**103**
2015	0	17	6	0	4	0	0	1	0	0	0	0	0	0	0	28
2030	0	8	12	0	2	0	0	1	1	0	0	0	0	0	0	24
2045	0	5	6	0	2	0	0	0	0	0	0	0	0	0	1	14
2100	0	7	2	0	3	0	0	0	3	0	0	0	0	0	0	15
Hourly Total	**0**	**37**	**26**	**0**	**11**	**0**	**0**	**2**	**4**	**0**	**0**	**0**	**0**	**0**	**1**	**81**
2115	0	3	6	0	3	0	0	3	1	0	0	0	0	0	0	16
2130	0	1	0	0	1	0	0	0	2	0	0	0	0	0	0	4
2145	0	4	4	0	0	0	0	0	4	0	0	1	0	0	0	13
2200	0	6	4	0	0	0	0	1	1	0	0	0	0	0	0	12
Hourly Total	**0**	**14**	**14**	**0**	**4**	**0**	**0**	**4**	**8**	**0**	**0**	**1**	**0**	**0**	**0**	**45**
2215	0	2	6	0	1	0	0	0	2	0	0	0	0	0	0	11
2230	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
2245	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0	7
2300	0	4	3	0	0	0	0	0	1	0	0	0	0	0	0	8
Hourly Total	**0**	**13**	**12**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**29**
2315	0	2	0	0	1	0	0	0	1	0	0	0	0	0	0	4
2330	0	4	0	0	0	0	0	0	1	0	0	0	0	0	0	5
2345	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2
2400	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	3
Hourly Total	**0**	**9**	**0**	**0**	**1**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**14**
DAILY TOTAL	**18**	**1093**	**804**	**17**	**247**	**46**	**5**	**137**	**325**	**7**	**0**	**3**	**0**	**0**	**41**	**2743**
Percentages	**0.7%**	**39.8%**	**29.3%**	**0.6%**	**9.0%**	**1.7%**	**0.2%**	**5.0%**	**11.8%**	**0.3%**	**0.0%**	**0.1%**	**0.0%**	**0.0%**	**1.5%**	**100.0%**

Volume Count Report

Start Date:	November 2, 2022	Start Time:	0:00	GPS:	27.228944
Stop Date:	November 3, 2022	Stop Time:	0:00		-81.089467
City:	Brighton	County:	Highlands		
Location	SR 70 east of CR 721 (south leg)				

Eastbound Volume

Wednesday, November 2, 2022

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	7	2	3	6	7	11	54	55	47	44	40	71
30	13	6	9	13	6	15	40	41	60	46	55	62
45	12	3	10	6	15	39	52	67	62	50	56	44
00	2	6	8	11	11	41	40	36	54	56	91	43
Hr Total	**34**	**17**	**30**	**36**	**39**	**106**	**186**	**199**	**223**	**196**	**242**	**220**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	68	41	93	60	84	82	71	44	25	16	20	8
30	47	67	61	57	91	68	51	41	24	16	9	8
45	45	68	86	76	75	56	50	34	16	27	6	8
00	49	57	58	80	92	58	44	24	21	15	9	6
Hr Total	**209**	**233**	**298**	**273**	**342**	**264**	**216**	**143**	**86**	**74**	**44**	**30**

24 Hour Total:	3,740					
AM Peak Hour begins:	10:30	AM Peak Volume:	280	AM Peak Hour Factor:	0.77	
PM Peak Hour begins:	16:00	PM Peak Volume:	342	PM Peak Hour Factor:	0.93	

Westbound Volume

Wednesday, November 2, 2022

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	13	1	3	2	4	20	48	57	68	65	67	63
30	6	4	4	7	9	36	66	68	97	55	68	77
45	8	10	0	6	18	42	67	88	71	62	49	74
00	1	0	12	8	12	40	70	74	57	60	58	56
Hr Total	**28**	**15**	**19**	**23**	**43**	**138**	**251**	**287**	**293**	**242**	**242**	**270**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	69	68	67	88	70	48	60	22	26	19	9	11
30	43	68	54	81	71	64	40	33	23	20	13	5
45	60	75	68	63	64	72	52	28	27	20	9	3
00	68	78	48	80	43	44	33	34	17	14	7	7
Hr Total	**240**	**289**	**237**	**312**	**248**	**228**	**185**	**117**	**93**	**73**	**38**	**26**

24 Hour Total:	3,937					
AM Peak Hour begins:	7:30	AM Peak Volume:	327	AM Peak Hour Factor:	0.84	
PM Peak Hour begins:	15:00	PM Peak Volume:	312	PM Peak Hour Factor:	0.89	

Total Volume

Wednesday, November 2, 2022

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	20	3	6	8	11	31	102	112	115	109	107	134
30	19	10	13	20	15	51	106	109	157	101	123	139
45	20	13	10	12	33	81	119	155	133	112	105	118
00	3	6	20	19	23	81	110	110	111	116	149	99
Hr Total	**62**	**32**	**49**	**59**	**82**	**244**	**437**	**486**	**516**	**438**	**484**	**490**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	137	109	160	148	154	130	131	66	51	35	29	19
30	90	135	115	138	162	132	91	74	47	36	22	13
45	105	143	154	139	139	128	102	62	43	47	15	11
00	117	135	106	160	135	102	77	58	38	29	16	13
Hr Total	**449**	**522**	**535**	**585**	**590**	**492**	**401**	**260**	**179**	**147**	**82**	**56**

24 Hour Total:	7,677					
AM Peak Hour begins:	10:45	AM Peak Volume:	540	AM Peak Hour Factor:	0.91	
PM Peak Hour begins:	15:30	PM Peak Volume:	615	PM Peak Hour Factor:	0.95	

Signal Warrant Analysis Forms

TRAFFIC SIGNAL WARRANT SUMMARY

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-h	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

City: **Brighton**
County: **09 – Highlands**
District: **One**

Engineer: **KCA**
Date: **OPENING YEAR 2032**

Major Street: **SR 70**
Minor Street: **CR 721**

Major Street # Lanes: **2**
Minor Street # Lanes: **1**

Major Approach Speed: **60**
Minor Approach Speed: **45**

Eight Hour Volumes (Condition A)			For Warrant 7
Hours	Major Street (total of both approaches)	Minor Street (one direction only)	Ped Crossings on Major Street
8:00 AM	675	21	
12:00 PM	552	23	
1:00 PM	678	27	
2:00 PM	699	35	
3:00 PM	934	41	
4:00 PM	693	45	
5:00 PM	589	47	
6:00 PM	450	26	

Eight Hour Volumes (Condition B)		
Hours	Major Street (total of both approaches)	Minor Street (one direction only)
8:00 AM	675	21
12:00 PM	552	23
1:00 PM	678	27
2:00 PM	699	35
3:00 PM	934	41
4:00 PM	693	45
5:00 PM	589	47
6:00 PM	450	26

Highest Four Hour Vehicular Volumes		
Hours	Major Street (total of both approaches)	Minor Street (one direction only)
2:00 PM	699	35
3:00 PM	934	41
4:00 PM	693	45
5:00 PM	589	47

Highest Four Hour Pedestrian Volumes		
Hours	Major Street (total of both approaches)	Pedestrian Crossings on Major Street

Vehicular Peak Hour Volumes			
Peak Hour	Major Street (total of both approaches)	Minor Street (one direction only)	Total Entering Volume
5:00 PM	589	47	636

Pedestrian Peak Hour Volumes		
Peak Hour	Major Street (total of both approaches)	Pedestrian Crossing Volumes on Major Street

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	Brighton	Engineer:	KCA
County:	09 – Highlands	Date:	OPENING YEAR 2032
District:	One		

Major Street:	SR 70	Lanes:	2	Major Approach Speed:	60
Minor Street:	CR 721	Lanes:	1	Minor Approach Speed:	45

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							
	8:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM
Major	675	552	678	699	934	693	589	450
Minor	21	23	27	35	41	45	47	26

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	**8:00 AM**	**12:00 PM**	**1:00 PM**	**2:00 PM**	**3:00 PM**	**4:00 PM**	**5:00 PM**	**6:00 PM**
Major	675	552	678	699	934	693	589	450
Minor	21	23	27	35	41	45	47	26

Existing Volumes

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	Brighton	Engineer:	KCA
County:	09 – Highlands	Date:	OPENING YEAR 2032
District:	One		

Major Street:	SR 70	Lanes:	2	Major Approach Speed:	60
Minor Street:	CR 721	Lanes:	1	Minor Approach Speed:	45

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.

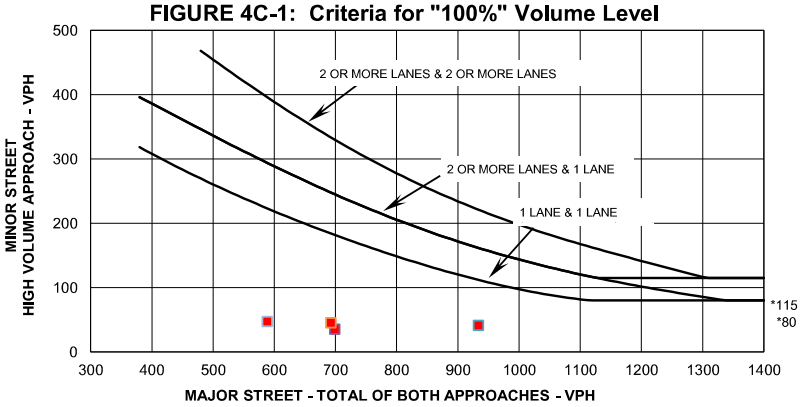
Applicable: ☑ Yes ☐ No
Satisfied: ☑ Yes ☐ No

Plot four volume combinations on the applicable figure below.

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
2:00 PM	699	35
3:00 PM	934	41
4:00 PM	693	45
5:00 PM	589	47

FIGURE 4C-1: Criteria for "100%" Volume Level



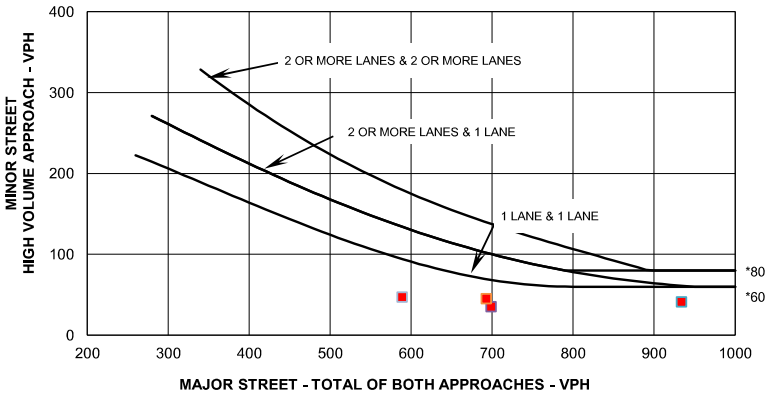
** Note: 115 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 80 mph applies as the lower threshold volume threshold for a minor street approach with one lane.*

70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
2:00 PM	699	35
3:00 PM	934	41
4:00 PM	693	45
5:00 PM	589	47

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:	Brighton	Engineer:	KCA
County:	09 – Highlands	Date:	OPENING YEAR 2032
District:	One		

Major Street:	SR 70	Lanes:	2	Major Approach Speed:	60
Minor Street:	CR 721	Lanes:	1	Minor Approach Speed:	45

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:

-

-

Record hour when criteria are fulfilled and the corresponding delay or volume in boxes provided.

Peak Hour 100% Volume		
Time	Major Vol.	Minor Vol.
5:00 PM	589	47

Peak Hour 70% Volume		
Time	Major Vol.	Minor Vol.
5:00 PM	589	47

Criteria

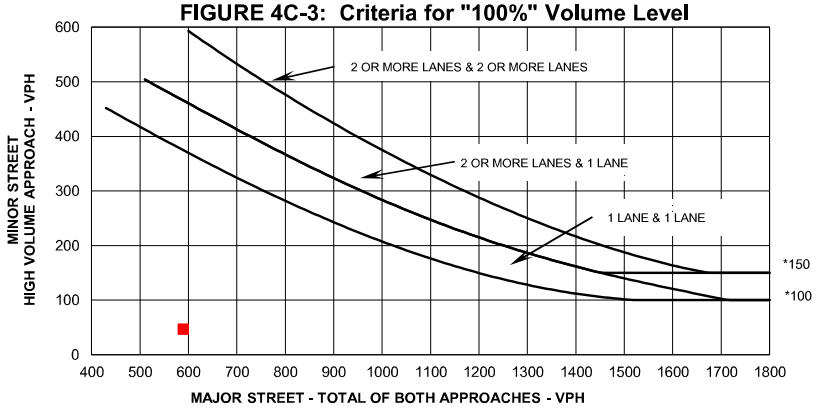
1. Delay on Minor Approach *(vehicle-hours)		
Approach Lanes	1	2
Delay Criteria*	4.0	5.0
Delay*		
Fulfilled?:	☐ Yes ☐ No	

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.

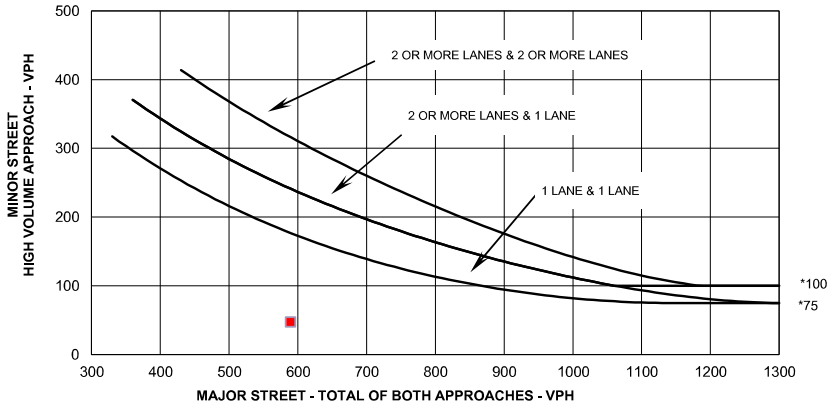
FIGURE 4C-3: Criteria for "100%" Volume Level



** 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.*

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	Brighton	Engineer:	KCA
County:	09 – Highlands	Date:	OPENING YEAR 2032
District:	One		

Major Street:	SR 70	Lanes:	2	Major Approach Speed:	60
Minor Street:	CR 721	Lanes:	1	Minor Approach Speed:	45

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

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.

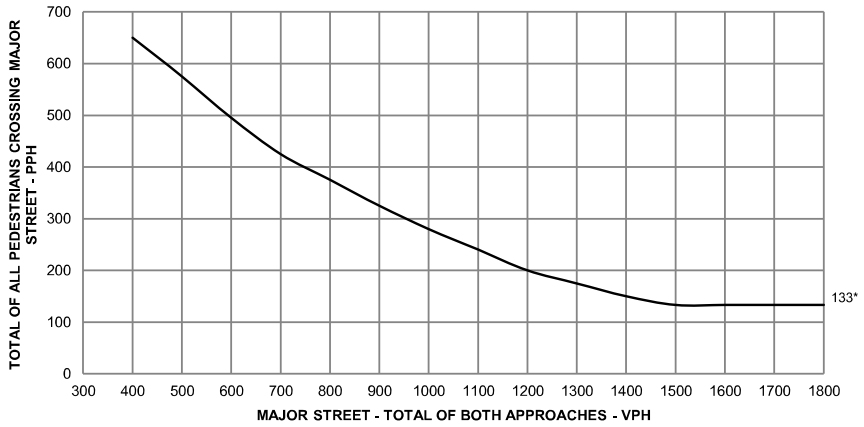
Applicable: ☑ Yes ☐ No
Satisfied: ☐ Yes ☑ No

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

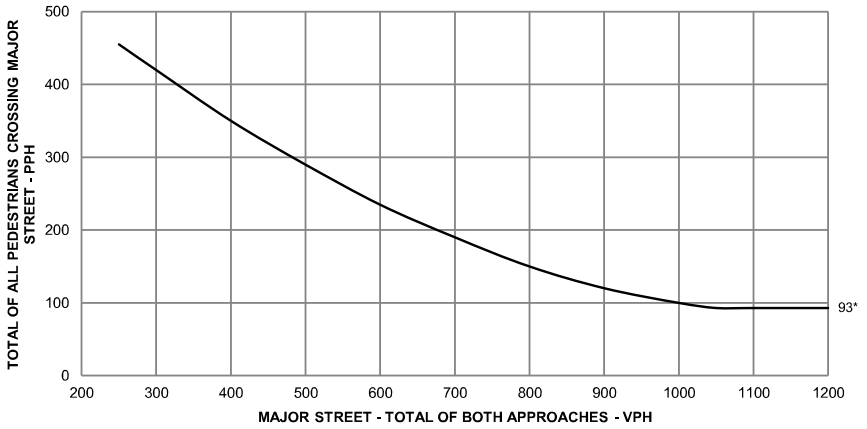


** Note: 133 pph applies as the lower threshold volume*

70% Volume Level

Peak Hour	Volumes	
	Major Street	Pedestrian Total

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:	**Brighton**	Engineer:	**KCA**
County:	**09 – Highlands**	Date:	**OPENING YEAR 2032**
District:	**One**		

Major Street:	**SR 70**	Lanes:	**2**	Major Approach Speed:	**60**
Minor Street:	**CR 721**	Lanes:	**1**	Minor Approach Speed:	**45**

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:	**Brighton**	Engineer:	**KCA**
County:	**09 – Highlands**	Date:	**OPENING YEAR 2032**
District:	**One**		

Major Street:	**SR 70**	Lanes:	**2**	Major Approach Speed:	**60**
Minor Street:	**CR 721**	Lanes:	**1**	Minor Approach Speed:	**45**

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:	Brighton	Engineer:	KCA
County:	09 – Highlands	Date:	OPENING YEAR 2032
District:	One		

Major Street:	SR 70	Lanes:	2	Major Approach Speed:	60
Minor Street:	CR 721	Lanes:	1	Minor Approach Speed:	45

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

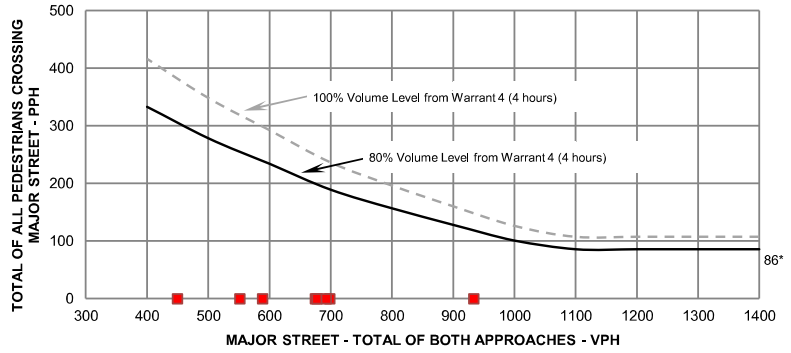
Satisfied: ☐ Yes ☐ No

Criteria					Fulfilled? Yes	Fulfilled? No
1. Adequate trial of other remedial measure has failed to reduce crash frequency.	Measure tried:					
2. Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12-month period.	Observed Crash Types:		Number of crashes per 12 months:			
3. **One of the following volume warrants is met:**				**Met?**		
Warrant 1, Condition A (80% satisfied), or				No		
Warrant 1, Condition B (80% satisfied), or				No		

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
8:00 AM	675	
12:00 PM	552	
1:00 PM	678	
2:00 PM	699	
3:00 PM	934	
4:00 PM	693	
5:00 PM	589	
6:00 PM	450	

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:	**Brighton**	Engineer:	**KCA**
County:	**09 – Highlands**	Date:	**OPENING YEAR 2032**
District:	**One**		

Major Street:	**SR 70**	Lanes:	**2**	Major Approach Speed:	**60**
Minor Street:	**CR 721**	Lanes:	**1**	Minor Approach Speed:	**45**

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?		Fulfilled?	
								Yes	No	Yes	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?		Fulfilled?	
		Yes	No	Yes	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:	Brighton	Engineer:	KCA
County:	09 – Highlands	Date:	OPENING YEAR 2032
District:	One		

Major Street:	SR 70	Lanes:	2	Major Approach Speed:	60
Minor Street:	CR 721	Lanes:	1	Minor Approach Speed:	45

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

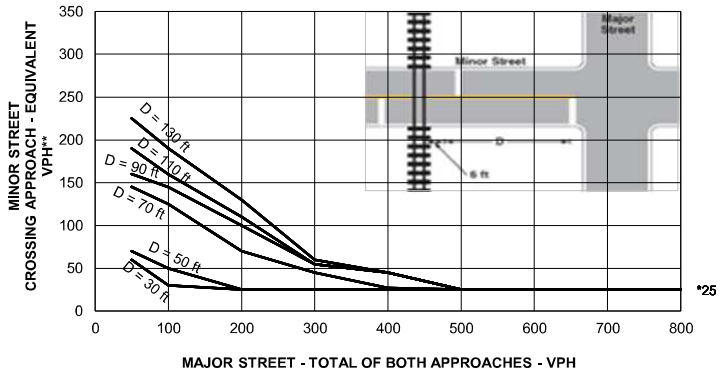
Input the major and minor street volumes before adjustment factors are applied

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*

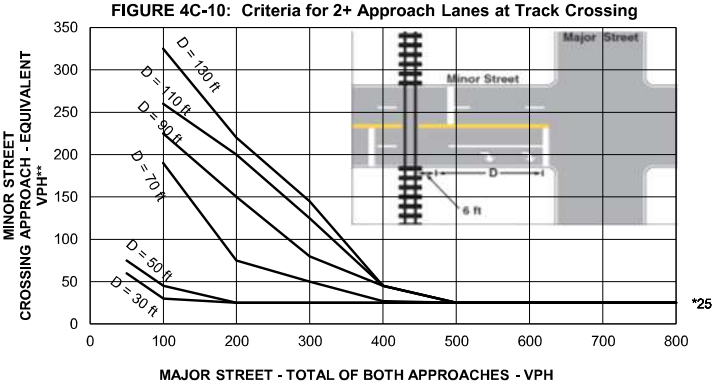
Input D and the major and minor street volumes before adjustment factors are applied

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*

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	Brighton	Engineer:	KCA
County:	09 – Highlands	Date:	OPENING YEAR 2032
District:	One		

Major Street:	SR 70	Lanes:	2	Major Approach Speed:	60
Minor Street:	CR 721	Lanes:	1	Minor Approach Speed:	45

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

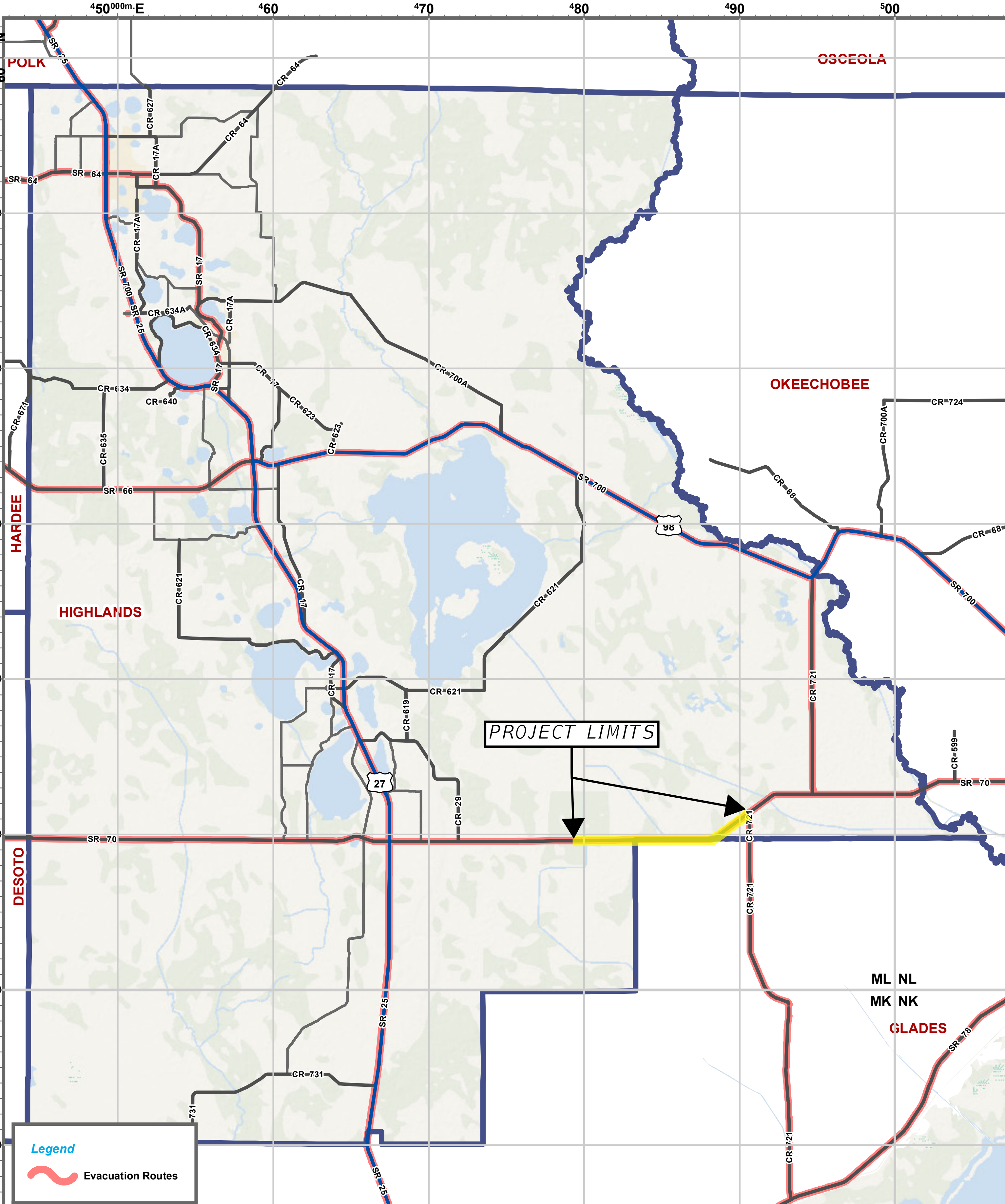
CONCLUSIONS

Remarks: Based on the planned 4-lane divided typical section of SR 70, the traffic volume projections at CR 721 indicate none of the warrants are expected to be met in opening year 2032.

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 G: Existing Highlands County Evacuation Scenario Reports



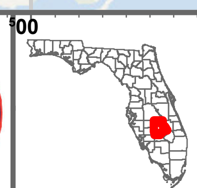
Disclaimer: Map is intended for reference only
No warranty for accuracy provided

Created By: GIS Section
Requested By: Standard Map Product
Date: 8/18/2021
Time: 1:07:36 PM
Path: S:\Projects\EvacRoute_SurgeZone_Maps\2021_Maps\MXDs\EvacRoutes\UTM17_Portrait.mxd

HIGHLANDS
EVACUATION ROUTES

0 1.5 3 4.5 6 Miles

FDEM



TIME Scenario Report: CFRPC_Base_Scenario_1_Level_A_2020

Name:	CFRPC_Base_Scenario_1_Level_A_2020
Description:	
Comments:	
Date:	6/12/2021 12:24:39 AM
Region:	2 - Central Florida
Behavioral Assumption:	100% Response
Network Period:	2020
Population Period:	2020
Model:	Run Full Model
University Population:	Fall/Spring Session (100% in residence)
Number of Evacuating Counties:	10
Number of Tourist Counties:	10
Number of Shelters Open:	712
Shelter Status:	Primary Open
Shelter Capacity:	312,823
Number of No-Go Counties	0
Number of Modified Network Counties	0
Number of Modified Small Area Counties:	0
Regional Clearance Time	19.5

Evacuation Demographics Summary: Population

Counties	Site-Built Population	Mobile Home Population	University Population	Tourist Population	Total Evaucating Population
Charlotte	81,014	12,385	0	1,226	94,625
DeSoto	3,881	8,797	0	0	12,678
Hardee	2,746	5,994	0	0	8,740
Highlands	13,021	16,770	0	0	29,791
Hillsborough	380,908	76,919	91	7,290	465,208
Manatee	112,739	34,973	0	2,504	150,217
Okeechobee	3,942	10,791	0	0	14,733
Pinellas	327,576	58,448	314	23,754	410,092
Polk	58,391	112,822	0	0	171,213
Sarasota	123,757	26,052	38	5,738	155,585

Evacuation Demographics Summary: Vehicles

Counties	Site-Built Evacuating Vehicles	Mobile Home Evacuating Vehicles	University Evacuating Vehicles	Tourist Evacuating Vehicles	Total Evaucating Vehicles
Charlotte	39,981	8,743	0	613	49,337
DeSoto	1,520	4,409	0	0	5,930
Hardee	909	2,667	0	0	3,577
Highlands	5,292	9,351	0	0	14,643
Hillsborough	174,307	51,122	91	3,645	229,165
Manatee	48,966	21,614	0	1,252	71,832
Okeechobee	1,486	5,906	0	0	7,393
Pinellas	170,768	35,935	314	11,877	218,893
Polk	20,744	59,927	0	0	80,672
Sarasota	60,390	17,973	38	2,869	81,270

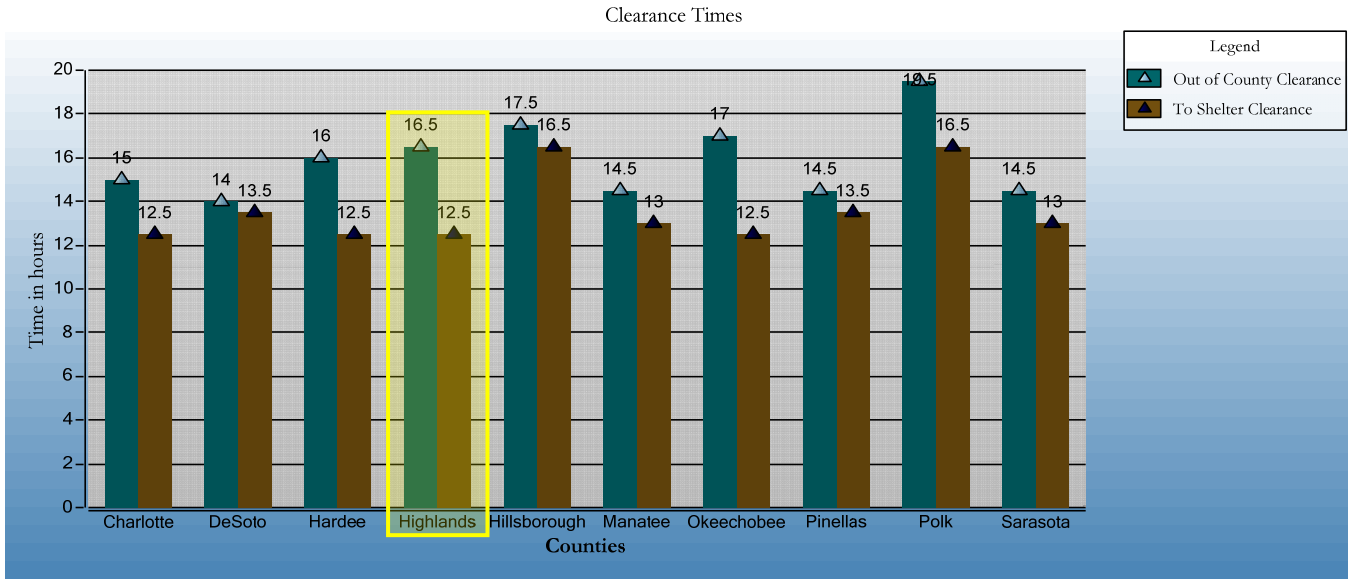
Sheltering Demand

Counties	Sheltering Demand
Charlotte	4,721
DeSoto	1,711
Hardee	1,092
Highlands	4,980
Hillsborough	22,067
Manatee	7,744
Okeechobee	1,724
Pinellas	19,754
Polk	17,142
Sarasota	9,694

Evacuation Clearance Times (Hours)

Counties	In County	Out of County	To Shelter
Charlotte	15.0	15.0	12.5
DeSoto	14.0	14.0	13.5
Hardee	16.0	16.0	12.5
Highlands	16.5	16.5	12.5
Hillsborough	17.5	17.5	16.5
Manatee	14.5	14.5	13.0
Okeechobee	17.0	17.0	12.5
Pinellas	14.5	14.5	13.5
Polk	19.5	19.5	16.5
Sarasota	14.5	14.5	13.0

Evacuation Clearance Times (Graph)



TIME Scenario Report: CFRPC_Base_Scenario_2_Level_B_2020

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Comments:	
Date:	6/11/2021 11:58:35 PM
Region:	2 - Central Florida
Behavioral Assumption:	100% Response
Network Period:	2020
Population Period:	2020
Model:	Run Full Model
University Population:	Fall/Spring Session (100% in residence)
Number of Evacuating Counties:	10
Number of Tourist Counties:	10
Number of Shelters Open:	712
Shelter Status:	Primary Open
Shelter Capacity:	312,823
Number of No-Go Counties	0
Number of Modified Network Counties	0
Number of Modified Small Area Counties:	0
Regional Clearance Time	22.5

Evacuation Demographics Summary: Population

Counties	Site-Built Population	Mobile Home Population	University Population	Tourist Population	Total Evaucating Population
Charlotte	131,851	12,385	0	2,058	146,294
DeSoto	5,093	8,797	0	0	13,890
Hardee	2,746	5,994	0	0	8,740
Highlands	17,362	16,770	0	0	34,132
Hillsborough	454,186	76,919	99	11,197	542,402
Manatee	140,733	34,973	0	2,822	178,528
Okeechobee	4,548	10,791	0	0	15,339
Pasco	139,260	81,235	0	0	220,495
Pinellas	402,842	58,448	314	25,274	486,878
Polk	75,908	112,822	0	0	188,731

Evacuation Demographics Summary: Vehicles

Counties	Site-Built Evacuating Vehicles	Mobile Home Evacuating Vehicles	University Evacuating Vehicles	Tourist Evacuating Vehicles	Total Evaucating Vehicles
Charlotte	62,958	8,743	0	1,029	72,730
DeSoto	1,990	4,409	0	0	6,400
Hardee	909	2,667	0	0	3,577
Highlands	7,056	9,351	0	0	16,406
Hillsborough	207,194	51,122	99	5,598	264,013
Manatee	60,500	21,614	0	1,411	83,524
Okeechobee	1,715	5,906	0	0	7,621
Pasco	67,443	45,522	0	0	112,964
Pinellas	206,301	35,935	314	12,637	255,186
Polk	26,968	59,927	0	0	86,895

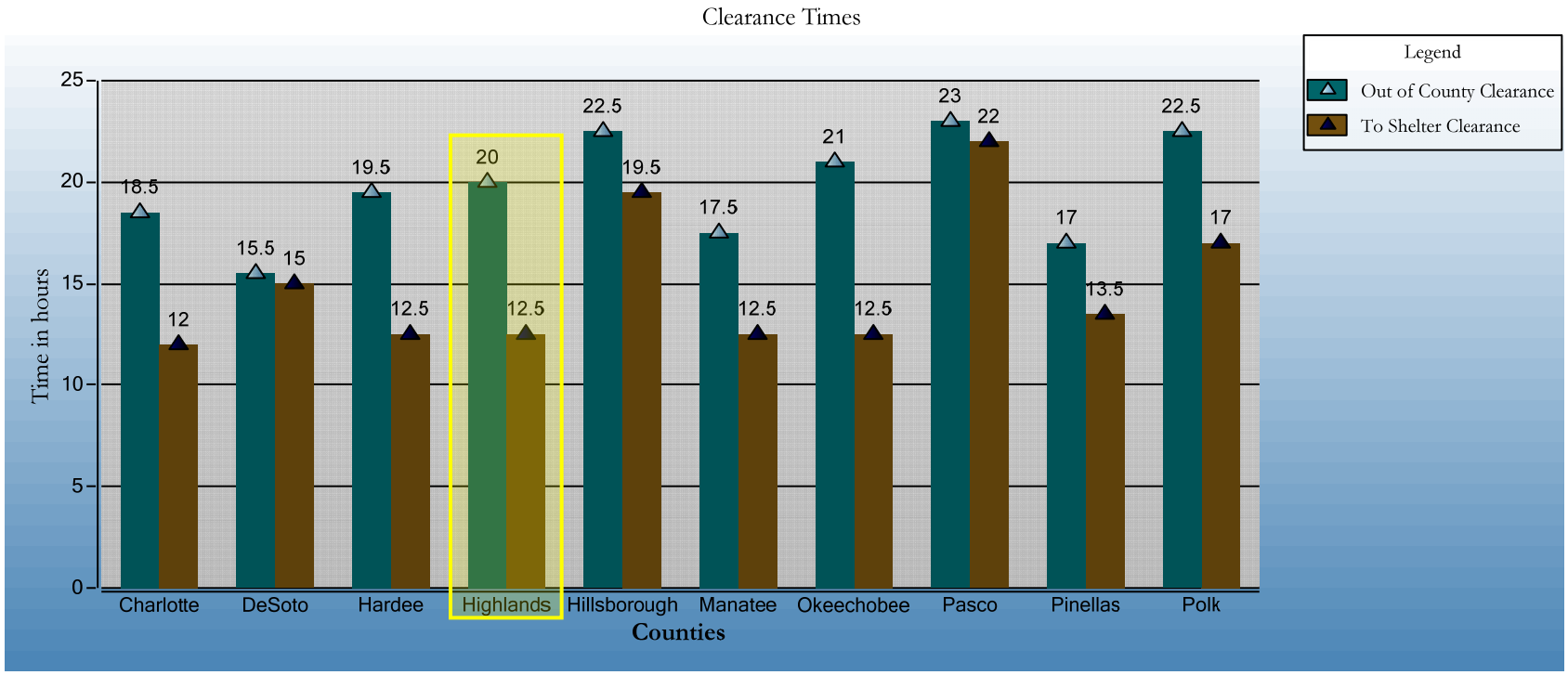
Sheltering Demand

Counties	Sheltering Demand
Charlotte	7,474
DeSoto	1,907
Hardee	1,141
Highlands	5,676
Hillsborough	26,048
Manatee	9,341
Okeechobee	1,896
Pasco	14,761
Pinellas	23,336
Polk	19,401

Evacuation Clearance Times (Hours)

Counties	In County	Out of County	To Shelter
Charlotte	18.5	18.5	12.0
DeSoto	15.5	15.5	15.0
Hardee	19.5	19.5	12.5
Highlands	20.0	20.0	12.5
Hillsborough	22.5	22.5	19.5
Manatee	17.5	17.5	12.5
Okeechobee	21.0	21.0	12.5
Pasco	23.0	23.0	22.0
Pinellas	17.0	17.0	13.5
Polk	22.5	22.5	17.0

Evacuation Clearance Times (Graph)



TIME Scenario Report: CFRPC_Base_Scenario_3_Level_C_2020

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Region:	2 - Central Florida
Behavioral Assumption:	100% Response
Network Period:	2020
Population Period:	2020
Model:	Run Full Model
University Population:	Fall/Spring Session (100% in residence)
Number of Evacuating Counties:	10
Number of Tourist Counties:	10
Number of Shelters Open:	712
Shelter Status:	Primary Open
Shelter Capacity:	312,823
Number of No-Go Counties	0
Number of Modified Network Counties	0
Number of Modified Small Area Counties:	0
Regional Clearance Time	31.0

Evacuation Demographics Summary: Population

Counties	Site-Built Population	Mobile Home Population	University Population	Tourist Population	Total Evaucating Population
Charlotte	157,307	12,385	0	2,234	171,927
DeSoto	7,332	8,797	0	0	16,130
Hardee	4,224	5,994	0	0	10,218
Highlands	21,714	16,770	0	0	38,484
Hillsborough	558,745	76,919	137	22,025	657,826
Manatee	187,159	34,973	0	4,543	226,675
Okeechobee	6,974	10,791	0	0	17,765
Pinellas	506,960	58,448	314	29,819	595,540
Polk	116,782	112,822	0	0	229,604
Sarasota	250,843	26,052	72	9,164	286,130

Evacuation Demographics Summary: Vehicles

Counties	Site-Built Evacuating Vehicles	Mobile Home Evacuating Vehicles	University Evacuating Vehicles	Tourist Evacuating Vehicles	Total Evaucating Vehicles
Charlotte	74,479	8,743	0	1,117	84,340
DeSoto	2,833	4,409	0	0	7,242
Hardee	1,399	2,667	0	0	4,066
Highlands	8,820	9,351	0	0	18,170
Hillsborough	254,056	51,122	137	11,012	316,327
Manatee	78,727	21,614	0	2,271	102,612
Okeechobee	2,630	5,906	0	0	8,536
Pinellas	254,847	35,935	314	14,909	306,005
Polk	41,489	59,927	0	0	101,416
Sarasota	120,792	17,973	72	4,582	143,419

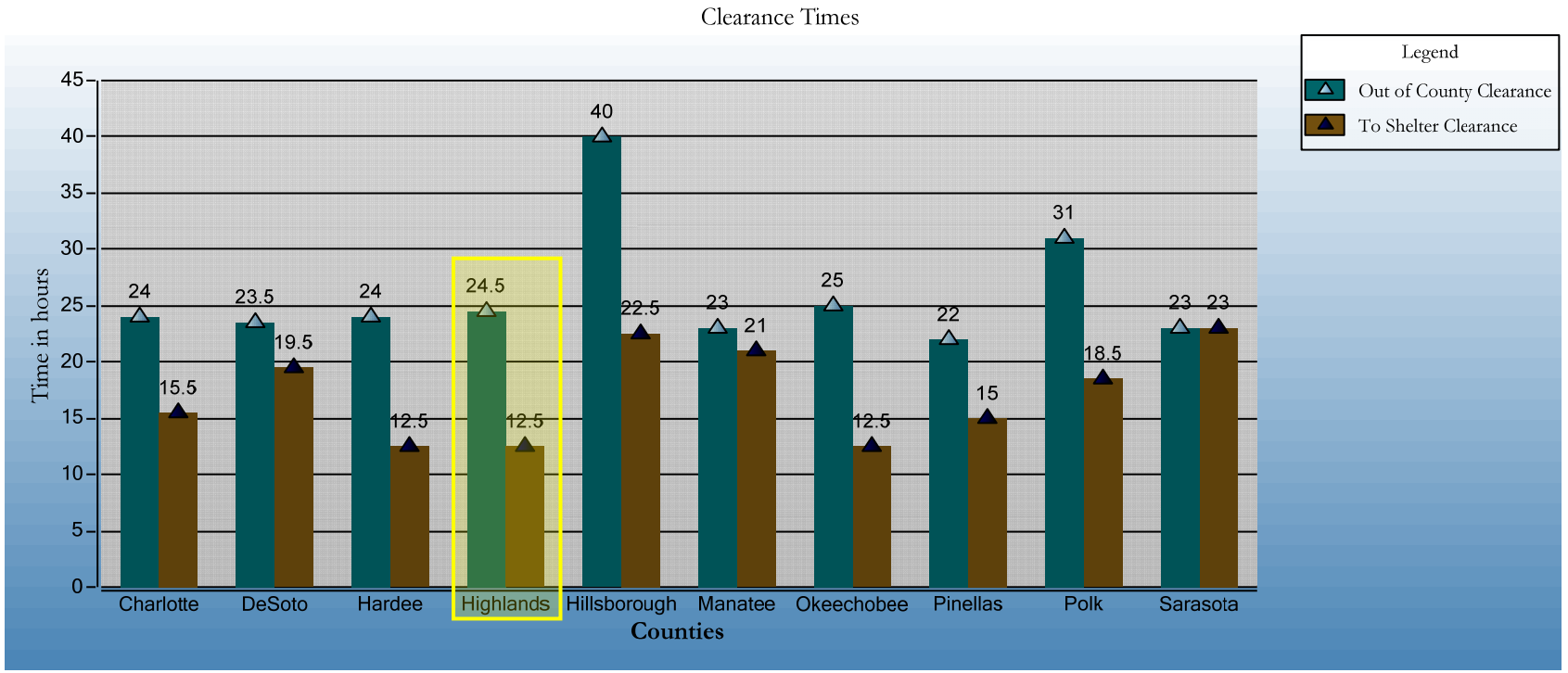
Sheltering Demand

Counties	Sheltering Demand
Charlotte	9,291
DeSoto	2,124
Hardee	1,277
Highlands	6,099
Hillsborough	32,745
Manatee	11,964
Okeechobee	2,150
Pinellas	29,387
Polk	22,087
Sarasota	17,438

Evacuation Clearance Times (Hours)

Counties	In County	Out of County	To Shelter
Charlotte	24.0	24.0	15.5
DeSoto	23.5	23.5	19.5
Hardee	24.0	24.0	12.5
Highlands	24.5	24.5	12.5
Hillsborough	40.0	40.0	22.5
Manatee	23.0	23.0	21.0
Okeechobee	25.0	25.0	12.5
Pinellas	22.0	22.0	15.0
Polk	31.0	31.0	18.5
Sarasota	23.0	23.0	23.0

Evacuation Clearance Times (Graph)



TIME Scenario Report: CFRPC_Base_Scenario_4_Level_D_2020

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Region:	2 - Central Florida
Behavioral Assumption:	100% Response
Network Period:	2020
Population Period:	2020
Model:	Run Full Model
University Population:	Fall/Spring Session (100% in residence)
Number of Evacuating Counties:	10
Number of Tourist Counties:	10
Number of Shelters Open:	712
Shelter Status:	Primary Open
Shelter Capacity:	312,823
Number of No-Go Counties	0
Number of Modified Network Counties	0
Number of Modified Small Area Counties:	0
Regional Clearance Time	40.5

Evacuation Demographics Summary: Population

Counties	Site-Built Population	Mobile Home Population	University Population	Tourist Population	Total Evaucating Population
Charlotte	167,585	12,385	0	3,475	183,445
DeSoto	9,795	8,797	0	0	18,592
Hardee	6,336	5,994	0	0	12,330
Highlands	33,036	16,770	0	0	49,806
Hillsborough	721,557	76,919	193	25,927	824,597
Manatee	264,968	34,973	0	6,361	306,303
Okeechobee	10,006	10,791	0	0	20,797
Pasco	247,543	81,235	0	0	328,778
Pinellas	618,473	58,448	314	31,523	708,757
Polk	175,173	112,822	0	0	287,995

Evacuation Demographics Summary: Vehicles

Counties	Site-Built Evacuating Vehicles	Mobile Home Evacuating Vehicles	University Evacuating Vehicles	Tourist Evacuating Vehicles	Total Evaucating Vehicles
Charlotte	79,346	8,743	0	1,738	89,827
DeSoto	4,053	4,960	0	0	9,014
Hardee	2,249	2,667	0	0	4,916
Highlands	14,364	10,519	0	0	24,883
Hillsborough	324,932	51,122	193	12,964	389,210
Manatee	109,190	21,614	0	3,181	133,985
Okeechobee	3,773	6,275	0	0	10,049
Pasco	117,950	45,522	0	0	163,472
Pinellas	306,953	35,935	314	15,761	358,963
Polk	62,233	67,418	0	0	129,651

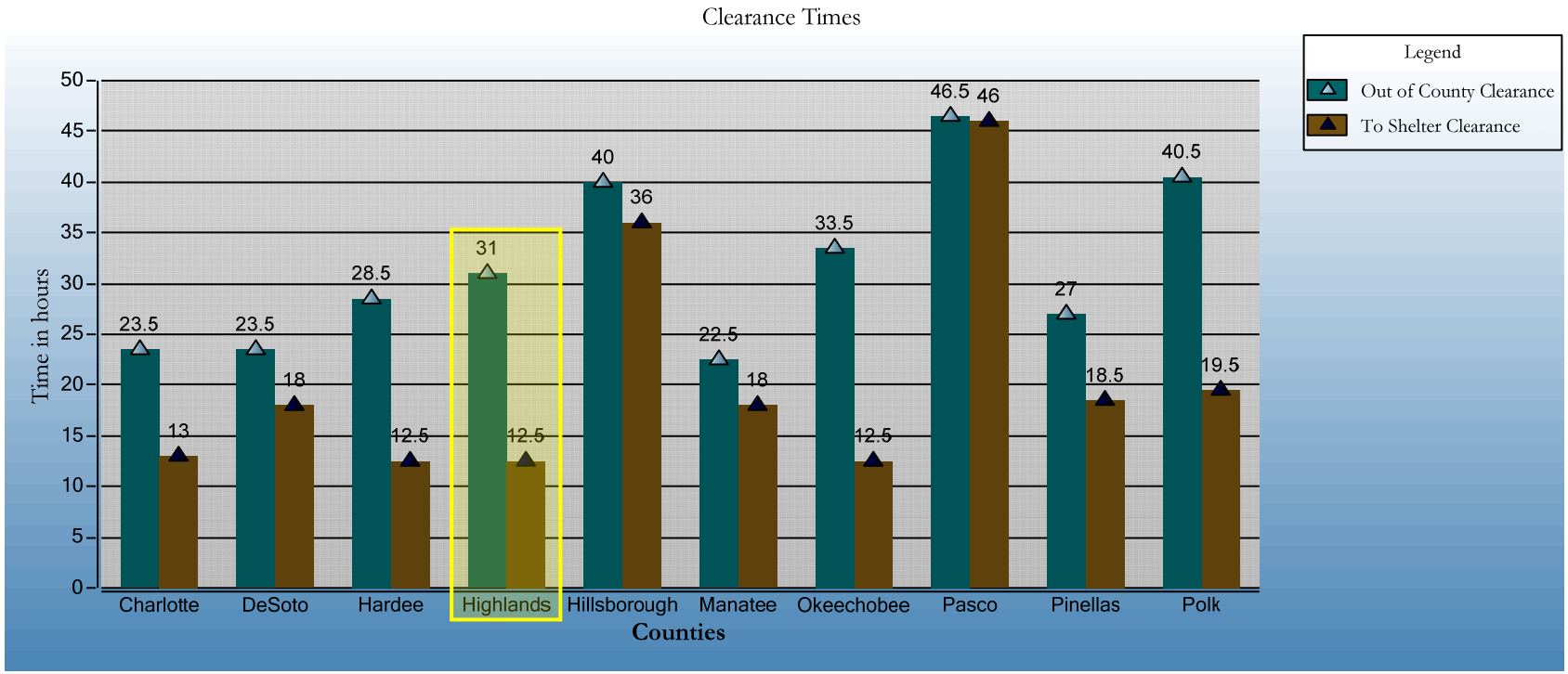
Sheltering Demand

Counties	Sheltering Demand
Charlotte	10,280
DeSoto	2,605
Hardee	1,554
Highlands	7,929
Hillsborough	49,563
Manatee	17,379
Okeechobee	2,627
Pasco	22,881
Pinellas	37,507
Polk	28,879

Evacuation Clearance Times (Hours)

Counties	In County	Out of County	To Shelter
Charlotte	23.5	23.5	13.0
DeSoto	23.5	23.5	18.0
Hardee	28.5	28.5	12.5
Highlands	31.0	31.0	12.5
Hillsborough	40.0	40.0	36.0
Manatee	22.5	22.5	18.0
Okeechobee	33.5	33.5	12.5
Pasco	46.5	46.5	46.0
Pinellas	27.0	27.0	18.5
Polk	40.5	40.5	19.5

Evacuation Clearance Times (Graph)



TIME Scenario Report: CFRPC_Base_Scenario_5_Level_E_2020

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Region:	2 - Central Florida
Behavioral Assumption:	100% Response
Network Period:	2020
Population Period:	2020
Model:	Run Full Model
University Population:	Fall/Spring Session (100% in residence)
Number of Evacuating Counties:	10
Number of Tourist Counties:	10
Number of Shelters Open:	712
Shelter Status:	Primary Open
Shelter Capacity:	312,823
Number of No-Go Counties	0
Number of Modified Network Counties	0
Number of Modified Small Area Counties:	0

Evacuation Demographics Summary: Population

Counties	Site-Built Population	Mobile Home Population	University Population	Tourist Population	Total Evaucating Population
Charlotte	167,958	12,385	0	3,475	183,818
DeSoto	12,883	8,797	0	125	21,805
Hardee	6,970	5,994	0	0	12,964
Highlands	38,288	16,770	0	0	55,058
Hillsborough	875,845	76,919	275	30,337	983,376
Manatee	295,771	34,973	0	7,433	338,177
Okeechobee	10,613	10,791	0	0	21,404
Pinellas	679,606	58,448	314	33,073	771,441
Polk	192,690	112,822	0	0	305,513
Sarasota	336,930	26,052	134	10,860	373,977

Evacuation Demographics Summary: Vehicles

Counties	Site-Built Evacuating Vehicles	Mobile Home Evacuating Vehicles	University Evacuating Vehicles	Tourist Evacuating Vehicles	Total Evaucating Vehicles
Charlotte	79,508	8,743	0	1,738	89,988
DeSoto	5,339	4,960	0	63	10,363
Hardee	2,474	2,845	0	0	5,318
Highlands	16,632	10,519	0	0	27,151
Hillsborough	392,015	51,122	275	15,169	458,580
Manatee	122,610	21,614	0	3,716	147,941
Okeechobee	4,288	6,275	0	0	10,563
Pinellas	335,057	35,935	314	16,537	387,842
Polk	73,722	67,418	0	0	141,141
Sarasota	159,850	17,973	134	5,430	183,387

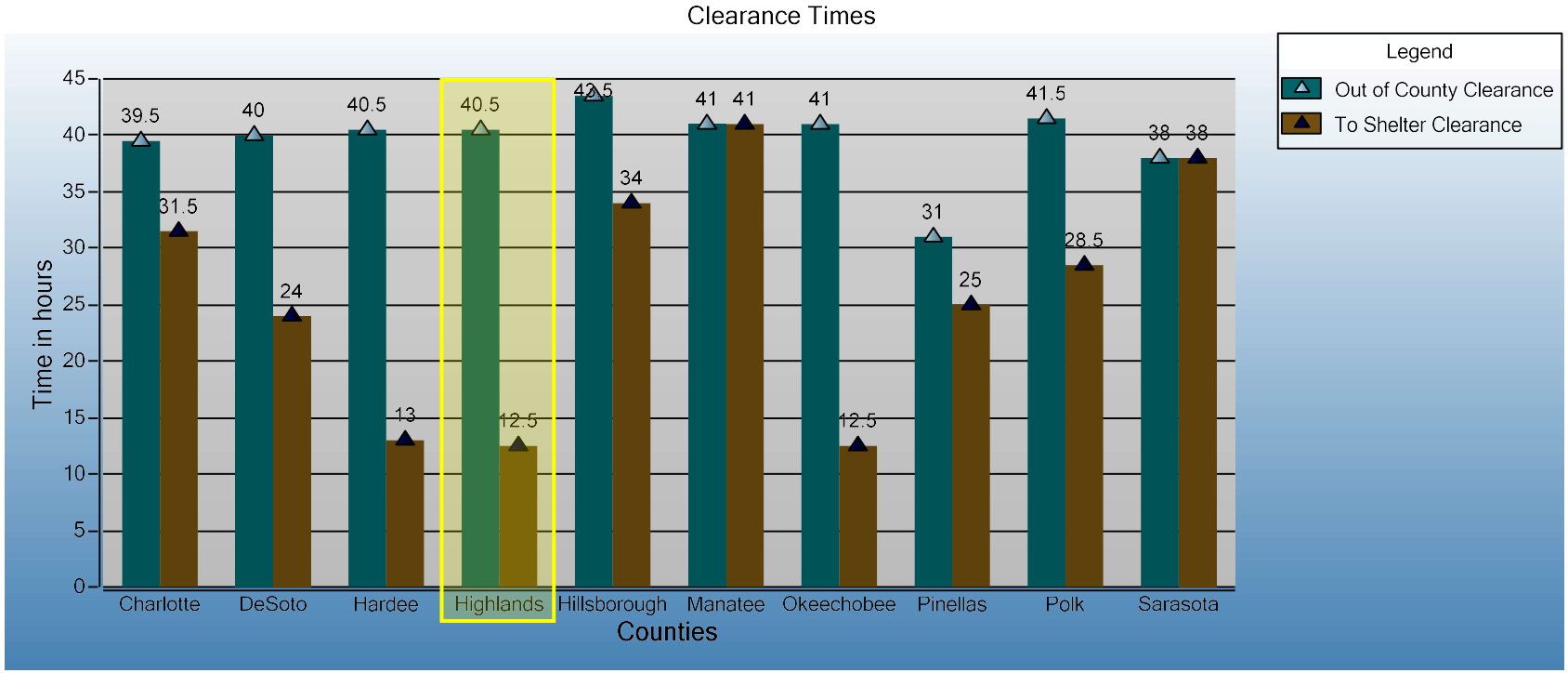
Sheltering Demand

Counties	Sheltering Demand
Charlotte	10,671
DeSoto	2,925
Hardee	1,680
Highlands	8,477
Hillsborough	63,451
Manatee	20,378
Okeechobee	2,779
Pinellas	43,760
Polk	31,217
Sarasota	25,578

Evacuation Clearance Times (Hours)

Counties	In County	Out of County	To Shelter
Charlotte	39.5	39.5	31.5
DeSoto	40.0	40.0	24.0
Hardee	40.5	40.5	13.0
Highlands	40.5	40.5	12.5
Hillsborough	43.5	43.5	34.0
Manatee	41.0	41.0	41.0
Okeechobee	41.0	41.0	12.5
Pinellas	31.0	31.0	25.0
Polk	41.5	41.5	28.5
Sarasota	38.0	38.0	38.0

Evacuation Clearance Times (Graph)



APPENDIX H: Future Synchro, SIDRA, and HCS LOS Computer Outputs

Synchro, HCS LOS Computer Outputs Design Year 2052 Volumes - No Build

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	526	14	6	413	0	9	0	0	0	0	0
Future Vol, veh/h	3	526	14	6	413	0	9	0	0	0	0	0
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, %	16	16	16	16	16	16	0	0	100	0	0	0
Mvmt Flow	3	554	15	6	435	0	9	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	435	0	0	568	0	0	1015	1015	561	1007	1022	435
Stage 1	-	-	-	-	-	-	567	567	-	447	447	-
Stage 2	-	-	-	-	-	-	447	447	-	560	575	-
Critical Hdwy	4.26	-	-	4.26	-	-	7.1	6.5	7.2	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	2.344	-	-	2.344	-	-	3.5	4	4.2	3.5	4	3.3
Pot Cap-1 Maneuver	1054	-	-	938	-	-	219	240	380	221	238	626
Stage 1	-	-	-	-	-	-	512	510	-	594	577	-
Stage 2	-	-	-	-	-	-	594	577	-	516	506	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1054	-	-	938	-	-	216	237	380	218	235	626
Mov Cap-2 Maneuver	-	-	-	-	-	-	216	237	-	218	235	-
Stage 1	-	-	-	-	-	-	509	508	-	589	571	-
Stage 2	-	-	-	-	-	-	589	571	-	514	504	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.05	0.13	22.45	0
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	216	10	-	-	26	-	-	-
HCM Lane V/C Ratio	0.044	0.003	-	-	0.007	-	-	-
HCM Control Delay (s/veh)	22.4	8.4	0	-	8.9	0	-	0
HCM Lane LOS	C	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	489	5	0	419	0	16	2	2	0	0	0
Future Vol, veh/h	0	489	5	0	419	0	16	2	2	0	0	0
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, %	16	16	16	16	16	16	0	0	0	0	0	0
Mvmt Flow	0	515	5	0	441	0	17	2	2	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	441	0	0	520	0	0	958	958	517	957	961	441
Stage 1	-	-	-	-	-	-	517	517	-	441	441	-
Stage 2	-	-	-	-	-	-	441	441	-	516	520	-
Critical Hdwy	4.26	-	-	4.26	-	-	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	2.344	-	-	2.344	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1048	-	-	978	-	-	239	259	562	239	258	620
Stage 1	-	-	-	-	-	-	545	537	-	599	580	-
Stage 2	-	-	-	-	-	-	599	580	-	546	535	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1048	-	-	978	-	-	239	259	562	237	258	620
Mov Cap-2 Maneuver	-	-	-	-	-	-	239	259	-	237	258	-
Stage 1	-	-	-	-	-	-	545	537	-	599	580	-
Stage 2	-	-	-	-	-	-	599	580	-	542	535	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0	20.35	0
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	256	1048	-	-	978	-	-	-
HCM Lane V/C Ratio	0.082	-	-	-	-	-	-	-
HCM Control Delay (s/veh)	20.4	0	-	-	0	-	-	0
HCM Lane LOS	C	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	477	113	276	336	2	26	0	92	0	8	0
Future Vol, veh/h	0	477	113	276	336	2	26	0	92	0	8	0
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, %	16	16	16	13	13	13	8	8	8	0	0	0
Mvmt Flow	0	502	119	291	354	2	27	0	97	0	8	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	356	0	0	621	0	0	1501	1498	562	1438	1557	355
Stage 1	-	-	-	-	-	-	562	562	-	936	936	-
Stage 2	-	-	-	-	-	-	939	937	-	502	621	-
Critical Hdwy	4.26	-	-	4.23	-	-	7.18	6.58	6.28	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.18	5.58	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.18	5.58	-	6.1	5.5	-
Follow-up Hdwy	2.344	-	-	2.317	-	-	3.572	4.072	3.372	3.5	4	3.3
Pot Cap-1 Maneuver	1129	-	-	909	-	-	97	119	515	112	114	694
Stage 1	-	-	-	-	-	-	501	500	-	321	347	-
Stage 2	-	-	-	-	-	-	309	336	-	555	482	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1129	-	-	909	-	-	54	71	515	55	68	694
Mov Cap-2 Maneuver	-	-	-	-	-	-	54	71	-	55	68	-
Stage 1	-	-	-	-	-	-	501	500	-	193	208	-
Stage 2	-	-	-	-	-	-	178	202	-	451	482	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	4.86	61.58	64.84
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	179	1129	-	-	729	-	-	68
HCM Lane V/C Ratio	0.696	-	-	-	0.32	-	-	0.123
HCM Control Delay (s/veh)	61.6	0	-	-	10.8	0	-	64.8
HCM Lane LOS	F	A	-	-	B	A	-	F
HCM 95th %tile Q(veh)	4.2	0	-	-	1.4	-	-	0.4

Intersection	
Int Delay, s/veh	9.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	459	51	97	328	0	62	1	176	2	9	0
Future Vol, veh/h	2	459	51	97	328	0	62	1	176	2	9	0
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, %	16	16	16	13	13	13	8	8	8	0	0	0
Mvmt Flow	2	483	54	102	345	0	65	1	185	2	9	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	345	0	0	537	0	0	1068	1064	510	1037	1091	345
Stage 1	-	-	-	-	-	-	514	514	-	549	549	-
Stage 2	-	-	-	-	-	-	554	549	-	488	541	-
Critical Hdwy	4.26	-	-	4.23	-	-	7.18	6.58	6.28	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.18	5.58	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.18	5.58	-	6.1	5.5	-
Follow-up Hdwy	2.344	-	-	2.317	-	-	3.572	4.072	3.372	3.5	4	3.3
Pot Cap-1 Maneuver	1140	-	-	978	-	-	194	218	552	211	217	702
Stage 1	-	-	-	-	-	-	532	525	-	523	519	-
Stage 2	-	-	-	-	-	-	506	507	-	565	524	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1140	-	-	978	-	-	161	189	552	121	188	702
Mov Cap-2 Maneuver	-	-	-	-	-	-	161	189	-	121	188	-
Stage 1	-	-	-	-	-	-	531	524	-	456	452	-
Stage 2	-	-	-	-	-	-	431	441	-	374	523	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.03	2.08	41.35	27.57
HCM LOS			E	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	337	7	-	-	411	-	-	171
HCM Lane V/C Ratio	0.746	0.002	-	-	0.104	-	-	0.068
HCM Control Delay (s/veh)	41.3	8.2	0	-	9.1	0	-	27.6
HCM Lane LOS	E	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	5.7	0	-	-	0.3	-	-	0.2

HCS Two-Lane Highway Report

Project Information

Analyst	Fathy Abdalla	Date	9/29/2023
Agency	KCA	Analysis Year	2052
Jurisdiction	Highlands County	Time Analyzed	AM
Project Description	SR 70 Widening from Lonesome Island Rd to CR 721 (No Build)	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	40600
Measured FFS	Measured	Free-Flow Speed, mi/h	60.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	646	Opposing Demand Flow Rate, veh/h	621
Peak Hour Factor	0.95	Total Trucks, %	14.70
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.38

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	60.0
Speed Slope Coefficient (m)	3.54905	Speed Power Coefficient (p)	0.46759
PF Slope Coefficient (m)	-1.27645	PF Power Coefficient (p)	0.76142
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	6.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	40600	-	-	57.3

Vehicle Results

Average Speed, mi/h	57.3	Percent Followers, %	60.0
Segment Travel Time, minutes	8.05	Follower Density (FD), followers/mi/ln	6.8
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	1180	0.92	6.8	C

HCS Two-Lane Highway Report

Project Information

Analyst	Fathy Abdalla	Date	9/29/2023
Agency	KCA	Analysis Year	2052
Jurisdiction	Highlands County	Time Analyzed	PM
Project Description	SR 70 Widening from Lonesome Island Rd to CR 721 (No Build)	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Zone	Length, ft	40600
Measured FFS	Measured	Free-Flow Speed, mi/h	60.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	539	Opposing Demand Flow Rate, veh/h	447
Peak Hour Factor	0.95	Total Trucks, %	14.70
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.32

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	60.0
Speed Slope Coefficient (m)	4.48557	Speed Power Coefficient (p)	0.48947
PF Slope Coefficient (m)	-1.25928	PF Power Coefficient (p)	0.76897
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	5.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	40600	-	-	57.0

Vehicle Results

Average Speed, mi/h	57.0	Percent Followers, %	54.3
Segment Travel Time, minutes	8.09	Follower Density (FD), followers/mi/ln	5.1
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	984	0.86	5.1	C

Synchro, HCS LOS Computer Outputs Design Year 2032 Volumes - Build

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	314	9	8	271	0	5	0	0	0	0	0
Future Vol, veh/h	2	314	9	8	271	0	5	0	0	0	0	0
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	400	-	-	300	-	-	-	-	-	-	-	-
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, %	16	16	16	16	16	16	0	0	100	0	0	0
Mvmt Flow	2	331	9	8	285	0	5	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	285	0	0	340	0	0	499	642	170	472	646	143
Stage 1	-	-	-	-	-	-	339	339	-	302	302	-
Stage 2	-	-	-	-	-	-	159	302	-	169	344	-
Critical Hdwy	4.42	-	-	4.42	-	-	7.5	6.5	8.9	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	2.36	-	-	2.36	-	-	3.5	4	4.3	3.5	4	3.3
Pot Cap-1 Maneuver	1178	-	-	1121	-	-	459	395	608	480	393	885
Stage 1	-	-	-	-	-	-	654	643	-	688	668	-
Stage 2	-	-	-	-	-	-	833	668	-	822	640	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1178	-	-	1121	-	-	455	392	608	476	389	885
Mov Cap-2 Maneuver	-	-	-	-	-	-	455	392	-	476	389	-
Stage 1	-	-	-	-	-	-	653	642	-	683	663	-
Stage 2	-	-	-	-	-	-	826	663	-	820	639	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.05	0.24	13.01	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	455	1178	-	-	1121	-	-	-
HCM Lane V/C Ratio	0.012	0.002	-	-	0.008	-	-	-
HCM Control Delay (s/veh)	13	8.1	-	-	8.2	-	-	0
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	348	3	6	318	2	11	1	1	0	0	0
Future Vol, veh/h	0	348	3	6	318	2	11	1	1	0	0	0
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	400	-	-	300	-	-	-	-	-	-	-	-
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, %	16	16	16	16	16	16	0	0	100	0	0	0
Mvmt Flow	0	366	3	6	335	2	12	1	1	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	337	0	0	369	0	0	548	717	185	532	718	168
Stage 1	-	-	-	-	-	-	368	368	-	348	348	-
Stage 2	-	-	-	-	-	-	180	349	-	184	369	-
Critical Hdwy	4.42	-	-	4.42	-	-	7.5	6.5	8.9	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	2.36	-	-	2.36	-	-	3.5	4	4.3	3.5	4	3.3
Pot Cap-1 Maneuver	1124	-	-	1091	-	-	424	358	591	435	357	852
Stage 1	-	-	-	-	-	-	630	625	-	646	637	-
Stage 2	-	-	-	-	-	-	810	637	-	806	624	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1124	-	-	1091	-	-	421	356	591	430	355	852
Mov Cap-2 Maneuver	-	-	-	-	-	-	421	356	-	430	355	-
Stage 1	-	-	-	-	-	-	630	625	-	643	634	-
Stage 2	-	-	-	-	-	-	805	633	-	803	624	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0.15	13.76	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	425	1124	-	-	1091	-	-	-
HCM Lane V/C Ratio	0.032	-	-	-	0.006	-	-	-
HCM Control Delay (s/veh)	13.8	0	-	-	8.3	-	-	0
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	277	70	207	257	2	18	0	56	0	3	0
Future Vol, veh/h	5	277	70	207	257	2	18	0	56	0	3	0
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	400	-	400	400	-	400	-	-	-	-	-	-
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, %	16	16	16	13	13	13	8	8	8	0	0	0
Mvmt Flow	5	292	74	218	271	2	19	0	59	0	3	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	273	0	0	365	0	0	875	1011	146	863	1082	135
Stage 1	-	-	-	-	-	-	302	302	-	706	706	-
Stage 2	-	-	-	-	-	-	573	708	-	156	376	-
Critical Hdwy	4.42	-	-	4.36	-	-	7.66	6.66	7.06	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.66	5.66	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.66	5.66	-	6.5	5.5	-
Follow-up Hdwy	2.36	-	-	2.33	-	-	3.58	4.08	3.38	3.5	4	3.3
Pot Cap-1 Maneuver	1192	-	-	1115	-	-	234	229	856	252	219	895
Stage 1	-	-	-	-	-	-	666	648	-	397	441	-
Stage 2	-	-	-	-	-	-	457	421	-	836	620	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1192	-	-	1115	-	-	185	183	856	188	176	895
Mov Cap-2 Maneuver	-	-	-	-	-	-	185	183	-	188	176	-
Stage 1	-	-	-	-	-	-	663	645	-	320	355	-
Stage 2	-	-	-	-	-	-	365	339	-	775	617	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.11	4	14.55	25.87
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	455	1192	-	-	1115	-	-	176
HCM Lane V/C Ratio	0.171	0.004	-	-	0.195	-	-	0.018
HCM Control Delay (s/veh)	14.6	8	-	-	9	-	-	25.9
HCM Lane LOS	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.6	0	-	-	0.7	-	-	0.1

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	342	38	92	299	1	48	1	137	1	6	0
Future Vol, veh/h	13	342	38	92	299	1	48	1	137	1	6	0
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	400	-	400	400	-	400	-	-	-	-	-	-
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, %	16	16	16	13	13	13	8	8	8	0	0	0
Mvmt Flow	14	360	40	97	315	1	51	1	144	1	6	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	316	0	0	400	0	0	742	897	180	716	936	157
Stage 1	-	-	-	-	-	-	387	387	-	508	508	-
Stage 2	-	-	-	-	-	-	354	509	-	208	427	-
Critical Hdwy	4.42	-	-	4.36	-	-	7.66	6.66	7.06	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.66	5.66	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.66	5.66	-	6.5	5.5	-
Follow-up Hdwy	2.36	-	-	2.33	-	-	3.58	4.08	3.38	3.5	4	3.3
Pot Cap-1 Maneuver	1146	-	-	1080	-	-	293	267	813	321	267	866
Stage 1	-	-	-	-	-	-	592	593	-	521	542	-
Stage 2	-	-	-	-	-	-	620	521	-	780	588	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1146	-	-	1080	-	-	258	241	813	237	240	866
Mov Cap-2 Maneuver	-	-	-	-	-	-	258	241	-	237	240	-
Stage 1	-	-	-	-	-	-	585	586	-	474	493	-
Stage 2	-	-	-	-	-	-	557	475	-	633	581	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.27	2.03	16.1	20.49
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	518	1146	-	-	1080	-	-	240
HCM Lane V/C Ratio	0.378	0.012	-	-	0.09	-	-	0.031
HCM Control Delay (s/veh)	16.1	8.2	-	-	8.7	-	-	20.5
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1.7	0	-	-	0.3	-	-	0.1

HCS Multilane Highway Report

Project Information

Analyst	Fathy Abdalla	Date	9/29/2023
Agency	KCA	Analysis Year	2032
Jurisdiction	Highlands County	Time Analyzed	AM
Project Description	SR 70 Widening from Lonesome Island Rd to CR 721 (Build)	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	SR 70 - WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Measured	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	-	Grade Length, mi	-
Lane Width, ft	-	Access Point Density, pts/mi	-
Median Type	-	Left-Side Lateral Clearance (LC_R), ft	-
Free-Flow Speed (FFS), mi/h	65.0	Total Lateral Clearance (TLC), ft	-

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	466	Heavy Vehicle Adjustment Factor (f_{HV})	0.872
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	282
Total Trucks, %	14.70	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.12

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.0
Total Lateral Clearance Adj. (f_{LLC})	-	Density (D), pc/mi/ln	4.3
Median Type Adjustment (f_M)	-	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	-		

Direction 2 Geometric Data			
Direction 2	SR 70 - EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Measured	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	-	Grade Length, mi	-
Lane Width, ft	-	Access Point Density, pts/mi	-
Median Type	-	Left-Side Lateral Clearance (LC_R), ft	-
Free-Flow Speed (FFS), mi/h	65.0	Total Lateral Clearance (TLC), ft	-

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	352	Heavy Vehicle Adjustment Factor (f_{HV})	0.872
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	212
Total Trucks, %	14.70	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.09

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.0
Total Lateral Clearance Adj. (f_{LLC})	-	Density (D), pc/mi/ln	3.3
Median Type Adjustment (f_M)	-	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	-		

HCS Multilane Highway Report

Project Information

Analyst	Fathy Abdalla	Date	9/29/2023
Agency	KCA	Analysis Year	2032
Jurisdiction	Highlands County	Time Analyzed	PM
Project Description	SR 70 Widening from Lonesome Island Rd to CR 721 (Build)	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	SR 70 - WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Measured	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	-	Grade Length, mi	-
Lane Width, ft	-	Access Point Density, pts/mi	-
Median Type	-	Left-Side Lateral Clearance (LC_R), ft	-
Free-Flow Speed (FFS), mi/h	65.0	Total Lateral Clearance (TLC), ft	-

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	392	Heavy Vehicle Adjustment Factor (f_{HV})	0.872
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	236
Total Trucks, %	14.70	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.10

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.0
Total Lateral Clearance Adj. (f_{LLC})	-	Density (D), pc/mi/ln	3.6
Median Type Adjustment (f_M)	-	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	-		

Direction 2 Geometric Data			
Direction 2	SR 70 - EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Measured	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	-	Grade Length, mi	-
Lane Width, ft	-	Access Point Density, pts/mi	-
Median Type	-	Left-Side Lateral Clearance (LC_R), ft	-
Free-Flow Speed (FFS), mi/h	65.0	Total Lateral Clearance (TLC), ft	-

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	393	Heavy Vehicle Adjustment Factor (f_{HV})	0.872
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	237
Total Trucks, %	14.70	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.10

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.0
Total Lateral Clearance Adj. (f_{LLC})	-	Density (D), pc/mi/ln	3.6
Median Type Adjustment (f_M)	-	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	-		

Synchro, HCS LOS Computer Outputs
Design Year 2052 Volumes - Build

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	608	18	16	537	0	9	0	1	0	0	0
Future Vol, veh/h	4	608	18	16	537	0	9	0	1	0	0	0
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	400	-	-	300	-	-	-	-	-	-	-	-
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, %	16	16	16	16	16	16	0	0	100	0	0	0
Mvmt Flow	4	640	19	17	565	0	9	0	1	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	565	0	0	659	0	0	974	1257	329	927	1266	283
Stage 1	-	-	-	-	-	-	658	658	-	599	599	-
Stage 2	-	-	-	-	-	-	316	599	-	328	667	-
Critical Hdwy	4.42	-	-	4.42	-	-	7.5	6.5	8.9	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	2.36	-	-	2.36	-	-	3.5	4	4.3	3.5	4	3.3
Pot Cap-1 Maneuver	912	-	-	836	-	-	209	173	448	226	170	720
Stage 1	-	-	-	-	-	-	424	464	-	460	494	-
Stage 2	-	-	-	-	-	-	675	494	-	664	460	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	912	-	-	836	-	-	204	168	448	220	166	720
Mov Cap-2 Maneuver	-	-	-	-	-	-	204	168	-	220	166	-
Stage 1	-	-	-	-	-	-	423	462	-	451	484	-
Stage 2	-	-	-	-	-	-	661	484	-	659	458	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.06	0.27	22.54	0
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	216	912	-	-	836	-	-	-
HCM Lane V/C Ratio	0.049	0.005	-	-	0.02	-	-	-
HCM Control Delay (s/veh)	22.5	9	-	-	9.4	-	-	0
HCM Lane LOS	C	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	623	6	11	552	3	16	2	3	0	0	0
Future Vol, veh/h	0	623	6	11	552	3	16	2	3	0	0	0
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	400	-	-	300	-	-	-	-	-	-	-	-
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, %	16	16	16	16	16	16	0	0	100	0	0	0
Mvmt Flow	0	656	6	12	581	3	17	2	3	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	584	0	0	662	0	0	973	1266	331	935	1268	292
Stage 1	-	-	-	-	-	-	659	659	-	606	606	-
Stage 2	-	-	-	-	-	-	314	607	-	329	662	-
Critical Hdwy	4.42	-	-	4.42	-	-	7.5	6.5	8.9	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	2.36	-	-	2.36	-	-	3.5	4	4.3	3.5	4	3.3
Pot Cap-1 Maneuver	896	-	-	834	-	-	210	170	447	223	170	710
Stage 1	-	-	-	-	-	-	424	464	-	456	490	-
Stage 2	-	-	-	-	-	-	677	489	-	664	462	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	896	-	-	834	-	-	207	168	447	216	168	710
Mov Cap-2 Maneuver	-	-	-	-	-	-	207	168	-	216	168	-
Stage 1	-	-	-	-	-	-	424	464	-	450	483	-
Stage 2	-	-	-	-	-	-	668	483	-	656	462	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0.18	23.3	0
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	219	896	-	-	834	-	-	-
HCM Lane V/C Ratio	0.101	-	-	-	0.014	-	-	-
HCM Control Delay (s/veh)	23.3	0	-	-	9.4	-	-	0
HCM Lane LOS	C	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	29

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	582	147	361	447	3	31	0	110	0	8	0
Future Vol, veh/h	10	582	147	361	447	3	31	0	110	0	8	0
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	400	-	400	400	-	400	-	-	-	-	-	-
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, %	16	16	16	13	13	13	8	8	8	0	0	0
Mvmt Flow	11	613	155	380	471	3	33	0	116	0	8	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	474	0	0	767	0	0	1633	1867	306	1558	2019	235
Stage 1	-	-	-	-	-	-	634	634	-	1231	1231	-
Stage 2	-	-	-	-	-	-	999	1234	-	327	788	-
Critical Hdwy	4.42	-	-	4.36	-	-	7.66	6.66	7.06	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.66	5.66	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.66	5.66	-	6.5	5.5	-
Follow-up Hdwy	2.36	-	-	2.33	-	-	3.58	4.08	3.38	3.5	4	3.3
Pot Cap-1 Maneuver	992	-	-	774	-	-	63	67	672	78	59	773
Stage 1	-	-	-	-	-	-	420	457	-	191	252	-
Stage 2	-	-	-	-	-	-	250	236	-	665	405	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	992	-	-	774	-	-	~ 26	34	672	32	30	773
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 26	34	-	32	30	-
Stage 1	-	-	-	-	-	-	415	452	-	97	128	-
Stage 2	-	-	-	-	-	-	119	120	-	545	401	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.12	6.26	$ 303.49	168.59
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	106	992	-	-	774	-	-	30
HCM Lane V/C Ratio	1.406	0.011	-	-	0.491	-	-	0.284
HCM Control Delay (s/veh)	$ 303.5	8.7	-	-	14.1	-	-	168.6
HCM Lane LOS	F	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	10.6	0	-	-	2.7	-	-	0.9

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	19.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	639	71	141	463	2	62	1	176	2	9	0
Future Vol, veh/h	24	639	71	141	463	2	62	1	176	2	9	0
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	400	-	400	400	-	400	-	-	-	-	-	-
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, %	16	16	16	13	13	13	8	8	8	0	0	0
Mvmt Flow	25	673	75	148	487	2	65	1	185	2	9	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	489	0	0	747	0	0	1268	1509	336	1172	1582	244
Stage 1	-	-	-	-	-	-	723	723	-	784	784	-
Stage 2	-	-	-	-	-	-	545	786	-	387	798	-
Critical Hdwy	4.42	-	-	4.36	-	-	7.66	6.66	7.06	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.66	5.66	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.66	5.66	-	6.5	5.5	-
Follow-up Hdwy	2.36	-	-	2.33	-	-	3.58	4.08	3.38	3.5	4	3.3
Pot Cap-1 Maneuver	978	-	-	788	-	-	119	113	642	150	110	763
Stage 1	-	-	-	-	-	-	370	415	-	357	407	-
Stage 2	-	-	-	-	-	-	475	387	-	613	401	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	978	-	-	788	-	-	86	89	642	84	87	763
Mov Cap-2 Maneuver	-	-	-	-	-	-	86	89	-	84	87	-
Stage 1	-	-	-	-	-	-	360	404	-	290	330	-
Stage 2	-	-	-	-	-	-	375	314	-	424	391	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.29	2.47	119.99	53.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	237	978	-	-	788	-	-	86
HCM Lane V/C Ratio	1.061	0.026	-	-	0.188	-	-	0.134
HCM Control Delay (s/veh)	120	8.8	-	-	10.6	-	-	53.1
HCM Lane LOS	F	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	10.7	0.1	-	-	0.7	-	-	0.4

HCS Multilane Highway Report

Project Information

Analyst	Fathy Abdalla	Date	9/29/2023
Agency	KCA	Analysis Year	2052
Jurisdiction	Highlands County	Time Analyzed	AM
Project Description	SR 70 Widening from Lonesome Island Rd to CR 721 (Build)	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	SR 70 - WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Measured	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	-	Grade Length, mi	-
Lane Width, ft	-	Access Point Density, pts/mi	-
Median Type	-	Left-Side Lateral Clearance (LC_R), ft	-
Free-Flow Speed (FFS), mi/h	65.0	Total Lateral Clearance (TLC), ft	-

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	811	Heavy Vehicle Adjustment Factor (f_{HV})	0.872
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	490
Total Trucks, %	14.70	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.21

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.0
Total Lateral Clearance Adj. (f_{LLC})	-	Density (D), pc/mi/ln	7.5
Median Type Adjustment (f_M)	-	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	-		

Direction 2 Geometric Data			
Direction 2	SR 70 - EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Measured	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	-	Grade Length, mi	-
Lane Width, ft	-	Access Point Density, pts/mi	-
Median Type	-	Left-Side Lateral Clearance (LC_R), ft	-
Free-Flow Speed (FFS), mi/h	65.0	Total Lateral Clearance (TLC), ft	-

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	739	Heavy Vehicle Adjustment Factor (f_{HV})	0.872
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	446
Total Trucks, %	14.70	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.19

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.0
Total Lateral Clearance Adj. (f_{LLC})	-	Density (D), pc/mi/ln	6.9
Median Type Adjustment (f_M)	-	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	-		

HCS Multilane Highway Report

Project Information

Analyst	Fathy Abdalla	Date	9/29/2023
Agency	KCA	Analysis Year	2052
Jurisdiction	Highlands County	Time Analyzed	PM
Project Description	SR 70 Widening from Lonesome Island Rd to CR 721 (Build)	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	SR 70 - WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Measured	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	-	Grade Length, mi	-
Lane Width, ft	-	Access Point Density, pts/mi	-
Median Type	-	Left-Side Lateral Clearance (LC_R), ft	-
Free-Flow Speed (FFS), mi/h	65.0	Total Lateral Clearance (TLC), ft	-

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	606	Heavy Vehicle Adjustment Factor (f_{HV})	0.872
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	366
Total Trucks, %	14.70	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.16

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.0
Total Lateral Clearance Adj. (f_{LLC})	-	Density (D), pc/mi/ln	5.6
Median Type Adjustment (f_M)	-	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	-		

Direction 2 Geometric Data			
Direction 2	SR 70 - EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Measured	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	-	Grade Length, mi	-
Lane Width, ft	-	Access Point Density, pts/mi	-
Median Type	-	Left-Side Lateral Clearance (LC_R), ft	-
Free-Flow Speed (FFS), mi/h	65.0	Total Lateral Clearance (TLC), ft	-

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	734	Heavy Vehicle Adjustment Factor (f_{HV})	0.872
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	443
Total Trucks, %	14.70	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.19

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.0
Total Lateral Clearance Adj. (f_{LLC})	-	Density (D), pc/mi/ln	6.8
Median Type Adjustment (f_M)	-	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	-		

Synchro, HCS LOS Computer Outputs Design Year 2052 Volumes - RCUT Build

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	582	147	361	447	3	0	0	141	0	0	8
Future Vol, veh/h	10	582	147	361	447	3	0	0	141	0	0	8
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	400	-	400	400	-	400	-	-	0	-	-	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, %	16	16	16	13	13	13	8	8	8	0	0	0
Mvmt Flow	11	613	155	380	471	3	0	0	148	0	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	474	0	0	767	0	0	-	-	306	-	-	235
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.42	-	-	4.36	-	-	-	-	7.06	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.36	-	-	2.33	-	-	-	-	3.38	-	-	3.3
Pot Cap-1 Maneuver	992	-	-	774	-	-	0	0	672	0	0	773
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	992	-	-	774	-	-	-	-	672	-	-	773
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.12	6.26	11.87	9.71
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	672	992	-	-	774	-	-	773
HCM Lane V/C Ratio	0.221	0.011	-	-	0.491	-	-	0.011
HCM Control Delay (s/veh)	11.9	8.7	-	-	14.1	-	-	9.7
HCM Lane LOS	B	A	-	-	B	-	-	A
HCM 95th %tile Q(veh)	0.8	0	-	-	2.7	-	-	0

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	24	639	71	141	463	2	0	0	216	0	0	11
Future Vol, veh/h	24	639	71	141	463	2	0	0	216	0	0	11
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	400	-	400	400	-	400	-	-	0	-	-	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, %	16	16	16	13	13	13	8	8	8	0	0	0
Mvmt Flow	25	673	75	148	487	2	0	0	227	0	0	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	489	0	0	747	0	0	-	-	336	-	-	244
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.42	-	-	4.36	-	-	-	-	7.06	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.36	-	-	2.33	-	-	-	-	3.38	-	-	3.3
Pot Cap-1 Maneuver	978	-	-	788	-	-	0	0	642	0	0	763
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	978	-	-	788	-	-	-	-	642	-	-	763
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.29	2.47	13.65	9.79
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	642	978	-	-	788	-	-	763
HCM Lane V/C Ratio	0.354	0.026	-	-	0.188	-	-	0.015
HCM Control Delay (s/veh)	13.6	8.8	-	-	10.6	-	-	9.8
HCM Lane LOS	B	A	-	-	B	-	-	A
HCM 95th %tile Q(veh)	1.6	0.1	-	-	0.7	-	-	0

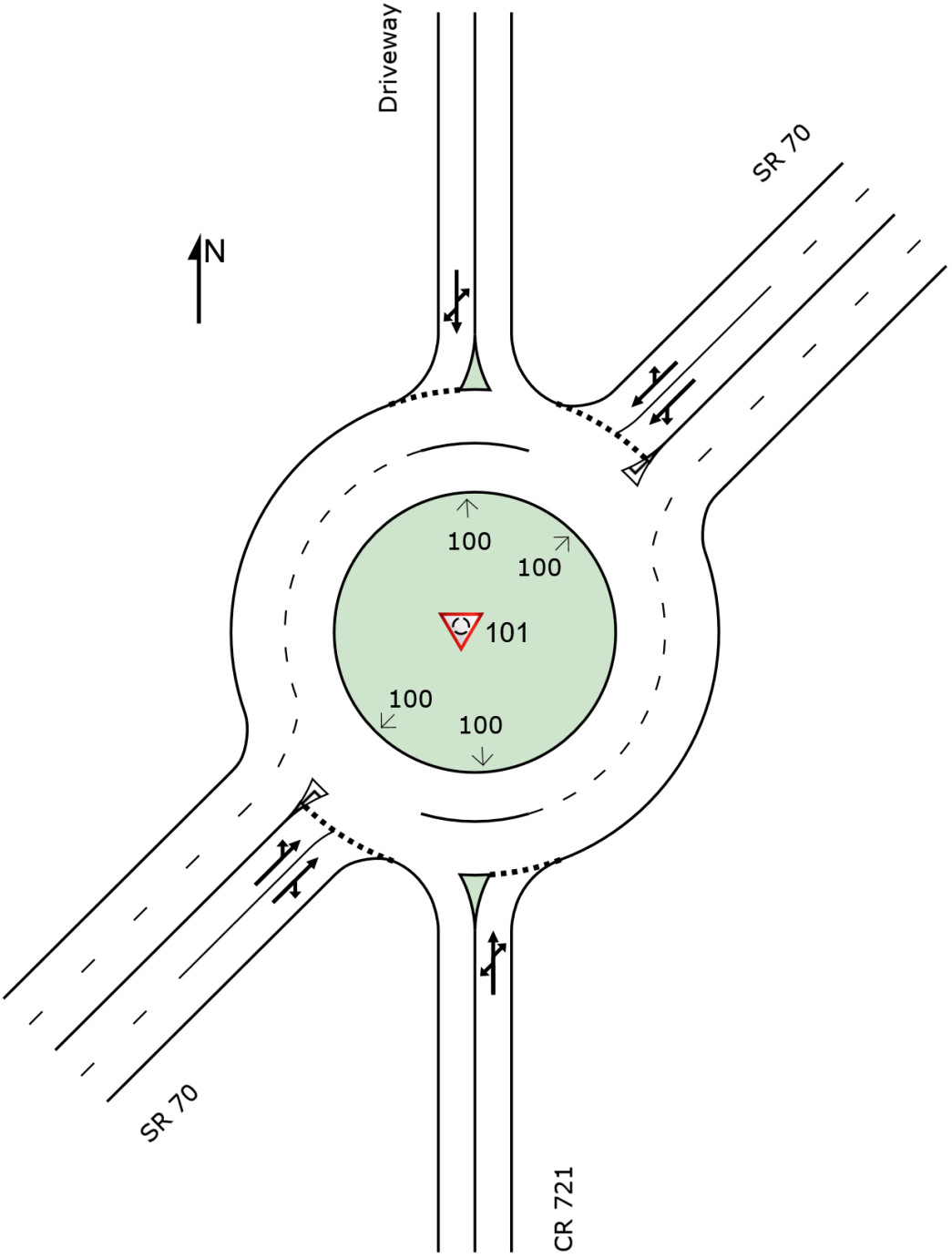
SIDRA LOS Computer Outputs
Design Year 2052 Volumes - Roundabout Build

SITE LAYOUT

Site: 101 [2052 AM CR 721 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 101 [2052 AM CR 721 (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed mph
South: CR 721															
3b	L3	All MCs	32	7.5	32	7.5	0.226	8.2	LOS A	0.7	19.7	0.59	0.52	0.59	31.2
8	T1	All MCs	1	7.5	1	7.5	0.226	8.2	LOS A	0.7	19.7	0.59	0.52	0.59	31.8
18a	R1	All MCs	116	7.5	116	7.5	0.226	8.2	LOS A	0.7	19.7	0.59	0.52	0.59	31.8
Approach			148	7.5	148	7.5	0.226	8.2	LOS A	0.7	19.7	0.59	0.52	0.59	31.7
NorthEast: SR 70															
1ax	L1	All MCs	380	12.5	380	12.5	0.354	6.1	LOS A	1.8	50.1	0.20	0.06	0.20	30.8
6x	T1	All MCs	471	12.5	471	12.5	0.354	6.1	LOS A	1.8	50.1	0.20	0.06	0.20	33.0
16bx	R3	All MCs	3	12.5	3	12.5	0.354	6.1	LOS A	1.8	50.1	0.20	0.06	0.20	32.6
Approach			854	12.5	854	12.5	0.354	6.1	LOS A	1.8	50.1	0.20	0.06	0.20	32.0
North: Driveway															
7b	L3	All MCs	1	7.5	1	7.5	0.021	7.4	LOS A	0.1	1.5	0.58	0.52	0.58	31.7
4	T1	All MCs	8	7.5	8	7.5	0.021	7.4	LOS A	0.1	1.5	0.58	0.52	0.58	32.4
14a	R1	All MCs	1	7.5	1	7.5	0.021	7.4	LOS A	0.1	1.5	0.58	0.52	0.58	32.4
Approach			11	7.5	11	7.5	0.021	7.4	LOS A	0.1	1.5	0.58	0.52	0.58	32.3
SouthWest: SR 70															
5ax	L1	All MCs	11	16.0	11	16.0	0.511	12.0	LOS B	3.2	91.2	0.66	0.62	0.95	29.8
2x	T1	All MCs	613	16.0	613	16.0	0.511	12.0	LOS B	3.2	91.2	0.66	0.62	0.95	30.5
12bx	R3	All MCs	155	16.0	155	16.0	0.511	12.0	LOS B	3.2	91.2	0.66	0.62	0.95	29.9
Approach			778	16.0	778	16.0	0.511	12.0	LOS B	3.2	91.2	0.66	0.62	0.95	30.4
All Vehicles			1791	13.6	1791	13.6	0.511	8.8	LOS A	3.2	91.2	0.43	0.35	0.56	31.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [2052 PM CR 721 (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed mph
South: CR 721															
3b	L3	All MCs	65	7.5	65	7.5	0.417	12.2	LOS B	1.8	47.8	0.68	0.71	0.93	29.4
8	T1	All MCs	1	7.5	1	7.5	0.417	12.2	LOS B	1.8	47.8	0.68	0.71	0.93	30.0
18a	R1	All MCs	185	7.5	185	7.5	0.417	12.2	LOS B	1.8	47.8	0.68	0.71	0.93	30.0
Approach			252	7.5	252	7.5	0.417	12.2	LOS B	1.8	47.8	0.68	0.71	0.93	29.8
NorthEast: SR 70															
1ax	L1	All MCs	148	12.5	148	12.5	0.280	5.7	LOS A	1.3	34.7	0.27	0.12	0.27	31.7
6x	T1	All MCs	487	12.5	487	12.5	0.280	5.7	LOS A	1.3	34.7	0.27	0.12	0.27	33.1
16bx	R3	All MCs	2	12.5	2	12.5	0.280	5.7	LOS A	1.3	34.7	0.27	0.12	0.27	32.8
Approach			638	12.5	638	12.5	0.280	5.7	LOS A	1.3	34.7	0.27	0.12	0.27	32.7
North: Driveway															
7b	L3	All MCs	2	7.5	2	7.5	0.020	6.0	LOS A	0.1	1.6	0.54	0.45	0.54	32.1
4	T1	All MCs	9	7.5	9	7.5	0.020	6.0	LOS A	0.1	1.6	0.54	0.45	0.54	32.8
14a	R1	All MCs	1	7.5	1	7.5	0.020	6.0	LOS A	0.1	1.6	0.54	0.45	0.54	32.8
Approach			13	7.5	13	7.5	0.020	6.0	LOS A	0.1	1.6	0.54	0.45	0.54	32.7
SouthWest: SR 70															
5ax	L1	All MCs	25	16.0	25	16.0	0.382	7.5	LOS A	1.8	50.5	0.41	0.22	0.41	31.6
2x	T1	All MCs	673	16.0	673	16.0	0.382	7.5	LOS A	1.8	50.5	0.41	0.22	0.41	32.4
12bx	R3	All MCs	75	16.0	75	16.0	0.382	7.5	LOS A	1.8	50.5	0.41	0.22	0.41	31.8
Approach			773	16.0	773	16.0	0.382	7.5	LOS A	1.8	50.5	0.41	0.22	0.41	32.3
All Vehicles			1675	13.3	1675	13.3	0.417	7.5	LOS A	1.8	50.5	0.40	0.26	0.43	32.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

APPENDIX I: Intersection Control Evaluation

PROFESSIONAL ENGINEER CERTIFICATE

I hereby certify that I am a registered professional engineer in the State of Florida practicing with Kisinger Campo & Associates, and that I have supervised the preparation of, and approved the analysis, findings, opinions, conclusions, and technical advice reported in:

REPORT:	Intersection Control Evaluation Memorandum
PROJECT:	SR 70 from Lonesome Island Road to CR 721
LOCATION:	Highlands County
FPID NO.:	449851-1
CLIENT:	FDOT District One

The following duly authorized engineering business performed the engineering work represented by this report:

Kisinger Campo & Associates, Corp.
201 N. Franklin St., Suite 400
Tampa, FL 33602
Telephone: (813) 871-5331

I, M. Fathy Abdalla, Florida P.E. Number 63914, have prepared this Intersection Control Evaluation (ICE) Memorandum for SR 70 at CR 721. This ICE memo contains detailed engineering information that fulfills the purpose and need for this project.

I acknowledge that the procedures and references used to develop the results contained in this report are standard to the professional practice of transportation engineering as applied through design standards and criteria set forth by the federal, state, and local regulatory agencies as well as professional judgement and experience.

Name: M. Fathy Abdalla, P.E.

Signature: M. Fathy Abdalla 2024.07.03 13:13:24-04'00'

P.E. Number: 63914

Date: _____

This report has been digitally signed and sealed by M. Fathy Abdalla, P.E. on the date indicated here. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

SR 70 ICE Stage 1 Analysis Memorandum

TO:	Kyle Purvis, PE; Susan C. Joel, PE, PTOE, RSP1
FROM:	M. Fathy Abdalla, Ph.D., PE, PTOE
CC:	Jeffery Novotny, PE, AICP, RSP1
DATE:	July 2nd, 2024
RE:	SR 70 ICE Stage 1 Analysis Memorandum

Introduction

This Intersection Control Evaluation (ICE) Stage 1 Analysis Memorandum – State Road (SR) 70 from Lonesome Island Rd. to County Road (CR) 721 in Highlands County, FL was prepared for Florida Department of Transportation (FDOT) District One by Kisinger Campo and Associates (KCA). The purpose of this Memorandum is to receive concurrence on the Stage 1 ICE analysis for the intersection of SR 70 at CR 721 based on an Opening Year of 2032 and a Design Year of 2052. The FDOT District One is conducting a Project Development and Environment (PD&E) study for proposed improvements to the SR 70 corridor in Highlands County. The intent is to provide additional roadway capacity and enhance safety along the SR 70 corridor, a major east-west roadway spanning the state. The project limits extend approximately 7.6 miles from Lonesome Island Road to the southern leg of CR 721 in Highlands County. The purpose of this project is to address traffic safety conditions on SR 70 from Lonesome Island Road to the southern leg of CR 721 within Highlands County. This project is needed to improve traffic safety conditions, emergency evacuation, and incident response times. Other goals of the project are to maintain important east-west connectivity within the regional transportation network and accommodate freight activity within the area.

SR 70 in this area has a context classification of C2-Rural and an access classification of Access Class 03. The only signalized intersection within the project limits is SR 70 at CR 721 which operates under flashing signal control. Figure 1.1 depicts the intersection of SR 70 and CR 721.

Figure 1 Existing Intersection Conditions

CR 721 at SR 70 is a Two-Way Stop-Controlled (TWSC) intersection consisting of two overhead yellow/red flashing signals along each approach. The existing signals are mast arm-mounted and give priority to the eastbound and westbound approaches. All approaches consist of one shared through left-turn right-turn lane. There are no existing pedestrian signals, crosswalks, curb ramps, or sidewalks along any approaches to the intersection. Along the westbound approach, there exists an unmarked paved shoulder that may serve as a bike lane. Along the eastbound approach, there exists a wide, unmarked paved shoulder that may serve as a right-turn lane. The existing posted speed limit on CR 721 is 45 mph. Additionally, there is a posted speed limit of 60 mph with an advisory speed of 45 mph along SR 70 through the intersection. The proposed recommendations along SR 70 include widening from a two-lane undivided roadway to a four-lane divided roadway with a median.

Based on the SR 70 Design Traffic Technical Memorandum (DTTM), the established truck percentage (T-Factor) along SR 70 and CR 721 is 32.0% and 15.0%, respectively. The design hour truck (DHT) percentage is taken as half of the 24-hour truck percentage, per the 2019 FDOT Project Traffic Forecasting Handbook. DHT percentages of 16% and 7.5% will be used for SR 70 and CR 721, respectively.

The intersection of SR 70 and CR 721 has been the site of 19 reported crashes between 2018 and 2022. Among these crashes, rear-ends were the most frequent, accounting for 21% of the total. Rear end crashes often result from road users operating their vehicles carelessly or negligently. There were two fatal crashes reported in the study period. The first fatal crash was reported in 2018 as a “fell/jumped from motor vehicle” crash on CR 721 near the intersection under daylight and dry conditions, the initial cause was reported as running off roadway. This crash cannot be attributed to the roadway characteristics with the available information. The second fatal crash was reported in 2019 as a head on crash on SR 70 near CR 721 under daylight and dry conditions, the initial cause was reported as improper passing.

Signal Warrant Analysis

A Traffic Signal Warrant Analysis was prepared for the intersection of SR 70 at CR 721 to determine if a signal is warranted based on Opening Year 2032 conditions. None of the nine signal warrants were satisfied. As a result, this Intersection Control Evaluation will not consider signalized alternatives.

Traffic Forecast and Analysis

Forecasted AADTs were developed for the Design Year 2052 for the No-Build and Build scenarios and can be found attached. Future AADTs were developed using growth rates for the project area provided by the attached SR 70 Design Traffic Technical Memorandum (DTTM). This information was used to develop an annual growth rate that was used to calculate future AADTs. Design Year 2052 and Opening Year 2032 traffic volumes have been established at the intersection and used in the analysis of the intersection.

Alternative Analysis

Two alternatives provided an adequate Volume-to-Capacity (V/C) Ratio in the CAP-X analysis, the alternatives can be found in Table 1. The top SPICE outputs for the Crash Prediction Rank are the 1NS X 2EW Roundabout and the Unsignalized Restricted Crossing U-Turn (RCUT) E-W. The top SPICE outputs for the Safe System Intersection (SSI) are the 1NS X 2EW Roundabout and the Unsignalized Restricted Crossing U-Turn (RCUT) E-W. The 1NS X 2EW Roundabout, the Unsignalized Restricted Crossing U-Turn (RCUT) E-W, and the Minor Road Stop alternatives are recommended to be advanced to Stage 2 of the ICE. Stage 2 will occur during the design phase which is tentatively scheduled for after 2027.

Table 1 ICE Summary

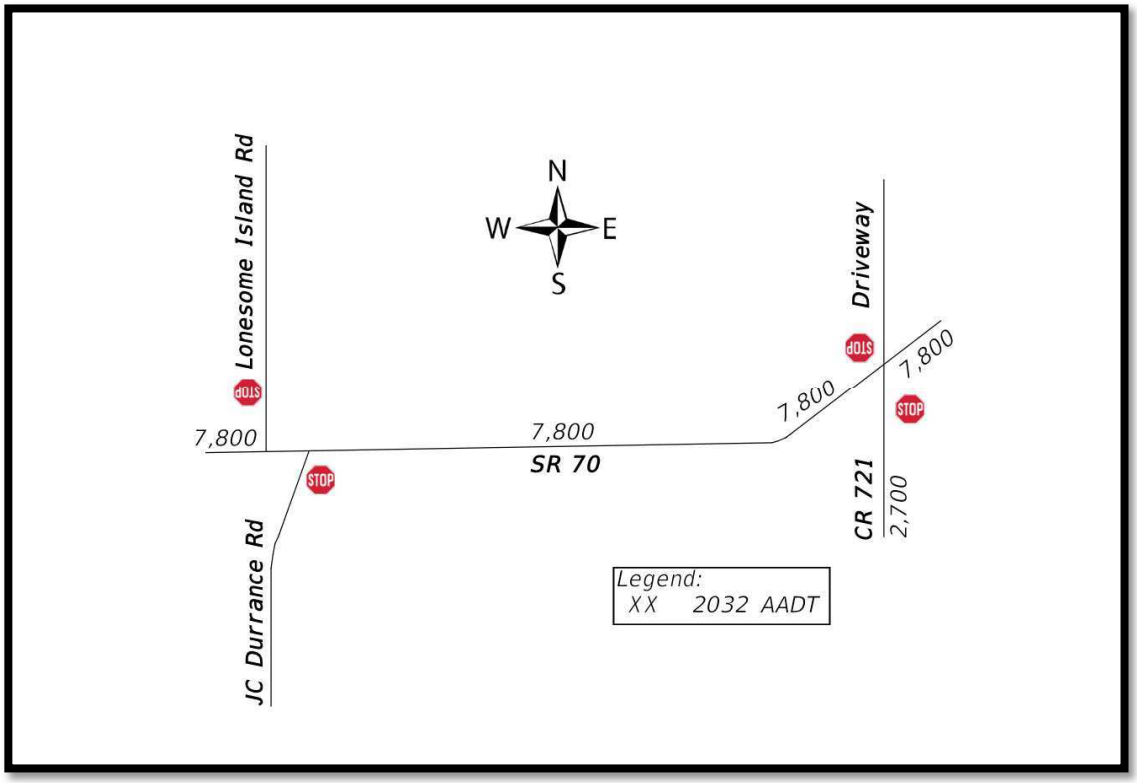
Type of Intersection	V/C Ratio		Crash Prediction Rank	SSI Rank
	AM	PM		
1NS X 2EW Roundabout	0.46	0.37	1	1
Unsignalized Restricted Crossing U-Turn E-W	0.60	0.74	2	2
Unsignalized Thru-Cut E-W	3.40	1.66	-	3
Minor Road Stop	7.44	3.78	3	4

Attachments

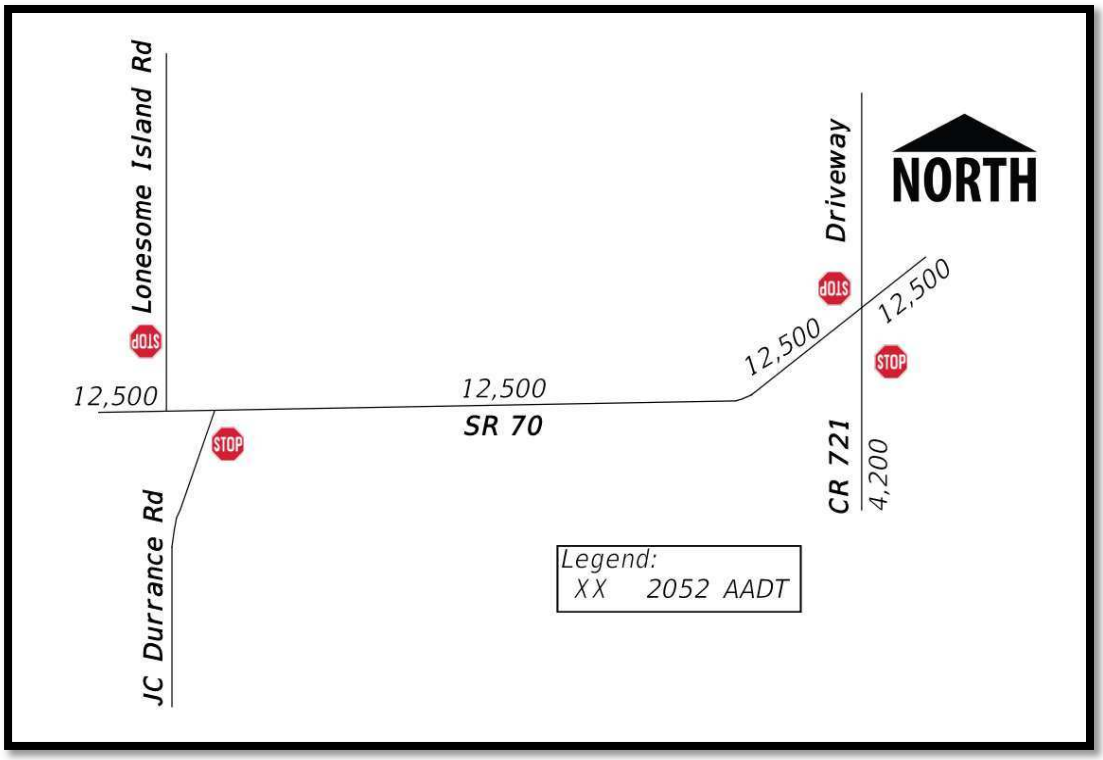
Attachments included in this submittal are the Traffic Signal Warrant Analysis report, the SR 70 Design Traffic Technical Memorandum, Future Traffic Volumes, 2045 AM and PM CAP-X worksheets, SPICE worksheets, and the FDOT ICE Stage 1 Form.

APPENDIX C - Future Traffic Volumes

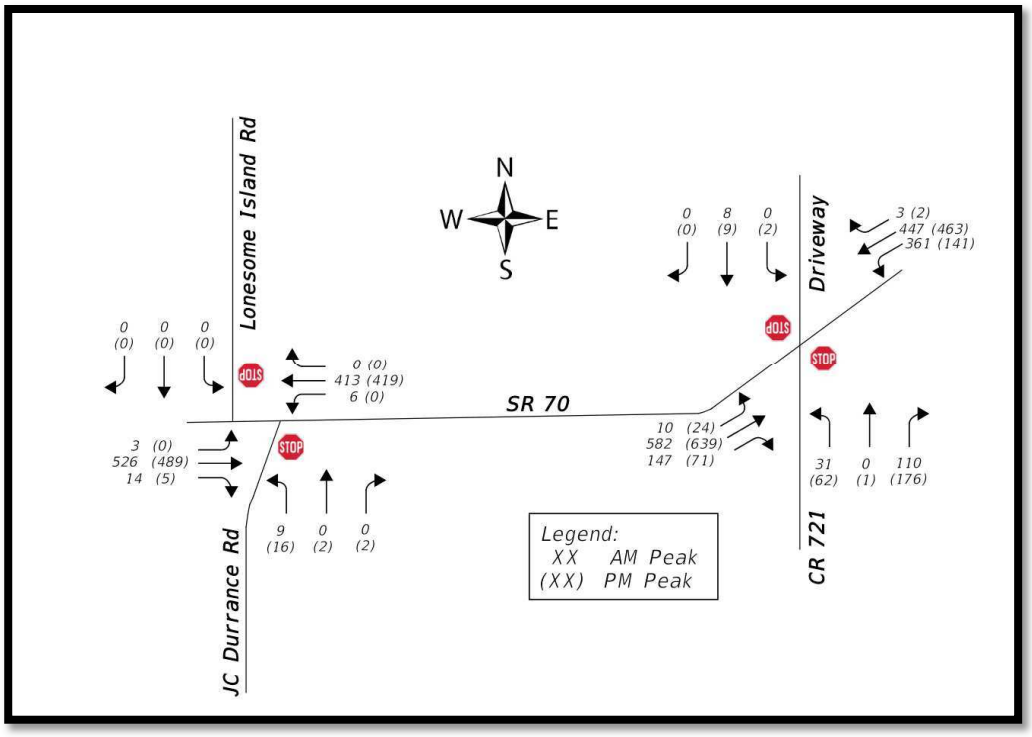
SR 70 Opening Year 2032 Build AADT



SR 70 Design Year 2052 Build AADT



SR 70 Design Year 2052 Turning Movement Volumes



APPENDIX D - CAP-X Analysis

Capacity Analysis for Planning of Junctions

Summary Report - Page 1 of 2

Project Name:	SR-70 PD&E
Project Number:	449851-1
Location:	SR 70 at CR 721 Highlands County, Florida
Date:	2052 AM
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	10	582	147	16.00%	0.00%
Westbound	0	361	447	3	16.00%	0.00%
Southbound	0	0	8	0	7.50%	0.00%
Northbound	0	31	0	110	7.50%	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**		
E-W / Crossing East-West Legs	**Low**	**Low**	**Low**
N-S / Crossing North-South Legs	**Low**	**Low**	**Low**
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	Pedestrian Accommodations	Bicycle Accommodations
1NS X 2EW	**0.46**	**1**	**5.00**	**4.37**
Unsignalized Restricted Crossing U-Turn E-W	**0.60**	**2**	**2.47**	**3.23**
Unsignalized ThruCut E-W	**3.40**	**3**	**3.17**	**3.96**
Two-Way Stop Control E-W	**7.44**	**4**	**2.26**	**3.54**
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Capacity Analysis for Planning of Junctions

Summary Report - Page 1 of 2

Project Name:	SR-70 PD&E
Project Number:	449851-1
Location:	SR 70 at CR 721 Highlands County, Florida
Date:	2052 PM
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	24	639	71	16.00%	0.00%
Westbound	0	141	463	2	16.00%	0.00%
Southbound	0	2	9	0	7.50%	0.00%
Northbound	0	62	1	176	7.50%	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**		
E-W / Crossing East-West Legs	**Low**	**Low**	**Low**
N-S / Crossing North-South Legs	**Low**	**Low**	**Low**
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	Pedestrian Accommodations	Bicycle Accommodations
1NS X 2EW	**0.37**	**1**	**5.01**	**4.41**
Unsignalized Restricted Crossing U-Turn E-W	**0.74**	**2**	**2.47**	**3.23**
Unsignalized ThruCut E-W	**1.66**	**3**	**3.19**	**3.96**
Two-Way Stop Control E-W	**3.78**	**4**	**2.26**	**3.54**
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APPENDIX E - SPICE Analysis

Control Strategy Selection and Inputs

Specify the Facility Level Inputs and the Control Strategies to be included in the SPICE Analysis.

Intersection Type	At-Grade Intersection	
Analysis Year	Opening and Design Year	
Opening Year	2032	
Design Year	2052	
Facility Type	On Rural Multilane Highway	For more information on how to determine these values, see the "Definitions" worksheet
Number of Legs	4-leg	
1-Way/2-Way		
# of Major Street Lanes (both directions)		
Major Street Approach Speed		
Opening Year - Major Road AADT	7,800	
Opening Year - Minor Road AADT	2,700	
Design Year - Major Road AADT	12,500	
Design Year - Minor Road AADT	4,200	

Control Strategy	**Include**	**Base Intersection**		
Traffic Signal	No	--		
Traffic Signal (Alternative Configuration)	No	--		
Minor Road Stop Control	Yes	--		
All Way Stop Control	No	--	No SPF Available	No SPF
1-Lane Roundabout	No	--		
2-Lane Roundabout	Yes	--		
Displaced Left Turn (DLT)	No	Traffic Signal		
Median U-Turn (MUT)	No	Traffic Signal		
Signalized Restricted Crossing U-Turn (RCUT)	No	--	Opening Year AADT Outside of SPF Development Range	
Unsignalized Restricted Crossing U-Turn (RCUT)	Yes	--		
Signalized Thru-Cut*	No	--	*SSI Only, No Crash Prediction Available	
Unsignalized Thru-Cut*	Yes	--	*SSI Only, No Crash Prediction Available	
Bowtie*	No	--	*SSI Only, No Crash Prediction Available	
Continuous Green-T Intersection	No	Traffic Signal		
Jughandle	No	Traffic Signal		
Other 1*	No	Traffic Signal	*Please Select	
Other 2*	No	Minor Road Stop	*Please Select	

Florida Department of Transportation
Safety Performance for Intersection Control Evaluation Tool

Results

Summary of crash prediction results for each alternative

Project Information

Project Name:	SR-70 PD&E	**Intersection Type**	At-Grade Intersection
Intersection:	SR 70 at CR 721 Highlands County, Florida	**Opening Year**	2032
Agency:	Kisinger Campo & Associates Inc.	**Design Year**	2052
Project Reference:	449851-1	**Facility Type**	On Rural Multilane Highway
City:	Highlands County	**Number of Legs**	4-leg
State:	Florida	**1-Way/2-Way**	
Date:	7/2/2024	**# of Major Street Lanes (both directions)**	
Analyst:	IR	**Major Street Approach Speed**	

Crash Prediction Summary

Control Strategy	Crash Type	Opening Year	Design Year	Total Project Life Cycle	Crash Prediction Rank	AADT Within SPF Prediction Range?		Source of Prediction	SSI Score		
						(Open Year)	(Design Year)		Opening Year	Design Year	Rank
Minor Road Stop	Total	1.96	3.56	57.53	3	Yes	Yes	Calibrated SPF	90	76	4
	Fatal & Injury	0.71	1.35	21.42							
2-lane Roundabout	Total	1.52	2.60	43.09	1	Yes	Yes	Uncalibrated SPF	100	99	1
	Fatal & Injury	0.31	0.56	9.04							
Unsignalized RCUT	Total	2.49	3.21	59.84	2	Yes	Yes	Uncalibrated SPF	92	82	2
	Fatal & Injury	0.48	0.68	12.27							
Unsignalized Thru-Cut	Total	No SPF	No SPF	No SPF	--	N/A	N/A	N/A	91	79	3
	Fatal & Injury	No SPF	No SPF	No SPF							

APPENDIX F - ICE Forms

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 are to be submitted to the District Traffic Operations Engineer (DTOE) and District Design Engineer (DDE) for the project's approval.

Project Name	SR-70 PD&E		FDOT Project #	449851-1		
Submitted By	Fathy Abdalla Ph.D., PE, PTOE	Agency/Company	Kisinger Campo and Associates Inc.		Date	6/3/2024
Email	FAbdalla@kcaeng.com	FDOT District	District 1	County	Highlands	
Project Locality (*City/Town/Village*)	Brighton					
Intersection Type	At-Grade Intersection	FDOT Context Classification	C2 - Rural			
Project Funding Source	Federal	Project Type	Corridor Improvement Project			
Project Purpose (*What is the catalyst for this project and why is it being undertaken?*)	Proposed widening of a two-lane facility to a four-lane, divided facility and/or the inclusion of operational improvements along 7.6 miles of SR 70 from Lonesome Island Road to the southern leg of CR 721 in Highlands County. The purpose is to address traffic safety conditions on SR 70 from Lonesome Island Road to the southern leg of CR 721 within Highlands County.The project seeks to maintain important east-west connectivity within the regional transportation network and accommodate freight activity within the area.					
Project Setting Description (*Describe the area surrounding the intersection*)	Within the project limits SR 70 has a context classification of C2-Rural and an access classification of Access Class 03. The only signalized intersection within the project limits is SR 70 at CR 721 which operates under flashing signal control. There is farmland in all four quadrants of the 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*)	In the project area, there are currently no pedestrian signals, crosswalks, bike lanes, curb ramps, or sidewalks. However, the unmarked shoulder could potentially function as a bike lane. A 12-ft shared use path is proposed along the south side of SR 70. Additionally, heavy vehicle traffic within the project limits exceeds the statewide average.					

Major Street Information

Route #:	SR 70	Route Name(s)	SR 70		Milepost	29.216
Existing Control Type	Two-way Stop-Control	Existing AADT	7,800	Design Year AADT		12,500
Design Vehicle	Florida Interstate Semitrailer (WB-62FL)	Control Vehicle	Florida Interstate Semitrailer (WB-62FL)			
Primary Functional Classification	Rural Principal Arterial - Other			Design Speed (mph)		60
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	0	Weekday AM Peak		Weekday PM Peak	
	On-Street Bike Facilities?	No	Through	2	Left	10	Left	24
	Multi-Use Path?	Yes	Left-Through-Right	0	Through	582	Through	639
	Scheduled Bus Service?	No	Through-Right	0	Right	147	Right	71
	Bus Stop on Approach?	No	Right-Turn	1	Daily Truck %		16.0%	
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	0	Weekday AM Peak		Weekday PM Peak	
	On-Street Bike Facilities?	No	Through	2	Left	361	Left	141
	Multi-Use Path?	No	Left-Through-Right	0	Through	447	Through	463
	Scheduled Bus Service?	No	Through-Right	0	Right	3	Right	2
	Bus Stop on Approach?	No	Right-Turn	1	Daily Truck %		16.0%	

Minor Street Information											
Route #:	CR 721	Route Name(s)	CR 721					Milepost (if app.)		N/A	
Existing Control Type		Two-way Stop-Control		Existing AADT	2,700			Design Year AADT		4,200	
Design Vehicle		Florida Interstate Semitrailer (WB-62FL)		Control Vehicle		Florida Interstate Semitrailer (WB-62FL)					
Primary Functional Classification			Rural Major Collector					Design Speed (mph)		45	
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	0							
	Crosswalk on Approach?	No	Left-Through	0	Weekday AM Peak			Weekday PM Peak			
	On-Street Bike Facilities?	No	Through	0	Left	31		Left	62		
	Multi-Use Path?	No	Left-Through-Right	1	Through	0		Through	1		
	Scheduled Bus Service?	No	Through-Right	0	Right	110		Right	176		
	Bus Stop on Approach?	No	Right-Turn	0	Daily Truck %			7.5%			
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	0							
	Crosswalk on Approach?	No	Left-Through	0	Weekday AM Peak			Weekday PM Peak			
	On-Street Bike Facilities?	No	Through	0	Left	0		Left	2		
	Multi-Use Path?	No	Left-Through-Right	1	Through	8		Through	9		
	Scheduled Bus Service?	No	Through-Right	0	Right	0		Right	0		
	Bus Stop on Approach?	No	Right-Turn	0	Daily Truck %			7.5%			
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:
The study area's highest-ranking crash types include opposing sideswipe and guardrail face crashes (both 15%), animal and rear-end crashes (both 13%). There were two fatal crashes reported in the study period. The first fatal crash was reported in 2018 as a "fell/jumped from motor vehicle" crash on CR 721 near the intersection under daylight and dry conditions, the initial cause was reported as running off roadway. This crash cannot be attributed to the roadway characteristics with the available information. The second fatal crash was reported in 2019 as a head on crash on SR 70 near CR 721 under daylight and dry conditions, the initial cause was reported as improper passing.

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 Outputs			
	V/C Ratio		Ped	Bike	Crash			
Control Strategy	Weekday AM Peak	Weekday PM Peak	Accom. Score	Accom. Score	Prediction Rank	SSI Rank	Strategy to be Advanced?	Justification
Two-Way Stop-Control	7.44	3.78	2.26	3.54	3	4	Yes	Base Alternative.
All-Way Stop-Control							No	Does not provide adequate capacity.
Signalized Control							No	Signal is not warranted.
Roundabout (1-lane)							No	SR 70 widening can not be accomodated by a 1-lane roundabout.
Roundabout (2-lane)	0.46	0.37	5.00	4.37	1	1	Yes	Provides adequate capacity.
Median U-Turn							No	Signal is not warranted.
Median U-Turn (Partial)							No	Signal is not warranted.
Restricted Crossing U-turn (Signalized)							No	Signal is not warranted.
Restricted Crossing U-turn (Unsignalized)	0.60	0.74	2.47	3.23	2	2	Yes	Provides adequate capacity.
Jughandle (Forward Ramps)							No	Not feasible due to lack of right-of -way
Jughandle (Reverse Ramps)							No	Not feasible due to lack of right-of -way
Thru-Cut (Signalized)							No	Signal is not warranted.

Thru-Cut (Unsignalized)	3.40	1.66	3.17	3.96	N/A	3	No	Does not provide adequate capacity

Resolution					
To be filled out by FDOT District Traffic Operations Engineer and District Design Engineer					
Project Determination	Multiple Viable Alternatives Identified: Continue to Stage 2				
Comments					
DTOE Name		Signature		Date	
DDE Name		Signature		Date	

APPENDIX J: HSM Spreadsheets and Costs

The ***HSM*** includes Safety Performance Functions (SPFs) for many roadway segment and intersection applications. SPFs are equations used to estimate or predict the expected average crash frequency per year at a location as a function of traffic volume and roadway characteristics. Adjust SPFs to local conditions by applying calibration factors shown in ***Table 122.6.3***. The use of HSMSPF and Crash Modification Factors (CMF), with an Empirical Bayes (EB) adjustment, provides research-based solutions for use in Benefit/Cost comparisons. Crash distributions presented in ***Table 122.6.4*** and KABCO costs as specified in ***Table 122.6.2*** should be used in determining benefits from an ***HSM*** analysis.

Table 122.6.3 HSM Calibration Factors for Florida

Type Facility		Abbreviation	Calibration Factor (Cx)	
FDOT Roadway Calibration Factors				
Rural	2-lane Undivided	R2U	1.00	Existing & No-build
	4-lane Divided	R4D	0.68	Build
Urban	2-lane Undivided	U2U	1.02	
	3-lane with a Center Two-Way Left Turn Lane	U32LT	1.04	
	4-lane Undivided	U4U	0.73	
	4-lane Divided	U4D	1.63	
	5-lane with a Center Two-Way Left Turn Lane	U52LT	0.70	
FDOT Intersection Calibration Factors				
Rural	2-lane 3-Leg Stop-Controlled	RTL3ST	1.27	Existing & No-build
	2-lane 4-Leg Stop-Controlled	RTL4ST	0.74	Existing & No-build
	2-lane 4-Leg Signalized	RTL4SG	0.92	
	Multilane 3-Leg Stop-Controlled	RML3ST	2.20	Build
	Multilane 4-Leg Stop-Controlled	RML4ST	1.64	Build
	Multilane 4-Leg Signalized	RML4SG	0.45	
Urban	3-Leg Stop-Controlled Intersection	USA3ST	1.14	
	4-Leg Stop-Controlled Intersection	USA4ST	1.87	
	3-Leg Signalized w/o Ped. CMFs	USA3SG w/o Ped.	2.58	
	3-Leg Signalized w/ Ped. CMFs	USA3SG w/ Ped.	2.50	
	4-Leg Signalized	USA4SG	2.27	

No-Build 2032

Worksheet 1A -- General Information and Input Data for Rural Two-Lane Two-Way Roadway Segments

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Roadway Section	Lonesome Island Rd to Jc Durrance Rd
Date Performed	08/11/23	Jurisdiction	FDOT District One
		Analysis Year	2032

Input Data		Base Conditions	Site Conditions			
Length of segment, L (mi)		--	0.085227273			
AADT (veh/day)	$AADT_{MAX}$ = 17,800 (veh/day)	--	7,800			
Lane width (ft.)		12	10			
Shoulder width (ft.)		6	Right Shld:	4	Left Shld:	4
Shoulder type		Paved	Right Shld:	Paved	Left Shld:	Paved
Length of horizontal curve (mi)		0	0.0			
Radius of curvature (ft.)		0	0			
Spiral transition curve (present/not present)		Not Present	Not Present			
Superelevation variance (ft./ft.)		< 0.01				
Grade (%)		0	0			
Driveway density (driveways/mile)		5	0			
Centerline rumble strips (present/not present)		Not Present	Not Present			
Passing lanes [present (1 lane) /present (2 lane) / not present)]		Not Present	Not Present			
Two-way left-turn lane (present/not present)		Not Present	Not Present			
Roadside hazard rating (1-7 scale)		3	4			
Segment lighting (present/not present)		Not Present	Not Present			
Auto speed enforcement (present/not present)		Not Present	Not Present			
Calibration Factor, Cr		1	1.00			

Worksheet 1B -- Crash Modification Factors for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
CMF for Lane Width	CMF for Shoulder Width and Type	CMF for Horizontal Curves	CMF for Super-elevation	CMF for Grades	CMF for Driveway Density	CMF for Centerline Rumble Strips	CMF for Passing Lanes	CMF for Two-Way Left-Turn Lane	CMF for Roadside Design	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMR 5r*	*CMF 6r*	*CMF 7r*	*CMF 8r*	*CMF 9r*	*CMF 10r*	*CMF 11r*	*CMF 12r*	*CMF comb*
from Equation 10-11	from Equation 10-12	from Equation 10-13	from Equations 10-14, 10-15, or 10-16	from Table 10-11	from Equation 10-17	from Section 10.7.1	from Section 10.7.1	from Equation 10-18 & 10-19	from Equation 10-20	from Equation 10-21	from Section 10.7.1	(1)x(2)x … x(11)x(12)
1.17	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00	1.00	1.361

Worksheet 1C -- Roadway Segment Crashes for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**N spf rs**	**Overdispersion Parameter, k**	**Crash Severity Distribution**	**N spf rs by Severity Distribution**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted average crash frequency, N**
	from Equation 10-6	from Equation 10-7	from Table 10-3 (proportion)	(2)TOTAL x (4)	(13) from Worksheet 1B		(5)x(6)x(7)
Total	0.178	2.77	1.000	0.178	1.36	1.00	0.242
Fatal and Injury (FI)	--	--	0.321	0.057	1.36	1.00	0.078
Property Damage Only (PDO)	--	--	0.679	0.121	1.36	1.00	0.164

Worksheet 1D -- Crashes by Severity Level and Collision Type for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Collision Type	**Proportion of Collision Type(TOTAL)**	**N predicted rs (TOTAL) (crashes/year)**	**Proportion of Collision Type(FI)**	**N predicted rs (FI) (crashes/year)**	**Proportion of Collision Type(PDO)**	**N predicted rs (PDO) (crashes/year)**
	from Table 10-4	(8)TOTAL from Worksheet 1C	from Table 10-4	(8)FI from Worksheet 1C	from Table 10-4	(8)PDO from Worksheet 1C
Total	1.000	0.242	1.000	0.078	1.000	0.164
		(2)x(3)TOTAL		(4)x(5)FI		(6)x(7)PDO
SINGLE-VEHICLE						
Collision with animal	0.121	0.029	0.038	0.003	0.184	0.030
Collision with bicycle	0.002	0.000	0.004	0.000	0.001	0.000
Collision with pedestrian	0.003	0.001	0.007	0.001	0.001	0.000
Overturned	0.025	0.006	0.037	0.003	0.015	0.002
Ran off road	0.521	0.126	0.545	0.042	0.505	0.083
Other single-vehicle collision	0.021	0.005	0.007	0.001	0.029	0.005
Total single-vehicle crashes	0.693	0.168	0.638	0.050	0.735	0.121
MULTIPLE-VEHICLE						
Angle collision	0.085	0.021	0.100	0.008	0.072	0.012
Head-on collision	0.016	0.004	0.034	0.003	0.003	0.000
Rear-end collision	0.142	0.034	0.164	0.013	0.122	0.020
Sideswipe collision	0.037	0.009	0.038	0.003	0.038	0.006
Other multiple-vehicle collision	0.027	0.007	0.026	0.002	0.030	0.005
Total multiple-vehicle crashes	0.307	0.074	0.362	0.028	0.265	0.043

Worksheet 1E -- Summary Results for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)
Crash severity level	**Crash Severity Distribution (proportion)**	**Predicted average crash frequency (crashes/year)**	**Roadway segment length (mi)**	**Crash rate (crashes/mi/year)**
	(4) from Worksheet 1C	(8) from Worksheet 1C		(3)/(4)
Total	1.000	0.2	0.085227273	2.8
Fatal and Injury (FI)	0.321	0.1	0.085227273	0.9
Property Damage Only (PDO)	0.679	0.2	0.085227273	1.9

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Worksheet 1A -- General Information and Input Data for Rural Two-Lane Two-Way Roadway Segments

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Roadway Section	Jc Durrance Rd to Greenbrier Ln
Date Performed	08/11/23	Jurisdiction	FDOT District One
		Analysis Year	2032

Input Data		Base Conditions	Site Conditions			
Length of segment, L (mi)		--	1.637121212			
AADT (veh/day)	$AADT_{MAX}$ = 17,800 (veh/day)	--	7,800			
Lane width (ft.)		12	10			
Shoulder width (ft.)		6	Right Shld:	4	Left Shld:	4
Shoulder type		Paved	Right Shld:	Paved	Left Shld:	Paved
Length of horizontal curve (mi)		0	0.0			
Radius of curvature (ft.)		0	0			
Spiral transition curve (present/not present)		Not Present	Not Present			
Superelevation variance (ft./ft.)		< 0.01	0			
Grade (%)		0	0			
Driveway density (driveways/mile)		5	1.2			
Centerline rumble strips (present/not present)		Not Present	Not Present			
Passing lanes [present (1 lane) /present (2 lane) / not present)]		Not Present	Not Present			
Two-way left-turn lane (present/not present)		Not Present	Not Present			
Roadside hazard rating (1-7 scale)		3	4			
Segment lighting (present/not present)		Not Present	Not Present			
Auto speed enforcement (present/not present)		Not Present	Not Present			
Calibration Factor, Cr		1	1.00			

Worksheet 1B -- Crash Modification Factors for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
CMF for Lane Width	CMF for Shoulder Width and Type	CMF for Horizontal Curves	CMF for Super-elevation	CMF for Grades	CMF for Driveway Density	CMF for Centerline Rumble Strips	CMF for Passing Lanes	CMF for Two-Way Left-Turn Lane	CMF for Roadside Design	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMR 5r*	*CMF 6r*	*CMF 7r*	*CMF 8r*	*CMF 9r*	*CMF 10r*	*CMF 11r*	*CMF 12r*	*CMF comb*
from Equation 10-11	from Equation 10-12	from Equation 10-13	from Equations 10-14, 10-15, or 10-16	from Table 10-11	from Equation 10-17	from Section 10.7.1	from Section 10.7.1	from Equation 10-18 & 10-19	from Equation 10-20	from Equation 10-21	from Section 10.7.1	(1)x(2)x … x(11)x(12)
1.17	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00	1.00	1.361

Worksheet 1C -- Roadway Segment Crashes for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**N spf rs**	**Overdispersion Parameter, k**	**Crash Severity Distribution**	**N spf rs by Severity Distribution**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted average crash frequency, N**
	from Equation 10-6	from Equation 10-7	from Table 10-3 (proportion)	(2)TOTAL x (4)	(13) from Worksheet 1B		(5)x(6)x(7)
Total	3.412	0.14	1.000	3.412	1.36	1.00	4.644
Fatal and Injury (FI)	--	--	0.321	1.095	1.36	1.00	1.491
Property Damage Only (PDO)	--	--	0.679	2.317	1.36	1.00	3.153

Worksheet 1D -- Crashes by Severity Level and Collision Type for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Collision Type	**Proportion of Collision Type(TOTAL)**	**N *predicted rs* (TOTAL) (crashes/year)**	**Proportion of Collision Type(FI)**	**N *predicted rs* (FI) (crashes/year)**	**Proportion of Collision Type(PDO)**	**N *predicted rs* (PDO) (crashes/year)**
	from Table 10-4	(8)TOTAL from Worksheet 1C	from Table 10-4	(8)FI from Worksheet 1C	from Table 10-4	(8)PDO from Worksheet 1C
Total	1.000	4.644	1.000	1.491	1.000	3.153
		(2)x(3)TOTAL		(4)x(5)FI		(6)x(7)PDO
SINGLE-VEHICLE						
Collision with animal	0.121	0.562	0.038	0.057	0.184	0.580
Collision with bicycle	0.002	0.009	0.004	0.006	0.001	0.003
Collision with pedestrian	0.003	0.014	0.007	0.010	0.001	0.003
Overturned	0.025	0.116	0.037	0.055	0.015	0.047
Ran off road	0.521	2.419	0.545	0.812	0.505	1.592
Other single-vehicle collision	0.021	0.098	0.007	0.010	0.029	0.091
Total single-vehicle crashes	0.693	3.218	0.638	0.951	0.735	2.317
MULTIPLE-VEHICLE						
Angle collision	0.085	0.395	0.100	0.149	0.072	0.227
Head-on collision	0.016	0.074	0.034	0.051	0.003	0.009
Rear-end collision	0.142	0.659	0.164	0.244	0.122	0.385
Sideswipe collision	0.037	0.172	0.038	0.057	0.038	0.120
Other multiple-vehicle collision	0.027	0.125	0.026	0.039	0.030	0.095
Total multiple-vehicle crashes	0.307	1.426	0.362	0.540	0.265	0.836

Worksheet 1E -- Summary Results for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)
Crash severity level	**Crash Severity Distribution (proportion)**	**Predicted average crash frequency (crashes/year)**	**Roadway segment length (mi)**	**Crash rate (crashes/mi/year)**
	(4) from Worksheet 1C	(8) from Worksheet 1C		(3)/(4)
Total	1.000	4.6	1.637121212	2.8
Fatal and Injury (FI)	0.321	1.5	1.637121212	0.9
Property Damage Only (PDO)	0.679	3.2	1.637121212	1.9

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Worksheet 1A -- General Information and Input Data for Rural Two-Lane Two-Way Roadway Segments

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Roadway Section	Greenbrier Ln to DC Bar Ranch Rd
Date Performed	08/11/23	Jurisdiction	FDOT District One
		Analysis Year	2032

Input Data		Base Conditions	Site Conditions			
Length of segment, L (mi)		--	1.001325758			
AADT (veh/day)	$AADT_{MAX}$ = 17,800 (veh/day)	--	7,800			
Lane width (ft.)		12	10			
Shoulder width (ft.)		6	Right Shld:	4	Left Shld:	4
Shoulder type		Paved	Right Shld:	Paved	Left Shld:	Paved
Length of horizontal curve (mi)		0	0.0			
Radius of curvature (ft.)		0	0			
Spiral transition curve (present/not present)		Not Present	Not Present			
Superelevation variance (ft./ft.)		< 0.01	0			
Grade (%)		0	0			
Driveway density (driveways/mile)		5	0			
Centerline rumble strips (present/not present)		Not Present	Not Present			
Passing lanes [present (1 lane) /present (2 lane) / not present)]		Not Present	Not Present			
Two-way left-turn lane (present/not present)		Not Present	Not Present			
Roadside hazard rating (1-7 scale)		3	4			
Segment lighting (present/not present)		Not Present	Not Present			
Auto speed enforcement (present/not present)		Not Present	Not Present			
Calibration Factor, Cr		1	1.00			

Worksheet 1B -- Crash Modification Factors for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
CMF for Lane Width	CMF for Shoulder Width and Type	CMF for Horizontal Curves	CMF for Super-elevation	CMF for Grades	CMF for Driveway Density	CMF for Centerline Rumble Strips	CMF for Passing Lanes	CMF for Two-Way Left-Turn Lane	CMF for Roadside Design	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMR 5r*	*CMF 6r*	*CMF 7r*	*CMF 8r*	*CMF 9r*	*CMF 10r*	*CMF 11r*	*CMF 12r*	*CMF comb*
from Equation 10-11	from Equation 10-12	from Equation 10-13	from Equations 10-14, 10-15, or 10-16	from Table 10-11	from Equation 10-17	from Section 10.7.1	from Section 10.7.1	from Equation 10-18 & 10-19	from Equation 10-20	from Equation 10-21	from Section 10.7.1	(1)x(2)x … x(11)x(12)
1.17	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00	1.00	1.361

Worksheet 1C -- Roadway Segment Crashes for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**N spf rs**	**Overdispersion Parameter, k**	**Crash Severity Distribution**	**N spf rs by Severity Distribution**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted average crash frequency, N**
	from Equation 10-6	from Equation 10-7	from Table 10-3 (proportion)	(2)TOTAL x (4)	(13) from Worksheet 1B		(5)x(6)x(7)
Total	2.087	0.24	1.000	2.087	1.36	1.00	2.840
Fatal and Injury (FI)	--	--	0.321	0.670	1.36	1.00	0.912
Property Damage Only (PDO)	--	--	0.679	1.417	1.36	1.00	1.928

Worksheet 1D -- Crashes by Severity Level and Collision Type for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Collision Type	**Proportion of Collision Type(TOTAL)**	**N *predicted rs* (TOTAL) (crashes/year)**	**Proportion of Collision Type(FI)**	**N *predicted rs* (FI) (crashes/year)**	**Proportion of Collision Type(PDO)**	**N *predicted rs* (PDO) (crashes/year)**
	from Table 10-4	(8)TOTAL from Worksheet 1C	from Table 10-4	(8)FI from Worksheet 1C	from Table 10-4	(8)PDO from Worksheet 1C
Total	1.000	2.840	1.000	0.912	1.000	1.928
		(2)x(3)TOTAL		(4)x(5)FI		(6)x(7)PDO
SINGLE-VEHICLE						
Collision with animal	0.121	0.344	0.038	0.035	0.184	0.355
Collision with bicycle	0.002	0.006	0.004	0.004	0.001	0.002
Collision with pedestrian	0.003	0.009	0.007	0.006	0.001	0.002
Overturned	0.025	0.071	0.037	0.034	0.015	0.029
Ran off road	0.521	1.480	0.545	0.497	0.505	0.974
Other single-vehicle collision	0.021	0.060	0.007	0.006	0.029	0.056
Total single-vehicle crashes	0.693	1.968	0.638	0.582	0.735	1.417
MULTIPLE-VEHICLE						
Angle collision	0.085	0.241	0.100	0.091	0.072	0.139
Head-on collision	0.016	0.045	0.034	0.031	0.003	0.006
Rear-end collision	0.142	0.403	0.164	0.150	0.122	0.235
Sideswipe collision	0.037	0.105	0.038	0.035	0.038	0.073
Other multiple-vehicle collision	0.027	0.077	0.026	0.024	0.030	0.058
Total multiple-vehicle crashes	0.307	0.872	0.362	0.330	0.265	0.511

Worksheet 1E -- Summary Results for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)
Crash severity level	**Crash Severity Distribution (proportion)**	**Predicted average crash frequency (crashes/year)**	**Roadway segment length (mi)**	**Crash rate (crashes/mi/year)**
	(4) from Worksheet 1C	(8) from Worksheet 1C		(3)/(4)
Total	1.000	2.8	1.001325758	2.8
Fatal and Injury (FI)	0.321	0.9	1.001325758	0.9
Property Damage Only (PDO)	0.679	1.9	1.001325758	1.9

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Worksheet 1A -- General Information and Input Data for Rural Two-Lane Two-Way Roadway Segments

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Roadway Section	DC Bar Ranch Rd to Lyke Rd
Date Performed	08/11/23	Jurisdiction	FDOT District One
		Analysis Year	2032

Input Data	Base Conditions	Site Conditions				
Length of segment, L (mi)	--	2.574621212				
AADT (veh/day)	$AADT_{MAX}$ = 17,800 (veh/day)	--	7,800			
Lane width (ft.)	12	10				
Shoulder width (ft.)	6	Right Shld:	4	Left Shld:	4	
Shoulder type	Paved	Right Shld:	Paved	Left Shld:	Paved	
Length of horizontal curve (mi)	0	0.0				
Radius of curvature (ft.)	0	0				
Spiral transition curve (present/not present)	Not Present	Not Present				
Superelevation variance (ft./ft.)	< 0.01	0				
Grade (%)	0	0				
Driveway density (driveways/mile)	5	1.6				
Centerline rumble strips (present/not present)	Not Present	Not Present				
Passing lanes [present (1 lane) /present (2 lane) / not present)]	Not Present	Not Present				
Two-way left-turn lane (present/not present)	Not Present	Not Present				
Roadside hazard rating (1-7 scale)	3	4				
Segment lighting (present/not present)	Not Present	Not Present				
Auto speed enforcement (present/not present)	Not Present	Not Present				
Calibration Factor, Cr	1	1.00				

Worksheet 1B -- Crash Modification Factors for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
CMF for Lane Width	CMF for Shoulder Width and Type	CMF for Horizontal Curves	CMF for Super-elevation	CMF for Grades	CMF for Driveway Density	CMF for Centerline Rumble Strips	CMF for Passing Lanes	CMF for Two-Way Left-Turn Lane	CMF for Roadside Design	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMR 5r*	*CMF 6r*	*CMF 7r*	*CMF 8r*	*CMF 9r*	*CMF 10r*	*CMF 11r*	*CMF 12r*	*CMF comb*
from Equation 10-11	from Equation 10-12	from Equation 10-13	from Equations 10-14, 10-15, or 10-16	from Table 10-11	from Equation 10-17	from Section 10.7.1	from Section 10.7.1	from Equation 10-18 & 10-19	from Equation 10-20	from Equation 10-21	from Section 10.7.1	(1)x(2)x … x(11)x(12)
1.17	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00	1.00	1.361

Worksheet 1C -- Roadway Segment Crashes for Rural Two-Lane Two-Way Roadway Segments

(1) Crash Severity Level	(2) N spf rs	(3) Overdispersion Parameter, k	(4) Crash Severity Distribution	(5) N spf rs by Severity Distribution	(6) Combined CMFs	(7) Calibration Factor, Cr	(8) Predicted average crash frequency, N
	from Equation 10-6	from Equation 10-7	from Table 10-3 (proportion)	(2)TOTAL x (4)	(13) from Worksheet 1B		(5)x(6)x(7)
Total	5.365	0.09	1.000	5.365	1.36	1.00	7.303
Fatal and Injury (FI)	--	--	0.321	1.722	1.36	1.00	2.344
Property Damage Only (PDO)	--	--	0.679	3.643	1.36	1.00	4.959

Worksheet 1D -- Crashes by Severity Level and Collision Type for Rural Two-Lane Two-Way Roadway Segments

(1) Collision Type	(2) Proportion of Collision Type(TOTAL)	(3) N predicted rs (TOTAL) (crashes/year)	(4) Proportion of Collision Type(FI)	(5) N predicted rs (FI) (crashes/year)	(6) Proportion of Collision Type(PDO)	(7) N predicted rs (PDO) (crashes/year)
	from Table 10-4	(8)TOTAL from Worksheet 1C	from Table 10-4	(8)FI from Worksheet 1C	from Table 10-4	(8)PDO from Worksheet 1C
Total	1.000	7.303	1.000	2.344	1.000	4.959
		(2)x(3)TOTAL		(4)x(5)FI		(6)x(7)PDO
SINGLE-VEHICLE						
Collision with animal	0.121	0.884	0.038	0.089	0.184	0.912
Collision with bicycle	0.002	0.015	0.004	0.009	0.001	0.005
Collision with pedestrian	0.003	0.022	0.007	0.016	0.001	0.005
Overturned	0.025	0.183	0.037	0.087	0.015	0.074
Ran off road	0.521	3.805	0.545	1.278	0.505	2.504
Other single-vehicle collision	0.021	0.153	0.007	0.016	0.029	0.144
Total single-vehicle crashes	0.693	5.061	0.638	1.496	0.735	3.645
MULTIPLE-VEHICLE						
Angle collision	0.085	0.621	0.100	0.234	0.072	0.357
Head-on collision	0.016	0.117	0.034	0.080	0.003	0.015
Rear-end collision	0.142	1.037	0.164	0.384	0.122	0.605
Sideswipe collision	0.037	0.270	0.038	0.089	0.038	0.188
Other multiple-vehicle collision	0.027	0.197	0.026	0.061	0.030	0.149
Total multiple-vehicle crashes	0.307	2.242	0.362	0.849	0.265	1.314

Worksheet 1E -- Summary Results for Rural Two-Lane Two-Way Roadway Segments

(1) Crash severity level	(2) Crash Severity Distribution (proportion)	(3) Predicted average crash frequency (crashes/year)	(4) Roadway segment length (mi)	(5) Crash rate (crashes/mi/year)
	(4) from Worksheet 1C	(8) from Worksheet 1C		(3)/(4)
Total	1.000	7.3	2.574621212	2.8
Fatal and Injury (FI)	0.321	2.3	2.574621212	0.9
Property Damage Only (PDO)	0.679	5.0	2.574621212	1.9

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Worksheet 1A -- General Information and Input Data for Rural Two-Lane Two-Way Roadway Segments

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Roadway Section	Lyke Rd to Southern Leg of CR 721
Date Performed	08/11/23	Jurisdiction	FDOT District One
		Analysis Year	2032

Input Data		Base Conditions	Site Conditions			
Length of segment, L (mi)		--	2.362310606			
AADT (veh/day)	$AADT_{MAX}$ = 17,800 (veh/day)	--	7,800			
Lane width (ft.)		12	10			
Shoulder width (ft.)		6	Right Shld:	4	Left Shld:	4
Shoulder type		Paved	Right Shld:	Paved	Left Shld:	Paved
Length of horizontal curve (mi)		0	0.3			
Radius of curvature (ft.)		0	2865			
Spiral transition curve (present/not present)		Not Present	Not Present			
Superelevation variance (ft./ft.)		< 0.01	0			
Grade (%)		0	0			
Driveway density (driveways/mile)		5	2.1			
Centerline rumble strips (present/not present)		Not Present	Not Present			
Passing lanes [present (1 lane) /present (2 lane) / not present)]		Not Present	Not Present			
Two-way left-turn lane (present/not present)		Not Present	Not Present			
Roadside hazard rating (1-7 scale)		3	4			
Segment lighting (present/not present)		Not Present	Not Present			
Auto speed enforcement (present/not present)		Not Present	Not Present			
Calibration Factor, Cr		1	1.00			

Worksheet 1B -- Crash Modification Factors for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
CMF for Lane Width	CMF for Shoulder Width and Type	CMF for Horizontal Curves	CMF for Super-elevation	CMF for Grades	CMF for Driveway Density	CMF for Centerline Rumble Strips	CMF for Passing Lanes	CMF for Two-Way Left-Turn Lane	CMF for Roadside Design	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMR 5r*	*CMF 6r*	*CMF 7r*	*CMF 8r*	*CMF 9r*	*CMF 10r*	*CMF 11r*	*CMF 12r*	*CMF comb*
from Equation 10-11	from Equation 10-12	from Equation 10-13	from Equations 10-14, 10-15, or 10-16	from Table 10-11	from Equation 10-17	from Section 10.7.1	from Section 10.7.1	from Equation 10-18 & 10-19	from Equation 10-20	from Equation 10-21	from Section 10.7.1	(1)x(2)x … x(11)x(12)
1.17	1.09	1.05	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00	1.00	1.433

Worksheet 1C -- Roadway Segment Crashes for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**N spf rs**	**Overdispersion Parameter, k**	**Crash Severity Distribution**	**N spf rs by Severity Distribution**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted average crash frequency, N**
	from Equation 10-6	from Equation 10-7	from Table 10-3 (proportion)	(2)TOTAL x (4)	(13) from Worksheet 1B		(5)x(6)x(7)
Total	4.923	0.10	1.000	4.923	1.43	1.00	7.056
Fatal and Injury (FI)	--	--	0.321	1.580	1.43	1.00	2.265
Property Damage Only (PDO)	--	--	0.679	3.343	1.43	1.00	4.791

Worksheet 1D -- Crashes by Severity Level and Collision Type for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Collision Type	**Proportion of Collision Type(TOTAL)**	**N *predicted rs* (TOTAL) (crashes/year)**	**Proportion of Collision Type(FI)**	**N *predicted rs* (FI) (crashes/year)**	**Proportion of Collision Type(PDO)**	**N *predicted rs* (PDO) (crashes/year)**
	from Table 10-4	(8)TOTAL from Worksheet 1C	from Table 10-4	(8)FI from Worksheet 1C	from Table 10-4	(8)PDO from Worksheet 1C
Total	1.000	7.056	1.000	2.265	1.000	4.791
		(2)x(3)TOTAL		(4)x(5)FI		(6)x(7)PDO
SINGLE-VEHICLE						
Collision with animal	0.121	0.854	0.038	0.086	0.184	0.882
Collision with bicycle	0.002	0.014	0.004	0.009	0.001	0.005
Collision with pedestrian	0.003	0.021	0.007	0.016	0.001	0.005
Overturned	0.025	0.176	0.037	0.084	0.015	0.072
Ran off road	0.521	3.676	0.545	1.234	0.505	2.420
Other single-vehicle collision	0.021	0.148	0.007	0.016	0.029	0.139
Total single-vehicle crashes	0.693	4.890	0.638	1.445	0.735	3.522
MULTIPLE-VEHICLE						
Angle collision	0.085	0.600	0.100	0.227	0.072	0.345
Head-on collision	0.016	0.113	0.034	0.077	0.003	0.014
Rear-end collision	0.142	1.002	0.164	0.371	0.122	0.585
Sideswipe collision	0.037	0.261	0.038	0.086	0.038	0.182
Other multiple-vehicle collision	0.027	0.191	0.026	0.059	0.030	0.144
Total multiple-vehicle crashes	0.307	2.166	0.362	0.820	0.265	1.270

Worksheet 1E -- Summary Results for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)
Crash severity level	**Crash Severity Distribution (proportion)**	**Predicted average crash frequency (crashes/year)**	**Roadway segment length (mi)**	**Crash rate (crashes/mi/year)**
	(4) from Worksheet 1C	(8) from Worksheet 1C		(3)/(4)
Total	1.000	7.1	2.362310606	3.0
Fatal and Injury (FI)	0.321	2.3	2.362310606	1.0
Property Damage Only (PDO)	0.679	4.8	2.362310606	2.0

No-Build 2032

Worksheet 2A -- General Information and Input Data for Rural Two-Lane Two-Way Roadway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Intersection	Lonesome Island Rd
Date Performed	08/11/23	Jurisdiction	FDOT District One
		Analysis Year	2032

Input Data				Base Conditions	Site Conditions
Intersection type (3ST, 4ST, 4SG				--	3ST
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ =	19,500	(veh/day)	--	7,800
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ =	4,300	(veh/day)	--	150
Intersection skew angle (degrees	[If 4ST, does skew differ for minor legs?		No	0	Skew for Leg 1 (All): / Skew for Leg 2 (4ST only):
Number of signalized or uncontrolled approaches with a left-turn lane (0, 1, 2, 3, 4)				0	0
Number of signalized or uncontrolled approaches with a right-turn lane (0, 1, 2, 3, 4)				0	0
Intersection lighting (present/not present)				Not Present	Not Present
Calibration Factor, C_i				1.00	1.27

Worksheet 2B -- Crash Modification Factors for Rural Two-Lane Two-Way Roadway Intersections

(1) CMF for Intersection Skew Angle CMF_{1i} from Equations 10-22 or 10-23	(2) CMF for Left-Turn Lanes CMF_{2i} from Table 10-13	(3) CMF for Right-Turn Lanes CMF_{3i} from Table 10-14	(4) CMF for Lighting CMF_{4i} from Equation 10-24	(5) Combined CMF CMF_{COMB} (1)*(2)*(3)*(4)
1.00	1.00	1.00	1.00	1.00

Worksheet 2C -- Intersection Crashes for Rural Two-Lane Two-Way Roadway Intersections

(1) Crash Severity Level	(2) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ from Equations 10-8, 10-9, or 10-10	(3) Overdispersion Parameter, k from Section 10.6.2	(4) Crash Severity Distribution from Table 10-5	(5) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ by Severity Distribution (2)$_{TOTAL}$ * (4)	(6) Combined CMFs from (5) of Worksheet 2B	(7) Calibration Factor, C_i	(8) Predicted average crash frequency, $N_{predicted\ int}$ (5)*(6)*(7)
Total	0.723	0.54	1.000	0.723	1.00	1.27	0.918
Fatal and Injury (FI)	--	--	0.415	0.300	1.00	1.27	0.381
Property Damage Only (PDO)	--	--	0.585	0.423	1.00	1.27	0.537

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Two-Lane Two-Way Road Intersections

(1) Collision Type	(2) Proportion of Collision Type$_{(TOTAL)}$ from Table 10-6	(3) $N_{predicted\ int\ (TOTAL)}$ (crashes/year) (8)$_{TOTAL}$ from Worksheet 2C	(4) Proportion of Collision Type$_{(FI)}$ from Table 10-6	(5) $N_{predicted\ int\ (FI)}$ (crashes/year) (8)$_{FI}$ from Worksheet 2C	(6) Proportion of Collision Type$_{(PDO)}$ from Table 10-6	(7) $N_{predicted\ int\ (PDO)}$ (crashes/year) (8)$_{PDO}$ from Worksheet 2C
Total	1.000	0.918	1.000	0.381	1.000	0.537
		(2)x(3)$_{TOTAL}$		(4)x(5)$_{FI}$		(6)x(7)$_{PDO}$
SINGLE-VEHICLE						
Collision with animal	0.019	0.017	0.008	0.003	0.026	0.014
Collision with bicycle	0.001	0.001	0.001	0.000	0.001	0.001
Collision with pedestrian	0.001	0.001	0.001	0.000	0.001	0.001
Overturned	0.013	0.012	0.022	0.008	0.007	0.004
Ran off road	0.244	0.224	0.240	0.091	0.247	0.133
Other single-vehicle collision	0.016	0.015	0.011	0.004	0.020	0.011
Total single-vehicle crashes	0.294	0.270	0.283	0.108	0.302	0.162
MULTIPLE-VEHICLE						
Angle collision	0.237	0.217	0.275	0.105	0.210	0.113
Head-on collision	0.052	0.048	0.081	0.031	0.032	0.017
Rear-end collision	0.278	0.255	0.260	0.099	0.292	0.157
Sideswipe collision	0.097	0.089	0.051	0.019	0.131	0.070
Other multiple-vehicle collision	0.042	0.039	0.050	0.019	0.033	0.018
Total multiple-vehicle crashes	0.706	0.648	0.717	0.273	0.698	0.375

Worksheet 2E -- Summary Results for Rural Two-Lane Two-Way Road Intersections

(1) Crash severity level	(2) Crash Severity Distribution (proportion) (4) from Worksheet 2C	(3) Predicted average crash frequency (crashes / year) (8) from Worksheet 2C
Total	1.000	0.9
Fatal and Injury (FI)	0.415	0.4
Property Damage Only (PDO)	0.585	0.5

No-Build 2032

Worksheet 2A -- General Information and Input Data for Rural Two-Lane Two-Way Roadway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Intersection	JC Durrance Rd
Date Performed	08/11/23	Jurisdiction	FDOT District One
		Analysis Year	2032

Input Data				Base Conditions	Site Conditions	
Intersection type (3ST, 4ST, 4SG)				--	3ST	
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ =	19,500	(veh/day)	--	7,800	
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ =	4,300	(veh/day)	--	200	
Intersection skew angle (degrees) [If 4ST, does skew differ for minor legs?]			No	0	Skew for Leg 1 (All):	Skew for Leg 2 (4ST only):
Number of signalized or uncontrolled approaches with a left-turn lane (0, 1, 2, 3, 4)				0	0	
Number of signalized or uncontrolled approaches with a right-turn lane (0, 1, 2, 3, 4)				0	0	
Intersection lighting (present/not present)				Not Present	Not Present	
Calibration Factor, C_i				1.00	1.27	

Worksheet 2B -- Crash Modification Factors for Rural Two-Lane Two-Way Roadway Intersections

(1) CMF for Intersection Skew Angle CMF_{1i} from Equations 10-22 or 10-23	(2) CMF for Left-Turn Lanes CMF_{2i} from Table 10-13	(3) CMF for Right-Turn Lanes CMF_{3i} from Table 10-14	(4) CMF for Lighting CMF_{4i} from Equation 10-24	(5) Combined CMF CMF_{COMB} (1)*(2)*(3)*(4)
1.00	1.00	1.00	1.00	1.00

Worksheet 2C -- Intersection Crashes for Rural Two-Lane Two-Way Roadway Intersections

(1) Crash Severity Level	(2) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ from Equations 10-8, 10-9, or 10-10	(3) Overdispersion Parameter, k from Section 10.6.2	(4) Crash Severity Distribution from Table 10-5	(5) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ by Severity Distribution $(2)_{TOTAL} * (4)$	(6) Combined CMFs from (5) of Worksheet 2B	(7) Calibration Factor, C_i	(8) Predicted average crash frequency, $N_{predicted\ int}$ (5)*(6)*(7)
Total	0.832	0.54	1.000	0.832	1.00	1.27	1.057
Fatal and Injury (FI)	--	--	0.415	0.345	1.00	1.27	0.438
Property Damage Only (PDO)	--	--	0.585	0.487	1.00	1.27	0.618

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Two-Lane Two-Way Road Intersections

(1) Collision Type	(2) Proportion of Collision $Type_{(TOTAL)}$ from Table 10-6	(3) $N_{predicted\ int\ (TOTAL)}$ (crashes/year) $(8)_{TOTAL}$ from Worksheet 2C	(4) Proportion of Collision $Type_{(FI)}$ from Table 10-6	(5) $N_{predicted\ int\ (FI)}$ (crashes/year) $(8)_{FI}$ from Worksheet 2C	(6) Proportion of Collision $Type_{(PDO)}$ from Table 10-6	(7) $N_{predicted\ int\ (PDO)}$ (crashes/year) $(8)_{PDO}$ from Worksheet 2C
Total	1.000	1.057	1.000	0.438	1.000	0.618
		$(2)x(3)_{TOTAL}$		$(4)x(5)_{FI}$		$(6)x(7)_{PDO}$
SINGLE-VEHICLE						
Collision with animal	0.019	0.020	0.008	0.004	0.026	0.016
Collision with bicycle	0.001	0.001	0.001	0.000	0.001	0.001
Collision with pedestrian	0.001	0.001	0.001	0.000	0.001	0.001
Overturned	0.013	0.014	0.022	0.010	0.007	0.004
Ran off road	0.244	0.258	0.240	0.105	0.247	0.153
Other single-vehicle collision	0.016	0.017	0.011	0.005	0.020	0.012
Total single-vehicle crashes	0.294	0.311	0.283	0.124	0.302	0.187
MULTIPLE-VEHICLE						
Angle collision	0.237	0.250	0.275	0.121	0.210	0.130
Head-on collision	0.052	0.055	0.081	0.036	0.032	0.020
Rear-end collision	0.278	0.294	0.260	0.114	0.292	0.180
Sideswipe collision	0.097	0.102	0.051	0.022	0.131	0.081
Other multiple-vehicle collision	0.042	0.044	0.050	0.022	0.033	0.020
Total multiple-vehicle crashes	0.706	0.746	0.717	0.314	0.698	0.431

Worksheet 2E -- Summary Results for Rural Two-Lane Two-Way Road Intersections

(1) Crash severity level	(2) Crash Severity Distribution (proportion) (4) from Worksheet 2C	(3) Predicted average crash frequency (crashes / year) (8) from Worksheet 2C
Total	1.000	1.1
Fatal and Injury (FI)	0.415	0.4
Property Damage Only (PDO)	0.585	0.6

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Worksheet 2A -- General Information and Input Data for Rural Two-Lane Two-Way Roadway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Intersection	Greenbrier Ln
Date Performed	08/11/23	Jurisdiction	FDOT District One
		Analysis Year	2032

Input Data				Base Conditions	Site Conditions
Intersection type (3ST, 4ST, 4SG)				--	3ST
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ =	19,500	(veh/day)	--	7,800
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ =	4,300	(veh/day)	--	150
Intersection skew angle (degrees) [If 4ST, does skew differ for minor legs?]		No		0	Skew for Leg 1 (All): / Skew for Leg 2 (4ST only):
Number of signalized or uncontrolled approaches with a left-turn lane (0, 1, 2, 3, 4)				0	0
Number of signalized or uncontrolled approaches with a right-turn lane (0, 1, 2, 3, 4)				0	0
Intersection lighting (present/not present)				Not Present	Not Present
Calibration Factor, C_i				1.00	1.27

Worksheet 2B -- Crash Modification Factors for Rural Two-Lane Two-Way Roadway Intersections

(1) CMF for Intersection Skew Angle CMF_{1i} from Equations 10-22 or 10-23	(2) CMF for Left-Turn Lanes CMF_{2i} from Table 10-13	(3) CMF for Right-Turn Lanes CMF_{3i} from Table 10-14	(4) CMF for Lighting CMF_{4i} from Equation 10-24	(5) Combined CMF CMF_{COMB} (1)*(2)*(3)*(4)
1.00	1.00	1.00	1.00	1.00

Worksheet 2C -- Intersection Crashes for Rural Two-Lane Two-Way Roadway Intersections

(1) Crash Severity Level	(2) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ from Equations 10-8, 10-9, or 10-10	(3) Overdispersion Parameter, k from Section 10.6.2	(4) Crash Severity Distribution from Table 10-5	(5) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ by Severity Distribution (2)$_{TOTAL}$ * (4)	(6) Combined CMFs from (5) of Worksheet 2B	(7) Calibration Factor, C_i	(8) Predicted average crash frequency, $N_{predicted\ int}$ (5)*(6)*(7)
Total	0.723	0.54	1.000	0.723	1.00	1.27	0.918
Fatal and Injury (FI)	--	--	0.415	0.300	1.00	1.27	0.381
Property Damage Only (PDO)	--	--	0.585	0.423	1.00	1.27	0.537

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Two-Lane Two-Way Road Intersections

(1) Collision Type	(2) Proportion of Collision Type$_{(TOTAL)}$ from Table 10-6	(3) $N_{predicted\ int\ (TOTAL)}$ (crashes/year) (8)$_{TOTAL}$ from Worksheet 2C	(4) Proportion of Collision Type$_{(FI)}$ from Table 10-6	(5) $N_{predicted\ int\ (FI)}$ (crashes/year) (8)$_{FI}$ from Worksheet 2C	(6) Proportion of Collision Type$_{(PDO)}$ from Table 10-6	(7) $N_{predicted\ int\ (PDO)}$ (crashes/year) (8)$_{PDO}$ from Worksheet 2C
Total	1.000	0.918	1.000	0.381	1.000	0.537
		(2)x(3)$_{TOTAL}$		(4)x(5)$_{FI}$		(6)x(7)$_{PDO}$
SINGLE-VEHICLE						
Collision with animal	0.019	0.017	0.008	0.003	0.026	0.014
Collision with bicycle	0.001	0.001	0.001	0.000	0.001	0.001
Collision with pedestrian	0.001	0.001	0.001	0.000	0.001	0.001
Overturned	0.013	0.012	0.022	0.008	0.007	0.004
Ran off road	0.244	0.224	0.240	0.091	0.247	0.133
Other single-vehicle collision	0.016	0.015	0.011	0.004	0.020	0.011
Total single-vehicle crashes	0.294	0.270	0.283	0.108	0.302	0.162
MULTIPLE-VEHICLE						
Angle collision	0.237	0.217	0.275	0.105	0.210	0.113
Head-on collision	0.052	0.048	0.081	0.031	0.032	0.017
Rear-end collision	0.278	0.255	0.260	0.099	0.292	0.157
Sideswipe collision	0.097	0.089	0.051	0.019	0.131	0.070
Other multiple-vehicle collision	0.042	0.039	0.050	0.019	0.033	0.018
Total multiple-vehicle crashes	0.706	0.648	0.717	0.273	0.698	0.375

Worksheet 2E -- Summary Results for Rural Two-Lane Two-Way Road Intersections

(1) Crash severity level	(2) Crash Severity Distribution (proportion) (4) from Worksheet 2C	(3) Predicted average crash frequency (crashes / year) (8) from Worksheet 2C
Total	1.000	0.9
Fatal and Injury (FI)	0.415	0.4
Property Damage Only (PDO)	0.585	0.5

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Worksheet 2A -- General Information and Input Data for Rural Two-Lane Two-Way Roadway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Intersection	DC Bar Ranch Rd
Date Performed	08/11/23	Jurisdiction	FDOT District One
		Analysis Year	2032

Input Data				Base Conditions	Site Conditions
Intersection type (3ST, 4ST, 4SG)				--	3ST
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ =	19,500	(veh/day)	--	7,800
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ =	4,300	(veh/day)	--	150
Intersection skew angle (degrees) [If 4ST, does skew differ for minor legs?]		No		0	Skew for Leg 1 (All): / Skew for Leg 2 (4ST only):
Number of signalized or uncontrolled approaches with a left-turn lane (0, 1, 2, 3, 4)				0	0
Number of signalized or uncontrolled approaches with a right-turn lane (0, 1, 2, 3, 4)				0	0
Intersection lighting (present/not present)				Not Present	Not Present
Calibration Factor, C_i				1.00	1.27

Worksheet 2B -- Crash Modification Factors for Rural Two-Lane Two-Way Roadway Intersections

(1) CMF for Intersection Skew Angle CMF_{1i} from Equations 10-22 or 10-23	(2) CMF for Left-Turn Lanes CMF_{2i} from Table 10-13	(3) CMF for Right-Turn Lanes CMF_{3i} from Table 10-14	(4) CMF for Lighting CMF_{4i} from Equation 10-24	(5) Combined CMF CMF_{COMB} (1)*(2)*(3)*(4)
1.00	1.00	1.00	1.00	1.00

Worksheet 2C -- Intersection Crashes for Rural Two-Lane Two-Way Roadway Intersections

(1) Crash Severity Level	(2) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ from Equations 10-8, 10-9, or 10-10	(3) Overdispersion Parameter, k from Section 10.6.2	(4) Crash Severity Distribution from Table 10-5	(5) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ by Severity Distribution $(2)_{TOTAL} * (4)$	(6) Combined CMFs from (5) of Worksheet 2B	(7) Calibration Factor, C_i	(8) Predicted average crash frequency, $N_{predicted\ int}$ (5)*(6)*(7)
Total	0.723	0.54	1.000	0.723	1.00	1.27	0.918
Fatal and Injury (FI)	--	--	0.415	0.300	1.00	1.27	0.381
Property Damage Only (PDO)	--	--	0.585	0.423	1.00	1.27	0.537

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Two-Lane Two-Way Road Intersections

(1) Collision Type	(2) Proportion of Collision $Type_{(TOTAL)}$ from Table 10-6	(3) $N_{predicted\ int\ (TOTAL)}$ (crashes/year) $(8)_{TOTAL}$ from Worksheet 2C	(4) Proportion of Collision $Type_{(FI)}$ from Table 10-6	(5) $N_{predicted\ int\ (FI)}$ (crashes/year) $(8)_{FI}$ from Worksheet 2C	(6) Proportion of Collision $Type_{(PDO)}$ from Table 10-6	(7) $N_{predicted\ int\ (PDO)}$ (crashes/year) $(8)_{PDO}$ from Worksheet 2C
Total	1.000	0.918	1.000	0.381	1.000	0.537
		$(2)x(3)_{TOTAL}$		$(4)x(5)_{FI}$		$(6)x(7)_{PDO}$
SINGLE-VEHICLE						
Collision with animal	0.019	0.017	0.008	0.003	0.026	0.014
Collision with bicycle	0.001	0.001	0.001	0.000	0.001	0.001
Collision with pedestrian	0.001	0.001	0.001	0.000	0.001	0.001
Overturned	0.013	0.012	0.022	0.008	0.007	0.004
Ran off road	0.244	0.224	0.240	0.091	0.247	0.133
Other single-vehicle collision	0.016	0.015	0.011	0.004	0.020	0.011
Total single-vehicle crashes	0.294	0.270	0.283	0.108	0.302	0.162
MULTIPLE-VEHICLE						
Angle collision	0.237	0.217	0.275	0.105	0.210	0.113
Head-on collision	0.052	0.048	0.081	0.031	0.032	0.017
Rear-end collision	0.278	0.255	0.260	0.099	0.292	0.157
Sideswipe collision	0.097	0.089	0.051	0.019	0.131	0.070
Other multiple-vehicle collision	0.042	0.039	0.050	0.019	0.033	0.018
Total multiple-vehicle crashes	0.706	0.648	0.717	0.273	0.698	0.375

Worksheet 2E -- Summary Results for Rural Two-Lane Two-Way Road Intersections

(1) Crash severity level	(2) Crash Severity Distribution (proportion) (4) from Worksheet 2C	(3) Predicted average crash frequency (crashes / year) (8) from Worksheet 2C
Total	1.000	0.9
Fatal and Injury (FI)	0.415	0.4
Property Damage Only (PDO)	0.585	0.5

No-Build 2032

Worksheet 2A -- General Information and Input Data for Rural Two-Lane Two-Way Roadway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Intersection	Lykes Rd
Date Performed	08/11/23	Jurisdiction	FDOT District One
		Analysis Year	2032

Input Data				Base Conditions	Site Conditions
Intersection type (3ST, 4ST, 4SG)				--	3ST
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ =	19,500	(veh/day)	--	7,800
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ =	4,300	(veh/day)	--	150
Intersection skew angle (degrees) [If 4ST, does skew differ for minor legs?]			No	0	Skew for Leg 1 (All): / Skew for Leg 2 (4ST only):
Number of signalized or uncontrolled approaches with a left-turn lane (0, 1, 2, 3, 4)				0	0
Number of signalized or uncontrolled approaches with a right-turn lane (0, 1, 2, 3, 4)				0	0
Intersection lighting (present/not present)				Not Present	Not Present
Calibration Factor, C_i				1.00	1.27

Worksheet 2B -- Crash Modification Factors for Rural Two-Lane Two-Way Roadway Intersections

(1) CMF for Intersection Skew Angle CMF_{1i} from Equations 10-22 or 10-23	(2) CMF for Left-Turn Lanes CMF_{2i} from Table 10-13	(3) CMF for Right-Turn Lanes CMF_{3i} from Table 10-14	(4) CMF for Lighting CMF_{4i} from Equation 10-24	(5) Combined CMF CMF_{COMB} (1)*(2)*(3)*(4)
1.00	1.00	1.00	1.00	1.00

Worksheet 2C -- Intersection Crashes for Rural Two-Lane Two-Way Roadway Intersections

(1) Crash Severity Level	(2) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ from Equations 10-8, 10-9, or 10-10	(3) Overdispersion Parameter, k from Section 10.6.2	(4) Crash Severity Distribution from Table 10-5	(5) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ by Severity Distribution (2)$_{TOTAL}$ * (4)	(6) Combined CMFs from (5) of Worksheet 2B	(7) Calibration Factor, C_i	(8) Predicted average crash frequency, $N_{predicted\ int}$ (5)*(6)*(7)
Total	0.723	0.54	1.000	0.723	1.00	1.27	0.918
Fatal and Injury (FI)	--	--	0.415	0.300	1.00	1.27	0.381
Property Damage Only (PDO)	--	--	0.585	0.423	1.00	1.27	0.537

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Two-Lane Two-Way Road Intersections

(1) Collision Type	(2) Proportion of Collision Type$_{(TOTAL)}$ from Table 10-6	(3) $N_{predicted\ int\ (TOTAL)}$ (crashes/year) (8)$_{TOTAL}$ from Worksheet 2C	(4) Proportion of Collision Type$_{(FI)}$ from Table 10-6	(5) $N_{predicted\ int\ (FI)}$ (crashes/year) (8)$_{FI}$ from Worksheet 2C	(6) Proportion of Collision Type$_{(PDO)}$ from Table 10-6	(7) $N_{predicted\ int\ (PDO)}$ (crashes/year) (8)$_{PDO}$ from Worksheet 2C
Total	1.000	0.918	1.000	0.381	1.000	0.537
		(2)x(3)$_{TOTAL}$		(4)x(5)$_{FI}$		(6)x(7)$_{PDO}$
SINGLE-VEHICLE						
Collision with animal	0.019	0.017	0.008	0.003	0.026	0.014
Collision with bicycle	0.001	0.001	0.001	0.000	0.001	0.001
Collision with pedestrian	0.001	0.001	0.001	0.000	0.001	0.001
Overturned	0.013	0.012	0.022	0.008	0.007	0.004
Ran off road	0.244	0.224	0.240	0.091	0.247	0.133
Other single-vehicle collision	0.016	0.015	0.011	0.004	0.020	0.011
Total single-vehicle crashes	0.294	0.270	0.283	0.108	0.302	0.162
MULTIPLE-VEHICLE						
Angle collision	0.237	0.217	0.275	0.105	0.210	0.113
Head-on collision	0.052	0.048	0.081	0.031	0.032	0.017
Rear-end collision	0.278	0.255	0.260	0.099	0.292	0.157
Sideswipe collision	0.097	0.089	0.051	0.019	0.131	0.070
Other multiple-vehicle collision	0.042	0.039	0.050	0.019	0.033	0.018
Total multiple-vehicle crashes	0.706	0.648	0.717	0.273	0.698	0.375

Worksheet 2E -- Summary Results for Rural Two-Lane Two-Way Road Intersections

(1) Crash severity level	(2) Crash Severity Distribution (proportion) (4) from Worksheet 2C	(3) Predicted average crash frequency (crashes / year) (8) from Worksheet 2C
Total	1.000	0.9
Fatal and Injury (FI)	0.415	0.4
Property Damage Only (PDO)	0.585	0.5

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Worksheet 2A -- General Information and Input Data for Rural Two-Lane Two-Way Roadway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Intersection	Southern Leg of CR 721
Date Performed	08/11/23	Jurisdiction	FDOT District One
		Analysis Year	2032

Input Data				Base Conditions	Site Conditions			
Intersection type (3ST, 4ST, 4SG)				--	4ST			
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ =	14,700	(veh/day)	--	7,800			
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ =	3,500	(veh/day)	--	2,700			
Intersection skew angle (degrees) [If 4ST, does skew differ for minor legs?]			Yes	0	Skew for Leg 1 (All):	36	Skew for Leg 2 (4ST only):	36
Number of signalized or uncontrolled approaches with a left-turn lane (0, 1, 2, 3, 4)				0	0			
Number of signalized or uncontrolled approaches with a right-turn lane (0, 1, 2, 3, 4)				0	0			
Intersection lighting (present/not present)				Not Present	Not Present			
Calibration Factor, C_i				1.00	0.74			

Worksheet 2B -- Crash Modification Factors for Rural Two-Lane Two-Way Roadway Intersections

(1) CMF for Intersection Skew Angle CMF_{1i} from Equations 10-22 or 10-23	(2) CMF for Left-Turn Lanes CMF_{2i} from Table 10-13	(3) CMF for Right-Turn Lanes CMF_{3i} from Table 10-14	(4) CMF for Lighting CMF_{4i} from Equation 10-24	(5) Combined CMF CMF_{COMB} (1)*(2)*(3)*(4)
1.21	1.00	1.00	1.00	1.21

Worksheet 2C -- Intersection Crashes for Rural Two-Lane Two-Way Roadway Intersections

(1) Crash Severity Level	(2) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ from Equations 10-8, 10-9, or 10-10	(3) Overdispersion Parameter, k from Section 10.6.2	(4) Crash Severity Distribution from Table 10-5	(5) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ by Severity Distribution $(2)_{TOTAL} * (4)$	(6) Combined CMFs from (5) of Worksheet 2B	(7) Calibration Factor, C_i	(8) Predicted average crash frequency, $N_{predicted\ int}$ (5)*(6)*(7)
Total	5.138	0.24	1.000	5.138	1.21	0.74	4.618
Fatal and Injury (FI)	--	--	0.431	2.215	1.21	0.74	1.991
Property Damage Only (PDO)	--	--	0.569	2.924	1.21	0.74	2.628

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Two-Lane Two-Way Road Intersections

(1) Collision Type	(2) Proportion of Collision $Type_{(TOTAL)}$ from Table 10-6	(3) $N_{predicted\ int\ (TOTAL)}$ (crashes/year) $(8)_{TOTAL}$ from Worksheet 2C	(4) Proportion of Collision $Type_{(FI)}$ from Table 10-6	(5) $N_{predicted\ int\ (FI)}$ (crashes/year) $(8)_{FI}$ from Worksheet 2C	(6) Proportion of Collision $Type_{(PDO)}$ from Table 10-6	(7) $N_{predicted\ int\ (PDO)}$ (crashes/year) $(8)_{PDO}$ from Worksheet 2C
Total	1.000	4.618	1.000	1.991	1.000	2.628
		$(2)x(3)_{TOTAL}$		$(4)x(5)_{FI}$		$(6)x(7)_{PDO}$
SINGLE-VEHICLE						
Collision with animal	0.010	0.046	0.006	0.012	0.014	0.037
Collision with bicycle	0.001	0.005	0.001	0.002	0.001	0.003
Collision with pedestrian	0.001	0.005	0.001	0.002	0.001	0.003
Overturned	0.005	0.023	0.006	0.012	0.004	0.011
Ran off road	0.122	0.563	0.094	0.187	0.144	0.378
Other single-vehicle collision	0.008	0.037	0.004	0.008	0.010	0.026
Total single-vehicle crashes	0.147	0.679	0.112	0.223	0.174	0.457
MULTIPLE-VEHICLE						
Angle collision	0.431	1.991	0.532	1.059	0.354	0.930
Head-on collision	0.040	0.185	0.060	0.119	0.025	0.066
Rear-end collision	0.242	1.118	0.210	0.418	0.266	0.699
Sideswipe collision	0.101	0.466	0.044	0.088	0.144	0.378
Other multiple-vehicle collision	0.039	0.180	0.042	0.084	0.037	0.097
Total multiple-vehicle crashes	0.853	3.939	0.888	1.768	0.826	2.171

Worksheet 2E -- Summary Results for Rural Two-Lane Two-Way Road Intersections

(1) Crash severity level	(2) Crash Severity Distribution (proportion) (4) from Worksheet 2C	(3) Predicted average crash frequency (crashes / year) (8) from Worksheet 2C
Total	1.000	4.6
Fatal and Injury (FI)	0.431	2.0
Property Damage Only (PDO)	0.569	2.6

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Worksheet 3A -- Predicted and Observed Crashes by Severity and Site Type Using the Site-Specific EB Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes,** $N_{observed}$ (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency,**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Segment1	0.242	0.078	0.164		2.769	0.599	0.1
Segment2	4.644	1.491	3.153		0.144	0.599	2.8
Segment3	2.840	0.912	1.928		0.236	0.599	1.7
Segment4	7.303	2.344	4.959		0.092	0.599	4.4
Segment5	7.056	2.265	4.791		0.100	0.587	4.1
Segment6						1.000	0.0
Segment7						1.000	0.0
Segment8						1.000	0.0
INTERSECTIONS							
Intersection1	0.918	0.381	0.537		0.540	0.669	0.6
Intersection2	1.057	0.438	0.618		0.540	0.637	0.7
Intersection3	0.918	0.381	0.537		0.540	0.669	0.6
Intersection4	0.918	0.381	0.537		0.540	0.669	0.6
Intersection5	0.918	0.381	0.537		0.540	0.669	0.6
Intersection6	4.618	1.991	2.628		0.240	0.474	2.2
Intersection7						1.000	0.0
Intersection8						1.000	0.0
COMBINED (sum of column)	31.430	11.042	20.389	0	--	--	18.5

Worksheet 3B -- Site-Specific EB Method Summary Results

(1)	(2)	(3)
Crash severity level	$N_{predicted}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 3A	$(8)_{COMB}$ from Worksheet 3A
	31.430	18.5
Fatal and Injury (FI)	$(3)_{COMB}$ from Worksheet 3A	$(3)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$
	11.042	6.5
Property Damage Only (PDO)	$(4)_{COMB}$ from Worksheet 3A	$(3)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$
	20.389	12.0

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Worksheet 4A -- Predicted and Observed Crashes by Severity and Site Type Using the Project-Level EB Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes,**	**Overdispersion Parameter, k**	**N_{w0}**	**N_{w1}**	**W_0**	**N_0**	**w_1**	**N_1**	**$N_{p/comb}$**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)	$N_{observed}$ (crashes/year)		Equation A-8 $(6)*(2)^2$	Equation A-9 sqrt((6)*(2))	Equation A-10	Equation A-11	Equation A-12	Equation A-13	Equation A-14
ROADWAY SEGMENTS												
Segment 1	0.242	0.078	0.164	--	2.769	0.162	0.818	--	--	--	--	--
Segment 2	4.644	1.491	3.153	--	0.144	3.108	0.818	--	--	--	--	--
Segment 3	2.840	0.912	1.928	--	0.236	1.901	0.818	--	--	--	--	--
Segment 4	7.303	2.344	4.959	--	0.092	4.888	0.818	--	--	--	--	--
Segment 5	7.056	2.265	4.791	--	0.100	4.974	0.840	--	--	--	--	--
Segment 6				--				--	--	--	--	--
Segment 7				--				--	--	--	--	--
Segment 8				--				--	--	--	--	--
INTERSECTIONS												
Intersection 1	0.918	0.381	0.537	--	0.540	0.455	0.704	--	--	--	--	--
Intersection 2	1.057	0.438	0.618	--	0.540	0.603	0.755	--	--	--	--	--
Intersection 3	0.918	0.381	0.537	--	0.540	0.455	0.704	--	--	--	--	--
Intersection 4	0.918	0.381	0.537	--	0.540	0.455	0.704	--	--	--	--	--
Intersection 5	0.918	0.381	0.537	--	0.540	0.455	0.704	--	--	--	--	--
Intersection 6	4.618	1.991	2.628	--	0.240	5.119	1.053	--	--	--	--	--
Intersection 7				--				--	--	--	--	--
Intersection 8				--				--	--	--	--	--
COMBINED	31.430	11.042	20.389		--	22.575	8.736	0.582	18.292	0.782	24.594	21.443

Worksheet 4B -- Project-Level EB Method Summary Results

(1)	(2)	(3)
Crash severity level	$N_{predicted}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 4A	$(13)_{COMB}$ from Worksheet 4A
	31.430	21.4
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 4A	$(3)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$
	11.042	7.5
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 4A	$(3)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$
	20.389	13.9

No-Build 2052

Worksheet 1A -- General Information and Input Data for Rural Two-Lane Two-Way Roadway Segments

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	rican Consulting Professionals a Consor Com	Roadway Section	Lonesome Island Rd to Jc Durrance Rd
Date Performed	08/11/23	Jurisdiction	FDOT District One
		Analysis Year	2052

Input Data		Base Conditions	Site Conditions			
Length of segment, L (mi)		--	0.085227273			
AADT (veh/day)	$AADT_{MAX}$ = 17,800 (veh/day)	--	12,500			
Lane width (ft.)		12	10			
Shoulder width (ft.)		6	Right Shld:	4	Left Shld:	4
Shoulder type		Paved	Right Shld:	Paved	Left Shld:	Paved
Length of horizontal curve (mi)		0	0.0			
Radius of curvature (ft.)		0	0			
Spiral transition curve (present/not present)		Not Present	0.74			
Superelevation variance (ft./ft.)		< 0.01				
Grade (%)		0	0			
Driveway density (driveways/mile)		5	0			
Centerline rumble strips (present/not present)		Not Present	Not Present			
Passing lanes [present (1 lane) /present (2 lane) / not present)]		Not Present	Not Present			
Two-way left-turn lane (present/not present)		Not Present	Not Present			
Roadside hazard rating (1-7 scale)		3	4			
Segment lighting (present/not present)		Not Present	Not Present			
Auto speed enforcement (present/not present)		Not Present	Not Present			
Calibration Factor, Cr		1	1.00			

Worksheet 1B -- Crash Modification Factors for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
CMF for Lane Width	CMF for Shoulder Width and Type	CMF for Horizontal Curves	CMF for Super-elevation	CMF for Grades	CMF for Driveway Density	CMF for Centerline Rumble Strips	CMF for Passing Lanes	CMF for Two-Way Left-Turn Lane	CMF for Roadside Design	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMR 5r*	*CMF 6r*	*CMF 7r*	*CMF 8r*	*CMF 9r*	*CMF 10r*	*CMF 11r*	*CMF 12r*	*CMF comb*
from Equation 10-11	from Equation 10-12	from Equation 10-13	from Equations 10-14, 10-15, or 10-16	from Table 10-11	from Equation 10-17	from Section 10.7.1	from Section 10.7.1	from Equation 10-18 & 10-19	from Equation 10-20	from Equation 10-21	from Section 10.7.1	(1)x(2)x … x(11)x(12)
1.17	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00	1.00	1.361

Worksheet 1C -- Roadway Segment Crashes for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**N spf rs**	**Overdispersion Parameter, k**	**Crash Severity Distribution**	**N spf rs by Severity Distribution**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted average crash frequency, N**
	from Equation 10-6	from Equation 10-7	from Table 10-3 (proportion)	(2)TOTAL x (4)	(13) from Worksheet 1B		(5)x(6)x(7)
Total	0.285	2.77	1.000	0.285	1.36	1.00	0.387
Fatal and Injury (FI)	--	--	0.321	0.091	1.36	1.00	0.124
Property Damage Only (PDO)	--	--	0.679	0.193	1.36	1.00	0.263

Worksheet 1D -- Crashes by Severity Level and Collision Type for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Collision Type	**Proportion of Collision Type(TOTAL)**	**N predicted rs (TOTAL) (crashes/year)**	**Proportion of Collision Type(FI)**	**N predicted rs (FI) (crashes/year)**	**Proportion of Collision Type(PDO)**	**N predicted rs (PDO) (crashes/year)**
	from Table 10-4	(8)TOTAL from Worksheet 1C	from Table 10-4	(8)FI from Worksheet 1C	from Table 10-4	(8)PDO from Worksheet 1C
Total	1.000	0.387	1.000	0.124	1.000	0.263
		(2)x(3)TOTAL		(4)x(5)FI		(6)x(7)PDO
SINGLE-VEHICLE						
Collision with animal	0.121	0.047	0.038	0.005	0.184	0.048
Collision with bicycle	0.002	0.001	0.004	0.000	0.001	0.000
Collision with pedestrian	0.003	0.001	0.007	0.001	0.001	0.000
Overturned	0.025	0.010	0.037	0.005	0.015	0.004
Ran off road	0.521	0.202	0.545	0.068	0.505	0.133
Other single-vehicle collision	0.021	0.008	0.007	0.001	0.029	0.008
Total single-vehicle crashes	0.693	0.268	0.638	0.079	0.735	0.193
MULTIPLE-VEHICLE						
Angle collision	0.085	0.033	0.100	0.012	0.072	0.019
Head-on collision	0.016	0.006	0.034	0.004	0.003	0.001
Rear-end collision	0.142	0.055	0.164	0.020	0.122	0.032
Sideswipe collision	0.037	0.014	0.038	0.005	0.038	0.010
Other multiple-vehicle collision	0.027	0.010	0.026	0.003	0.030	0.008
Total multiple-vehicle crashes	0.307	0.119	0.362	0.045	0.265	0.070

Worksheet 1E -- Summary Results for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)
Crash severity level	**Crash Severity Distribution (proportion)**	**Predicted average crash frequency (crashes/year)**	**Roadway segment length (mi)**	**Crash rate (crashes/mi/year)**
	(4) from Worksheet 1C	(8) from Worksheet 1C		(3)/(4)
Total	1.000	0.4	0.085227273	4.5
Fatal and Injury (FI)	0.321	0.1	0.085227273	1.5
Property Damage Only (PDO)	0.679	0.3	0.085227273	3.1

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Worksheet 1A -- General Information and Input Data for Rural Two-Lane Two-Way Roadway Segments

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	rican Consulting Professionals a Consor Com	Roadway Section	Jc Durrance Rd to Greenbrier Ln
Date Performed	08/11/23	Jurisdiction	FDOT District One
		Analysis Year	2052

Input Data		Base Conditions	Site Conditions			
Length of segment, L (mi)		--	1.637121212			
AADT (veh/day)	$AADT_{MAX}$ = 17,800 (veh/day)	--	12,500			
Lane width (ft.)		12	10			
Shoulder width (ft.)		6	Right Shld:	4	Left Shld:	4
Shoulder type		Paved	Right Shld:	Paved	Left Shld:	Paved
Length of horizontal curve (mi)		0	0.0			
Radius of curvature (ft.)		0	0			
Spiral transition curve (present/not present)		Not Present	0.74			
Superelevation variance (ft./ft.)		< 0.01	0			
Grade (%)		0	0			
Driveway density (driveways/mile)		5	1.2			
Centerline rumble strips (present/not present)		Not Present	Not Present			
Passing lanes [present (1 lane) /present (2 lane) / not present)]		Not Present	Not Present			
Two-way left-turn lane (present/not present)		Not Present	Not Present			
Roadside hazard rating (1-7 scale)		3	4			
Segment lighting (present/not present)		Not Present	Not Present			
Auto speed enforcement (present/not present)		Not Present	Not Present			
Calibration Factor, Cr		1	1.00			

Worksheet 1B -- Crash Modification Factors for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
CMF for Lane Width	CMF for Shoulder Width and Type	CMF for Horizontal Curves	CMF for Super-elevation	CMF for Grades	CMF for Driveway Density	CMF for Centerline Rumble Strips	CMF for Passing Lanes	CMF for Two-Way Left-Turn Lane	CMF for Roadside Design	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMR 5r*	*CMF 6r*	*CMF 7r*	*CMF 8r*	*CMF 9r*	*CMF 10r*	*CMF 11r*	*CMF 12r*	*CMF comb*
from Equation 10-11	from Equation 10-12	from Equation 10-13	from Equations 10-14, 10-15, or 10-16	from Table 10-11	from Equation 10-17	from Section 10.7.1	from Section 10.7.1	from Equation 10-18 & 10-19	from Equation 10-20	from Equation 10-21	from Section 10.7.1	(1)x(2)x … x(11)x(12)
1.17	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00	1.00	1.361

Worksheet 1C -- Roadway Segment Crashes for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**N spf rs**	**Overdispersion Parameter, k**	**Crash Severity Distribution**	**N spf rs by Severity Distribution**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted average crash frequency, N**
	from Equation 10-6	from Equation 10-7	from Table 10-3 (proportion)	(2)TOTAL x (4)	(13) from Worksheet 1B		(5)x(6)x(7)
Total	5.467	0.14	1.000	5.467	1.36	1.00	7.442
Fatal and Injury (FI)	--	--	0.321	1.755	1.36	1.00	2.389
Property Damage Only (PDO)	--	--	0.679	3.712	1.36	1.00	5.053

Worksheet 1D -- Crashes by Severity Level and Collision Type for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Collision Type	**Proportion of Collision Type(TOTAL)**	**N *predicted rs* (TOTAL) (crashes/year)**	**Proportion of Collision Type(FI)**	**N *predicted rs* (FI) (crashes/year)**	**Proportion of Collision Type(PDO)**	**N *predicted rs* (PDO) (crashes/year)**
	from Table 10-4	(8)TOTAL from Worksheet 1C	from Table 10-4	(8)FI from Worksheet 1C	from Table 10-4	(8)PDO from Worksheet 1C
Total	1.000	7.442	1.000	2.389	1.000	5.053
		(2)x(3)TOTAL		(4)x(5)FI		(6)x(7)PDO
SINGLE-VEHICLE						
Collision with animal	0.121	0.900	0.038	0.091	0.184	0.930
Collision with bicycle	0.002	0.015	0.004	0.010	0.001	0.005
Collision with pedestrian	0.003	0.022	0.007	0.017	0.001	0.005
Overturned	0.025	0.186	0.037	0.088	0.015	0.076
Ran off road	0.521	3.877	0.545	1.302	0.505	2.552
Other single-vehicle collision	0.021	0.156	0.007	0.017	0.029	0.147
Total single-vehicle crashes	0.693	5.157	0.638	1.524	0.735	3.714
MULTIPLE-VEHICLE						
Angle collision	0.085	0.633	0.100	0.239	0.072	0.364
Head-on collision	0.016	0.119	0.034	0.081	0.003	0.015
Rear-end collision	0.142	1.057	0.164	0.392	0.122	0.616
Sideswipe collision	0.037	0.275	0.038	0.091	0.038	0.192
Other multiple-vehicle collision	0.027	0.201	0.026	0.062	0.030	0.152
Total multiple-vehicle crashes	0.307	2.285	0.362	0.865	0.265	1.339

Worksheet 1E -- Summary Results for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)
Crash severity level	**Crash Severity Distribution (proportion)**	**Predicted average crash frequency (crashes/year)**	**Roadway segment length (mi)**	**Crash rate (crashes/mi/year)**
	(4) from Worksheet 1C	(8) from Worksheet 1C		(3)/(4)
Total	1.000	7.4	1.637121212	4.5
Fatal and Injury (FI)	0.321	2.4	1.637121212	1.5
Property Damage Only (PDO)	0.679	5.1	1.637121212	3.1

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Worksheet 1A -- General Information and Input Data for Rural Two-Lane Two-Way Roadway Segments

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	rican Consulting Professionals a Consor Com	Roadway Section	Greenbrier Ln to DC Bar Ranch Rd
Date Performed	08/11/23	Jurisdiction	FDOT District One
		Analysis Year	2052

Input Data		Base Conditions	Site Conditions			
Length of segment, L (mi)		--	1.001325758			
AADT (veh/day)	$AADT_{MAX}$ = 17,800 (veh/day)	--	12,500			
Lane width (ft.)		12	10			
Shoulder width (ft.)		6	Right Shld:	4	Left Shld:	4
Shoulder type		Paved	Right Shld:	Paved	Left Shld:	Paved
Length of horizontal curve (mi)		0	0.0			
Radius of curvature (ft.)		0	0			
Spiral transition curve (present/not present)		Not Present	0.74			
Superelevation variance (ft./ft.)		< 0.01	0			
Grade (%)		0	0			
Driveway density (driveways/mile)		5	0			
Centerline rumble strips (present/not present)		Not Present	Not Present			
Passing lanes [present (1 lane) /present (2 lane) / not present)]		Not Present	Not Present			
Two-way left-turn lane (present/not present)		Not Present	Not Present			
Roadside hazard rating (1-7 scale)		3	4			
Segment lighting (present/not present)		Not Present	Not Present			
Auto speed enforcement (present/not present)		Not Present	Not Present			
Calibration Factor, Cr		1	1.00			

Worksheet 1B -- Crash Modification Factors for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
CMF for Lane Width	CMF for Shoulder Width and Type	CMF for Horizontal Curves	CMF for Super-elevation	CMF for Grades	CMF for Driveway Density	CMF for Centerline Rumble Strips	CMF for Passing Lanes	CMF for Two-Way Left-Turn Lane	CMF for Roadside Design	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMR 5r*	*CMF 6r*	*CMF 7r*	*CMF 8r*	*CMF 9r*	*CMF 10r*	*CMF 11r*	*CMF 12r*	*CMF comb*
from Equation 10-11	from Equation 10-12	from Equation 10-13	from Equations 10-14, 10-15, or 10-16	from Table 10-11	from Equation 10-17	from Section 10.7.1	from Section 10.7.1	from Equation 10-18 & 10-19	from Equation 10-20	from Equation 10-21	from Section 10.7.1	(1)x(2)x … x(11)x(12)
1.17	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00	1.00	1.361

Worksheet 1C -- Roadway Segment Crashes for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**N spf rs**	**Overdispersion Parameter, k**	**Crash Severity Distribution**	**N spf rs by Severity Distribution**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted average crash frequency, N**
	from Equation 10-6	from Equation 10-7	from Table 10-3 (proportion)	(2)TOTAL x (4)	(13) from Worksheet 1B		(5)x(6)x(7)
Total	3.344	0.24	1.000	3.344	1.36	1.00	4.552
Fatal and Injury (FI)	--	--	0.321	1.073	1.36	1.00	1.461
Property Damage Only (PDO)	--	--	0.679	2.271	1.36	1.00	3.091

Worksheet 1D -- Crashes by Severity Level and Collision Type for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Collision Type	**Proportion of Collision Type(TOTAL)**	**N *predicted rs* (TOTAL) (crashes/year)**	**Proportion of Collision Type(FI)**	**N *predicted rs* (FI) (crashes/year)**	**Proportion of Collision Type(PDO)**	**N *predicted rs* (PDO) (crashes/year)**
	from Table 10-4	(8)TOTAL from Worksheet 1C	from Table 10-4	(8)FI from Worksheet 1C	from Table 10-4	(8)PDO from Worksheet 1C
Total	1.000	4.552	1.000	1.461	1.000	3.091
		(2)x(3)TOTAL		(4)x(5)FI		(6)x(7)PDO
SINGLE-VEHICLE						
Collision with animal	0.121	0.551	0.038	0.056	0.184	0.569
Collision with bicycle	0.002	0.009	0.004	0.006	0.001	0.003
Collision with pedestrian	0.003	0.014	0.007	0.010	0.001	0.003
Overturned	0.025	0.114	0.037	0.054	0.015	0.046
Ran off road	0.521	2.371	0.545	0.796	0.505	1.561
Other single-vehicle collision	0.021	0.096	0.007	0.010	0.029	0.090
Total single-vehicle crashes	0.693	3.154	0.638	0.932	0.735	2.272
MULTIPLE-VEHICLE						
Angle collision	0.085	0.387	0.100	0.146	0.072	0.223
Head-on collision	0.016	0.073	0.034	0.050	0.003	0.009
Rear-end collision	0.142	0.646	0.164	0.240	0.122	0.377
Sideswipe collision	0.037	0.168	0.038	0.056	0.038	0.117
Other multiple-vehicle collision	0.027	0.123	0.026	0.038	0.030	0.093
Total multiple-vehicle crashes	0.307	1.397	0.362	0.529	0.265	0.819

Worksheet 1E -- Summary Results for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)
Crash severity level	**Crash Severity Distribution (proportion)**	**Predicted average crash frequency (crashes/year)**	**Roadway segment length (mi)**	**Crash rate (crashes/mi/year)**
	(4) from Worksheet 1C	(8) from Worksheet 1C		(3)/(4)
Total	1.000	4.6	1.001325758	4.5
Fatal and Injury (FI)	0.321	1.5	1.001325758	1.5
Property Damage Only (PDO)	0.679	3.1	1.001325758	3.1

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Worksheet 1A -- General Information and Input Data for Rural Two-Lane Two-Way Roadway Segments

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	rican Consulting Professionals a Consor Com	Roadway Section	DC Bar Ranch Rd to Lyke Rd
Date Performed	08/11/23	Jurisdiction	FDOT District One
		Analysis Year	2052

Input Data		Base Conditions	Site Conditions			
Length of segment, L (mi)		--	2.574621212			
AADT (veh/day)	$AADT_{MAX}$ = 17,800 (veh/day)	--	12,500			
Lane width (ft.)		12	10			
Shoulder width (ft.)		6	Right Shld:	4	Left Shld:	4
Shoulder type		Paved	Right Shld:	Paved	Left Shld:	Paved
Length of horizontal curve (mi)		0	0.0			
Radius of curvature (ft.)		0	0			
Spiral transition curve (present/not present)		Not Present	0.74			
Superelevation variance (ft./ft.)		< 0.01	0			
Grade (%)		0	0			
Driveway density (driveways/mile)		5	1.6			
Centerline rumble strips (present/not present)		Not Present	Not Present			
Passing lanes [present (1 lane) /present (2 lane) / not present)]		Not Present	Not Present			
Two-way left-turn lane (present/not present)		Not Present	Not Present			
Roadside hazard rating (1-7 scale)		3	4			
Segment lighting (present/not present)		Not Present	Not Present			
Auto speed enforcement (present/not present)		Not Present	Not Present			
Calibration Factor, Cr		1	1.00			

Worksheet 1B -- Crash Modification Factors for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
CMF for Lane Width	CMF for Shoulder Width and Type	CMF for Horizontal Curves	CMF for Super-elevation	CMF for Grades	CMF for Driveway Density	CMF for Centerline Rumble Strips	CMF for Passing Lanes	CMF for Two-Way Left-Turn Lane	CMF for Roadside Design	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMR 5r*	*CMF 6r*	*CMF 7r*	*CMF 8r*	*CMF 9r*	*CMF 10r*	*CMF 11r*	*CMF 12r*	*CMF comb*
from Equation 10-11	from Equation 10-12	from Equation 10-13	from Equations 10-14, 10-15, or 10-16	from Table 10-11	from Equation 10-17	from Section 10.7.1	from Section 10.7.1	from Equation 10-18 & 10-19	from Equation 10-20	from Equation 10-21	from Section 10.7.1	(1)x(2)x … x(11)x(12)
1.17	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00	1.00	1.361

Worksheet 1C -- Roadway Segment Crashes for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**N spf rs**	**Overdispersion Parameter, k**	**Crash Severity Distribution**	**N spf rs by Severity Distribution**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted average crash frequency, N**
	from Equation 10-6	from Equation 10-7	from Table 10-3 (proportion)	(2)TOTAL x (4)	(13) from Worksheet 1B		(5)x(6)x(7)
Total	8.598	0.09	1.000	8.598	1.36	1.00	11.703
Fatal and Injury (FI)	--	--	0.321	2.760	1.36	1.00	3.757
Property Damage Only (PDO)	--	--	0.679	5.838	1.36	1.00	7.946

Worksheet 1D -- Crashes by Severity Level and Collision Type for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Collision Type	**Proportion of Collision Type(TOTAL)**	**N *predicted rs* (TOTAL) (crashes/year)**	**Proportion of Collision Type(FI)**	**N *predicted rs* (FI) (crashes/year)**	**Proportion of Collision Type(PDO)**	**N *predicted rs* (PDO) (crashes/year)**
	from Table 10-4	(8)TOTAL from Worksheet 1C	from Table 10-4	(8)FI from Worksheet 1C	from Table 10-4	(8)PDO from Worksheet 1C
Total	1.000	11.703	1.000	3.757	1.000	7.946
		(2)x(3)TOTAL		(4)x(5)FI		(6)x(7)PDO
SINGLE-VEHICLE						
Collision with animal	0.121	1.416	0.038	0.143	0.184	1.462
Collision with bicycle	0.002	0.023	0.004	0.015	0.001	0.008
Collision with pedestrian	0.003	0.035	0.007	0.026	0.001	0.008
Overturned	0.025	0.293	0.037	0.139	0.015	0.119
Ran off road	0.521	6.097	0.545	2.047	0.505	4.013
Other single-vehicle collision	0.021	0.246	0.007	0.026	0.029	0.230
Total single-vehicle crashes	0.693	8.110	0.638	2.397	0.735	5.841
MULTIPLE-VEHICLE						
Angle collision	0.085	0.995	0.100	0.376	0.072	0.572
Head-on collision	0.016	0.187	0.034	0.128	0.003	0.024
Rear-end collision	0.142	1.662	0.164	0.616	0.122	0.969
Sideswipe collision	0.037	0.433	0.038	0.143	0.038	0.302
Other multiple-vehicle collision	0.027	0.316	0.026	0.098	0.030	0.238
Total multiple-vehicle crashes	0.307	3.593	0.362	1.360	0.265	2.106

Worksheet 1E -- Summary Results for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)
Crash severity level	**Crash Severity Distribution (proportion)**	**Predicted average crash frequency (crashes/year)**	**Roadway segment length (mi)**	**Crash rate (crashes/mi/year)**
	(4) from Worksheet 1C	(8) from Worksheet 1C		(3)/(4)
Total	1.000	11.7	2.574621212	4.5
Fatal and Injury (FI)	0.321	3.8	2.574621212	1.5
Property Damage Only (PDO)	0.679	7.9	2.574621212	3.1

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Worksheet 1A -- General Information and Input Data for Rural Two-Lane Two-Way Roadway Segments

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	rican Consulting Professionals a Consor Com	Roadway Section	Lyke Rd to Southern Leg of CR 721
Date Performed	08/11/23	Jurisdiction	FDOT District One
		Analysis Year	2052

Input Data		Base Conditions	Site Conditions			
Length of segment, L (mi)		--	2.362310606			
AADT (veh/day)	$AADT_{MAX}$ = 17,800 (veh/day)	--	12,500			
Lane width (ft.)		12	10			
Shoulder width (ft.)		6	Right Shld:	4	Left Shld:	4
Shoulder type		Paved	Right Shld:	Paved	Left Shld:	Paved
Length of horizontal curve (mi)		0	0.3			
Radius of curvature (ft.)		0	2865			
Spiral transition curve (present/not present)		Not Present	Not Present			
Superelevation variance (ft./ft.)		< 0.01	0			
Grade (%)		0	0			
Driveway density (driveways/mile)		5	2.1			
Centerline rumble strips (present/not present)		Not Present	Not Present			
Passing lanes [present (1 lane) /present (2 lane) / not present)]		Not Present	Not Present			
Two-way left-turn lane (present/not present)		Not Present	Not Present			
Roadside hazard rating (1-7 scale)		3	4			
Segment lighting (present/not present)		Not Present	Not Present			
Auto speed enforcement (present/not present)		Not Present	Not Present			
Calibration Factor, Cr		1	1.00			

Worksheet 1B -- Crash Modification Factors for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
CMF for Lane Width	CMF for Shoulder Width and Type	CMF for Horizontal Curves	CMF for Super-elevation	CMF for Grades	CMF for Driveway Density	CMF for Centerline Rumble Strips	CMF for Passing Lanes	CMF for Two-Way Left-Turn Lane	CMF for Roadside Design	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMR 5r*	*CMF 6r*	*CMF 7r*	*CMF 8r*	*CMF 9r*	*CMF 10r*	*CMF 11r*	*CMF 12r*	*CMF comb*
from Equation 10-11	from Equation 10-12	from Equation 10-13	from Equations 10-14, 10-15, or 10-16	from Table 10-11	from Equation 10-17	from Section 10.7.1	from Section 10.7.1	from Equation 10-18 & 10-19	from Equation 10-20	from Equation 10-21	from Section 10.7.1	(1)x(2)x … x(11)x(12)
1.17	1.09	1.05	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00	1.00	1.433

Worksheet 1C -- Roadway Segment Crashes for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**N spf rs**	**Overdispersion Parameter, k**	**Crash Severity Distribution**	**N spf rs by Severity Distribution**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted average crash frequency, N**
	from Equation 10-6	from Equation 10-7	from Table 10-3 (proportion)	(2)TOTAL x (4)	(13) from Worksheet 1B		(5)x(6)x(7)
Total	7.889	0.10	1.000	7.889	1.43	1.00	11.308
Fatal and Injury (FI)	--	--	0.321	2.532	1.43	1.00	3.630
Property Damage Only (PDO)	--	--	0.679	5.357	1.43	1.00	7.678

Worksheet 1D -- Crashes by Severity Level and Collision Type for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Collision Type	**Proportion of Collision Type(TOTAL)**	**N predicted rs (TOTAL) (crashes/year)**	**Proportion of Collision Type(FI)**	**N predicted rs (FI) (crashes/year)**	**Proportion of Collision Type(PDO)**	**N predicted rs (PDO) (crashes/year)**
	from Table 10-4	(8)TOTAL from Worksheet 1C	from Table 10-4	(8)FI from Worksheet 1C	from Table 10-4	(8)PDO from Worksheet 1C
Total	1.000	11.308	1.000	3.630	1.000	7.678
		(2)x(3)TOTAL		(4)x(5)FI		(6)x(7)PDO
SINGLE-VEHICLE						
Collision with animal	0.121	1.368	0.038	0.138	0.184	1.413
Collision with bicycle	0.002	0.023	0.004	0.015	0.001	0.008
Collision with pedestrian	0.003	0.034	0.007	0.025	0.001	0.008
Overturned	0.025	0.283	0.037	0.134	0.015	0.115
Ran off road	0.521	5.892	0.545	1.978	0.505	3.878
Other single-vehicle collision	0.021	0.237	0.007	0.025	0.029	0.223
Total single-vehicle crashes	0.693	7.837	0.638	2.316	0.735	5.644
MULTIPLE-VEHICLE						
Angle collision	0.085	0.961	0.100	0.363	0.072	0.553
Head-on collision	0.016	0.181	0.034	0.123	0.003	0.023
Rear-end collision	0.142	1.606	0.164	0.595	0.122	0.937
Sideswipe collision	0.037	0.418	0.038	0.138	0.038	0.292
Other multiple-vehicle collision	0.027	0.305	0.026	0.094	0.030	0.230
Total multiple-vehicle crashes	0.307	3.472	0.362	1.314	0.265	2.035

Worksheet 1E -- Summary Results for Rural Two-Lane Two-Way Roadway Segments

(1)	(2)	(3)	(4)	(5)
Crash severity level	**Crash Severity Distribution (proportion)**	**Predicted average crash frequency (crashes/year)**	**Roadway segment length (mi)**	**Crash rate (crashes/mi/year)**
	(4) from Worksheet 1C	(8) from Worksheet 1C		(3)/(4)
Total	1.000	11.3	2.362310606	4.8
Fatal and Injury (FI)	0.321	3.6	2.362310606	1.5
Property Damage Only (PDO)	0.679	7.7	2.362310606	3.3

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Worksheet 2A -- General Information and Input Data for Rural Two-Lane Two-Way Roadway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	herican Consulting Professionals a Consor Comp	Intersection	Lonesome Island Rd
Date Performed	08/11/23	Jurisdiction	FDOT District One
		Analysis Year	2052

Input Data				Base Conditions	Site Conditions	
Intersection type (3ST, 4ST, 4SG				--	3ST	
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ =	19,500	(veh/day)	--	12,500	
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ =	4,300	(veh/day)	--	200	
Intersection skew angle (degrees	If 4ST, does skew differ for minor legs?		No	0	Skew for Leg 1 (All):	Skew for Leg 2 (4ST only):
Number of signalized or uncontrolled approaches with a left-turn lane (0, 1, 2, 3, 4)				0	0	
Number of signalized or uncontrolled approaches with a right-turn lane (0, 1, 2, 3, 4)				0	0	
Intersection lighting (present/not present)				Not Present	Not Present	
Calibration Factor, C_i				1.00	0.74	

Worksheet 2B -- Crash Modification Factors for Rural Two-Lane Two-Way Roadway Intersections

(1) CMF for Intersection Skew Angle CMF_{1i} from Equations 10-22 or 10-23	(2) CMF for Left-Turn Lanes CMF_{2i} from Table 10-13	(3) CMF for Right-Turn Lanes CMF_{3i} from Table 10-14	(4) CMF for Lighting CMF_{4i} from Equation 10-24	(5) Combined CMF CMF_{COMB} (1)*(2)*(3)*(4)
1.00	1.00	1.00	1.00	1.00

Worksheet 2C -- Intersection Crashes for Rural Two-Lane Two-Way Roadway Intersections

(1) Crash Severity Level	(2) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ from Equations 10-8, 10-9, or 10-10	(3) Overdispersion Parameter, k from Section 10.6.2	(4) Crash Severity Distribution from Table 10-5	(5) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ by Severity Distribution (2)$_{TOTAL}$ * (4)	(6) Combined CMFs from (5) of Worksheet 2B	(7) Calibration Factor, C_i	(8) Predicted average crash frequency, $N_{predicted\ int}$ (5)*(6)*(7)
Total	1.208	0.54	1.000	1.208	1.00	0.74	0.894
Fatal and Injury (FI)	--	--	0.415	0.501	1.00	0.74	0.371
Property Damage Only (PDO)	--	--	0.585	0.706	1.00	0.74	0.523

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Two-Lane Two-Way Road Intersections

(1) Collision Type	(2) Proportion of Collision Type$_{(TOTAL)}$ from Table 10-6	(3) $N_{predicted\ int\ (TOTAL)}$ (crashes/year) (8)$_{TOTAL}$ from Worksheet 2C	(4) Proportion of Collision Type$_{(FI)}$ from Table 10-6	(5) $N_{predicted\ int\ (FI)}$ (crashes/year) (8)$_{FI}$ from Worksheet 2C	(6) Proportion of Collision Type$_{(PDO)}$ from Table 10-6	(7) $N_{predicted\ int\ (PDO)}$ (crashes/year) (8)$_{PDO}$ from Worksheet 2C
Total	1.000	0.894	1.000	0.371	1.000	0.523
		(2)x(3)$_{TOTAL}$		(4)x(5)$_{FI}$		(6)x(7)$_{PDO}$
SINGLE-VEHICLE						
Collision with animal	0.019	0.017	0.008	0.003	0.026	0.014
Collision with bicycle	0.001	0.001	0.001	0.000	0.001	0.001
Collision with pedestrian	0.001	0.001	0.001	0.000	0.001	0.001
Overturned	0.013	0.012	0.022	0.008	0.007	0.004
Ran off road	0.244	0.218	0.240	0.089	0.247	0.129
Other single-vehicle collision	0.016	0.014	0.011	0.004	0.020	0.010
Total single-vehicle crashes	0.294	0.263	0.283	0.105	0.302	0.158
MULTIPLE-VEHICLE						
Angle collision	0.237	0.212	0.275	0.102	0.210	0.110
Head-on collision	0.052	0.046	0.081	0.030	0.032	0.017
Rear-end collision	0.278	0.248	0.260	0.096	0.292	0.153
Sideswipe collision	0.097	0.087	0.051	0.019	0.131	0.068
Other multiple-vehicle collision	0.042	0.038	0.050	0.019	0.033	0.017
Total multiple-vehicle crashes	0.706	0.631	0.717	0.266	0.698	0.365

Worksheet 2E -- Summary Results for Rural Two-Lane Two-Way Road Intersections

(1) Crash severity level	(2) Crash Severity Distribution (proportion) (4) from Worksheet 2C	(3) Predicted average crash frequency (crashes / year) (8) from Worksheet 2C
Total	1.000	0.9
Fatal and Injury (FI)	0.415	0.4
Property Damage Only (PDO)	0.585	0.5

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Worksheet 2A -- General Information and Input Data for Rural Two-Lane Two-Way Roadway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	herican Consulting Professionals a Consor Comp	Intersection	JC Durrance Rd
Date Performed	08/11/23	Jurisdiction	FDOT District One
		Analysis Year	2052

Input Data				Base Conditions	Site Conditions	
Intersection type (3ST, 4ST, 4SG				--	3ST	
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ =	19,500	(veh/day)	--	12,500	
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ =	4,300	(veh/day)	--	350	
Intersection skew angle (degrees	[If 4ST, does skew differ for minor legs?		No	0	Skew for Leg 1 (All):	Skew for Leg 2 (4ST only):
Number of signalized or uncontrolled approaches with a left-turn lane (0, 1, 2, 3, 4)				0	0	
Number of signalized or uncontrolled approaches with a right-turn lane (0, 1, 2, 3, 4)				0	0	
Intersection lighting (present/not present)				Not Present	Not Present	
Calibration Factor, C_i				1.00	0.74	

Worksheet 2B -- Crash Modification Factors for Rural Two-Lane Two-Way Roadway Intersections

(1) CMF for Intersection Skew Angle CMF_{1i} from Equations 10-22 or 10-23	(2) CMF for Left-Turn Lanes CMF_{2i} from Table 10-13	(3) CMF for Right-Turn Lanes CMF_{3i} from Table 10-14	(4) CMF for Lighting CMF_{4i} from Equation 10-24	(5) Combined CMF CMF_{COMB} (1)*(2)*(3)*(4)
1.00	1.00	1.00	1.00	1.00

Worksheet 2C -- Intersection Crashes for Rural Two-Lane Two-Way Roadway Intersections

(1) Crash Severity Level	(2) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ from Equations 10-8, 10-9, or 10-10	(3) Overdispersion Parameter, k from Section 10.6.2	(4) Crash Severity Distribution from Table 10-5	(5) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ by Severity Distribution (2)$_{TOTAL}$ * (4)	(6) Combined CMFs from (5) of Worksheet 2B	(7) Calibration Factor, C_i	(8) Predicted average crash frequency, $N_{predicted\ int}$ (5)*(6)*(7)
Total	1.589	0.54	1.000	1.589	1.00	0.74	1.176
Fatal and Injury (FI)	--	--	0.415	0.659	1.00	0.74	0.488
Property Damage Only (PDO)	--	--	0.585	0.929	1.00	0.74	0.688

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Two-Lane Two-Way Road Intersections

(1) **Collision Type**	(2) **Proportion of Collision Type**$_{(TOTAL)}$ from Table 10-6	(3) **$N_{predicted\ int\ (TOTAL)}$ (crashes/year)** (8)$_{TOTAL}$ from Worksheet 2C	(4) **Proportion of Collision Type**$_{(FI)}$ from Table 10-6	(5) **$N_{predicted\ int\ (FI)}$ (crashes/year)** (8)$_{FI}$ from Worksheet 2C	(6) **Proportion of Collision Type**$_{(PDO)}$ from Table 10-6	(7) **$N_{predicted\ int\ (PDO)}$ (crashes/year)** (8)$_{PDO}$ from Worksheet 2C
Total	1.000	1.176	1.000	0.488	1.000	0.688
		(2)x(3)$_{TOTAL}$		(4)x(5)$_{FI}$		(6)x(7)$_{PDO}$
SINGLE-VEHICLE						
Collision with animal	0.019	0.022	0.008	0.004	0.026	0.018
Collision with bicycle	0.001	0.001	0.001	0.000	0.001	0.001
Collision with pedestrian	0.001	0.001	0.001	0.000	0.001	0.001
Overturned	0.013	0.015	0.022	0.011	0.007	0.005
Ran off road	0.244	0.287	0.240	0.117	0.247	0.170
Other single-vehicle collision	0.016	0.019	0.011	0.005	0.020	0.014
Total single-vehicle crashes	0.294	0.346	0.283	0.138	0.302	0.208
MULTIPLE-VEHICLE						
Angle collision	0.237	0.279	0.275	0.134	0.210	0.144
Head-on collision	0.052	0.061	0.081	0.040	0.032	0.022
Rear-end collision	0.278	0.327	0.260	0.127	0.292	0.201
Sideswipe collision	0.097	0.114	0.051	0.025	0.131	0.090
Other multiple-vehicle collision	0.042	0.049	0.050	0.024	0.033	0.023
Total multiple-vehicle crashes	0.706	0.830	0.717	0.350	0.698	0.480

Worksheet 2E -- Summary Results for Rural Two-Lane Two-Way Road Intersections

(1) **Crash severity level**	(2) **Crash Severity Distribution** (proportion) (4) from Worksheet 2C	(3) **Predicted average crash frequency (crashes / year)** (8) from Worksheet 2C
Total	1.000	1.2
Fatal and Injury (FI)	0.415	0.5
Property Damage Only (PDO)	0.585	0.7

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Worksheet 2A -- General Information and Input Data for Rural Two-Lane Two-Way Roadway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	herican Consulting Professionals a Consor Comp	Intersection	Greenbrier Ln
Date Performed	08/11/23	Jurisdiction	FDOT District One
		Analysis Year	2052

Input Data				Base Conditions	Site Conditions
Intersection type (3ST, 4ST, 4SG				--	3ST
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ =	19,500	(veh/day)	--	12,500
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ =	4,300	(veh/day)	--	200
Intersection skew angle (degrees	[If 4ST, does skew differ for minor legs?		No	0	Skew for Leg 1 (All): / Skew for Leg 2 (4ST only):
Number of signalized or uncontrolled approaches with a left-turn lane (0, 1, 2, 3, 4)				0	0
Number of signalized or uncontrolled approaches with a right-turn lane (0, 1, 2, 3, 4)				0	0
Intersection lighting (present/not present)				Not Present	Not Present
Calibration Factor, C_i				1.00	0.74

Worksheet 2B -- Crash Modification Factors for Rural Two-Lane Two-Way Roadway Intersections

(1) CMF for Intersection Skew Angle CMF_{1i} from Equations 10-22 or 10-23	(2) CMF for Left-Turn Lanes CMF_{2i} from Table 10-13	(3) CMF for Right-Turn Lanes CMF_{3i} from Table 10-14	(4) CMF for Lighting CMF_{4i} from Equation 10-24	(5) Combined CMF CMF_{COMB} (1)*(2)*(3)*(4)
1.00	1.00	1.00	1.00	1.00

Worksheet 2C -- Intersection Crashes for Rural Two-Lane Two-Way Roadway Intersections

(1) Crash Severity Level	(2) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ from Equations 10-8, 10-9, or 10-10	(3) Overdispersion Parameter, k from Section 10.6.2	(4) Crash Severity Distribution from Table 10-5	(5) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ by Severity Distribution (2)$_{TOTAL}$ * (4)	(6) Combined CMFs from (5) of Worksheet 2B	(7) Calibration Factor, C_i	(8) Predicted average crash frequency, $N_{predicted\ int}$ (5)*(6)*(7)
Total	1.208	0.54	1.000	1.208	1.00	0.74	0.894
Fatal and Injury (FI)	--	--	0.415	0.501	1.00	0.74	0.371
Property Damage Only (PDO)	--	--	0.585	0.706	1.00	0.74	0.523

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Two-Lane Two-Way Road Intersections

(1) **Collision Type**	(2) **Proportion of Collision Type**$_{(TOTAL)}$ from Table 10-6	(3) **$N_{predicted\ int\ (TOTAL)}$ (crashes/year)** (8)$_{TOTAL}$ from Worksheet 2C	(4) **Proportion of Collision Type**$_{(FI)}$ from Table 10-6	(5) **$N_{predicted\ int\ (FI)}$ (crashes/year)** (8)$_{FI}$ from Worksheet 2C	(6) **Proportion of Collision Type**$_{(PDO)}$ from Table 10-6	(7) **$N_{predicted\ int\ (PDO)}$ (crashes/year)** (8)$_{PDO}$ from Worksheet 2C
Total	1.000	0.894	1.000	0.371	1.000	0.523
		(2)x(3)$_{TOTAL}$		(4)x(5)$_{FI}$		(6)x(7)$_{PDO}$
SINGLE-VEHICLE						
Collision with animal	0.019	0.017	0.008	0.003	0.026	0.014
Collision with bicycle	0.001	0.001	0.001	0.000	0.001	0.001
Collision with pedestrian	0.001	0.001	0.001	0.000	0.001	0.001
Overturned	0.013	0.012	0.022	0.008	0.007	0.004
Ran off road	0.244	0.218	0.240	0.089	0.247	0.129
Other single-vehicle collision	0.016	0.014	0.011	0.004	0.020	0.010
Total single-vehicle crashes	0.294	0.263	0.283	0.105	0.302	0.158
MULTIPLE-VEHICLE						
Angle collision	0.237	0.212	0.275	0.102	0.210	0.110
Head-on collision	0.052	0.046	0.081	0.030	0.032	0.017
Rear-end collision	0.278	0.248	0.260	0.096	0.292	0.153
Sideswipe collision	0.097	0.087	0.051	0.019	0.131	0.068
Other multiple-vehicle collision	0.042	0.038	0.050	0.019	0.033	0.017
Total multiple-vehicle crashes	0.706	0.631	0.717	0.266	0.698	0.365

Worksheet 2E -- Summary Results for Rural Two-Lane Two-Way Road Intersections

(1) **Crash severity level**	(2) **Crash Severity Distribution** (proportion) (4) from Worksheet 2C	(3) **Predicted average crash frequency (crashes / year)** (8) from Worksheet 2C
Total	1.000	0.9
Fatal and Injury (FI)	0.415	0.4
Property Damage Only (PDO)	0.585	0.5

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Worksheet 2A -- General Information and Input Data for Rural Two-Lane Two-Way Roadway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	herican Consulting Professionals a Consor Comp	Intersection	DC Bar Ranch Rd
Date Performed	08/11/23	Jurisdiction	FDOT District One
		Analysis Year	2052

Input Data				Base Conditions	Site Conditions	
Intersection type (3ST, 4ST, 4SG				--	3ST	
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ =	19,500	(veh/day)	--	12,500	
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ =	4,300	(veh/day)	--	200	
Intersection skew angle (degrees	If 4ST, does skew differ for minor legs?		No	0	Skew for Leg 1 (All):	Skew for Leg 2 (4ST only):
Number of signalized or uncontrolled approaches with a left-turn lane (0, 1, 2, 3, 4)				0	0	
Number of signalized or uncontrolled approaches with a right-turn lane (0, 1, 2, 3, 4)				0	0	
Intersection lighting (present/not present)				Not Present	Not Present	
Calibration Factor, C_i				1.00	0.74	

Worksheet 2B -- Crash Modification Factors for Rural Two-Lane Two-Way Roadway Intersections

(1) CMF for Intersection Skew Angle CMF_{1i} from Equations 10-22 or 10-23	(2) CMF for Left-Turn Lanes CMF_{2i} from Table 10-13	(3) CMF for Right-Turn Lanes CMF_{3i} from Table 10-14	(4) CMF for Lighting CMF_{4i} from Equation 10-24	(5) Combined CMF CMF_{COMB} (1)*(2)*(3)*(4)
1.00	1.00	1.00	1.00	1.00

Worksheet 2C -- Intersection Crashes for Rural Two-Lane Two-Way Roadway Intersections

(1) Crash Severity Level	(2) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ from Equations 10-8, 10-9, or 10-10	(3) Overdispersion Parameter, k from Section 10.6.2	(4) Crash Severity Distribution from Table 10-5	(5) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ by Severity Distribution (2)$_{TOTAL}$ * (4)	(6) Combined CMFs from (5) of Worksheet 2B	(7) Calibration Factor, C_i	(8) Predicted average crash frequency, $N_{predicted\ int}$ (5)*(6)*(7)
Total	1.208	0.54	1.000	1.208	1.00	0.74	0.894
Fatal and Injury (FI)	--	--	0.415	0.501	1.00	0.74	0.371
Property Damage Only (PDO)	--	--	0.585	0.706	1.00	0.74	0.523

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Two-Lane Two-Way Road Intersections

(1) **Collision Type**	(2) **Proportion of Collision Type**$_{(TOTAL)}$ from Table 10-6	(3) **$N_{predicted\ int\ (TOTAL)}$ (crashes/year)** (8)$_{TOTAL}$ from Worksheet 2C	(4) **Proportion of Collision Type**$_{(FI)}$ from Table 10-6	(5) **$N_{predicted\ int\ (FI)}$ (crashes/year)** (8)$_{FI}$ from Worksheet 2C	(6) **Proportion of Collision Type**$_{(PDO)}$ from Table 10-6	(7) **$N_{predicted\ int\ (PDO)}$ (crashes/year)** (8)$_{PDO}$ from Worksheet 2C
Total	1.000	0.894	1.000	0.371	1.000	0.523
		(2)x(3)$_{TOTAL}$		(4)x(5)$_{FI}$		(6)x(7)$_{PDO}$
SINGLE-VEHICLE						
Collision with animal	0.019	0.017	0.008	0.003	0.026	0.014
Collision with bicycle	0.001	0.001	0.001	0.000	0.001	0.001
Collision with pedestrian	0.001	0.001	0.001	0.000	0.001	0.001
Overturned	0.013	0.012	0.022	0.008	0.007	0.004
Ran off road	0.244	0.218	0.240	0.089	0.247	0.129
Other single-vehicle collision	0.016	0.014	0.011	0.004	0.020	0.010
Total single-vehicle crashes	0.294	0.263	0.283	0.105	0.302	0.158
MULTIPLE-VEHICLE						
Angle collision	0.237	0.212	0.275	0.102	0.210	0.110
Head-on collision	0.052	0.046	0.081	0.030	0.032	0.017
Rear-end collision	0.278	0.248	0.260	0.096	0.292	0.153
Sideswipe collision	0.097	0.087	0.051	0.019	0.131	0.068
Other multiple-vehicle collision	0.042	0.038	0.050	0.019	0.033	0.017
Total multiple-vehicle crashes	0.706	0.631	0.717	0.266	0.698	0.365

Worksheet 2E -- Summary Results for Rural Two-Lane Two-Way Road Intersections

(1) **Crash severity level**	(2) **Crash Severity Distribution** (proportion) (4) from Worksheet 2C	(3) **Predicted average crash frequency (crashes / year)** (8) from Worksheet 2C
Total	1.000	0.9
Fatal and Injury (FI)	0.415	0.4
Property Damage Only (PDO)	0.585	0.5

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Worksheet 2A -- General Information and Input Data for Rural Two-Lane Two-Way Roadway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	herican Consulting Professionals a Consor Comp	Intersection	Lykes Rd
Date Performed	08/11/23	Jurisdiction	FDOT District One
		Analysis Year	2052

Input Data				Base Conditions	Site Conditions	
Intersection type (3ST, 4ST, 4SG				--	3ST	
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ =	19,500	(veh/day)	--	12,500	
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ =	4,300	(veh/day)	--	200	
Intersection skew angle (degrees	If 4ST, does skew differ for minor legs?		No	0	Skew for Leg 1 (All):	Skew for Leg 2 (4ST only):
Number of signalized or uncontrolled approaches with a left-turn lane (0, 1, 2, 3, 4)				0	0	
Number of signalized or uncontrolled approaches with a right-turn lane (0, 1, 2, 3, 4)				0	0	
Intersection lighting (present/not present)				Not Present	Not Present	
Calibration Factor, C_i				1.00	0.74	

Worksheet 2B -- Crash Modification Factors for Rural Two-Lane Two-Way Roadway Intersections

(1) CMF for Intersection Skew Angle CMF_{1i} from Equations 10-22 or 10-23	(2) CMF for Left-Turn Lanes CMF_{2i} from Table 10-13	(3) CMF for Right-Turn Lanes CMF_{3i} from Table 10-14	(4) CMF for Lighting CMF_{4i} from Equation 10-24	(5) Combined CMF CMF_{COMB} (1)*(2)*(3)*(4)
1.00	1.00	1.00	1.00	1.00

Worksheet 2C -- Intersection Crashes for Rural Two-Lane Two-Way Roadway Intersections

(1) Crash Severity Level	(2) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ from Equations 10-8, 10-9, or 10-10	(3) Overdispersion Parameter, k from Section 10.6.2	(4) Crash Severity Distribution from Table 10-5	(5) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ by Severity Distribution (2)$_{TOTAL}$ * (4)	(6) Combined CMFs from (5) of Worksheet 2B	(7) Calibration Factor, C_i	(8) Predicted average crash frequency, $N_{predicted\ int}$ (5)*(6)*(7)
Total	1.208	0.54	1.000	1.208	1.00	0.74	0.894
Fatal and Injury (FI)	--	--	0.415	0.501	1.00	0.74	0.371
Property Damage Only (PDO)	--	--	0.585	0.706	1.00	0.74	0.523

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Two-Lane Two-Way Road Intersections

(1) **Collision Type**	(2) **Proportion of Collision Type$_{(TOTAL)}$** from Table 10-6	(3) **$N_{predicted\ int\ (TOTAL)}$ (crashes/year)** (8)$_{TOTAL}$ from Worksheet 2C	(4) **Proportion of Collision Type$_{(FI)}$** from Table 10-6	(5) **$N_{predicted\ int\ (FI)}$ (crashes/year)** (8)$_{FI}$ from Worksheet 2C	(6) **Proportion of Collision Type$_{(PDO)}$** from Table 10-6	(7) **$N_{predicted\ int\ (PDO)}$ (crashes/year)** (8)$_{PDO}$ from Worksheet 2C
Total	1.000	0.894	1.000	0.371	1.000	0.523
		(2)x(3)$_{TOTAL}$		(4)x(5)$_{FI}$		(6)x(7)$_{PDO}$
SINGLE-VEHICLE						
Collision with animal	0.019	0.017	0.008	0.003	0.026	0.014
Collision with bicycle	0.001	0.001	0.001	0.000	0.001	0.001
Collision with pedestrian	0.001	0.001	0.001	0.000	0.001	0.001
Overturned	0.013	0.012	0.022	0.008	0.007	0.004
Ran off road	0.244	0.218	0.240	0.089	0.247	0.129
Other single-vehicle collision	0.016	0.014	0.011	0.004	0.020	0.010
Total single-vehicle crashes	0.294	0.263	0.283	0.105	0.302	0.158
MULTIPLE-VEHICLE						
Angle collision	0.237	0.212	0.275	0.102	0.210	0.110
Head-on collision	0.052	0.046	0.081	0.030	0.032	0.017
Rear-end collision	0.278	0.248	0.260	0.096	0.292	0.153
Sideswipe collision	0.097	0.087	0.051	0.019	0.131	0.068
Other multiple-vehicle collision	0.042	0.038	0.050	0.019	0.033	0.017
Total multiple-vehicle crashes	0.706	0.631	0.717	0.266	0.698	0.365

Worksheet 2E -- Summary Results for Rural Two-Lane Two-Way Road Intersections

(1) **Crash severity level**	(2) **Crash Severity Distribution** (proportion) (4) from Worksheet 2C	(3) **Predicted average crash frequency (crashes / year)** (8) from Worksheet 2C
Total	1.000	0.9
Fatal and Injury (FI)	0.415	0.4
Property Damage Only (PDO)	0.585	0.5

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Worksheet 2A -- General Information and Input Data for Rural Two-Lane Two-Way Roadway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	herican Consulting Professionals a Consor Comp	Intersection	Southern Leg of CR 721
Date Performed	08/11/23	Jurisdiction	FDOT District One
		Analysis Year	2052

Input Data				Base Conditions	Site Conditions			
Intersection type (3ST, 4ST, 4SG				--	4ST			
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ =	14,700	(veh/day)	--	12,500			
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ =	3,500	(veh/day)	--	4,200			
Intersection skew angle (degrees	If 4ST, does skew differ for minor legs?		Yes	0	Skew for Leg 1 (All):	36	Skew for Leg 2 (4ST only):	36
Number of signalized or uncontrolled approaches with a left-turn lane (0, 1, 2, 3, 4)				0	0			
Number of signalized or uncontrolled approaches with a right-turn lane (0, 1, 2, 3, 4)				0	0			
Intersection lighting (present/not present)				Not Present	Not Present			
Calibration Factor, C_i				1.00	0.74			

Worksheet 2B -- Crash Modification Factors for Rural Two-Lane Two-Way Roadway Intersections

(1) CMF for Intersection Skew Angle CMF_{1i} from Equations 10-22 or 10-23	(2) CMF for Left-Turn Lanes CMF_{2i} from Table 10-13	(3) CMF for Right-Turn Lanes CMF_{3i} from Table 10-14	(4) CMF for Lighting CMF_{4i} from Equation 10-24	(5) Combined CMF CMF_{COMB} (1)*(2)*(3)*(4)
1.21	1.00	1.00	1.00	1.21

Worksheet 2C -- Intersection Crashes for Rural Two-Lane Two-Way Roadway Intersections

(1) Crash Severity Level	(2) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ from Equations 10-8, 10-9, or 10-10	(3) Overdispersion Parameter, k from Section 10.6.2	(4) Crash Severity Distribution from Table 10-5	(5) $N_{spf\ 3ST,\ 4ST\ or\ 4SG}$ by Severity Distribution (2)$_{TOTAL}$ * (4)	(6) Combined CMFs from (5) of Worksheet 2B	(7) Calibration Factor, C_i	(8) Predicted average crash frequency, $N_{predicted\ int}$ (5)*(6)*(7)
Total	8.928	0.24	1.000	8.928	1.21	0.74	8.025
Fatal and Injury (FI)	--	--	0.431	3.848	1.21	0.74	3.459
Property Damage Only (PDO)	--	--	0.569	5.080	1.21	0.74	4.566

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Two-Lane Two-Way Road Intersections

(1) **Collision Type**	(2) **Proportion of Collision Type$_{(TOTAL)}$** from Table 10-6	(3) **$N_{predicted\ int\ (TOTAL)}$ (crashes/year)** (8)$_{TOTAL}$ from Worksheet 2C	(4) **Proportion of Collision Type$_{(FI)}$** from Table 10-6	(5) **$N_{predicted\ int\ (FI)}$ (crashes/year)** (8)$_{FI}$ from Worksheet 2C	(6) **Proportion of Collision Type$_{(PDO)}$** from Table 10-6	(7) **$N_{predicted\ int\ (PDO)}$ (crashes/year)** (8)$_{PDO}$ from Worksheet 2C
Total	1.000	8.025	1.000	3.459	1.000	4.566
		(2)x(3)$_{TOTAL}$		(4)x(5)$_{FI}$		(6)x(7)$_{PDO}$
SINGLE-VEHICLE						
Collision with animal	0.010	0.080	0.006	0.021	0.014	0.064
Collision with bicycle	0.001	0.008	0.001	0.003	0.001	0.005
Collision with pedestrian	0.001	0.008	0.001	0.003	0.001	0.005
Overturned	0.005	0.040	0.006	0.021	0.004	0.018
Ran off road	0.122	0.979	0.094	0.325	0.144	0.658
Other single-vehicle collision	0.008	0.064	0.004	0.014	0.010	0.046
Total single-vehicle crashes	0.147	1.180	0.112	0.387	0.174	0.794
MULTIPLE-VEHICLE						
Angle collision	0.431	3.459	0.532	1.840	0.354	1.616
Head-on collision	0.040	0.321	0.060	0.208	0.025	0.114
Rear-end collision	0.242	1.942	0.210	0.726	0.266	1.215
Sideswipe collision	0.101	0.810	0.044	0.152	0.144	0.658
Other multiple-vehicle collision	0.039	0.313	0.042	0.145	0.037	0.169
Total multiple-vehicle crashes	0.853	6.845	0.888	3.071	0.826	3.772

Worksheet 2E -- Summary Results for Rural Two-Lane Two-Way Road Intersections

(1) **Crash severity level**	(2) **Crash Severity Distribution** (proportion) (4) from Worksheet 2C	(3) **Predicted average crash frequency (crashes / year)** (8) from Worksheet 2C
Total	1.000	8.0
Fatal and Injury (FI)	0.431	3.5
Property Damage Only (PDO)	0.569	4.6

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Worksheet 3A -- Predicted and Observed Crashes by Severity and Site Type Using the Site-Specific EB Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes,** $N_{observed}$ (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency,**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Segment1	0.387	0.124	0.263		2.769	0.482	0.2
Segment2	7.442	2.389	5.053		0.144	0.482	3.6
Segment3	4.552	1.461	3.091		0.236	0.482	2.2
Segment4	11.703	3.757	7.946		0.092	0.482	5.6
Segment5	11.308	3.630	7.678		0.100	0.470	5.3
Segment6						1.000	0.0
Segment7						1.000	0.0
Segment8						1.000	0.0
INTERSECTIONS							
Intersection1	0.894	0.371	0.523		0.540	0.675	0.6
Intersection2	1.176	0.488	0.688		0.540	0.612	0.7
Intersection3	0.894	0.371	0.523		0.540	0.675	0.6
Intersection4	0.894	0.371	0.523		0.540	0.675	0.6
Intersection5	0.894	0.371	0.523		0.540	0.675	0.6
Intersection6	8.025	3.459	4.566		0.240	0.342	2.7
Intersection7						1.000	0.0
Intersection8						1.000	0.0
COMBINED (sum of column)	48.167	16.791	31.376	0	--	--	22.8

Worksheet 3B -- Site-Specific EB Method Summary Results

(1)	(2)	(3)
Crash severity level	$N_{predicted}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 3A	$(8)_{COMB}$ from Worksheet 3A
	48.167	22.8
Fatal and Injury (FI)	$(3)_{COMB}$ from Worksheet 3A	$(3)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$
	16.791	7.9
Property Damage Only (PDO)	$(4)_{COMB}$ from Worksheet 3A	$(3)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$
	31.376	14.9

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Worksheet 4A -- Predicted and Observed Crashes by Severity and Site Type Using the Project-Level EB Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes,**	**Overdispersion Parameter, k**	**N_{w0}**	**N_{w1}**	**W_0**	**N_0**	**w_1**	**N_1**	**$N_{p/comb}$**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)	$N_{observed}$ (crashes/year)		Equation A-8 $(6)*(2)^2$	Equation A-9 sqrt((6)*(2))	Equation A-10	Equation A-11	Equation A-12	Equation A-13	Equation A-14
ROADWAY SEGMENTS												
Segment 1	0.387	0.124	0.263	--	2.769	0.416	1.036	--	--	--	--	--
Segment 2	7.442	2.389	5.053	--	0.144	7.983	1.036	--	--	--	--	--
Segment 3	4.552	1.461	3.091	--	0.236	4.883	1.036	--	--	--	--	--
Segment 4	11.703	3.757	7.946	--	0.092	12.554	1.036	--	--	--	--	--
Segment 5	11.308	3.630	7.678	--	0.100	12.775	1.063	--	--	--	--	--
Segment 6				--				--	--	--	--	--
Segment 7				--				--	--	--	--	--
Segment 8				--				--	--	--	--	--
INTERSECTIONS												
Intersection 1	0.894	0.371	0.523	--	0.540	0.431	0.695	--	--	--	--	--
Intersection 2	1.176	0.488	0.688	--	0.540	0.746	0.797	--	--	--	--	--
Intersection 3	0.894	0.371	0.523	--	0.540	0.431	0.695	--	--	--	--	--
Intersection 4	0.894	0.371	0.523	--	0.540	0.431	0.695	--	--	--	--	--
Intersection 5	0.894	0.371	0.523	--	0.540	0.431	0.695	--	--	--	--	--
Intersection 6	8.025	3.459	4.566	--	0.240	15.455	1.388	--	--	--	--	--
Intersection 7				--				--	--	--	--	--
Intersection 8				--				--	--	--	--	--
COMBINED	48.167	16.791	31.376		--	56.537	10.169	0.460	22.158	0.826	39.770	30.964

Worksheet 4B -- Project-Level EB Method Summary Results

(1)	(2)	(3)
Crash severity level	$N_{predicted}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 4A	$(13)_{COMB}$ from Worksheet 4A
	48.167	31.0
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 4A	$(3)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$
	16.791	10.8
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 4A	$(3)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$
	31.376	20.2

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Worksheet 1A -- General Information and Input Data for Rural Multilane Roadway Segments

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Roadway Section	Lonesome Island Rd to JC Durrance Rd
Date Performed	08/14/23	Jurisdiction	FDOT District One
		Analysis Year	2032

Input Data		Base Conditions	Site Conditions
Roadway type (divided / undivided)		Undivided	Divided
Length of segment, L (mi)		--	0.085227273
AADT (veh/day)	$AADT_{MAX}$ = 89,300 (veh/day)	--	7,800
Lane width (ft.)		12	12
Shoulder width (ft.) - right shoulder width for divided [if differ for directions of travel, use average width]		8	10
Shoulder type - right shoulder type for divided		Paved	Composite
Median width (ft.) - for divided only		30	40
Side Slopes - for undivided only		1:7 or flatter	
Lighting (present/not present)		Not Present	Not Present
Auto speed enforcement (present/not present)		Not Present	Not Present
Calibration Factor, Cr		1.00	0.68

Worksheet 1B (a) -- Crash Modification Factors for Rural Multilane Divided Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for Lane Width	CMF for Right Shoulder Width	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1rd	*CMF 2rd*	*CMF 3rd*	*CMF 4rd*	*CMF 5rd*	*CMF comb*
from Equation 11-16	from Table 11-17	from Table 11-18	from Equation 11-17	from Section 11.7.2	(1)*(2)*(3)*(4)*(5)
1.00	1.00	0.99	1.00	1.00	0.99

Worksheet 1C (a) -- Roadway Segment Crashes for Rural Multilane Divided Roadway Segments

(1)	(2)			(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients** from Table 11-5			**N spf rd**	**Overdispersion Parameter, k**	**Combined CMFs** (6) from Worksheet 1B (a)	**Calibration Factor, Cr**	**Predicted average crash frequency, $N_{predicted\ rs(d)}$**
	a	b	c	from Equation 11-9	from Equation 11-10			(3)*(5)*(6)
Total	-9.025	1.049	1.549	0.124	2.493	0.99	0.68	0.084
Fatal and Injury (FI)	-8.837	0.958	1.687	0.066	2.172	0.99	0.68	0.045
Fatal and Injury[a] (FI[a])	-8.505	0.874	1.740	0.044	2.059	0.99	0.68	0.029
Property Damage Only (PDO)	--	--	--	--	--	--	--	$(7)_{TOTAL}$ - $(7)_{FI}$ 0.039

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 1D (a) -- Crashes by Severity Level and Collision Type for Rural Multilane Divided Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Collision Type	**Proportion of Collision $Type_{(TOTAL)}$**	**$N_{predicted\ rs(d)\ (TOTAL)}$ (crashes/year)**	**Proportion of Collision Type(FI)**	**$N_{predicted\ rs(d)\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (FI[a])**	**N *predicted rs* (FI[a]) (crashes/year)**	**Proportion of Collision Type (PDO)**	**$N_{predicted\ rs(d)\ (PDO)}$ (crashes/year)**
	from Table 11-6	$(7)_{TOTAL}$ from Worksheet 1C (a)	from Table 11-6	$(7)_{FI}$ from Worksheet 1C (a)	from Table 11-6	$(7)_{FI}$[a] from Worksheet 1C (a)	from Table 11-6	$(7)_{PDO}$ from Worksheet 1C (a)
Total	1.000	0.084	1.000	0.045	1.000	0.029	1.000	0.039
		$(2)*(3)_{TOTAL}$		$(4)x(5)_{FI}$		$(6)*(7)_{FI}$[a]		$(8)*(9)_{PDO}$
Head-on collision	0.006	0.001	0.013	0.001	0.018	0.001	0.002	0.000
Sideswipe collision	0.043	0.004	0.027	0.001	0.022	0.001	0.053	0.002
Rear-end collision	0.116	0.010	0.163	0.007	0.114	0.003	0.088	0.003
Angle collision	0.043	0.004	0.048	0.002	0.045	0.001	0.041	0.002
Single-vehicle collision	0.768	0.064	0.727	0.032	0.778	0.023	0.792	0.031
Other collision	0.024	0.002	0.022	0.001	0.023	0.001	0.024	0.001

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 1E -- Summary Results for Rural Multilane Roadway Segments

(1)	(2)	(3)	(4)
Crash severity level	**Predicted average crash frequency (crashes/year)** (7) from Worksheet 1C (a) or (b)	**Roadway segment length (mi)**	**Crash rate (crashes/mi/year)** (2)/(3)
Total	0.1	0.1	1.0
Fatal and Injury (FI)	0.0	0.1	0.5
Fatal and Injury[a] (FI[a])	0.0	0.1	0.3
Property Damage Only (PDO)	0.0	0.1	0.5

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

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Worksheet 1A -- General Information and Input Data for Rural Multilane Roadway Segments

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Roadway Section	JC Durrance Rd to Greenbrier Ln
Date Performed	08/14/23	Jurisdiction	FDOT District One
		Analysis Year	2032

Input Data		Base Conditions	Site Conditions
Roadway type (divided / undivided)		Undivided	Divided
Length of segment, L (mi)		--	1.637121212
AADT (veh/day)	$AADT_{MAX}$ = 89,300 (veh/day)	--	7,800
Lane width (ft.)		12	12
Shoulder width (ft.) - right shoulder width for divided [if differ for directions of travel, use average width]		8	10
Shoulder type - right shoulder type for divided		Paved	Composite
Median width (ft.) - for divided only		30	40
Side Slopes - for undivided only		1:7 or flatter	
Lighting (present/not present)		Not Present	Not Present
Auto speed enforcement (present/not present)		Not Present	Not Present
Calibration Factor, Cr		1.00	0.68

Worksheet 1B (a) -- Crash Modification Factors for Rural Multilane Divided Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for Lane Width	CMF for Right Shoulder Width	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1rd	*CMF 2rd*	*CMF 3rd*	*CMF 4rd*	*CMF 5rd*	*CMF comb*
from Equation 11-16	from Table 11-17	from Table 11-18	from Equation 11-17	from Section 11.7.2	(1)*(2)*(3)*(4)*(5)
1.00	1.00	0.99	1.00	1.00	0.99

Worksheet 1C (a) -- Roadway Segment Crashes for Rural Multilane Divided Roadway Segments

(1)	(2)			(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients** from Table 11-5			**N spf rd**	**Overdispersion Parameter, k**	**Combined CMFs** (6) from Worksheet 1B (a)	**Calibration Factor, Cr**	**Predicted average crash frequency, $N_{predicted\ rs(d)}$**
	a	b	c	from Equation 11-9	from Equation 11-10			(3)*(5)*(6)
Total	-9.025	1.049	1.549	2.384	0.130	0.99	0.68	1.605
Fatal and Injury (FI)	-8.837	0.958	1.687	1.273	0.113	0.99	0.68	0.857
Fatal and Injury[a] (FI[a])	-8.505	0.874	1.740	0.836	0.107	0.99	0.68	0.563
Property Damage Only (PDO)	--	--	--	--	--	--	--	$(7)_{TOTAL}$ - $(7)_{FI}$ 0.748

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 1D (a) -- Crashes by Severity Level and Collision Type for Rural Multilane Divided Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Collision Type	**Proportion of Collision Type(TOTAL)** from Table 11-6	**$N_{predicted\ rs(d)\ (TOTAL)}$ (crashes/year)** $(7)_{TOTAL}$ from Worksheet 1C (a)	**Proportion of Collision Type(FI)** from Table 11-6	**$N_{predicted\ rs(d)\ (FI)}$ (crashes/year)** $(7)_{FI}$ from Worksheet 1C (a)	**Proportion of Collision Type (FI[a])** from Table 11-6	**N *predicted rs* (FI[a]) (crashes/year)** $(7)_{FI}$[a] from Worksheet 1C (a)	**Proportion of Collision Type (PDO)** from Table 11-6	**$N_{predicted\ rs(d)\ (PDO)}$ (crashes/year)** $(7)_{PDO}$ from Worksheet 1C (a)
Total	1.000	1.605	1.000	0.857	1.000	0.563	1.000	0.748
		$(2)*(3)_{TOTAL}$		$(4)x(5)_{FI}$		$(6)*(7)_{FI}$ [a]		$(8)*(9)_{PDO}$
Head-on collision	0.006	0.010	0.013	0.011	0.018	0.010	0.002	0.001
Sideswipe collision	0.043	0.069	0.027	0.023	0.022	0.012	0.053	0.040
Rear-end collision	0.116	0.186	0.163	0.140	0.114	0.064	0.088	0.066
Angle collision	0.043	0.069	0.048	0.041	0.045	0.025	0.041	0.031
Single-vehicle collision	0.768	1.233	0.727	0.623	0.778	0.438	0.792	0.593
Other collision	0.024	0.039	0.022	0.019	0.023	0.013	0.024	0.018

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 1E -- Summary Results for Rural Multilane Roadway Segments

(1)	(2)	(3)	(4)
Crash severity level	**Predicted average crash frequency (crashes/year)** (7) from Worksheet 1C (a) or (b)	**Roadway segment length (mi)**	**Crash rate (crashes/mi/year)** (2)/(3)
Total	1.6	1.6	1.0
Fatal and Injury (FI)	0.9	1.6	0.5
Fatal and Injury[a] (FI[a])	0.6	1.6	0.3
Property Damage Only (PDO)	0.7	1.6	0.5

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

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Worksheet 1A -- General Information and Input Data for Rural Multilane Roadway Segments

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Roadway Section	Greenbrier Ln to DC Bar Ranch Rd
Date Performed	08/14/23	Jurisdiction	FDOT District One
		Analysis Year	2032

Input Data		Base Conditions	Site Conditions
Roadway type (divided / undivided)		Undivided	Divided
Length of segment, L (mi)		--	1.001325758
AADT (veh/day)	$AADT_{MAX}$ = 89,300 (veh/day)	--	7,800
Lane width (ft.)		12	12
Shoulder width (ft.) - right shoulder width for divided [if differ for directions of travel, use average width]		8	10
Shoulder type - right shoulder type for divided		Paved	Composite
Median width (ft.) - for divided only		30	40
Side Slopes - for undivided only		1:7 or flatter	
Lighting (present/not present)		Not Present	Not Present
Auto speed enforcement (present/not present)		Not Present	Not Present
Calibration Factor, Cr		1.00	0.68

Worksheet 1B (a) -- Crash Modification Factors for Rural Multilane Divided Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for Lane Width	CMF for Right Shoulder Width	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1rd	*CMF 2rd*	*CMF 3rd*	*CMF 4rd*	*CMF 5rd*	*CMF comb*
from Equation 11-16	from Table 11-17	from Table 11-18	from Equation 11-17	from Section 11.7.2	(1)*(2)*(3)*(4)*(5)
1.00	1.00	0.99	1.00	1.00	0.99

Worksheet 1C (a) -- Roadway Segment Crashes for Rural Multilane Divided Roadway Segments

(1)	(2)			(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients** from Table 11-5			**N spf rd**	**Overdispersion Parameter, k**	**Combined CMFs** (6) from Worksheet 1B (a)	**Calibration Factor, Cr**	**Predicted average crash frequency, $N_{predicted\ rs(d)}$**
	a	b	c	from Equation 11-9	from Equation 11-10			(3)*(5)*(6)
Total	-9.025	1.049	1.549	1.458	0.212	0.99	0.68	0.982
Fatal and Injury (FI)	-8.837	0.958	1.687	0.779	0.185	0.99	0.68	0.524
Fatal and Injury[a] (FI^a)	-8.505	0.874	1.740	0.511	0.175	0.99	0.68	0.344
Property Damage Only (PDO)	--	--	--	--	--	--	--	$(7)_{TOTAL}$ - $(7)_{FI}$ 0.458

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 1D (a) -- Crashes by Severity Level and Collision Type for Rural Multilane Divided Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Collision Type	**Proportion of Collision $Type_{(TOTAL)}$** from Table 11-6	**$N_{predicted\ rs(d)\ (TOTAL)}$ (crashes/year)** $(7)_{TOTAL}$ from Worksheet 1C (a)	**Proportion of Collision Type(FI)** from Table 11-6	**$N_{predicted\ rs(d)\ (FI)}$ (crashes/year)** $(7)_{FI}$ from Worksheet 1C (a)	**Proportion of Collision Type (FI^a)** from Table 11-6	**N *predicted rs* (FI^a) (crashes/year)** $(7)_{FI}{}^a$ from Worksheet 1C (a)	**Proportion of Collision Type (PDO)** from Table 11-6	**$N_{predicted\ rs(d)\ (PDO)}$ (crashes/year)** $(7)_{PDO}$ from Worksheet 1C (a)
Total	1.000	0.982	1.000	0.524	1.000	0.344	1.000	0.458
		$(2)*(3)_{TOTAL}$		$(4)x(5)_{FI}$		$(6)*(7)_{FI}{}^a$		$(8)*(9)_{PDO}$
Head-on collision	0.006	0.006	0.013	0.007	0.018	0.006	0.002	0.001
Sideswipe collision	0.043	0.042	0.027	0.014	0.022	0.008	0.053	0.024
Rear-end collision	0.116	0.114	0.163	0.085	0.114	0.039	0.088	0.040
Angle collision	0.043	0.042	0.048	0.025	0.045	0.015	0.041	0.019
Single-vehicle collision	0.768	0.754	0.727	0.381	0.778	0.268	0.792	0.362
Other collision	0.024	0.024	0.022	0.012	0.023	0.008	0.024	0.011

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 1E -- Summary Results for Rural Multilane Roadway Segments

(1)	(2)	(3)	(4)
Crash severity level	**Predicted average crash frequency (crashes/year)** (7) from Worksheet 1C (a) or (b)	**Roadway segment length (mi)**	**Crash rate (crashes/mi/year)** (2)/(3)
Total	1.0	1.0	1.0
Fatal and Injury (FI)	0.5	1.0	0.5
Fatal and Injury[a] (FI^a)	0.3	1.0	0.3
Property Damage Only (PDO)	0.5	1.0	0.5

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

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Worksheet 1A -- General Information and Input Data for Rural Multilane Roadway Segments

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Roadway Section	DC Bar Ranch Rd to Lykes Rd
Date Performed	08/14/23	Jurisdiction	FDOT District One
		Analysis Year	2032

Input Data		Base Conditions	Site Conditions
Roadway type (divided / undivided)		Undivided	Divided
Length of segment, L (mi)		--	2.574621212
AADT (veh/day)	$AADT_{MAX}$ = 89,300 (veh/day)	--	7,800
Lane width (ft.)		12	12
Shoulder width (ft.) - right shoulder width for divided [if differ for directions of travel, use average width]		8	10
Shoulder type - right shoulder type for divided		Paved	Composite
Median width (ft.) - for divided only		30	40
Side Slopes - for undivided only		1:7 or flatter	
Lighting (present/not present)		Not Present	Not Present
Auto speed enforcement (present/not present)		Not Present	Not Present
Calibration Factor, Cr		1.00	0.68

Worksheet 1B (a) -- Crash Modification Factors for Rural Multilane Divided Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for Lane Width	CMF for Right Shoulder Width	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1rd	*CMF 2rd*	*CMF 3rd*	*CMF 4rd*	*CMF 5rd*	*CMF comb*
from Equation 11-16	from Table 11-17	from Table 11-18	from Equation 11-17	from Section 11.7.2	(1)*(2)*(3)*(4)*(5)
1.00	1.00	0.99	1.00	1.00	0.99

Worksheet 1C (a) -- Roadway Segment Crashes for Rural Multilane Divided Roadway Segments

(1)	(2)			(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients** from Table 11-5			**N spf rd**	**Overdispersion Parameter, k**	**Combined CMFs** (6) from Worksheet 1B (a)	**Calibration Factor, Cr**	**Predicted average crash frequency, $N_{predicted\ rs(d)}$**
	a	b	c	from Equation 11-9	from Equation 11-10			(3)*(5)*(6)
Total	-9.025	1.049	1.549	3.750	0.083	0.99	0.68	2.524
Fatal and Injury (FI)	-8.837	0.958	1.687	2.002	0.072	0.99	0.68	1.348
Fatal and Injury[a] (FI^a)	-8.505	0.874	1.740	1.314	0.068	0.99	0.68	0.885
Property Damage Only (PDO)	--	--	--	--	--	--	--	$(7)_{TOTAL}$ - $(7)_{FI}$ = 1.177

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 1D (a) -- Crashes by Severity Level and Collision Type for Rural Multilane Divided Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Collision Type	**Proportion of Collision $Type_{(TOTAL)}$**	**$N_{predicted\ rs(d)\ (TOTAL)}$ (crashes/year)**	**Proportion of Collision Type(FI)**	**$N_{predicted\ rs(d)\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (FI^a)**	**N *predicted rs* (FI^a) (crashes/year)**	**Proportion of Collision Type (PDO)**	**$N_{predicted\ rs(d)\ (PDO)}$ (crashes/year)**
	from Table 11-6	$(7)_{TOTAL}$ from Worksheet 1C (a)	from Table 11-6	$(7)_{FI}$ from Worksheet 1C (a)	from Table 11-6	$(7)_{FI}^a$ from Worksheet 1C (a)	from Table 11-6	$(7)_{PDO}$ from Worksheet 1C (a)
Total	1.000	2.524	1.000	1.348	1.000	0.885	1.000	1.177
		$(2)*(3)_{TOTAL}$		$(4)x(5)_{FI}$		$(6)*(7)_{FI}^a$		$(8)*(9)_{PDO}$
Head-on collision	0.006	0.015	0.013	0.018	0.018	0.016	0.002	0.002
Sideswipe collision	0.043	0.109	0.027	0.036	0.022	0.019	0.053	0.062
Rear-end collision	0.116	0.293	0.163	0.220	0.114	0.101	0.088	0.104
Angle collision	0.043	0.109	0.048	0.065	0.045	0.040	0.041	0.048
Single-vehicle collision	0.768	1.939	0.727	0.980	0.778	0.688	0.792	0.932
Other collision	0.024	0.061	0.022	0.030	0.023	0.020	0.024	0.028

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 1E -- Summary Results for Rural Multilane Roadway Segments

(1)	(2)	(3)	(4)
Crash severity level	**Predicted average crash frequency (crashes/year)** (7) from Worksheet 1C (a) or (b)	**Roadway segment length (mi)**	**Crash rate (crashes/mi/year)** (2)/(3)
Total	2.5	2.6	1.0
Fatal and Injury (FI)	1.3	2.6	0.5
Fatal and Injury[a] (FI^a)	0.9	2.6	0.3
Property Damage Only (PDO)	1.2	2.6	0.5

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

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Worksheet 1A -- General Information and Input Data for Rural Multilane Roadway Segments

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Roadway Section	Lykes Rd to Southern Leg of CR 721
Date Performed	08/14/23	Jurisdiction	FDOT District One
		Analysis Year	2032

Input Data		Base Conditions	Site Conditions
Roadway type (divided / undivided)		Undivided	Divided
Length of segment, L (mi)		--	2.362310606
AADT (veh/day)	$AADT_{MAX}$ = 89,300 (veh/day)	--	7,800
Lane width (ft.)		12	12
Shoulder width (ft.) - right shoulder width for divided [if differ for directions of travel, use average width]		8	10
Shoulder type - right shoulder type for divided		Paved	Composite
Median width (ft.) - for divided only		30	40
Side Slopes - for undivided only		1:7 or flatter	
Lighting (present/not present)		Not Present	Not Present
Auto speed enforcement (present/not present)		Not Present	Not Present
Calibration Factor, Cr		1.00	0.68

Worksheet 1B (a) -- Crash Modification Factors for Rural Multilane Divided Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for Lane Width	CMF for Right Shoulder Width	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1rd	*CMF 2rd*	*CMF 3rd*	*CMF 4rd*	*CMF 5rd*	*CMF comb*
from Equation 11-16	from Table 11-17	from Table 11-18	from Equation 11-17	from Section 11.7.2	(1)*(2)*(3)*(4)*(5)
1.00	1.00	0.99	1.00	1.00	0.99

Worksheet 1C (a) -- Roadway Segment Crashes for Rural Multilane Divided Roadway Segments

(1)	(2)			(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients** from Table 11-5			**N spf rd**	**Overdispersion Parameter, k**	**Combined CMFs** (6) from Worksheet 1B (a)	**Calibration Factor, Cr**	**Predicted average crash frequency, $N_{predicted\ rs(d)}$**
	a	b	c	from Equation 11-9	from Equation 11-10			(3)*(5)*(6)
Total	-9.025	1.049	1.549	3.441	0.090	0.99	0.68	2.316
Fatal and Injury (FI)	-8.837	0.958	1.687	1.837	0.078	0.99	0.68	1.237
Fatal and Injury[a] (FI^a)	-8.505	0.874	1.740	1.206	0.074	0.99	0.68	0.812
Property Damage Only (PDO)	--	--	--	--	--	--	--	$(7)_{TOTAL}$ - $(7)_{FI}$ 1.080

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 1D (a) -- Crashes by Severity Level and Collision Type for Rural Multilane Divided Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Collision Type	**Proportion of Collision $Type_{(TOTAL)}$**	**$N_{predicted\ rs(d)\ (TOTAL)}$ (crashes/year)**	**Proportion of Collision Type(FI)**	**$N_{predicted\ rs(d)\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (FI^a)**	**N *predicted rs* (FI^a) (crashes/year)**	**Proportion of Collision Type (PDO)**	**$N_{predicted\ rs(d)\ (PDO)}$ (crashes/year)**
	from Table 11-6	$(7)_{TOTAL}$ from Worksheet 1C (a)	from Table 11-6	$(7)_{FI}$ from Worksheet 1C (a)	from Table 11-6	$(7)_{FI}{}^a$ from Worksheet 1C (a)	from Table 11-6	$(7)_{PDO}$ from Worksheet 1C (a)
Total	1.000	2.316	1.000	1.237	1.000	0.812	1.000	1.080
		$(2)*(3)_{TOTAL}$		$(4)x(5)_{FI}$		$(6)*(7)_{FI}{}^a$		$(8)*(9)_{PDO}$
Head-on collision	0.006	0.014	0.013	0.016	0.018	0.015	0.002	0.002
Sideswipe collision	0.043	0.100	0.027	0.033	0.022	0.018	0.053	0.057
Rear-end collision	0.116	0.269	0.163	0.202	0.114	0.093	0.088	0.095
Angle collision	0.043	0.100	0.048	0.059	0.045	0.037	0.041	0.044
Single-vehicle collision	0.768	1.779	0.727	0.899	0.778	0.632	0.792	0.855
Other collision	0.024	0.056	0.022	0.027	0.023	0.019	0.024	0.026

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 1E -- Summary Results for Rural Multilane Roadway Segments

(1)	(2)	(3)	(4)
Crash severity level	**Predicted average crash frequency (crashes/year)** (7) from Worksheet 1C (a) or (b)	**Roadway segment length (mi)**	**Crash rate (crashes/mi/year)** (2)/(3)
Total	2.3	2.4	1.0
Fatal and Injury (FI)	1.2	2.4	0.5
Fatal and Injury[a] (FI^a)	0.8	2.4	0.3
Property Damage Only (PDO)	1.1	2.4	0.5

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

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Worksheet 2A -- General Information and Input Data for Rural Multilane Highway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Intersection	Lonesome Island Rd
Date Performed	08/14/23	Jurisdiction	FDOT District One
		Analysis Year	2032

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 4ST, 4SG		--	3ST
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ = 78,300 (veh/day)	--	7,800
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ = 23,000 (veh/day)	--	150
Intersection skew angle (degrees)		0	0
Number of non-STOP-controlled approaches with left-turn lanes (0, 1, 2)		0	1
Number of non-STOP-controlled approaches with right-turn lanes (0, 1, 2, 3, or 4)		0	0
Intersection lighting (present/not present)		Not Present	Present
Calibration Factor, C_i		1.00	2.20

Worksheet 2B -- Crash Modification Factors for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Crash Severity Level	CMF for Intersection Skew Angle (CMF_{1i}) from Equations 11-18 or 11-20 and 11-19 or 11-21	CMF for Left-Turn Lanes (CMF_{2i}) from Table 11-22	CMF for Right-Turn Lanes (CMF_{3i}) from Table 11-23	CMF for Lighting (CMF_{4i}) from Equation 11-22	Combined CMF (CMF_{COMB}) (2)*(3)*(4)*(5)
Total	1.00	0.56	1.00	0.90	0.50
Fatal and Injury (FI)	1.00	0.45	1.00	0.90	0.40

Note: The 4-leg Signalized Intersection (4SG) models do not have base conditions and so can only be used for estimation purposes. As a result, there are not CMFs provided for the 4SG condition.

Worksheet 2C -- Intersection Crashes for Rural Multilane Highway Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients** from Table 11-7 or 11-8			$N_{spf\ int}$	**Overdispersion Parameter, k**	**Combined CMFs** from (6) of Worksheet 2B	**Calibration Factor, C_i**	**Predicted average crash frequency, $N_{predicted\ int}$**
	a	b	c or d (4SG)	from Equation 11-11 or 11-12	from Table 11-7 or 11-8			(3)*(5)*(6)
Total	-12.526	1.204	0.236	0.575	0.460	0.50	2.20	0.634
Fatal and Injury (FI)	-12.664	1.107	0.272	0.252	0.569	0.40	2.20	0.223
Fatal and Injury[a] (FI[a])	-11.989	1.013	0.228	0.171	0.566	0.40	2.20	0.151
Property Damage Only (PDO)	--	--	--	--	--	--	--	$(7)_{TOTAL}$ - $(7)_{FI}$ 0.411

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Collision Type	**Proportion of Collision Type$_{(TOTAL)}$**	**$N_{predicted\ int\ (TOTAL)}$ (crashes/year)**	**Proportion of Collision Type$_{(FI)}$**	**$N_{predicted\ int\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (FI[a])**	**N *predicted int* (FI[a]) (crashes/year)**	**Proportion of Collision Type (PDO)**	**$N_{predicted\ int\ (PDO)}$ (crashes/year)**
	from Table 11-9	$(7)_{TOTAL}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$[a] from Worksheet 2C	from Table 11-9	$(7)_{PDO}$ from Worksheet 2C
Total	1.000	0.634	1.000	0.223	1.000	0.151	1.000	0.411
		(2)*(3)$_{TOTAL}$		(4)x(5)$_{FI}$		(6)*(7)$_{FI}$[a]		(8)*(9)$_{PDO}$
Head-on collision	0.029	0.018	0.043	0.010	0.052	0.008	0.020	0.008
Sideswipe collision	0.133	0.084	0.058	0.013	0.057	0.009	0.179	0.074
Rear-end collision	0.289	0.183	0.247	0.055	0.142	0.021	0.315	0.130
Angle collision	0.263	0.167	0.369	0.082	0.381	0.058	0.198	0.081
Single-vehicle collision	0.234	0.148	0.219	0.049	0.284	0.043	0.244	0.100
Other collision	0.052	0.033	0.064	0.014	0.084	0.013	0.044	0.018

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2E -- Summary Results for Rural Multilane Highway Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency (crashes / year)**
	(7) from Worksheet 2C
Total	0.6
Fatal and Injury (FI)	0.2
Fatal and Injury[a] (FI[a])	0.2
Property Damage Only (PDO)	0.4

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

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Worksheet 2A -- General Information and Input Data for Rural Multilane Highway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Intersection	JC Durrance Rd
Date Performed	08/14/23	Jurisdiction	FDOT District One
		Analysis Year	2032

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 4ST, 4SG		--	3ST
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ = 78,300 (veh/day)	--	7,800
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ = 23,000 (veh/day)	--	200
Intersection skew angle (degrees)		0	0
Number of non-STOP-controlled approaches with left-turn lanes (0, 1, 2)		0	1
Number of non-STOP-controlled approaches with right-turn lanes (0, 1, 2, 3, or 4)		0	0
Intersection lighting (present/not present)		Not Present	Present
Calibration Factor, C_i		1.00	2.20

Worksheet 2B -- Crash Modification Factors for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Crash Severity Level	CMF for Intersection Skew Angle (CMF_{1i}) from Equations 11-18 or 11-20 and 11-19 or 11-21	CMF for Left-Turn Lanes (CMF_{2i}) from Table 11-22	CMF for Right-Turn Lanes (CMF_{3i}) from Table 11-23	CMF for Lighting (CMF_{4i}) from Equation 11-22	Combined CMF (CMF_{COMB}) (2)*(3)*(4)*(5)
Total	1.00	0.56	1.00	0.90	0.50
Fatal and Injury (FI)	1.00	0.45	1.00	0.90	0.40

Note: The 4-leg Signalized Intersection (4SG) models do not have base conditions and so can only be used for estimation purposes. As a result, there are not CMFs provided for the 4SG condition.

Worksheet 2C -- Intersection Crashes for Rural Multilane Highway Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients** from Table 11-7 or 11-8			$N_{spf\ int}$	**Overdispersion Parameter, k**	**Combined CMFs** from (6) of Worksheet 2B	**Calibration Factor, C_i**	**Predicted average crash frequency, $N_{predicted\ int}$**
	a	b	c or d (4SG)	from Equation 11-11 or 11-12	from Table 11-7 or 11-8			(3)*(5)*(6)
Total	-12.526	1.204	0.236	0.615	0.460	0.50	2.20	0.679
Fatal and Injury (FI)	-12.664	1.107	0.272	0.272	0.569	0.40	2.20	0.241
Fatal and Injury[a] (FI[a])	-11.989	1.013	0.228	0.182	0.566	0.40	2.20	0.161
Property Damage Only (PDO)	--	--	--	--	--	--	--	$(7)_{TOTAL}$ - $(7)_{FI}$ 0.438

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Collision Type	**Proportion of Collision Type$_{(TOTAL)}$**	**$N_{predicted\ int\ (TOTAL)}$ (crashes/year)**	**Proportion of Collision Type$_{(FI)}$**	**$N_{predicted\ int\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (FI[a])**	**N *predicted int* (FI[a]) (crashes/year)**	**Proportion of Collision Type (PDO)**	**$N_{predicted\ int\ (PDO)}$ (crashes/year)**
	from Table 11-9	$(7)_{TOTAL}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$[a] from Worksheet 2C	from Table 11-9	$(7)_{PDO}$ from Worksheet 2C
Total	1.000	0.679	1.000	0.241	1.000	0.161	1.000	0.438
		(2)*(3)$_{TOTAL}$		(4)x(5)$_{FI}$		(6)*(7)$_{FI}$[a]		(8)*(9) $_{PDO}$
Head-on collision	0.029	0.020	0.043	0.010	0.052	0.008	0.020	0.009
Sideswipe collision	0.133	0.090	0.058	0.014	0.057	0.009	0.179	0.078
Rear-end collision	0.289	0.196	0.247	0.060	0.142	0.023	0.315	0.138
Angle collision	0.263	0.178	0.369	0.089	0.381	0.062	0.198	0.087
Single-vehicle collision	0.234	0.159	0.219	0.053	0.284	0.046	0.244	0.107
Other collision	0.052	0.035	0.064	0.015	0.084	0.014	0.044	0.019

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2E -- Summary Results for Rural Multilane Highway Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency (crashes / year)**
	(7) from Worksheet 2C
Total	0.7
Fatal and Injury (FI)	0.2
Fatal and Injury[a] (FI[a])	0.2
Property Damage Only (PDO)	0.4

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

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Worksheet 2A -- General Information and Input Data for Rural Multilane Highway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Intersection	Greenbrier Ln
Date Performed	08/14/23	Jurisdiction	FDOT District One
		Analysis Year	2032

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 4ST, 4SG		--	3ST
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ = 78,300 (veh/day)	--	7,800
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ = 23,000 (veh/day)	--	150
Intersection skew angle (degrees)		0	0
Number of non-STOP-controlled approaches with left-turn lanes (0, 1, 2)		0	1
Number of non-STOP-controlled approaches with right-turn lanes (0, 1, 2, 3, or 4)		0	0
Intersection lighting (present/not present)		Not Present	Present
Calibration Factor, C_i		1.00	2.20

Worksheet 2B -- Crash Modification Factors for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Crash Severity Level	CMF for Intersection Skew Angle (CMF_{1i}) from Equations 11-18 or 11-20 and 11-19 or 11-21	CMF for Left-Turn Lanes (CMF_{2i}) from Table 11-22	CMF for Right-Turn Lanes (CMF_{3i}) from Table 11-23	CMF for Lighting (CMF_{4i}) from Equation 11-22	Combined CMF (CMF_{COMB}) (2)*(3)*(4)*(5)
Total	1.00	0.56	1.00	0.90	0.50
Fatal and Injury (FI)	1.00	0.45	1.00	0.90	0.40

Note: The 4-leg Signalized Intersection (4SG) models do not have base conditions and so can only be used for estimation purposes. As a result, there are not CMFs provided for the 4SG condition.

Worksheet 2C -- Intersection Crashes for Rural Multilane Highway Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients** from Table 11-7 or 11-8			$N_{spf\ int}$	**Overdispersion Parameter, k**	**Combined CMFs** from (6) of Worksheet 2B	**Calibration Factor, C_i**	**Predicted average crash frequency, $N_{predicted\ int}$**
	a	b	c or d (4SG)	from Equation 11-11 or 11-12	from Table 11-7 or 11-8			(3)*(5)*(6)
Total	-12.526	1.204	0.236	0.575	0.460	0.50	2.20	0.634
Fatal and Injury (FI)	-12.664	1.107	0.272	0.252	0.569	0.40	2.20	0.223
Fatal and Injury[a] (FI[a])	-11.989	1.013	0.228	0.171	0.566	0.40	2.20	0.151
Property Damage Only (PDO)	--	--	--	--	--	--	--	$(7)_{TOTAL}$ - $(7)_{FI}$ 0.411

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Collision Type	**Proportion of Collision Type$_{(TOTAL)}$**	**$N_{predicted\ int\ (TOTAL)}$ (crashes/year)**	**Proportion of Collision Type$_{(FI)}$**	**$N_{predicted\ int\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (FI[a])**	**N *predicted int* (FI[a]) (crashes/year)**	**Proportion of Collision Type (PDO)**	**$N_{predicted\ int\ (PDO)}$ (crashes/year)**
	from Table 11-9	$(7)_{TOTAL}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$[a] from Worksheet 2C	from Table 11-9	$(7)_{PDO}$ from Worksheet 2C
Total	1.000	0.634	1.000	0.223	1.000	0.151	1.000	0.411
		(2)*(3)$_{TOTAL}$		(4)x(5)$_{FI}$		(6)*(7)$_{FI}$[a]		(8)*(9) $_{PDO}$
Head-on collision	0.029	0.018	0.043	0.010	0.052	0.008	0.020	0.008
Sideswipe collision	0.133	0.084	0.058	0.013	0.057	0.009	0.179	0.074
Rear-end collision	0.289	0.183	0.247	0.055	0.142	0.021	0.315	0.130
Angle collision	0.263	0.167	0.369	0.082	0.381	0.058	0.198	0.081
Single-vehicle collision	0.234	0.148	0.219	0.049	0.284	0.043	0.244	0.100
Other collision	0.052	0.033	0.064	0.014	0.084	0.013	0.044	0.018

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2E -- Summary Results for Rural Multilane Highway Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency (crashes / year)**
	(7) from Worksheet 2C
Total	0.6
Fatal and Injury (FI)	0.2
Fatal and Injury[a] (FI[a])	0.2
Property Damage Only (PDO)	0.4

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

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Worksheet 2A -- General Information and Input Data for Rural Multilane Highway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Intersection	DC Bar Ranch Rd
Date Performed	08/14/23	Jurisdiction	FDOT District One
		Analysis Year	2032

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 4ST, 4SG		--	3ST
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ = 78,300 (veh/day)	--	7,800
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ = 23,000 (veh/day)	--	150
Intersection skew angle (degrees)		0	0
Number of non-STOP-controlled approaches with left-turn lanes (0, 1, 2)		0	1
Number of non-STOP-controlled approaches with right-turn lanes (0, 1, 2, 3, or 4)		0	0
Intersection lighting (present/not present)		Not Present	Present
Calibration Factor, C_i		1.00	2.20

Worksheet 2B -- Crash Modification Factors for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Crash Severity Level	CMF for Intersection Skew Angle (CMF_{1i}) from Equations 11-18 or 11-20 and 11-19 or 11-21	CMF for Left-Turn Lanes (CMF_{2i}) from Table 11-22	CMF for Right-Turn Lanes (CMF_{3i}) from Table 11-23	CMF for Lighting (CMF_{4i}) from Equation 11-22	Combined CMF (CMF_{COMB}) (2)*(3)*(4)*(5)
Total	1.00	0.56	1.00	0.90	0.50
Fatal and Injury (FI)	1.00	0.45	1.00	0.90	0.40

Note: The 4-leg Signalized Intersection (4SG) models do not have base conditions and so can only be used for estimation purposes. As a result, there are not CMFs provided for the 4SG condition.

Worksheet 2C -- Intersection Crashes for Rural Multilane Highway Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients** from Table 11-7 or 11-8			$N_{spf\ int}$	**Overdispersion Parameter, k**	**Combined CMFs** from (6) of Worksheet 2B	**Calibration Factor, C_i**	**Predicted average crash frequency, $N_{predicted\ int}$**
	a	b	c or d (4SG)	from Equation 11-11 or 11-12	from Table 11-7 or 11-8			(3)*(5)*(6)
Total	-12.526	1.204	0.236	0.575	0.460	0.50	2.20	0.634
Fatal and Injury (FI)	-12.664	1.107	0.272	0.252	0.569	0.40	2.20	0.223
Fatal and Injury[a] (FI[a])	-11.989	1.013	0.228	0.171	0.566	0.40	2.20	0.151
Property Damage Only (PDO)	--	--	--	--	--	--	--	$(7)_{TOTAL}$ - $(7)_{FI}$ 0.411

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Collision Type	**Proportion of Collision Type$_{(TOTAL)}$**	**$N_{predicted\ int\ (TOTAL)}$ (crashes/year)**	**Proportion of Collision Type$_{(FI)}$**	**$N_{predicted\ int\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (FI[a])**	**N *predicted int* (FI[a]) (crashes/year)**	**Proportion of Collision Type (PDO)**	**$N_{predicted\ int\ (PDO)}$ (crashes/year)**
	from Table 11-9	$(7)_{TOTAL}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$[a] from Worksheet 2C	from Table 11-9	$(7)_{PDO}$ from Worksheet 2C
Total	1.000	0.634	1.000	0.223	1.000	0.151	1.000	0.411
		(2)*(3)$_{TOTAL}$		(4)x(5)$_{FI}$		(6)*(7)$_{FI}$[a]		(8)*(9)$_{PDO}$
Head-on collision	0.029	0.018	0.043	0.010	0.052	0.008	0.020	0.008
Sideswipe collision	0.133	0.084	0.058	0.013	0.057	0.009	0.179	0.074
Rear-end collision	0.289	0.183	0.247	0.055	0.142	0.021	0.315	0.130
Angle collision	0.263	0.167	0.369	0.082	0.381	0.058	0.198	0.081
Single-vehicle collision	0.234	0.148	0.219	0.049	0.284	0.043	0.244	0.100
Other collision	0.052	0.033	0.064	0.014	0.084	0.013	0.044	0.018

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2E -- Summary Results for Rural Multilane Highway Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency (crashes / year)**
	(7) from Worksheet 2C
Total	0.6
Fatal and Injury (FI)	0.2
Fatal and Injury[a] (FI[a])	0.2
Property Damage Only (PDO)	0.4

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

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Worksheet 2A -- General Information and Input Data for Rural Multilane Highway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Intersection	Lykes Rd
Date Performed	08/14/23	Jurisdiction	FDOT District One
		Analysis Year	2032

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 4ST, 4SG		--	3ST
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ = 78,300 (veh/day)	--	7,800
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ = 23,000 (veh/day)	--	150
Intersection skew angle (degrees)		0	0
Number of non-STOP-controlled approaches with left-turn lanes (0, 1, 2)		0	1
Number of non-STOP-controlled approaches with right-turn lanes (0, 1, 2, 3, or 4)		0	0
Intersection lighting (present/not present)		Not Present	Present
Calibration Factor, C_i		1.00	2.20

Worksheet 2B -- Crash Modification Factors for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Crash Severity Level	CMF for Intersection Skew Angle (CMF_{1i}) from Equations 11-18 or 11-20 and 11-19 or 11-21	CMF for Left-Turn Lanes (CMF_{2i}) from Table 11-22	CMF for Right-Turn Lanes (CMF_{3i}) from Table 11-23	CMF for Lighting (CMF_{4i}) from Equation 11-22	Combined CMF (CMF_{COMB}) (2)*(3)*(4)*(5)
Total	1.00	0.56	1.00	0.90	0.50
Fatal and Injury (FI)	1.00	0.45	1.00	0.90	0.40

Note: The 4-leg Signalized Intersection (4SG) models do not have base conditions and so can only be used for estimation purposes. As a result, there are not CMFs provided for the 4SG condition.

Worksheet 2C -- Intersection Crashes for Rural Multilane Highway Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients** from Table 11-7 or 11-8			$N_{spf\ int}$	**Overdispersion Parameter, k**	**Combined CMFs** from (6) of Worksheet 2B	**Calibration Factor, C_i**	**Predicted average crash frequency, $N_{predicted\ int}$**
	a	b	c or d (4SG)	from Equation 11-11 or 11-12	from Table 11-7 or 11-8			(3)*(5)*(6)
Total	-12.526	1.204	0.236	0.575	0.460	0.50	2.20	0.634
Fatal and Injury (FI)	-12.664	1.107	0.272	0.252	0.569	0.40	2.20	0.223
Fatal and Injury[a] (FI[a])	-11.989	1.013	0.228	0.171	0.566	0.40	2.20	0.151
Property Damage Only (PDO)	--	--	--	--	--	--	--	$(7)_{TOTAL}$ - $(7)_{FI}$ 0.411

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Collision Type	**Proportion of Collision Type$_{(TOTAL)}$**	**$N_{predicted\ int\ (TOTAL)}$ (crashes/year)**	**Proportion of Collision Type$_{(FI)}$**	**$N_{predicted\ int\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (FI[a])**	**N *predicted int* (FI[a]) (crashes/year)**	**Proportion of Collision Type (PDO)**	**$N_{predicted\ int\ (PDO)}$ (crashes/year)**
	from Table 11-9	$(7)_{TOTAL}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$[a] from Worksheet 2C	from Table 11-9	$(7)_{PDO}$ from Worksheet 2C
Total	1.000	0.634	1.000	0.223	1.000	0.151	1.000	0.411
		(2)*(3)$_{TOTAL}$		(4)x(5)$_{FI}$		(6)*(7)$_{FI}$[a]		(8)*(9) $_{PDO}$
Head-on collision	0.029	0.018	0.043	0.010	0.052	0.008	0.020	0.008
Sideswipe collision	0.133	0.084	0.058	0.013	0.057	0.009	0.179	0.074
Rear-end collision	0.289	0.183	0.247	0.055	0.142	0.021	0.315	0.130
Angle collision	0.263	0.167	0.369	0.082	0.381	0.058	0.198	0.081
Single-vehicle collision	0.234	0.148	0.219	0.049	0.284	0.043	0.244	0.100
Other collision	0.052	0.033	0.064	0.014	0.084	0.013	0.044	0.018

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2E -- Summary Results for Rural Multilane Highway Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency (crashes / year)**
	(7) from Worksheet 2C
Total	0.6
Fatal and Injury (FI)	0.2
Fatal and Injury[a] (FI[a])	0.2
Property Damage Only (PDO)	0.4

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

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Worksheet 2A -- General Information and Input Data for Rural Multilane Highway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Intersection	Southern Leg of CR
Date Performed	08/14/23	Jurisdiction	FDOT District One
		Analysis Year	2032

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 4ST, 4SG		--	4ST
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ = 78,300 (veh/day)	--	7,800
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ = 7,400 (veh/day)	--	2,700
Intersection skew angle (degrees)		0	36
Number of non-STOP-controlled approaches with left-turn lanes (0, 1, 2)		0	2
Number of non-STOP-controlled approaches with right-turn lanes (0, 1, 2, 3, or 4)		0	3
Intersection lighting (present/not present)		Not Present	Present
Calibration Factor, C_i		1.00	1.64

Worksheet 2B -- Crash Modification Factors for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Crash Severity Level	CMF for Intersection Skew Angle (CMF_{1i}) from Equations 11-18 or 11-20 and 11-19 or 11-21	CMF for Left-Turn Lanes (CMF_{2i}) from Table 11-22	CMF for Right-Turn Lanes (CMF_{3i}) from Table 11-23	CMF for Lighting (CMF_{4i}) from Equation 11-22	Combined CMF (CMF_{COMB}) (2)*(3)*(4)*(5)
Total	1.09	0.52	0.74	0.90	0.38
Fatal and Injury (FI)	1.10	0.42	0.59	0.90	0.24

Note: The 4-leg Signalized Intersection (4SG) models do not have base conditions and so can only be used for estimation purposes. As a result, there are not CMFs provided for the 4SG condition.

Worksheet 2C -- Intersection Crashes for Rural Multilane Highway Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients** from Table 11-7 or 11-8			**$N_{spf\ int}$**	**Overdispersion Parameter, k**	**Combined CMFs** from (6) of Worksheet 2B	**Calibration Factor, C_i**	**Predicted average crash frequency, $N_{predicted\ int}$**
	a	b	c or d (4SG)	from Equation 11-11 or 11-12	from Table 11-7 or 11-8			(3)*(5)*(6)
Total	-10.008	0.848	0.448	3.100	0.494	0.38	1.64	1.916
Fatal and Injury (FI)	-11.554	0.888	0.525	1.737	0.742	0.24	1.64	0.693
Fatal and Injury[a] (FI[a])	-10.734	0.828	0.412	0.943	0.655	0.24	1.64	0.377
Property Damage Only (PDO)	--	--	--	--	--	--	--	$(7)_{TOTAL}$ - $(7)_{FI}$ 1.223

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Collision Type	**Proportion of Collision Type$_{(TOTAL)}$**	**$N_{predicted\ int\ (TOTAL)}$ (crashes/year)**	**Proportion of Collision Type$_{(FI)}$**	**$N_{predicted\ int\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (FI^a)**	**$N_{predicted\ int}$ (FI^a) (crashes/year)**	**Proportion of Collision Type (PDO)**	**$N_{predicted\ int\ (PDO)}$ (crashes/year)**
	from Table 11-9	$(7)_{TOTAL}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$[a] from Worksheet 2C	from Table 11-9	$(7)_{PDO}$ from Worksheet 2C
Total	1.000	1.916	1.000	0.693	1.000	0.377	1.000	1.223
		(2)*(3)$_{TOTAL}$		(4)x(5)$_{FI}$		(6)*(7)$_{FI}$[a]		(8)*(9) $_{PDO}$
Head-on collision	0.016	0.031	0.018	0.012	0.023	0.009	0.015	0.018
Sideswipe collision	0.107	0.205	0.042	0.029	0.040	0.015	0.156	0.191
Rear-end collision	0.228	0.437	0.213	0.148	0.108	0.041	0.240	0.294
Angle collision	0.395	0.757	0.534	0.370	0.571	0.215	0.292	0.357
Single-vehicle collision	0.202	0.387	0.148	0.103	0.199	0.075	0.243	0.297
Other collision	0.052	0.100	0.045	0.031	0.059	0.022	0.054	0.066

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2E -- Summary Results for Rural Multilane Highway Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency (crashes / year)**
	(7) from Worksheet 2C
Total	1.9
Fatal and Injury (FI)	0.7
Fatal and Injury[a] (FI[a])	0.4
Property Damage Only (PDO)	1.2

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

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Worksheet 3A -- Predicted and Observed Crashes by Severity and Site Type Using the Site-Specific EB Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes, $N_{observed}$** (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency,**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Divided Multilane - DSeg1	0.084	0.045	0.039		2.493	0.828	0.069
Divided Multilane - DSeg2	1.605	0.857	0.748		0.130	0.828	1.328
Divided Multilane - DSeg3	0.982	0.524	0.458		0.212	0.828	0.813
Divided Multilane - DSeg4	2.524	1.348	1.177		0.083	0.828	2.089
Divided Multilane - DSeg5	2.316	1.237	1.080		0.090	0.828	1.917
Segment 6						1.000	0.000
Segment 7						1.000	0.000
Segment 8						1.000	0.000
INTERSECTIONS							
Multilane - Int1	0.634	0.223	0.411		0.460	0.774	0.491
Multilane - Int2	0.679	0.241	0.438		0.460	0.762	0.517
Multilane - Int3	0.634	0.223	0.411		0.460	0.774	0.491
Multilane - Int4	0.634	0.223	0.411		0.460	0.774	0.491
Multilane - Int5	0.634	0.223	0.411		0.460	0.774	0.491
Multilane - Int6	1.916	0.693	1.223		0.494	0.514	0.984
Intersection 7						1.000	0.000
Intersection 8						1.000	0.000
COMBINED (sum of column)	12.643	5.836	6.806	0	--	--	9.681

Worksheet 3B -- Site-Specific EB Method Summary Results

(1)	(2)	(3)
Crash severity level	$N_{predicted}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 3A	$(8)_{COMB}$ from Worksheet 3A
	12.643	9.7
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 3A	$(3)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$
	5.836	4.5
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 3A	$(3)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$
	6.806	5.2

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Worksheet 4A -- Predicted and Observed Crashes by Severity and Site Type Using the Project-Level EB Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes,**	**Overdispersion Parameter, k**	**N_{w0}**	**N_{w1}**	**W_0**	**N_0**	**w_1**	**N_1**	**$N_{p/comb}$**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)	$N_{observed}$ (crashes/year)		Equation A-8 $(6)*(2)^2$	Equation A-9 sqrt((6)*(2))	Equation A-10	Equation A-11	Equation A-12	Equation A-13	Equation A-14
ROADWAY SEGMENTS												
Segment 1 (Divided)	0.084	0.045	0.039	--	2.493	0.017	0.456	--	--	--	--	--
Segment 2	1.605	0.857	0.748	--	0.130	0.334	0.456	--	--	--	--	--
Segment 3	0.982	0.524	0.458	--	0.212	0.205	0.456	--	--	--	--	--
Segment 4	2.524	1.348	1.177	--	0.083	0.526	0.456	--	--	--	--	--
Segment 5	2.316	1.237	1.080	--	0.090	0.483	0.456	--	--	--	--	--
Segment 6				--				--	--	--	--	--
Segment 7				--				--	--	--	--	--
Segment 8				--				--	--	--	--	--
INTERSECTIONS												
Intersection 1	0.634	0.223	0.411	--	0.460	0.185	0.540	--	--	--	--	--
Intersection 2	0.679	0.241	0.438	--	0.460	0.212	0.559	--	--	--	--	--
Intersection 3	0.634	0.223	0.411	--	0.460	0.185	0.540	--	--	--	--	--
Intersection 4	0.634	0.223	0.411	--	0.460	0.185	0.540	--	--	--	--	--
Intersection 5	0.634	0.223	0.411	--	0.460	0.185	0.540	--	--	--	--	--
Intersection 6	1.916	0.693	1.223	--	0.494	1.814	0.973	--	--	--	--	--
Intersection 7				--				--	--	--	--	--
Intersection 8				--				--	--	--	--	--
COMBINED (sum of column)	12.643	5.836	6.806		--	4.331	5.974	0.745	9.417	0.679	8.586	9.001

Worksheet 4B -- Project-Level EB Method Summary Results

(1)	(2)	(3)
Crash severity level	$N_{predicted}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 4A	$(13)_{COMB}$ from Worksheet 4A
	12.6	9.0
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 4A	$(3)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$
	5.8	4.2
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 4A	$(3)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$
	6.8	4.8

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Worksheet 1A -- General Information and Input Data for Rural Multilane Roadway Segments

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Roadway Section	Lonesome Island Rd to JC Durrance Rd
Date Performed	08/14/23	Jurisdiction	FDOT District One
		Analysis Year	2052

Input Data		Base Conditions	Site Conditions
Roadway type (divided / undivided)		Undivided	Divided
Length of segment, L (mi)		--	0.085227273
AADT (veh/day)	$AADT_{MAX}$ = 89,300 (veh/day)	--	12,500
Lane width (ft.)		12	12
Shoulder width (ft.) - right shoulder width for divided [if differ for directions of travel, use average width]		8	10
Shoulder type - right shoulder type for divided		Paved	Composite
Median width (ft.) - for divided only		30	40
Side Slopes - for undivided only		1:7 or flatter	
Lighting (present/not present)		Not Present	Not Present
Auto speed enforcement (present/not present)		Not Present	Not Present
Calibration Factor, Cr		1.00	0.68

Worksheet 1B (a) -- Crash Modification Factors for Rural Multilane Divided Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for Lane Width	CMF for Right Shoulder Width	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1rd	*CMF 2rd*	*CMF 3rd*	*CMF 4rd*	*CMF 5rd*	*CMF comb*
from Equation 11-16	from Table 11-17	from Table 11-18	from Equation 11-17	from Section 11.7.2	(1)*(2)*(3)*(4)*(5)
1.00	1.00	0.99	1.00	1.00	0.99

Worksheet 1C (a) -- Roadway Segment Crashes for Rural Multilane Divided Roadway Segments

(1)	(2)			(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients** from Table 11-5			**N spf rd**	**Overdispersion Parameter, k**	**Combined CMFs** (6) from Worksheet 1B (a)	**Calibration Factor, Cr**	**Predicted average crash frequency, $N_{predicted\ rs(d)}$**
	a	b	c	from Equation 11-9	from Equation 11-10			(3)*(5)*(6)
Total	-9.025	1.049	1.549	0.204	2.493	0.99	0.68	0.137
Fatal and Injury (FI)	-8.837	0.958	1.687	0.104	2.172	0.99	0.68	0.070
Fatal and Injury[a] (FI^a)	-8.505	0.874	1.740	0.066	2.059	0.99	0.68	0.044
Property Damage Only (PDO)	--	--	--	--	--	--	--	$(7)_{TOTAL}$ - $(7)_{FI}$ 0.067

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 1D (a) -- Crashes by Severity Level and Collision Type for Rural Multilane Divided Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Collision Type	**Proportion of Collision $Type_{(TOTAL)}$** from Table 11-6	**$N_{predicted\ rs(d)\ (TOTAL)}$ (crashes/year)** $(7)_{TOTAL}$ from Worksheet 1C (a)	**Proportion of Collision Type(FI)** from Table 11-6	**$N_{predicted\ rs(d)\ (FI)}$ (crashes/year)** $(7)_{FI}$ from Worksheet 1C (a)	**Proportion of Collision Type (FI^a)** from Table 11-6	**N *predicted rs* (FI^a) (crashes/year)** $(7)_{FI}{}^a$ from Worksheet 1C (a)	**Proportion of Collision Type (PDO)** from Table 11-6	**$N_{predicted\ rs(d)\ (PDO)}$ (crashes/year)** $(7)_{PDO}$ from Worksheet 1C (a)
Total	1.000	0.137	1.000	0.070	1.000	0.044	1.000	0.067
		$(2)*(3)_{TOTAL}$		$(4)x(5)_{FI}$		$(6)*(7)_{FI}{}^a$		$(8)*(9)_{PDO}$
Head-on collision	0.006	0.001	0.013	0.001	0.018	0.001	0.002	0.000
Sideswipe collision	0.043	0.006	0.027	0.002	0.022	0.001	0.053	0.004
Rear-end collision	0.116	0.016	0.163	0.011	0.114	0.005	0.088	0.006
Angle collision	0.043	0.006	0.048	0.003	0.045	0.002	0.041	0.003
Single-vehicle collision	0.768	0.105	0.727	0.051	0.778	0.034	0.792	0.053
Other collision	0.024	0.003	0.022	0.002	0.023	0.001	0.024	0.002

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 1E -- Summary Results for Rural Multilane Roadway Segments

(1)	(2)	(3)	(4)
Crash severity level	**Predicted average crash frequency (crashes/year)** (7) from Worksheet 1C (a) or (b)	**Roadway segment length (mi)**	**Crash rate (crashes/mi/year)** (2)/(3)
Total	0.1	0.1	1.6
Fatal and Injury (FI)	0.1	0.1	0.8
Fatal and Injury[a] (FI^a)	0.0	0.1	0.5
Property Damage Only (PDO)	0.1	0.1	0.8

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

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Worksheet 1A -- General Information and Input Data for Rural Multilane Roadway Segments

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Roadway Section	JC Durrance Rd to Greenbrier Ln
Date Performed	08/14/23	Jurisdiction	FDOT District One
		Analysis Year	2052

Input Data		Base Conditions	Site Conditions
Roadway type (divided / undivided)		Undivided	Divided
Length of segment, L (mi)		--	1.637121212
AADT (veh/day)	$AADT_{MAX}$ = 89,300 (veh/day)	--	12,500
Lane width (ft.)		12	12
Shoulder width (ft.) - right shoulder width for divided [if differ for directions of travel, use average width]		8	10
Shoulder type - right shoulder type for divided		Paved	Composite
Median width (ft.) - for divided only		30	40
Side Slopes - for undivided only		1:7 or flatter	
Lighting (present/not present)		Not Present	Not Present
Auto speed enforcement (present/not present)		Not Present	Not Present
Calibration Factor, Cr		1.00	0.68

Worksheet 1B (a) -- Crash Modification Factors for Rural Multilane Divided Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for Lane Width	CMF for Right Shoulder Width	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1rd	*CMF 2rd*	*CMF 3rd*	*CMF 4rd*	*CMF 5rd*	*CMF comb*
from Equation 11-16	from Table 11-17	from Table 11-18	from Equation 11-17	from Section 11.7.2	(1)*(2)*(3)*(4)*(5)
1.00	1.00	0.99	1.00	1.00	0.99

Worksheet 1C (a) -- Roadway Segment Crashes for Rural Multilane Divided Roadway Segments

(1)	(2)			(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients** from Table 11-5			**N spf rd**	**Overdispersion Parameter, k**	**Combined CMFs** (6) from Worksheet 1B (a)	**Calibration Factor, Cr**	**Predicted average crash frequency, $N_{predicted\ rs(d)}$**
	a	b	c	from Equation 11-9	from Equation 11-10			(3)*(5)*(6)
Total	-9.025	1.049	1.549	3.910	0.130	0.99	0.68	2.633
Fatal and Injury (FI)	-8.837	0.958	1.687	2.000	0.113	0.99	0.68	1.346
Fatal and Injury[a] (FI^a)	-8.505	0.874	1.740	1.262	0.107	0.99	0.68	0.850
Property Damage Only (PDO)	--	--	--	--	--	--	--	$(7)_{TOTAL}$ - $(7)_{FI}$ 1.286

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 1D (a) -- Crashes by Severity Level and Collision Type for Rural Multilane Divided Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Collision Type	**Proportion of Collision $Type_{(TOTAL)}$**	**$N_{predicted\ rs(d)\ (TOTAL)}$ (crashes/year)**	**Proportion of Collision Type(FI)**	**$N_{predicted\ rs(d)\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (FI^a)**	**N *predicted rs* (FI^a) (crashes/year)**	**Proportion of Collision Type (PDO)**	**$N_{predicted\ rs(d)\ (PDO)}$ (crashes/year)**
	from Table 11-6	$(7)_{TOTAL}$ from Worksheet 1C (a)	from Table 11-6	$(7)_{FI}$ from Worksheet 1C (a)	from Table 11-6	$(7)_{FI}{}^a$ from Worksheet 1C (a)	from Table 11-6	$(7)_{PDO}$ from Worksheet 1C (a)
Total	1.000	2.633	1.000	1.346	1.000	0.850	1.000	1.286
		$(2)*(3)_{TOTAL}$		$(4)x(5)_{FI}$		$(6)*(7)_{FI}{}^a$		$(8)*(9)_{PDO}$
Head-on collision	0.006	0.016	0.013	0.018	0.018	0.015	0.002	0.003
Sideswipe collision	0.043	0.113	0.027	0.036	0.022	0.019	0.053	0.068
Rear-end collision	0.116	0.305	0.163	0.219	0.114	0.097	0.088	0.113
Angle collision	0.043	0.113	0.048	0.065	0.045	0.038	0.041	0.053
Single-vehicle collision	0.768	2.022	0.727	0.979	0.778	0.661	0.792	1.019
Other collision	0.024	0.063	0.022	0.030	0.023	0.020	0.024	0.031

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 1E -- Summary Results for Rural Multilane Roadway Segments

(1)	(2)	(3)	(4)
Crash severity level	**Predicted average crash frequency (crashes/year)** (7) from Worksheet 1C (a) or (b)	**Roadway segment length (mi)**	**Crash rate (crashes/mi/year)** (2)/(3)
Total	2.6	1.6	1.6
Fatal and Injury (FI)	1.3	1.6	0.8
Fatal and Injury[a] (FI^a)	0.8	1.6	0.5
Property Damage Only (PDO)	1.3	1.6	0.8

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

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Worksheet 1A -- General Information and Input Data for Rural Multilane Roadway Segments

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Roadway Section	Greenbrier Ln to DC Bar Ranch Rd
Date Performed	08/14/23	Jurisdiction	FDOT District One
		Analysis Year	2052

Input Data		Base Conditions	Site Conditions
Roadway type (divided / undivided)		Undivided	Divided
Length of segment, L (mi)		--	1.001325758
AADT (veh/day)	$AADT_{MAX}$ = 89,300 (veh/day)	--	12,500
Lane width (ft.)		12	12
Shoulder width (ft.) - right shoulder width for divided [if differ for directions of travel, use average width]		8	10
Shoulder type - right shoulder type for divided		Paved	Composite
Median width (ft.) - for divided only		30	40
Side Slopes - for undivided only		1:7 or flatter	
Lighting (present/not present)		Not Present	Not Present
Auto speed enforcement (present/not present)		Not Present	Not Present
Calibration Factor, Cr		1.00	0.68

Worksheet 1B (a) -- Crash Modification Factors for Rural Multilane Divided Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for Lane Width	CMF for Right Shoulder Width	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1rd	*CMF 2rd*	*CMF 3rd*	*CMF 4rd*	*CMF 5rd*	*CMF comb*
from Equation 11-16	from Table 11-17	from Table 11-18	from Equation 11-17	from Section 11.7.2	(1)*(2)*(3)*(4)*(5)
1.00	1.00	0.99	1.00	1.00	0.99

Worksheet 1C (a) -- Roadway Segment Crashes for Rural Multilane Divided Roadway Segments

(1)	(2)			(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients** from Table 11-5			**N spf rd**	**Overdispersion Parameter, k**	**Combined CMFs** (6) from Worksheet 1B (a)	**Calibration Factor, Cr**	**Predicted average crash frequency, $N_{predicted\ rs(d)}$**
	a	b	c	from Equation 11-9	from Equation 11-10			(3)*(5)*(6)
Total	-9.025	1.049	1.549	2.392	0.212	0.99	0.68	1.610
Fatal and Injury (FI)	-8.837	0.958	1.687	1.223	0.185	0.99	0.68	0.824
Fatal and Injury[a] (FI^a)	-8.505	0.874	1.740	0.772	0.175	0.99	0.68	0.520
Property Damage Only (PDO)	--	--	--	--	--	--	--	$(7)_{TOTAL}$ - $(7)_{FI}$ 0.787

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 1D (a) -- Crashes by Severity Level and Collision Type for Rural Multilane Divided Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Collision Type	**Proportion of Collision $Type_{(TOTAL)}$**	**$N_{predicted\ rs(d)\ (TOTAL)}$ (crashes/year)**	**Proportion of Collision Type(FI)**	**$N_{predicted\ rs(d)\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (FI^a)**	**N *predicted rs* (FI^a) (crashes/year)**	**Proportion of Collision Type (PDO)**	**$N_{predicted\ rs(d)\ (PDO)}$ (crashes/year)**
	from Table 11-6	$(7)_{TOTAL}$ from Worksheet 1C (a)	from Table 11-6	$(7)_{FI}$ from Worksheet 1C (a)	from Table 11-6	$(7)_{FI}{}^a$ from Worksheet 1C (a)	from Table 11-6	$(7)_{PDO}$ from Worksheet 1C (a)
Total	1.000	1.610	1.000	0.824	1.000	0.520	1.000	0.787
		$(2)*(3)_{TOTAL}$		$(4)x(5)_{FI}$		$(6)*(7)_{FI}{}^a$		$(8)*(9)_{PDO}$
Head-on collision	0.006	0.010	0.013	0.011	0.018	0.009	0.002	0.002
Sideswipe collision	0.043	0.069	0.027	0.022	0.022	0.011	0.053	0.042
Rear-end collision	0.116	0.187	0.163	0.134	0.114	0.059	0.088	0.069
Angle collision	0.043	0.069	0.048	0.040	0.045	0.023	0.041	0.032
Single-vehicle collision	0.768	1.237	0.727	0.599	0.778	0.404	0.792	0.623
Other collision	0.024	0.039	0.022	0.018	0.023	0.012	0.024	0.019

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 1E -- Summary Results for Rural Multilane Roadway Segments

(1)	(2)	(3)	(4)
Crash severity level	**Predicted average crash frequency (crashes/year)** (7) from Worksheet 1C (a) or (b)	**Roadway segment length (mi)**	**Crash rate (crashes/mi/year)** (2)/(3)
Total	1.6	1.0	1.6
Fatal and Injury (FI)	0.8	1.0	0.8
Fatal and Injury[a] (FI^a)	0.5	1.0	0.5
Property Damage Only (PDO)	0.8	1.0	0.8

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

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Worksheet 1A -- General Information and Input Data for Rural Multilane Roadway Segments

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Roadway Section	DC Bar Ranch Rd to Lykes Rd
Date Performed	08/14/23	Jurisdiction	FDOT District One
		Analysis Year	2052

Input Data		Base Conditions	Site Conditions
Roadway type (divided / undivided)		Undivided	Divided
Length of segment, L (mi)		--	2.574621212
AADT (veh/day)	$AADT_{MAX}$ = 89,300 (veh/day)	--	12,500
Lane width (ft.)		12	12
Shoulder width (ft.) - right shoulder width for divided [if differ for directions of travel, use average width]		8	10
Shoulder type - right shoulder type for divided		Paved	Composite
Median width (ft.) - for divided only		30	40
Side Slopes - for undivided only		1:7 or flatter	
Lighting (present/not present)		Not Present	Not Present
Auto speed enforcement (present/not present)		Not Present	Not Present
Calibration Factor, Cr		1.00	0.68

Worksheet 1B (a) -- Crash Modification Factors for Rural Multilane Divided Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for Lane Width	CMF for Right Shoulder Width	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1rd	*CMF 2rd*	*CMF 3rd*	*CMF 4rd*	*CMF 5rd*	*CMF comb*
from Equation 11-16	from Table 11-17	from Table 11-18	from Equation 11-17	from Section 11.7.2	(1)*(2)*(3)*(4)*(5)
1.00	1.00	0.99	1.00	1.00	0.99

Worksheet 1C (a) -- Roadway Segment Crashes for Rural Multilane Divided Roadway Segments

(1)	(2)			(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients** from Table 11-5			**N spf rd**	**Overdispersion Parameter, k**	**Combined CMFs** (6) from Worksheet 1B (a)	**Calibration Factor, Cr**	**Predicted average crash frequency, $N_{predicted\ rs(d)}$**
	a	b	c	from Equation 11-9	from Equation 11-10			(3)*(5)*(6)
Total	-9.025	1.049	1.549	6.150	0.083	0.99	0.68	4.140
Fatal and Injury (FI)	-8.837	0.958	1.687	3.146	0.072	0.99	0.68	2.118
Fatal and Injury[a] (FI^a)	-8.505	0.874	1.740	1.985	0.068	0.99	0.68	1.336
Property Damage Only (PDO)	--	--	--	--	--	--	--	$(7)_{TOTAL}$ - $(7)_{FI}$ 2.023

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 1D (a) -- Crashes by Severity Level and Collision Type for Rural Multilane Divided Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Collision Type	**Proportion of Collision $Type_{(TOTAL)}$**	**$N_{predicted\ rs(d)\ (TOTAL)}$ (crashes/year)**	**Proportion of Collision Type(FI)**	**$N_{predicted\ rs(d)\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (FI^a)**	**N *predicted rs* (FI^a) (crashes/year)**	**Proportion of Collision Type (PDO)**	**$N_{predicted\ rs(d)\ (PDO)}$ (crashes/year)**
	from Table 11-6	$(7)_{TOTAL}$ from Worksheet 1C (a)	from Table 11-6	$(7)_{FI}$ from Worksheet 1C (a)	from Table 11-6	$(7)_{FI}{}^a$ from Worksheet 1C (a)	from Table 11-6	$(7)_{PDO}$ from Worksheet 1C (a)
Total	1.000	4.140	1.000	2.118	1.000	1.336	1.000	2.023
		$(2)*(3)_{TOTAL}$		$(4)x(5)_{FI}$		$(6)*(7)_{FI}{}^a$		$(8)*(9)_{PDO}$
Head-on collision	0.006	0.025	0.013	0.028	0.018	0.024	0.002	0.004
Sideswipe collision	0.043	0.178	0.027	0.057	0.022	0.029	0.053	0.107
Rear-end collision	0.116	0.480	0.163	0.345	0.114	0.152	0.088	0.178
Angle collision	0.043	0.178	0.048	0.102	0.045	0.060	0.041	0.083
Single-vehicle collision	0.768	3.180	0.727	1.539	0.778	1.040	0.792	1.602
Other collision	0.024	0.099	0.022	0.047	0.023	0.031	0.024	0.049

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 1E -- Summary Results for Rural Multilane Roadway Segments

(1)	(2)	(3)	(4)
Crash severity level	**Predicted average crash frequency (crashes/year)** (7) from Worksheet 1C (a) or (b)	**Roadway segment length (mi)**	**Crash rate (crashes/mi/year)** (2)/(3)
Total	4.1	2.6	1.6
Fatal and Injury (FI)	2.1	2.6	0.8
Fatal and Injury[a] (FI^a)	1.3	2.6	0.5
Property Damage Only (PDO)	2.0	2.6	0.8

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

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Worksheet 1A -- General Information and Input Data for Rural Multilane Roadway Segments

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Roadway Section	Lykes Rd to Southern Leg of CR 721
Date Performed	08/14/23	Jurisdiction	FDOT District One
		Analysis Year	2052

Input Data		Base Conditions	Site Conditions
Roadway type (divided / undivided)		Undivided	Divided
Length of segment, L (mi)		--	2.362310606
AADT (veh/day)	$AADT_{MAX}$ = 89,300 (veh/day)	--	12,500
Lane width (ft.)		12	12
Shoulder width (ft.) - right shoulder width for divided [if differ for directions of travel, use average width]		8	10
Shoulder type - right shoulder type for divided		Paved	Composite
Median width (ft.) - for divided only		30	40
Side Slopes - for undivided only		1:7 or flatter	
Lighting (present/not present)		Not Present	Not Present
Auto speed enforcement (present/not present)		Not Present	Not Present
Calibration Factor, Cr		1.00	0.68

Worksheet 1B (a) -- Crash Modification Factors for Rural Multilane Divided Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for Lane Width	CMF for Right Shoulder Width	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1rd	*CMF 2rd*	*CMF 3rd*	*CMF 4rd*	*CMF 5rd*	*CMF comb*
from Equation 11-16	from Table 11-17	from Table 11-18	from Equation 11-17	from Section 11.7.2	(1)*(2)*(3)*(4)*(5)
1.00	1.00	0.99	1.00	1.00	0.99

Worksheet 1C (a) -- Roadway Segment Crashes for Rural Multilane Divided Roadway Segments

(1)	(2)			(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients** from Table 11-5			**N spf rd**	**Overdispersion Parameter, k**	**Combined CMFs** (6) from Worksheet 1B (a)	**Calibration Factor, Cr**	**Predicted average crash frequency, $N_{predicted\ rs(d)}$**
	a	b	c	from Equation 11-9	from Equation 11-10			(3)*(5)*(6)
Total	-9.025	1.049	1.549	5.643	0.090	0.99	0.68	3.799
Fatal and Injury (FI)	-8.837	0.958	1.687	2.886	0.078	0.99	0.68	1.943
Fatal and Injury[a] (FI[a])	-8.505	0.874	1.740	1.821	0.074	0.99	0.68	1.226
Property Damage Only (PDO)	--	--	--	--	--	--	--	$(7)_{TOTAL}$ - $(7)_{FI}$ 1.856

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 1D (a) -- Crashes by Severity Level and Collision Type for Rural Multilane Divided Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Collision Type	**Proportion of Collision $Type_{(TOTAL)}$**	**$N_{predicted\ rs(d)\ (TOTAL)}$ (crashes/year)**	**Proportion of Collision Type(FI)**	**$N_{predicted\ rs(d)\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (FI[a])**	**N *predicted rs* (FI[a]) (crashes/year)**	**Proportion of Collision Type (PDO)**	**$N_{predicted\ rs(d)\ (PDO)}$ (crashes/year)**
	from Table 11-6	$(7)_{TOTAL}$ from Worksheet 1C (a)	from Table 11-6	$(7)_{FI}$ from Worksheet 1C (a)	from Table 11-6	$(7)_{FI}$[a] from Worksheet 1C (a)	from Table 11-6	$(7)_{PDO}$ from Worksheet 1C (a)
Total	1.000	3.799	1.000	1.943	1.000	1.226	1.000	1.856
		$(2)*(3)_{TOTAL}$		$(4)x(5)_{FI}$		$(6)*(7)_{FI}$[a]		$(8)*(9)_{PDO}$
Head-on collision	0.006	0.023	0.013	0.025	0.018	0.022	0.002	0.004
Sideswipe collision	0.043	0.163	0.027	0.052	0.022	0.027	0.053	0.098
Rear-end collision	0.116	0.441	0.163	0.317	0.114	0.140	0.088	0.163
Angle collision	0.043	0.163	0.048	0.093	0.045	0.055	0.041	0.076
Single-vehicle collision	0.768	2.917	0.727	1.413	0.778	0.954	0.792	1.470
Other collision	0.024	0.091	0.022	0.043	0.023	0.028	0.024	0.045

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 1E -- Summary Results for Rural Multilane Roadway Segments

(1)	(2)	(3)	(4)
Crash severity level	**Predicted average crash frequency (crashes/year)** (7) from Worksheet 1C (a) or (b)	**Roadway segment length (mi)**	**Crash rate (crashes/mi/year)** (2)/(3)
Total	3.8	2.4	1.6
Fatal and Injury (FI)	1.9	2.4	0.8
Fatal and Injury[a] (FI[a])	1.2	2.4	0.5
Property Damage Only (PDO)	1.9	2.4	0.8

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

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Worksheet 2A -- General Information and Input Data for Rural Multilane Highway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Intersection	Lonesome Island Rd
Date Performed	08/14/23	Jurisdiction	FDOT District One
		Analysis Year	2052

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 4ST, 4SG		--	3ST
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ = 78,300 (veh/day)	--	12,500
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ = 23,000 (veh/day)	--	200
Intersection skew angle (degrees)		0	0
Number of non-STOP-controlled approaches with left-turn lanes (0, 1, 2)		0	1
Number of non-STOP-controlled approaches with right-turn lanes (0, 1, 2, 3, or 4)		0	0
Intersection lighting (present/not present)		Not Present	Present
Calibration Factor, C_i		1.00	2.20

Worksheet 2B -- Crash Modification Factors for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Crash Severity Level	CMF for Intersection Skew Angle (CMF_{1i}) from Equations 11-18 or 11-20 and 11-19 or 11-21	CMF for Left-Turn Lanes (CMF_{2i}) from Table 11-22	CMF for Right-Turn Lanes (CMF_{3i}) from Table 11-23	CMF for Lighting (CMF_{4i}) from Equation 11-22	Combined CMF (CMF_{COMB}) (2)*(3)*(4)*(5)
Total	1.00	0.56	1.00	0.90	0.50
Fatal and Injury (FI)	1.00	0.45	1.00	0.90	0.40

Note: The 4-leg Signalized Intersection (4SG) models do not have base conditions and so can only be used for estimation purposes. As a result, there are not CMFs provided for the 4SG condition.

Worksheet 2C -- Intersection Crashes for Rural Multilane Highway Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients** from Table 11-7 or 11-8			$N_{spf\ int}$	**Overdispersion Parameter, k**	**Combined CMFs** from (6) of Worksheet 2B	**Calibration Factor, C_i**	**Predicted average crash frequency, $N_{predicted\ int}$**
	a	b	c or d (4SG)	from Equation 11-11 or 11-12	from Table 11-7 or 11-8			(3)*(5)*(6)
Total	-12.526	1.204	0.236	1.086	0.460	0.50	2.20	1.197
Fatal and Injury (FI)	-12.664	1.107	0.272	0.458	0.569	0.40	2.20	0.406
Fatal and Injury[a] (FI[a])	-11.989	1.013	0.228	0.294	0.566	0.40	2.20	0.260
Property Damage Only (PDO)	--	--	--	--	--	--	--	$(7)_{TOTAL}$ - $(7)_{FI}$ 0.791

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Collision Type	**Proportion of Collision Type$_{(TOTAL)}$**	**$N_{predicted\ int\ (TOTAL)}$ (crashes/year)**	**Proportion of Collision Type$_{(FI)}$**	**$N_{predicted\ int\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (FI[a])**	**N *predicted int* (FI[a]) (crashes/year)**	**Proportion of Collision Type (PDO)**	**$N_{predicted\ int\ (PDO)}$ (crashes/year)**
	from Table 11-9	$(7)_{TOTAL}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$[a] from Worksheet 2C	from Table 11-9	$(7)_{PDO}$ from Worksheet 2C
Total	1.000	1.197	1.000	0.406	1.000	0.260	1.000	0.791
		(2)*(3)$_{TOTAL}$		(4)x(5)$_{FI}$		(6)*(7)$_{FI}$[a]		(8)*(9) $_{PDO}$
Head-on collision	0.029	0.035	0.043	0.017	0.052	0.014	0.020	0.016
Sideswipe collision	0.133	0.159	0.058	0.024	0.057	0.015	0.179	0.142
Rear-end collision	0.289	0.346	0.247	0.100	0.142	0.037	0.315	0.249
Angle collision	0.263	0.315	0.369	0.150	0.381	0.099	0.198	0.157
Single-vehicle collision	0.234	0.280	0.219	0.089	0.284	0.074	0.244	0.193
Other collision	0.052	0.062	0.064	0.026	0.084	0.022	0.044	0.035

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2E -- Summary Results for Rural Multilane Highway Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency (crashes / year)**
	(7) from Worksheet 2C
Total	1.2
Fatal and Injury (FI)	0.4
Fatal and Injury[a] (FI[a])	0.3
Property Damage Only (PDO)	0.8

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

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Worksheet 2A -- General Information and Input Data for Rural Multilane Highway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Intersection	JC Durrance Rd
Date Performed	08/14/23	Jurisdiction	FDOT District One
		Analysis Year	2052

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 4ST, 4SG		--	3ST
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ = 78,300 (veh/day)	--	12,500
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ = 23,000 (veh/day)	--	350
Intersection skew angle (degrees)		0	0
Number of non-STOP-controlled approaches with left-turn lanes (0, 1, 2)		0	1
Number of non-STOP-controlled approaches with right-turn lanes (0, 1, 2, 3, or 4)		0	0
Intersection lighting (present/not present)		Not Present	Present
Calibration Factor, C_i		1.00	2.20

Worksheet 2B -- Crash Modification Factors for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Crash Severity Level	CMF for Intersection Skew Angle (CMF_{1i}) from Equations 11-18 or 11-20 and 11-19 or 11-21	CMF for Left-Turn Lanes (CMF_{2i}) from Table 11-22	CMF for Right-Turn Lanes (CMF_{3i}) from Table 11-23	CMF for Lighting (CMF_{4i}) from Equation 11-22	Combined CMF (CMF_{COMB}) (2)*(3)*(4)*(5)
Total	1.00	0.56	1.00	0.90	0.50
Fatal and Injury (FI)	1.00	0.45	1.00	0.90	0.40

Note: The 4-leg Signalized Intersection (4SG) models do not have base conditions and so can only be used for estimation purposes. As a result, there are not CMFs provided for the 4SG condition.

Worksheet 2C -- Intersection Crashes for Rural Multilane Highway Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients** from Table 11-7 or 11-8			$N_{spf\ int}$	**Overdispersion Parameter, k**	**Combined CMFs** from (6) of Worksheet 2B	**Calibration Factor, C_i**	**Predicted average crash frequency, $N_{predicted\ int}$**
	a	b	c or d (4SG)	from Equation 11-11 or 11-12	from Table 11-7 or 11-8			(3)*(5)*(6)
Total	-12.526	1.204	0.236	1.239	0.460	0.50	2.20	1.366
Fatal and Injury (FI)	-12.664	1.107	0.272	0.534	0.569	0.40	2.20	0.473
Fatal and Injury[a] (FI^a)	-11.989	1.013	0.228	0.334	0.566	0.40	2.20	0.296
Property Damage Only (PDO)	--	--	--	--	--	--	--	$(7)_{TOTAL}$ - $(7)_{FI}$ 0.893

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Collision Type	**Proportion of Collision Type$_{(TOTAL)}$**	**$N_{predicted\ int\ (TOTAL)}$ (crashes/year)**	**Proportion of Collision Type$_{(FI)}$**	**$N_{predicted\ int\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (FI^a)**	**N *predicted int* (FI^a) (crashes/year)**	**Proportion of Collision Type (PDO)**	**$N_{predicted\ int\ (PDO)}$ (crashes/year)**
	from Table 11-9	$(7)_{TOTAL}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$[a] from Worksheet 2C	from Table 11-9	$(7)_{PDO}$ from Worksheet 2C
Total	1.000	1.366	1.000	0.473	1.000	0.296	1.000	0.893
		(2)*(3)$_{TOTAL}$		(4)x(5)$_{FI}$		(6)*(7)$_{FI}$[a]		(8)*(9) $_{PDO}$
Head-on collision	0.029	0.040	0.043	0.020	0.052	0.015	0.020	0.018
Sideswipe collision	0.133	0.182	0.058	0.027	0.057	0.017	0.179	0.160
Rear-end collision	0.289	0.395	0.247	0.117	0.142	0.042	0.315	0.281
Angle collision	0.263	0.359	0.369	0.175	0.381	0.113	0.198	0.177
Single-vehicle collision	0.234	0.320	0.219	0.104	0.284	0.084	0.244	0.218
Other collision	0.052	0.071	0.064	0.030	0.084	0.025	0.044	0.039

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2E -- Summary Results for Rural Multilane Highway Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency (crashes / year)**
	(7) from Worksheet 2C
Total	1.4
Fatal and Injury (FI)	0.5
Fatal and Injury[a] (FI^a)	0.3
Property Damage Only (PDO)	0.9

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

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Worksheet 2A -- General Information and Input Data for Rural Multilane Highway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Intersection	Greenbrier Ln
Date Performed	08/14/23	Jurisdiction	FDOT District One
		Analysis Year	2052

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 4ST, 4SG		--	3ST
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ = 78,300 (veh/day)	--	12,500
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ = 23,000 (veh/day)	--	200
Intersection skew angle (degrees)		0	0
Number of non-STOP-controlled approaches with left-turn lanes (0, 1, 2)		0	1
Number of non-STOP-controlled approaches with right-turn lanes (0, 1, 2, 3, or 4)		0	0
Intersection lighting (present/not present)		Not Present	Present
Calibration Factor, C		1.00	2.20

Worksheet 2B -- Crash Modification Factors for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Crash Severity Level	CMF for Intersection Skew Angle (CMF_{1i}) from Equations 11-18 or 11-20 and 11-19 or 11-21	CMF for Left-Turn Lanes (CMF_{2i}) from Table 11-22	CMF for Right-Turn Lanes (CMF_{3i}) from Table 11-23	CMF for Lighting (CMF_{4i}) from Equation 11-22	Combined CMF (CMF_{COMB}) (2)*(3)*(4)*(5)
Total	1.00	0.56	1.00	0.90	0.50
Fatal and Injury (FI)	1.00	0.45	1.00	0.90	0.40

Note: The 4-leg Signalized Intersection (4SG) models do not have base conditions and so can only be used for estimation purposes. As a result, there are not CMFs provided for the 4SG condition.

Worksheet 2C -- Intersection Crashes for Rural Multilane Highway Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients** from Table 11-7 or 11-8			$N_{spf\ int}$	**Overdispersion Parameter, k**	**Combined CMFs** from (6) of Worksheet 2B	**Calibration Factor, C_i**	**Predicted average crash frequency, $N_{predicted\ int}$**
	a	b	c or d (4SG)	from Equation 11-11 or 11-12	from Table 11-7 or 11-8			(3)*(5)*(6)
Total	-12.526	1.204	0.236	1.086	0.460	0.50	2.20	1.197
Fatal and Injury (FI)	-12.664	1.107	0.272	0.458	0.569	0.40	2.20	0.406
Fatal and Injury[a] (FI[a])	-11.989	1.013	0.228	0.294	0.566	0.40	2.20	0.260
Property Damage Only (PDO)	--	--	--	--	--	--	--	$(7)_{TOTAL}$ - $(7)_{FI}$ 0.791

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Collision Type	**Proportion of Collision Type$_{(TOTAL)}$**	**$N_{predicted\ int\ (TOTAL)}$ (crashes/year)**	**Proportion of Collision Type$_{(FI)}$**	**$N_{predicted\ int\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (FI^a)**	**N *predicted int* (FI^a) (crashes/year)**	**Proportion of Collision Type (PDO)**	**$N_{predicted\ int\ (PDO)}$ (crashes/year)**
	from Table 11-9	$(7)_{TOTAL}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$[a] from Worksheet 2C	from Table 11-9	$(7)_{PDO}$ from Worksheet 2C
Total	1.000	1.197	1.000	0.406	1.000	0.260	1.000	0.791
		(2)*(3)$_{TOTAL}$		(4)x(5)$_{FI}$		(6)*(7)$_{FI}$[a]		(8)*(9)$_{PDO}$
Head-on collision	0.029	0.035	0.043	0.017	0.052	0.014	0.020	0.016
Sideswipe collision	0.133	0.159	0.058	0.024	0.057	0.015	0.179	0.142
Rear-end collision	0.289	0.346	0.247	0.100	0.142	0.037	0.315	0.249
Angle collision	0.263	0.315	0.369	0.150	0.381	0.099	0.198	0.157
Single-vehicle collision	0.234	0.280	0.219	0.089	0.284	0.074	0.244	0.193
Other collision	0.052	0.062	0.064	0.026	0.084	0.022	0.044	0.035

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2E -- Summary Results for Rural Multilane Highway Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency (crashes / year)**
	(7) from Worksheet 2C
Total	1.2
Fatal and Injury (FI)	0.4
Fatal and Injury[a] (FI[a])	0.3
Property Damage Only (PDO)	0.8

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

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Worksheet 2A -- General Information and Input Data for Rural Multilane Highway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Intersection	DC Bar Ranch Rd
Date Performed	08/14/23	Jurisdiction	FDOT District One
		Analysis Year	2052

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 4ST, 4SG		--	3ST
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ = 78,300 (veh/day)	--	12,500
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ = 23,000 (veh/day)	--	200
Intersection skew angle (degrees)		0	0
Number of non-STOP-controlled approaches with left-turn lanes (0, 1, 2)		0	1
Number of non-STOP-controlled approaches with right-turn lanes (0, 1, 2, 3, or 4)		0	0
Intersection lighting (present/not present)		Not Present	Present
Calibration Factor, C_i		1.00	2.20

Worksheet 2B -- Crash Modification Factors for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Crash Severity Level	CMF for Intersection Skew Angle (CMF_{1i}) from Equations 11-18 or 11-20 and 11-19 or 11-21	CMF for Left-Turn Lanes (CMF_{2i}) from Table 11-22	CMF for Right-Turn Lanes (CMF_{3i}) from Table 11-23	CMF for Lighting (CMF_{4i}) from Equation 11-22	Combined CMF (CMF_{COMB}) (2)*(3)*(4)*(5)
Total	1.00	0.56	1.00	0.90	0.50
Fatal and Injury (FI)	1.00	0.45	1.00	0.90	0.40

Note: The 4-leg Signalized Intersection (4SG) models do not have base conditions and so can only be used for estimation purposes. As a result, there are not CMFs provided for the 4SG condition.

Worksheet 2C -- Intersection Crashes for Rural Multilane Highway Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients** from Table 11-7 or 11-8			$N_{spf\ int}$	**Overdispersion Parameter, k**	**Combined CMFs** from (6) of Worksheet 2B	**Calibration Factor, C_i**	**Predicted average crash frequency, $N_{predicted\ int}$**
	a	b	c or d (4SG)	from Equation 11-11 or 11-12	from Table 11-7 or 11-8			(3)*(5)*(6)
Total	-12.526	1.204	0.236	1.086	0.460	0.50	2.20	1.197
Fatal and Injury (FI)	-12.664	1.107	0.272	0.458	0.569	0.40	2.20	0.406
Fatal and Injury[a] (FI[a])	-11.989	1.013	0.228	0.294	0.566	0.40	2.20	0.260
Property Damage Only (PDO)	--	--	--	--	--	--	--	$(7)_{TOTAL}$ - $(7)_{FI}$ 0.791

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Collision Type	**Proportion of Collision Type$_{(TOTAL)}$**	**$N_{predicted\ int\ (TOTAL)}$ (crashes/year)**	**Proportion of Collision Type$_{(FI)}$**	**$N_{predicted\ int\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (FI[a])**	**N *predicted int* (FI[a]) (crashes/year)**	**Proportion of Collision Type (PDO)**	**$N_{predicted\ int\ (PDO)}$ (crashes/year)**
	from Table 11-9	$(7)_{TOTAL}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$[a] from Worksheet 2C	from Table 11-9	$(7)_{PDO}$ from Worksheet 2C
Total	1.000	1.197	1.000	0.406	1.000	0.260	1.000	0.791
		(2)*(3)$_{TOTAL}$		(4)x(5)$_{FI}$		(6)*(7)$_{FI}$[a]		(8)*(9) $_{PDO}$
Head-on collision	0.029	0.035	0.043	0.017	0.052	0.014	0.020	0.016
Sideswipe collision	0.133	0.159	0.058	0.024	0.057	0.015	0.179	0.142
Rear-end collision	0.289	0.346	0.247	0.100	0.142	0.037	0.315	0.249
Angle collision	0.263	0.315	0.369	0.150	0.381	0.099	0.198	0.157
Single-vehicle collision	0.234	0.280	0.219	0.089	0.284	0.074	0.244	0.193
Other collision	0.052	0.062	0.064	0.026	0.084	0.022	0.044	0.035

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2E -- Summary Results for Rural Multilane Highway Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency (crashes / year)**
	(7) from Worksheet 2C
Total	1.2
Fatal and Injury (FI)	0.4
Fatal and Injury[a] (FI[a])	0.3
Property Damage Only (PDO)	0.8

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

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Worksheet 2A -- General Information and Input Data for Rural Multilane Highway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Intersection	Lykes Rd
Date Performed	08/14/23	Jurisdiction	FDOT District One
		Analysis Year	2052

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 4ST, 4SG		--	3ST
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ = 78,300 (veh/day)	--	12,500
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ = 23,000 (veh/day)	--	200
Intersection skew angle (degrees)		0	0
Number of non-STOP-controlled approaches with left-turn lanes (0, 1, 2)		0	1
Number of non-STOP-controlled approaches with right-turn lanes (0, 1, 2, 3, or 4)		0	0
Intersection lighting (present/not present)		Not Present	Present
Calibration Factor, C		1.00	2.20

Worksheet 2B -- Crash Modification Factors for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Crash Severity Level	CMF for Intersection Skew Angle (CMF_{1i}) from Equations 11-18 or 11-20 and 11-19 or 11-21	CMF for Left-Turn Lanes (CMF_{2i}) from Table 11-22	CMF for Right-Turn Lanes (CMF_{3i}) from Table 11-23	CMF for Lighting (CMF_{4i}) from Equation 11-22	Combined CMF (CMF_{COMB}) (2)*(3)*(4)*(5)
Total	1.00	0.56	1.00	0.90	0.50
Fatal and Injury (FI)	1.00	0.45	1.00	0.90	0.40

Note: The 4-leg Signalized Intersection (4SG) models do not have base conditions and so can only be used for estimation purposes. As a result, there are not CMFs provided for the 4SG condition.

Worksheet 2C -- Intersection Crashes for Rural Multilane Highway Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients** from Table 11-7 or 11-8			$N_{spf\ int}$	**Overdispersion Parameter, k**	**Combined CMFs** from (6) of Worksheet 2B	**Calibration Factor, C_i**	**Predicted average crash frequency, $N_{predicted\ int}$**
	a	b	c or d (4SG)	from Equation 11-11 or 11-12	from Table 11-7 or 11-8			(3)*(5)*(6)
Total	-12.526	1.204	0.236	1.086	0.460	0.50	2.20	1.197
Fatal and Injury (FI)	-12.664	1.107	0.272	0.458	0.569	0.40	2.20	0.406
Fatal and Injury[a] (FI[a])	-11.989	1.013	0.228	0.294	0.566	0.40	2.20	0.260
Property Damage Only (PDO)	--	--	--	--	--	--	--	$(7)_{TOTAL}$ - $(7)_{FI}$ 0.791

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Collision Type	**Proportion of Collision Type$_{(TOTAL)}$**	**$N_{predicted\ int\ (TOTAL)}$ (crashes/year)**	**Proportion of Collision Type$_{(FI)}$**	**$N_{predicted\ int\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (FI[a])**	**N *predicted int* (FI[a]) (crashes/year)**	**Proportion of Collision Type (PDO)**	**$N_{predicted\ int\ (PDO)}$ (crashes/year)**
	from Table 11-9	$(7)_{TOTAL}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$[a] from Worksheet 2C	from Table 11-9	$(7)_{PDO}$ from Worksheet 2C
Total	1.000	1.197	1.000	0.406	1.000	0.260	1.000	0.791
		(2)*(3)$_{TOTAL}$		(4)x(5)$_{FI}$		(6)*(7)$_{FI}$[a]		(8)*(9) $_{PDO}$
Head-on collision	0.029	0.035	0.043	0.017	0.052	0.014	0.020	0.016
Sideswipe collision	0.133	0.159	0.058	0.024	0.057	0.015	0.179	0.142
Rear-end collision	0.289	0.346	0.247	0.100	0.142	0.037	0.315	0.249
Angle collision	0.263	0.315	0.369	0.150	0.381	0.099	0.198	0.157
Single-vehicle collision	0.234	0.280	0.219	0.089	0.284	0.074	0.244	0.193
Other collision	0.052	0.062	0.064	0.026	0.084	0.022	0.044	0.035

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2E -- Summary Results for Rural Multilane Highway Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency (crashes / year)**
	(7) from Worksheet 2C
Total	1.2
Fatal and Injury (FI)	0.4
Fatal and Injury[a] (FI[a])	0.3
Property Damage Only (PDO)	0.8

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Build 2052

Worksheet 2A -- General Information and Input Data for Rural Multilane Highway Intersections

General Information		Location Information	
Analyst	Darlene Lam	Roadway	SR 70
Agency or Company	American Consulting Professionals	Intersection	Southern Leg of CR
Date Performed	08/14/23	Jurisdiction	FDOT District One
		Analysis Year	2052

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 4ST, 4SG		--	4ST
$AADT_{major}$ (veh/day)	$AADT_{MAX}$ = 78,300 (veh/day)	--	12,500
$AADT_{minor}$ (veh/day)	$AADT_{MAX}$ = 7,400 (veh/day)	--	4,200
Intersection skew angle (degrees)		0	36
Number of non-STOP-controlled approaches with left-turn lanes (0, 1, 2)		0	2
Number of non-STOP-controlled approaches with right-turn lanes (0, 1, 2, 3, or 4)		0	3
Intersection lighting (present/not present)		Not Present	Present
Calibration Factor, C_i		1.00	1.64

Worksheet 2B -- Crash Modification Factors for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Crash Severity Level	CMF for Intersection Skew Angle (CMF_{1i}) from Equations 11-18 or 11-20 and 11-19 or 11-21	CMF for Left-Turn Lanes (CMF_{2i}) from Table 11-22	CMF for Right-Turn Lanes (CMF_{3i}) from Table 11-23	CMF for Lighting (CMF_{4i}) from Equation 11-22	Combined CMF (CMF_{COMB}) (2)*(3)*(4)*(5)
Total	1.09	0.52	0.74	0.90	0.38
Fatal and Injury (FI)	1.10	0.42	0.59	0.90	0.24

Note: The 4-leg Signalized Intersection (4SG) models do not have base conditions and so can only be used for estimation purposes. As a result, there are not CMFs provided for the 4SG condition.

Worksheet 2C -- Intersection Crashes for Rural Multilane Highway Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients** from Table 11-7 or 11-8			**$N_{spf\ int}$**	**Overdispersion Parameter, k**	**Combined CMFs** from (6) of Worksheet 2B	**Calibration Factor, C_i**	**Predicted average crash frequency, $N_{predicted\ int}$**
	a	b	c or d (4SG)	from Equation 11-11 or 11-12	from Table 11-7 or 11-8			(3)*(5)*(6)
Total	-10.008	0.848	0.448	5.636	0.494	0.38	1.64	3.484
Fatal and Injury (FI)	-11.554	0.888	0.525	3.330	0.742	0.24	1.64	1.329
Fatal and Injury[a] (FI[a])	-10.734	0.828	0.412	1.672	0.655	0.24	1.64	0.668
Property Damage Only (PDO)	--	--	--	--	--	--	--	$(7)_{TOTAL}$ - $(7)_{FI}$ 2.155

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2D -- Crashes by Severity Level and Collision Type for Rural Multilane Highway Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Collision Type	**Proportion of Collision Type$_{(TOTAL)}$**	**$N_{predicted\ int\ (TOTAL)}$ (crashes/year)**	**Proportion of Collision Type$_{(FI)}$**	**$N_{predicted\ int\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (FI[a])**	**N *predicted int* (FI[a]) (crashes/year)**	**Proportion of Collision Type (PDO)**	**$N_{predicted\ int\ (PDO)}$ (crashes/year)**
	from Table 11-9	$(7)_{TOTAL}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$ from Worksheet 2C	from Table 11-9	$(7)_{FI}$[a] from Worksheet 2C	from Table 11-9	$(7)_{PDO}$ from Worksheet 2C
Total	1.000	3.484	1.000	1.329	1.000	0.668	1.000	2.155
		(2)*(3)$_{TOTAL}$		(4)x(5)$_{FI}$		(6)*(7)$_{FI}$[a]		(8)*(9) $_{PDO}$
Head-on collision	0.016	0.056	0.018	0.024	0.023	0.015	0.015	0.032
Sideswipe collision	0.107	0.373	0.042	0.056	0.040	0.027	0.156	0.336
Rear-end collision	0.228	0.794	0.213	0.283	0.108	0.072	0.240	0.517
Angle collision	0.395	1.376	0.534	0.710	0.571	0.381	0.292	0.629
Single-vehicle collision	0.202	0.704	0.148	0.197	0.199	0.133	0.243	0.524
Other collision	0.052	0.181	0.045	0.060	0.059	0.039	0.054	0.116

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

Worksheet 2E -- Summary Results for Rural Multilane Highway Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency (crashes / year)**
	(7) from Worksheet 2C
Total	3.5
Fatal and Injury (FI)	1.3
Fatal and Injury[a] (FI[a])	0.7
Property Damage Only (PDO)	2.2

NOTE: [a] Using the KABCO scale, these include only KAB crashes. Crashes with severity level C (possible injury) are not included.

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Worksheet 3A -- Predicted and Observed Crashes by Severity and Site Type Using the Site-Specific EB Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes, $N_{observed}$** (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency,**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Divided Multilane - DSeg1	0.137	0.070	0.067		2.493	0.745	0.102
Divided Multilane - DSeg2	2.633	1.346	1.286		0.130	0.745	1.962
Divided Multilane - DSeg3	1.610	0.824	0.787		0.212	0.745	1.200
Divided Multilane - DSeg4	4.140	2.118	2.023		0.083	0.745	3.086
Divided Multilane - DSeg5	3.799	1.943	1.856		0.090	0.745	2.831
Segment 6						1.000	0.000
Segment 7						1.000	0.000
Segment 8						1.000	0.000
INTERSECTIONS							
Multilane - Int1	1.197	0.406	0.791		0.460	0.645	0.772
Multilane - Int2	1.366	0.473	0.893		0.460	0.614	0.839
Multilane - Int3	1.197	0.406	0.791		0.460	0.645	0.772
Multilane - Int4	1.197	0.406	0.791		0.460	0.645	0.772
Multilane - Int5	1.197	0.406	0.791		0.460	0.645	0.772
Multilane - Int6	3.484	1.329	2.155		0.494	0.367	1.280
Intersection 7						1.000	0.000
Intersection 8						1.000	0.000
COMBINED (sum of column)	21.959	9.728	12.231	0	--	--	14.390

Worksheet 3B -- Site-Specific EB Method Summary Results

(1)	(2)	(3)
Crash severity level	**$N_{predicted}$**	**$N_{expected}$**
Total	$(2)_{COMB}$ from Worksheet 3A	$(8)_{COMB}$ from Worksheet 3A
	21.959	14.4
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 3A	$(3)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$
	9.728	6.4
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 3A	$(3)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$
	12.231	8.0

Build 2052

Worksheet 4A -- Predicted and Observed Crashes by Severity and Site Type Using the Project-Level EB Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes,**	**Overdispersion Parameter, k**	**N_{w0}**	**N_{w1}**	**W_0**	**N_0**	**w_1**	**N_1**	**$N_{p/comb}$**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)	$N_{observed}$ (crashes/year)		Equation A-8 $(6)*(2)^2$	Equation A-9 sqrt((6)*(2))	Equation A-10	Equation A-11	Equation A-12	Equation A-13	Equation A-14
ROADWAY SEGMENTS												
Segment 1 (Divided)	0.137	0.070	0.067	--	2.493	0.047	0.585	--	--	--	--	--
Segment 2	2.633	1.346	1.286	--	0.130	0.899	0.585	--	--	--	--	--
Segment 3	1.610	0.824	0.787	--	0.212	0.550	0.585	--	--	--	--	--
Segment 4	4.140	2.118	2.023	--	0.083	1.414	0.585	--	--	--	--	--
Segment 5	3.799	1.943	1.856	--	0.090	1.298	0.585	--	--	--	--	--
Segment 6				--				--	--	--	--	--
Segment 7				--				--	--	--	--	--
Segment 8				--				--	--	--	--	--
INTERSECTIONS												
Intersection 1	1.197	0.406	0.791	--	0.460	0.660	0.742	--	--	--	--	--
Intersection 2	1.366	0.473	0.893	--	0.460	0.859	0.793	--	--	--	--	--
Intersection 3	1.197	0.406	0.791	--	0.460	0.660	0.742	--	--	--	--	--
Intersection 4	1.197	0.406	0.791	--	0.460	0.660	0.742	--	--	--	--	--
Intersection 5	1.197	0.406	0.791	--	0.460	0.660	0.742	--	--	--	--	--
Intersection 6	3.484	1.329	2.155	--	0.494	5.997	1.312	--	--	--	--	--
Intersection 7				--				--	--	--	--	--
Intersection 8				--				--	--	--	--	--
COMBINED (sum of column)	21.959	9.728	12.231		--	13.703	7.996	0.616	13.521	0.733	16.097	14.809

Worksheet 4B -- Project-Level EB Method Summary Results

(1)	(2)	(3)
Crash severity level	$N_{predicted}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 4A	$(13)_{COMB}$ from Worksheet 4A
	22.0	14.8
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 4A	$(3)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$
	9.7	6.6
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 4A	$(3)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$
	12.2	8.2

HSM Predictive Method Comparison
SR 70
Analysis Years: 2032 to 2052
Dlam, 8/15/2023

HSM Predicted Crashes [2]

Opening Year 2032

	No-Build	Build
Fatal/Injury	11.042	5.836
Prop Damage Only	20.389	6.806
Total	31.431	12.642
Avg Cost per Fatal/Inj Crash [1]	$ 1,031,178.59	$ 883,459.08
Avg Cost per Prop Damage Only Crash [1]	$ 4,034.80	$ 3,842.30
Cost for all predicted Fatal/Inj Crash [1]	$ 11,386,274.02	$ 5,155,867.22
Cost for all predicted Prop Damage Only Crash [1]	$ 82,265.54	$ 26,150.69
Total	$ 11,468,539.55	$ 5,182,017.91

Design Year 2052

Fatal/Injury	16.791	9.728
Prop Damage Only	31.376	12.231
Total	48.167	21.959
Avg Cost per Fatal/Inj Crash [1]	$ 1,031,178.59	$ 883,459.08
Avg Cost per Prop Damage Only Crash [1]	$ 4,034.80	$ 3,842.30
Cost for all predicted Fatal/Inj Crash [1]	$ 17,314,519.75	$ 8,594,289.98
Cost for all predicted Prop Damage Only Crash [1]	$ 126,595.88	$ 46,995.17
Total	$ 17,441,115.63	$ 8,641,285.15

[1] Crash costs and type factors from FDM Chapter 122

[2] Combined both segment and intersection predicted crashes per HSM sheets

Cumulative Predicted Cost of Crash 2032-52 (Present Day Costs)

Crash Type	No Build	Build
Fatal/Injury	$ 301,358,334.51	$ 144,376,650.53
Prop. Damage Only	$ 2,193,044.93	$ 768,031.58
Total	$ 303,551,379.45	$ 145,144,682.12

Percent Difference of Predicted 2032-52 Cost of Build vs No-Build

Crash Type	Build$ / No-Build$	% Difference	
Fatal/Injury	0.48	52%	lower
Prop. Damage Only	0.35	65%	lower
Total	0.48	52%	lower

[1] Avg Cost per crash based on KABCO factors and Costs per FDM Chapter 122

		No-Build R2LUndiv	Build R4LDiv	
Fatal	$ 10,890,000	0.033	0.028	K
Sev Injury	$ 888,030	0.093	0.9	A
Mod Injur	$ 180,180	0.164	0.187	B
Minor Inju	$ 103,950	0.186	0.196	C
PDO	$ 7,700	0.524	0.499	O

Avg Cost Calculated

Fatal & Injury		$ 1,031,178.59	$ 883,459.08
PDO		$ 4,034.80	$ 3,842.30

APPENDIX K: Preliminary Roadway Design Concepts

SR 70 from LONESOME ISLAND RD to SOUTHERN LEG CR 721

FPID 449851-1-22-01

FDOT

SR 70 from LONESOME ISLAND RD to SOUTHERN LEG CR 721
FPID 449851-1-22-01

FDOT