I-75 North Corridor Master Plan

I-75 (SR 93) from South of N River Road to North of Moccasin Wallow Road

Final – Future Conditions Traffic Technical Memorandum

November 2022

PREPARED FOR:

FLORIDA DEPARTMENT OF TRANSPORTATION – DISTRICT ONE

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FINANCIAL PROJECT IDENTIFICATION (FPID) 442518-1-12-01

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Acronyms and Abbreviations

AADT	Annual Average Daily Traffic
CR	County Road
D1RPM	District One Regional Planning Model
DDHV	Directional Design Hour Volume
DDI	Diverging Diamond Interchange
FDM	Florida Design Manual
FDOT	Florida Department of Transportation
FHWA	Federal Highway Administration
FY	Fiscal Year
GIS	Geographic Information System
GPS	Global Positioning System
HCM	Highway Capacity Manual
HSM	Highway Safety Manual
LOS	Level of Service
LRTP	Long Range Transportation Plan
MOA	Memorandum of Agreement
MOCF	Model Output Conversion Factor
MPH	Miles Per Hour
MPO	Metropolitan Planning Organization
OD	Origin-Destination
PD&E	Project Development and Environment
RBC	Ring Barrier Controller
RCUT	Restricted Crossing U-Turn
RITIS	Regional Integrated Transportation Information System
ROW	Right-of-Way
RTOR	Right-Turn-On-Red
SHS	State Highway System
SIS	Strategic Intermodal System

SLD	Straight Line Diagram
SR	State Road
STIP	State Transportation Improvement Program
TIP	Transportation Improvement Program
TMC	Turning Movement Count
v/c	Volume-to-Capacity Ratio
VPH	Vehicles per Hour
sec	Second
veh	Vehicle

1.0 Introduction

The Florida Department of Transportation (FDOT) District One is preparing a Master Plan for Interstate 75 (I-75) in Sarasota County and Manatee County. This capacity improvement project involves widening I-75 in each direction to expand and enhance the general use lanes, collector-distributor roadways, and auxiliary lanes.

As part of Florida's Strategic Intermodal System (SIS) highway network, I-75 plays a significant role in facilitating business, commuter, visitor, and freight traffic within the state. I-75 also serves as part of the emergency evacuation route network designated by the Florida Division of Emergency Management. I-75 is designated as a primary evacuation facility for Sarasota and Manatee Counties and is vital in facilitating traffic during emergency evacuation periods as it connects to other major arterials and highways of the state evacuation route network, such as N River Road and US 301.

The final version of the I-75 North Corridor Existing Conditions Traffic Technical Memorandum, dated December 2021, serves as Volume 1 of the traffic analysis and safety documentation for the Master Plan. This I-75 North Corridor Future Conditions Traffic Technical Memorandum serves as Volume 2. The I-75 North Corridor Existing Conditions Traffic Technical Memorandum may be referenced to give more context to this document as the repetition of information was minimized between the two documents.

This Future Conditions Traffic Technical Memorandum documents the design year (2045) No Build and Build conditions and has been prepared in accordance with the approved Traffic Methodology Statement for this project submitted to FDOT in April 2020, the Safety Methodology Statement for this project submitted to the FDOT in August 2019, and the Traffic Analysis Memorandum of Agreement (MOA). Copies of the Traffic Methodology Statement, Safety Methodology Statement, and Traffic Analysis MOA are provided in the I-75 North Corridor Existing Conditions Traffic Technical Memorandum, dated December 2021. Based on discussions with FDOT District One, the traffic analysis and safety analysis methodology was modified for the future conditions analysis. Changes to the methodology that deviate from the previously submitted MOA are provided in an MOA Addendum found in **Appendix A**. **Figure 1.1** shows the project location map for the I-75 North Corridor Master Plan. A list of the study intersections is provided in **Table 1.1** and the ID numbers are included in the traffic figures provided in Section 3.0 and Section 4.0. The study area of influence and study intersections are shown on **Figure 1.2**.

Figure 1.1 Project Location Map

Table 1.1 Study Intersections

Interchange	ID	Intersection
Moccasin Wallow Road	1	Moccasin Wallow Road and Gateway Boulevard
	2	Moccasin Wallow Road and Gillette Drive
	3	Moccasin Wallow Road and I-75 Southbound Ramps
	4	Moccasin Wallow Road and I-75 Northbound Ramps
	5	Moccasin Wallow Road and Buffalo Road
	6	Moccasin Wallow Road and 71st Avenue
US 41	7	US 41 and 85th Street
	8	US 41 and I-275 Northbound Ramps
	9	US 41 and I-275 Southbound Ramps
	10	US 41 and 73rd Street
US 301	11	US 301 and 51st Avenue
	12	US 301 and I-75 Southbound Ramps
	13	US 301 and I-75 Northbound Ramps
	14	US 301 and 60th Avenue
	15	US 301 and Kmart Driveway
	16	US 301 and 18th Street
SR 64	17	SR 64 and 62nd Street
	18	SR 64 and 65th Street
	19	SR 64 and 66th Street
	20	SR 64 and I-75 Southbound Ramps
	21	SR 64 and I-75 Northbound Ramps
	22	SR 64 and Grand Harbour Parkway
SR 70	23	SR 70 and Creekwood Boulevard
	24	SR 70 and 73rd Lane
	25	SR 70 and I-75 Southbound Ramps
	26	SR 70 and I-75 Northbound Ramps
	27	SR 70 and Lena Road
	28	SR 70 and 87th Street
	29	Tara Boulevard and 55th Avenue
	30	Creekwook Boulevard at CVS
	31	Creekwood Boulevard and 52nd Place
University Parkway	32	University Parkway and Cooper Creek Boulevard/Cattlemen Road
	33	University Parkway and I-75 Southbound Ramps

Interchange	ID	Intersection
	34	University Parkway and I-75 Northbound Ramps
	35	University Parkway and Lake Osprey Drive
	36	University Parkway and Lawrence Building Driveway
	37	University Parkway and Town Center Parkway
	38	Cattlemen Road and University Town Center Drive
	39	Cooper Creek Boulevard and Tourist Center Drive
SR 780 (Fruitville Road)	40	SR 780 Fruitville Road and Cattlemen Road
	41	SR 780 Fruitville Road and I-75 Southbound Ramps
	42	SR 780 Fruitville Road and I-75 Northbound Ramps
	43	SR 780 Fruitville Road and Coburn Road West
	44	SR 780 Fruitville Road and Coburn Road East
SR 758 (Bee Ridge Road)	45	SR 758 Bee Ridge Road and Maxfield Drive
	46	SR 758 Bee Ridge Road at Publix
	47	SR 758 Bee Ridge Road and Cattlemen Road
	48	SR 758 Bee Ridge Road and I-75 Southbound Ramps
	49	SR 758 Bee Ridge Road and I-75 Northbound Ramps
	50	SR 758 Bee Ridge Road and Mauna Loa Boulevard
	51	Cattlemen Road and Cattleridge Boulevard
SR 72 (Clark Road)	52	SR 72 Clark Road and Gantt Road
	53	SR 72 Clark Road at Burger King/Waffle House
	54	SR 72 Clark Road and Catamaran Drive
	55	SR 72 Clark Road and I-75 Southbound Ramps
	56	SR 72 Clark Road and I-75 Northbound Ramps
	57	SR 72 Clark Road and Queensbury Boulevard
	58	SR 72 Clark Road and Hummingbird Avenue
SR 681	59	SR 681 at Honore Avenue
Laurel Road	60	Laurel Road and Twin Laurel Boulevard
	61	Laurel Road at McDonald's
	62	Laurel Road and Pinebrook Road
	63	Laurel Road and I-75 Southbound Ramps
	64	Laurel Road and I-75 Northbound Ramps
	65	Laurel Road and Discovery Way
	66	Laurel Road and Haul Road
Jacaranda Boulevard	67	Jacaranda Boulevard and Commerce Drive
	68	Jacaranda Boulevard and I-75 Northbound Ramps

Interchange	ID	Intersection
	69	Jacaranda Boulevard and I-75 Southbound Ramps
	70	Jacaranda Boulevard and Executive Drive
	71	Jacaranda Boulevard and Oak Heritage Drive
N River Road	72	N River Road and I-75 Northbound Ramps
	73	N River Road and I-75 Southbound Ramps
	74	N River Road at Subdivision Entrance
	75	N River Road and Venice Avenue

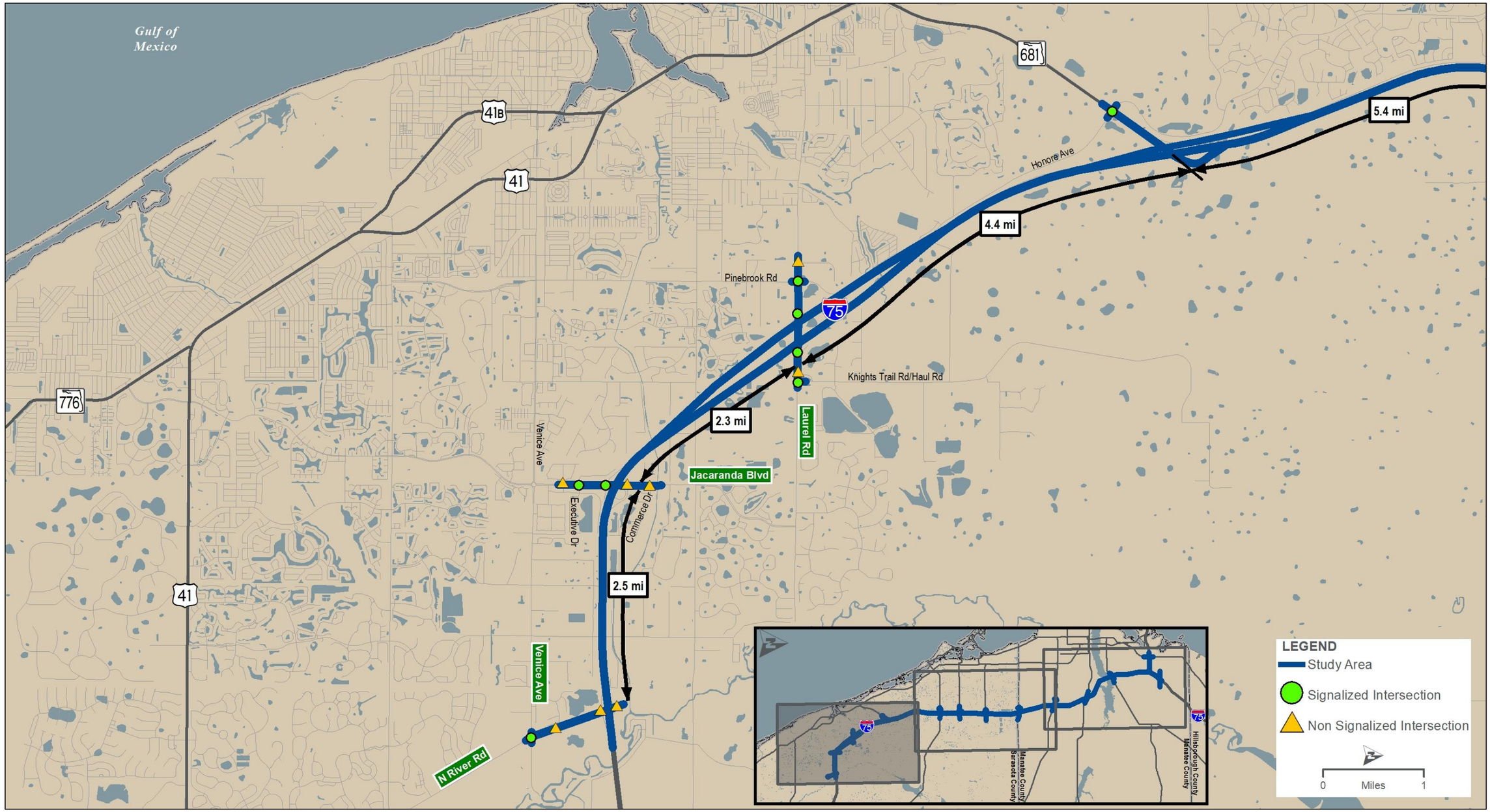


Figure 1.2 Study Area of Influence

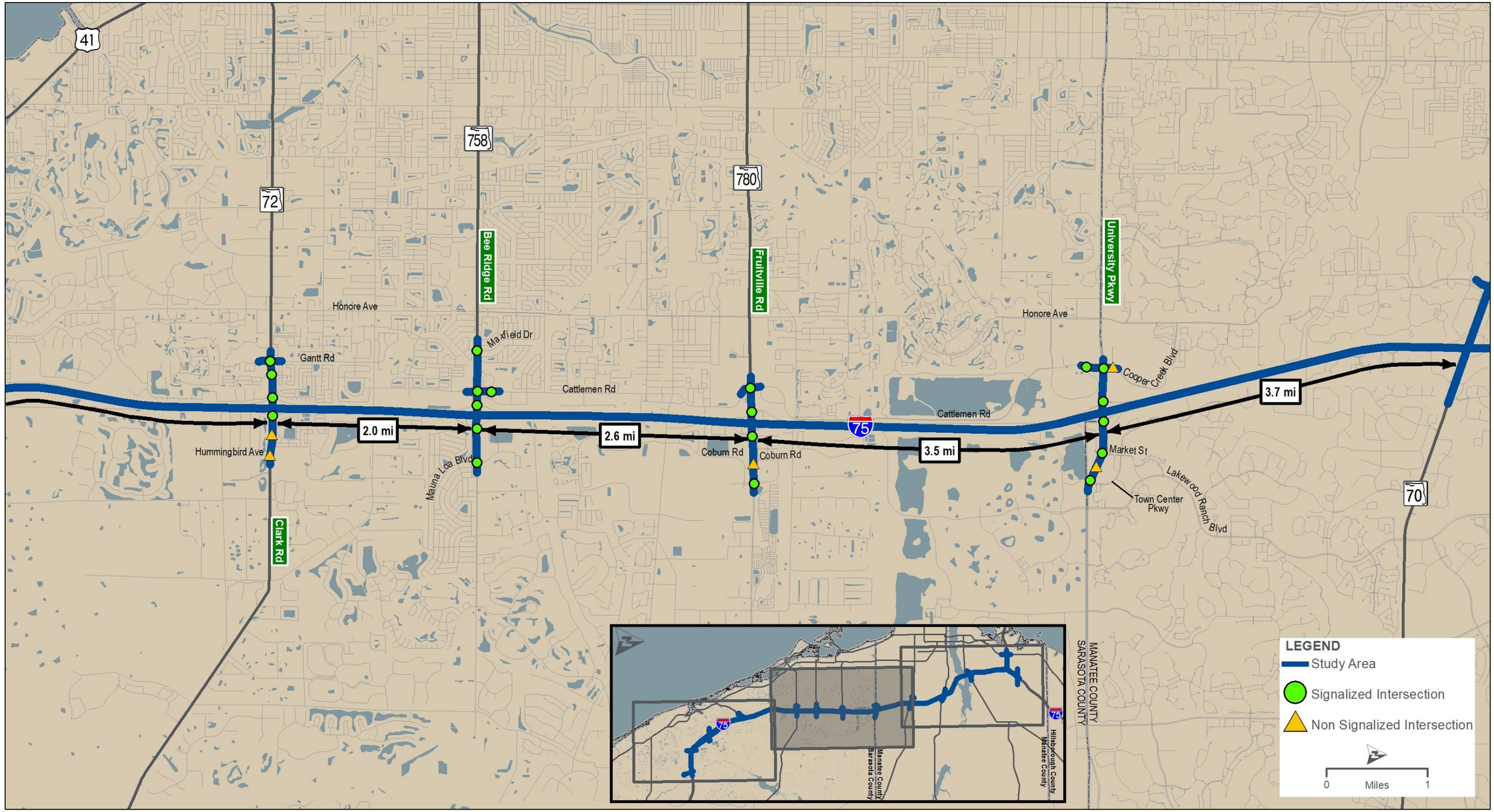


Figure 1.2 (Continued) Study Area of Influence

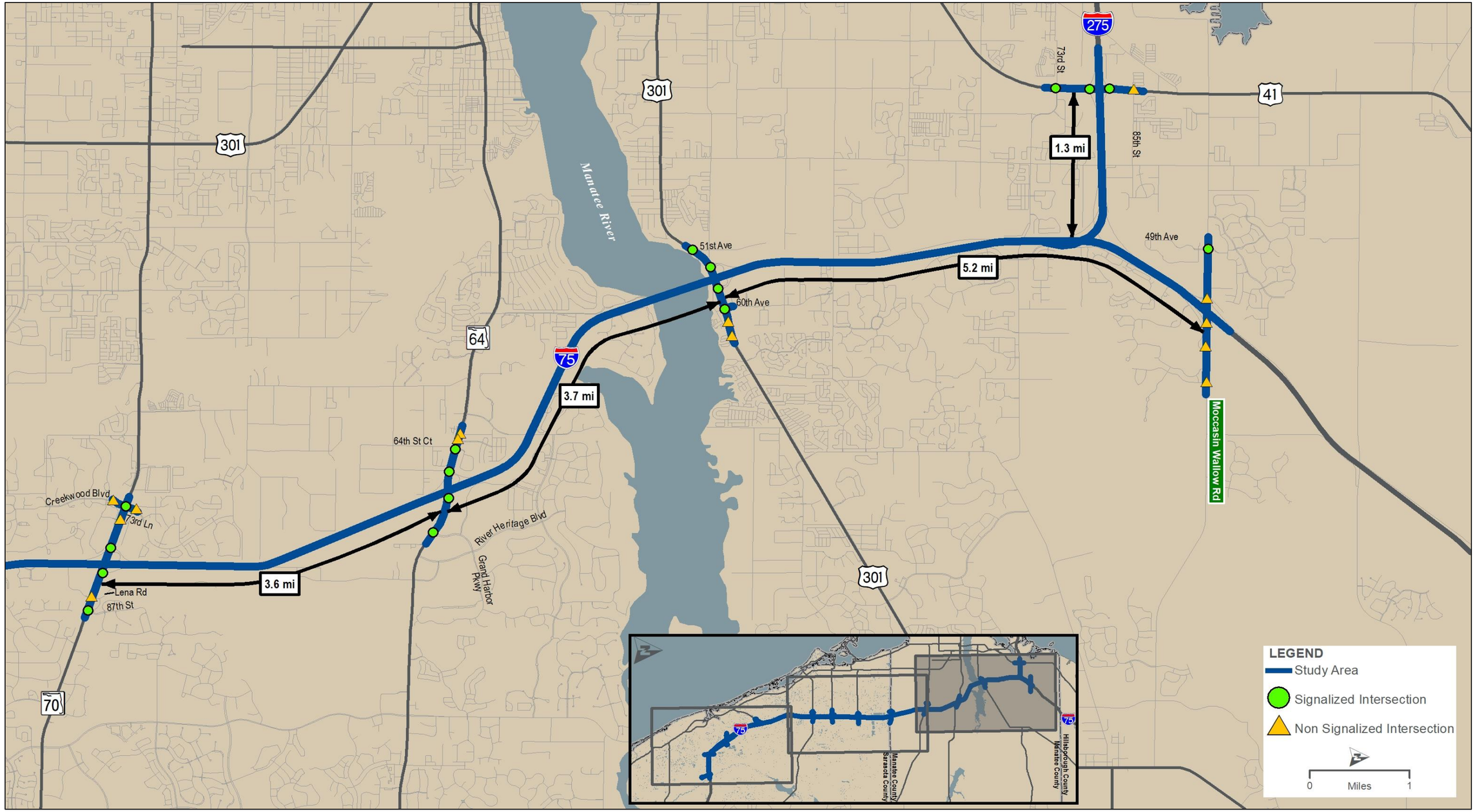


Figure 1.2 (Continued) Study Area of Influence

2.0 Future Volume Development

The FDOT approved forecasting methodology that was deployed for both the design year (2045) No Build and Build volume cases can be found in **Appendix B** and is also included in the I-75 North Corridor Existing Conditions Traffic Technical Memorandum, dated December 17, 2021. The methodology and procedure, as it pertains to future volume development, is paraphrased in the following sections.

2.1 Travel Demand Modeling

The Southwest Connect District 1 Regional Planning Model (D1RPM) version 1.0.6, herein referred to as the D1RPM, that was calibrated and validated for the I-75 North Corridor by FDOT District One was obtained and used as the primary source to forecast design year (2045) Annual Average Daily Traffic (AADT) volumes. The Model's validated base year is 2015 and the Cost-Feasible (CF) Model has a horizon year of 2040.

The FDOT District One Systems Planning Office coordinated with the Collier County Metropolitan Planning Organization (MPO), Lee County MPO, Charlotte County-Punta Gorda MPO, Sarasota/Manatee MPO, and the Heartland Regional Transportation Planning Organization (TPO). regarding long term future projects and growth that should be reflected in the Model for its use in travel demand forecasting for the Southwest Connect projects. Network coding and socioeconomic (SE) data were revised accordingly to better reflect the expected 2040 conditions, based on the coordination with the MPOs and TPO. The Southwest Connect Travel Demand Forecasting Subarea Calibration and Validation Memo can be found in **Appendix C**.

The 2040 CF Model with the network and SE data revisions implemented serves as the No Build Model for the I-75 North Corridor Master Plan travel demand forecasting efforts. This 2040 CF Model was also used as the base for modifications to produce the unconstrained capacity Build Model scenario.

The D1RPM Peak-Season Weekday Average Daily Traffic (PSWADT) volumes were adjusted to AADT volumes using Model Output Conversion Factors (MOCF) obtained from 2019 Florida Traffic Online (FTO) Peak Season Factor Category Reports. A MOCF factor of 0.92 was used for Manatee County and a MOCF factor of 0.88 was used for Sarasota County.

2.2 Post-Model Adjustments

The modeled horizon year (2040) AADT volume outputs produced by the D1RPM for the No Build and Build scenarios were adjusted using the National Cooperative Highway Research Program (NCHRP) Report 765 methodologies, which include adjustments based on difference and ratio methods. The volume-to-count ratios were compared between the D1RPM 2019 AADT volumes, which were calculated through interpolation between the base year (2015) and horizon year (2040) modeled AADT volume outputs, and the FDOT-approved existing year (2019) AADT volumes. This comparison showed how closely the model was able to replicate existing conditions. A close replication of the existing conditions could indicate more reliable future forecasts.

Appendix D and **Appendix E** show the Design Year (2045) No Build and Build Volume Development Documentation Memos, dated January 2022, respectively, which contain the NCHRP Report 765 adjustment calculations, model volume-to-count comparisons, and growth relationships between various volume sets.

2.3 Growth Consistency Checks

The resulting NCHRP-adjusted 2040 No Build and Build AADT volumes, which are preferred for the basis of the design year (2045) AADT volume forecasts, were checked against various sources for forecasting consistency. They were compared to the D1RPM 2040 AADT volume direct output and the growth rates between the FDOT-approved existing year (2019) AADT volumes and the NCHRP-adjusted 2040 AADT volumes were compared to the D1RPM base year (2015) to horizon year (2040) model-to-model link growth rates.

The growth rates from the FDOT-approved existing year (2019) AADT volumes to the NCHRP-adjusted 2040 AADT volumes along the I-75 mainline and its ramps were also compared to the five-year FTO historical linear annual growth rates from 2015 to 2019. The historical growth trends analysis relies on historical traffic counts and does not consider future traffic pattern changes due to new traffic generators or network improvements. A historical growth trends analysis was not performed for interchange subareas due to a lack of count stations on the segments of interest.

The growth rates from the FDOT-approved existing year (2019) AADT volumes to the NCHRP-adjusted 2040 AADT volumes were compared to the 2040 population growth rates from the 2019 Bureau of Economic and Business Research (BEBR) for the I-75 mainline, its ramps, and interchange subareas. The BEBR 2040 population growth rates were consistent with the growth rates between the FDOT-approved existing year (2019) AADT volumes and the NCHRP-adjusted 2040 AADT volumes for the I-75 mainline. **Appendix F** shows historical counts and BEBR population data.

There were several instances of ramp volumes being lower in the D1RPM Horizon Year (2040) than in the Base Year (2015), indicating a negative growth trend. It is desired to show positive growth as time progresses for a conservative approach to volume forecasting, unless there is a logical explanation for the negative trend. In these cases where the ramp growth was determined to be unreasonable, an average of the Manatee County and Sarasota County 2019 BEBR low growth rate values, 0.5 percent, was linearly applied to the existing year (2019) AADT to produce horizon year (2040) AADT volumes.

For interchange subarea minor roads or driveways where growth is expected to be small, the BEBR 2040 low growth rates of 0.3 percent for Manatee County interchanges and 0.6 percent for Sarasota County interchanges were applied to the existing year (2019) AADT to produce horizon year (2040) AADT volumes.

Some roadway segments included in the study area that are less prevalent on the regional scale were not included in the D1RPM (driveways, minor roads, neighborhood entrances, etc.) and, therefore, it was not possible to use direct D1RPM output as the source for AADT forecasting for these segments. Instead, BEBR 2040 growth rates were used.

Appendix D and **Appendix E** show the Design Year (2045) No Build and Build Volume Development Documentation Memos, dated January 2022, respectively, which contain the growth comparisons of various sources for the I-75 mainline, its ramps, and the interchange subareas. These appendices also contain AADT volume selected growth sources for the links in each interchange subarea within the project limits.

2.4 AADT Smoothing Adjustments

The Horizon Year (2040) AADT volumes were used as a benchmark to establish the Design Year (2045) AADT volumes for the I-75 mainline, its ramps, and interchange subareas. The linear annual growth rate that was yielded from the selected growth method, either FDOT-approved existing year (2019) AADT volume to NCHRP-adjusted 2040 AADT volume growth or BEBR growth, was applied to the FDOT-approved existing year (2019) AADT volumes for the I-75 mainline, its ramps, and interchange subarea links to obtain the design year (2045) AADT volumes (i.e., the design year (2045) AADT volumes were extrapolated along the linear growth trendlines between the FDOT-approved existing year (2019) AADT volumes and the horizon year (2040) AADT volumes).

The design year (2045) I-75 mainline AADT volumes were then balanced with the design year (2045) I-75 ramp AADT volumes, holding the segment south of N River Road as the control and balancing from the south to the north end of the project. The I-75 mainline and ramp directional pairs display roughly reciprocal AADT volumes, which is typical and expected as most trips begin and end at home over the course of a day. Interchange subarea link design year (2045) AADT volumes were smoothed to balance holding the ramps as the controls. These balanced design year (2045) AADT volumes are the final set established for the I-75 North Corridor and for use in developing Directional Design Hourly Volumes (DDHVs).

Appendix E shows the Design Year (2045) Build Volume Development Documentation Memo, dated January 2022, which contains a comparison of the No Build and Build network AADT volumes along I-75 and on interchange subarea segments.

2.5 Project Traffic Forecasting

The design year (2045) DDHVs were calculated by applying the K and D factors to the design year (2045) AADT volumes. The design year (2045) AADT volumes used for ramp DDHV calculations were determined by adding the directional AADT volumes of each reciprocal ramp pair (southbound off/northbound on and northbound off/southbound on). This was also done for complementary directional segments of the I-75 mainline and divided arterial segments and was necessary in order to yield AADT volumes in their customary two-way form so that peak-period directionality may be applied.

A standard design-hour factor (K factor) of 0.09 was used for the I-75 mainline, its ramps, and interchange arterials to develop DDHVs, consistent with the FDOT Project Traffic Forecasting Handbook. Existing year (2019) measured K factors, known as peak-to-daily ratios, were used for interchange subarea minor streets and driveways. Measured K factors were determined to be more suitable for these segments due to the atypical peaking characteristics that were observed during the count program. Note that the measured K factor was also 0.09 in many cases.

Measured directional factors (D factors) from the turning movement counts and tube counts were used for the I-75 mainline and interchange subarea arterials, minor streets, and driveways. These measured D factors were kept within the minimum and maximum range of D_{30} factors from the FDOT Project Traffic Forecasting Handbook to the greatest extent possible. A D factor of 0.60 was used to develop ramp DDHVs. This was calculated by rounding up the average of the existing year (2019) measured average AM and PM D factors of 0.59 and 0.57, respectively. The peak direction for all segments in the existing year (2019) was maintained as the peak direction in the design year (2045) unless there was a logical explanation for a change in the peak direction of traffic flow.

The existing year (2019) origin-destination (OD) patterns, which were based on Streetlight OD data, were used as the basis for the design year (2045) OD patterns to generate AM and PM peak-period turning movement volumes. The design year (2045) AM and PM peak-period turning movement volumes were then smoothed to balance by proportion while minimizing the variance from the original (unbalanced) DDHVs. The I-75 mainline and its ramps were held as close to the original DDHVs as possible, as they are the highest priority segments in the system.

Various checks were made for consistency and reasonableness, including checking the balanced DDHVs to see that there was positive growth from the existing year (2019) to the design year (2045), unless there was a logical explanation for negative growth. The design year (2045) turning movement volumes were checked to see that the amount of deviation from the original OD patterns and turning movement proportions was not too high or low as a result of the balancing procedure. **Appendix G** shows the intersection approach DDHV and growth consistency checks and **Appendix H** shows the Streetlight data distribution comparison.

Appendix D and **Appendix E** show the Design Year (2045) No Build and Build Volume Development Documentation Memos, dated January 2022, respectively, which contain the AM and PM DDHV and peak-hour turning movement volume calculations for the I-75 mainline, its ramps, and each individual interchange subarea within the project area. **Appendix E** also contains a comparison of the No Build and Build network AM and PM DDHVs along I-75 and on interchange subarea segments.

3.0 Design Year (2045) No Build Volumes

Figure 3.1 through **Figure 3.14** show the design year (2045) No Build AADT volumes and **Figure 3.15** through **Figure 3.28** show the design year (2045) No Build peak-hour turning movement volumes for the I-75 North Corridor Master Plan. Based on the approved methodology, the AM and PM peak hours were determined to occur from 7:30 AM to 8:30 AM and from 4:45 PM to 5:45 PM, respectively. For the microsimulation of the I-75 North Corridor Master Plan study area, three hours of traffic simulation were modeled for each AM and PM peak period, as well as a one-hour network loading interval. The three-hour simulation periods were broken up into 15-minute (min) intervals, consisting of one hour for startup, one hour for the peak, and one hour for dissipation of the peak. The network loading, startup, and dissipation volumes were calculated as a proportion of the design year (2045) peak-hour volumes based on the collected 72-hour approach counts. Consistent with the methodology used for the existing conditions analysis, these temporal distributions were applied to the design year (2045) microsimulation vehicle inputs to develop a uniform volume distribution that is specific to each individual interchange and mainline subarea,

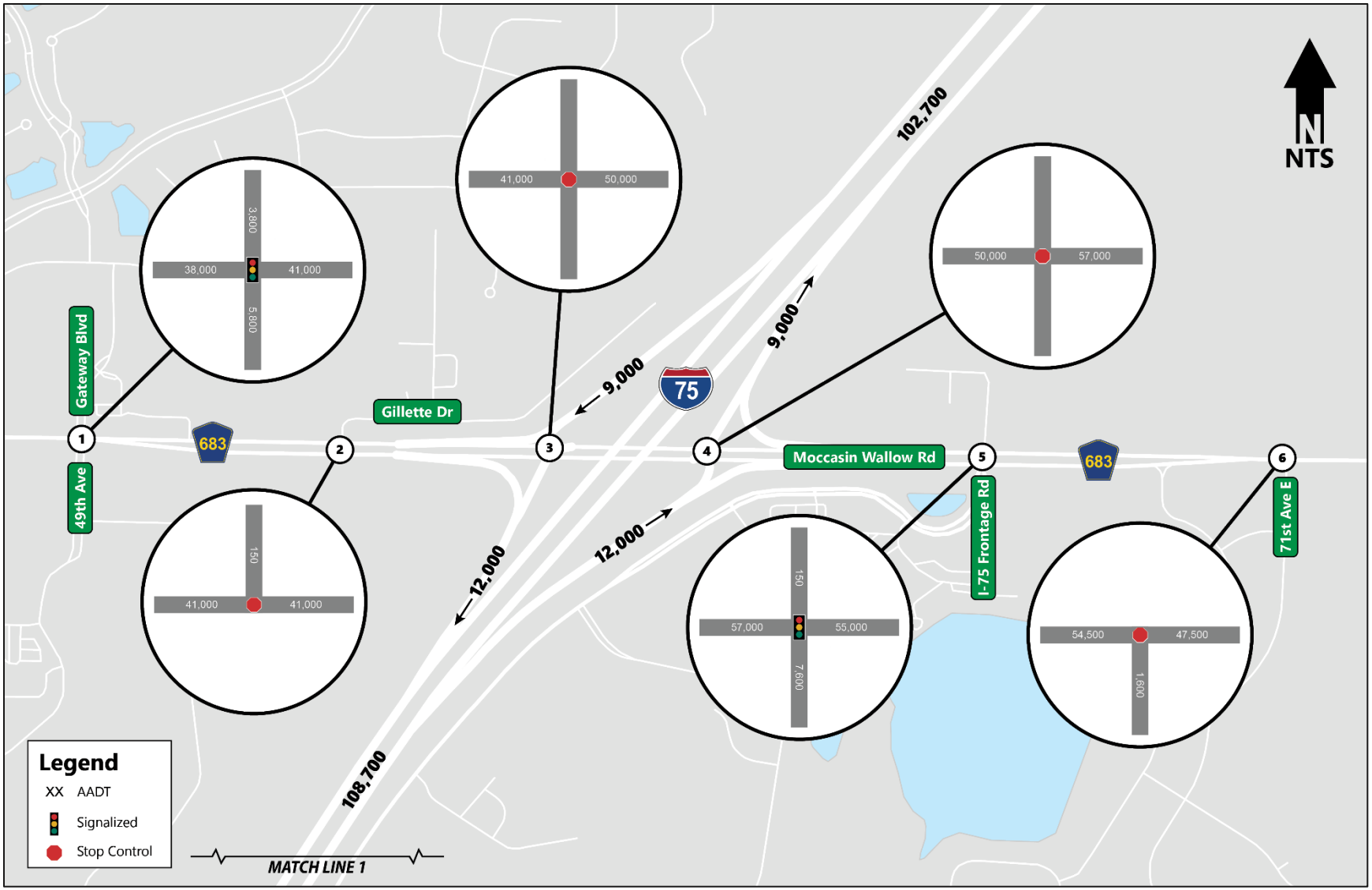


Figure 3.1 Design Year (2045) No Build AADT Volumes – I-75/Moccasin Wallow Road Interchange

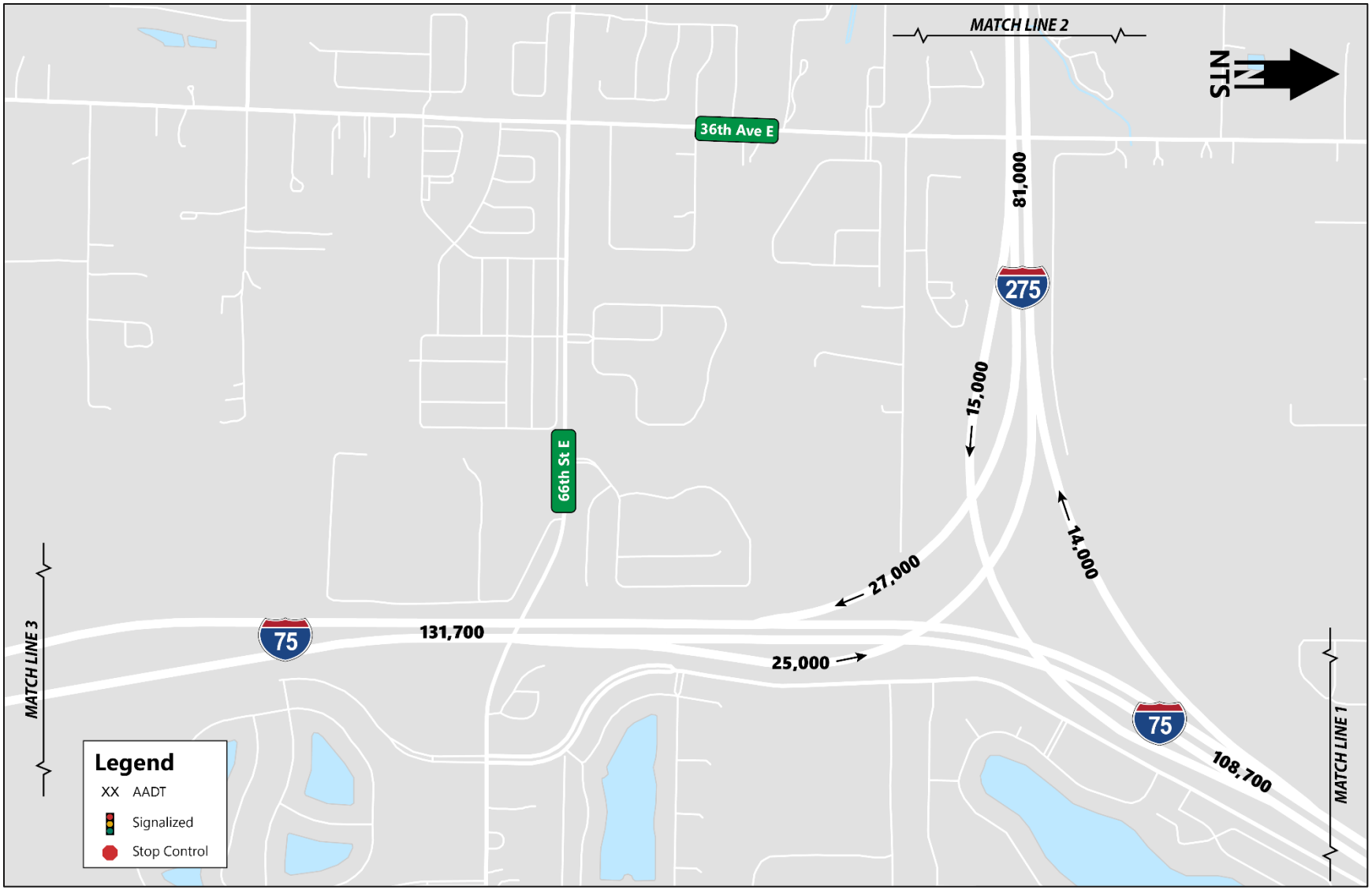


Figure 3.2 Design Year (2045) No Build AADT Volumes – I-75/I-275 Interchange

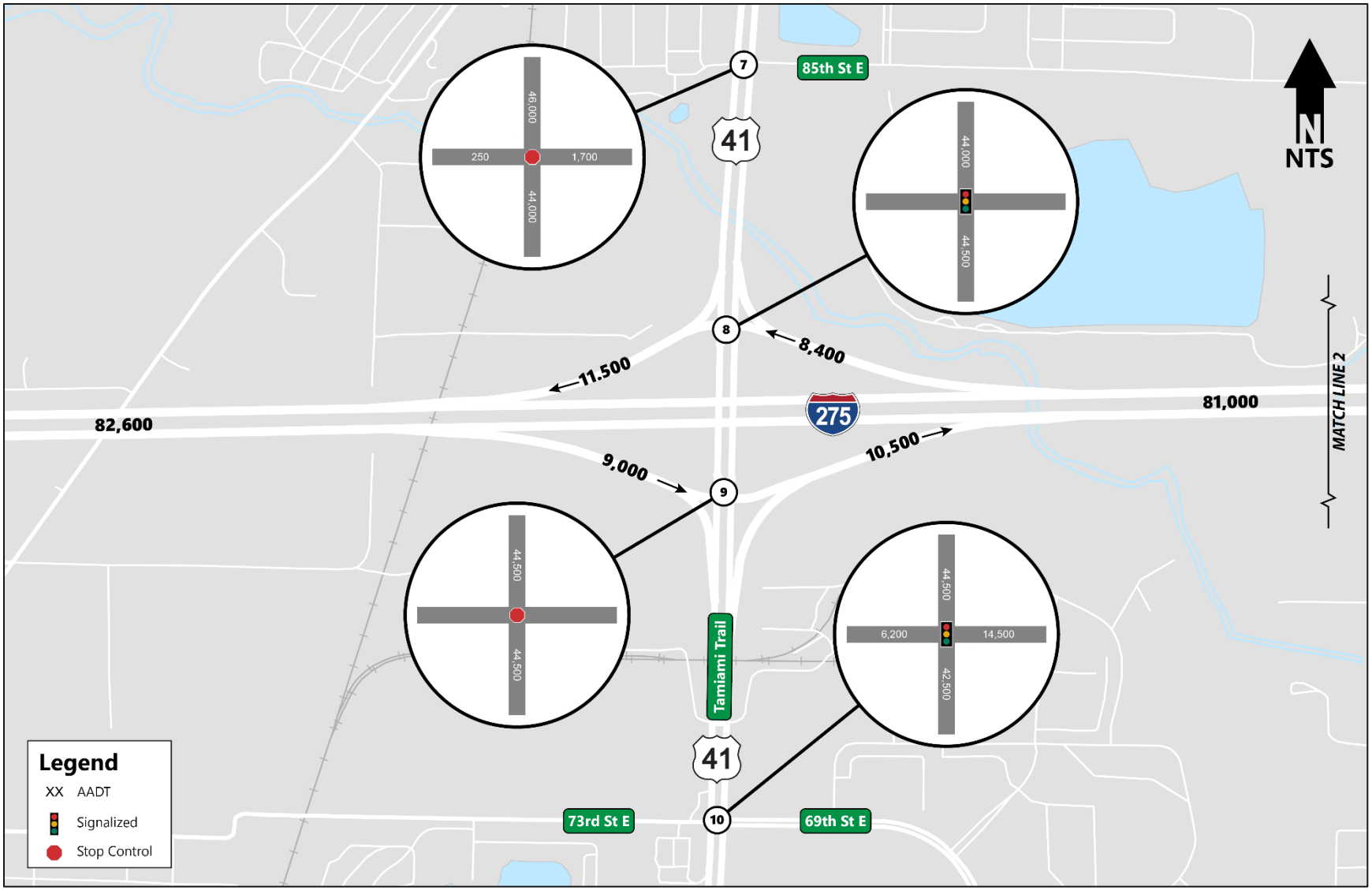


Figure 3.3 Design Year (2045) No Build AADT Volumes – I-275/US 41 Interchange

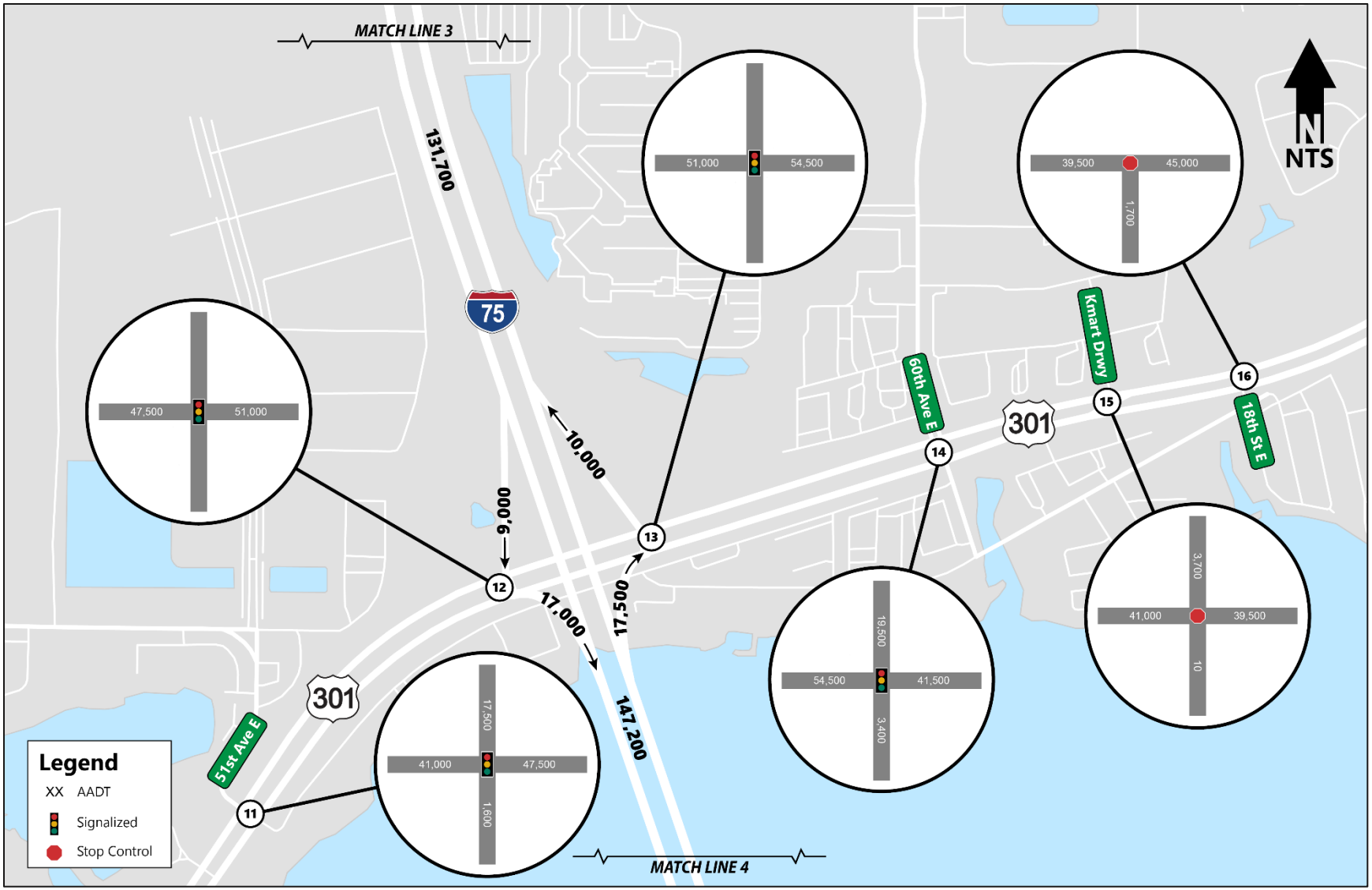


Figure 3.4 Design Year (2045) No Build AADT Volumes – I-75/US 301 Interchange

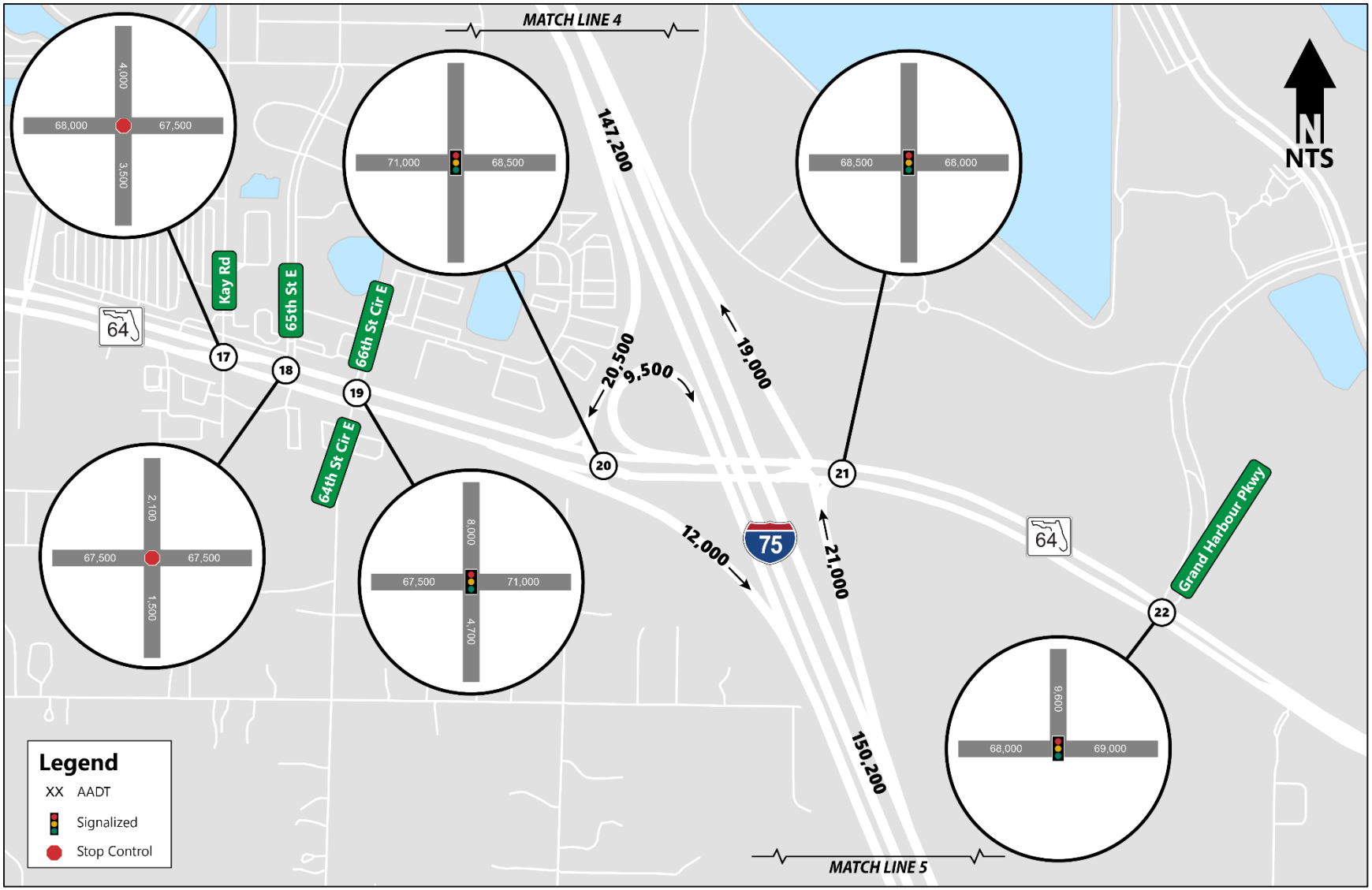


Figure 3.5 Design Year (2045) No Build AADT Volumes – I-75/SR 64 Interchange

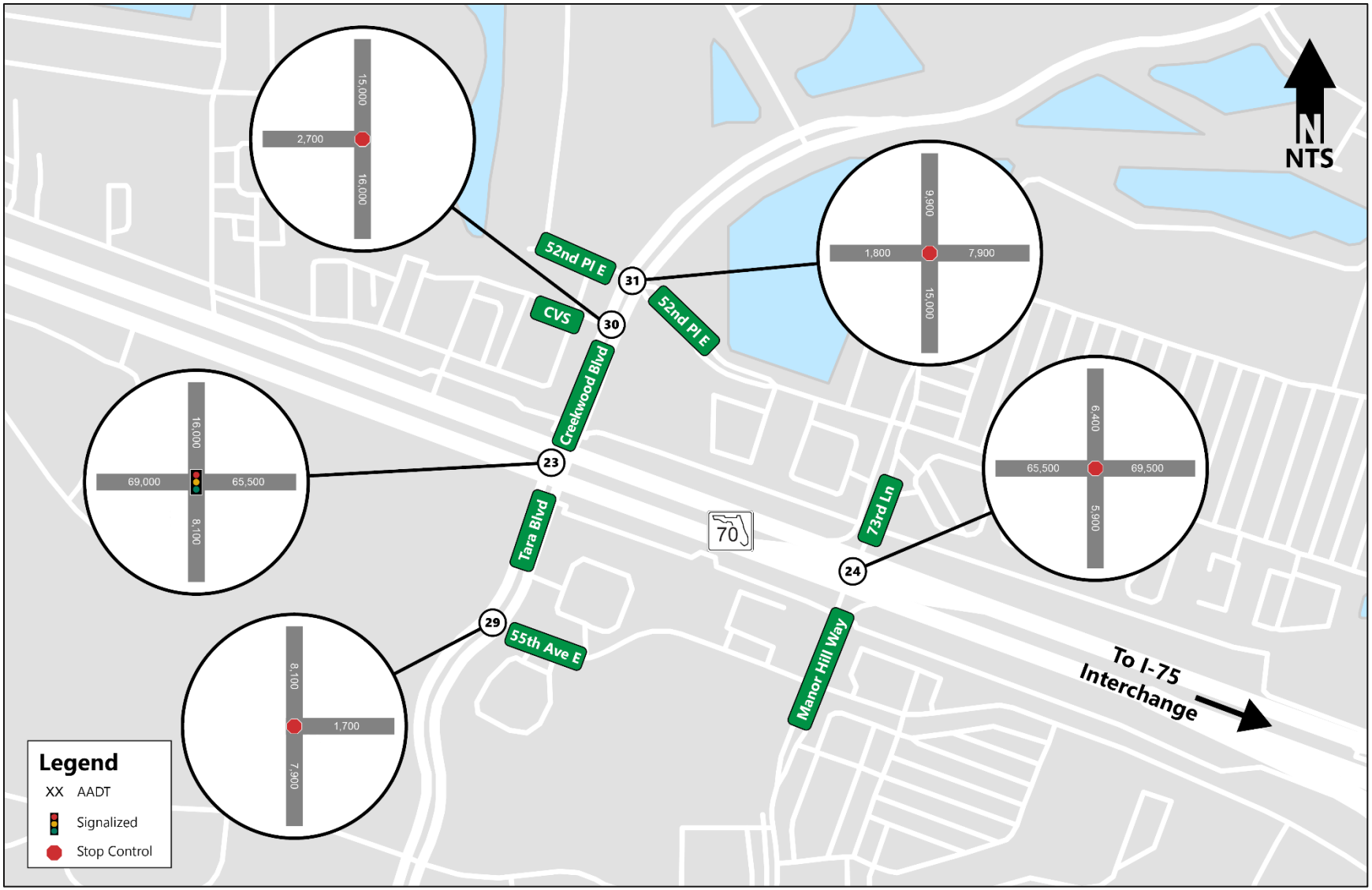


Figure 3.6 Design Year (2045) No Build AADT Volumes – I-75/SR 70 Interchange

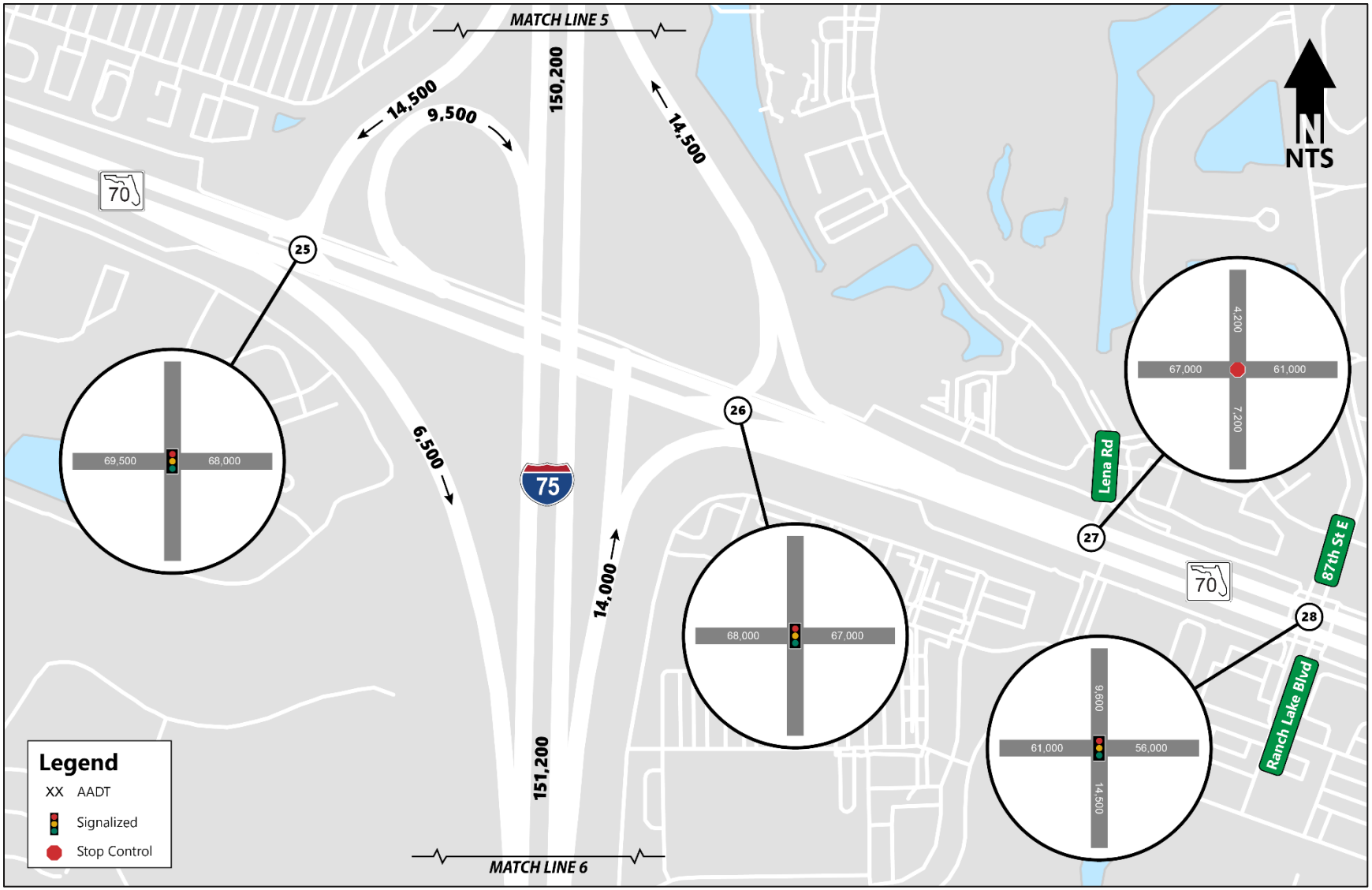


Figure 3.6 (Continued) Design Year (2045) No Build AADT Volumes – I-75/SR 70 Interchange

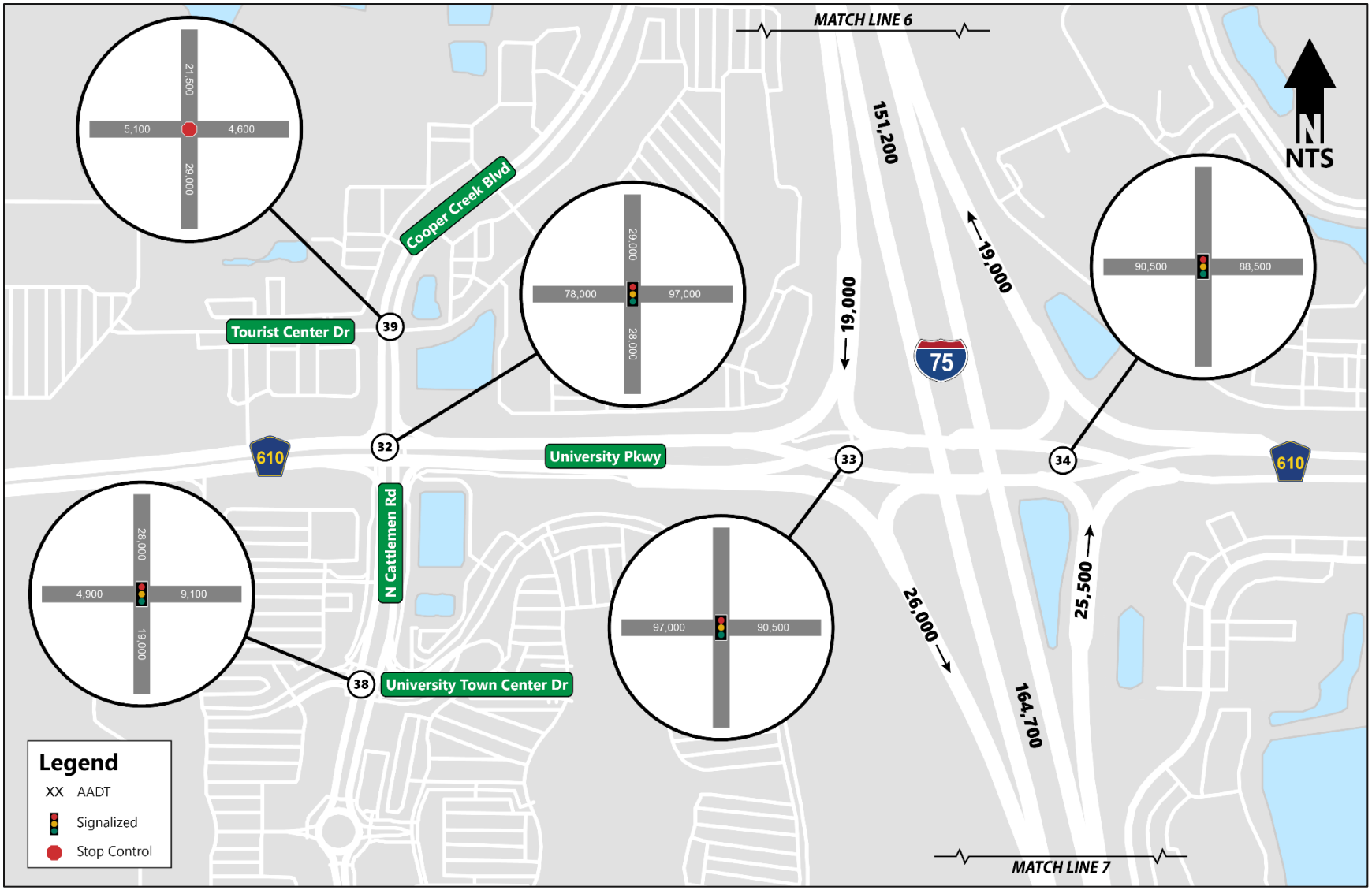


Figure 3.7 Design Year (2045) No Build AADT Volumes – I-75/University Parkway Interchange

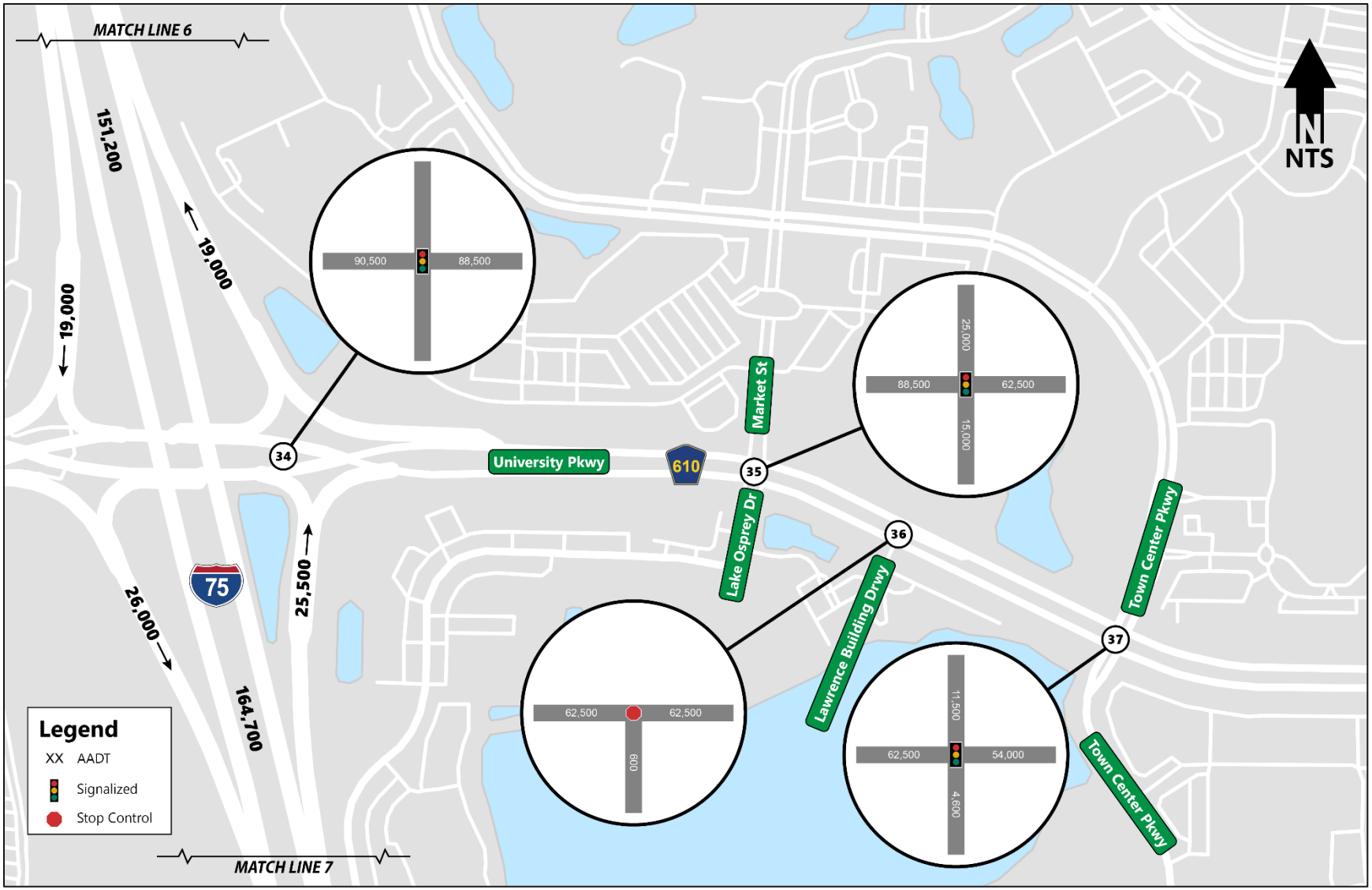


Figure 3.7 (Continued) Design Year (2045) No Build AADT Volumes – I-75/University Parkway Interchange

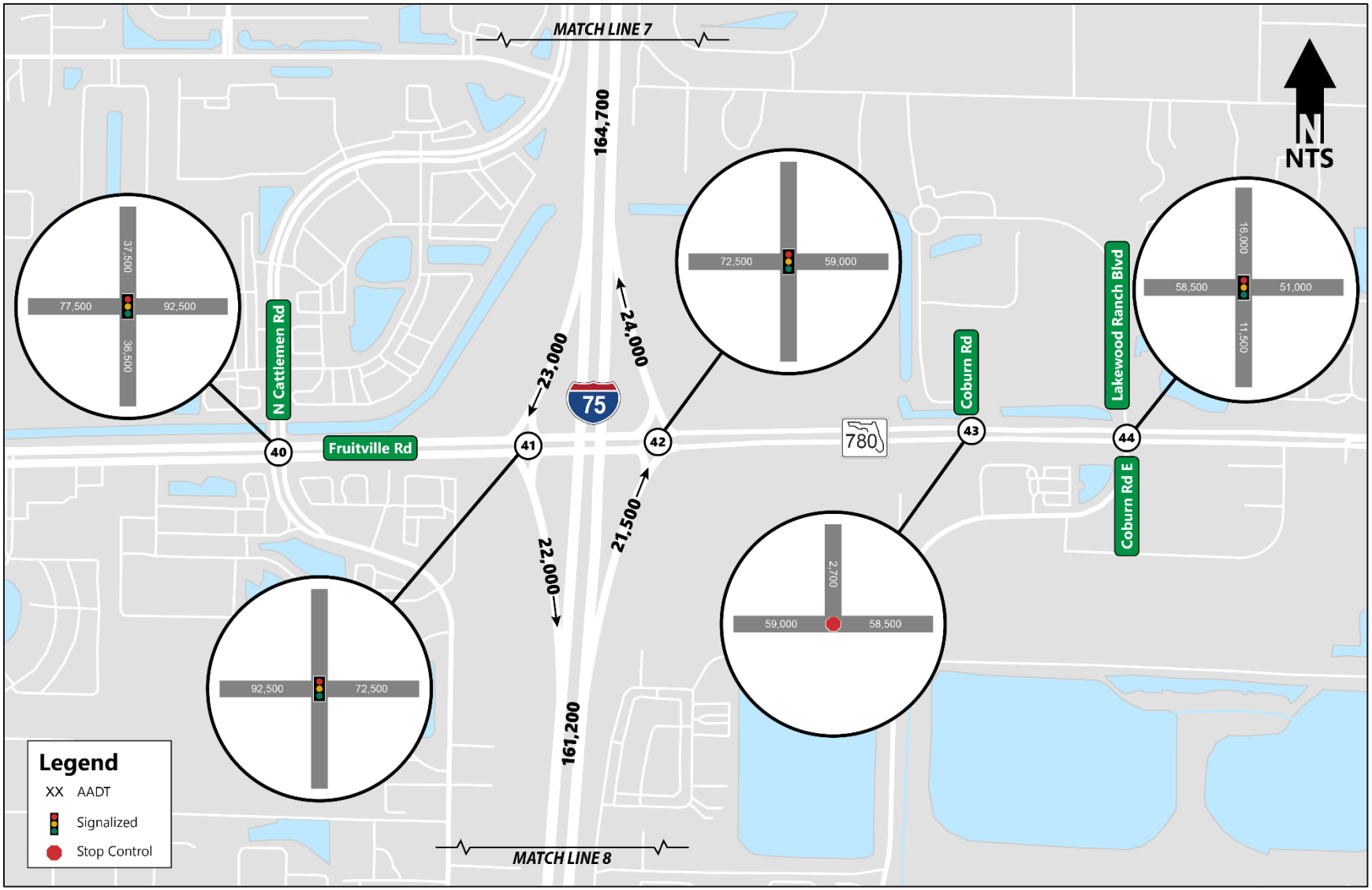


Figure 3.8 Design Year (2045) No Build AADT Volumes – I-75/Fruitville Road Interchange

Figure 3.9 Design Year (2045) No Build AADT Volumes – I-75/Bee Ridge Road Interchange

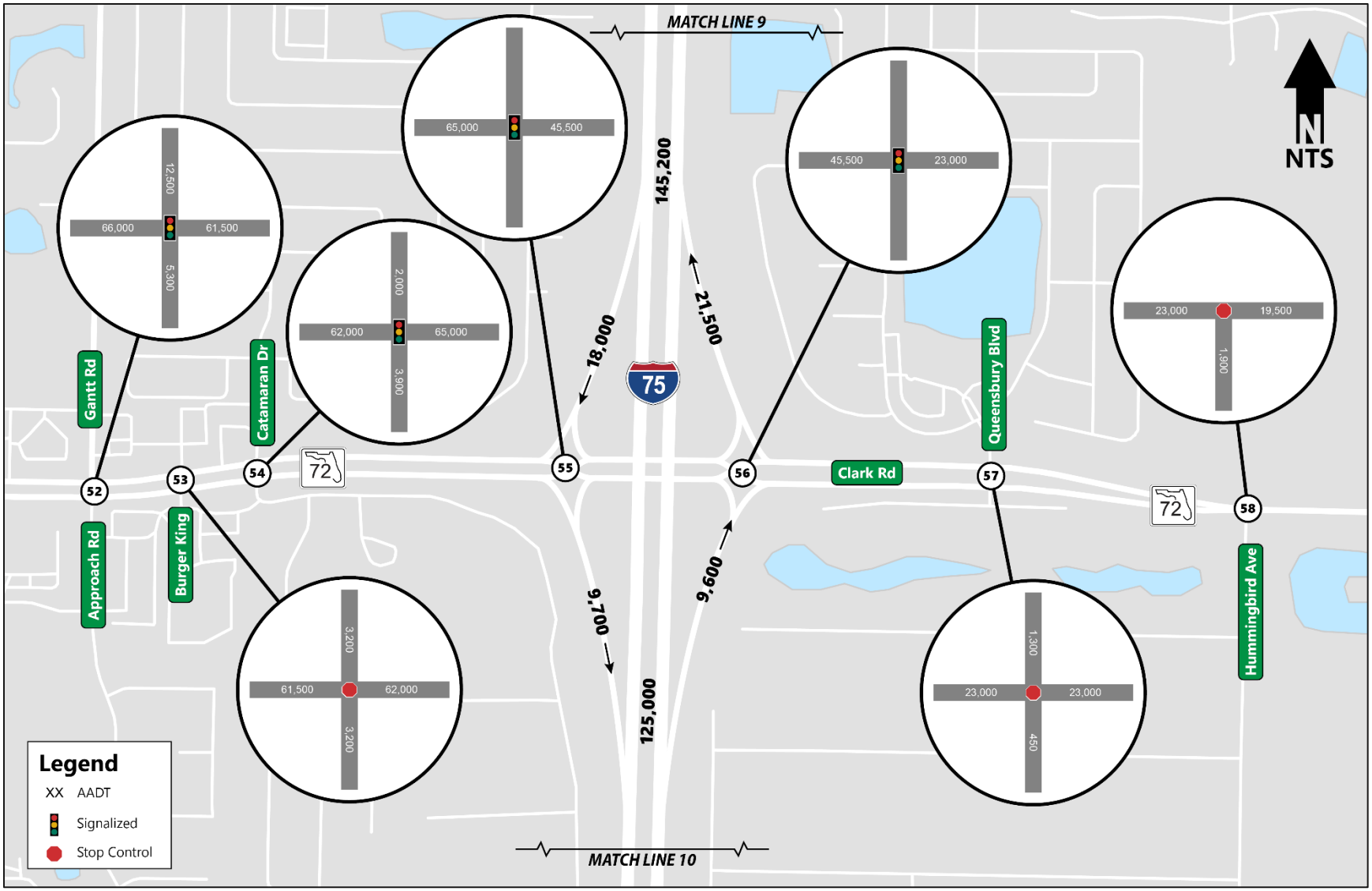


Figure 3.10 Design Year (2045) No Build AADT Volumes – I-75/Clark Road Interchange

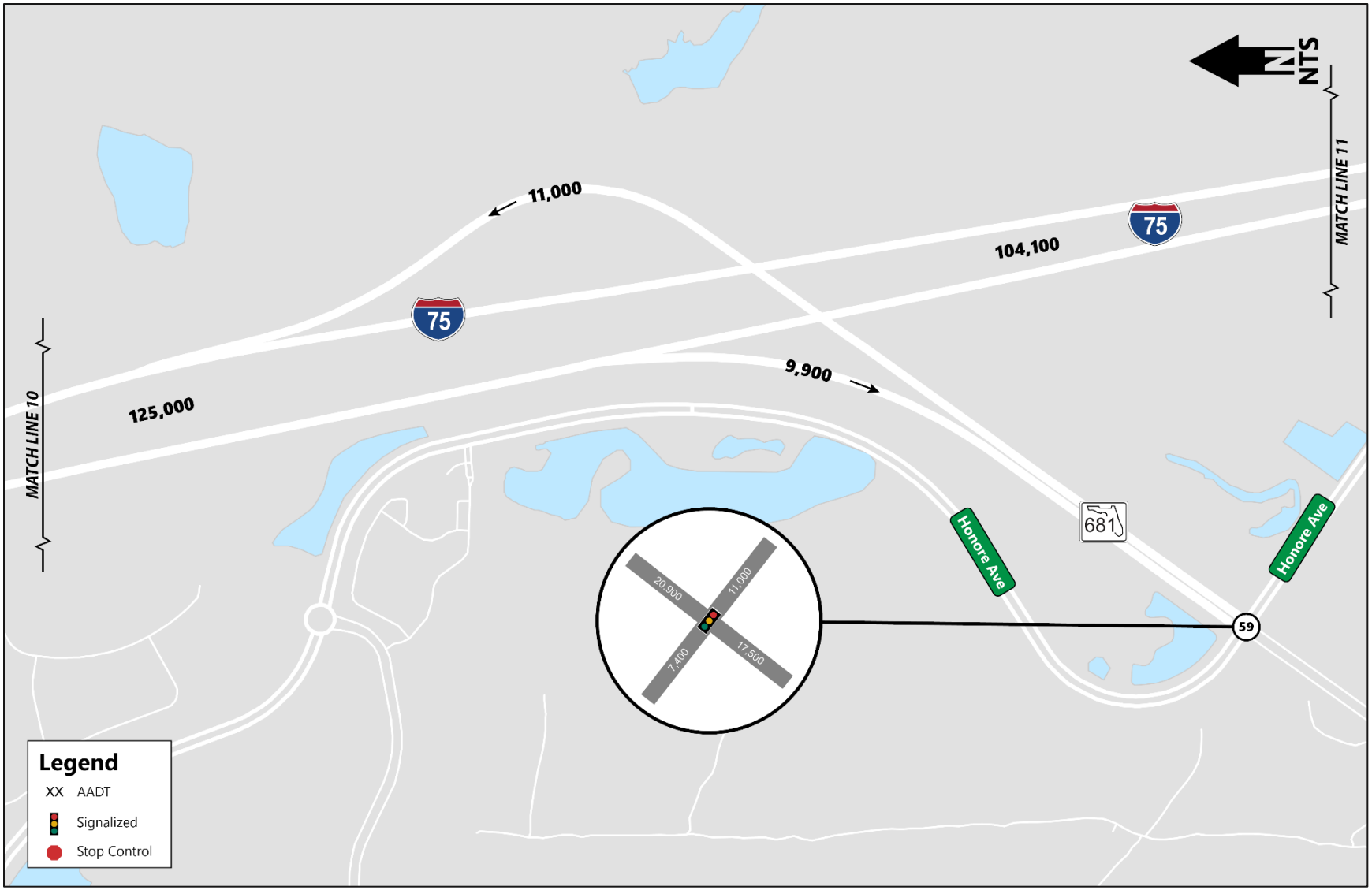


Figure 3.11 Design Year (2045) No Build AADT Volumes – I-75/SR 681 Interchange

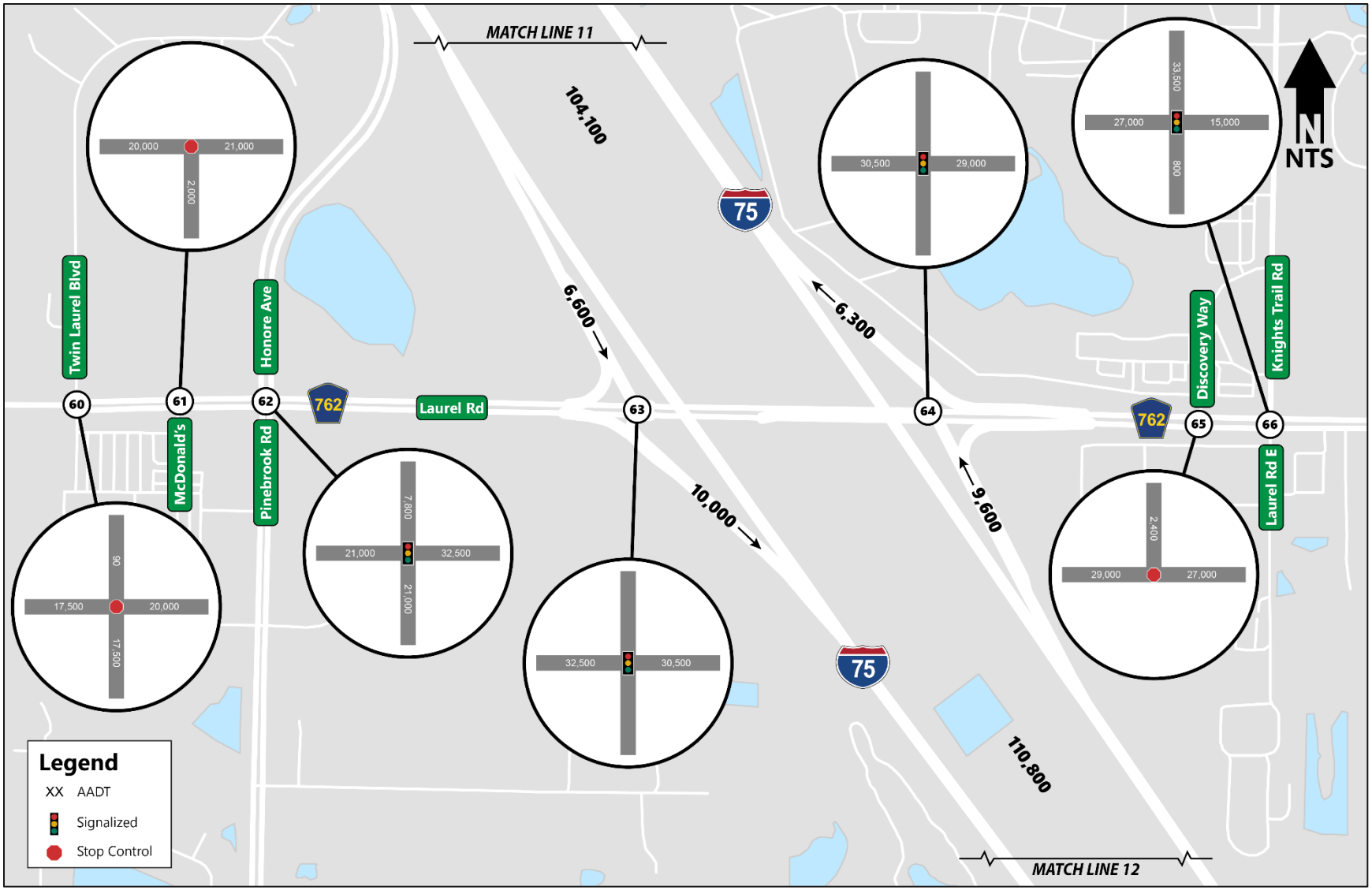


Figure 3.12 Design Year (2045) No Build AADT Volumes – I-75/Laurel Road Interchange

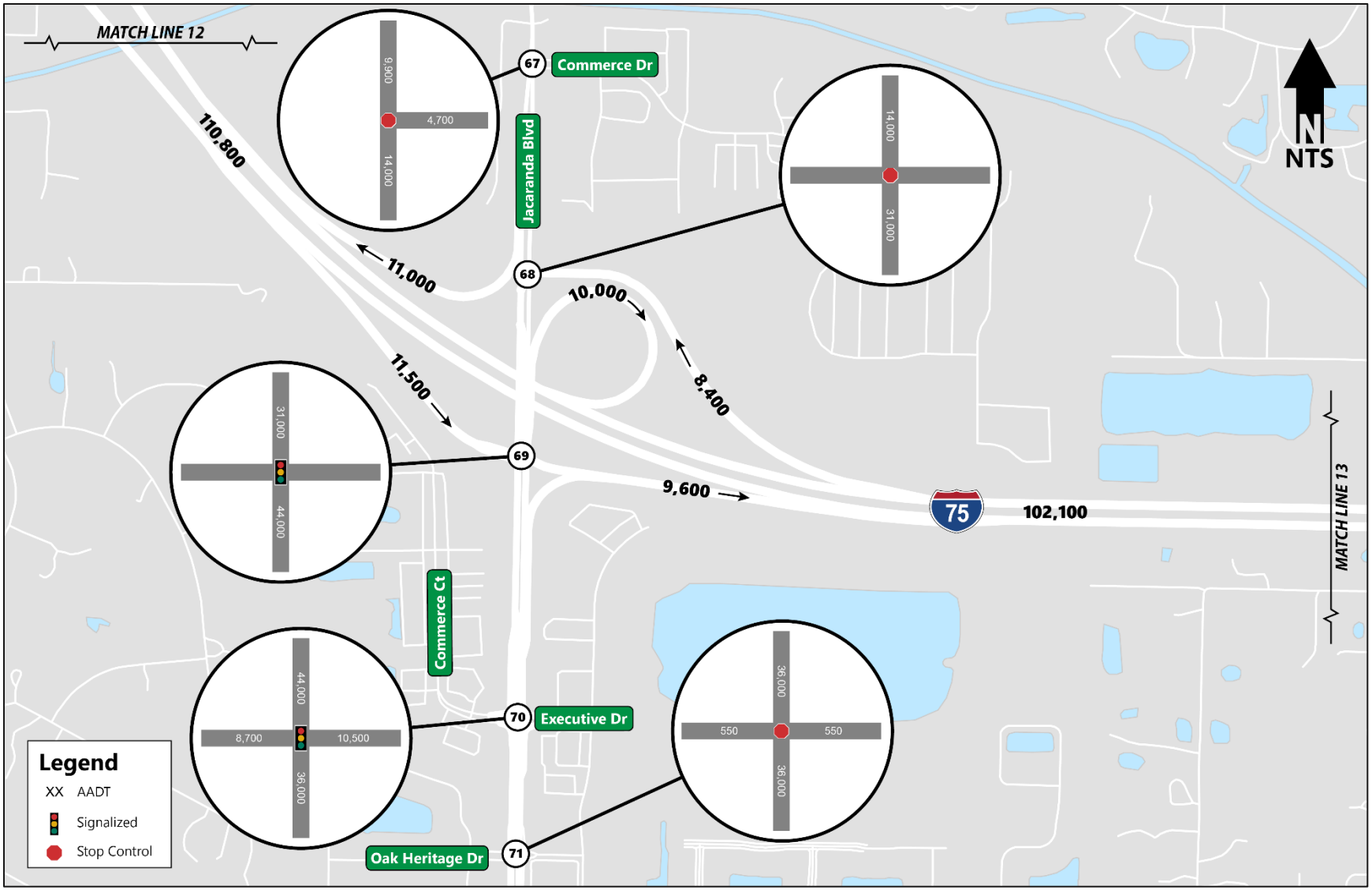


Figure 3.13 Design Year (2045) No Build AADT Volumes – I-75/Jacaranda Boulevard Interchange

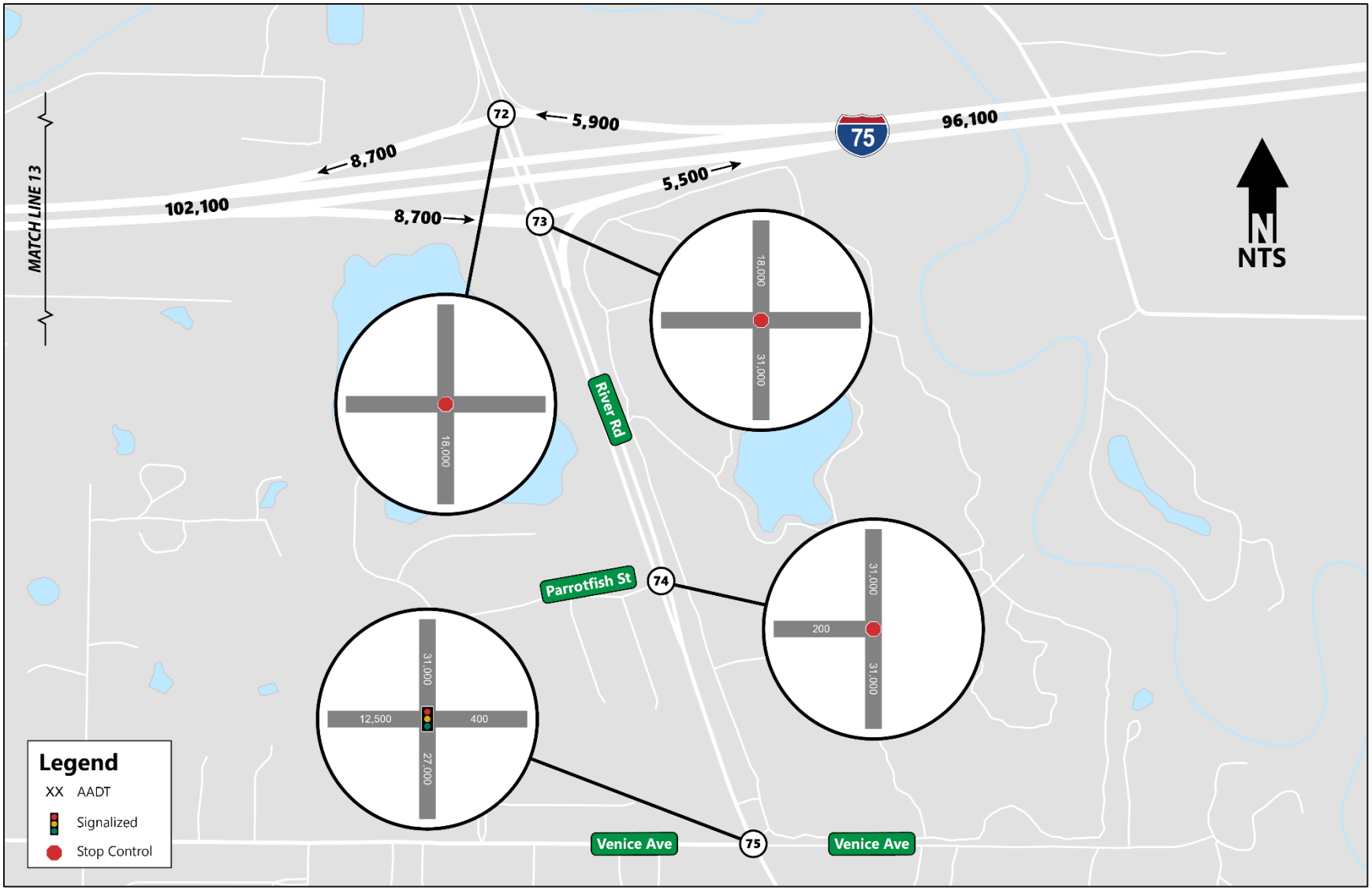


Figure 3.14 Design Year (2045) No Build AADT Volumes – I-75/N River Road Interchange

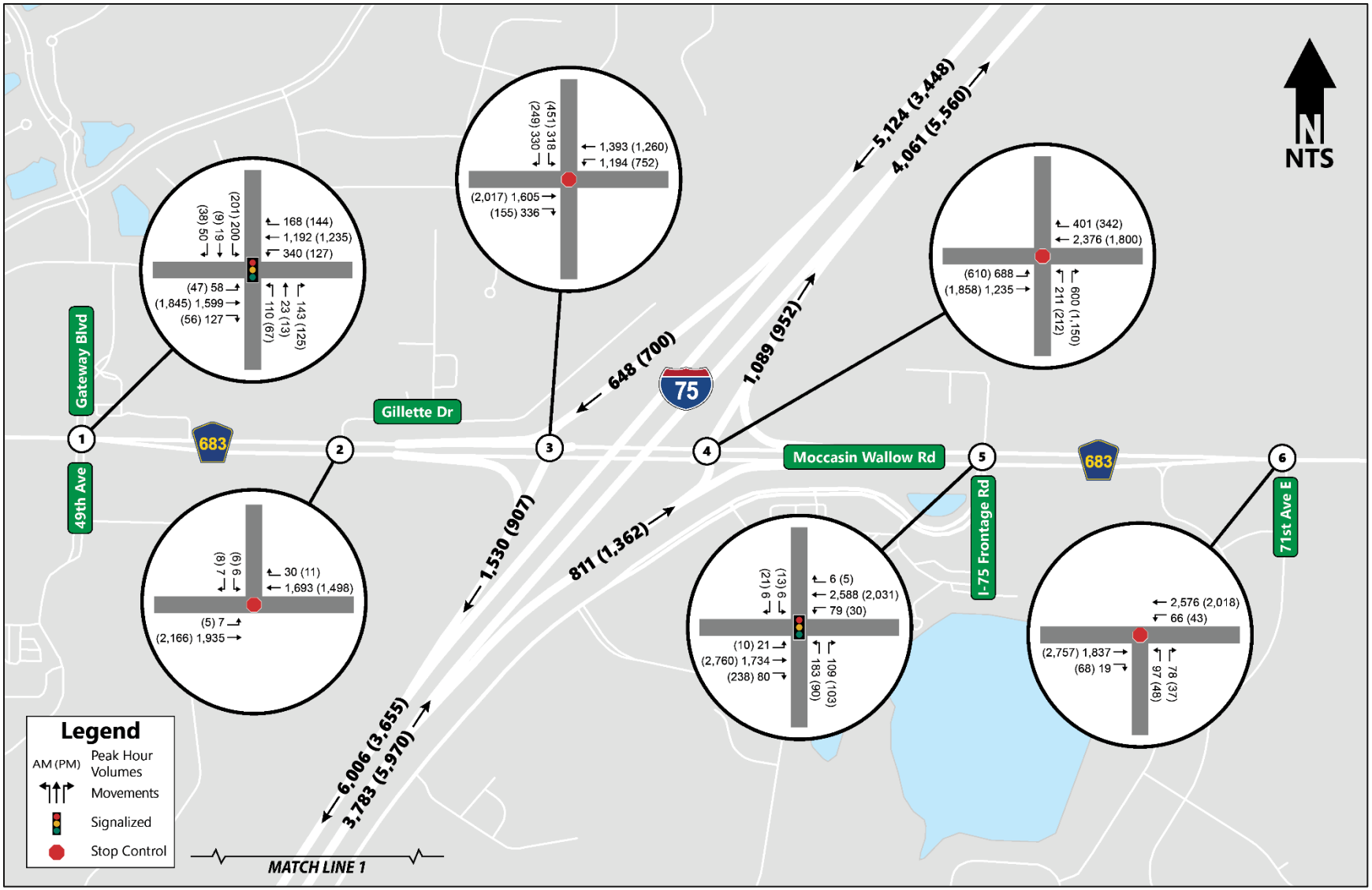


Figure 3.15 Design Year (2045) No Build DDHVs and Peak-Hour Volumes – I-75/Moccasin Wallow Road Interchange

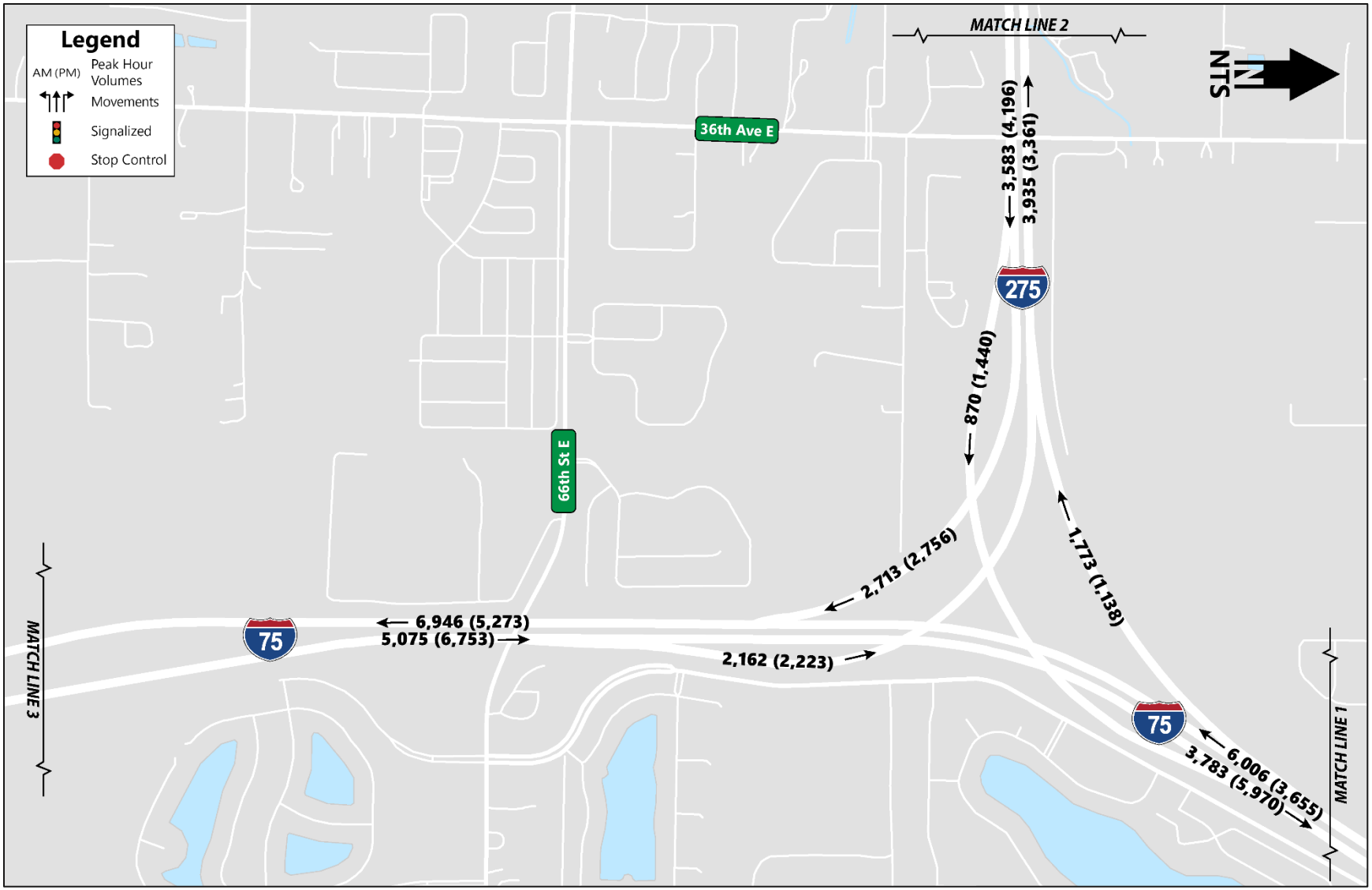


Figure 3.16 Design Year (2045) No Build DDHVs and Peak-Hour Volumes – I-75/275 Interchange

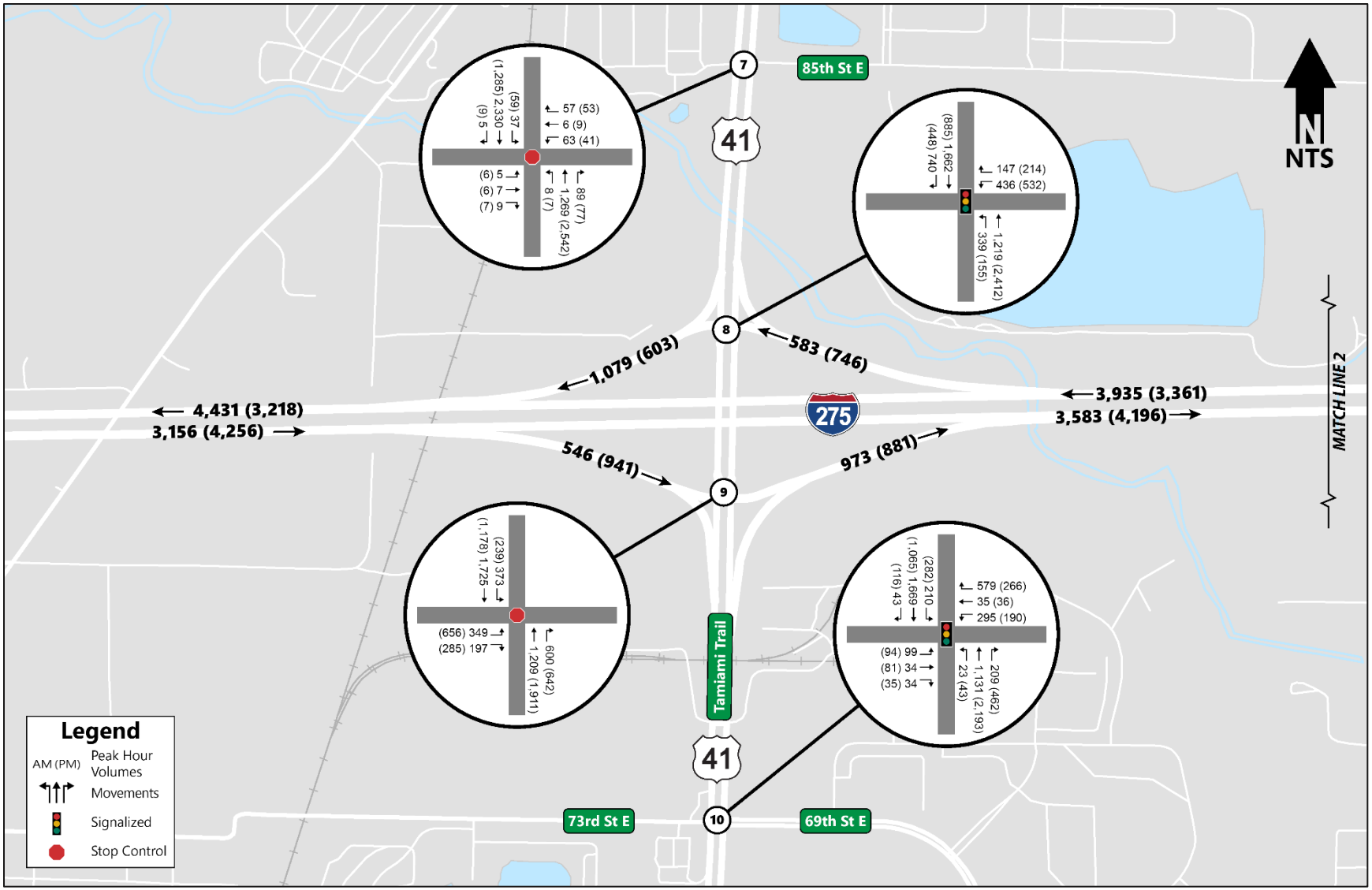


Figure 3.17 Design Year (2045) No Build DDHVs and Peak-Hour Volumes – I-275/US 41 Interchange

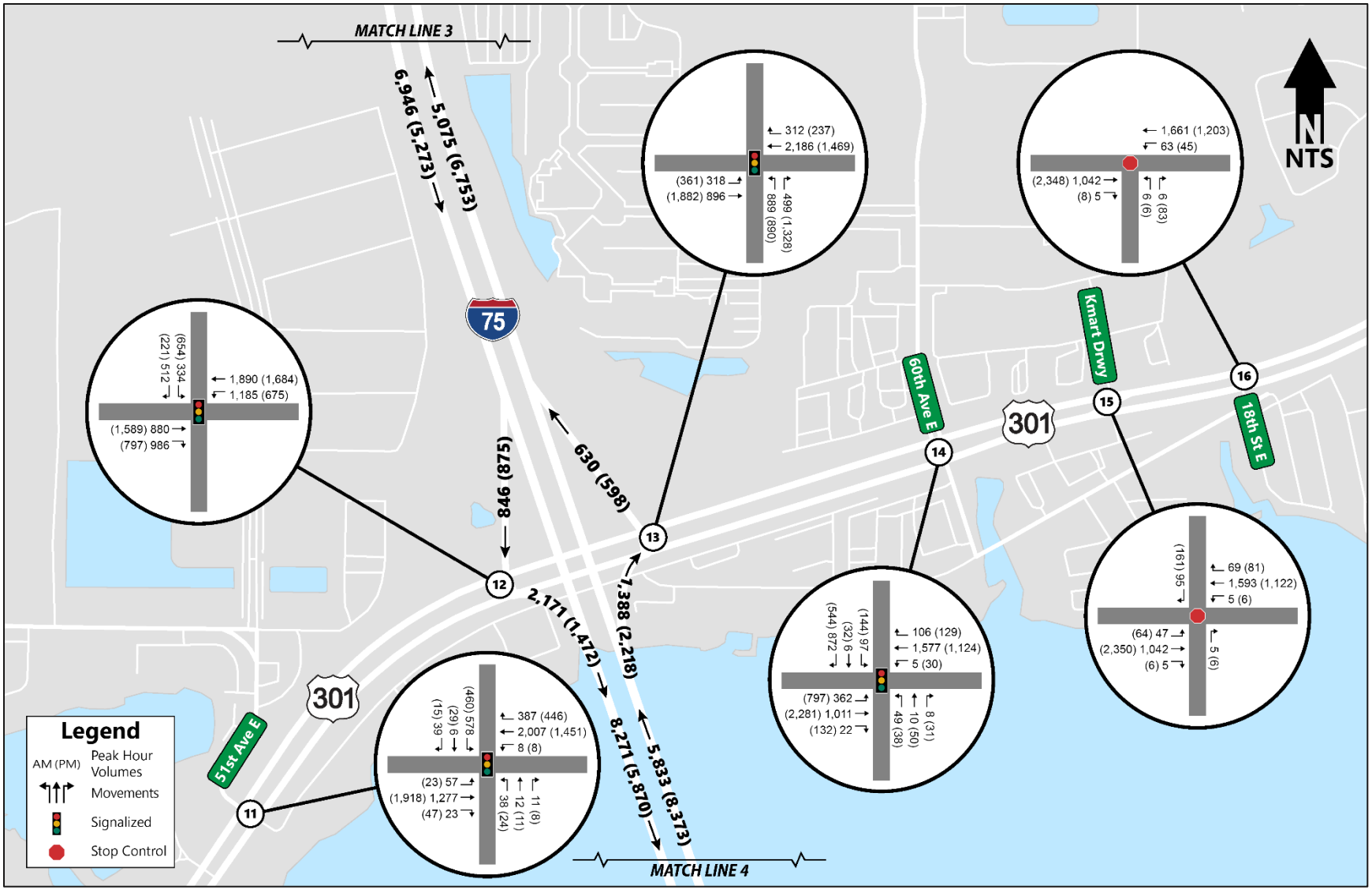


Figure 3.18 Design Year (2045) No Build DDHVs and Peak-Hour Volumes – I-75/US 301 Interchange

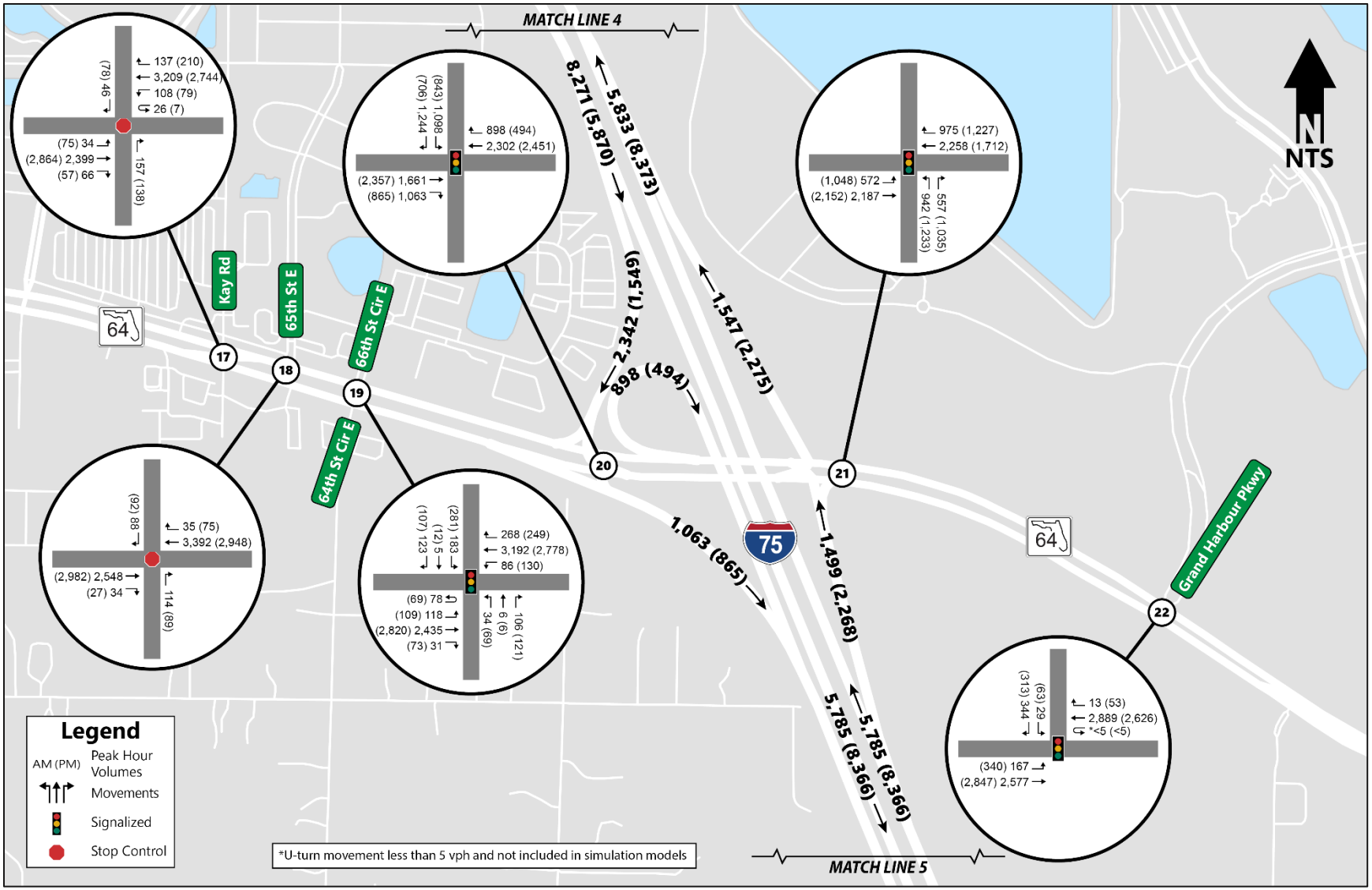


Figure 3.19 Design Year (2045) No Build DDHVs and Peak-Hour Volumes – I-75/SR 64 Interchange

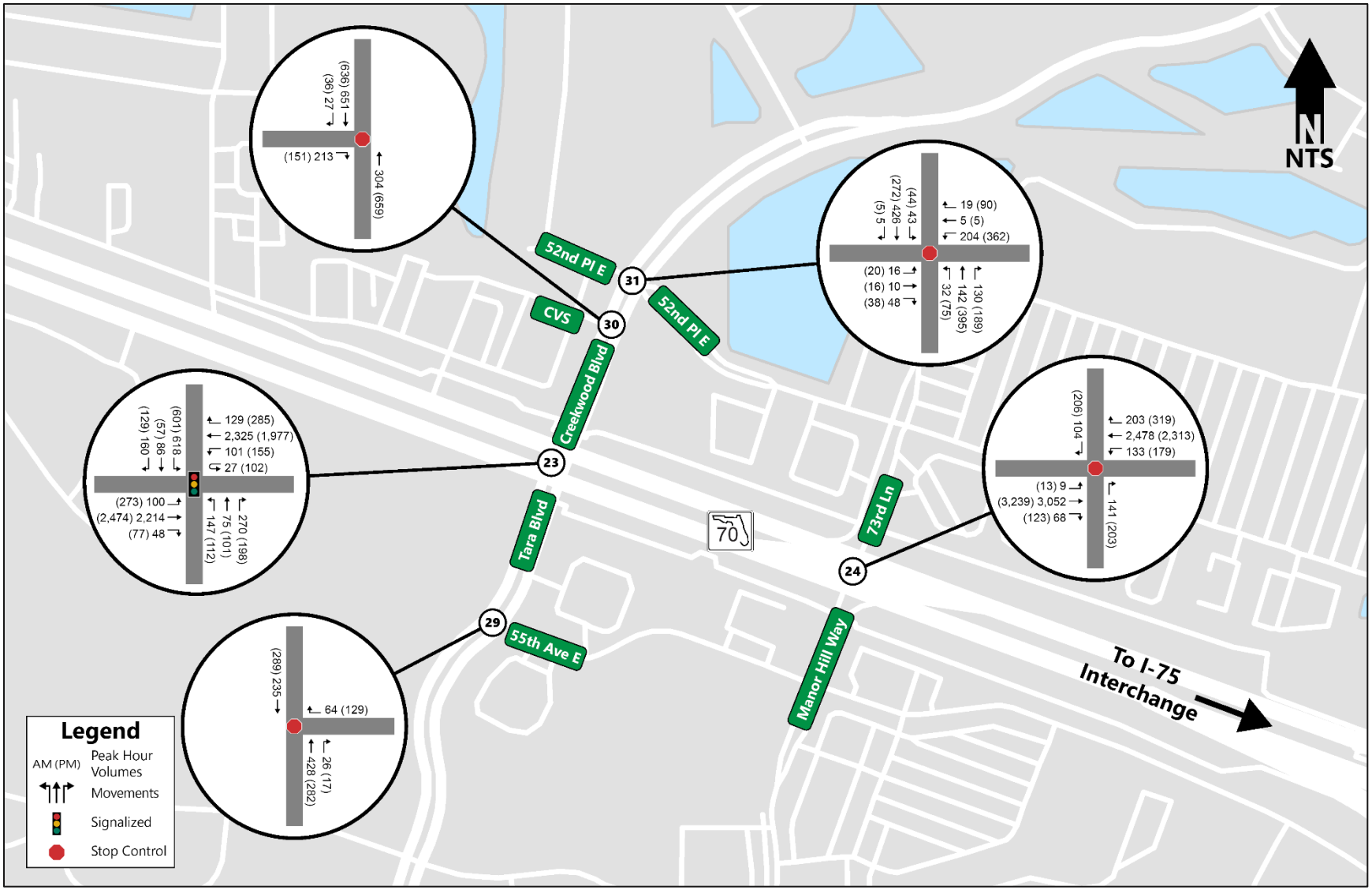


Figure 3.20 Design Year (2045) No Build DDHVs and Peak-Hour Volumes – I-75/SR 70 Interchange

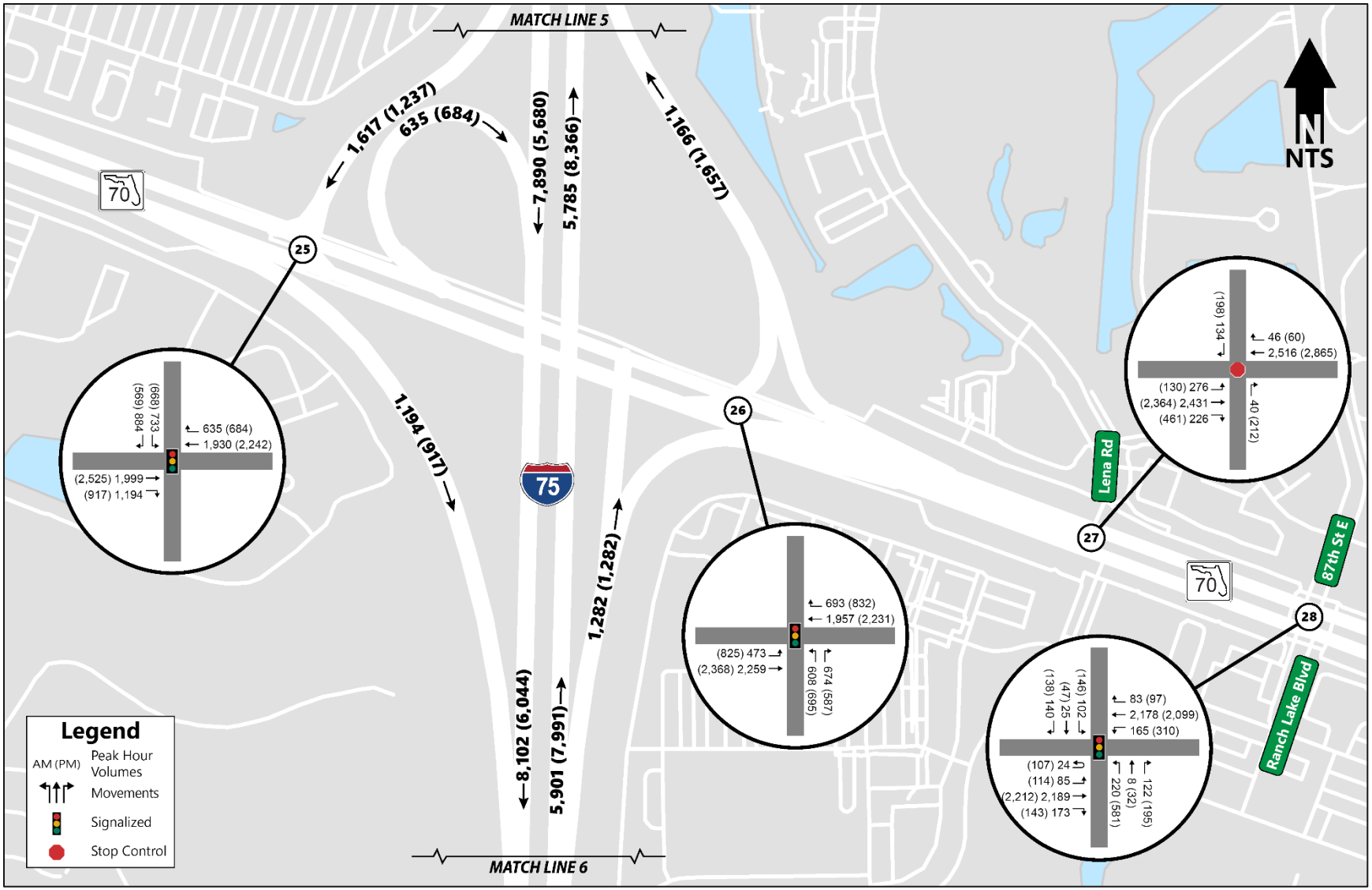


Figure 3.20 (Continued) Design Year (2045) No Build DDHVs and Peak-Hour Volumes – I-75/SR 70 Interchange

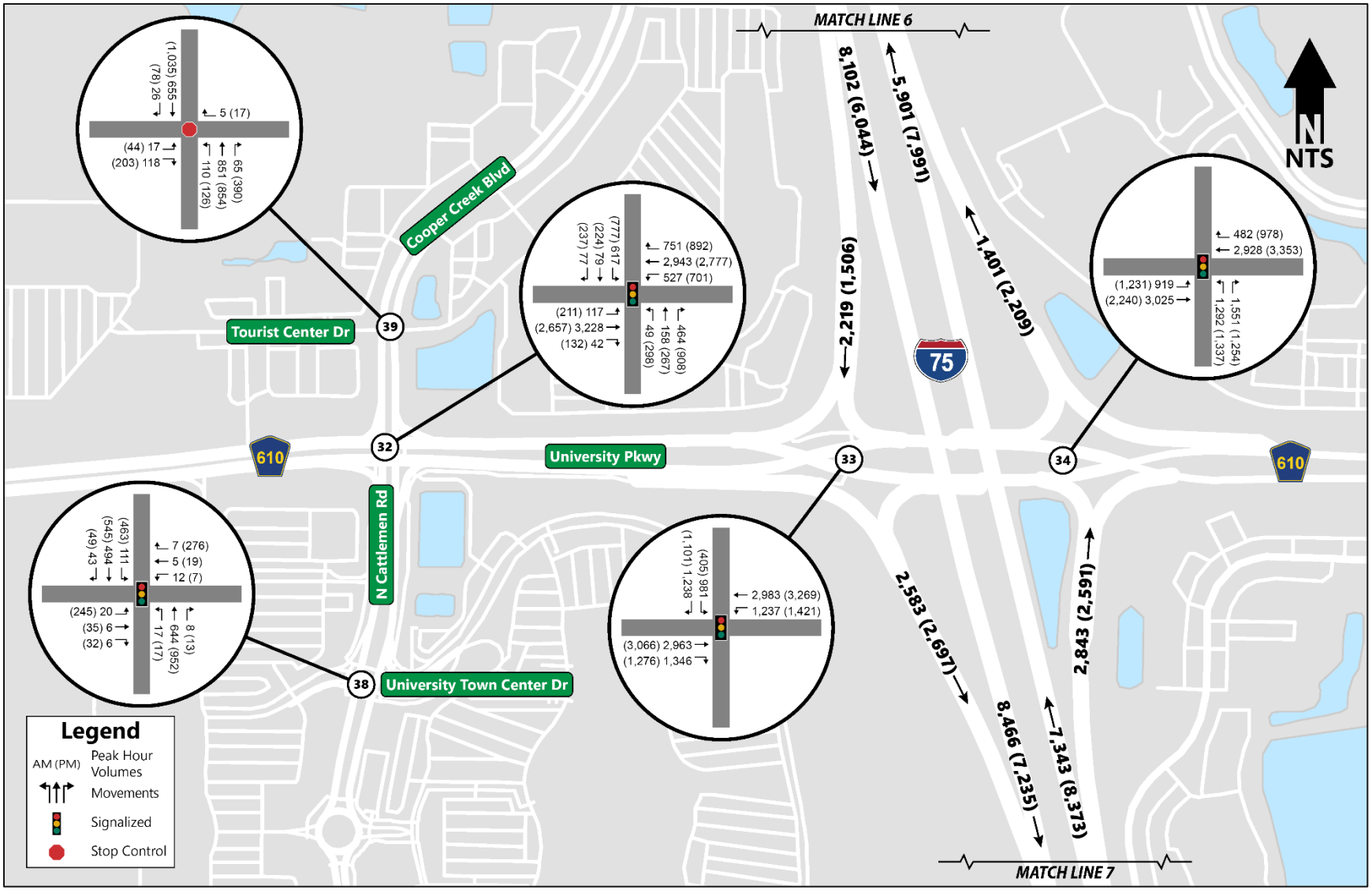


Figure 3.21 Design Year (2045) No Build DDHVs and Peak-Hour Volumes – I-75/University Parkway Interchange

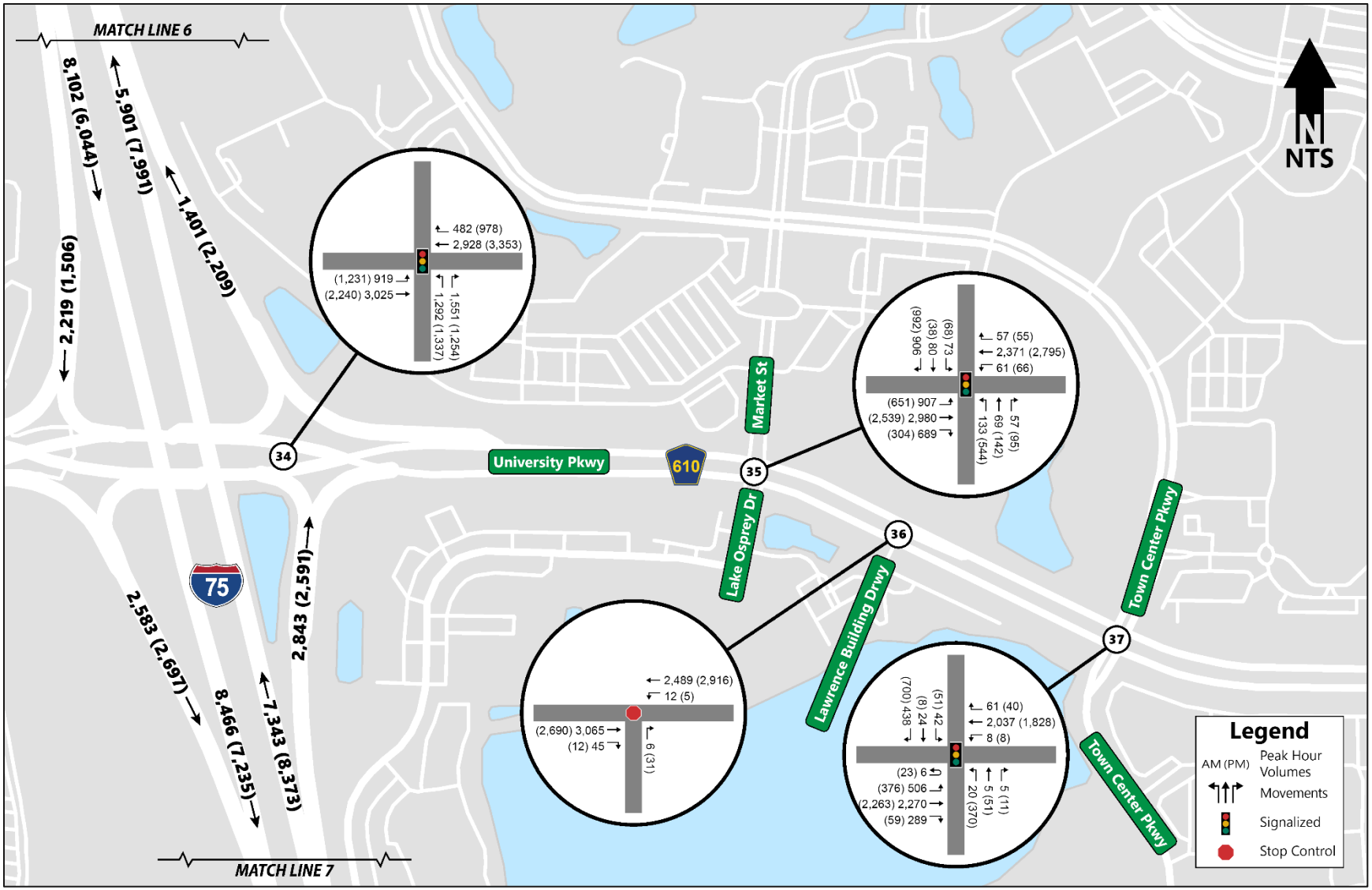


Figure 3.21 (Continued) Design Year (2045) No Build DDHVs and Peak-Hour Volumes – I-75/University Parkway Interchange

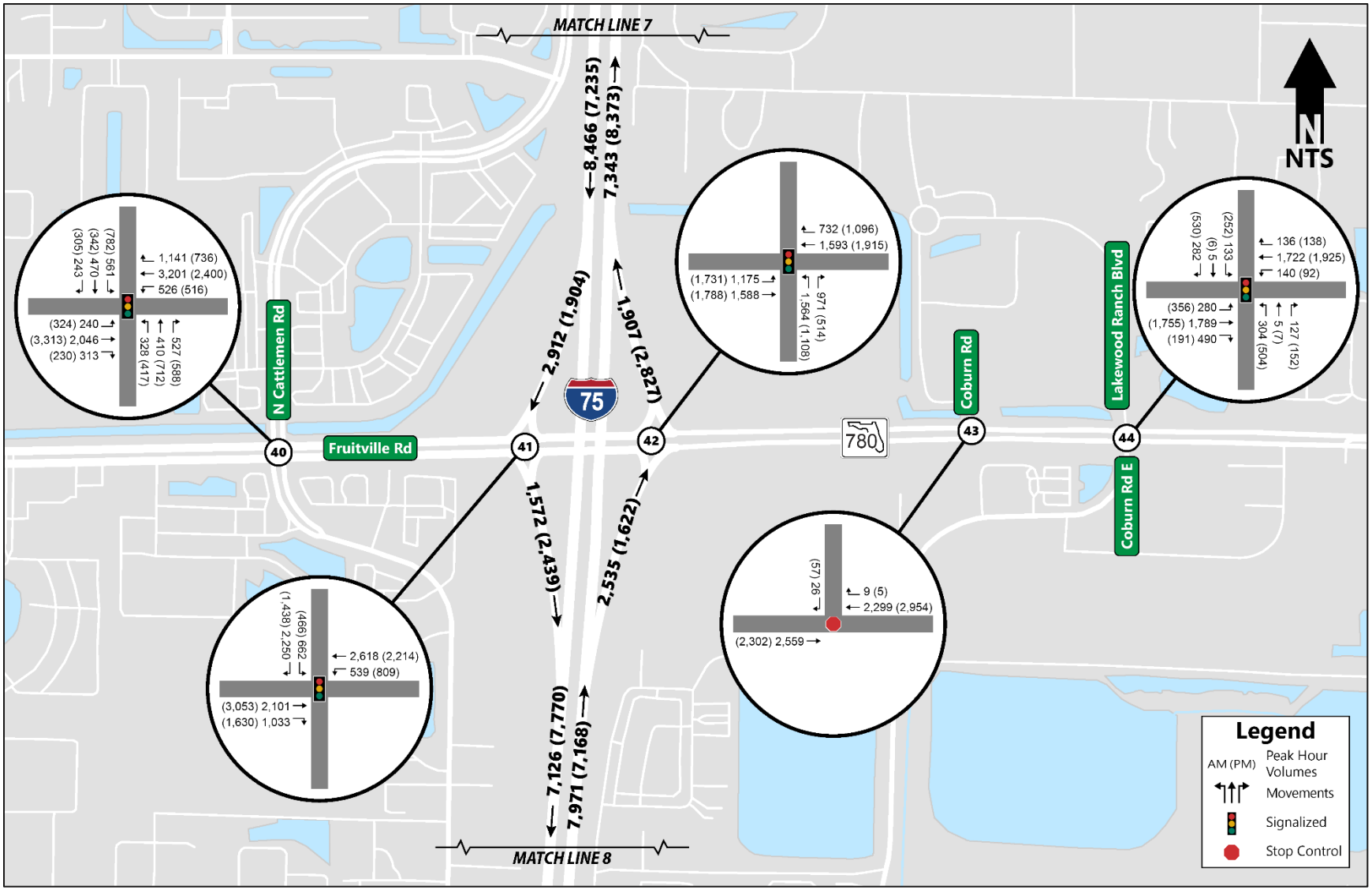


Figure 3.22 Design Year (2045) No Build DDHVs and Peak-Hour Volumes – I-75/Fruitville Road Interchange

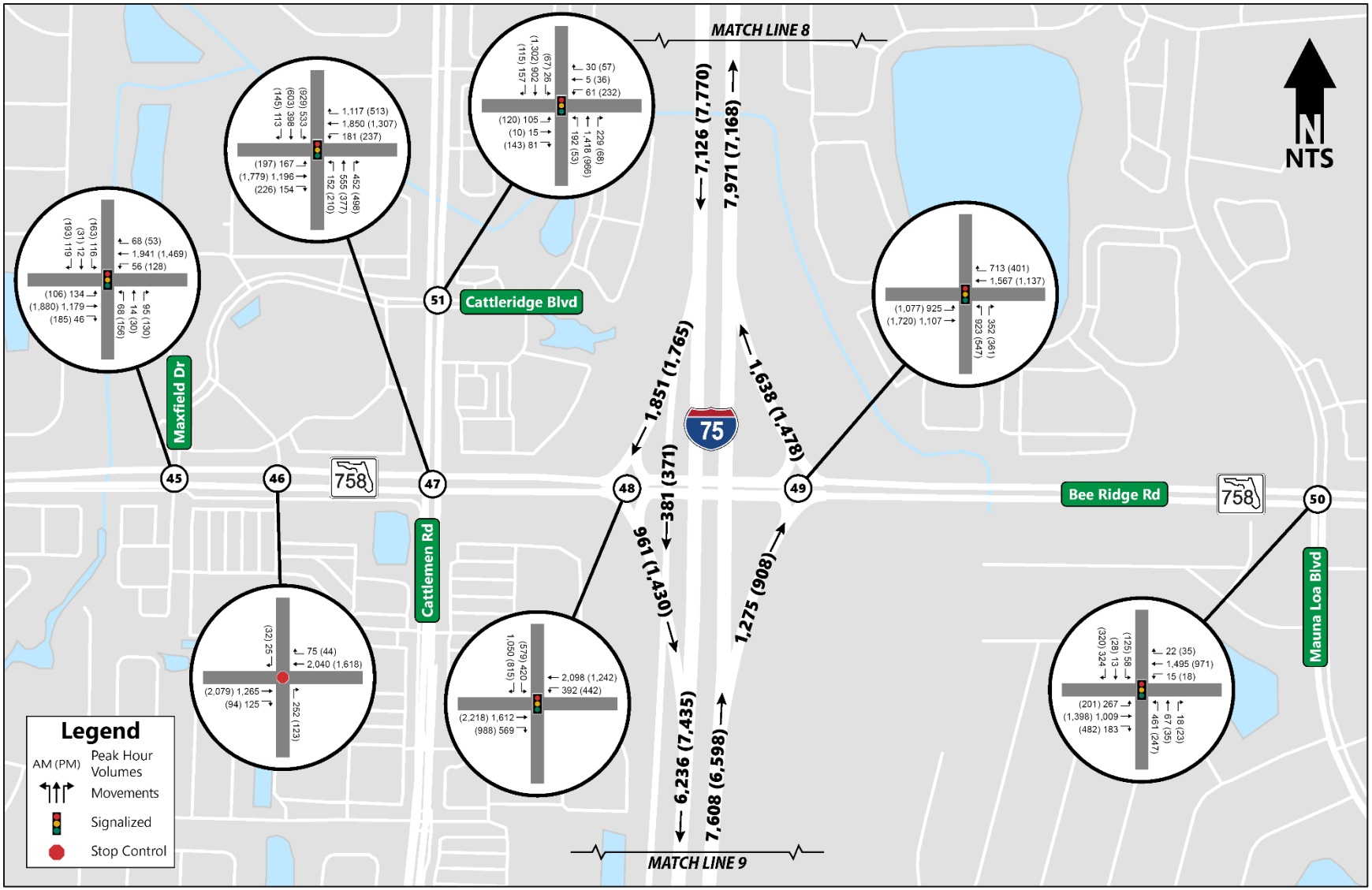


Figure 3.23 Design Year (2045) No Build DDHVs and Peak-Hour Volumes – I-75/Bee Ridge Road Interchange

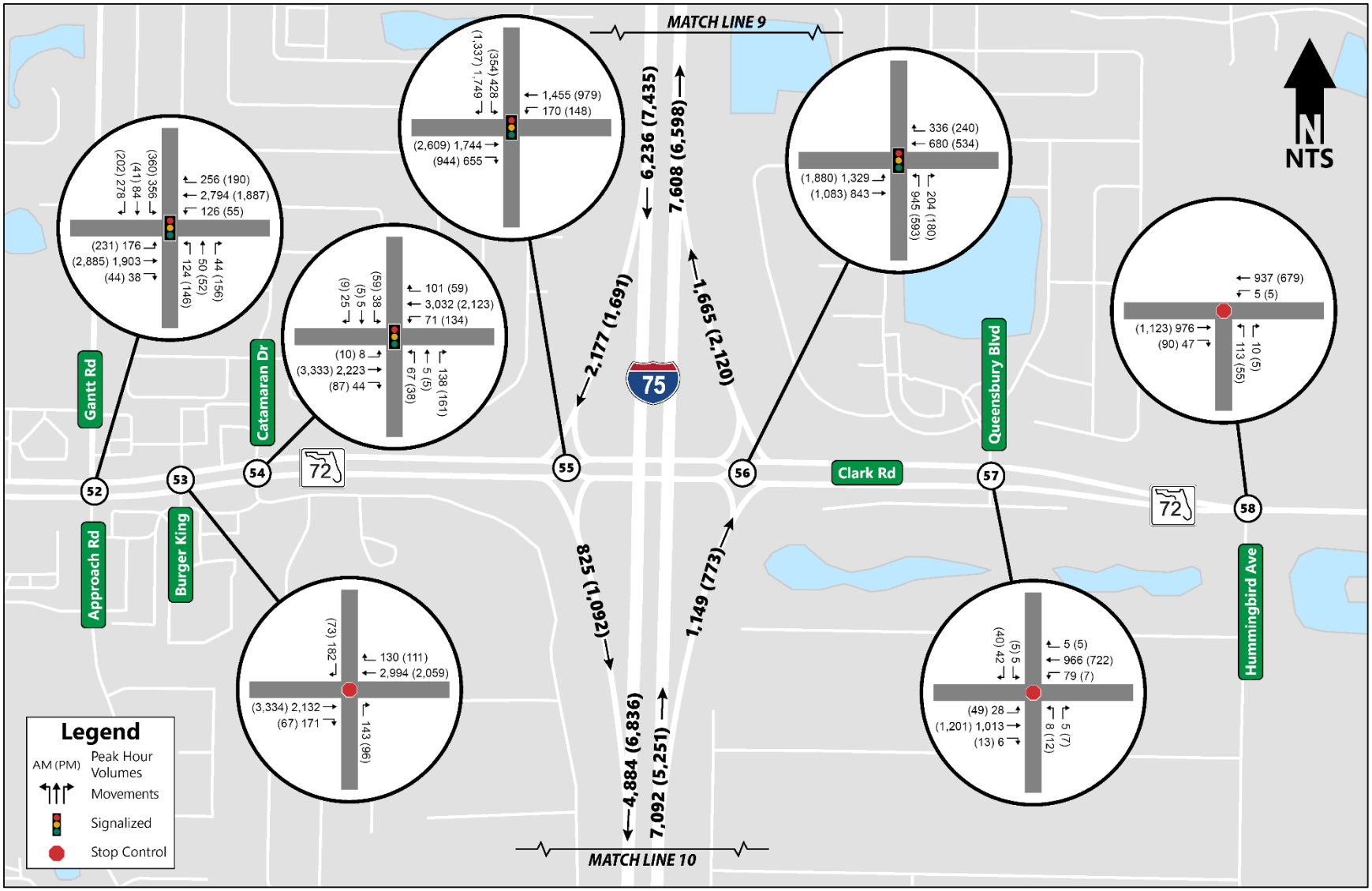


Figure 3.24 Design Year (2045) No Build DDHVs and Peak-Hour Volumes – I-75/Clark Road Interchange

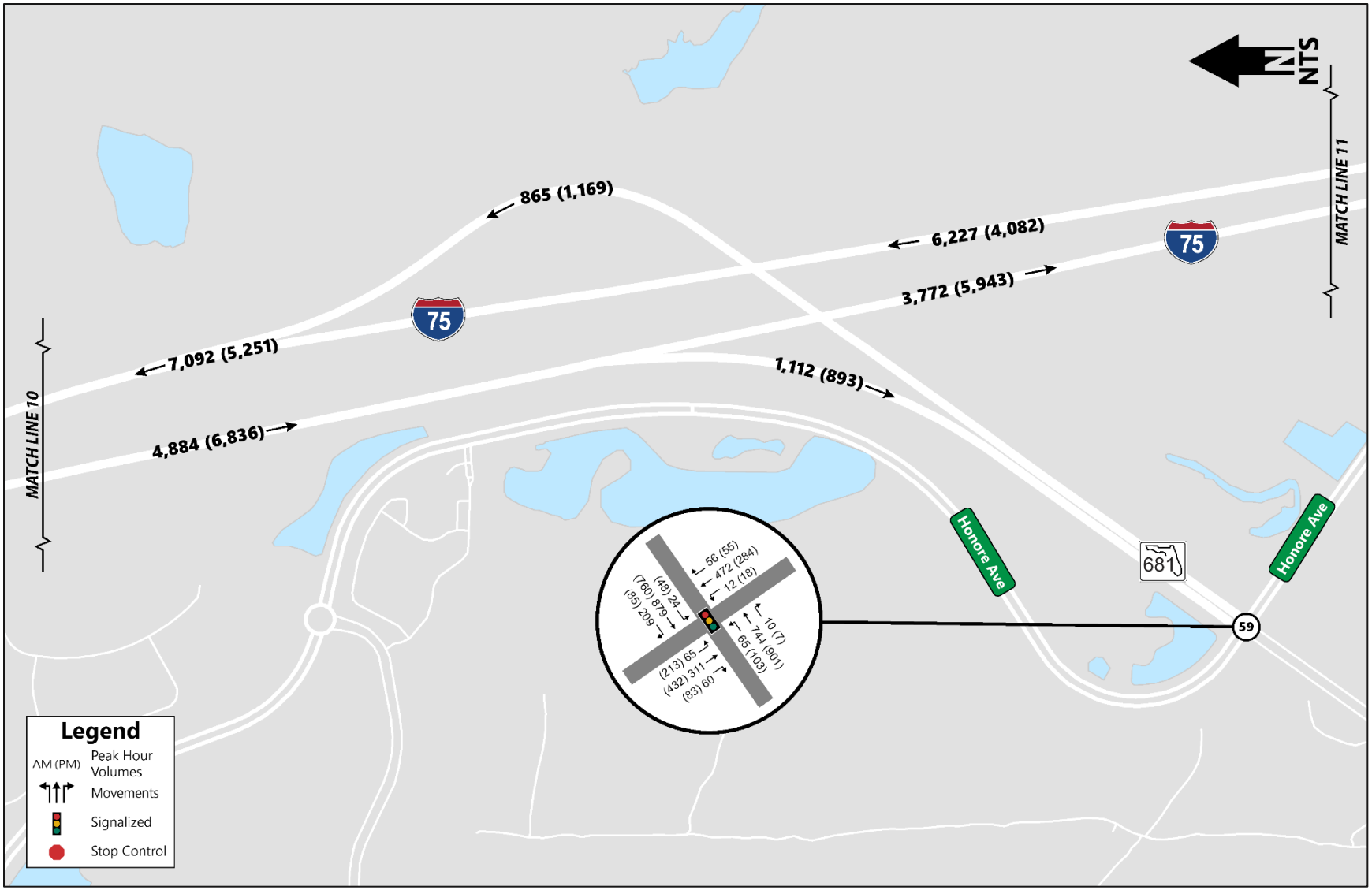


Figure 3.25 Design Year (2045) No Build DDHVs and Peak-Hour Volumes – I-75/SR 681 Interchange

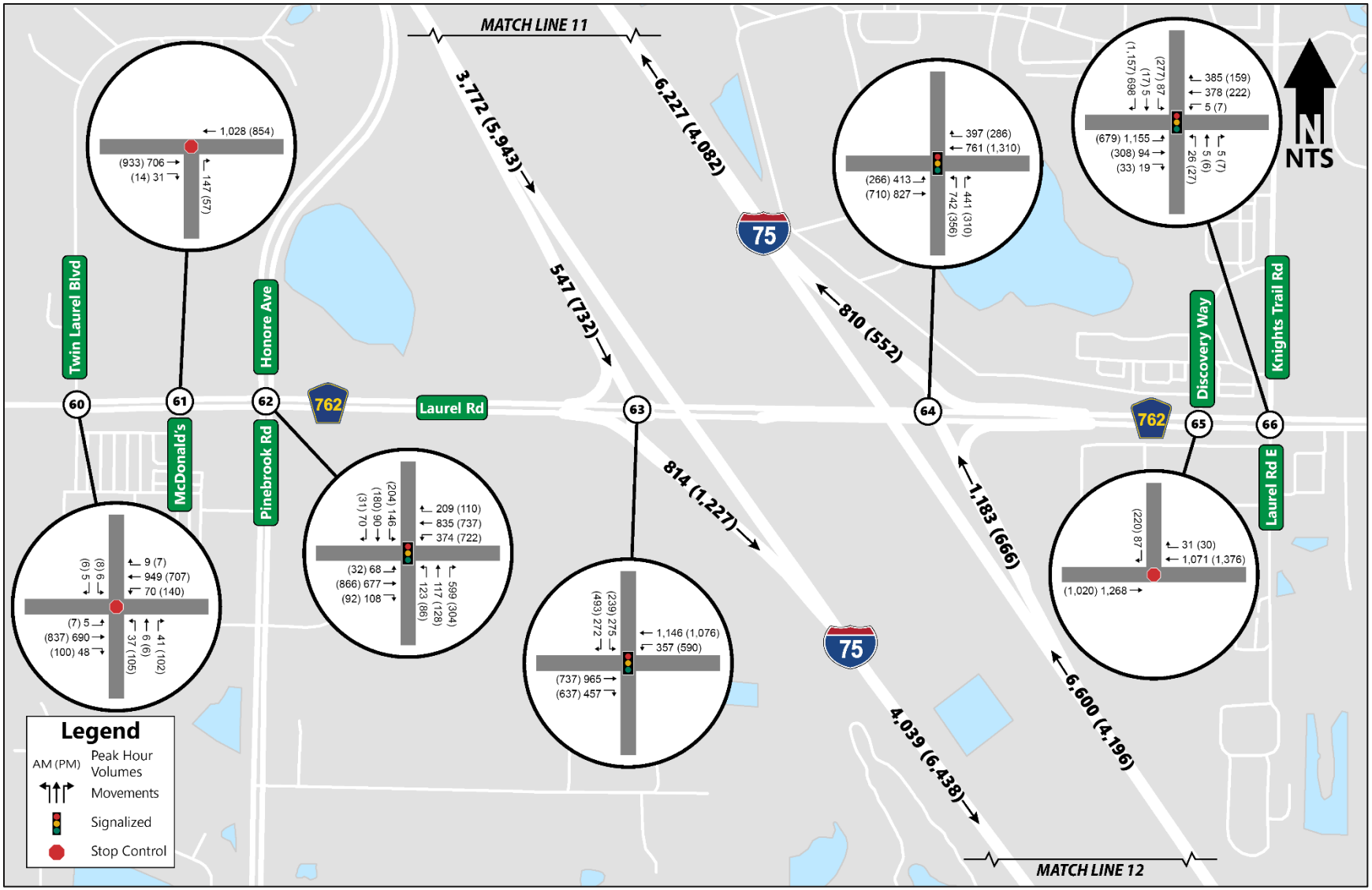


Figure 3.26 Design Year (2045) No Build DDHVs and Peak-Hour Volumes – I-75/Laurel Road Interchange

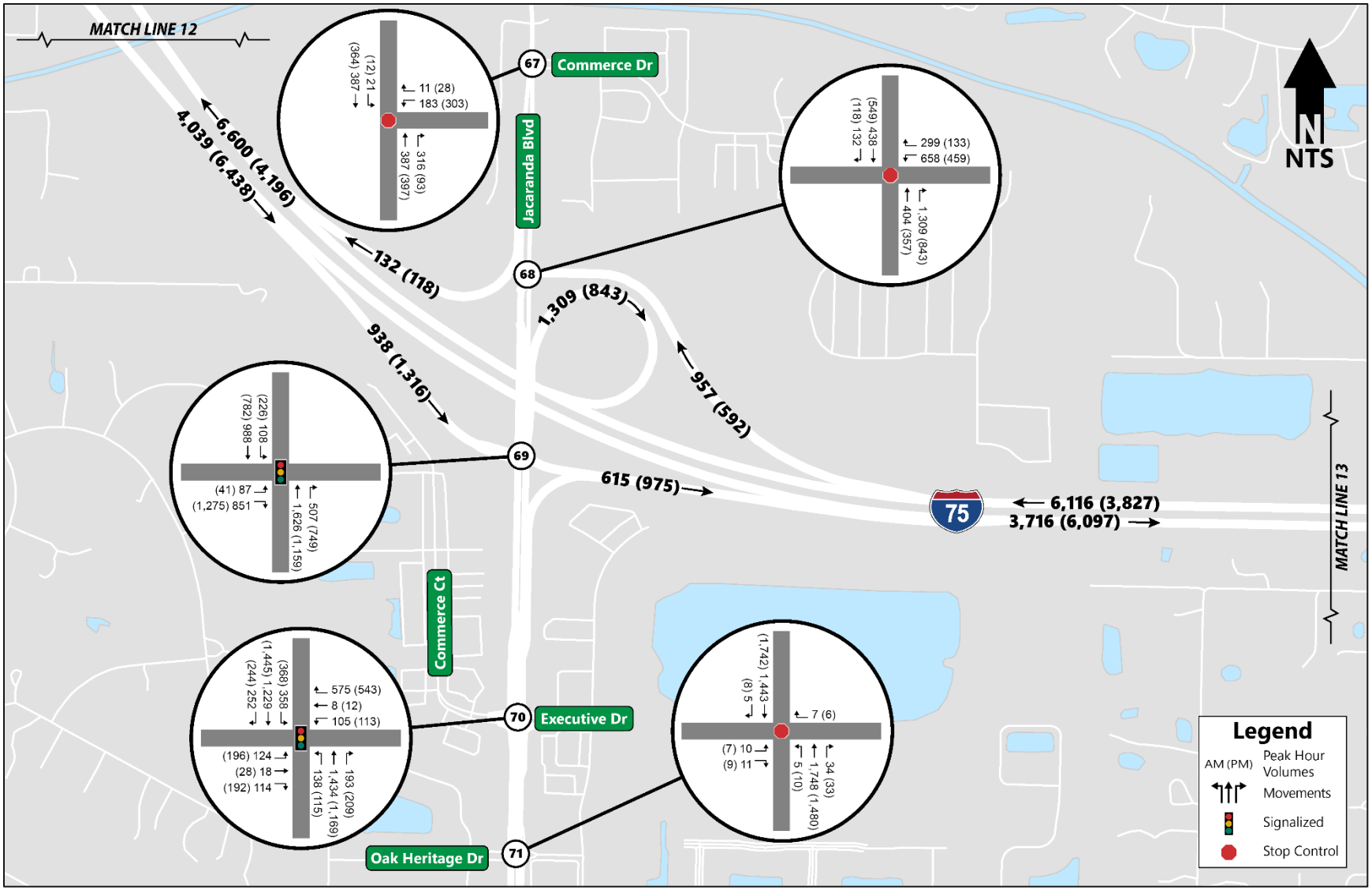


Figure 3.27 Design Year (2045) No Build DDHVs and Peak-Hour Volumes – I-75/Jacaranda Boulevard Interchange

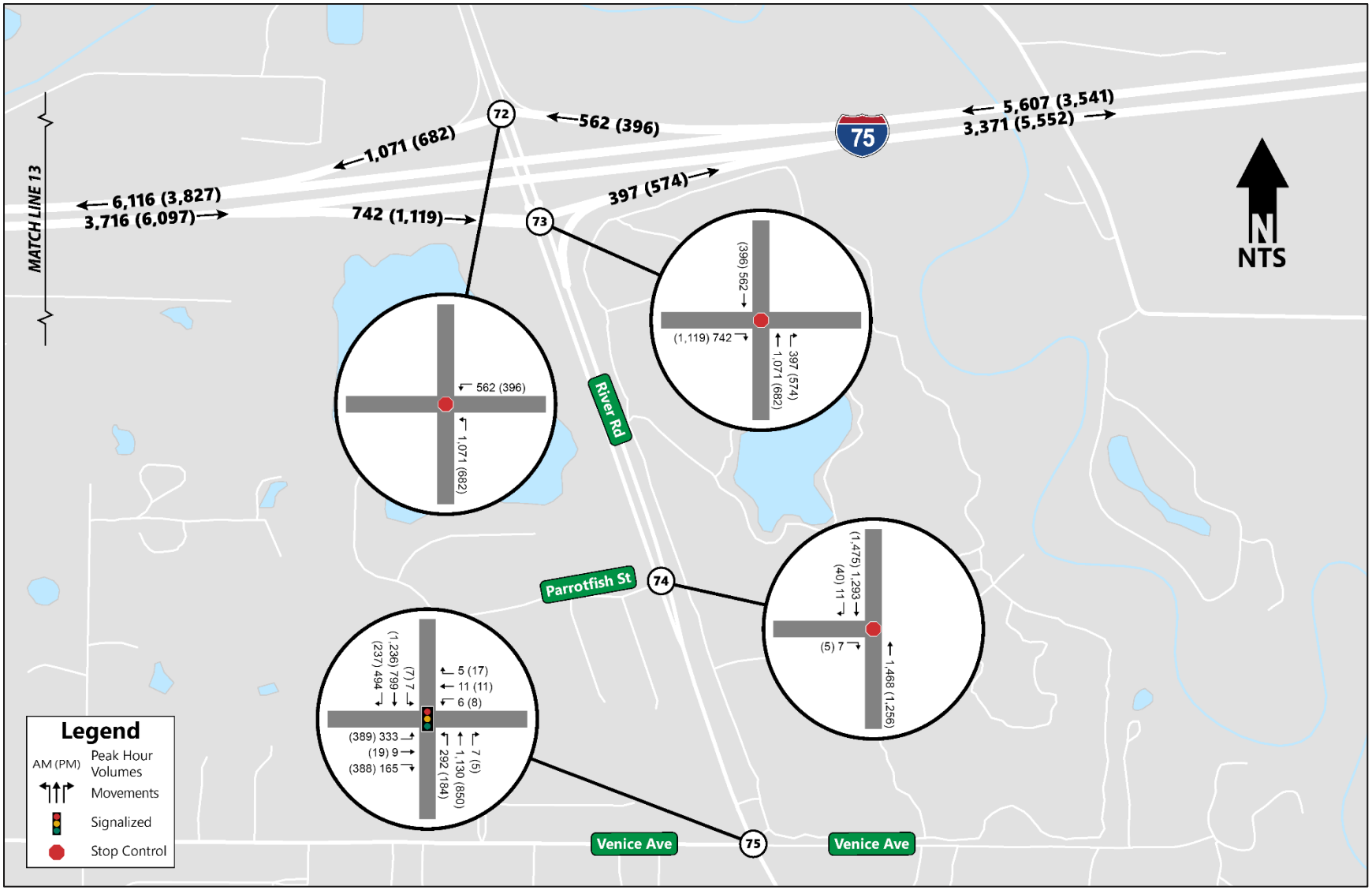


Figure 3.28 Design Year (2045) No Build DDHVs and Peak-Hour Volumes – I-75/N River Road Interchange

4.0 Design Year (2045) Build Volumes

Figure 4.1 through **Figure 4.14** show the design year (2045) Build AADT volumes and **Figure 4.15** through **Figure 4.28** show the design year (2045) Build peak-hour turning movement volumes for the I-75 North Corridor Master Plan. Based on the approved methodology, the AM and PM peak hours were determined to occur from 7:30 AM to 8:30 AM and from 4:45 PM to 5:45 PM, respectively. For the microsimulation of the I-75 North Corridor Master Plan study area, three hours of traffic simulation were modeled for each AM and PM peak period, as well as a one-hour network loading interval. The three-hour simulation periods were broken up into 15-minute intervals, consisting of one hour for startup, one hour for the peak, and one hour for dissipation of the peak. The network loading, startup, and dissipation volumes were calculated as a proportion of the design year (2045) peak-hour volumes based on the collected 72-hour approach counts. Consistent with the methodology used for the existing conditions analysis, these temporal distributions were applied to the design year (2045) microsimulation vehicle inputs to develop a uniform volume distribution that is specific to each individual interchange and mainline subarea,

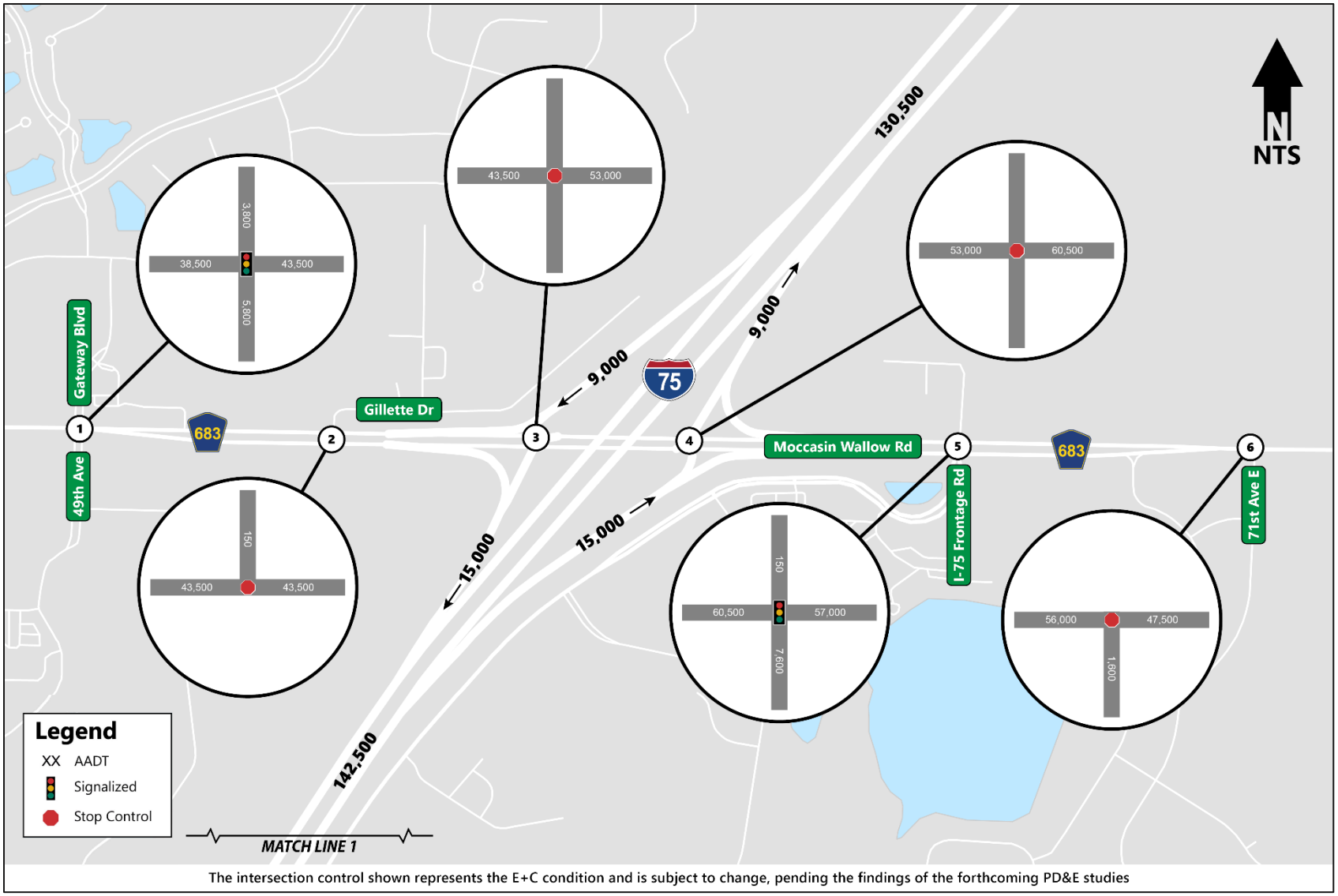


Figure 4.1 Design Year (2045) Build AADT Volumes – I-75/Moccasin Wallow Road Interchange

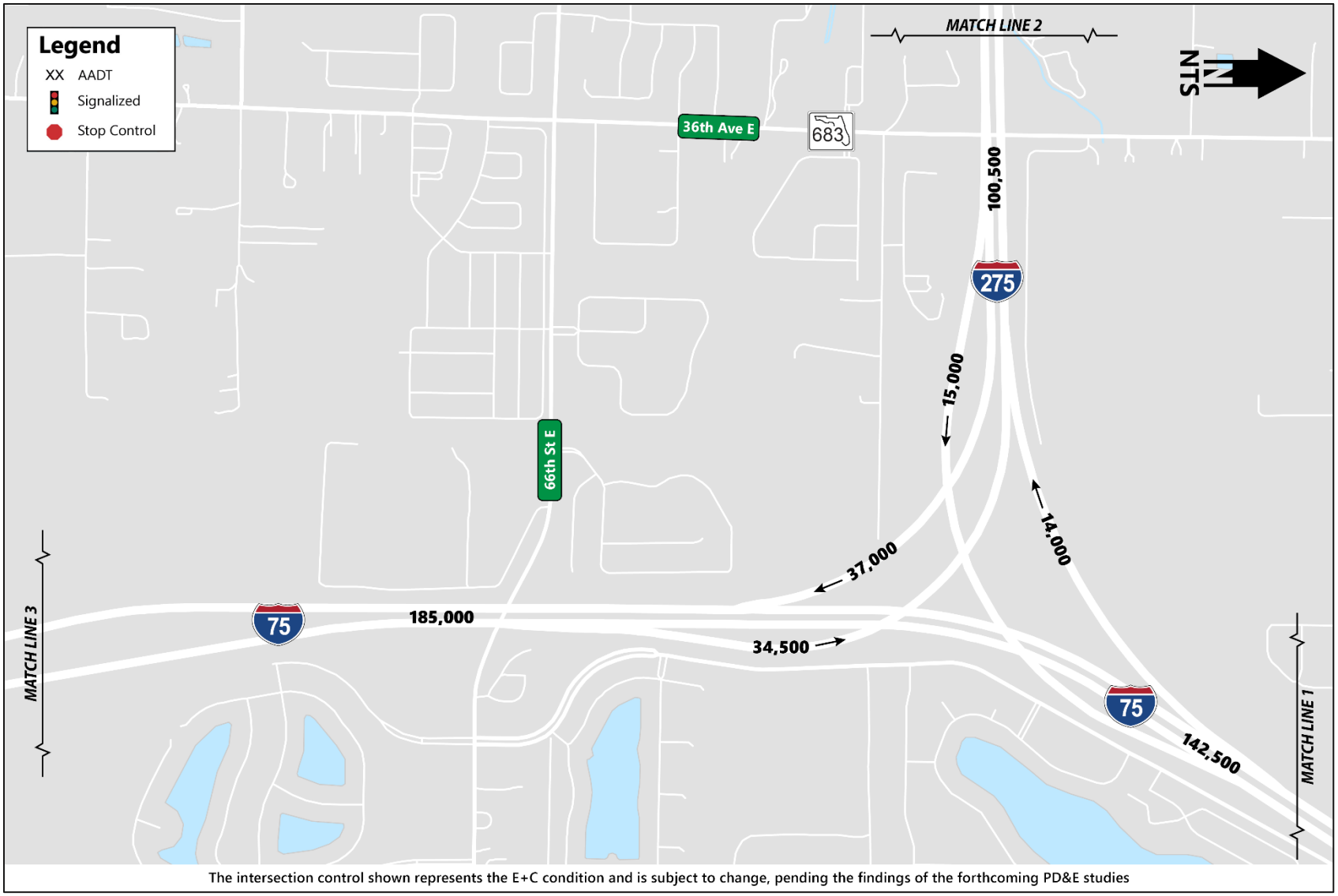


Figure 4.2 Design Year (2045) Build AADT Volumes – I-75/I-275 Interchange

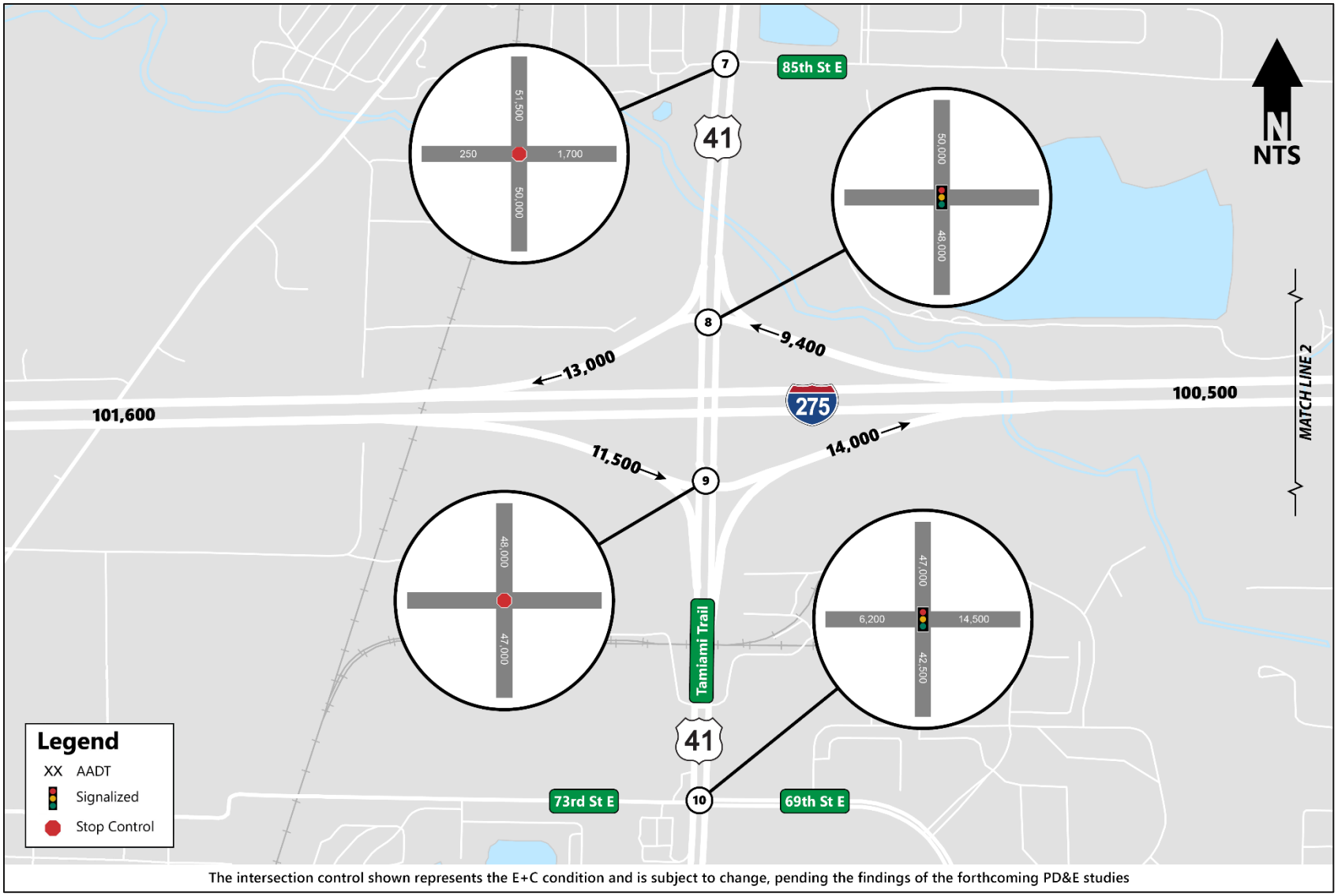


Figure 4.3 Design Year (2045) Build AADT Volumes – I-275/US 41 Interchange

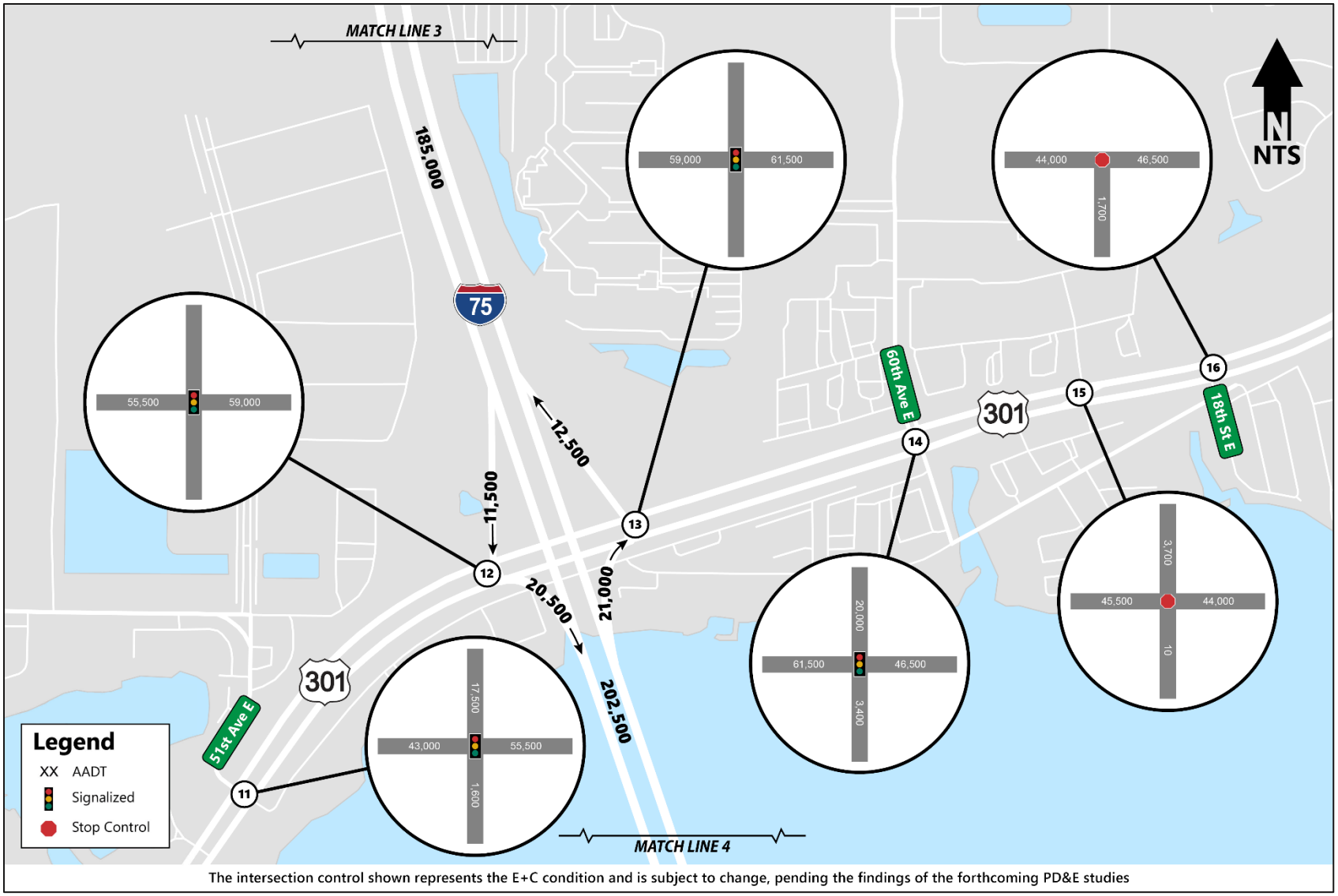


Figure 4.4 Design Year (2045) Build AADT Volumes – I-75/US 301 Interchange

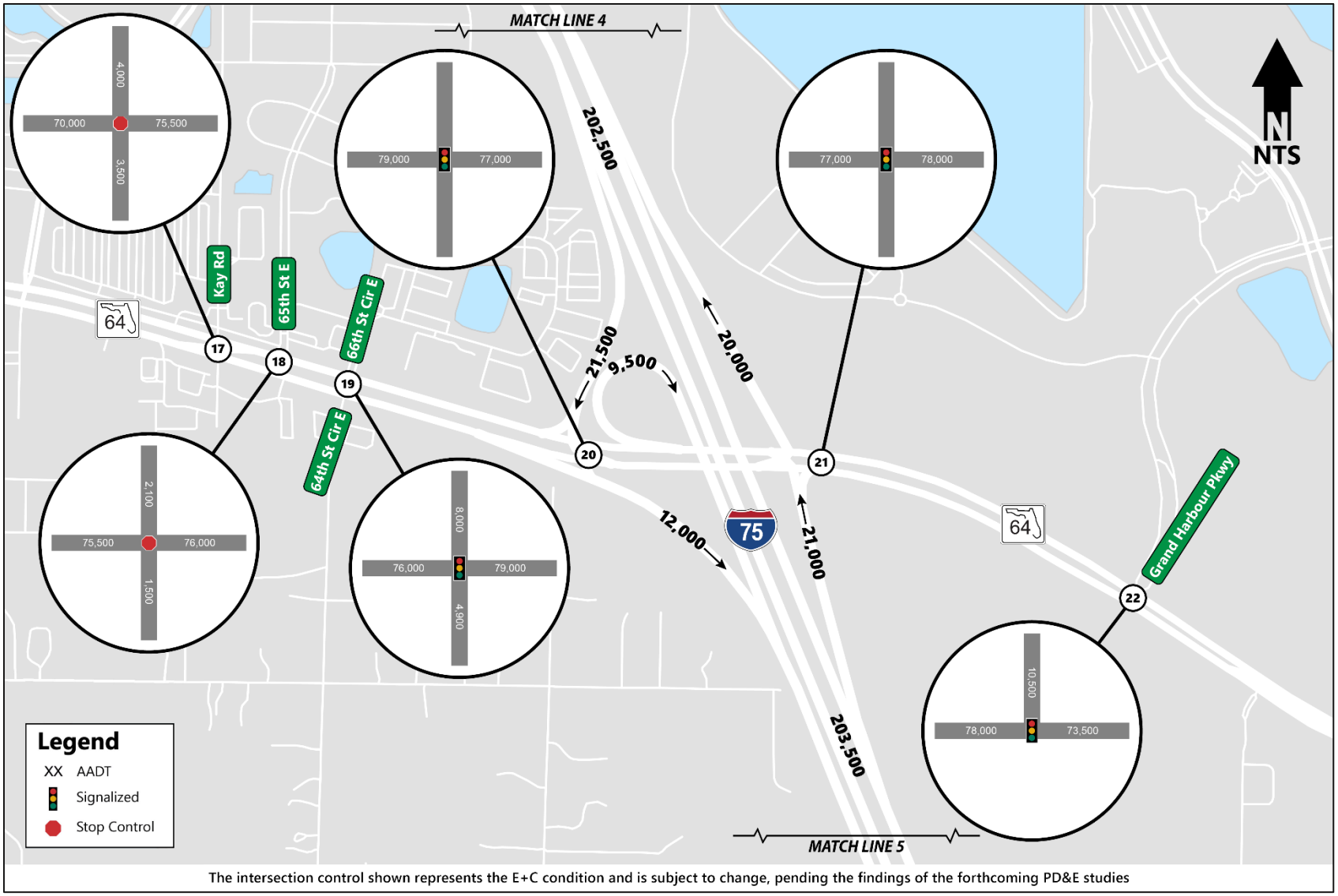


Figure 4.5 Design Year (2045) Build AADT Volumes – I-75/SR 64 Interchange

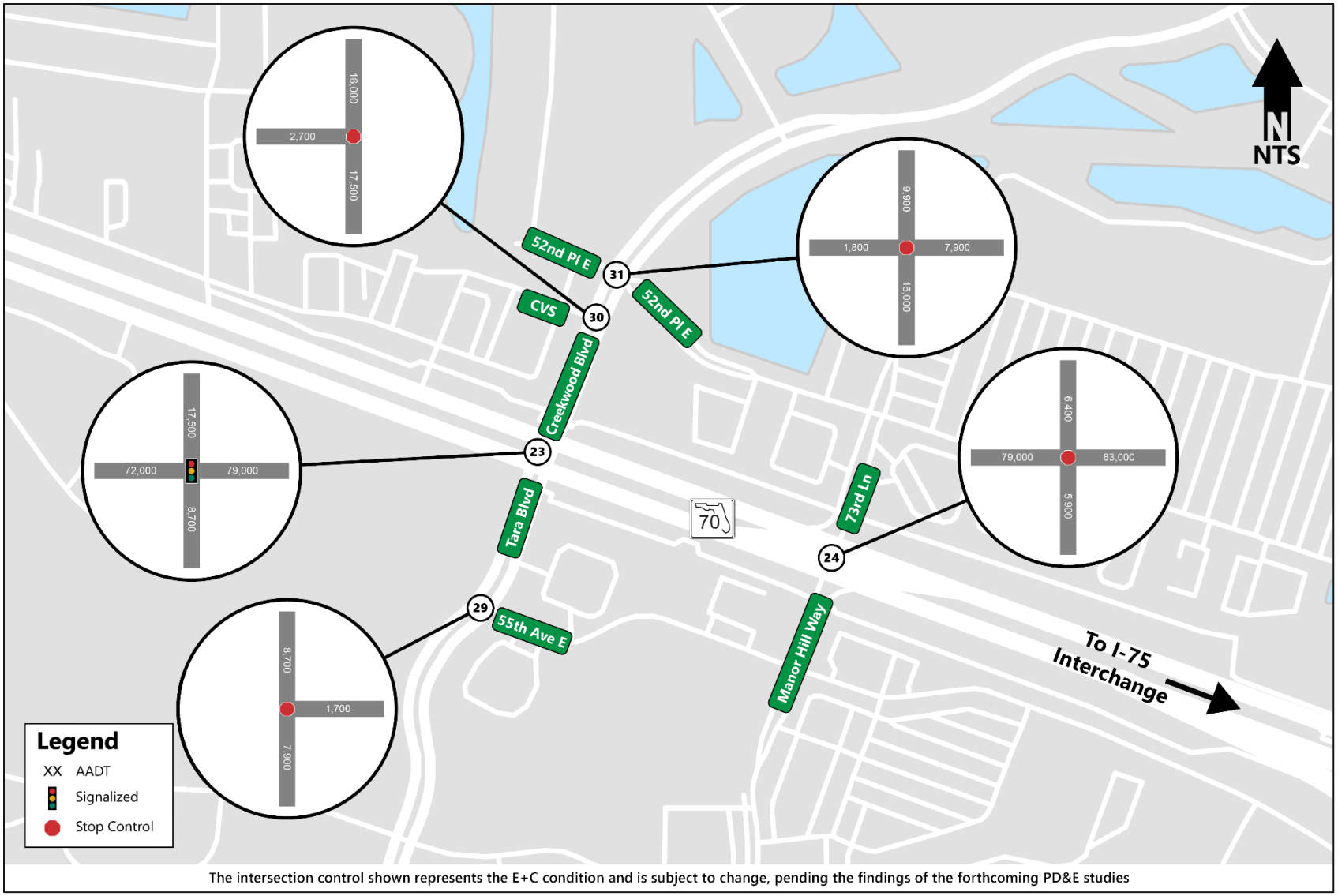


Figure 4.6 Design Year (2045) Build AADT Volumes – I-75/SR 70 Interchange

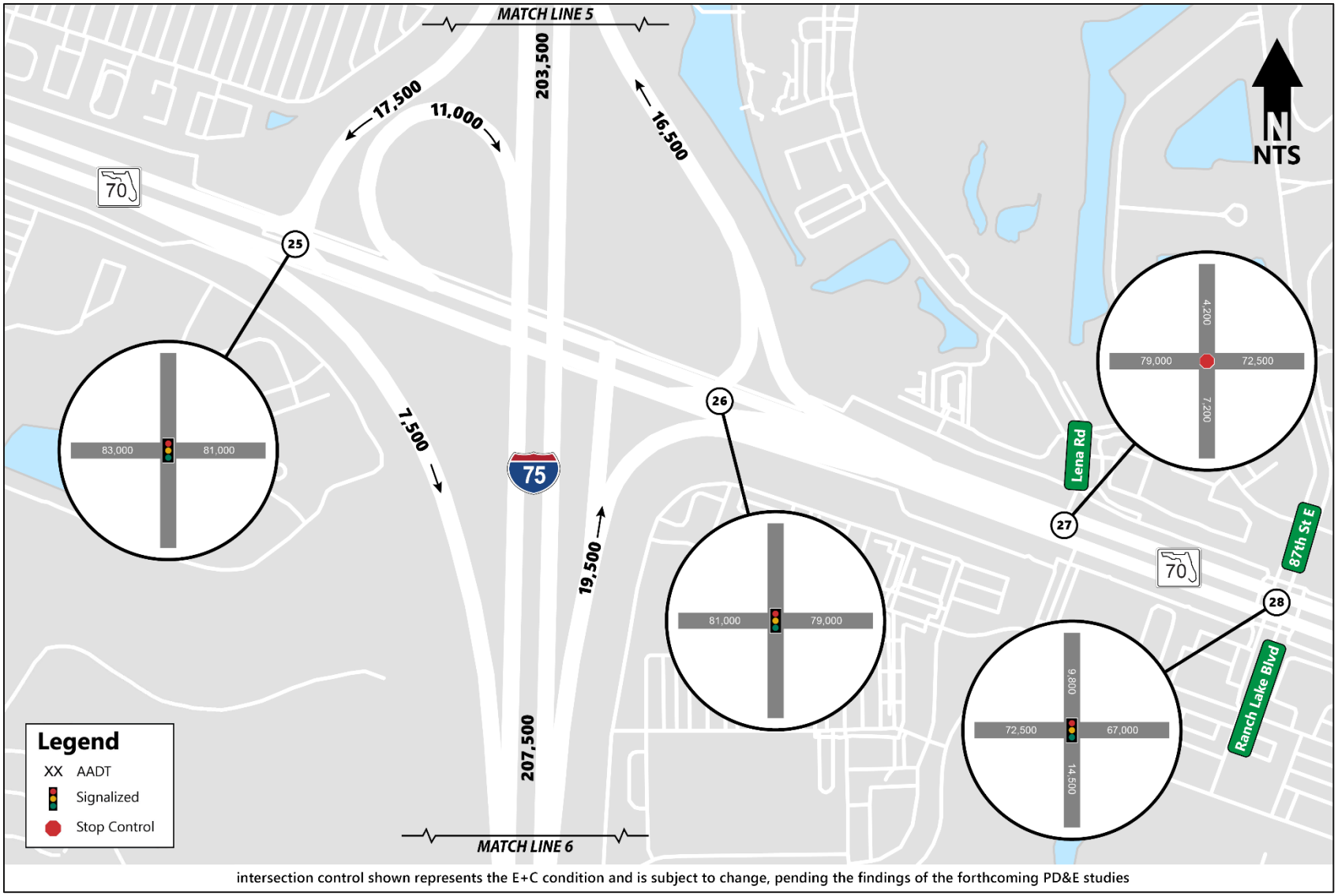


Figure 4.6 (Continued) Design Year (2045) Build AADT Volumes – I-75/SR 70 Interchange

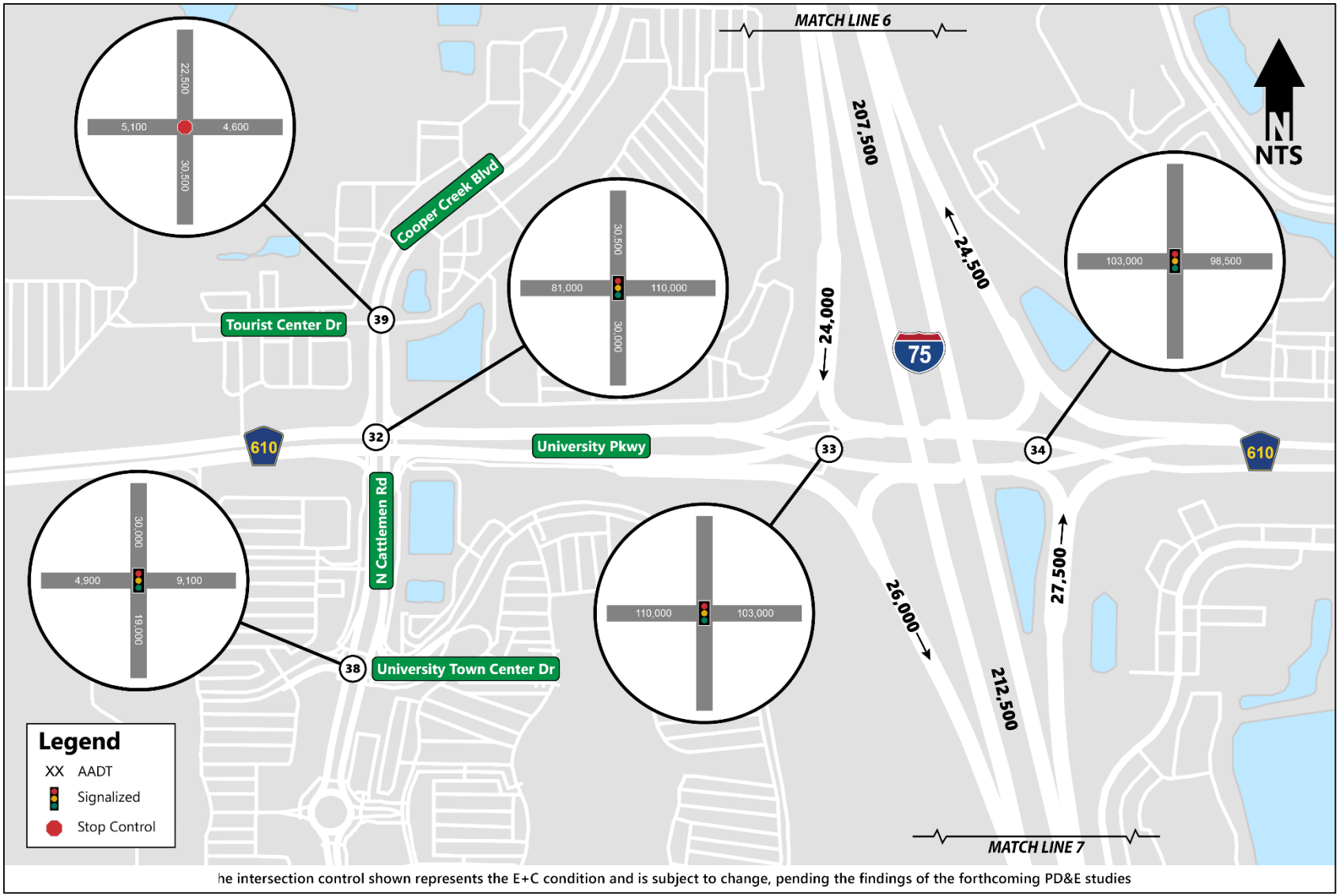


Figure 4.7 Design Year (2045) Build AADT Volumes – I-75/University Parkway Interchange

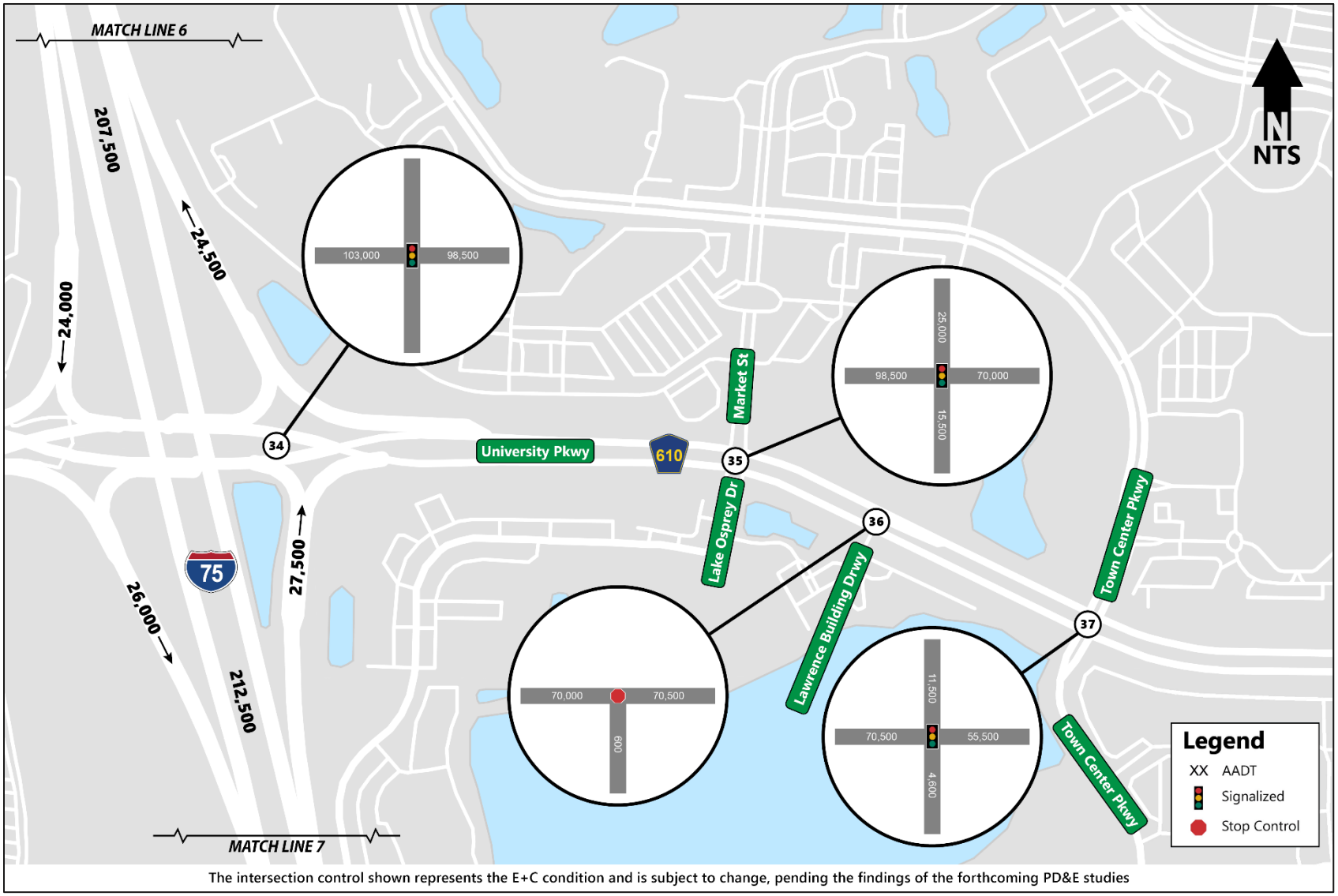


Figure 4.7 (Continued) Design Year (2045) Build AADT Volumes – I-75/University Parkway Interchange

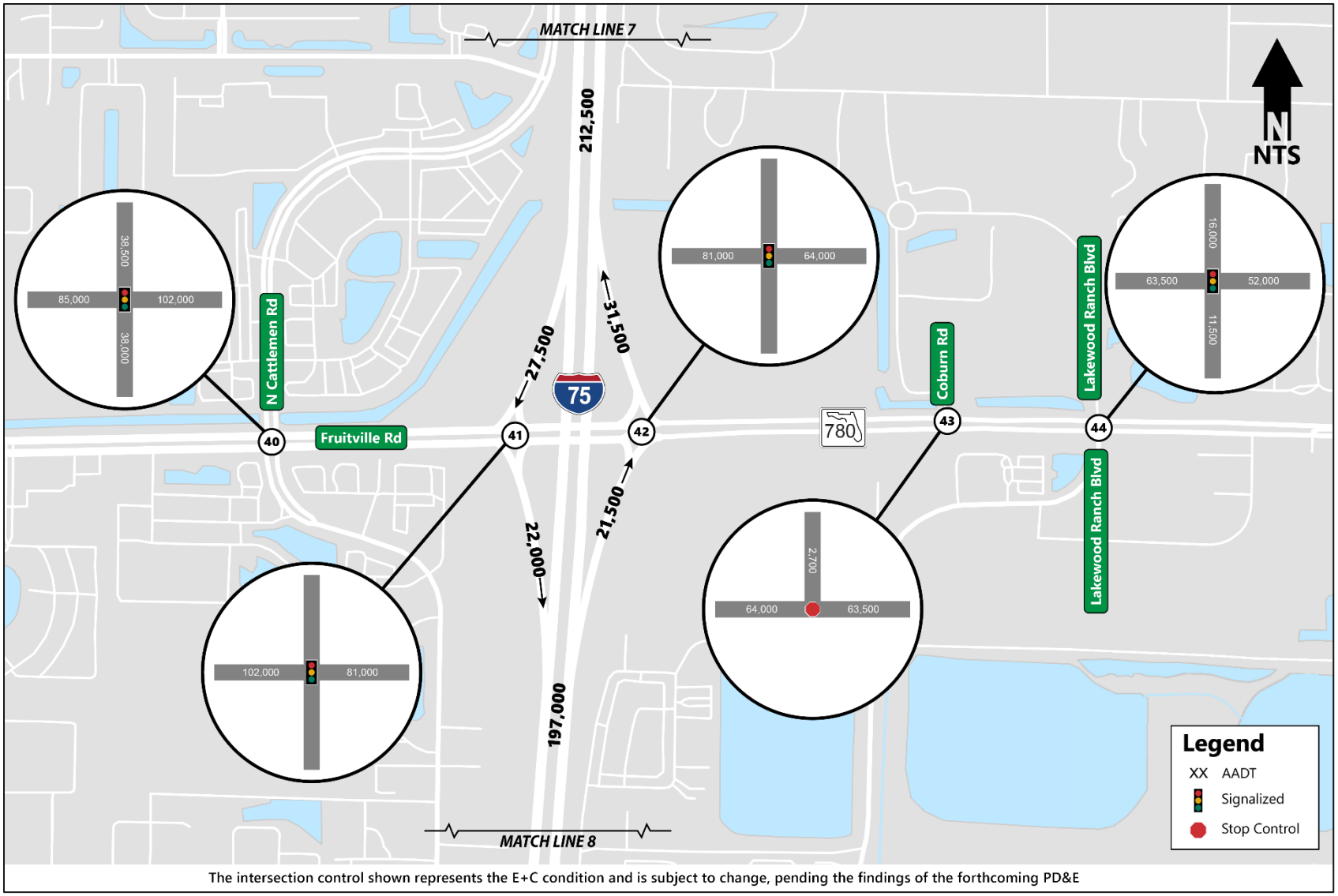


Figure 4.8 Design Year (2045) Build AADT Volumes – I-75/Fruitville Road Interchange

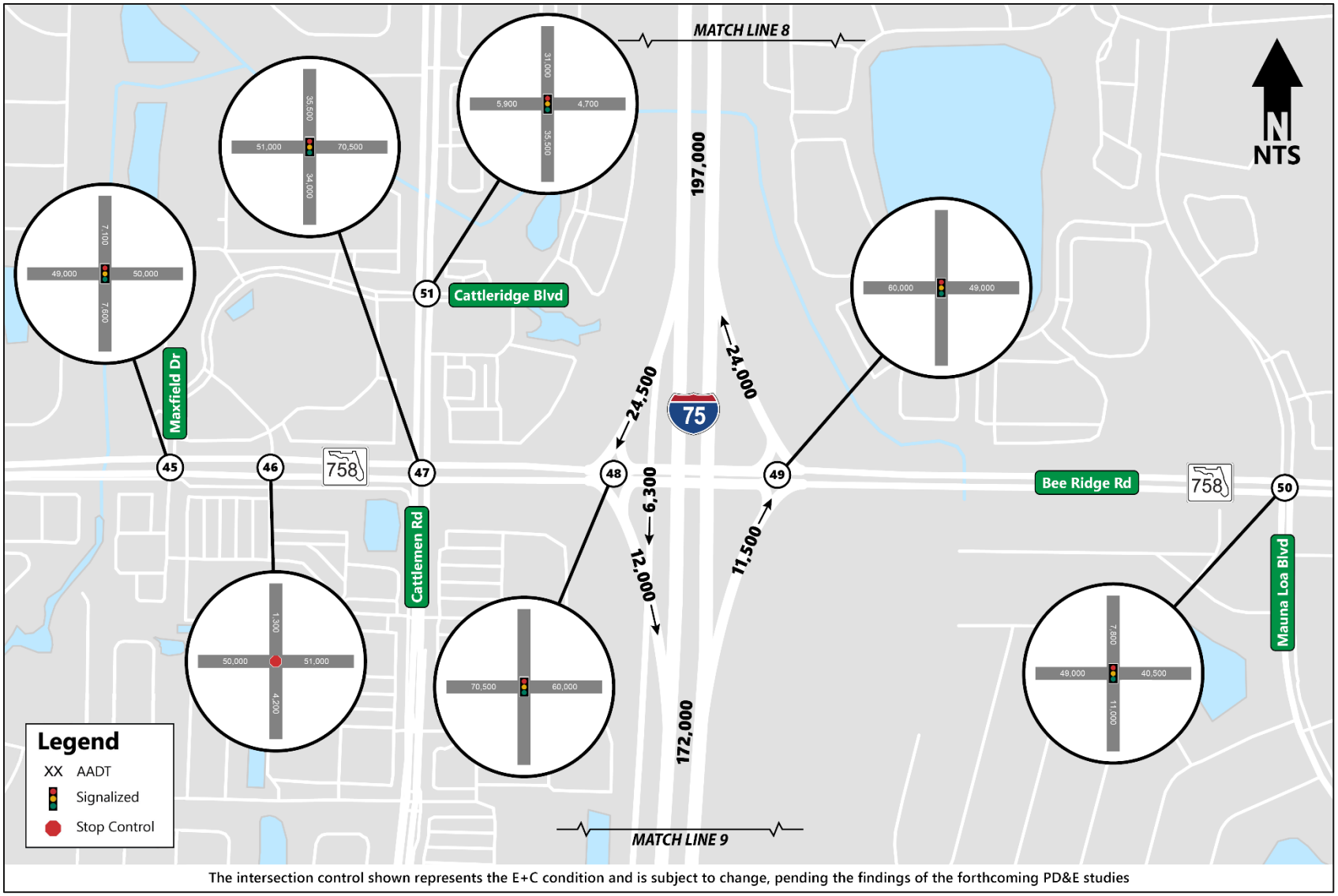


Figure 4.9 Design Year (2045) Build AADT Volumes – I-75/Bee Ridge Road Interchange

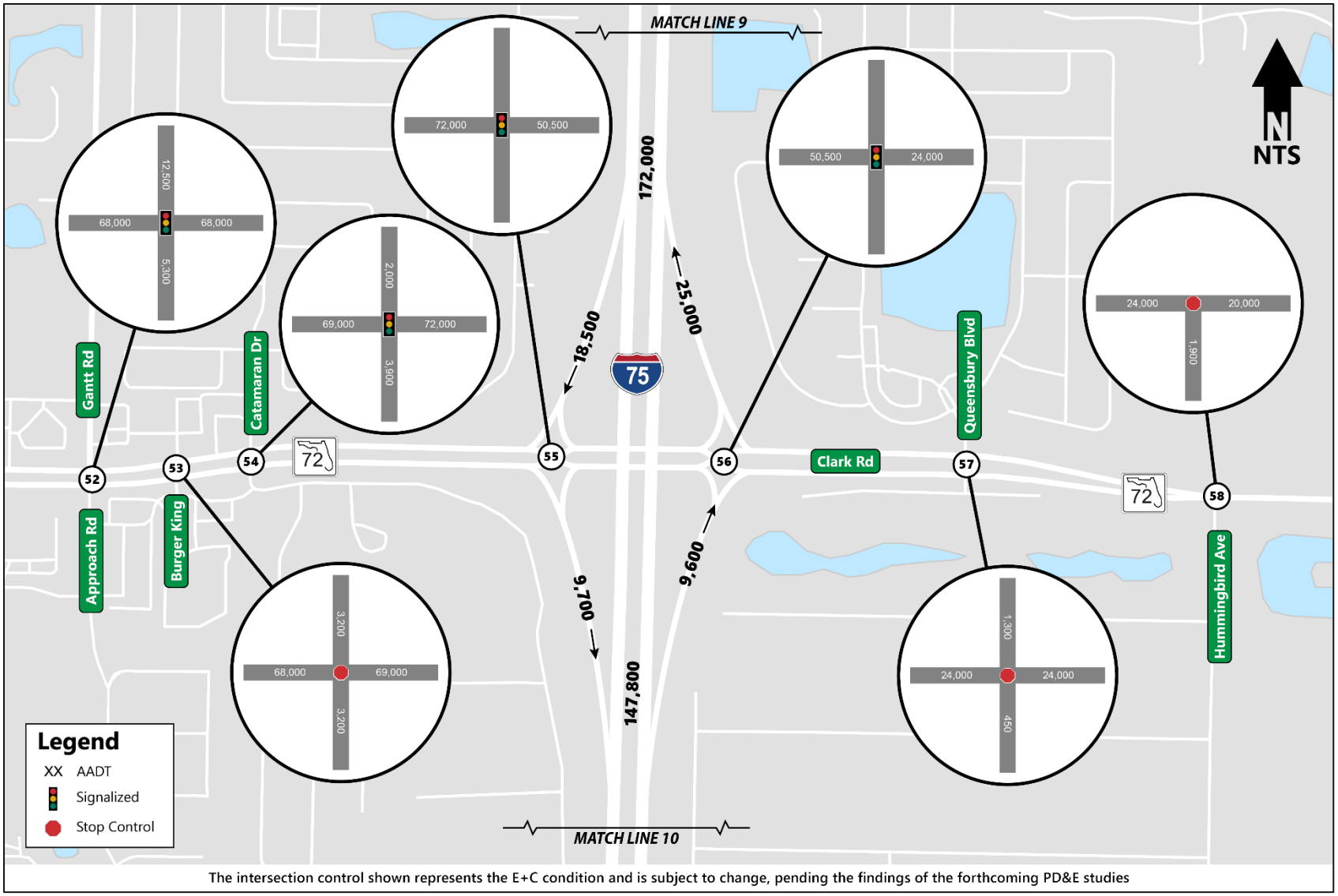


Figure 4.10 Design Year (2045) Build AADT Volumes – I-75/Clark Road Interchange

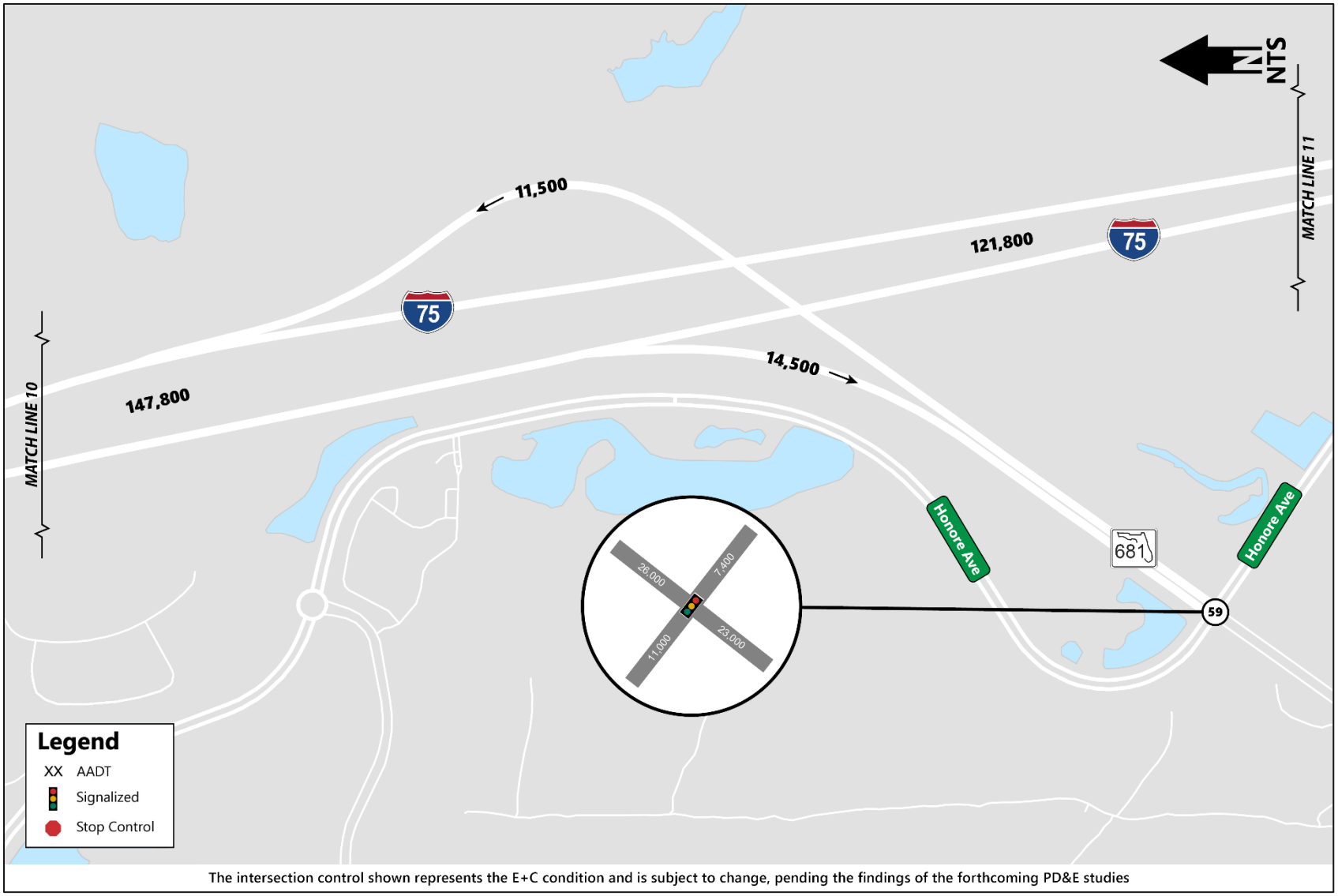


Figure 4.11 Design Year (2045) Build AADT Volumes – I-75/SR 681 Interchange

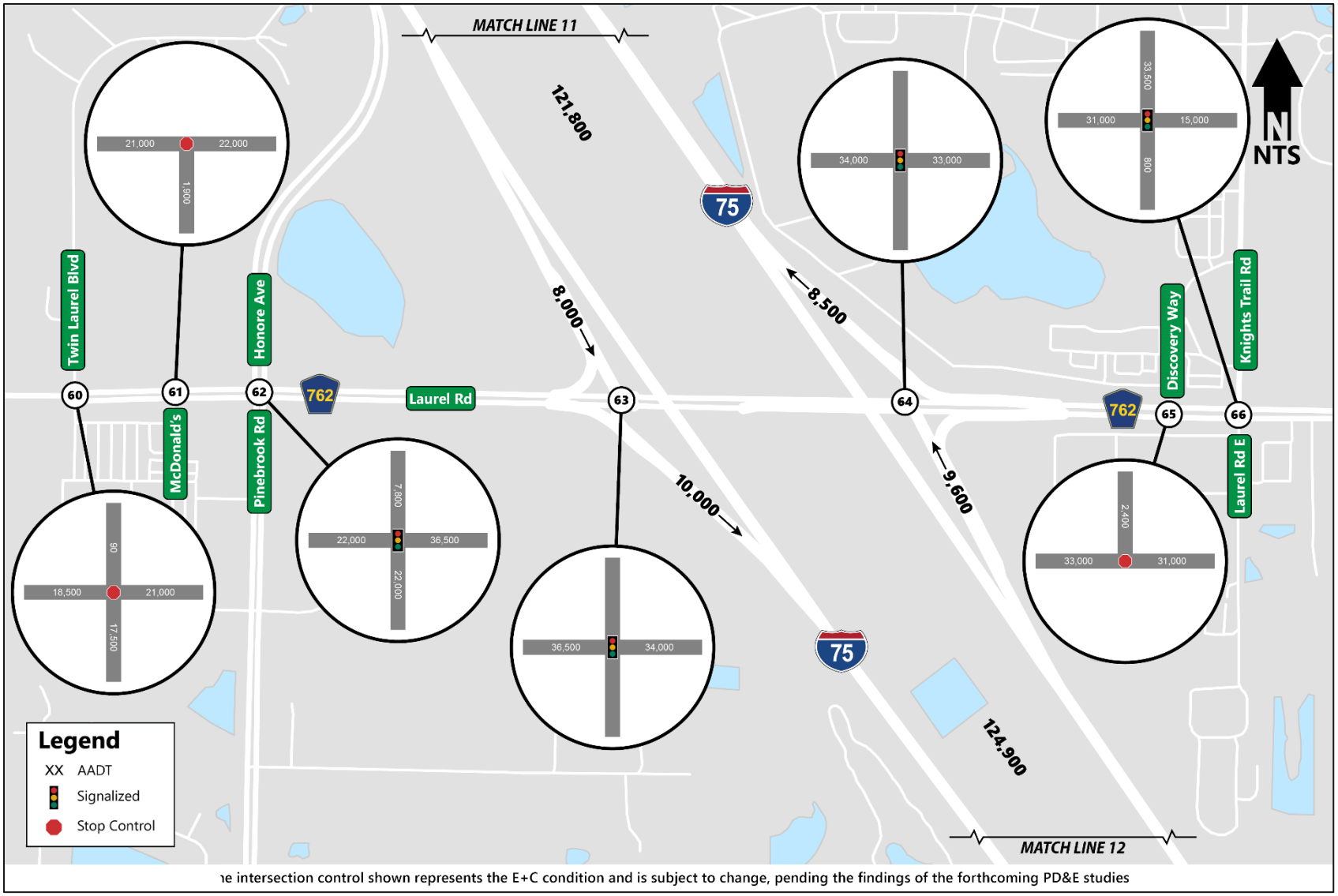


Figure 4.12 Design Year (2045) Build AADT Volumes – I-75/Laurel Road Interchange

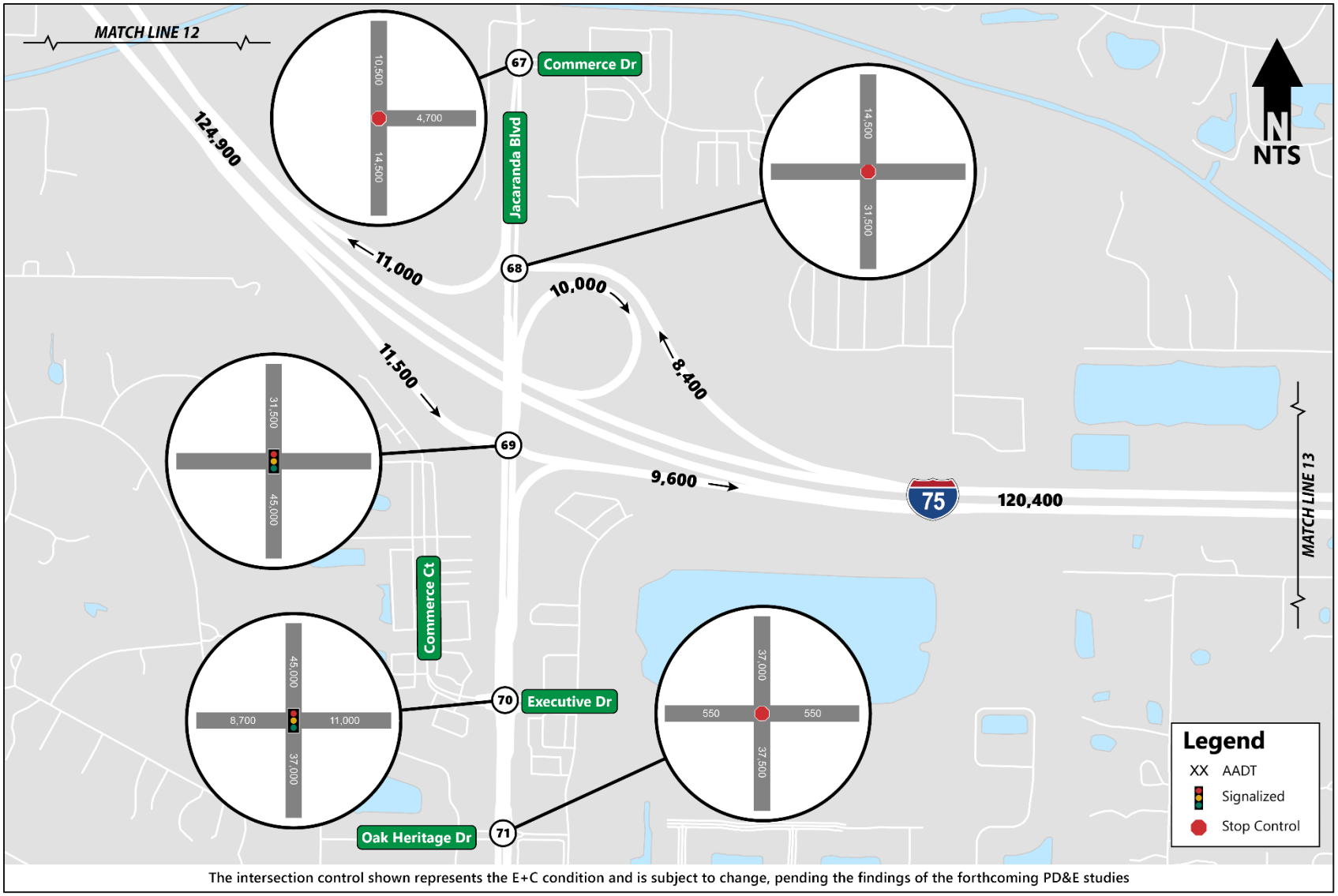


Figure 4.13 Design Year (2045) Build AADT Volumes – I-75/Jacaranda Boulevard Interchange

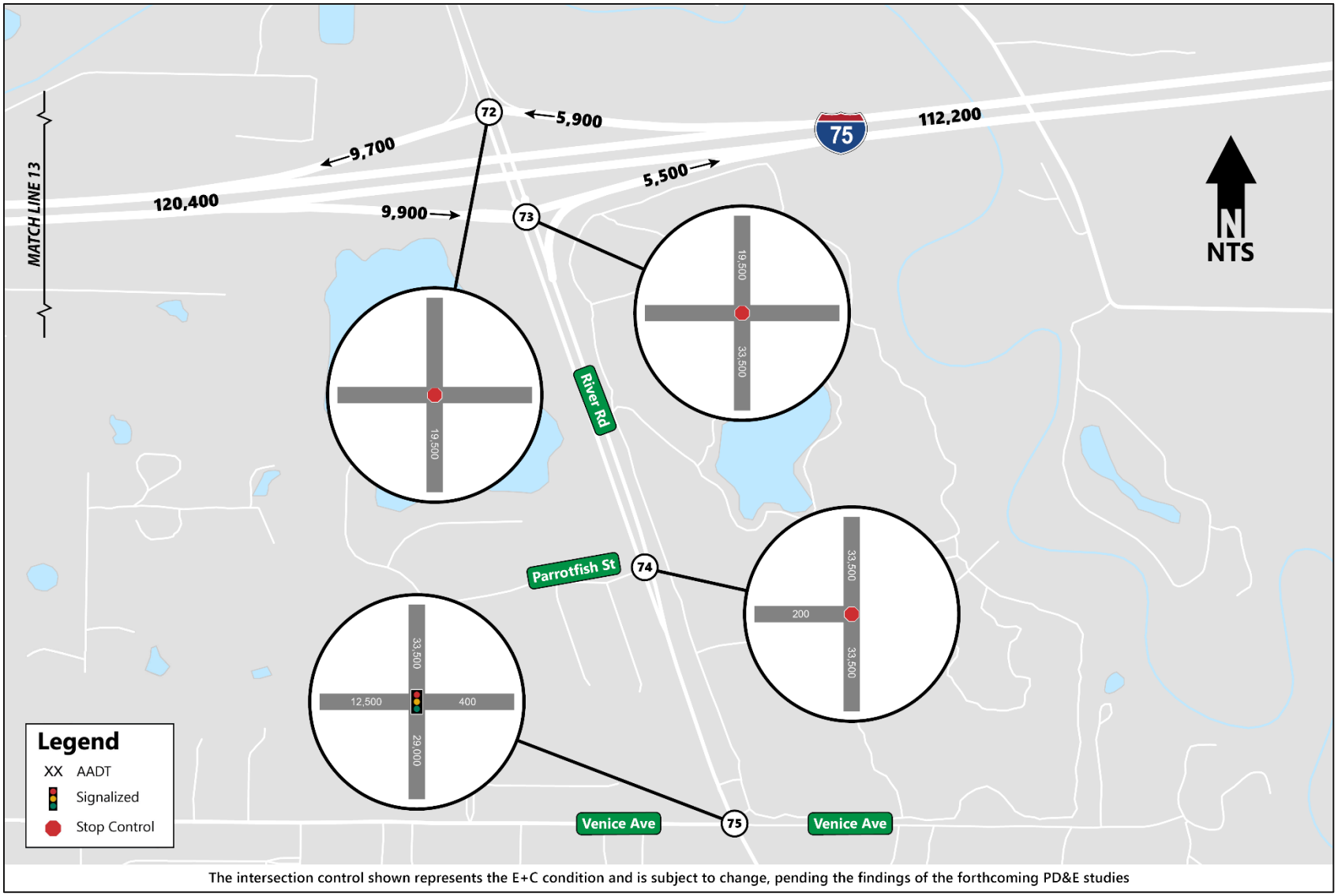


Figure 4.14 Design Year (2045) Build AADT Volumes – I-75/N River Road Interchange

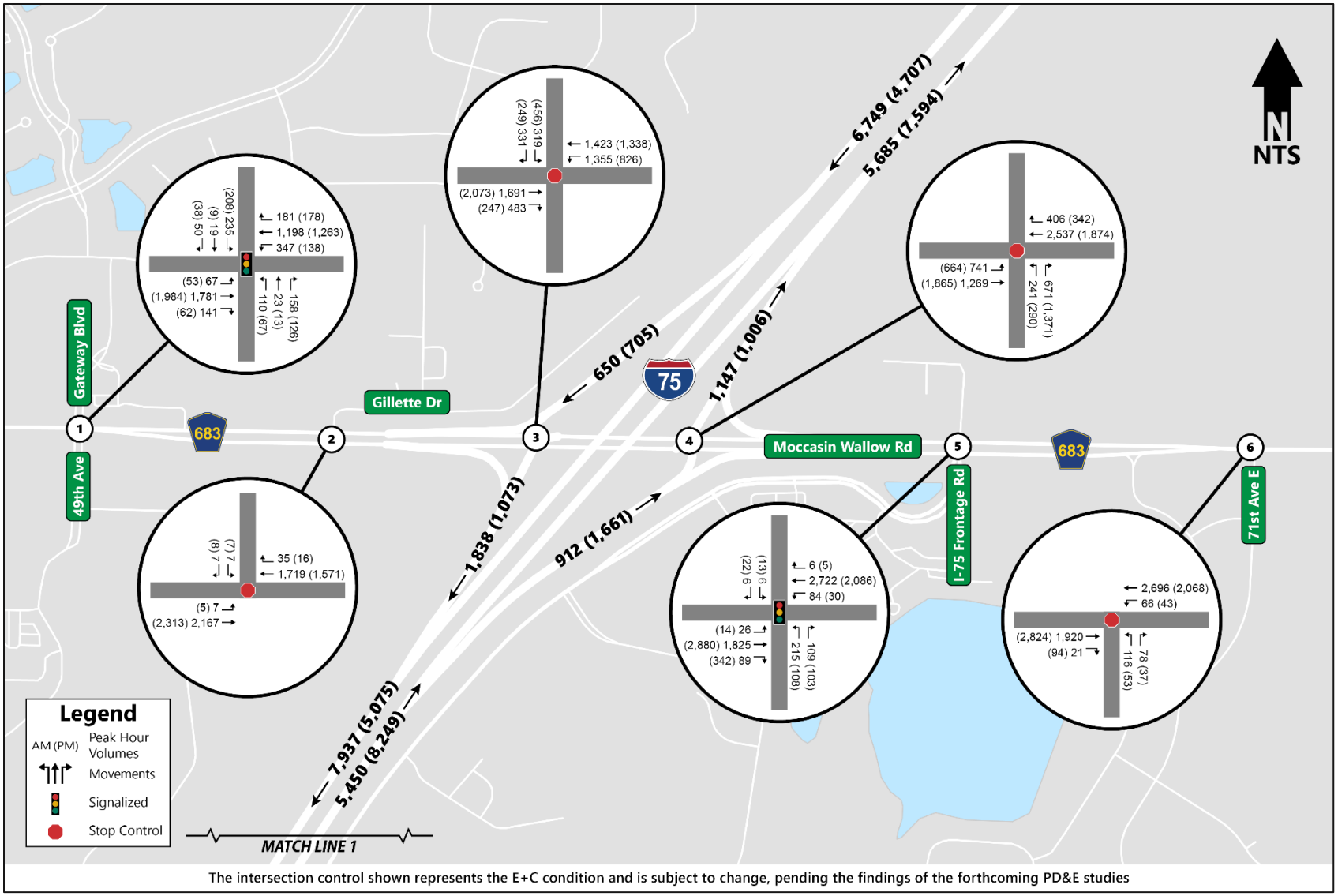


Figure 4.15 Design Year (2045) Build DDHVs and Peak-Hour Volumes – I-75/Moccasin Wallow Road Interchange

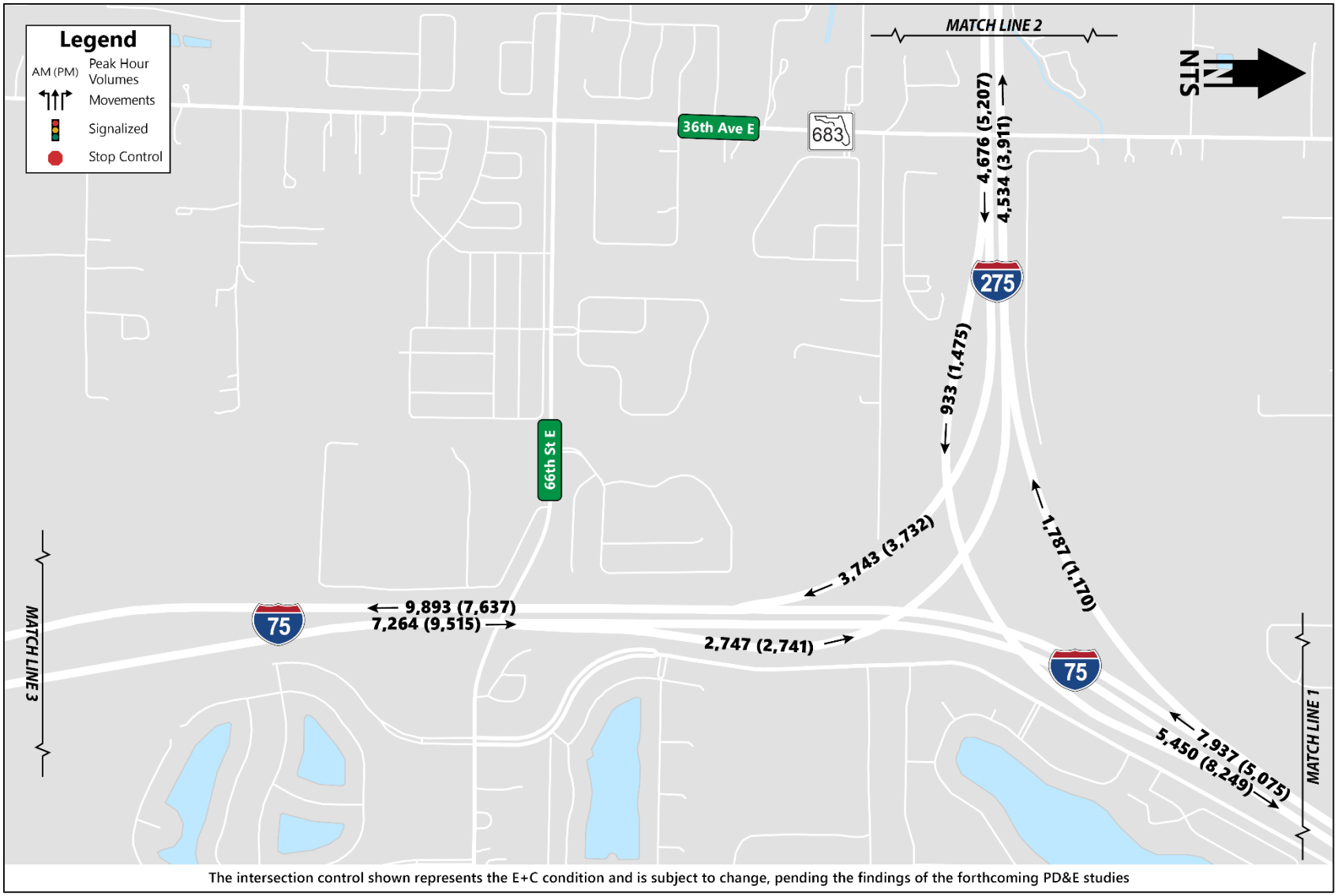


Figure 4.16 Design Year (2045) Build DDHVs and Peak-Hour Volumes – I-75/275 Interchange

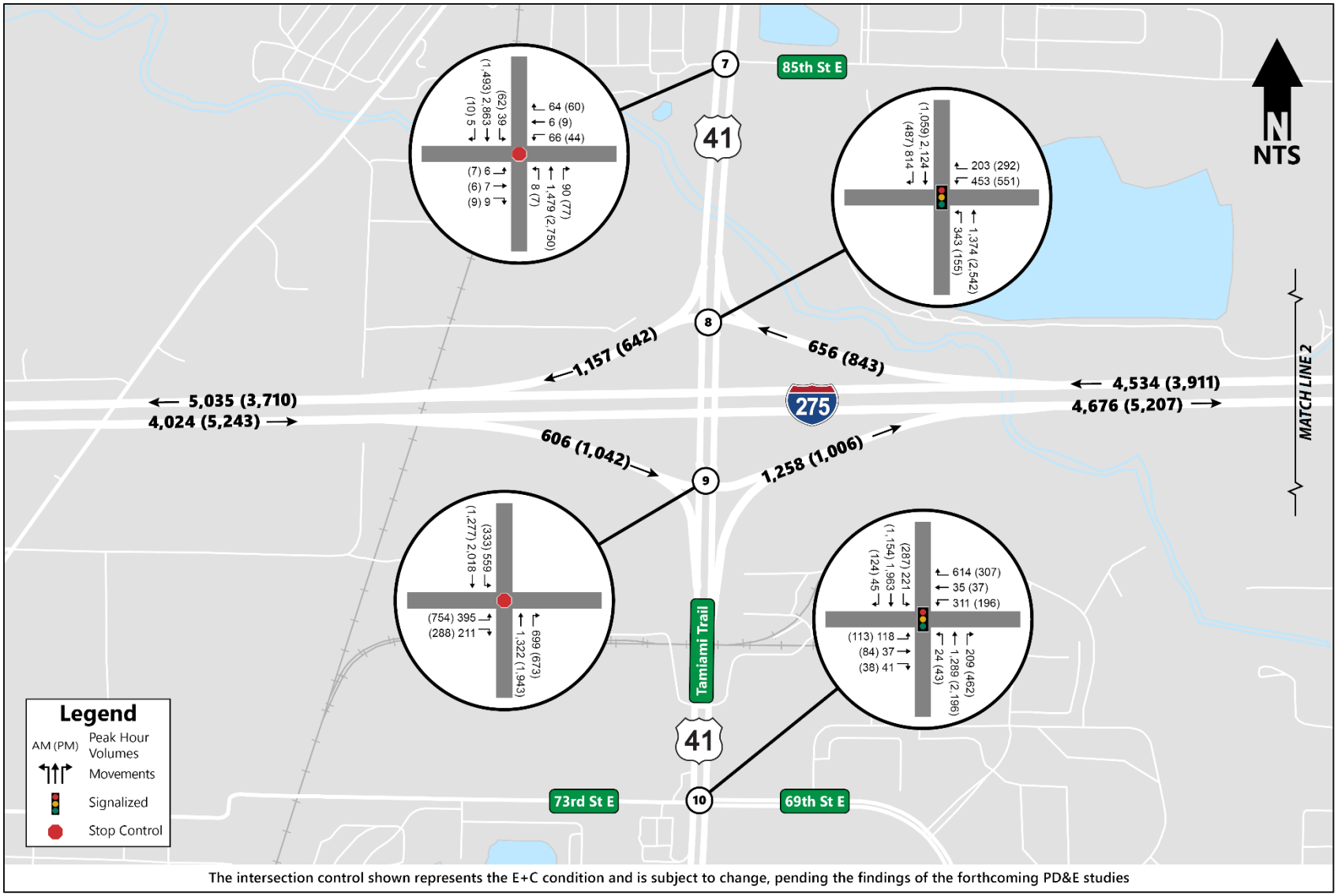


Figure 4.17 Design Year (2045) Build DDHVs and Peak-Hour Volumes – I-275/US 41 Interchange

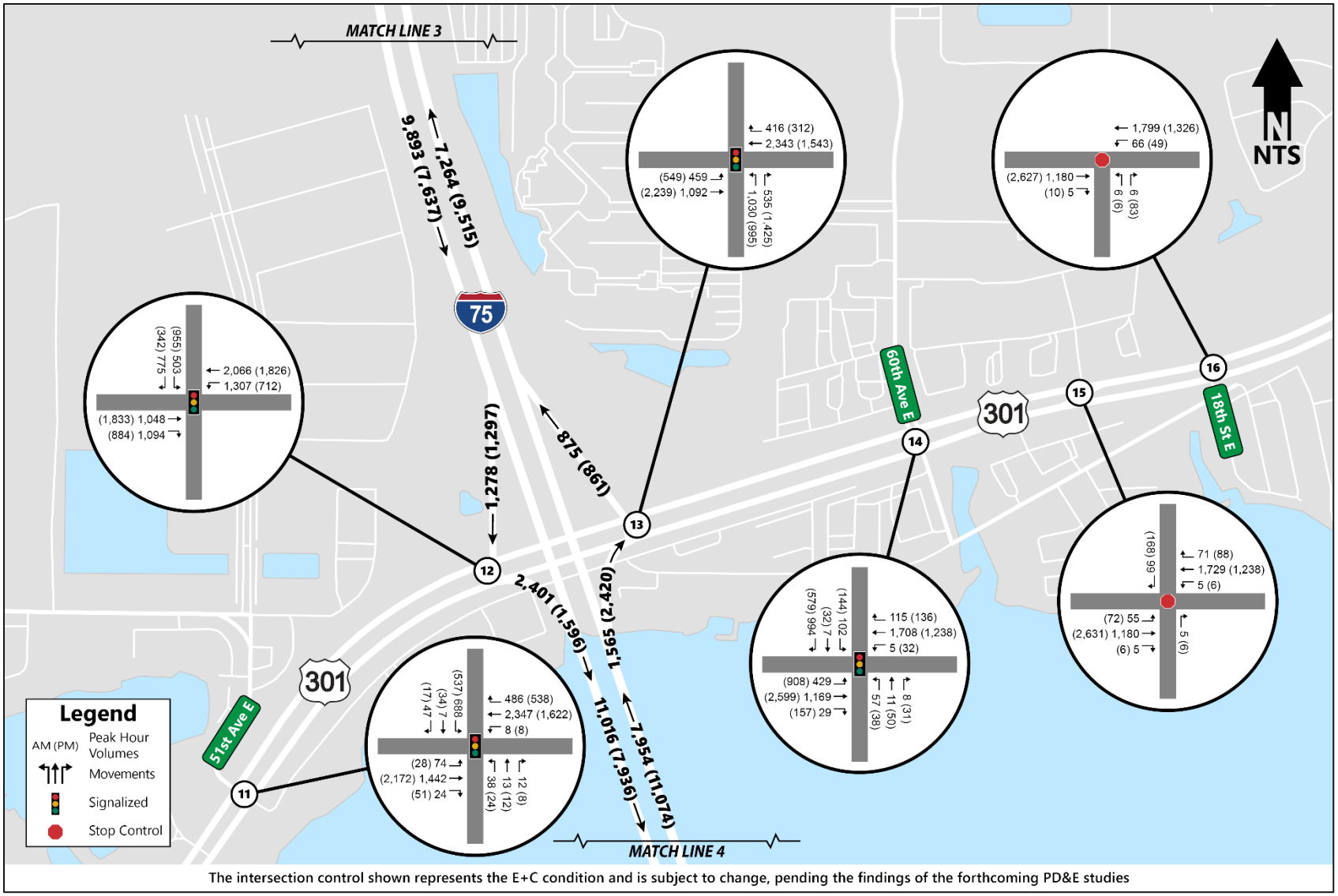


Figure 4.18 Design Year (2045) Build DDHVs and Peak-Hour Volumes – I-75/US 301 Interchange

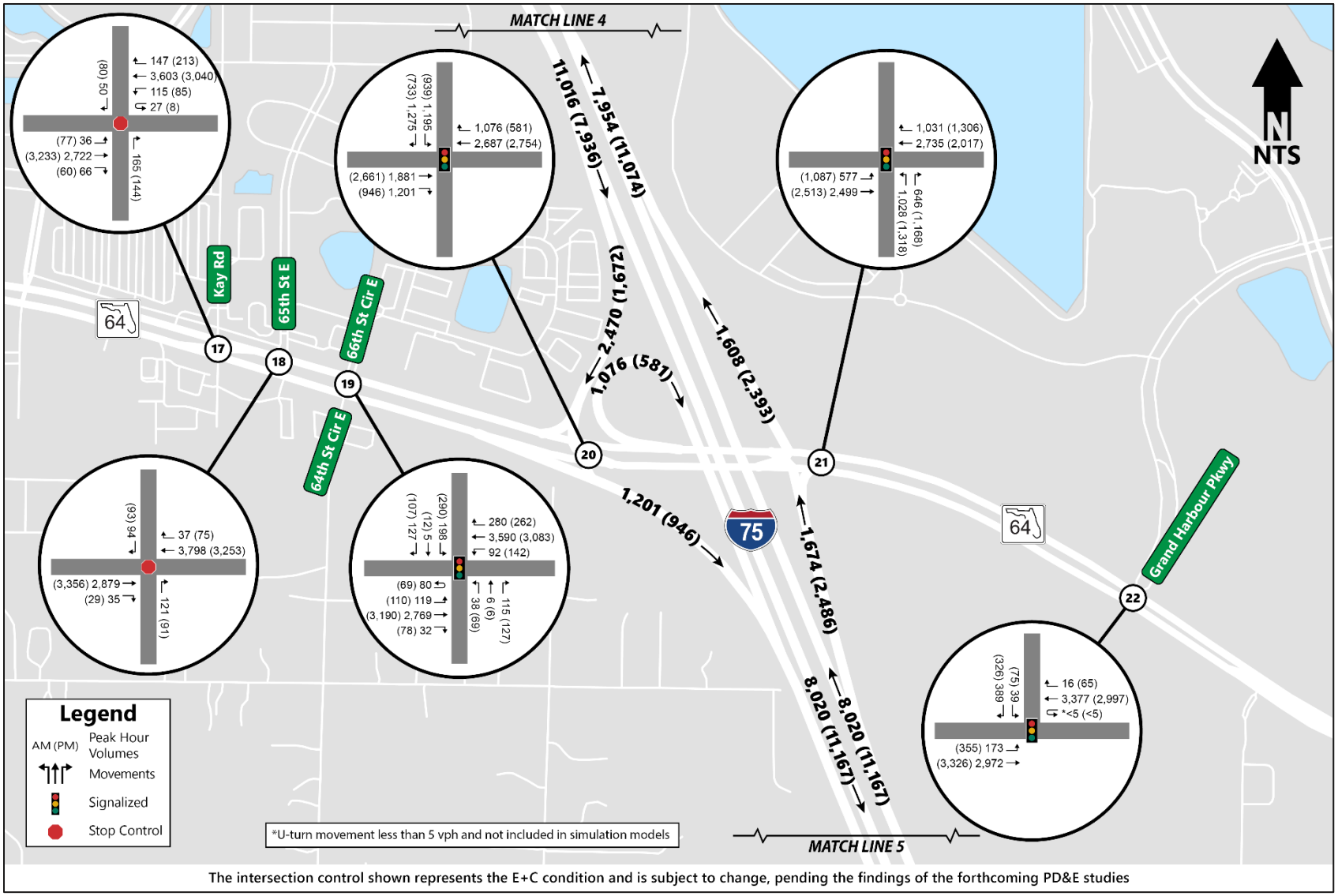


Figure 4.19 Design Year (2045) Build DDHVs and Peak-Hour Volumes – I-75/SR 64 Interchange

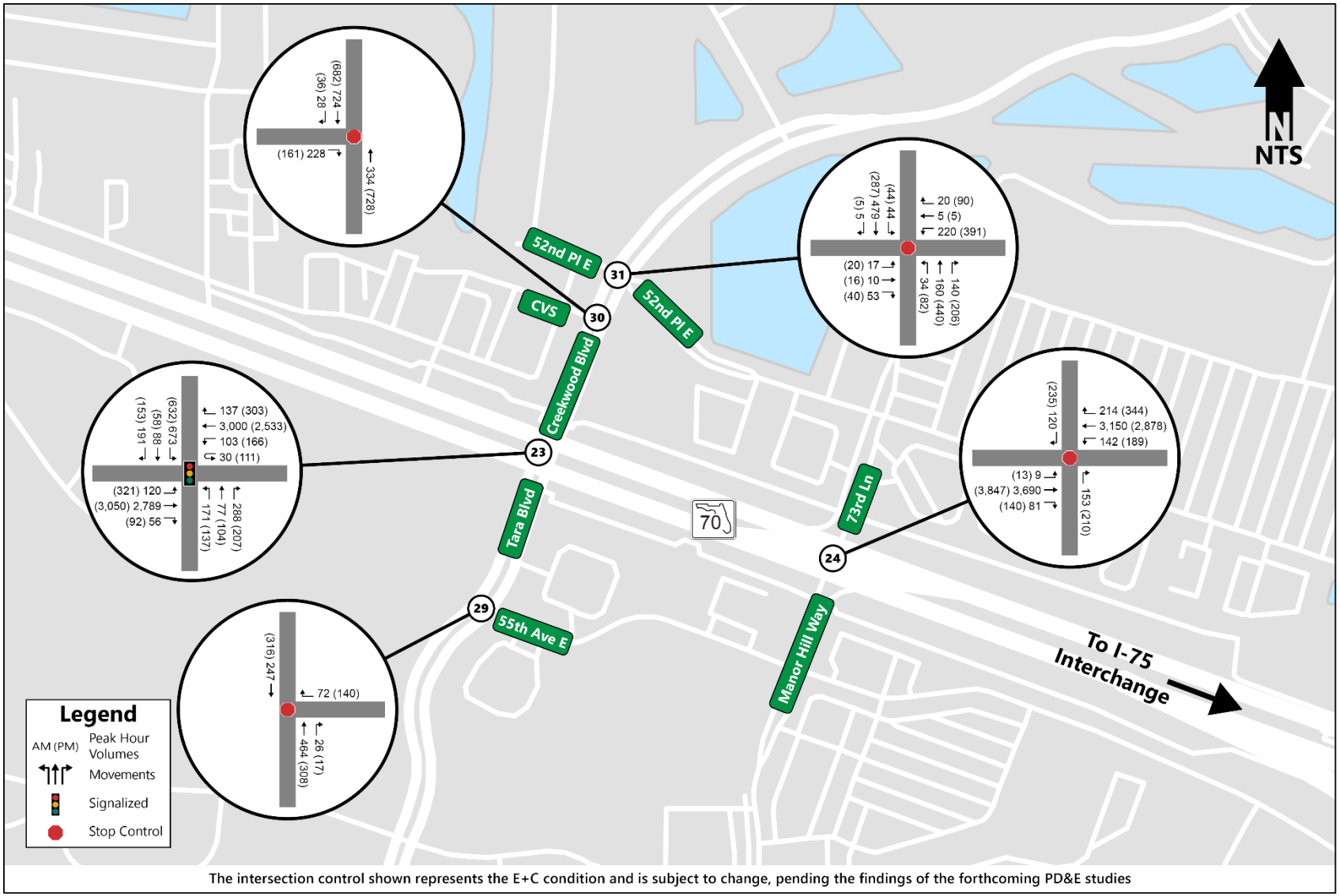


Figure 4.20 Design Year (2045) Build DDHVs and Peak-Hour Volumes – I-75/SR 70 Interchange

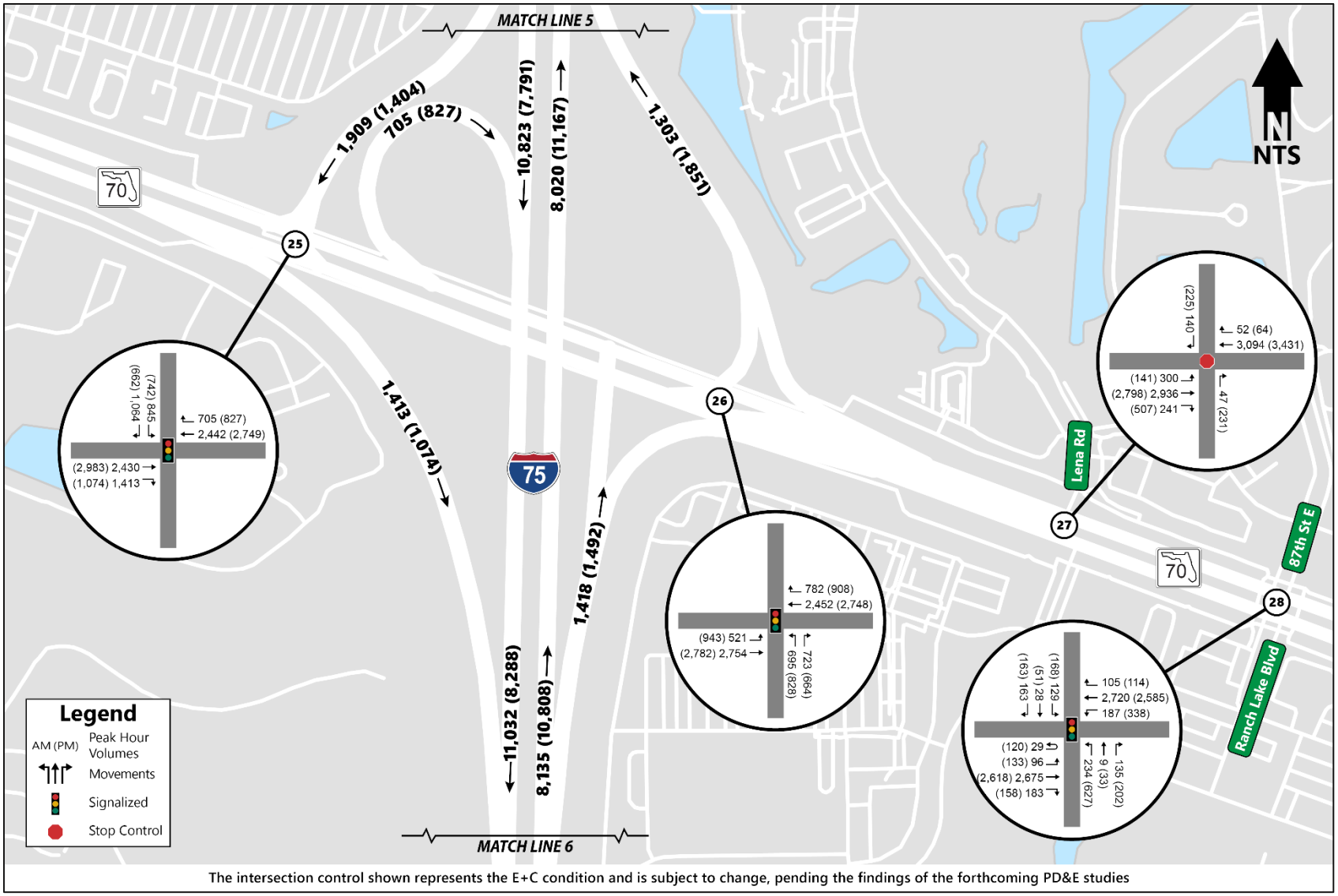


Figure 4.20 (Continued) Design Year (2045) Build DDHVs and Peak-Hour Volumes – I-75/SR 70 Interchange

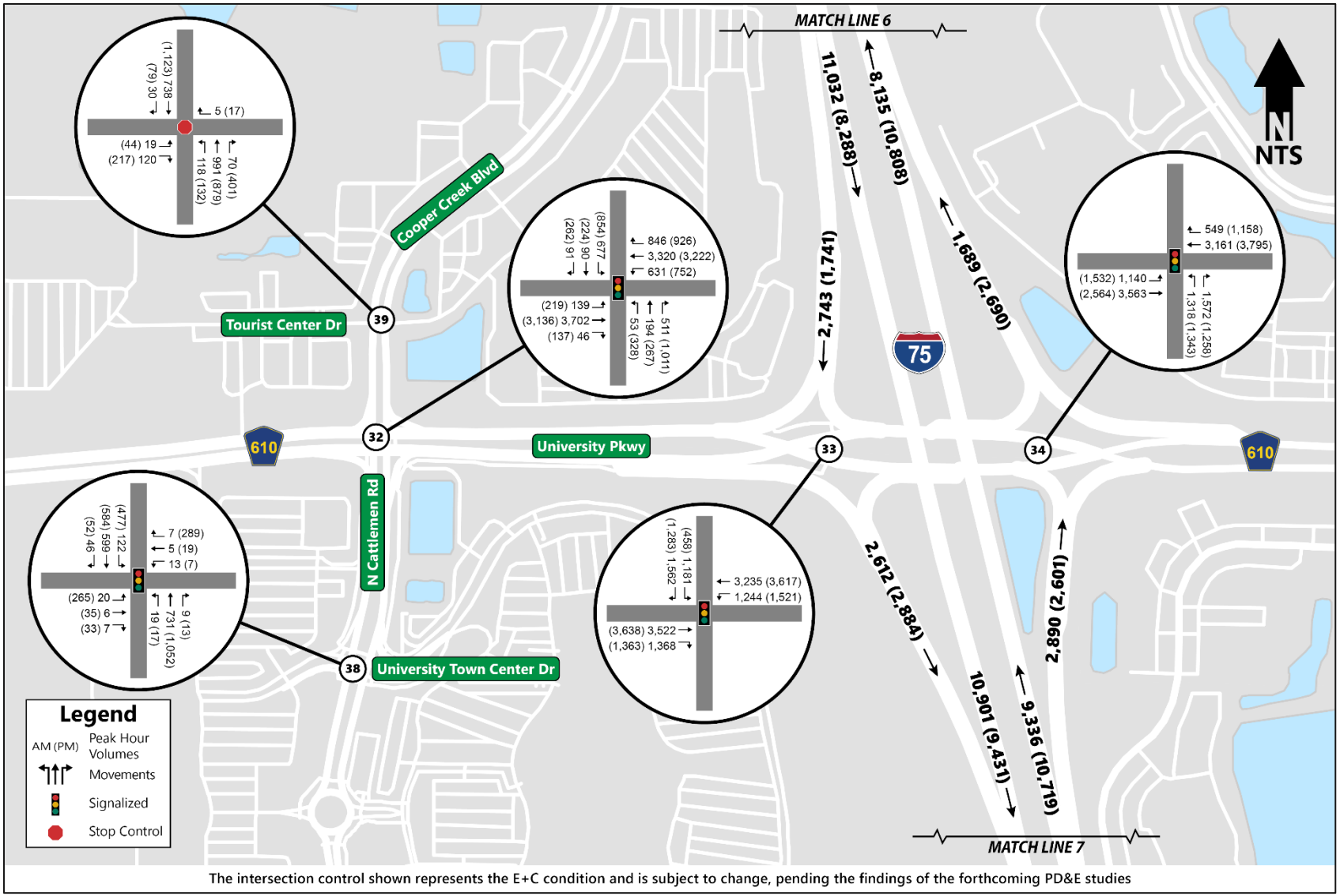


Figure 4.21 Design Year (2045) Build DDHVs and Peak-Hour Volumes – I-75/University Parkway Interchange

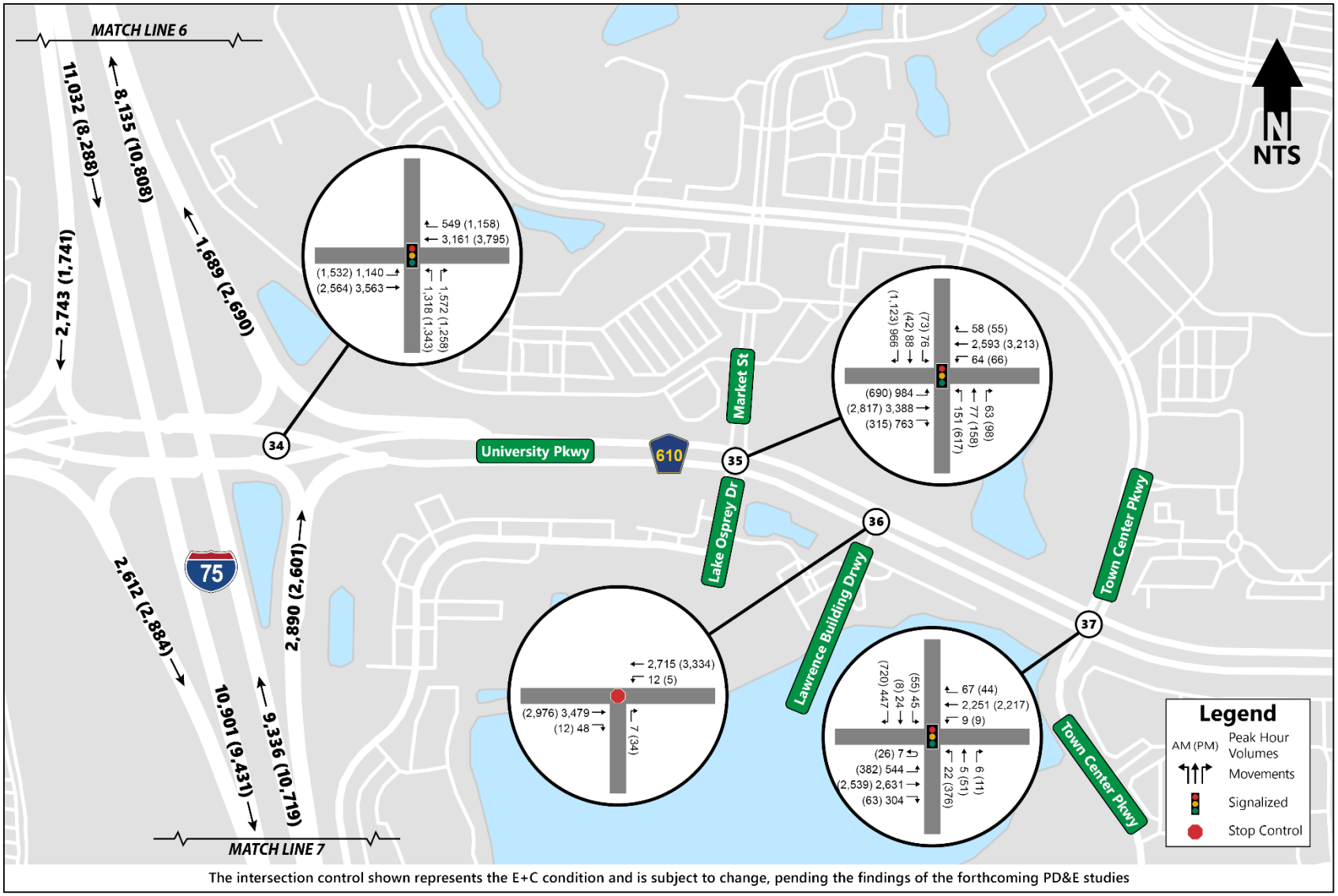


Figure 4.21 (Continued) Design Year (2045) Build DDHVs and Peak-Hour Volumes – I-75/University Parkway Interchange

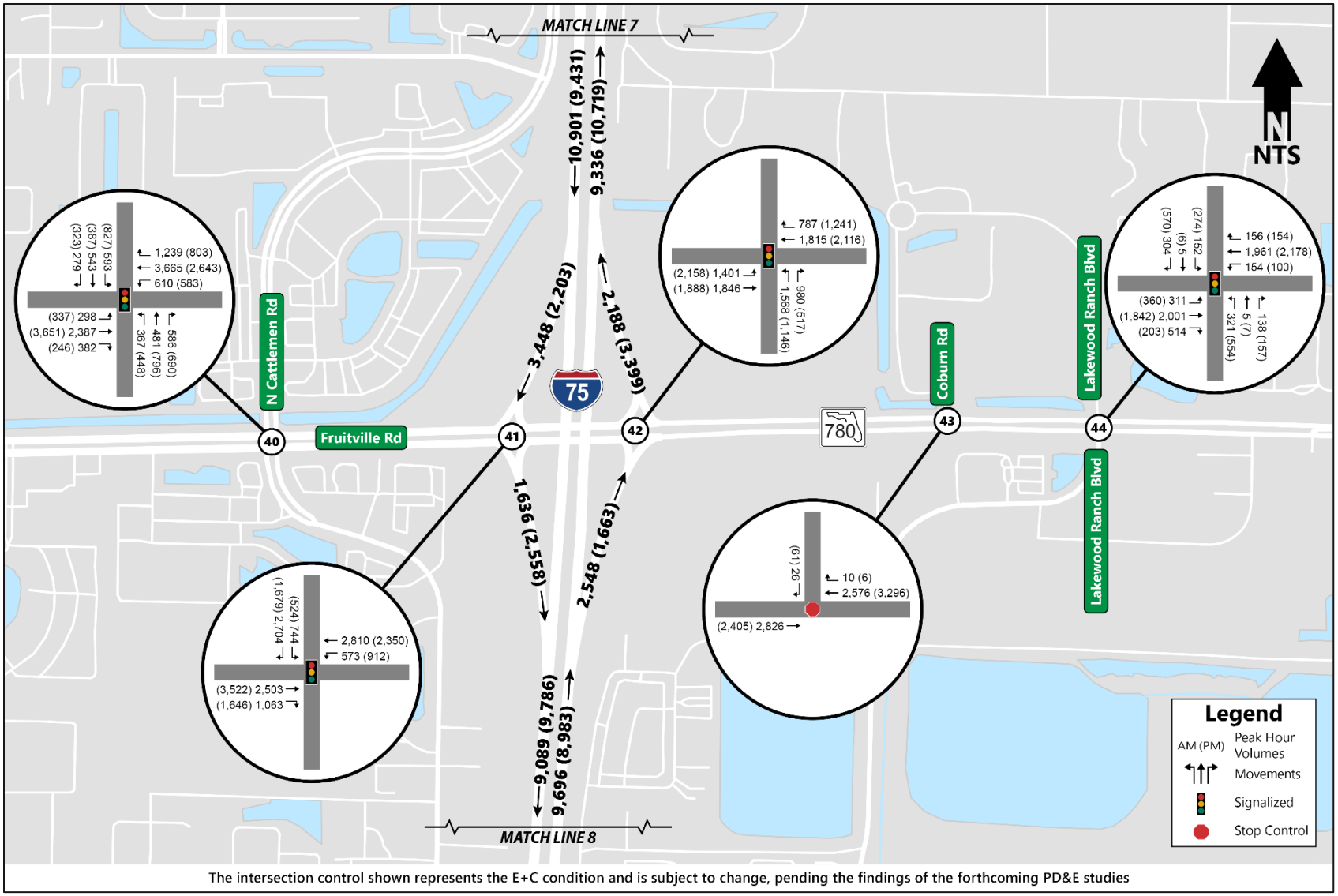


Figure 4.22 Design Year (2045) Build DDHVs and Peak-Hour Volumes – I-75/Fruitville Road Interchange

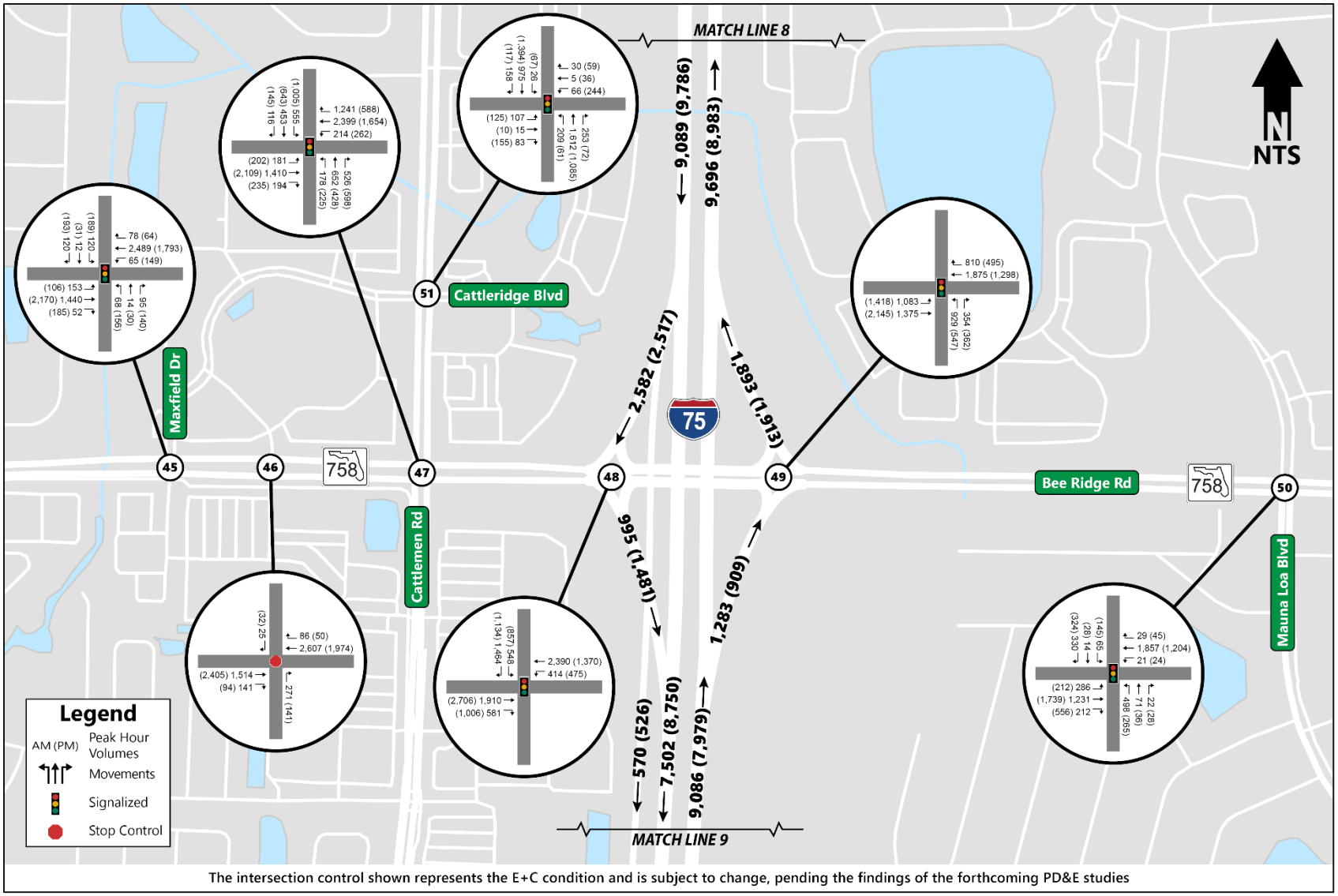
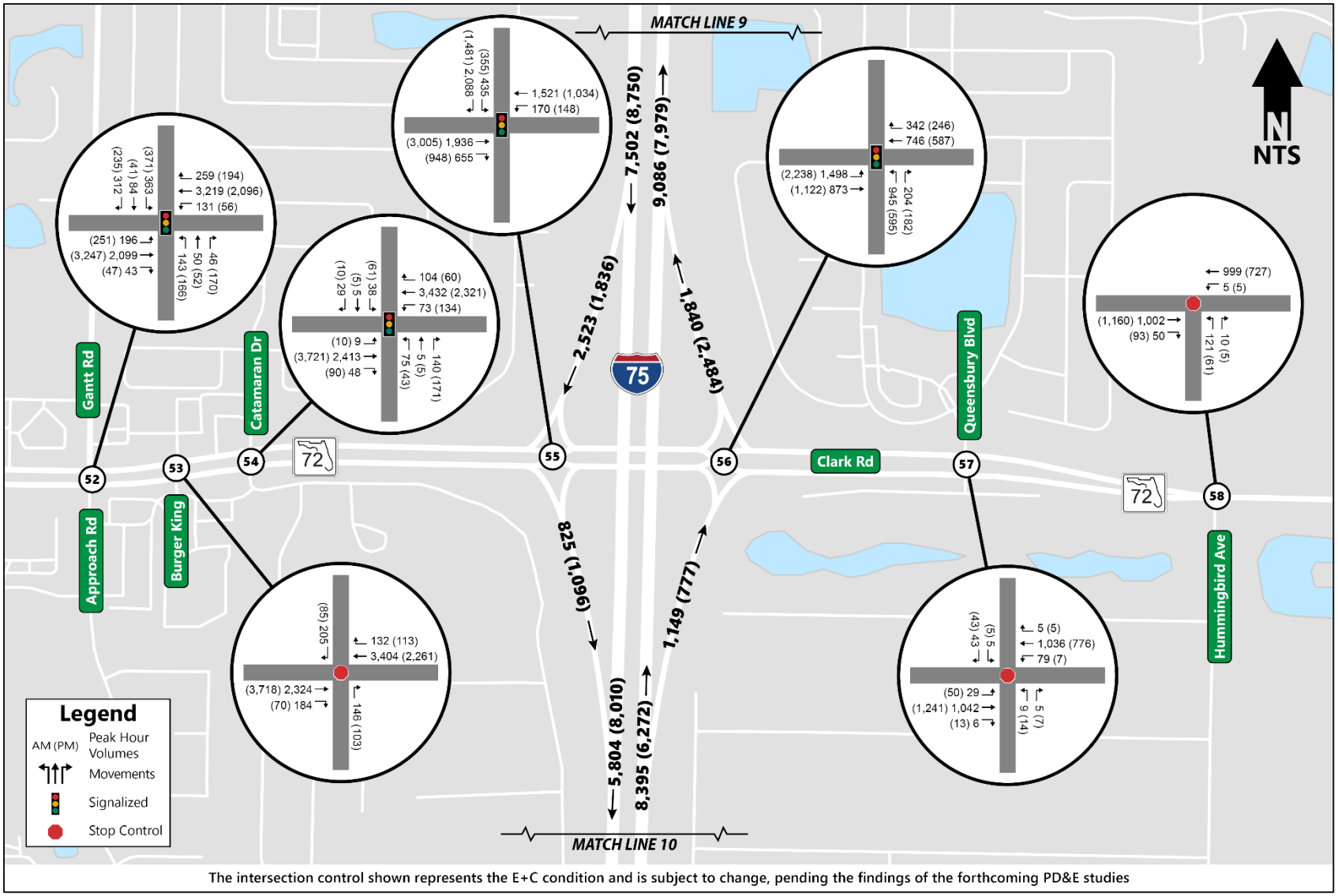


Figure 4.23 Design Year (2045) Build DDHVs and Peak-Hour Volumes – I-75/Bee Ridge Road Interchange



The intersection control shown represents the E+C condition and is subject to change, pending the findings of the forthcoming PD&E studies

Figure 4.24 Design Year (2045) Build DDHVs and Peak-Hour Volumes – I-75/Clark Road Interchange

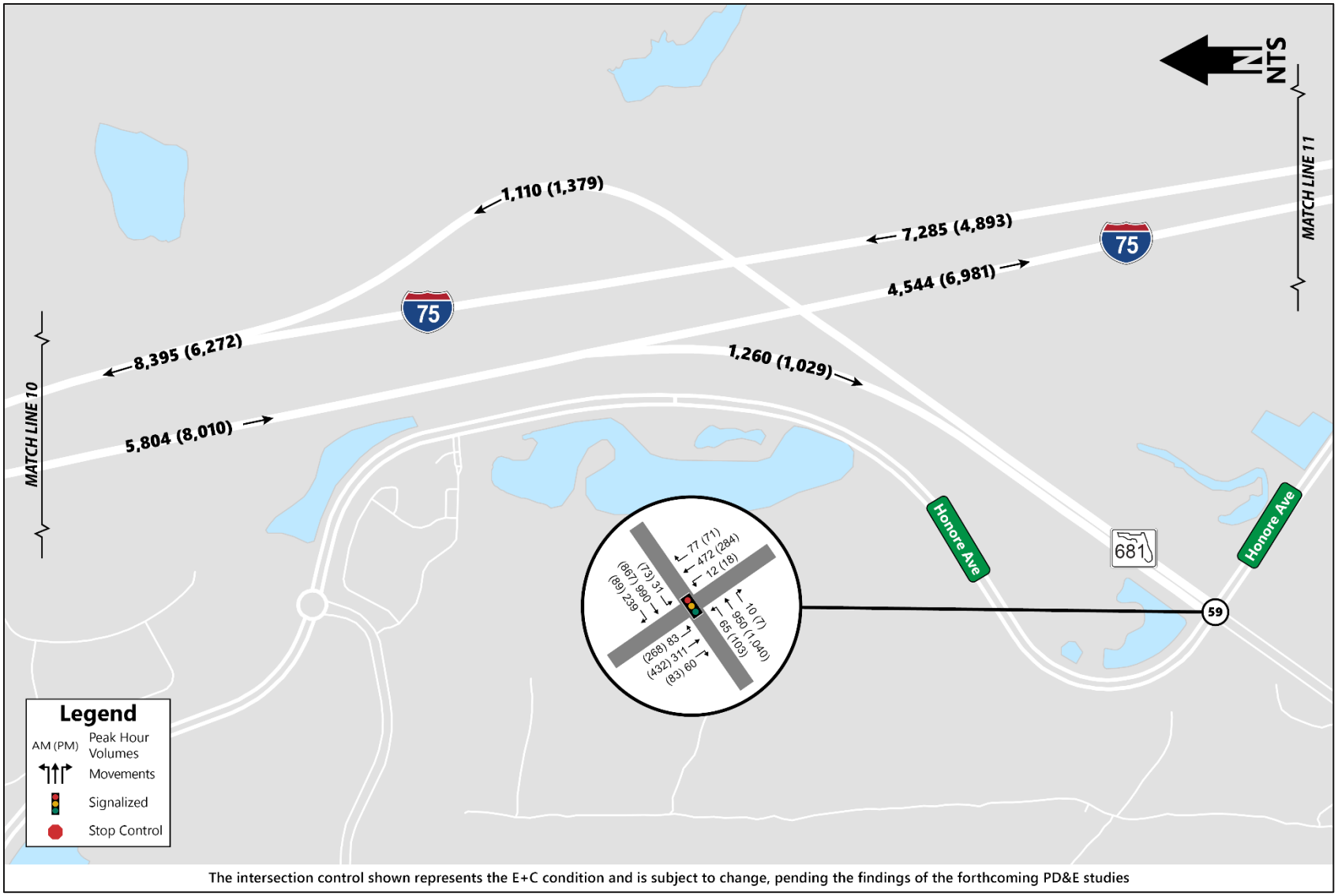


Figure 4.25 Design Year (2045) Build DDHVs and Peak-Hour Volumes – I-75/SR 681 Interchange

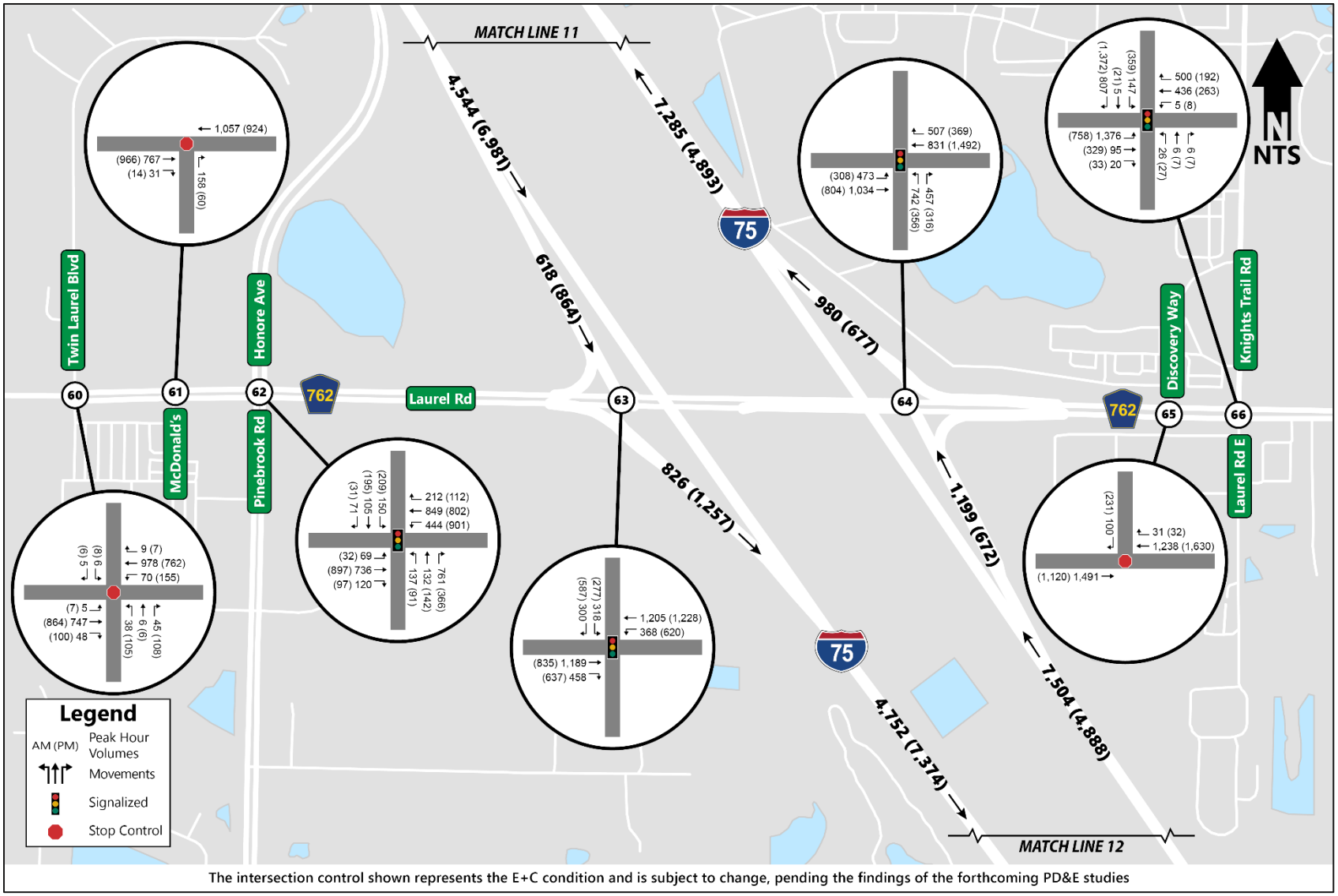


Figure 4.26 Design Year (2045) Build DDHVs and Peak-Hour Volumes – I-75/Laurel Road Interchange

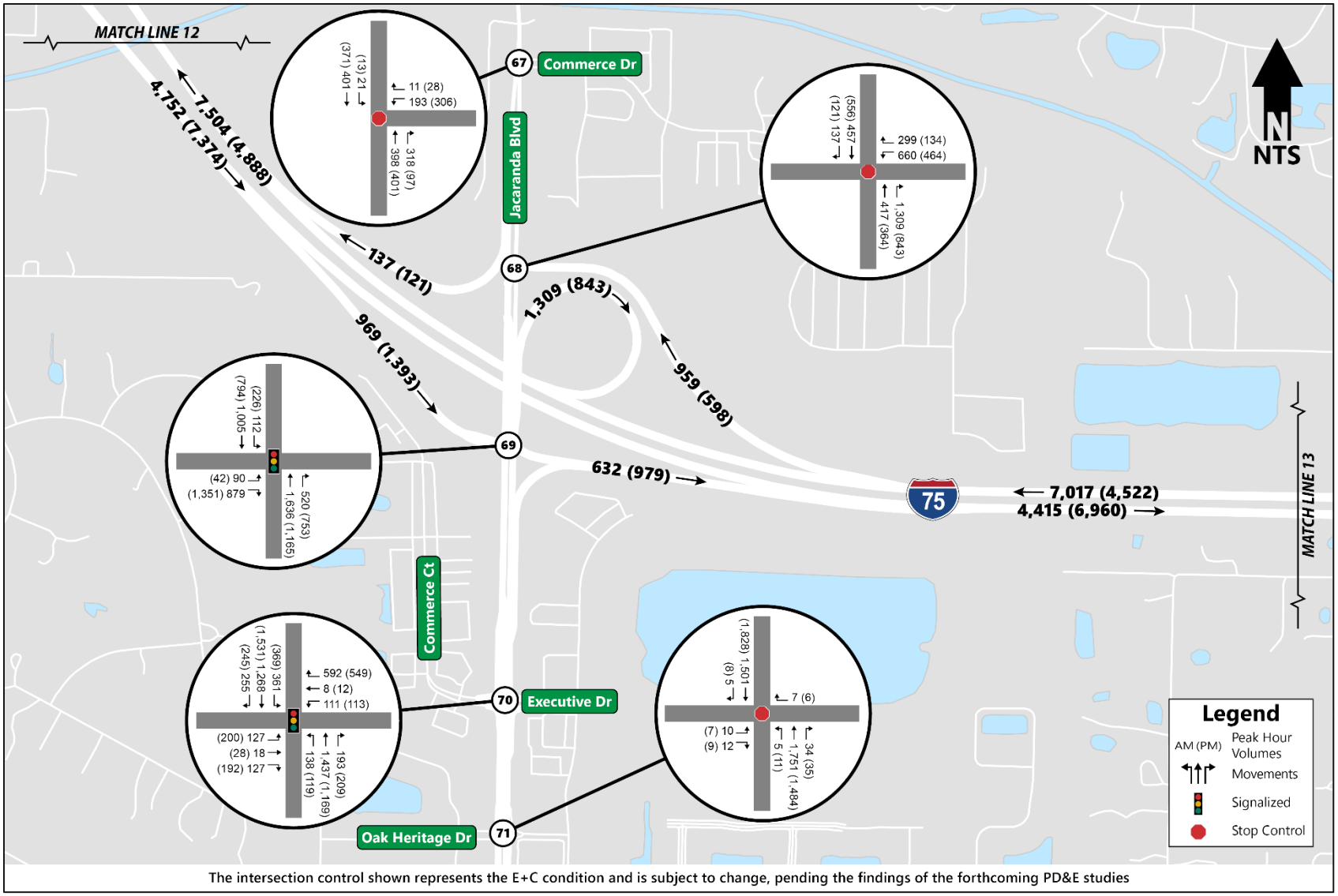


Figure 4.27 Design Year (2045) Build DDHVs and Peak-Hour Volumes – I-75/Jacaranda Boulevard Interchange

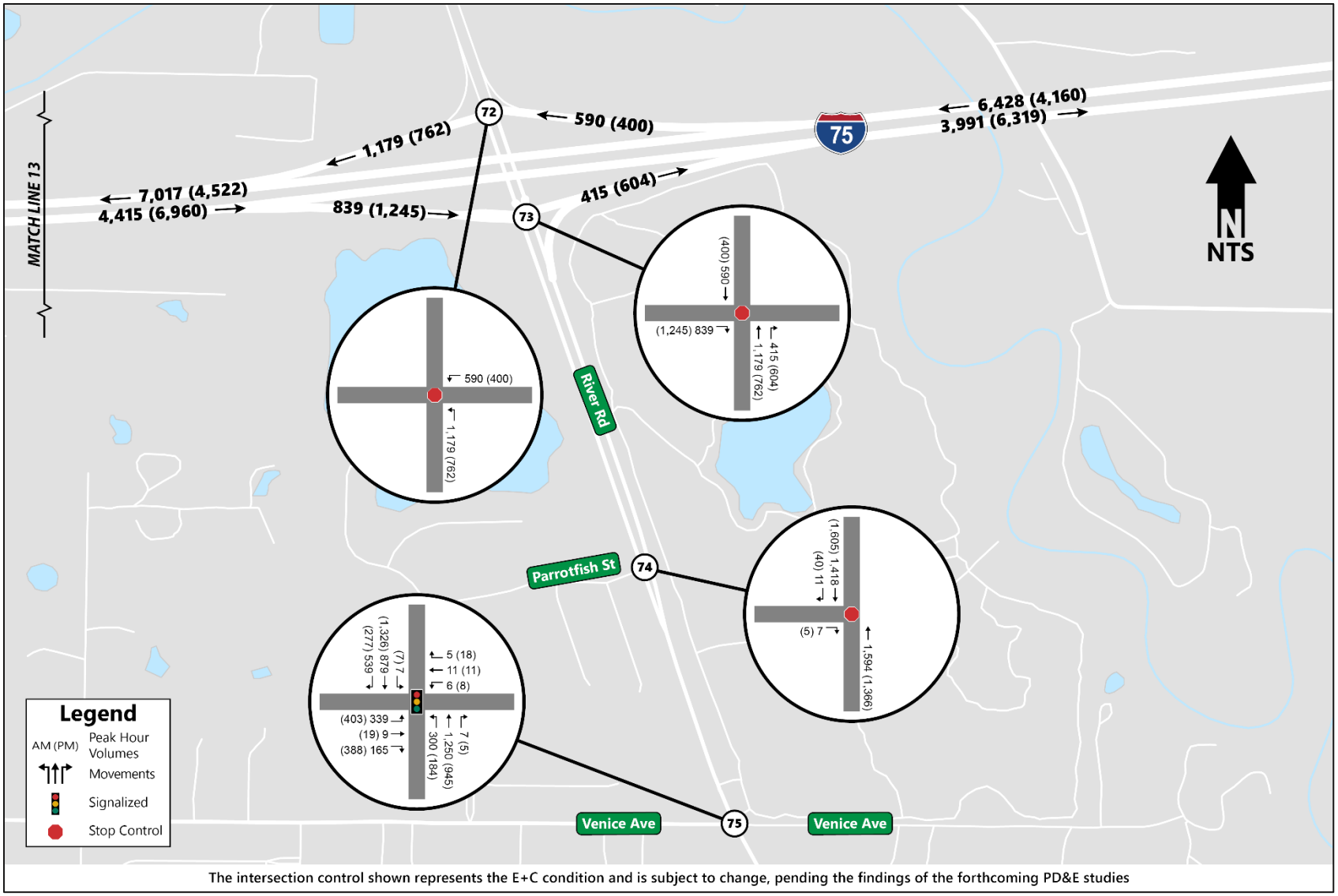


Figure 4.28 Design Year (2045) Build DDHVs and Peak-Hour Volumes – I-75/N River Road Interchange

5.0 No Build (E+C) Alternative

Long-Range Transportation Plans (LRTPs), previous studies, and design plans were obtained to identify known, funded improvements affecting the I-75 North Corridor study area. The improvements that were included in the No Build Alternative, also known as the Existing Plus Committed (E+C) Alternative, were determined based on coordination with FDOT District One. **Table 5.1** shows the E+C improvements that were coded in each design year (2045) Vissim No Build subarea model. **Appendix I** shows the source where the improvement was identified and notes on the life cycle status of the improvement along with conceptual plans, where available.

Table 5.1 I-75 North Corridor E+C Improvements

Interchange	E+C Improvement
I-75	Add auxiliary lanes on I-75 between SR 64 and US 301
	Widen I-75 from 6 to 8 lanes from south of University Parkway to Fruitville Road
	Add auxiliary lanes on I-75 between Clark Road and Bee Ridge Road
Moccasin Wallow Road	No change from existing configuration (no funded improvements identified)
I-275	No change from existing configuration (no funded improvements identified)
US 41	No change from existing configuration (no funded improvements identified)
US 301	Reconfigure I-75/US 301 interchange to an Enhanced Diamond Interchange
	Add 2-lane exit for northbound I-75 off ramp to US 301
	Add 2-lane entrance for southbound I-75 on ramp from US 301 with merge onto I-75
	Relocate ramps (new structures for ramps south of US 301)
SR 64	No change from existing configuration (no funded improvements identified)
SR 70	No change from existing configuration (no funded improvements identified)
University Parkway	No change from existing configuration (no funded improvements identified)
SR 780 (Fruitville Road)	Reconfigure I-75/Fruitville Road interchange to a Diverging Diamond Interchange (DDI)
	Add 2-lane exit for northbound I-75 off ramp to Fruitville Road
	Add 2-lane exit for southbound I-75 off ramp to Fruitville Road
	Add 2-lane entrance for northbound I-75 on ramp from Fruitville Road with merge onto I-75
	Add 2-lane entrance for southbound I-75 on ramp from Fruitville Road with merge onto I-75
	Widen eastbound Fruitville Road from 4 to 6 lanes from the loop ramp to Coburn Road
	Add a third southbound left-turn lane to the Fruitville Road/Cattlemen Road intersection
	Add lanes on Fruitville Road from Paramount Drive to Coburn Road
	Add new north leg to the Fruitville Road/Lakewood Ranch Blvd intersection
SR 758 (Bee Ridge Road)	Reconfigure I-75/Bee Ridge Road interchange to a DDI variant with relocated southbound I-75 off ramp (Ramp E)
	Add 2-lane exit for northbound I-75 off ramp to Bee Ridge Road

Interchange	E+C Improvement
	Add 2-lane exit for southbound I-75 off ramp to Bee Ridge Road
	Add 2-lane entrance for northbound I-75 on ramp from Bee Ridge Road with merge onto I-75
	Add 2-lane entrance for southbound I-75 on ramp from Bee Ridge Road with merge onto I-75
	Reconfigure the Bee Ridge Road/Cattlemen Road intersection to a Continuous-Flow Intersection (CFI)
SR 72 (Clark Road)	Reconfigure I-75/Clark Road interchange to a DDI
	Add 2-lane exit for northbound I-75 off ramp to Clark Road
	Add 2-lane exit for southbound I-75 off ramp to Clark Road
	Add 2-lane entrance for southbound I-75 on ramp from Clark Road with merge onto I-75
	Widen Clark Road from 4 to 6 lanes from east of I-75 to Hummingbird Road
	Add new through/turn lanes from west of Gantt Road to I-75
	Signalize the Clark Road/Queensbury Blvd intersection
SR 681	No change from existing configuration (no funded improvements identified)
Laurel Road	No change from existing configuration (no funded improvements identified)
Jacaranda Boulevard	No change from existing configuration (no funded improvements identified)
N River Road	Widen N River Road from 2 to 4 lanes south of Venice Avenue

6.0 Design Year (2045) No Build Traffic Analysis Results

The design year (2045) No Build simulation models for the study area were developed using Vissim version 2020 (service pack 10) and the calibrated existing conditions models for the interchange and I-75 mainline subareas. Model development and calibration methodology is provided in the I-75 North Corridor Existing Conditions Traffic Technical Memorandum, dated December 2021. The same freeway and arterial calibration parameters were used for the future conditions Vissim models, with minor changes to link behavior types if the No Build E+C improvements warranted modifications, such as the addition of an auxiliary lane that created a new weaving segment. Desired speeds were also retained from the calibrated existing conditions models, but minor modifications were required on the I-75 mainline at locations where the No Build E+C improvements included additional lanes. For additional auxiliary lanes, the desired speeds from the existing right-most lane were used, whereas additional lanes to the inside used the desired speeds from the existing left-most lane.

The use of overlap phasing to improve operations at locations without E+C improvements were included at the following intersections:

- US 301 & 60th Avenue – Southbound right-turn movement
- SR 64 & Grand Harbor Parkway – Southbound right-turn movement
- Laurel Road & Pinebrook Road – Northbound right-turn movement

Laurel Road & Haul Road – Southbound right-turn and westbound right-turn movements After discussions with FDOT, it was determined that the operational analysis of the design year (2045) No Build conditions along I-75 and its ramps and at each interchange area should be performed using the subarea Vissim models, rather than combining all of the subarea models into one model, as was done for the existing conditions analysis. Using a combined model for the future No Build condition was expected to unrealistically prevent the traffic demand from reaching all areas of the model beyond the first point of breakdown along the freeway by virtue of how traffic enters the model; from the north and south endpoints of the I-75 study area and from arterial endpoints and arterial cross street endpoints for interchange study areas within the I-75 study limits.

Analyzing the freeway, ramps, and interchanges at the subarea level gives more comprehensive and useful results as far as when individual segments and interchanges break down and the magnitude of that breakdown because the traffic demand enters the freeway and interchanges directly from the ramps in addition to the entry points mentioned above for the combined model. Analyzing the freeway, ramps, and interchanges at the subarea level allows for a more realistic spread of the demand throughout the network and more realistic arrival and platooning patterns. The No Build interchange subarea model off ramp queuing results were used to determine the year of failure of each interchange as part of the volume sensitivity analysis.

6.1 Intersection Analysis

The operational analysis of the design year (2045) No Build conditions at each interchange area was performed using the subarea Vissim models. While a peak-period analysis was performed using one shoulder hour each before and after the peak hour, the overall intersection delay and Level of Service (LOS) results discussed in the following subsections are for the peak hour only. The analysis results discussed below are based on the average of ten simulation runs. Detailed operational results for each interchange area, including delay, LOS, and queuing for all movements, are provided **Appendix J**.

In Vissim, the intersection LOS is computed from a microsimulation analysis and is, therefore, reported as an "estimated LOS". Vissim quantifies speed and density differently than the deterministic, equation-based Highway Capacity Manual (HCM) methods, as it calculates information for individual vehicle movements and interactions. The estimated LOS for future No Build conditions is based on HCM criteria and thresholds for signalized and unsignalized intersections. The overall intersection delay and LOS for signalized intersections is based on the total control delay of all movements. The overall intersection delay and LOS for unsignalized intersections is based on the worst stop-controlled movement per HCM standards.

6.1.1 Moccasin Wallow Road

A summary of overall intersection delay, LOS, and volume served for the design year (2045) AM and PM peak-hour No Build conditions is provided in **Table 6.1** and **Table 6.2** for Moccasin Wallow Road. As shown below, the I-75 ramp terminal intersections are expected to operate at LOS F in both the AM and PM peak hours with delay in excess of 500 seconds per vehicle (sec/veh). This may be attributed, in part, to the ramp terminals being stop controlled. The intersection LOS is based on the worst stop-controlled movement, which is the off-ramp left-turn movement. All adjacent intersections are expected to operate at LOS E or worse, except for the intersection at Gateway Boulevard, which is expected to operate at LOS D in the PM peak hour. The increased volume demand from the existing year (2019) coupled with capacity constraints along Moccasin Wallow Road are contributing to the high delays and low volume served. Moccasin Wallow Road is a two-lane undivided road east and west of the study area, which acts as a bottleneck leading into and out of the interchange area.

Table 6.1 Moccasin Wallow Road No Build Peak-Hour Vissim Analysis Summary

Intersection	Traffic Control	AM Peak		PM Peak	
		Delay (sec/veh)	Estimated LOS	Delay (sec/veh)	Estimated LOS
Moccasin Wallow Rd & Gateway Blvd	Signalized	61.6	E	48.5	D
Moccasin Wallow Rd & Gillette Dr	Unsignalized	298.3	F	47.7	E
Moccasin Wallow Rd & I-75 SB Ramps	Unsignalized	>500	F	>500	F
Moccasin Wallow Rd & I-75 NB Ramps	Unsignalized	>500	F	>500	F
Moccasin Wallow Rd & Buffalo Rd	Signalized	88.2	F	123.4	F
Moccasin Wallow Rd & 71st Ave	Unsignalized	>500	F	>500	F

Table 6.2 Moccasin Wallow Road No Build Peak-Hour Vissim Volume Summary

Intersection	AM Peak			PM Peak		
	Demand Volume (vph)	Modeled Volume (vph)	% Served	Demand Volume (vph)	Modeled Volume (vph)	% Served
Moccasin Wallow Rd & Gateway Blvd	4,029	2,298	57%	3,907	2,523	65%
Moccasin Wallow Rd & Gillette Dr	3,678	2,045	56%	3,694	2,356	64%
Moccasin Wallow Rd & I-75 SB Ramps	5,176	2,668	52%	4,884	2,918	60%
Moccasin Wallow Rd & I-75 NB Ramps	5,511	2,790	51%	5,972	3,254	54%
Moccasin Wallow Rd & Buffalo Rd	4,812	2,402	50%	5,301	2,873	54%
Moccasin Wallow Rd & 71st Ave	4,673	2,231	48%	4,971	2,670	54%

6.1.2 I-275 at US 41

A summary of overall intersection delay, LOS, and volume served for the design year (2045) AM and PM peak-hour No Build conditions is provided in **Table 6.3** and **Table 6.4** for the I-275 and US 41 interchange. As shown below, the I-275 northbound ramp terminal is expected to operate at LOS D or better in both peak hours, while the I-275 southbound ramp terminal is expected to operate at LOS F in both peak hours. This may be attributed, in part, to the ramp terminal being stop-controlled. The intersection LOS is based on the worst stop-controlled movement, which is the off-ramp left-turn movement. The increased volume demand from the existing year (2019) coupled with capacity constraints on US 41 south of the interchange are contributing factors to the high delays and low volume served.

Table 6.3 I-275 at US 41 No Build Peak-Hour Vissim Analysis Summary

Intersection	Traffic Control	AM Peak		PM Peak	
		Delay (sec/veh)	Estimated LOS	Delay (sec/veh)	Estimated LOS
US 41 & 85th St	Unsignalized	142.1	F	48.6	E
US 41 & I-275 NB Ramps	Signalized	22.8	C	17.9	B
US 41 & I-275 SB Ramps	Unsignalized	>500	F	431.5	F
US 41 & 73rd St	Signalized	62.4	E	94.0	F

Table 6.4 I-275 at US 41 No Build Peak-Hour Vissim Volume Summary

Intersection	AM Peak			PM Peak		
	Demand Volume (vph)	Modeled Volume (vph)	% Served	Demand Volume (vph)	Modeled Volume (vph)	% Served
US 41 & 85th St	3,885	3,775	97%	4,101	3,191	78%
US 41 & I-275 NB Ramps	4,543	4,457	98%	4,646	3,679	79%
US 41 & I-275 SB Ramps	4,453	4,232	95%	4,911	3,576	73%
US 41 & 73rd St	4,361	4,356	100%	4,863	3,747	77%

6.1.3 US 301

A summary of overall intersection delay, LOS, and volume served for the design year (2045) AM and PM peak-hour No Build conditions is provided in **Table 6.5** and **Table 6.6** for US 301. As shown below, all study area intersections are expected to operate at LOS D or better except for the unsignalized intersection at 18th Street, which is expected to operate at LOS F in the PM peak hour. This interchange was reconfigured from the existing partial cloverleaf interchange to an Enhanced Diamond Interchange for the No Build analysis, as this improvement is currently under construction as a design-build project. Multiple movements at the adjacent signalized intersections are expected to operate at LOS E or F, but the through movements on US 301 are expected to operate at LOS D or better, except for the westbound through movement in the PM peak period at the I-75 northbound ramp terminal, which is operating at LOS E. At the I-75 ramp terminal intersections, the off-ramp left-turn movements are expected to operate at LOS E or better, but queuing is not expected to exceed the available storage and overall operations are LOS D or better in both peak hours.

Table 6.5 US 301 No Build Peak-Hour Vissim Analysis Summary

Intersection	Traffic Control	AM Peak		PM Peak	
		Delay (sec/veh)	Estimated LOS	Delay (sec/veh)	Estimated LOS
US 301 & 51st Ave	Signalized	48.9	D	33.3	C
US 301 & I-75 SB Ramps	Signalized	16.1	B	20.1	C
US 301 & I-75 NB Ramps	Signalized	40.9	D	48.3	D
US 301 & 60th Ave	Signalized	34.9	C	33.0	C
US 301 & Kmart Driveway	Unsignalized	22.3	C	26.4	D
US 301 & 18th St	Unsignalized	19.5	C	83.2	F

Table 6.6 US 301 No Build Peak-Hour Vissim Volume Summary

Intersection	AM Peak			PM Peak		
	Demand Volume (vph)	Modeled Volume (vph)	% Served	Demand Volume (vph)	Modeled Volume (vph)	% Served
US 301 & 51st Ave	4,443	4,436	100%	4,440	4,419	100%
US 301 & I-75 SB Ramps	5,787	5,783	100%	5,620	5,590	99%
US 301 & I-75 NB Ramps	5,100	5,121	100%	6,167	6,135	99%
US 301 & 60th Ave	4,125	4,127	100%	5,332	5,307	100%
US 301 & Kmart Driveway	2,861	2,873	100%	3,796	3,789	100%
US 301 & 18th St	2,783	2,794	100%	3,693	3,679	100%

6.1.4 SR 64

A summary of overall intersection delay, LOS, and volume served for the design year (2045) AM and PM peak-hour No Build conditions is provided in **Table 6.7** and **Table 6.8** for SR 64. As shown below, all study area intersections are expected to operate at LOS F in at least one of the peak hours, except for the signalized crossing at 66th Street, which is expected to operate at LOS D and LOS E in the AM and PM peak hours, respectively. Although this interchange was recently reconstructed, the increased volume demand from the existing year (2019), coupled with capacity constraints along SR 64 are contributing to the high delays and low volume served. Multiple movements are operating at LOS F at the ramp terminal intersections, including the off-ramp left- and right-turn movements, as well as the eastbound and westbound through movements along SR 64. Ramp queuing is expected to exceed 1,800 feet at the northbound ramp terminal and 2,100 feet at the southbound terminal, indicating queue spillback that will impact the I-75 mainline. It should be noted that these queue lengths represent the limits of the Vissim network and could be longer than reported.

Table 6.7 SR 64 No Build Peak-Hour Vissim Analysis Summary

Intersection	Traffic Control	AM Peak		PM Peak	
		Delay (sec/veh)	Estimated LOS	Delay (sec/veh)	Estimated LOS
SR 64 & 62nd St	Unsignalized	428.6	F	>500	F
SR 64 & 65th St	Unsignalized	>500	F	>500	F
SR 64 & 66th St	Signalized	44.1	D	69.2	E
SR 64 & I-75 SB Ramps	Signalized	62.1	E	120.4	F
SR 64 & I-75 NB Ramps	Signalized	71.5	E	131.0	F
SR 64 & Grand Harbour Pkwy	Signalized	139.7	F	139.6	F

Table 6.8 SR 64 No Build Peak-Hour Vissim Volume Summary

Intersection	AM Peak			PM Peak		
	Demand Volume (vph)	Modeled Volume (vph)	% Served	Demand Volume (vph)	Modeled Volume (vph)	% Served
SR 64 & 62nd St	6,182	5,452	88%	6,252	5,277	84%
SR 64 & 65th St	6,211	5,415	87%	6,213	5,237	84%
SR 64 & 66th St	6,665	5,828	87%	6,824	5,763	84%
SR 64 & I-75 SB Ramps	8,266	6,915	84%	7,716	6,355	82%
SR 64 & I-75 NB Ramps	7,491	6,322	84%	8,407	6,908	82%
SR 64 & Grand Harbour Pkwy	6,019	4,911	82%	6,242	5,284	85%

6.1.5 SR 70

A summary of overall intersection delay, LOS, and volume served for the design year (2045) AM and PM peak-hour No Build conditions is provided in **Table 6.9** and

Table 6.10 for SR 70. As shown below, the I-75 ramp terminal intersections are expected to operate at LOS C in both peak periods, but the off-ramp left-turn movements are operating at LOS E or worse. More than 95 percent of the off-ramp volumes are being served in the AM and PM peak hour, but queuing on the I-75 southbound off-ramp is expected to exceed the available turn-lane storage in both peak hours and exceed the length of the ramp in the AM peak hour by the design year (2045). The eastbound left-turn movement at the northbound ramp terminal intersection is expected to operate at LOS F in both peak periods with delays in excess of 100 sec/veh. These results may be attributed to the forecasted traffic demand increase, coupled with capacity constraints of the SR 70 corridor. The adjacent signalized intersections are operating at LOS E or better while the unsignalized intersections are all operating at LOS F.

Table 6.9 SR 70 No Build Peak-Hour Vissim Analysis Summary

Intersection	Traffic Control	AM Peak		PM Peak	
		Delay (sec/veh)	Estimated LOS	Delay (sec/veh)	Estimated LOS
SR 70 & Creekwood Blvd	Signalized	43.6	D	60.6	E
SR 70 & 73rd Ln	Unsignalized	35.8	E	>500	F
SR 70 & I-75 SB Ramps	Signalized	30.3	C	25.9	C
SR 70 & I-75 NB Ramps	Signalized	25.0	C	31.2	C
SR 70 & Lena Rd	Unsignalized	133.4	F	259.4	F
SR 70 & 87th St	Signalized	32.2	C	60.6	E
Creekwood Blvd & 52nd Pl	Unsignalized	125.0	F	486.3	F
Tara Blvd & 55th Ave	Unsignalized	7.9	A	11.6	B

Table 6.10 SR 70 No Build Peak-Hour Vissim Volume Summary

Intersection	AM Peak			PM Peak		
	Demand Volume (vph)	Modeled Volume (vph)	% Served	Demand Volume (vph)	Modeled Volume (vph)	% Served
SR 70 & Creekwood Blvd	6,423	6,271	98%	6,627	6,354	96%
SR 70 & 73rd Ln	6,188	6,035	98%	6,595	6,283	95%
SR 70 & I-75 SB Ramps	7,375	7,191	98%	7,605	7,357	97%
SR 70 & I-75 NB Ramps	6,664	6,570	99%	7,538	7,381	98%
SR 70 & Lena Rd	5,669	5,613	99%	6,290	6,144	98%
SR 70 & 87th St	5,514	5,474	99%	6,221	6,046	97%
Creekwood Blvd & 52nd Pl	1,080	1,045	97%	1,511	1,245	82%
Tara Blvd & 55th Ave	753	743	99%	717	699	97%

6.1.6 University Parkway

A summary of overall intersection delay, LOS and volume served for the design year (2045) AM and PM peak-hour No Build conditions is provided in **Table 6.11** and **Table 6.12** for University Parkway. As

shown below, all study area intersections are expected to operate at LOS F during at least one of the peak hours, including the I-75 ramp terminal intersections. As indicated by the volume served versus demand, the intersections of Cattlemen Road to the west end and Town Center Parkway to the east end, as well as the Market Street intersection, meter traffic entering the interchange subarea in both peak periods. These same adjacent intersections also impact interchange operations for traffic departing the interchange area.

Queue spillback originating from the Cattlemen Road intersection westbound through and right-turn movements reaches the I-75 southbound ramp terminal and causes this ramp to queue back about2,800 feet in the AM peak hour. The queue exceeds the available storage by about 2,000 feet. Also in the AM peak hour, queue spillback originating from the Market Street intersection eastbound approach movements reaches the I-75 northbound ramp terminal, resulting in a queue of 2,900 feet. This also happens in the PM peak hour, causing the ramp to queue back about 1,300 feet, which exceeds the available storage by nearly 600 feet. It should be noted that these queue lengths represent the limits of the Vissim network and could be longer than reported.

Table 6.11 University Parkway No Build Peak-Hour Vissim Analysis Summary

Intersection	Traffic Control	AM Peak		PM Peak	
		Delay (sec/veh)	Estimated LOS	Delay (sec/veh)	Estimated LOS
University Pkwy & Cattlemen Rd	Signalized	141.4	F	110.8	F
University Pkwy & I-75 SB Ramps	Signalized	92.4	F	32.7	C
University Pkwy & I-75 NB Ramps	Signalized	102.6	F	36.7	D
University Pkwy & Market St	Signalized	77.8	E	107.7	F
University Pkwy & Lakewood Ranch Driveway	Unsignalized	146.5	F	108.2	F
University Pkwy & Town Center Pkwy	Signalized	195.4	F	237.6	F
Cooper Creek Blvd & Tourist Center Dr	Unsignalized	>500	F	416.0	F
Cattlemen Rd & University Town Center Dr	Signalized	23.8	C	143.8	F

Table 6.12 University Parkway No Build Peak-Hour Vissim Volume Summary

Intersection	AM Peak			PM Peak		
	Demand Volume (vph)	Modeled Volume (vph)	% Served	Demand Volume (vph)	Modeled Volume (vph)	% Served
University Pkwy & Cattlemen Rd	9,052	7,018	78%	10,081	8,774	87%
University Pkwy & I-75 SB Ramps	10,748	8,274	77%	10,538	9,157	87%
University Pkwy & I-75 NB Ramps	10,197	7,592	74%	10,393	8,901	86%
University Pkwy & Market St	8,383	6,442	77%	8,289	6,742	81%
University Pkwy & Lakewood Ranch Driveway	5,617	4,026	72%	5,654	4,526	80%
University Pkwy & Town Center Pkwy	5,711	4,053	71%	5,788	4,463	77%
Cooper Creek Blvd & Tourist Center Dr	1,847	1,355	73%	2,747	2,284	83%
Cattlemen Rd & University Town Center Dr	1,373	1,268	92%	2,653	2,356	89%

6.1.7 SR 780 (Fruitville Road)

A summary of overall intersection delay, LOS, and volume served for the design year (2045) AM and PM peak-hour No Build conditions is provided in **Table 6.13** and **Table 6.14** for Fruitville Road. As shown below, the I-75 ramp terminal intersections are expected to operate at LOS E or better in both peak hours. This interchange was reconfigured from the existing partial cloverleaf interchange to a DDI for the No Build analysis, as this improvement is currently programmed for letting prior to 2030. The northbound off-ramp left-turn movement is expected to operate at LOS F in the AM peak hour with a queue length of approximately 2,300 feet and only 83 percent of the volume served. The southbound off-ramp right-turn movement is expected to operate at LOS E in the AM peak hour with a queue length of approximately 1,200 feet. Queuing on the off ramps may be attributed to queue spillback originating from the Cattlemen Road intersection, particularly for the westbound right-turn movement. The intersections of Cattlemen Road to the west and Coburn Road to the east also meter traffic entering the network, with failing operations on the north and south legs in both peak periods. The volume served at these locations is as low as 87 percent in the PM peak hour, which reduces the amount of traffic that reaches the I-75 ramp terminal intersections. Both ramp terminals are operating at LOS C or better in the PM peak hour, with nearly 100 percent of the off-ramp volumes served, but the overall intersection delay may be slightly higher.

Table 6.13 SR 780 (Fruitville Road) No Build Peak-Hour Vissim Analysis Summary

Intersection	Traffic Control	AM Peak		PM Peak	
		Delay (sec/veh)	Estimated LOS	Delay (sec/veh)	Estimated LOS
Fruitville Rd & Cattlemen Rd	Signalized	87.8	F	96.8	F
Fruitville Rd & I-75 SB Ramps	Signalized	56.4	E	34.4	C
Fruitville Rd & I-75 NB Ramps	Signalized	62.3	E	17.3	B
Fruitville Rd & Coburn Rd W	Unsignalized	21.2	C	26.6	D
Fruitville Rd & Coburn Rd E	Signalized	53.7	D	141.3	F

Table 6.14 SR 780 (Fruitville Road) No Build Peak-Hour Vissim Volume Summary

Intersection	AM Peak			PM Peak		
	Demand Volume (vph)	Modeled Volume (vph)	% Served	Demand Volume (vph)	Modeled Volume (vph)	% Served
Fruitville Rd & Cattlemen Rd	10,006	9,192	92%	10,665	9,626	90%
Fruitville Rd & I-75 SB Ramps	9,203	8,650	94%	9,610	9,042	94%
Fruitville Rd & I-75 NB Ramps	7,623	7,198	94%	8,152	7,582	93%
Fruitville Rd & Coburn Rd W	4,893	4,774	98%	5,318	4,903	92%
Fruitville Rd & Coburn Rd E	5,413	5,252	97%	5,908	5,153	87%

6.1.8 SR 758 (Bee Ridge Road)

A summary of overall intersection delay, LOS, and volume served for the design year (2045) AM and PM peak-hour No Build conditions is provided in **Table 6.15** and **Table 6.16** for Bee Ridge Road. As shown below, all intersections are expected to operate at LOS D or better except for Mauna Loa Boulevard. This interchange was reconfigured from the existing partial cloverleaf interchange to a hybrid DDI with adjacent CFI for the No Build analysis, as this improvement is currently programmed for letting prior to 2030. No improvements are proposed at the Mauna Loa Boulevard intersection and it is expected to experience delays in excess of 430 sec/veh for the northbound left-turn movement during the AM peak hour. The highest modeled northbound and southbound off-ramp queue lengths are less than 800 feet and 600 feet, respectively.

Table 6.15 SR 758 (Bee Ridge Road) No Build Peak-Hour Vissim Analysis Summary

Intersection	Traffic Control	AM Peak		PM Peak	
		Delay (sec/veh)	Estimated LOS	Delay (sec/veh)	Estimated LOS
Bee Ridge Rd & Maxfield Dr	Signalized	22.3	C	53.1	D
Bee Ridge Rd & Cattlemen Rd	Signalized	39.4	D	39.1	D
Bee Ridge Rd & I-75 SB Ramps	Signalized	27.0	C	19.4	B
Bee Ridge Rd & I-75 NB Ramps	Signalized	23.8	C	25.0	C
Bee Ridge Rd & Mauna Loa Blvd	Signalized	84.8	F	36.9	D
Cattlemen Rd & Maxfield Dr	Signalized	13.5	B	21.0	C
Bee Ridge Rd & EB Cattlemen Rd Displaced Left	Signalized	8.6	A	9.3	A

Table 6.16 SR 758 (Bee Ridge Road) No Build Peak-Hour Vissim Volume Summary

Intersection	AM Peak			PM Peak		
	Demand Volume (vph)	Modeled Volume (vph)	% Served	Demand Volume (vph)	Modeled Volume (vph)	% Served
Bee Ridge Rd & Maxfield Dr	3,848	3,750	97%	4,524	4,419	98%
Bee Ridge Rd & Cattlemen Rd	6,868	6,738	98%	7,021	6,965	99%
Bee Ridge Rd & I-75 SB Ramps	6,141	5,993	98%	6,284	6,219	99%
Bee Ridge Rd & I-75 NB Ramps	5,587	5,416	97%	5,243	5,162	98%
Bee Ridge Rd & Mauna Loa Blvd	3,932	3,729	95%	3,883	3,809	98%
Cattlemen Rd & Maxfield Dr	3,221	3,186	99%	3,169	3,219	102%
Bee Ridge Rd & EB Cattlemen Rd Displaced Left	2,282	2,205	97%	1,859	1,814	98%

6.1.9 SR 72 (Clark Road)

A summary of overall intersection delay, LOS, and volume served for the design year (2045) AM and PM peak-hour No Build conditions is provided in **Table 6.17** and **Table 6.18** for Clark Road. As shown below, all study area intersections are expected to operate at LOS D or better except for the Gantt Road intersection in the PM peak hour (LOS E driven by delay on the north and south legs) and the

Hummingbird Avenue intersection in the AM peak hour (LOS E for an unsignalized intersection). This interchange was reconfigured from the existing diamond interchange to a DDI for the No Build analysis, as this improvement is currently under construction. The highest modeled northbound and southbound off-ramp queue lengths are less than 300 feet and 600 feet, respectively.

Table 6.17 SR 72 (Clark Road) No Build Peak-Hour Vissim Analysis Summary

Intersection	Traffic Control	AM Peak		PM Peak	
		Delay (sec/veh)	Estimated LOS	Delay (sec/veh)	Estimated LOS
Clark Rd & Gantt Rd	Signalized	43.5	D	76.3	E
Clark Rd & Catamaran Dr	Signalized	19.3	B	25.1	C
Clark Rd & I-75 SB Ramps	Signalized	29.8	C	25.4	C
Clark Rd & I-75 NB Ramps	Signalized	13.6	B	11.8	B
Clark Rd & Queensbury Blvd	Unsignalized	10.4	B	7.2	A
Clark Rd & Hummingbird Ave	Unsignalized	47.5	E	31.4	D

Table 6.18 SR 72 (Clark Road) No Build Peak-Hour Vissim Volume Summary

Intersection	AM Peak			PM Peak		
	Demand Volume (vph)	Modeled Volume (vph)	% Served	Demand Volume (vph)	Modeled Volume (vph)	% Served
Clark Rd & Gantt Rd	6,229	5,904	95%	6,249	6,033	97%
Clark Rd & Catamaran Dr	5,757	5,651	98%	6,023	5,913	98%
Clark Rd & I-75 SB Ramps	6,201	6,107	98%	6,371	6,287	99%
Clark Rd & I-75 NB Ramps	4,337	4,265	98%	4,510	4,434	98%
Clark Rd & Queensbury Blvd	2,157	2,126	99%	2,061	2,034	99%
Clark Rd & Hummingbird Ave	2,088	2,054	98%	1,957	1,925	98%

6.1.10 SR 681

A summary of overall intersection delay, LOS, and volume served for the design year (2045) AM and PM peak-hour No Build conditions is provided in **Table 6.19** and **Table 6.20** for SR 681. As shown below, the Honore Avenue intersection is expected to operate at LOS D or better in both the AM and PM peak hours. Queuing on SR 681 is minimal and has no impact on the I-75 mainline. The Honore Avenue intersection was primarily included in the Vissim models to platoon traffic more accurately onto northbound I-75.

Table 6.19 SR 681 No Build Peak-Hour Vissim Analysis Summary

Intersection	Traffic Control	AM Peak		PM Peak	
		Delay (sec/veh)	Estimated LOS	Delay (sec/veh)	Estimated LOS
SR 681 & Honore Ave	Signalized	28.1	C	36.3	D

Table 6.20 SR 681 No Build Peak-Hour Vissim Volume Summary

Intersection	AM Peak			PM Peak		
	Demand Volume (vph)	Modeled Volume (vph)	% Served	Demand Volume (vph)	Modeled Volume (vph)	% Served
SR 681 & Honore Ave	2,907	2,904	100%	2,989	2,979	100%

6.1.11 Laurel Road

A summary of overall intersection delay, LOS, and volume served for the design year (2045) AM and PM peak-hour No Build conditions is provided in **Table 6.21** and **Table 6.22** for Laurel Road. As shown below, all study area intersections are expected to operate at LOS D or better, with nearly all demand volume served. It should be noted that the westbound left turn at Pinebrook Boulevard was recently reconstructed to provide a dual left-turn movement with additional storage distance and this improvement was included in the No Build condition. The interchange ramp terminals are operating at LOS D or better, but there is significant queuing (greater than 1,000 feet) for the westbound left-turn movement in the PM peak hour.

Table 6.21 Laurel Road No Build Peak-Hour Vissim Analysis Summary

Intersection	Traffic Control	AM Peak		PM Peak	
		Delay (sec/veh)	Estimated LOS	Delay (sec/veh)	Estimated LOS
Laurel Rd & Twin Laurel Blvd	Unsignalized	24.7	C	34.8	D
Laurel Rd & Pinebrook Rd	Signalized	37.9	D	36.4	D
Laurel Rd & I-75 SB Ramps	Signalized	26.1	C	31.6	C
Laurel Rd & I-75 NB Ramps	Signalized	24.9	C	22.2	C
Laurel Rd & Discovery Way	Unsignalized	10.1	B	14.1	B
Laurel Rd & Haul Rd	Signalized	47.8	D	41.3	D

Table 6.22 Laurel Road No Build Peak-Hour Vissim Volume Summary

Intersection	AM Peak			PM Peak		
	Demand Volume (vph)	Modeled Volume (vph)	% Served	Demand Volume (vph)	Modeled Volume (vph)	% Served
Laurel Rd & Twin Laurel Blvd	1,866	1,856	99%	2,025	2,026	100%
Laurel Rd & Pinebrook Rd	3,416	3,395	99%	3,492	3,490	100%
Laurel Rd & I-75 SB Ramps	3,472	3,442	99%	3,772	3,770	100%
Laurel Rd & I-75 NB Ramps	3,581	3,549	99%	3,238	3,247	100%
Laurel Rd & Discovery Way	1,189	1,178	99%	1,626	1,641	101%
Laurel Rd & Haul Rd	2,862	2,844	99%	2,899	2,915	101%

6.1.12 Jacaranda Boulevard

A summary of overall intersection delay, LOS, and volume served for the design year (2045) AM and PM peak-hour No Build conditions is provided in **Table 6.23** and **Table 6.24** for Jacaranda Boulevard. As shown below, all study area intersections are expected to operate at LOS E or LOS F in at least one of the peak hours. The I-75 northbound ramp terminal is unsignalized and the intersection LOS is based on the worst stop-controlled movement, which is the off-ramp left-turn movement. The northbound off-ramp left-turn movement experiences delays of over 5 minutes and queuing of nearly 2,700 feet. It should be noted that this queue length represents the limit of the Vissim network and could be longer than reported. The southbound ramp terminal northbound through movement maximum queue is in excess of 1,500 feet, which spills back to the adjacent intersection at Executive Drive. This is primarily the result of traffic utilizing the right-most lane to access both the southbound on-ramp and northbound (loop) on-ramp. The stop-controlled off-ramp movement at the I-75 northbound ramp terminal, coupled with the imbalanced lane utilization for northbound traffic, results in lower volumes served in the AM peak hour compared to demand.

Table 6.23 Jacaranda Boulevard No Build Peak-Hour Vissim Analysis Summary

Intersection	Traffic Control	AM Peak		PM Peak	
		Delay (sec/veh)	Estimated LOS	Delay (sec/veh)	Estimated LOS
Jacaranda & Commerce Dr	Unsignalized	29.4	D	300.2	F
Jacaranda Blvd & I-75 NB Ramps	Unsignalized	320.1	F	50.8	F
Jacaranda Blvd & I-75 SB Ramps	Signalized	38.2	D	55.2	E
Jacaranda Blvd & Executive Dr	Signalized	85.8	F	95.6	F
Jacaranda Blvd & Oak Heritage Dr	Unsignalized	260.4	F	131.9	F

Table 6.24 Jacaranda Boulevard No Build Peak-Hour Vissim Volume Summary

Intersection	AM Peak			PM Peak		
	Demand Volume (vph)	Modeled Volume (vph)	% Served	Demand Volume (vph)	Modeled Volume (vph)	% Served
Jacaranda & Commerce Dr	1,305	1,177	90%	1,197	1,078	90%
Jacaranda Blvd & I-75 NB Ramps	3,240	2,758	85%	2,459	2,305	94%
Jacaranda Blvd & I-75 SB Ramps	4,167	3,680	88%	4,232	4,013	95%
Jacaranda Blvd & Executive Dr	4,548	3,975	87%	4,634	4,316	93%
Jacaranda Blvd & Oak Heritage Dr	3,263	2,750	84%	3,295	3,114	95%

6.1.13 N River Road

A summary of overall intersection delay, LOS, and volume served for the design year (2045) AM and PM peak-hour No Build conditions is provided in **Table 6.25** and **Table 6.26** for N River Road. As shown below, the I-75 ramp terminal intersections are operating at LOS F in at least one of the peak periods. Both intersections are unsignalized and LOS is based on the worst stop-controlled movement, which is the off-ramp left-turn movement at the north terminal intersection and the off-ramp right-turn

movement at the south terminal intersection. Queuing on both I-75 off-ramps is expected to exceed the length of the ramp and spillback onto the I-75 mainline. The adjacent signalized intersection at Venice Avenue is operating at LOS E in both peak periods and the unsignalized Subdivision Entrance driveway is operating at LOS A. During the AM peak hour, the off-ramp left-turn movement at the north terminal intersection is only serving 50 percent of the demand, while the off-ramp right-turn movement at the south terminal is serving less than 60 percent of the demand during the PM peak hour. Both unsignalized off-ramp movements result in less volume served at the adjacent intersections, as indicated below.

Table 6.25 N River Road No Build Peak-Hour Vissim Analysis Summary

Intersection	Traffic Control	AM Peak		PM Peak	
		Delay (sec/veh)	Estimated LOS	Delay (sec/veh)	Estimated LOS
N River Rd & I-75 NB Ramps	Unsignalized	>500	F	42.1	E
N River Rd & I-75 SB Ramps	Unsignalized	35.1	E	370.3	F
N River Rd & Subdivision Entrance	Unsignalized	6.3	A	6.7	A
N River Rd & Venice Ave	Signalized	64.4	E	64.1	E

Table 6.26 N River Road No Build Peak-Hour Vissim Volume Summary

Intersection	AM Peak			PM Peak		
	Demand Volume (vph)	Modeled Volume (vph)	% Served	Demand Volume (vph)	Modeled Volume (vph)	% Served
River Rd & I-75 NB Ramps	1,633	1,351	83%	1,078	1,050	97%
River Rd & I-75 SB Ramps	2,772	2,383	86%	2,771	2,151	78%
River Rd & Subdivision Entrance	1,311	1,046	80%	1,520	1,116	73%
River Rd & Venice Ave	3,258	2,788	86%	3,351	2,631	79%

6.2 Delay Summary

The design year (2045) No Build analysis indicates that 12 of the 22 I-75 ramp terminal intersections are expected to operate at LOS E or worse, with 9 operating at LOS F in at least one of the AM or PM peak periods. Out of the 9 operating at LOS F or worse in at least one of the peak periods, 5 of them are unsignalized. These five intersections include both I-75/Moccasin Wallow Road ramp terminals, the I-75/Jacaranda Boulevard northbound ramp terminal, and both I-75/N River Road ramp terminals. Both I-75/Fruitville Road ramp terminal intersections and the I-75 southbound ramp terminal intersection at Jacaranda Boulevard operate at LOS E in their worst-case period. **Table 6.27** shows the I-75 interchange ramp terminal intersections that are operating at LOS E or worse in at least one of the peak periods.

Table 6.27 I-75 Ramp Terminal No Build Peak-Hour Vissim Analysis Summary (LOS E and F)

Intersection	Traffic Control	AM Peak		PM Peak	
		Delay (sec/veh)	Estimated LOS	Delay (sec/veh)	Estimated LOS
Moccasin Wallow Rd & I-75 SB Ramps	Unsignalized	>500	F	>500	F
Moccasin Wallow Rd & I-75 NB Ramps	Unsignalized	>500	F	>500	F
SR 64 & I-75 SB Ramps	Signalized	62.1	E	120.4	F
SR 64 & I-75 NB Ramps	Signalized	71.5	E	131.0	F
University Pkwy & I-75 SB Ramps	Signalized	92.4	F	32.7	C
University Pkwy & I-75 NB Ramps	Signalized	102.6	F	36.7	D
Fruitville Rd & I-75 SB Ramps	Signalized	56.4	E	34.4	C
Fruitville Rd & I-75 NB Ramps	Signalized	62.3	E	17.3	B
Jacaranda Blvd & I-75 NB Ramps	Unsignalized	320.1	F	50.8	F
Jacaranda Blvd & I-75 SB Ramps	Signalized	38.2	D	55.2	E
River Rd & I-75 NB Ramps	Unsignalized	>500	F	42.1	E
River Rd & I-75 SB Ramps	Unsignalized	35.1	E	370.3	F

Out of the 20 signalized intersections immediately adjacent to an I-75 ramp terminal intersection within the study area, 13 are expected to operate at LOS E or worse, with 8 operating at LOS F in at least one of the AM or PM peak periods. The signalized intersection of US 41/73rd Street immediately adjacent to the I-275/US 41 southbound ramp terminal intersection is also expected to operate at LOS F in at least one of the AM or PM peak periods. **Table 6.28** shows the signalized intersections immediately adjacent to an I-75 ramp terminal intersection within the study area that are operating at LOS E or worse in at least one of the peak periods.

Table 6.28 I-75 Ramp Terminal Signalized Adjacent Intersections No Build Peak-Hour Vissim Analysis Summary (LOS E and F)

Intersection	Traffic Control	AM Peak		PM Peak	
		Delay (sec/veh)	Estimated LOS	Delay (sec/veh)	Estimated LOS
Moccasin Wallow Rd & Gateway Blvd	Signalized	61.6	E	48.5	D
Moccasin Wallow Rd & Buffalo Rd	Signalized	88.2	F	123.4	F
SR 64 & 66th St	Signalized	44.1	D	69.2	E
SR 64 & Grand Harbour Pkwy	Signalized	139.7	F	139.6	F
SR 70 & Creekwood Blvd	Signalized	43.6	D	60.6	E
SR 70 & 87th St	Signalized	32.2	C	60.6	E
University Pkwy & Cattlemen Rd	Signalized	141.4	F	110.8	F
University Pkwy & Market St	Signalized	77.8	E	107.7	F
Fruitville Rd & Cattlemen Rd	Signalized	87.8	F	96.8	F

Intersection	Traffic Control	AM Peak		PM Peak	
		Delay (sec/veh)	Estimated LOS	Delay (sec/veh)	Estimated LOS
Fruitville Rd & Coburn Rd E	Signalized	53.7	D	141.3	F
Bee Ridge Rd & Mauna Loa Blvd	Signalized	84.8	F	36.9	D
Jacaranda Blvd & Executive Dr	Signalized	85.8	F	95.6	F
River Rd & Venice Ave	Signalized	64.4	E	64.1	E

Out of the 72 intersections that were analyzed in the 13 interchange subareas, 37 and 35 operate at LOS D or better in the AM and PM peak period, respectively. Out of these 72 intersections, 35 and 37 operate at LOS E or worse in the AM and PM peak period, respectively. In the AM peak period, 41 intersections experience less than 1 minute of delay and 9 intersections experience over 5 minutes of delay. In the PM peak period, 40 intersections experience less than 1 minute of delay and 11 intersections experience over 5 minutes of delay.

6.3 Arterial Analysis

A summary of the design year (2045) No Build AM and PM peak-hour average speeds on the interchange arterials is provided in **Table 6.29** and **Table 6.30**. The average speed was calculated based on the same travel time segments used for the existing condition analysis. Average speeds ranged from 8 to 32 mph in the AM peak hour and from 9 to 36 mph in the PM peak hour, indicating high levels of congestion at multiple locations.

Table 6.29 No Build Interchange Arterial Vissim Analysis Summary – AM Peak Hour

Interchange	Dir	Segment	Travel Time (min)	Length (miles)	Posted Speed (mph)	Average Speed (mph)
Moccasin Wallow Road	EB	West of Gillette Dr to East of NB Ramp	2.78	0.61	45	13
	WB	East of NB Ramp to West of Gillette Dr	4.19	0.72	45	10
US 41	NB	South of 73rd St to North of 85th St	2.12	1.05	60	30
	SB	North of 85th St to South of 73rd St	2.94	1.00	60	20
US 301	EB	West of Kay Rd to East of Grand Harbour Pkwy	3.42	1.24	45	22
	WB	East of Grand Harbour Pkwy to West of Kay Rd	3.90	1.10	45	17
SR 64	EB	West of 62nd St to East of Grand Harbour Pkwy	3.03	1.32	50	26
	WB	East of Grand Harbour Pkwy to West of 62nd St	4.77	1.33	50	17
SR 70	EB	West of Creekwood Blvd to East of Oak Run Dr	5.26	2.15	50	25
	WB	East of Oak Run Dr to West of Creekwood Blvd	3.68	1.95	50	32
CR 610 (University Parkway)	EB	West of Copper Creek Blvd to Town Center Pkwy	7.56	1.37	45/50	11
	WB	East of Town Center Pkwy to West of Copper Creek Blvd	10.84	1.38	45/50	8
SR 780 (Fruitville Road)	EB	West of Cattlemen Rd to East of Coburn Rd	4.54	1.25	45	16
	WB	East of Coburn Rd to West of Cattlemen Rd	5.57	1.26	45	14

Interchange	Dir	Segment	Travel Time (min)	Length (miles)	Posted Speed (mph)	Average Speed (mph)
SR 758 (Bee Ridge Road)	EB	West of Maxfield Dr to East of Manual Loa Blvd	2.93	1.17	45	24
	WB	East of Manual Loa Blvd to West of Maxfield Dr	4.12	1.22	45	18
SR 72 (Clark Road)	EB	West of Gantt Rd to East of Hummingbird Ave	3.13	1.07	45	21
	WB	East of Hummingbird Ave to West of Gantt Rd	2.92	1.11	45	23
Laurel Road	EB	West of Twin Laurel Blvd to East of NB Ramp	3.23	1.07	45	20
	WB	East of Haul Rd to West of SB Ramp	4.49	1.26	45	17
Jacaranda Boulevard	NB	South of Oak Heritage Dr to North of Snyder Dr	5.33	1.27	45	14
	SB	North of Snyder Dr to South of Oak Heritage Dr	2.45	1.27	45	31
N River Road	NB	North of Stoneycreek Blvd to North of SB Ramp	2.72	1.41	55	31
	SB	North of SB Ramp to North of Stoneycreek Blvd	2.78	1.47	55	32

Table 6.30 No Build Interchange Arterial Vissim Analysis Summary – PM Peak Hour

Interchange	Dir	Segment	Travel Time (min)	Length (miles)	Posted Speed (mph)	Average Speed (mph)
Moccasin Wallow Road	EB	West of Gillette Dr to East of NB Ramp	1.81	0.61	45	20
	WB	East of NB Ramp to West of Gillette Dr	4.59	0.72	45	9
US 41	NB	South of 73rd St to North of 85th St	2.52	1.05	60	25
	SB	North of 85th St to South of 73rd St	1.68	1.00	60	36
US 301	EB	West of Kay Rd to East of Grand Harbour Pkwy	3.34	1.24	45	22
	WB	East of Grand Harbour Pkwy to West of Kay Rd	4.33	1.10	45	15
SR 64	EB	West of 62nd St to East of Grand Harbour Pkwy	5.47	1.32	50	15
	WB	East of Grand Harbour Pkwy to West of 62nd St	5.05	1.33	50	16
SR 70	EB	West of Creekwood Blvd to East of Oak Run Dr	4.67	2.15	50	28
	WB	East of Oak Run Dr to West of Creekwood Blvd	3.82	1.95	50	31
CR 610 (University Parkway)	EB	West of Copper Creek Blvd to Town Center Pkwy	4.90	1.37	45/50	17
	WB	East of Town Center Pkwy to West of Copper Creek Blvd	9.57	1.38	45/50	9
SR 780 (Fruitville Road)	EB	West of Cattlemen Rd to East of Coburn Rd	4.97	1.25	45	15
	WB	East of Coburn Rd to West of Cattlemen Rd	4.81	1.26	45	16
SR 758 (Bee Ridge Road)	EB	West of Maxfield Dr to East of Manual Loa Blvd	3.26	1.17	45	22
	WB	East of Manual Loa Blvd to West of Maxfield Dr	3.81	1.22	45	19
SR 72 (Clark Road)	EB	West of Gantt Rd to East of Hummingbird Ave	2.88	1.07	45	22
	WB	East of Hummingbird Ave to West of Gantt Rd	3.23	1.11	45	21
Laurel Road	EB	West of Twin Laurel Blvd to East of NB Ramp	2.95	1.07	45	22
	WB	East of Haul Rd to West of SB Ramp	3.01	1.26	45	25

Interchange	Dir	Segment	Travel Time (min)	Length (miles)	Posted Speed (mph)	Average Speed (mph)
Jacaranda Boulevard	NB	South of Oak Heritage Dr to North of Snyder Dr	6.07	1.27	45	13
	SB	North of Snyder Dr to South of Oak Heritage Dr	2.87	1.27	45	27
N River Road	NB	North of Stoneycreek Blvd to North of SB Ramp	2.71	1.41	55	31
	SB	North of SB Ramp to North of Stoneycreek Blvd	2.82	1.47	55	31

6.4 Ramp Queue Analysis

A summary of the design year (2045) No Build AM and PM peak-hour queue lengths for the I-75 interchange off-ramps is provided in **Table 6.31**. The storage lengths for the off-ramps were measured from the stop bar to the end of the turn lanes, including taper, and were compared to the maximum queue lengths recorded in Vissim. The ramp length from the stop bar to the freeway gore point has also been provided for reference. As shown below, there are 13 off-ramps that are expected to exceed the available turn lane storage during the AM or PM peak hours. Twelve of these ramps have maximum queue lengths that are expected to exceed the length of the ramp in the AM or PM peak hour, including all off ramps at the I-75 interchanges with Moccasin Wallow Road, SR 64, University Parkway, and N River Road.

Table 6.31 No Build Peak-Hour Vissim Analysis Ramp Queue Summary

Interchange	Ramp	Storage (ft)	Ramp Length (ft)	AM Peak Max Queue (ft)	PM Peak Max Queue (ft)	Exceeds Storage?	Exceeds Ramp?
Moccasin Wallow Road	I-75 NB Off-Ramp	375	2280	2380*	2367*	Yes	Yes
	I-75 SB Off-Ramp	275	2130	2184*	2184*	Yes	Yes
US 41	I-275 NB Off-Ramp	755	1630	275	342	No	No
	I-275 SB Off-Ramp	360	1500	1542*	1542*	Yes	Yes
US 301	I-75 NB Off-Ramp	1005	4420	613	798	No	No
	I-75 SB Off-Ramp	1235	2105	263	461	No	No
SR 64	I-75 NB Off-Ramp	690	1825	422	1853*	Yes	Yes
	I-75 SB Off-Ramp	760	2050	2116*	2119*	Yes	Yes
SR 70	I-75 NB Off-Ramp	955	2065	391	333	No	No
	I-75 SB Off-Ramp	375	1795	1825*	1586	Yes	Yes
University Parkway	I-75 NB Off-Ramp	770	1775	2903*	1332	Yes	Yes
	I-75 SB Off-Ramp	845	2000	2841*	461	Yes	Yes
SR 780 (Fruitville Road)	I-75 NB Off-Ramp	1300	2225	2267*	246	Yes	Yes
	I-75 SB Off-Ramp	1200	2165	1240	353	Yes	No
SR 758 (Bee Ridge Road)	I-75 NB Off-Ramp	955	2285	762	350	No	No
	I-75 SB Off-Ramp	650	2820	525	226	No	No
SR 72 (Clark Road)	I-75 NB Off-Ramp	1100	2460	234	160	No	No
	I-75 SB Off-Ramp	1205	2545	590	309	No	No
Laurel Road	I-75 NB Off-Ramp	940	1360	340	235	No	No
	I-75 SB Off-Ramp	720	1930	330	313	No	No

Interchange	Ramp	Storage (ft)	Ramp Length (ft)	AM Peak Max Queue (ft)	PM Peak Max Queue (ft)	Exceeds Storage?	Exceeds Ramp?
Jacaranda Boulevard	I-75 NB Off-Ramp	900	2580	2683*	697	Yes	Yes
	I-75 SB Off-Ramp	1070	2340	339	577	No	No
N River Road	I-75 NB Off-Ramp	1035	1630	1778*	534	Yes	Yes
	I-75 SB Off-Ramp	1220	1725	853	1795*	Yes	Yes

*Ramp queues extend to the limits of the Vissim network and could be longer than reported.

6.5 Ramp Capacity Analysis

A ramp capacity analysis was performed using HCM Exhibit 14-12 to determine if additional on- or off-ramp lanes are needed to accommodate future volumes. Based on a default ramp free flow speed of 30-40 mph, HCM Exhibit 14-12 specifies a capacity of 2,000 and 4,000 passenger cars per hour (pc/hr) for one-lane and two-lane ramps, respectively. A summary of the design year (2045) No Build AM and PM peak-hour ramp capacity analysis is provided in **Table 6.32** for the I-75 interchange on-ramps and in **Table 6.33** for the I-75 interchange off-ramps. The number of lanes provided for the No Build Alternative are based on the existing configuration as well as the identified E+C improvements. For reference, the number of ramp lanes included in the Build Alternative model have also been provided.

As shown below in **Table 6.32**, the existing I-75 northbound on-ramp at SR 64 exceeds the HCM capacity threshold for a single lane ramp. A two-lane northbound on ramp is proposed in the Build condition at this location, along with a two-lane southbound on ramp, to accommodate future interchange improvements. At the SR 70 interchange, the Build condition reflects the elimination of the existing loop ramp and retrofit to a DDI. A two-lane southbound on ramp is therefore provided to accommodate the combined ramp volumes, which are approaching the HCM capacity threshold in the No-Build condition.

Table 6.33 indicates that all I-75 off-ramps meet HCM capacity thresholds for the No Build condition. Note that the proposed Build condition includes the addition of two-lane off-ramps at multiple locations that have single-lane off ramps in the No Build condition. These two-lane off-ramps have been included in the Build condition to improve weaving operations or at the request of FDOT staff. Based on discussions with FDOT staff, two-lane off ramps are included at locations where volumes are approaching or exceeding 800 vehicles per hour (vph) to minimize impacts of trucks blocking existing single lane off-ramps. Interchange ramps will be further evaluated and refined in the Project Development and Environment (PD&E) study phase for the I-75 north corridor project limits.

Table 6.32 No Build Peak-Hour On-Ramp Capacity Analysis Summary

Interchange	Ramp	Peak Flow Rate (pc/hr)		No. of Lanes		HCM Capacity	Exceeds No Build Capacity?
		AM Peak	PM Peak	No Build	Build		
Moccasin Wallow Road	I-75 NB On-Ramp	1271	1029	1	1	2000	No
	I-75 SB On-Ramp	1678	943	1	1	2000	No
US 301	I-75 NB On-Ramp	697	653	1	1	2000	No
	I-75 SB On-Ramp	2314	1531	2	2	4000	No
SR 64	I-75 NB On-Ramp	1665	2390	1	2	2000	Yes

Interchange	Ramp	Peak Flow Rate (pc/hr)		No. of Lanes		HCM Capacity	Exceeds No Build Capacity?
		AM Peak	PM Peak	No Build	Build		
	I-75 SB On-Ramp	1090	891	1	2	2000	No
SR 70	I-75 NB On-Ramp	1243	1724	2	2	4000	No
	I-75 SB On-Ramp (Loop)	664	698	1	N/A	2000	No
	I-75 SB On-Ramp	1236	945	1	2	2000	No
CR 610 (University Parkway)	I-75 NB On-Ramp	1479	2275	2	2	4000	No
	I-75 SB On-Ramp	2727	2778	2	2	4000	No
SR 780 (Fruitville Road)	I-75 NB On-Ramp	1994	2941	2	2	4000	No
	I-75 SB On-Ramp	1660	2562	3	2	4000	No
SR 758 (Bee Ridge Road)	I-75 NB On-Ramp	1696	1522	2	2	4000	No
	I-75 SB On-Ramp	995	1488	2	1	4000	No
SR 72 (Clark Road)	I-75 NB On-Ramp	1758	2184	2	2	4000	No
	I-75 SB On-Ramp	879	1147	2	1	4000	No
SR 681	I-75 NB On-Ramp	922	1204	1	1	2000	No
Laurel Road	I-75 NB On-Ramp	855	563	1	1	2000	No
	I-75 SB On-Ramp	901	1326	1	1	2000	No
Jacaranda Boulevard	I-75 NB On-Ramp (Loop)	1382	877	1	N/A	2000	No
	I-75 NB On-Ramp	134	120	1	1	2000	No
	I-75 SB On-Ramp	693	1064	1	1	2000	No
N River Road	I-75 NB On-Ramp	1163	709	1	1	2000	No
	I-75 SB On-Ramp	459	626	1	1	2000	No

Table 6.33 No Build Peak-Hour Off-Ramp Capacity Analysis Summary

Interchange	Ramp	Peak Flow Rate (pc/hr)		No. of Lanes		HCM Capacity	Exceeds No Build Capacity?
		AM Peak	PM Peak	No Build	Build		
Moccasin Wallow Road	I-75 NB Off-Ramp	914	1417	1	2	2000	No
	I-75 SB Off-Ramp	750	764	1	1	2000	No
US 301	I-75 NB Off-Ramp	1539	2362	2	2	4000	No
	I-75 SB Off-Ramp	938	968	1	2	2000	No
SR 64	I-75 NB Off-Ramp	1552	2313	2	2	4000	No
	I-75 SB Off-Ramp	2496	1643	2	2	4000	No
SR 70	I-75 NB Off-Ramp	1328	1307	2	2	4000	No
	I-75 SB Off-Ramp	1740	1287	1	2	2000	No
	I-75 NB Off-Ramp	3002	2595	2	2	4000	No

Interchange	Ramp	Peak Flow Rate (pc/hr)		No. of Lanes		HCM Capacity	Exceeds No Build Capacity?
		AM Peak	PM Peak	No Build	Build		
CR 610 (University Parkway)	I-75 SB Off-Ramp	2320	1551	2	2	4000	No
SR 780 (Fruitville Road)	I-75 NB Off-Ramp	2676	1687	2	2	4000	No
	I-75 SB Off-Ramp	3086	2049	2	2	4000	No
SR 758 (Bee Ridge Road)	I-75 NB Off-Ramp	1320	945	2	2	4000	No
	I-75 SB Off-Ramp	1917	1818	2	2	4000	No
SR 72 (Clark Road)	I-75 NB Off-Ramp	1291	811	2	2	4000	No
	I-75 SB Off-Ramp	2299	1742	2	2	4000	No
SR 681	I-75 SB Off-Ramp	1185	920	2	2	4000	No
Laurel Road	I-75 NB Off-Ramp	1332	734	2	2	4000	No
	I-75 SB Off-Ramp	578	747	1	2	2000	No
Jacaranda Boulevard	I-75 NB Off-Ramp	1058	673	1	2	2000	No
	I-75 SB Off-Ramp	1027	1400	1	2	2000	No
N River Road	I-75 NB Off-Ramp	747	460	1	1	2000	No
	I-75 SB Off-Ramp	791	1164	1	2	2000	No

6.6 I-75 Mainline Analysis

The operational analysis of the design year (2045) No Build conditions on the I-75 mainline was performed using the I-75 subarea Vissim model. While a peak-period analysis was performed using one shoulder hour each before and after the peak hour, the travel time and LOS results discussed in the following subsections are for the peak hour only. The analysis results discussed below are based on the average of ten simulation runs. In Vissim, the mainline LOS is computed from a microsimulation analysis and is, therefore, reported as an "estimated LOS." Vissim quantifies speed and density differently than the deterministic, equation-based HCM methods, as it calculates information for individual vehicle movements and interactions. The estimated LOS for the No Build conditions is based on HCM criteria and thresholds for basic freeway, merge, diverge, and weaving segments.

6.6.1 I-75 Mainline Travel Times

A summary of the AM and PM peak-hour travel times on northbound and southbound I-75 is provided in **Table 6.34** and **Table 6.35**. The AM peak-hour average speed along I-75 from south of N River Road to north of Moccasin Wallow Road is expected to be 61 mph in the northbound direction and 62 mph in the southbound direction. This equates to an average travel time of about 40 minutes to go from one end of the study limits along I-75 to the other in either direction. During the PM peak hour, the average speed on this segment of I-75 is expected to be 49 mph in the northbound direction and 60 mph in the southbound direction. This equates to an average travel time of about 40 minutes in the southbound direction and about 50 minutes in the northbound direction to go from one end of the study limits along I-75 to the other.

Table 6.34 I-75 Mainline Travel Time – No Build AM Peak Hour

Segment	Travel Time (min)	Length (miles)	Average Speed (mph)
I-75 Northbound - South of N River Rd to North of Moccasin Wallow Rd	40.2	40.6	61
I-75 Northbound - South of N River Rd to SR 681	15.6	9.7	37
I-75 Northbound - SR 681 to Bee Ridge Rd	6.9	7.5	66
I-75 Northbound - Bee Ridge Rd to SR 70	8.6	9.9	69
I-75 Northbound - SR 70 to US 301	6.2	7.3	71
I-75 Northbound - US 301 to North of Moccasin Wallow Rd	5.2	6.2	72
I-75 Southbound - North of Moccasin Wallow Rd to South of N River Rd	39.1	40.6	62
I-75 Southbound - North of Moccasin Wallow Rd to US 301	7.1	6.2	52
I-75 Southbound - US 301 to SR 70	9.9	7.3	44
I-75 Southbound - SR 70 to Bee Ridge Rd	10.2	9.9	58
I-75 Southbound - Bee Ridge Rd to SR 681	6.7	7.6	68
I-75 Southbound - SR 681 to South of N River Rd	8.3	9.7	70

Table 6.35 I-75 Mainline Travel Time – No Build PM Peak Hour

Segment	Travel Time (min)	Length (miles)	Average Speed (mph)
I-75 Northbound - South of N River Rd to North of Moccasin Wallow Rd	49.4	40.6	49
I-75 Northbound - South of N River Rd to SR 681	8.1	9.7	72
I-75 Northbound - SR 681 to Bee Ridge Rd	9.5	7.5	47
I-75 Northbound - Bee Ridge Rd to SR 70	22.5	9.9	26
I-75 Northbound - SR 70 to US 301	7.5	7.3	58
I-75 Northbound - US 301 to North of Moccasin Wallow Rd	6.3	6.2	59
I-75 Southbound - North of Moccasin Wallow Rd to South of N River Rd	40.8	40.6	60
I-75 Southbound - North of Moccasin Wallow Rd to US 301	5.1	6.2	72
I-75 Southbound - US 301 to SR 70	6.1	7.3	72
I-75 Southbound - SR 70 to Bee Ridge Rd	8.9	9.9	66
I-75 Southbound - Bee Ridge Rd to SR 681	8.6	7.6	53
I-75 Southbound - SR 681 to South of N River Rd	12.1	9.7	48

6.6.2 I-75 Mainline Speeds

A summary of the average speeds along northbound and southbound I-75 for the design year (2045) No Build conditions is provided on **Figure 6.1** and **Figure 6.2** for the AM peak period and **Figure 6.3** and **Figure 6.4** for the PM peak period. The posted speed for the I-75 corridor within the study area is 70 mph. The average speeds along I-75 from south of N River Road to north of Moccasin Wallow Road show various pockets where speeds are between 55 and 65 mph, as well as some locations with more substantial speed reductions in both peak periods. This happens particularly at or near interchanges where the capacity limitations of the I-75 mainline cause queue spillback that propagates back to upstream interchanges. The resulting bottlenecks affect upstream interchanges, preventing traffic from continuing through to downstream destinations. This is evident in the figures where the sudden change in speed can be seen at horizontal breakpoints.

- I-75 northbound experiences minor decreases in speed (speeds between 55 and 65 mph) between the SR 681 and Clark Road interchanges in the AM peak period. Similar congestion occurs around the Moccasin Wallow Road interchange in the PM peak period.
- I-75 northbound experiences moderate congestion (speeds between 35 and 45 mph) in the US 301 interchange area in the PM peak period.
- I-75 northbound experiences substantial congestion (speeds between 15 and 35 mph) from the south end of the study area (south of N River Road) to the Jacaranda Boulevard interchange during the AM peak period caused by capacity constraints on I-75 north of the interchange. The resulting queueing acts as a bottleneck for traffic originating from the south end of the I-75 study area, thereby allowing downstream segments of I-75 to operate at higher speeds.
- I-75 northbound experiences substantial congestion (speeds between 15 and 35 mph) from south of the Clark Road interchange to the SR 70 interchange during the PM peak period with speeds generally greater than 25 mph north of University Parkway. The congestion propagates back from the SR 70 interchange area due to capacity constraints on the I-75 mainline and speeds drop to the 0-to-15 mph range between Clark Road and Bee Ridge Road for the second half of the peak period. The resulting queueing acts as a bottleneck, thereby allowing downstream segments of I-75 to operate at higher speeds north of SR 70.
- I-75 southbound experiences minor decreases in speed (speeds between 55 and 65 mph) between the SR 681 and Clark Road interchanges in the AM peak period. Similar congestion occurs around the SR 70, SR 681, and Jacaranda Boulevard interchanges in the PM peak period with speeds typically ranging between 45 and 65 mph. The I-75 mainline is operating at or near capacity at these locations, resulting in reduced operating speeds throughout the corridor.
- I-75 southbound experiences substantial congestion (speeds between 15 and 35 mph) at the SR 70 interchange during the AM peak period that propagates back through the SR 64 interchange. The congestion builds steadily starting at about 7:00 AM and does not dissipate before the simulation period ends. This spillback stems from capacity constraints on the I-75 mainline, which creates a bottleneck and allows downstream segments of I-75 to operate at higher speeds. There is similar congestion at the University Parkway and Moccasin Wallow Road interchange areas, as well as the segment between US 301 and I-275.

- I-75 southbound experiences moderate congestion (speeds between 35 and 55 mph) in the Clark Road and Bee Ridge Road interchange areas during the PM peak period. Speeds at these locations temporarily decrease to the ranges between 25 and 45 mph between 4:30 PM and 6:00 PM. Congestion at these locations recovers almost completely before the end of the simulation period.
- I-75 southbound experiences substantial congestion (speeds between 15 and 35 mph) at the Laurel Road interchange during the PM peak period that builds steadily as the simulation progresses until it eventually reaches back to the SR 681 interchange at about 5:45 PM. The congestion propagates back from the Laurel Road interchange area due to capacity constraints on the I-75 mainline. The congestion does not dissipate before the simulation period ends.

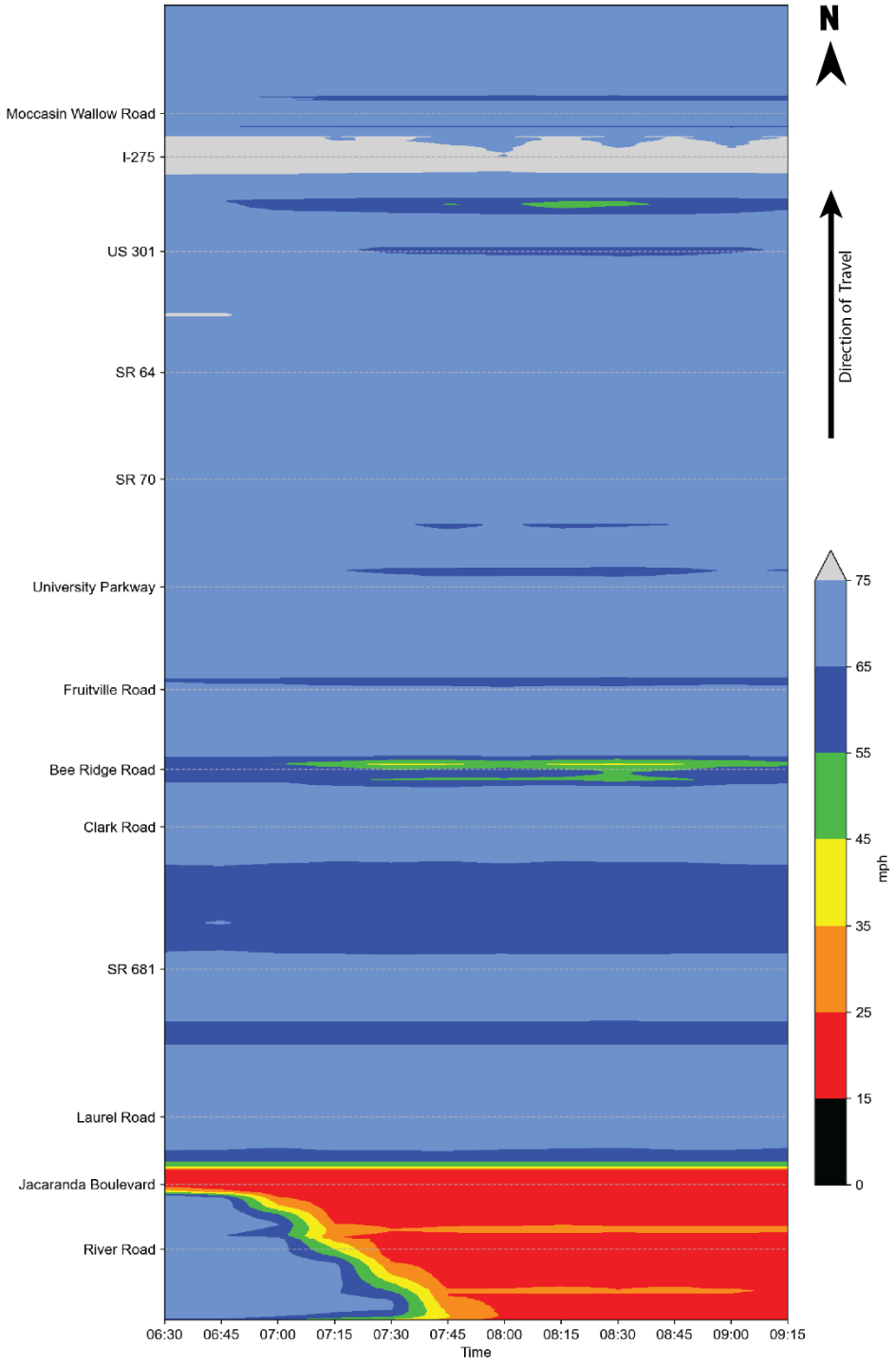


Figure 6.1 I-75 Northbound Speeds – No Build AM Peak Period

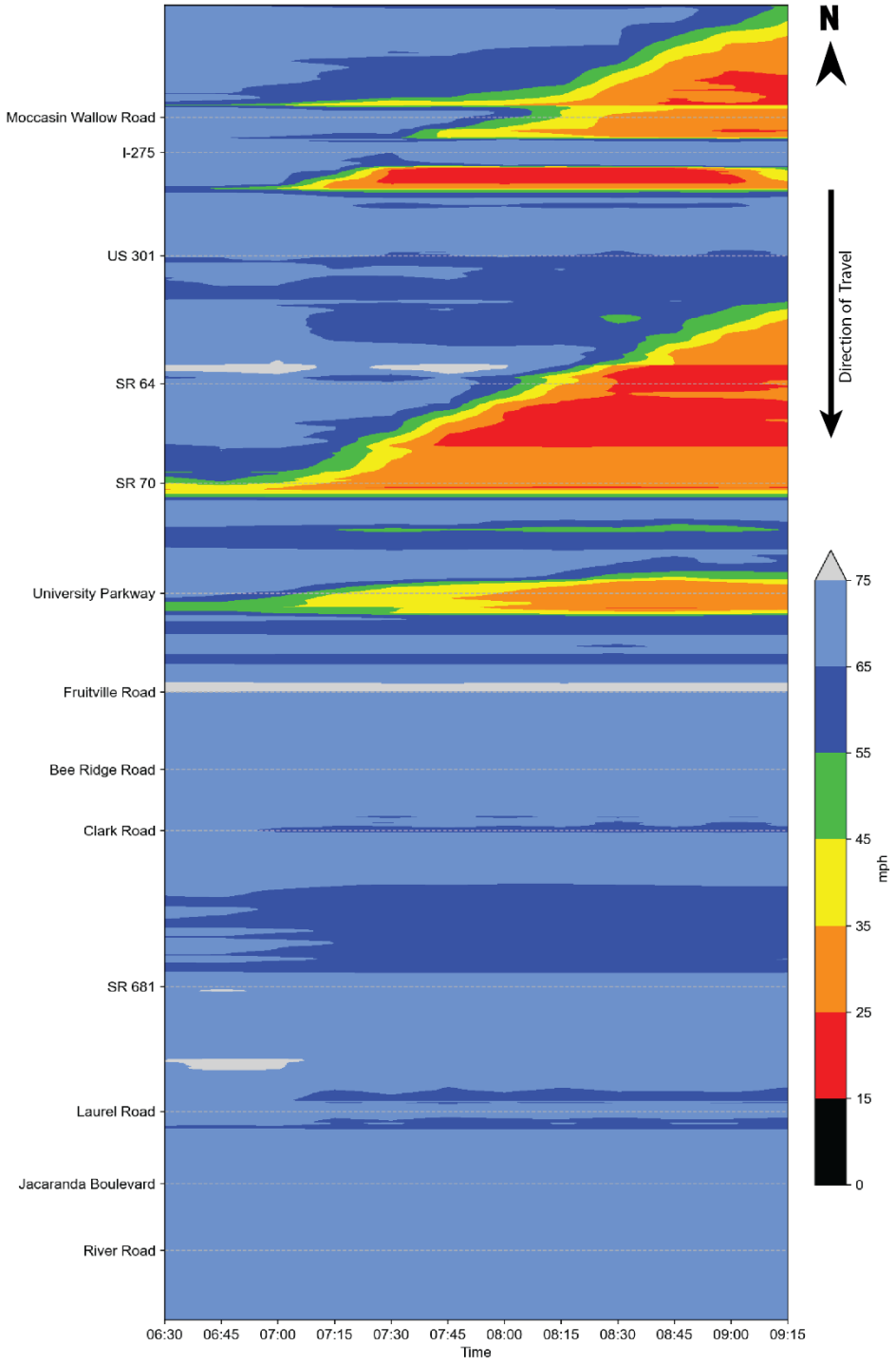


Figure 6.2 I-75 Southbound Speeds – No Build AM Peak Period

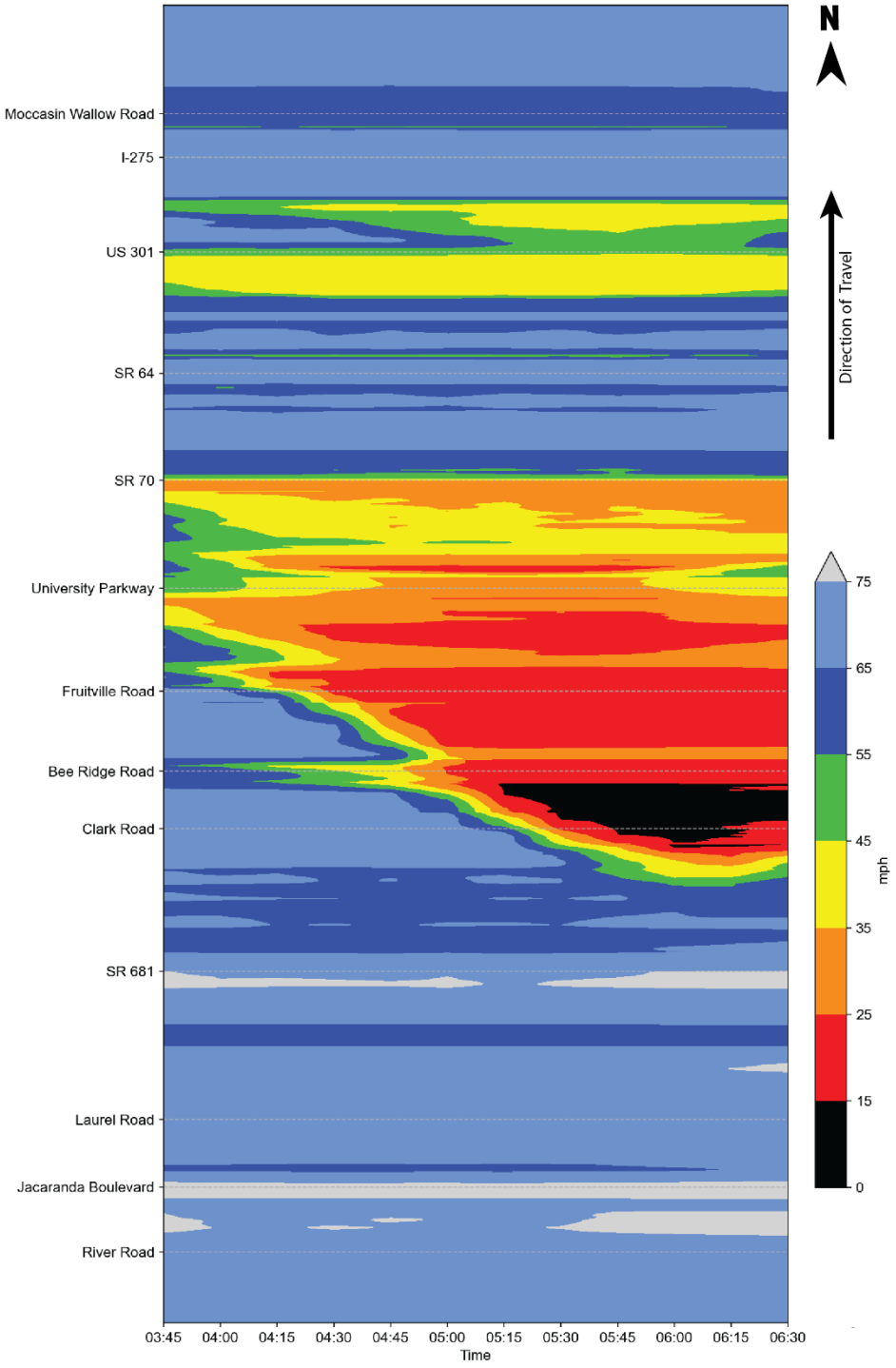


Figure 6.3 I-75 Northbound Speeds – No Build PM Peak Period

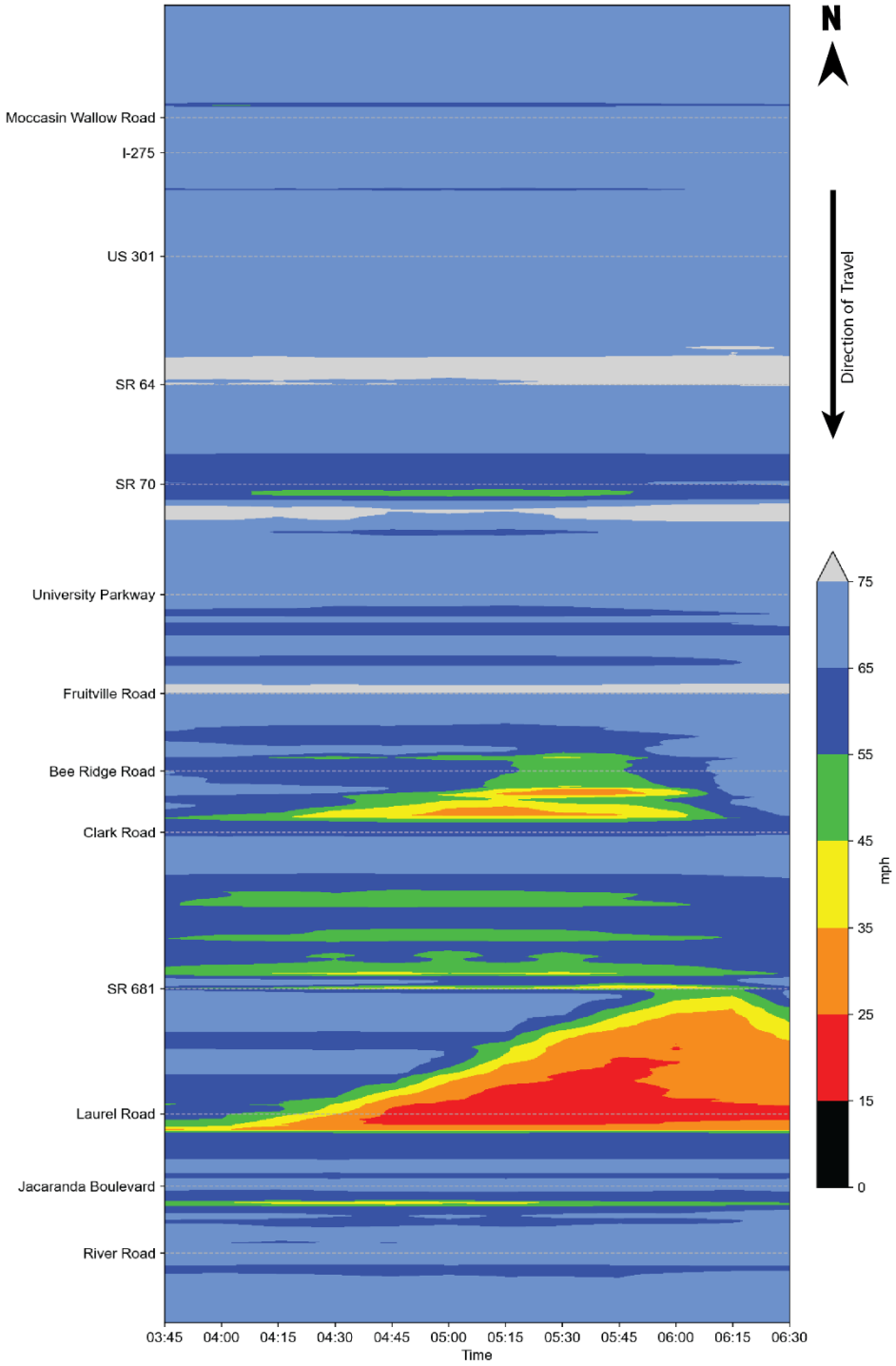


Figure 6.4 I-75 Southbound Speeds – No Build PM Peak Period

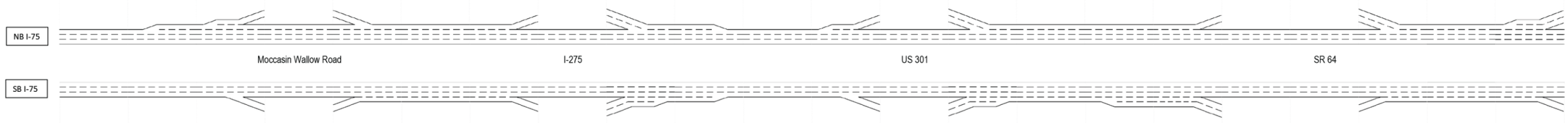
6.6.3 I-75 Mainline Operations

A summary of I-75 mainline operations (density, speed, LOS, and volume served) is provided on **Figure 6.5** through **Figure 6.7** for the No Build AM peak hour and **Figure 6.8** through **Figure 6.10** for the No Build PM peak hour. The Vissim analysis results for each link segment are based on the weighted average per lane and an approximate 1,500-foot influence area for merge and diverge segments as defined in the HCM. As shown below, I-75 southbound is expected to operate at speeds between 21 and 75 mph in the AM peak hour and between 22 and 78 mph in the PM peak hour. I-75 northbound is expected to operate at speeds between 18 and 75 mph in the AM peak hour and between 17 and 77 mph in the PM peak hour. The lower bounds of both the AM and PM peak hour speed ranges is expected to decrease by 35 mph or more compared to existing year (2019) operations. Traffic demand being served is as low as 74 and 81 percent in the AM and PM peak hours, respectively. Comparatively, more than 93 percent of the traffic demand was served in both peak hours of the existing year (2019).

The I-75 corridor is expected to operate at an estimated LOS C or better in the southbound direction from Fruitville Road to the south end of the study area in the AM peak hour due to heavy congestion and bottlenecks between the SR 64 and University Parkway interchanges areas preventing the full traffic demand from reaching the southern end of the study area. In the northbound direction, heavy congestion and bottlenecks in the vicinity of the N River Road and Jacaranda Boulevard interchanges prevents mainline traffic from entering the model and moving through the system. Thus, all segments north of Jacaranda Boulevard show estimated LOS D or better in the AM peak hour. These estimated LOS results are consistent with the average speed results discussed in Section 6.6.2.

The I-75 southbound corridor is expected to experience congestion at the Bee Ridge Road and Clark Road interchange areas as well as the Laurel Road and SR 681 interchange areas in the PM peak hour, which are generally expected to operate at an estimated LOS E and F. All other segments operate at an estimated LOS D or better. In the northbound direction, the I-75 corridor is expected to generally operate at an estimated LOS D or better, except for the segment between the Bee Ridge Road and SR 70 interchanges. Heavy congestion and capacity constraints along this segment result in LOS F operations and bottlenecks that prevent traffic demand from reaching the northern end of the study area. There is also some congestion between the US 301 and I-275 interchanges that results in estimated LOS E and F operations. These estimated LOS results are consistent with the average speed results discussed in Section 6.6.2.

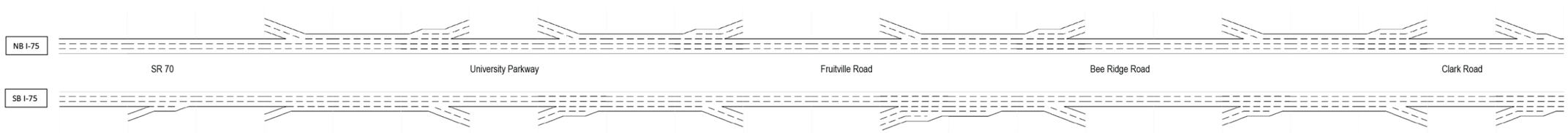
SectionID	7940	7930	80	7910	7900	7900	7900	7890	5000	7880	7870	1110	7850	7840	7840	7840	7830	7820	7810	7805	7800	7790
Freeway Segment	Basic	Basic	Merge	Basic	Weave	Weave	Weave	Basic	Diverge	Basic	Basic	Merge	Basic	Weave	Weave	Weave	Weave	Basic	Basic	Weave	Weave	Weave
Segment Length (ft)	14,824	785	1,534	4,395	1,926	1,926	1,926	7,220	1,495	2,400	7,812	1,523	7,956	10,474	10,474	10,474	752	3,043	1,823	1,775	12,399	633
Flow Rate (veh/hr)	3,864	3,873	3,872	2,785	3,580	3,580	3,580	2,731	4,760	4,766	4,781	4,785	4,162	5,538	5,538	5,538	5,541	3,993	4,001	5,420	5,428	5,423
Demand Volume (veh)	4,061	4,061	4,061	2,972	3,783	3,783	3,783	2,913	5,075	5,075	5,075	5,075	4,445	5,833	5,833	5,833	5,833	4,286	4,286	5,785	5,785	5,785
Percent Served	95%	95%	95%	94%	95%	95%	95%	94%	94%	94%	94%	94%	94%	95%	95%	95%	95%	93%	93%	94%	94%	94%
Speed (mph)	72	67	65	66	70	70	70	75	70	69	65	65	68	69	69	69	68	72	71	69	69	69
Density (veh/mi/ln)	18	14	14	10	13	13	13	12	17	17	25	23	20	20	20	20	20	19	19	20	20	16
Level of Service	B	B	B	A	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	B	B	B



SectionID	8000	8000	70	8010	8020	8020	8020	8030	6040	8050	8060	1120	8070	8080	8090	8095	8095	8100	8140	8145	8146	8146
Freeway Segment	Basic	Basic	Diverge	Basic	Weave	Weave	Weave	Basic	Merge	Basic	Basic	Diverge	Basic	Weave	Weave	Weave	Weave	Basic	Basic	Weave	Weave	Weave
Segment Length (ft)	16,700	16,700	1,440	4,014	1,903	1,903	1,903	4,976	1,503	2,495	10,600	1,450	7,775	1,034	8,701	1,661	1,661	4,128	2,769	1,187	11,240	11,240
Flow Rate (veh/hr)	5,112	5,112	5,060	4,350	5,174	5,174	5,174	3,857	6,291	6,251	6,252	6,250	5,479	7,638	7,633	7,626	7,626	5,401	5,318	7,011	6,803	6,803
Demand Volume (veh)	5,124	5,124	5,124	4,476	6,006	6,006	6,006	4,233	6,946	6,946	6,946	6,946	6,100	8,271	8,271	8,271	8,271	5,929	5,929	7,890	7,890	7,890
Percent Served	100%	100%	99%	97%	86%	86%	86%	91%	91%	90%	90%	90%	90%	92%	92%	92%	92%	91%	90%	89%	86%	86%
Speed (mph)	63	63	41	57	47	47	47	65	21	25	66	66	64	63	61	72	72	67	52	45	32	32
Density (veh/mi/ln)	27	27	42	25	28	28	28	20	66	65	32	31	29	24	31	21	21	27	34	39	55	55
Level of Service	D	D	E	C	C	C	C	C	F	F	D	D	D	C	D	C	C	D	D	E	F	F

Figure 6.5 I-75 Mainline No Build Vissim Analysis – AM Peak Hour (From Moccasin Wallow Road to SR 70)

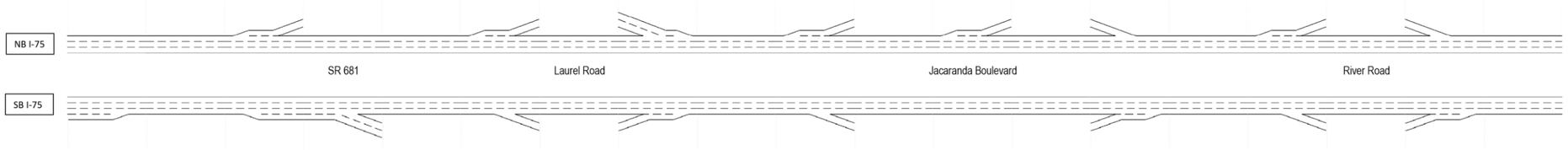
SectionID	7780	7770	7760	7755	7750	7740	7735	7730	7725	7710	7700	7680	7670	7670	7660	7650	7630	7625	7620	7610	7600	500
Freeway Segment	Basic	Basic	Basic	Weave	Weave	Weave	Basic	Weave	Weave	Weave	Basic	Basic	Weave	Weave	Weave	Basic	Basic	Weave	Weave	Weave	Basic	Diverge
Segment Length (ft)	1,817	610	1,459	12,882	422	1,960	3,971	4,498	8,255	1,543	1,280	2,917	7,547	7,547	2,512	1,109	3,027	3,018	4,563	678	5,360	1,448
Flow Rate (veh/hr)	4,276	4,279	4,281	5,518	5,520	5,520	4,122	6,779	6,784	6,778	4,877	4,876	7,037	7,037	6,964	5,404	5,412	6,446	6,443	6,441	4,779	5,678
Demand Volume (veh)	4,619	4,619	4,619	5,901	5,901	5,901	4,500	7,343	7,343	7,343	5,436	5,436	7,971	7,971	7,971	6,333	6,333	7,608	7,608	7,608	5,943	7,092
Percent Served	93%	93%	93%	94%	94%	94%	92%	92%	92%	92%	90%	90%	88%	88%	87%	85%	85%	85%	85%	85%	80%	80%
Speed (mph)	70	71	72	68	68	64	68	69	68	69	59	68	68	68	68	53	56	65	69	69	70	72
Density (veh/mi/ln)	20	20	20	20	20	17	20	25	25	20	27	24	26	26	21	34	32	25	23	19	23	20
Level of Service	C	C	C	C	C	B	C	C	C	B	D	C	C	C	C	D	D	C	C	B	C	B



SectionID	8150	940	8170	8190	8195	8195	8200	8210	8220	8220	8230	8250	8260	8270	8275	8280	8280	8290	8300	8308	8310	540
Freeway Segment	Basic	Merge	Basic	Weave	Weave	Weave	Basic	Weave	Weave	Weave	Basic	Basic	Weave	Weave	Weave	Basic	Basic	Weave	Weave	Weave	Basic	Merge
Segment Length (ft)	1,357	1,500	887	12,918	2,360	2,360	5,104	1,151	11,977	11,977	3,181	1,096	330	3,471	5,342	5,248	5,248	1,467	1,144	2,753	5,626	1,567
Flow Rate (veh/hr)	5,297	5,925	5,920	7,104	7,084	7,084	5,100	7,604	7,584	7,584	5,004	5,002	6,555	6,569	6,570	4,861	4,861	5,814	5,811	5,809	3,752	4,577
Demand Volume (veh)	6,273	6,908	6,908	8,102	8,102	8,102	5,883	8,466	8,466	8,466	5,554	5,554	7,126	7,126	7,126	5,275	5,275	6,236	6,236	6,236	4,059	4,884
Percent Served	84%	86%	86%	88%	87%	87%	87%	90%	90%	90%	90%	90%	92%	92%	92%	92%	92%	93%	93%	93%	92%	94%
Speed (mph)	26	26	36	64	67	67	39	39	65	65	75	70	68	69	69	68	68	70	68	68	68	73
Density (veh/mi/ln)	68	57	55	28	27	27	44	39	29	29	22	24	16	19	24	24	24	17	21	21	18	15
Level of Service	F	F	F	C	C	C	E	E	D	D	C	C	B	B	C	C	C	B	C	C	C	B

Figure 6.6 I-75 Mainline No Build Vissim Analysis – AM Peak Hour (From SR 70 to Clark Road)

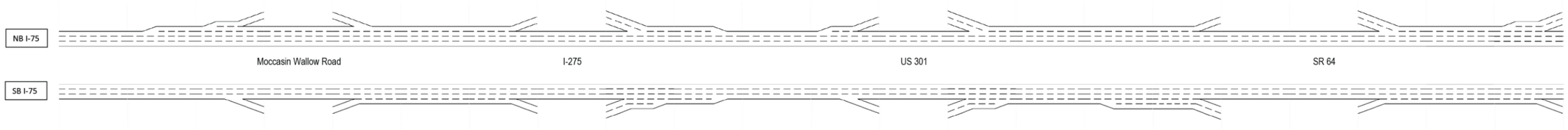
SectionID	7590	7580	420	7570	7570	310	7550	300	7540	215	7530	210	7520	205	7515	110	7505	105	7500
Freeway Segment	Basic	Basic	Merge	Basic	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic
Segment Length (ft)	17,883	1,619	1,500	23,528	23,528	1,524	2,699	1,420	5,257	1,553	668	1,553	2,164	1,477	4,600	1,506	3,603	1,484	9,400
Flow Rate (veh/hr)	5,676	5,666	5,683	4,822	4,822	4,821	4,012	4,912	4,919	4,917	4,784	4,786	4,054	4,831	4,825	4,814	4,288	4,799	4,947
Demand Volume (veh)	7,092	7,092	7,092	6,227	6,227	6,227	5,417	6,600	6,600	6,600	6,468	6,468	5,159	6,116	6,116	6,116	5,045	5,607	5,607
Percent Served	80%	80%	80%	77%	77%	77%	74%	74%	75%	74%	74%	74%	79%	79%	79%	79%	85%	86%	88%
Speed (mph)	63	66	69	68	68	70	72	72	64	35	19	18	18	20	22	22	20	22	32
Density (veh/mi/ln)	30	22	20	24	24	18	18	17	26	49	82	71	75	80	74	67	73	71	53
Level of Service	D	C	C	C	C	B	C	B	C	F	F	F	F	F	F	F	F	F	F



SectionID	8330	8335	8340	430	8350	320	8360	330	8400	220	8410	8410	8410	225	8425	120	8430	125	8450
Freeway Segment	Basic	Basic	Basic	Diverge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Basic	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Segment Length (ft)	623	20,237	1,300	1,465	19,000	1,454	3,833	1,496	5,800	1,451	4,572	4,572	4,572	1,539	3,578	1,432	2,223	1,530	9,041
Flow Rate (veh/hr)	4,575	4,578	4,572	4,570	3,484	3,470	2,947	3,756	3,758	3,757	2,852	2,852	2,852	3,460	2,773	3,467	2,773	3,170	3,168
Demand Volume (veh)	4,884	4,884	4,884	4,884	3,772	3,772	3,225	4,039	4,039	4,039	3,101	3,101	3,101	3,716	2,974	3,716	2,974	3,371	3,371
Percent Served	94%	94%	94%	94%	92%	92%	91%	93%	93%	93%	92%	92%	92%	93%	93%	93%	93%	94%	94%
Speed (mph)	73	65	69	72	71	64	65	64	69	70	68	68	68	68	74	71	74	69	69
Density (veh/mi/ln)	16	24	17	16	16	18	15	16	18	18	14	14	14	15	12	16	12	14	15
Level of Service	B	C	B	B	B	B	B	B	C	B	B	B	B	B	B	B	B	B	B

Figure 6.7 I-75 Mainline No Build Vissim Analysis – AM Peak Hour (From Clark Road to N River Road)

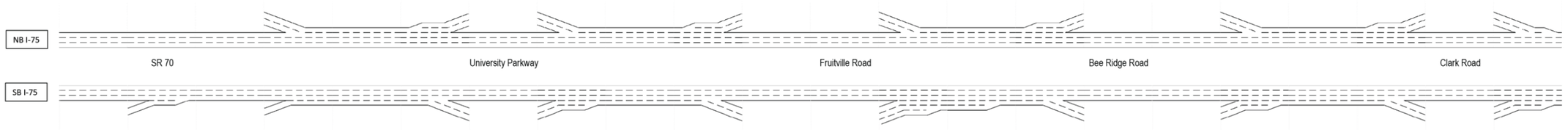
SectionID	7940	7930	80	7910	7900	7900	7900	7890	5000	7880	7870	1110	7850	7840	7840	7840	7830	7820	7810	7805	7800	7790
Freeway Segment	Basic	Basic	Merge	Basic	Weave	Weave	Weave	Basic	Diverge	Basic	Basic	Merge	Basic	Weave	Weave	Weave	Weave	Basic	Basic	Weave	Weave	Weave
Segment Length (ft)	14,824	785	1,534	4,395	1,926	1,926	1,926	7,220	1,495	2,400	7,812	1,523	7,956	10,474	10,474	10,474	752	3,043	1,823	1,775	12,399	633
Flow Rate (veh/hr)	5,067	5,068	5,067	4,115	5,351	5,351	5,351	3,993	5,923	5,922	5,943	5,987	5,400	7,433	7,433	7,433	7,423	5,335	5,342	7,356	7,359	7,337
Demand Volume (veh)	5,560	5,560	5,560	4,608	5,970	5,970	5,970	4,530	6,753	6,753	6,753	6,753	6,155	8,373	8,373	8,373	8,373	6,098	6,098	8,366	8,366	8,366
Percent Served	91%	91%	91%	89%	90%	90%	90%	88%	88%	88%	88%	89%	88%	89%	89%	89%	89%	87%	88%	88%	88%	88%
Speed (mph)	70	63	61	63	64	64	64	71	69	67	48	53	40	64	64	64	55	69	66	61	66	57
Density (veh/mi/ln)	24	20	19	16	21	21	21	19	21	22	42	35	45	29	29	29	34	26	27	30	28	26
Level of Service	C	C	B	B	C	C	C	C	C	C	E	D	F	D	D	D	D	C	D	D	D	C



SectionID	8000	8000	70	8010	8020	8020	8020	8030	6040	8050	8060	1120	8070	8080	8090	8095	8095	8100	8140	8145	8146	8146
Freeway Segment	Basic	Basic	Diverge	Basic	Weave	Weave	Weave	Basic	Merge	Basic	Basic	Diverge	Basic	Weave	Weave	Weave	Weave	Basic	Basic	Weave	Weave	Weave
Segment Length (ft)	16,700	16,700	1,440	4,014	1,903	1,903	1,903	4,976	1,503	2,495	10,600	1,450	7,775	1,034	8,701	1,661	1,661	4,128	2,769	1,187	11,240	11,240
Flow Rate (veh/hr)	3,449	3,449	3,449	2,750	3,645	3,645	3,645	2,514	5,050	5,049	5,057	5,054	4,235	5,705	5,706	5,704	5,704	4,156	4,190	5,551	5,536	5,536
Demand Volume (veh)	3,448	3,448	3,448	2,748	3,655	3,655	3,655	2,517	5,273	5,273	5,273	5,273	4,398	5,870	5,870	5,870	5,870	4,321	4,321	5,680	5,680	5,680
Percent Served	100%	100%	100%	100%	100%	100%	100%	100%	96%	96%	96%	96%	96%	97%	97%	97%	97%	96%	97%	98%	97%	97%
Speed (mph)	69	69	62	72	71	71	71	70	71	69	71	70	68	68	71	76	76	78	72	71	67	67
Density (veh/mi/ln)	17	17	19	13	13	13	13	12	15	18	24	24	21	17	20	15	15	18	19	20	21	21
Level of Service	B	B	B	B	B	B	B	B	B	C	C	C	C	B	C	B	B	B	C	B	C	C

Figure 6.8 I-75 Mainline No Build Vissim Analysis – PM Peak Hour (From Moccasin Wallow Road to SR 70)

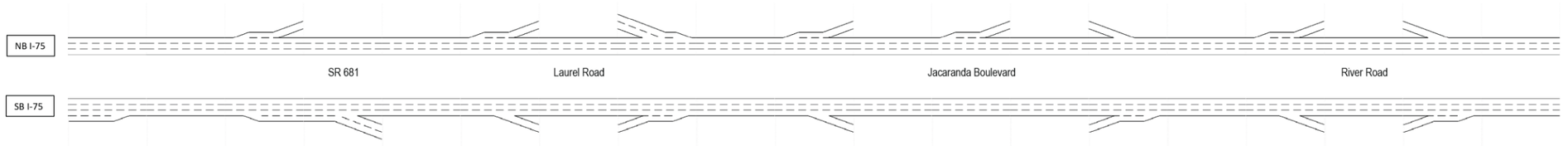
SectionID	7780	7770	7760	7755	7750	7740	7735	7730	7725	7710	7700	7680	7670	7670	7660	7650	7630	7625	7620	7610	7600	500
Freeway Segment	Basic	Basic	Basic	Weave	Weave	Weave	Basic	Weave	Weave	Weave	Basic	Basic	Weave	Weave	Weave	Basic	Basic	Weave	Weave	Weave	Basic	Diverge
Segment Length (ft)	1,817	610	1,459	12,882	422	1,960	3,971	4,498	8,255	1,543	1,280	2,917	7,547	7,547	2,512	1,109	3,027	3,018	4,563	678	5,360	1,448
Flow Rate (veh/hr)	5,704	5,706	5,704	6,834	6,843	6,854	4,657	6,779	6,787	6,800	4,520	4,533	5,979	5,979	6,129	4,787	4,844	5,722	5,889	5,976	4,319	5,226
Demand Volume (veh)	6,709	6,709	6,709	7,991	7,991	7,991	5,782	8,373	8,373	8,373	5,546	5,546	7,168	7,168	7,168	5,690	5,690	6,598	6,598	6,598	4,478	5,251
Percent Served	85%	85%	85%	86%	86%	86%	81%	81%	81%	81%	82%	82%	83%	83%	86%	84%	85%	87%	89%	91%	96%	100%
Speed (mph)	51	33	31	36	25	27	32	26	25	17	21	18	22	22	37	30	27	33	43	45	56	67
Density (veh/mi/ln)	38	58	63	49	68	55	50	66	69	79	73	83	68	68	34	54	61	45	34	27	26	20
Level of Service	E	F	F	F	F	F	F	F	F	F	F	F	F	F	D	F	F	F	D	C	C	B



SectionID	8150	940	8170	8190	8195	8195	8200	8210	8220	8220	8230	8250	8260	8270	8275	8280	8280	8290	8300	8308	8310	540
Freeway Segment	Basic	Merge	Basic	Weave	Weave	Weave	Basic	Weave	Weave	Weave	Basic	Basic	Weave	Weave	Weave	Basic	Basic	Weave	Weave	Weave	Basic	Merge
Segment Length (ft)	1,357	1,500	887	12,918	2,360	2,360	5,104	1,151	11,977	11,977	3,181	1,096	330	3,471	5,342	5,248	5,248	1,467	1,144	2,753	5,626	1,567
Flow Rate (veh/hr)	4,321	5,005	5,013	5,932	5,926	5,926	4,448	7,146	7,146	7,146	5,259	5,255	7,674	7,690	7,677	5,904	5,904	7,287	7,257	7,251	5,614	6,706
Demand Volume (veh)	4,443	5,127	5,127	6,044	6,044	6,044	4,538	7,235	7,235	7,235	5,331	5,331	7,770	7,770	7,770	6,005	6,005	7,435	7,435	7,435	5,744	6,836
Percent Served	97%	98%	98%	98%	98%	98%	98%	99%	99%	99%	99%	99%	99%	99%	99%	98%	98%	98%	98%	98%	98%	98%
Speed (mph)	63	62	52	69	70	70	69	59	67	67	75	69	67	67	61	55	55	47	45	38	61	71
Density (veh/mi/ln)	23	20	32	21	21	21	21	24	27	27	23	25	19	23	31	36	36	32	41	48	31	22
Level of Service	C	C	D	C	C	C	C	C	C	C	C	C	B	C	D	E	E	D	E	F	D	C

Figure 6.9 I-75 Mainline No Build Vissim Analysis – PM Peak Hour (From SR 70 to Clark Road)

SectionID	7590	7580	420	7570	7570	310	7550	300	7540	215	7530	210	7520	205	7515	110	7505	105	7500
Freeway Segment	Basic	Basic	Merge	Basic	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic
Segment Length (ft)	17,883	1,619	1,500	23,528	23,528	1,524	2,699	1,420	5,257	1,553	668	1,553	2,164	1,477	4,600	1,506	3,603	1,484	9,400
Flow Rate (veh/hr)	5,269	5,253	5,260	4,085	4,085	4,076	3,524	4,176	4,179	4,180	4,065	4,064	3,222	3,804	3,810	3,816	3,133	3,539	3,540
Demand Volume (veh)	5,251	5,251	5,251	4,082	4,082	4,082	3,530	4,196	4,196	4,196	4,078	4,078	3,235	3,827	3,827	3,827	3,145	3,541	3,541
Percent Served	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	99%	100%	100%	100%	100%	100%
Speed (mph)	64	70	72	70	70	72	73	73	70	65	72	74	77	73	75	72	72	72	73
Density (veh/mi/ln)	27	19	18	20	20	15	16	14	20	20	19	14	14	17	17	16	14	16	16
Level of Service	D	C	B	C	C	B	B	B	C	C	C	B	B	B	B	B	B	B	B



SectionID	8330	8335	8340	430	8350	320	8360	330	8400	220	8410	8410	8410	225	8425	120	8430	125	8450
Freeway Segment	Basic	Basic	Basic	Diverge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Basic	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Segment Length (ft)	623	20,237	1,300	1,465	19,000	1,454	3,833	1,496	5,800	1,451	4,572	4,572	4,572	1,539	3,578	1,432	2,223	1,530	9,041
Flow Rate (veh/hr)	6,706	6,710	6,715	6,707	5,719	5,490	4,782	5,995	6,000	6,002	4,764	4,764	4,764	5,740	4,712	5,742	4,710	5,281	5,288
Demand Volume (veh)	6,836	6,836	6,836	6,836	5,943	5,943	5,211	6,438	6,438	6,438	5,122	5,122	5,122	6,097	4,978	6,097	4,978	5,552	5,552
Percent Served	98%	98%	98%	98%	96%	92%	92%	93%	93%	93%	93%	93%	93%	94%	95%	94%	95%	95%	95%
Speed (mph)	70	57	56	54	53	26	22	35	64	67	64	64	64	49	71	66	72	60	66
Density (veh/mi/ln)	24	40	30	32	38	72	71	50	31	30	25	25	25	34	22	29	22	27	27
Level of Service	C	E	D	D	E	F	F	F	D	D	C	C	C	D	C	D	C	C	D

Figure 6.10 I-75 Mainline No Build Vissim Analysis – PM Peak Hour (From Clark Road to N River Road)

6.6.4 Network Performance Summary

The network performance results for the overall design year (2045) No Build AM and PM peak-hour operations are shown in **Table 6.36**. Latent demand and latent delay apply to vehicles that cannot enter the network due to queuing and indicate capacity constraints within the model. There were approximately 2,800 unserved vehicles in the AM peak hour and 2,000 vehicles in the PM peak hour, indicating that congestion and bottlenecks are expected to prevent the future traffic demand from moving through the system in one peak hour. Thus, peak spreading is expected.

Table 6.36 No Build Vissim Network Performance Summary

Peak Period	Average Speed (mph)	Average Delay (sec)	Total Travel Time (hr)	Total Delay (hr)	Arrived Vehicles (veh)	Latent Demand (veh)	Latent Delay (hr)	Total Delay + Latent Delay (hr)
AM	50	215	10,062	3,150	41,907	2,772	1,309	4,459
PM	48	244	10,983	3,697	42,733	1,975	1,217	4,914

7.0 Sensitivity Analysis

The No Build Alternative network was used for a congestion sensitivity and year of failure analysis to give insight on where and when the need for Build improvements may be expected. The I-75 freeway sensitivity analysis was performed using the HCM 6 methodology and LOS thresholds. This allows the demand to be directly analyzed, whereas the Vissim models were expected to meter traffic in the oversaturated conditions that are anticipated in future years. Merge, diverge, and weave segments were also analyzed for sensitivity using the HCM 6 methodology. Conversely, the Vissim subarea models were used to perform the interchange sensitivity analyses, since Vissim is able to replicate complex signal timing schemes and account for queue build up and dissipation. The interchange sensitivity analysis was conducted because it is suspected that interchange off ramps may be the first point of breakdown along I-75 within the study limits rather than insufficient lane capacity on the freeway itself. Volume cases were developed for a twenty-year span starting at 2025 and ending at the design year (2045) by linearly interpolating volumes between the existing year (2019) and the design year (2045) for both the AM and PM peak periods.

HCM 6 basic freeway segment analysis was conducted starting with the highest of the AM or PM 2025 volume cases and continuing for successive years until the year of failure was discovered, which is defined as the first year that the segment operates at LOS E for the purposes of this sensitivity analysis. LOS E is achieved when the density of the segment exceeds 35 passenger cars per mile per lane (pc/mi/ln) or when the volume-to-capacity ratio (v/c) exceeds 1.00. HCM 6 merge, diverge, and weave segment analysis was also conducted in a similar manner to adequately analyze all potential points of breakdown along the I-75 mainline. Note that there are only two weave segments along this corridor as defined by the HCM 6 due to the long spacing between the remaining interchanges, which makes HCM 6 weave analysis inapplicable. Default HCM 6 values were used for unknown parameters or those to be determined in the future, such as acceleration or deceleration lane lengths at on and off ramps, respectively. **Table 7.1** and **Table 7.2** show the failure years, and Measures of Effectiveness (MOEs), including LOS and density, for the basic and weave segments and the merge and diverge segments, along I-75, respectively. **Figure 7.1** and **Figure 7.2** show the year of failure and the HCM 6 design year (2045) LOS for the northbound and southbound I-75 mainline, respectively. HCM reports for the year of failure and design year (2045) are provided in **Appendix K**.

The failure year of each interchange was determined iteratively using Vissim. Interchange failure is defined by the presence of off-ramp spillback onto the I-75 mainline, which is signified by off-ramp latent demand in the Vissim models. The Vissim No Build subarea models were run for each volume case, starting from 2025 and going forward until the failure year was identified for both the AM and PM peak periods. Then, the earliest failure year of the AM and PM Vissim model runs was taken as the failure year of the interchange. This iterative process was not necessary for subareas that did not show off-ramp latent demand in the design year (2045) in either the AM or PM peak periods. **Table 7.3** shows the failure year and main contributing cause of the failure of each interchange in the study area that showed spillback onto the freeway before the design year (2045).

The failure years identified for the I-75 mainline and its off ramps are estimates for planning and project programming purposes. The actual year of failure may deviate from these estimates due to unknown factors or unforeseeable future events.

Table 7.1 No Build Basic and Weave Segment Year of Failure and Design Year (2045) HCM MOEs

I-75 Segment	Analysis Type	Northbound			Southbound		
		Year of Failure	2045 LOS	2045 Density (pc/mi/ln)	Year of Failure	2045 LOS	2045 Density (pc/mi/ln)
North of Moccasin Wallow Road	Basic	2043	E	37.0	> 2045	D	31.7
Moccasin Wallow Road to I-275	Basic	> 2045	C	25.6	> 2045	C	25.9
	Weave	> 2045	D	31.8	2045	F	-
I-275 to US 301	Basic	2031	F	61.7	2033	F	68.4
US 301 to SR 64	Basic	2035	F	49.3	2038	F	47.7
SR 64 to SR 70	Basic	2035	F	49.2	2040	E	42.4
SR 70 to University Parkway	Basic	2037	E	43.7	2038	F	45.2
University Parkway to SR 780 (Fruitville Road)	Basic	2034	F	49.3	2034	F	50.8
SR 780 (Fruitville Road) to SR 758 (Bee Ridge Road)	Basic	2038	E	43.4	2040	E	41.0
SR 758 (Bee Ridge Road) to SR 72 (Clark Road)	Basic	2042	E	39.1	2043	E	37.3
	Weave	2019	F	-	2022	F	-
SR 72 (Clark Road) to SR 681	Basic	2026	F	74.4	2030	F	64.4
SR 681 to Laurel Road	Basic	2036	F	48.2	2039	E	42.9
Laurel Road to Jacaranda Boulevard	Basic	2031	F	57.2	2034	F	52.9
Jacaranda Boulevard to N River Road	Basic	2035	F	45.9	2037	F	45.6
South of N River Road	Basic	2043	E	37.7	2044	E	36.9

Table 7.2 No Build Merge and Diverge Segment Year of Failure and Design Year (2045) HCM MOEs

I-75 Ramp	Analysis Type	Northbound			Southbound		
		Year of Failure	2045 LOS	2045 Density (pc/mi/ln)	Year of Failure	2045 LOS	2045 Density (pc/mi/ln)
Moccasin Wallow Road Off Ramp	Diverge	2044	E	35.7	> 2045	D	31.7
Moccasin Wallow Road On Ramp	Merge	> 2045	D	30.8	> 2045	D	33.8
I-275 Off Ramp	Diverge	2038	F	34.3	> 2045	D	28.8
I-275 On Ramp	Merge	> 2045	D	33.1	2039	F	40.1
US 301 Off Ramp	Diverge	2043	F	23.8	2036	F	45.8
US 301 On Ramp	Merge	2038	F	35.2	2045	F	35.6
SR 64 Off Ramp	Diverge	2043	F	23.8	2044	F	28.5
SR 64 On Ramp	Merge	2038	F	39.7	> 2045	D	29.2
SR 70 Off Ramp	Diverge	> 2045	D	32.0	2036	E	41.5
SR 70 On Ramp	Merge	2039	F	38.1	> 2045	D	32.2
SR 70 On Ramp (Loop)	Merge	-	-	-	> 2045	C	25.4
University Parkway Off Ramp	Diverge	2023	F	50.3	2029	F	47.6
University Parkway On Ramp	Merge	2026	F	45.0	2023	F	49.0
SR 780 (Fruitville Road) Off Ramp	Diverge	2027	F	46.3	2023	F	51.2
SR 780 (Fruitville Road) On Ramp	Merge	2024	F	47.7	2019	F	64.5
SR 758 (Bee Ridge Road) Off Ramp	Diverge	> 2045	C	20.8	2034	F	44.3
SR 758 (Bee Ridge Road) On Ramp	Merge	2027	F	45.1	> 2045	D	29.3
SR 72 (Clark Road) Off Ramp	Diverge	2034	F	37.6	> 2045	C	22.3
SR 72 (Clark Road) On Ramp	Merge	> 2045	D	31.1	2027	F	48.8
SR 681 Off Ramp	Diverge	-	-	-	2037	F	35.1
SR 681 On Ramp	Merge	2034	F	37.9	-	-	-
Laurel Road Off Ramp	Diverge	2039	F	32.7	> 2045	D	33.4
Laurel Road On Ramp	Merge	2044	F	32.8	2042	F	35.0

I-75 Ramp	Analysis Type	Northbound			Southbound		
		Year of Failure	2045 LOS	2045 Density (pc/mi/ln)	Year of Failure	2045 LOS	2045 Density (pc/mi/ln)
Jacaranda Boulevard Off Ramp	Diverge	2039	F	37.4	2041	F	33.2
Jacaranda Boulevard On Ramp	Merge	2039	F	37.5	> 2045	D	33.5
Jacaranda Boulevard On Ramp (Loop)	Merge	2041	F	35.4	-	-	-
N River Road Off Ramp	Diverge	> 2045	D	32.7	2044	F	35.7
N River Road On Ramp	Merge	2045	E	35.3	> 2045	D	29.9

Figure 7.1 I-75 Northbound Mainline No Build Alternative Years of Failure and Design Year (2045) LOS

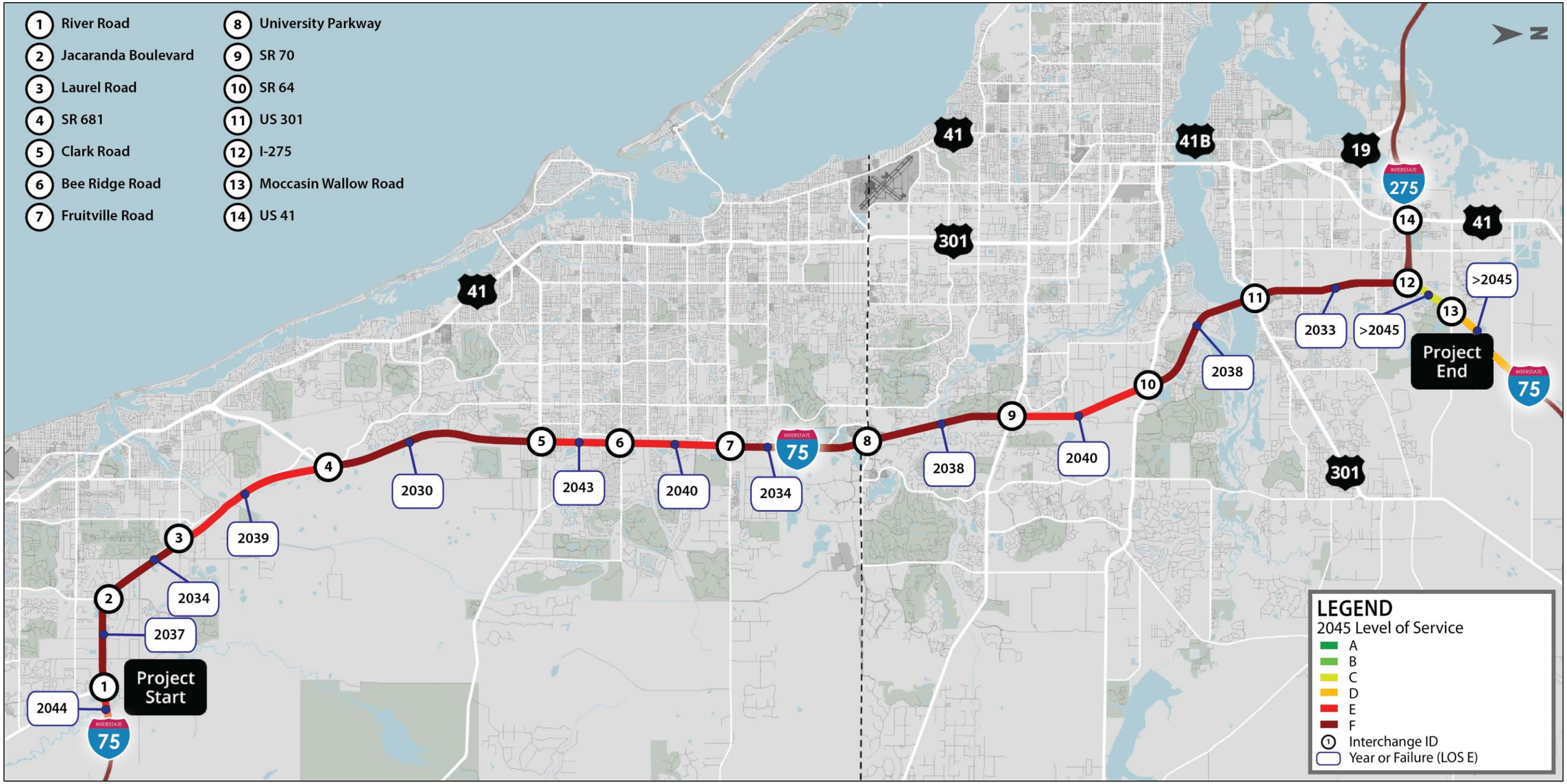


Figure 7.2 I-75 Southbound Mainline No Build Alternative Years of Failure and Design Year (2045) LOS

Table 7.3 No Build Interchange Year of Failure

Interchange	AM Year of Breakdown	PM Year of Breakdown	Failure Year	Failure Mode
Moccasin Wallow Rd	2029	2030	2029	Stop-controlled ramp terminals and Moccasin Wallow Rd capacity constraints
US 41	2027	2025	2025	Stop-controlled I-275 southbound ramp terminal
SR 64	-	2041	2041	Interchange configuration
University Pkwy	2029	2035	2029	I-75 northbound off-ramp right-turn capacity and adjacent intersection capacity constraints
SR 780 (Fruitville Rd)	2044	-	2044	Fruitville Rd capacity constraints
Jacaranda Blvd	2032	-	2032	Stop-controlled I-75 northbound ramp terminal
N River Rd	2032	2025	2025	Stop-controlled ramp terminals

As shown above, most of the interchanges that reported latent demand on the off-ramps failed due to capacity constraints along the arterial or at adjacent intersections or have existing stop-controlled ramp terminals. Improvements are proposed at the Fruitville Road interchange that include a new DDI and other arterial improvements, but the volume increase at the nearby Cattlemen Road intersection results in failing operations that impact the interchange. At the Moccasin Wallow Road, US 41, Jacaranda Boulevard, and N River Road interchanges, the existing ramp terminals are stop-controlled, and failure occurs between 2025 and 2032. Signalization may improve operations and extend the year of failure, but allowing more traffic onto the arterials may result in other modes of failure. The results of the HCM and Vissim sensitivity analyses for the I-75 mainline and interchanges will aid in the segmentation and prioritization of improvements as part of the Master Plan.

8.0 Build Alternatives Considered

Three Build alternatives were considered for the I-75 north corridor: Managed Lanes (ML), General-Purpose (GP) Lanes, and Through Lanes with Local Lanes and no tolling. The ML Alternative was developed based on guidance from the recent revision of the FDOT Managed Lane Handbook, which included consideration for direct connect ramps to and from the managed lanes system where directional hourly volumes for a movement between a managed lane access and any general-purpose ramp exceeds 400 vph. The ML Alternative also assumed only those traveling three or more interchanges would pay to access these lanes, in line with guidance from the FDOT Managed Lanes Handbook for ingress/egress.

Empirical information for existing tolled facilities in Florida and around the Country showed that, on average, about 25 percent of eligible users, which are those users whose route is physically served by the MLs, would opt to pay for the use of the MLs. The empirical information also showed that a 40 percent utilization from eligible users was about the highest observed on tolled facilities. Using an assumed 30 percent utilization rate, along with the OD information developed for the design year (2045) Build volumes, the heavily local traffic patterns (high amount of short haul trips) result in an overall low usage of the MLs. Despite having ingress/egress or direct connect opportunities for most interchanges, the ML Alternative was dismissed due to underutilized trips as well as right-of-way (ROW) impacts and anticipated project costs. A graphical representation (line diagram) of the ML Alternative can be found in **Appendix L**.

The lack of utilization under the ML Alternative led to the consideration of a GP only alternative, which adds lanes along I-75 in a non-separated manner. Compared to the ML Alternative, the GP Alternative has lower expected project costs, limited to no anticipated ROW impacts, simpler construction staging, and is simplified to facilitate more intuitive driver expectations. The GP Alternative was ultimately dismissed due to a possible perceived safety concern with a typical section having 5 or more lanes and because it did not meet FDOT District One's desire to promote regional mobility by preserving acceptable operations for certain lanes for users making longer trips along I-75. The GP Alternative line diagram can be found in **Appendix L**.

The shortcomings of the ML and GP Alternatives led to the consideration of the Through Lanes with Local Lanes Alternative. The Through Lanes with Local Lanes Alternative keeps the turbulence of the shorter distance trips (those entering I-75 and exiting a few ramps downstream) to the outside lanes while three separated inside lanes are carried continuously through and can be accessed via weaving sections within multiple interchanges. These three inside lanes are not tolled, which addresses the utilization concerns that were associated with the ML Alternative.

In reality, some motorists may choose to remain in the local lanes for long-haul trips, rather than using the separated through lanes, depending on the current levels of congestion or other factors. Similarly, although likely to a lesser extent, some motorists making short-haul trips may use the through lanes. This flexibility in driver route choice adds efficiency and redundancy to the network for better utilization of residual capacity. This dynamic routing phenomenon strengthens the durability of the concept by allowing the drivers a chance to achieve system equilibrium and not overload either the through or local lanes. For analysis purposes, a base assumption was made that 100 percent of eligible through trips would use the separated lanes. Then, both local and through lane routes were iteratively shifted on segments where congestion was observed to better balance flows across all lanes and utilize the available capacity more efficiently. Unlike the GP Alternative, the Through Lanes with Local Lanes

Alternative provides for system redundancy and trip separation. Under this concept, there are weaving segments within the interchanges and, through discussions with FDOT District 1 and Central Office staff, it was decided that ingress and egress to and from the Through Lanes would occur via slip ramps, rather than an open weaving segment to eliminate the possibility of lane diving.

The Through Lanes with Local Lanes Alternative is the preferred Build Alternative for the Master Plan because it mitigates congestion, promotes a better distribution of traffic across all lanes, and offers an option for users to travel longer distances on the freeway while avoiding the ramp-to-ramp turbulence of those using the freeway for shorter distance trips. The Build Alternative line diagram can be found in **Appendix L** and the conceptual layout can be found in **Appendix M.**

9.0 Design Year (2045) Build Traffic Analysis Results

Vissim version 2020 (service pack 10) was used to develop the design year (2045) Build simulation models for the I-75 mainline and its ramps within the study area, using the No Build subarea Vissim models with E+C improvements as the basis. The same calibration parameters from the existing conditions models were used in the Build models, but with changes to link behavior types to reflect the Build configuration. Desired speeds were retained from the calibrated existing conditions models, similar to the No Build simulation models, with appropriate modifications where the Build configuration included additional lanes. For additional auxiliary lanes, the desired speeds from the existing right-most lane were used, whereas additional lanes to the inside used the desired speeds from the existing left-most lane. For the barrier separated Through Lanes, the desired speeds from the existing left-most lane were used for the left and middle lanes, while the desired speeds from the existing middle lane were used for the right-most lane.

The model included truck restriction from the left lane of the Through Lanes. Trucks can access the left-most lane of the separated Local Lanes to facilitate access to the ingress/egress areas within the interchanges. It was also assumed that 100 percent of all eligible regional trips (those trips traveling from one end of I-75 to the other, or trips originating from an interchange and staying on I-75) would use the Through Lanes. While it is likely that some motorists would choose to remain in the Local Lanes for long distance trips, the Vissim routing was adjusted to achieve equilibrium in the network and avoid oversaturated conditions in either the Through or Local Lanes. Routing was also adjusted to avoid unrealistic weaving maneuvers, with trips generally using the Through Lanes to travel longer distances between interchanges depending on the ingress/egress locations.

After discussions with FDOT, it was determined that the operational analysis of the design year (2045) Build condition would include the I-75 mainline and ramps and that the interchange subareas would not be analyzed. Analyzing the freeway and ramps at the subarea level gives more comprehensive and useful results, allowing for a more realistic spread of the demand throughout the network and more realistic arrival and platooning patterns. While the Master Plan includes the operational analysis of the No Build interchanges, which will aid in the segmentation and prioritization of improvements, the analysis required to determine a preferred Build alternative for each interchange, intersections adjacent to ramp terminals, and interchange arterials will be performed in the PD&E study phase for the I-75 north corridor.

9.1 I-75 Mainline Analysis

The operational analysis of the design year (2045) Build conditions on the I-75 mainline was performed using the I-75 subarea Vissim model. While a peak-period analysis was performed using one shoulder hour each before and after the peak hour, the travel time and LOS results discussed in the following subsections reflect the peak-hour results. The analysis results discussed below are based on the average of ten simulation runs. In Vissim, the mainline LOS is computed from a microsimulation analysis and is, therefore, reported as an “estimated LOS.” Vissim quantifies speed and density differently than the deterministic, equation-based HCM methods, as it calculates information for individual vehicle movements and interactions. The estimated LOS for the Build conditions is based on HCM criteria and thresholds for basic freeway, merge, diverge, and weaving segments.

9.1.1 I-75 Mainline Travel Times

A summary of the AM and PM peak-hour travel times on northbound and southbound I-75 is provided in **Table 9.1** and **Table 9.2**. The AM peak-hour average speed along I-75 from south of N River Road to north of Moccasin Wallow Road is expected to be 74 mph in both the northbound and southbound directions. During the PM peak hour, the average speed on this segment of I-75 is expected to be 73 mph in the northbound direction and 72 mph in the southbound direction. This equates to an average travel time of about 34 minutes to go from one end of the study limits along I-75 to the other in either direction in either peak period. The average speed for all travel time segments is 68 mph or higher in the AM peak hour and 70 mph or higher in the PM peak hour.

Table 9.1 I-75 Mainline Travel Time – Build AM Peak Hour

Segment	Travel Time (min)	Length (miles)	Average Speed (mph)
I-75 Northbound - South of N River Rd to North of Moccasin Wallow Rd	33.2	40.6	74
I-75 Northbound - South of N River Rd to SR 681	8.1	9.7	72
I-75 Northbound - SR 681 to Bee Ridge Rd	6.5	7.5	70
I-75 Northbound - Bee Ridge Rd to SR 70	8.1	9.9	73
I-75 Northbound - SR 70 to US 301	6.0	7.3	73
I-75 Northbound - US 301 to North of Moccasin Wallow Rd	5.0	6.2	74
I-75 Southbound - North of Moccasin Wallow Rd to South of N River Rd	33.1	40.7	74
I-75 Southbound - North of Moccasin Wallow Rd to US 301	5.1	6.2	73
I-75 Southbound - US 301 to SR 70	6.3	7.3	70
I-75 Southbound - SR 70 to Bee Ridge Rd	8.2	9.9	72
I-75 Southbound - Bee Ridge Rd to SR 681	6.4	7.6	72
I-75 Southbound - SR 681 to South of N River Rd	8.0	9.7	73

Table 9.2 I-75 Mainline Travel Time – Build PM Peak Hour

Segment	Travel Time (min)	Length (miles)	Average Speed (mph)
I-75 Northbound - South of N River Rd to North of Moccasin Wallow Rd	33.5	40.6	73
I-75 Northbound - South of N River Rd to SR 681	7.8	9.7	75
I-75 Northbound - SR 681 to Bee Ridge Rd	6.2	7.5	72
I-75 Northbound - Bee Ridge Rd to SR 70	8.2	9.9	72
I-75 Northbound - SR 70 to US 301	6.3	7.3	70
I-75 Northbound - US 301 to North of Moccasin Wallow Rd	5.3	6.2	70
I-75 Southbound - North of Moccasin Wallow Rd to South of N River Rd	33.8	40.7	72
I-75 Southbound - North of Moccasin Wallow Rd to US 301	4.8	6.2	77
I-75 Southbound - US 301 to SR 70	5.9	7.3	74
I-75 Southbound - SR 70 to Bee Ridge Rd	8.1	9.9	73
I-75 Southbound - Bee Ridge Rd to SR 681	6.8	7.6	67
I-75 Southbound - SR 681 to South of N River Rd	8.5	9.7	68

9.1.2 I-75 Mainline Speeds

A summary of the average speeds along northbound and southbound I-75 for the design year (2045) Build condition is provided on **Figure 9.1** through **Figure 9.4** for the AM peak period and **Figure 9.5** through **Figure 9.8** for the PM peak period for the through and local lanes. The through lanes are barrier-separated from the local lanes and run from Clark Road to US 301. The posted speed for the I-75 corridor within the study area is 70 mph. Operating speeds are generally expected to be 65 mph or higher in both the through and local lanes based on the simulation results. There are short segments in both directions of I-75 with speeds that reach the 55-to-65 mph range that are generally attributed to high volume on- and off-ramp areas or near the weaving areas between the through and local lanes. The Moccasin Wallow Road, SR 70, and Laurel Road interchange areas experience speeds in the 55-to-65 mph range, as well as the section of I-75 between University Parkway and Fruitville Road and between Clark Road and SR 681. Overall, the Build Alternative is expected to operate in a free-flowing manner during both the AM and PM peak periods.

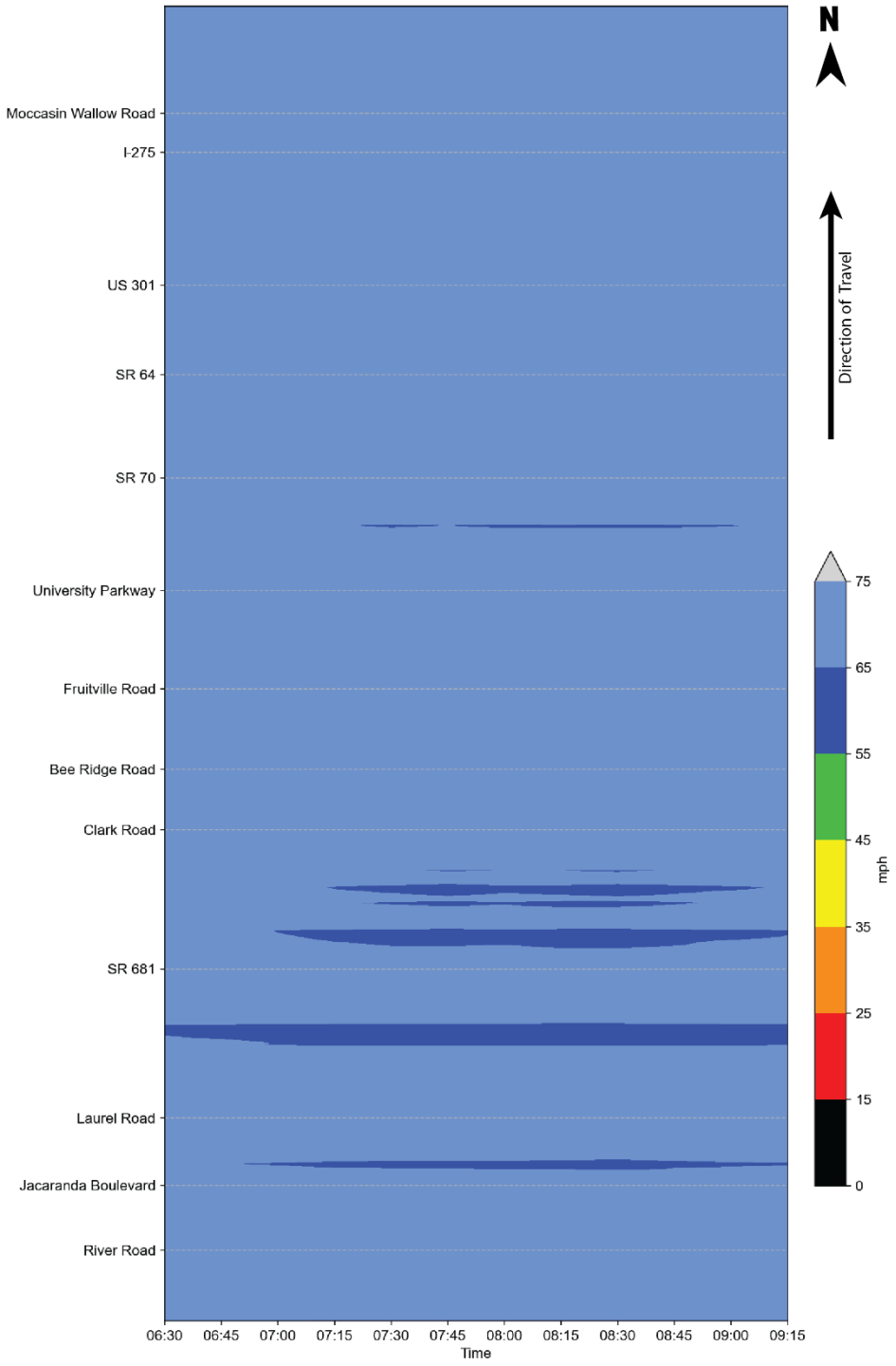


Figure 9.1 I-75 Northbound Speeds – Build AM Peak Period (Local Lanes)

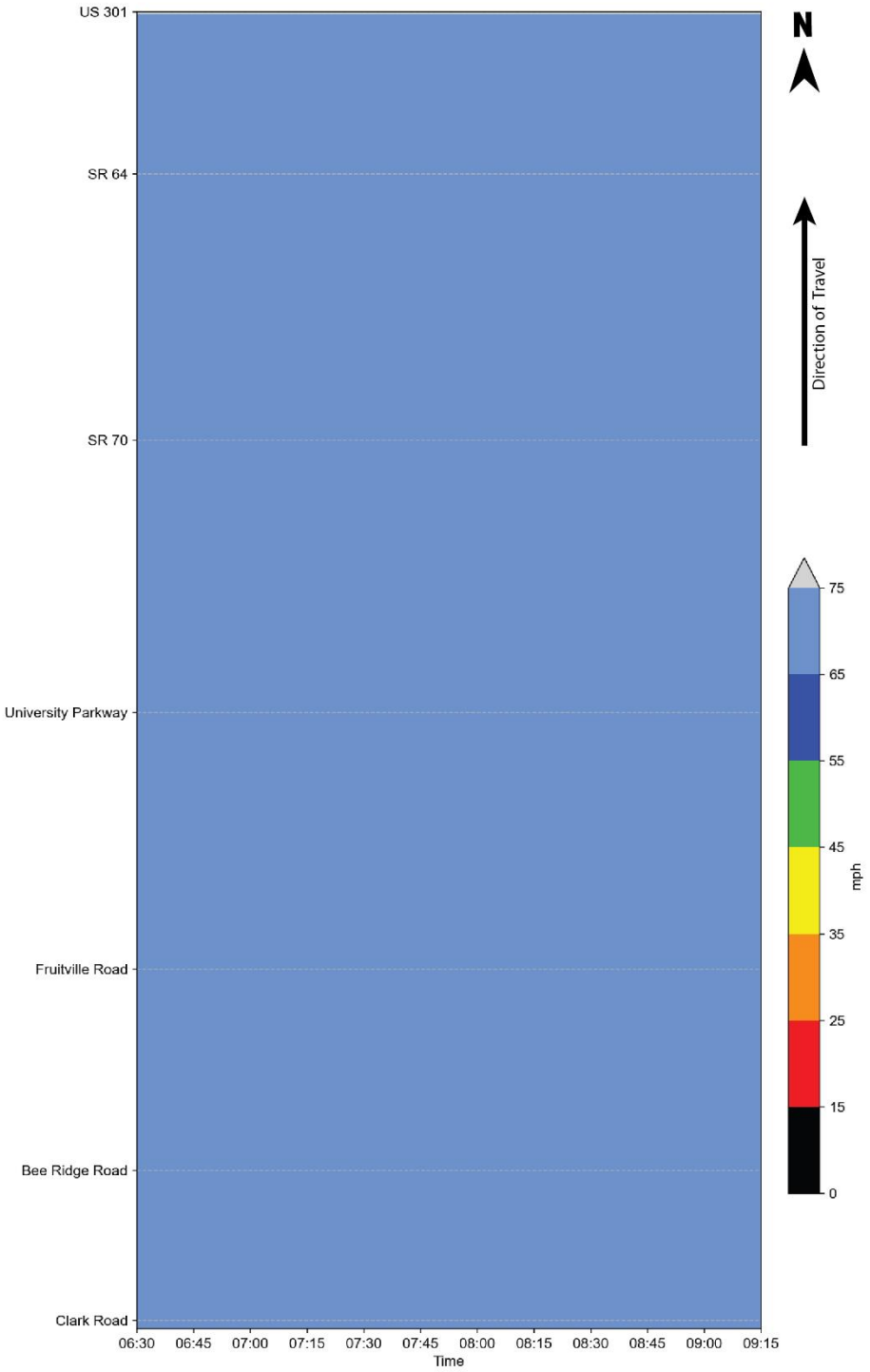


Figure 9.2 I-75 Northbound Speeds – Build AM Peak Period (Through Lanes)

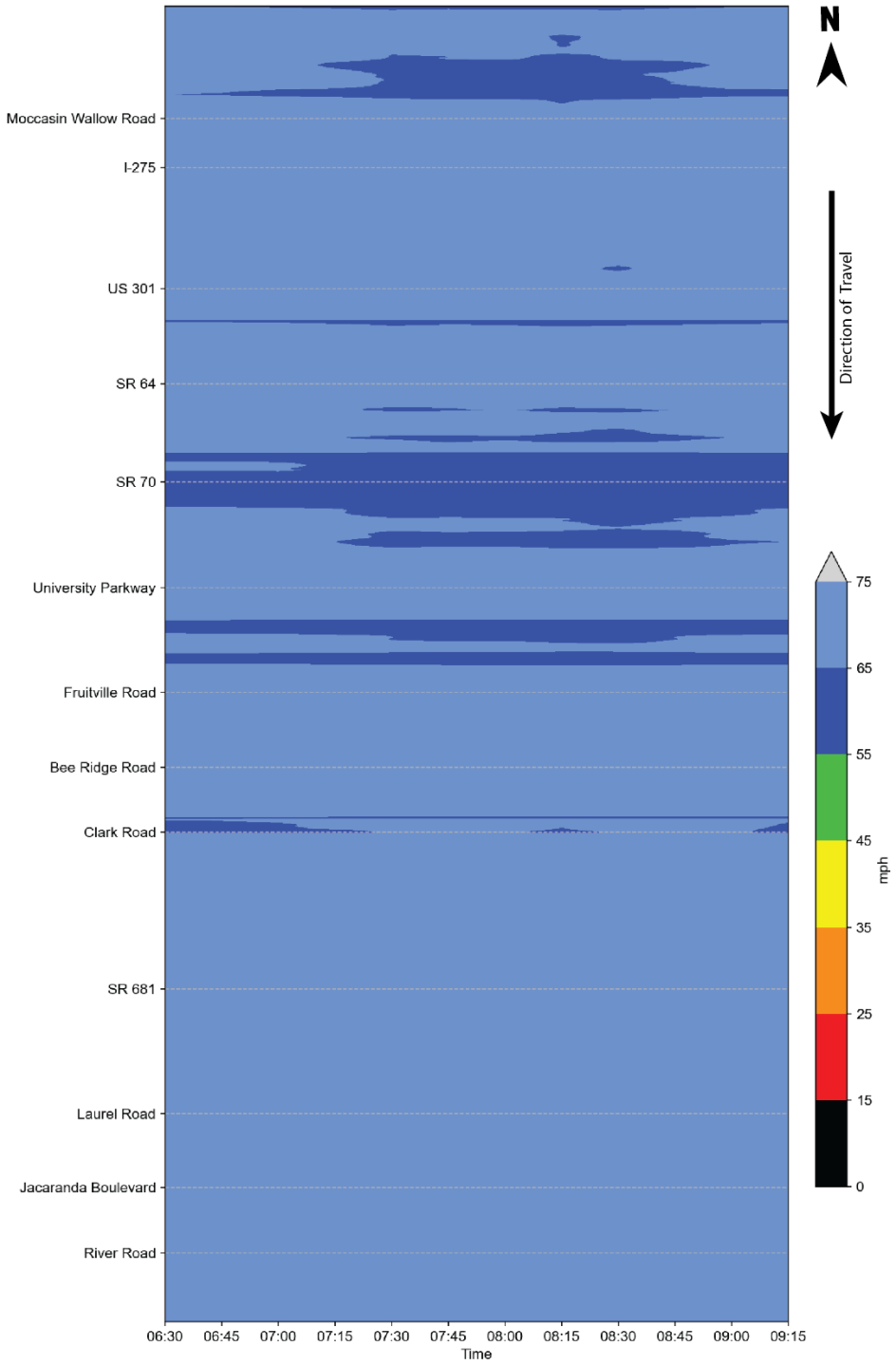


Figure 9.3 I-75 Southbound Speeds – Build AM Peak Period (Local Lanes)

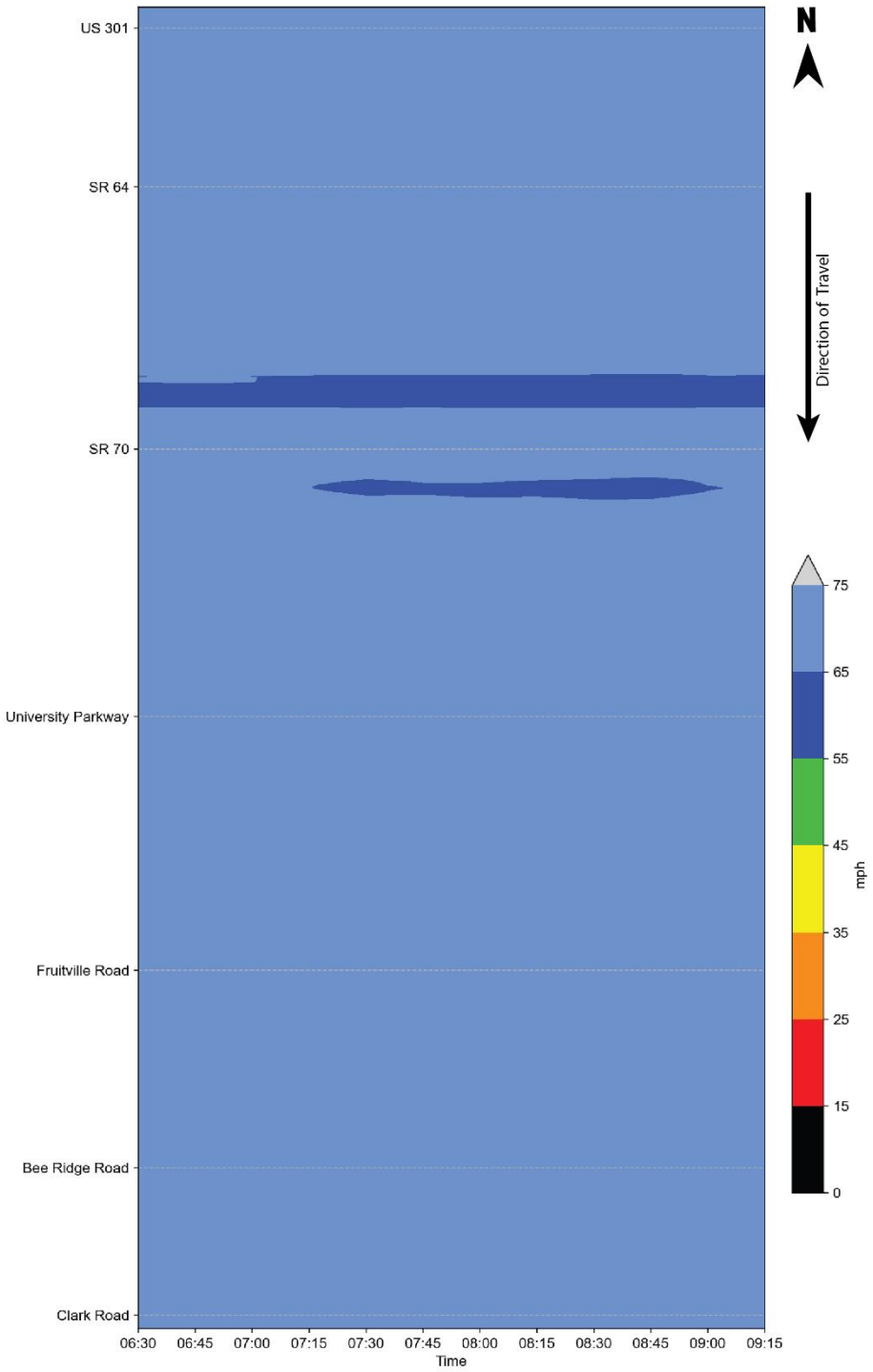


Figure 9.4 I-75 Southbound Speeds – Build AM Peak Period (Through Lanes)

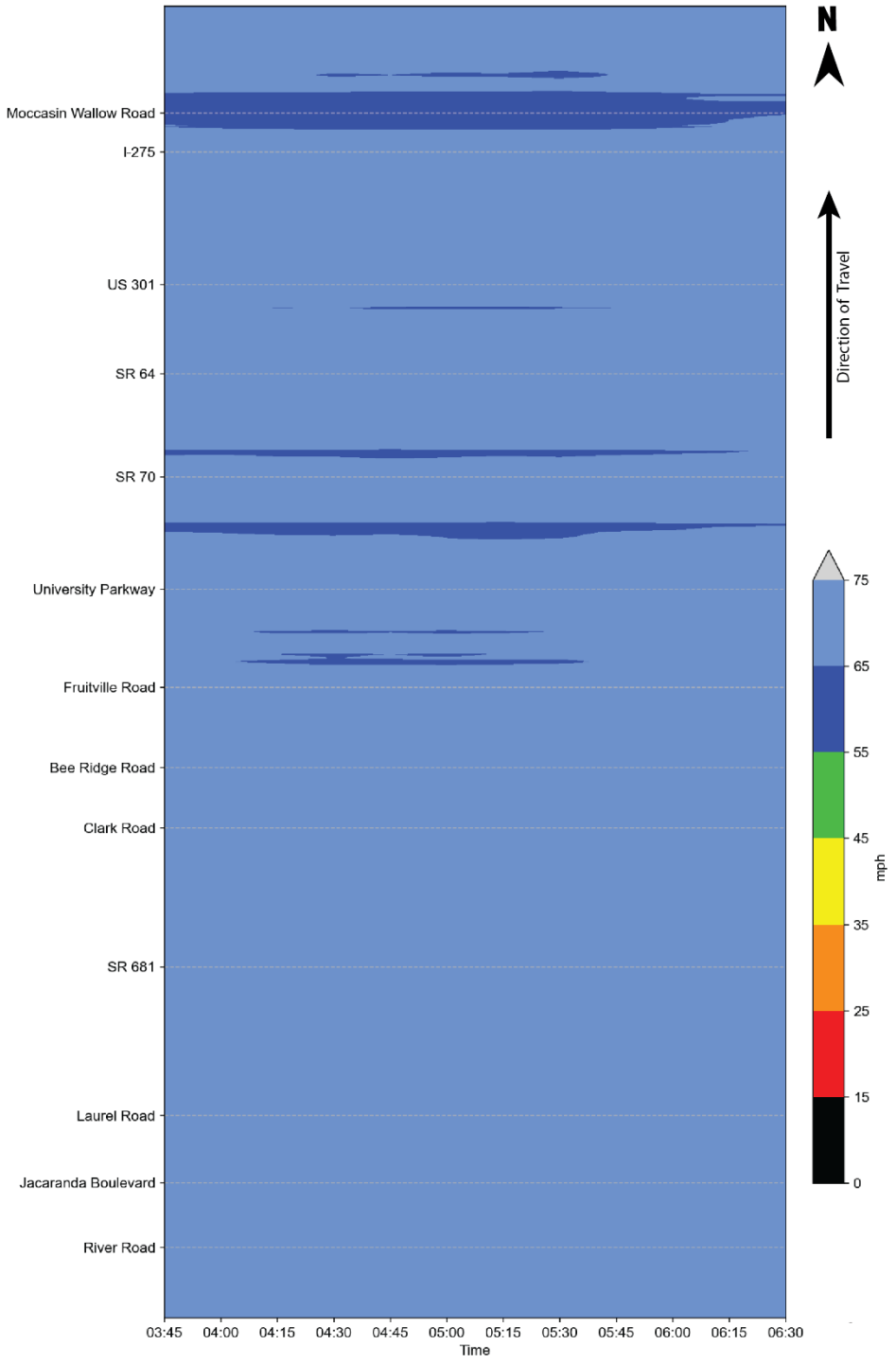


Figure 9.5 I-75 Northbound Speeds – Build PM Peak Period (Local Lanes)

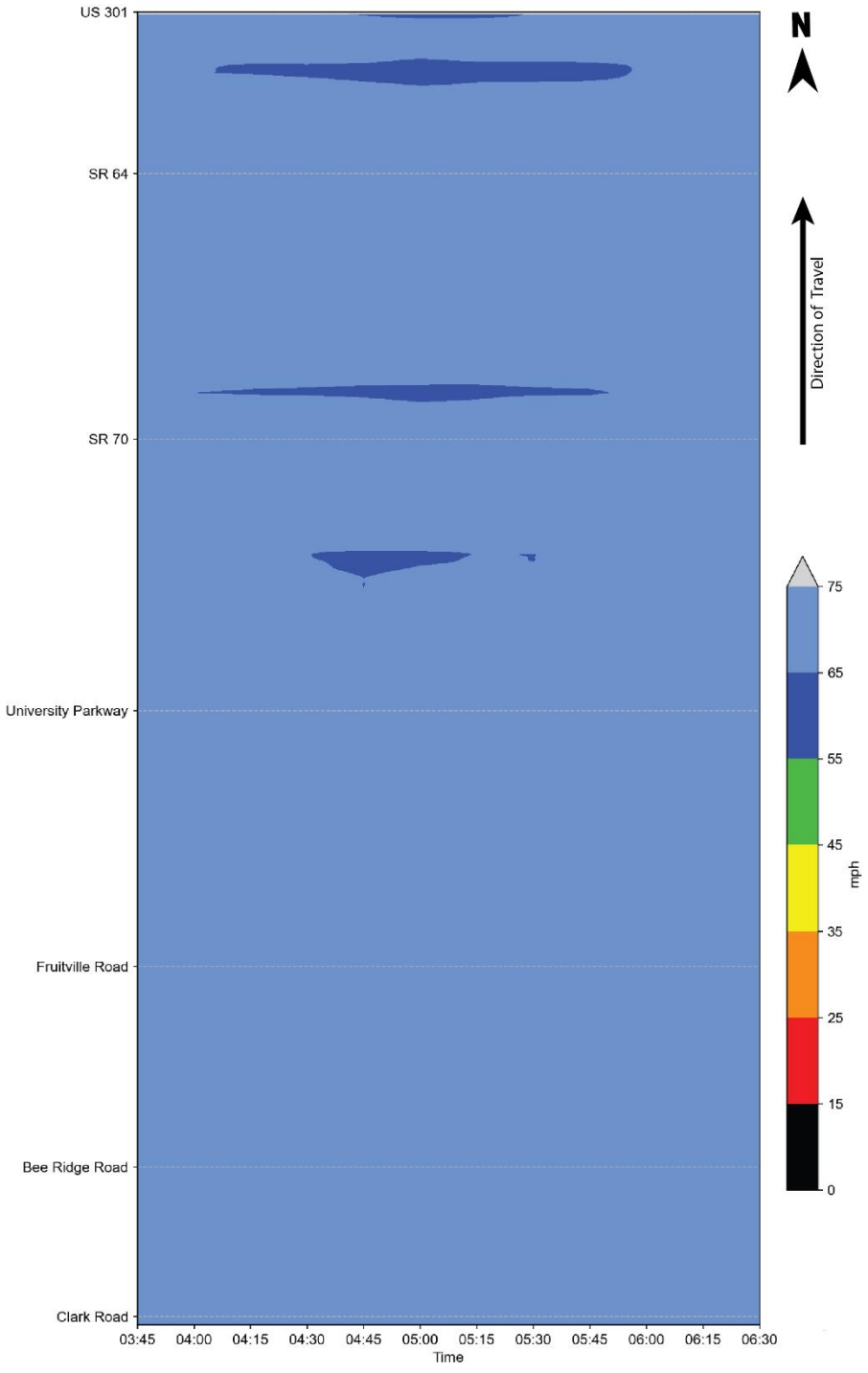


Figure 9.6 I-75 Northbound Speeds – Build PM Peak Period (Through Lanes)

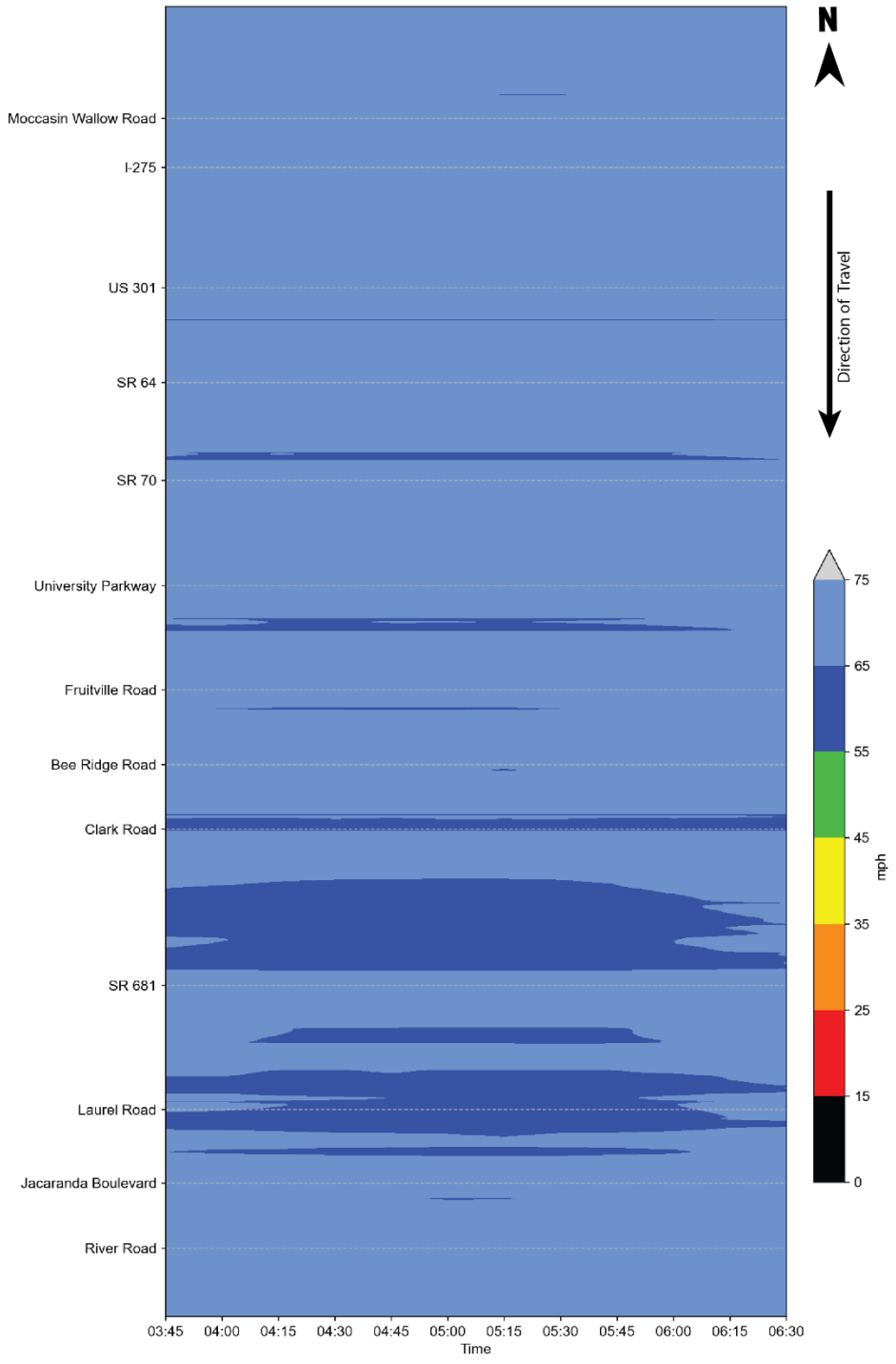


Figure 9.7 I-75 Southbound Speeds – Build PM Peak Period (Local Lanes)

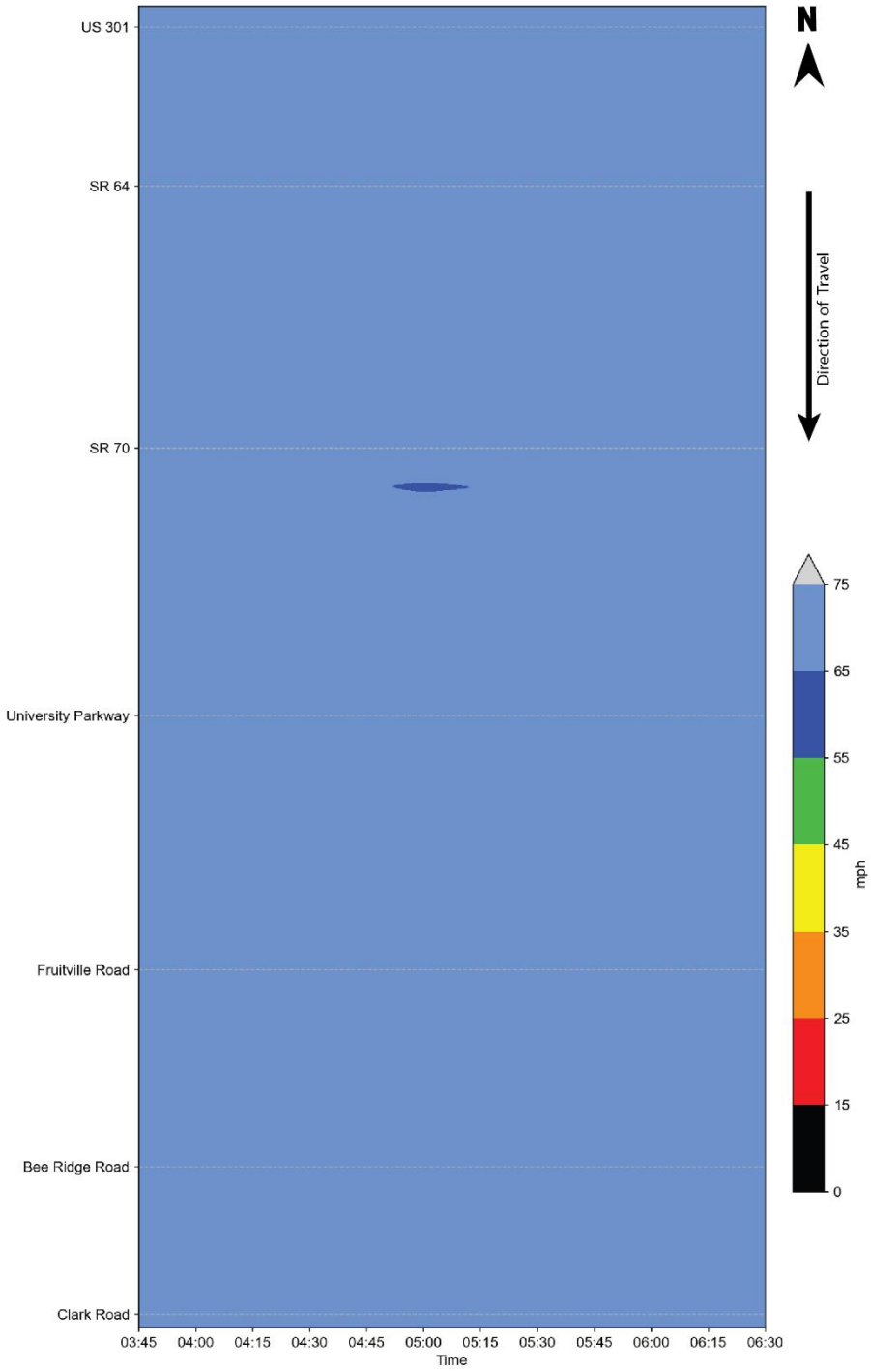


Figure 9.8 I-75 Southbound Speeds – Build PM Peak Period (Through Lanes)

9.1.3 I-75 Mainline Operations

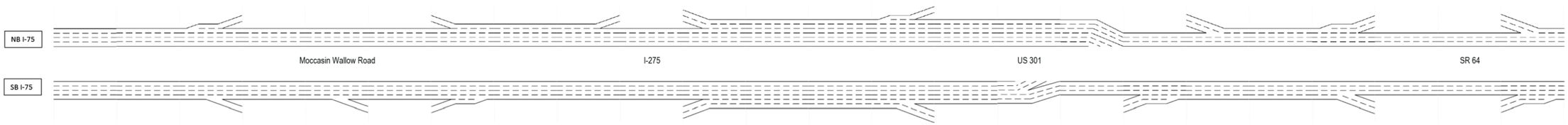
A summary of mainline operations (density, speed, LOS and volume served) is provided on **Figure 9.9** through **Figure 9.12** for the Build AM peak hour and **Figure 9.13** through **Figure 9.16** for the Build PM peak hour. The Vissim analysis results for each link segment are based on the weighted average per lane and an approximate 1,500-foot influence area for merge and diverge segments as defined in the HCM. As shown below, I-75 southbound is expected to operate at speeds between 61 and 77 mph in the AM peak hour and between 59 and 79 mph in the PM peak hour in the local lanes. The lower bound of the AM and PM peak hour I-75 southbound speed range is similar to the existing year (2019) operations and shows about a 40-mph improvement over the design year (2045) No Build speed operations. I-75 northbound is expected to operate at speeds between 65 and 78 mph in the AM peak hour and between 62 and 78 mph in the PM peak hour, which shows an approximate 15 mph improvement in the lower bound of the speed range from the existing year (2019) and up to a nearly 50-mph improvement over the design year (2045) No Build speed operations.

In the through lanes, between US 301 and Clark Road, I-75 southbound is expected to operate at speeds between 63 and 77 mph in the AM peak hour and between 65 and 77 mph in the PM peak hour. I-75 northbound is expected to operate at speeds between 71 and 78 mph in the AM peak hour and between 69 and 77 mph in the PM peak hour.

More than 95 and 98 percent of the traffic demand in both the local and through lanes is being served in the AM and PM peak hours, respectively. The percent served in the hour following the peak hour is 100 percent or higher, indicating that all AM and PM peak-period demand is adequately processed under the Build Alternative by the end of simulation. Comparatively, traffic demand served in the design year (2045) No Build Alternative was as low as 74 percent in the AM peak hour and 81 percent in the PM peak hour.

The I-75 corridor is expected to operate at an estimated LOS D or better in both the AM and PM peak hours, with most of the corridor expected to operate at an estimated LOS B or LOS C. These estimated LOS results are consistent with the average speed results discussed in Section 9.1.2.

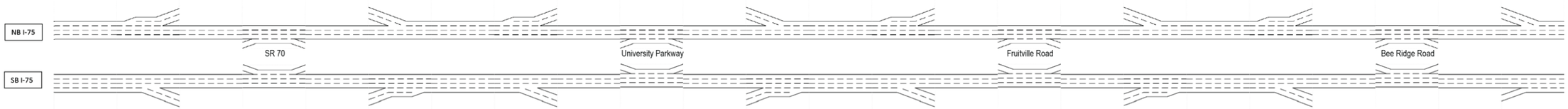
SectionID	7935	7930	80	7910	7910	7910	7900	7900	7900	7890	5000	7880	7870	1110	7855	7852	7850	7845	7842	7840	7830	7820	7810	7805
Freeway Segment	Basic	Basic	Merge	Basic	Basic	Basic	Weave	Weave	Weave	Basic	Diverge	Basic	Basic	Merge	Basic	Basic	Basic	Basic	Weave	Weave	Weave	Basic	Basic	Weave
Segment Length (ft)	12,800	2,600	1,500	4,300	4,300	4,300	1,867	1,867	1,867	600	1,495	4,100	8,000	1,446	6,555	1,899	1,785	1,396	5,200	1,258	1,965	1,871	1,500	2,099
Flow Rate (veh/hr)	5,543	5,557	5,562	4,425	4,425	4,425	5,327	5,327	5,327	4,401	7,080	7,084	7,092	7,104	6,235	6,236	6,239	2,166	3,739	3,743	3,743	2,139	2,139	3,797
Demand Volume (veh)	5,685	5,685	5,685	4,538	4,538	4,538	5,450	5,450	5,450	4,517	7,264	7,264	7,264	7,264	6,389	6,389	6,389	2,182	3,747	3,747	3,747	2,139	2,139	3,813
Percent Served	97%	98%	98%	98%	98%	98%	98%	98%	98%	97%	97%	98%	98%	98%	98%	98%	98%	99%	100%	100%	100%	100%	100%	100%
Speed (mph)	72	71	66	67	67	67	71	71	71	75	71	71	71	74	74	71	69	76	71	73	73	78	78	71
Density (veh/mi/ln)	19	19	17	17	17	17	15	15	15	12	16	17	17	14	14	15	15	10	13	13	10	9	9	13
Level of Service	C	C	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	B	B	B	A	A	B



SectionID	8000	8000	70	5005	5005	45	92	8032	8032	49	8040	8050	8060	8060	8070	8070	8090	8092	8094	8095	8095	8100	8100	8110
Freeway Segment	Basic	Basic	Diverge	Basic	Diverge	Basic	Merge	Basic	Basic	Basic	Weave	Weave	Weave	Weave	Basic	Basic	Basic	Weave	Weave	Weave	Weave	Basic	Basic	Weave
Segment Length (ft)	16,900	16,900	1,000	1,457	1,457	2,528	1,499	4,444	4,444	1,064	1,000	2,881	12,200	12,200	8,472	8,472	2,598	2,098	4,278	2,139	2,139	5,967	5,967	1,500
Flow Rate (veh/hr)	6,741	6,741	6,725	6,278	6,278	5,060	6,095	6,099	6,099	6,097	9,843	9,846	9,842	9,842	8,563	8,563	4,301	6,693	6,693	6,692	6,692	4,238	4,238	6,506
Demand Volume (veh)	6,749	6,749	6,749	6,099	6,099	5,102	6,150	6,150	6,150	6,150	9,893	9,893	9,893	9,893	8,615	8,615	4,352	6,753	6,753	6,753	6,753	4,283	4,283	6,560
Percent Served	100%	100%	100%	103%	103%	99%	99%	99%	99%	99%	99%	100%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
Speed (mph)	65	65	66	71	71	77	73	68	68	70	70	70	73	73	70	70	68	64	70	71	71	73	73	67
Density (veh/mi/ln)	26	26	26	22	22	16	17	22	22	22	24	24	22	22	24	24	21	21	24	24	24	19	19	19
Level of Service	D	D	C	C	C	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	B

Figure 9.9 I-75 Mainline Vissim Analysis – Build AM Peak Hour (Local Lanes from Moccasin Wallow Road to SR 64)

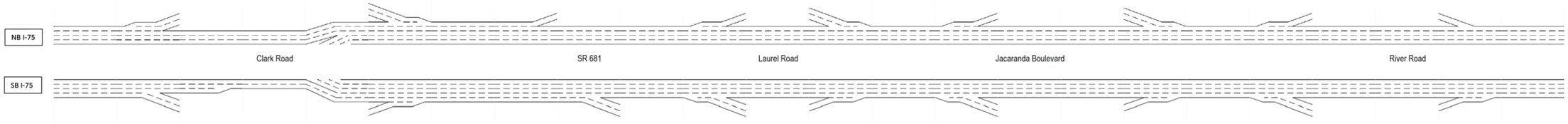
SectionID	7800	7795	7790	7780	7760	7755	7750	7745	7740	7735	7732	7730	7725	7720	7710	7680	7678	7675	7675	7660	7650	7640	7630	7625
Freeway Segment	Weave	Weave	Basic	Weave	Basic	Weave	Weave	Weave	Basic	Weave	Basic	Weave	Weave	Weave	Basic	Weave	Basic	Weave	Weave	Weave	Basic	Weave	Basic	Weave
Segment Length (ft)	9,985	1,556	2,500	2,477	1,200	11,841	1,276	1,500	1,300	2,393	1,156	3,553	7,500	1,500	1,435	2,400	1,197	7,475	7,475	1,500	2,183	2,439	1,173	4,297
Flow Rate (veh/hr)	3,804	3,811	2,512	3,101	2,418	3,841	3,850	3,853	2,166	2,786	2,136	5,002	4,999	4,998	2,810	3,449	2,446	4,957	4,957	4,964	3,074	3,649	3,436	4,682
Demand Volume (veh)	3,813	3,813	2,510	3,108	2,426	3,844	3,844	3,844	2,155	2,789	2,144	5,034	5,034	5,034	2,846	3,473	2,454	5,002	5,002	5,002	3,109	3,672	3,448	4,731
Percent Served	100%	100%	100%	100%	100%	100%	100%	100%	101%	100%	100%	99%	99%	99%	99%	99%	100%	99%	99%	99%	99%	99%	100%	99%
Speed (mph)	71	67	73	73	73	69	70	70	74	75	75	70	68	68	70	71	71	69	69	70	68	70	71	71
Density (veh/mi/ln)	13	11	12	11	11	14	14	11	10	9	9	18	18	15	13	12	11	18	18	14	15	13	16	16
Level of Service	B	B	B	B	B	B	B	B	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B



SectionID	8140	8140	8150	8155	8170	8180	8190	8195	8200	8202	8204	8210	8220	8220	8230	8240	8250	8260	8270	8275	8280	8282	8285	8290
Freeway Segment	Weave	Weave	Basic	Weave	Basic	Weave	Weave	Weave	Basic	Weave	Basic	Weave	Weave	Weave	Basic	Weave	Basic	Weave	Weave	Weave	Basic	Weave	Basic	Weave
Segment Length (ft)	9,500	9,500	1,440	2,400	3,200	1,577	8,200	1,558	1,575	2,467	4,100	4,000	7,836	7,836	1,362	2,474	1,697	1,500	1,600	4,573	1,968	2,444	1,450	6,353
Flow Rate (veh/hr)	6,492	6,492	4,571	5,505	4,690	6,797	6,790	6,788	4,108	4,958	4,334	6,935	6,915	6,915	3,525	3,595	2,957	4,586	4,585	4,586	2,038	3,164	2,589	3,579
Demand Volume (veh)	6,560	6,560	4,651	5,594	4,789	6,907	6,907	6,907	4,164	5,011	4,383	6,995	6,995	6,995	3,547	3,623	2,988	4,624	4,624	4,624	2,042	3,186	2,609	3,604
Percent Served	99%	99%	98%	98%	98%	98%	98%	98%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	100%	99%	99%	99%
Speed (mph)	65	65	64	62	62	61	65	68	73	73	72	65	65	65	76	75	70	68	72	71	75	71	68	67
Density (veh/mi/ln)	25	25	24	22	25	22	26	25	19	17	20	22	27	27	16	12	14	14	16	16	9	11	13	13
Level of Service	C	C	C	C	C	C	C	C	C	B	C	C	C	C	B	B	B	B	B	B	A	B	B	B

Figure 9.10 I-75 Mainline Vissim Analysis – Build AM Peak Hour (Local Lanes from SR 64 to Bee Ridge Road)

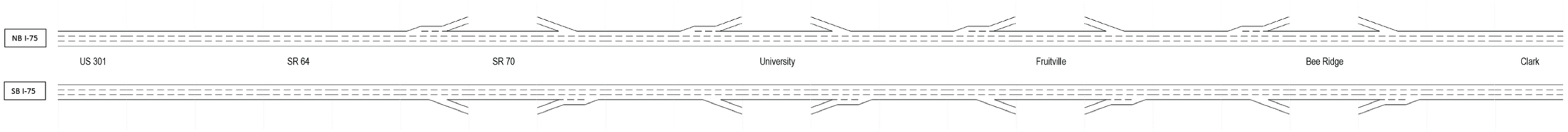
SectionID	7625	7610	7605	7605	7600	500	7590	7580	7570	7570	310	7550	300	7540	219	7525	7520	205	7515	110	7508	7505	105	7500
Freeway Segment	Weave	Weave	Basic	Basic	Basic	Diverge	Basic	Basic	Basic	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Basic	Diverge	Basic	Merge	Basic	Basic	Diverge	Basic
Segment Length (ft)	4,297	1,578	2,575	2,575	1,240	1,489	18,600	2,726	23,774	23,774	1,500	2,463	1,500	5,499	1,500	2,142	1,700	1,578	4,940	1,447	1,889	1,200	1,498	9,600
Flow Rate (veh/hr)	4,682	4,686	2,850	2,850	7,147	8,207	8,302	8,319	7,229	7,229	7,234	6,257	7,370	7,450	7,458	6,010	6,022	6,930	6,997	7,003	5,831	5,832	6,417	6,423
Demand Volume (veh)	4,731	4,731	2,891	2,891	7,246	8,395	8,395	8,395	7,285	7,285	7,285	6,305	7,504	7,504	7,504	6,058	6,058	7,017	7,017	7,017	5,838	5,838	6,428	6,428
Percent Served	99%	99%	99%	99%	99%	98%	99%	99%	99%	99%	99%	99%	98%	99%	99%	99%	99%	99%	100%	100%	100%	100%	100%	100%
Speed (mph)	71	71	71	71	73	72	66	71	69	69	69	71	72	68	65	75	75	72	74	72	73	73	72	72
Density (veh/mi/ln)	16	13	13	13	20	19	25	23	26	26	21	22	21	27	23	20	20	20	23	20	20	20	22	22
Level of Service	B	B	B	B	C	B	C	C	D	D	C	C	C	D	C	C	C	B	C	B	C	C	C	C



SectionID	8290	8290	8295	8300	8310	540	8330	8335	430	8350	320	8360	330	8400	220	8410	8410	225	8420	120	8425	8430	125	8450
Freeway Segment	Weave	Weave	Basic	Basic	Basic	Merge	Basic	Basic	Diverge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Basic	Merge	Basic	Diverge	Basic	Basic	Merge	Basic
Segment Length (ft)	6,353	6,353	1,098	2,164	1,328	1,400	2,000	19,165	1,538	19,166	1,560	2,900	1,500	6,340	1,499	3,193	3,193	1,500	5,284	1,495	995	2,008	1,500	9,085
Flow Rate (veh/hr)	3,579	3,579	1,075	1,074	4,906	5,743	5,743	5,731	5,558	4,455	4,364	3,824	4,644	4,643	4,510	3,682	3,682	4,303	4,297	4,186	3,488	3,487	3,901	3,902
Demand Volume (veh)	3,604	3,604	1,081	1,081	4,979	5,804	5,804	5,804	5,804	4,544	4,544	3,926	4,752	4,752	4,752	3,783	3,783	4,415	4,415	4,415	3,576	3,576	3,991	3,991
Percent Served	99%	99%	99%	99%	99%	99%	99%	99%	96%	98%	96%	97%	98%	98%	95%	97%	97%	97%	97%	95%	98%	98%	98%	98%
Speed (mph)	67	67	65	66	75	74	75	68	71	72	68	69	68	71	73	70	70	70	74	75	73	73	73	74
Density (veh/mi/ln)	13	13	6	8	13	13	15	17	16	16	13	14	14	16	13	13	13	13	14	11	12	12	11	13
Level of Service	B	B	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B

Figure 9.11 I-75 Mainline Vissim Analysis – Build AM Peak Hour (Local Lanes from Bee Ridge Road to N River Road)

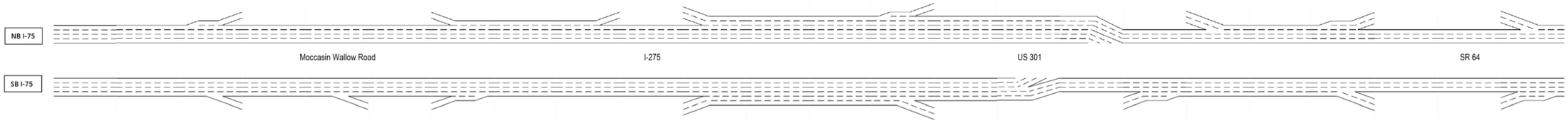
SectionID	9090	9090	9090	9090	9090	7780_1	9072	7780	9070	7735_1	9050	7735	9040	7680_1	9022	7680	9020	7640_1	9002	7640	9000	9000
Freeway Segment	Basic	Basic	Basic	Basic	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Basic
Segment Length (ft)	27,300	27,300	27,300	27,300	27,300	1,440	3,758	1,500	12,800	1,540	3,783	1,474	10,800	1,598	3,781	1,425	8,100	1,595	3,745	1,498	7,600	7,600
Flow Rate (veh/hr)	4,093	4,093	4,093	4,093	4,093	4,109	3,519	4,159	4,210	4,223	3,604	4,257	4,258	4,259	3,627	4,636	4,643	4,647	4,076	4,296	4,292	4,292
Demand Volume (veh)	4,208	4,208	4,208	4,208	4,208	4,208	3,609	4,291	4,291	4,291	3,658	4,303	4,303	4,303	3,676	4,695	4,695	4,695	4,131	4,355	4,355	4,355
Percent Served	97%	97%	97%	97%	97%	98%	98%	97%	98%	98%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
Speed (mph)	74	74	74	74	74	73	73	72	71	77	77	76	77	78	75	73	74	74	76	75	76	76
Density (veh/mi/ln)	19	19	19	19	19	14	16	19	20	14	16	19	18	15	16	21	21	17	18	19	19	19
Level of Service	C	C	C	C	C	B	B	B	C	B	B	B	C	B	B	C	C	B	B	B	C	C



SectionID	9500	9500	9500	9500	9500	8155	9502	8155_1	9520	8202	9530	8202_1	9550	8240	9552	8240_1	9570	8282	9572	8282_1	9590	9590
Freeway Segment	Basic	Basic	Basic	Basic	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Basic
Segment Length (ft)	27,600	27,600	27,600	27,600	27,600	1,455	3,832	1,500	11,800	1,481	3,790	1,553	13,000	1,500	3,767	1,498	7,000	1,567	3,526	1,492	9,058	9,058
Flow Rate (veh/hr)	4,248	4,248	4,248	4,248	4,248	4,236	3,317	4,133	4,124	4,118	3,270	3,883	3,876	3,861	3,790	4,419	4,414	4,341	3,279	3,849	3,849	3,849
Demand Volume (veh)	4,263	4,263	4,263	4,263	4,263	4,263	3,320	4,126	4,126	4,126	3,278	3,906	3,906	3,906	3,830	4,465	4,465	4,465	3,321	3,898	3,898	3,898
Percent Served	100%	100%	100%	100%	100%	99%	100%	100%	100%	100%	100%	99%	99%	99%	99%	99%	99%	97%	99%	99%	99%	99%
Speed (mph)	75	75	75	75	75	63	66	66	72	75	77	77	74	77	76	76	73	74	77	77	74	74
Density (veh/mi/ln)	19	19	19	19	19	22	17	16	19	18	14	13	17	17	17	15	20	20	14	13	17	17
Level of Service	C	C	C	C	C	C	B	B	C	B	B	B	B	B	B	B	C	B	B	B	B	B

Figure 9.12 I-75 Mainline Vissim Analysis – Build AM Peak Hour (Through Lanes from US 301 to Clark Road)

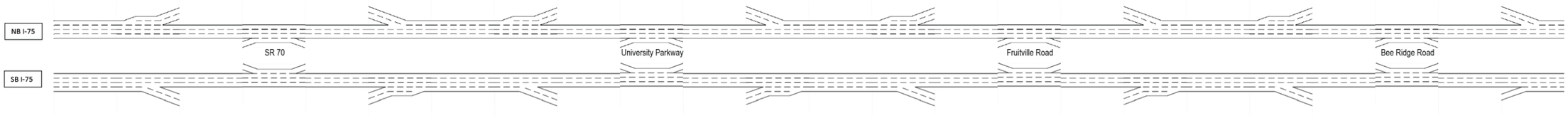
SectionID	7935	7930	80	7910	7910	7910	7900	7900	7900	7890	5000	7880	7870	1110	7855	7852	7850	7845	7842	7840	7830	7820	7810	7805
Freeway Segment	Basic	Basic	Merge	Basic	Basic	Basic	Weave	Weave	Weave	Basic	Diverge	Basic	Basic	Merge	Basic	Basic	Basic	Basic	Weave	Weave	Weave	Basic	Basic	Weave
Segment Length (ft)	12,800	2,600	1,500	4,300	4,300	4,300	1,867	1,867	1,867	600	1,495	4,100	8,000	1,446	6,555	1,899	1,785	1,396	5,200	1,258	1,965	1,871	1,500	2,099
Flow Rate (veh/hr)	7,608	7,608	7,601	6,590	6,590	6,590	8,273	8,273	8,273	6,780	9,531	9,538	9,543	9,551	8,690	8,691	8,691	3,077	5,515	5,514	5,512	3,121	3,120	5,605
Demand Volume (veh)	7,594	7,594	7,594	6,588	6,588	6,588	8,249	8,249	8,249	6,774	9,515	9,515	9,515	9,515	8,654	8,654	8,654	3,079	5,499	5,499	5,499	3,106	3,106	5,592
Percent Served	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Speed (mph)	68	68	62	62	62	62	66	66	66	68	71	70	70	72	72	69	66	75	69	71	72	78	77	69
Density (veh/mi/ln)	28	28	25	27	27	27	25	25	25	20	22	23	23	19	20	21	22	14	20	19	15	13	13	20
Level of Service	D	D	C	D	D	D	C	C	C	C	C	C	C	B	C	C	C	B	C	B	B	B	B	C



SectionID	8000	8000	70	5005	5005	45	92	8032	8032	49	8040	8050	8060	8060	8070	8070	8090	8092	8094	8095	8095	8100	8100	8110
Freeway Segment	Basic	Basic	Diverge	Basic	Diverge	Basic	Merge	Basic	Basic	Basic	Weave	Weave	Weave	Weave	Basic	Basic	Basic	Weave	Weave	Weave	Weave	Basic	Basic	Weave
Segment Length (ft)	16,900	16,900	1,000	1,457	1,457	2,528	1,499	4,444	4,444	1,064	1,000	2,881	12,200	12,200	8,472	8,472	2,598	2,098	4,278	2,139	2,139	5,967	5,967	1,500
Flow Rate (veh/hr)	4,710	4,710	4,716	4,223	4,223	3,337	3,887	3,888	3,888	3,890	7,633	7,640	7,652	7,652	6,359	6,359	2,936	4,536	4,536	4,531	4,531	2,840	2,840	4,367
Demand Volume (veh)	4,707	4,707	4,707	4,002	4,002	3,348	3,905	3,905	3,905	3,905	7,637	7,637	7,637	7,637	6,340	6,340	2,947	4,543	4,543	4,543	4,543	2,871	2,871	4,398
Percent Served	100%	100%	100%	106%	106%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	99%	99%	99%
Speed (mph)	68	68	68	73	73	79	76	72	72	74	72	73	76	76	76	76	70	71	76	75	75	76	76	71
Density (veh/mi/ln)	17	17	17	14	14	11	11	14	14	13	18	17	17	17	17	17	14	13	15	15	15	12	12	12
Level of Service	B	B	B	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B

Figure 9.13 I-75 Mainline Vissim Analysis – Build PM Peak Hour (Local Lanes from Moccasin Wallow Road to SR 64)

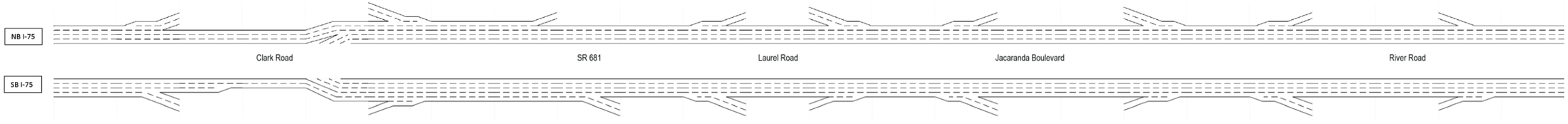
SectionID	7800	7795	7790	7780	7760	7755	7750	7745	7740	7735	7732	7730	7725	7720	7710	7680	7678	7675	7675	7660	7650	7640	7630	7625
Freeway Segment	Weave	Weave	Basic	Weave	Basic	Weave	Weave	Weave	Basic	Weave	Basic	Weave	Weave	Weave	Basic	Weave	Basic	Weave	Weave	Weave	Basic	Weave	Basic	Weave
Segment Length (ft)	9,985	1,556	2,500	2,477	1,200	11,841	1,276	1,500	1,300	2,393	1,156	3,553	7,500	1,500	1,435	2,400	1,197	7,475	7,475	1,500	2,183	2,439	1,173	4,297
Flow Rate (veh/hr)	5,609	5,598	3,753	4,636	3,866	5,383	5,384	5,383	2,693	4,075	3,508	6,073	6,067	6,067	2,669	3,472	2,583	4,239	4,239	4,239	2,325	3,256	3,160	4,077
Demand Volume (veh)	5,592	5,592	3,741	4,644	3,871	5,363	5,363	5,363	2,673	4,056	3,499	6,100	6,100	6,100	2,701	3,500	2,598	4,261	4,261	4,261	2,348	3,265	3,166	4,075
Percent Served	100%	100%	100%	100%	100%	100%	100%	100%	101%	100%	100%	100%	99%	99%	99%	99%	99%	99%	99%	99%	99%	100%	100%	100%
Speed (mph)	69	64	71	72	72	68	68	69	73	73	74	70	67	67	71	71	71	71	71	71	70	71	71	72
Density (veh/mi/ln)	20	17	18	16	18	20	20	16	12	14	16	22	23	18	13	12	12	15	15	12	11	12	15	14
Level of Service	C	B	B	B	B	B	B	B	B	B	B	C	C	B	B	B	B	B	B	B	B	B	B	B



SectionID	8140	8140	8150	8155	8170	8180	8190	8195	8200	8202	8204	8210	8220	8220	8230	8240	8250	8260	8270	8275	8280	8282	8285	8290
Freeway Segment	Weave	Weave	Basic	Weave	Basic	Weave	Weave	Weave	Basic	Weave	Basic	Weave	Weave	Weave	Basic	Weave	Basic	Weave	Weave	Weave	Basic	Weave	Basic	Weave
Segment Length (ft)	9,500	9,500	1,440	2,400	3,200	1,577	8,200	1,558	1,575	2,467	4,100	4,000	7,836	7,836	1,362	2,474	1,697	1,500	1,600	4,573	1,968	2,444	1,450	6,353
Flow Rate (veh/hr)	4,361	4,361	2,961	3,325	2,694	4,590	4,590	4,591	2,864	3,409	2,821	5,699	5,701	5,701	3,512	3,606	2,760	5,312	5,310	5,309	2,787	3,402	1,923	3,405
Demand Volume (veh)	4,398	4,398	2,994	3,358	2,727	4,628	4,628	4,628	2,887	3,429	2,829	5,713	5,713	5,713	3,510	3,606	2,750	5,308	5,308	5,308	2,791	3,399	1,912	3,393
Percent Served	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	101%	100%
Speed (mph)	70	70	66	66	66	67	72	72	75	75	75	67	69	69	76	75	70	66	69	69	72	70	70	68
Density (veh/mi/ln)	16	16	15	13	14	14	16	16	13	11	13	17	21	21	15	12	13	16	19	19	13	12	9	13
Level of Service	B	B	B	B	B	B	B	B	B	B	B	B	C	C	B	B	B	B	B	B	B	B	A	B

Figure 9.14 I-75 Mainline Vissim Analysis – Build PM Peak Hour (Local Lanes from SR 64 to Bee Ridge Road)

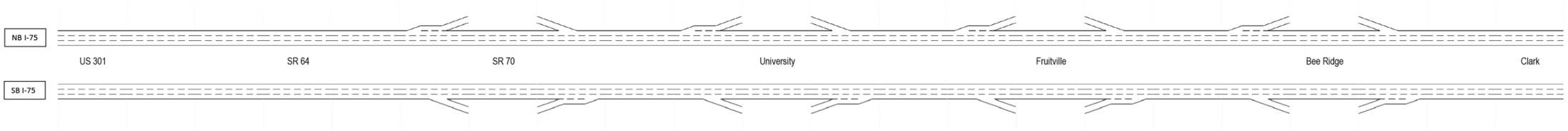
SectionID	7625	7610	7605	7605	7600	500	7590	7580	7570	7570	310	7550	300	7540	219	7525	7520	205	7515	110	7508	7505	105	7500
Freeway Segment	Weave	Weave	Basic	Basic	Basic	Diverge	Basic	Basic	Basic	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Basic	Diverge	Basic	Merge	Basic	Basic	Diverge	Basic
Segment Length (ft)	4,297	1,578	2,575	2,575	1,240	1,489	18,600	2,726	23,774	23,774	1,500	2,463	1,500	5,499	1,500	2,142	1,700	1,578	4,940	1,447	1,889	1,200	1,498	9,600
Flow Rate (veh/hr)	4,077	4,080	1,598	1,598	5,518	6,253	6,297	6,279	4,899	4,899	4,891	4,216	4,836	4,878	4,881	3,912	3,919	4,476	4,516	4,519	3,759	3,761	4,160	4,159
Demand Volume (veh)	4,075	4,075	1,591	1,591	5,495	6,272	6,272	6,272	4,893	4,893	4,893	4,216	4,888	4,888	4,888	3,924	3,924	4,522	4,522	4,522	3,760	3,760	4,160	4,160
Percent Served	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	99%	100%	100%	100%	100%	99%	100%	100%	100%	100%	100%	100%
Speed (mph)	72	69	72	72	74	73	69	72	73	73	71	73	74	73	70	77	77	73	78	75	75	75	74	75
Density (veh/mi/ln)	14	12	7	7	15	14	18	17	17	17	14	15	13	17	14	13	13	12	14	12	13	13	14	14
Level of Service	B	B	A	A	B	B	C	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B



SectionID	8290	8290	8295	8300	8310	540	8330	8335	430	8350	320	8360	330	8400	220	8410	8410	225	8420	120	8425	8430	125	8450
Freeway Segment	Weave	Weave	Basic	Basic	Basic	Merge	Basic	Basic	Diverge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Basic	Merge	Basic	Diverge	Basic	Basic	Merge	Basic
Segment Length (ft)	6,353	6,353	1,098	2,164	1,328	1,400	2,000	19,165	1,538	19,166	1,560	2,900	1,500	6,340	1,499	3,193	3,193	1,500	5,284	1,495	995	2,008	1,500	9,085
Flow Rate (veh/hr)	3,405	3,405	1,557	1,557	6,912	8,033	8,031	8,040	7,916	7,000	6,874	6,139	7,388	7,390	7,204	5,990	5,990	6,967	6,964	6,794	5,706	5,707	6,309	6,311
Demand Volume (veh)	3,393	3,393	1,557	1,557	6,914	8,010	8,010	8,010	8,010	6,981	6,981	6,117	7,374	7,374	7,374	5,981	5,981	6,960	6,960	6,960	5,715	5,715	6,319	6,319
Percent Served	100%	100%	100%	100%	100%	100%	100%	100%	99%	100%	98%	100%	100%	100%	98%	100%	100%	100%	100%	98%	100%	100%	100%	100%
Speed (mph)	68	68	65	65	73	72	73	64	69	67	64	63	59	64	71	68	68	66	71	73	72	72	72	72
Density (veh/mi/ln)	13	13	8	12	19	19	22	25	24	26	22	24	26	29	21	22	22	22	25	19	20	20	18	22
Level of Service	B	B	A	B	C	B	C	C	C	D	C	C	C	D	C	C	C	C	C	B	C	C	B	C

Figure 9.15 I-75 Mainline Vissim Analysis – Build PM Peak Hour (Local Lanes from Bee Ridge Road to N River Road)

SectionID	9090	9090	9090	9090	9090	7780_1	9072	7780	9070	7735_1	9050	7735	9040	7680_1	9022	7680	9020	7640_1	9002	7640	9000	9000
Freeway Segment	Basic	Basic	Basic	Basic	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Basic
Segment Length (ft)	27,300	27,300	27,300	27,300	27,300	1,440	3,758	1,500	12,800	1,540	3,783	1,474	10,800	1,598	3,781	1,425	8,100	1,595	3,745	1,498	7,600	7,600
Flow Rate (veh/hr)	5,612	5,612	5,612	5,612	5,612	5,609	4,727	5,438	5,483	5,479	4,097	4,664	4,664	4,664	3,855	4,752	4,757	4,760	3,819	3,918	3,915	3,915
Demand Volume (veh)	5,575	5,575	5,575	5,575	5,575	5,575	4,672	5,445	5,445	5,445	4,062	4,619	4,619	4,619	3,820	4,722	4,722	4,722	3,805	3,904	3,904	3,904
Percent Served	101%	101%	101%	101%	101%	101%	101%	100%	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%	100%	100%	100%	100%
Speed (mph)	69	69	69	69	69	69	72	70	69	75	77	76	77	77	75	73	74	74	76	76	76	76
Density (veh/mi/ln)	27	27	27	27	27	21	22	26	27	19	18	20	20	17	17	22	22	18	17	17	17	17
Level of Service	D	D	D	D	D	C	C	C	D	B	B	C	C	B	B	C	C	B	B	B	B	B



SectionID	9500	9500	9500	9500	9500	8155	9502	8155_1	9520	8202	9530	8202_1	9550	8240	9552	8240_1	9570	8282	9572	8282_1	9590	9590
Freeway Segment	Basic	Basic	Basic	Basic	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Basic
Segment Length (ft)	27,600	27,600	27,600	27,600	27,600	1,455	3,832	1,500	11,800	1,481	3,790	1,553	13,000	1,500	3,767	1,498	7,000	1,567	3,526	1,492	9,058	9,058
Flow Rate (veh/hr)	3,424	3,424	3,424	3,424	3,424	3,430	3,073	3,703	3,702	3,698	3,151	3,738	3,749	3,746	3,655	4,505	4,509	4,471	3,897	5,378	5,375	5,375
Demand Volume (veh)	3,393	3,393	3,393	3,393	3,393	3,393	3,029	3,660	3,660	3,660	3,118	3,718	3,718	3,718	3,622	4,478	4,478	4,478	3,870	5,357	5,357	5,357
Percent Served	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%	100%	101%	100%	100%	100%
Speed (mph)	76	76	76	76	76	65	66	66	73	76	77	77	74	77	76	77	73	74	76	75	71	71
Density (veh/mi/ln)	15	15	15	15	15	17	15	14	17	16	14	13	17	16	16	15	20	20	17	18	25	25
Level of Service	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	B	B	C	C

Figure 9.16 I-75 Mainline Vissim Analysis – Build PM Peak Hour (Through Lanes from US 301 to Clark Road)

9.1.4 Network Performance Summary

The network performance results for the overall design year (2045) Build AM and PM peak-hour operations are shown in **Table 9.3**. Latent demand and latent delay apply to vehicles that cannot enter the network due to queuing and indicate capacity constraints within the model. There are nearly no unserved vehicles in either the AM or PM peak hours, indicating that congestion and bottlenecks are not expected to prevent the future traffic demand from moving through the system.

Table 9.3 Build Vissim Network Performance Summary

Peak Period	Average Speed (mph)	Average Delay (sec)	Total Travel Time (hr)	Total Delay (hr)	Arrived Vehicles (veh)	Latent Demand (veh)	Latent Delay (hr)	Total Delay + Latent Delay (hr)
AM	69	37	10,528	658	52,662	3	4	662
PM	69	38	10,664	665	53,164	3	4	669

10.0 Design Year (2045) Comparison of I-75 Mainline Traffic Analysis Results

The design year (2045) No Build and Build network travel times and network-wide performance measures are compared in this section to quantify the expected magnitude of operational benefits. The I-75 mainline is expected to experience substantial increases in speed under the Build Alternative, complemented with decreases in density and improvements in estimated LOS across various segments in both directions, as demonstrated in the speed and density figures provided in Section 6.6 and Section 9.1. The Build Alternative improvement in operations over the No Build Alternative is attributed to the additional capacity provided under the Build Alternative, coupled with less turbulence and weaving action between merging and diverging ramp traffic and long-haul through traffic due to the separated lanes for through and local trips. Congestion and bottlenecks are expected to be resolved on I-75 under the Build Alternative. Interchange, arterial, and intersection improvements may be needed for the full benefit of the I-75 Build Alternative to be realized and will be evaluated in the PD&E phase for the I-75 north corridor.

10.1 I-75 Mainline Travel Times

A comparison of the No Build and Build Alternative AM and PM peak-hour travel times on northbound and southbound I-75 is provided in **Table 10.1** and **Table 10.2**. The AM peak-hour average travel time along I-75 from south of N River Road to north of Moccasin Wallow Road is expected to improve by over 7 minutes in the northbound direction under the Build Alternative, with most of the travel time savings happening on the segment from south of N River Road to SR 681. During the PM peak hour, the average travel time along I-75 from south of N River Road to north of Moccasin Wallow Road is expected to improve by nearly 16 minutes in the northbound direction under the Build Alternative, with over 14 minutes of this travel time savings happening on the segment from Bee Ridge Road to SR 70. Average speeds on various segments are expected to improve by over 35 mph and 45 mph, in the AM and PM peak hours, respectively. This demonstrates the operational advantages associated with the Build Alternative.

Table 10.1 Comparison of No Build and Build I-75 Mainline Travel Time – AM Peak Hour

Segment	Length (miles)	2045 No Build Travel Time (min)	2045 Build Travel Time (min)	Difference in Travel Time (min)	Percent Change in Travel Time (min)	2045 No Build Average Speed (mph)	2045 Build Average Speed (mph)	Difference in Average Speed (mph)	Percent Change in Average Speed (mph)
I-75 Northbound - South of N River Rd to North of Moccasin Wallow Rd	40.6	40.2	33.2	-7.0	-17.5%	61	74	13	20.6%
I-75 Northbound - South of N River Rd to SR 681	9.7	15.6	8.1	-7.5	-47.8%	37	72	35	93.6%
I-75 Northbound - SR 681 to Bee Ridge Rd	7.5	6.9	6.5	-0.4	-5.9%	66	70	4	5.5%
I-75 Northbound - Bee Ridge Rd to SR 70	9.9	8.6	8.1	-0.5	-5.8%	69	73	4	6.1%
I-75 Northbound - SR 70 to US 301	7.3	6.2	6.0	-0.2	-3.3%	71	73	2	2.9%
I-75 Northbound - US 301 to North of Moccasin Wallow Rd	6.2	5.2	5.0	-0.2	-3.4%	72	74	2	2.5%
I-75 Southbound - North of Moccasin Wallow Rd to South of N River Rd	40.6	39.1	33.1	-6.0	-15.4%	62	74	12	19.0%
I-75 Southbound - North of Moccasin Wallow Rd to US 301	6.2	7.1	5.1	-2.0	-28.9%	52	73	21	40.5%
I-75 Southbound - US 301 to SR 70	7.3	9.9	6.3	-3.6	-36.7%	44	70	26	58.2%
I-75 Southbound - SR 70 to Bee Ridge Rd	9.9	10.2	8.2	-2.0	-19.6%	58	72	14	25.0%
I-75 Southbound - Bee Ridge Rd to SR 681	7.6	6.7	6.4	-0.3	-5.2%	68	72	4	5.8%
I-75 Southbound - SR 681 to South of N River Rd	9.7	8.3	8.0	-0.3	-3.4%	70	73	3	3.8%

Table 10.2 Comparison of No Build and Build I-75 Mainline Travel Time – PM Peak Hour

Segment	Length (miles)	2045 No Build Travel Time (min)	2045 Build Travel Time (min)	Difference in Travel Time (min)	Percent Change in Travel Time (min)	2045 No Build Average Speed (mph)	2045 Build Average Speed (mph)	Difference in Average Speed (mph)	Percent Change in Average Speed (mph)
I-75 Northbound - South of N River Rd to North of Moccasin Wallow Rd	40.6	49.4	33.5	-15.9	-32.2%	49	73	24	48.7%
I-75 Northbound - South of N River Rd to SR 681	9.7	8.1	7.8	-0.3	-3.9%	72	75	3	4.1%
I-75 Northbound - SR 681 to Bee Ridge Rd	7.5	9.5	6.2	-3.3	-34.3%	47	72	25	54.1%
I-75 Northbound - Bee Ridge Rd to SR 70	9.9	22.5	8.2	-14.3	-63.4%	26	72	46	176.9%
I-75 Northbound - SR 70 to US 301	7.3	7.5	6.3	-1.2	-16.6%	58	70	12	20.6%
I-75 Northbound - US 301 to North of Moccasin Wallow Rd	6.2	6.3	5.3	-1.0	-16.0%	59	70	11	18.7%
I-75 Southbound - North of Moccasin Wallow Rd to South of N River Rd	40.6	40.8	33.8	-7.0	-17.1%	60	72	12	20.1%
I-75 Southbound - North of Moccasin Wallow Rd to US 301	6.2	5.1	4.8	-0.3	-5.6%	72	77	5	6.4%
I-75 Southbound - US 301 to SR 70	7.3	6.1	5.9	-0.2	-3.0%	72	74	2	2.3%
I-75 Southbound - SR 70 to Bee Ridge Rd	9.9	8.9	8.1	-0.8	-8.5%	66	73	7	10.6%
I-75 Southbound - Bee Ridge Rd to SR 681	7.6	8.6	6.8	-1.8	-20.9%	53	67	14	26.8%
I-75 Southbound - SR 681 to South of N River Rd	9.7	12.1	8.5	-3.6	-29.4%	48	68	20	42.0%

10.2 Network Performance Summary

The network performance results comparison for the overall design year (2045) No Build and Build AM and PM peak-hour operations are shown in **Table 10.3**. Latent demand and latent delay apply to vehicles that cannot enter the network due to queuing and indicate capacity constraints within the model. Latent demand was essentially eliminated under the Build Alternative, being reduced from about 2,000-2,800 vehicles in the No Build network to negligible amounts in the Build network. Networkwide average speed increases by 19-21 mph under the Build Alternative, and average delay per vehicle is reduced by about 85 percent in both the AM and PM peak hours. These improvements are attributed to the additional capacity provided under the Build Alternative, coupled with less turbulence and weaving action between merging and diverging ramp traffic and long-haul through traffic due to the separated lanes for through and local trips. Congestion and bottlenecks are expected to be resolved on I-75 under the Build Alternative.

Table 10.3 Comparison of No Build and Build Vissim Network Performance Summary

Analysis Case	Average Speed (mph)	Average Delay (sec)	Total Travel Time (hr)	Total Delay (hr)	Arrived Vehicles (veh)	Latent Demand (veh)	Latent Delay (hr)	Total Delay + Latent Delay (hr)
2045 No Build AM	50	215	10,062	3,150	41,907	2,772	1,309	4,459
2045 Build AM	69	37	10,528	658	52,662	3	4	662
Difference AM	19	-178	466	-2,492	10,755	-2,769	-1,305	-3,797
Percent Change AM	37.2%	-82.6%	4.6%	-79.1%	25.7%	-99.9%	-99.7%	-85.1%
2045 No Build PM	48	244	10,983	3,697	42,733	1,975	1,217	4,914
2045 Build PM	69	38	10,664	665	53,164	3	4	669
Difference PM	21	-206	-319	-3,032	10,431	-1,972	-1,213	-4,245
Percent Change PM	43.0%	-84.6%	-2.9%	-82.0%	24.4%	-99.9%	-99.6%	-86.4%

Appendix A
Memorandum of Agreement Addendum

Memo

Date:	Monday, August 15, 2022
Project:	I-75 North Corridor Master Plan FPID: 442518-1-12-01
To:	Joshua Jester, EI, FDOT District 1 Project Manager
From:	Jeremy Jackson, PE, HDR Traffic Engineer
Subject:	Traffic Analysis Memorandum of Agreement (MOA) Addendum

1. Introduction

The study of I-75 improvements from south of SR 777 (North River Road) to north of Moccasin Wallow Road in Manatee and Sarasota counties, Florida began in 2019 as one Project Development and Environment (PD&E) Study. In February 2021, the Florida Department of Transportation (FDOT) District One revised the project from a PD&E Study to a Master Plan. The primary purpose of the Master Plan is to identify long-term capacity needs along the I-75 mainline and develop strategies for the mainline and interchanges that will improve accessibility, mobility, and safety. The Master Plan includes recommendations with phased implementation to optimize system performance and travel time reliability, as well as to analyze mainline alternatives and identify interim improvements to provide congestion relief within the corridor until completion of the long-term improvements. The recommendations will support scheduling for future PD&E studies, final design projects, and/or construction projects as necessary and appropriate.

A Memorandum of Agreement (MOA) was submitted in June 2020 to document the traffic operational analysis and traffic forecasting methodologies to be followed during the preliminary analysis phase of the I-75 PD&E Study. Based on discussions with FDOT District One, the Vissim analysis and safety analysis methodology was modified to reflect the change from a PD&E Study to a Master Plan. The purpose of this MOA Addendum is to describe the changes to the methodology that deviate from the previously submitted MOA.

2. Vissim Analysis Methodology

In developing the No-Build (2045) Vissim models for the I-75 North Corridor interchange subareas, the HDR team identified issues that make it difficult to model the corridor as a combined system with the I-75 mainline. These issues include unsignalized ramp terminals, interchange configurations with minor improvements such as widening or no improvements at the ramp terminal, and minor or no improvements at the ramp terminal adjacent intersections. Although multiple interchanges have been reconfigured in the No-Build scenario based on planned improvements, most of the adjacent intersections include only minor improvements or no improvements. These issues result in excessive queuing on the off ramps that will impact the I-75 mainline, unserved demand that cannot reach the interchange, or both at each corridor location.

With demand volume flow inhibited to this extent due to the issues described above, it was determined that the development of a combined No-Build Vissim model would not provide a meaningful tool for prioritizing identified improvements. Queuing from multiple interchanges would create significant bottlenecks on the I-75 mainline, making it difficult to identify mainline deficiencies. Instead of the traditional “No-Build vs. Build” comparison, it was determined through coordination between FDOT D1, the Interstate Program Manager (IPM), and consultant Team, that a methodology that uses the No-Build analysis to identify and prioritize improvements at the interchange and mainline subarea levels will yield results that are sufficient and appropriate for identifying operational deficiencies and years of failure. The Build analysis will be used to verify that the I-75 mainline system is not limited by freeway and ramp lane capacity and functions satisfactorily, as a whole, with the proposed improvements.

No-Build Analysis Methodology

The No-Build analysis is to be performed at the subarea level for both the interchanges and I-75 mainline. The analysis will use the 2045 No-Build volumes and No-Build geometry, including the proposed improvements previously discussed with the FDOT and IPM. The mainline subarea will not include the ramp terminal intersections, which will allow for the analysis to identify mainline deficiencies independent of the interchanges. The interchange subarea models will be used to identify points of failure (be it the ramp terminals or adjacent intersections) and the magnitude of that failure. Since delay and level of service become unreliable in severely congested conditions, the prioritization of improvements will be based on latent demand (both networkwide and the I-75 off ramps) and throughput volumes at the ramp terminals and adjacent intersections.

Build Analysis Methodology

For the Build analysis, the subarea models will be used to identify the Ultimate improvements with 2045 Build volumes. The I-75 mainline subarea model will be used to test multiple ingress/egress scenarios and model the Ultimate mainline build geometry. A qualitative assessment of interchange improvements will be included in the I-75 Master Plan. Build alternatives for each interchange and adjacent intersections will be determined in the subsequent PD&E studies, at which point the mainline and interchange subarea models will be combined into a single corridor-wide model (similar to existing conditions) and the analysis will include traditional measures of effectiveness (MOEs) to verify that the whole system operates at acceptable levels.

3. Analysis Scenarios

The PD&E Study for the I-75 North Corridor included an analysis of Existing (2019), No-Build (2025 and 2045), and Ultimate Build (2025 and 2045) scenarios. The scenarios to be modeled changed when the project was revised to a Master Plan and will now include an analysis of Existing Year (2019) and Future Year (2045) conditions. Opening Year (2025) analysis is omitted from the Master Plan and will likely be included in the subsequent PD&E studies.

4. Safety Analysis

The previous traffic analysis methodology included an objective and quantitative evaluation of the proposed improvements on traffic safety along the corridor utilizing FHWA’s Crash Modification Factor (CMF) Clearinghouse and the Highway Safety Manual (HSM) predictive

crash method process, where appropriate. Based on discussions with FDOT District One, the I-75 Master Plan will include a summary of existing crash history while future safety analysis will be performed in the subsequent PD&E studies.

Appendix B
Traffic Methodology Statement

Traffic Methodology Statement

I-75 Express Lanes PD&E Study in Sarasota and Manatee Counties

The purpose of this Statement is to summarize the process that will be employed to produce existing (2019) and design year (2045) annual average daily traffic (AADT) and peak hour volumes at key intersections for each interchange area along I-75 in Sarasota and Manatee Counties.

A. Data Collection

1) Twenty-nine (29) 72-hour bi-directional (approach and departure volumes at 15-minute increments) machine classification counts, one hundred and one (101) 72-hour bi-directional (approach and departure volumes at 15-minute increments) machine volume counts, and seventy-five (75) 2-hour AM (from 7:00 AM to 9:00 AM) and PM (from 4:00 PM to 6:00 PM) turning movement, pedestrian, and bicycle counts were collected for the study area.

2) FDOT counts were collected as needed from Florida Traffic Online. These counts were used for the I-75 mainline in particular.

B. Traffic Factors

1) An axle adjustment factor (AF) and a seasonal factor (SF) will be applied to all machine counts as appropriate.

2) In accordance with the FDOT "Project Traffic Forecasting Handbook", as arterials, collectors, and limited access facilities in an urbanized area, the Standard K-factor of 9.0 percent is recommended.

3) The calculated D-factors from the turning movement counts/tube counts will be used as seed D-factors for the I-75 mainline and cross streets, while using the low to high D_{30} factors from the FDOT "*Project Traffic Forecasting Handbook*" as the minimum and maximum values.

4) The T-factor will be calculated based on the weighted averages from the 72-hour class counts for the I-75 mainline and cross streets for each interchange area.

5) The AM and PM peak hours will be computed for the entire subarea network using all collected tube counts. Localized peak hours will be calculated for each of the interchange areas.

C. Existing Year (2019) Design Traffic Volume Development

1) 72-hour tube counts will be reviewed for outlier days. That is, the AM and PM peak hour volumes for each day will be compared to the other two days for that count location. If one of the counts differs from the average of the two highest days by more than five (5) percent, then it is excluded. If multiple days meet this criterion then the outlier may be the higher value so each value is instead compared to the average of the two minimum days.

2) Significant imbalances between turning movement counts (TMCs) will be identified as potential sink/source locations. For these locations, a review of the aerial photos and maps will be conducted to determine if there is cause for adding a sink/source (e.g., a neighborhood connection, driveways) to the network. These sink/source locations will not necessarily represent an individual driveway, but may represent multiple driveways (similar to a centroid connector in a regional travel demand model). The calculated imbalance between observed count data will be used to understand if the source/sink is an overall producer or attractor during

a given period. A review of land use and engineering judgement will be used to compute the quantity of trips. Both the "*FDOT Project Traffic Forecasting Handbook"* and the "*Transportation Research Board (TRB) National Cooperative Highway Research Program (NCHRP) Report 765 – Analytical Travel Forecasting Approaches for Project-Level Planning and Design" will be reviewed for methodological consistency.*

3) An initial balancing of volumes during the system-wide peak hours on I-75 will be done using the FDOT counts at the northern and southern ends of the study area on the mainline and the tube counts collected on each ramp. The FDOT counts will be adjusted to ensure balancing. AADT will be reviewed on I-75 for quality after balancing by comparing the newly balanced volumes with the FDOT counts.

4) An existing network will be constructed in PTV VISUM by importing an extracted subarea from the base year of the sub-area validated District 1 Regional Planning Model (D1RPM). Speeds and capacities from the D1RPM will be used directly as available.

5) Additional driveways will be added to the D1RPM derived VISUM network where counts have been collected but the driveway does not exist in the model.

6) Zones will be created at all external locations on the network in VISUM. These zones will serve as the origins and destination points for the subarea. The number of AM and PM peak hour production and attraction trips at each of these zones will be computed directly from observed tube counts. If a tube count is not available at one of these zones, the appropriate approach from the turning movement count will be used instead. For those zones identified previously as a sink/source, the productions and attractions computed for that location will be used.

7) The productions and attractions for these zones that have been computed will then be balanced. Since the study area is a closed system, all trips entering the system must also leave the system. This same logic also applies to each interchange in the study area. By balancing the productions and attractions at each interchange and then balancing them together as a system (always upwards), no trips will be lost. This will result in a balanced set of production and attractions.

8) Balancing of the existing volumes will be completed using the TFLOW Fuzzy application in PTV VISUM. TFLOW Fuzzy is a matrix manipulation tool design to take an existing origin-destination matrix and adjust it so that the resulting assignment of that matrix matches the input attributes - turning movement, link, and zone counts. An overview of this process is provided in **Figure 1** below. In addition to a balanced set of turning movement counts, this volume balancing process also results in an existing year origin-destination matrix for the study area validated to the collected traffic counts.

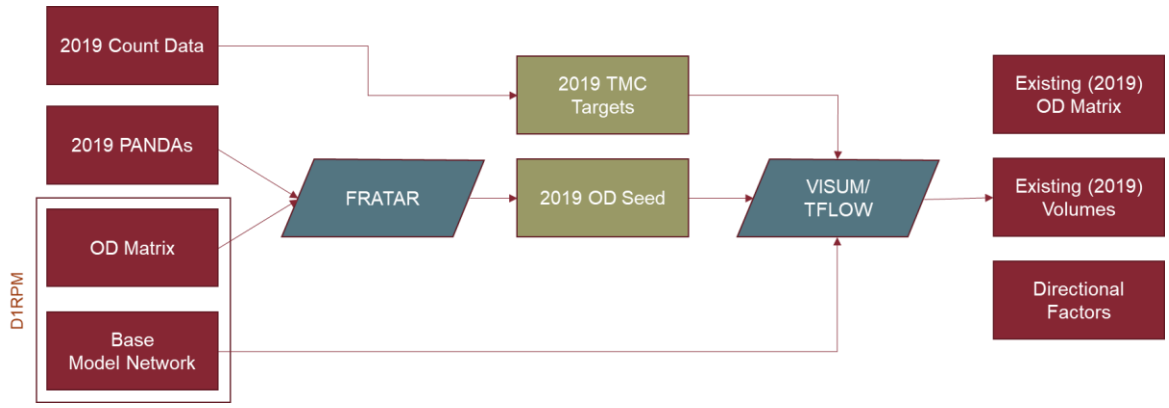


Figure 1: Existing Volumes Balancing Process

9) A seed origin-destination matrix will be created for each of the two peak hours (AM and PM). This seed origin-destination matrix will be produced using a sub-area origin-destination matrix extraction from the D1RPM base year to ensure that general travel patterns observed in the D1RPM will be replicated in the more detailed origin-destination matrix developed using TFLOW Fuzzy. To accomplish this, a lookup table between the zones in the subarea extraction and the VISUM network zones will be created. For places where the two models do not match (i.e., added driveways), either a nearby TAZ or roadway link will be substituted. This subarea extracted origin-destination matrix from the D1RPM will be matched to the counted origins and destinations at the external zones using iterative proportional fitting (IPF) methods outlined in NCHRP report 765 "*Analytical Travel Forecasting Approaches for Project-Level Planning and Design*". These seed origin-destination matrices will be used as inputs to TFLOW Fuzzy.

10) Attribute files, used as inputs to TFLOW Fuzzy, will be developed for all turning movement counts, tube counts, and zone origins and destinations. These attribute files define systemwide AM and PM peak hour count values at these locations, which is then used by TFLOW Fuzzy to manipulate the seed origin-destination matrix to match the peak hour counts within defined tolerances.

11) An iterative process starting with the most "fuzzy" tolerance of volumes to counts and ending at a more narrow tolerance will be used to match the origin-destination matrix to the collected counts. A final consistency check on all turning movement counts and tube counts by direction will be done by ensuring that the difference between the processed volume and count does not exceed 10% and 35 trips. These metrics are based on our engineering judgement and would generally be in line with traditional volume balancing techniques. In addition to this movement level check, a systemwide check that the difference between all counts and VISUM processed turning movement volumes is less than 5 percent to meet the VISSIM calibration criteria provided in Table 7-7 of the "*FDOT Traffic Analysis Handbook.*"

12) In addition to validation of the count values for turning movement counts, relative flows at the TMCs will also be checked to confirm there are no significant changes that might point to changes in distribution patterns.

13) In addition to our individual count level threshold, a final QC check will be performed at each external zone in the VISUM model. AADT will be re-calculated from the maximum of the AM and PM peak hourly volumes at each study segment using a standard K factor and the count specific D factor. This modeled AADT will be compared to the counted AADT value. To measure these differences, percent root mean square error (RMSE) values defined in the FDOT "*Project Traffic*

Forecasting Handbook" will be used to define what tolerance is acceptable or preferred. **Equation 1** below defines the process for calculating percent RMSE and **Table 1** below provides the traffic assignment accuracy levels. This practice is in line with typical validation techniques for travel demand models in the State of Florida. Differences in AADT exceeding 10 percent on links, with an AADT greater than 1,000, will be reviewed to ensure the change in volume is appropriate based on engineering judgement.

14) Access and egress for I-75 is a key component of this study. As such, special care will be taken in validating ramp volumes.

Equation 1: Percent RMSE Calculation

$$\%RMSE = \frac{\left(\sum_j (Model_j - Count_j)^2 / (NumberofCounts - 1)\right)^{0.5} * 100}{\left(\sum_j Count_j / NumberofCounts\right)}$$

Source: FSUTMS-Cube Framework Phase II Model Calibration and Validation Standards

Table 1: Traffic Assignment Accuracy Levels (RMSE)

Statistic	Standards	
	Acceptable	Preferable
RMSE: LT 5,000 VPD	100%	45%
RMSE: 5,000-9,999 VPD	45%	35%
RMSE: 10,000-14,999 VPD	35%	27%
RMSE: 15,000-19,999 VPD	30%	25%
RMSE: 20,000-29,999 VPD	27%	15%
RMSE: 30,000-49,999 VPD	25%	15%
RMSE: 50,000-59,999 VPD	20%	10%
RMSE: 60,000+ VPD	19%	10%
RMSE Areawide	45%	35%

Source: FSUTMS-Cube Framework Phase II Model Calibration and Validation Standards, Tables 2.11

D. No Build 2040 Traffic Forecasts

1) **Figure 2** below outlines the 2040 No-Build Forecasting Approach.

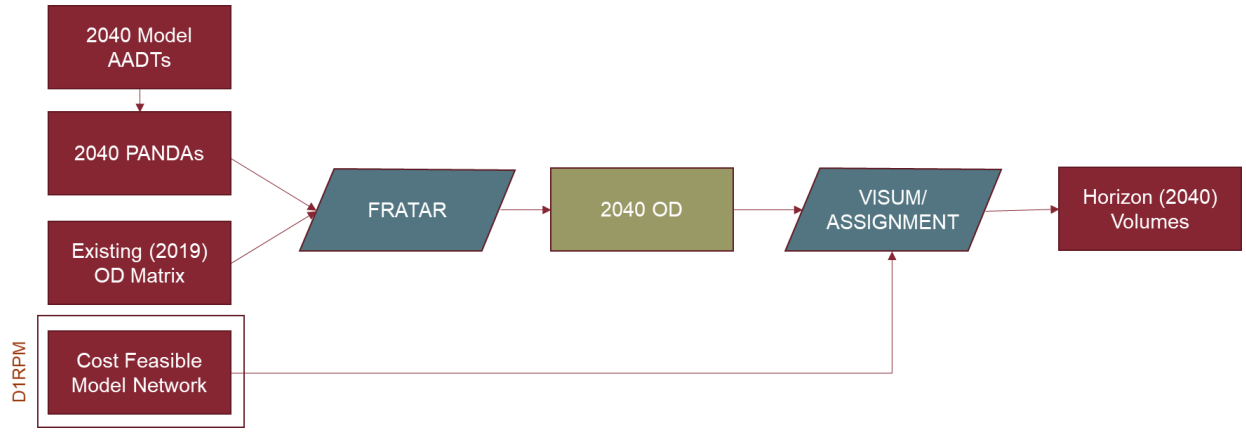


Figure 2: No-Build 2040 Forecasting Approach

2) The Department provided version of the District 1 Regional Planning Model (D1RPM), with the base year 2015, will be used to develop design traffic forecasts. Growth will be observed in the model outputs between the base year (2015) and horizon year (2040). This analysis, along with count site trends and socio-economic growth will form the basis for identifying future growth rates. Using direct model volumes will be preferred with model output correction factors (MOCF) from FDOT applied as necessary. In cases where there are unexpected variations in growth, variations will be documented and conveyed to the Department and IPM.

3) The no-build demand volumes will be based upon the D1RPM CF network, with I-75 (within the bounds of the D1RPM) coded as a 10-lane general use scenario, to establish unconstrained demand as the basis for analysis. This unconstrained scenario will ensure that latent demand is adequately captured.

4) Horizon year (2040) Model AADTs at network inputs will be collected and approved existing volume D-factors (for a given period) and standard K will be applied to develop a forecasted set of productions and attractions. This matrix will then be balanced (always up) to ensure no loss in the system.

5) The horizon year origin-destination matrix will be developed using a FRATAR process using the existing origin-destination matrix and the horizon year productions and attractions as the target.

The resulting horizon year origin-destination matrix will be assigned (using 20 iterations) to a year 2040 VISUM network which will be derived from the 2040 cost-feasible network included in the validated D1RPM using capacities and speeds from the model network as available. The resulting network will be reviewed for reasonableness and consistency.

1) **Figure 3** below outlines the 2045 No-Build Forecasting Approach.

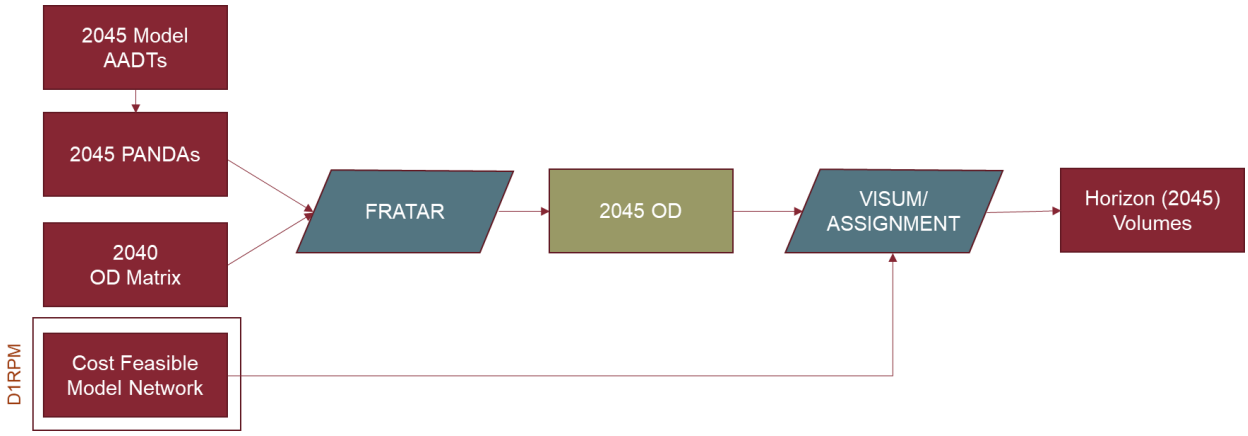


Figure 3: No-Build 2045 Forecast Procedure

2) Once it is agreed that the procedure is accurately portraying network assignment and is consistent with model forecasts, the 2019 and 2040 PANDAs will be linearly interpolated at each count site to develop 2045 PANDAs. These PANDAs will again be balanced (always up) and then will use the Fratar process to develop 2045 OD matrices utilizing the 2040 matrices as their seed.

3) The resultant 2045 OD matrices will then be assigned (20 iterations) to the network in VISUM utilizing user equilibrium assignment. The resulting network assignment will be reviewed for reasonableness and forecast consistency.

4) Input and turning movement volumes will be reviewed to ensure growth between the 2040 and 2045. Where negative growth is observed, route choice will be checked to note whether route diversion is the reason for distribution change or if additional action is required. D-Factors at network inputs will again be checked for reasonableness against Table 2-2 in the Project Traffic Forecasting Handbook (PTFH).

F. Build 2045 Traffic Forecasts

1) The D1RPM developed to support this effort will include three alternatives. The first alternative will be the 2040 cost-feasible network, the second alternative will be the 2040 cost-feasible network with one additional lane on I-75. The second alternative will be the 2040 cost-feasible network with two additional lanes on I-75.

2) Build alternative testing will consist of manipulating network coding and reassigning to the network via user equilibrium assignment as prescribed in the previous step.

3) Any changes in demand along corridors within the network will be documented and provided for Department review.

4) Any interim assignment needed will be developed by linearly interpolating between the 2019 and 2045 PANDAs, then applying the Fratar procedure with the 2045 OD matrices serving as the seed for development. Assignment will again be via user equilibrium assignment and developed traffic characteristics will be checked for forecast consistency and reasonableness as previously documented.

E. Documentation

1) At each of the following steps, quality control documentation will be provided to the Department for review. This documentation will include the quality checks referred to in this methodology and will be presented to the Department in a way that will facilitate review.
    a. Existing Volume Development
    b. 2045 'No-Build' Volume Development
    c. 2045 'Ultimate' Build Volume Development
2) All volume development and traffic forecasts outlined above will be documented in a Project Traffic Development Memorandum. The following scenarios will be developed for this effort:
    a. Existing (2019)
    b. No Build (2045)
    c. Build 'Ultimate' (2045)

Appendix C
Travel Demand Modeling Calibration and Validation Memo

Project Development & Environment (PD&E) Study

DRAFT – Travel Demand Forecasting Subarea Calibration and Validation

April 2020

PREPARED FOR:

FLORIDA DEPARTMENT OF TRANSPORTATION – DISTRICT ONE

PREPARED BY:

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Figures

1.0 – Introduction

The Florida Department of Transportation (FDOT) District One is evaluating the development of managed lanes along I-4 and I-75. This project, the Southwest Connect, is divided into three segments:

a) I-75 in the Sarasota-Manatee region,
b) I-75 in the Fort Myers region, and
c) I-4 in Polk County.

This calibration and validation effort concentrate on the study area which includes the two segments of I-75. A map of the Sarasota-Manatee study area is shown in Figure 1. Figure 2 displays the Lee-Collier study area. The I-4 corridor travel demand forecasting calibration and validation will be completed later to match the production schedule of the I-4 PD&E project.

As part of the Southwest Connect PD&E studies, District One provided the currently adopted District 1 Regional Planning Model (D1RPM), v1.0.6 to forecast potential traffic along the I-75 corridor segments. The study area calibration and validation are discussed in detail in the subsequent sections.

D1RPM v1.0.6 has a base year of 2010, includes a 2018 E + C scenario and a 2040 Cost Feasible scenario. The model socioeconomic data was updated from 2010 to 2015 for this effort. The 2018 roadway network files were adjusted to reflect the 2015 roadway conditions. Using Google imagery, it was simpler to remove roadway connections that were built between 2015 and 2018 than to find missing connections built between 2010 and 2015. The external trip and turn penalty files were revised to reflect 2015 conditions. The daily output model volumes were modified using Model Output Conversion Factors (MOCF) by county and were compared to 2015 traffic counts from the Florida Department of Transportation's (FDOT) online traffic website. The horizon year for the model is 2040.

2.0 – 2015 Base Year Model Calibration

To properly reflect 2015 conditions, the model highway network files within the study areas were updated using 2015 historic Google imagery, 2015 socioeconomic data was provided by the District One Systems Planning Office, 2015 external to external trip (EETRIPS_15a.dbf), internal to external trip (INTEXT_15a.dbf) and special purpose (SPECGEN_A_15a.dbf) files were generated, and the 2018 turn penalties were modified to create a 2015 turn penalty file.

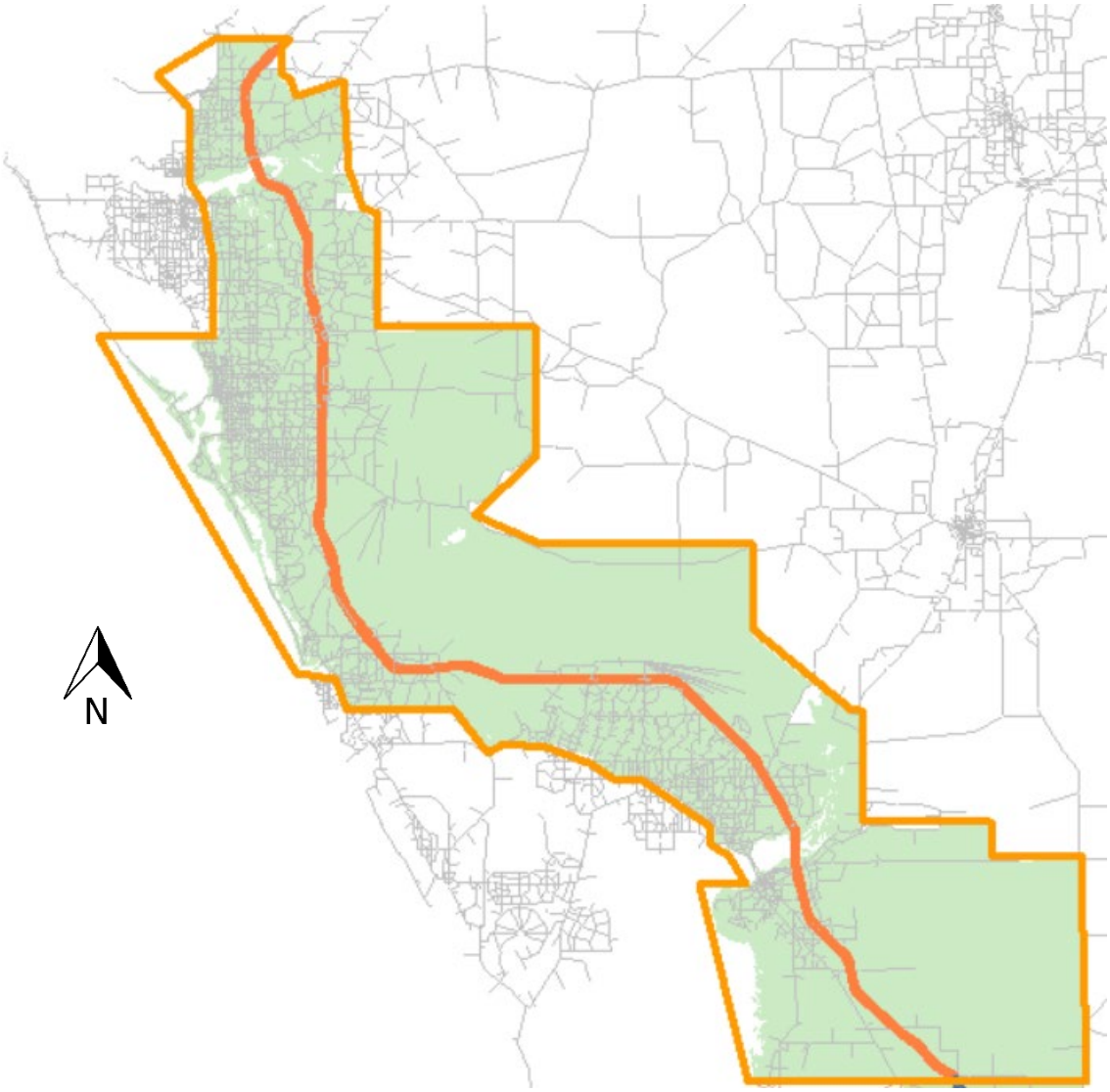
2.1 – Highway Network Updates

Google historical imagery was compared to the existing model and used to support decisions. Changes made to the road network can be categorized into the following types:

- Number of lanes: the number of lanes was changed to reflect conditions in 2015. In some situations, this consisted of removing one lane that was built after 2015. In other cases, a lane was added. Auxiliary lane on-ramps or weaving segments were not considered additional lanes.
- Connectivity: links were added to the model where an existing road within the study area would provide additional connectivity to the road network that could be beneficial to the validation process. Links that didn't exist by 2015 were removed from the model.
- Centroid connectors: each Traffic Analysis Zone (TAZ) in the study area was reviewed to verify if all its access possibilities were represented by connectors.

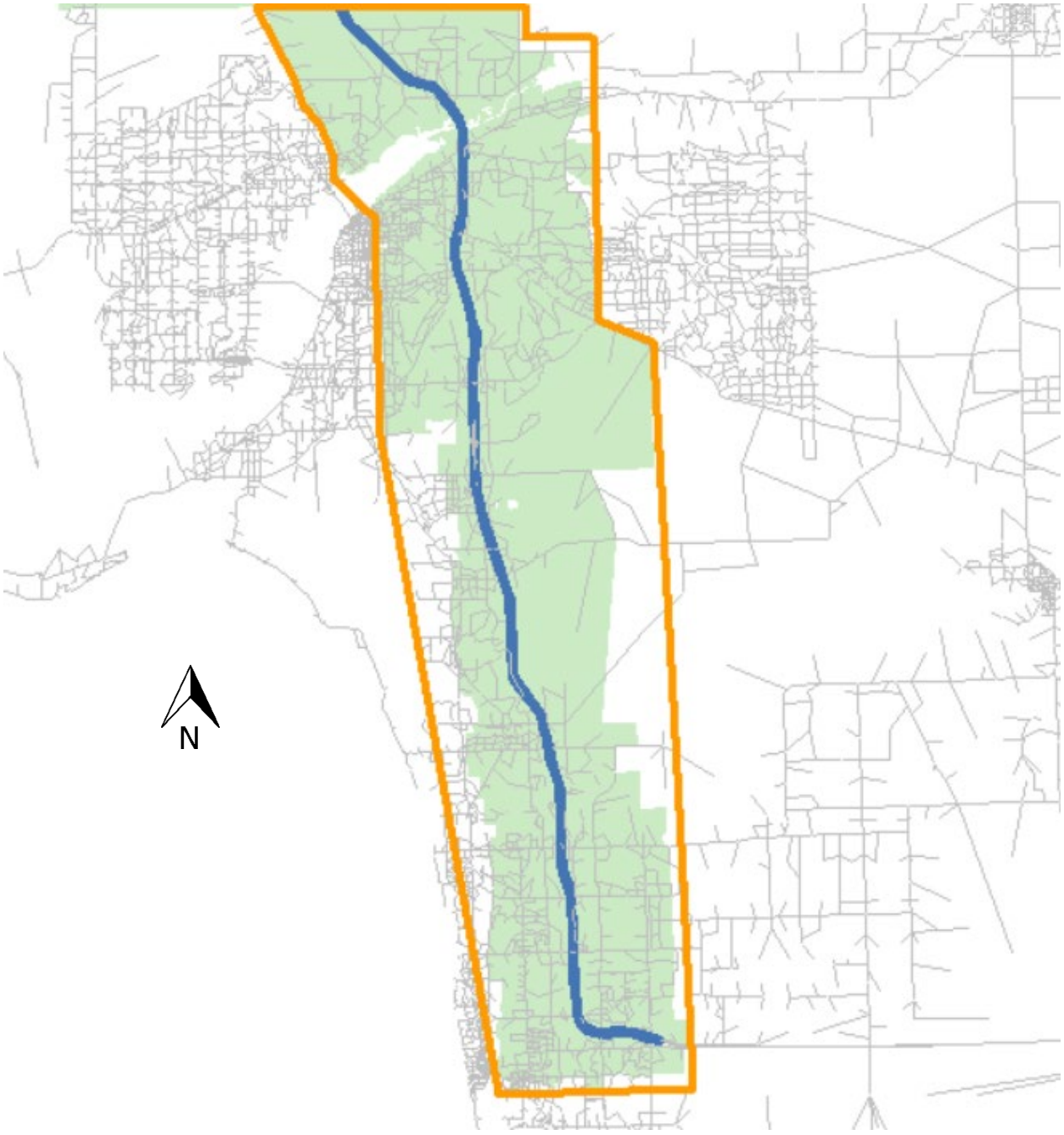
Preliminary changes were made to the network and submitted for review to the District One Systems Planning Office on 08/07/2019. District One staff provided comments, and these were addressed on 09/13/2019. Appendix A includes the preliminary changes memorandum with the resulting changes. Appendix B shows the district comments and the project team's responses. Additional changes to the network were made during the validation stage of the project. The subsequent memo depicting these changes is in Appendix C.

Figure 1: Sarasota-Manatee Study Area



Source: Southwest Connect – FDOT District One Interstate Project

Figure 2: Lee-Collier study area



Source: Southwest Connect – FDOT District One Interstate Project

2.2 – Socioeconomic Data Updates

The District One Systems Planning Office provided 2015 socioeconomic data. This data was generated for the District's 2045 model update that will support the region's next round of Long-Range Transportation Plan updates. The newest model version has a different Traffic Analysis Zone (TAZ) structure. Prior to providing the data, the Systems Planning Office converted the 2015 socioeconomic data to the v1.0.6 zonal structure. Additional socioeconomic changes were made during the calibration process by splitting zones to provide additional accessibility. Table 1 and

Table 2 provides a summary of the socioeconomic data by County within the study areas.

Table 1: Socioeconomic data by County – Sarasota-Manatee Study Area

County	Population			Employment				Hotel/ Motel Units
	Single Family	Multi-Family	Total	Industrial	Commercial	Service	Total	
Manatee	210,243	135,337	345,580	16,405	39,572	67,348	123,325	13,835
Sarasota	439,828	185,891	625,719	19,489	42,789	109,500	171,778	12,437
Charlotte	135,324	45,452	180,776	4,666	13,675	29,917	48,121	3,835
Total	**1,416,005**	**768,830**	**2,184,835**	**89,710**	**213,970**	**446,680**	**745,827**	**74,833**

Source: Socioeconomic Data, District One

Table 2: Socioeconomic data by County – Lee-Collier study area

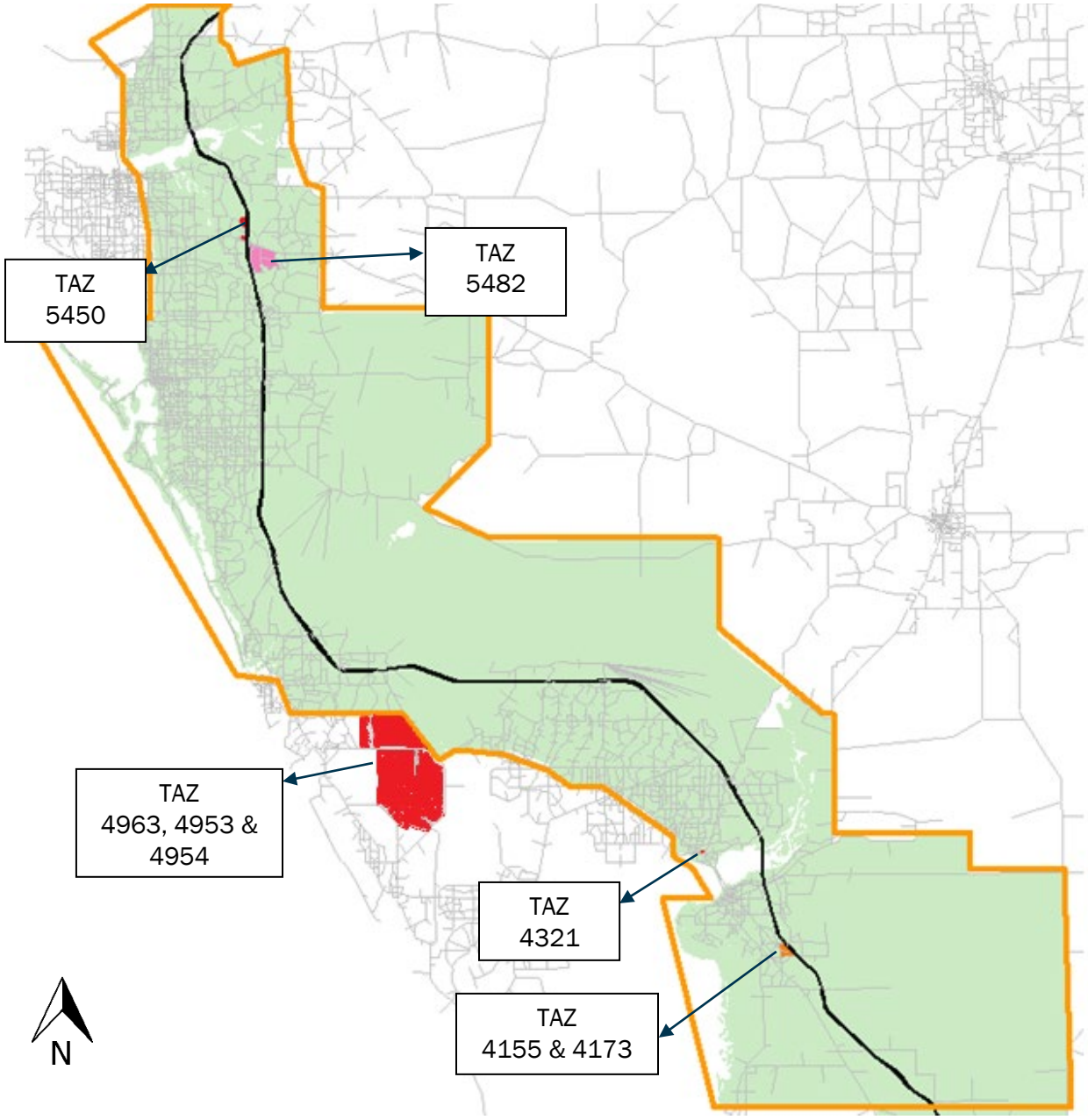
County	Population			Employment				Hotel/ Motel Units
	Single Family	Multi-Family	Total	Industrial	Commercial	Service	Total	
Lee	441,106	219,502	660,608	32,846	75,908	153,499	257,885	27,229
Collier	189,504	182,648	372,152	16,304	42,026	86,416	144,718	17,497
Total	**630,610**	**402,150**	**1,032,760**	**49,150**	**117,934**	**239,915**	**402,603**	**44,726**

Source: Socioeconomic Data, District One

Preliminary changes were made to the zones and were included in the submittal for network changes that was made to District One on 08/07/2019. The comments from the district were received and addressed on 09/13/2019. Appendix A includes the memorandum detailing the changes made to each zone. Appendix B shows the district comments and the consultant responses to each comment.

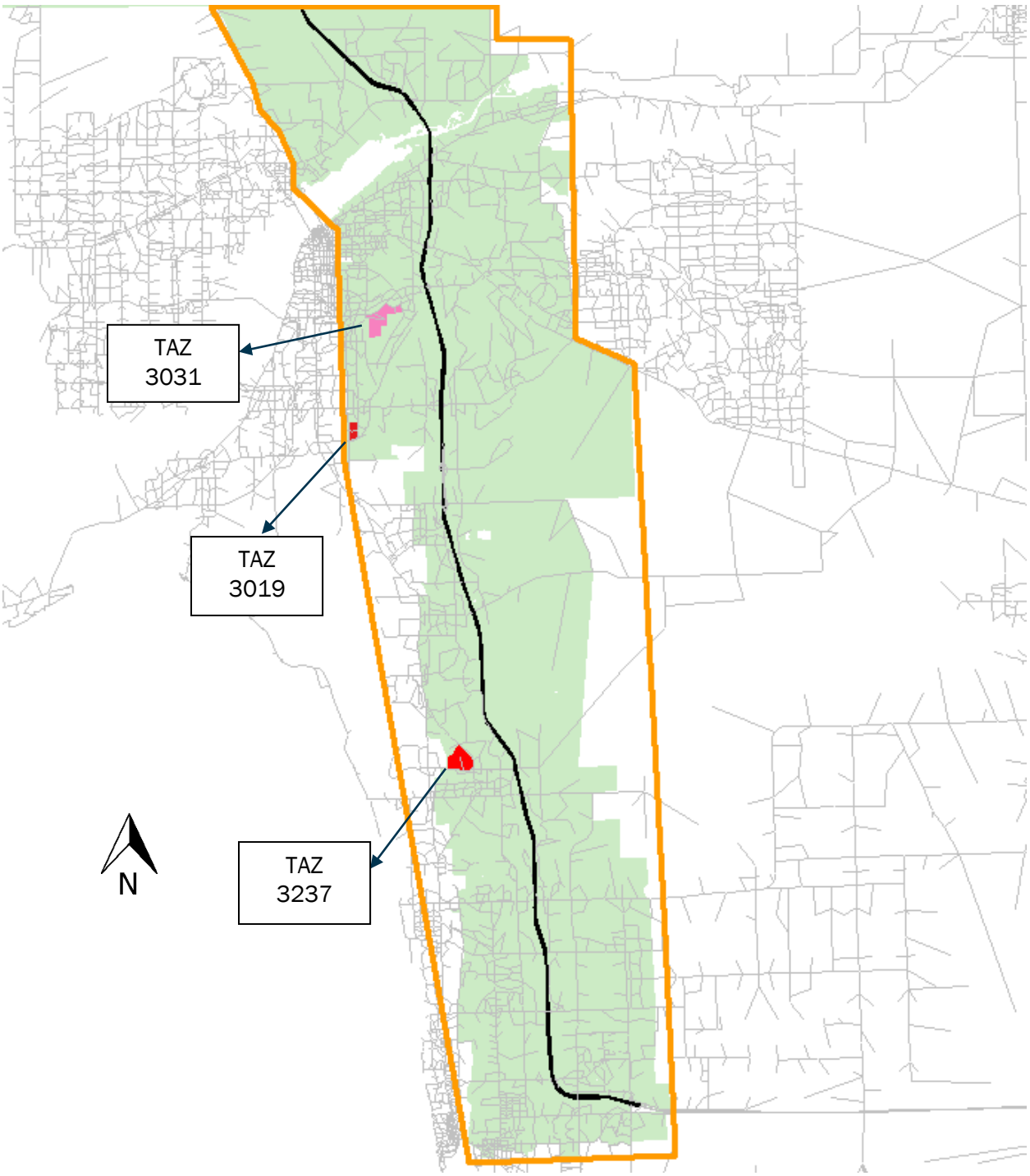
Within both study areas, a total of eleven zones were split. Figure 3 and Figure 4 show the location of the modified zones within the Sarasota-Manatee and Lee-Collier study areas, respectively. The original zone numbers are provided on the maps. The changes to the socioeconomic data are provided in Table 3 and Table 4. The first column of the table shows the original zone number, while the second column shows the new zone numbers based on the zonal split.

Figure 3: Location of Changed Zones – Sarasota-Manatee Study Area



Source: Southwest Connect – FDOT District One Interstate Project

Figure 4: Location of Changed Zones – Lee-Collier study area



Source: Southwest Connect – FDOT District One Interstate Project

Table 3: Zonal Splits and Socioeconomic Data – Sarasota-Manatee Study Area

Zones		Population			Employment				Hotel/Motel Dwelling Units
		Single Family	Multi-Family	Total	Industrial	Commercial	Service	Total	
5482	5482	1,613	697	2,310	50	132	426	608	0
	5044	0	0	0	20	527	107	654	0
	Total	1,613	697	2,310	70	659	533	1,262	0
5450	5450	0	0	0	0	667	143	810	0
	5045	411	0	411	0	0	0	0	0
	Total	411	0	411	0	667	143	810	0
4321	4321	428	51	479	10	110	119	239	0
	5059	0	0	0	13	28	119	160	0
	Total	428	51	479	23	138	238	376	0
4155	4155	0	0	0	8	54	22	84	60
	5043	147	0	147	0	5	10	15	0
	Total	147	0	147	8	59	32	99	60
4173	4173	268	470	738	11	3	10	24	0
	4408	0	0	0	6	0	0	6	0
	Total	268	470	738	17	3	10	30	0
4963	4963	776	35	811	0	0	0	0	0
	5097	0	0	0	0	0	0	0	0
	Total	776	35	811	0	0	0	0	0
4953 & 4954	4953	1900	1074	2974	3	5	589	597	0
	4954	2042	832	2874	2	2	8	11	0
	5095	2042	832	2874	0	2	8	10	0
	5096	0	0	0	0	0	0	0	0
	Total	5984	2737	8721	5	9	604	618	0

Source: D1RPM, v1.0.6 – updated for the Southwest Connect Study

Table 4: Zonal Splits and Socioeconomic Data – Lee-Collier study area

Zones		Population			Employment				Hotel/Motel Dwelling Units
		Single Family	Multi-Family	Total	Industrial	Commercial	Service	Total	
3031	3031	23	10	33	22	11	948	981	0
	5046	91	38	129	0	0	0	0	0
	Total	114	48	162	22	11	948	981	0
3019	3019	0	0	0	0	3	500	503	0
	5047	0	0	0	4	3	72	79	0
	Total	0	0	0	4	6	572	582	0
3237	3237	279	1,101	1,380	0	6	150	156	0
	5049	0	0	0	46	36	197	273	0
	Total	279	1,101	1,380	46	36	347	429	0

Source: D1RPM, v1.0.6 – updated for the Southwest Connect Study

2.3 – Additional Model Updates

In addition to the network and socioeconomic data changes, files were created for the 2015 external trips, special generators, and the turn penalties and prohibitors. D1RPM 2010 Model volumes and 2015 observed counts by direction were used to generate the external station related information. Furthermore, Google earth and the 2015 network were used to review the penalty file which contains the information on the penalties and prohibitors.

Externals

The following section describes the changes made to create the 2015 input file pertaining to the external stations. These trips were developed using the Florida Traffic Online (https://tdaappsprod.dot.state.fl.us/fto/) and 2010 model volumes. For the stations which did not have observed data by direction, the total counts were equally split between and two directions. For external station number 5660, the 2010 observed counts in the network were far different than the 2010 observed counts from the online Traffic report. Therefore, for this zone, the 2010 observed counts were calculated by factoring the 2010 observed counts (as reported in the 2010 input network) to match the traffic growth rate for nearby external station 5651. There were no observed counts for the external station 5662 in the 2010 network. Therefore, these counts were calculated from the online traffic reports. The 2015 observed counts were then corrected based on the MOCF factor reported in the 2018 Traffic reports. Table 5 shows the 2010 and 2015 processed counts for each of the external stations.

Table 5: 2010 and 2015 Observed Counts

ZONE	2018 MOCF	2010 Counts from Network	2015 Observed Counts	Traffic in Direction 1	Traffic in Direction 2	Truck %	Incoming Traffic (MOCF Corrected)	Outgoing Traffic (MOCF Corrected)
5629	0.93	48,674	59,500	30,000	29,500	7	31,720	32,258
5630	0.93	8,006	9,100	4,600	4,500	11	4,839	4,946
5631	0.94	53,371	67,500	32,500	35,000	20	37,234	34,574
5632	0.93	3,416	4,400	2,200	2,200	13	2,366	2,366
5633	0.92	1,033	550			7	299	299
5634	0.92	4,543	2,300	1,200	1,100	8	1,196	1,304
5635	0.95	1,761	2,000	1,000	1,000	30	1,053	1,053
5636	0.95	6,693	6,200			7	3,263	3,263
5637	0.95	1,961	2,200	1,100	1,100	7	1,158	1,158
5638	0.95	17,719	18,200	9,000	9,200	10	9,474	9,684
5639	0.95	3,062	2,900	1,500	1,400	7	1,579	1,474
5640	0.95	8,860	10,000	4,900	5,100	9	5,158	5,368
5641	0.95	120,618	116,000	56,500	59,500	14	59,474	62,632
5642	0.95	4,750	4,432			10	2,333	2,333
5643	0.95	8,085	7,900	4,000	3,900	21	4,105	4,211
5644	0.95	2,223	2,700	1,300	1,400	45	1,474	1,368
5645	0.95	5,963	7,700	4,000	3,700	29	3,895	4,211

ZONE	2018 MOCF	2010 Counts from Network	2015 Observed Counts	Traffic in Direction 1	Traffic in Direction 2	Truck %	Incoming Traffic (MOCF Corrected)	Outgoing Traffic (MOCF Corrected)
5646	0.95	36,141	40,000	20,000	20,000	7	21,053	21,053
5647	0.95	19,205	5,800	3,000	2,800	26	2,947	3,158
5648	0.95	97,969	110,500	56,000	54,500	14	57,368	58,947
5649	0.95	9,722	8,000	4,000	4,000	26	4,211	4,211
5650	0.95	7,580	9,100	4,600	4,500	12	4,737	4,842
5651	0.95	26,410	42,500	21,000	21,500	10	22,632	22,105
5652	0.95	6,973	7,500	3,700	3,800	35	4,000	3,895
5653	0.92	3,202	2,800	1,400	1,400	45	1,522	1,522
5654	0.92	2,088	4,200	2,100	2,100	42	2,283	2,283
5655	0.92	6,159	6,600	3,300	3,300	17	3,587	3,587
5656	0.92	7,203	7,100	3,600	3,500	24	3,804	3,913
5657	0.92	2,923	2,900	1,400	1,500	27	1,630	1,522
5658	0.93	13,885	14,300	7,000	7,300	30	7,849	7,527
5659	0.89	18,892	20,500	10,000	10,500	15	11,798	11,236
5660	0.88	2,914	2,500	1,300	1,200	14	1,364	1,477
5661	0.95	18,109	24,051	12,026	12,026	26	12,658	12,658
5662	0.95	842	4,800	2,400	2,400	5	2,526	2,526

Source: D1RPM, v1.0.6 – 2010 Loaded Network and https://tdaappsprod.dot.state.fl.us/fto/

Trips from/to the external stations are calibrated using four main input database or matrix files (.DBF or .MAT format):

1. EETRIPS_{YEAR}{ALT}.DBF: External to External Trips (EE Trips)
2. INTEXT_{YEAR}{ALT}.DBF: External to Internal and vice-versa Productions (IE Productions)
3. SPECGEN_A_{YEAR}{ALT}.DBF: Attractions from external stations to the special generators' zones (SPEC Attractions)
4. FREIGHT_15A.MAT (Heavy Truck Trips)

Final 2015 input files can be found in the Appendix D.

External to External Trips

The EETRIPS file contains the External to External (EE) trips. EE trips are the vehicle trips traveling from one external station to another external station. These EE trips are furthered categorized by two vehicle types: auto and light truck. 2015 EE trips were calculated using the fraction of 2010 EE trips compared to 2010 observed counts as coded in the network and the corrected 2015 observed counts. The 2015 EE trips were further divided into auto and light truck trips by keeping the percentage split same as observed in the 2010 EETRIPS_10A.DBF file. The auto and light truck EE trips were then separately processed to get the final EE trip matrix in origin-destination format. For each of the vehicle type, the 2010 EE matrix was used as a seed matrix and factored to match by productions and then by

attractions. As a result, two matrices were obtained which were averaged to get the Production-Attraction (PA) matrix. The PA matrix was converted to Origin-Destination (OD) matrix by transposing it and averaging with itself. The initial run showed that the "IE Adjust" fields in the EETRIPS table were resulting in overestimated trips at externals 5646 and 5651. Therefore, two of the "IE Adjust" related records were further modified. Below table shows the difference in the 2010 and 2015 EETRIPS. The final EETRIP_15A.dbf file is included in Appendix D.

Table 6: 2010 and 2015 E-E Trip Comparison

ORIGN NAME	ORIGN ZONE	DESTNATION ZONE	2010 AUTO	2010 LIGHT TRUCK	2015 AUTO	2015 LIGHT TRUCK
ie adjust	475	5646	6100	0	3000	0
ie adjust	477	5646	3600	0	3600	0
ie adjust	479	5646	3400	0	3400	0
ie adjust	554	5651	5000	0	5000	0
ie adjust	563	5651	4000	0	2000	0
I-75 N	5631	5655	250	0	310	0
I-75 N	5631	5659	3500	1000	4492	1282
I-4 W	5641	5648	12000	1750	13198	1925
ie adjust	5646	475	6100	0	3000	0
ie adjust	5646	477	3600	0	3600	0
ie adjust	5646	479	3400	0	3400	0
I-4 E	5648	5641	12000	1750	13198	1925
CR 580	5651	5661	4000	0	5263	0
ie adjust	5651	554	5000	0	5000	0
ie adjust	5651	563	4000	0	2000	0
SR 70	5655	5631	250	0	310	0
Alligator	5659	5631	3500	1000	4492	1282
marigold	5661	5651	4000	0	5263	0

Source: D1RPM, v1.0.6 – EETRIPS_10A.DBF, EETRIPS_15A.DBF

Internal to External Productions

The INTEXT file contains the Internal to External (IE) productions. These trips start at an internal zone and travel to an external zone. The initial set of the 2015 IE productions were obtained by subtracting the EE and truck trips from the corrected 2015 observed counts in the direction entering the study area. 2015 IE productions were later updated based on the difference between the IE production from the first iteration of the model run and observed productions. For the external station 5660, it was observed that the 2010 IE productions were same as the 2010 two-way traffic as coded in the network. Therefore, same logic was used for 2015 IE productions. The final INTEXT_15A.DBF file is included in Appendix D.

Special Attractions

Special generators are zones that have different production and attraction rates than the general land use. Mostly these are the tourist attraction centers; for example, airport, beach, theme parks, etc. There are two files associated with the special generators in this model. The SPECGEN_A and SPECGEN_P files contain the attractions and productions respectively which need to be added or subtracted from the general trips estimated by the model to account for these special trips. There were no adjustments for productions from the external zones and no changes were made to the SPECGEN_P_18B.DBF file to create the SPECGEN_P_15A.DBF. The initial set of the 2015 special attractions vehicle trips were obtained by subtracting the EE, IE and Truck trips from the 2015 observed counts in the direction going away from the study area. Since external attractions are coded in the SPECGEN_A file as person trips, an initial conversion factor of 0.7 vehicle trips/person was used for estimating the SPECGEN_A person trips. The 2015 special attractions file was readjusted iteratively using the model projected IE attractions to improve the volume to count ratio at each of the external station. Below table summarizes the final 2015 model volumes and observed counts by direction for each external station. The final SPECGEN_A_15A.DBF file is included in Appendix D.

Table 7: 2015 External Trips Comparison with Observed Counts

External Stations	Model Productions	Observed Productions	Delta Productions	Model Attractions	Observed Attractions	Delta Attractions	Model Volume	Observed Count	V/C
5629	31,721	31,720	1	31,486	32,258	(772)	63,207	63,978	0.99
5630	4,839	4,839	-	4,846	4,946	(100)	9,685	9,785	0.99
5631	37,235	37,234	1	34,006	34,574	(568)	71,241	71,808	0.99
5632	2,366	2,366	-	2,378	2,366	12	4,744	4,732	1.00
5633	299	299	-	299	299	-	598	598	1.00
5634	1,196	1,196	-	1,310	1,304	6	2,506	2,500	1.00
5635	1,054	1,053	1	1,080	1,053	27	2,134	2,106	1.01
5636	3,263	3,263	-	3,307	3,263	44	6,570	6,526	1.01
5637	1,158	1,158	-	1,174	1,158	16	2,332	2,316	1.01
5638	9,474	9,474	-	9,834	9,684	150	19,308	19,158	1.01
5639	1,579	1,579	-	1,486	1,474	12	3,065	3,053	1.00
5640	5,158	5,158	-	5,450	5,368	82	10,608	10,526	1.01
5641	59,474	59,474	-	62,918	62,632	286	122,392	122,106	1.00
5642	2,333	2,333	-	2,366	2,333	33	4,699	4,666	1.01
5643	4,105	4,105	-	4,304	4,211	93	8,409	8,316	1.01

External Stations	Model Productions	Observed Productions	Delta Productions	Model Attractions	Observed Attractions	Delta Attractions	Model Volume	Observed Count	V/C
5644	1,474	1,474	-	1,419	1,368	51	2,893	2,842	1.02
5645	3,895	3,895	-	4,323	4,211	112	8,218	8,106	1.01
5646	21,054	21,053	1	21,186	21,053	133	42,240	42,106	1.00
5647	2,947	2,947	-	3,254	3,158	96	6,201	6,105	1.02
5648	57,368	57,368	-	59,011	58,947	64	116,379	116,315	1.00
5649	4,211	4,211	-	4,343	4,211	132	8,554	8,422	1.02
5650	4,737	4,737	-	4,912	4,842	70	9,649	9,579	1.01
5651	22,632	22,632	-	22,431	22,105	326	45,063	44,737	1.01
5652	4,000	4,000	-	3,994	3,895	99	7,994	7,895	1.01
5653	1,522	1,522	-	1,532	1,522	10	3,054	3,044	1.00
5654	2,283	2,283	-	2,328	2,283	45	4,611	4,566	1.01
5655	3,587	3,587	-	3,597	3,587	10	7,184	7,174	1.00
5656	3,804	3,804	-	3,941	3,913	28	7,745	7,717	1.00
5657	1,630	1,630	-	1,536	1,522	14	3,166	3,152	1.00
5658	7,849	7,849	-	7,513	7,527	(14)	15,362	15,376	1.00
5659	11,798	11,798	-	11,253	11,236	17	23,051	23,034	1.00
5660	2,789	1,364	1,425	52	1,477	(1,425)	2,841	2,841	1.00
5661	12,658	12,658	-	13,034	12,658	376	25,692	25,316	1.01
5662	2,526	2,526	-	2,567	2,526	41	5,093	5,052	1.01

Source: D1RPM, v1.0.6 – 2015 Output and https://tdaappsprod.dot.state.fl.us/fto/

Freight Trip Matrix

The FREIGHT file contains the heavy truck trips (with a vehicle classification of CLASS 6 and above) not exclusive to the external stations. The 2015 freight matrix was created by multiplying the 2010 freight file by a factor of 1.3. This factor was calculated using the overall annual growth rate between the FREIGHT_10A.MAT and FREIGHT_18A.MAT files. The final FREIGHT_15A.MAT file is included in Appendix D.

Turn Penalties and Prohibitors

All the penalties and prohibitors are saved in a single file: TURN_{YEAR}{ALT}.PEN. These were reviewed and modified as follows:

1. 154 new prohibitors were added
2. 4 new penalties were added
3. 5 penalties were updated
4. 4 penalties were removed

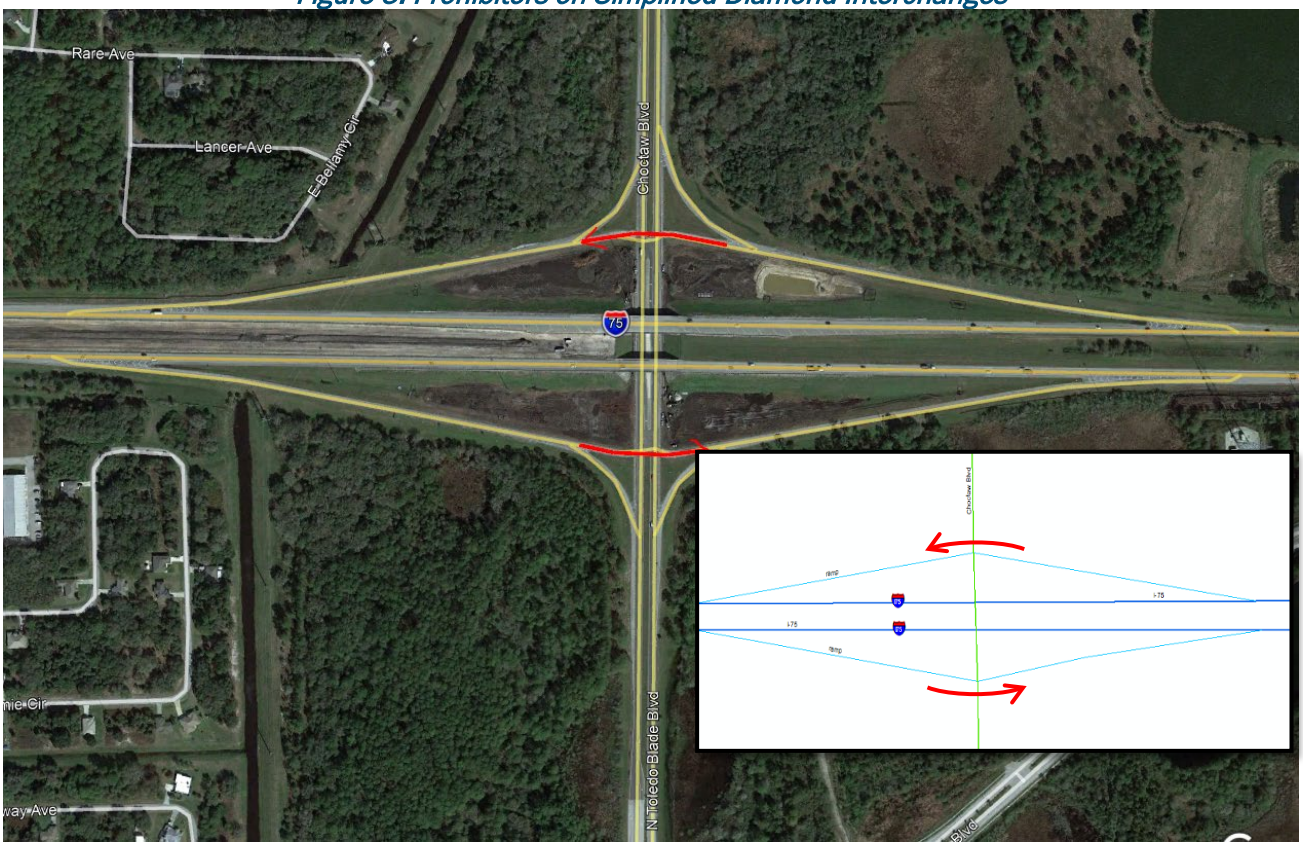
New Prohibitors

Prohibitors were applied to all the interstate interchanges to limit the movement of vehicles across the interstate ramps. Google Earth was used to identify the movements which were not feasible. There are three types of interchanges where movements were prohibited. The red arrows show the links on which the prohibitors were added.

Type 1: Simplified Diamond Interchanges

In these locations, two prohibitors were added. This is to disallow the off-ramp to on-ramp traffic movement in the same direction. This ensures that there is no alternative route to an interstate road at an interchange.

Figure 5: Prohibitors on Simplified Diamond Interchanges

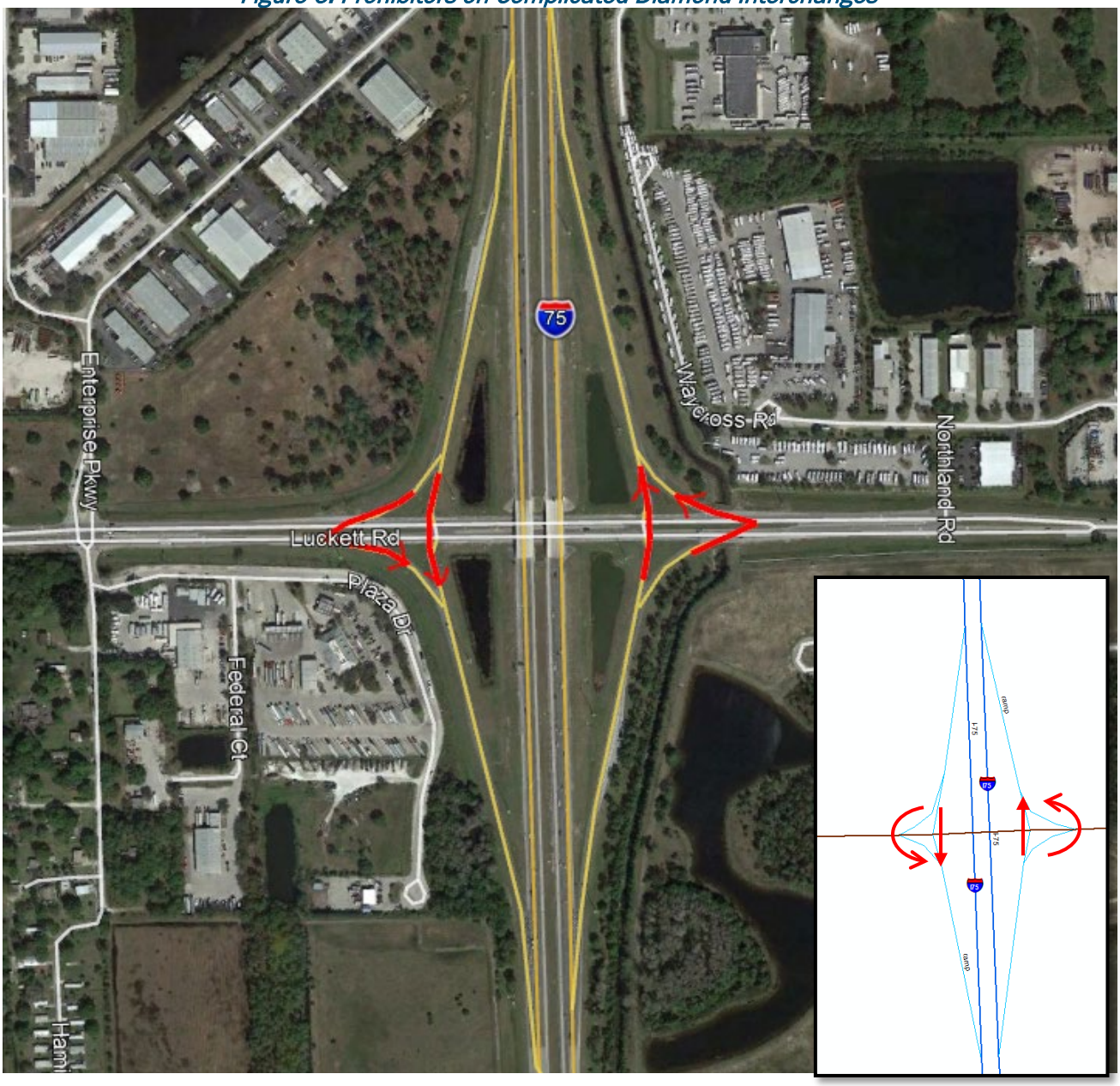


Source: Google Earth, D1RPM "2015 IPM" scenario network

Type 2: Complicated Diamond Interchanges

These interchanges have ramps which are further subdivided by direction. In such cases, prohibitors are added to restrict twelve different movements at the interchange. The below figure shows four of these prohibitors that disallow on-ramp to off-ramp movements parallel to the interstate. Subsequent figures show the remaining prohibitors at the complicated diamond interchanges.

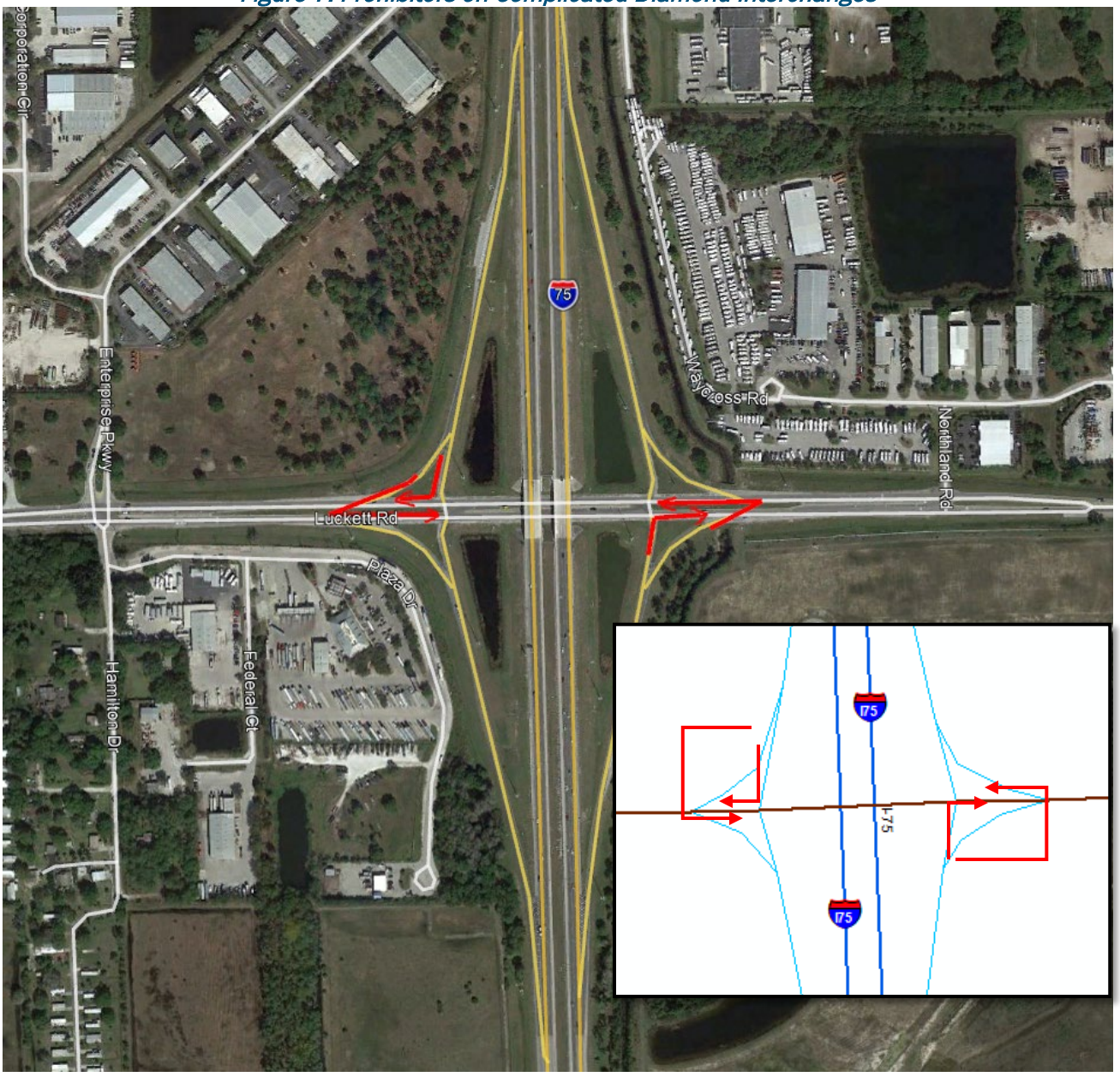
Figure 6: Prohibitors on Complicated Diamond Interchanges



Source: Google Earth, D1RPM "2015 IPM" scenario network

The figure below shows the four prohibitors which bar the movements from on-ramp to crossroads.

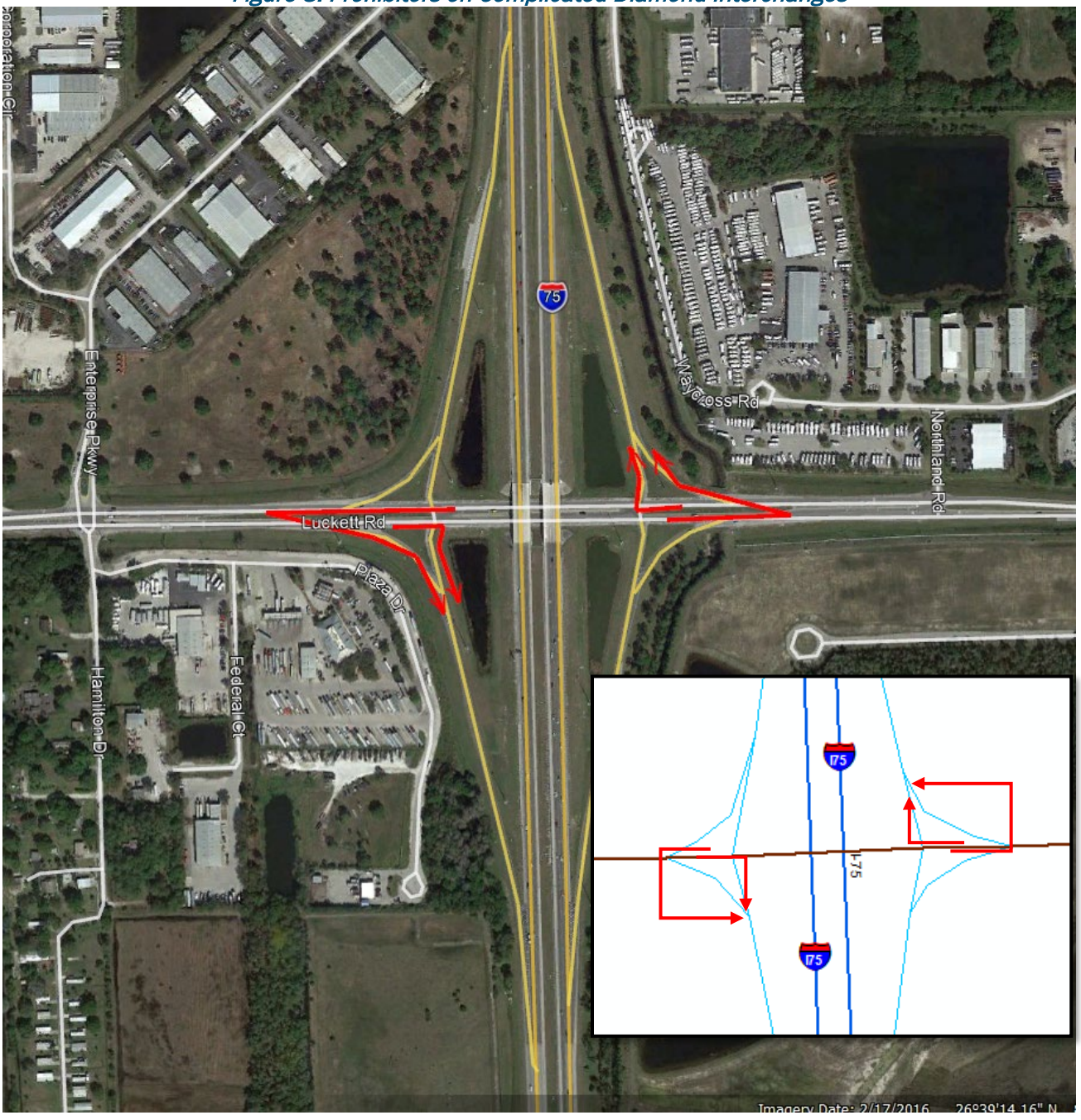
Figure 7: Prohibitors on Complicated Diamond Interchanges



Source: Google Earth, D1RPM "2015 IPM" scenario network

The figure below shows the four prohibitors from crossroads to on-ramps.

Figure 8: Prohibitors on Complicated Diamond Interchanges

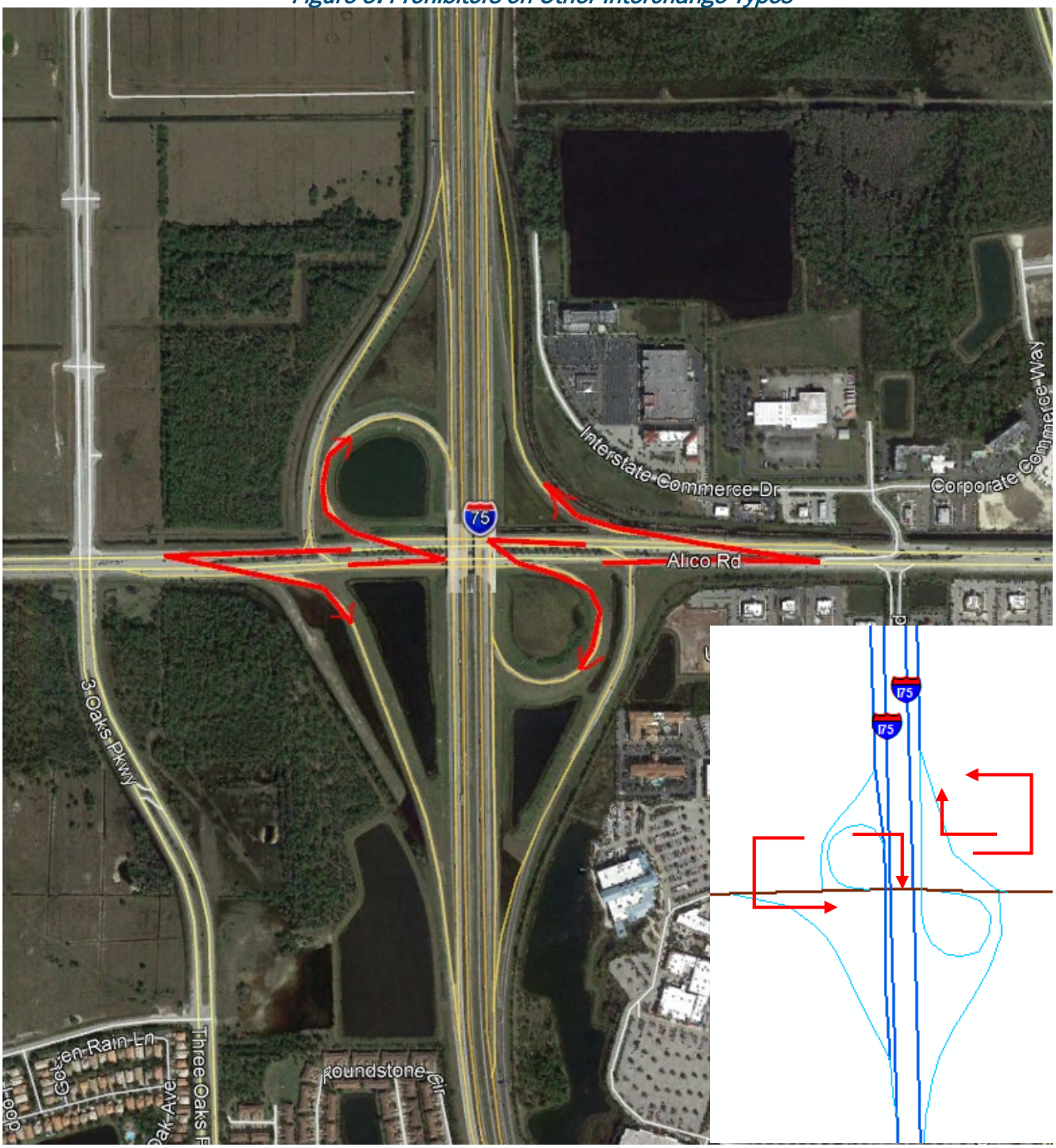


Source: Google Earth, D1RPM "2015 IPM" scenario network

Type 3: Other Intersections

These are the intersections that cannot be exclusively classified as Type 1 or Type 2 intersections. One of the examples, a semi-cloverleaf interchange, is shown in the figure below.

Figure 9: Prohibitors on Other Interchange Types



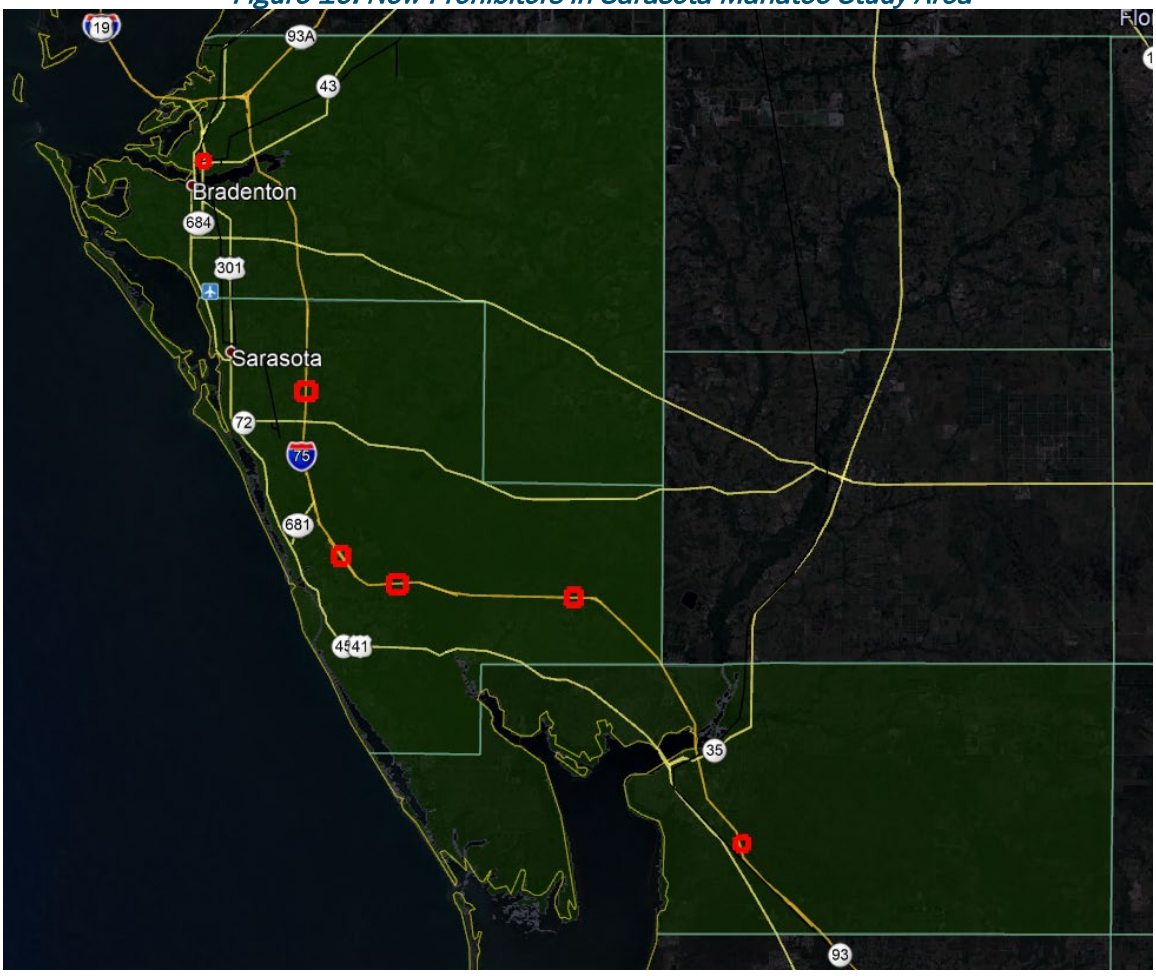
Source: Google Earth, D1RPM "2015 IPM" scenario network

In total, 154 new prohibitors were added to the penalty file. Appendix E lists all the new prohibitors added to the penalty file. Note that the prohibitors were only added within the I-75 Southwest Connect study areas. The rest of the model interchanges were not modified. Below are the maps which show the exact location of the interchanges where prohibitors were added. The interchanges are highlighted using red boxes in the Sarasota-Manatee study area and blue boxes in the Lee-Collier study area.

In the Sarasota-Manatee study area, prohibitors were added to a total of six interchanges. These interchanges are between:

1. South Tamiami Trail and 10th street
2. I-75 and Bee Ridge Road
3. I-75 and Laurel Road E
4. I-75 and W River Road
5. I-75 and Choctaw Blvd.
6. I-75 and Tuckers Grade

Figure 10: New Prohibitors in Sarasota-Manatee Study Area

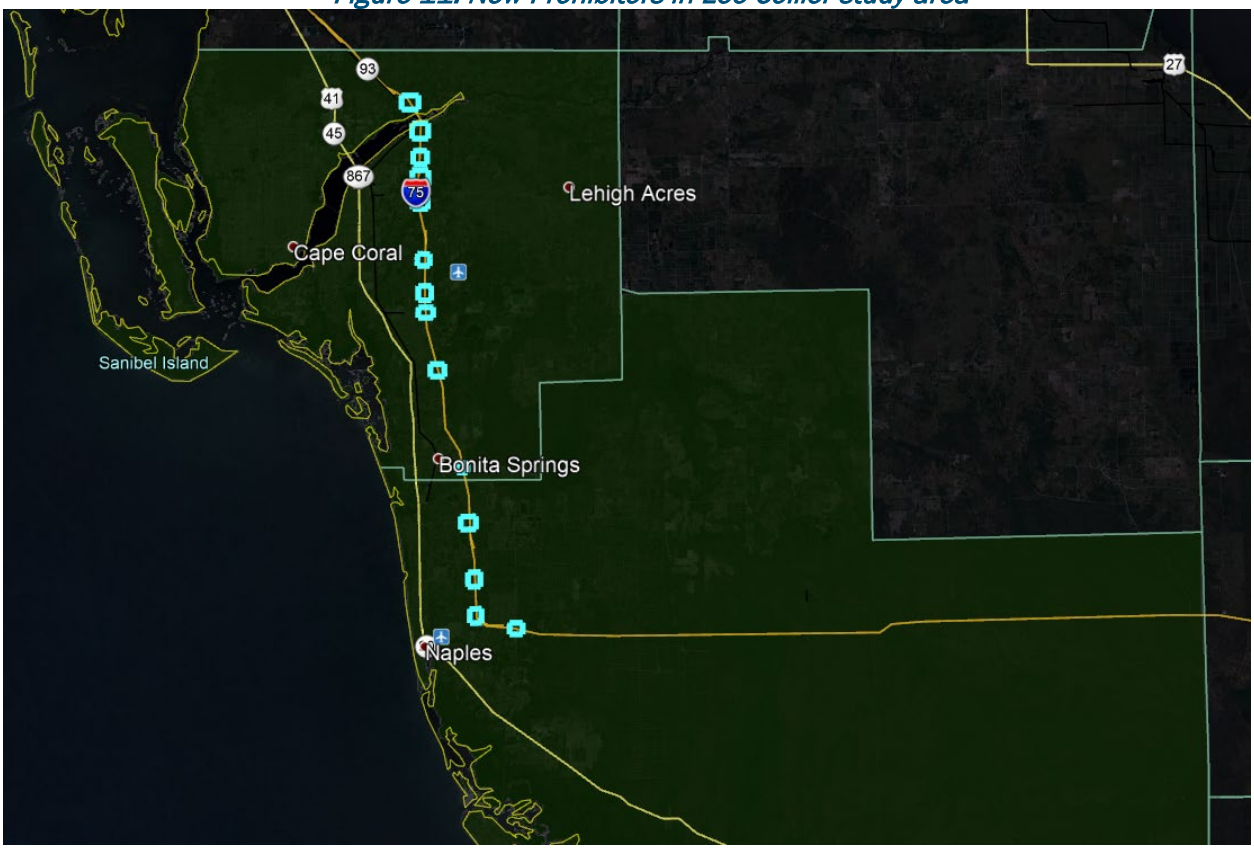


Source: Google Earth

In the Lee-Collier study area, prohibitors were added to a total of 14 interchanges. These interchanges are between:

1. I-75 and Bayshore Road
2. I-75 and SR 80
3. I-75 and Luckett Road
4. I-75 and Dr. Martin Luther King Jr. Blvd.
5. I-75 and Colonial Blvd.
6. I-75 and Daniels Parkway
7. I-75 and Terminal Access Road
8. I-75 and Alico Road
9. I-75 and Corkscrew Road
10. I-75 and Bonita Beach Road SW
11. I-75 and Immokalee Road
12. I-75 and Pine Ridge Road
13. I-75 and Golden Gate Parkway
14. I-75 and Collier Blvd.

Figure 11: New Prohibitors in Lee-Collier study area



Source: Google Earth

Bridge Penalties

Bridges, by their nature, provide limited routes across bodies of water. The larger the bridge, the more likely it is to have limited alternative/competing facilities. Within a travel demand model, larger river crossings tend to attract high vehicle volumes. As a result, it is a common modeling practice to add penalties on the bridges or adjust the k-factors to bound the high demand. For this study, penalties were added to improve the over-estimated traffic. Using the FDOT 2015 count information, the daily volumes on each of the major bridges within the study areas were compared. Five of the existing bridge penalties were updated to reflect the vehicle volumes in these locations. Additionally, penalties were added to four more bridges. Below is the list of bridges on which penalties were either added or updated.

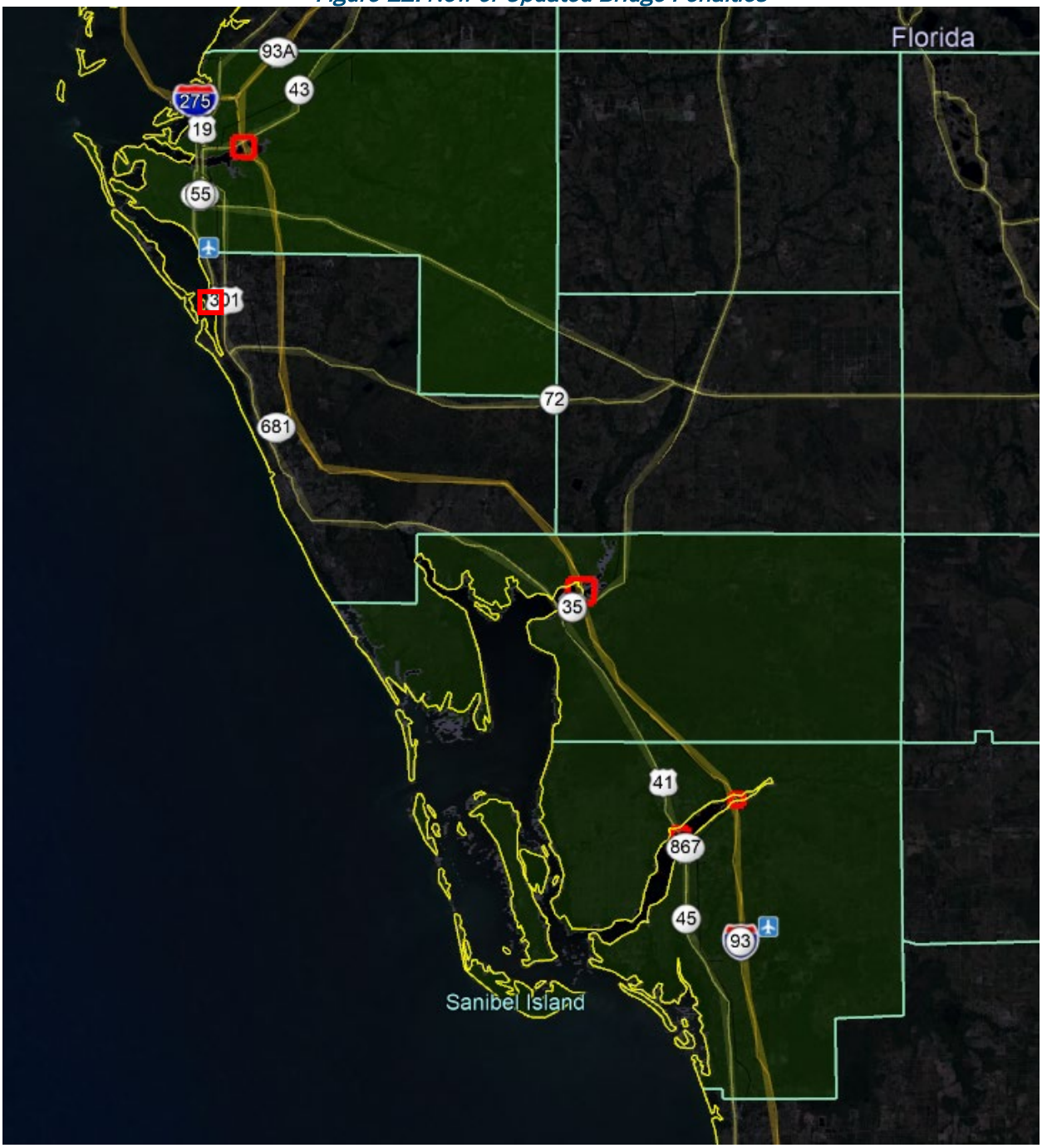
Table 8: Bridge Penalties

Bridge Location	A	B	C	Original Penalty (minutes)	New Penalty (minutes)
I-75 NB Bridge on Peace River	13838	13855	13873	-	1.5
I-75 SB Bridge on Peace River	13872	13854	13839	-	1.5
I-75 NB Bridge on Caloosahatchee River	23636	23630	23575	-	1.5
I-75 SB Bridge on Caloosahatchee River	23545	23588	23598	-	1.5
Gulfstream bridge in Sarasota	16215	16208	16129	4.0	3.0
I-75 SB bridge on Manatee River	17843	17834	17831	2.5	3.0
I-75 NB bridge on Manatee River	17833	17837	17855	2.5	4.0
Lee US41 bridge SB	20938	20972	21021	5.0	2.0
Lee US41 bridge NB	21021	20972	20938	5.0	3.0

Source: D1RPM, v1.0.6 – TURN_15A.PEN and TURN_18B.PEN

Figure 12 shows the bridges with modified penalties in red boxes.

Figure 12: New or Updated Bridge Penalties



Source: Google Earth

Deleted Penalties

Eight of the existing bridge penalties were removed to reflect the observed counts at each location. Below is the list of facilities from which the penalties were removed.

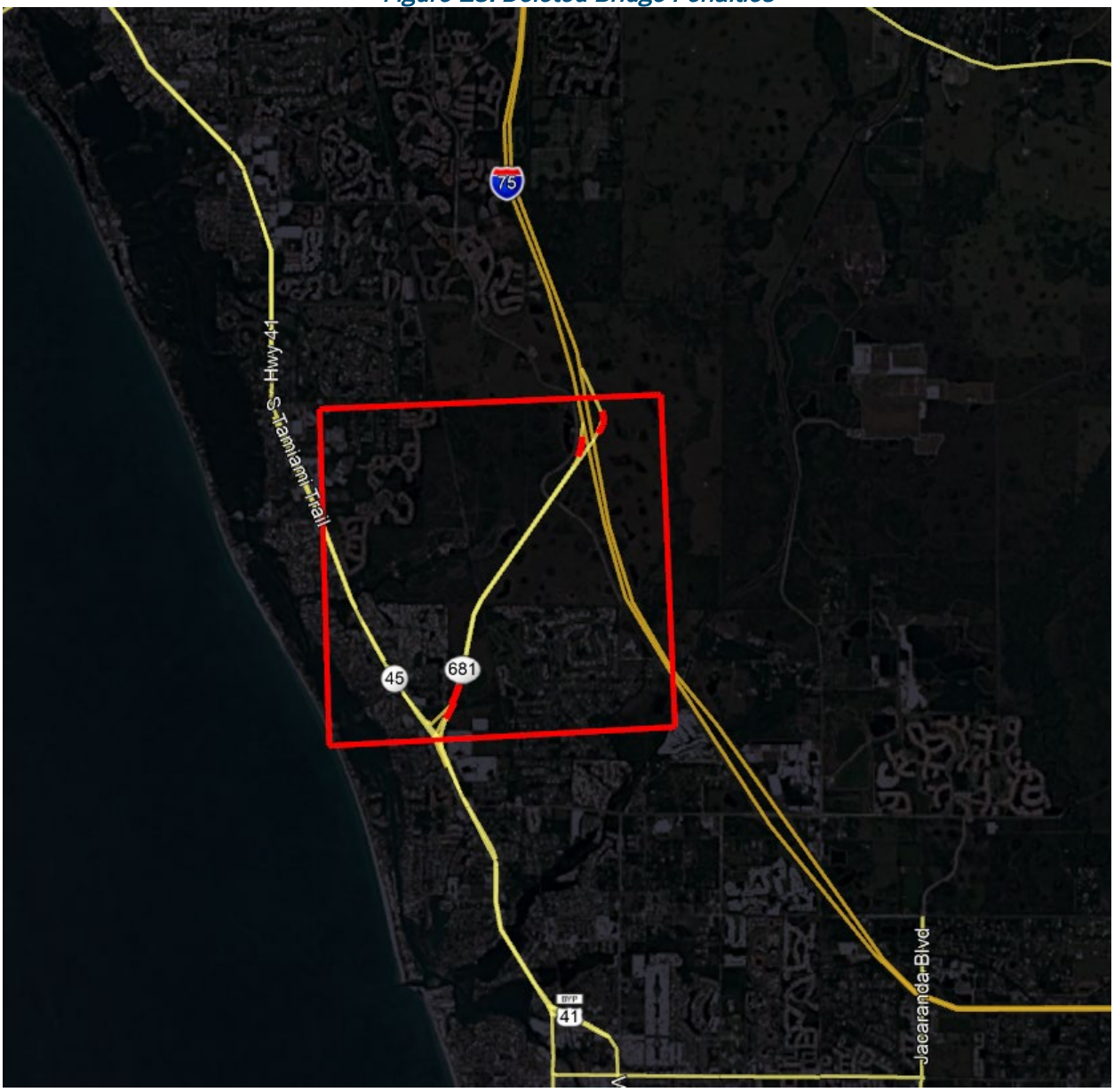
Table 9: Deleted Bridge Penalties

Bridge Location	A	B	B	Original Penalty (minutes)
Sarasota SR681 SW of US41	15349	15361	15363	2.0
Sarasota SR681 NE of US41	15364	15362	15357	2.0
Sarasota SR681 SW of I75	15408	15406	15404	2.0
Sarasota SR681 SW of I75	15409	15411	15415	2.0

Source: D1RPM, v1.0.6 – TURN_15A.PEN and TURN_18B.PEN

Figure 13 shows the bridge locations where penalties were removed in red boxes.

Figure 13: Deleted Bridge Penalties



Source: Google Earth

3.0 – 2015 Base Year Model Validation

Validation is "the process of determining the degree to which a model is an accurate representation of the real world from the perspective of the intended uses of the model"[1]. The benchmarks and standards used for this study are derived from the Florida Standard Urban Transportation Modeling System (FSUTMS) – Cube Framework Phase II Model Calibration and Validation Standards document provided by the FDOT Systems Planning Office, dated October 2008 and the FDOT Project Traffic Forecasting Handbook, dated 2014. To ensure that the D1RPM reasonably replicates the 2015 observed traffic and travel patterns, FDOT benchmarks and model volumes for each study area were compared. The benchmarks include the following statistics:

- % Root Mean Square Error (RMSE) by volume group
- Volume over count ratio by facility type
- Volume over count ratio by area type

Prior to comparing the data, the daily model output volumes were modified using Model Output Conversion Factors (MOCF). These factors were obtained from the Florida Traffic Online website's Peak Season Factor Category Report by county. The factors listed below were applied to the daily model volumes.

- Charlotte County MOCF = 0.88
- Collier County MOCF = 0.89
- Lee County MOCF = 0.91
- Manatee County MOCF = 0.92
- Sarasota County MOCF = 0.88
- DeSoto County MOCF = 0.89
- I-75 in Charlotte County MOCF = 0.87
- I-75 in Collier County MOCF = 0.89
- I-75 in Lee County MOCF = 0.91
- I-275 in Manatee County MOCF = 0.93
- I-75 in Manatee County MOCF = 0.94
- I-75 in Sarasota County MOCF = 0.92

An initial comparison was performed prior to incorporating updates to the model inputs. While the 2015 socioeconomic data was changed, all other files were copied from the 2018 E+C scenario and remained unchanged. This was done to focus calibration efforts. The initial model validation comparisons are provided in Table 10 through Table 15. Table 16 through Table 21 highlight the validation statistics from the calibrated model. All counts used in the comparisons were obtained from the Florida Traffic Online website for 2015.

[1] *Department of Defense Modeling and Simulation (M&S) Verification, Validation, and Accreditation (VV&A), DoD Instruction 5000.61, December 9, 2009. http://www.dtic.mil/whs/directives/corres/pdf/500061.pdf*

Initial Model Results

Table 10 through Table 12 show the initial model statistics for the Sarasota-Manatee study area. These results included changes to the socioeconomic data, but no other changes were incorporated. The tables highlight in red the categories where this subarea does not meet FDOT benchmarks.

Table 10: Initial Model % RMSE Summary – Sarasota-Manatee Area

VEHICLES PER DAY		Checks				Standards		%RMSE
LB	UB	Volumes	Counts	V/C	N	Acceptable	Preferable	
	5,000	1,233,580	1,026,112	1.20	412	100%	45%	72%
5,000	9,999	1,560,580	1,483,481	1.05	209	45%	35%	38%
10,000	14,999	988,843	897,074	1.10	75	35%	27%	41%
15,000	19,999	1,536,983	1,542,356	1.00	89	30%	25%	19%
20,000	29,999	2,055,178	2,180,939	0.94	90	27%	15%	25%
30,000	49,999	893,687	771,475	1.16	21	25%	15%	46%
50,000	59,999	380,701	332,223	1.15	6	20%	10%	17%
60,000	1,000,000	396,275	372,500	1.06	6	19%	10%	8%
Area-wide		**9,045,828**	**8,606,160**	**1.05**	**908**	**45%**	**35%**	**43%**

Source: D1RPM, v1.0.6 – Combined HWYLOAD_AM_3.NET, HWYLOAD_MD_3.NET, HWYLOAD_PM_3.NET, HWYLOAD_NT_3.NET

Table 11: Initial Model Summary by Facility Type – Sarasota-Manatee Study Area

Facility Type	ADT	Count	N	VOL/CNT	Criteria	Check
Freeways	2,809,223	2,419,077	133	1.16	+/- 7%	16.1%
Divided Arterial	4,076,035	4,188,201	281	0.97	+/- 15%	-2.7%
Undivided Arterial	471,762	438,666	92	1.08	+/- 15%	7.5%
Collector	1,294,473	1,191,666	356	1.09	+/- 25%	8.6%
One-Way Road	200,468	239,900	16	0.84	+/- 25%	-16.4%

Source: Combined HWYLOAD_AM_3.NET, HWYLOAD_MD_3.NET, HWYLOAD_PM_3.NET, HWYLOAD_NT_3.NET

Table 12: Initial Model Summary by Area Type– Sarasota-Manatee Study Area

Area Type	Volume	Count	N	VOL/CNT	Criteria	Check
Urban CBD	438,559	413,500	44	1.06	+/- 25%	6.1%
CBD Fringe	1,092,833	1,047,735	112	1.04	+/- 25%	4.3%
Residential	7,142,362	5,549,524	686	1.29	+/- 25%	28.7%
OBD	1,188,833	1,186,032	97	1.00	+/- 25%	0.2%
Rural	1,310,019	1,016,397	93	1.29	+/- 25%	28.9%

Source: D1RPM, v1.0.6 – Combined HWYLOAD_AM_3.NET, HWYLOAD_MD_3.NET, HWYLOAD_PM_3.NET, HWYLOAD_NT_3.NET

Prior to any changes other than to the socioeconomic data, the Sarasota-Manatee study area does not meet the % RMSE benchmarks for the 10,000 – 14,999 or 30,000 – 49,999 volume groups. It also

does not meet the validation criteria for the Freeway facility type or for the Residential and Rural area types.

Table 13 through Table 15 show the initial model statistics for the Lee-Collier study area. The model performance in this area was considerably better and only the CBD Fringe area type did not meet FDOT validation benchmark (Table 15).

Table 13: Initial Model % RMSE Summary – Lee-Collier study area

VEHICLES PER DAY		Checks				Standards		%RMSE
LB	UB	Volumes	Counts	V/C	N	Acceptable	Preferable	
	5,000	457,790	407,433	1.12	151	100%	45%	68%
5,000	9,999	640,952	586,484	1.09	83	45%	35%	45%
10,000	14,999	1,338,476	1,259,242	1.06	104	35%	27%	32%
15,000	19,999	1,111,093	1,082,798	1.03	63	30%	25%	25%
20,000	29,999	1,585,060	1,752,218	0.90	72	27%	15%	25%
30,000	49,999	1,021,761	986,325	1.04	24	25%	15%	9%
50,000	59,999	0	0	0.00	0	20%	10%	0%
60,000	1,000,000	0	0	0.00	0	19%	10%	0%
Area-wide		**6,155,132**	**6,074,500**	**1.01**	**497**	**45%**	**35%**	**30%**

Source: D1RPM, v1.0.6 – Combined HWYLOAD_AM_3.NET, HWYLOAD_MD_3.NET, HWYLOAD_PM_3.NET, HWYLOAD_NT_3.NET

Table 14: Initial Model Summary by Facility Type – Lee-Collier study area

Facility Type	ADT	Count	N	VOL/CNT	Criteria	Check
Freeways	402,425	423,800	44	0.95	+/- 7%	6.6%
Divided Arterial	808,040	891,912	90	0.91	+/- 15%	-0.5%
Undivided Arterial	5,683,778	5,192,351	582	1.09	+/- 15%	-3.9%
Collector	925,997	1,021,388	81	0.91	+/- 25%	0.4%
One-Way Road	1,031,722	948,059	81	1.09	+/- 25%	21.6%

Source: D1RPM, v1.0.6 – Combined HWYLOAD_AM_3.NET, HWYLOAD_MD_3.NET, HWYLOAD_PM_3.NET, HWYLOAD_NT_3.NET

Table 15: Initial Model Summary by Area Type– Lee-Collier study area

Area Type	Volume	Count	N	VOL/CNT	Criteria	Check
CBD Fringe	14,399	11,500	1	1.25	+/- 25%	25.2%
Residential	4,132,189	3,987,597	353	1.04	+/- 25%	3.6%
OBD	1,880,362	1,956,003	127	0.96	+/- 25%	-3.9%
Rural	20,084	17,700	4	1.13	+/- 25%	13.5%

Source: D1RPM, v1.0.6 – Combined HWYLOAD_AM_3.NET, HWYLOAD_MD_3.NET, HWYLOAD_PM_3.NET, HWYLOAD_NT_3.NET

Calibrated Model Results

Table 16 through Table 18 show the calibrated model statistics for the Sarasota-Manatee study area. All benchmarks were met in this scenario. With the calibration updates to the model, the areawide RMSE improved from 43% to 27%. All volume groups showed an % RMSE improvement when compared to the initial results. Additionally, large improvements were observed for the freeways (16.1% to -0.2%) and for the residential and rural areas (reductions from 28.7% to 1.5% and from 28.9% to 4.4%, respectively).

Table 16: Calibrated Model % RMSE Summary – Sarasota-Manatee Study Area

VEHICLES PER DAY		Checks				Standards		%RMSE
LB	UB	Volumes	Counts	V/C	N	Acceptable	Preferable	
	5,000	1,156,234	1,026,112	1.13	412	100%	45%	57%
5,000	9,999	1,559,883	1,499,181	1.04	211	45%	35%	32%
10,000	14,999	926,088	897,074	1.03	75	35%	27%	26%
15,000	19,999	1,475,338	1,542,356	0.96	89	30%	25%	16%
20,000	29,999	2,011,820	2,180,939	0.92	90	27%	15%	17%
30,000	49,999	796,229	771,475	1.03	21	25%	15%	18%
50,000	59,999	333,609	332,223	1.00	6	20%	10%	11%
60,000	1,000,000	350,759	372,500	0.94	6	19%	10%	8%
Area-wide		**8,609,960**	**8,621,860**	**1.00**	**910**	**45%**	**35%**	**27%**

Source: D1RPM, v1.0.6 – Combined HWYLOAD_AM_3.NET, HWYLOAD_MD_3.NET, HWYLOAD_PM_3.NET, HWYLOAD_NT_3.NET

Table 17: Calibrated Model Summary by Facility Type– Sarasota-Manatee Study Area

Facility Type	ADT	Count	N	VOL/CNT	Criteria	Check
Freeways	1,771,159	1,774,877	46	1.00	+/- 7%	-0.2%
Divided Arterial	4,089,010	4,188,201	281	0.98	+/- 15%	-2.4%
Undivided Arterial	485,797	454,366	94	1.07	+/- 15%	6.9%
Collector	1,224,014	1,191,666	356	1.03	+/- 25%	2.7%
One-Way Road	219,639	239,900	16	0.92	+/- 25%	-8.4%

Source: D1RPM, v1.0.6 – Combined HWYLOAD_AM_3.NET, HWYLOAD_MD_3.NET, HWYLOAD_PM_3.NET, HWYLOAD_NT_3.NET

Table 18: Calibrated Model Summary by Area Type– Sarasota-Manatee Study Area

Area Type	Volume	Count	N	VOL/CNT	Criteria	Check
Urban CBD	390,788	423,800	44	0.92	+/- 25%	-7.8%
CBD Fringe	812,724	891,912	90	0.91	+/- 25%	-8.9%
Residential	5,285,705	5,208,051	584	1.01	+/- 25%	1.5%
OBD	972,512	1,021,388	81	0.95	+/- 25%	-4.8%
Rural	989,628	948,059	81	1.04	+/- 25%	4.4%

Source: D1RPM, v1.0.6 – Combined HWYLOAD_AM_3.NET, HWYLOAD_MD_3.NET, HWYLOAD_PM_3.NET, HWYLOAD_NT_3.NET

Table 19 through Table 21 show the calibrated model statistics for the Lee-Collier study area. All benchmarks were met in this scenario. The areawide % RMSE reduced from 30% to 26%. Additionally, most of the volume groups showed improvement. Improvements were also seen in the facility and area types. In particular, the CBD Fringe area type that did not meet the validation benchmark in the initial model changed from a V/C of 25.2% to 24.8% in the calibrated model.

Table 19: Calibrated Model % RMSE Summary – Lee-Collier study area

VEHICLES PER DAY		Checks				Standards		%RMSE
LB	UB	Volumes	Counts	V/C	N	Acceptable	Preferable	
	5,000	438,426	407,433	1.08	151	100%	45%	60%
5,000	9,999	640,524	586,484	1.09	83	45%	35%	37%
10,000	14,999	1,325,315	1,259,242	1.05	104	35%	27%	30%
15,000	19,999	1,112,597	1,082,798	1.03	63	30%	25%	25%
20,000	29,999	1,599,503	1,752,218	0.91	72	27%	15%	17%
30,000	49,999	982,688	986,325	1.00	24	25%	15%	7%
50,000	59,999	0	0	0.00	0	20%	10%	0%
60,000	1,000,000	0	0	0.00	0	19%	10%	0%
Area-wide		**6,099,052**	**6,074,500**	**1.00**	**497**	**45%**	**35%**	**26%**

Source: D1RPM, v1.0.6 – Combined HWYLOAD_AM_3.NET, HWYLOAD_MD_3.NET, HWYLOAD_PM_3.NET, HWYLOAD_NT_3.NET

Table 20: Calibrated Model Summary by Facility Type – Lee-Collier study area

Facility Type	ADT	Count	N	VOL/CNT	Criteria	Check
Freeways	930,762	918,445	23	1.01	+/- 7%	1.3%
Divided Arterial	3,933,092	3,967,038	242	0.99	+/- 15%	-0.9%
Undivided Arterial	127,649	136,246	28	0.94	+/- 15%	-6.3%
Collector	436,391	415,771	130	1.05	+/- 25%	5.0%
One-Way Road	19,187	16,100	2	1.19	+/- 25%	19.2%

Source: D1RPM, v1.0.6 – Combined HWYLOAD_AM_3.NET, HWYLOAD_MD_3.NET, HWYLOAD_PM_3.NET, HWYLOAD_NT_3.NET

Table 21: Calibrated Model Summary by Area Type– Lee-Collier study area

Area Type	Volume	Count	N	VOL/CNT	Criteria	Check
CBD Fringe	14,351	11,500	1	1.25	+/- 25%	24.8%
Residential	3,999,797	3,941,497	350	1.01	+/- 25%	1.5%
OBD	1,909,970	1,956,003	127	0.98	+/- 25%	-2.4%
Rural	18,454	17,700	4	1.04	+/- 25%	4.3%

Source: D1RPM, v1.0.6 – Combined HWYLOAD_AM_3.NET, HWYLOAD_MD_3.NET, HWYLOAD_PM_3.NET, HWYLOAD_NT_3.NET

Some of the count locations on the I-75 facility in the study area were reviewed and improved by adjusting the bridge penalties. Below table highlights the volume to count ratio for individual links on I-75 and other important interchanges.

Table 22: Volume over Count Analysis for Important Corridors

Facility	Area Type	Facility Type	A Node	B Node	Observed Count	MOCF	Model Volume	Model ADT (Vol*MOCF)	V/C
I-75	52	12	13225	13231	21,000	0.87	30,534	26,565	1.26
I-75	52	12	13230	13224	21,500	0.87	30,915	26,896	1.25
I-75	52	12	13293	13356	25,000	0.87	31,797	27,663	1.11
I-75	52	12	13452	18897	27,366	0.87	32,028	27,864	1.02
I-75	52	12	14017	14032	29,500	0.87	32,773	28,513	0.97
I-75	52	12	14030	14015	30,000	0.87	33,644	29,270	0.98
I-75	52	12	14185	14384	26,000	0.87	26,565	23,112	0.89
I-75	52	12	14375	14174	26,000	0.87	27,305	23,755	0.91
I-75	52	12	14482	14547	25,000	0.87	24,112	20,977	0.84
I-75	52	12	14543	14481	24,500	0.87	24,408	21,235	0.87
I-75	51	12	15075	15077	28,654	0.92	30,506	28,066	0.98
I-75	51	12	15078	15080	27,000	0.92	25,394	23,362	0.87
I-75	51	12	15085	15084	32,475	0.92	30,320	27,894	0.86
I-75	51	12	15088	15086	27,000	0.92	24,965	22,968	0.85
I-75	51	12	15147	15148	36,500	0.92	42,108	38,739	1.06
I-75	51	12	15153	15150	36,000	0.92	41,463	38,146	1.06
I-75	51	12	15221	15282	41,000	0.92	51,791	47,648	1.16
I-75	51	12	15287	15225	40,500	0.92	51,255	47,155	1.16
I-75	51	12	15397	15427	39,500	0.92	52,342	48,155	1.22
I-75	51	12	15408	15396	39,000	0.92	54,283	49,940	1.28
I-75	51	12	15575	15634	44,500	0.92	60,365	55,536	1.25
I-75	51	12	15642	15574	44,500	0.92	61,927	56,973	1.28
I-75	33	12	15731	15821	51,850	0.92	65,095	59,887	1.16
I-75	33	12	15822	15732	52,373	0.92	65,044	59,840	1.14
I-75	33	12	16158	16201	59,000	0.92	64,814	59,629	1.01

Facility	Area Type	Facility Type	A Node	B Node	Observed Count	MOCF	Model Volume	Model ADT (Vol*MOCF)	V/C
I-75	33	12	16205	16156	60,500	0.92	66,918	61,565	1.02
I-75	33	12	16375	16447	63,500	0.92	65,268	60,047	0.95
I-75	33	12	16448	16398	64,500	0.92	64,436	59,281	0.92
I-75	33	12	16752	16896	61,000	0.94	61,076	57,411	0.94
I-75	33	12	16895	16753	62,500	0.94	61,202	57,530	0.92
I-75	33	12	17093	17227	58,500	0.94	56,729	53,325	0.91
I-75	33	12	17207	17087	60,500	0.94	58,431	54,925	0.91
I-75	33	12	17793	17825	54,500	0.94	52,349	49,208	0.90
I-75	33	12	17831	17797	56,000	0.94	55,020	51,719	0.92
I-75	33	12	18079	18151	44,000	0.94	43,716	41,093	0.93
I-75	33	12	18146	18077	44,500	0.94	44,558	41,885	0.94
I-75	33	12	18253	18325	28,000	0.94	26,638	25,040	0.89
I-75	32	12	18328	18333	20,000	0.93	16,506	15,351	0.77
I-75	33	12	18329	18276	27,500	0.94	27,823	26,154	0.95
I-75	32	12	18335	18340	25,000	0.93	24,762	23,029	0.92
I-75	32	12	18337	18332	19,500	0.93	16,397	15,249	0.78
I-75	32	12	18346	18339	24,000	0.93	24,667	22,940	0.96
I-75	33	12	18371	18391	35,500	0.94	34,665	32,585	0.92
I-75	33	12	18390	18370	35,500	0.94	35,412	33,287	0.94
I-75	33	12	18441	18446	32,500	0.94	35,599	33,463	1.03
I-75	33	12	18447	18442	32,000	0.94	35,599	33,463	1.05
I-75	52	12	18896	13451	27,659	0.87	32,576	28,341	1.02
I-75	33	12	22701	22947	29,500	0.91	27,404	24,938	0.85
I-75	33	12	22965	22703	28,000	0.91	27,100	24,661	0.88
I-75	33	12	23007	22965	29,120	0.91	38,869	35,371	1.21
I-75	33	12	23174	23278	39,000	0.91	46,417	42,239	1.08
I-75	33	12	23225	23129	39,500	0.91	46,903	42,682	1.08
I-75	33	12	23351	23720	42,000	0.91	44,154	40,180	0.96

Facility	Area Type	Facility Type	A Node	B Node	Observed Count	MOCF	Model Volume	Model ADT (Vol*MOCF)	V/C
I-75	33	12	23572	23541	40,000	0.91	47,744	43,447	1.09
I-75	33	12	23578	23639	38,500	0.91	47,534	43,256	1.12
I-75	33	12	23581	23610	40,500	0.91	47,127	42,886	1.06
I-75	33	12	23616	23549	39,000	0.91	46,013	41,872	1.07
I-75	33	12	23744	23413	41,500	0.91	45,620	41,514	1.00
I-75	33	12	23840	23855	45,143	0.91	49,040	44,626	0.99
I-75	33	12	23906	23899	44,274	0.91	50,241	45,719	1.03
I-75	33	12	24045	24191	46,700	0.91	47,789	43,488	0.93
I-75	33	12	24209	24074	46,000	0.91	48,108	43,778	0.95
I-75	33	12	24482	24512	46,000	0.91	49,107	44,687	0.97
I-75	33	12	24530	24490	45,500	0.91	47,889	43,579	0.96
I-75	33	12	25034	25063	46,409	0.91	52,774	48,024	1.03
I-75	33	12	25069	25051	45,990	0.91	51,934	47,260	1.03
I-75	33	12	25285	25289	39,005	0.89	44,760	39,836	1.02
I-75	33	12	25318	25309	37,804	0.89	42,499	37,824	1.00
I-75	33	12	25324	25334	35,000	0.89	40,689	36,213	1.03
I-75	33	12	25348	25342	34,000	0.89	36,720	32,681	0.96
I-75	33	12	25522	25955	20,250	0.89	22,696	20,199	1.00
I-75	33	12	25959	25515	20,250	0.89	23,667	21,064	1.04
Alico Rd	42	23	23483	23670	18,433	0.91	25,054	22,799	1.24
Alico Rd	42	23	23670	23483	19,482	0.91	25,007	22,756	1.17
Alico Rd	42	23	24190	24274	12,550	0.91	17,666	16,076	1.28
Alico Rd	42	23	24274	24190	12,252	0.91	17,668	16,078	1.31
Bonita Beach	31	23	24786	24878	16,184	0.91	24,183	22,007	1.36
Bonita Beach	31	23	24878	24786	11,816	0.91	24,394	22,199	1.88
Co Hwy 768	33	23	13383	13384	8,300	0.88	9,209	8,104	0.98
Co Hwy 768	33	23	13384	13383	8,300	0.88	9,513	8,371	1.01
Co Hwy 768	33	23	13400	13402	3,400	0.88	2,371	2,086	0.61

Facility	Area Type	Facility Type	A Node	B Node	Observed Count	MOCF	Model Volume	Model ADT (Vol*MOCF)	V/C
Co Hwy 768	33	23	13402	13400	3,300	0.88	2,474	2,177	0.66
Colonial Blvd	31	23	20882	23003	43,000	0.91	42,655	38,816	0.90
Colonial Blvd	31	23	23003	20882	41,000	0.91	42,171	38,376	0.94
CR 769	31	23	14353	14367	10,500	0.88	13,749	12,099	1.15
CR 769	31	23	14367	14353	10,000	0.88	13,390	11,783	1.18
CR 951	42	23	20548	26284	25,000	0.89	25,308	22,524	0.90
CR 951	42	23	26284	20548	23,000	0.89	25,783	22,947	1.00
Daniels Pkwy	42	23	24212	24286	24,720	0.91	27,878	25,369	1.03
Daniels Pkwy	42	23	24286	24212	26,780	0.91	27,587	25,104	0.94
Duncan Rd	21	23	13829	13840	11,000	0.88	13,111	11,538	1.05
Duncan Rd	21	23	13841	13830	11,000	0.88	13,189	11,606	1.06
Pine Ridge	42	23	20485	25129	28,000	0.89	28,066	24,979	0.89
Pine Ridge	42	23	25129	20485	28,000	0.89	29,136	25,931	0.93
SR 35-US 17 EB	21	23	13760	13771	10,000	0.88	9,361	8,238	0.82
SR 35-US 17 WB	21	23	13791	13768	10,500	0.88	10,591	9,320	0.89
SR 43-US 301	33	23	17948	17962	15,113	0.92	17,643	16,232	1.07
SR 43-US 301	33	23	17962	17948	15,016	0.92	17,775	16,353	1.09
SR 64	31	23	17608	17624	24,000	0.92	21,201	19,505	0.81
SR 64	31	23	17624	17608	24,000	0.92	21,287	19,584	0.82
SR 78	42	23	22469	22477	12,552	0.91	13,075	11,898	0.95
SR 78	42	23	22477	22469	11,448	0.91	13,235	12,044	1.05
SR 780	21	23	16303	17748	28,500	0.88	27,940	24,587	0.86
SR 780	21	23	17748	16303	28,500	0.88	26,373	23,208	0.81
SR 82	42	23	22839	23031	15,246	0.91	24,005	21,845	1.43
SR 82	42	23	23031	22839	17,754	0.91	24,533	22,325	1.26
SR 80	31	23	24543	24762	14,945	0.91	15,344	13,963	0.93
SR 80	31	23	24762	24543	15,222	0.91	15,120	13,759	0.90
SR 82	42	23	23497	23525	13,020	0.91	24,527	22,320	1.71

Facility	Area Type	Facility Type	A Node	B Node	Observed Count	MOCF	Model Volume	Model ADT (Vol*MOCF)	V/C
SR 82	42	23	23525	23497	16,980	0.91	24,806	22,573	1.33
University Pkwy	31	23	16670	16686	29,000	0.88	26,744	23,535	0.81
University Pkwy	31	23	16686	16670	29,000	0.88	27,142	23,885	0.82
SR 43-US 301	42	24	17240	17241	19,500	0.92	23,310	21,445	1.10
SR 43-US 301	42	24	18550	18588	20,500	0.92	24,606	22,638	1.10
SR 80	42	24	22918	23161	11,500	0.91	13,687	12,455	1.08
SR 80	42	24	23161	22918	11,500	0.91	14,269	12,985	1.13
Cockscrew Rd	31	25	24244	24361	18,951	0.91	19,362	17,619	0.93
Cockscrew Rd	31	25	24361	24244	18,691	0.91	18,581	16,909	0.90
SR 70	33	25	16983	18795	22,000	0.92	22,145	20,373	0.93
SR 70	33	25	18796	16984	22,000	0.92	23,010	21,169	0.96
University Pkwy	33	25	16687	18736	17,307	0.92	18,035	16,592	0.96
University Pkwy	33	25	18736	16687	16,693	0.92	17,711	16,294	0.98
Bayshore Rd	31	35	23386	24245	5,800	0.91	4,797	4,365	0.75
Bayshore Rd	31	35	24245	23386	5,700	0.91	4,671	4,251	0.75
SR 72	33	35	15683	15688	5,600	0.88	6,999	6,159	1.10
SR 72	33	35	15688	15683	5,800	0.88	6,938	6,105	1.05
Laurel R	33	44	15302	15305	7,200	0.88	6,346	5,584	0.78
Laurel R	33	44	15305	15302	7,200	0.88	5,155	4,536	0.63

Source: D1RPM, v1.0.6 – Combined HWYLOAD_AM_3.NET, HWYLOAD_MD_3.NET, HWYLOAD_PM_3.NET, HWYLOAD_NT_3.NET

4.0 – 2040 Future Year No Build Model Development

The input files for the 2040 scenario were updated to include recently approved long term future projects. The District One Systems Planning Office gathered the details regarding the future projects from the Collier, Lee, Charlotte, and Manatee Planning Organizations along with the Heartland Regional Transportation Planning Organization (HRTPO). Each of these organizations provided the missing future projects after reviewing the original 2040 socio-economic model data. Accordingly, the changes reflected in the model were threefold:

- Changes to the network, including new collector roads and centroid connectors. The transit route file was updated wherever necessary based on the new node and link arrangements.
- Socioeconomic (SE) data, comprising dwelling units (DU), population, employment, school enrollment, and hotel/motel units.
- Changes to the external trips and penalty input files.

The following sections from 4.1 to 4.3 detail the updates made to the model to better reflect 2040 conditions. Section 4.4 highlights the 2040 no-build scenario results.

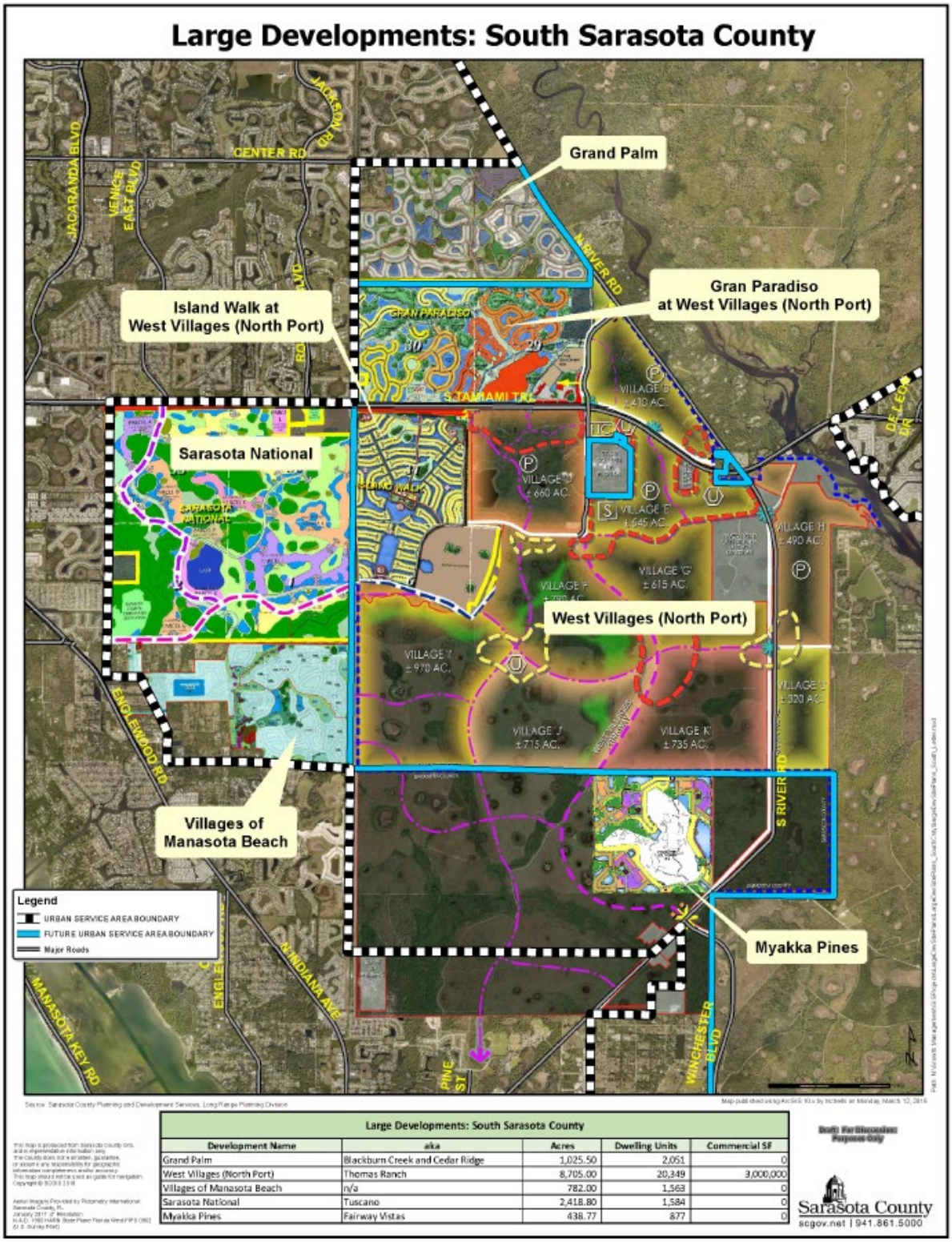
4.1 – 2040 Highway Network Changes

Following changes were added to the 2040 highway network in addition to the updates made to the 2015 highway network.

Large Developments: South Sarasota County

South Sarasota County has major developments like Grand Palm, West Villages, Villages of Manasota Beach, Sarasota National and Myakka Pines. The location of these projects is shown in Figure 14. The socioeconomic data changes are discussed in Section 4.2.

Figure 14: Large Developments: South Sarasota County



Large Developments: South Sarasota County

Development Name	aka	Acres	Dwelling Units	Commercial SF
Grand Palm	Blackburn Creek and Cedar Ridge	1,025.50	2,051	0
West Villages (North Port)	Thomas Ranch	8,705.00	20,349	3,000,000
Villages of Manasota Beach	n/a	782.00	1,563	0
Sarasota National	Tuscano	2,418.80	1,584	0
Myakka Pines	Fairway Vistas	438.77	877	0

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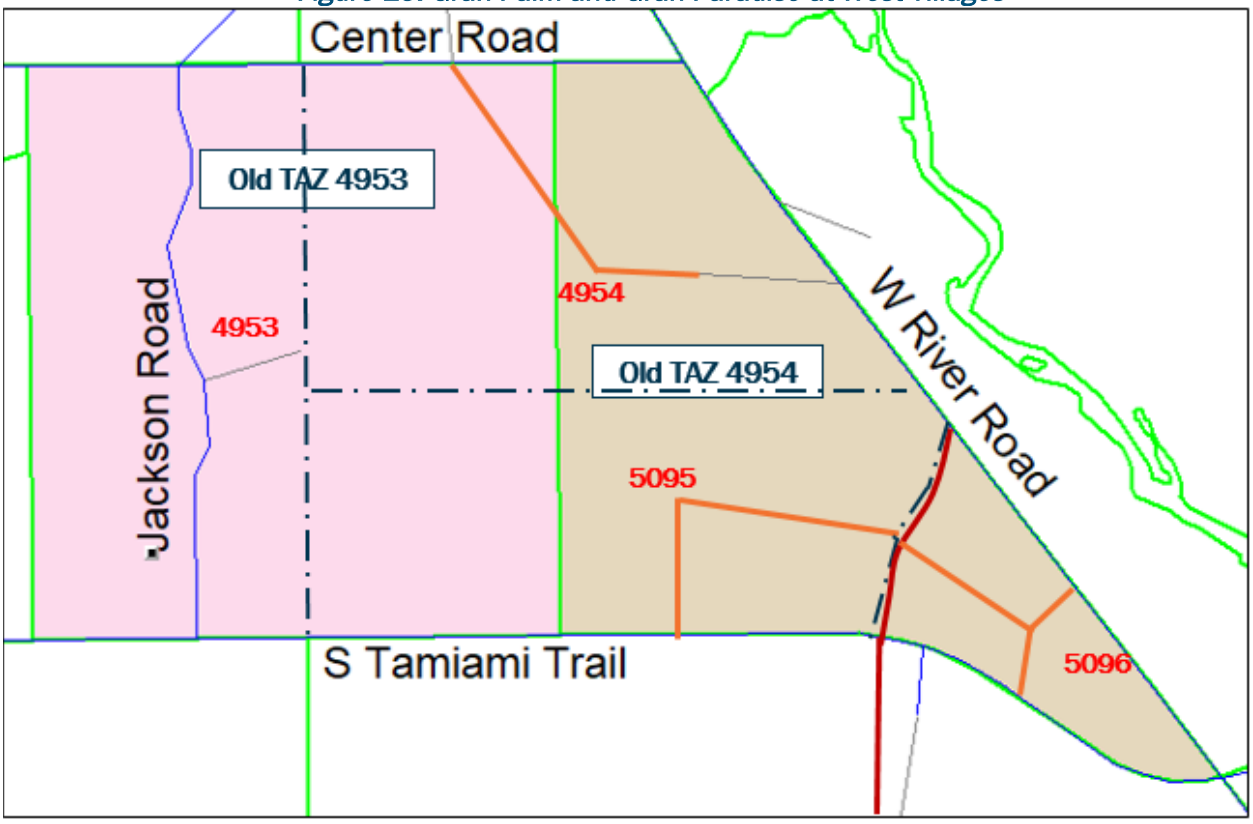
Source: Sarasota County Planning and Development Services, Long Range Planning Division

Based on the proposed developments, zones 4954 and 4953 were restructured as shown in Figure 15. The boundary of the zone 4954 (represented in black dot-dash line) was shifted towards the west to include Grand Palm entirely. Zone 4954 was split into three different zones, reflecting Grand Palm, Gran Paradiso and Village 'B' of West Village. The new TAZ numbers are represented in red text. A new collector road, represented in a dark red solid line, was added between zones 5095 and 5096. New centroid connectors (represented in orange solid lines) were added as shown in Figure 15.

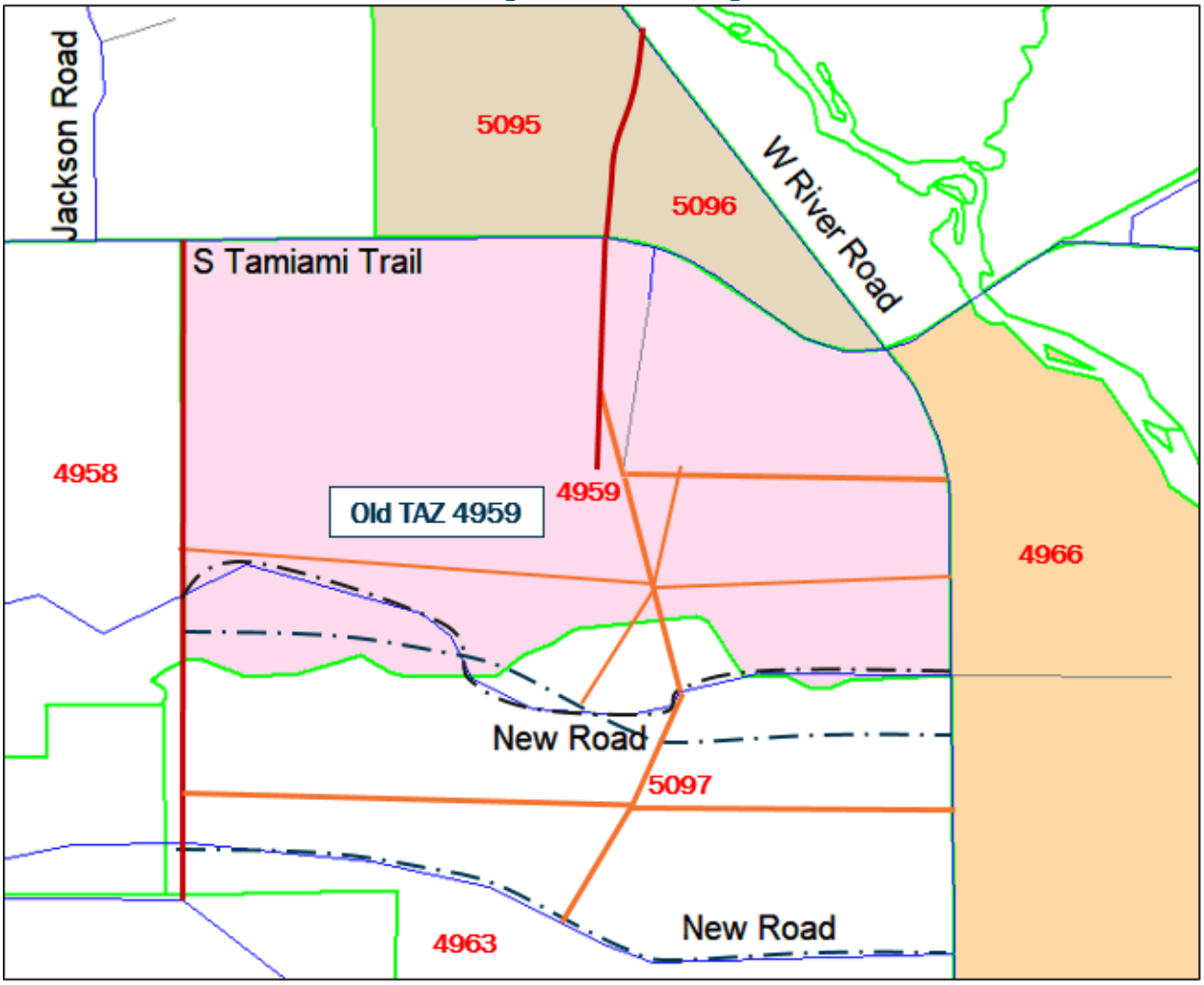
Figure 15: Gran Palm and Gran Paradiso at West Villages



Source: D1RPM, v1.0.6 – HWYNET_40A.NET

For the West Villages development, shown in Figure 16, the southern border of TAZ 4959 was adjusted to match a new proposed road. A new road represented in the red solid line was added on the western border of this zone, extending until the southernmost road in Figure 16. There are two new roads already existing in the 2040 network. These roads are used as a divisor to create a new zone south of TAZ 4959, which will accommodate part of the development proposed in the West Lakes project. Finally, new centroid connectors are proposed as shown in Figure 16.

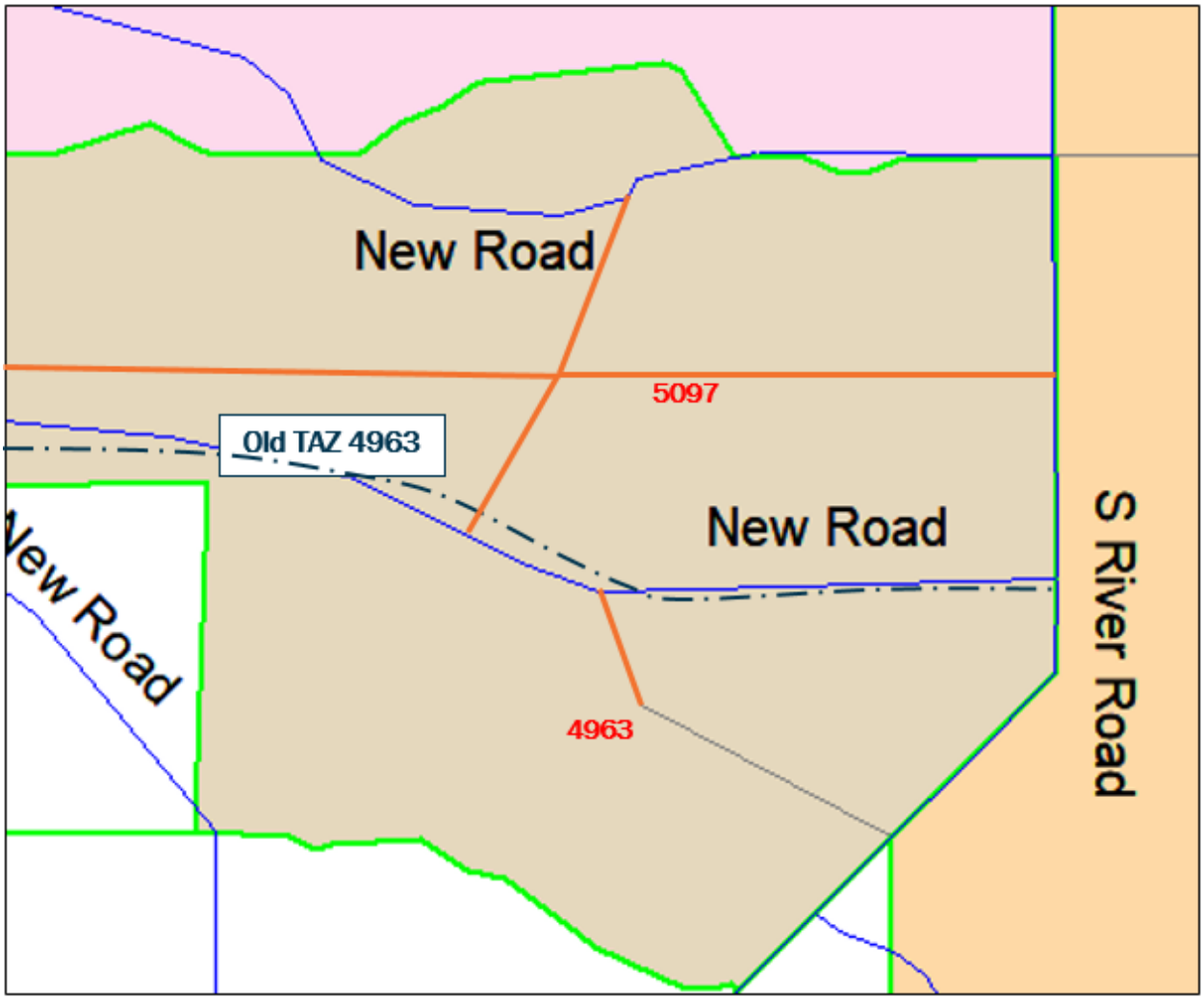
Figure 16: West Villages



Source: D1RPM, v1.0.6 – HWYNET_40A.NET

Zone 4963 was split by a new road in order to accommodate the development proposed in Myakka Pines. In addition, a new northern centroid connector was included, as shown in Figure 17. All newly added roads in the 2040 network are represented by a red solid line and centroid connectors are represented by an orange solid line. Note that the new roads in the blue line were already present in the 2040 network but are not in the 2015 network.

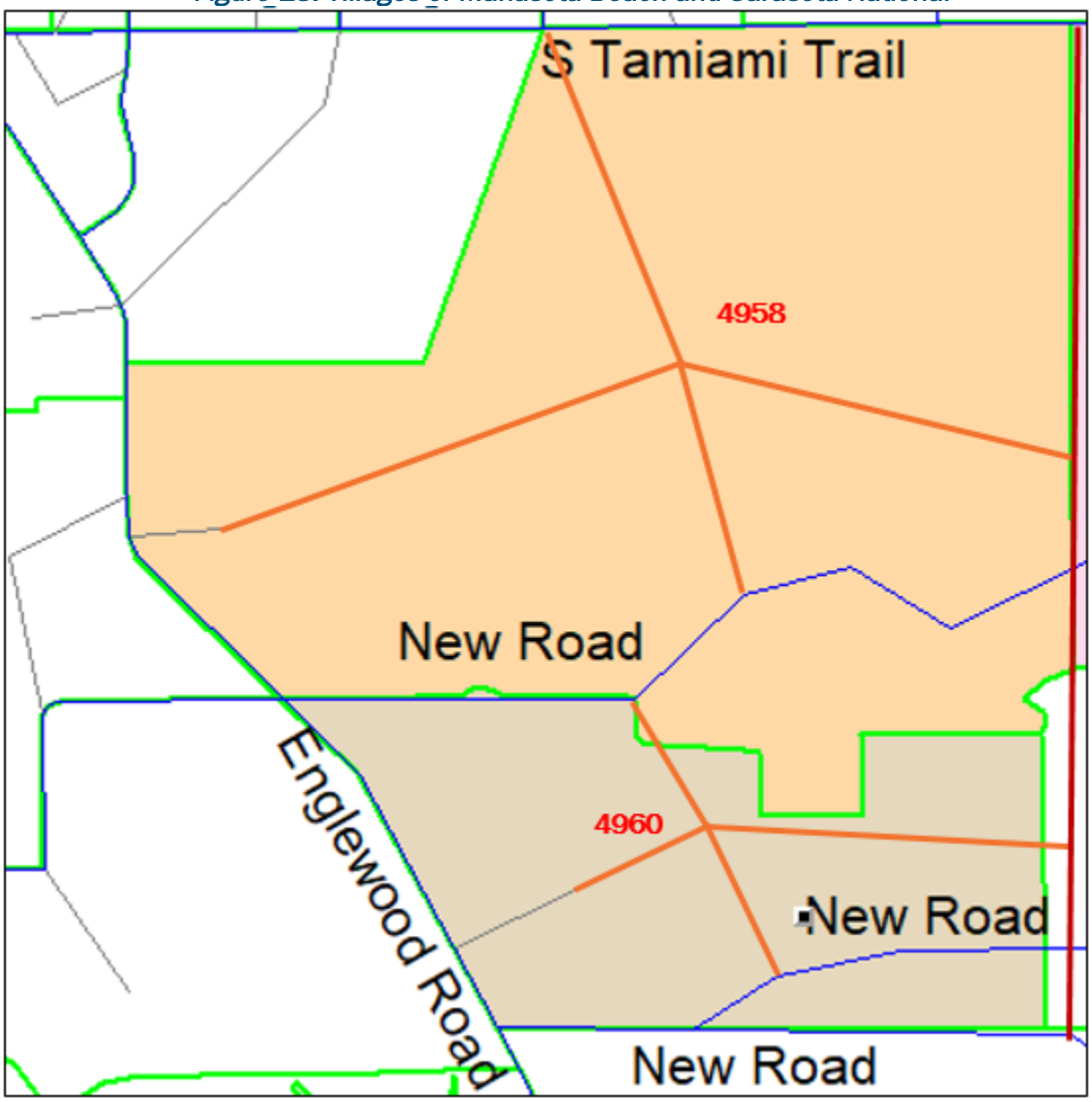
Figure 17: Myakka Pines



Source: D1RPM, v1.0.6 – HWYNET_40A.NET

For the Villages of Manasota Beach, three new centroid connectors were added to provide accessibility to zone 4960, as shown in Figure 18. For the Sarasota National development, three new centroid connectors were added to zone 4958.

Figure 18: Villages of Manasota Beach and Sarasota National

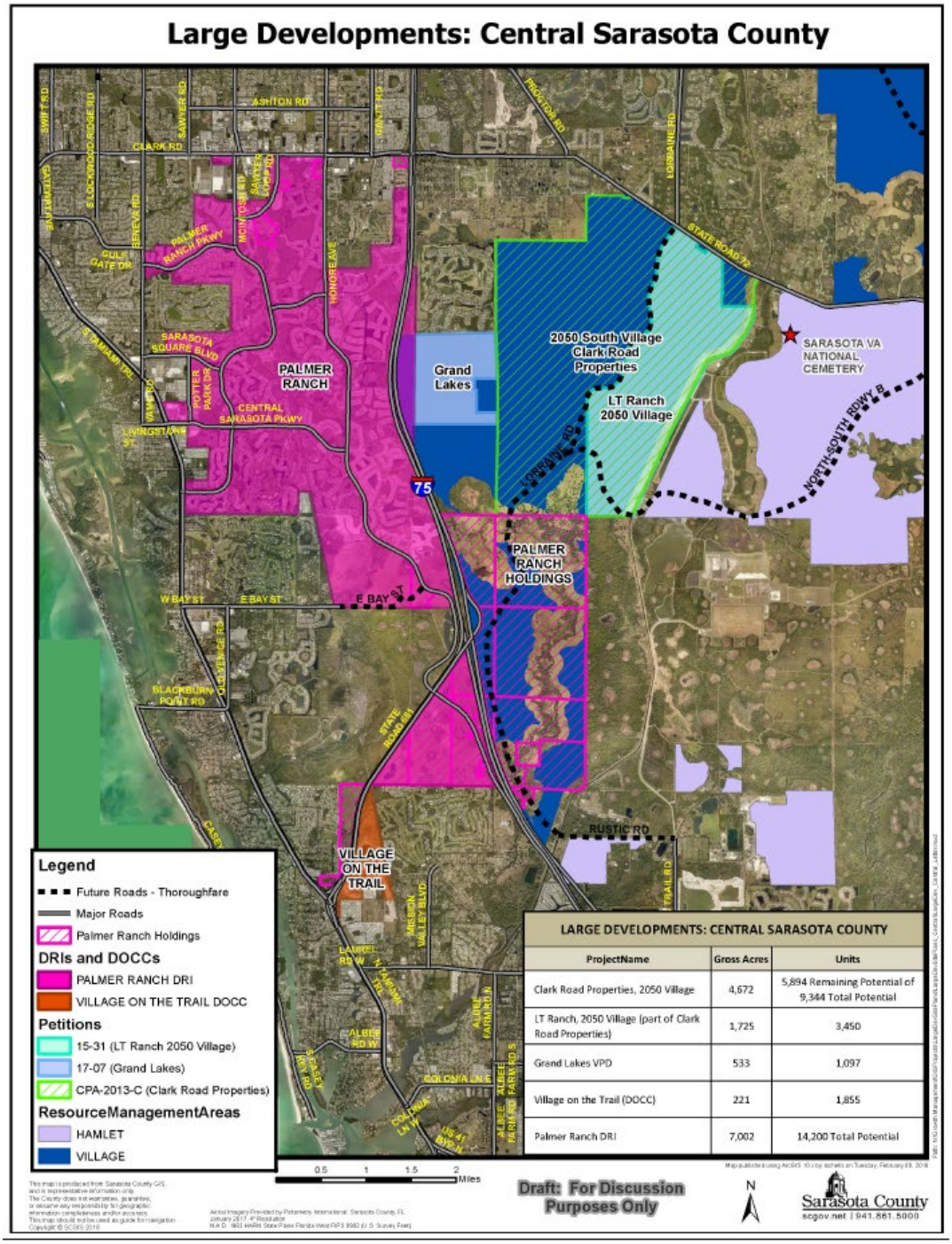


Source: D1RPM, v1.0.6 – HWYNET_40A.NET

Large Developments: Central Sarasota County

Central Sarasota county includes the major developments of 2050 Villages (LT Ranch and Clark Road Properties), Grand Lakes, Villages on the Trail and Palmer Ranch. The location of these projects is shown in Figure 19.

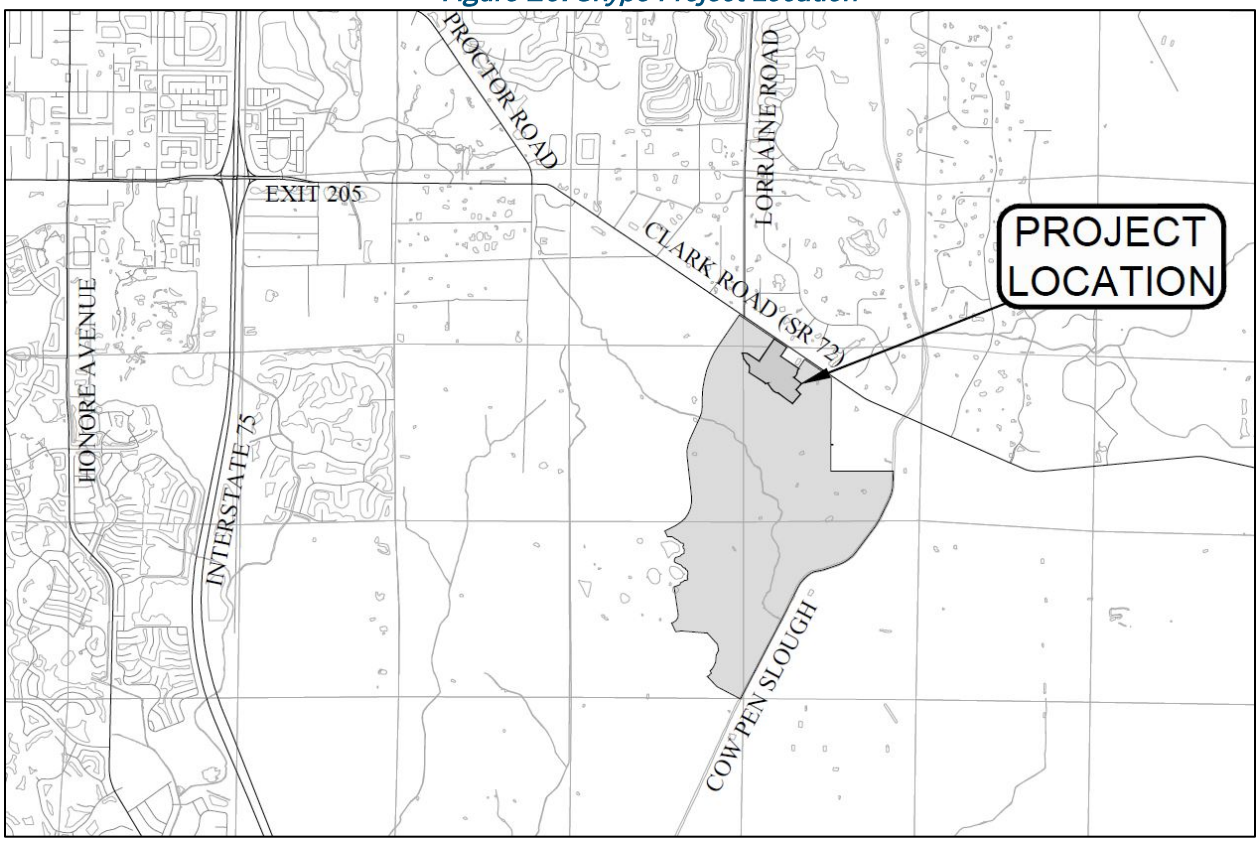
Figure 19: Large Developments: Central Sarasota County



Source: Sarasota County Planning and Development Services, Long Range Planning Division

Figure 20 shows the location of the Skype project on the map.

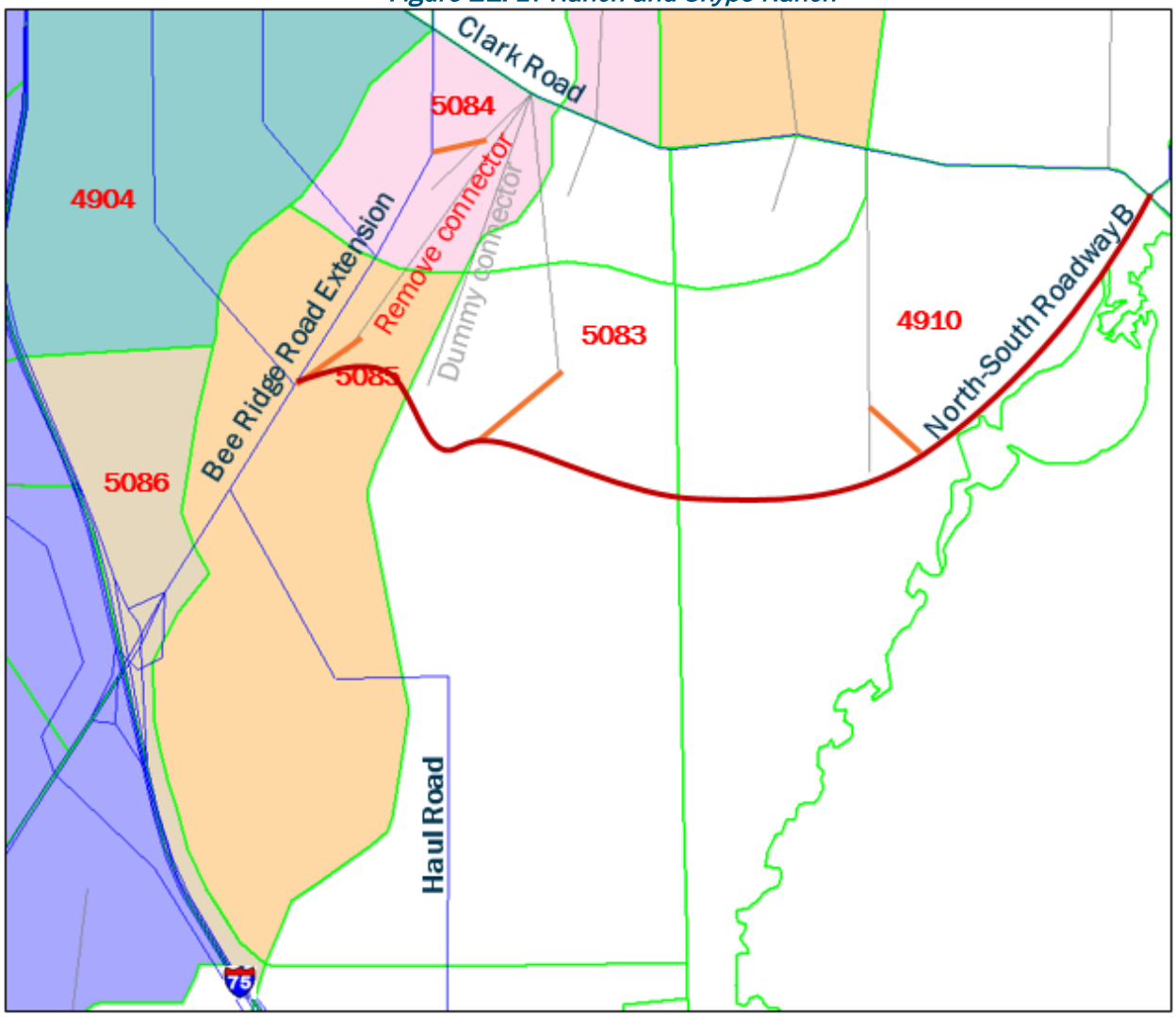
Figure 20: Skype Project Location



Source: Email exchange between the Sarasota County Planning and Development team on 9/30/2019

In the LT Ranch and the Sarasota VA National Cemetery areas, a new road "North-South Roadway B" was added in the network as shown in Figure 21 in red solid line. The Bee Ridge Road Extension and Haul Road which were under LRTP_Key value of 99 were also included as a part of this project. New centroid connectors were added from the zones 5083 and 4910 to this new road. New centroid connectors were also added from Bee Ridge Extension to zones 5084 and 5086 to provide accessibility to the LR Ranch residential, institutional and commercial properties. The dummy connector from Clark Road to the zone 5086 was removed.

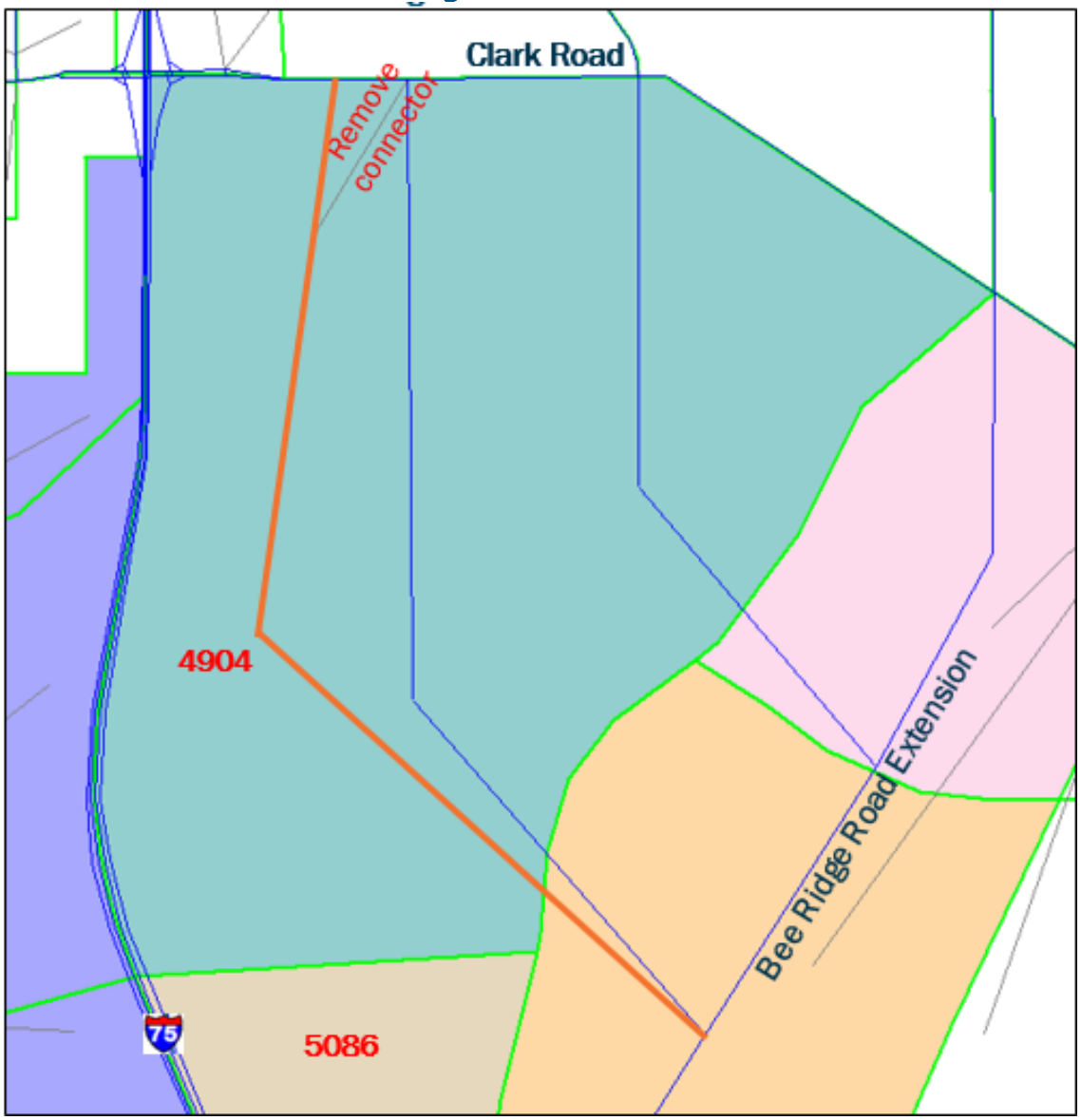
Figure 21: LT Ranch and Skype Ranch



Source: D1RPM, v1.0.6 – HWYNET_40A.NET

The Grand Lakes development is located in zone 4904. The existing connector to SR 72/Clark road was removed. Subsequently, new connectors (in orange solid lines) to Bee Ridge Road Extension and Clark Road were added.

Figure 22: Grand Lakes



Source: D1RPM, v1.0.6 – HWYNET_40A.NET

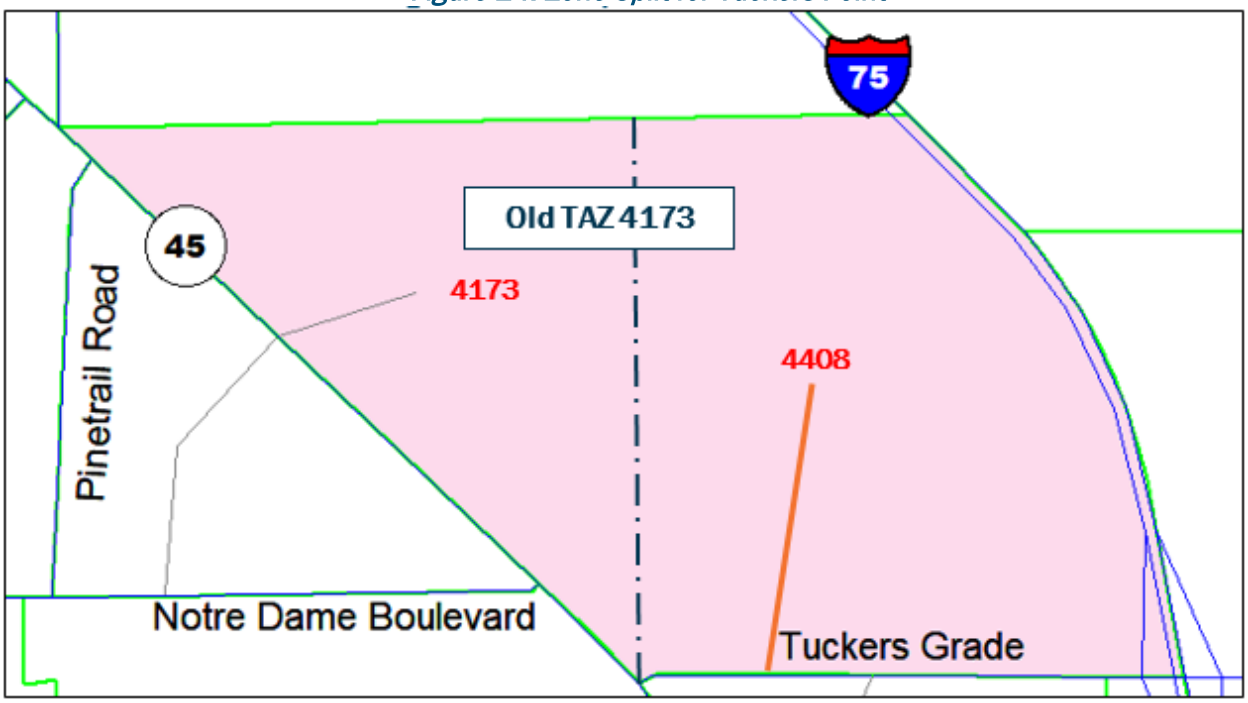
Tuckers Grade Hotel Project

The Tuckers Grand Hotel project is a residential/commercial/hotel development located between I-75 and US 41, on the north side of Tuckers Grade (CR762) in Charlotte County, Florida. To accommodate this development, zone 4173 was split into two zones. The west portion of the original zone (#4173) includes the current 2040 socioeconomic data while the east zone (#4408) reflects the Tuckers Grade Hotel Project. Figure 24 shows the new zone linked to the network through a centroid connector represented by an orange line. The zonal split is shown by a black dot-dash line.

Figure 23: Project Location Map

Source: Tuckers Point – Zoning Traffic Study – TIS — January 2018

Figure 24: Zone Split for Tuckers Point

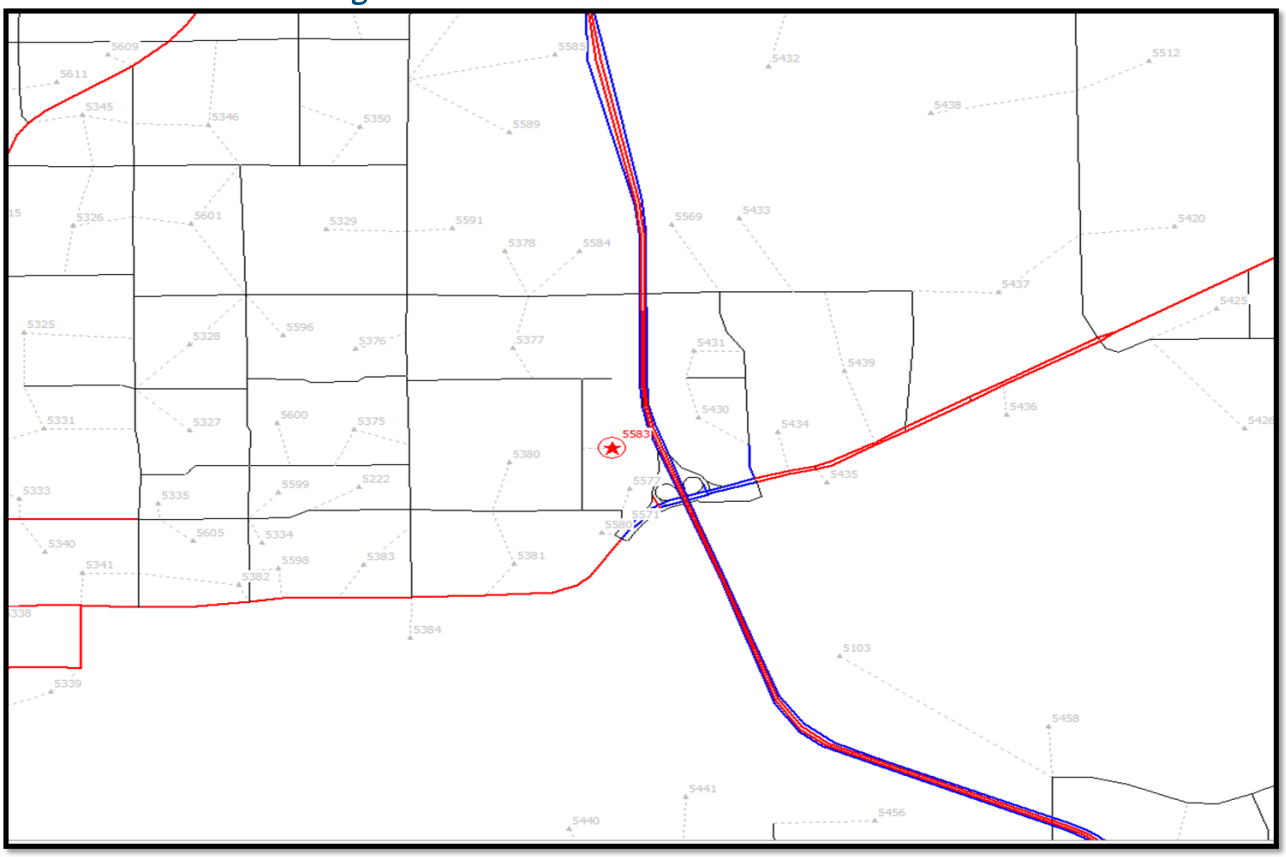


Source: D1RPM, v1.0.6 – HWYNET_40A.NET

Palmetto Area Development

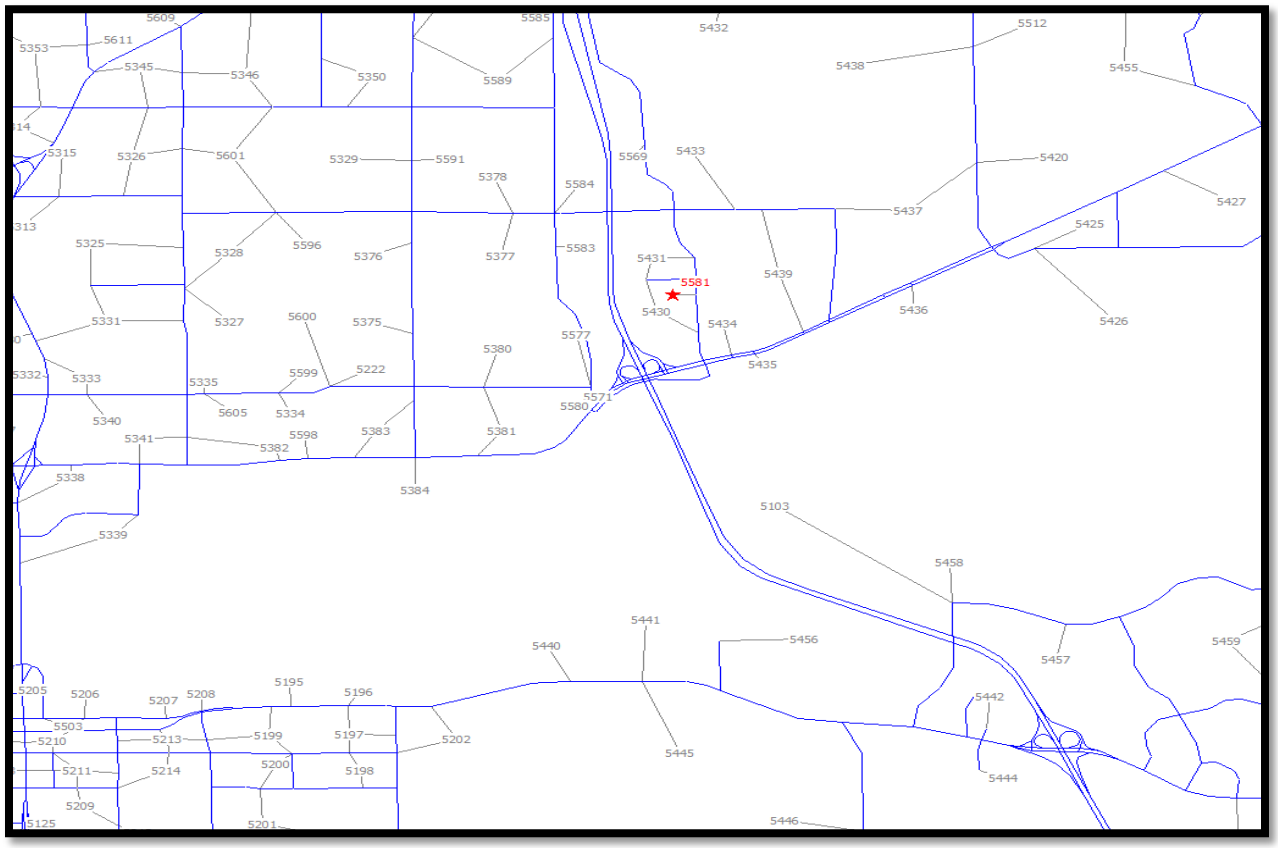
This area has three main developments: Ellenton Commerce Park, Springs at Ellenton and Parrish Land Investment. On September 18th, 2019, District 1 provided screenshots from an older network that showed how the Palmetto Area Development was incorporated into D1RPM previously. Below are the images (Figure 25 to Figure 27) of the network changes which were provided by the district.

Figure 25: Location of the Ellenton Commerce Park



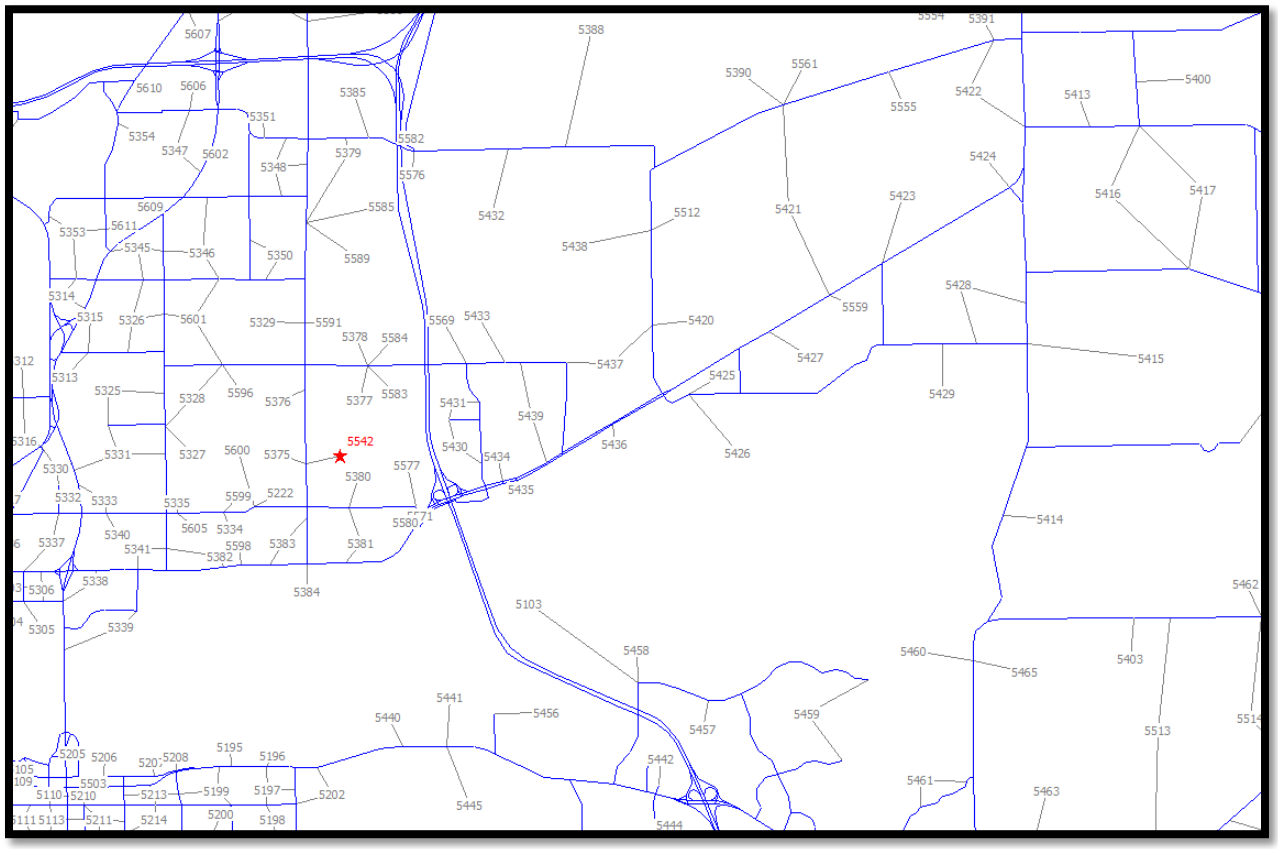
Source: Email exchange between the Manatee County Public Works Department on 9/26/2019

Figure 26: Location of Springs at Ellenton



Source: Email exchange between the Manatee County Public Works Department on 9/26/2019

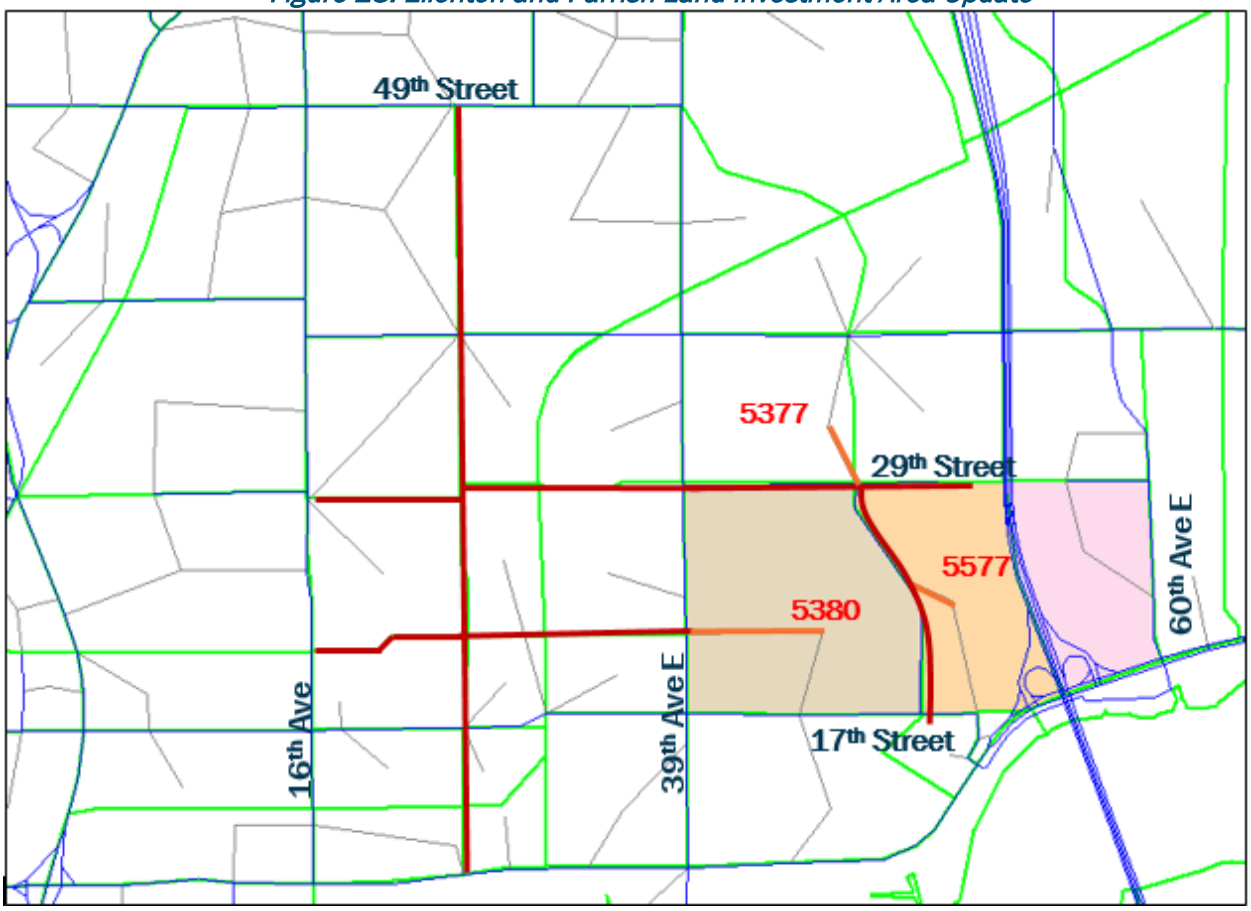
Figure 27: Location of Parrish Land Investment (aka OurLives)



Source: Email exchange between the Manatee County Public Works Department on 9/26/2019

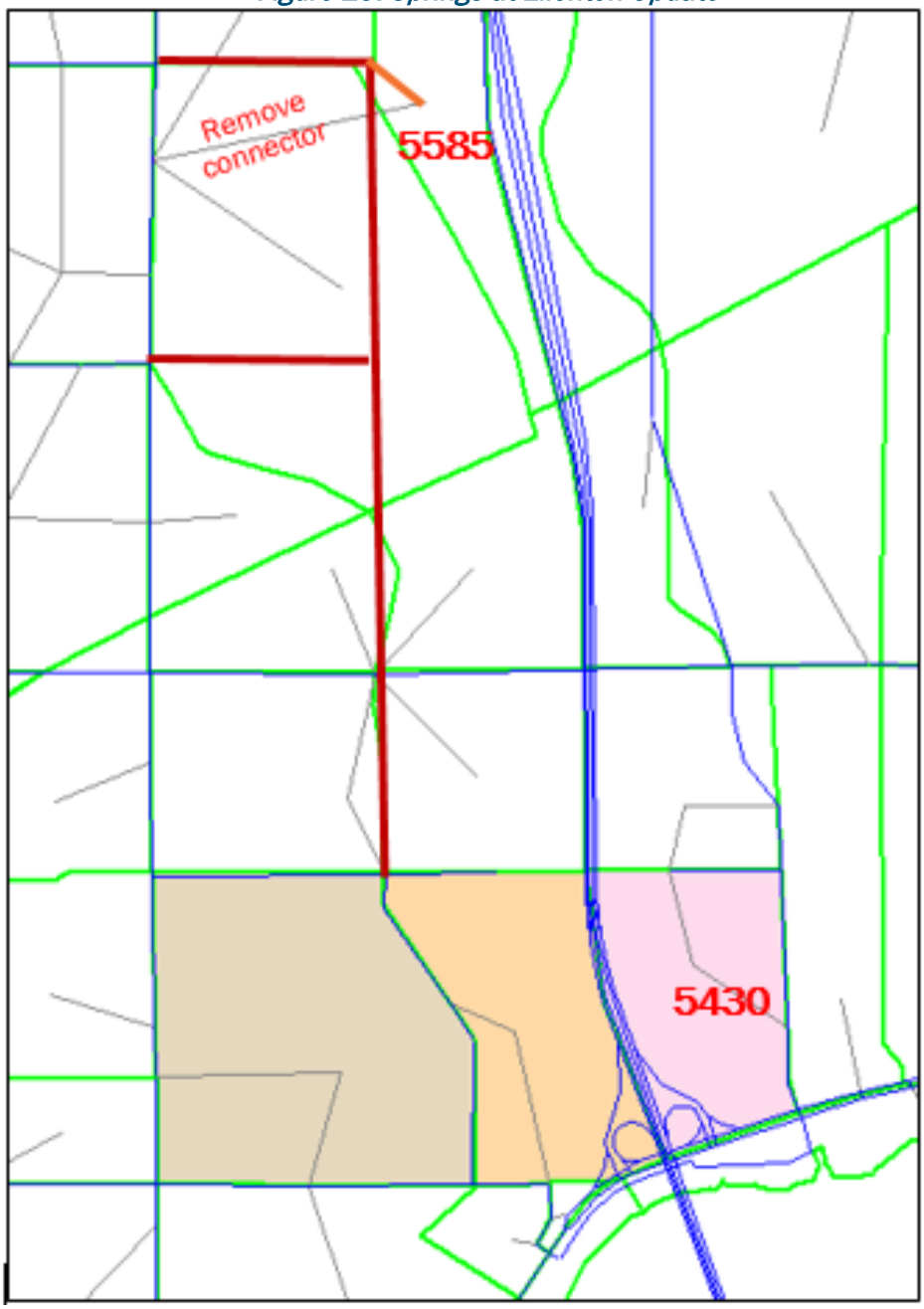
After referring to the above images, new collector roads were added at the boundary between the 5577 and 5380 zones as shown in Figure 28. New centroid connectors were added in the Ellenton Commerce Park (zone# 5577) project for zones 5577 and 5377. The Parrish Land Investment represented by zone 5380 was connected to 36th Avenue by a new centroid connector (refer to Figure 28.). As part of the Springs at Ellenton area which is represented by zone 5430, new roads were added between Mendoza and 61st Street E. Centroid connectors to the affected zones were moved accordingly as seen in Figure 29. In the following figures, all the new roads are represented in red solid lines and centroid connectors are represented by orange solid lines.

Figure 28: Ellenton and Parrish Land Investment Area Update



Source: D1RPM, v1.0.6 – HWYNET_40A.NET

Figure 29: Springs at Ellenton Update



Source: D1RPM, v1.0.6 – HWYNET_40A.NET

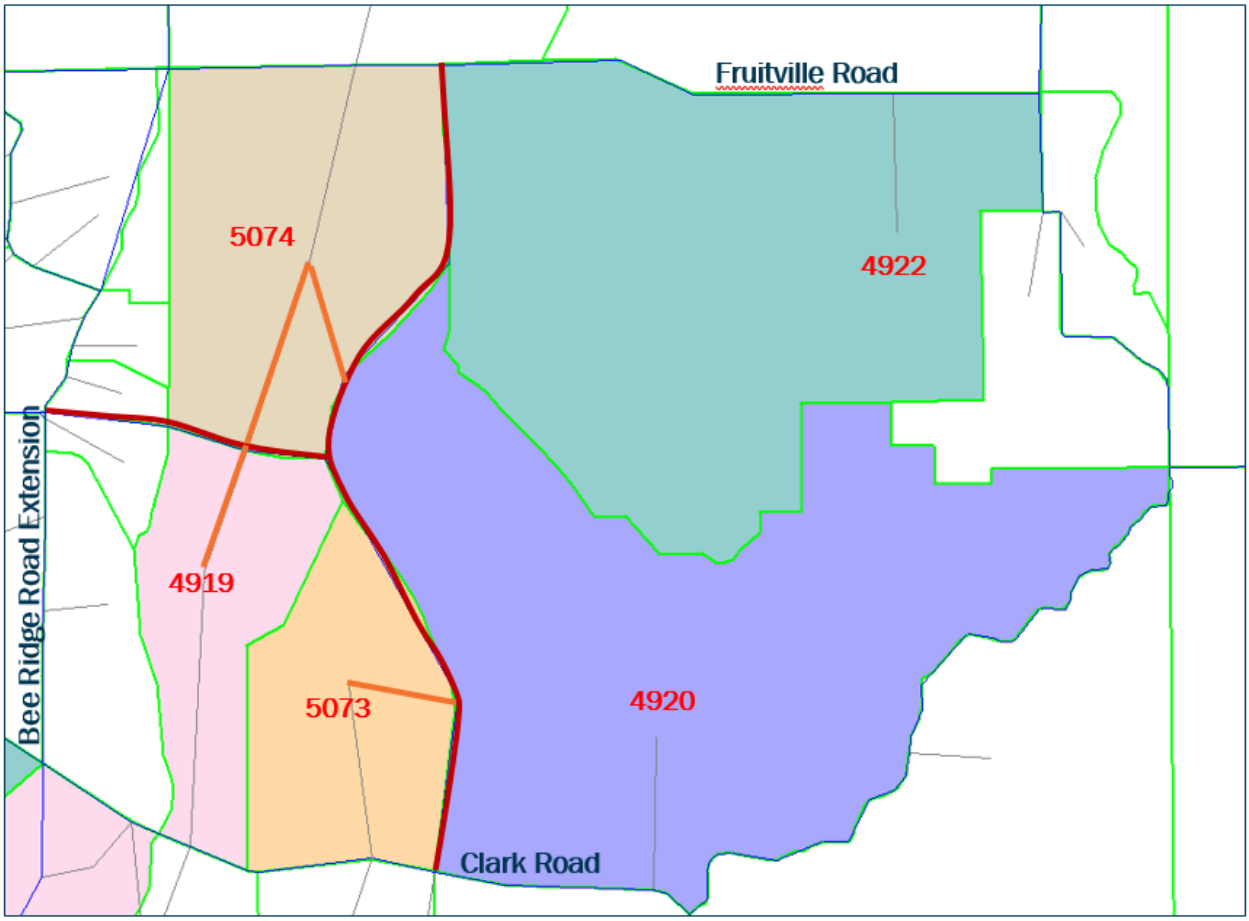
Hi-Hat Ranch

The location of the Hi-Hat Development is shown in Figure 30. As a part of this development, new collector type roads and centroid connectors were added to zones 4919, 5073 and 5074 as shown in Figure 31. All the new roads are represented in red solid lines and centroid connectors are represented by orange solid lines.

Figure 30: Hi-Hat Project Location

Source: Email exchange between the Sarasota County on 9/30/2019

Figure 31: Hi-Hat Project Development



Source: D1RPM, v1.0.6 – HWYNET_40A.NET

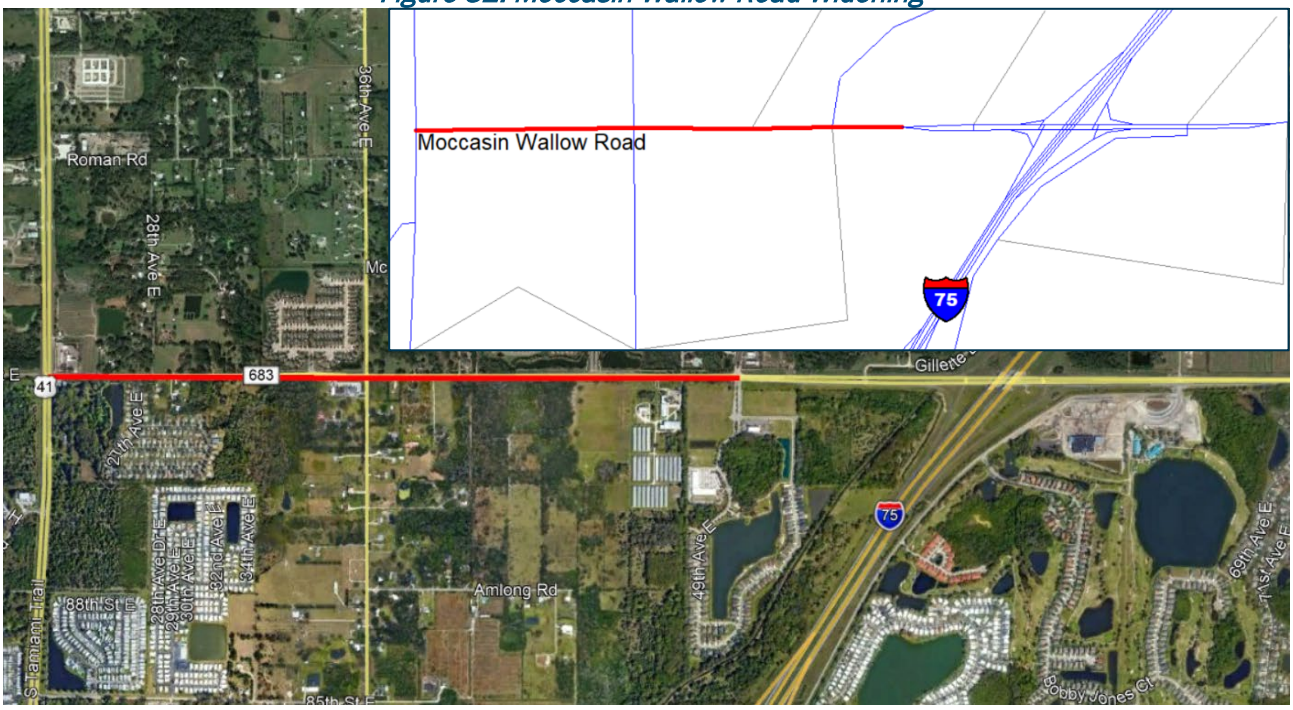
Moccasin Wallow Road Widening Project

The project limits for this project is shown in Figure 32, From US 41 to west of I-75 in Bradenton, Manatee County. The project is divided in two phases:

- Interim Phase (per county website): Widen from 2 to 4 lanes.
- Ultimate/Final Phase (per county website): Widen from 2 to 6 lanes.

Conservatively, the Interim phase was considered for the 2040 scenario.

Figure 32: Moccasin Wallow Road Widening



Source: D1RPM, v1.0.6 –HWYLOAD_40A.NET and Google Earth

Harborview Road PD&E (FPID # 434965-1)

The project limits for this project is shown in Figure 33, in Charlotte County. The project comprises the widening of Harborview Road from 2 to 4 lanes. The current 2040 network was already considering this configuration (four lanes on the highlighted segment), hence no further modifications were needed.

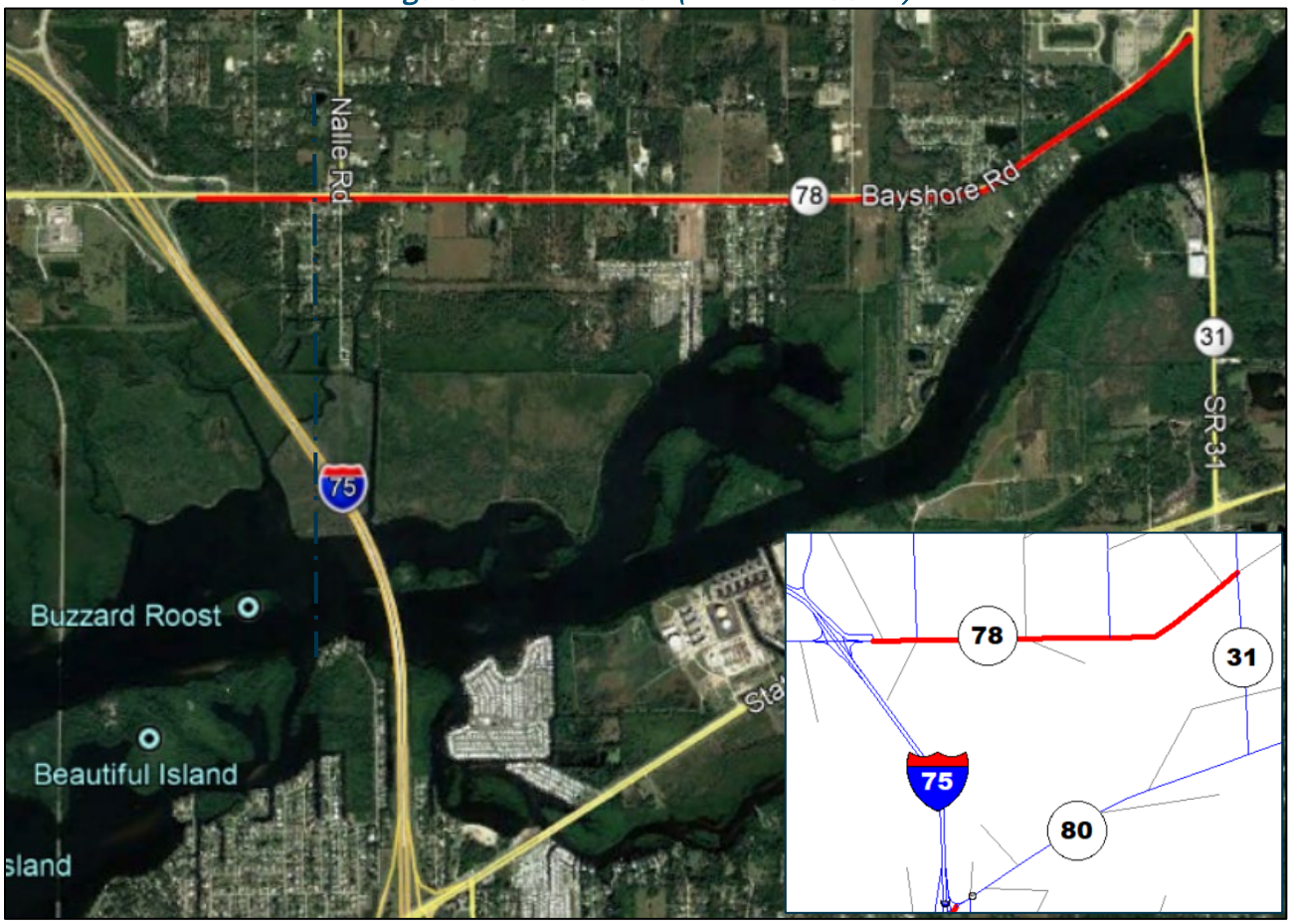
Figure 33: Harborview Road PD&E

Source: D1RPM, v1.0.6 –HWYLOAD_40A.NET and Google Earth

SR 78 PD&E (FPID # 444937-1)

The project limits for this project is shown in Figure 34, extending from east of I-75/SR 78 interchange to SR 31 (for the shared use path, the limits extend to west of I-75 to Love's truck stop entrance). The project comprises the widening of FL-78 from 2 to 4 lanes.

Figure 34: SR 78 PD&E (FPID # 444937-1)

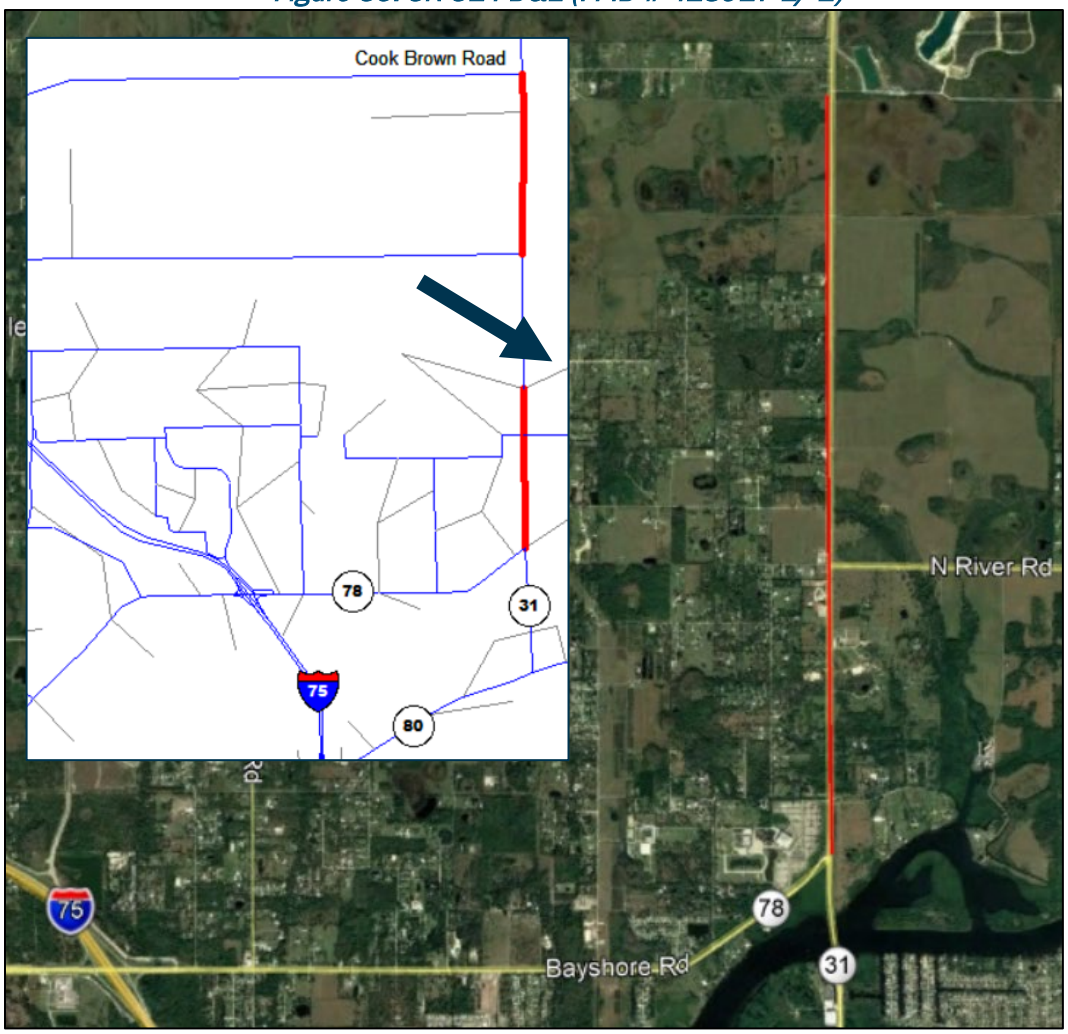


Source: D1RPM, v1.0.6 –HWYLOAD_40A.NET and Google Earth

SR 31 PD&E (FPID # 428917-1/-2)

The project limits for this project is shown in Figure 35, extending from SR 78 to Cook Brown Road. The project comprises the widening of FL-31 from SR 78 to Cypress Parkway from 2 to 6 lanes and from Cypress Parkway to Cook Brown Road from 2 to 4 lanes. Note that the Cypress Parkway in the 2040 network (Figure 35 inlet) is represented by an access to an apartment complex, shown by the centroid connector pointed by a black arrow.

Figure 35: SR 31 PD&E (FPID # 428917-1/-2)

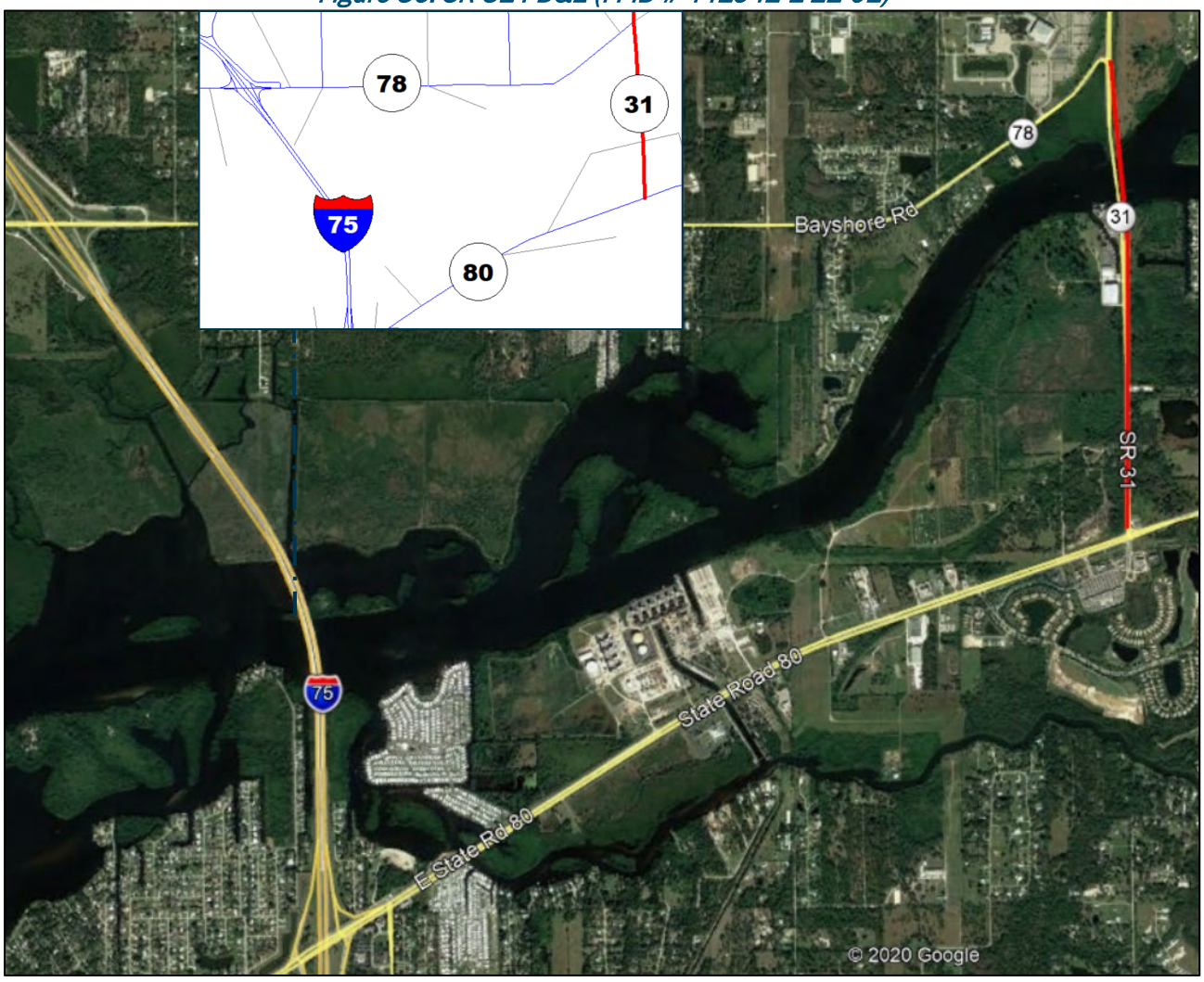


Source: D1RPM, v1.0.6 –HWYLOAD_40A.NET and Google Earth

SR 31 PD&E (FPID # 428917-1/-2)

The project limits for this project is shown in Figure 36, extending from SR 78 to SR 80, to the south of the bridge. The project comprises the widening of FL-31 from 2 to 6 lanes on the highlighted segment.

Figure 36: SR 31 PD&E (FPID # 441942-1-22-01)



Source: D1RPM, v1.0.6 –HWYLOAD_40A.NET and Google Earth

4.2 –Socioeconomic Data Updates

Based on the information we received, all the developments provided during this study are assumed to be completed by 2040.

Large Developments: South Sarasota County

The total dwelling units of 20,349 and commercial property of 3,000,000 sq. ft. was identified in the West Villages project which includes the Island Walk and the Gran Paradiso. These dwelling units and commercial employment were divided between the zones 5095, 5096, 4959, 4966 and 5097 proportionate to their zonal area. Additionally, the Grand Palm, Villages of Manasota Beach, Sarasota National and Myakka Pines developments are expected to add 2,051, 1,563, 1,584, and 877 more dwelling units respectively.

Large Developments: Central Sarasota County

The SE development regarding the Clark Road Properties was added in zone 4904. This includes additional 5,894 potential dwelling units. LT Ranch development, which is also part of the 2050 Villages project, is expected to have a total of 3,450 dwelling units developed. It will also include 300,000 sq. ft. area for retail/commercial/office developments. Additionally, a 2-acre fire station site and a 20-acre elementary school site are also anticipated in this development. Furthermore, the LT Ranch project consists of the Skype project which is proposed to have 567 total single-family dwelling units. These DUs were allotted to zone 5084. The rest of the LT Ranch DUs were allotted to zones 5084 and 5085 proportionate to the MFDU and SFDU in each zone. School and fire station sites were added to zone 5085. The commercial and retail development was distributed using a 2:1 ratio to allocate more jobs to the Skype Ranch than the rest of LT Ranch. As a result, the jobs were distributed between zones 5084 and 5085 and more weight was given to zone 5084.

The Grand Lakes development is proposed to have 1,097 SFDUs in zone 4904. All the new 1,855 units in the Village on the Trail DOCCs were added to zone 4756. The Palmer Ranch DRI consists of total potential dwelling units of 14,200. These DUs were divided between 20 zones using google earth images, original 2040 socioeconomic data, and engineering judgement.

Tuckers Grade Hotel Project

The SE data was updated to include 1,100 single-family DUs (SFDU), 589 multi-family DUs (MFDU), 400 hotel rooms, and 480,000 sq. ft. commercial space as proposed in this development.

Palmetto Area Development

The total development is expected to have a total increase of 984 MFDUs and 4,827 jobs. A breakdown for the same is provided below table.

Table 23: SE data for Palmetto Area Development

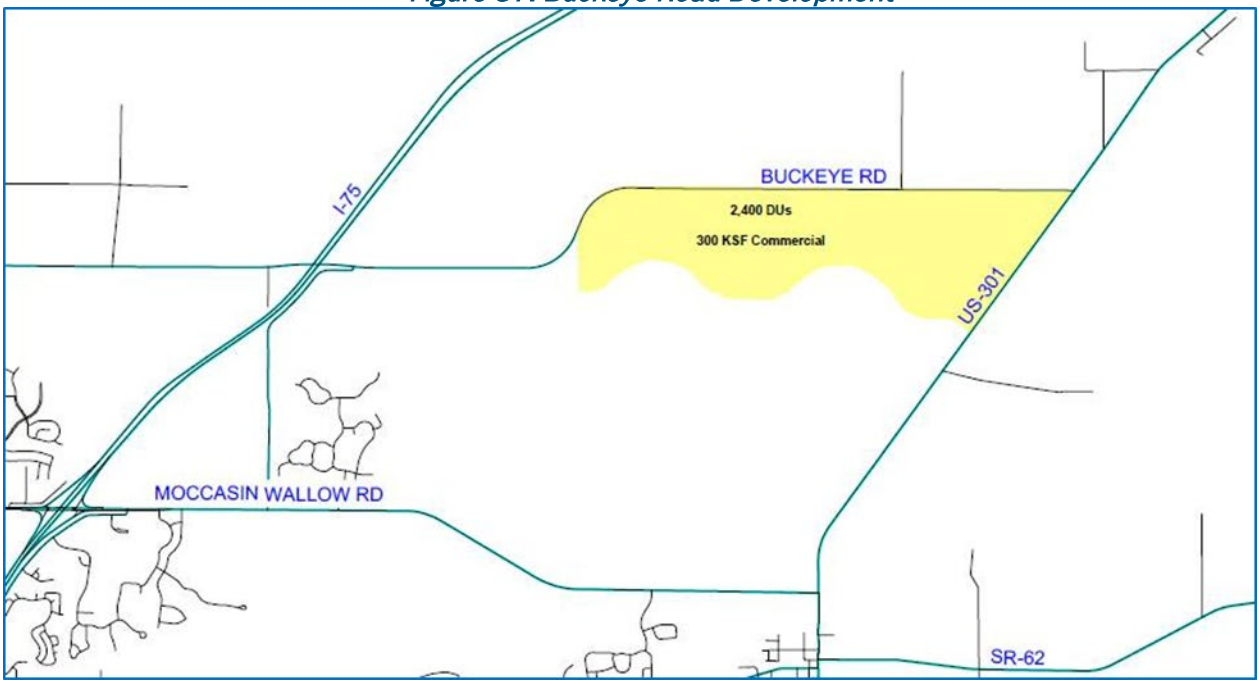
Zone	Development	SFDU	MFDU	Residential Units	Industrial Employees	Commercial Employees	Service Employees	Total Employees
5577	Ellenton Commerce Park*	0	0	0	850	0	0	850
5430	Springs at Ellenton#	0	348	348	0	0	0	0
5380	Parrish Land Investment (aka OurLives) **	0	636	636	636	2078	1899	3977

Source: Email exchange between the Manatee County Public Works Department on 9/26/2019

Buckeye Road Development

New development is expected on the Buckeye Road to the east of I-75 in Manatee County. As a part of this development, 2,400 new DUs and 300,000 sq. ft. commercial space is proposed in zone 5558[2]. All the DUs are assumed to be Single Family units to be consistent with the neighboring zonal DU distribution.

Figure 37: Buckeye Road Development



Source: I_75_SWConnect2040NoBuildModelReview document from District 1

[2] Source: https://www.bradenton.com/news/local/article239240673.html\

Hi-Hat Ranch and Grand Lakes

Hi-Hat Ranch project proposes 13,000 new DUs, 150,000 q. ft of office area and 300,000 sq. ft. of commercial area split between zones 4919, 4920, 4922, 5073 and 5074. A breakdown for the same is provided below figure.

Figure 38: Hi-Hat Project SE Data Summary

ZONE	YEAR	SFDU	MFDU	RESDHHLD	IND_EMP	COMM_EMP	SERV_EMP	TOT_EMP
4919	2010	161	0	161	0	0	28	28
4919	2040	450	0	450	0	0	28	28
Change		**289**	**0**	**289**	**0**	**0**	**0**	**0**
4920	2010	270	3	273	42	34	107	183
4920	2040	270	3	273	42	34	107	183
Change		**0**	**0**	**0**	**0**	**0**	**0**	**0**
4922	2010	497	0	497	109	54	81	244
4922	2040	497	0	497	109	54	81	244
Change		**0**	**0**	**0**	**0**	**0**	**0**	**0**
5073	2010	25	0	25	0	0	0	0
5073	2040	340	0	340	0	0	0	0
Change		**315**	**0**	**315**	**0**	**0**	**0**	**0**
5074	2010	0	0	0	98	47	142	287
5074	2040	6475	0	6475	98	400	395	893
Change		**6475**	**0**	**6475**	**0**	**353**	**253**	**606**

Source: Email exchange between the Sarasota County on 9/30/2019

Other Approved Planned Unit Developments

Apart from the above-mentioned projects, a list of "approved" and "proposed" Planned Unit Development (PUDs) were provided for consideration by Lee County Department of Community Development for the 2040 SE data. Only the PUDs which were approved (files: "PUDapproved2019_0918.xlsx") were included in the 2040 SE data.

In most of the cases, the commercial/office/retail development area was provided instead of the actual jobs. In such cases, the actual jobs were calculated using the employment per area size by land-use type obtained from the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition. The total enrollment for the elementary school is assumed to be 9.05 students per 1000 sq. ft. area, also obtained from the ITE's Trip Generation Manual.

Table 24: Employees per Area by Land Use Type

Code	Category	Land Use	Employment per 1,000 sq. ft.
820	Retail	Shopping	1.56
710	Office	General Office Building	3.09
575	Institutional	Fire Station	1.1
520	Institutional	Elementary School	0.89
110	Industrial	General Light Industrial	1.63
760	Office	Research and Development Center	3.29
620	Medical	Nursing Home	2.51
495	Recreational	Recreational Community Center	0.41

Source: ITE's Trip Generation Manual

For the zones with new hotel-motel development, the percentage of rooms occupied in the hotel-motel (% occupancy) and the total hotel-motel population were calculated using the average % hotel occupancy and average population per room from 2040 SE data. This information is shown in Table 25.

Table 25: Hotel/Motel Occupancy Rate and Average Occupant per room

COUNTY	% HOTEL-MOTEL OCCUPANCY	HOTEL-MOTEL POPULATION/ROOM
MANATEE	80	1.90
SARASOTA	80	1.90
CHARLOTTE	80	1.31
LEE	90	1.90
COLLIER	90	2.14

Source: D1RPM, v1.0.6 –ZDATA_40A.DBF

Table 26 to Table 28 show, respectively, the dwelling units, population and employment data for the 2015 scenario, Original 2040 scenario and recent developments for consideration. The additional dwelling units, population and employments within each county are also shown, along with the development project(s) that can be associated with that county. These tables only give a summary of development zones. Appendix A has the breakdown of the dwelling units, population, and employment by zone for the 2015, Original 2040 and recent developments for consideration. It also has the list of the zones changed in the final 2040 SE data and their updated values.

Table 26: Development Zones – Dwelling Units Summary by County

COUNTY	Dwelling Units (DU)									Hotel-Motel DU
	Single-Family			Multi-Family			Total			
	2015	2040	Recent Projects	2015	2040	Recent Projects	2015	2040	Recent Projects	
MANATEE	228	264	2,400	172	192	984	400	456	3,384	-
SARASOTA	10,584	22,564	43,989	3,169	9,097	16,011	13,751	31,661	59,999	-
CHARLOTTE	5	107	2,638	37	61	589	42	168	3,227	400
LEE	14,793	46,477	27,758	11,337	23,018	23,331	26,130	69,495	51,089	4,383
COLLIER	673	2,054	853	778	1,829	825	1,451	3,883	1,678	140

Table 27: Development Zones – Population Summary by County

COUNTY	Population (POP)									Hotel-Motel POP
	Single-Family			Multi-Family			Total			
	2015	2040	Recent Projects	2015	2040	Recent Projects	2015	2040	Recent Projects	
MANATEE	524	622	4,992	337	452	2,474	861	1,074	7,466	-
SARASOTA	25,112	40,077	81,548	7,152	12,800	23,507	32,264	52,877	105,054	-
CHARLOTTE	8	164	4,267	53	92	1,031	61	256	5,298	320
LEE	28,760	77,775	49,580	16,163	33,157	32,746	44,923	110,932	82,325	3,897
COLLIER	1,127	3,023	2,107	1,289	3,592	1,592	2,416	6,615	3,699	126

Table 28: Development Zones – Employment and School Enrolment Summary by County

COUNTY	Employment									School Enrollment
	Industrial Employment			Commercial Employment			Service Employment			
	2015	2040	Recent Project	2015	2040	Recent Project	2015	2040	Recent Project	
MANATEE	2	-	1,486	1,699	2,218	2,547	168	707	1,899	-
SARASOTA	775	968	-	1,549	1,655	2,953	2,797	6,607	1,590	7,882
CHARLOTTE	6	6	-	5	12	750	16	36	-	-
LEE	5,150	11,976	37,986	10,787	8,163	24,511	16,701	46,959	30,851	-
COLLIER	14	1,232	-	257	375	1,668	426	352	-	-

The Single Family, Multi Family and Hotel-Motel population were calculated based on the persons per DU ratio from the original 2040 SE data. In cases where the persons per DU was not available for a given zone, the persons per DU was borrowed from 2015 SE data. In cases where both 2040 and 2015 persons per DU ratio is missing, then the ratio is borrowed from adjacent zones.

4.3 – Additional Model Updates

In addition to the network and socioeconomic data, the external trips and penalty file were modified for the 2040 scenario. FDOT, District 1 developed annual growth rates for the D1RPM external station locations as listed in Table 29. These rates are based on the Tampa Bay Regional Planning Model's (TBRPM) 2045 external station growth provided by FDOT, District 7. Three model input files associated with the external stations were updated: External to external (EETRIPS_40A.DBF), external productions (INTEXT_40A.DBF), and special generators (SPECGEN_A_40A.DBF).

Table 29: Recommended External Station Growth Rates

D1RPM RECOMMENDED EXTERNAL STATION GROWTH RATES

D1RPM EXTERNAL STATION LOCATION	AADT		ANNUAL GROWTH RATE	
	2045 TBRPM	2018 COUNT	TBRPM	RECOMMENDED
I-275	93708	62157	1.9%	1.3%
I-75	142959	72500	3.6%	3.0%
US 41	22618	12800	2.8%	2.0%
US 301	6649	4900	1.3%	2.0%

Source: Email exchange between the District 1 Systems Planning Office dated on December 3rd, 2019

The following formula was used to develop the external station volumes in 2040 with recommended rates and 2015 volumes.

$$T\_2040 = T\_2015 * (1 + R_{\text{recommended growth rate}})^{25}$$

External to External Trips

EETRIPS_40A.DBF was modified for the external zones that have either origins or destinations on the roadways listed in Table 29. Corresponding recommended annual growth rates were applied to calculate the 2040 auto trips and truck trips using the 2015 external trip table. For zones that are not included in Table 29, the original 2040 dataset was used. The final EETRIPS_40A.DBF is listed in Appendix D.

On comparing 2015 and 2040 original EE trip data, it was observed that the following trip pairs only existed in 2015:

- Zone 5631 to zone 5655;
- Zone 5651 to zone 5661;
- Zone 5655 to zone 5631; and
- Zone 5661 to zone 5651.

Therefore, these were added to the final 2040 external to external dataset.

Internal to External Productions

2040 external production was also calculated based on approved annual growth rates. For the external zones located on the roadways mentioned in Table 29, corresponding rates were used. The 2040 original data was used for the zones which did not have a recommended annual growth rate in Table 29. The final INTEXT_40A.DBF file is listed in Appendix D.

Special Attractions

2040 special generator data was updated only for the external zones located on the roadways mentioned in Table 29, corresponding rates were used. For the rest of the zones, the original 2040 data was used. When comparing 2015 and 2040 original tables, it was observed that the external zone 5661 had a very low trip adjustment in the original 2040 data. Therefore, the 2015 special attraction trips were used for this external station. Also, zone 5662 did not exist in the original 2040 data, therefore 2015 data was used in its place. The special attraction trips were further modified to better calibrate the final model volumes with the 2040 targets obtained using the recommended growth rates. Table 30 compares the final model volume with the targets. The final SPECGEN_A_40A.DBF file is listed in Appendix D.

Table 30: External Station adjustment and Final Volumes

External Stations	Annual Growth Rate (%)	2015 IPM	2040 IPM	Target
		Final Model Volume		
I-275	1.30%	63,203	83,897	83,700
US-41	2.00%	9,685	14,190	14,100
I-75	3.00%	71,199	126,297	126,500
US-301	2.00%	4,745	6,826	6,800
I-75 E Collier	2.50%	23,029	38,138	37,400
US41 E Collier	2.00%	2,841	5,146	5,100

Turn Penalties and Prohibitors

Penalties and prohibitors used in 2015 were used for the 2040 no-build scenario. There was only one interchange that was different in the 2015 and 2040 no-build scenario. This change was replicated in the 2040 turn penalty file. Below are the updated records:

Table 31: 2015 and 2040 Penalty File Comparison

2015					2040 Updated			
A-node	B-node	C-node	Penalty	Name	A-node	B-node	C-node	Penalty
88339	20485	20545	-1.0	Freeway to Ramp to Freeway I75	28232	20485	20545	-1.0
88339	20485	25265	-1.0	Multiple ramps	28232	20485	25265	-1.0
88339	28232	20485	-1.0	Multiple ramps	DELETE RECORD			

4.4 – Model Results

After running the 2040 no-build scenario with the above changes, the volumes on I-75 corridor were compared with the 2015 model volumes. Table 32 shows the comparison between the 2040 no-build and the 2015 base year for the I-75 corridor. Table 33 shows the comparison between the 2040 no-build and the 2015 run for interchanges along I-75. On some of the roadway facilities near I-75 interchanges, the 2040 model volumes are well above the proposed capacities (VC ratio). Table 33 highlights the new 2040 volume to capacity ratio (VC ratio). VC ratios greater than 2 are in red. These VC ratios were compared with the original 2040 run VC ratios. In most cases, the original 2040 model run generated similar VC ratios. However, Alico Road showed a sudden increase in volume. The increased volume can be attributed to the following projects/developments from the "PUDapproved2019_0918.xlsx" and "PUDapproved_unimproved2019_0918.xlsx" files:

1. Formosa Commerce Center (Zone# 3002)
2. Alico Rd 254 (Zone# 3002)
3. Alico-Three Oaks IPD (Zone# 3002)
4. Three Oaks Commerce Park IPD (Zone# 3002)
5. Airport Interstate Commerce Park (Zone# 3966)
6. Meridian Airport Park (Zone# 3986)
7. Midway Promenade (Zone# 3986)
8. Youngquist Trade Center (Zone# 3986)
9. Premier Airport Park (Zone# 3986)
10. Florida Gulf Coast Technology Research Park (Zone# 3986)

Additionally, CR 769, Duncan Road, and SR 35-US 17 volumes dropped near I-75 in 2040 from 2015. This is because the SE data shows a drop in the population and employment from 2015 to 2040 in some of the neighboring zones. Note that these zones are not updated during the course of this study. Some of the prominent zones causing this decline in traffic are: 4084, 4088, 4101, 4115, 4131, 4194 and 4902. Appendix F shows additional results from the 2040 no-build run which includes:

1. Maps showing the 2040 no-build model volumes by county
2. Maps showing the model volume change from 2015 to 2040 no-build scenario by county
3. Maps showing the change in Dwelling Units, Population and Employment from 2015 to 2040 no-build scenario by county

Table 32: Comparison of 2015 and 2040 No-Build Daily Volume On I-75

Area Type	Facility Type	From Street	To Street	A Node	B Node	2040 Daily Volume	2015 Daily Volume	Volume Change	2040 Daily Capacity	2040 Volume/ Capacity
52	12	SR 78	Tuckers	13225	13231	32,143	30,492	1,651	41,002	0.78
52	12	Tuckers	SR 78	13230	13224	32,119	30,887	1,232	41,002	0.78
52	12	Tuckers	SR 768	13293	13356	34,352	31,757	2,595	41,002	0.84

Area Type	Facility Type	From Street	To Street	A Node	B Node	2040 Daily Volume	2015 Daily Volume	Volume Change	2040 Daily Capacity	2040 Volume/ Capacity
52	12	SR 768	US 17	13452	18897	35,627	32,005	3,622	41,002	0.87
52	12	US 17	CR 776	14017	14032	37,238	32,805	4,433	41,002	0.91
52	12	CR 776	US 17	14030	14015	38,582	33,595	4,987	41,002	0.94
52	12	CR 776	Kings Highway	14185	14384	32,694	26,581	6,113	41,002	0.80
52	12	Kings Highway	CR 776	14375	14174	33,786	27,255	6,531	41,002	0.82
52	12	Kings Highway	Choctaw Blvd	14482	14547	32,373	24,106	8,267	41,002	0.79
52	12	Choctaw Blvd	Kings Highway	14543	14481	32,882	24,399	8,483	41,002	0.80
51	12	River Rd.	Sumter Blvd.	15075	15077	42,275	30,491	11,784	41,002	1.03
51	12	Sumter Blvd.	Choctaw Blvd	15078	15080	35,870	25,377	10,493	41,002	0.87
51	12	Sumter Blvd.	River Rd.	15085	15084	42,099	30,302	11,797	41,002	1.03
51	12	Choctaw Blvd	Sumter Blvd.	15088	15086	35,402	24,953	10,449	41,002	0.86
51	12	Jacaranda Blvd.	River Rd.	15147	15148	51,920	42,125	9,795	41,002	1.27
51	12	River Rd.	Jacaranda Blvd.	15153	15150	49,718	41,455	7,857	41,002	1.20
51	12		Laurel Rd.	15221	15282	57,149	51,685	5,464	41,002	1.39
51	12	Laurel Rd.	Jacaranda Blvd.	15287	15225	56,949	51,318	5,631	41,002	1.39
51	12	SR 681 Off ramp	SR 681 On ramp	15397	15427	55,815	52,174	3,641	41,002	1.36
51	12	SR 681 Off ramp	SR 681 On ramp	15408	15396	58,454	54,188	4,266	41,002	1.43
51	12	SR 681	Clark Rd.	15575	15634	64,577	60,323	4,254	41,002	1.57
51	12	Clark Rd.	SR 681	15642	15574	66,533	61,849	4,684	41,002	1.62
33	12	Clark Rd.	SR 758	15731	15821	73,909	65,231	8,678	43,265	1.71
33	12	SR 758	Clark Rd.	15822	15732	71,181	65,011	6,170	43,265	1.65
33	12	SR 758	SR 780	16158	16201	74,234	64,894	9,340	43,265	1.72
33	12	SR 780	SR 758	16205	16156	75,912	66,875	9,037	43,265	1.75
33	12	SR 780	University Pkwy	16375	16447	79,037	65,238	13,799	58,562	1.35
33	12	University Pkwy	SR 780	16448	16398	77,597	64,476	13,121	58,562	1.33
33	12	University Pkwy	SR 70	16752	16896	73,830	61,094	12,736	43,265	1.71
33	12	SR 70	University Pkwy	16895	16753	73,649	61,144	12,505	43,265	1.70
33	12	SR 70	SR 64	17093	17227	69,943	56,724	13,219	43,265	1.62
33	12	SR 64	SR 70	17207	17087	71,226	58,342	12,884	43,265	1.65
33	12	SR 64	SR 43/US 301	17793	17825	73,929	52,367	21,562	43,265	1.71
33	12	SR 43/US 301	SR 64	17831	17797	77,381	54,995	22,386	43,265	1.79

Area Type	Facility Type	From Street	To Street	A Node	B Node	2040 Daily Volume	2015 Daily Volume	Volume Change	2040 Daily Capacity	2040 Volume/ Capacity
33	12	SR 43/US 301	I-275	18079	18151	66,013	43,734	22,279	43,265	1.53
33	12	I-275	SR 43/US 301	18146	18077	67,420	44,585	22,835	43,265	1.56
33	12	I-275 Off ramp	I-275 On ramp	18253	18325	46,960	26,635	20,325	43,265	1.09
33	12	I-275 Off ramp	I-275 On ramp	18329	18276	49,454	27,877	21,577	43,265	1.14
33	12	I-275	97th St.	18371	18391	60,559	34,661	25,898	43,265	1.40
33	12	97th St.	I-275	18390	18370	62,299	35,367	26,932	43,265	1.44
33	12	97th St.	Port Connector	18441	18446	63,148	35,599	27,549	43,265	1.46
33	12	Port Connector	97th St.	18447	18442	63,149	35,599	27,550	43,265	1.46
52	12	Duncan Rd.	SR 768	18896	13451	36,484	32,560	3,92x4	41,002	0.89
33	12	SR 768 Off ramp	SR 768 On ramp	22701	22947	24,155	27,386	(3,231)	43,265	0.56
33	12	SR 768 Off ramp	SR 768 On ramp	22965	22703	24,215	27,060	(2,845)	43,265	0.56
33	12	SR 80	SR 768	23007	22965	45,516	38,830	6,686	58,562	0.78
33	12	Rolfes Rd.	SR 82	23174	23278	62,475	46,445	16,030	43,265	1.44
33	12	SR 82	Rolfes Rd.	23225	23129	62,555	47,043	15,512	43,265	1.45
33	12	Rolfes Rd.	Daniel's Pkwy	23351	23720	62,252	44,087	18,165	43,265	1.44
33	12	Luckett Rd	SR 82	23572	23541	61,799	47,745	14,054	43,265	1.43
33	12	Luckett Rd	SR 80	23578	23639	61,667	47,393	14,274	43,265	1.43
33	12	SR 82	Luckett Rd	23581	23610	62,431	46,982	15,449	43,265	1.44
33	12	SR 80	Luckett Rd	23616	23549	57,058	46,044	11,014	43,265	1.32
33	12	Daniel's Pkwy	Rolfes Rd.	23744	23413	63,218	45,619	17,599	43,265	1.46
33	12	Daniel's Pkwy	Midfield Terminal	23840	23855	57,144	49,009	8,135	43,265	1.32
33	12	Midfield Terminal	Daniel's Pkwy	23906	23899	61,152	50,227	10,925	43,265	1.41
33	12	Alico Rd.	Corkscrew Rd.	24045	24191	54,698	47,785	6,913	43,265	1.26
33	12	Corkscrew Rd.	Alico Rd.	24209	24074	54,802	48,064	6,738	43,265	1.27
33	12	Corkscrew Rd.	CR 865	24482	24512	61,723	49,092	12,631	43,265	1.43
33	12	CR 865	Corkscrew Rd.	24530	24490	60,099	47,852	12,247	43,265	1.39
33	12	CR 865	CR 846	25034	25063	65,100	52,784	12,316	43,265	1.50
33	12	CR 846	CR 865	25069	25051	63,398	52,041	11,357	43,265	1.47
33	12	CR 846	CR 896	25285	25289	52,922	44,609	8,313	43,265	1.22
33	12	CR 896	CR 846	25318	25309	52,841	42,476	10,365	43,265	1.22
33	12	CR 896	CR 886	25324	25334	49,358	40,472	8,886	43,265	1.14

Area Type	Facility Type	From Street	To Street	A Node	B Node	2040 Daily Volume	2015 Daily Volume	Volume Change	2040 Daily Capacity	2040 Volume/ Capacity
33	12	CR 886	CR 896	25348	25342	46,666	36,620	10,046	43,265	1.08
33	12	CR 886	CR 951	25522	25955	30,370	22,691	7,679	43,265	0.70
33	12	CR 951	CR 886	25959	25515	33,345	23,655	9,690	43,265	0.77

Source: D1RPM, v1.0.6 –HWYLOAD_40A.NET, and HWYLOAD_15A.NET

Table 33: Comparison of 2015 and 2040 No-Build Daily Volume On Interchanges to I-75

Facility	Area Type	Facility Type	A Node	B Node	2040 Daily Volume	2015 Daily Volume	Volume Change	2040 Daily Capacity	2040 Volume/ Capacity	Original 2040 Volume/ Capacity
I-275	32	12	18335	18340	31,566	24,732	6,834	29,362	1.08	1.26
I-275	32	12	18346	18339	31,900	24,589	7,311	29,362	1.09	1.29
Alico Rd	42	23	23483	23670	97,894	50,085	47,809	20,582	4.76	1.76
Alico Rd	42	23	23670	23483	97,894	50,085	47,809	20,582	4.76	1.80
Alico Rd	42	23	24190	24274	87,827	35,321	52,506	20,582	4.27	0.82
Alico Rd	42	23	24274	24190	87,827	35,321	52,506	20,582	4.27	0.87
Bonita Beach	31	23	24786	24878	65,090	48,572	16,518	20,582	3.16	1.63
Bonita Beach	31	23	24878	24786	65,090	48,572	16,518	20,582	3.16	1.60
Co Hwy 768	33	23	13383	13384	28,356	18,681	9,675	13,333	2.13	0.86
Co Hwy 768	33	23	13384	13383	28,356	18,681	9,675	13,333	2.13	0.89
Co Hwy 768	33	23	13400	13402	19,902	4,858	15,044	13,333	1.49	0.45
Co Hwy 768	33	23	13402	13400	19,902	4,858	15,044	13,333	1.49	0.45
Colonial Blvd	31	23	20882	23003	112,206	84,816	27,390	20,582	5.45	2.74
Colonial Blvd	31	23	23003	20882	112,206	84,816	27,390	20,582	5.45	2.73
CR 769	31	23	14353	14367	24,670	27,121	(2,451)	13,738	1.80	0.92
CR 769	31	23	14367	14353	24,670	27,121	(2,451)	13,738	1.80	0.93
CR 951	42	23	20548	26284	87,171	51,049	36,122	26,082	3.34	1.65
CR 951	42	23	26284	20548	87,171	51,049	36,122	26,082	3.34	1.71
Daniels Pkwy	42	23	24212	24286	78,817	55,383	23,434	20,582	3.83	1.86
Daniels Pkwy	42	23	24286	24212	78,817	55,383	23,434	20,582	3.83	1.79
Duncan Rd	21	23	13829	13840	12,742	13,104	(362)	20,582	0.62	0.62
Duncan Rd	21	23	13841	13830	12,803	13,192	(389)	20,582	0.62	0.62
Pine Ridge	42	23	20485	25129	71,326	57,219	14,107	20,582	3.47	1.75

Facility	Area Type	Facility Type	A Node	B Node	2040 Daily Volume	2015 Daily Volume	Volume Change	2040 Daily Capacity	2040 Volume/ Capacity	Original 2040 Volume/ Capacity
Pine Ridge	42	23	25129	20485	71,326	57,219	14,107	20,582	3.47	1.83
SR 35-US 17 EB	21	23	13760	13771	8,600	9,391	(791)	20,582	0.42	0.43
SR 35-US 17 WB	21	23	13791	13768	9,642	10,546	(904)	20,582	0.47	0.47
SR 43-US 301	33	23	17948	17962	41,255	35,448	5,807	13,333	3.09	1.57
SR 43-US 301	33	23	17962	17948	41,255	35,448	5,807	13,333	3.09	1.58
SR 64	31	23	17608	17624	56,229	42,451	13,778	20,582	2.73	1.30
SR 64	31	23	17624	17608	56,229	42,451	13,778	20,582	2.73	1.29
SR 78	42	23	22469	22477	57,010	26,321	30,689	13,738	4.15	1.76
SR 78	42	23	22477	22469	57,010	26,321	30,689	13,738	4.15	1.78
SR 780	21	23	16303	17748	66,710	54,336	12,374	20,582	3.24	1.63
SR 780	21	23	17748	16303	66,710	54,336	12,374	20,582	3.24	1.58
SR 82	42	23	22839	23031	94,892	48,530	46,362	20,582	4.61	2.30
SR 82	42	23	23031	22839	94,892	48,530	46,362	20,582	4.61	2.29
SR 80	31	23	24543	24762	58,657	30,504	28,153	20,582	2.85	1.13
SR 80	31	23	24762	24543	58,657	30,504	28,153	20,582	2.85	1.14
SR 82	42	23	23497	23525	98,175	49,670	48,505	20,582	4.77	2.39
SR 82	42	23	23525	23497	98,175	49,670	48,505	20,582	4.77	2.37
University Pkwy	31	23	16670	16686	70,454	53,820	16,634	20,582	3.42	1.70
University Pkwy	31	23	16686	16670	70,454	53,820	16,634	20,582	3.42	1.67
SR 43-US 301	42	24	17240	17241	27,516	23,286	4,230	15,542	1.77	1.77
SR 43-US 301	42	24	18550	18588	28,568	24,590	3,978	15,542	1.84	1.80
SR 80	42	24	22918	23161	49,629	27,975	21,654	23,370	2.12	1.02
SR 80	42	24	23161	22918	49,629	27,975	21,654	23,370	2.12	0.96
Corkscrew Rd	31	25	24244	24361	43,802	37,954	5,848	14,976	2.92	1.50
Corkscrew Rd	31	25	24361	24244	43,802	37,954	5,848	14,976	2.92	1.47
SR 70	33	25	16983	18795	32,073	22,133	9,940	21,370	1.50	1.27
SR 70	33	25	18796	16984	32,021	23,004	9,017	21,370	1.50	1.27
University Pkwy	33	25	16687	18736	43,255	36,061	7,194	21,370	2.02	1.11
University Pkwy	33	25	18736	16687	43,255	36,061	7,194	21,370	2.02	1.07
Bayshore Rd	31	35	23386	24245	35,237	9,479	25,758	17,014	2.07	1.68
Bayshore Rd	31	35	24245	23386	35,237	9,479	25,758	17,014	2.07	1.50

Facility	Area Type	Facility Type	A Node	B Node	2040 Daily Volume	2015 Daily Volume	Volume Change	2040 Daily Capacity	2040 Volume/ Capacity	Original 2040 Volume/ Capacity
SR 72	33	35	15683	15688	16,874	14,019	2,855	5,930	2.85	1.09
SR 72	33	35	15688	15683	16,874	14,019	2,855	5,930	2.85	1.08
Laurel R	33	44	15302	15305	39,353	11,500	27,853	9,890	3.98	1.90
Laurel R	33	44	15305	15302	39,353	11,500	27,853	9,890	3.98	1.69

Source: D1RPM, v1.0.6 –HWYLOAD_40A.NET, and HWYLOAD_15A.NET

5.0 – 2040 Future Year Demand Models

(Work in Progress)

APPENDIX A

D1RPM, v1.0.6 Proposed Network and Socioeconomic Data Changes

FLORIDA DEPARTMENT OF TRANSPORTATION – DISTRICT ONE | 801 N. BROADWAY AVENUE, BARTOW, FL 33830

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Following two tables summarizes the dwelling units, and employment for the 2015, Original 2040 and the recent developments for considerations by zones. These tables only include the zones which were updated in this study.

Development Zones – Demographic Data

Zones	Dwelling Units									Note
	Single-Family			Multi-Family			Total			
	2015	2040	Recent Projects	2015	2040	Recent Projects	2015	2040	Recent Projects	
4904	524	3,322	6,650	0	204	341	524	3,526	6,991	Grand Lakes
4919	272	161	289	52	0	0	324	161	289	Hi-Hat Ranch
4920	1	270	0	0	3	0	1	273	0	Hi-Hat Ranch
4922	614	497	0	4	0	0	618	497	0	Hi-Hat Ranch
5073	1	25	315	2	0	0	3	25	315	Hi-Hat Ranch
5074	0	0	6,475	0	0	0	0	0	6,475	Hi-Hat Ranch
5084	162	0	1,063	0	0	0	162	0	1,063	L.T. Ranch and Skye Ranch
5085	44	800	135	736	48	2,253	780	848	2,388	L.T. Ranch
3973	0	641	0	0	143	550	0	784	550	I-75 Managed Lanes - Lee Outreach
3568	0	11	0	0	57	270	0	68	270	I-75 Managed Lanes - Lee Outreach
3963	297	341	0	12	67	0	309	408	0	I-75 Managed Lanes - Lee Outreach
3919	0	522	0	0	511	340	0	1,033	340	I-75 Managed Lanes - Lee Outreach
3569	0	441	0	0	199	0	0	640	0	I-75 Managed Lanes - Lee Outreach
5577	0	0	0	1	0	0	1	0	0	Ellenton Commerce Park
5430	228	228	0	171	171	348	399	399	348	Springs at Ellenton
5380	0	36	0	0	21	636	0	57	636	Parrish Land Investment
4157	5	107	1,538	37	61	0	42	168	1,538	Jones Loop Road Parcels
4408	0	0	1,100	0	0	589	0	0	1,689	Tuckers Grade Hotel Project
2089	47	76	853	0	55	0	47	131	853	Twin Eagles South/Brentwood Lakes
2091	563	1,834	0	1	818	400	564	2,652	400	Baumgarten
1827	63	144	0	777	956	425	840	1,100	425	Alligator Alley
2118	0	0	0	0	0	0	0	0	0	City Gate
4756	865	241	478	85	695	1,377	950	936	1,855	Village on the Trail DOCCs
4954	12	1,432	1,187	13	1,042	864	24	2,474	2,051	Grand Palm
5095	12	1,539	1,839	13	1,118	1,335	24	2,657	3,174	West Villages4
5096	0	196	588	0	139	416	0	335	1,004	West Villages4
5097	0	0	4,397	0	0	1,531	0	0	5,928	West Villages4
4959	1,241	3,430	6,126	59	1,194	2,133	1,300	4,624	8,259	West Villages4
4966	150	131	1,566	0	35	418	150	166	1,984	West Villages4
4960	150	556	1,162	12	192	401	162	748	1,563	Villages of Manasota Beach
4958	89	1,313	1,217	2	396	367	91	1,709	1,584	Sarasota National
4963	268	0	839	12	0	38	280	0	877	Myakka Pines
3655	2,100	1,386	666	394	354	134	2,494	1,740	800	Corkscrew Shores

Zones	Dwelling Units									Note
	Single-Family			Multi-Family			Total			
	2015	2040	Recent Projects	2015	2040	Recent Projects	2015	2040	Recent Projects	
3967	169	485	233	129	242	475	298	727	708	Miromar Lakes DRI
3980	0	34	233	0	185	950	0	219	1,183	Miromar Lakes DRI
3981	336	336	1,208	188	965	1,450	524	1,301	2,658	Miromar Lakes DRI
3172	320	335	1,225	0	38	1,225	320	373	2,450	Alico Interchange Park DRI
3170	474	592	0	0	67	0	474	659	0	Alico Interchange Park DRI
3649	0	51	0	0	354	600	0	405	600	Gulf Coast Town Center
3966	0	1	0	0	0	0	0	1	0	Airport Interstate Commerce Park
3986	0	1	0	0	7	0	0	8	0	Meridian Airport Park
4001	0	131	0	0	9	0	0	140	0	Innovation Hub
4000	24	706	1,000	5	500	0	29	1,206	1,000	WildBlue
2944	0	9	0	0	71	0	0	80	0	Villages of San Carlos DRI
3180	233	422	625	57	539	625	290	961	1,250	Villages of San Carlos DRI
3002	0	0	0	0	0	0	0	0	0	Formosa Commerce Center
3656	0	0	0	0	0	0	0	0	0	SW Florida International Commerce Park
3982	484	1,354	0	244	95	0	728	1,449	0	Lee County/Red Sox Ballpark
3989	0	216	1,230	222	20	1,230	222	236	2,460	Gateway DRI
3993	565	937	1,230	143	289	1,230	708	1,226	2,460	Gateway DRI
3995	311	750	1,230	578	346	1,230	889	1,096	2,460	Gateway DRI
3000	196	452	85	1	1	0	197	453	85	Daniels Falls CPD
3019	0	0	0	0	0	428	0	0	428	Center of Hope
3020	0	17	0	0	289	0	0	306	0	Metro Parkway Office Park
2986	34	403	0	5	6	0	39	409	0	Parker Plaza Office Park CPD
3970	145	625	0	6	161	0	151	786	0	Arborwood Village
3634	137	217	638	3	10	0	140	227	638	North Brook RPD
3638	177	1,064	638	4	21	0	181	1,085	638	North Brook RPD
2819	843	1,127	307	356	478	107	1,199	1,605	414	Bayshore 42 RPD/CPD
2801	15	70	0	2	11	0	17	81	0	Ziegler CPD
2853	0	111	65	0	600	65	0	711	130	Merchants Crossing DRI
2856	0	339	0	0	78	0	0	417	0	Shell Factory CPD
2785	125	1,904	2,902	234	570	1,152	359	2,474	4,054	Trail Dairy Plaza
3635	126	1,560	674	70	30	674	196	1,590	1,348	PDU improved
4003	15	846	663	2	500	0	17	1,346	663	PUDapproved2019_0918.xlsx
4007	47	773	663	34	93	0	81	866	663	PUDapproved2019_0918.xlsx
3650	20	188	0	7	62	0	27	250	0	PUDapproved2019_0918.xlsx
2967	13	299	0	443	392	0	456	691	0	PUDapproved2019_0918.xlsx
2963	448	979	44	993	1,029	90	1,441	2,008	134	PUDapproved2019_0918.xlsx

Zones	Dwelling Units									Note
	Single-Family			Multi-Family			Total			
	2015	2040	Recent Projects	2015	2040	Recent Projects	2015	2040	Recent Projects	
2960	82	538	900	211	1,080	900	293	1,618	1,800	PUDapproved2019_0918.xlsx
3271	23	408	0	548	865	271	571	1,273	271	PUDapproved2019_0918.xlsx
3008	167	444	0	364	104	296	531	548	296	PUDapproved2019_0918.xlsx
3085	4	187	0	188	31	190	192	218	190	PUDapproved2019_0918.xlsx
3682	48	439	394	38	52	406	86	491	800	PUDapproved2019_0918.xlsx
4041	355	742	425	271	137	0	626	879	425	PUDapproved2019_0918.xlsx
3936	1	82	0	128	67	0	129	149	0	PUDapproved2019_0918.xlsx
2942	472	897	0	1,055	671	0	1,527	1,568	0	PUDapproved2019_0918.xlsx
2535	0	1,560	0	330	1,309	0	330	2,869	0	PUDapproved_unimproved2019_0918.xlsx
2536	0	1,945	163	228	392	638	228	2,337	801	PUDapproved_unimproved2019_0918.xlsx
2789	42	576	385	199	189	946	241	765	1,331	PUDapproved_unimproved2019_0918.xlsx
2799	75	934	440	12	867	1,310	87	1,801	1,750	PUDapproved_unimproved2019_0918.xlsx
2800	40	21	0	5	54	48	45	75	48	PUDapproved_unimproved2019_0918.xlsx
2802	30	81	0	0	29	0	30	110	0	PUDapproved_unimproved2019_0918.xlsx
2811	12	307	0	367	749	150	379	1,056	150	PUDapproved_unimproved2019_0918.xlsx
2817	1	401	0	0	1	0	1	402	0	PUDapproved_unimproved2019_0918.xlsx
2850	174	330	64	164	171	0	338	501	64	PUDapproved_unimproved2019_0918.xlsx
2854	0	0	65	0	0	65	0	0	130	PUDapproved_unimproved2019_0918.xlsx
2855	0	0	163	0	0	638	0	0	801	PUDapproved_unimproved2019_0918.xlsx
2901	5	2	0	2	8	0	7	10	0	PUDapproved_unimproved2019_0918.xlsx
2974	2	1,142	110	565	980	523	567	2,122	633	PUDapproved_unimproved2019_0918.xlsx
2975	185	563	75	13	172	75	198	735	150	PUDapproved_unimproved2019_0918.xlsx
2981	0	24	0	0	179	0	0	203	0	PUDapproved_unimproved2019_0918.xlsx

Zones	Dwelling Units									Note
	Single-Family			Multi-Family			Total			
	2015	2040	Recent Projects	2015	2040	Recent Projects	2015	2040	Recent Projects	
2991	0	0	0	0	0	0	0	0	0	PUDapproved_unimproved2019_0918.xlsx
3004	0	0	0	0	0	0	0	0	0	PUDapproved_unimproved2019_0918.xlsx
3005	0	0	0	0	0	400	0	0	400	PUDapproved_unimproved2019_0918.xlsx
3014	162	286	47	343	256	0	505	542	47	PUDapproved_unimproved2019_0918.xlsx
3023	0	0	0	0	0	0	0	0	0	PUDapproved_unimproved2019_0918.xlsx
3029	60	449	0	252	168	0	312	617	0	PUDapproved_unimproved2019_0918.xlsx
3030	13	330	0	114	48	220	127	378	220	PUDapproved_unimproved2019_0918.xlsx
3075	0	20	0	0	394	336	0	414	336	PUDapproved_unimproved2019_0918.xlsx
3150	125	86	0	3	58	0	128	144	0	PUDapproved_unimproved2019_0918.xlsx
3152	0	0	0	0	0	0	0	0	0	PUDapproved_unimproved2019_0918.xlsx
3159	173	151	0	174	145	0	347	296	0	PUDapproved_unimproved2019_0918.xlsx
3295	183	233	74	141	187	0	324	420	74	PUDapproved_unimproved2019_0918.xlsx
3296	262	441	57	144	134	0	406	575	57	PUDapproved_unimproved2019_0918.xlsx
3297	334	582	0	238	235	0	572	817	0	PUDapproved_unimproved2019_0918.xlsx
3303	23	329	0	3	36	0	26	365	0	PUDapproved_unimproved2019_0918.xlsx
3423	169	540	0	40	122	200	209	662	200	PUDapproved_unimproved2019_0918.xlsx
3598	14	22	0	3	6	417	17	28	417	PUDapproved_unimproved2019_0918.xlsx
3642	23	89	0	0	18	0	23	107	0	PUDapproved_unimproved2019_0918.xlsx
3643	190	674	0	536	538	0	726	1,212	0	PUDapproved_unimproved2019_0918.xlsx
3652	0	0	0	0	0	0	0	0	0	PUDapproved_unimproved2019_0918.xlsx

Zones	Dwelling Units									Note
	Single-Family			Multi-Family			Total			
	2015	2040	Recent Projects	2015	2040	Recent Projects	2015	2040	Recent Projects	
3690	216	615	673	7	1,162	300	223	1,777	973	PUDapproved_unimproved2019_0918.xlsx
3692	869	1,391	135	0	367	0	869	1,758	135	PUDapproved_unimproved2019_0918.xlsx
3728	53	118	2,160	16	46	0	69	164	2,160	PUDapproved_unimproved2019_0918.xlsx
3739	2	11	0	6	11	0	8	22	0	PUDapproved_unimproved2019_0918.xlsx
3879	124	262	71	124	58	0	248	320	71	PUDapproved_unimproved2019_0918.xlsx
3884	0	40	490	0	1	75	0	41	565	PUDapproved_unimproved2019_0918.xlsx
3886	25	75	490	1	2	75	26	77	565	PUDapproved_unimproved2019_0918.xlsx
3892	149	230	140	22	6	60	171	236	200	PUDapproved_unimproved2019_0918.xlsx
3898	384	498	140	48	38	0	432	536	140	PUDapproved_unimproved2019_0918.xlsx
3899	71	114	0	3	18	0	74	132	0	PUDapproved_unimproved2019_0918.xlsx
3917	0	0	0	0	0	0	0	0	0	PUDapproved_unimproved2019_0918.xlsx
3926	75	82	160	15	52	0	90	134	160	PUDapproved_unimproved2019_0918.xlsx
3934	48	245	226	1	37	57	49	282	283	PUDapproved_unimproved2019_0918.xlsx
3999	613	920	1,315	14	143	50	627	1,063	1,365	PUDapproved_unimproved2019_0918.xlsx
4006	614	1,744	0	6	199	132	620	1,943	132	PUDapproved_unimproved2019_0918.xlsx
4014	176	1,038	1,732	1	37	738	177	1,075	2,470	PUDapproved_unimproved2019_0918.xlsx
4020	158	227	345	18	34	0	176	261	345	PUDapproved_unimproved2019_0918.xlsx
4037	0	2,067	760	0	402	990	0	2,469	1,750	PUDapproved_unimproved2019_0918.xlsx
4052	113	269	0	244	564	0	357	833	0	PUDapproved_unimproved2019_0918.xlsx
4737	671	0	0	254	0	0	925	0	0	Palmer Beach
4736	589	555	589	0	449	449	589	1,004	1,038	Palmer Beach
4721	0	0	175	0	0	0	0	0	175	Palmer Beach
4726	0	174	0	173	18	173	173	192	173	Palmer Beach

Zones	Dwelling Units									Note
	Single-Family			Multi-Family			Total			
	2015	2040	Recent Projects	2015	2040	Recent Projects	2015	2040	Recent Projects	
4720	302	145	302	0	9	12	302	154	314	Palmer Beach
4725	385	727	385	0	262	262	385	989	647	Palmer Beach
4730	482	363	0	2	727	727	484	1,090	727	Palmer Beach
4728	0	0	0	163	0	0	163	0	0	Palmer Beach
4731	225	268	493	435	216	216	660	484	709	Palmer Beach
4733	503	123	210	527	237	527	1,030	360	737	Palmer Beach
4734	503	448	503	0	527	527	503	975	1,030	Palmer Beach
4744	190	197	387	9	74	74	199	271	461	Palmer Beach
4903	524	1,088	865	44	560	0	568	1,648	865	Palmer Beach
4738	271	671	671	248	254	254	519	925	925	Palmer Beach
4739	89	460	549	6	192	192	95	652	741	Palmer Beach
4742	687	455	687	0	194	0	687	649	687	Palmer Beach
4743	38	651	721	310	312	885	348	963	1,606	Palmer Beach
4745	0	601	826	0	0	225	0	601	1,050	Palmer Beach
4923	720	1,725	2,300	8	0	14	728	1,725	2,314	Palmer Beach
4722	0	0	0	0	0	0	0	0	0	Palmer Beach
5558	0	0	2,400	0	0	0	0	0	2,400	Lennar Homes

Development Zones – Employment Data

Zones	Employment									Note
	Industrial Employment			Commercial Employment			Service Employment			
	2015	2040	Recent Projects	2015	2040	Recent Projects	2015	2040	Recent Projects	
4904	139	139	0	13	18	0	390	717	0	Grand Lakes
4919	7	0	0	5	0	0	38	28	0	Hi-Hat Ranch
4920	36	42	0	26	34	0	48	107	0	Hi-Hat Ranch
4922	106	109	0	35	54	0	91	81	0	Hi-Hat Ranch
5073	0	0	0	3	0	0	103	0	0	Hi-Hat Ranch
5074	0	98	0	0	47	353	0	142	253	Hi-Hat Ranch
5084	0	0	0	0	0	156	5	7	309	L.T. Ranch and Skye Ranch
5085	0	0	0	0	0	78	0	0	1,028	L.T. Ranch
3973	1	1	0	663	4	0	135	7	0	I-75 Managed Lanes - Lee Outreach
3568	0	0	0	96	102	0	389	1,603	0	I-75 Managed Lanes - Lee Outreach
3963	0	0	0	19	1	313	123	47	618	I-75 Managed Lanes - Lee Outreach
3919	0	0	0	21	18	938	0	274	0	I-75 Managed Lanes - Lee Outreach
3569	0	0	0	12	30	625	323	474	0	I-75 Managed Lanes - Lee Outreach
5577	0	0	850	0	0	0	21	567	0	Ellenton Commerce Park
5430	2	0	0	1,699	2,218	0	64	135	0	Springs at Ellenton
5380	0	0	636	0	0	2,078	83	5	1,899	Parrish Land Investment
4157	0	0	0	5	12	0	16	36	0	Jones Loop Road Parcels
4408	6	6	0	0	0	750	0	0	0	Tuckers Grade Hotel Project

Zones	Employment									Note
	Industrial Employment			Commercial Employment			Service Employment			
	2015	2040	Recent Projects	2015	2040	Recent Projects	2015	2040	Recent Projects	
2089	0	722	0	0	115	0	1	57	0	Twin Eagles South/Brentwood Lakes
2091	2	1	0	3	37	578	12	18	0	Baumgarten
1827	3	9	0	101	191	0	117	202	0	Alligator Alley
2118	9	500	0	153	32	1,090	296	75	0	City Gate
4756	26	59	0	29	41	0	56	184	0	Village on the Trail DOCCs
4954	244	0	0	249	16	0	0	65	0	Grand Palm
5095	0	0	0	249	18	1	0	86	0	West Villages4
5096	0	0	0	0	2	2	0	37	0	West Villages4
5097	0	0	0	0	0	3	0	0	0	West Villages4
4959	5	27	0	3	0	1,903	416	3,049	0	West Villages4
4966	48	11	0	14	18	457	7	52	0	West Villages4
4960	5	0	0	7	9	0	15	23	0	Villages of Manasota Beach
4958	6	12	0	29	172	0	327	159	0	Sarasota National
4963	0	0	0	0	0	0	0	0	0	Myakka Pines
3655	29	73	0	9	17	0	68	265	0	Corkscrew Shores
3967	3	37	0	0	10	98	41	161	262	Miromar Lakes DRI
3980	5	28	0	90	189	195	1,938	2,962	525	Miromar Lakes DRI
3981	156	90	0	81	84	410	257	1,318	765	Miromar Lakes DRI
3172	2	31	0	0	133	258	4	246	510	Alico Interchange Park DRI
3170	10	2	0	4	1	217	21	17	428	Alico Interchange Park DRI
3649	6	3	0	2,271	1,093	2,870	293	2,030	247	Gulf Coast Town Center
3966	214	1,090	2,286	135	19	274	265	298	404	Airport Interstate Commerce Park
3986	0	637	12,735	0	89	1,602	3	1,398	3,461	Meridian Airport Park
4001	104	2	1,959	29	1	78	7	21	432	Innovation Hub
4000	95	20	0	3	175	63	9	476	0	WildBlue
2944	6	1	0	81	6	41	24	100	82	Villages of San Carlos DRI
3180	87	6	0	50	10	41	143	156	82	Villages of San Carlos DRI
3002	40	687	6,816	27	37	516	24	577	154	Formosa Commerce Center
3656	40	263	2,596	0	37	680	22	576	1,050	SW Florida International Commerce Park
3982	124	244	0	64	35	391	244	545	154	Lee County/Red Sox Ballpark
3989	4	3	0	11	0	1,016	18	8	2,007	Gateway DRI
3993	174	6	0	7	10	1,016	179	154	2,007	Gateway DRI
3995	90	90	0	547	292	1,016	156	542	2,007	Gateway DRI
3000	22	25	0	126	14	172	218	227	154	Daniels Falls CPD
3019	0	0	41	3	43	264	500	1,177	751	Center of Hope
3020	6	65	0	39	147	199	1,596	2,298	949	Metro Parkway Office Park
2986	48	42	0	113	37	120	661	581	685	Parker Plaza Office Park CPD
3970	249	315	0	88	37	156	424	583	309	Arborwood Village
3634	24	16	0	3	1	0	9	12	0	North Brook RPD

Zones	Employment									Note
	Industrial Employment			Commercial Employment			Service Employment			
	2015	2040	Recent Projects	2015	2040	Recent Projects	2015	2040	Recent Projects	
3638	16	11	0	26	108	47	27	50	93	North Brook RPD
2819	32	26	0	193	10	1,444	111	162	31	Bayshore 42 RPD/CPD
2801	22	21	0	56	18	19	10	32	0	Ziegler CPD
2853	0	7	0	437	296	524	241	550	1,034	Merchants Crossing DRI
2856	45	29	0	81	152	185	66	283	366	Shell Factory CPD
2785	27	24	0	24	35	223	217	66	441	Trail Dairy Plaza
3635	4	10	0	0	10	23	128	164	23	PDU improved
4003	17	143	0	58	3	0	0	39	0	PUDapproved2019_0918.xlsx
4007	27	21	0	9	20	0	17	311	0	PUDapproved2019_0918.xlsx
3650	278	2	0	3	3	0	65	50	0	PUDapproved2019_0918.xlsx
2967	46	68	0	369	199	231	173	370	455	PUDapproved2019_0918.xlsx
2963	83	66	0	10	15	0	173	235	0	PUDapproved2019_0918.xlsx
2960	1	3	0	1	7	133	164	112	262	PUDapproved2019_0918.xlsx
3271	42	36	0	196	159	133	172	295	31	PUDapproved2019_0918.xlsx
3008	9	27	0	19	10	0	338	157	0	PUDapproved2019_0918.xlsx
3085	0	0	0	53	8	39	109	129	232	PUDapproved2019_0918.xlsx
3682	0	0	0	0	65	125	3	120	247	PUDapproved2019_0918.xlsx
4041	9	1	78	2	2	31	53	32	148	PUDapproved2019_0918.xlsx
3936	10	148	490	151	102	156	126	1,599	309	PUDapproved2019_0918.xlsx
2942	24	27	0	13	14	4	171	212	0	PUDapproved2019_0918.xlsx
2535	52	9	0	58	103	47	140	192	76	PUDapproved_unimproved2019_0918.xlsx
2536	0	1	0	7	8	23	172	118	216	PUDapproved_unimproved2019_0918.xlsx
2789	6	11	0	3	22	0	283	352	0	PUDapproved_unimproved2019_0918.xlsx
2799	9	47	0	569	47	47	117	733	93	PUDapproved_unimproved2019_0918.xlsx
2800	288	707	82	204	780	203	250	880	401	PUDapproved_unimproved2019_0918.xlsx
2802	21	13	0	0	5	53	0	10	105	PUDapproved_unimproved2019_0918.xlsx
2811	4	1	0	3	4	9	33	59	19	PUDapproved_unimproved2019_0918.xlsx
2817	0	5	0	0	0	102	2	1	201	PUDapproved_unimproved2019_0918.xlsx

Zones	Employment									Note
	Industrial Employment			Commercial Employment			Service Employment			
	2015	2040	Recent Projects	2015	2040	Recent Projects	2015	2040	Recent Projects	
2850	16	11	0	5	2	0	35	28	0	PUDapproved_unimproved2019_0918.xlsx
2854	0	0	0	0	0	270	0	0	534	PUDapproved_unimproved2019_0918.xlsx
2855	0	0	0	0	0	23	0	0	216	PUDapproved_unimproved2019_0918.xlsx
2901	0	0	0	3	2	0	9	29	86	PUDapproved_unimproved2019_0918.xlsx
2974	58	192	0	11	57	0	22	886	0	PUDapproved_unimproved2019_0918.xlsx
2975	108	95	0	48	28	0	171	439	0	PUDapproved_unimproved2019_0918.xlsx
2981	0	6	0	12	13	236	13	203	185	PUDapproved_unimproved2019_0918.xlsx
2991	5	22	0	125	147	148	49	273	247	PUDapproved_unimproved2019_0918.xlsx
3004	0	0	0	134	550	391	120	1,022	432	PUDapproved_unimproved2019_0918.xlsx
3005	0	657	8,539	0	33	1,672	0	511	2,300	PUDapproved_unimproved2019_0918.xlsx
3014	2	54	0	105	13	0	19	205	0	PUDapproved_unimproved2019_0918.xlsx
3023	0	0	0	0	100	41	0	1,560	32	PUDapproved_unimproved2019_0918.xlsx
3029	2	4	0	6	1	52	130	10	102	PUDapproved_unimproved2019_0918.xlsx
3030	0	0	0	0	1	117	5	11	509	PUDapproved_unimproved2019_0918.xlsx
3075	539	1,136	0	1,151	148	133	1,266	2,320	0	PUDapproved_unimproved2019_0918.xlsx
3150	416	769	0	325	130	281	466	2,038	139	PUDapproved_unimproved2019_0918.xlsx
3152	334	1,376	0	64	51	281	102	793	139	PUDapproved_unimproved2019_0918.xlsx
3159	21	20	0	62	11	156	56	168	62	PUDapproved_unimproved2019_0918.xlsx
3295	12	6	0	44	13	0	142	201	0	PUDapproved_unimproved2019_0918.xlsx
3296	6	18	0	25	14	0	56	213	0	PUDapproved_unimproved2019_0918.xlsx

Zones	Employment									Note
	Industrial Employment			Commercial Employment			Service Employment			
	2015	2040	Recent Projects	2015	2040	Recent Projects	2015	2040	Recent Projects	
3297	68	60	0	25	15	151	179	233	0	PUDapproved_unimproved2019_0918.xlsx
3303	86	161	0	299	190	14	220	352	28	PUDapproved_unimproved2019_0918.xlsx
3423	50	25	0	194	157	0	289	292	0	PUDapproved_unimproved2019_0918.xlsx
3598	11	221	0	1	9	0	11	140	0	PUDapproved_unimproved2019_0918.xlsx
3642	0	0	0	2	0	19	2	36	16	PUDapproved_unimproved2019_0918.xlsx
3643	32	20	0	111	130	47	352	241	201	PUDapproved_unimproved2019_0918.xlsx
3652	395	422	521	340	70	26	581	1,090	51	PUDapproved_unimproved2019_0918.xlsx
3690	2	570	0	0	238	0	3	443	0	PUDapproved_unimproved2019_0918.xlsx
3692	40	40	0	86	54	0	55	100	0	PUDapproved_unimproved2019_0918.xlsx
3728	15	274	0	2	8	47	2	131	0	PUDapproved_unimproved2019_0918.xlsx
3739	73	74	0	5	6	133	17	92	62	PUDapproved_unimproved2019_0918.xlsx
3879	93	48	0	0	8	0	61	131	0	PUDapproved_unimproved2019_0918.xlsx
3884	0	7	0	0	0	680	0	2	463	PUDapproved_unimproved2019_0918.xlsx
3886	3	2	0	0	1	680	0	18	463	PUDapproved_unimproved2019_0918.xlsx
3892	10	13	0	13	4	156	18	62	309	PUDapproved_unimproved2019_0918.xlsx
3898	14	14	0	9	1	0	13	23	0	PUDapproved_unimproved2019_0918.xlsx
3899	15	20	0	193	119	580	28	222	0	PUDapproved_unimproved2019_0918.xlsx
3917	0	0	521	3	276	26	263	4,318	51	PUDapproved_unimproved2019_0918.xlsx
3926	13	23	0	4	1	0	11	23	0	PUDapproved_unimproved2019_0918.xlsx
3934	0	0	0	2	2	125	20	34	93	PUDapproved_unimproved2019_0918.xlsx

Zones	Employment									Note
	Industrial Employment			Commercial Employment			Service Employment			
	2015	2040	Recent Projects	2015	2040	Recent Projects	2015	2040	Recent Projects	
3999	17	61	0	201	17	211	284	263	355	PUDapproved_unimproved2019_0918.xlsx
4006	24	21	1,322	5	3	234	37	53	309	PUDapproved_unimproved2019_0918.xlsx
4014	5	8	0	9	1	23	63	16	23	PUDapproved_unimproved2019_0918.xlsx
4020	52	115	0	12	4	0	19	66	0	PUDapproved_unimproved2019_0918.xlsx
4037	0	2	0	0	9	0	0	16	247	PUDapproved_unimproved2019_0918.xlsx
4052	2	168	0	14	649	188	57	1,206	371	PUDapproved_unimproved2019_0918.xlsx
4737	27	36	0	162	275	0	54	25	0	Palmer Beach
4736	12	2	0	13	8	0	39	190	0	Palmer Beach
4721	0	33	0	0	10	0	0	0	0	Palmer Beach
4726	25	29	0	8	23	0	11	4	0	Palmer Beach
4720	0	0	0	0	0	0	23	16	0	Palmer Beach
4725	3	0	0	6	4	0	149	208	0	Palmer Beach
4730	13	4	0	3	6	0	127	163	0	Palmer Beach
4728	15	7	0	472	612	0	279	424	0	Palmer Beach
4731	3	4	0	5	3	0	63	44	0	Palmer Beach
4733	1	0	0	93	0	0	39	12	0	Palmer Beach
4734	1	1	0	10	147	0	117	58	0	Palmer Beach
4744	0	0	0	0	0	0	0	281	0	Palmer Beach
4903	30	282	0	12	4	0	51	44	0	Palmer Beach
4738	13	50	0	14	24	0	69	144	0	Palmer Beach
4739	0	0	0	3	2	0	64	61	0	Palmer Beach
4742	9	18	0	0	0	0	19	18	0	Palmer Beach
4743	0	0	0	0	0	0	4	0	0	Palmer Beach
4745	0	0	0	3	0	0	3	3	0	Palmer Beach
4923	1	5	0	1	0	0	167	162	0	Palmer Beach
4722	0	0	0	82	108	0	23	13	0	Palmer Beach
5558	0	0	0	0	0	469	0	0	0	Lennar Homes

Below table shows the final SE data for the updated zones.

Final 2040 SE Data Update

Zones	SFDU	MFDU	SFPOP	MFPOP	Industrial Employment	Commercial Employment	Service Employment	Hotel Motel DU	Hotel Motel POP	School Enroll-ment
4904	9,972	545	19,047	812	139	18	717	0	0	528
4919	450	0	1,166	0	0	0	28	0	0	0
4920	270	3	700	8	42	34	107	0	0	0
4922	497	0	1,302	0	109	54	81	0	0	0
5073	340	0	938	0	0	0	0	0	0	101
5074	6,475	0	12,367	0	98	400	395	0	0	0
5084	1,063	0	2,838	0	0	156	316	0	0	0
5085	935	2,301	1,954	3,935	0	78	1,028	0	0	7,882
3973	641	693	1,379	1,601	1	4	7	0	0	0
3568	11	327	11	327	0	102	1,603	0	0	0
3963	341	67	341	67	297	12	309	148	281	0
3919	522	851	522	851	0	340	340	200	380	0
3569	441	199	441	199	0	0	0	0	0	0
5577	0	0	0	0	850	0	567	0	0	0
5430	228	519	529	1,204	0	2,218	135	124	265	0
5380	36	657	93	1,721	0	636	636	0	0	661
4157	1,645	61	2,517	92	0	12	36	0	0	0
4408	1,100	589	1,914	1,031	6	750	0	400	525	0
2089	929	55	2,295	131	722	115	57	0	0	2,159
2091	1,834	1,218	2,552	1,754	1	615	18	140	184	0
1827	144	1,381	283	3,301	9	191	202	206	270	0
2118	0	0	0	0	500	1,122	75	0	0	0
4756	478	1,377	535	1,556	0	0	0	0	0	0
4954	2,619	1,906	4,269	2,687	0	16	65	0	0	0
5095	1,839	1,335	3,016	1,882	1,851	1,348	3,198	0	0	0
5096	588	416	1,094	587	0	4	37	0	0	0
5097	4,397	1,531	8,003	2,159	0	3	0	0	0	0
4959	6,126	2,133	11,149	3,008	27	1,903	3,049	0	0	4,594
4966	1,697	453	3,292	892	1,716	453	2,150	0	0	0
4960	1,718	593	3,264	878	1,718	593	2,311	0	0	0
4958	2,530	763	4,276	1,152	2,530	763	3,293	0	0	1,173
4963	839	38	2,433	54	1,107	50	1,157	0	0	0
3655	2,052	488	2,770	664	73	17	265	0	0	0
3967	718	717	948	997	37	108	423	150	285	0
3980	267	1,135	267	1,135	28	384	3,487	150	285	0
3981	1,544	2,415	1,544	2,415	90	494	2,083	400	761	0
3172	1,560	1,263	2,917	2,223	31	391	756	0	0	0

Zones	SFDU	MFDU	SFPOP	MFPOP	Industrial Employment	Commercial Employment	Service Employment	Hotel Motel DU	Hotel Motel POP	School Enroll-ment
3170	592	67	1,655	184	2	218	445	0	0	0
3649	51	954	51	954	3	3,963	2,277	134	255	0
3966	1	0	1	0	3,376	293	702	466	886	0
3986	1	7	1	7	13,372	1,691	4,859	1,000	1,901	0
4001	131	9	343	17	1,961	79	453	0	0	0
4000	1,706	500	3,344	1,000	20	238	476	0	0	0
2944	9	71	9	71	1	47	182	0	0	0
3180	1,047	1,164	2,481	2,561	6	51	238	0	0	0
3002	0	0	0	0	7,503	553	731	0	0	0
3656	0	0	0	0	2,859	717	1,626	200	380	0
3982	1,354	95	1,354	95	244	426	699	150	285	0
3989	1,446	1,250	1,938	2,000	3	1,016	2,015	0	0	0
3993	2,167	1,519	3,272	1,929	6	1,026	2,161	0	0	0
3995	1,980	1,576	2,831	1,860	90	1,308	2,549	0	0	0
3000	537	1	1,294	2	25	186	381	150	285	1,000
3019	0	428	0	428	41	307	1,928	0	0	0
3020	17	289	17	289	65	346	3,247	0	0	1,640
2986	403	6	990	14	42	157	1,266	106	202	0
3970	625	161	1,078	287	315	193	892	0	0	0
3634	855	10	1,967	25	16	1	12	0	0	0
3638	1,702	21	3,370	43	11	155	143	0	0	0
2819	1,434	585	2,452	866	26	1,454	193	0	0	0
2801	70	11	126	26	21	37	32	0	0	0
2853	176	665	176	665	7	820	1,584	0	0	0
2856	339	78	339	78	29	337	649	7	13	0
2785	4,806	1,722	6,104	2,170	24	258	507	0	0	0
3635	2,234	704	4,714	1,105	10	33	187	0	0	1,004
4003	1,509	500	3,063	1,000	143	3	39	0	0	0
4007	1,436	93	4,193	264	21	20	311	0	0	2,200
3650	188	62	414	113	2	3	50	0	0	0
2967	299	392	299	392	68	430	825	0	0	0
2963	1,023	1,119	1,514	1,410	66	15	235	0	0	0
2960	1,438	1,980	1,941	2,435	3	140	374	112	213	0
3271	408	1,136	408	1,136	36	292	326	450	856	0
3008	444	400	659	388	27	10	157	0	0	1,000
3085	187	221	249	263	0	47	361	0	0	0
3682	833	458	1,399	774	0	190	367	0	0	0
4041	1,167	137	2,217	243	79	33	180	0	0	0
3936	82	67	85	67	638	258	1,908	0	0	0

Zones	SFDU	MFDU	SFPOP	MFPOP	Industrial Employment	Commercial Employment	Service Employment	Hotel Motel DU	Hotel Motel POP	School Enroll-ment
2942	897	671	1,302	777	27	18	212	0	0	13
2535	1,560	1,309	1,610	1,309	9	150	268	0	0	0
2536	2,108	1,030	3,141	1,524	1	31	334	0	0	0
2789	961	1,135	1,509	1,873	11	22	352	0	0	1,823
2799	1,374	2,177	2,514	4,354	47	94	826	0	0	856
2800	21	102	43	218	789	983	1,281	180	342	0
2802	81	29	132	39	13	58	115	0	0	0
2811	307	899	437	899	1	13	78	0	0	0
2817	401	1	850	1	5	102	202	182	346	0
2850	394	171	820	225	11	2	28	0	0	0
2854	65	65	76	73	0	270	534	0	0	0
2855	163	638	166	638	0	23	216	0	0	0
2901	2	8	8	34	0	2	115	0	0	0
2974	1,252	1,503	1,540	1,217	192	57	886	0	0	0
2975	638	247	1,429	736	95	28	439	0	0	0
2981	24	179	24	179	6	249	388	0	0	0
2991	0	0	0	0	22	295	520	87	165	1,000
3004	0	0	0	0	0	941	1,454	120	228	0
3005	0	400	0	600	9,196	1,705	2,811	540	1,027	0
3014	333	256	356	256	54	13	205	0	0	0
3023	0	0	0	0	0	141	1,592	0	0	0
3029	449	168	771	171	4	53	112	0	0	0
3030	330	268	720	386	0	118	520	0	0	0
3075	20	730	20	730	1,136	281	2,320	0	0	0
3150	86	58	174	115	769	411	2,177	75	143	0
3152	0	0	0	0	1,376	332	932	75	143	0
3159	151	145	151	145	20	167	230	0	0	0
3295	307	187	341	260	6	13	201	0	0	0
3296	498	134	523	177	18	14	213	0	0	0
3297	582	235	990	340	60	166	233	0	0	389
3303	329	36	494	52	161	204	380	0	0	0
3423	540	322	1,658	1,056	25	157	292	0	0	872
3598	22	423	64	706	221	9	140	0	0	0
3642	89	18	161	21	0	19	52	300	570	0
3643	674	538	886	746	20	177	442	182	346	2,171
3652	0	0	0	0	943	96	1,141	83	158	141
3690	1,288	1,462	2,679	3,012	570	238	443	0	0	0
3692	1,526	367	2,854	662	40	54	100	0	0	0
3728	2,278	46	6,606	106	274	55	131	0	0	0

Zones	SFDU	MFDU	SFPOP	MFPOP	Industrial Employment	Commercial Employment	Service Employment	Hotel Motel DU	Hotel Motel POP	School Enroll-ment
3739	11	11	11	11	74	139	154	125	238	0
3879	333	58	596	112	48	8	131	0	0	0
3884	530	76	1,235	228	7	680	465	0	0	0
3886	565	77	1,316	193	2	681	481	0	0	0
3892	370	66	648	77	13	160	371	0	0	0
3898	638	38	1,225	64	14	1	23	0	0	0
3899	114	18	179	31	20	699	222	0	0	0
3917	0	0	0	0	521	302	4,369	83	158	0
3926	242	52	426	102	23	1	23	0	0	0
3934	471	94	471	94	0	127	127	0	0	0
3999	2,235	193	5,878	488	61	228	618	150	285	3,761
4006	1,744	331	3,958	708	1,343	237	362	0	0	0
4014	2,770	775	4,127	798	8	24	39	0	0	118
4020	572	34	995	80	115	4	66	0	0	0
4037	2,827	1,392	2,827	1,392	2	9	263	0	0	0
4052	269	564	291	627	168	837	1,577	0	0	0
4737	0	0	0	0	0	0	0	0	0	0
4736	589	449	1,060	813	0	0	0	0	0	0
4721	175	0	243	0	0	0	0	0	0	0
4726	0	173	230	230	0	0	0	0	0	0
4720	302	12	420	16	0	0	0	0	0	0
4725	385	262	558	354	0	0	0	0	0	0
4730	0	727	474	996	0	0	0	0	0	0
4728	0	0	0	0	0	0	0	0	0	0
4731	493	216	922	404	0	0	0	0	0	0
4733	210	527	296	743	0	0	0	0	0	0
4734	503	527	594	611	0	0	0	0	0	0
4744	387	74	491	95	0	0	0	0	0	0
4903	865	0	1,272	797	0	0	0	0	0	0
4738	671	254	1,322	500	0	0	0	0	0	0
4739	549	192	955	301	0	0	0	0	0	0
4742	687	0	1,092	273	0	0	0	0	0	0
4743	721	885	1,334	1,292	0	0	0	0	0	0
4745	826	225	1,528	317	0	0	0	0	0	0
4923	2,300	14	4,186	39	0	0	0	0	0	0
4722	0	0	0	0	0	0	0	0	0	0
5558	2,400	0	4,992	0	0	469	0	0	0	0

APPENDIX B

District One Network Change Comments and Consultant Responses

FLORIDA DEPARTMENT OF TRANSPORTATION – DISTRICT ONE | 801 N. BROADWAY AVENUE, BARTOW, FL 33830

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APPENDIX C

D1RPM, v1.0.6 Additional Network Changes

FLORIDA DEPARTMENT OF TRANSPORTATION – DISTRICT ONE | 801 N. BROADWAY AVENUE, BARTOW, FL 33830

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APPENDIX D

D1RPM, v1.0.6 – EETRIPS_15A.DBF, INTEXT_15A.dbf, SPECGEN_A_15A.DBF, EETRIPS_40A.DBF, INTEXT_40A.dbf, and SPECGEN_A_40A.DBF

FLORIDA DEPARTMENT OF TRANSPORTATION – DISTRICT ONE | 801 N. BROADWAY AVENUE, BARTOW, FL 33830

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Trips from/to the external stations are stored in three main input database files:

1. EETRIPS_{YEAR}{ALT}.DBF: External to External Trips (EE Trips)
2. INTEXT_{YEAR}{ALT}.DBF: External to Internal and vice-versa Productions (IE Productions)
3. SPECGEN_A_{YEAR}{ALT}.DBF: Attractions from exte4rnal stations to the special generators' zones (SPEC Attractions)

This section shows the above three files finalized for the 2015 scenario and another set of files for the 2040 no-build scenario.

EETRIPS_15A.DBF

ORIGN_NAME	ORIGN_ZONE	AUTO	LTRK	DESTN_ZONE	DESTN_NAME
ie adjust	475	3000	0	5646	ie adjust
ie adjust	477	3600	0	5646	ie adjust
ie adjust	479	3400	0	5646	ie adjust
ie adjust	554	5000	0	5651	ie adjust
ie adjust	563	2000	0	5651	ie adjust
I-75 N	5631	310	0	5655	SR 70
I-75 N	5631	4492	1282	5659	Alligator
I-4 W	5641	13198	1925	5648	I-4 E
ie adjust	5646	3000	0	475	ie adjust
ie adjust	5646	3600	0	477	ie adjust
ie adjust	5646	3400	0	479	ie adjust
I-4 E	5648	13198	1925	5641	I-4 W
CR 580	5651	5263	0	5661	Marigold
ie adjust	5651	5000	0	554	ie adjust
ie adjust	5651	2000	0	563	ie adjust
SR 70	5655	310	0	5631	I-75 N
Alligator	5659	4492	1282	5631	I-75 N
marigold	5661	5263	0	5651	cr 580

INTEXT_15A.DBF

ZONE	IE	DESC
5629	29479	I-275
5630	4792	US 41 N
5631	25064	I-75 N
5632	2361	US 301
5633	299	CR 579
5634	1185	CR 39
5635	1052	CR 674
5636	3236	CR 640 W
5637	1158	CR 676
5638	9420	SR 60 W
5639	1474	Medulla Rd
5640	5153	US 92 W
5641	36913	I-4 W
5642	2277	Knights Station Rd
5643	3967	US 98 N
5644	1381	SR 471
5645	3874	SR 33
5646	11002	US 27 N
5647	2947	Champions Gate Blvd
5648	32453	I-4 E
5649	4206	W Lake Wilson Rd
5650	4408	US 92 NE
5651	10343	CR 580 / Cypress Pkwy
5652	3640	SR 60 E
5653	1077	US 441 N
5654	2264	CR 68 E
5655	3119	SR 70 E
5656	3658	SR 710 SE
5657	1590	US 98 / US 441 SE
5658	7565	US 27 / SR 80 E
5659	2996	Alligator Alley
5660	2781	US 41 Collier County
5661	7395	Marigold Ave
5662	2526	Tri County Rd

SPECGEN_A_15A.DBF

ZONE	PA	OPERAND	TRIPS_DIFF	PCT_HBW	PCT_HBSH	PCT_HBSR	PCT_HBO	PCT_NHB	DESCR	OLDZONE
475	A	-	4500	30	15	15	10	30	leadjust	
477	A	-	2500	30	15	15	10	30	leadjust	
479	A	-	2600	30	15	15	10	30	leadjust	
1609	A	+	15733	25	20	20	5	30	Coastland Mall	33
1627	A	+	100	0	0	70	0	30	Lowdermilk Park	51
1660	A	+	100	0	0	70	0	30	Barefoot Beach Park	84
1707	A	+	100	0	0	70	0	30	Clam Pass Beaches	131
1713	A	+	100	0	0	70	0	30	Vanderbilt Public Bea	137
1714	A	+	100	0	0	70	0	30	Wiggins Pass Park	138
1737	A	+	250	1	0	84	0	15	North Naples Regional	161
2119	A	+	1440	25	0	0	75	0	Collier County Landfi	543
2591	A	+	3000	0	0	70	0	30	Santa Barbara Center	1015
2921	A	+	18500	25	20	20	5	30	Coconut Point	1345
2977	A	+	3189	50	0	0	50	0	Lee Memorial Healthpa	1401
3016	A	+	1500	0	0	70	0	30	Bunche Beach	1440
3023	A	+	4500	0	0	70	0	30	Ball Park	1447
3041	A	+	1500	0	0	0	70	30	Page Field	1465
3093	A	+	2000	0	0	70	0	30	Park	1517
3190	A	+	500	0	0	70	0	30	Koreshan St Park	1614
3247	A	+	6000	0	0	70	0	30	Naples Ft Myers Dog T	1671
3280	A	+	1250	0	0	70	0	30	Ft Myers Beach Bodwic	1704
3290	A	+	1250	0	0	70	0	30	Bonita Beach Park	1714
3292	A	+	1250	0	0	70	0	30	Lovers Key State Park	1716
3312	A	+	1250	0	0	70	0	30	Ding Darling	1736
3316	A	+	1250	0	0	70	0	30	Sanibel Beach	1740
3318	A	+	1250	0	0	70	0	30	Sanibel Beach	1742
3323	A	+	1250	0	0	70	0	30	Sanibel Beach	1747
3327	A	+	1250	0	0	70	0	30	Lighthouse Beach	1751
3328	A	+	1250	0	0	70	0	30	Sanibel Beach	1752
3357	A	+	117	0	0	100	0	0	C of FM Convention Ha	1781
3495	A	+	1500	0	0	70	0	30	Edison Home	1919
3529	A	+	31667	25	20	20	5	30	Edison Mall	1953
3882	A	+	1000	0	0	40	30	30	Lee Civic Center	2306
3989	A	+	1440	25	0	0	75	0	Lee County Landfill	2413

ZONE	PA	OPERAND	TRIPS_DIFF	PCT_HBW	PCT_HBSH	PCT_HBSR	PCT_HBO	PCT_NHB	DESCR	OLDZONE
4184	A	+	0	0	0	0	100	99	Zemel Rd Landfill	120
4536	A	+	5500	0	0	100	0	0	Lido Beach	472
4696	A	+	6500	25	20	20	5	30	Siesta Key	632
4750	A	+	6050	0	0	100	0	0	Manasota Beach	686
4811	A	+	550	6	0	0	69	25	Venice Airport	747
5343	A	+	1000	0	0	0	0	100	PORT MANATEE	0
5629	A	+	36575	30	15	15	10	30	I-275	0
5630	A	+	6000	30	15	15	10	30	US 41 N	0
5631	A	+	27240	30	15	15	10	30	I-75 N	0
5632	A	+	2841	30	15	15	10	30	US 301	0
5633	A	+	357	30	15	15	10	30	CR 579	0
5634	A	+	1486	30	15	15	10	30	CR 39	0
5635	A	+	1238	30	15	15	10	30	CR 674	0
5636	A	+	3893	30	15	15	10	30	CR 640 W	0
5637	A	+	1418	30	15	15	10	30	CR 676	0
5638	A	+	11832	30	15	15	10	30	SR 60 W	0
5639	A	+	1675	30	15	15	10	30	Medulla Rd	0
5640	A	+	6599	30	15	15	10	30	US 92 W	0
5641	A	+	48913	30	15	15	10	30	I-4 W	0
5642	A	+	2802	30	15	15	10	30	Knights Station Rd	0
5643	A	+	5060	30	15	15	10	30	US 98 N	0
5644	A	+	1610	30	15	15	10	30	SR 471	0
5645	A	+	5226	30	15	15	10	30	SR 33	0
5646	A	+	13565	30	15	15	10	30	US 27 N	0
5647	A	+	3931	30	15	15	10	30	Champions Gate Blvd	0
5648	A	+	41212	30	15	15	10	30	I-4 E	0
5649	A	+	5236	30	15	15	10	30	W Lake Wilson Rd	0
5650	A	+	5533	30	15	15	10	30	US 92 NE	0
5651	A	+	12170	30	15	15	10	30	CR 580 / Cypress Pkwy	0
5652	A	+	4311	30	15	15	10	30	SR 60 E	0
5653	A	+	1204	30	15	15	10	30	US 441 N	0
5654	A	+	2555	30	15	15	10	30	CR 68 E	0
5655	A	+	3466	30	15	15	10	30	SR 70 E	0
5656	A	+	4205	30	15	15	10	30	SR 710 SE	0
5657	A	+	1657	30	15	15	10	30	US 98 / US 441 SE	0
5658	A	+	8875	30	15	15	10	30	US 27 / SR 80 E	0
5659	A	+	3092	30	15	15	10	30	Alligator Alley	0

ZONE	PA	OPERAND	TRIPS_DIFF	PCT_HBW	PCT_HBSH	PCT_HBSR	PCT_HBO	PCT_NHB	DESCR	OLDZONE
5660	A	+	3504	30	15	15	10	30	US 41 Collier County	0
5661	A	+	9326	30	15	15	10	30	Marigold Ave	0

EETRIPS_40A.DBF

ORIGN_NAME	ORIGN_ZONE	AUTO	LTRK	DESTN_ZONE	DESTN_NAME
ie adjust	475	6100	0	5646	ie adjust
ie adjust	477	3600	0	5646	ie adjust
ie adjust	479	3400	0	5646	ie adjust
ie adjust	548	7500	0	5651	CR 580
ie adjust	554	5000	0	5651	ie adjust
ie adjust	563	4000	0	5651	ie adjust
I-75 N	5631	650	0	5655	SR 70
I-75 N	5631	4750	1900	5659	Alligator
I-4 W	5641	22800	3325	5648	I-4 E
ie adjust	5646	6100	0	475	ie adjust
ie adjust	5646	3600	0	477	ie adjust
ie adjust	5646	3400	0	479	ie adjust
I-4 E	5648	22800	3325	5641	I-4 W
CR 580	5651	7500	0	548	ie adjust
ie adjust	5651	5000	0	554	ie adjust
ie adjust	5651	4000	0	563	ie adjust
CR 580	5651	5263	0	5661	Marigold
SR 70	5655	650	0	5631	I-75 N
Alligator	5659	4750	1900	5631	I-75 N
Marigold	5661	5263	0	5651	CR 580

INTEXT_40A.DBF

ZONE	IE	DESC
5629	40,714	I-275
5630	7,862	US 41 N
5631	52,478	I-75 N
5632	3,873	US 301
5633	1,162	CR 579
5634	4,980	CR 39
5635	1,941	CR 674
5636	7,467	CR 640 W
5637	2,210	CR 676
5638	25,331	SR 60 W
5639	3,271	Medulla Rd
5640	10,004	US 92 W
5641	59,335	I-4 W
5642	5,269	Knights Station Rd
5643	8,908	US 98 N
5644	2,347	SR 471
5645	6,703	SR 33
5646	22,939	US 27 N
5647	4,459	Champions Gate Blvd
5648	54,836	I-4 E
5649	3,500	W Lake Wilson Rd
5650	8,406	US 92 NE
5651	500	CR 580 / Cypress Pkwy
5652	7,185	SR 60 E
5653	2,701	US 441 N
5654	2,220	CR 68 E
5655	6,387	SR 70 E
5656	7,539	SR 710 SE
5657	3,092	US 98 / US 441 SE
5658	14,695	US 27 / SR 80 E
5659	10,221	Alligator Alley
5660	4,999	US 41 Collier County
5661	100	Marigold Ave
5662	2,000	Tri County Rd

SPECGEN_A_40A.DBF

ZONE	PA	OPERAND	TRIPS_DIFF	PCT_HBW	PCT_HBSH	PCT_HBSR	PCT_HBO	PCT_NHB	DESCR	OLDZONE
475	A	-	4,500	30	15	15	10	30	leadjust	
477	A	-	2,500	30	15	15	10	30	leadjust	
479	A	-	2,600	30	15	15	10	30	leadjust	
1609	A	+	15,733	25	20	20	5	30	Coastland Mall	33
1627	A	+	100	0	0	70	0	30	Lowdermilk Park	51
1660	A	+	100	0	0	70	0	30	Barefoot Beach Park	84
1707	A	+	100	0	0	70	0	30	Clam Pass Beaches	131
1713	A	+	100	0	0	70	0	30	Vanderbilt Public Bea	137
1714	A	+	100	0	0	70	0	30	Wiggins Pass Park	138
1737	A	+	250	1	0	84	0	15	North Naples Regional	161
2119	A	+	1,440	25	0	0	75	0	Collier County Landfi	543
2591	A	+	3,000	0	0	70	0	30	Santa Barbara Center	1015
2921	A	+	18,500	25	20	20	5	30	Coconut Point	1345
2977	A	+	3,189	50	0	0	50	0	Lee Memorial Healthpa	1401
3016	A	+	1,500	0	0	70	0	30	Bunche Beach	1440
3023	A	+	4,500	0	0	70	0	30	Ball Park	1447
3041	A	+	1,500	0	0	0	70	30	Page Field	1465
3093	A	+	2,000	0	0	70	0	30	Park	1517
3190	A	+	500	0	0	70	0	30	Koreshan St Park	1614
3247	A	+	6,000	0	0	70	0	30	Naples Ft Myers Dog T	1671
3280	A	+	1,250	0	0	70	0	30	Ft Myers Beach Bodwic	1704
3290	A	+	1,250	0	0	70	0	30	Bonita Beach Park	1714
3292	A	+	1,250	0	0	70	0	30	Lovers Key State Park	1716
3312	A	+	1,250	0	0	70	0	30	Ding Darling	1736
3316	A	+	1,250	0	0	70	0	30	Sanibel Beach	1740
3318	A	+	1,250	0	0	70	0	30	Sanibel Beach	1742
3323	A	+	1,250	0	0	70	0	30	Sanibel Beach	1747
3327	A	+	1,250	0	0	70	0	30	Lighthouse Beach	1751
3328	A	+	1,250	0	0	70	0	30	Sanibel Beach	1752
3357	A	+	117	0	0	100	0	0	C of FM Convention Ha	1781
3495	A	+	1,500	0	0	70	0	30	Edison Home	1919
3529	A	+	31,667	25	20	20	5	30	Edison Mall	1953
3882	A	+	1,000	0	0	40	30	30	Lee Civic Center	2306
3989	A	+	1,440	25	0	0	75	0	Lee County Landfill	2413

ZONE	PA	OPERAND	TRIPS_DIFF	PCT_HBW	PCT_HBSH	PCT_HBSR	PCT_HBO	PCT_NHB	DESCR	OLDZONE
4184	A	+	-	0	0	0	100	99	Zemel Rd Landfill	120
4536	A	+	5,500	0	0	100	0	0	Lido Beach	472
4696	A	+	6,500	25	20	20	5	30	Siesta Key	632
4750	A	+	6,050	0	0	100	0	0	Manasota Beach	686
4811	A	+	550	6	0	0	69	25	Venice Airport	747
5343	A	+	1,000	0	0	0	0	100	PORT MANATEE	0
5629	A	+	60,954	30	15	15	10	30	I-275	0
5630	A	+	9,844	30	15	15	10	30	US 41 N	0
5631	A	+	73,855	30	15	15	10	30	I-75 N	0
5632	A	+	4,661	30	15	15	10	30	US 301	0
5633	A	+	1,373	30	15	15	10	30	CR 579	0
5634	A	+	5,902	30	15	15	10	30	CR 39	0
5635	A	+	2,297	30	15	15	10	30	CR 674	0
5636	A	+	8,831	30	15	15	10	30	CR 640 W	0
5637	A	+	2,611	30	15	15	10	30	CR 676	0
5638	A	+	29,917	30	15	15	10	30	SR 60 W	0
5639	A	+	3,876	30	15	15	10	30	Medulla Rd	0
5640	A	+	11,813	30	15	15	10	30	US 92 W	0
5641	A	+	145,957	30	15	15	10	30	I-4 W	0
5642	A	+	6,228	30	15	15	10	30	Knights Station Rd	0
5643	A	+	10,525	30	15	15	10	30	US 98 N	0
5644	A	+	2,784	30	15	15	10	30	SR 471	0
5645	A	+	7,915	30	15	15	10	30	SR 33	0
5646	A	+	35,687	30	15	15	10	30	US 27 N	0
5647	A	+	17,072	30	15	15	10	30	Champions Gate Blvd	0
5648	A	+	133,091	30	15	15	10	30	I-4 E	0
5649	A	+	4,638	30	15	15	10	30	W Lake Wilson Rd	0
5650	A	+	9,905	30	15	15	10	30	US 92 NE	0
5651	A	+	25,619	30	15	15	10	30	CR 580 / Cypress Pkwy	0
5652	A	+	8,534	30	15	15	10	30	SR 60 E	0
5653	A	+	3,271	30	15	15	10	30	US 441 N	0
5654	A	+	2,641	30	15	15	10	30	CR 68 E	0
5655	A	+	7,609	30	15	15	10	30	SR 70 E	0
5656	A	+	8,974	30	15	15	10	30	SR 710 SE	0
5657	A	+	3,677	30	15	15	10	30	US 98 / US 441 SE	0
5658	A	+	17,467	30	15	15	10	30	US 27 / SR 80 E	0
5659	A	+	14,595	30	15	15	10	30	Alligator Alley	0

ZONE	PA	OPERAND	TRIPS_DIFF	PCT_HBW	PCT_HBSH	PCT_HBSR	PCT_HBO	PCT_NHB	DESCR	OLDZONE
5660	A	+	5,638	30	15	15	10	30	US 41 Collier County	0
5661	A	+	9,326	30	15	15	10	30	Marigold Ave	0
5662	A	+	3,095	30	15	15	10	30		0

APPENDIX E

D1RPM, v1.0.6 – Turn Penalties and Prohibitors

FLORIDA DEPARTMENT OF TRANSPORTATION – DISTRICT ONE | 801 N. BROADWAY AVENUE, BARTOW, FL 33830

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The table below lists only the new prohibitors added in the 2015 penalty file.

New 2015 Prohibitors

A	B	C	TOD	PEN	Location
17895	17922	17935	1	-1	Freeway to Ramp to Freeway US41
17929	17921	17904	1	-1	Freeway to Ramp to Freeway US41
17929	17920	17904	1	-1	Freeway to Ramp to Freeway US41
15942	15937	15914	1	-1	Freeway to Ramp to Freeway I75
15296	15302	15309	1	-1	Freeway to Ramp to Freeway I75
15308	15298	15297	1	-1	Freeway to Ramp to Freeway I75
15179	15184	15167	1	-1	Freeway to Ramp to Freeway I75
15157	15156	15177	1	-1	Freeway to Ramp to Freeway I75
18898	15097	15088	1	-1	Freeway to Ramp to Freeway I75
15080	15069	18899	1	-1	Freeway to Ramp to Freeway I75
13231	13237	13249	1	-1	Freeway to Ramp to Freeway I75
13248	13235	13230	1	-1	Freeway to Ramp to Freeway I75
22052	22883	21998	1	-1	Freeway to Ramp to Freeway I75
22024	22059	22062	1	-1	Freeway to Ramp to Freeway I75
21994	21972	21996	1	-1	Freeway to Ramp to Freeway I75
21967	22740	21974	1	-1	Freeway to Ramp to Freeway I75
23686	23680	23540	1	-1	Freeway to Ramp to Freeway I75
23528	23536	23503	1	-1	Freeway to Ramp to Freeway I75
23495	23438	23500	1	-1	Freeway to Ramp to Freeway I75
23690	23727	23701	1	-1	Freeway to Ramp to Freeway I75
23649	23658	23643	1	-1	Freeway to Ramp to Freeway I75
23512	23481	23499	1	-1	Freeway to Ramp to Freeway I75
23459	23411	23469	1	-1	Freeway to Ramp to Freeway I75
23446	23497	23445	1	-1	Freeway to Ramp to Freeway I75
23362	23419	23420	1	-1	Freeway to Ramp to Freeway I75
23276	23242	23240	1	-1	Freeway to Ramp to Freeway I75
23231	23171	23206	1	-1	Freeway to Ramp to Freeway I75
21881	23509	21871	1	-1	Freeway to Ramp to Freeway I75
21931	21830	21933	1	-1	Freeway to Ramp to Freeway I75
22156	24084	22166	1	-1	Freeway to Ramp to Freeway I75
22087	22097	22134	1	-1	Freeway to Ramp to Freeway I75
20345	24461	20338	1	-1	Freeway to Ramp to Freeway I75
20306	24424	20313	1	-1	Freeway to Ramp to Freeway I75
20380	20365	20386	1	-1	Freeway to Ramp to Freeway I75
20367	25050	20382	1	-1	Freeway to Ramp to Freeway I75
20396	24985	20411	1	-1	Freeway to Ramp to Freeway I75
20964	25195	20444	1	-1	Freeway to Ramp to Freeway I75
20929	25121	20451	1	-1	Freeway to Ramp to Freeway I75
88339	20485	20545	1	-1	Freeway to Ramp to Freeway I75
21718	21703	21721	1	-1	Freeway to Ramp to Freeway I75

A	B	C	TOD	PEN	Location
28336	25425	21776	1	-1	Freeway to Ramp to Freeway I75
20574	26279	20576	1	-1	Freeway to Ramp to Freeway I75
20623	26280	20625	1	-1	Freeway to Ramp to Freeway I75
23719	23680	23540	1	-1	Multiple ramps
22160	22099	24084	1	-1	Multiple ramps
22156	24084	22099	1	-1	Multiple ramps
22087	22097	20890	1	-1	Multiple ramps
22089	20890	22097	1	-1	Multiple ramps
25425	25402	21727	1	-1	Multiple ramps
15298	15300	15291	1	-1	Multiple ramps 09242019
15318	15299	15300	1	-1	Multiple ramps 09242019
15308	15298	15300	1	-1	Multiple ramps 09242019
15296	15302	15304	1	-1	Multiple ramps 09242019
15302	15304	15316	1	-1	Multiple ramps 09242019
15290	15303	15304	1	-1	Multiple ramps 09242019
21967	22740	21972	1	-1	Multiple ramps 09242019
21994	21972	22740	1	-1	Multiple ramps 09242019
21972	22740	21974	1	-1	Multiple ramps 09242019
22052	22883	22059	1	-1	Multiple ramps 09242019
22024	22059	22883	1	-1	Multiple ramps 09242019
22059	22883	21998	1	-1	Multiple ramps 09242019
23495	23438	23536	1	-1	Multiple ramps 09242019
23528	23536	23438	1	-1	Multiple ramps 09242019
23536	23438	23500	1	-1	Multiple ramps 09242019
23438	23536	23503	1	-1	Multiple ramps 09242019
23686	23680	23719	1	-1	Multiple ramps 09242019
23695	23719	23680	1	-1	Multiple ramps 09242019
23719	23770	23738	1	-1	Multiple ramps 09242019
23459	23411	23481	1	-1	Multiple ramps 09242019
23512	23481	23411	1	-1	Multiple ramps 09242019
23411	23481	23499	1	-1	Multiple ramps 09242019
23481	23411	23469	1	-1	Multiple ramps 09242019
23690	23727	23658	1	-1	Multiple ramps 09242019
23649	23658	23727	1	-1	Multiple ramps 09242019
23658	23727	23701	1	-1	Multiple ramps 09242019
23727	23658	23643	1	-1	Multiple ramps 09242019
23231	23171	23242	1	-1	Multiple ramps 09242019
23276	23242	23171	1	-1	Multiple ramps 09242019
23242	23171	23206	1	-1	Multiple ramps 09242019
23171	23242	23240	1	-1	Multiple ramps 09242019
23446	23497	23419	1	-1	Multiple ramps 09242019
23362	23419	23497	1	-1	Multiple ramps 09242019

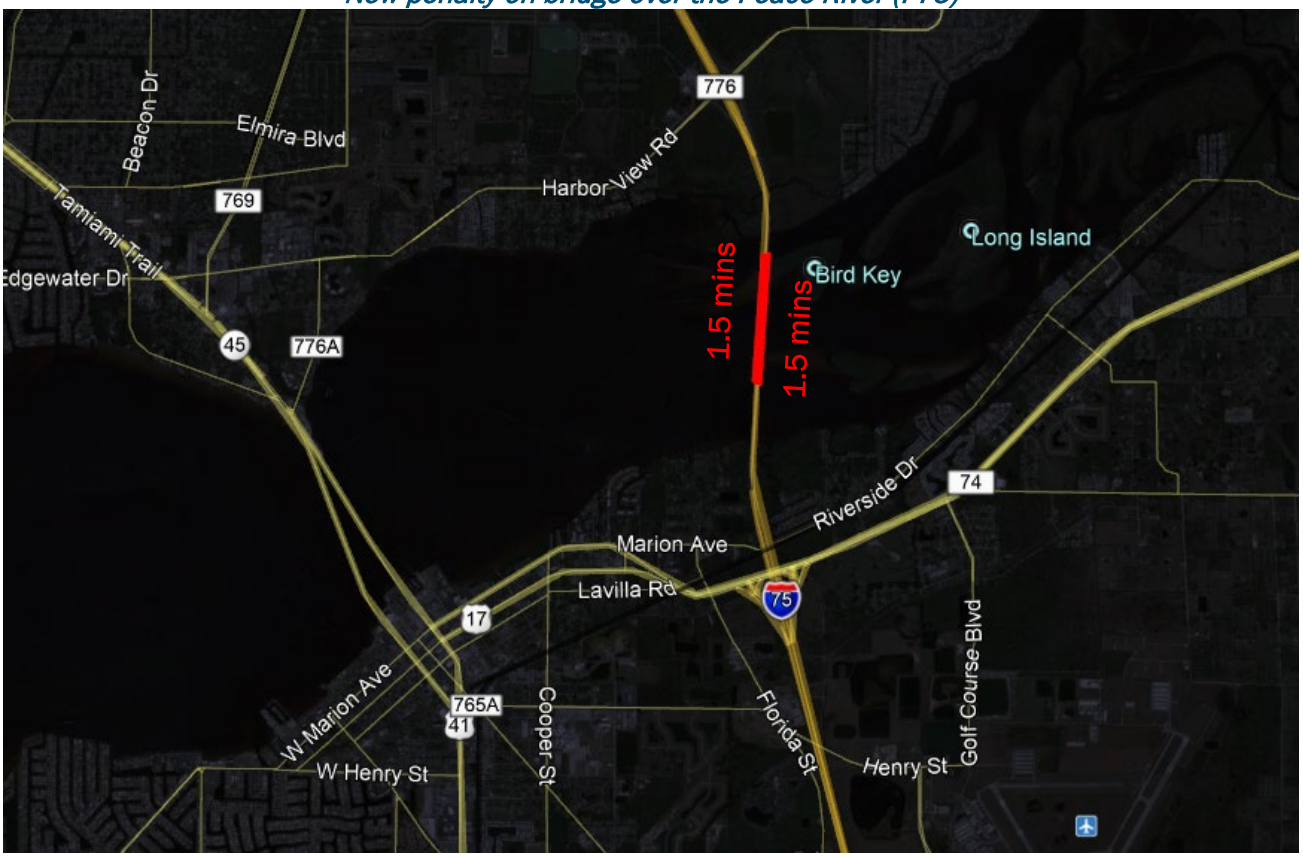
A	B	C	TOD	PEN	Location
23419	23497	23445	1	-1	Multiple ramps 09242019
23497	23419	23420	1	-1	Multiple ramps 09242019
21931	21830	23212	1	-1	Multiple ramps 09242019
21803	23212	21830	1	-1	Multiple ramps 09242019
23212	20882	20887	1	-1	Multiple ramps 09242019
23212	21830	21933	1	-1	Multiple ramps 09242019
21881	23509	21879	1	-1	Multiple ramps 09242019
21942	21879	23509	1	-1	Multiple ramps 09242019
21879	23509	21871	1	-1	Multiple ramps 09242019
21879	23374	21900	1	-1	Multiple ramps 09242019
20890	22097	22134	1	-1	Multiple ramps 09242019
20890	23754	22101	1	-1	Multiple ramps 09242019
22099	24022	22114	1	-1	Multiple ramps 09242019
88390	88385	88388	1	-1	Multiple ramps 09242019
88385	88394	88395	1	-1	Multiple ramps 09242019
23759	23670	24332	1	-1	Multiple ramps 09242019
23759	24277	24285	1	-1	Multiple ramps 09242019
24102	24079	24368	1	-1	Multiple ramps 09242019
24102	24190	24412	1	-1	Multiple ramps 09242019
20899	20898	24424	1	-1	Multiple ramps 09242019
20306	24424	20898	1	-1	Multiple ramps 09242019
20898	20317	20323	1	-1	Multiple ramps 09242019
20898	24424	20313	1	-1	Multiple ramps 09242019
20907	20902	24461	1	-1	Multiple ramps 09242019
20345	24461	20902	1	-1	Multiple ramps 09242019
20902	20347	20352	1	-1	Multiple ramps 09242019
20902	24461	20338	1	-1	Multiple ramps 09242019
20922	20916	24985	1	-1	Multiple ramps 09242019
20396	24985	20916	1	-1	Multiple ramps 09242019
20916	24985	20411	1	-1	Multiple ramps 09242019
20916	20356	20426	1	-1	Multiple ramps 09242019
20380	20365	25050	1	-1	Multiple ramps 09242019
20367	25050	20365	1	-1	Multiple ramps 09242019
25050	20365	20386	1	-1	Multiple ramps 09242019
20365	25050	20382	1	-1	Multiple ramps 09242019
20973	20927	25121	1	-1	Multiple ramps 09242019
20929	25121	20927	1	-1	Multiple ramps 09242019
20927	25121	20451	1	-1	Multiple ramps 09242019
20927	20431	20471	1	-1	Multiple ramps 09242019
20967	20962	25195	1	-1	Multiple ramps 09242019
20964	25195	20962	1	-1	Multiple ramps 09242019
20962	25195	20444	1	-1	Multiple ramps 09242019

A	B	C	TOD	PEN	Location
20962	20434	20464	1	-1	Multiple ramps 09242019
88339	20485	25265	1	-1	Multiple ramps 09242019
88339	28232	20485	1	-1	Multiple ramps 09242019
20485	25265	20493	1	-1	Multiple ramps 09242019
28232	20485	20545	1	-1	Multiple ramps 09242019
20979	20474	20535	1	-1	Multiple ramps 09242019
20506	25386	20979	1	-1	Multiple ramps 09242019
20535	28230	20510	1	-1	Multiple ramps 09242019
21703	21708	21721	1	-1	Multiple ramps 09242019
21708	21703	21721	1	-1	Multiple ramps 09242019
20636	20984	26280	1	-1	Multiple ramps 09242019
20623	26280	20984	1	-1	Multiple ramps 09242019
20984	20548	20662	1	-1	Multiple ramps 09242019
20984	26280	20625	1	-1	Multiple ramps 09242019
20656	20552	26279	1	-1	Multiple ramps 09242019
20574	26279	20552	1	-1	Multiple ramps 09242019
20552	20550	20659	1	-1	Multiple ramps 09242019
20552	26279	20576	1	-1	Multiple ramps 09242019
20749	20669	20771	1	-1	Multiple ramps 09242019
20749	27448	20771	1	-1	Multiple ramps 09242019
20749	20669	27448	1	-1	Multiple ramps 09242019
20749	27448	20669	1	-1	Multiple ramps 09242019
27448	20669	20771	1	-1	Multiple ramps 09242019
20669	27448	20771	1	-1	Multiple ramps 09242019
20704	20674	20816	1	-1	Multiple ramps 09242019
20704	27445	20816	1	-1	Multiple ramps 09242019
20704	20674	27445	1	-1	Multiple ramps 09242019
20704	27445	20674	1	-1	Multiple ramps 09242019
27445	20674	20816	1	-1	Multiple ramps 09242019
20674	27445	20816	1	-1	Multiple ramps 09242019

Source: D1RPM "2015 IPM" scenario TURN_15A.PEN file

The map below shows the new penalties (in red lines) added on the I-75 bridge over the Peace River.

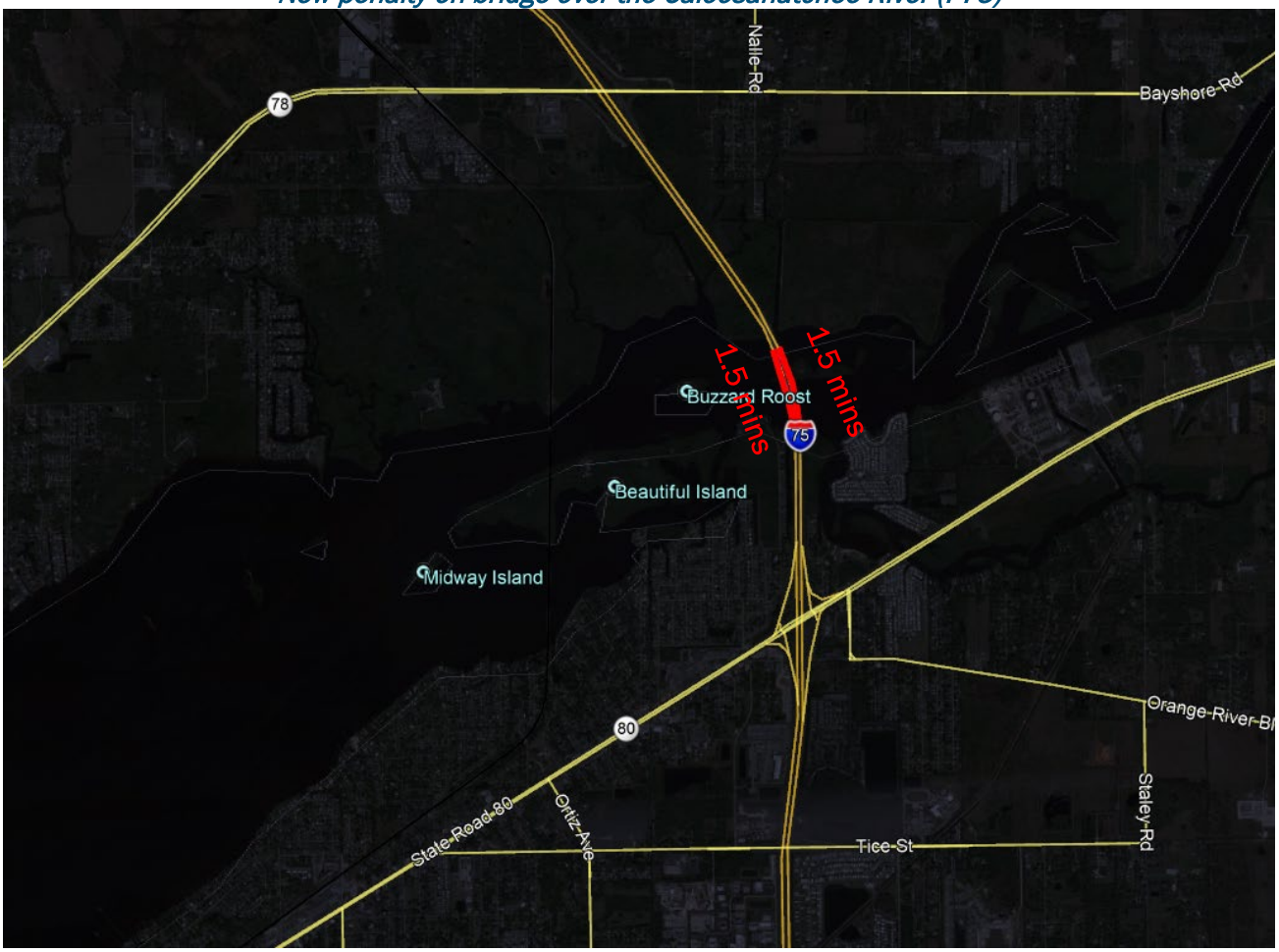
New penalty on bridge over the Peace River (I-75)



Source: Google Earth

The map below shows the new penalties (in red lines) added on the I-75 bridge over the Caloosahatchee River.

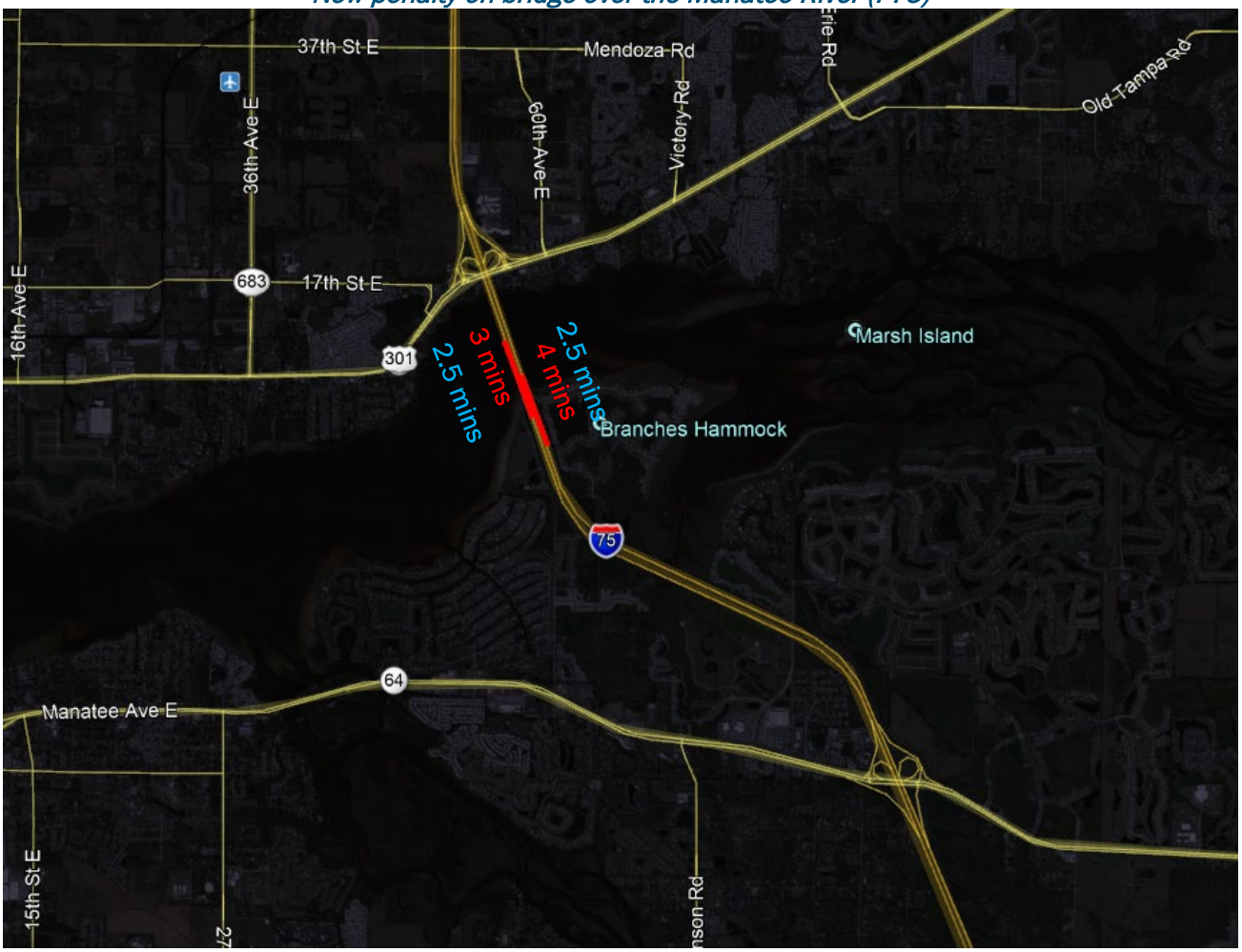
New penalty on bridge over the Caloosahatchee River (I-75)



Source: Google Earth

The map below shows the updated penalties (in red lines) on the I-75 bridge on the Manatee River. The text in red denotes an updated penalty and text in blue denotes the original penalty.

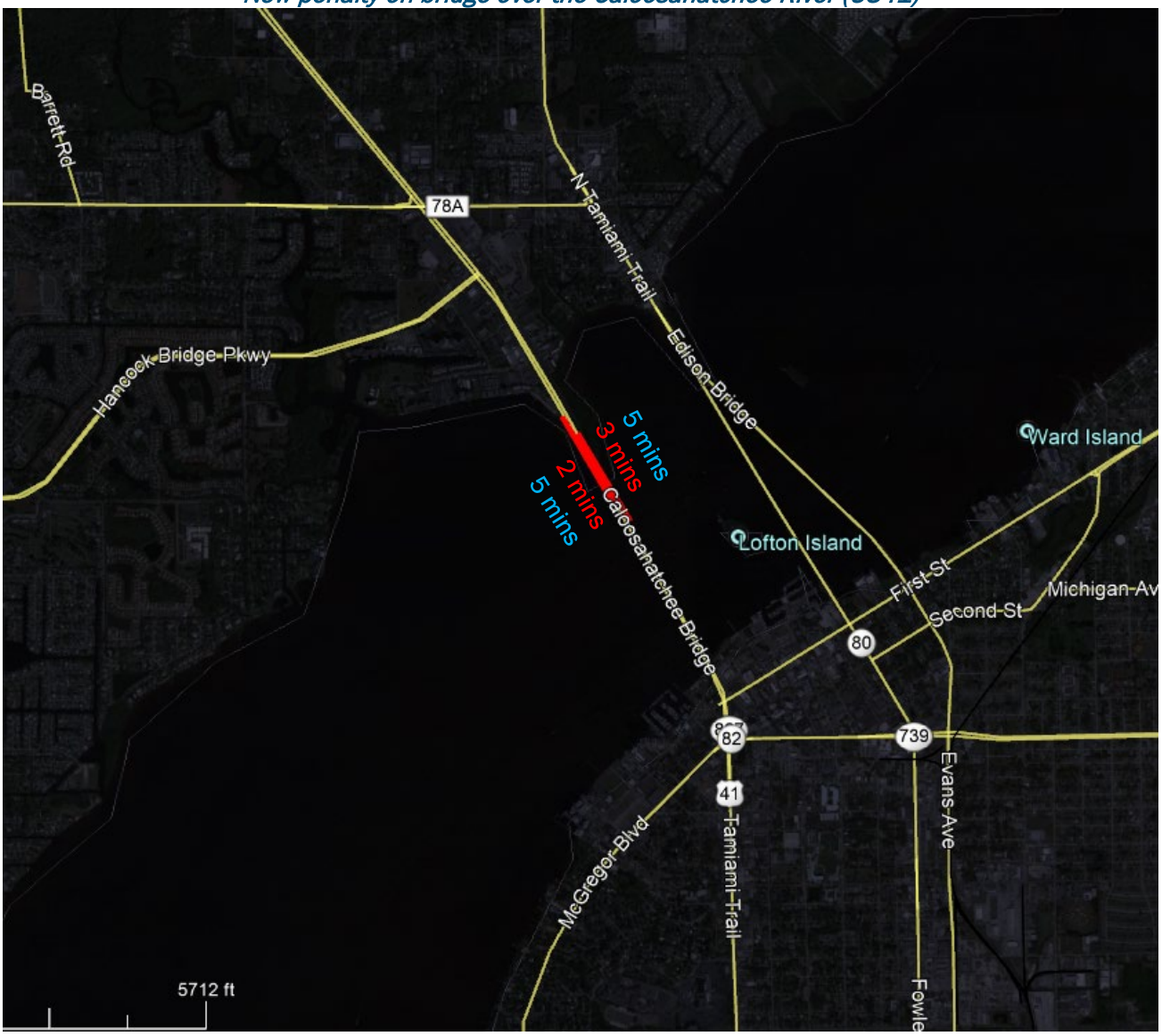
New penalty on bridge over the Manatee River (I-75)



Source: Google Earth

The map below shows the updated penalties (in red lines) on the Caloosahatchee bridge/US41 in Lee County. The text in red denotes an updated penalty and text in blue denotes the original penalty.

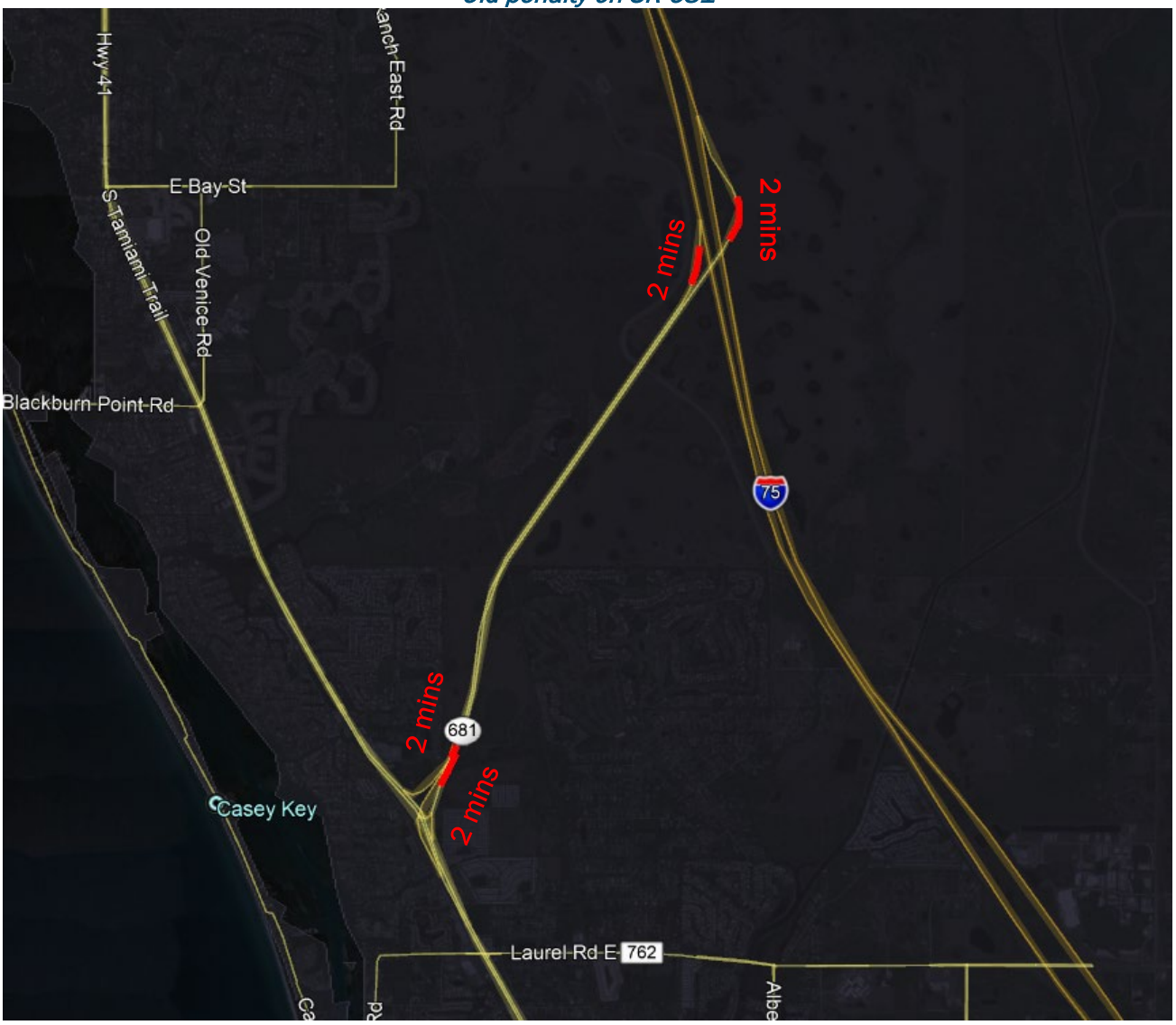
New penalty on bridge over the Caloosahatchee River (US41)



Source: Google Earth

The map below shows four of the penalties (in red lines) that were removed from the SR 681 which connects the I-75 to S. Tamiami Trail.

Old penalty on SR 681



Source: Google Earth

APPENDIX F

D1RPM, v1.0.6 – 2040 No-Build Results

FLORIDA DEPARTMENT OF TRANSPORTATION – DISTRICT ONE | 801 N. BROADWAY AVENUE, BARTOW, FL 33830

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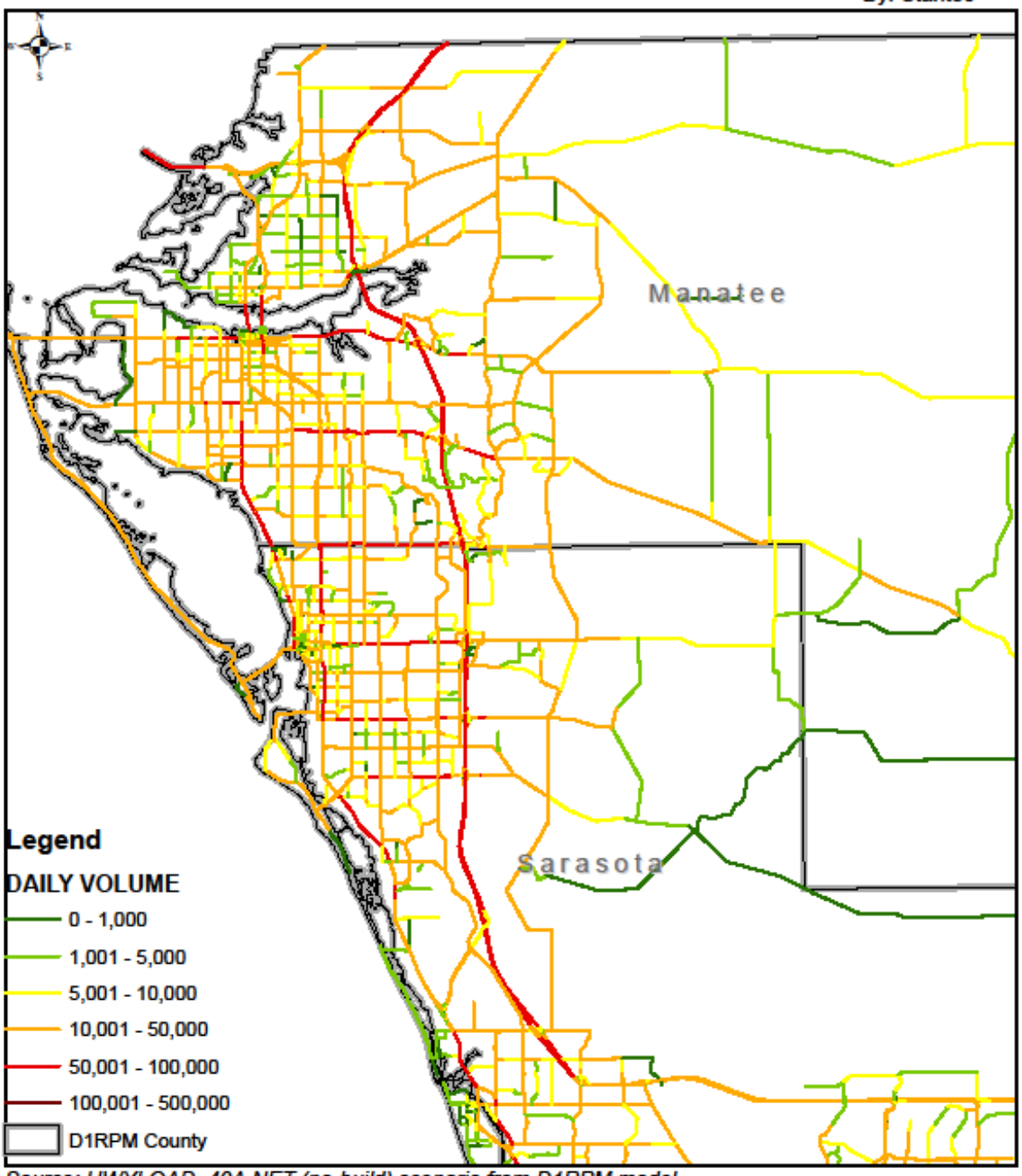
Following maps shows the 2040 no-build model volumes by county.

D1RPM 2040 No-Build

Manatee County - Daily Volumes

Date: 4/22/2020
By: Stantec

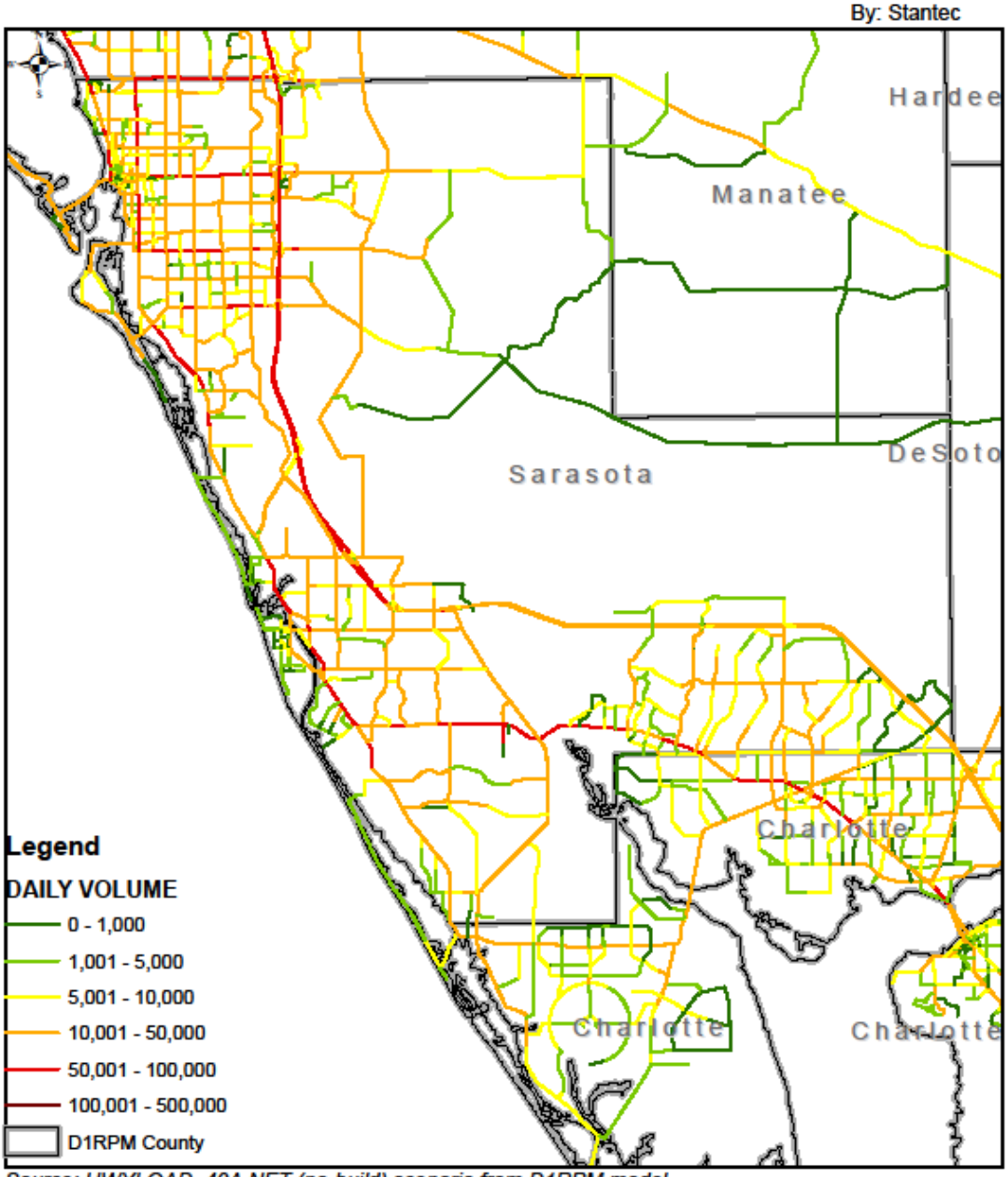


Source: HWYLOAD_40A.NET (no-build) scenario from D1RPM model

D1RPM 2040 No-Build

Sarasota County - Daily Volumes

Date: 4/22/2020
By: Stantec

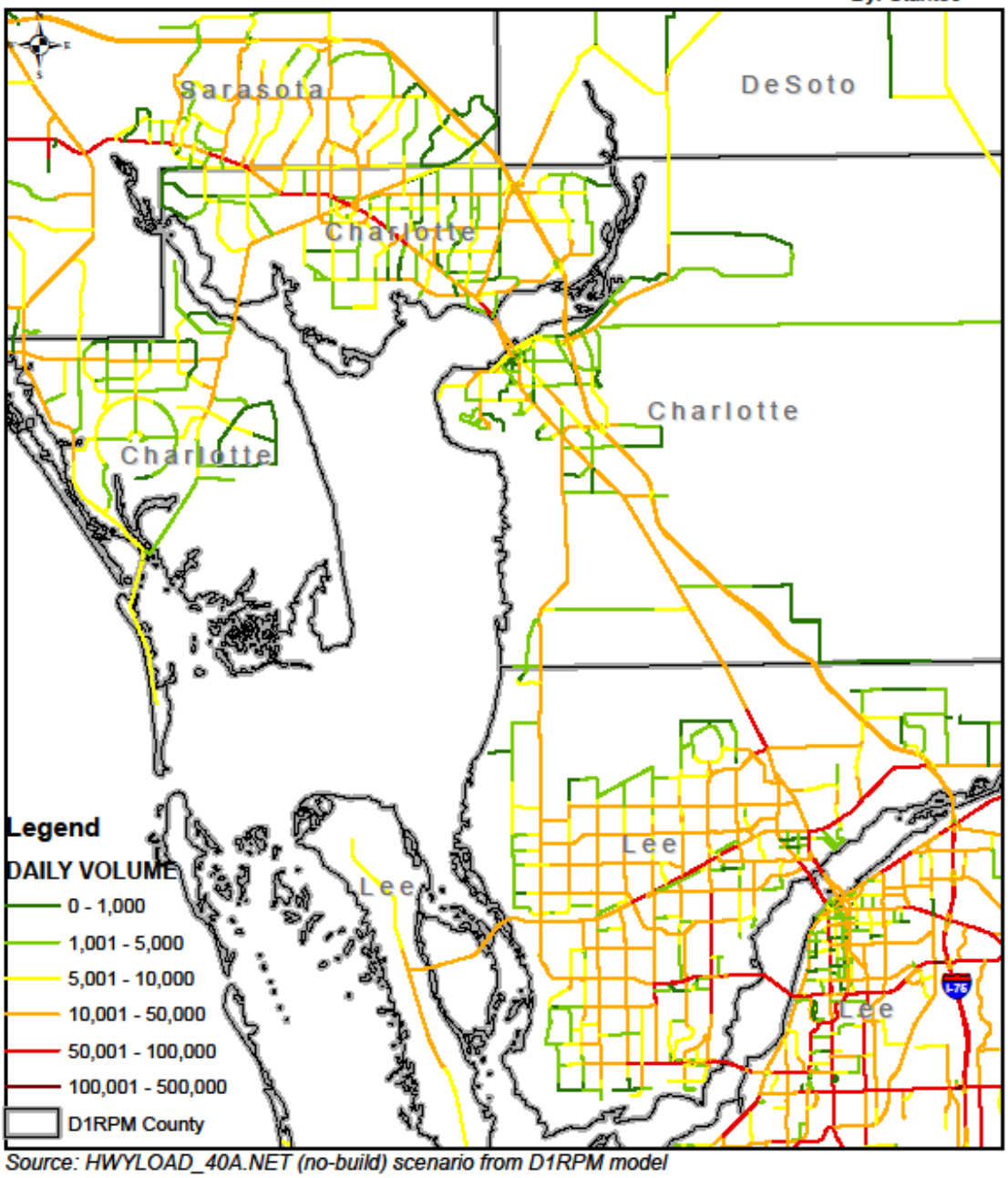


Source: HWYLOAD_40A.NET (no-build) scenario from D1RPM model

D1RPM 2040 No-Build

Charlotte County - Daily Volumes

Date: 4/22/2020
By: Stantec

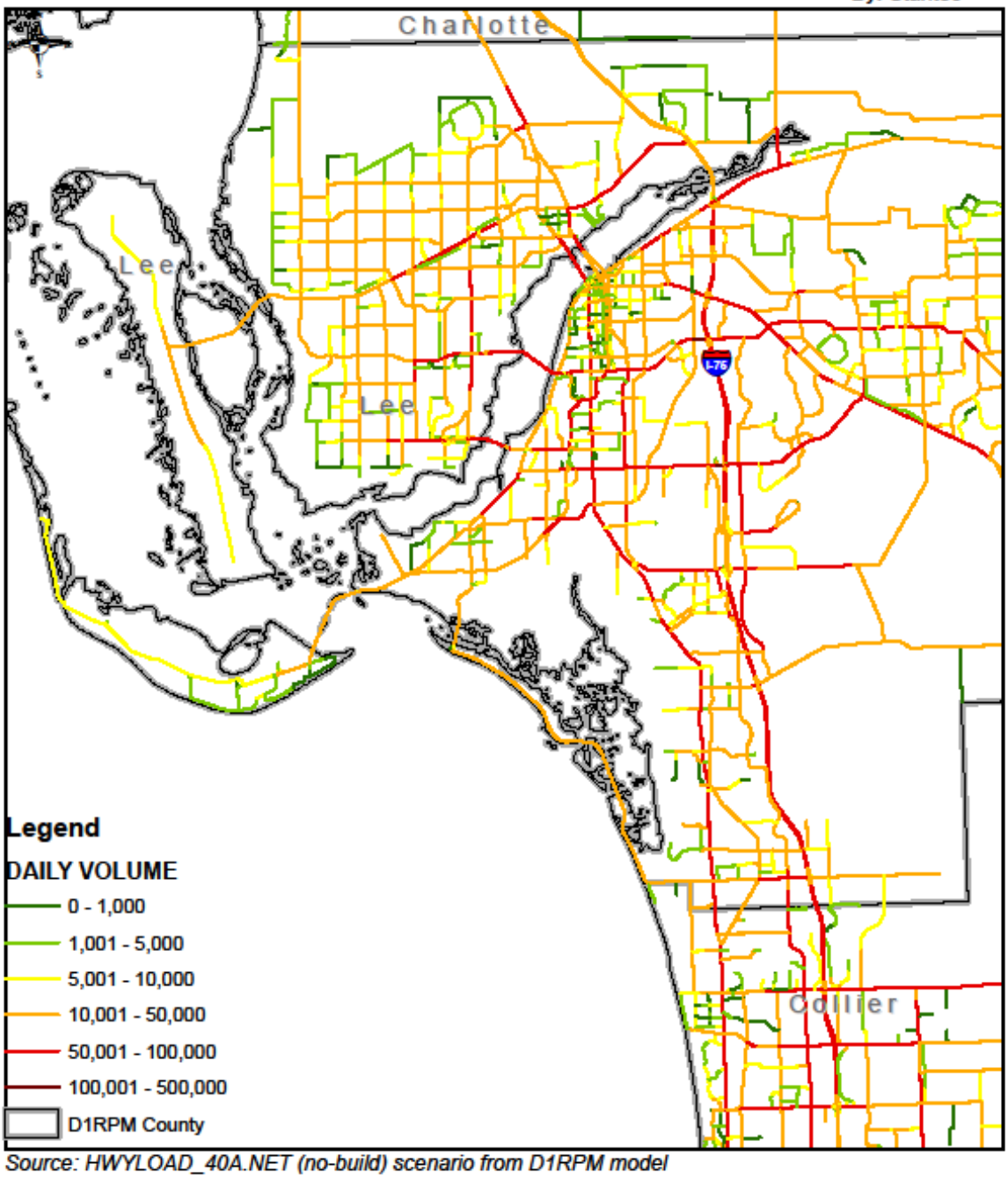


Source: HWYLOAD_40A.NET (no-build) scenario from D1RPM model

D1RPM 2040 No-Build

Lee County - Daily Volumes

Date: 4/22/2020
By: Stantec

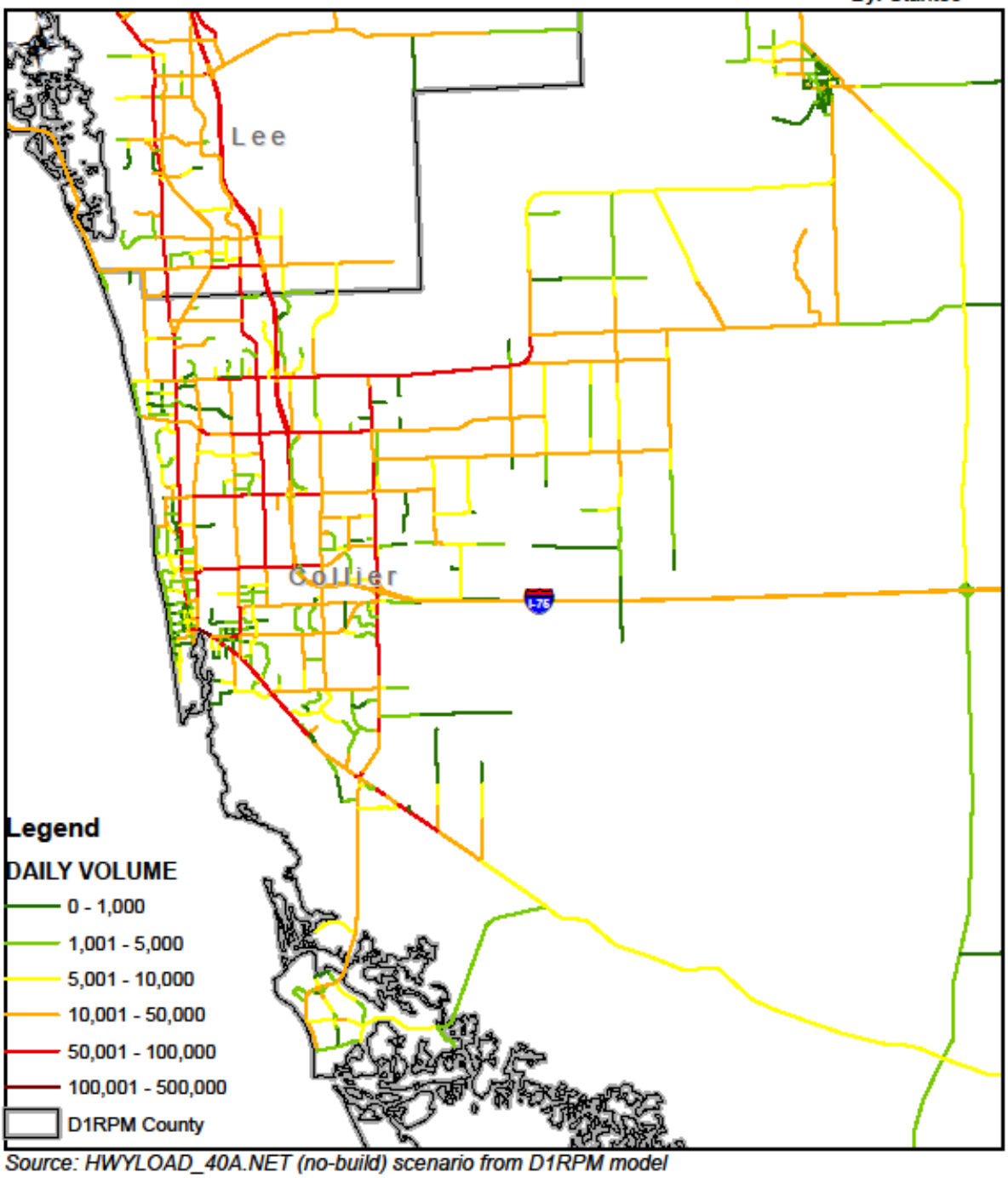


Source: HWYLOAD_40A.NET (no-build) scenario from D1RPM model

D1RPM 2040 No-Build

Collier County - Daily Volumes

Date: 4/22/2020
By: Stantec



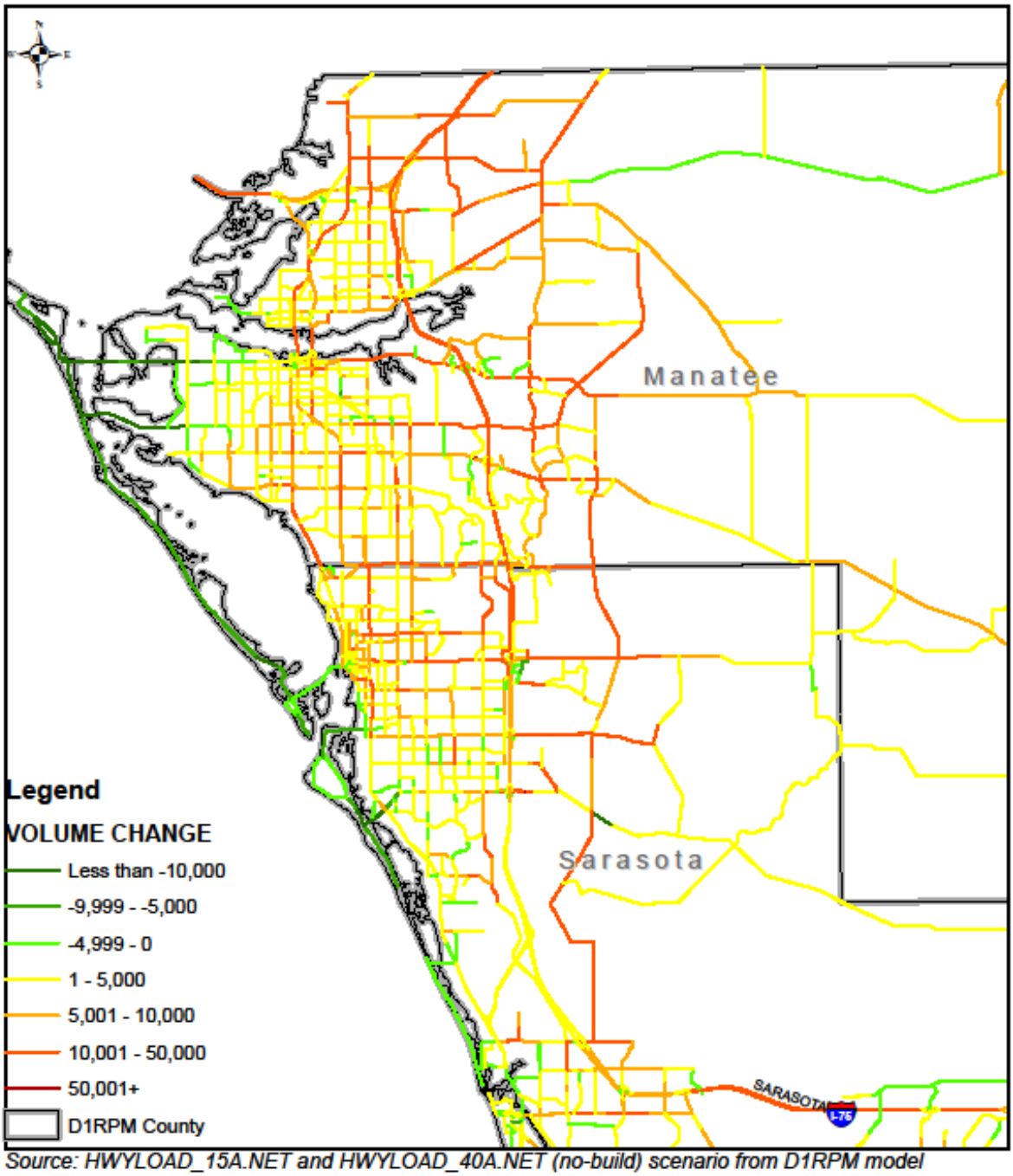
Source: HWYLOAD_40A.NET (no-build) scenario from D1RPM model

Following maps shows the change in model volumes from 2015 to 2040 by county.

D1RPM 2040 No-Build Volumes

Manatee County - Change from 2015 to 2040

Date: 4/22/2020
By: Stantec

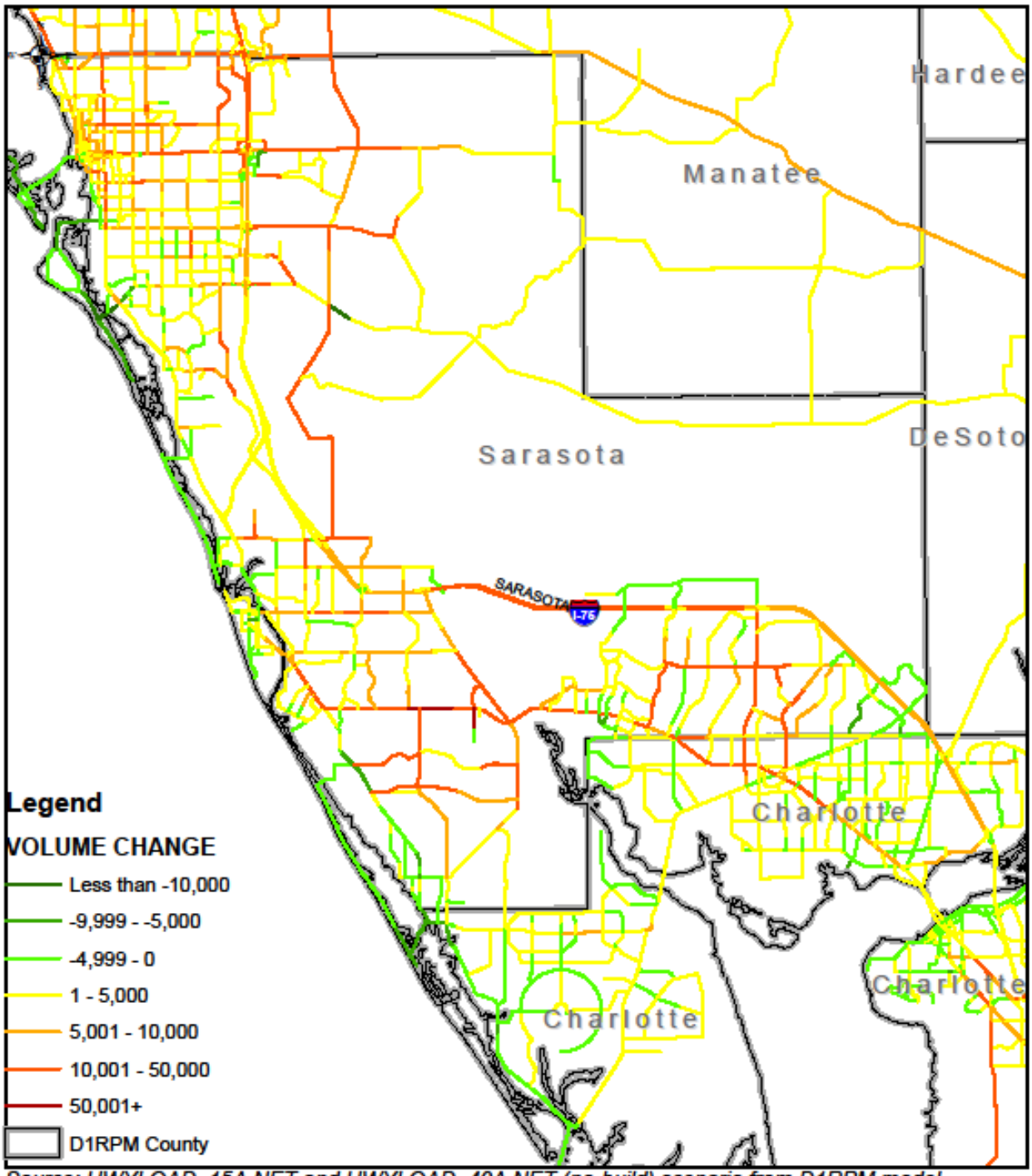


Source: HWYLOAD_15A.NET and HWYLOAD_40A.NET (no-build) scenario from D1RPM model

D1RPM 2040 No-Build Volumes

Sarasota County - Change from 2015 to 2040

Date: 4/22/2020
By: Stantec

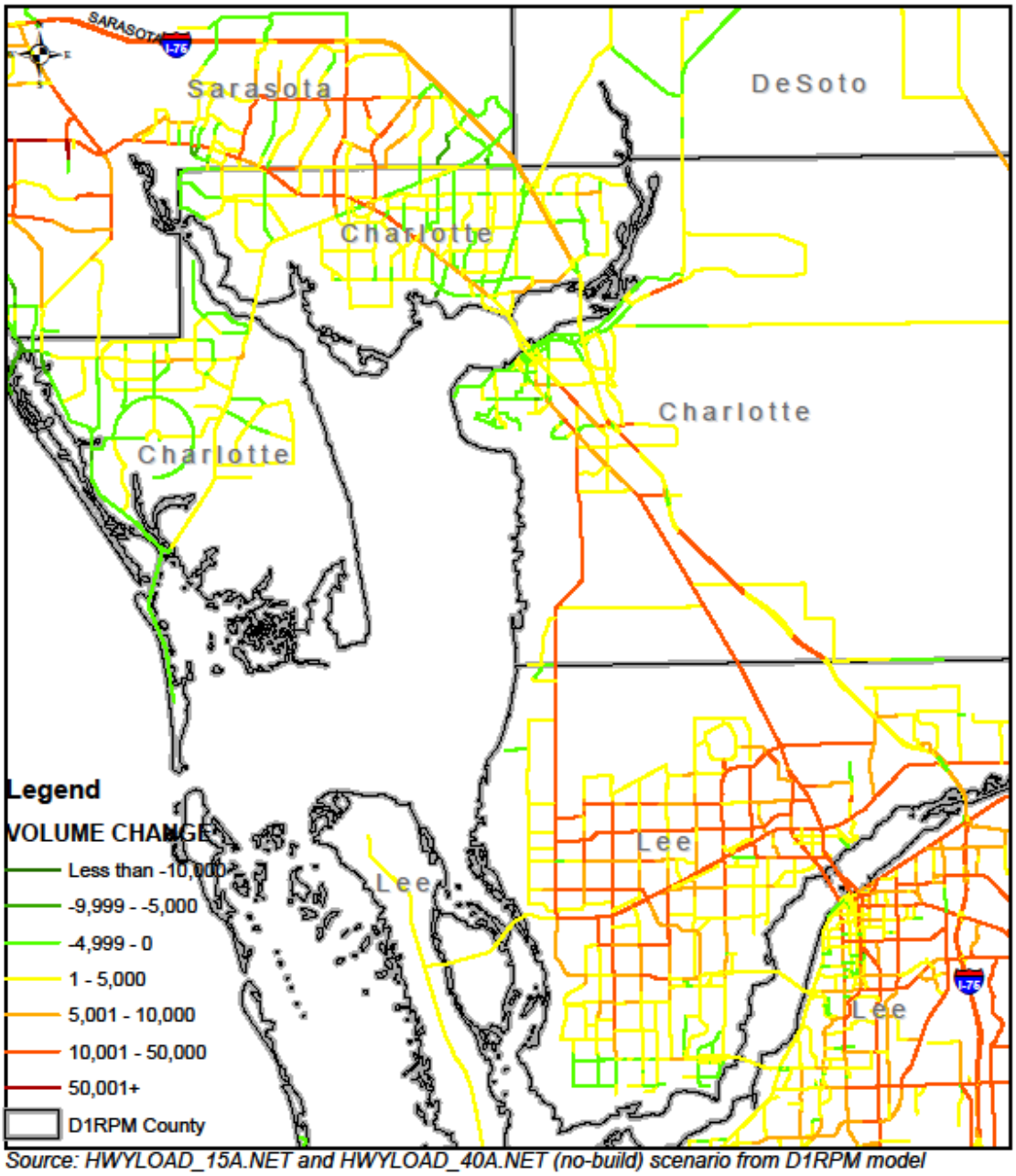


Source: HWYLOAD_15A.NET and HWYLOAD_40A.NET (no-build) scenario from D1RPM model

D1RPM 2040 No-Build Volumes

Charlotte County - Change from 2015 to 2040

Date: 4/22/2020
By: Stantec

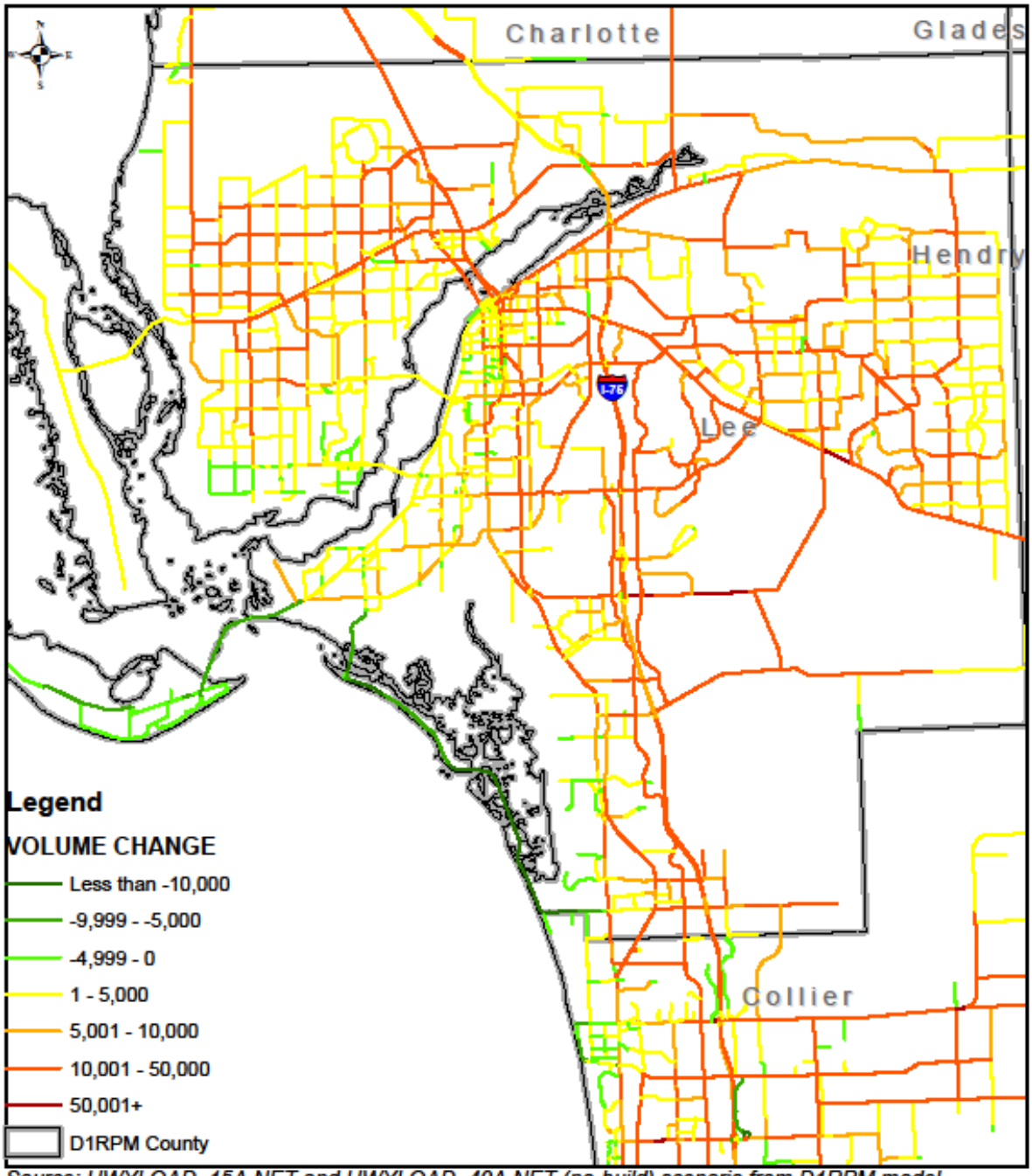


Source: HWYLOAD_15A.NET and HWYLOAD_40A.NET (no-build) scenario from D1RPM model

D1RPM 2040 No-Build Volumes

Lee County - Change from 2015 to 2040

Date: 4/22/2020
By: Stantec

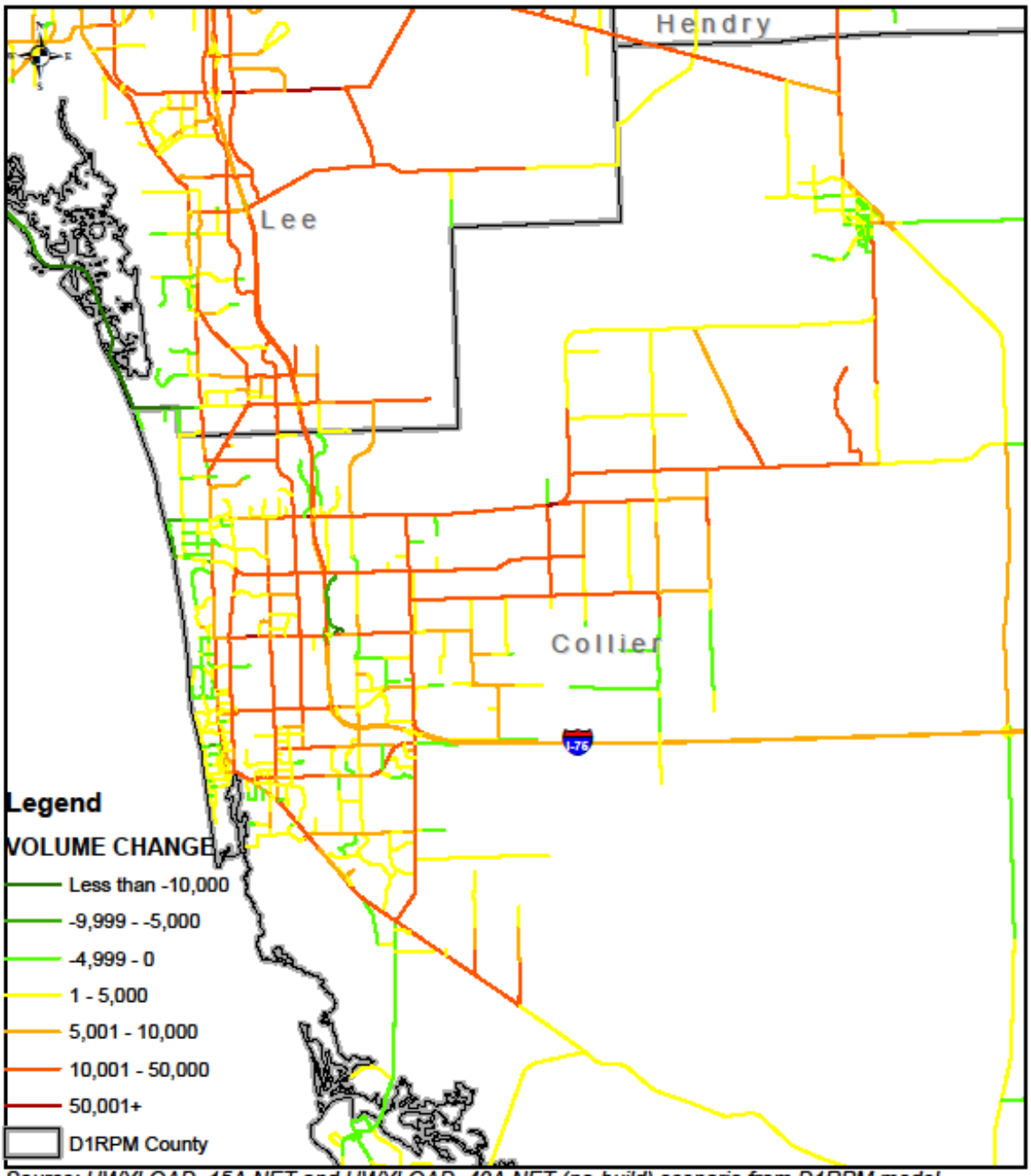


Source: HWYLOAD_15A.NET and HWYLOAD_40A.NET (no-build) scenario from D1RPM model

D1RPM 2040 No-Build Volumes

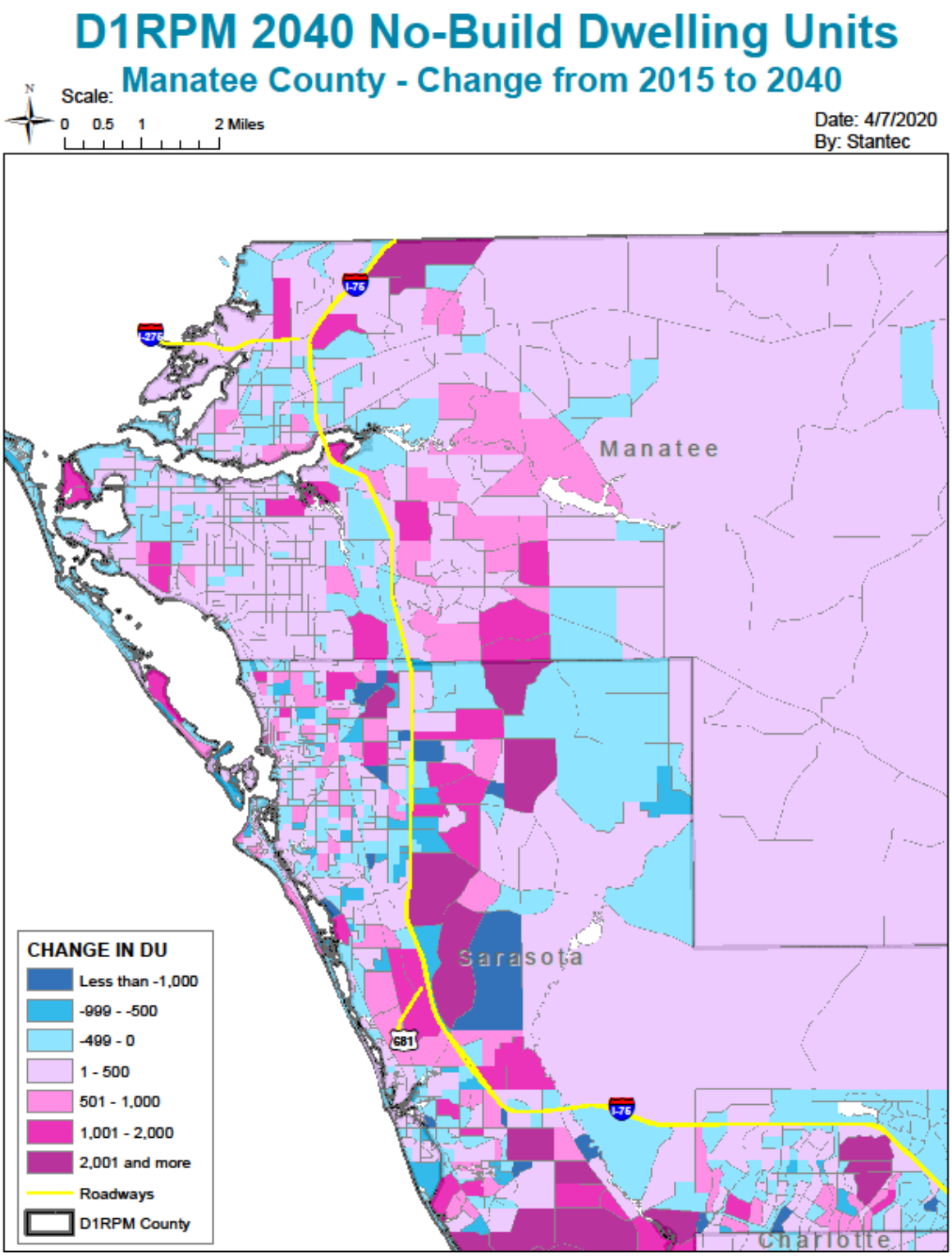
Collier County - Change from 2015 to 2040

Date: 4/22/2020
By: Stantec



Source: HWYLOAD_15A.NET and HWYLOAD_40A.NET (no-build) scenario from D1RPM model

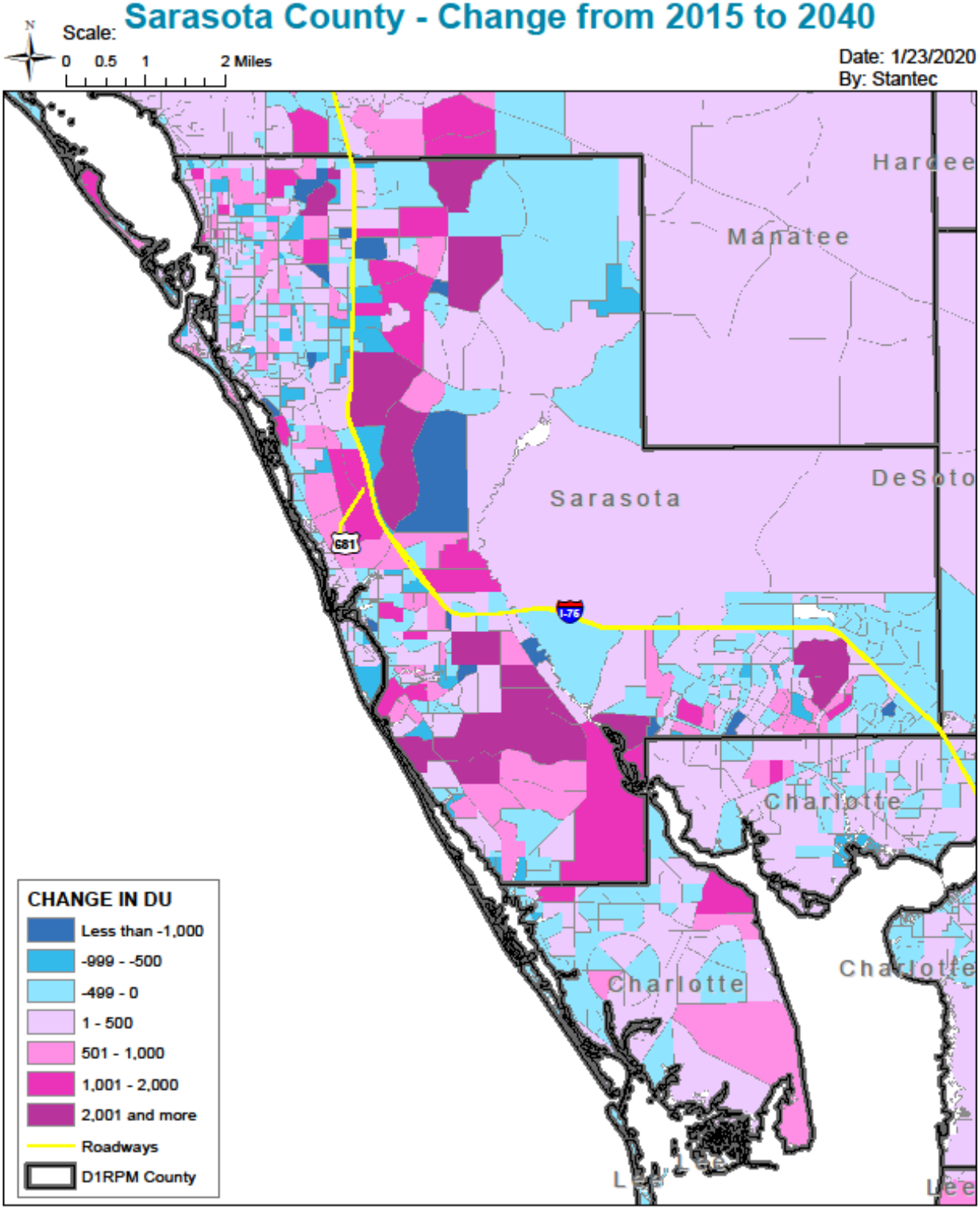
Below maps shows the change in total dwelling units from 2015 to 2040 (no-build scenario) by county:



Source: ZONEDATA_15A.DBF and ZONEDATA_40A.DBF (no-build) scenario from D1RPM model

D1RPM 2040 No-Build Dwelling Units

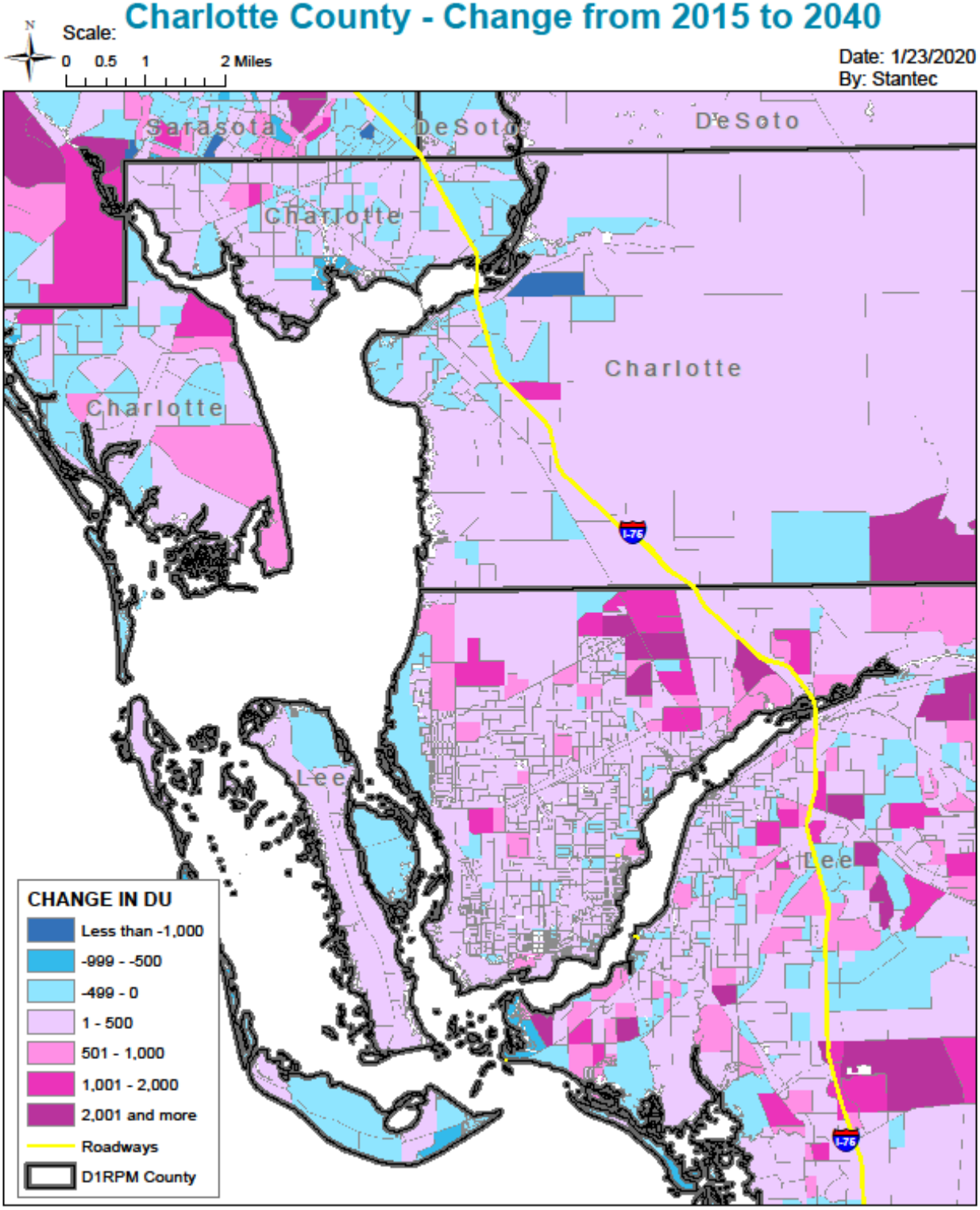
Sarasota County - Change from 2015 to 2040



Source: ZONEDATA_15A.DBF and ZONEDATA_40A.DBF (no-build) scenario from D1RPM model

D1RPM 2040 No-Build Dwelling Units

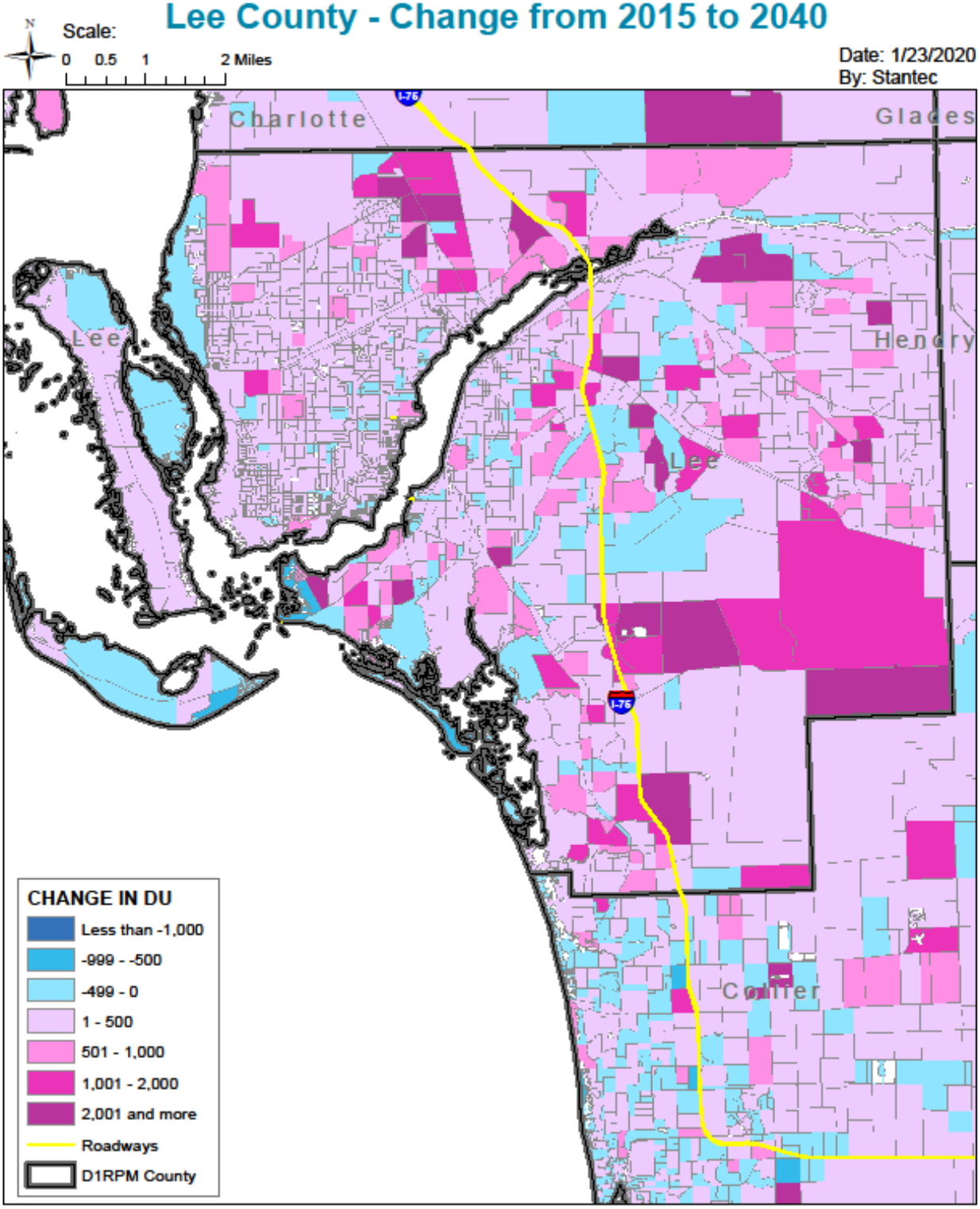
Charlotte County - Change from 2015 to 2040



Source: ZONEDATA_15A.DBF and ZONEDATA_40A.DBF (no-build) scenario from D1RPM model

D1RPM 2040 No-Build Dwelling Units

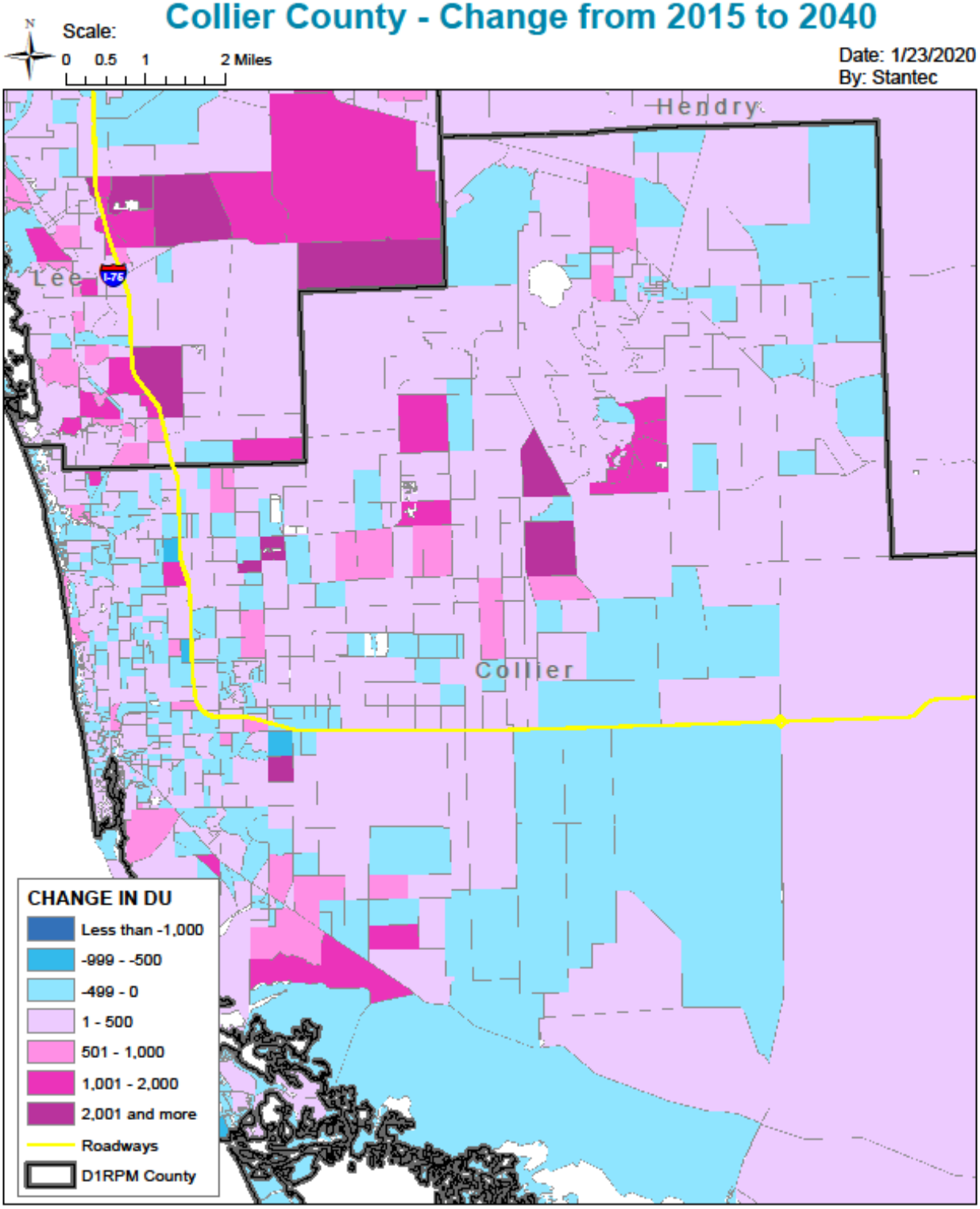
Lee County - Change from 2015 to 2040



Source: ZONEDATA_15A.DBF and ZONEDATA_40A.DBF (no-build) scenario from D1RPM model

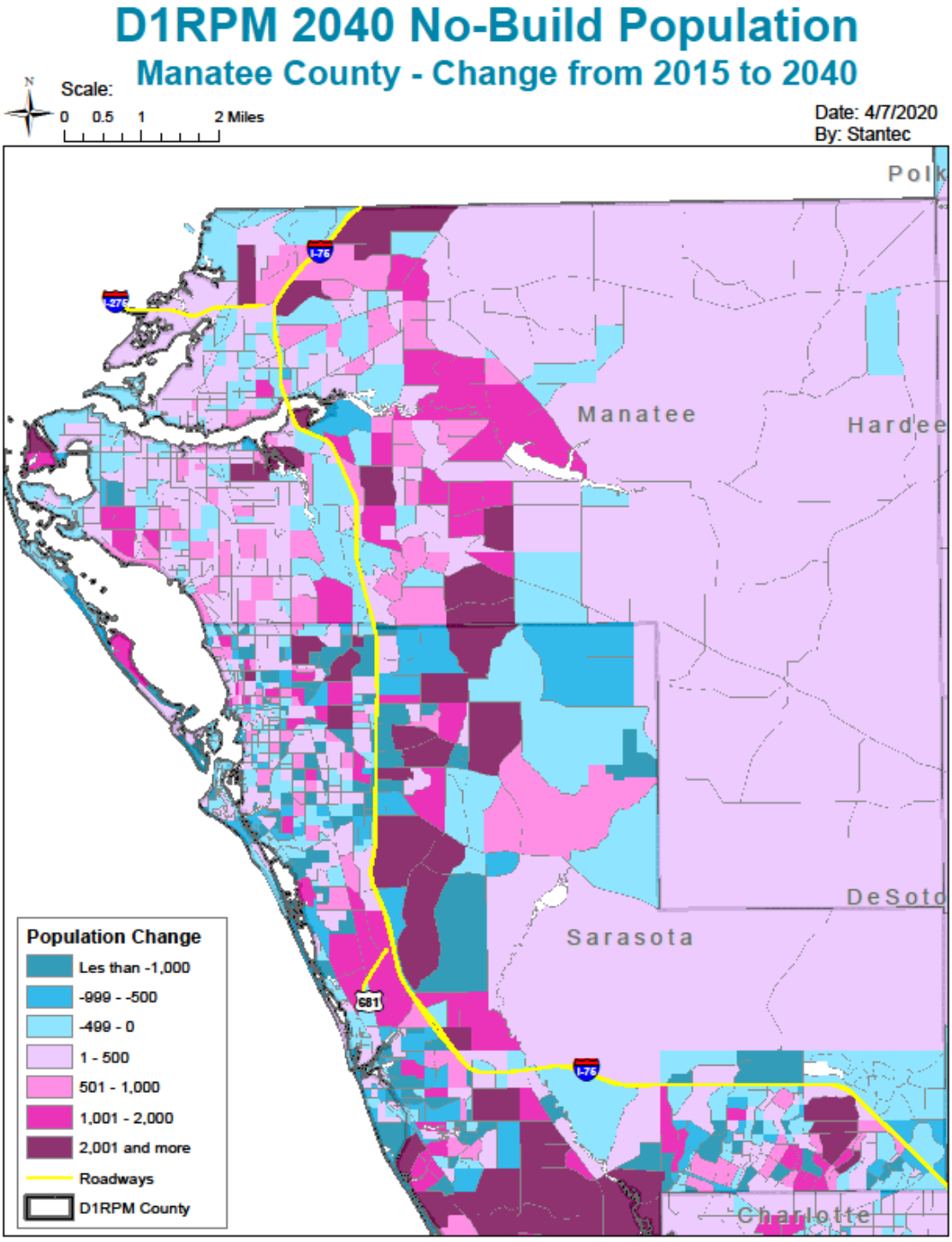
D1RPM 2040 No-Build Dwelling Units

Collier County - Change from 2015 to 2040



Source: ZONEDATA_15A.DBF and ZONEDATA_40A.DBF (no-build) scenario from D1RPM model

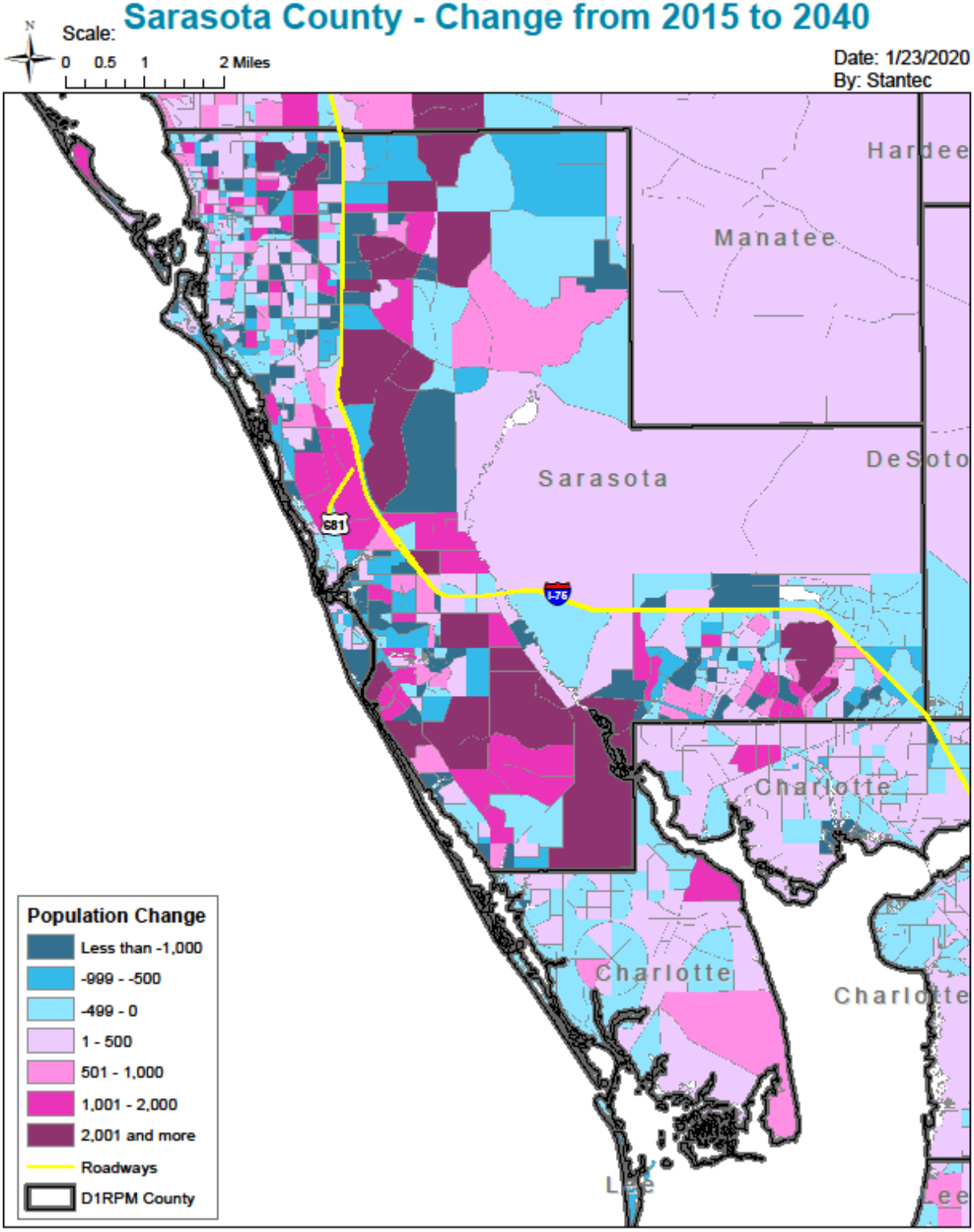
Below maps shows the change in total population units from 2015 to 2040 (no-build scenario) by county:



Source: ZONEDATA_15A.DBF and ZONEDATA_40A.DBF (no-build) scenario from D1RPM model

D1RPM 2040 No-Build Population

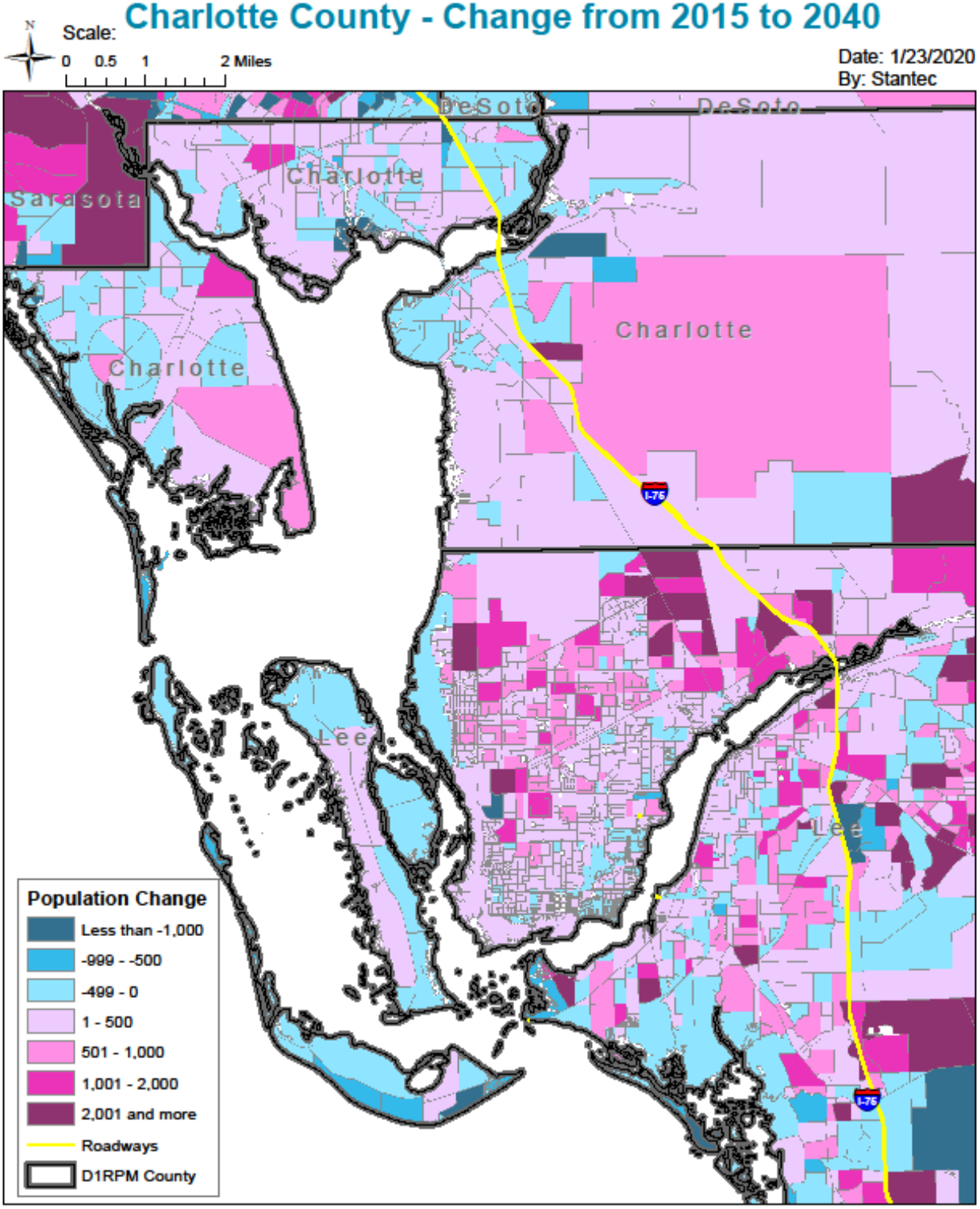
Sarasota County - Change from 2015 to 2040



Source: ZONEDATA_15A.DBF and ZONEDATA_40A.DBF (no-build) scenario from D1RPM model

D1RPM 2040 No-Build Population

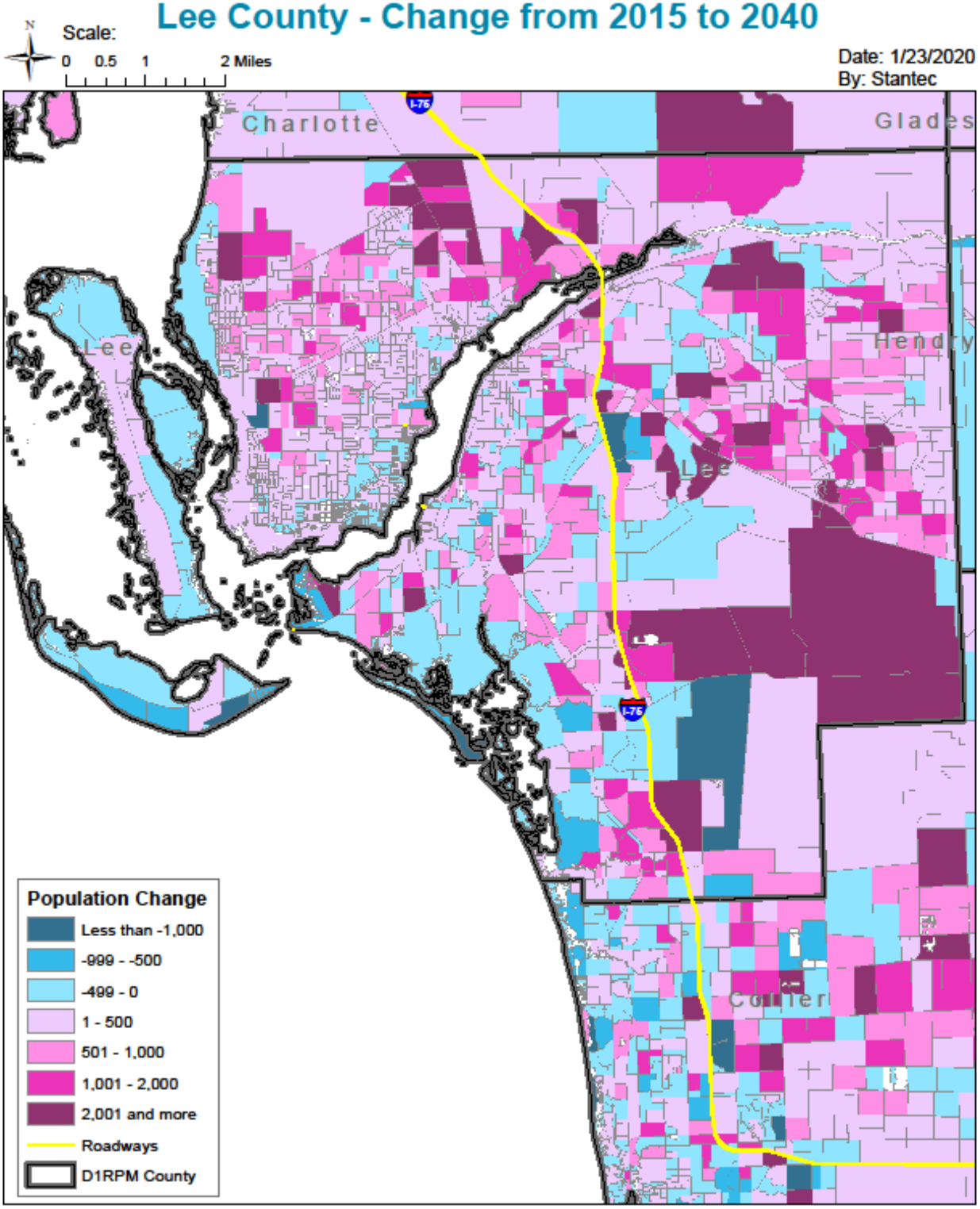
Charlotte County - Change from 2015 to 2040



Source: ZONEDATA_15A.DBF and ZONEDATA_40A.DBF (no-build) scenario from D1RPM model

D1RPM 2040 No-Build Population

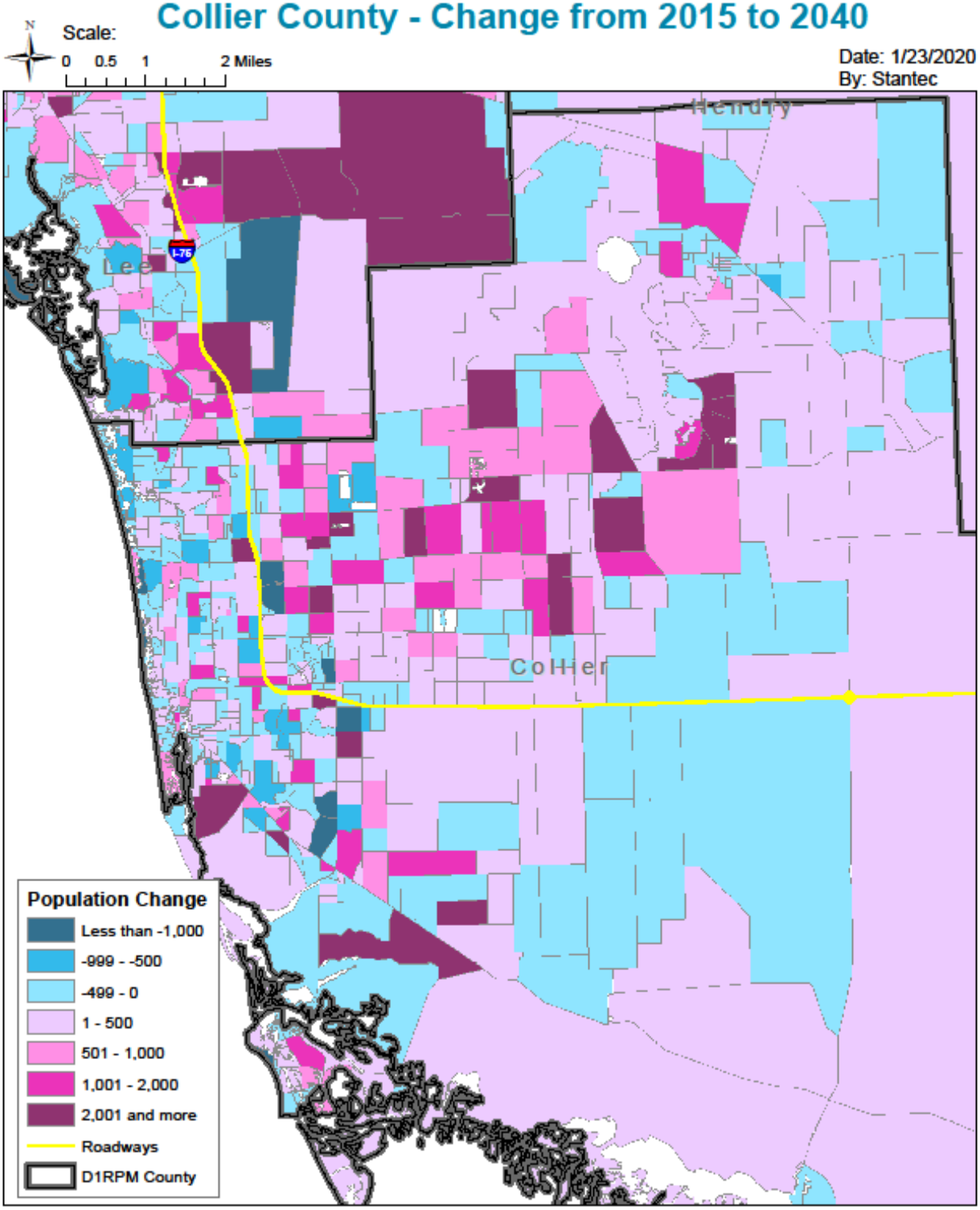
Lee County - Change from 2015 to 2040



Source: ZONEDATA_15A.DBF and ZONEDATA_40A.DBF (no-build) scenario from D1RPM model

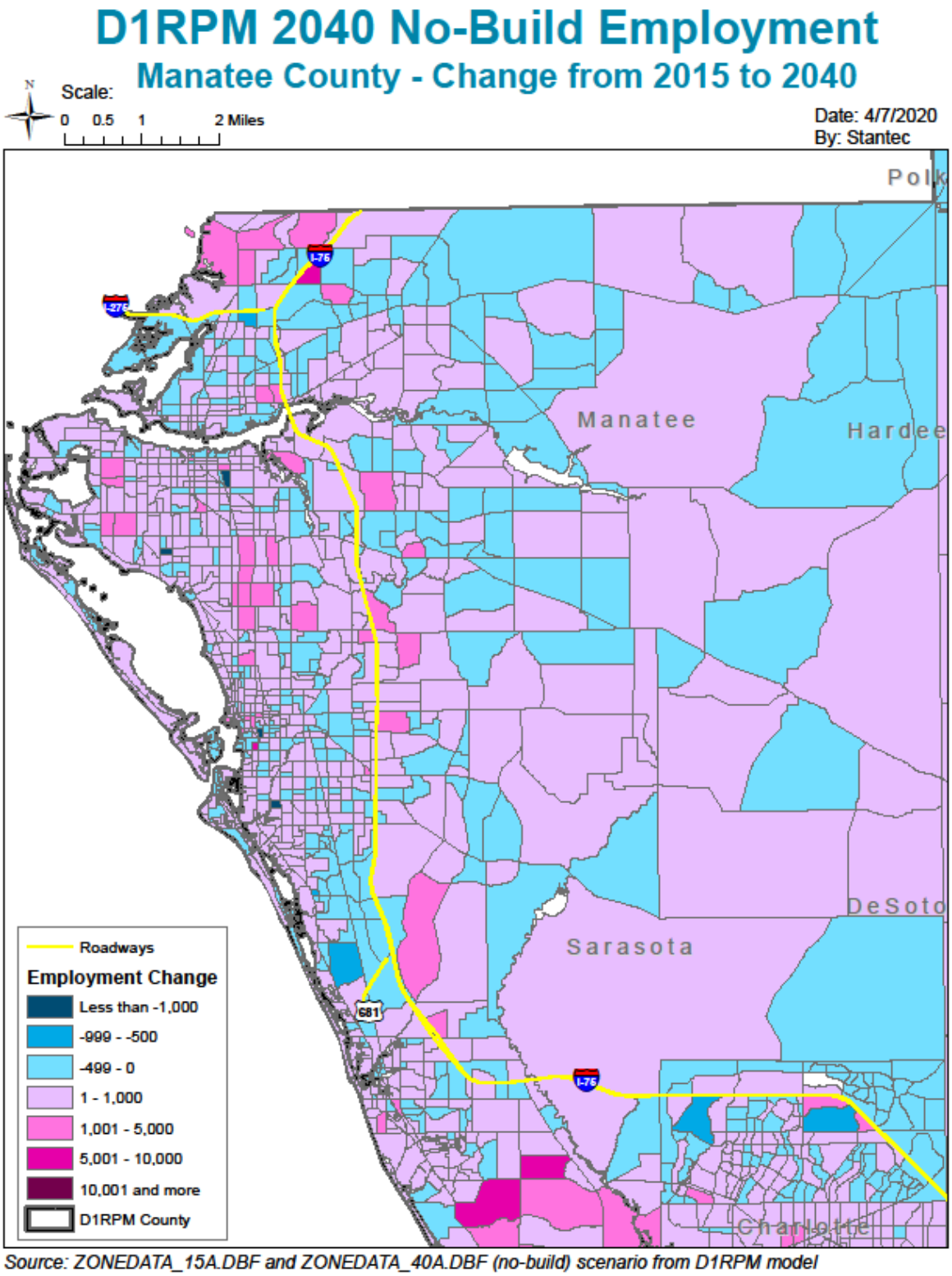
D1RPM 2040 No-Build Population

Collier County - Change from 2015 to 2040



Source: ZONEDATA_15A.DBF and ZONEDATA_40A.DBF (no-build) scenario from D1RPM model

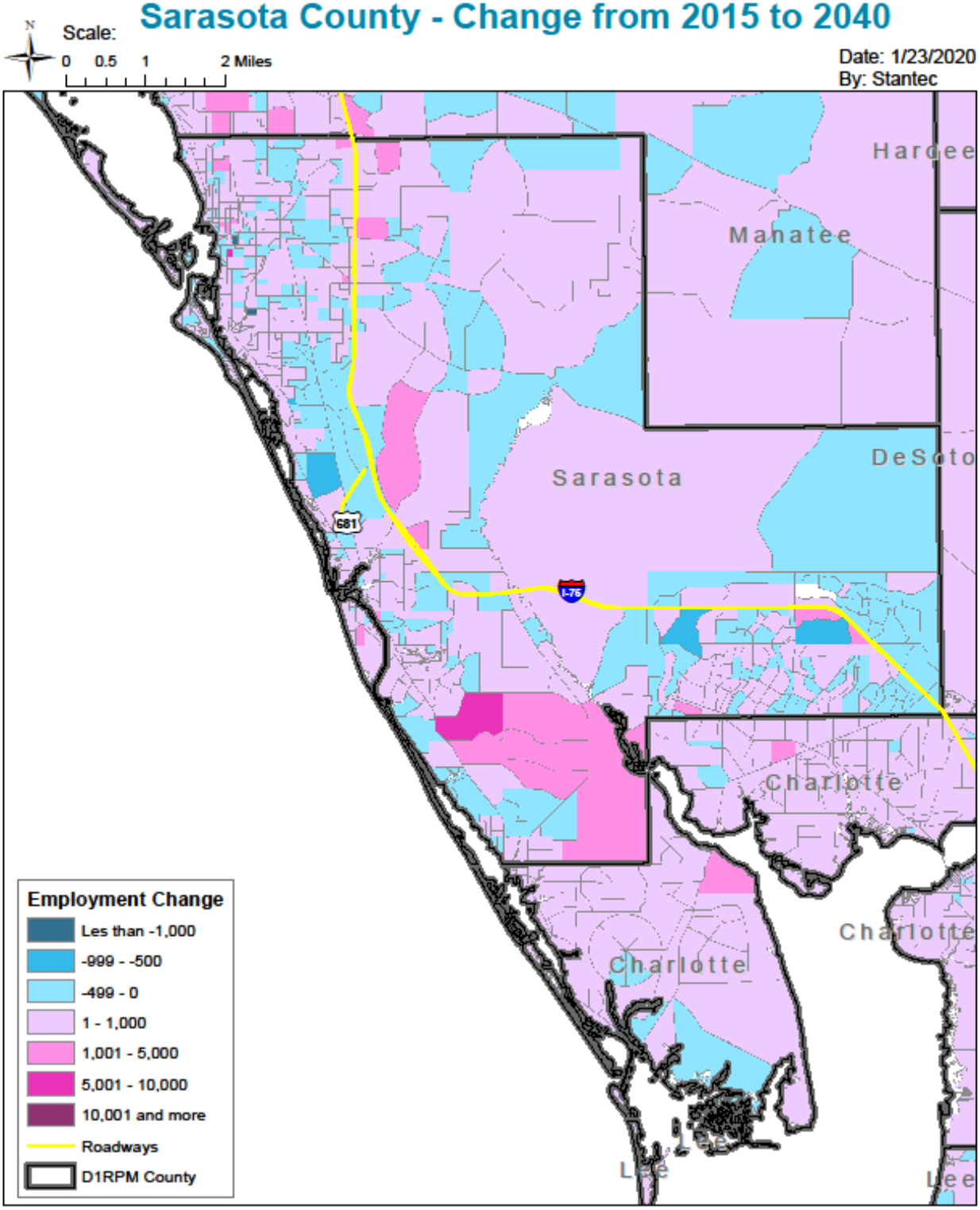
Below maps shows the change in total employment from 2015 to 2040 (no-build scenario) by county:



Source: ZONEDATA_15A.DBF and ZONEDATA_40A.DBF (no-build) scenario from D1RPM model

D1RPM 2040 No-Build Employment

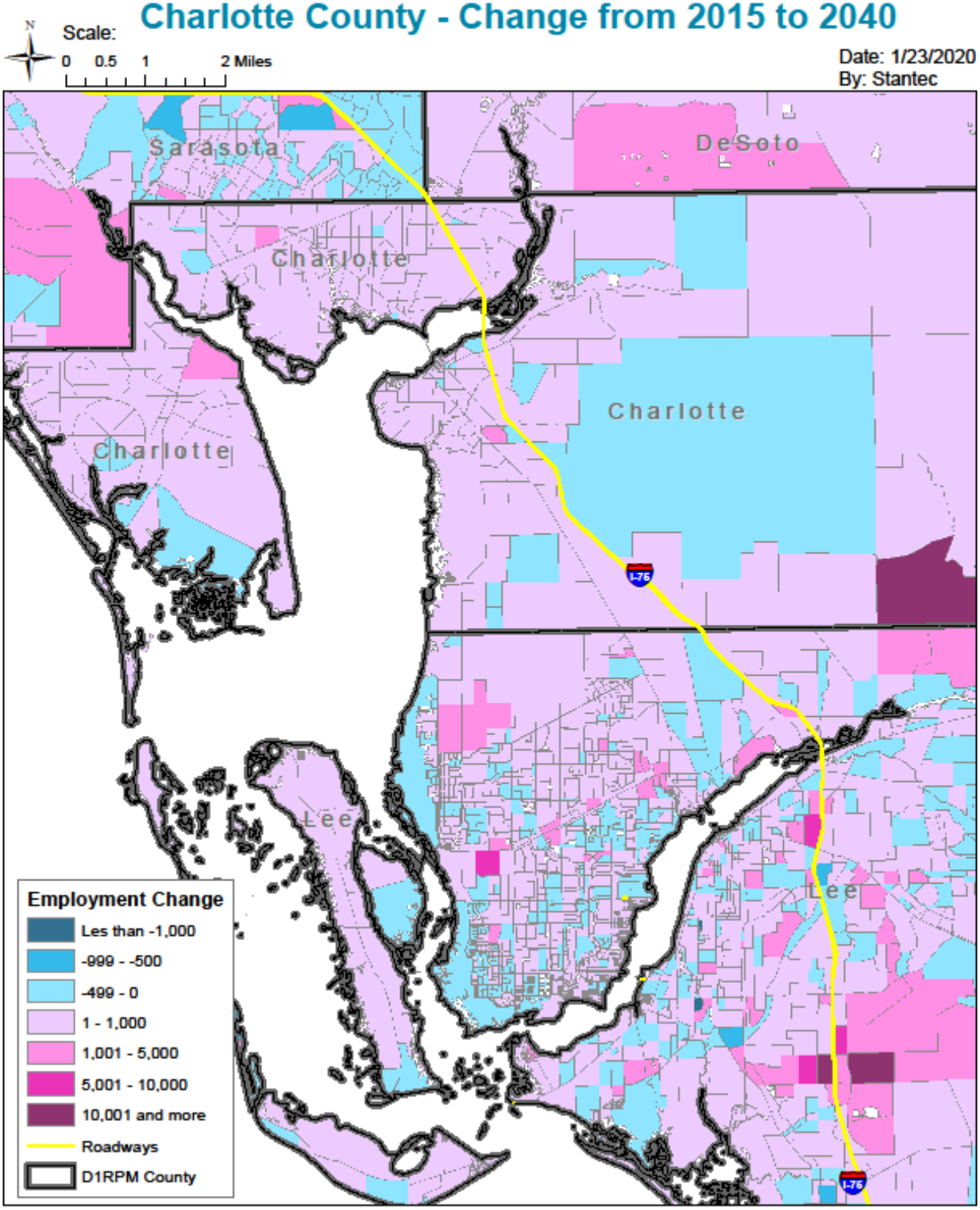
Sarasota County - Change from 2015 to 2040



Source: ZONEDATA_15A.DBF and ZONEDATA_40A.DBF (no-build) scenario from D1RPM model

D1RPM 2040 No-Build Employment

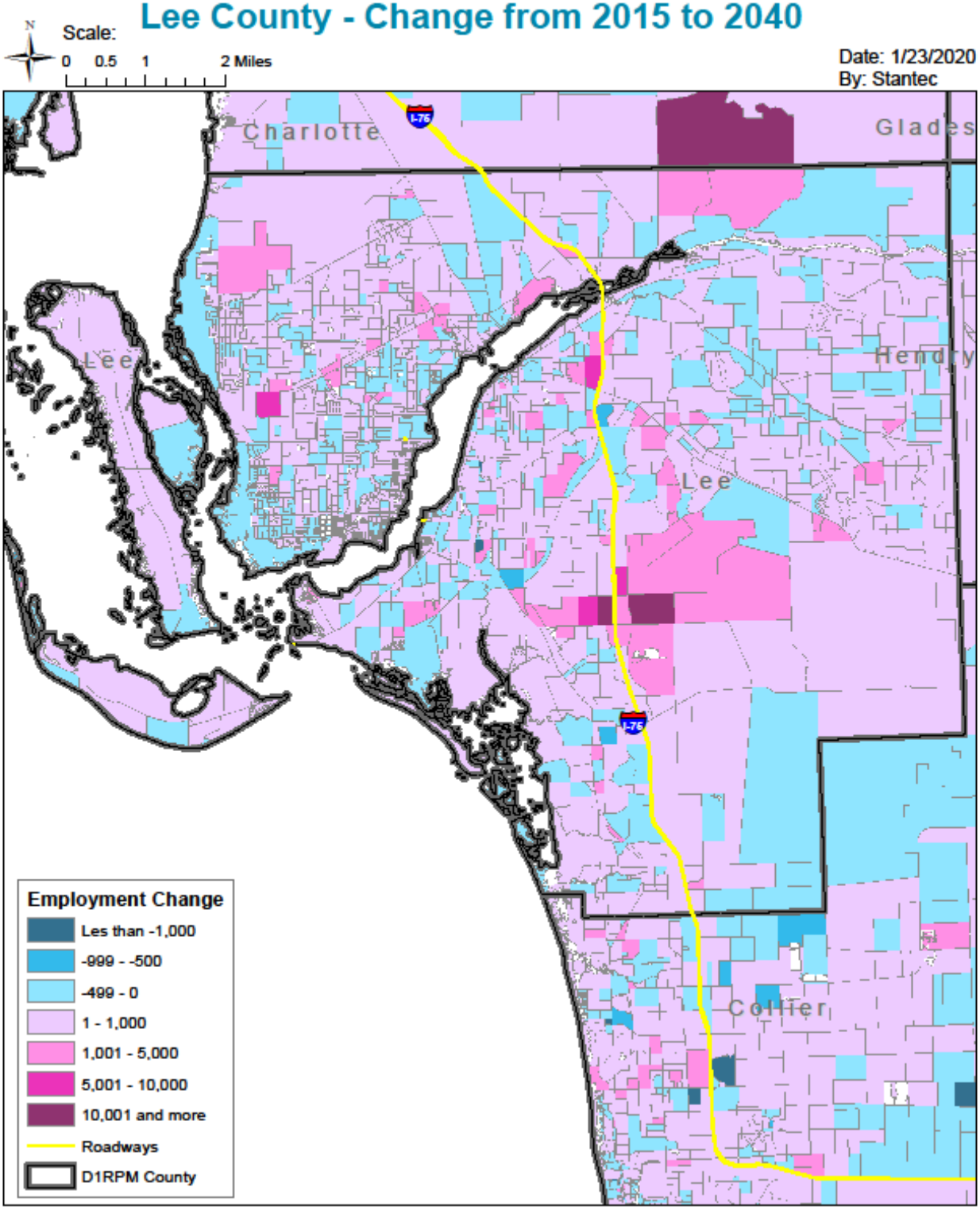
Charlotte County - Change from 2015 to 2040



Source: ZONEDATA_15A.DBF and ZONEDATA_40A.DBF (no-build) scenario from D1RPM model

D1RPM 2040 No-Build Employment

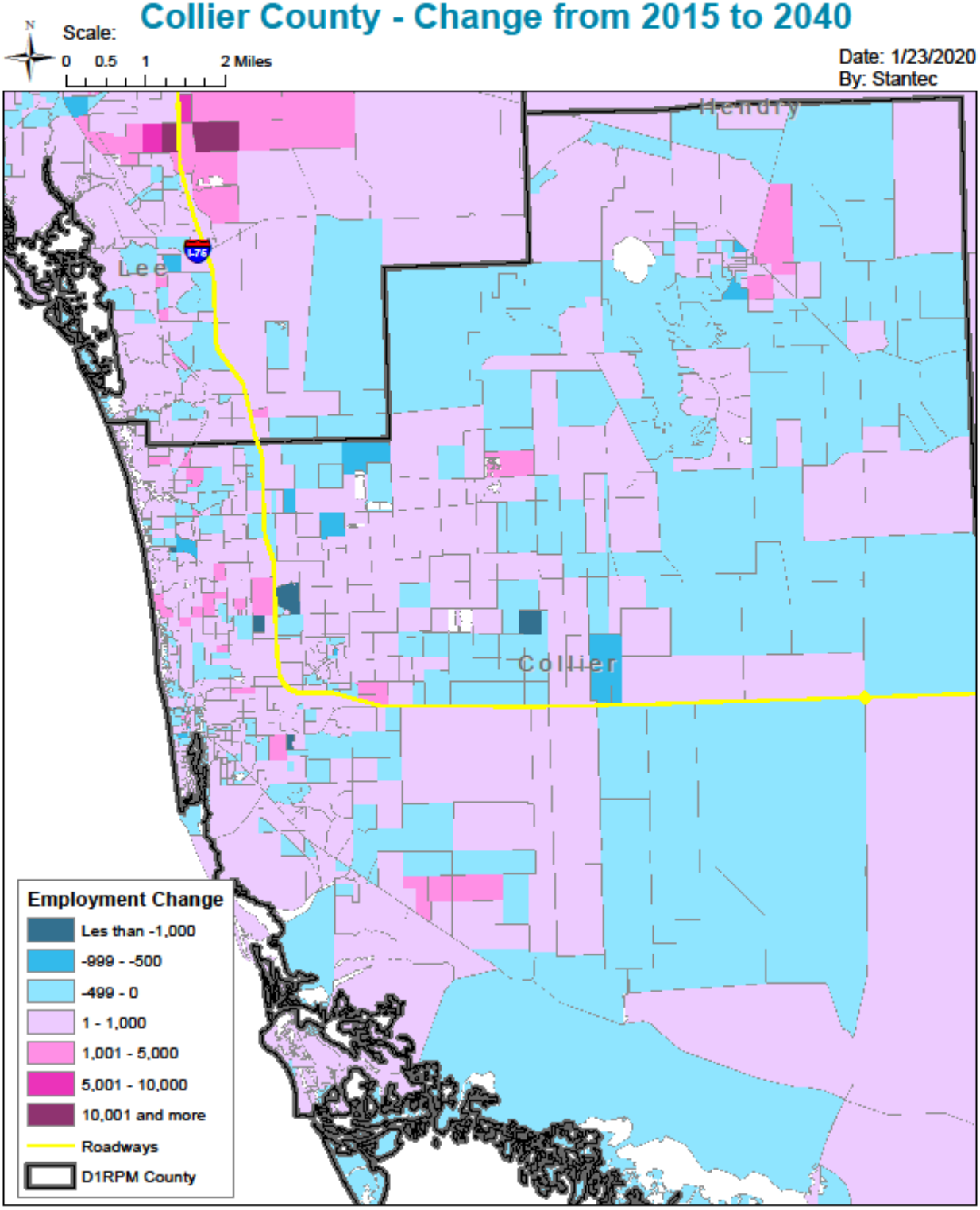
Lee County - Change from 2015 to 2040



Source: ZONEDATA_15A.DBF and ZONEDATA_40A.DBF (no-build) scenario from D1RPM model

D1RPM 2040 No-Build Employment

Collier County - Change from 2015 to 2040



Source: ZONEDATA_15A.DBF and ZONEDATA_40A.DBF (no-build) scenario from D1RPM model

Appendix D
No Build Future Volumes Memo

I-75 North Corridor Master Plan

I-75 from Moccasin Wallow Road to River Road

No Build Volume Development Memorandum

December 2021

PREPARED FOR:

FLORIDA DEPARTMENT OF TRANSPORTATION – DISTRICT ONE

PREPARED BY:

H. W. Lochner, Inc.

FINANCIAL PROJECT IDENTIFICATION (FPID) NO. 442518-1-12-01

ETDM No. 14399

FLORIDA DEPARTMENT OF TRANSPORTATION – DISTRICT ONE
801 N. BROADWAY AVENUE, BARTOW, FL 33830
www.SWFLINTERSTATES.com

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Appendices

No Build Volume Development Memo Appendix Relocation:

The appendices originally included as part of this memo (the No Build Volume Development Memo) have been moved to other appendices within the report to mitigate the redundancy of common information between documents (No Build Volume Development Memo appendices, the Build Volume Development Memo appendices, and the I-75 North Corridor Future Conditions Traffic Technical Memo report body). The original appendices have been relocated as follows.

Appendix A (Traffic Forecast Methodology) information from the No Build Volume Development Memo is now included in Appendix A of the I-75 North Corridor Future Conditions Traffic Technical Memo.

Appendix B (2019 Florida Traffic Online Historical Count Data) information from the No Build Volume Development Memo is now included in Appendix E of the I-75 North Corridor Future Conditions Traffic Technical Memo.

Appendix C (2019 Bureau of Economic and Business Research – Population Forecasts) information from the No Build Volume Development Memo is now included in Appendix E of the I-75 North Corridor Future Conditions Traffic Technical Memo.

Appendix D (Intersection Approach DDHV and Growth Consistency Check) information from the No Build Volume Development Memo is now included in Appendix F of the I-75 North Corridor Future Conditions Traffic Technical Memo.

Appendix E (Design Year 2045 No Build AADT and Lane Geometry) information from the No Build Volume Development Memo is now included in Section 3.0 of the I-75 North Corridor Future Conditions Traffic Technical Memo.

Appendix F (Design Year 2045 No Build DDHVs) information from the No Build Volume Development Memo is now included in Section 3.0 of the I-75 North Corridor Future Conditions Traffic Technical Memo.

Appendix G (Streetlight Distribution Comparison) information from the No Build Volume Development Memo is now included in Appendix G of the I-75 North Corridor Future Conditions Traffic Technical Memo.

Acronyms and Abbreviations

AADT	Annual Average Daily Traffic
APLUS	Aerial Photo Look Up System
CARS	Crash Analysis Reporting System
CAT	Collier Area Transit
CR	County Road
D1RPM	District One Regional Planning Model
DDHV	Directional Design Hour Volume
DTA	Dynamic Traffic Assignment
FDM	Florida Design Manual
FDOT	Florida Department of Transportation
FGDL	Florida Geographic Data Library
FHWA	Federal Highway Administration
FY	Fiscal Year
GEH	Gregory E. Hovers
GIS	Geographic Information System
GPS	Global Positioning System
HCM	Highway Capacity Manual
HSM	Highway Safety Manual
LABINS	Land Boundary Information System
LeeTran	Lee County Transit Service
LOS	Level of Service
LRTP	Long Range Transportation Plan
MOA	Memorandum of Agreement
MPH	Miles Per Hour
MPO	Metropolitan Planning Organization
OD	Origin-Destination
PD&E	Project Development and Environment
RBC	Ring Barrier Controller

RCI	Roadway Characteristic Inventory
RITIS	Regional Integrated Transportation Information System
ROW	Right-of-Way
RTOR	Right-Turn-On-Red
SHS	State Highway System
SIS	Strategic Intermodal System
SLD	Straight Line Diagram
SR	State Road
STIP	State Transportation Improvement Program
TIP	Transportation Improvement Program
TMC	Turning Movement Count
V/C	Volume to Capacity
VPH	Vehicles Per Hour
Sec	second
Veh	vehicle

1.0 Volume Development

1.1 Volume Development Process

The approved existing year 2019 demand volumes previously approved by the Florida Department of Transportation (FDOT) District 1 and travel demand model outputs from the FDOT provided Southwest Connect District 1 Regional Planning Model (D1RPM) version 1.0.6 served as the primary source to produce forecast volumes for the I-75 Southwest Connect North Corridor study area, as depicted in Figure 1.1. The FDOT provided Southwest Connect D1RPM, with a Base Year 2015, reflected the 2045 MPO Cost-Feasible network enhancements and yielded Horizon Year 2040 network demand model outputs. Model output conversion (MOCF) factors, sourced from 2019 Florida Traffic Online (FTO), were applied to the D1RPM PSWADT values to produce AADT values. A MOCF factor of 0.92 was used for Manatee County and a MOCF factor of 0.88 was used for Sarasota County. The D1RPM model outputs were adjusted using the average of the difference and ratio methods, as observed through comparison of FDOT approved existing year 2019 AADTs and D1RPM interpolated 2019 AADTs. This process is consistent with the 2019 FDOT Project Traffic Forecasting Handbook and National Cooperative Highway Research Program (NCHRP) Report 765 Analytical Travel Forecasting Approaches for Project-Level Planning and Design. The following resources were used as a check against the resulting NCHRP adjustments to ensure forecasting consistency:

- I-75 Southwest Connect D1RPM;
- 5-year 2019 FTO historical growth rates (2015 to 2019) (For I-75 mainline/ramps only); and
- Population growth forecasts from the 2019 Bureau of Economic and Business Research (BEBR).

Based upon a thorough review of the observed growth at each interchange and along mainline I-75, forecasts were adjusted to best reflect a combination of the increased network resolution presented by the study area and preserve forecasts from the FDOT provided D1RPM. Where roadway network was present within the D1RPM, an effort was made to preserve model demand and any modification made to those forecasts was noted. For any roadway links that were not present in the D1RPM (driveways, minor roads, neighborhood entrances, etc.), an examination of the interchange areas' weighted growth, historical trend data, or 2019 BEBR forecast was conducted. Based upon this review, a forecasting method recommendation was made and is documented. The resulting recommended growth rate was then used to extrapolate the data to the project Design Year 2045.

As with the existing year 2019 volume development process, Design Year 2045 peak hour volumes began by developing Directional Design Hour Volumes (DDHVs) at the network input zones using Design Year 2045 AADTs, K factor and D factor as observed under the existing conditions. Network input zones indicate roadway segments that act as network externals outside of the system, such as the northern and southern termini of I-75 and any links from the data collection effort that are not within our closed model network. The results of this procedure will provide initial AM and PM peak hour origins and destinations (OD) at each of the network input zones. Any new network connection's OD patterns are seeded by an examination of adjacent existing network connections with similar land use patterns. The network input AM and PM Design Year 2045 DDHVs and existing year 2019 OD matrices, along with new connection adjustments, are then loaded into the I-75 Southwest Connect North Corridor No-Build PTV Visum 17 network. Least square regression is used to smooth the unbalanced network input DDHVs and OD matrices to balance the system while ensuring minimal

variance to the DDHVs at network input zones, along the I-75 mainline, and ramps. The resulting network assignment is checked to ensure that all OD relationships and turning movements represent demand equal to or higher than the existing year 2019 demand.

As a check for forecast consistency at the AADT level, AM and PM peak hour link level DHVs are examined, and the highest volume from the two periods has an appropriate K-factor applied to yield an estimated daily demand. Any variance greater than 10 percent from the forecasted AADT and estimated AADT was checked and examined.

For ease of review, this report will examine forecasting and demand volumes at the I-75 mainline and interchange level in separate sections. Results for these sections are ordered to follow the logic presented within this document and focus on the mainline roadway segments and interchange level input zones.

The analysis as outlined is consistent with the FDOT approved forecasting methodology found in **Appendix A**. Forecasting consistency checks using 2019 FTO Historical Counts (on I-75 Mainline only) and 2019 BEBR population forecasts can be found in **Appendix B** and **Appendix C**, respectively. As this report presents network checks at network input zones, intersection level network checks for this analysis can be found in **Appendix D**. The resulting traffic figures for the I-75 Southwest Connect North Corridor area AADTs and DDHVs, can be found in **Appendix E** and **Appendix F**, respectively. A comparison of the distribution of the final origin-destination (O-D) matrices for the AM and PM peak hours to the collected Streetlight data is provided in **Appendix G**.

Figure 1.1 I-75 Southwest Connect North Corridor Study Area

2.0 I-75 Mainline Volumes

2.1 I-75 Ramp Forecasts

A comparison of the interpolated 2019 AADTs based upon the D1RPM Base Year (2015) and Horizon Year (2040) AADTs and associated NCHRP 765 forecast adjustments can be found in **Table 2.1**. Consistent with the I-75 mainline, an examination of the 5-year historical trends (2015 to 2019) from 2019 FTO indicate high growth while D1RPM model forecasts are much more conservative and in line with 2019 BEBR population forecasts. D1RPM forecasts were utilized to serve as the basis for ramp forecasts along the corridor; however, there were several instances of ramp volumes being lower in the Horizon Year 2045 than in the Base Year (2015). In these cases, due to the regional nature of trips along I-75, an average of the Manatee County and Sarasota County 2019 BEBR low values of 0.5 percent will serve as the growth for ramps for these locations where the D1RPM indicates negative growth. Any ramp with an AGR less than 1.0 percent was reviewed. In all cases, the growth rate in the D1RPM was negative or less than 1.0 percent. **Table 2.1** provides some adjustments to the ramp AADTs, at reciprocal pairs where application of standard K and D factors led to Target 2045 DDHVs less than existing.

To develop target DDHVs on the ramps, ramps at an interchange were grouped into 'reciprocating pairs' (southbound off/northbound on and northbound off/southbound on). The forecast 2045 AADTs for these pairs were summed to determine the paired AADT. An average AM D factor of 0.59 and an average PM D factor of 0.57 were observed from existing. These were rounded to a forecast D factor of 0.6 to be used on all reciprocating pairs. The peak direction on these reciprocating pairs is held constant with the existing conditions. Therefore, if a ramp pair does not reciprocate (i.e., the peak direction in the AM peak hour does not become the peak direction in the PM peak hour) the existing condition is preserved. A standard K factor of 0.09 is used for developing forecasted DDHVs. These K and D factors are used with the sum of the AADTs for the reciprocating pair to develop the initial AM and PM peak hour DDHVs and can be found in **Table 2.2**. During the least squared regression balancing process, the initial DDHVs were set as target values, similar to the I-75 mainline. Generally, the Forecast 2045 AADT AGR is in line with the Balanced 2045 DDHV AGR, however in some cases the Balanced 2045 DDHV AGR may deviate significantly (e.g., I-275 southbound off ramp during the PM peak hour). This is due to the use of standard K and D factors. **Figure 2.1** and **Figure 2.2** provide charts comparing the Target 2045 DDHV and Balanced 2045 DDHVs found in **Table 2.2**. These comparisons indicate a good fit with no outliers indicating that the Balanced 2045 DDHVs are in line with the Target 2045 DDHVs.

Table 2-1 Design Year 2045 I-75 Ramp Forecasts

Location	Existing 2019 AADT	D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	NCHRP 765 Adjustment Process										
					Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	NCHRP 2045 AADT	Adjustment	Design Year 2045 AADT	Design Year 2045 AGR	FTO AGR
Moccasin Wallow Road*															
SB Off Ramps	2,800	3,842	5,077	11,563	6,486	9,286	2.28	6,377	7,832	8.6%	9,000	0	9,000	8.5%	13.2%
NB Off Ramps	2,400	3,153	4,199	9,693	5,494	7,894	2.31	5,540	6,717	8.6%	12,000	0	12,000	15.4%	3.7%
SB On Ramps	4,800	3,665	4,802	10,774	5,972	10,772	2.24	10,770	10,771	5.9%	12,000	0	12,000	5.8%	3.6%
NB On Ramps	7,300	4,017	5,310	12,101	6,791	14,091	2.28	16,636	15,364	5.3%	9,000	0	9,000	0.9%	11.1%
I-275*															
SB Off Ramps	8,500	6,963	7,760	11,947	4,187	12,687	1.54	13,086	12,887	2.5%	14,000	0	14,000	2.5%	3.2%
NB Off Ramps	16,500	15,876	16,171	17,720	1,549	18,049	1.10	18,081	18,065	0.5%	18,500	6,500	25,000	2.0%	0.0%
SB On Ramps	19,000	15,547	15,733	16,709	976	19,976	1.06	20,179	20,077	0.3%	20,500	6,500	27,000	1.6%	2.2%
NB On Ramps	9,400	7,490	8,315	12,647	4,332	13,732	1.52	14,297	14,015	2.3%	15,000	0	15,000	2.3%	7.2%
US 301															
SB Off Ramps	6,300	5,135	5,527	7,584	2,057	8,357	1.37	8,645	8,501	1.7%	9,000	0	9,000	1.6%	0.0%
NB Off Ramps	15,000	12,929	13,283	15,143	1,860	16,860	1.14	17,100	16,980	0.6%	17,500	0	17,500	0.6%	-2.3%
SB On Ramps	15,000	14,727	15,066	16,848	1,782	16,782	1.12	16,774	16,778	0.6%	17,000	0	17,000	0.5%	-1.5%
NB On Ramps	6,800	4,927	5,384	7,782	2,398	9,198	1.45	9,829	9,513	1.9%	10,000	0	10,000	1.8%	0.9%
SR 64															
SB Off Ramps	13,000	9,254	10,249	15,475	5,226	18,226	1.51	19,629	18,927	2.2%	20,500	0	20,500	2.2%	0.0%
NB Off Ramps	15,000	12,435	12,027	9,883	-2,144	12,856	0.82	12,326	12,591	-0.8%	21,000	0	21,000	1.5%	23.4%
SB On Ramps	15,500	12,421	11,994	9,751	-2,243	13,257	0.81	12,601	12,929	-0.8%	21,500	0	21,500	1.5%	1.5%
NB On Ramps	12,500	8,369	9,204	13,589	4,385	16,885	1.48	18,455	17,670	2.0%	19,000	0	19,000	2.0%	1.3%
SR 70															
SB Off Ramps	13,000	12,054	12,298	13,580	1,282	14,282	1.10	14,355	14,319	0.5%	14,500	0	14,500	0.4%	0.0%
NB Off Ramps	13,000	15,018	15,224	16,308	1,084	14,084	1.07	13,926	14,005	0.4%	14,000	0	14,000	0.3%	5.7%
SB On Ramps	14,900	14,637	14,828	15,832	1,004	15,904	1.07	15,909	15,906	0.3%	16,000	0	16,000	0.3%	2.1%
NB On Ramps	12,500	11,000	11,271	12,695	1,424	13,924	1.13	14,079	14,002	0.6%	14,500	0	14,500	0.6%	0.0%

Table 2-1 (Continued) Design Year 2045 I-75 Ramp Forecasts

Location	Existing 2019 AADT	D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	NCHRP 765 Adjustment Process									FTO AGR
						Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	NCHRP 2045 AADT	Adjustment	Design Year 2045 AADT	Design Year 2045 AGR	
University Parkway															
SB Off Ramps	17,500	12,301	12,480	13,418	938	18,438	1.08	18,815	18,627	0.3%	19,000	0	19,000	0.3%	0.8%
NB Off Ramps	21,000	15,789	16,147	18,028	1,881	22,881	1.12	23,446	23,164	0.5%	23,500	2,000	25,500	0.8%	0.7%
SB On Ramps	22,000	15,383	15,656	17,090	1,434	23,434	1.09	24,015	23,725	0.4%	24,000	2,000	26,000	0.7%	1.4%
NB On Ramps	17,500	11,888	12,096	13,185	1,089	18,589	1.09	19,076	18,832	0.4%	19,000	0	19,000	0.3%	0.8%
SR 780/Fruitville Road															
SB Off Ramps	21,000	12,272	12,501	13,703	1,202	22,202	1.10	23,019	22,611	0.4%	23,000	0	23,000	0.4%	-3.0%
NB Off Ramps	15,500	12,161	12,078	11,643	-435	15,065	0.96	14,942	15,003	-0.2%	21,500	0	21,500	1.5%	1.9%
SB On Ramps	15,900	14,440	14,079	12,185	-1,894	14,006	0.87	13,761	13,884	-0.6%	22,000	0	22,000	1.5%	2.2%
NB On Ramps	19,600	12,495	13,050	15,965	2,915	22,515	1.22	23,978	23,247	0.9%	24,000	0	24,000	0.9%	-3.3%
SR 758/Bee Ridge Road															
SB Off Ramps	15,000	13,212	13,482	14,902	1,420	16,420	1.11	16,580	16,500	0.5%	17,000	3,000	20,000	1.3%	-1.7%
NB Off Ramps	9,700	11,721	11,826	12,379	553	10,253	1.05	10,154	10,203	0.2%	10,500	0	10,500	0.3%	0.0%
SB On Ramps	9,500	11,496	11,360	10,645	-715	8,785	0.94	8,902	8,844	-0.3%	12,000	0	12,000	1.0%	0.0%
NB On Ramps	14,000	11,520	11,704	12,672	968	14,968	1.08	15,158	15,063	0.4%	15,500	3,000	18,500	1.2%	-1.4%
SR 72/Clark Road															
SB Off Ramps	18,000	13,382	13,394	13,454	60	18,060	1.00	18,081	18,070	0.0%	18,000	0	18,000	0.0%	0.7%
NB Off Ramps	8,300	10,682	10,581	10,049	-532	7,768	0.95	7,883	7,825	-0.3%	9,600	0	9,600	0.6%	2.3%
SB On Ramps	8,400	10,579	10,370	9,270	-1,100	7,300	0.89	7,509	7,404	-0.6%	9,700	0	9,700	0.6%	0.3%
NB On Ramps	17,500	14,920	15,484	18,447	2,963	20,463	1.19	20,849	20,656	0.9%	21,500	0	21,500	0.9%	0.0%
SR 681															
NB On Ramps	7,800	7,289	7,385	7,886	501	8,301	1.07	8,329	8,315	0.3%	8,400	1,500	9,900	1.0%	1.1%
SB Off Ramps	8,800	6,886	6,947	7,270	323	9,123	1.05	9,209	9,166	0.2%	9,300	1,700	11,000	1.0%	4.5%

Table 2-1 (Continued) Design Year 2045 I-75 Ramp Forecasts

Location	Existing 2019 AADT	D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	NCHRP 765 Adjustment Process									
						Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	NCHRP 2045 AADT	Adjustment	Design Year 2045 AADT	**Design Year 2045 AGR**	FTO AGR
Laurel Road															
SB Off Ramps	5,500	9,493	9,713	10,870	1,157	6,657	1.12	6,155	6,406	0.8%	6,600	0	6,600	0.8%	3.0%
NB Off Ramps	6,600	6,599	7,073	9,559	2,486	9,086	1.35	8,920	9,003	1.7%	9,600	0	9,600	1.7%	0.8%
SB On Ramps	7,200	6,818	7,250	9,515	2,265	9,465	1.31	9,449	9,457	1.5%	10,000	0	10,000	1.5%	1.4%
NB On Ramps	5,200	7,084	7,288	8,357	1,069	6,269	1.15	5,963	6,116	0.8%	6,300	0	6,300	0.8%	0.9%
Jacaranda Boulevard															
SB Off Ramps	9,100	12,344	12,281	11,948	-333	8,767	0.97	8,853	8,810	-0.2%	11,500	0	11,500	1.0%	1.4%
NB Off Ramps	5,600	3,676	4,039	5,942	1,903	7,503	1.47	8,238	7,871	1.9%	8,400	0	8,400	1.9%	4.5%
SB On Ramps	5,800	4,148	4,672	7,423	2,751	8,551	1.59	9,215	8,883	2.5%	9,600	0	9,600	2.5%	5.2%
NB On Ramps	8,800	12,829	12,797	12,630	-167	8,633	0.99	8,685	8,659	-0.1%	11,000	0	11,000	1.0%	1.5%
River Road															
SB Off Ramps	8,000	11,363	11,508	12,267	759	8,759	1.07	8,528	8,643	0.4%	8,700	0	8,700	0.3%	4.1%
NB Off Ramps	1,900	1,387	2,024	5,369	3,345	5,245	2.65	5,040	5,143	8.1%	5,900	0	5,900	8.1%	7.7%
SB On Ramps	2,000	924	1,350	3,587	2,237	4,237	2.66	5,314	4,776	6.6%	5,500	0	5,500	6.7%	7.7%
NB On Ramps	8,100	11,468	11,589	12,225	636	8,736	1.05	8,545	8,640	0.3%	8,700	0	8,700	0.3%	3.2%

Table 2-2 Design Year 2045 I-75 Ramp DDHV Forecast and Check

Location	Design Year 2045 AADT	AM Peak Hour						PM Peak Hour					
		Existing 2019 DDHV	Target 2045 DDHV	Balanced 2045 DDHV	% Difference	Forecast 2045 AADT AGR	Balanced 2045 DDHV AGR	Existing 2019 DDHV	Target 2045 DDHV	Balanced 2045 DDHV	% Difference	Design Year 2045 AGR	Balanced 2045 DDHV AGR
Moccasin Wallow Road*													
SB Off Ramps	9,000	208	648	648	0%	8.5%	8.1%	227	648	700	8%	8.5%	8.0%
NB Off Ramps	12,000	165	864	811	6%	15.4%	15.1%	300	1,296	1,362	5%	15.4%	13.6%
SB On Ramps	12,000	616	1,296	1,530	18%	5.8%	5.7%	267	864	907	5%	5.8%	9.2%
NB On Ramps	9,000	706	972	1,089	12%	0.9%	2.1%	610	972	952	2%	0.9%	2.2%
I-275*													
SB Off Ramps	14,000	837	1,566	1,773	13%	2.5%	4.3%	432	1,044	1,138	9%	2.5%	6.3%
NB Off Ramps	25,000	1,207	1,872	2,162	15%	2.0%	3.0%	1,619	1,872	2,223	19%	2.0%	1.4%
SB On Ramps	27,000	1,377	2,808	2,713	3%	1.6%	3.7%	1,657	2,808	2,756	2%	1.6%	2.6%
NB On Ramps	15,000	385	1,044	870	17%	2.3%	4.8%	843	1,566	1,440	8%	2.3%	2.7%
US 301													
SB Off Ramps	9,000	426	1,026	846	18%	1.6%	3.8%	528	1,026	875	15%	1.6%	2.5%
NB Off Ramps	17,500	869	1,242	1,388	12%	0.6%	2.3%	1,631	1,863	2,218	19%	0.6%	1.4%
SB On Ramps	17,000	1,346	1,863	2,171	17%	0.5%	2.4%	1,088	1,242	1,472	19%	0.5%	1.4%
NB On Ramps	10,000	385	684	630	8%	1.8%	2.4%	518	684	598	13%	1.8%	0.6%
SR 64													
SB Off Ramps	20,500	1,192	2,133	2,342	10%	2.2%	3.7%	1,087	1,422	1,549	9%	2.2%	1.6%
NB Off Ramps	21,000	1,036	1,530	1,499	2%	1.5%	1.7%	1,194	2,295	2,268	1%	1.5%	3.5%
SB On Ramps	21,500	1,169	2,295	1,961	15%	1.5%	2.6%	1,023	1,530	1,359	11%	1.5%	1.3%
NB On Ramps	19,000	878	1,422	1,547	9%	2.0%	2.9%	1,092	2,133	2,275	7%	2.0%	4.2%
SR 70													
SB Off Ramps	14,500	959	1,566	1,617	3%	0.4%	2.6%	954	1,044	1,237	18%	0.4%	1.1%
NB Off Ramps	14,000	997	1,080	1,282	19%	0.3%	1.1%	1,048	1,080	1,282	19%	0.3%	0.9%
SB On Ramps	16,000	1,308	1,620	1,829	13%	0.3%	1.5%	1,088	1,620	1,601	1%	0.3%	1.8%
NB On Ramps	14,500	878	1,044	1,166	12%	0.6%	1.3%	1,101	1,566	1,657	6%	0.6%	1.9%

*During data collection, the I-275 NB On Ramp to I-75 was closed and traffic was diverted. This was corrected in conjunction with FDOT Systems Planning using alternative data sources available. This correction included correction of the DDHVs in existing year 2019. Peak directionality of the ramps was maintained from this correction.

Table 2-2 (Continued) Design Year 2045 I-75 Ramp DDHV Forecast and Check

Location	Design Year 2045 AADT	AM Peak Hour						PM Peak Hour					
		Existing 2019 DDHV	Target 2045 DDHV	Balanced 2045 DDHV	% Difference	Forecast 2045 AADT AGR	Balanced 2045 DDHV AGR	Existing 2019 DDHV	Target 2045 DDHV	Balanced 2045 DDHV	% Difference	Design Year 2045 AGR	Balanced 2045 DDHV AGR
University Parkway													
SB Off Ramps	19,000	1,336	2,052	2,219	8%	0.3%	2.5%	1,209	1,368	1,506	10%	0.3%	0.9%
NB Off Ramps	25,500	2,217	2,450	2,843	16%	0.8%	1.1%	1,944	2,198	2,591	18%	0.8%	1.3%
SB On Ramps	26,000	2,111	2,198	2,198	0%	0.7%	0.2%	2,150	2,450	2,697	10%	0.7%	1.0%
NB On Ramps	19,000	778	1,368	1,401	2%	0.3%	3.1%	1,768	2,052	2,209	8%	0.3%	1.0%
SR 780/Fruitville Road													
SB Off Ramps	23,000	2,191	2,538	2,912	15%	0.4%	1.3%	1,422	1,692	1,904	13%	0.4%	1.3%
NB Off Ramps	21,500	1,736	2,349	2,535	8%	1.5%	1.8%	1,177	1,566	1,622	4%	1.5%	1.5%
SB On Ramps	22,000	1,226	1,566	1,572	0%	1.5%	1.1%	1,628	2,349	2,439	4%	1.5%	1.9%
NB On Ramps	24,000	1,415	1,692	1,907	13%	0.9%	1.3%	2,026	2,538	2,827	11%	0.9%	1.5%
SR 758/Bee Ridge Road													
SB Off Ramps	20,000	1,425	2,079	1,851	11%	1.3%	1.1%	1,255	2,079	1,765	15%	1.3%	1.6%
NB Off Ramps	10,500	1,010	1,215	1,275	5%	0.3%	1.0%	758	810	908	12%	0.3%	0.8%
SB On Ramps	12,000	630	810	961	19%	1.0%	2.0%	1,011	1,215	1,430	18%	1.0%	1.6%
NB On Ramps	18,500	1,336	1,386	1,638	18%	1.2%	0.9%	1,256	1,386	1,478	7%	1.2%	0.7%
SR 72/Clark Road													
SB Off Ramps	18,000	1,490	2,133	2,177	2%	0.0%	1.8%	1,433	1,422	1,691	19%	0.0%	0.7%
NB Off Ramps	9,600	1,032	1,042	1,149	10%	0.6%	0.4%	583	695	773	11%	0.6%	1.3%
SB On Ramps	9,700	644	695	825	19%	0.6%	1.1%	874	1,042	1,092	5%	0.6%	1.0%
NB On Ramps	21,500	1,207	1,422	1,665	17%	0.9%	1.5%	1,534	2,133	2,120	1%	0.9%	1.5%
SR 681													
NB On Ramps	9,900	706	752	865	15%	1.0%	0.9%	668	1,129	1,169	4%	1.0%	2.9%
SB Off Ramps	11,000	790	1,129	1,112	2%	1.0%	1.6%	665	752	893	19%	1.0%	1.3%

Table 2-2 (Continued) Design Year 2045 I-75 Ramp DDHV Forecast and Check

Location	Design Year 2045 AADT	AM Peak Hour						PM Peak Hour					
		Existing 2019 DDHV	Target 2045 DDHV	Balanced 2045 DDHV	% Difference	Forecast 2045 AADT AGR	Balanced 2045 DDHV AGR	Existing 2019 DDHV	Target 2045 DDHV	Balanced 2045 DDHV	% Difference	Design Year 2045 AGR	Balanced 2045 DDHV AGR
Laurel Road													
SB Off Ramps	6,600	460	464	547	18%	0.8%	0.7%	469	697	732	5%	0.8%	2.2%
NB Off Ramps	9,600	879	1,058	1,183	12%	1.7%	1.3%	389	706	666	6%	1.7%	2.7%
SB On Ramps	10,000	392	706	814	15%	1.5%	4.1%	798	1,058	1,227	16%	1.5%	2.1%
NB On Ramps	6,300	500	697	810	16%	0.8%	2.4%	447	464	552	19%	0.8%	0.9%
Jacaranda Boulevard													
SB Off Ramps	11,500	701	810	938	16%	1.0%	1.3%	881	1,215	1,316	8%	1.0%	1.9%
NB Off Ramps	8,400	750	972	957	2%	1.9%	1.1%	329	648	592	9%	1.9%	3.1%
SB On Ramps	9,600	313	648	615	5%	2.5%	3.7%	788	972	975	0%	2.5%	0.9%
NB On Ramps	11,000	900	1,215	1,441	19%	1.0%	2.3%	653	810	961	19%	1.0%	1.8%
River Road													
SB Off Ramps	8,700	527	626	742	19%	0.3%	1.6%	797	940	1,119	19%	0.3%	1.6%
NB Off Ramps	5,900	207	616	562	9%	8.1%	6.6%	103	410	396	3%	8.1%	10.9%
SB On Ramps	5,500	139	410	397	3%	6.7%	7.1%	224	616	574	7%	6.7%	6.0%
NB On Ramps	8,700	905	940	1,071	14%	0.3%	0.7%	451	626	682	9%	0.3%	2.0%

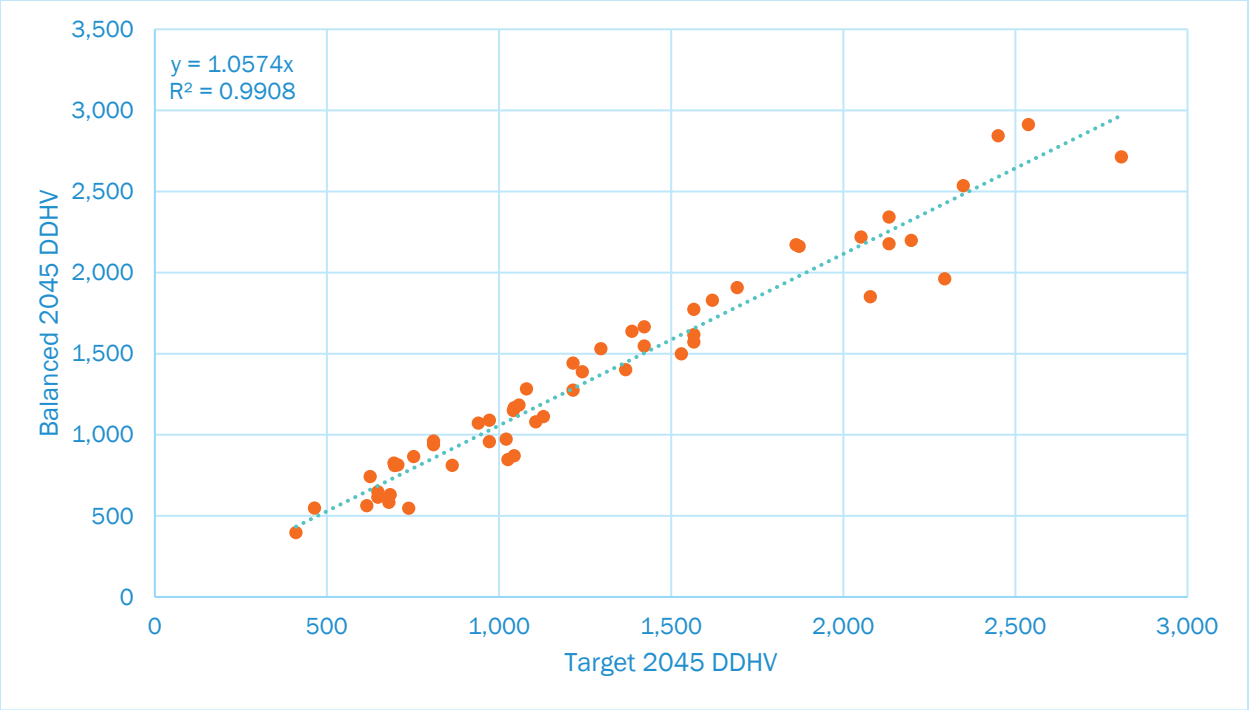

Figure 2.1 AM Peak Hour I-75 Ramp Variance

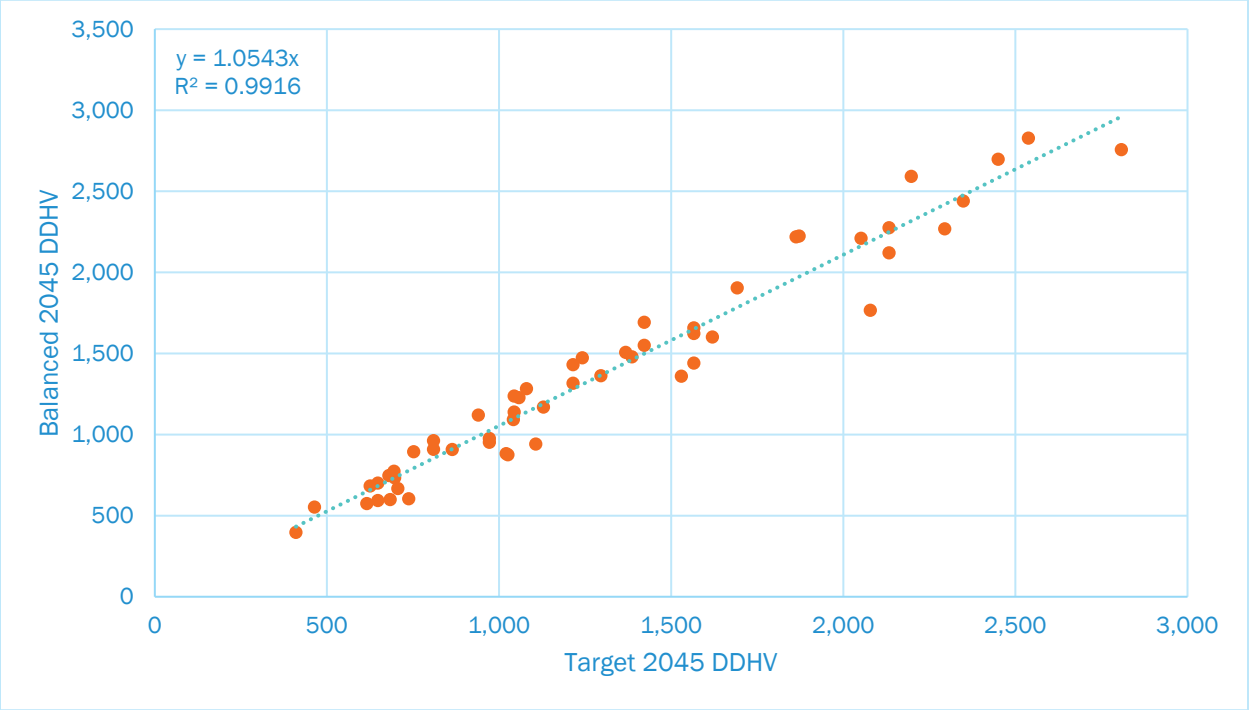

Figure 2.2 PM Peak Hour I-75 Ramp Variance

2.2 I-75 Mainline Forecast

The comparison of the D1RPM, 2019 FTO 5-year (2015 to 2019) historical count data, and 2019 BEBR population forecast annual growth rates (AGR) on I-75 mainline roadway segments are provided in **Table 2.3**. The D1RPM indicates that mainline I-75 is consistent with 2019 BEBR population forecasts while the historical count data from the 2019 FTO indicate recent growth has been much more aggressive. This difference between the D1RPM and 2019 BEBR forecasts with historical trends can likely be attributed to high development recently present along the corridor. Development build out and market factors over time, which are considered during forecasting, will likely reach saturation over time and growth with slow. It is for these reasons that the D1RPM output will be utilized as a foundation for I-75 mainline forecasts.

Table 2-3 Comparison of Growth Rates on I-75 Mainline

	D1RPM 1.0.6 Model Outputs			2019 FTO	2019 BEBR	
Location	2015	2040	AGR	AGR	Low AGR	High AGR
I-75 North of Moccasin Wallow Road	65,500	116,200	3.1%	3.7%	0.6%	2.6%
I-75 South of Moccasin Wallow Road	64,500	113,000	3.0%	0.2%	0.6%	2.6%
I-75 North of US 301	81,300	122,800	1.8%	4.4%	0.6%	2.6%
I-75 North of SR 64	98,700	139,200	1.1%	2.1%	0.6%	2.6%
I-75 North of SR 70	105,800	129,900	2.0%	1.8%	0.6%	2.6%
I-75 North of University Parkway	112,300	135,700	1.6%	2.2%	0.3%	1.9%
I-75 North of SR 780 Fruitville Road	114,100	137,800	0.9%	1.9%	0.3%	1.9%
I-75 North of Bee Ridge Road	115,900	132,100	0.8%	0.5%	0.3%	1.9%
I-75 North of Clark Road	114,400	127,700	0.8%	2.9%	0.3%	1.9%
I-75 North of SR 681	107,500	115,400	0.6%	2.2%	0.3%	1.9%
I-75 North of Laurel Road	93,600	100,600	0.5%	1.6%	0.3%	1.9%
I-75 North of Jacaranda Boulevard	90,500	100,400	0.3%	1.1%	0.3%	1.9%
I-75 North of River Road	73,600	89,400	0.3%	3.6%	0.3%	1.9%
I-75 South of River Road	53,500	74,200	0.4%	3.5%	0.3%	1.9%

NOTES: 2019 FTO annual growth rate is based off 5-years (2015 to 2019) of historical count data

A comparison of the interpolated 2019 AADTs based upon the D1RPM Base Year (2015) and Horizon Year (2040) AADTs and associated NCHRP 765 forecast adjustments can be found in **Table 2.4**. Based on the methodologies found in the 2019 Project Traffic Forecasting Handbook for the application of travel demand model forecasts, the difference and ratio methods along with the existing year 2019 AADTs were used to develop the Design Year 2045 AADT forecasts. An average of the difference and ratio method estimated 2040 AADTs was taken to establish NCHRP 2040 AADTs, of which then AGRs were established for each link to extrapolate the NCHRP 2040 AADTs to Design Year 2045 AADTs.

Table 2-4 Forecasted 2045 AADTs on I-75 Roadway Segments

Location	Existing 2019 AADT	NCHRP 765 Adjustment Process								
		D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	NCHRP Forecast 2045 AADT
I-75 North of Moccasin Wallow Road	74,000	73,612	116,200	42,588	116,588	1.58	116,812	116,700	2.7%	127,000
I-75 South of Moccasin Wallow Road	71,500	72,260	113,000	40,740	112,240	1.56	111,812	112,000	2.7%	122,000
I-75 North of US 301	104,000	87,940	122,800	34,860	138,860	1.40	145,226	142,000	1.7%	151,000
I-75 North of SR 64	120,000	105,180	139,200	34,020	154,020	1.32	158,813	156,400	1.4%	165,000
I-75 North of SR 70	127,500	109,656	129,900	20,244	147,744	1.18	151,038	149,400	0.8%	155,000
I-75 North of University Parkway	134,500	116,044	135,700	19,656	154,156	1.17	157,282	155,700	0.8%	161,000
I-75 North of SR 780 Fruitville Road	137,500	117,892	137,800	19,908	157,408	1.17	160,719	159,100	0.7%	164,000
I-75 North of Bee Ridge Road	122,000	118,492	132,100	13,608	135,608	1.11	136,011	135,800	0.5%	139,000
I-75 North of Clark Road	116,233	116,528	127,700	11,172	127,405	1.10	127,377	127,400	0.5%	130,000
I-75 North of SR 681	97,000	108,764	115,400	6,636	103,636	1.06	102,918	103,300	0.3%	105,000
I-75 North of Laurel Road	83,500	94,720	100,600	5,880	89,380	1.06	88,683	89,000	0.3%	90,500
I-75 North of Jacaranda Boulevard	85,000	92,084	100,400	8,316	93,316	1.09	92,676	93,000	0.4%	95,000
I-75 North of River Road	83,000	76,128	89,400	13,272	96,272	1.17	97,470	96,900	0.8%	100,000
I-75 South of River Road	71,772	56,812	74,200	17,388	89,160	1.31	93,739	91,400	1.3%	96,100

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

These forecasted AADTs are unbalanced with the forecasted ramps shown in **Section 2.1**. To balance these, the mainline AADT south of River Road was held constant and the mainline AADT was balanced from south (starting south of River Road) to north (ending north of Moccasin Wallow Road). The mainline volumes were balanced from south to north after comparing both south to north and north to south balancing methods. Balancing from south to north minimized variance. This balancing is provided in **Table 2.5**.

These AADTs, along with the Standard K and D factors were used to develop initial DDHVs for use as target values during the least squared regression balancing process for the study area and are shown in **Table 2.6**.

The results of the least squared regression based balancing efforts at I-75 mainline segments can be found in **Table 2.7**. The results indicate that the effort was effective at balancing the traffic flow through the system while still preserving initial demand when comparing the initial DDHVs from **Table 2.6** to the smoothed DDHVs found in **Table 2.7**.

To provide a check for the smoothed volumes with the forecasting consistency, a maximum of the AM and PM peak hour volume was taken for each link and then divided by the associated link K factor to yield an estimated 2045 AADT. This estimate 2045 was plotted against Design Year 2045 AADTs at each location and checked for statistical fit and is depicted in **Figure 2.3**. Based on the slope of the trend line being nearly 1.05 and the R-squared value of 0.99, the balancing process results did not significantly impact the patterns calculated directly from the forecasting procedure.

Table 2-5 Design Year 2045 I-75 Mainline Balancing Adjustments

Location	Ramp Type	Operation	AADT
I-75 North of Moccasin Wallow Road			102,700
Moccasin Wallow Road	NB Off	Subtract	12,000
Moccasin Wallow Road	NB On	Add	9,000
Moccasin Wallow Road	SB Off	Add	9,000
Moccasin Wallow Road	SB On	Subtract	12,000
I-75 South of Moccasin Wallow Road			108,700
I-275	SB Off	Add	14,000
I-275	SB On	Subtract	27,000
I-275	NB On	Add	15,000
I-275	NB Off	Subtract	25,000
I-75 North of US 301			131,700
US 301	SB Off	Add	9,000
US 301	SB On	Subtract	17,000
US 301	NB On	Add	10,000
US 301	NB Off	Subtract	17,500
I-75 North of SR 64			147,200
SR 64	SB Off	Add	20,500
SR 64	NB Off	Subtract	21,000
SR 64	SB On	Subtract	21,500
SR 64	NB On	Add	19,000
I-75 North of SR 70			150,200
SR 70	SB Off	Add	14,500
SR 70	SB On	Subtract	16,000
SR 70	NB On	Add	14,500
SR 70	NB Off	Subtract	14,000
I-75 North of University Parkway			151,200
University Parkway	SB Off	Add	19,000
University Parkway	SB On	Subtract	26,000
University Parkway	NB On	Add	19,000
University Parkway	NB Off	Subtract	25,500
I-75 North of SR 780 Fruitville Road			164,700
SR 780/Fruitville Road	SB Off	Add	23,000
SR 780/Fruitville Road	NB Off	Subtract	21,500
SR 780/Fruitville Road	SB On	Subtract	22,000
SR 780/Fruitville Road	NB On	Add	24,000
I-75 North of Bee Ridge Road			161,200
SR 758/Bee Ridge Road	SB Off	Add	20,000
SR 758/Bee Ridge Road	SB On	Subtract	12,000
SR 758/Bee Ridge Road	NB On	Add	18,500
SR 758/Bee Ridge Road	NB Off	Subtract	10,500
I-75 North of Clark Road			145,200
SR 72/Clark Road	SB Off	Add	18,000
SR 72/Clark Road	SB On	Subtract	9,700
SR 72/Clark Road	NB On	Add	21,500
SR 72/Clark Road	NB Off	Subtract	9,600
I-75 North of SR 681			125,000
SR 681	NB On	Add	9,900
SR 681	SB Off	Add	11,000

Table 2-5 (Continued) Design Year 2045 I-75 Mainline Balancing Adjustments

Location	Ramp Type	Operation	AADT
I-75 North of Laurel Road			104,100
Laurel Road	SB Off	Add	6,600
Laurel Road	SB On	Subtract	10,000
Laurel Road	NB On	Add	6,300
Laurel Road	NB Off	Subtract	9,600
I-75 North of Jacaranda Boulevard			110,800
Jacaranda Boulevard	SB Off	Add	15,700
Jacaranda Boulevard	SB On	Subtract	9,600
Jacaranda Boulevard	NB Off	Subtract	8,400
Jacaranda Boulevard	NB On	Add	11,000
I-75 North of River Road			102,100
River Road	SB Off	Add	8,700
River Road	SB On	Subtract	5,500
River Road	NB On	Add	8,700
River Road	NB Off	Subtract	5,900
I-75 South of River Road			96,100

Table 2-6 Initial Design Year 2045 DDHVs - I-75 Mainline

Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
		K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
I-75 North of Moccasin Wallow Road	102,700	0.09	0.52	4,416	4,827	0.09	0.61	5,657	3,586
I-75 South of Moccasin Wallow Road	108,700	0.09	0.61	3,796	5,987	0.09	0.61	5,987	3,796
I-75 North of US 301	131,700	0.09	0.57	5,103	6,750	0.09	0.56	6,635	5,218
I-75 North of SR 64	147,200	0.09	0.58	5,501	7,747	0.09	0.58	7,662	5,586
I-75 North of SR 70	150,200	0.09	0.57	5,785	7,733	0.09	0.59	7,932	5,586
I-75 North of University Parkway	151,200	0.09	0.58	5,693	7,915	0.09	0.58	7,842	5,766
I-75 North of SR 780 Fruitville Road	164,700	0.09	0.53	6,912	7,911	0.09	0.53	7,896	6,927
I-75 North of Bee Ridge Road	161,200	0.09	0.53	7,662	6,846	0.09	0.52	6,998	7,510
I-75 North of Clark Road	145,200	0.09	0.56	7,290	5,778	0.09	0.53	6,108	6,960
I-75 North of SR 681	125,000	0.09	0.61	6,837	4,413	0.09	0.56	4,905	6,345
I-75 North of Laurel Road	104,100	0.09	0.61	5,734	3,635	0.09	0.58	3,960	5,409
I-75 North of Jacaranda Boulevard	110,800	0.09	0.61	6,103	3,869	0.09	0.60	3,960	6,012
I-75 North of River Road	102,100	0.09	0.61	5,624	3,565	0.09	0.61	3,565	5,624
I-75 South of River Road	96,100	0.09	0.61	5,293	3,356	0.09	0.61	3,356	5,293

Table 2-7 Balanced Design Year 2045 and AADT Forecast Check – I-75 Mainline

Location	AM Peak Hour		PM Peak Hour		Comparison			
	NB/EB DDHV	SB/WB DDHV	NB/EB DDHV	SB/WB DDHV	2045 AADT Estimate	Design Year 2045 AADT	Delta	Percent
I-75 North of Moccasin Wallow Road	4,061	5,124	5,560	3,448	102,000	102,700	-700	-0.7%
I-75 South of Moccasin Wallow Road	3,783	6,006	5,970	3,655	109,000	108,700	300	0.3%
I-75 North of US 301	5,075	6,946	6,753	5,273	134,000	131,700	2,300	1.7%
I-75 North of SR 64	5,833	8,271	8,373	5,870	158,000	147,200	10,800	7.3%
I-75 North of SR 70	5,785	7,890	8,366	5,680	156,000	150,200	5,800	3.9%
I-75 North of University Parkway	5,901	8,102	7,991	6,044	156,000	151,200	4,800	3.2%
I-75 North of SR 780 Fruitville Road	7,343	8,466	8,373	7,235	176,000	164,700	11,300	6.9%
I-75 North of Bee Ridge Road	7,971	7,126	7,168	7,770	168,000	161,200	6,800	4.2%
I-75 North of Clark Road	7,608	6,236	6,598	7,435	156,000	145,200	10,800	7.4%
I-75 North of SR 681	7,092	4,884	5,251	6,836	134,000	125,000	9,000	7.2%
I-75 North of Laurel Road	6,227	3,772	4,082	5,943	111,000	104,100	6,900	6.6%
I-75 North of Jacaranda Boulevard	6,600	4,039	4,196	6,438	118,000	110,800	7,200	6.5%
I-75 North of River Road	6,116	3,716	3,827	6,097	110,000	102,100	7,900	7.7%
I-75 South of River Road	5,607	3,371	3,541	5,552	101,000	96,100	4,900	5.1%

NOTES:
2045 AADT Estimate is the back calculated AADT yielded from the maximum of the segment AM/PM DHVs divided by the K factor.

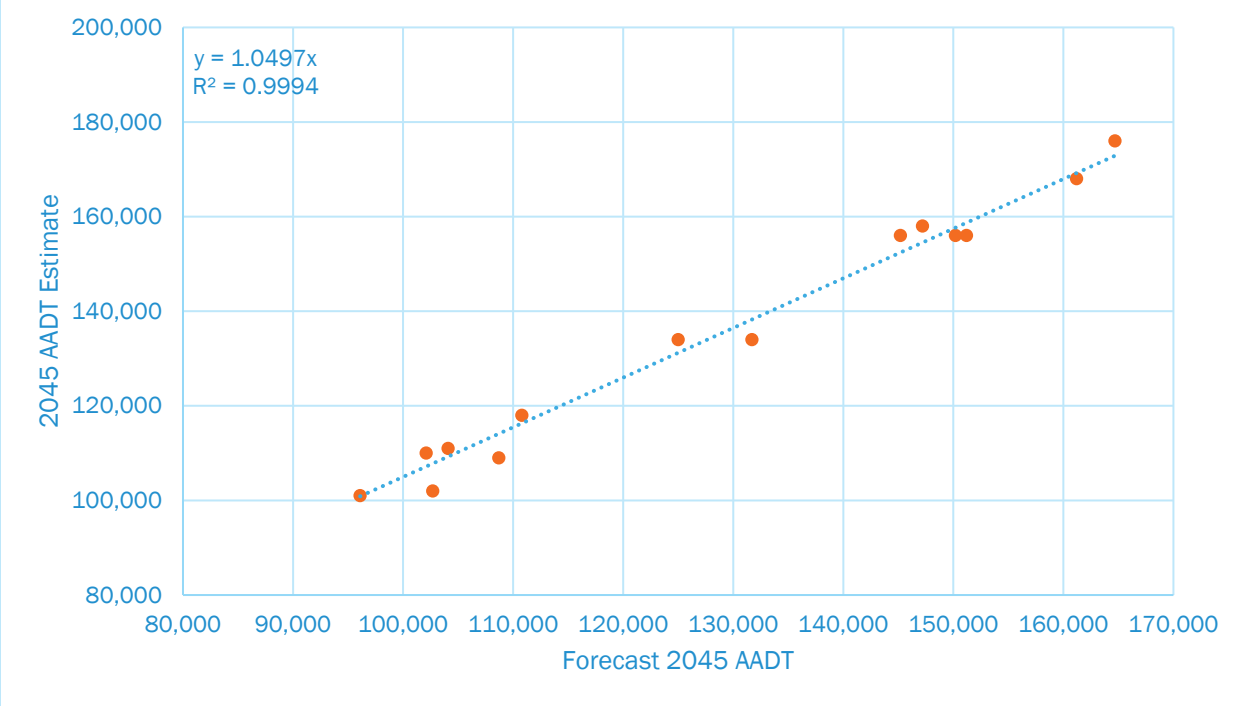

Figure 2.3 I-75 Mainline Variance

3.0 I-75 Interchange Volumes

The following sections identify forecasted growth, AADT, and DDHVs along with the smoothed DDHVs, and AADT forecast consistency checks. There are several locations with high growth rates found in the FDOT provided D1RPM. These locations have been checked and verified to be reasonable.

Where the network input zone for an interchange is included in the D1RPM, forecasts from the model were generally applied directly, with high growths reviewed for reasonableness. For minor roads or entrances where growth is expected to be minimal, the BEBR low growth rates of 0.3% for Manatee County and 0.6% for Sarasota County were adopted. It is assumed that all committed development will be present in the modeling forecasts, but in instances where network input zones represent demand that needs to be added to the system in addition to the model forecast, the average D1RPM weighted growth rate for network input zones will be used.

The average D1RPM weighted growth rate is calculated as the sum of the products of the NCHRP AGR and the existing year 2019 AADT divided by the sum of the existing year 2019 AADT at locations where the D1RPM has a model link. An example of the calculation at Moccasin Wallow Road is provided in **Table 3.1** below.

Table 3-1 Example Calculation for Weighted Average D1RPM AGR

Location	Existing Year 2019 AADT	NCHRP AGR	Existing Year 2019 AADT * NCHRP AGR
Moccasin Wallow Rd west of Gateway Blvd	12,000	8.3%	1000.0
Moccasin Wallow Rd east of 71st Ave	9,100	16.4%	1495.2
I-75 Frontage Rd/Buffalo Rd south of Moccasin Wallow Rd	2,900	6.2%	181.0
Total	24,000		2676.2
Average D1RPM Weighted AGR			**11.1%**

Once the forecasts for each interchange have been presented, a system wide variation check will be provided reviewing the consistency between the Design Year 2045 AADTs and estimated 2045 AADTs. The estimated 2045 AADTs are calculated by taking the maximum of the AM and PM peak hour volumes at network input zones and applying the K factor from the existing year 2019 at that location.

3.1 CR 683 (Moccasin Wallow Road) Forecast

The interchange of I-75 at CR 683 (Moccasin Wallow Road) consists of nine network input zones and extends from east of 71st Ave East to west of Gateway Boulevard and is represented in **Figure 3.1**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.2**. Based on the network input zones within the interchange study area, Moccasin Wallow Road has a D1RPM weighted growth rate of 11.1 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.3**. The Design Year 2045 AADTs were used along with K and D factors from existing year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.4**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.5**.

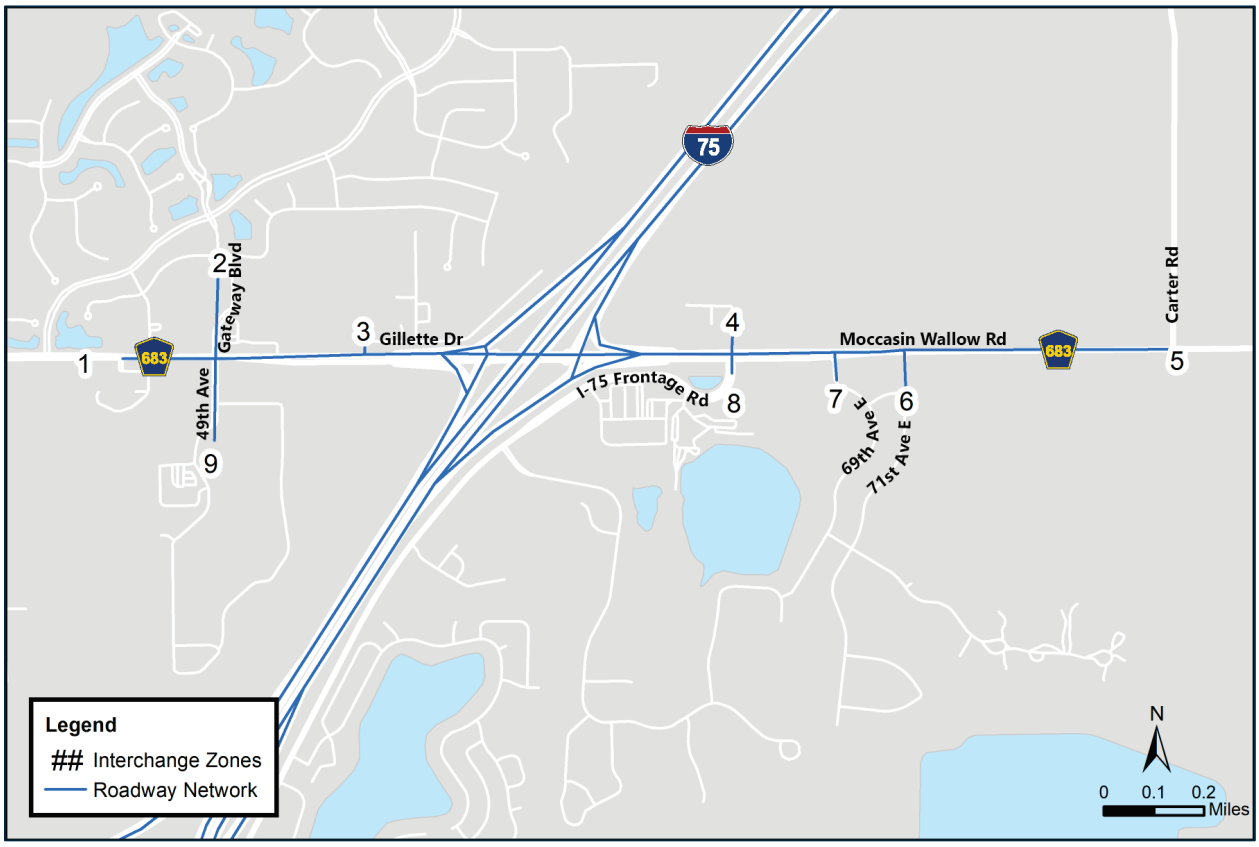

Figure 3.1 Interchange Analysis Zones – CR 683 (Moccasin Wallow Road) Forecast

Table 3.2: Design Year 2045 AADT Development – CR 683 (Moccasin Wallow Road)

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									Design Year 2045 AADT
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	
1	Moccasin Wallow Rd west of Gateway Blvd	12,000	5,300	9,300	30,200	20,900	32,900	3.2	39,000	33,000	8.3%	38,000
2	Gateway Blvd north of Moccasin Wallow Rd	3,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	Gillette Rd north of Moccasin Wallow Rd	150	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Buffalo Rd north of Moccasin Wallow Rd	150	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	Moccasin Wallow Rd east of 71st Ave	9,100	5,400	11,300	42,500	31,200	40,300	3.8	34,200	40,500	16.4%	47,500
6	71st Ave East south of Moccasin Wallow Rd	1,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7	69th Ave south of Moccasin Wallow Rd	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3.3: Design Year 2045 AADTs – CR 683 (Moccasin Wallow Road)

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	Moccasin Wallow Rd west of Gateway Blvd	12,000	D1RPM	8.3%	38,000
2	Gateway Blvd north of Moccasin Wallow Rd	3,300	BEBR Low Forecast	0.6%	3,800
3	Gillette Rd north of Moccasin Wallow Rd	150	BEBR Low Forecast	0.6%	150
4	Buffalo Rd north of Moccasin Wallow Rd	150	BEBR Low Forecast	0.6%	150
5	Moccasin Wallow Rd east of 71st Ave	9,100	D1RPM	16.3%	47,500
6	71st Ave East south of Moccasin Wallow Rd	1,400	BEBR Low Forecast	0.6%	1,600
7	69th Ave south of Moccasin Wallow Rd	500	BEBR Low Forecast	0.6%	550
8	I-75 Frontage Rd/Buffalo Rd south of Moccasin Wallow Rd	2,900	D1RPM	6.2%	7,600
9	Gateway Blvd south of Moccasin Wallow Rd	5,100	BEBR Low Forecast	0.6%	5,800

Table 3.4: Design Year 2045 Target DDHVs – CR 683 (Moccasin Wallow Road)

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	Moccasin Wallow Rd west of Gateway Blvd	38,000	0.09	0.67	1,125	2,295	0.09	0.67	1,125	2,295
2	Gateway Blvd north of Moccasin Wallow Rd	3,800	0.09	0.60	137	205	0.09	0.57	145	197
3	Gillette Rd north of Moccasin Wallow Rd	150	0.09	0.67	4	10	0.09	0.57	6	8
4	Buffalo Rd north of Moccasin Wallow Rd	150	0.09	0.67	4	10	0.09	0.65	5	9
5	Moccasin Wallow Rd east of 71st Ave	47,500	0.09	0.63	1,597	2,678	0.09	0.57	1,832	2,443
6	71st Ave East south of Moccasin Wallow Rd	1,600	0.10	0.79	32	120	0.07	0.57	46	60
7	69th Ave south of Moccasin Wallow Rd	550	0.05	0.58	12	17	0.09	0.96	2	50
8	I-75 Frontage Rd/Buffalo Rd south of Moccasin Wallow Rd	7,600	0.09	0.67	225	459	0.09	0.60	273	411
9	Gateway Blvd south of Moccasin Wallow Rd	5,800	0.09	0.56	224	288	0.03	0.52	93	103

Table 3.5: Design Year 2045 DDHVs and AADT Forecast Check – CR 683 (Moccasin Wallow Road)

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	Moccasin Wallow Rd west of Gateway Blvd	0.09	1,784	1,352	0.09	1,948	1,340	36,500	38,000	1,500	3.9%
2	Gateway Blvd north of Moccasin Wallow Rd	0.09	249	269	0.09	204	248	5,800	3,800	2,000	52.6%
3	Gillette Rd north of Moccasin Wallow Rd	0.09	37	13	0.09	16	14	550	150	400	266.7%
4	Buffalo Rd north of Moccasin Wallow Rd	0.09	27	12	0.09	15	34	550	150	400	266.7%
5	Moccasin Wallow Rd east of 71st Ave	0.09	1,915	2,642	0.09	2,794	2,061	54,000	47,500	6,500	13.7%
6	71st Ave East south of Moccasin Wallow Rd	0.10	175	85	0.07	85	111	2,700	1,600	1,100	68.8%
7	69th Ave south of Moccasin Wallow Rd	0.05	33	26	0.09	9	60	750	550	200	36.4%
8	Buffalo Rd south of Moccasin Wallow Rd	0.09	292	159	0.09	193	268	5,100	7,600	2,500	32.9%
9	Gateway Blvd south of Moccasin Wallow Rd	0.09	276	486	0.03	205	192	8,600	5,800	2,800	48.3%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

3.2 US 41 Forecast

The interchange of I-275 at US 41 consists of six network input zones and extends from north of 85th Street East to south of 69th Street East and is represented in **Figure 3.2**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.6**. Based on the network input zones within the interchange study area, US 41 has a D1RPM weighted growth rate of 2.2 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.7**. The Design Year 2045 AADTs were used along with K and D factors from existing year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.8**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.9**.

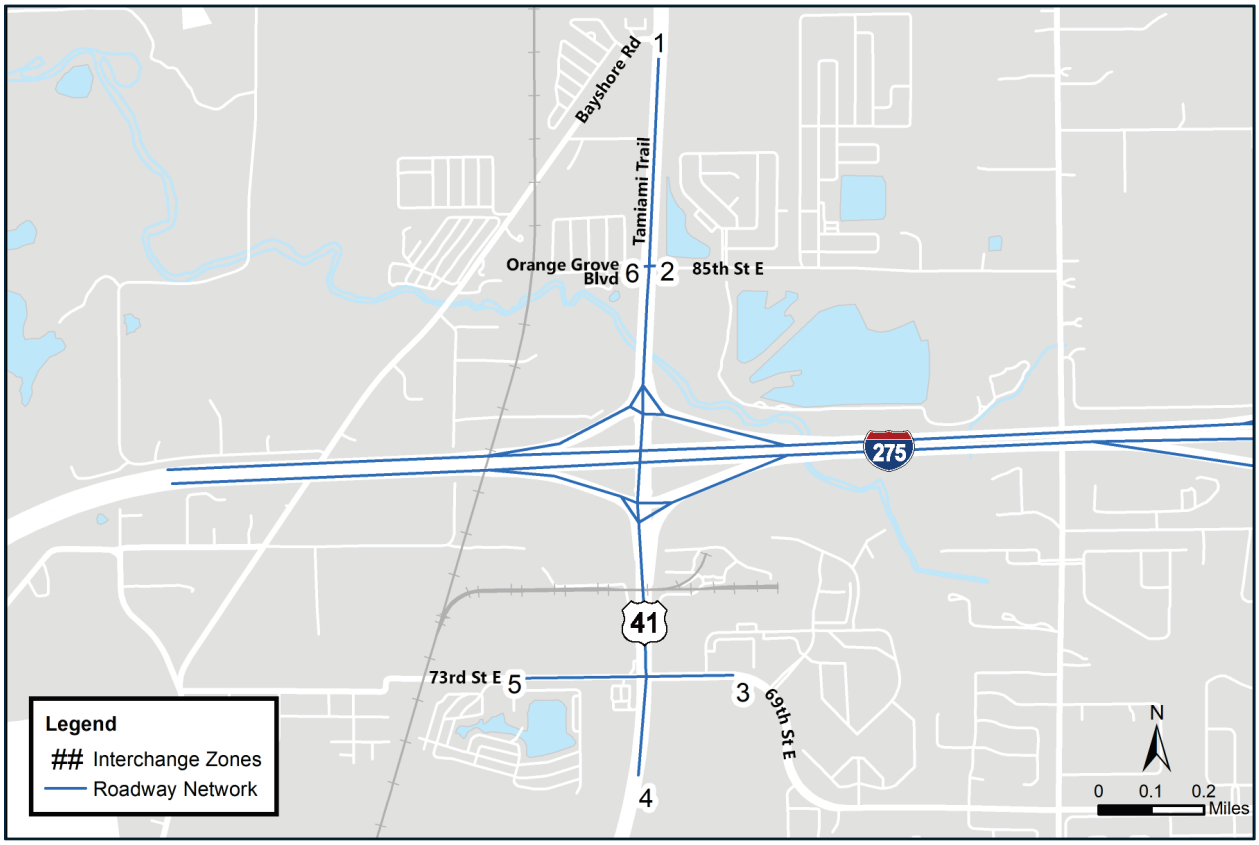

Figure 3.2: Map of Interchange Area and Zones – US 41

Table 3.6: Design Year 2045 AADT Development– US 41

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	Design Year 2045 AADT
1	US 41 north of 85th St	24,500	13,500	16,800	34,300	17,500	42,000	2.0	50,000	42,000	3.4%	46,000
2	85th St east of US 41	1,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	73rd St east of US 41	12,500	11,800	11,700	11,100	-600	11,900	0.9	11,900	0	-4.8%	14,500
4	US 41 South of 73rd St	25,500	21,800	24,300	37,700	13,400	38,900	1.6	39,600	39,000	2.5%	42,500
5	73rd St west of US 41	3,400	2,900	3,300	5,600	2,300	5,700	1.7	5,800	5,700	3.2%	6,200
6	85th St west of US 41	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3.7: Design Year 2045 AADTs – US 41

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	US 41 north of 85th St	24,500	D1RPM	3.4%	46,000
2	85th St east of US 41	1,500	BEBR Low Forecast	0.6%	1,700
3	73rd St east of US 41	12,500	BEBR Low Forecast	0.6%	14,500
4	US 41 South of 73rd St	25,500	D1RPM	2.6%	42,500
5	73rd St west of US 41	3,400	D1RPM	3.2%	6,200
6	85th St west of US 41	200	BEBR Low Forecast	0.6%	250

Table 3.8: Design Year 2045 Target DDHVs – US 41

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	US 41 north of 85th St	46,000	0.09	0.64	1,510	2,630	0.09	0.65	1,468	2,672
2	85th St east of US 41	1,700	0.09	0.54	70	83	0.09	0.54	71	82
3	73rd St east of US 41	14,500	0.09	0.67	429	876	0.09	0.60	524	781
4	US 41 South of 73rd St	42,500	0.09	0.62	1,460	2,365	0.09	0.62	1,469	2,356
5	73rd St west of US 41	6,200	0.09	0.62	214	344	0.09	0.53	262	296
6	85th St west of US 41	250	0.08	0.67	6	13	0.08	0.67	6	13

Table 3.9: Design Year 2045 DDHVs and AADT Forecast Check – US 41

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	US 41 north of 85th St	0.09	1,331	2,372	0.09	2,601	1,353	44,000	46,000	2,000	4.3%
2	85th St east of US 41	0.09	133	126	0.09	142	103	2,900	1,700	1,200	70.6%
3	73rd St east of US 41	0.09	453	909	0.09	825	492	15,000	14,500	500	3.4%
4	US 41 South of 73rd St	0.09	1,363	1,998	0.09	2,698	1,290	44,500	42,500	2,000	4.7%
5	73rd St west of US 41	0.09	167	101	0.09	210	195	4,500	6,200	1,700	27.4%
6	85th St west of US 41	0.08	21	19	0.08	19	25	600	250	350	140.0%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

3.3 US 301 Forecast

The interchange of I-75 at US 301 consists of 10 network input zones and extends from east of 18th Street East to west of 51st Avenue East and is represented in **Figure 3.3**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.10**. Based on the network input zones within the interchange study area, US 301 has a D1RPM weighted growth rate of 1.1 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.11**. The Design Year 2045 AADTs were used along with K and D factors from existing year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.12**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.13**.

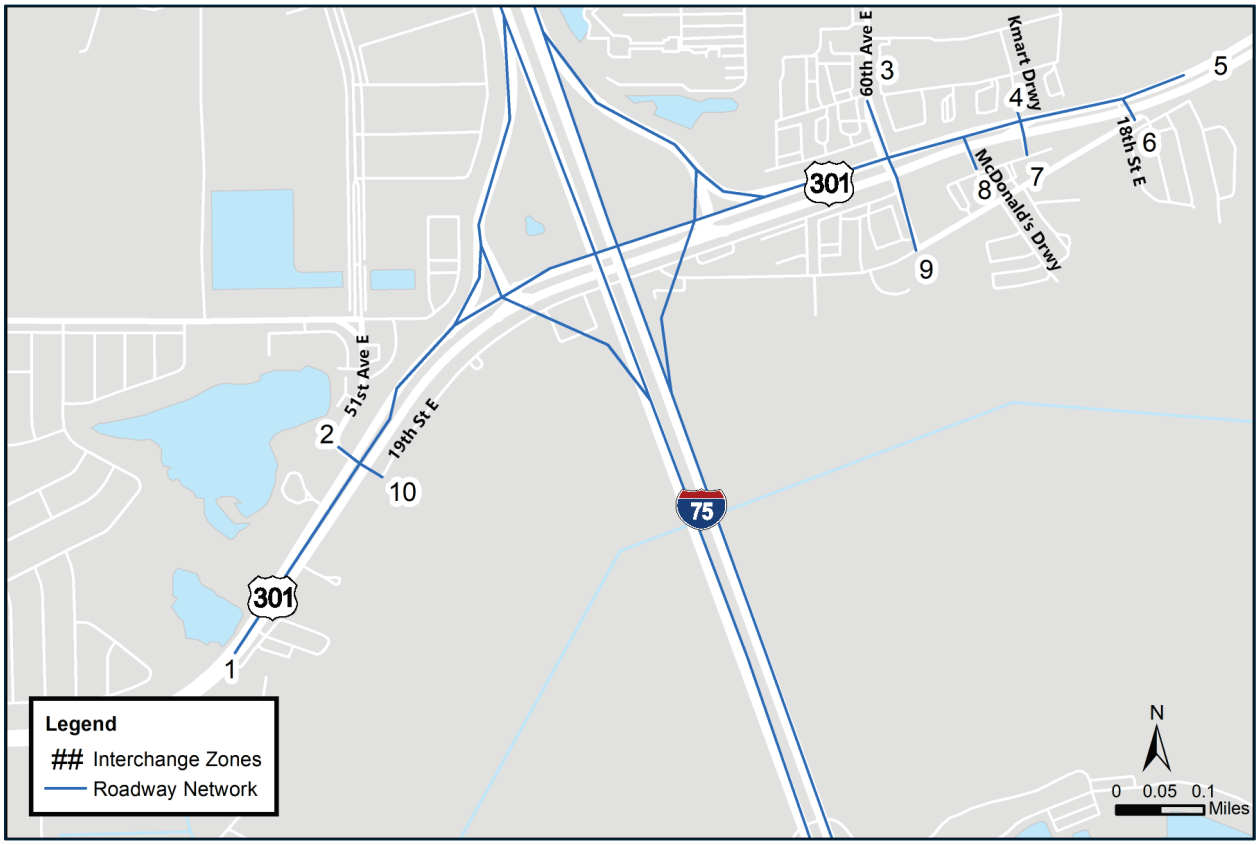

Figure 3.3: Map of Interchange Area and Zones – US 301

Table 3.10: Design Year 2045 AADT Development – US 301

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	Design Year 2045 AADT
1	US 301 west of 51st Ave	35,500	32,700	33,500	38,000	4,500	40,000	1.1	40,300	40,000	0.6%	41,000
2	51st Ave north of US 301	6,600	6,700	8,400	17,200	8,800	15,400	2.0	13,500	15,500	6.4%	17,500
3	60th Ave north of US 301	16,500	21,700	22,200	24,700	2,500	19,000	1.1	18,400	19,000	0.7%	19,500
4	K-Mart Driveway north of US 301	3,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	US 301 east of 18th St	37,500	42,100	43,300	49,700	6,400	43,900	1.1	43,000	43,500	0.8%	45,000
6	18th St south of US 301	1,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7	Starbucks Driveway south of US 301	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8	McDonalds Driveway south of US 301	3,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9	60th Ave south of US 301	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10	51st Ave south of US 301	1,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3.11: Design Year 2045 AADTs – US 301

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	US 301 west of 51st Ave	35,500	D1RPM	0.6%	41,000
2	51st Ave north of US 301	6,600	D1RPM	6.4%	17,500
3	60th Ave north of US 301	16,500	D1RPM	0.7%	19,500
4	K-Mart Driveway north of US 301	3,200	BEBR Low Forecast	0.6%	3,700
5	US 301 east of 18th St	37,500	D1RPM	0.8%	45,000
6	18th St south of US 301	1,500	BEBR Low Forecast	0.6%	1,700
7	Starbucks Driveway south of US 301	10	BEBR Low Forecast	0.6%	10
8	McDonalds Driveway south of US 301	3,400	BEBR Low Forecast	0.6%	3,900
9	60th Ave south of US 301	3,000	BEBR Low Forecast	0.6%	3,400
10	51st Ave south of US 301	1,400	BEBR Low Forecast	0.6%	1,600

Table 3.12: Design Year 2045 Target DDHVs – US 301

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	US 301 west of 51st Ave	41,000	0.09	0.60	1,490	2,200	0.09	0.60	1,484	2,206
2	51st Ave north of US 301	17,500	0.09	0.56	700	875	0.09	0.52	758	817
3	60th Ave north of US 301	19,500	0.09	0.66	595	1,160	0.09	0.57	758	997
4	K-Mart Driveway north of US 301	3,700	0.06	0.56	96	120	0.09	0.52	160	173
5	US 301 east of 18th St	45,000	0.06	0.63	1,062	1,806	0.09	0.64	1,402	2,468
6	18th St south of US 301	1,700	0.09	0.67	50	103	0.09	0.58	64	89
7	Starbucks Driveway south of US 301	10	0.30	0.67	1	2	0.30	0.67	1	2
8	McDonalds Driveway south of US 301	3,900	0.05	0.51	99	103	0.07	0.57	115	149
9	60th Ave south of US 301	3,400	0.09	0.67	101	205	0.09	0.59	124	182
10	51st Ave south of US 301	1,600	0.09	0.63	53	91	0.09	0.66	48	96

Table 3.13: Design Year 2045 DDHVs and AADT Forecast Check – US 301

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	US 301 west of 51st Ave	0.09	1,357	2,084	0.09	1,988	1,490	38,500	41,000	2,500	6.1%
2	51st Ave north of US 301	0.09	456	623	0.09	480	504	12,000	17,500	5,500	31.4%
3	60th Ave north of US 301	0.09	478	975	0.09	976	720	19,000	19,500	500	2.6%
4	K-Mart Driveway north of US 301	0.06	116	95	0.09	145	161	3,400	3,700	300	8.1%
5	US 301 east of 18th St	0.06	1,048	1,724	0.09	2,431	1,248	43,000	45,000	2,000	4.4%
6	18th St south of US 301	0.09	12	68	0.09	89	53	1,600	1,700	100	5.9%
7	Starbucks Driveway south of US 301	0.30	5	10	0.30	6	12	60	10	50	500.0%
8	McDonalds Driveway south of US 301	0.05	86	108	0.07	111	147	3,800	3,900	100	2.6%
9	60th Ave south of US 301	0.09	67	33	0.09	119	194	3,500	3,400	100	2.9%
10	51st Ave south of US 301	0.09	61	37	0.09	43	84	1,400	1,600	200	12.5%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

3.4 SR 64 Forecast

The interchange of I-75 at SR 64 consists of nine network input zones and extends from east of Grand Harbour Parkway to west of Kay Road and is represented in **Figure 3.4**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.14**. Based on the network input zones within the interchange study area, SR 64 has a D1RPM weighted growth rate of 1.5 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.15**. The Design Year 2045 AADTs were used along with K and D factors from existing year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.16**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.17**.

Figure 3.4: Map of Interchange Area and Zones – SR 64

Table 3.14: Design Year 2045 AADT Development – SR 64

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									Design Year 2045 AADT
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	
1	SR 64 west of Kay St	51,000	37,200	39,800	53,600	13,800	64,800	1.3	68,700	65,000	1.3%	68,000
2	Kay St north of SR 64	3,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	65th St north of SR 64	1,800	5,100	5,000	4,200	-800	1,000	0.8	1,500	0	-4.8%	2,100
4	66th St north of SR 64	7,000	8,200	8,100	7,800	-300	6,700	1.0	6,700	0	-4.8%	8,000
5	Grand Harbour Pkwy north of SR 64	7,200	8,600	9,000	10,900	1,900	9,100	1.2	8,700	9,100	1.3%	9,600
6	SR 64 east of Grand Harbour Pkwy	46,500	24,500	27,900	46,000	18,100	64,600	1.6	76,700	64,500	1.8%	69,000
7	66th St south of SR 64	3,700	3,400	3,500	4,300	800	4,500	1.2	4,500	4,500	1.0%	4,700
8	65th St south of SR 64	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9	Kay St south of SR 64	3,100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3.15: Design Year 2045 AADTs – SR 64

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	SR 64 west of Kay St	51,000	D1RPM	1.3%	68,000
2	Kay St north of SR 64	3,500	BEBR Low Forecast	0.6%	4,000
3	65th St north of SR 64	1,800	BEBR Low Forecast	0.6%	2,100
4	66th St north of SR 64	7,000	BEBR Low Forecast	0.6%	8,000
5	Grand Harbour Pkwy north of SR 64	7,200	D1RPM	1.3%	9,600
6	SR 64 east of Grand Harbour Pkwy	46,500	D1RPM	1.8%	69,000
7	66th St south of SR 64	3,700	D1RPM	1.0%	4,700
8	65th St south of SR 64	1,300	BEBR Low Forecast	0.6%	1,500
9	Kay St south of SR 64	3,100	BEBR Low Forecast	0.6%	3,500

Table 3.16: Design Year 2045 Target DDHVs – SR 64

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	SR 64 west of Kay St	68,000	0.09	0.56	2,678	3,442	0.09	0.52	2,934	3,186
2	Kay St north of SR 64	4,000	0.09	0.67	118	242	0.09	0.67	118	242
3	65th St north of SR 64	2,100	0.09	0.67	62	127	0.09	0.54	87	102
4	66th St north of SR 64	8,000	0.09	0.56	303	383	0.08	0.50	312	313
5	Grand Harbour Pkwy north of SR 64	9,600	0.09	0.67	284	580	0.09	0.52	418	446
6	SR 64 east of Grand Harbour Pkwy	69,000	0.09	0.53	2,929	3,281	0.09	0.52	2,955	3,255
7	66th St south of SR 64	4,700	0.09	0.57	183	240	0.09	0.53	198	225
8	65th St south of SR 64	1,500	0.09	0.79	29	111	0.08	0.76	28	86
9	Kay St south of SR 64	3,500	0.09	0.53	147	165	0.08	0.50	131	133

Table 3.17: Design Year 2045 DDHVs and AADT Forecast Check – SR 64

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	SR 64 west of Kay St	0.09	2,499	3,255	0.09	2,996	2,822	64,500	68,000	3,500	5.1%
2	Kay St north of SR 64	0.09	171	46	0.09	285	78	4,000	4,000	0	0.0%
3	65th St north of SR 64	0.09	35	88	0.09	75	92	1,900	2,100	200	9.5%
4	66th St north of SR 64	0.09	392	311	0.08	364	400	9,800	8,000	1,800	22.5%
5	Grand Harbour Pkwy north of SR 64	0.09	180	373	0.09	393	376	8,500	9,600	1,100	11.5%
6	SR 64 east of Grand Harbour Pkwy	0.09	2,606	2,902	0.09	2,910	2,679	62,000	69,000	7,000	10.1%
7	66th St south of SR 64	0.09	146	122	0.09	196	215	4,600	4,700	100	2.1%
8	65th St south of SR 64	0.09	114	34	0.08	89	27	1,600	1,500	100	6.7%
9	Kay St south of SR 64	0.09	157	174	0.08	138	136	3,700	3,500	200	5.7%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

3.5 SR 70 Forecast

The interchange of I-75 at SR 70 consists of 14 network input zones and extends from east of 87th Street East to west of Creekwood Boulevard and is represented in **Figure 3.5**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.18**. Based on the network input zones within the interchange study area, SR 70 has a D1RPM weighted growth rate of 1.2 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.19**. The Design Year 2045 AADTs were used along with K and D factors from existing year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.20**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.21**.

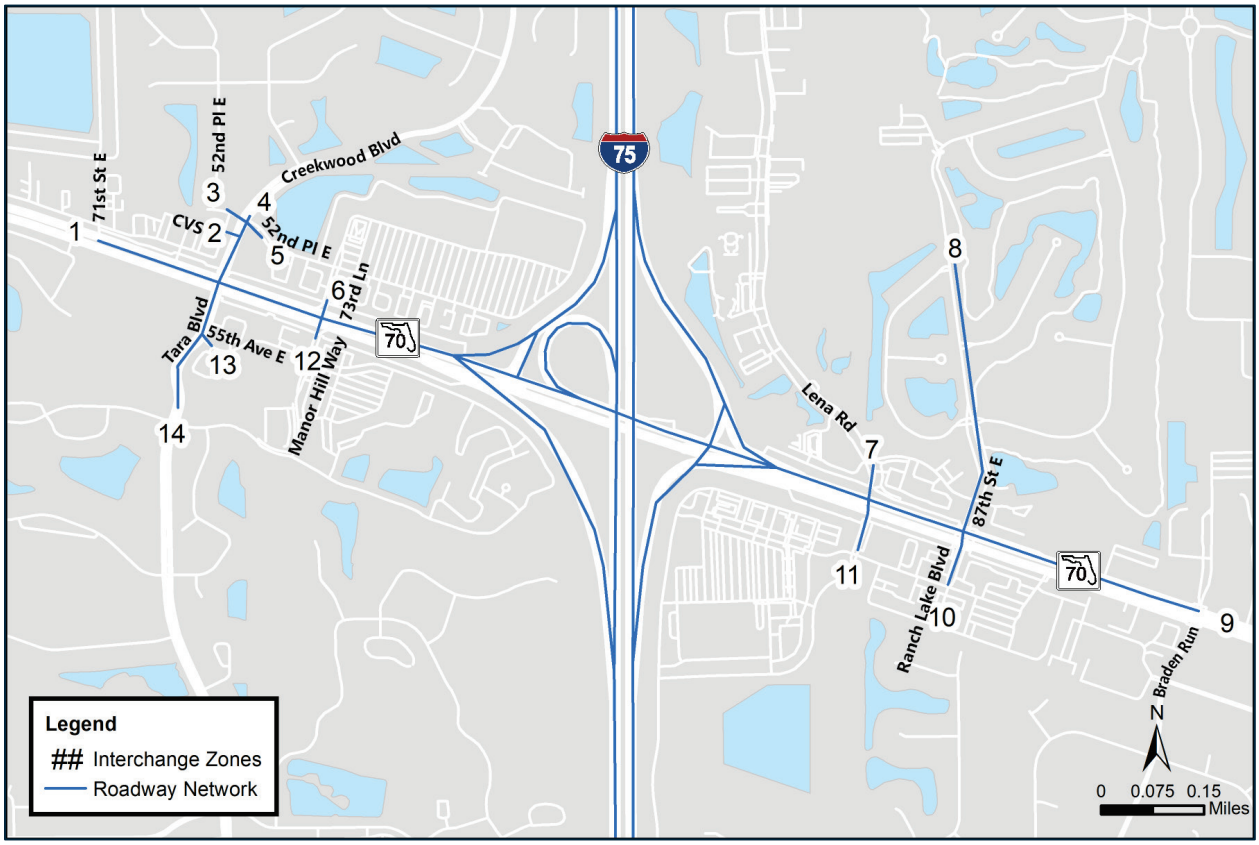

Figure 3.5: Map of Interchange Area and Zones – SR 70

Table 3.18: Design Year 2045 AADT Development – SR 70

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									Design Year 2045 AADT
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	
1	SR 70 west of Creekwood Blvd	59,500	45,100	46,500	54,100	7,600	67,100	1.2	69,200	67,000	0.6%	69,000
2	52nd St west of Creekwood Blvd	2,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	52nd Place west of Creekwood Blvd	1,600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Creekwood Blvd north of 52nd Place	8,300	7,000	7,200	8,400	1,200	9,500	1.2	9,700	9,600	0.7%	9,900
5	52nd Place east of Creekwood Blvd	6,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6	73rd Lane north of SR 70	5,600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7	Lena Rd north of SR 70	3,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8	87th St north of SR 70	4,700	10,300	11,100	15,000	3,900	8,600	1.4	6,400	8,600	4.0%	9,600
9	SR 70 east of Braden Run	44,500	35,200	38,100	53,200	15,100	59,600	1.4	62,100	61,000	1.8%	65,000
10	87th St south of SR 70	12,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11	Lena Rd south of SR 70	6,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12	73rd Lane south of SR 70	5,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
13	55th Ave east of Tara Blvd	1,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14	Tara Blvd south of 55th Ave	6,900	18,300	18,100	17,100	-1,000	5,900	0.9	6,500	0	-4.8%	7,900

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3.19: Design Year 2045 AADTs – SR 70

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	SR 70 west of Creekwood Blvd	59,500	D1RPM	0.6%	69,000
2	52nd St west of Creekwood Blvd	2,400	BEBR Low Forecast	0.6%	2,700
3	52nd Place west of Creekwood Blvd	1,600	BEBR Low Forecast	0.6%	1,800
4	Creekwood Blvd north of 52nd Place	8,300	D1RPM	0.7%	9,900
5	52nd Place east of Creekwood Blvd	6,900	BEBR Low Forecast	0.6%	7,900
6	73rd Lane north of SR 70	5,600	BEBR Low Forecast	0.6%	6,400
7	Lena Rd north of SR 70	3,700	BEBR Low Forecast	0.6%	4,200
8	87th St north of SR 70	4,700	D1RPM	4.0%	9,600
9	SR 70 east of Braden Run	44,500	D1RPM	1.8%	65,000
10	87th St south of SR 70	12,500	BEBR Low Forecast	0.6%	14,500
11	Lena Rd south of SR 70	6,300	BEBR Low Forecast	0.6%	7,200
12	73rd Lane south of SR 70	5,200	BEBR Low Forecast	0.6%	5,900
13	55th Ave east of Tara Blvd	1,500	BEBR Low Forecast	0.6%	1,700
14	Tara Blvd south of 55th Ave	6,900	BEBR Low Forecast	0.6%	7,900

Table 3.20: Design Year 2045 Target DDHVs – SR 70

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	SR 70 west of Creekwood Blvd	69,000	0.09	0.53	2,945	3,265	0.09	0.54	2,837	3,373
2	52nd St west of Creekwood Blvd	2,700	0.09	0.89	26	215	0.07	0.79	38	143
3	52nd Place west of Creekwood Blvd	1,800	0.06	0.66	38	75	0.09	0.54	75	90
4	Creekwood Blvd north of 52nd Place	9,900	0.09	0.67	293	598	0.09	0.64	325	566
5	52nd Place east of Creekwood Blvd	7,900	0.05	0.55	164	204	0.09	0.61	264	417
6	73rd Lane north of SR 70	6,400	0.05	0.66	111	216	0.09	0.64	206	371
7	Lena Rd north of SR 70	4,200	0.10	0.70	133	307	0.10	0.50	199	202
8	87th St north of SR 70	9,600	0.09	0.59	353	511	0.09	0.54	395	469
9	SR 70 east of Braden Run	65,000	0.09	0.51	2,875	2,975	0.09	0.50	2,923	2,927
10	87th St south of SR 70	14,500	0.05	0.51	361	373	0.09	0.58	561	768
11	Lena Rd south of SR 70	7,200	0.04	0.86	39	231	0.10	0.72	197	510
12	73rd Lane south of SR 70	5,900	0.09	0.55	240	291	0.09	0.62	201	330
13	55th Ave east of Tara Blvd	1,700	0.06	0.69	29	67	0.09	0.89	17	135
14	Tara Blvd south of 55th Ave	7,900	0.09	0.67	234	477	0.09	0.50	352	359

Table 3.21: Design Year 2045 DDHVs and AADT Forecast Check – SR 70

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	SR 70 west of Creekwood Blvd	0.09	2,362	2,632	0.09	2,824	2,218	56,000	69,000	13,000	18.8%
2	52nd St west of Creekwood Blvd	0.09	213	27	0.07	151	36	2,700	2,700	0	0.0%
3	52nd Place west of Creekwood Blvd	0.06	74	42	0.09	74	85	1,700	1,800	100	5.6%
4	Creekwood Blvd north of 52nd Place	0.09	177	474	0.09	505	321	9,200	9,900	700	7.1%
5	52nd Place east of Creekwood Blvd	0.05	183	228	0.09	249	457	8,200	7,900	300	3.8%
6	73rd Lane north of SR 70	0.05	212	104	0.09	332	206	6,000	6,400	400	6.3%
7	Lena Rd north of SR 70	0.10	322	134	0.10	190	198	4,300	4,200	100	2.4%
8	87th St north of SR 70	0.09	176	267	0.09	243	331	6,400	9,600	3,200	33.3%
9	SR 70 east of Braden Run	0.09	2,413	2,426	0.09	2,553	2,506	56,000	65,000	9,000	13.8%
10	87th St south of SR 70	0.05	350	363	0.09	808	500	14,500	14,500	0	0.0%
11	Lena Rd south of SR 70	0.04	40	226	0.10	212	461	6,800	7,200	400	5.6%
12	73rd Lane south of SR 70	0.09	141	201	0.09	203	302	5,600	5,900	300	5.1%
13	55th Ave east of Tara Blvd	0.06	26	64	0.09	17	129	1,600	1,700	100	5.9%
14	Tara Blvd south of 55th Ave	0.09	454	235	0.09	299	289	7,700	7,900	200	2.5%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

3.6 CR 610 (University Parkway) Forecast

The interchange of I-75 at CR 610 (University Parkway) consists of 13 network input zones and extends from east of Town Center Parkway to west of Tourist Center Drive and is represented in **Figure 3.6**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.22**. Based on the network input zones within the interchange study area, University Parkway has a D1RPM weighted growth rate of 1.3 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.23**. The Design Year 2045 AADTs were used along with K and D factors from existing year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.24**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.25**.

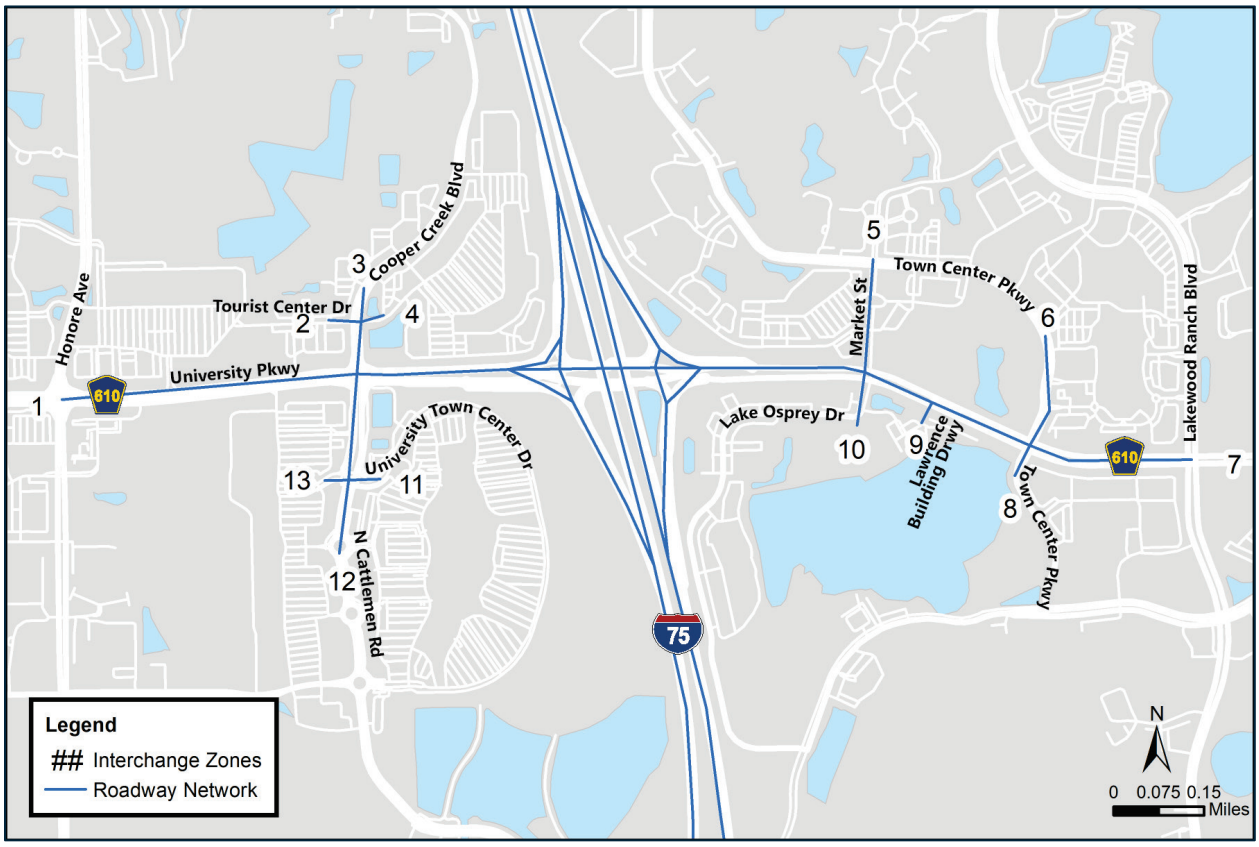

Figure 3.6: Map of Interchange Area and Zones – CR 610 (University Parkway)

Table 3.22: Design Year 2045 AADT Development– CR 610 (University Parkway)

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									Design Year 2045 AADT
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	
1	University Pkwy west of Cooper Creek Blvd	63,000	47,400	49,700	62,000	12,300	75,300	1.2	78,600	75,500	0.9%	78,000
2	Tourist Center Dr west of Cooper Creek Blvd	4,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	Cooper Creek Blvd north of Tourist Center Dr	19,500	10,800	11,100	12,900	1,800	21,300	1.2	22,700	21,500	0.5%	21,500
4	Tourist Center Dr east of Cooper Creek Blvd	4,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	Market St north of University Pkwy	18,500	28,600	29,600	34,800	5,200	23,700	1.2	21,800	23,500	1.3%	25,000
6	Town Center Pkwy north of University Pkwy	8,600	3,800	4,200	6,600	2,400	11,000	1.6	13,500	11,000	1.3%	11,500
7	University Pkwy east of Town Center Pkwy	34,500	28,300	31,100	45,900	14,800	49,300	1.5	50,900	50,000	2.1%	54,000
8	Town Center Pkwy south of University Pkwy	4,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9	Lawrence Building Driveway south of University Pkwy	550	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10	Lake Osprey Dr south of University Pkwy	9,500	500	1,400	6,000	4,600	14,100	4.3	40,700	14,000	2.3%	15,000
11	University Town Center Dr east of Cooper Creek Blvd	8,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12	Cattlemen Road, south of University Town Center Dr	14,500	7,000	7,700	11,100	3,400	17,900	1.4	20,900	18,000	1.1%	19,000
13	University Town Center Dr west of Cooper Creek Blvd	4,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3.23: Design Year 2045 AADTs – SR 80 CR 610 (University Parkway)

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	University Pkwy west of Cooper Creek Blvd	63,000	D1RPM	0.9%	78,000
2	Tourist Center Dr west of Cooper Creek Blvd	4,500	BEBR Low Forecast	0.6%	5,100
3	Cooper Creek Blvd north of Tourist Center Dr	19,500	D1RPM	0.4%	21,500
4	Tourist Center Dr east of Cooper Creek Blvd	4,000	BEBR Low Forecast	0.6%	4,600
5	Market St north of University Pkwy	18,500	D1RPM	1.3%	25,000
6	Town Center Pkwy north of University Pkwy	8,600	D1RPM	1.3%	11,500
7	University Pkwy east of Town Center Pkwy	34,500	D1RPM	2.2%	54,000
8	Town Center Pkwy south of University Pkwy	4,200	BEBR Low Forecast	0.3%	4,600
9	Lawrence Building Driveway south of University Pkwy	550	BEBR Low Forecast	0.3%	600
10	Lake Osprey Dr south of University Pkwy	9,500	D1RPM	2.3%	15,000
11	University Town Center Dr east of Cooper Creek Blvd	8,400	BEBR Low Forecast	0.3%	9,100
12	Cattlemen Road, south of University Town Center Dr	14,500	D1RPM	1.1%	19,000
13	University Town Center Dr west of Cooper Creek Blvd	4,500	BEBR Low Forecast	0.3%	4,900

Table 3.24: Design Year 2045 Target DDHVs – CR 610 (University Parkway)

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	University Pkwy west of Cooper Creek Blvd	78,000	0.09	0.53	3,291	3,729	0.09	0.53	3,322	3,698
2	Tourist Center Dr west of Cooper Creek Blvd	5,100	0.05	0.56	104	134	0.09	0.54	212	246
3	Cooper Creek Blvd north of Tourist Center Dr	21,500	0.09	0.53	913	1,022	0.09	0.57	831	1,104
4	Tourist Center Dr east of Cooper Creek Blvd	4,600	0.01	0.98	1	54	0.08	0.95	20	362
5	Market St north of University Pkwy	25,000	0.09	0.53	1,064	1,186	0.09	0.57	965	1,285
6	Town Center Pkwy north of University Pkwy	11,500	0.09	0.55	466	569	0.09	0.60	410	625
7	University Pkwy east of Town Center Pkwy	54,000	0.09	0.52	2,321	2,539	0.09	0.54	2,257	2,603
8	Town Center Pkwy south of University Pkwy	4,600	0.09	0.67	136	278	0.09	0.67	136	278
9	Lawrence Building Driveway south of University Pkwy	600	0.07	0.95	2	41	0.07	0.78	9	30
10	Lake Osprey Dr south of University Pkwy	15,000	0.09	0.67	444	906	0.09	0.67	444	906
11	University Town Center Dr east of Cooper Creek Blvd	9,100	0.01	0.82	18	84	0.09	0.63	289	498
12	Cattlemen Road, south of University Town Center Dr	19,000	0.09	0.55	774	936	0.09	0.62	648	1,062
13	University Town Center Dr west of Cooper Creek Blvd	4,900	0.02	0.64	27	49	0.08	0.79	87	322

Table 3.25: Design Year 2045 DDHVs and AADT Forecast Check – CR 610 (University Parkway)

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	University Pkwy west of Cooper Creek Blvd	0.09	3,387	3,069	0.09	3,000	3,312	71,500	78,000	6,500	8.3%
2	Tourist Center Dr west of Cooper Creek Blvd	0.05	135	136	0.09	247	204	5,000	5,100	100	2.0%
3	Cooper Creek Blvd north of Tourist Center Dr	0.09	873	681	0.09	915	1,113	22,500	21,500	1,000	4.7%
4	Tourist Center Dr east of Cooper Creek Blvd	0.01	65	5	0.08	390	17	4,900	4,600	300	6.5%
5	Market St north of University Pkwy	0.09	1,033	1,059	0.09	848	1,098	23,000	25,000	2,000	8.0%
6	Town Center Pkwy north of University Pkwy	0.09	572	504	0.09	467	759	13,500	11,500	2,000	17.4%
7	University Pkwy east of Town Center Pkwy	0.09	2,317	2,106	0.09	2,325	1,876	49,000	54,000	5,000	9.3%
8	Town Center Pkwy south of University Pkwy	0.09	30	321	0.09	432	75	5,600	4,600	1,000	21.7%
9	Lawrence Building Driveway south of University Pkwy	0.07	6	57	0.07	31	17	900	600	300	50.0%
10	Lake Osprey Dr south of University Pkwy	0.09	259	830	0.09	781	408	13,000	15,000	2,000	13.3%
11	University Town Center Dr east of Cooper Creek Blvd	0.01	125	24	0.09	511	302	9,400	9,100	300	3.3%
12	Cattlemen Road, south of University Town Center Dr	0.09	669	512	0.09	982	584	17,500	19,000	1,500	7.9%
13	University Town Center Dr west of Cooper Creek Blvd	0.02	32	65	0.08	312	85	4,800	4,900	100	2.0%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

3.7 SR 780 (Fruitville Road) Forecast

The interchange of I-75 at SR 780 (Fruitville Road) consists of eight network input zones and extends from east of Lakewood Ranch Boulevard to west of North Cattlemen Road and is represented in **Figure 3.7**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.26**. Based on the network input zones within the interchange study area, Fruitville Road has a D1RPM weighted growth rate of 1.4 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.27**. The Design Year 2045 AADTs were used along with K and D factors from existing year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.28**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.29**.

A new zone was added for the No-Build scenario at Lakewood Ranch Boulevard north of Fruitville Road. This north leg of the intersection was not yet opened during existing year 2019 data collection. Substantial new development is expected to the north of Fruitville Road and a review of aerials indicates this growth will be focused on the new zone at Lakewood Ranch Boulevard rather than on Coburn Road.

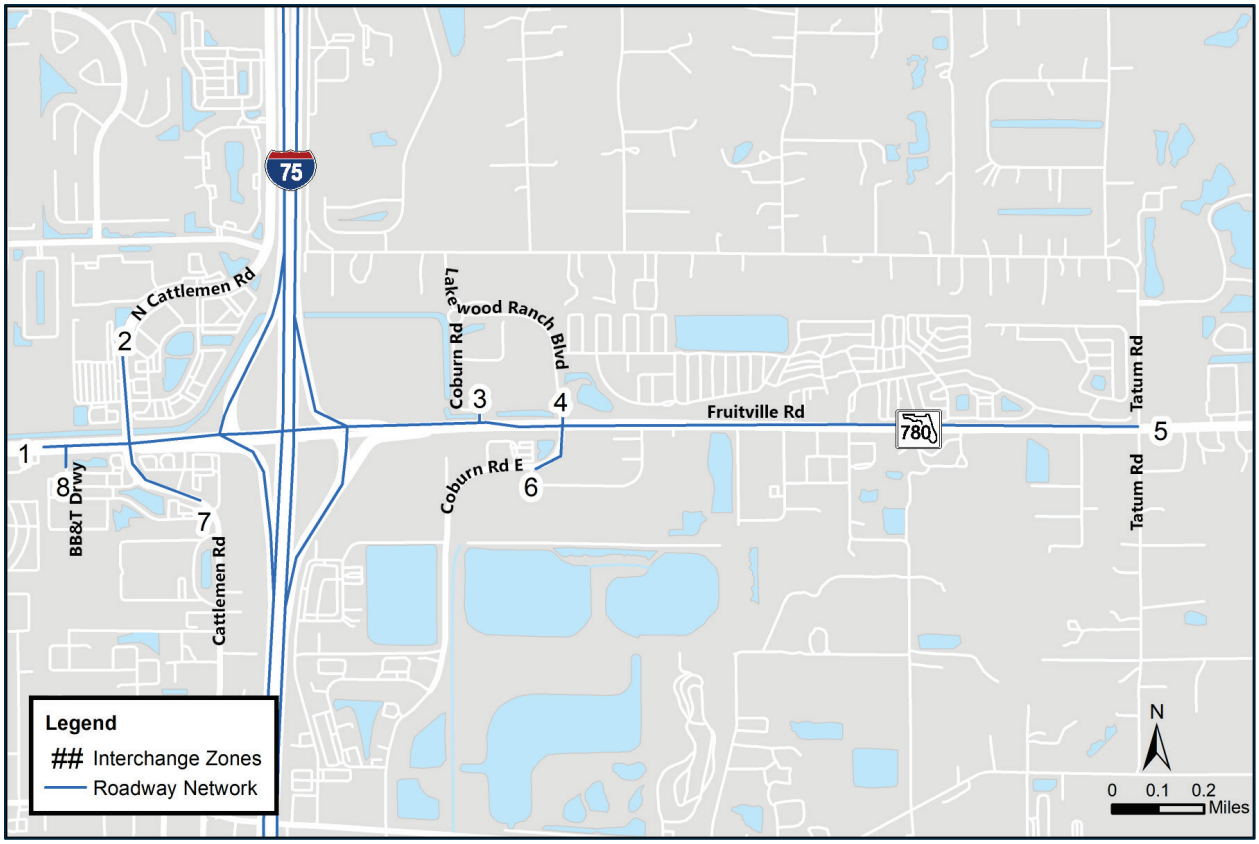

Figure 3.7: Map of Interchange Area and Zones – SR 780 (Fruitville Road)

Table 3.26: Design Year 2045 AADT Development – SR 780 (Fruitville Road)

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									Design Year 2045 AADT
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	
1	SR 780 Fruitville west of Lowes Driveway	62,000	42,900	45,100	56,800	11,700	73,700	1.3	78,100	74,000	0.9%	76,500
2	Cattlemen Rd north of SR 780 Fruitville Rd	29,500	20,100	21,300	27,900	6,600	36,100	1.3	38,600	36,000	1.0%	37,500
3	Coburn Rd (west) north of SR 780 Fruitville Rd	2,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Coburn Rd (east) north of Fruitville Rd	0	3,000	4,700	13,700	9,000	9,000	2.9	NA	0	NA	16,000
5	SR 780 Fruitville east of Coburn Rd East	30,500	23,400	26,300	41,700	15,400	45,900	1.6	48,400	47,000	2.6%	51,000
6	Coburn Rd (east) south of SR 780 Fruitville Rd	10,500	16,600	15,800	11,700	-4,100	6,400	0.7	7,800	0	-4.8%	11,500
7	Cattlemen Rd south of SR 780 Fruitville Rd	24,500	15,800	17,600	27,100	9,500	34,000	1.5	37,700	34,000	1.8%	36,500
8	Lowe's Driveway south of SR 780	2,100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3.27: Design Year 2045 AADTs – SR 780 (Fruitville Road)

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	SR 780 Fruitville west of Lowes Driveway	62,000	D1RPM	0.9%	76,500
2	Cattlemen Rd north of SR 780 Fruitville Rd	29,500	D1RPM	1.1%	37,500
3	Coburn Rd (west) north of SR 780 Fruitville Rd	2,500	BEBR Low Forecast	0.3%	2,700
4	Lakewood Ranch Blvd north of Fruitville Rd	0	D1RPM	14.3%	16,000
5	SR 780 Fruitville east of Coburn Rd East	30,500	D1RPM	2.6%	51,000
6	Coburn Rd (east) south of SR 780 Fruitville Rd	10,500	BEBR Low Forecast	0.3%	11,500
7	Cattlemen Rd south of SR 780 Fruitville Rd	24,500	D1RPM	1.8%	36,500
8	Lowe's Driveway south of SR 780	2,100	BEBR Low Forecast	0.3%	2,300

Table 3.28: Design Year 2045 Target DDHVs – SR 780 (Fruitville Road)

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	SR 780 Fruitville west of Lowes Driveway	76,500	0.09	0.58	2,906	3,979	0.09	0.54	3,146	3,739
2	Cattlemen Rd north of SR 780 Fruitville Rd	37,500	0.09	0.58	1,427	1,948	0.09	0.57	1,462	1,913
3	Coburn Rd (west) north of SR 780 Fruitville Rd	2,700	0.06	0.53	77	86	0.09	0.61	93	147
4	Lakewood Ranch Blvd north of Fruitville Rd	16,000	0.06	0.53	454	512	0.09	0.61	550	871
5	SR 780 Fruitville east of Coburn Rd East	51,000	0.09	0.50	2,282	2,308	0.09	0.51	2,251	2,339
6	Coburn Rd (east) south of SR 780 Fruitville Rd	11,500	0.09	0.58	437	598	0.09	0.67	341	694
7	Cattlemen Rd south of SR 780 Fruitville Rd	36,500	0.08	0.52	1,402	1,493	0.09	0.60	1,251	1,860
8	Lowe's Driveway south of SR 780	2,300	0.05	0.56	51	67	0.06	0.71	43	104

Table 3.29: Design Year 2045 DDHVs and AADT Forecast Check – SR 780 (Fruitville Road)

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	SR 780 Fruitville west of Lowes Driveway	0.09	2,575	3,772	0.09	3,801	3,122	77,000	76,500	500	0.7%
2	Cattlemen Rd north of SR 780 Fruitville Rd	0.09	1,791	1,274	0.09	1,772	1,429	35,500	37,500	2,000	5.3%
3	Coburn Rd (west) north of SR 780 Fruitville Rd	0.06	34	29	0.09	36	58	1,100	2,700	1,600	59.3%
4	Lakewood Ranch Blvd north of Fruitville Rd	0.06	396	417	0.09	470	787	14,000	16,000	2,000	12.5%
5	SR 780 Fruitville east of Coburn Rd East	0.09	2,049	1,998	0.09	2,159	2,155	48,000	51,000	3,000	5.9%
6	Coburn Rd (east) south of SR 780 Fruitville Rd	0.09	436	635	0.09	663	289	12,000	11,500	500	4.3%
7	Cattlemen Rd south of SR 780 Fruitville Rd	0.08	1,265	1,309	0.09	1,717	1,088	33,000	36,500	3,500	9.6%
8	Lowe's Driveway south of SR 780	0.05	74	50	0.06	105	39	2,300	2,300	0	0.0%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

3.8 SR 758 (Bee Ridge Road) Forecast

The interchange of I-75 at SR 758 (Bee Ridge Road) consists of 12 network input zones and extends from east of Mauna Loa Boulevard to west of Maxfield Drive and is represented in **Figure 3.8**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.30**. Based on the network input zones within the interchange study area, Bee Ridge Road has a D1RPM weighted growth rate of 1.1 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.31**. The Design Year 2045 AADTs were used along with K and D factors from existing year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.32**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.33**.

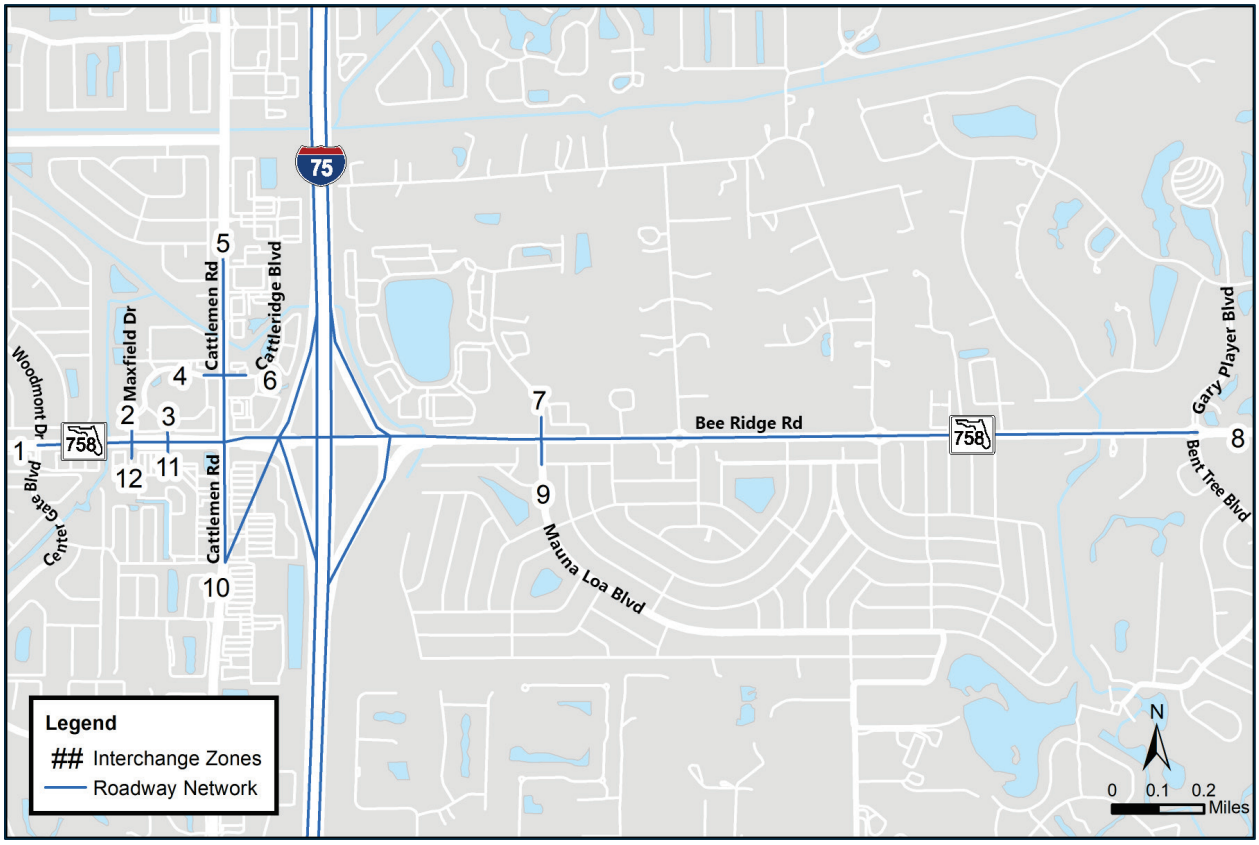

Figure 3.8: Map of Interchange Area and Zones – SR 758 (Bee Ridge Road)

Table 3.30: Design Year 2045 AADT Development – SR 758 (Bee Ridge Road)

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									Design Year 2045 AADT
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	
1	Bee Ridge Rd west of Maxfield Dr	37,500	34,900	36,000	41,500	5,500	43,000	1.2	43,200	43,000	0.7%	44,500
2	Maxfield Dr north of Bee Ridge Rd	6,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	Marathon Gas Driveway north of Bee Ridge Rd	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Cattleridge Rd west of Cattleman Blvd	5,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	Cattlemen Blvd north of Cattleridge Rd	26,000	25,800	26,300	28,900	2,600	28,600	1.1	28,600	28,500	0.5%	29,000
6	Cattleridge Rd east of Cattlemen Blvd	4,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7	Mauna Loa Blvd north of Bee Ridge Rd	7,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8	Bee Ridge Rd east of Mauna Loa Blvd	19,500	28,400	31,400	47,400	16,000	35,500	1.5	29,400	35,500	3.9%	39,500
9	Mauna Loa Blvd south of Bee Ridge Rd	7,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10	Cattlemen Rd south of Bee Ridge Rd plus new SB Off Ramp	28,500	22,500	22,800	24,100	1,300	29,800	1.1	30,100	30,000	0.3%	30,000
11	Publix Driveway south of Bee Ridge Rd	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12	Maxfield Dr south of Bee Ridge Rd	7,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3.31: Design Year 2045 AADTs – SR 758 (Bee Ridge Road)

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	Bee Ridge Rd west of Maxfield Dr	37,500	D1RPM	0.7%	44,500
2	Maxfield Dr north of Bee Ridge Rd	6,500	BEBR Low Forecast	0.3%	7,100
3	Marathon Gas Driveway north of Bee Ridge Rd	1,200	BEBR Low Forecast	0.3%	1,300
4	Cattleridge Rd west of Cattleman Blvd	5,400	BEBR Low Forecast	0.3%	5,900
5	Cattlemen Blvd north of Cattleridge Rd	26,000	D1RPM	0.5%	29,000
6	Cattleridge Rd east of Cattlemen Blvd	4,300	BEBR Low Forecast	0.3%	4,700
7	Mauna Loa Blvd north of Bee Ridge Rd	7,200	BEBR Low Forecast	0.3%	7,800
8	Bee Ridge Rd east of Mauna Loa Blvd	19,500	D1RPM	3.9%	39,500
9	Mauna Loa Blvd south of Bee Ridge Rd	7,500	BEBR Low Forecast	1.9%	11,000
10	Cattlemen Rd south of Bee Ridge Rd plus new SB Off Ramp	28,500	D1RPM	0.2%	30,000
11	Publix Driveway south of Bee Ridge Rd	3,900	BEBR Low Forecast	0.3%	4,200
12	Maxfield Dr south of Bee Ridge Rd	7,000	BEBR Low Forecast	0.3%	7,600

Table 3.32: Design Year 2045 Target DDHVs – SR 758 (Bee Ridge Road)

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	Bee Ridge Rd west of Maxfield Dr	44,500	0.09	0.59	1,632	2,373	0.09	0.53	1,870	2,135
2	Maxfield Dr north of Bee Ridge Rd	7,100	0.06	0.51	221	229	0.08	0.66	186	363
3	Marathon Gas Driveway north of Bee Ridge Rd	1,300	0.08	0.73	27	75	0.06	0.58	34	46
4	Cattleridge Rd west of Cattleman Blvd	5,900	0.09	0.60	212	323	0.08	0.56	217	275
5	Cattlemen Blvd north of Cattleridge Rd	29,000	0.09	0.60	1,057	1,553	0.09	0.55	1,180	1,430
6	Cattleridge Rd east of Cattlemen Blvd	4,700	0.07	0.72	95	249	0.09	0.71	122	304
7	Mauna Loa Blvd north of Bee Ridge Rd	7,800	0.09	0.51	346	356	0.09	0.61	272	430
8	Bee Ridge Rd east of Mauna Loa Blvd	39,500	0.09	0.60	1,407	2,148	0.09	0.57	1,539	2,016
9	Mauna Loa Blvd south of Bee Ridge Rd	11,000	0.09	0.67	326	664	0.09	0.64	358	632
10	Cattlemen Rd south of Bee Ridge Rd plus new SB Off Ramp	30,000	0.09	0.50	1,342	1,358	0.09	0.56	1,186	1,514
11	Publix Driveway south of Bee Ridge Rd	4,200	0.09	0.68	118	257	0.05	0.54	99	115
12	Maxfield Dr south of Bee Ridge Rd	7,600	0.03	0.51	116	120	0.08	0.53	294	335

Table 3.33: Design Year 2045 DDHVs and AADT Forecast Check – SR 758 (Bee Ridge Road)

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	Bee Ridge Rd west of Maxfield Dr	0.09	1,359	2,128	0.09	2,171	1,818	44,500	44,500	0	0.0%
2	Maxfield Dr north of Bee Ridge Rd	0.06	216	247	0.08	189	387	7,400	7,100	300	4.2%
3	Marathon Gas Driveway north of Bee Ridge Rd	0.08	75	25	0.06	44	32	1,300	1,300	0	0.0%
4	Cattleridge Rd west of Cattleman Blvd	0.09	201	354	0.08	273	204	6,100	5,900	200	3.4%
5	Cattlemen Blvd north of Cattleridge Rd	0.09	1,553	1,085	0.09	1,143	1,484	29,500	29,000	500	1.7%
6	Cattleridge Rd east of Cattlemen Blvd	0.07	270	96	0.09	145	325	5,200	4,700	500	10.6%
7	Mauna Loa Blvd north of Bee Ridge Rd	0.09	356	395	0.09	271	473	8,300	7,800	500	6.4%
8	Bee Ridge Rd east of Mauna Loa Blvd	0.09	1,085	1,532	0.09	1,546	1,024	29,000	39,500	10,500	26.6%
9	Mauna Loa Blvd south of Bee Ridge Rd	0.09	546	211	0.09	305	528	9,300	11,000	1,700	15.5%
10	Cattlemen Rd south of Bee Ridge Rd plus new SB Off Ramp	0.09	1,159	1,114	0.09	1,085	1,437	28,000	30,000	2,000	6.7%
11	Publix Driveway south of Bee Ridge Rd	0.09	252	125	0.05	123	94	4,200	4,200	0	0.0%
12	Maxfield Dr south of Bee Ridge Rd	0.03	177	114	0.08	316	344	8,000	7,600	400	5.3%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

3.9 SR 72 (Clark R Forecast

The interchange of I-75 at SR 72 (Clark Road) consists of 11 network input zones and extends from east of Hummingbird Avenue to west of Gantt Road and is represented in **Figure 3.9**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.34**. Based on the network input zones within the interchange study area, Clark Road has a D1RPM weighted growth rate of 0.6 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.35**. The Design Year 2045 AADTs were used along with K and D factors from existing year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.36**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.37**.

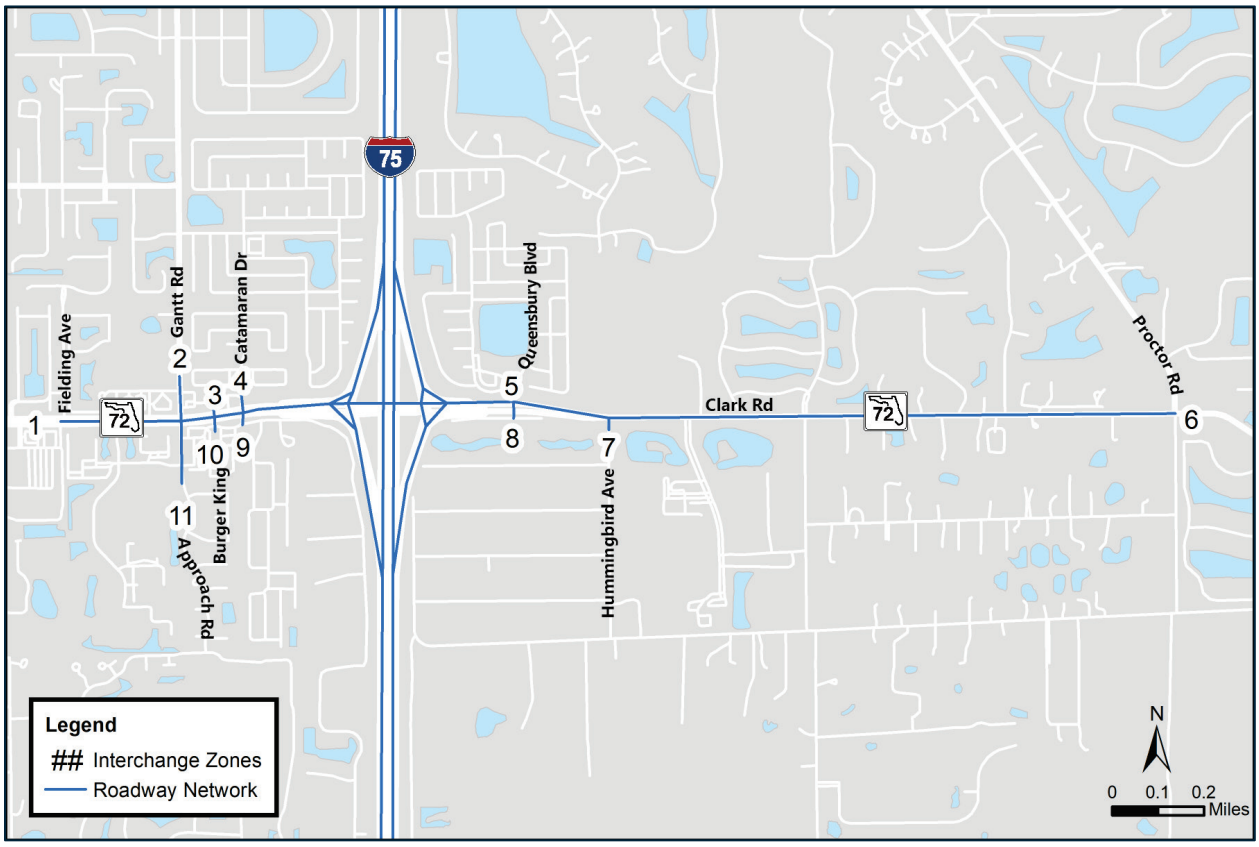

Figure 3.9: Map of Interchange Area and Zones – SR 72 (Clark Road)

Table 3.34: Design Year 2045 AADT Development – SR 72 (Clark Road)

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	Design Year 2045 AADT
1	Clark Rd west of Gantt Rd	57,000	53,700	55,100	62,200	7,100	64,100	1.1	64,300	64,500	0.6%	66,000
2	Gantt Rd north of SR 72 Clark Rd	11,500	9,800	9,700	9,100	-600	10,900	0.9	10,800	0	-4.8%	12,500
3	Driveway north of Clark Rd	2,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Catamaran Dr north of SR 72 Clark Rd	1,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	Queensbury Blvd north of SR 72 Clark Rd	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6	Clark Rd east of Hummingbird Ave	17,000	12,300	12,700	14,900	2,200	19,200	1.2	19,900	19,000	0.6%	19,500
7	Hummingbird Ave south of SR 72 Clark Rd	1,600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8	Queensbury Blvd south of SR 72 Clark Rd	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9	Catamaran Dr south of SR 72 Clark Rd	3,600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10	Approach Rd south of Clark Rd	2,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11	Gantt Rd south of SR 72 Clark Rd	4,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3.35: Design Year 2045 AADTs – SR 72 (Clark Road)

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	Clark Rd west of Gantt Rd	57,000	D1RPM	0.6%	66,000
2	Gantt Rd north of SR 72 Clark Rd	11,500	BEBR Low Forecast	0.3%	12,500
3	Driveway north of Clark Rd	2,900	BEBR Low Forecast	0.3%	3,200
4	Catamaran Dr north of SR 72 Clark Rd	1,800	BEBR Low Forecast	0.3%	2,000
5	Queensbury Blvd north of SR 72 Clark Rd	1,200	BEBR Low Forecast	0.3%	1,300
6	Clark Rd east of Hummingbird Ave	17,000	D1RPM	0.6%	19,500
7	Hummingbird Ave south of SR 72 Clark Rd	1,600	Average Growth	0.6%	1,900
8	Queensbury Blvd south of SR 72 Clark Rd	400	BEBR Low Forecast	0.3%	450
9	Catamaran Dr south of SR 72 Clark Rd	3,600	BEBR Low Forecast	0.3%	3,900
10	Approach Rd south of Clark Rd	2,900	BEBR Low Forecast	0.3%	3,200
11	Gantt Rd south of SR 72 Clark Rd	4,900	BEBR Low Forecast	0.3%	5,300

Table 3.36: Design Year 2045 Target DDHVs – SR 72 (Clark Road)

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	Clark Rd west of Gantt Rd	66,000	0.09	0.60	2,362	3,578	0.09	0.57	2,572	3,368
2	Gantt Rd north of SR 72 Clark Rd	12,500	0.09	0.58	469	656	0.09	0.54	517	608
3	Driveway north of Clark Rd	3,200	0.09	0.53	135	149	0.06	0.60	73	111
4	Catamaran Dr north of SR 72 Clark Rd	2,000	0.09	0.65	62	114	0.07	0.54	62	74
5	Queensbury Blvd north of SR 72 Clark Rd	1,300	0.04	0.60	21	31	0.07	0.56	38	48
6	Clark Rd east of Hummingbird Ave	19,500	0.09	0.53	830	925	0.09	0.63	652	1,103
7	Hummingbird Ave south of SR 72 Clark Rd	1,900	0.09	0.67	56	115	0.09	0.63	63	108
8	Queensbury Blvd south of SR 72 Clark Rd	450	0.22	0.92	8	92	0.02	0.50	5	4
9	Catamaran Dr south of SR 72 Clark Rd	3,900	0.08	0.64	114	199	0.10	0.54	176	208
10	Approach Rd south of Clark Rd	3,200	0.09	0.56	128	163	0.05	0.59	66	95
11	Gantt Rd south of SR 72 Clark Rd	5,300	0.09	0.55	213	264	0.09	0.67	157	320

Table 3.37: Design Year 2045 DDHVs and AADT Forecast Check – SR 72 (Clark Road)

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	Clark Rd west of Gantt Rd	0.09	2,117	3,196	0.09	3,160	2,235	60,000	66,000	6,000	9.1%
2	Gantt Rd north of SR 72 Clark Rd	0.09	482	718	0.09	473	603	13,500	12,500	1,000	8.0%
3	Driveway north of Clark Rd	0.09	130	182	0.06	111	73	3,500	3,200	300	9.4%
4	Catamaran Dr north of SR 72 Clark Rd	0.09	114	68	0.07	74	73	2,100	2,000	100	5.0%
5	Queensbury Blvd north of SR 72 Clark Rd	0.04	33	47	0.07	54	45	1,500	1,300	200	15.4%
6	Clark Rd east of Hummingbird Ave	0.09	986	942	0.09	1,128	684	21,500	19,500	2,000	10.3%
7	Hummingbird Ave south of SR 72 Clark Rd	0.09	123	52	0.09	60	95	1,900	1,900	0	0.0%
8	Queensbury Blvd south of SR 72 Clark Rd	0.22	13	85	0.02	19	20	450	450	0	0.0%
9	Catamaran Dr south of SR 72 Clark Rd	0.08	210	120	0.10	204	226	4,400	3,900	500	12.8%
10	Approach Rd south of Clark Rd	0.09	143	171	0.05	96	67	3,400	3,200	200	6.3%
11	Gantt Rd south of SR 72 Clark Rd	0.09	218	248	0.09	354	140	5,500	5,300	200	3.8%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

3.10 CR 681 Forecast

The interchange of I-75 at SR 681 consists of three network input zones and only has a west-bound direction extending west of Honore Ave and is represented in **Figure 3.10**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.38**. Based on the network input zones within the interchange study area, SR 681 has a D1RPM weighted growth rate of 1.2 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.39**. The Design Year 2045 AADTs were used along with K and D factors from existing year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.40**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.41**.

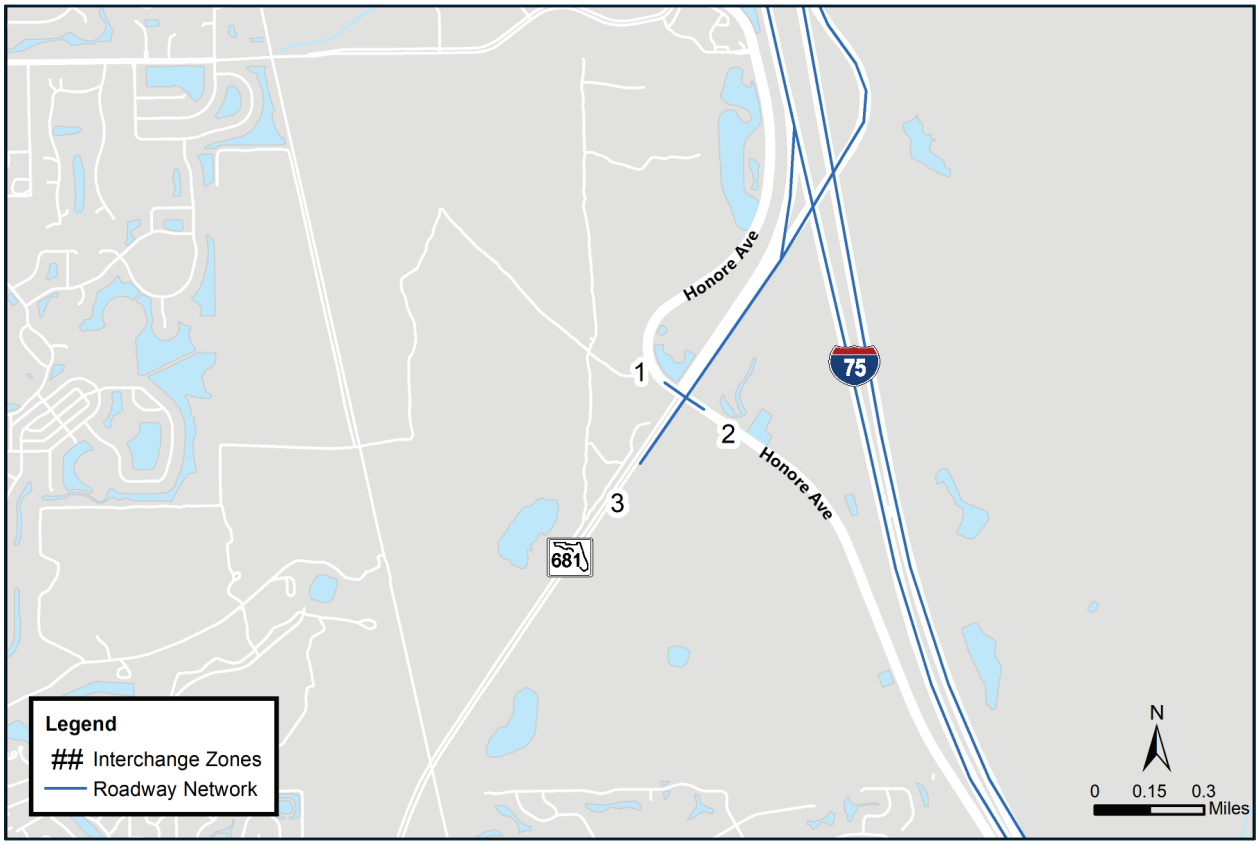

Figure 3.10: Map of Interchange Area and Zones – SR 681

Table 3.38: Design Year 2045 AADT Development – SR 681

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									Design Year 2045 AADT
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	
1	Honore Ave west of SR 681	6,400	9,600	10,300	13,800	3,500	9,900	1.3	8,600	9,900	2.6%	11,000
2	Honore Ave east of SR 681	4,600	6,500	6,900	9,200	2,300	6,900	1.3	6,100	6,900	2.4%	7,400
3	SR 681 south of Honore Ave	16,500	13,900	14,100	14,900	800	17,300	1.1	17,400	17,500	0.3%	17,500

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3.39: Design Year 2045 AADTs – SR 681

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	Honore Ave west of SR 681	6,400	D1RPM	2.6%	11,000
2	Honore Ave east of SR 681	4,600	D1RPM	2.3%	7,400
3	SR 681 south of Honore Ave	16,500	D1RPM	0.3%	17,500

Table 3.40: Design Year 2045 Target DDHVs – SR 681

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	Honore Ave west of SR 681	11,000	0.09	0.62	381	609	0.09	0.58	415	575
2	Honore Ave east of SR 681	7,400	0.09	0.60	267	399	0.09	0.59	275	391
3	SR 681 south of Honore Ave	17,500	0.09	0.51	774	801	0.09	0.51	776	799

Table 3.41: Design Year 2045 DDHVs and AADT Forecast Check – SR 681

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	Honore Ave west of SR 681	0.09	436	746	0.09	728	472	13,500	11,000	2,500	22.7%
2	Honore Ave east of SR 681	0.09	345	540	0.09	487	357	9,800	7,400	2,400	32.4%
3	SR 681 south of Honore Ave	0.09	819	951	0.09	1,011	861	21,000	17,500	3,500	20.0%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

3.11 SR 762 (Laurel Road) Forecast

The study area of I-75 at SR 762 (Laurel Road) consists of 10 network input zones and extends from east of Knights Trail Road to west of Twin Laurel Boulevard and is represented in **Figure 3.11**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.42**. Based on the network input zones within the study area, Laurel Road has a D1RPM weighted growth rate of 3.5 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.43**. The Design Year 2045 AADTs were used along with K and D factors from existing year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.44**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.45**.

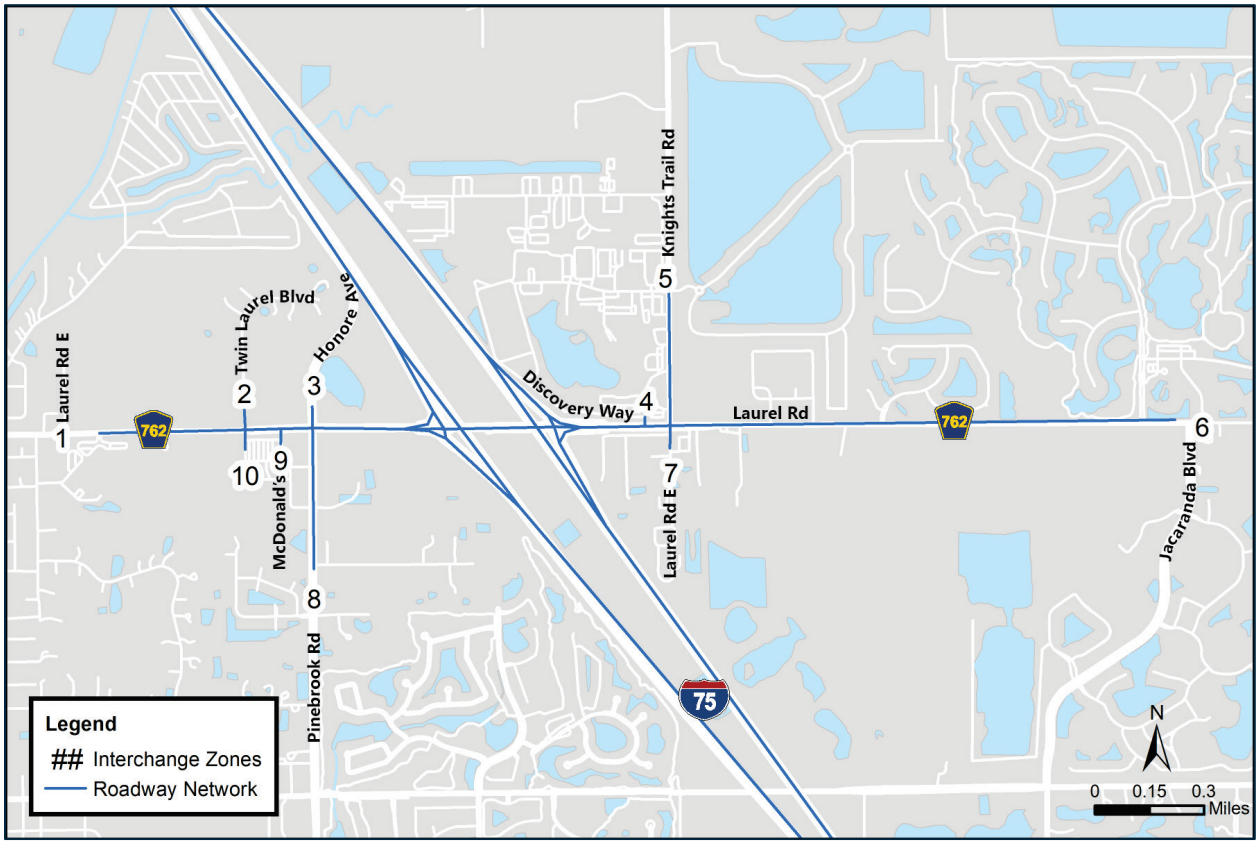

Figure 3.11: Map of Interchange Area and Zones – SR 762 (Laurel Road)

Table 3.42: Design Year 2045 AADT Development – SR 762 (Laurel Road)

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	Design Year 2045 AADT
1	SR 762 (Laurel Rd E) west of Twin Laurel Blvd	15,500	12,900	13,200	14,800	1,600	17,100	1.1	17,400	17,000	0.5%	17,500
2	Twin Laurel Blvd north of SR 762 (Laurel Rd E)	80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	Pinebrook Rd north of SR 762 (Laurel Rd E)	5,000	6,500	6,900	9,200	2,300	7,300	1.3	6,700	7,300	2.2%	7,800
4	Discovery Way north of SR 762 (Laurel Rd E)	2,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	Haul Rd north of SR 762 (Laurel Rd E)	13,000	9,600	12,800	29,300	16,500	29,500	2.3	29,800	29,500	6.0%	33,500
6	SR 762 (Laurel Rd E) east of Haul Rd	5,500	2,200	3,600	11,200	7,600	13,100	3.1	17,100	13,000	6.5%	15,000
7	Haul Rd south of SR 762 (Laurel Rd E)	750	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8	Pinebrook Rd south of SR 762 (Laurel Rd E)	10,500	15,400	17,000	25,600	8,600	19,100	1.5	15,800	19,000	3.9%	21,000
9	McDonalds Driveway south of SR 762 (Laurel Rd E)	1,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10	Twin Laurel Blvd south of SR 762 (Laurel Rd E)	16,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3.43: Design Year 2045 AADTs – SR 762 (Laurel Road)

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	SR 762 (Laurel Rd E) west of Twin Laurel Blvd	15,500	D1RPM	0.5%	17,500
2	Twin Laurel Blvd north of SR 762 (Laurel Rd E)	80	BEBR Low Forecast	0.3%	90
3	Pinebrook Rd north of SR 762 (Laurel Rd E)	5,000	D1RPM	2.2%	7,800
4	Discovery Way north of SR 762 (Laurel Rd E)	2,200	BEBR Low Forecast	0.3%	2,400
5	Haul Rd north of SR 762 (Laurel Rd E)	13,000	D1RPM	6.1%	33,500
6	SR 762 (Laurel Rd E) east of Haul Rd	5,500	D1RPM	6.5%	15,000
7	Haul Rd south of SR 762 (Laurel Rd E)	750	BEBR Low Forecast	0.3%	800
8	Pinebrook Rd south of SR 762 (Laurel Rd E)	10,500	D1RPM	3.9%	21,000
9	McDonalds Driveway south of SR 762 (Laurel Rd E)	1,700	BEBR Low Forecast	0.3%	1,900
10	Twin Laurel Blvd south of SR 762 (Laurel Rd E)	16,000	BEBR Low Forecast	0.3%	17,500

Table 3.44: Design Year 2045 Target DDHVs – SR 762 (Laurel Road)

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	SR 762 (Laurel Rd E) west of Twin Laurel Blvd	17,500	0.09	0.59	643	932	0.09	0.54	728	847
2	Twin Laurel Blvd north of SR 762 (Laurel Rd E)	90	0.20	0.63	7	11	0.11	0.56	5	5
3	Pinebrook Rd north of SR 762 (Laurel Rd E)	7,800	0.10	0.61	296	459	0.09	0.61	284	440
4	Discovery Way north of SR 762 (Laurel Rd E)	2,400	0.04	0.82	17	79	0.10	0.93	17	228
5	Haul Rd north of SR 762 (Laurel Rd E)	33,500	0.09	0.67	992	2,023	0.09	0.65	1,068	1,947
6	SR 762 (Laurel Rd E) east of Haul Rd	15,000	0.09	0.67	444	906	0.09	0.56	591	759
7	Haul Rd south of SR 762 (Laurel Rd E)	800	0.09	0.57	31	41	0.09	0.54	33	39
8	Pinebrook Rd south of SR 762 (Laurel Rd E)	21,000	0.09	0.55	851	1,039	0.09	0.63	701	1,189
9	McDonalds Driveway south of SR 762 (Laurel Rd E)	1,900	0.09	0.80	35	140	0.04	0.78	16	57
10	Twin Laurel Blvd south of SR 762 (Laurel Rd E)	17,500	0.01	0.62	74	123	0.02	0.52	205	218

Table 3.45: Design Year 2045 DDHVs and AADT Forecast Check – SR 762 (Laurel Road)

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	SR 762 (Laurel Rd E) west of Twin Laurel Blvd	0.09	743	991	0.09	944	818	19,500	17,500	2,000	11.4%
2	Twin Laurel Blvd north of SR 762 (Laurel Rd E)	0.20	20	11	0.11	20	14	300	90	210	233.3%
3	Pinebrook Rd north of SR 762 (Laurel Rd E)	0.10	394	306	0.09	270	415	7,200	7,800	600	7.7%
4	Discovery Way north of SR 762 (Laurel Rd E)	0.04	31	87	0.10	30	220	2,400	2,400	0	0.0%
5	Haul Rd north of SR 762 (Laurel Rd E)	0.09	1,545	790	0.09	844	1,451	26,000	33,500	7,500	22.4%
6	SR 762 (Laurel Rd E) east of Haul Rd	0.09	186	768	0.09	592	388	11,000	15,000	4,000	26.7%
7	Haul Rd south of SR 762 (Laurel Rd E)	0.09	36	29	0.09	40	57	1,100	800	300	37.5%
8	Pinebrook Rd south of SR 762 (Laurel Rd E)	0.09	839	572	0.09	518	994	17,000	21,000	4,000	19.0%
9	McDonalds Driveway south of SR 762 (Laurel Rd E)	0.09	147	31	0.04	57	14	1,900	1,900	0	0.0%
10	Twin Laurel Blvd south of SR 762 (Laurel Rd E)	0.01	84	118	0.02	213	240	18,500	17,500	1,000	5.7%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

3.12 Jacaranda Boulevard Forecast

The interchange of I-75 at Jacaranda Boulevard consists of seven network input zones and extends from north of Commerce Drive to south of Oak Heritage Drive and is represented in **Figure 3.12**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.46**. Based on the network input zones within the interchange study area, Jacaranda Boulevard has a D1RPM weighted growth rate of 0.9 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.47**. The Design Year 2045 AADTs were used along with K and D factors from existing year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.48**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.49**.

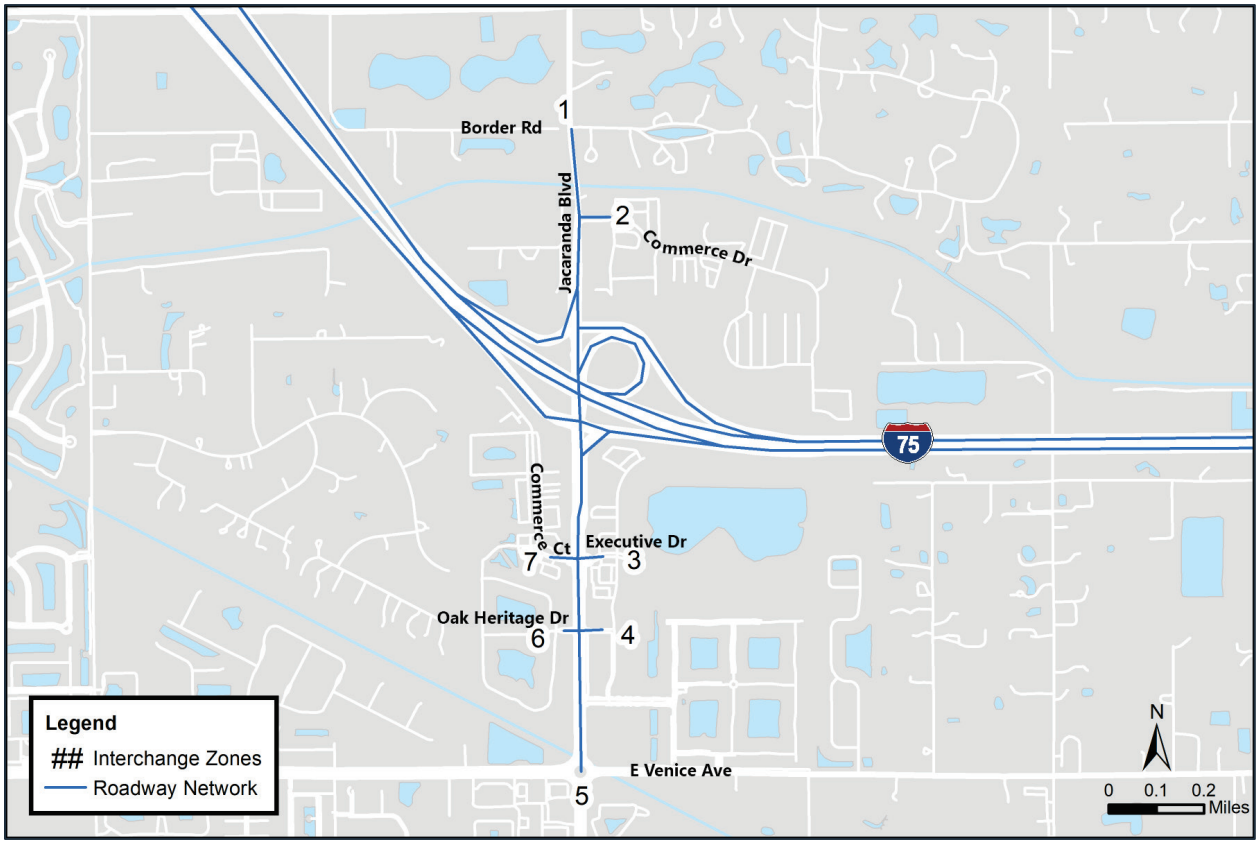

Figure 3.12: Map of Interchange Area and Zones – Jacaranda Boulevard

Table 3.46: Design Year 2045 AADT Development – Jacaranda Boulevard

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									Design Year 2045 AADT
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	
1	Jacaranda Blvd north of Commerce Dr	5,900	5,200	5,800	9,000	3,200	9,100	1.6	9,200	9,100	2.6%	9,900
2	Commerce Dr east of Jacaranda Blvd	4,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	Executive Dr east of Jacaranda Blvd	8,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Oak Heritage Dr east of Jacaranda Blvd	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	Jacaranda Blvd south of Oak Heritage Dr	31,000	31,800	32,600	36,800	4,200	35,200	1.1	35,000	35,000	0.6%	36,000
6	Oak Heritage Dr west of Jacaranda Blvd	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7	Executive Dr west of Jacaranda Blvd	8,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3.47: Design Year 2045 AADTs – Jacaranda Boulevard

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	Jacaranda Blvd north of Commerce Dr	5,900	D1RPM	2.6%	9,900
2	Commerce Dr east of Jacaranda Blvd	4,300	BEBR Low Forecast	0.3%	4,700
3	Executive Dr east of Jacaranda Blvd	8,400	Average Growth	0.9%	10,500
4	Oak Heritage Dr east of Jacaranda Blvd	500	BEBR Low Forecast	0.3%	550
5	Jacaranda Blvd south of Oak Heritage Dr	31,000	D1RPM	0.6%	36,000
6	Oak Heritage Dr west of Jacaranda Blvd	500	BEBR Low Forecast	0.3%	550
7	Executive Dr west of Jacaranda Blvd	8,000	BEBR Low Forecast	0.3%	8,700

Table 3.48: Design Year 2045 Target DDHVs – Jacaranda Boulevard

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	Jacaranda Blvd north of Commerce Dr	9,900	0.09	0.54	412	479	0.09	0.52	431	460
2	Commerce Dr east of Jacaranda Blvd	4,700	0.09	0.67	140	283	0.09	0.67	139	284
3	Executive Dr east of Jacaranda Blvd	10,500	0.09	0.54	435	510	0.09	0.53	441	504
4	Oak Heritage Dr east of Jacaranda Blvd	550	0.08	0.85	7	37	0.07	0.94	2	37
5	Jacaranda Blvd south of Oak Heritage Dr	36,000	0.09	0.51	1,584	1,656	0.09	0.51	1,576	1,664
6	Oak Heritage Dr west of Jacaranda Blvd	550	0.03	0.81	3	15	0.06	0.52	15	17
7	Executive Dr west of Jacaranda Blvd	8,700	0.07	0.63	224	388	0.08	0.57	302	397

Table 3.49: Design Year 2045 DDHVs and AADT Forecast Check – Jacaranda Boulevard

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	Jacaranda Blvd north of Commerce Dr	0.09	398	408	0.09	425	376	9,000	9,900	900	9.1%
2	Commerce Dr east of Jacaranda Blvd	0.09	337	194	0.09	105	331	5,900	4,700	1,200	25.5%
3	Executive Dr east of Jacaranda Blvd	0.09	569	688	0.09	605	668	14,000	10,500	3,500	33.3%
4	Oak Heritage Dr east of Jacaranda Blvd	0.08	34	7	0.07	33	6	500	550	50	9.1%
5	Jacaranda Blvd south of Oak Heritage Dr	0.09	1,787	1,454	0.09	1,523	1,751	36,500	36,000	500	1.4%
6	Oak Heritage Dr west of Jacaranda Blvd	0.03	21	10	0.06	16	18	600	550	50	9.1%
7	Executive Dr west of Jacaranda Blvd	0.07	256	398	0.08	416	371	9,800	8,700	1,100	12.6%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

3.13 River Road Forecast

The interchange of I-75 at River Road consists of four network input zones and extends from I-75 to south of East Venice Avenue and is represented in **Figure 3.13**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.50**. Based on the network input zones within the interchange study area, River Road has a D1RPM weighted growth rate of 1.4 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.51**. The Design Year 2045 AADTs were used along with K and D factors from existing year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.52**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.53**.

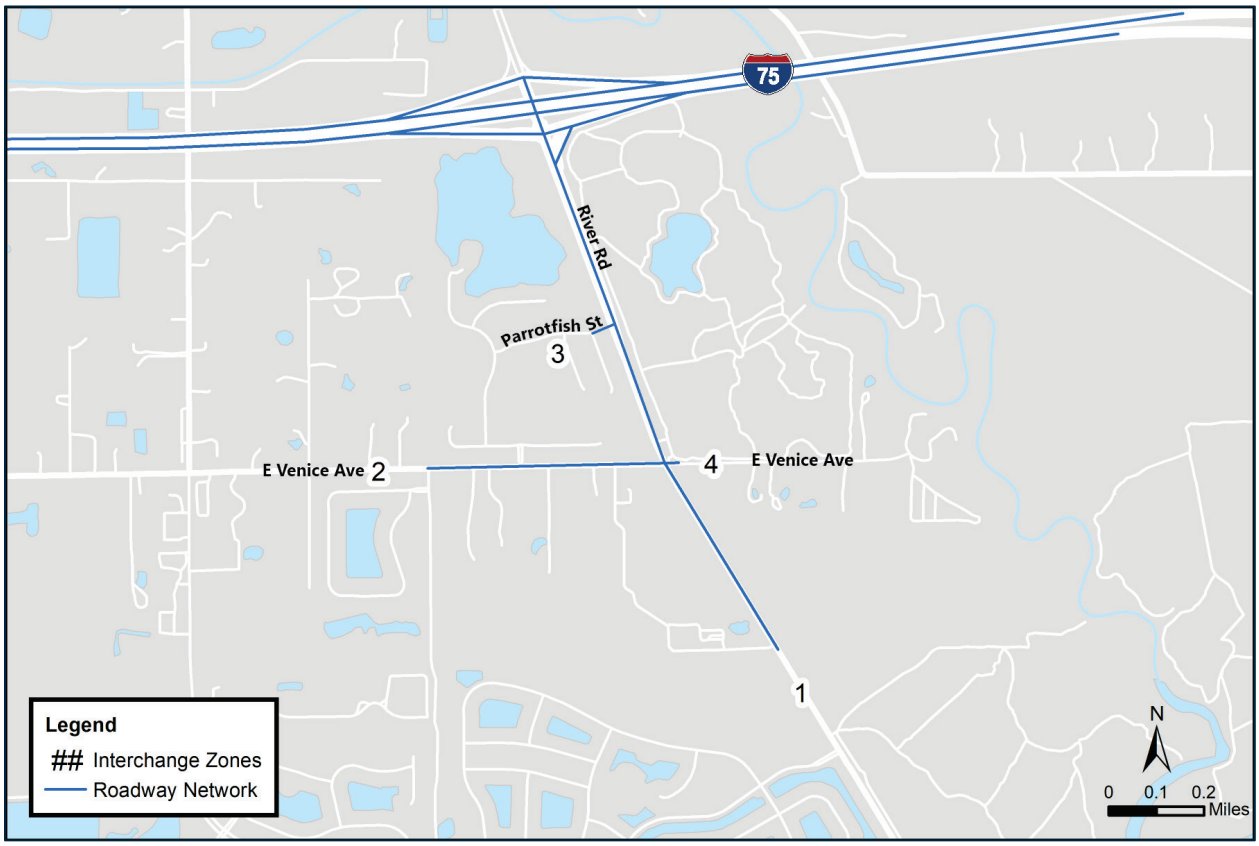

Figure 3.13: Map of Interchange Area and Zones – River Road

Table 3.50: Design Year 2045 AADT Development – River Road

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	Design Year 2045 AADT
1	River Rd south of Venice Ave	22,500	29,300	30,000	33,600	3,600	26,100	1.1	25,200	26,000	0.7%	27,000
2	Venice Ave west of River Rd	6,400	8,500	9,500	14,600	5,100	11,500	1.5	9,800	11,500	3.8%	12,500
3	Parrotfish St west of River Rd	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Venice Ave east of River Rd	350	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3.51: Design Year 2045 AADTs – River Road

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	River Rd south of Venice Ave	22,500	D1RPM	0.8%	27,000
2	Venice Ave west of River Rd	6,400	D1RPM	3.8%	12,500
3	Parrotfish St west of River Rd	200	BEBR Low Forecast	0.3%	200
4	Venice Ave east of River Rd	350	BEBR Low Forecast	0.3%	400

Table 3.52: Design Year 2045 Target DDHVs – River Road

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	River Rd south of Venice Ave	27,000	0.09	0.62	930	1,500	0.09	0.60	977	1,453
2	Venice Ave west of River Rd	12,500	0.09	0.65	390	735	0.09	0.64	404	721
3	Parrotfish St west of River Rd	200	0.06	0.55	5	6	0.10	0.75	5	15
4	Venice Ave east of River Rd	400	0.09	0.50	18	18	0.09	0.55	16	20

Table 3.53: Design Year 2045 DDHVs and AADT Forecast Check – River Road

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	River Rd south of Venice Ave	0.09	1,429	970	0.09	1,039	1,632	29,500	27,000	2,500	9.3%
2	Venice Ave west of River Rd	0.09	507	797	0.09	796	432	14,500	12,500	2,000	16.0%
3	Parrotfish St west of River Rd	0.06	7	11	0.10	5	40	450	200	250	125.0%
4	Venice Ave east of River Rd	0.09	23	22	0.09	31	36	750	400	350	87.5%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

3.14 Interchange Variance and Growth Checks

To provide a check for the smoothed volumes with forecasting consistency, a maximum of the AM and PM peak hour volume and the application of K factors to yield an estimated 2045 AADT. This estimate 2045 AADT was plotted against Design Year 2045 AADTs at network input zone and checked for statistical fit and is depicted in **Figure 3.14**. The trendline slope of 1.03 and R-squared values of 0.99 indicate that the estimated 2045 AADTs consistently reflect the distribution found in the Design Year 2045 AADTs.

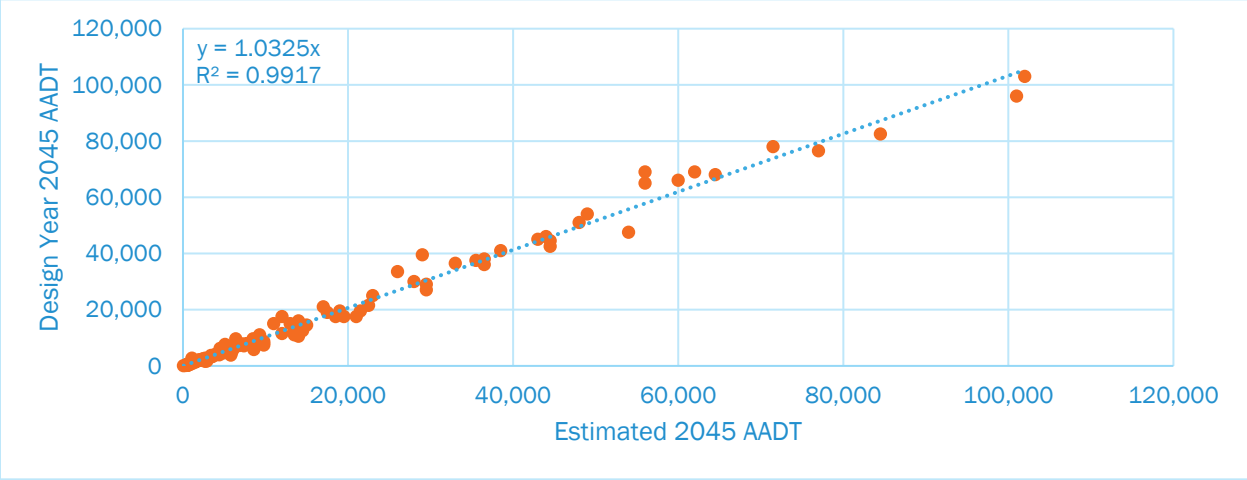

Figure 3.14 Interchange level 2045 AADT Estimated and Design Comparison

Each of the individual turning movements in the study area were reviewed for appropriate growth. The only location where growth decreases between the existing year 2019 and design year 2045 is at the I-75 southbound off ramp terminal at Collier Boulevard. The ramps at this interchange have been significantly modified in the No-Build scenario to include new ramps. **Section 2.1** shows that the total ons and offs at each interchange from I-75 increase between existing year 2019 and design year 2045. The other check included in this document is a review of any turning movement that increases by more than ten percent annually and has a volume greater than 100. **Table 3.54** provides this review for the AM and PM Peak Hours. Starting from the top of **Table 3.54**, the following explanations are provided for these growths.

On Moccasin Wallow Road, the driver of the high growth locations is the high growth rate in the D1RPM at this location of 10.3 percent on the west end of Moccasin Wallow Road and 20.1 percent on the east end of Moccasin Wallow Road. The high growth on SR-681 is driven by the growth rate and use of standardized K and D factors on the I-75 ramps. The high growth rate at Laurel Road is driven by the high growth rates of 6 percent on Haul Road and 6.5 percent on Laurel Road. The high growth rate on River Road is driven by growth and use of standardized K and D factors on the ramps. The high growth rate on US-41 is driven by growth and use of standardized K and D factors on the ramps.

Table 3.54 Turning Movement High Growth Rate Review

Location	Movement	AM AGR	PM AGR
Moccasin Wallow Road			
Moccasin Wallow Road and 71st Avenue	EBT	18.8%	22.6%
Moccasin Wallow Road and 71st Avenue	WBT	14.2%	22.6%
Moccasin Wallow Road and Buffalo Road	EBT	19.1%	19.4%
Moccasin Wallow Road and Buffalo Road	NBR	0.0%	11.4%
Moccasin Wallow Road and Buffalo Road	WBT	12.3%	21.1%
Moccasin Wallow Road and Gateway Boulevard	WBL	0.0%	11.4%
Moccasin Wallow Road and Gateway Boulevard	WBT	17.5%	19.7%
Moccasin Wallow Road and Gillette Drive	WBT	12.9%	15.9%
Moccasin Wallow Road and I-75 Northbound Ramps	EBT	13.9%	15.0%
Moccasin Wallow Road and I-75 Northbound Ramps	NBR	22.1%	15.3%
Moccasin Wallow Road and I-75 Northbound Ramps	WBR	0.0%	14.2%
Moccasin Wallow Road and I-75 Northbound Ramps	WBT	10.6%	16.9%
Moccasin Wallow Road and I-75 Southbound Ramps	SBL	11.1%	Less than 10%
Moccasin Wallow Road and I-75 Southbound Ramps	WBL	0.0%	11.0%
Moccasin Wallow Road and I-75 Southbound Ramps	WBT	15.6%	19.6%
SR 681			
SR 681 at Honore Avenue	EBL	0.0%	15.2%
Laurel Road			
Laurel Road and Haul Road	SBL	0.0%	14.8%
Laurel Road and Haul Road	WBR	12.1%	10.4%
N River Road			
N River Road and I-75 Northbound Ramps	WBL	0.0%	10.9%
N River Road and I-75 Southbound Ramps	SBT	0.0%	10.9%
N River Road and Venice Avenue	EBL	13.2%	14.4%
N River Road and Venice Avenue	SBR	20.5%	23.8%
US 41			
US 41 and I-275 Northbound Ramps	SBR	0.0%	11.0%
US 41 and I-275 Southbound Ramps	EBL	10.3%	Less than 10%
US 41 and I-275 Southbound Ramps	EBR	10.4%	Less than 10%

4.0 Distribution Comparison

4.1 Design Year 2045 and Existing Year 2019 (Streetlight) O-D Comparison

The design year 2045 AADTs and DDHVs are tied to an O-D matrix. The interchange-to-interchange distribution of this matrix was compared to the same distribution found in the existing year 2019 Streetlight O-D matrix. **Figure 4.1** and **Figure 4.2** indicate a good match between the Streetlight distribution and the O-D matrix from this study. A slope of nearly 1 and an R2 above 0.8 is a good match between sampled 2019 travel distributions and forecasted 2045 travel distributions. More detailed interchange level distributions can be found in **Appendix G**.

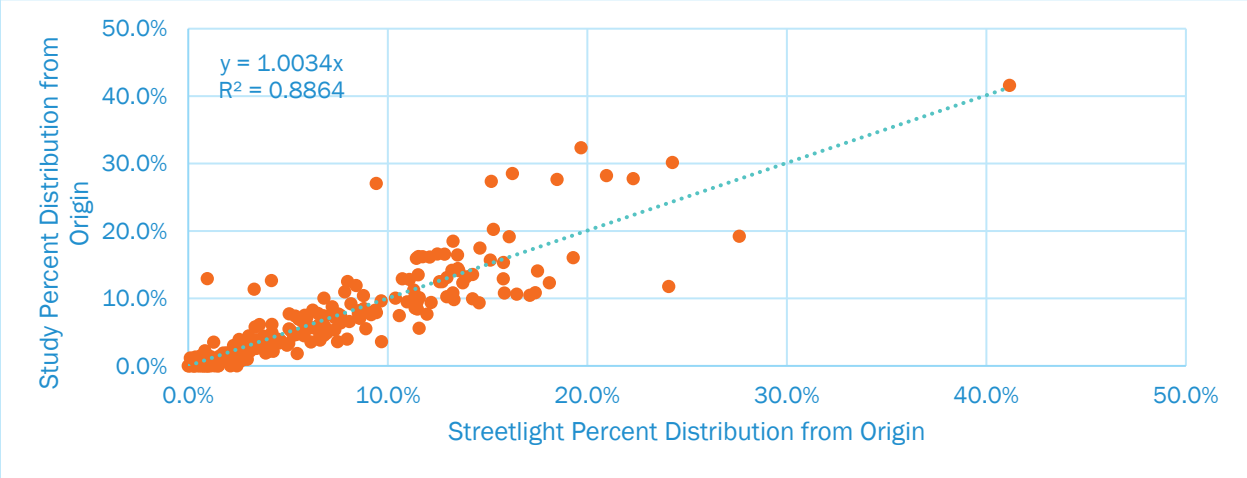

Figure 4.1 Forecasted OD and Streetlight OD Comparison – AM Peak Hour

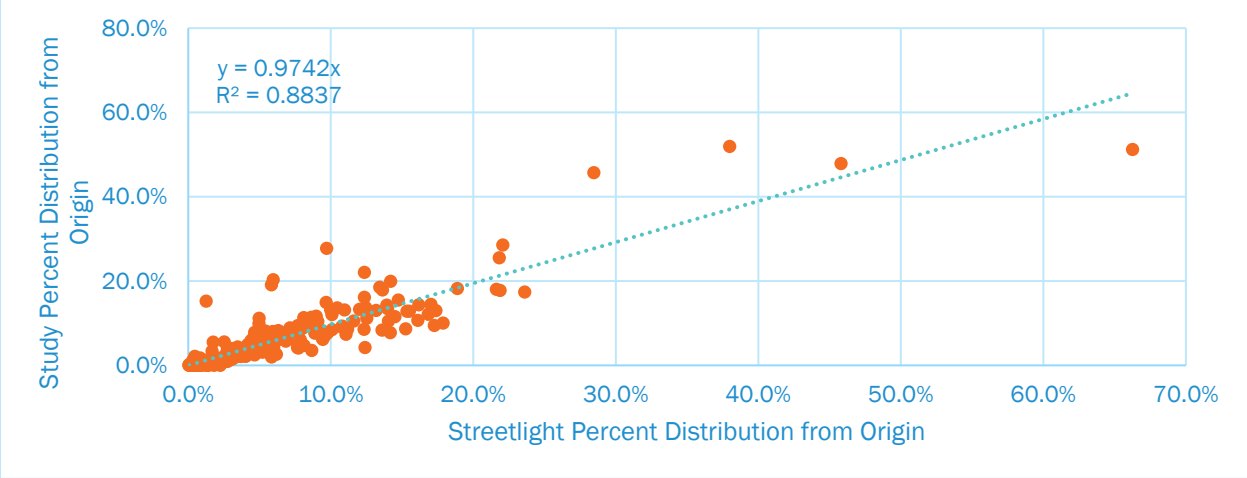

Figure 4.2 Forecasted OD and Streetlight OD Comparison – PM Peak Hour

Appendix E
Build Future Volumes Memo

I-75 North Corridor Master Plan

I-75 from Moccasin Wallow Road to River Road

Build Volume Development Memorandum

December 2021

PREPARED FOR:

FLORIDA DEPARTMENT OF TRANSPORTATION – DISTRICT ONE

PREPARED BY:

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FINANCIAL PROJECT IDENTIFICATION (FPID) NO. 442518-1-12-01

ETDM No. 14399

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Appendix G: Streetlight Distribution Comparison

Build Volume Development Memo Appendix Relocation:

The appendices originally included as part of this memo (the Build Volume Development Memo) have been moved to other appendices within the report to mitigate the redundancy of common information between documents (No Build Volume Development Memo appendices, the Build Volume Development Memo appendices, and the I-75 North Corridor Future Conditions Traffic Technical Memo report body). The original appendices have been relocated as follows.

Appendix A (Traffic Forecast Methodology) information from the Build Volume Development Memo is now included in Appendix A of the I-75 North Corridor Future Conditions Traffic Technical Memo.

Appendix B (2019 Florida Traffic Online Historical Count Data) information from the Build Volume Development Memo is now included in Appendix E of the I-75 North Corridor Future Conditions Traffic Technical Memo.

Appendix C (2019 Bureau of Economic and Business Research – Population Forecasts) information from the Build Volume Development Memo is now included in Appendix E of the I-75 North Corridor Future Conditions Traffic Technical Memo.

Appendix D (Intersection Approach DDHV and Growth Consistency Check) information from the Build Volume Development Memo is now included in Appendix F of the I-75 North Corridor Future Conditions Traffic Technical Memo.

Appendix E (Design Year 2045 Build AADT and Lane Geometry) information from the Build Volume Development Memo is now included in Section 4.0 of the I-75 North Corridor Future Conditions Traffic Technical Memo.

Appendix F (Design Year 2045 Build DDHVs) information from the Build Volume Development Memo is now included in Section 4.0 of the I-75 North Corridor Future Conditions Traffic Technical Memo.

Appendix G (Streetlight Distribution Comparison) information from the Build Volume Development Memo is now included in Appendix G of the I-75 North Corridor Future Conditions Traffic Technical Memo.

Acronyms and Abbreviations

AADT	Annual Average Daily Traffic
APLUS	Aerial Photo Look Up System
CARS	Crash Analysis Reporting System
CAT	Collier Area Transit
CR	County Road
D1RPM	District One Regional Planning Model
DDHV	Directional Design Hour Volume
DTA	Dynamic Traffic Assignment
FDM	Florida Design Manual
FDOT	Florida Department of Transportation
FGDL	Florida Geographic Data Library
FHWA	Federal Highway Administration
FY	Fiscal Year
GEH	Gregory E. Hovers
GIS	Geographic Information System
GPS	Global Positioning System
HCM	Highway Capacity Manual
HSM	Highway Safety Manual
LABINS	Land Boundary Information System
LeeTran	Lee County Transit Service
LOS	Level of Service
LRTP	Long Range Transportation Plan
MOA	Memorandum of Agreement
MPH	Miles Per Hour
MPO	Metropolitan Planning Organization
OD	Origin-Destination
PD&E	Project Development and Environment
RBC	Ring Barrier Controller

RCI	Roadway Characteristic Inventory
RITIS	Regional Integrated Transportation Information System
ROW	Right-of-Way
RTOR	Right-Turn-On-Red
SHS	State Highway System
SIS	Strategic Intermodal System
SLD	Straight Line Diagram
SR	State Road
STIP	State Transportation Improvement Program
TIP	Transportation Improvement Program
TMC	Turning Movement Count
V/C	Volume to Capacity
VPH	Vehicles Per Hour
Sec	second
Veh	vehicle

1.0 Volume Development

1.1 Volume Development Process

The approved existing year 2019 demand volumes previously approved by the Florida Department of Transportation (FDOT) District 1 and travel demand model outputs from the FDOT provided Southwest Connect District 1 Regional Planning Model (D1RPM) version 1.0.6 served as the primary source to produce forecast volumes for the I-75 Southwest Connect North Corridor study area, as depicted in Figure 1.1. The FDOT provided Southwest Connect D1RPM, with a Base Year 2015, reflected the 2045 MPO Cost-Feasible network enhancements and yielded Horizon Year 2040 network demand model outputs. The only difference between the No-Build D1RPM and Build D1RPM for the horizon year 2040 was the removal of any capacity constraints on I-75 through the study area. This change was made to better reflect latent demand that may occur with capacity improvements to I-75. Model output conversion (MOCF) factors, sourced from 2019 Florida Traffic Online (FTO), were applied to the D1RPM PSWADT values to produce AADT values. A MOCF factor of 0.92 was used for Manatee County and a MOCF factor of 0.88 was used for Sarasota County. The D1RPM model outputs were adjusted using the average of the difference and ratio methods, as observed through comparison of FDOT approved Existing Year 2019 AADTs and D1RPM interpolated 2019 AADTs. This process is consistent with the 2019 FDOT Project Traffic Forecasting Handbook and National Cooperative Highway Research Program (NCHRP) Report 765 Analytical Travel Forecasting Approaches for Project-Level Planning and Design. The following resources were used as a check against the resulting NCHRP adjustments to ensure forecasting consistency:

- I-75 Southwest Connect D1RPM;
- 5-year 2019 FTO historical growth rates (2015 to 2019) (For I-75 mainline/ramps only); and
- Population growth forecasts from the 2019 Bureau of Economic and Business Research (BEBR).

Based upon a thorough review of the observed growth at each interchange and along mainline I-75, forecasts were adjusted to best reflect a combination of the increased network resolution presented by the study area and preserve forecasts from the FDOT provided D1RPM. Where roadway network was present within the D1RPM, an effort was made to preserve model demand and any modification made to those forecasts was noted. For any roadway links that are not present in the D1RPM (driveways, minor roads, neighborhood entrances, etc.), an examination of the interchange areas' weighted growth, historical trend data, or 2019 BEBR forecast was conducted. Based upon this review, a forecasting method recommendation was made and is documented. The resulting recommended growth rate was then used to extrapolate the data to the project Design Year 2045.

As with the No-Build Design Year 2045 volume development process, Design Year 2045 peak hour volumes began by developing Directional Design Hour Volumes (DDHVs) at the network input zones using Design Year 2045 AADTs, K factor and D factor as observed under the existing conditions. Network input zones indicate roadway segments that act as network externals outside of the system, such as the northern and southern termini of I-75 and any links from the data collection effort that are not within our closed model network. The results of this procedure will provide initial AM and PM peak hour origins and destinations (OD) at each of the network input zones. The network input AM and PM Design Year 2045 DDHVs and No-Build Design Year 2019 OD matrices are then loaded into the I-75 Southwest Connect South Corridor Build PTV Visum 17 network. Least square regression is used to

smooth the unbalanced network input DDHVs and OD matrices to balance the system while ensuring minimal variance to the DDHVs at network input zones, along the I-75 mainline, and ramps. The resulting network assignment is checked to ensure that all OD relationships and turning movements represent demand equal to or higher than the No-Build Design Year 2045 demand.

As a check for forecast consistency at the AADT level, AM and PM peak hour link level DHVs are examined, and the highest volume from the two periods has an appropriate K-factor applied to yield an estimated daily demand. Any variance greater than 10 percent from the forecasted AADT and estimated AADT was checked and examined.

For ease of review, this report will examine forecasting and demand volumes at the I-75 mainline and interchange level in separate sections. Results for these sections are ordered to follow the logic presented within this document and focus on the mainline roadway segments and interchange level input zones.

The analysis as outlined is consistent with the FDOT approved forecasting methodology found in **Appendix A**. Forecasting consistency checks using 2019 FTO Historical Counts (on I-75 Mainline only) and 2019 BEBR population forecasts can be found in **Appendix B** and **Appendix C**, respectively. As this report presents network checks at network input zones, intersection level network checks for this analysis can be found in **Appendix D**. The resulting traffic figures for the I-75 Southwest Connect North Corridor area AADTs and DDHVs, can be found in **Appendix E** and **Appendix F**, respectively. A comparison of the distribution of the final origin-destination (O-D) matrices for the AM and PM peak hours to the collected Streetlight data is provided in **Appendix G**.

Figure 1.1: I-75 Southwest Connect North Corridor Study Area

2.0 I-75 Mainline Volumes

2.1 I-75 Ramp Forecasts

A comparison of the interpolated 2019 AADTs based upon the D1RPM Base Year (2015) and Horizon Year (2040) AADTs and associated NCHRP 765 forecast adjustments can be found in **Table 2.1**. Consistent with the I-75 mainline, an examination of the 5-year historical trends (2015 to 2019) from 2019 FTO indicate high growth while D1RPM model forecasts are much more conservative and in line with 2019 BEBR population forecasts. D1RPM forecasts were utilized to serve as the basis for ramp forecasts along the corridor; however, there were several instances of ramp volumes being lower in the Horizon Year 2045 than in the Base Year (2015). In these cases, due to the regional nature of trips along I-75, an average of the Manatee County and Sarasota County 2019 BEBR low values of 0.5 percent will serve as the growth for ramps for these locations where the D1RPM indicates negative growth. Any ramp with an AGR less than 1.0 percent was reviewed. In all cases, the growth rate in the D1RPM was negative or less than 1.0 percent. **Table 2.1** provides some adjustments to the ramp AADTs, at reciprocal pairs where application of standard K and D factors led to Target 2045 DDHVs less than existing.

To develop target DDHVs on the ramps, ramps at an interchange were grouped into 'reciprocating pairs' (southbound off/northbound on and northbound off/southbound on). The forecast 2045 AADTs for these pairs were summed to determine the paired AADT. An average AM D factor of 0.59 and an average PM D factor of 0.57 were observed from existing. These were rounded to a forecast D factor of 0.6 to be used on all reciprocating pairs. The peak direction on these reciprocating pairs is held constant with the existing conditions. Therefore, if a ramp pair does not reciprocate (i.e., the peak direction in the AM peak hour does not become the peak direction in the PM peak hour) the existing condition is preserved. A standard K factor of 0.09 is used for developing forecasted DDHVs. These K and D factors are used with the sum of the AADTs for the reciprocating pair to develop the initial AM and PM peak hour DDHVs and can be found in **Table 2.2**. During the least squared regression balancing process, the initial DDHVs were set as target values, similar to the I-75 mainline. Generally, the Forecast 2045 AADT AGR is in line with the Balanced 2045 DDHV AGR, however in some cases the Balanced 2045 DDHV AGR may deviate significantly (e.g., I-275 southbound off ramp during the PM peak hour). This is due to the use of standard K and D factors. **Figure 2.1** and **Figure 2.2** provide charts comparing the Target 2045 DDHV and Balanced 2045 DDHVs found in **Table 2.2**. These comparisons indicate a good fit with no outliers indicating that the Balanced 2045 DDHVs are in line with the Target 2045 DDHVs.

Table 2-1: Design Year 2045 I-75 Ramp Forecasts

Location	Existing 2019 AADT	D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	NCHRP 765 Adjustment Process										
					Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	NCHRP 2045 AADT	Adjustment	Design Year 2045 AADT	Design Year 2045 AGR	FTO AGR
Moccasin Wallow Road*															
SB Off Ramps	2,800	3,842	4,952	10,781	5,829	8,629	2.18	6,096	7,362	7.8%	9,000	0	9,000	8.5%	13.2%
NB Off Ramps	2,400	3,153	4,639	12,441	7,802	10,202	2.68	6,436	8,319	11.7%	15,000	0	15,000	20.2%	3.7%
SB On Ramps	4,800	3,665	5,293	13,841	8,548	13,348	2.61	12,552	12,950	8.1%	15,000	0	15,000	8.2%	3.6%
NB On Ramps	7,300	4,017	5,155	11,130	5,975	13,275	2.16	15,761	14,518	4.7%	9,000	0	9,000	0.9%	11.1%
I-275*															
SB Off Ramps	8,500	6,963	6,883	6,465	-418	8,082	0.94	7,984	8,033	-0.3%	14,000	0	14,000	2.5%	3.2%
NB Off Ramps	16,500	15,876	17,662	27,038	9,376	25,876	1.53	25,259	25,568	2.6%	28,000	6,500	34,500	4.2%	0.0%
SB On Ramps	19,000	15,547	17,236	26,105	8,869	27,869	1.51	28,777	28,323	2.3%	30,500	6,500	37,000	3.6%	2.2%
NB On Ramps	9,400	7,490	7,473	7,384	-89	9,311	0.99	9,288	9,300	-0.1%	15,000	0	15,000	2.3%	7.2%
US 301															
SB Off Ramps	6,300	5,135	5,897	9,898	4,001	10,301	1.68	10,574	10,438	3.1%	11,500	0	11,500	3.2%	0.0%
NB Off Ramps	15,000	12,929	13,827	18,543	4,716	19,716	1.34	20,116	19,916	1.6%	21,000	0	21,000	1.5%	-2.3%
SB On Ramps	15,000	14,727	15,590	20,120	4,530	19,530	1.29	19,359	19,444	1.4%	20,500	0	20,500	1.4%	-1.5%
NB On Ramps	6,800	4,927	5,761	10,141	4,380	11,180	1.76	11,970	11,575	3.3%	12,500	0	12,500	3.2%	0.9%
SR 64															
SB Off Ramps	13,000	9,254	10,395	16,385	5,990	18,990	1.58	20,491	19,741	2.5%	21,500	0	21,500	2.5%	0.0%
NB Off Ramps	15,000	12,435	13,208	17,267	4,059	19,059	1.31	19,610	19,334	1.4%	21,000	0	21,000	1.5%	23.4%
SB On Ramps	15,500	12,421	12,931	15,606	2,675	18,175	1.21	18,706	18,441	0.9%	21,500	0	21,500	1.5%	1.5%
NB On Ramps	12,500	8,369	9,322	14,328	5,006	17,506	1.54	19,213	18,359	2.2%	20,000	0	20,000	2.3%	1.3%
SR 70															
SB Off Ramps	13,000	12,054	12,721	16,223	3,502	16,502	1.28	16,579	16,540	1.3%	17,500	0	17,500	1.3%	0.0%
NB Off Ramps	13,000	15,018	16,125	21,938	5,813	18,813	1.36	17,686	18,250	1.9%	19,500	0	19,500	1.9%	5.7%
SB On Ramps	14,900	14,637	15,238	18,392	3,154	18,054	1.21	17,984	18,019	1.0%	18,500	0	18,500	0.9%	2.1%
NB On Ramps	12,500	11,000	11,577	14,604	3,027	15,527	1.26	15,768	15,648	1.2%	16,500	0	16,500	1.2%	0.0%

Table 2-1 (Continued): Design Year 2045 I-75 Ramp Forecasts

Location	Existing 2019 AADT	D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	NCHRP 765 Adjustment Process									FTO AGR
						Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	NCHRP 2045 AADT	Adjustment	Design Year 2045 AADT	Design Year 2045 AGR	
University Parkway															
SB Off Ramps	17,500	12,301	13,173	17,749	4,576	22,076	1.35	23,579	22,828	1.4%	24,000	0	24,000	1.4%	0.8%
NB Off Ramps	21,000	15,789	16,370	19,418	3,048	24,048	1.19	24,910	24,479	0.8%	25,500	2,000	27,500	1.2%	0.7%
SB On Ramps	22,000	15,383	15,479	15,980	501	22,501	1.03	22,712	22,607	0.1%	24,000	2,000	26,000	0.7%	1.4%
NB On Ramps	17,500	11,888	12,769	17,397	4,628	22,128	1.36	23,843	22,985	1.5%	24,500	0	24,500	1.5%	0.8%
SR 780/Fruitville Road															
SB Off Ramps	21,000	12,272	13,048	17,123	4,075	25,075	1.31	27,558	26,317	1.2%	27,500	0	27,500	1.2%	-3.0%
NB Off Ramps	15,500	12,161	12,431	13,849	1,418	16,918	1.11	17,268	17,093	0.5%	21,500	0	21,500	1.5%	1.9%
SB On Ramps	15,900	14,440	14,503	14,833	330	16,230	1.02	16,262	16,246	0.1%	22,000	0	22,000	1.5%	2.2%
NB On Ramps	19,600	12,495	14,010	21,963	7,953	27,553	1.57	30,726	29,140	2.3%	31,500	0	31,500	2.3%	-3.3%
SR 758/Bee Ridge Road															
SB Off Ramps	15,000	13,212	14,155	19,106	4,951	19,951	1.35	20,247	20,099	1.6%	21,500	3,000	24,500	2.4%	-1.7%
NB Off Ramps	9,700	11,721	12,058	13,827	1,769	11,469	1.15	11,123	11,296	0.8%	11,500	0	11,500	0.7%	0.0%
SB On Ramps	9,500	11,496	11,601	12,155	554	10,054	1.05	9,954	10,004	0.3%	12,000	0	12,000	1.0%	0.0%
NB On Ramps	14,000	11,520	12,562	18,034	5,472	19,472	1.44	20,098	19,785	2.0%	21,000	3,000	24,000	2.7%	-1.4%
SR 72/Clark Road															
SB Off Ramps	18,000	13,382	13,429	13,677	248	18,248	1.02	18,332	18,290	0.1%	18,500	0	18,500	0.1%	0.7%
NB Off Ramps	8,300	10,682	10,737	11,025	288	8,588	1.03	8,523	8,555	0.1%	9,600	0	9,600	0.6%	2.3%
SB On Ramps	8,400	10,579	10,611	10,776	165	8,565	1.02	8,531	8,548	0.1%	9,700	0	9,700	0.6%	0.3%
NB On Ramps	17,500	14,920	16,031	21,861	5,830	23,330	1.36	23,864	23,597	1.7%	25,000	0	25,000	1.6%	0.0%
SR 681															
NB On Ramps	7,800	7,289	7,657	9,587	1,930	9,730	1.25	9,766	9,748	1.2%	10,000	1,500	11,500	1.8%	1.1%
SB Off Ramps	8,800	6,886	7,468	10,522	3,054	11,854	1.41	12,399	12,126	1.8%	13,000	1,500	14,500	2.5%	4.5%

Table 2-1 (Continued): Design Year 2045 I-75 Ramp Forecasts

Location	Existing 2019 AADT	D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	NCHRP 765 Adjustment Process									
						Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	NCHRP 2045 AADT	Adjustment	Design Year 2045 AADT	**Design Year 2045 AGR**	FTO AGR
Laurel Road															
SB Off Ramps	5,500	9,493	9,996	12,639	2,643	8,143	1.26	6,954	7,549	1.8%	8,000	0	8,000	1.7%	3.0%
NB Off Ramps	6,600	6,599	7,054	9,440	2,386	8,986	1.34	8,832	8,909	1.7%	9,600	0	9,600	1.7%	0.8%
SB On Ramps	7,200	6,818	7,192	9,155	1,963	9,163	1.27	9,165	9,164	1.3%	10,000	0	10,000	1.5%	1.4%
NB On Ramps	5,200	7,084	7,691	10,875	3,184	8,384	1.41	7,353	7,868	2.4%	8,500	0	8,500	2.4%	0.9%
Jacaranda Boulevard															
SB Off Ramps	9,100	12,344	12,565	13,725	1,160	10,260	1.09	9,940	10,100	0.5%	11,500	0	11,500	1.0%	1.4%
NB Off Ramps	5,600	3,676	3,996	5,679	1,683	7,283	1.42	7,959	7,621	1.7%	8,400	0	8,400	1.9%	4.5%
SB On Ramps	5,800	4,148	4,526	6,512	1,986	7,786	1.44	8,345	8,066	1.9%	9,600	0	9,600	2.5%	5.2%
NB On Ramps	8,800	12,829	13,179	15,015	1,836	10,636	1.14	10,026	10,331	0.8%	11,000	0	11,000	1.0%	1.5%
River Road															
SB Off Ramps	8,000	11,363	11,699	13,464	1,765	9,765	1.15	9,207	9,486	0.9%	9,900	0	9,900	0.9%	4.1%
NB Off Ramps	1,900	1,387	1,950	4,907	2,957	4,857	2.52	4,781	4,819	7.3%	5,900	0	5,900	8.1%	7.7%
SB On Ramps	2,000	924	1,364	3,671	2,307	4,307	2.69	5,383	4,845	6.8%	5,500	0	5,500	6.7%	7.7%
NB On Ramps	8,100	11,468	11,773	13,372	1,599	9,699	1.14	9,200	9,450	0.8%	9,700	0	9,700	0.8%	3.2%

Table 2-2: Design Year 2045 I-75 Ramp DDHV Forecast and Check

Location	Design Year 2045 AADT	AM Peak Hour						PM Peak Hour					
		Existing 2019 DDHV	Target 2045 DDHV	Balanced 2045 DDHV	% Difference	Forecast 2045 AADT AGR	Balanced 2045 DDHV AGR	Existing 2019 DDHV	Target 2045 DDHV	Balanced 2045 DDHV	% Difference	Design Year 2045 AGR	Balanced 2045 DDHV AGR
Moccasin Wallow Road*													
SB Off Ramps	9,000	208	648	650	0%	8.5%	8.2%	227	648	705	9%	8.5%	8.1%
NB Off Ramps	15,000	165	1,080	912	16%	20.2%	17.4%	300	1,620	1,661	3%	20.2%	17.4%
SB On Ramps	15,000	616	1,620	1,838	13%	8.2%	7.6%	267	1,080	1,073	1%	8.2%	11.6%
NB On Ramps	9,000	706	972	1,147	18%	0.9%	2.4%	610	972	1,006	3%	0.9%	2.5%
I-275*													
SB Off Ramps	14,000	837	1,566	1,787	14%	2.5%	4.4%	432	1,044	1,170	12%	2.5%	6.6%
NB Off Ramps	34,500	1,207	2,574	2,747	7%	4.2%	4.9%	1,619	2,574	2,741	6%	4.2%	2.7%
SB On Ramps	37,000	1,377	3,861	3,743	3%	3.6%	6.6%	1,657	3,861	3,732	3%	3.6%	4.8%
NB On Ramps	15,000	385	1,044	933	11%	2.3%	5.5%	843	1,566	1,475	6%	2.3%	2.9%
US 301													
SB Off Ramps	11,500	426	1,296	1,278	1%	3.2%	7.7%	528	1,296	1,297	0%	3.2%	5.6%
NB Off Ramps	21,000	869	1,494	1,565	5%	1.5%	3.1%	1,631	2,241	2,420	8%	1.5%	1.9%
SB On Ramps	20,500	1,346	2,241	2,401	7%	1.4%	3.0%	1,088	1,494	1,596	7%	1.4%	1.8%
NB On Ramps	12,500	385	864	875	1%	3.2%	4.9%	518	864	861	0%	3.2%	2.5%
SR 64													
SB Off Ramps	21,500	1,192	2,241	2,470	10%	2.5%	4.1%	1,087	1,494	1,672	12%	2.5%	2.1%
NB Off Ramps	21,000	1,036	1,530	1,674	9%	1.5%	2.4%	1,194	2,295	2,486	8%	1.5%	4.2%
SB On Ramps	21,500	1,169	2,295	2,277	1%	1.5%	3.6%	1,023	1,530	1,527	0%	1.5%	1.9%
NB On Ramps	20,000	878	1,494	1,608	8%	2.3%	3.2%	1,092	2,241	2,393	7%	2.3%	4.6%
SR 70													
SB Off Ramps	17,500	959	1,836	1,909	4%	1.3%	3.8%	954	1,224	1,404	15%	1.3%	1.8%
NB Off Ramps	19,500	997	1,368	1,418	4%	1.9%	1.6%	1,048	1,368	1,492	9%	1.9%	1.6%
SB On Ramps	18,500	1,308	2,052	2,118	3%	0.9%	2.4%	1,088	2,052	1,901	7%	0.9%	2.9%
NB On Ramps	16,500	878	1,224	1,303	6%	1.2%	1.9%	1,101	1,836	1,851	1%	1.2%	2.6%

*During data collection, the I-275 NB On Ramp to I-75 was closed and traffic was diverted. This was corrected in conjunction with FDOT Systems Planning using alternative data sources available. This correction included correction of the DDHVs in existing year 2019. Peak directionality of the ramps was maintained from this correction.

Table 2-2 (Continued): Design Year 2045 I-75 Ramp DDHV Forecast and Check

Location	Design Year 2045 AADT	AM Peak Hour						PM Peak Hour					
		Existing 2019 DDHV	Target 2045 DDHV	Balanced 2045 DDHV	% Difference	Forecast 2045 AADT AGR	Balanced 2045 DDHV AGR	Existing 2019 DDHV	Target 2045 DDHV	Balanced 2045 DDHV	% Difference	Design Year 2045 AGR	Balanced 2045 DDHV AGR
University Parkway													
SB Off Ramps	24,000	1,336	2,619	2,743	5%	1.4%	4.1%	1,209	1,746	1,741	0%	1.4%	1.7%
NB Off Ramps	27,500	2,217	2,532	2,890	14%	1.2%	1.2%	1,944	2,270	2,601	15%	1.2%	1.3%
SB On Ramps	26,000	2,111	2,283	2,612	14%	0.7%	0.9%	2,150	2,545	2,884	13%	0.7%	1.3%
NB On Ramps	24,500	778	1,746	1,689	3%	1.5%	4.5%	1,768	2,619	2,690	3%	1.5%	2.0%
SR 780/Fruitville Road													
SB Off Ramps	27,500	2,191	3,186	3,448	8%	1.2%	2.2%	1,422	2,124	2,203	4%	1.2%	2.1%
NB Off Ramps	21,500	1,736	2,349	2,548	8%	1.5%	1.8%	1,177	1,566	1,663	6%	1.5%	1.6%
SB On Ramps	22,000	1,226	1,566	1,636	4%	1.5%	1.3%	1,628	2,349	2,558	9%	1.5%	2.2%
NB On Ramps	31,500	1,415	2,124	2,188	3%	2.3%	2.1%	2,026	3,186	3,399	7%	2.3%	2.6%
SR 758/Bee Ridge Road													
SB Off Ramps	24,500	1,425	2,619	2,582	1%	2.4%	3.1%	1,255	2,619	2,517	4%	2.4%	3.9%
NB Off Ramps	11,500	1,010	1,269	1,283	1%	0.7%	1.0%	758	846	909	7%	0.7%	0.8%
SB On Ramps	12,000	630	846	995	18%	1.0%	2.2%	1,011	1,269	1,481	17%	1.0%	1.8%
NB On Ramps	24,000	1,336	1,746	1,893	8%	2.7%	1.6%	1,256	1,746	1,913	10%	2.7%	2.0%
SR 72/Clark Road													
SB Off Ramps	18,500	1,490	2,349	2,523	7%	0.1%	2.7%	1,433	1,566	1,836	17%	0.1%	1.1%
NB Off Ramps	9,600	1,032	1,042	1,149	10%	0.6%	0.4%	583	695	777	12%	0.6%	1.3%
SB On Ramps	9,700	644	695	825	19%	0.6%	1.1%	874	1,042	1,096	5%	0.6%	1.0%
NB On Ramps	25,000	1,207	1,566	1,840	17%	1.6%	2.0%	1,534	2,349	2,484	6%	1.6%	2.4%
SR 681													
NB On Ramps	11,500	706	936	1,110	19%	1.8%	2.2%	668	1,404	1,379	2%	1.8%	4.1%
SB Off Ramps	14,500	790	1,404	1,260	10%	2.5%	2.3%	665	936	1,029	10%	2.5%	2.1%

Table 2-2 (Continued): Design Year 2045 I-75 Ramp DDHV Forecast and Check

Location	Design Year 2045 AADT	AM Peak Hour						PM Peak Hour					
		Existing 2019 DDHV	Target 2045 DDHV	Balanced 2045 DDHV	% Difference	Forecast 2045 AADT AGR	Balanced 2045 DDHV AGR	Existing 2019 DDHV	Target 2045 DDHV	Balanced 2045 DDHV	% Difference	Design Year 2045 AGR	Balanced 2045 DDHV AGR
Laurel Road													
SB Off Ramps	8,000	460	594	618	4%	1.7%	1.3%	469	891	864	3%	1.7%	3.2%
NB Off Ramps	9,600	879	1,058	1,199	13%	1.7%	1.4%	389	706	672	5%	1.7%	2.8%
SB On Ramps	10,000	392	706	826	17%	1.5%	4.3%	798	1,058	1,257	19%	1.5%	2.2%
NB On Ramps	8,500	500	891	980	10%	2.4%	3.7%	447	594	677	14%	2.4%	2.0%
Jacaranda Boulevard													
SB Off Ramps	11,500	701	810	969	20%	1.0%	1.5%	881	1,215	1,393	15%	1.0%	2.2%
NB Off Ramps	8,400	750	972	959	1%	1.9%	1.1%	329	648	598	8%	1.9%	3.1%
SB On Ramps	9,600	313	648	632	2%	2.5%	3.9%	788	972	979	1%	2.5%	0.9%
NB On Ramps	11,000	900	1,215	1,446	19%	1.0%	2.3%	653	810	964	19%	1.0%	1.8%
River Road													
SB Off Ramps	9,900	527	706	839	19%	0.9%	2.3%	797	1,058	1,245	18%	0.9%	2.2%
NB Off Ramps	5,900	207	616	590	4%	8.1%	7.1%	103	410	400	2%	8.1%	11.1%
SB On Ramps	5,500	139	410	415	1%	6.7%	7.6%	224	616	604	2%	6.7%	6.5%
NB On Ramps	9,700	905	1,058	1,179	11%	0.8%	1.2%	451	706	762	8%	0.8%	2.7%

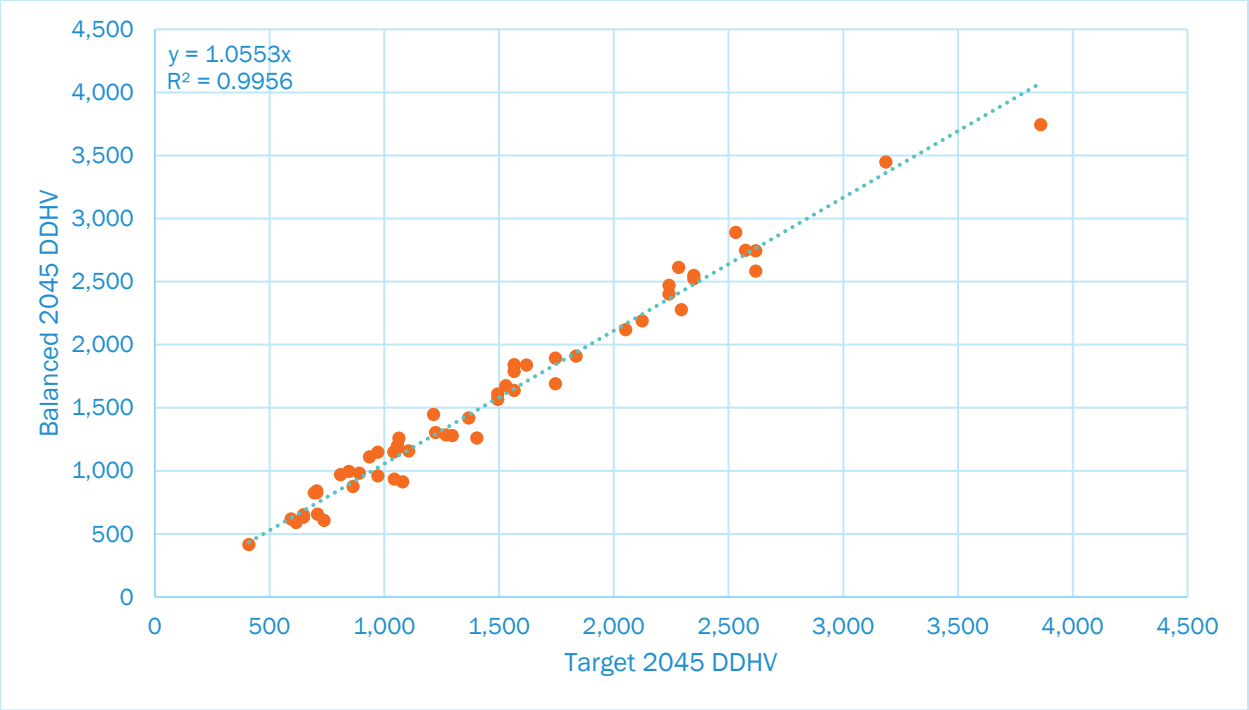

Figure 2.1: I-75 AM Peak Hour Balanced vs. Target Ramp DDHV

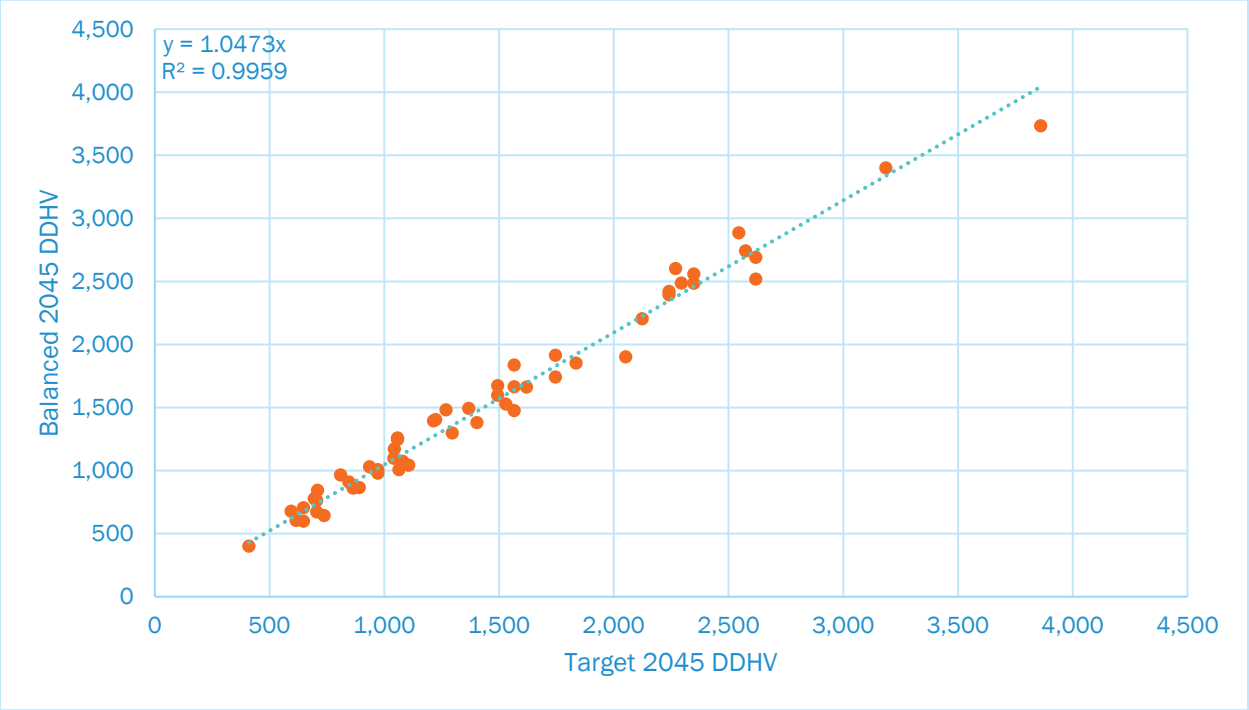

Figure 2.2: I-75 PM Peak Hour Balanced vs. Target Ramp DDHV

2.2 I-75 Mainline Forecast

The comparison of the D1RPM, 2019 FTO 5-year (2015 to 2019) historical count data, and 2019 BEBR population forecast annual growth rates (AGR) on I-75 mainline roadway segments are provided in **Table 2.3**. The D1RPM indicates that mainline I-75 is consistent with 2019 BEBR population forecasts while the historical count data from the 2019 FTO indicate recent growth has been much more aggressive. This difference between the D1RPM and 2019 BEBR forecasts with historical trends can likely be attributed to high development recently present along the corridor. Development build out and market factors over time, which are considered during forecasting, will likely reach saturation over time and growth will slow. It is for these reasons that the D1RPM output will be utilized as a foundation for I-75 mainline forecasts

Table 2-3: Comparison of Growth Rates on I-75 Mainline

	D1RPM 1.0.6 Model Outputs			2019 FTO	2019 BEBR	
Location	2015	2040	AGR	AGR	Low AGR	High AGR
I-75 North of Moccasin Wallow Road	65,500	116,400	3.1%	3.7%	0.6%	2.6%
I-75 South of Moccasin Wallow Road	64,500	120,800	3.5%	0.2%	0.6%	2.6%
I-75 North of US 301	81,300	159,600	3.9%	4.4%	0.6%	2.6%
I-75 North of SR 64	98,700	178,100	3.2%	2.1%	0.6%	2.6%
I-75 North of SR 70	105,800	180,200	2.8%	1.8%	0.6%	2.6%
I-75 North of University Parkway	112,300	189,600	2.8%	2.2%	0.3%	1.9%
I-75 North of SR 780 Fruitville Road	114,100	181,600	2.4%	1.9%	0.3%	1.9%
I-75 North of Bee Ridge Road	115,900	171,400	1.9%	0.5%	0.3%	1.9%
I-75 North of Clark Road	114,400	160,500	1.6%	2.9%	0.3%	1.9%
I-75 North of SR 681	107,500	147,100	1.5%	2.2%	0.3%	1.9%
I-75 North of Laurel Road	93,600	127,400	1.4%	1.6%	0.3%	1.9%
I-75 North of Jacaranda Boulevard	90,500	122,600	1.4%	1.1%	0.3%	1.9%
I-75 North of River Road	73,600	106,400	1.8%	3.6%	0.3%	1.9%
I-75 South of River Road	53,500	88,600	2.6%	3.5%	0.3%	1.9%

NOTES: 2019 FTO annual growth rate is based off 5-years (2015 to 2019) of historical count data

A comparison of the interpolated 2019 AADTs based upon the D1RPM Base Year (2015) and Horizon Year (2040) AADTs and associated NCHRP 765 forecast adjustments can be found in **Table 2.4**. Based on the methodologies found in the 2019 Project Traffic Forecasting Handbook for the application of travel demand model forecasts, the difference and ratio methods along with the Existing Year 2019 AADTs were used to develop the Design Year 2045 AADT forecasts. An average of the difference and ratio method estimated 2040 AADTs was taken to establish NCHRP 2040 AADTs, of which then AGRs were established for each link to extrapolate the NCHRP 2040 AADTs to Design Year 2045 AADTs.

Table 2-4: Forecasted 2045 AADTs on I-75 Roadway Segments

Location	Existing 2019 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	NCHRP 765 Adjustment Process						
				Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	NCHRP Forecast 2045 AADT
I-75 North of Moccasin Wallow Road	74,000	73,644	116,400	42,756	116,756	1.58	116,963	116,900	2.8%	127,000
I-75 South of Moccasin Wallow Road	71,500	73,508	120,800	47,292	118,792	1.64	117,500	118,100	3.1%	129,000
I-75 North of US 301	104,000	93,828	159,600	65,772	169,772	1.70	176,902	173,300	3.2%	190,000
I-75 North of SR 64	120,000	111,404	178,100	66,696	186,696	1.60	191,842	189,300	2.8%	206,000
I-75 North of SR 70	127,500	117,704	180,200	62,496	189,996	1.53	195,197	192,600	2.4%	208,000
I-75 North of University Parkway	134,500	124,668	189,600	64,932	199,432	1.52	204,553	202,000	2.4%	218,000
I-75 North of SR 780 Fruitville Road	137,500	124,900	181,600	56,700	194,200	1.45	199,920	197,100	2.1%	211,000
I-75 North of Bee Ridge Road	122,000	124,780	171,400	46,620	168,620	1.37	167,581	168,100	1.8%	179,000
I-75 North of Clark Road	116,233	121,776	160,500	38,724	154,957	1.32	153,194	154,100	1.6%	163,000
I-75 North of SR 681	97,000	113,836	147,100	33,264	130,264	1.29	125,344	127,800	1.5%	135,000
I-75 North of Laurel Road	83,500	99,008	127,400	28,392	111,892	1.29	107,445	109,700	1.5%	116,000
I-75 North of Jacaranda Boulevard	85,000	95,636	122,600	26,964	111,964	1.28	108,965	110,500	1.4%	117,000
I-75 North of River Road	83,000	78,848	106,400	27,552	110,552	1.35	112,003	111,300	1.6%	118,000
I-75 South of River Road	71,772	59,116	88,600	29,484	101,256	1.50	107,568	104,400	2.2%	112,100

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

These forecasted AADTs are unbalanced with the forecasted ramps shown in **Section 2.1**. To balance these, the mainline AADT south of River Road was held constant and the mainline AADT was balanced from south (starting south of River Road) to north (ending north of Moccasin Wallow Road). The mainline volumes were balanced from south to north after comparing both south to north and north to south balancing methods. Balancing from south to north minimized variance. This balancing is provided in **Table 2.5**.

These AADTs, along with the Standard K and D factors were used to develop initial DDHVs for use as target values during the least squared regression balancing process for the study area and are shown in **Table 2.6**.

The results of the least squared regression based balancing efforts at I-75 mainline segments can be found in **Table 2.7**. The results indicate that the effort was effective at balancing the traffic flow through the system while still preserving initial demand when comparing the initial DDHVs from **Table 2.6** to the smoothed DDHVs found in **Table 2.7**.

To provide a check for the smoothed volumes with the forecasting consistency, a maximum of the AM and PM peak hour volume was taken for each link and then divided by the associated link K factor to yield an estimated 2045 AADT. This estimate 2045 was plotted against Design Year 2045 AADTs at each location and checked for statistical fit and is depicted in **Figure 2.3**. Based on the slope of the trend line being nearly 1.05 and the R-squared value of 0.99, the balancing process results did not significantly impact the patterns calculated directly from the forecasting procedure.

Table 2-5: I-75 Mainline Balancing Adjustments

Location	Ramp Type	Operation	AADT
I-75 North of Moccasin Wallow Road			130,500
Moccasin Wallow Road	NB Off	Subtract	15,000
Moccasin Wallow Road	NB On	Add	9,000
Moccasin Wallow Road	SB Off	Add	9,000
Moccasin Wallow Road	SB On	Subtract	15,000
I-75 South of Moccasin Wallow Road			142,500
I-275	SB Off	Add	14,000
I-275	SB On	Subtract	37,000
I-275	NB On	Add	15,000
I-275	NB Off	Subtract	34,500
I-75 North of US 301			185,000
US 301	SB Off	Add	11,500
US 301	SB On	Subtract	20,500
US 301	NB On	Add	12,500
US 301	NB Off	Subtract	21,000
I-75 North of SR 64			202,500
SR 64	SB Off	Add	21,500
SR 64	NB Off	Subtract	21,000
SR 64	SB On	Subtract	21,500
SR 64	NB On	Add	20,000
I-75 North of SR 70			203,500
SR 70	SB Off	Add	17,500
SR 70	SB On	Subtract	18,500
SR 70	NB On	Add	16,500
SR 70	NB Off	Subtract	19,500
I-75 North of University Parkway			207,500
University Parkway	SB Off	Add	24,000
University Parkway	SB On	Subtract	26,000
University Parkway	NB On	Add	24,500
University Parkway	NB Off	Subtract	27,500
I-75 North of SR 780 Fruitville Road			212,500
SR 780/Fruitville Road	SB Off	Add	27,500
SR 780/Fruitville Road	NB Off	Subtract	21,500
SR 780/Fruitville Road	SB On	Subtract	22,000
SR 780/Fruitville Road	NB On	Add	31,500
I-75 North of Bee Ridge Road			197,000
SR 758/Bee Ridge Road	SB Off	Add	24,500
SR 758/Bee Ridge Road	SB On	Subtract	12,000
SR 758/Bee Ridge Road	NB On	Add	24,000
SR 758/Bee Ridge Road	NB Off	Subtract	11,500
I-75 North of Clark Road			172,000
SR 72/Clark Road	SB Off	Add	18,500
SR 72/Clark Road	SB On	Subtract	9,700
SR 72/Clark Road	NB On	Add	25,000
SR 72/Clark Road	NB Off	Subtract	9,600
I-75 North of SR 681			147,800
SR 681	NB On	Add	11,500
SR 681	SB Off	Add	14,500

Table 2-5 (Continued): I-75 Mainline Balancing Adjustments

Location	Ramp Type	Operation	AADT
I-75 North of Laurel Road			121,800
Laurel Road	SB Off	Add	8,000
Laurel Road	SB On	Subtract	10,000
Laurel Road	NB On	Add	8,500
Laurel Road	NB Off	Subtract	9,600
I-75 North of Jacaranda Boulevard			124,900
Jacaranda Boulevard	SB Off	Add	11,500
Jacaranda Boulevard	SB On	Subtract	9,600
Jacaranda Boulevard	NB Off	Subtract	8,400
Jacaranda Boulevard	NB On	Add	11,000
I-75 North of River Road			120,400
River Road	SB Off	Add	9,900
River Road	SB On	Subtract	5,500
River Road	NB On	Add	9,700
River Road	NB Off	Subtract	5,900
I-75 South of River Road			112,200

Table 2-6: Initial Design Year 2045 DDHVs - I-75 Mainline

Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
		K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
I-75 North of Moccasin Wallow Road	130,500	0.09	0.52	5,612	6,133	0.09	0.61	7,188	4,557
I-75 South of Moccasin Wallow Road	142,500	0.09	0.61	4,976	7,849	0.09	0.61	7,849	4,976
I-75 North of US 301	185,000	0.09	0.57	7,168	9,482	0.09	0.56	9,320	7,330
I-75 North of SR 64	202,500	0.09	0.58	7,568	10,657	0.09	0.58	10,541	7,684
I-75 North of SR 70	203,500	0.09	0.57	7,838	10,477	0.09	0.59	10,747	7,568
I-75 North of University Parkway	207,500	0.09	0.58	7,813	10,862	0.09	0.58	10,762	7,913
I-75 North of SR 780 Fruitville Road	212,500	0.09	0.53	8,918	10,207	0.09	0.53	10,187	8,938
I-75 North of Bee Ridge Road	197,000	0.09	0.53	9,363	8,367	0.09	0.52	8,553	9,177
I-75 North of Clark Road	172,000	0.09	0.56	8,636	6,844	0.09	0.53	7,235	8,245
I-75 North of SR 681	147,800	0.09	0.61	8,084	5,218	0.09	0.56	5,800	7,502
I-75 North of Laurel Road	121,800	0.09	0.61	6,709	4,253	0.09	0.58	4,633	6,329
I-75 North of Jacaranda Boulevard	124,900	0.09	0.61	6,879	4,362	0.09	0.60	4,464	6,777
I-75 North of River Road	120,400	0.09	0.61	6,632	4,204	0.09	0.61	4,204	6,632
I-75 South of River Road	112,200	0.09	0.61	6,180	3,918	0.09	0.61	3,918	6,180

Table 2-7: Balanced Design Year 2045 DDHVs and AADT Forecast Consistency Check – I-75 Mainline

Location	AM Peak Hour		PM Peak Hour		Comparison			
	NB/EB DDHV	SB/WB DDHV	NB/EB DDHV	SB/WB DDHV	2045 AADT Estimate	Design Year 2045 AADT	Delta	Percent
I-75 North of Moccasin Wallow Road	5,685	6,749	7,594	4,707	138,000	130,500	7,500	5.7%
I-75 South of Moccasin Wallow Road	5,450	7,937	8,249	5,075	149,000	142,500	6,500	4.6%
I-75 North of US 301	7,264	9,893	9,515	7,637	191,000	185,000	6,000	3.2%
I-75 North of SR 64	7,954	11,016	11,074	7,936	211,000	202,500	8,500	4.2%
I-75 North of SR 70	8,020	10,823	11,167	7,791	211,000	203,500	7,500	3.7%
I-75 North of University Parkway	8,135	11,032	10,808	8,288	213,000	207,500	5,500	2.7%
I-75 North of SR 780 Fruitville Road	9,336	10,901	10,719	9,431	225,000	212,500	12,500	5.9%
I-75 North of Bee Ridge Road	9,696	9,089	8,983	9,786	209,000	197,000	12,000	6.1%
I-75 North of Clark Road	9,086	7,502	7,979	8,750	186,000	172,000	14,000	8.1%
I-75 North of SR 681	8,395	5,804	6,272	8,010	159,000	147,800	11,200	7.6%
I-75 North of Laurel Road	7,285	4,544	4,893	6,981	132,000	121,800	10,200	8.4%
I-75 North of Jacaranda Boulevard	7,504	4,752	4,888	7,374	136,000	124,900	11,100	8.9%
I-75 North of River Road	7,017	4,415	4,522	6,960	128,000	120,400	7,600	6.3%
I-75 South of River Road	6,428	3,991	4,160	6,319	116,000	112,200	3,800	3.4%

NOTES:
2045 AADT Estimate is the back calculated AADT yielded from the maximum of the segment AM/PM DHVs divided by the K factor.

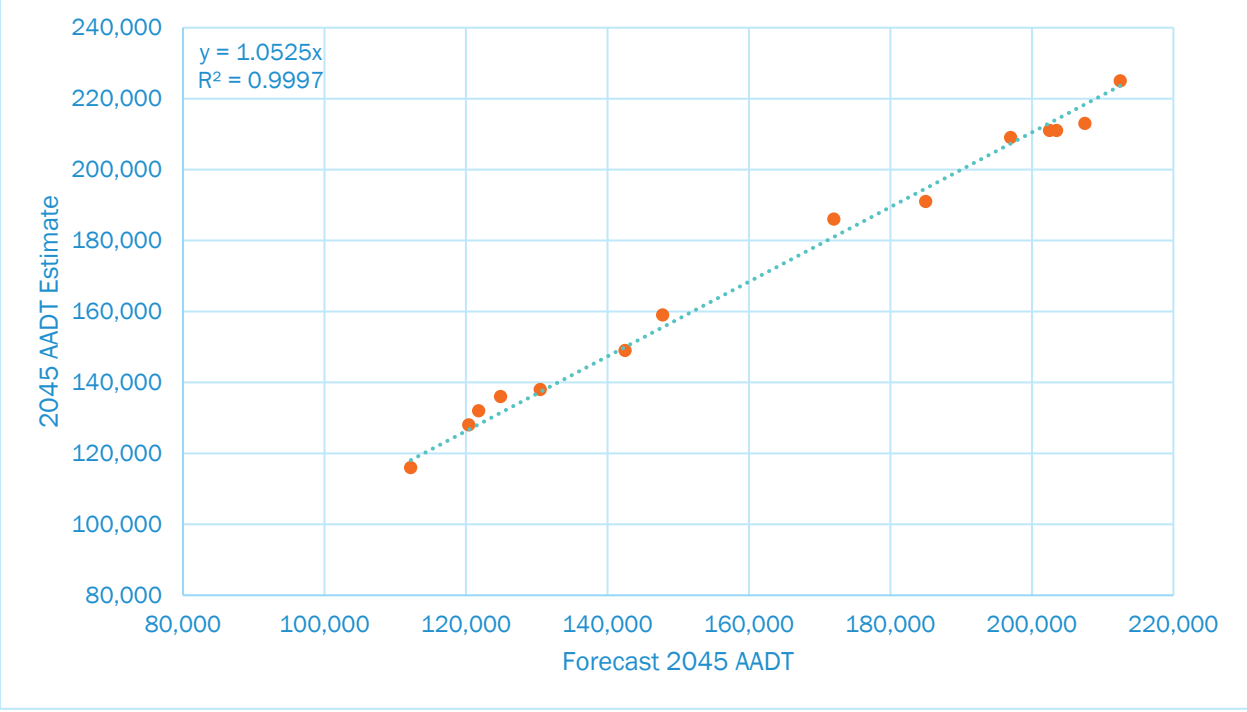

Figure 2.3: I-75 Mainline Variance

2.3 Comparison of No-Build and Build Mainline I-75 Volumes

The Design Year 2045 volumes for both the No-Build and Build scenarios are compared in this section. Table 2.8 provides this comparison for the AADTs along I-75 within the study area. The percent change provided is the actual percent change, not an annual growth rate, as the years compared are both 2045. The Build scenario always has higher AADTs and this difference ranges from 12.7 percent north of Jacaranda Boulevard to 40.5 percent north of US 301. Table 2.9 provides a review of these same growths for the AM and PM peak hour DDHVs. All DDHVs in the Build Scenario are higher than the No-Build scenario. For interstate ramp volumes, Table 2.10 provides this same comparison of AADTs and DDHVs between the No-Build scenario and Build scenario for the Design Year 2045. All Build scenario ramp volumes are greater than No-Build scenario volumes.

Table 2-8: Comparison of I-75 Mainline AADT (No-Build vs. Build)

Location	No-Build Design Year 2045 AADT	Build Design Year 2045 AADT	Percent Change
I-75 North of Moccasin Wallow Road	102,700	130,500	27.1%
I-75 South of Moccasin Wallow Road	108,700	142,500	31.1%
I-75 North of US 301	131,700	185,000	40.5%
I-75 North of SR 64	147,200	202,500	37.6%
I-75 North of SR 70	150,200	203,500	35.5%
I-75 North of University Parkway	151,200	207,500	37.2%
I-75 North of SR 780 Fruitville Road	164,700	212,500	29.0%
I-75 North of Bee Ridge Road	161,200	197,000	22.2%
I-75 North of Clark Road	145,200	172,000	18.5%
I-75 North of SR 681	125,000	147,800	18.2%
I-75 North of Laurel Road	104,100	121,800	17.0%
I-75 North of Jacaranda Boulevard	110,800	124,900	12.7%
I-75 North of River Road	102,100	120,400	17.9%
I-75 South of River Road	96,100	112,200	16.8%

Table 2-9: Comparison of I-75 Mainline DDHV (No-Build vs. Build)

Location	AM Peak Hour						PM Peak Hour					
	No-Build NB/EB DDHV	No-Build SB/WB DDHV	Build NB/EB DDHV	Build SB/WB DDHV	NB/EB DDHV Percent Growth	SB/WB DDHV Percent Growth	No-Build NB/EB DDHV	No-Build SB/WB DDHV	Build NB/EB DDHV	Build SB/WB DDHV	NB/EB DDHV Percent Growth	SB/WB DDHV Percent Growth
I-75 North of Moccasin Wallow Road	4,061	5,124	5,685	6,749	40.0%	31.7%	5,560	3,448	7,594	4,707	36.6%	36.5%
I-75 South of Moccasin Wallow Road	3,783	6,006	5,450	7,937	44.1%	32.2%	5,970	3,655	8,249	5,075	38.2%	38.9%
I-75 North of US 301	5,075	6,946	7,264	9,893	43.1%	42.4%	6,753	5,273	9,515	7,637	40.9%	44.8%
I-75 North of SR 64	5,833	8,271	7,954	11,016	36.4%	33.2%	8,373	5,870	11,074	7,936	32.3%	35.2%
I-75 North of SR 70	5,785	7,890	8,020	10,823	38.6%	37.2%	8,366	5,680	11,167	7,791	33.5%	37.2%
I-75 North of University Parkway	5,901	8,102	8,135	11,032	37.9%	36.2%	7,991	6,044	10,808	8,288	35.3%	37.1%
I-75 North of SR 780 Fruitville Road	7,343	8,466	9,336	10,901	27.1%	28.8%	8,373	7,235	10,719	9,431	28.0%	30.4%
I-75 North of Bee Ridge Road	7,971	7,126	9,696	9,089	21.6%	27.5%	7,168	7,770	8,983	9,786	25.3%	25.9%
I-75 North of Clark Road	7,608	6,236	9,086	7,502	19.4%	20.3%	6,598	7,435	7,979	8,750	20.9%	17.7%
I-75 North of SR 681	7,092	4,884	8,395	5,804	18.4%	18.8%	5,251	6,836	6,272	8,010	19.4%	17.2%
I-75 North of Laurel Road	6,227	3,772	7,285	4,544	17.0%	20.5%	4,082	5,943	4,893	6,981	19.9%	17.5%
I-75 North of Jacaranda Boulevard	6,600	4,039	7,504	4,752	13.7%	17.7%	4,196	6,438	4,888	7,374	16.5%	14.5%
I-75 North of River Road	6,116	3,716	7,017	4,415	14.7%	18.8%	3,827	6,097	4,522	6,960	18.2%	14.2%
I-75 South of River Road	5,607	3,371	6,428	3,991	14.6%	18.4%	3,541	5,552	4,160	6,319	17.5%	13.8%

Table 2-10: Comparison of I-75 Ramp AADTs and DDHVs (No-Build vs. Build)

Location	No-Build Design Year 2045 AADT	Build Design Year 2045 AADT	Percent Change	AM Peak Hour			PM Peak Hour		
				No-Build 2045 DDHV	Build 2045 DDHV	Percent Change	No-Build 2045 DDHV	Build 2045 DDHV	Percent Change
Moccasin Wallow Road									
SB Off Ramps	9,000	9,000	0.0%	648	650	0.3%	700	705	0.7%
NB Off Ramps	12,000	15,000	25.0%	811	912	12.5%	1,362	1,661	22.0%
SB On Ramps	12,000	15,000	25.0%	1,530	1,838	20.1%	907	1,073	18.3%
NB On Ramps	9,000	9,000	0.0%	1,089	1,147	5.3%	952	1,006	5.7%
I-275									
SB Off Ramps	14,000	14,000	0.0%	1,773	1,787	0.8%	1,138	1,170	2.8%
NB Off Ramps	25,000	34,500	38.0%	2,162	2,747	27.1%	2,223	2,741	23.3%
SB On Ramps	27,000	37,000	37.0%	2,713	3,743	38.0%	2,756	3,732	35.4%
NB On Ramps	15,000	15,000	0.0%	870	933	7.2%	1,440	1,475	2.4%
US 301									
SB Off Ramps	9,000	11,500	27.8%	846	1,278	51.1%	875	1,297	48.2%
NB Off Ramps	17,500	21,000	20.0%	1,388	1,565	12.8%	2,218	2,420	9.1%
SB On Ramps	17,000	20,500	20.6%	2,171	2,401	10.6%	1,472	1,596	8.4%
NB On Ramps	10,000	12,500	25.0%	630	875	38.9%	598	861	44.0%
SR 64									
SB Off Ramps	20,500	21,500	4.9%	2,342	2,470	5.5%	1,549	1,672	7.9%
NB Off Ramps	21,000	21,000	0.0%	1,499	1,674	11.7%	2,268	2,486	9.6%
SB On Ramps	21,500	21,500	0.0%	1,961	2,277	16.1%	1,359	1,527	12.4%
NB On Ramps	19,000	20,000	5.3%	1,547	1,608	3.9%	2,275	2,393	5.2%
SR 70									
SB Off Ramps	14,500	17,500	20.7%	1,617	1,909	18.1%	1,237	1,404	13.5%
NB Off Ramps	14,000	19,500	39.3%	1,282	1,418	10.6%	1,282	1,492	16.4%
SB On Ramps	16,000	18,500	15.6%	1,829	2,118	15.8%	1,601	1,901	18.7%
NB On Ramps	14,500	16,500	13.8%	1,166	1,303	11.7%	1,657	1,851	11.7%
University Parkway									
SB Off Ramps	19,000	24,000	26.3%	2,219	2,743	23.6%	1,506	1,741	15.6%
NB Off Ramps	25,500	27,500	7.8%	2,843	2,890	1.7%	2,591	2,601	0.4%
SB On Ramps	26,000	26,000	0.0%	2,198	2,612	18.8%	2,697	2,884	6.9%
NB On Ramps	19,000	24,500	28.9%	1,401	1,689	20.6%	2,209	2,690	21.8%
SR 780/Fruitville Road									
SB Off Ramps	23,000	27,500	19.6%	2,912	3,448	18.4%	1,904	2,203	15.7%
NB Off Ramps	21,500	21,500	0.0%	2,535	2,548	0.5%	1,622	1,663	2.5%
SB On Ramps	22,000	22,000	0.0%	1,572	1,636	4.1%	2,439	2,558	4.9%
NB On Ramps	24,000	31,500	31.3%	1,907	2,188	14.7%	2,827	3,399	20.2%
SR 758/Bee Ridge Road									
SB Off Ramps	20,000	24,500	22.5%	1,851	2,582	39.5%	1,765	2,517	42.6%
NB Off Ramps	10,500	11,500	9.5%	1,275	1,283	0.6%	908	909	0.1%
SB On Ramps	12,000	12,000	0.0%	961	995	3.5%	1,430	1,481	3.6%
NB On Ramps	18,500	24,000	29.7%	1,638	1,893	15.6%	1,478	1,913	29.4%

Table 2.10 (continued): Comparison of I-75 Ramp AADTs and DDHVs (No-Build vs. Build)

Location	No-Build Design Year 2045 AADT	Build Design Year 2045 AADT	Percent Change	AM Peak Hour			PM Peak Hour		
				No-Build 2045 DDHV	Build 2045 DDHV	Percent Change	No-Build 2045 DDHV	Build 2045 DDHV	Percent Change
SR 72/Clark Road									
SB Off Ramps	18,000	18,500	2.8%	2,177	2,523	15.9%	1,691	1,836	8.6%
NB Off Ramps	9,600	9,600	0.0%	1,149	1,149	0.0%	773	777	0.5%
SB On Ramps	9,700	9,700	0.0%	825	825	0.0%	1,092	1,096	0.4%
NB On Ramps	21,500	25,000	16.3%	1,665	1,840	10.5%	2,120	2,484	17.2%
SR 681									
NB On Ramps	9,900	11,500	16.2%	865	1,110	28.3%	1,169	1,379	18.0%
SB Off Ramps	11,000	14,500	31.8%	1,112	1,260	13.3%	893	1,029	15.2%
Laurel Road									
SB Off Ramps	6,600	8,000	21.2%	547	618	13.0%	732	864	18.0%
NB Off Ramps	9,600	9,600	0.0%	1,183	1,199	1.4%	666	672	0.9%
SB On Ramps	10,000	10,000	0.0%	814	826	1.5%	1,227	1,257	2.4%
NB On Ramps	6,300	8,500	34.9%	810	980	21.0%	552	677	22.6%
Jacaranda Boulevard									
SB Off Ramps	11,500	11,500	0.0%	938	969	3.3%	1,316	1,393	5.9%
NB Off Ramps	8,400	8,400	0.0%	957	959	0.2%	592	598	1.0%
SB On Ramps	9,600	9,600	0.0%	615	632	2.8%	975	979	0.4%
NB On Ramps	11,000	11,000	0.0%	1,441	1,446	0.3%	961	964	0.3%
River Road									
SB Off Ramps	8,700	9,900	13.8%	742	839	13.1%	1,119	1,245	11.3%
NB Off Ramps	5,900	5,900	0.0%	562	590	5.0%	396	400	1.0%
SB On Ramps	5,500	5,500	0.0%	397	415	4.5%	574	604	5.2%
NB On Ramps	8,700	9,700	11.5%	1,071	1,179	10.1%	682	762	11.7%

3.0 I-75 Interchange Volumes

The following sections identify forecasted growth, AADT, and DDHVs along with the smoothed DDHVs, and AADT forecast consistency checks. There are several locations with high growth rates found in the FDOT provided D1RPM. These locations have been checked and verified to be reasonable.

Where the network input zone for an interchange is included in the D1RPM, forecasts from the model were generally applied directly, with high growths reviewed for reasonableness. For minor roads or entrances where growth is expected to be minimal, the BEBR low growth rates of 0.3% for Manatee County and 0.6% for Sarasota County were adopted. It is assumed that all committed development will be present in the modeling forecasts, but in instances where network input zones represent demand that needs to be added to the system in addition to the model forecast, the average D1RPM weighted growth rate for network input zones will be used.

The average D1RPM weighted growth rate is calculated as the sum of the products of the NCHRP AGR and the Existing Year 2019 AADT divided by the sum of the Existing Year 2019 AADT at locations where the D1RPM has a model link. An example of the calculation at Moccasin Wallow Road is provided in **Table 3.1** below.

Table 3-1: Example Calculation for Weighted Average D1RPM AGR

Location	Existing Year 2019 AADT	NCHRP AGR	Existing Year 2019 AADT * NCHRP AGR
Moccasin Wallow Rd west of Gateway Blvd	12,000	8.5%	1023.8
Moccasin Wallow Rd east of 71st Ave	9,100	15.1%	1376.2
I-75 Frontage Rd/Buffalo Rd south of Moccasin Wallow Rd	2,900	4.8%	138.1
Total	24,000		2538.1
Average D1RPM Weighted AGR			**10.6%**

Once the forecasts for each interchange have been presented, a system wide variation check will be provided reviewing the consistency between the Design Year 2045 AADTs and estimated 2045 AADTs. The estimated 2045 AADTs are calculated by taking the maximum of the AM and PM peak hour volumes at network input zones and applying the K factor from the Existing Year 2019 at that location.

3.1 CR 683 (Moccasin Wallow Road) Forecast

The interchange of I-75 at CR 683 (Moccasin Wallow Road) consists of nine network input zones and extends from east of 71st Ave East to west of Gateway Boulevard and is represented in **Figure 3.1**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.2**. Based on the network input zones within the interchange study area, Moccasin Wallow Road has a D1RPM weighted growth rate of 10.6 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.3**. The Design Year 2045 AADTs were used along with K and D factors from Existing Year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.4**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.5**. Growth in Design Year 2045 AADT between the No-Build and Build scenarios is provided in **Table 3.6**.

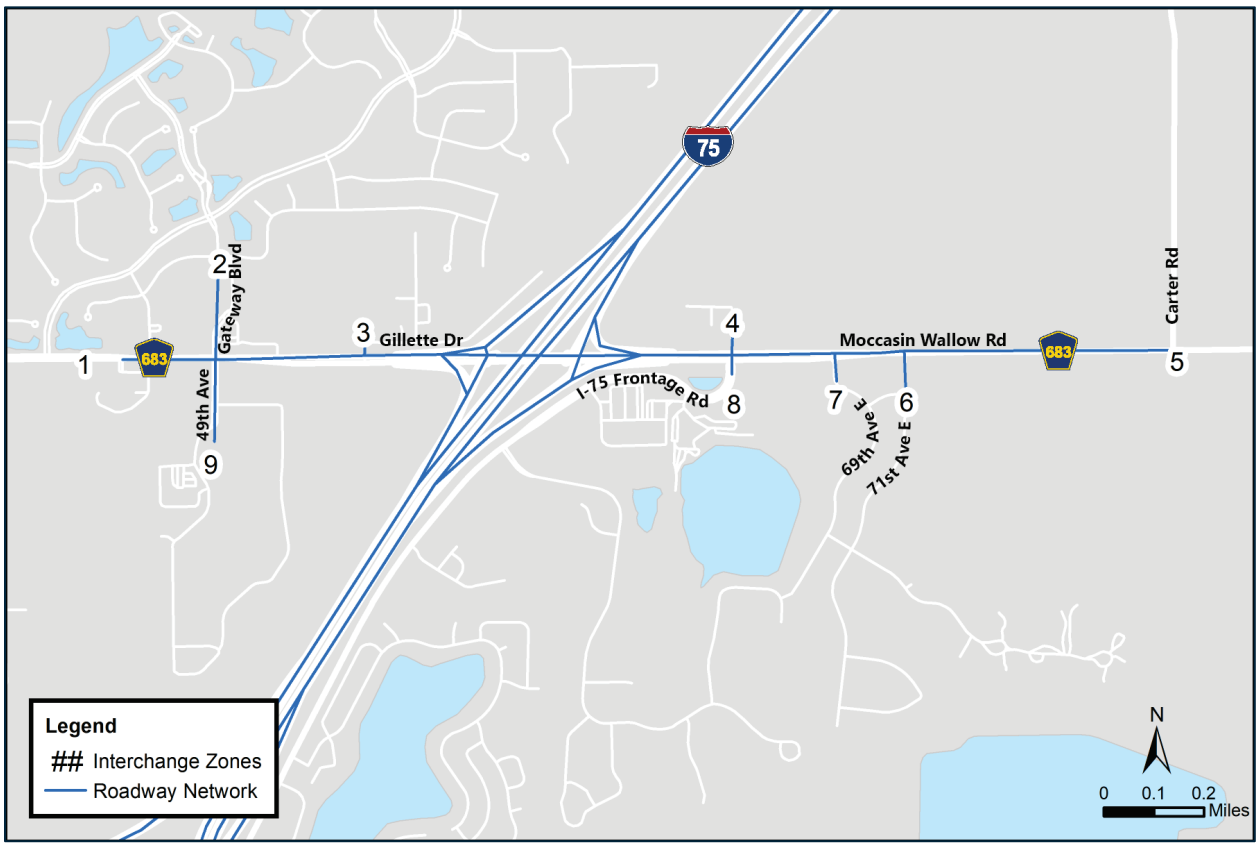

Figure 3.1: Interchange Analysis Zones – CR 683 (Moccasin Wallow Road) Forecast

Table 3-2: Design Year 2045 AADT Development – CR 683 (Moccasin Wallow Road)

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									Design Year 2045 AADT
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	
1	Moccasin Wallow Rd west of Gateway Blvd	12,000	5,300	9,400	30,700	21,300	33,300	3.3	39,200	33,500	8.5%	38,500
2	Gateway Blvd north of Moccasin Wallow Rd	3,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	Gillette Rd north of Moccasin Wallow Rd	150	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Buffalo Rd north of Moccasin Wallow Rd	150	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	Moccasin Wallow Rd east of 71st Ave	9,100	5,400	10,900	40,000	29,100	38,200	3.7	33,400	38,000	15.1%	47,500
6	71st Ave East south of Moccasin Wallow Rd	1,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7	69th Ave south of Moccasin Wallow Rd	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3-3: Design Year 2045 AADTs – CR 683 (Moccasin Wallow Road)

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	Moccasin Wallow Rd west of Gateway Blvd	12,000	D1RPM	8.5%	38,500
2	Gateway Blvd north of Moccasin Wallow Rd	3,300	BEBR Low Forecast	0.6%	3,800
3	Gillette Rd north of Moccasin Wallow Rd	150	BEBR Low Forecast	0.6%	150
4	Buffalo Rd north of Moccasin Wallow Rd	150	BEBR Low Forecast	0.6%	150
5	Moccasin Wallow Rd east of 71st Ave	9,100	D1RPM	15.2%	47,500
6	71st Ave East south of Moccasin Wallow Rd	1,400	BEBR Low Forecast	0.6%	1,600
7	69th Ave south of Moccasin Wallow Rd	500	BEBR Low Forecast	0.6%	550
8	I-75 Frontage Rd/Buffalo Rd south of Moccasin Wallow Rd	2,900	D1RPM	4.8%	7,600
9	Gateway Blvd south of Moccasin Wallow Rd	5,100	BEBR Low Forecast	0.6%	5,800

Table 3-4: Design Year 2045 Target DDHVs – CR 683 (Moccasin Wallow Road)

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	Moccasin Wallow Rd west of Gateway Blvd	38,500	0.09	0.67	1,140	2,325	0.09	0.67	1,140	2,325
2	Gateway Blvd north of Moccasin Wallow Rd	3,800	0.09	0.60	137	205	0.09	0.57	145	197
3	Gillette Rd north of Moccasin Wallow Rd	150	0.09	0.67	4	10	0.09	0.57	6	8
4	Buffalo Rd north of Moccasin Wallow Rd	150	0.09	0.67	4	10	0.09	0.65	5	9
5	Moccasin Wallow Rd east of 71st Ave	47,500	0.09	0.63	1,597	2,678	0.09	0.57	1,832	2,443
6	71st Ave East south of Moccasin Wallow Rd	1,600	0.10	0.79	32	120	0.07	0.57	46	60
7	69th Ave south of Moccasin Wallow Rd	550	0.05	0.58	12	17	0.09	0.96	2	50
8	I-75 Frontage Rd/Buffalo Rd south of Moccasin Wallow Rd	7,600	0.09	0.67	225	459	0.09	0.60	273	411
9	Gateway Blvd south of Moccasin Wallow Rd	5,800	0.09	0.56	224	288	0.03	0.52	93	103

Table 3-5: Design Year 2045 DDHVs and AADT Forecast Check – CR 683 (Moccasin Wallow Road)

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	Moccasin Wallow Rd west of Gateway Blvd	0.09	1,989	1,358	0.09	2,099	1,368	38,500	38,500	0	0.0%
2	Gateway Blvd north of Moccasin Wallow Rd	0.09	271	304	0.09	244	255	6,400	3,800	2,600	68.4%
3	Gillette Rd north of Moccasin Wallow Rd	0.09	42	14	0.09	21	15	600	150	450	300.0%
4	Buffalo Rd north of Moccasin Wallow Rd	0.09	32	12	0.09	19	35	600	150	450	300.0%
5	Moccasin Wallow Rd east of 71st Ave	0.09	1,998	2,762	0.09	2,861	2,111	55,000	47,500	7,500	15.8%
6	71st Ave East south of Moccasin Wallow Rd	0.10	194	87	0.07	90	137	3,000	1,600	1,400	87.5%
7	69th Ave south of Moccasin Wallow Rd	0.05	33	32	0.09	9	87	1,000	550	450	81.8%
8	Buffalo Rd south of Moccasin Wallow Rd	0.09	324	173	0.09	211	372	6,500	7,600	1,100	14.5%
9	Gateway Blvd south of Moccasin Wallow Rd	0.09	291	507	0.03	206	209	9,000	5,800	3,200	55.2%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

Table 3-6: Design Year 2045 AADT Growth No-Build vs. Build – CR 683 (Moccasin Wallow Road)

ID	Location	No-Build Design Year 2045 AADT	Build Design Year 2045 AADT	Percent Change
1	Moccasin Wallow Rd west of Gateway Blvd	38,000	38,500	1.3%
2	Gateway Blvd north of Moccasin Wallow Rd	3,800	3,800	0.0%
3	Gillette Rd north of Moccasin Wallow Rd	150	150	0.0%
4	Buffalo Rd north of Moccasin Wallow Rd	150	150	0.0%
5	Moccasin Wallow Rd east of 71st Ave	47,500	47,500	0.0%
6	71st Ave East south of Moccasin Wallow Rd	1,600	1,600	0.0%
7	69th Ave south of Moccasin Wallow Rd	550	550	0.0%
8	Buffalo Rd south of Moccasin Wallow Rd	7,600	7,600	0.0%
9	Gateway Blvd south of Moccasin Wallow Rd	5,800	5,800	0.0%

3.2 US 41 Forecast

The interchange of I-275 at US 41 consists of six network input zones and extends from north of 85th Street East to south of 69th Street East and is represented in **Figure 3.2**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.7**. Based on the network input zones within the interchange study area, US 41 has a D1RPM weighted growth rate of 2.3 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.8**. The Design Year 2045 AADTs were used along with K and D factors from Existing Year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.9**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.10**. Growth in Design Year 2045 AADT between the No-Build and Build scenarios is provided in **Table 3.11**.

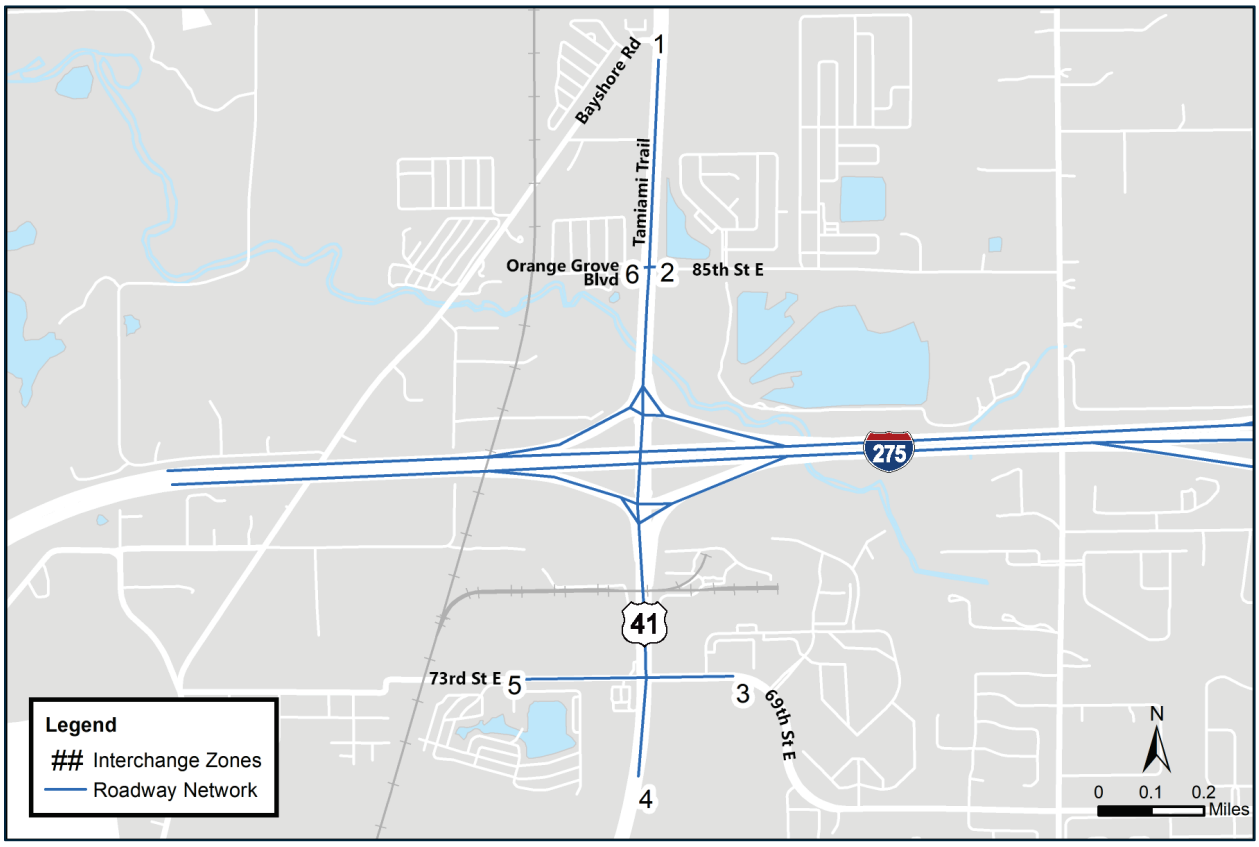

Figure 3.2: Map of Interchange Area and Zones – US 41

Table 3-7: Design Year 2045 AADT Development– US 41

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	Design Year 2045 AADT
1	US 41 north of 85th St	24,500	13,500	17,600	39,400	21,800	46,300	2.2	54,800	46,500	4.3%	51,500
2	85th St east of US 41	1,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	73rd St east of US 41	12,500	11,800	11,600	10,500	-1,100	11,400	0.9	11,300	0	-4.8%	14,500
4	US 41 South of 73rd St	25,500	21,800	23,700	33,400	9,700	35,200	1.4	35,900	35,500	1.9%	42,500
5	73rd St west of US 41	3,400	2,900	3,000	3,400	400	3,800	1.1	3,900	3,800	0.6%	6,200
6	85th St west of US 41	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3-8: Design Year 2045 AADTs – US 41

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	US 41 north of 85th St	24,500	D1RPM	4.2%	51,500
2	85th St east of US 41	1,500	BEBR Low Forecast	0.6%	1,700
3	73rd St east of US 41	12,500	BEBR Low Forecast	0.6%	14,500
4	US 41 South of 73rd St	25,500	D1RPM	1.9%	42,500
5	73rd St west of US 41	3,400	D1RPM	0.6%	6,200
6	85th St west of US 41	200	BEBR Low Forecast	0.6%	250

Table 3-9: Design Year 2045 Target DDHVs – US 41

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	US 41 north of 85th St	51,500	0.09	0.64	1,690	2,945	0.09	0.65	1,643	2,992
2	85th St east of US 41	1,700	0.09	0.54	70	83	0.09	0.54	71	82
3	73rd St east of US 41	14,500	0.09	0.67	429	876	0.09	0.60	524	781
4	US 41 South of 73rd St	42,500	0.09	0.62	1,460	2,365	0.09	0.62	1,469	2,356
5	73rd St west of US 41	6,200	0.09	0.62	214	344	0.09	0.53	262	296
6	85th St west of US 41	250	0.08	0.67	6	13	0.08	0.67	6	13

Table 3-10: Design Year 2045 DDHVs and AADT Forecast Check – US 41

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	US 41 north of 85th St	0.09	1,549	2,907	0.09	2,817	1,565	49,500	51,500	2,000	3.9%
2	85th St east of US 41	0.09	136	136	0.09	145	113	3,000	1,700	1,300	76.5%
3	73rd St east of US 41	0.09	467	960	0.09	833	540	16,000	14,500	1,500	10.3%
4	US 41 South of 73rd St	0.09	1,522	2,315	0.09	2,701	1,388	45,500	42,500	3,000	7.1%
5	73rd St west of US 41	0.09	196	104	0.09	235	204	4,900	6,200	1,300	21.0%
6	85th St west of US 41	0.08	22	19	0.08	22	26	650	250	400	160.0%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

Table 3-11: Design Year 2045 AADT Growth No-Build vs. Build - US 41

ID	Location	No-Build Design Year 2045 AADT	Build Design Year 2045 AADT	Percent Change
1	US 41 north of 85th St	46,000	51,500	12.0%
2	85th St east of US 41	1,700	1,700	0.0%
3	73rd St east of US 41	14,500	14,500	0.0%
4	US 41 South of 73rd St	42,500	42,500	0.0%
5	73rd St west of US 41	6,200	6,200	0.0%
6	85th St west of US 41	250	250	0.0%

3.3 US 301 Forecast

The interchange of I-75 at US 301 consists of 10 network input zones and extends from east of 18th Street East to west of 51st Avenue East and is represented in **Figure 3.3**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.12**. Based on the network input zones within the interchange study area, US 301 has a D1RPM weighted growth rate of 1.1 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.13**. The Design Year 2045 AADTs were used along with K and D factors from Existing Year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.14**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.15**. Growth in Design Year 2045 AADT between the No-Build and Build scenarios is provided in **Table 3.16**.

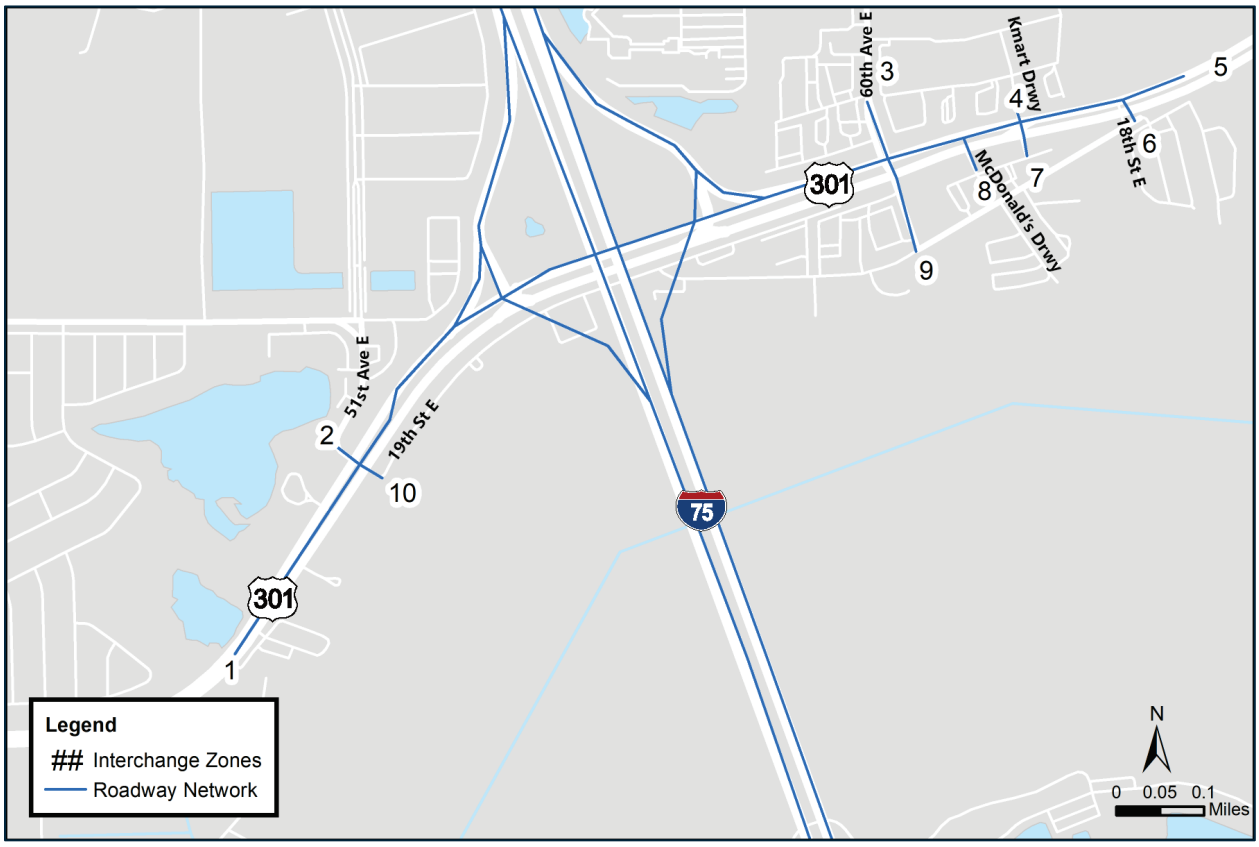

Figure 3.3: Map of Interchange Area and Zones – US 301

Table 3-12: Design Year 2045 AADT Development – US 301

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	Design Year 2045 AADT
1	US 301 west of 51st Ave	35,500	32,700	33,800	39,600	5,800	41,300	1.2	41,600	41,500	0.8%	43,000
2	51st Ave north of US 301	6,600	6,700	8,300	16,500	8,200	14,800	2.0	13,100	15,000	6.1%	17,500
3	60th Ave north of US 301	16,500	21,700	22,200	24,900	2,700	19,200	1.1	18,500	19,000	0.7%	20,000
4	K-Mart Driveway north of US 301	3,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	US 301 east of 18th St	37,500	42,100	43,600	51,300	7,700	45,200	1.2	44,100	44,500	0.9%	46,500
6	18th St south of US 301	1,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7	Starbucks Driveway south of US 301	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8	McDonalds Driveway south of US 301	3,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9	60th Ave south of US 301	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10	51st Ave south of US 301	1,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3-13: Design Year 2045 AADTs – US 301

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	US 301 west of 51st Ave	35,500	D1RPM	0.8%	43,000
2	51st Ave north of US 301	6,600	D1RPM	5.9%	17,500
3	60th Ave north of US 301	16,500	D1RPM	0.8%	20,000
4	K-Mart Driveway north of US 301	3,200	BEBR Low Forecast	0.6%	3,700
5	US 301 east of 18th St	37,500	D1RPM	0.9%	46,500
6	18th St south of US 301	1,500	BEBR Low Forecast	0.6%	1,700
7	Starbucks Driveway south of US 301	10	BEBR Low Forecast	0.6%	10
8	McDonalds Driveway south of US 301	3,400	BEBR Low Forecast	0.6%	3,900
9	60th Ave south of US 301	3,000	BEBR Low Forecast	0.6%	3,400
10	51st Ave south of US 301	1,400	BEBR Low Forecast	0.6%	1,600

Table 3-14: Design Year 2045 Target DDHVs – US 301

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	US 301 west of 51st Ave	43,000	0.09	0.60	1,563	2,307	0.09	0.60	1,557	2,313
2	51st Ave north of US 301	17,500	0.09	0.56	700	875	0.09	0.52	758	817
3	60th Ave north of US 301	20,000	0.09	0.66	611	1,189	0.09	0.57	778	1,022
4	K-Mart Driveway north of US 301	3,700	0.06	0.56	96	120	0.09	0.52	160	173
5	US 301 east of 18th St	46,500	0.06	0.63	1,097	1,867	0.09	0.64	1,448	2,551
6	18th St south of US 301	1,700	0.09	0.67	50	103	0.09	0.58	64	89
7	Starbucks Driveway south of US 301	10	0.30	0.67	1	2	0.30	0.67	1	2
8	McDonalds Driveway south of US 301	3,900	0.05	0.51	99	103	0.07	0.57	115	149
9	60th Ave south of US 301	3,400	0.09	0.67	101	205	0.09	0.59	124	182
10	51st Ave south of US 301	1,600	0.09	0.63	53	91	0.09	0.66	48	96

Table 3-15: Design Year 2045 DDHVs and AADT Forecast Check – US 301

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	US 301 west of 51st Ave	0.09	1,540	2,432	0.09	2,251	1,663	44,000	43,000	1,000	2.3%
2	51st Ave north of US 301	0.09	573	742	0.09	578	588	14,500	17,500	3,000	17.1%
3	60th Ave north of US 301	0.09	555	1,103	0.09	1,094	755	20,500	20,000	500	2.5%
4	K-Mart Driveway north of US 301	0.06	126	99	0.09	160	168	3,600	3,700	100	2.7%
5	US 301 east of 18th St	0.06	1,186	1,865	0.09	2,710	1,375	47,500	46,500	1,000	2.2%
6	18th St south of US 301	0.09	12	71	0.09	89	59	1,600	1,700	100	5.9%
7	Starbucks Driveway south of US 301	0.30	5	10	0.30	6	12	60	10	50	500.0%
8	McDonalds Driveway south of US 301	0.05	86	125	0.07	111	176	4,200	3,900	300	7.7%
9	60th Ave south of US 301	0.09	76	41	0.09	119	221	3,800	3,400	400	11.8%
10	51st Ave south of US 301	0.09	63	39	0.09	44	93	1,500	1,600	100	6.3%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

Table 3-16: Design Year 2045 AADT Growth No-Build vs. Build - US 301

ID	Location	No-Build Design Year 2045 AADT	Build Design Year 2045 AADT	Percent Change
1	US 301 west of 51st Ave	41,000	43,000	4.9%
2	51st Ave north of US 301	17,500	17,500	0.0%
3	60th Ave north of US 301	19,500	20,000	2.6%
4	K-Mart Driveway north of US 301	3,700	3,700	0.0%
5	US 301 east of 18th St	45,000	46,500	3.3%
6	18th St south of US 301	1,700	1,700	0.0%
7	Starbucks Driveway south of US 301	10	10	0.0%
8	McDonalds Driveway south of US 301	3,900	3,900	0.0%
9	60th Ave south of US 301	3,400	3,400	0.0%
10	51st Ave south of US 301	1,600	1,600	0.0%

3.4 SR 64 Forecast

The interchange of I-75 at SR 64 consists of nine network input zones and extends from east of Grand Harbour Parkway to west of Kay Road and is represented in **Figure 3.4**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.17**. Based on the network input zones within the interchange study area, SR 64 has a D1RPM weighted growth rate of 1.5 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.18**. The Design Year 2045 AADTs were used along with K and D factors from Existing Year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.19**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.20**. Growth in Design Year 2045 AADT between the No-Build and Build scenarios is provided in **Table 3.21**.

Figure 3.4: Map of Interchange Area and Zones – SR 64

Table 3-17: Design Year 2045 AADT Development – SR 64

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									Design Year 2045 AADT
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	
1	SR 64 west of Kay St	51,000	37,200	40,100	55,600	15,500	66,500	1.4	70,700	66,500	1.4%	70,000
2	Kay St north of SR 64	3,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	65th St north of SR 64	1,800	5,100	4,900	3,900	-1,000	800	0.8	1,400	0	-4.8%	2,100
4	66th St north of SR 64	7,000	8,200	8,200	8,100	-100	6,900	1.0	6,900	0	-4.8%	8,000
5	Grand Harbour Pkwy north of SR 64	7,200	8,600	9,100	11,600	2,500	9,700	1.3	9,200	9,700	1.7%	10,500
6	SR 64 east of Grand Harbour Pkwy	46,500	24,500	28,700	50,600	21,900	68,400	1.8	82,000	68,500	2.3%	73,500
7	66th St south of SR 64	3,700	3,400	3,600	4,500	900	4,600	1.3	4,600	4,600	1.2%	4,900
8	65th St south of SR 64	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9	Kay St south of SR 64	3,100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3-18: Design Year 2045 AADTs – SR 64

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	SR 64 west of Kay St	51,000	D1RPM	1.4%	70,000
2	Kay St north of SR 64	3,500	BEBR Low Forecast	0.6%	4,000
3	65th St north of SR 64	1,800	BEBR Low Forecast	0.6%	2,100
4	66th St north of SR 64	7,000	BEBR Low Forecast	0.6%	8,000
5	Grand Harbour Pkwy north of SR 64	7,200	D1RPM	1.7%	10,500
6	SR 64 east of Grand Harbour Pkwy	46,500	D1RPM	2.2%	73,500
7	66th St south of SR 64	3,700	D1RPM	1.2%	4,900
8	65th St south of SR 64	1,300	BEBR Low Forecast	0.6%	1,500
9	Kay St south of SR 64	3,100	BEBR Low Forecast	0.6%	3,500

Table 3-19: Design Year 2045 Target DDHVs – SR 64

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	SR 64 west of Kay St	70,000	0.09	0.56	2,757	3,543	0.09	0.52	3,020	3,280
2	Kay St north of SR 64	4,000	0.09	0.67	118	242	0.09	0.67	118	242
3	65th St north of SR 64	2,100	0.09	0.67	62	127	0.09	0.54	87	102
4	66th St north of SR 64	8,000	0.09	0.56	303	383	0.08	0.50	312	313
5	Grand Harbour Pkwy north of SR 64	10,500	0.09	0.67	311	634	0.09	0.52	457	488
6	SR 64 east of Grand Harbour Pkwy	73,500	0.09	0.53	3,120	3,495	0.09	0.52	3,148	3,467
7	66th St south of SR 64	4,900	0.09	0.57	190	251	0.09	0.53	206	235
8	65th St south of SR 64	1,500	0.09	0.79	29	111	0.08	0.76	28	86
9	Kay St south of SR 64	3,500	0.09	0.53	147	165	0.08	0.50	131	133

Table 3-20: Design Year 2045 DDHVs and AADT Forecast Check – SR 64

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	SR 64 west of Kay St	0.09	2,824	3,653	0.09	3,370	3,120	72,000	70,000	2,000	2.9%
2	Kay St north of SR 64	0.09	183	50	0.09	290	80	4,100	4,000	100	2.5%
3	65th St north of SR 64	0.09	37	94	0.09	75	93	1,900	2,100	200	9.5%
4	66th St north of SR 64	0.09	405	330	0.08	378	409	10,000	8,000	2,000	25.0%
5	Grand Harbour Pkwy north of SR 64	0.09	189	428	0.09	420	401	9,100	10,500	1,400	13.3%
6	SR 64 east of Grand Harbour Pkwy	0.09	3,011	3,393	0.09	3,401	3,062	72,000	73,500	1,500	2.0%
7	66th St south of SR 64	0.09	159	129	0.09	202	232	4,800	4,900	100	2.0%
8	65th St south of SR 64	0.09	121	35	0.08	91	29	1,700	1,500	200	13.3%
9	Kay St south of SR 64	0.09	165	181	0.08	144	145	3,900	3,500	400	11.4%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

Table 3-21: Design Year 2045 AADT Growth No-Build vs. Build - SR 64

ID	Location	No-Build Design Year 2045 AADT	Build Design Year 2045 AADT	Percent Change
1	SR 64 west of Kay St	68,000	70,000	2.9%
2	Kay St north of SR 64	4,000	4,000	0.0%
3	65th St north of SR 64	2,100	2,100	0.0%
4	66th St north of SR 64	8,000	8,000	0.0%
5	Grand Harbour Pkwy north of SR 64	9,600	10,500	9.4%
6	SR 64 east of Grand Harbour Pkwy	69,000	73,500	6.5%
7	66th St south of SR 64	4,700	4,900	4.3%
8	65th St south of SR 64	1,500	1,500	0.0%
9	Kay St south of SR 64	3,500	3,500	0.0%

3.5 SR 70 Forecast

The interchange of I-75 at SR 70 consists of 14 network input zones and extends from east of 87th Street East to west of Creekwood Boulevard and is represented in **Figure 3.5**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.22**. Based on the network input zones within the interchange study area, SR 70 has a D1RPM weighted growth rate of 1.4 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.23**. The Design Year 2045 AADTs were used along with K and D factors from Existing Year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.24**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.25**. Growth in Design Year 2045 AADT between the No-Build and Build scenarios is provided in **Table 3.26**.

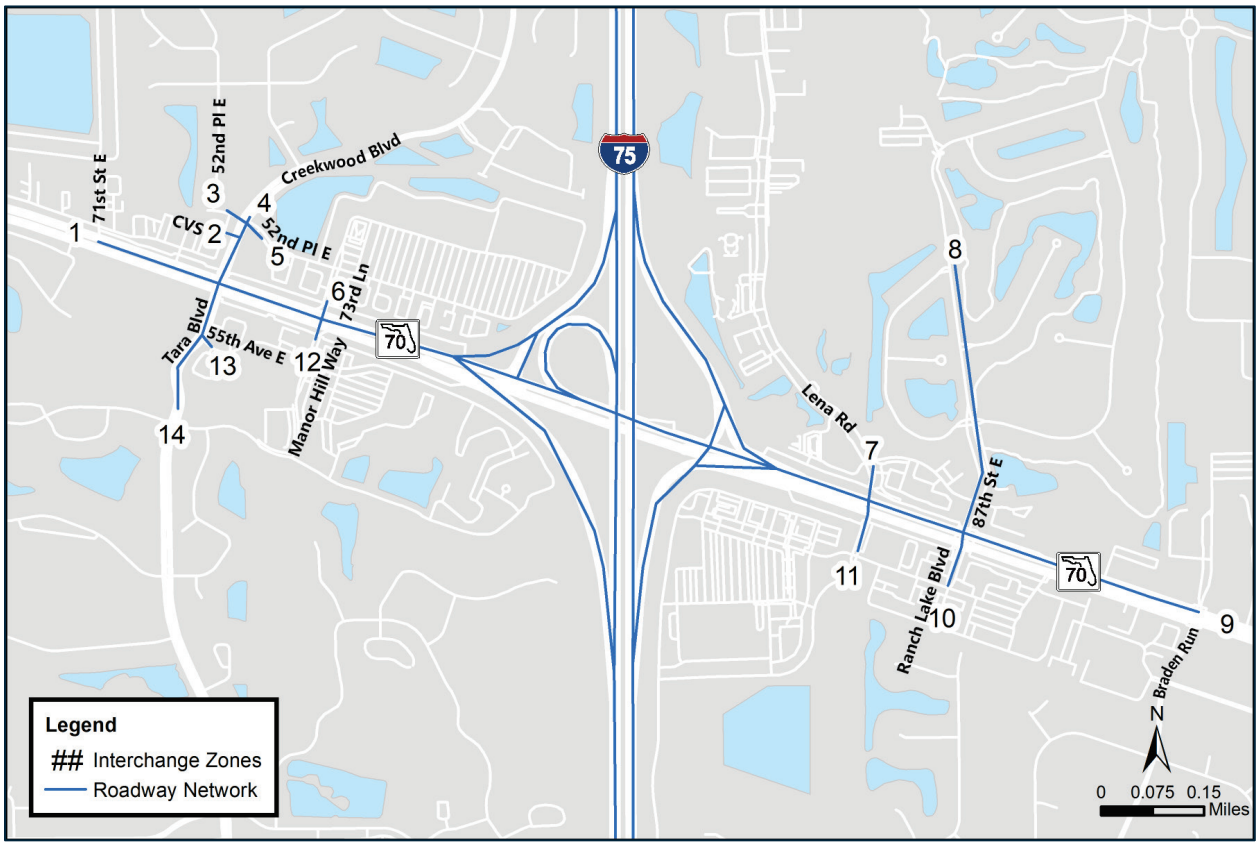

Figure 3.5: Map of Interchange Area and Zones – SR 70

Table 3-22: Design Year 2045 AADT Development – SR 70

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									Design Year 2045 AADT
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	
1	SR 70 west of Creekwood Blvd	59,500	45,100	47,100	57,300	10,200	69,700	1.2	72,400	69,500	0.8%	72,000
2	52nd St west of Creekwood Blvd	2,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	52nd Place west of Creekwood Blvd	1,600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Creekwood Blvd north of 52nd Place	8,300	7,000	7,200	8,200	1,000	9,300	1.1	9,500	9,400	0.6%	9,900
5	52nd Place east of Creekwood Blvd	6,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6	73rd Lane north of SR 70	5,600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7	Lena Rd north of SR 70	3,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8	87th St north of SR 70	4,700	10,300	11,100	15,200	4,100	8,800	1.4	6,400	8,800	4.2%	9,800
9	SR 70 east of Braden Run	44,500	35,200	38,400	55,100	16,700	61,200	1.4	63,900	62,500	1.9%	67,000
10	87th St south of SR 70	12,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11	Lena Rd south of SR 70	6,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12	73rd Lane south of SR 70	5,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
13	55th Ave east of Tara Blvd	1,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14	Tara Blvd south of 55th Ave	6,900	18,300	18,000	16,600	-1,400	5,500	0.9	6,400	0	-4.8%	7,900

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3-23: Design Year 2045 AADTs – SR 70

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	SR 70 west of Creekwood Blvd	59,500	D1RPM	0.8%	72,000
2	52nd St west of Creekwood Blvd	2,400	BEBR Low Forecast	0.6%	2,700
3	52nd Place west of Creekwood Blvd	1,600	BEBR Low Forecast	0.6%	1,800
4	Creekwood Blvd north of 52nd Place	8,300	D1RPM	0.6%	9,900
5	52nd Place east of Creekwood Blvd	6,900	BEBR Low Forecast	0.6%	7,900
6	73rd Lane north of SR 70	5,600	BEBR Low Forecast	0.6%	6,400
7	Lena Rd north of SR 70	3,700	BEBR Low Forecast	0.6%	4,200
8	87th St north of SR 70	4,700	D1RPM	4.2%	9,800
9	SR 70 east of Braden Run	44,500	D1RPM	1.9%	67,000
10	87th St south of SR 70	12,500	BEBR Low Forecast	0.6%	14,500
11	Lena Rd south of SR 70	6,300	BEBR Low Forecast	0.6%	7,200
12	73rd Lane south of SR 70	5,200	BEBR Low Forecast	0.6%	5,900
13	55th Ave east of Tara Blvd	1,500	BEBR Low Forecast	0.6%	1,700
14	Tara Blvd south of 55th Ave	6,900	BEBR Low Forecast	0.6%	7,900

Table 3-24: Design Year 2045 Target DDHVs – SR 70

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	SR 70 west of Creekwood Blvd	72,000	0.09	0.53	3,073	3,407	0.09	0.54	2,960	3,520
2	52nd St west of Creekwood Blvd	2,700	0.09	0.89	26	215	0.07	0.79	38	143
3	52nd Place west of Creekwood Blvd	1,800	0.06	0.66	38	75	0.09	0.54	75	90
4	Creekwood Blvd north of 52nd Place	9,900	0.09	0.67	293	598	0.09	0.64	325	566
5	52nd Place east of Creekwood Blvd	7,900	0.05	0.55	164	204	0.09	0.61	264	417
6	73rd Lane north of SR 70	6,400	0.05	0.66	111	216	0.09	0.64	206	371
7	Lena Rd north of SR 70	4,200	0.10	0.70	133	307	0.10	0.50	199	202
8	87th St north of SR 70	9,800	0.09	0.59	361	521	0.09	0.54	404	478
9	SR 70 east of Braden Run	67,000	0.09	0.51	2,964	3,066	0.09	0.50	3,013	3,017
10	87th St south of SR 70	14,500	0.05	0.51	361	373	0.09	0.58	561	768
11	Lena Rd south of SR 70	7,200	0.04	0.86	39	231	0.10	0.72	197	510
12	73rd Lane south of SR 70	5,900	0.09	0.55	240	291	0.09	0.62	201	330
13	55th Ave east of Tara Blvd	1,700	0.06	0.69	29	67	0.09	0.89	17	135
14	Tara Blvd south of 55th Ave	7,900	0.09	0.67	234	477	0.09	0.50	352	359

Table 3-25: Design Year 2045 DDHVs and AADT Forecast Check – SR 70

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	SR 70 west of Creekwood Blvd	0.09	2,965	3,362	0.09	3,463	2,823	70,500	72,000	1,500	2.1%
2	52nd St west of Creekwood Blvd	0.09	228	28	0.07	161	36	2,900	2,700	200	7.4%
3	52nd Place west of Creekwood Blvd	0.06	80	44	0.09	76	92	1,800	1,800	0	0.0%
4	Creekwood Blvd north of 52nd Place	0.09	197	528	0.09	550	336	9,800	9,900	100	1.0%
5	52nd Place east of Creekwood Blvd	0.05	194	245	0.09	266	486	8,700	7,900	800	10.1%
6	73rd Lane north of SR 70	0.05	223	120	0.09	357	235	6,600	6,400	200	3.1%
7	Lena Rd north of SR 70	0.10	352	140	0.10	205	225	4,700	4,200	500	11.9%
8	87th St north of SR 70	0.09	210	320	0.09	280	382	7,400	9,800	2,400	24.5%
9	SR 70 east of Braden Run	0.09	2,939	3,012	0.09	2,988	3,037	67,000	67,000	0	0.0%
10	87th St south of SR 70	0.05	378	398	0.09	862	547	15,500	14,500	1,000	6.9%
11	Lena Rd south of SR 70	0.04	47	241	0.10	231	507	7,500	7,200	300	4.2%
12	73rd Lane south of SR 70	0.09	153	223	0.09	210	329	6,000	5,900	100	1.7%
13	55th Ave east of Tara Blvd	0.06	26	72	0.09	17	140	1,800	1,700	100	5.9%
14	Tara Blvd south of 55th Ave	0.09	490	247	0.09	325	316	8,200	7,900	300	3.8%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

Table 3-26 Design Year 2045 AADT Growth No-Build vs. Build - SR 70

ID	Location	No-Build Design Year 2045 AADT	Build Design Year 2045 AADT	Percent Change
1	SR 70 west of Creekwood Blvd	69,000	72,000	4.3%
2	52nd St west of Creekwood Blvd	2,700	2,700	0.0%
3	52nd Place west of Creekwood Blvd	1,800	1,800	0.0%
4	Creekwood Blvd north of 52nd Place	9,900	9,900	0.0%
5	52nd Place east of Creekwood Blvd	7,900	7,900	0.0%
6	73rd Lane north of SR 70	6,400	6,400	0.0%
7	Lena Rd north of SR 70	4,200	4,200	0.0%
8	87th St north of SR 70	9,600	9,800	2.1%
9	SR 70 east of Braden Run	65,000	67,000	3.1%
10	87th St south of SR 70	14,500	14,500	0.0%
11	Lena Rd south of SR 70	7,200	7,200	0.0%
12	73rd Lane south of SR 70	5,900	5,900	0.0%
13	55th Ave east of Tara Blvd	1,700	1,700	0.0%
14	Tara Blvd south of 55th Ave	7,900	7,900	0.0%

3.6 CR 610 (University Parkway) Forecast

The interchange of I-75 at CR 610 (University Parkway) consists of 13 network input zones and extends from east of Town Center Parkway to west of Tourist Center Drive and is represented in **Figure 3.6**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.27**. Based on the network input zones within the interchange study area, University Parkway has a D1RPM weighted growth rate of 1.4 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.28**. The Design Year 2045 AADTs were used along with K and D factors from Existing Year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.29**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.30**. Growth in Design Year 2045 AADT between the No-Build and Build scenarios is provided in **Table 3.31**.

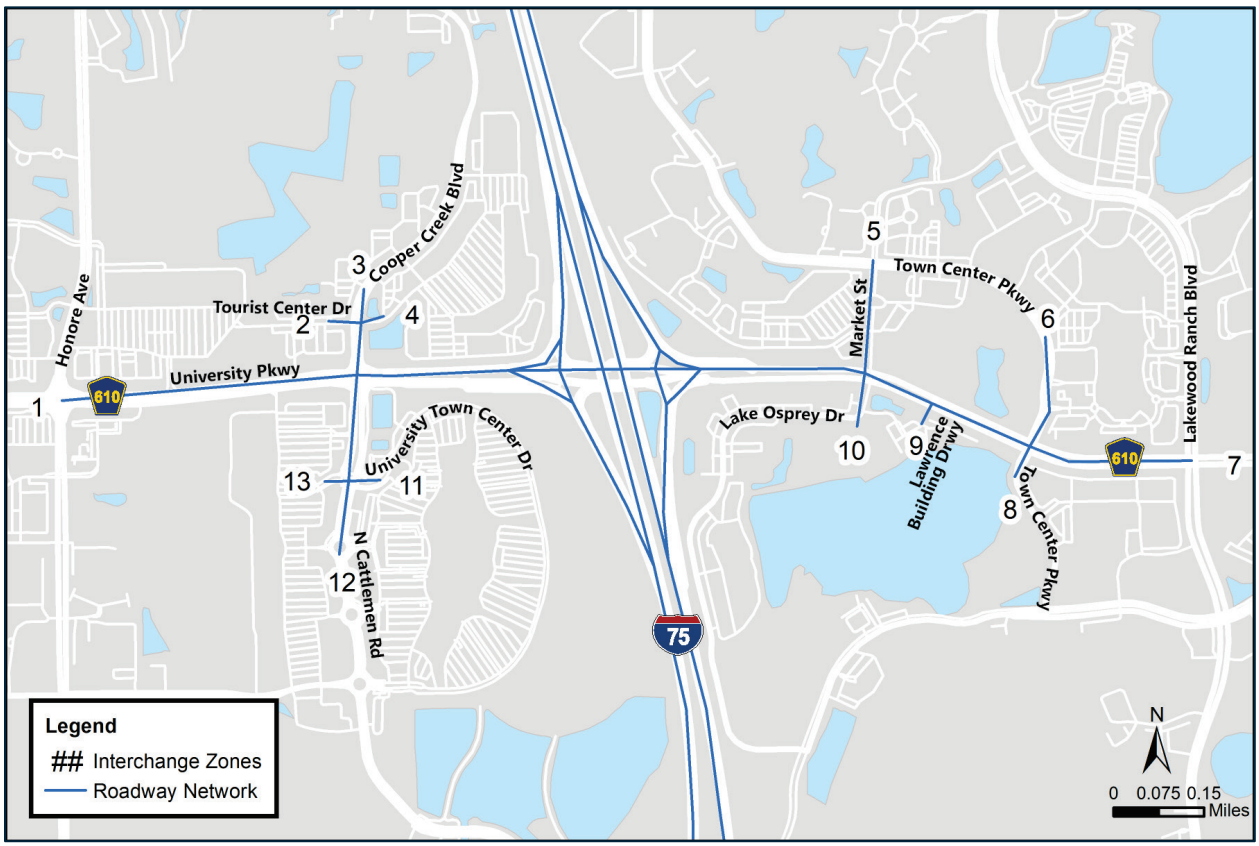

Figure 3.6: Map of Interchange Area and Zones – CR 610 (University Parkway)

Table 3-27: Year 2045 AADT Development– CR 610 (University Parkway)

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									Design Year 2045 AADT
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	
1	University Pkwy west of Cooper Creek Blvd	63,000	47,400	50,100	64,500	14,400	77,400	1.3	81,100	77,500	1.1%	81,000
2	Tourist Center Dr west of Cooper Creek Blvd	4,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	Cooper Creek Blvd north of Tourist Center Dr	19,500	10,800	11,300	13,900	2,600	22,100	1.2	24,000	22,000	0.6%	22,500
4	Tourist Center Dr east of Cooper Creek Blvd	4,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	Market St north of University Pkwy	18,500	28,600	29,600	34,800	5,200	23,700	1.2	21,800	23,500	1.3%	25,000
6	Town Center Pkwy north of University Pkwy	8,600	3,800	4,200	6,300	2,100	10,700	1.5	12,900	10,500	1.1%	11,500
7	University Pkwy east of Town Center Pkwy	34,500	28,300	31,400	47,600	16,200	50,700	1.5	52,300	51,500	2.3%	55,500
8	Town Center Pkwy south of University Pkwy	4,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9	Lawrence Building Driveway south of University Pkwy	550	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10	Lake Osprey Dr south of University Pkwy	9,500	500	1,400	6,100	4,700	14,200	4.4	41,400	14,000	2.3%	15,500
11	University Town Center Dr east of Cooper Creek Blvd	8,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12	Cattlemen Road, south of University Town Center Dr	14,500	7,000	7,400	9,500	2,100	16,600	1.3	18,600	16,500	0.7%	19,000
13	University Town Center Dr west of Cooper Creek Blvd	4,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3-28: Design Year 2045 AADTs – SR 80 CR 610 (University Parkway)

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	University Pkwy west of Cooper Creek Blvd	63,000	D1RPM	1.1%	81,000
2	Tourist Center Dr west of Cooper Creek Blvd	4,500	BEBR Low Forecast	0.6%	5,100
3	Cooper Creek Blvd north of Tourist Center Dr	19,500	D1RPM	0.6%	22,500
4	Tourist Center Dr east of Cooper Creek Blvd	4,000	BEBR Low Forecast	0.6%	4,600
5	Market St north of University Pkwy	18,500	D1RPM	1.3%	25,000
6	Town Center Pkwy north of University Pkwy	8,600	D1RPM	1.2%	11,500
7	University Pkwy east of Town Center Pkwy	34,500	D1RPM	2.3%	55,500
8	Town Center Pkwy south of University Pkwy	4,200	BEBR Low Forecast	0.3%	4,600
9	Lawrence Building Driveway south of University Pkwy	550	BEBR Low Forecast	0.3%	600
10	Lake Osprey Dr south of University Pkwy	9,500	D1RPM	2.4%	15,500
11	University Town Center Dr east of Cooper Creek Blvd	8,400	BEBR Low Forecast	0.3%	9,100
12	Cattlemen Road, south of University Town Center Dr	14,500	D1RPM	0.7%	19,000
13	University Town Center Dr west of Cooper Creek Blvd	4,500	BEBR Low Forecast	0.3%	4,900

Table 3-29: Design Year 2045 Target DDHVs – CR 610 (University Parkway)

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	University Pkwy west of Cooper Creek Blvd	81,000	0.09	0.53	3,417	3,873	0.09	0.53	3,450	3,840
2	Tourist Center Dr west of Cooper Creek Blvd	5,100	0.05	0.56	104	134	0.09	0.54	212	246
3	Cooper Creek Blvd north of Tourist Center Dr	22,500	0.09	0.53	955	1,070	0.09	0.57	869	1,156
4	Tourist Center Dr east of Cooper Creek Blvd	4,600	0.01	0.98	1	54	0.08	0.95	20	362
5	Market St north of University Pkwy	25,000	0.09	0.53	1,064	1,186	0.09	0.57	965	1,285
6	Town Center Pkwy north of University Pkwy	11,500	0.09	0.55	466	569	0.09	0.60	410	625
7	University Pkwy east of Town Center Pkwy	55,500	0.09	0.52	2,385	2,610	0.09	0.54	2,320	2,675
8	Town Center Pkwy south of University Pkwy	4,600	0.09	0.67	136	278	0.09	0.67	136	278
9	Lawrence Building Driveway south of University Pkwy	600	0.07	0.95	2	41	0.07	0.78	9	30
10	Lake Osprey Dr south of University Pkwy	15,500	0.09	0.67	459	936	0.09	0.67	459	936
11	University Town Center Dr east of Cooper Creek Blvd	9,100	0.01	0.82	18	84	0.09	0.63	289	498
12	Cattlemen Road, south of University Town Center Dr	19,000	0.09	0.55	774	936	0.09	0.62	648	1,062
13	University Town Center Dr west of Cooper Creek Blvd	4,900	0.02	0.64	27	49	0.08	0.79	87	322

Table 3-30: Design Year 2045 DDHVs and AADT Forecast Check – CR 610 (University Parkway)

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	University Pkwy west of Cooper Creek Blvd	0.09	3,887	3,464	0.09	3,492	3,812	81,500	81,000	500	0.6%
2	Tourist Center Dr west of Cooper Creek Blvd	0.05	139	148	0.09	261	211	5,300	5,100	200	3.9%
3	Cooper Creek Blvd north of Tourist Center Dr	0.09	1,015	768	0.09	940	1,202	24,000	22,500	1,500	6.7%
4	Tourist Center Dr east of Cooper Creek Blvd	0.01	70	5	0.08	401	17	5,000	4,600	400	8.7%
5	Market St north of University Pkwy	0.09	1,119	1,130	0.09	903	1,238	25,000	25,000	0	0.0%
6	Town Center Pkwy north of University Pkwy	0.09	616	516	0.09	477	783	14,000	11,500	2,500	21.7%
7	University Pkwy east of Town Center Pkwy	0.09	2,682	2,327	0.09	2,605	2,270	55,500	55,500	0	0.0%
8	Town Center Pkwy south of University Pkwy	0.09	33	337	0.09	438	80	5,800	4,600	1,200	26.1%
9	Lawrence Building Driveway south of University Pkwy	0.07	7	60	0.07	34	17	950	600	350	58.3%
10	Lake Osprey Dr south of University Pkwy	0.09	291	915	0.09	873	423	14,500	15,500	1,000	6.5%
11	University Town Center Dr east of Cooper Creek Blvd	0.01	137	25	0.09	525	315	9,700	9,100	600	6.6%
12	Cattlemen Road, south of University Town Center Dr	0.09	759	619	0.09	1,082	624	19,000	19,000	0	0.0%
13	University Town Center Dr west of Cooper Creek Blvd	0.02	33	70	0.08	333	88	5,000	4,900	100	2.0%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

Table 3-31 Design Year 2045 AADT Growth No-Build vs. Build - CR 610 (University Parkway)

ID	Location	No-Build Design Year 2045 AADT	Build Design Year 2045 AADT	Percent Change
1	University Pkwy west of Cooper Creek Blvd	78,000	81,000	3.8%
2	Tourist Center Dr west of Cooper Creek Blvd	5,100	5,100	0.0%
3	Cooper Creek Blvd north of Tourist Center Dr	21,500	22,500	4.7%
4	Tourist Center Dr east of Cooper Creek Blvd	4,600	4,600	0.0%
5	Market St north of University Pkwy	25,000	25,000	0.0%
6	Town Center Pkwy north of University Pkwy	11,500	11,500	0.0%
7	University Pkwy east of Town Center Pkwy	54,000	55,500	2.8%
8	Town Center Pkwy south of University Pkwy	4,600	4,600	0.0%
9	Lawrence Building Driveway south of University Pkwy	600	600	0.0%
10	Lake Osprey Dr south of University Pkwy	15,000	15,500	3.3%
11	University Town Center Dr east of Cooper Creek Blvd	9,100	9,100	0.0%
12	Cattlemen Road, south of University Town Center Dr	19,000	19,000	0.0%
13	University Town Center Dr west of Cooper Creek Blvd	4,900	4,900	0.0%

3.7 SR 780 (Fruitville Road) Forecast

The interchange of I-75 at SR 780 (Fruitville Road) consists of eight network input zones and extends from east of Lakewood Ranch Boulevard to west of North Cattlemen Road and is represented in **Figure 3.7**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.32**. Based on the network input zones within the interchange study area, Fruitville Road has a D1RPM weighted growth rate of 1.7 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.33**. The Design Year 2045 AADTs were used along with K and D factors from Existing Year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.34**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.35**. Growth in Design Year 2045 AADT between the No-Build and Build scenarios is provided in **Table 3.36**.

A new zone was added for the No-Build scenario at Lakewood Ranch Boulevard north of Fruitville Road. This north leg of the intersection was not yet opened during Existing Year 2019 data collection. Substantial new development is expected to the north of Fruitville and a review of aerials indicates this growth will be focused on the new zone at Lakewood Ranch Boulevard rather than on Coburn Road.

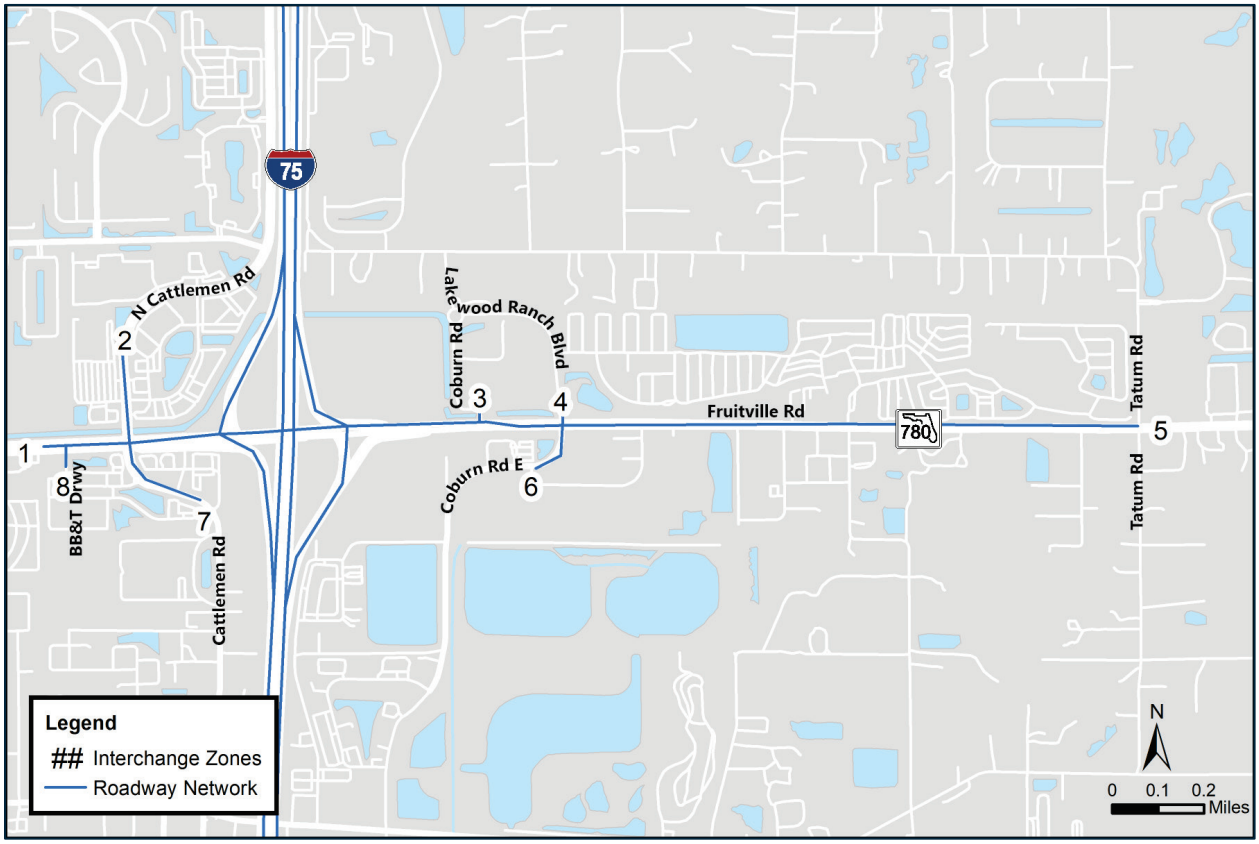

Figure 3.7: Map of Interchange Area and Zones – SR 780 (Fruitville Road)

Table 3-32: Year 2045 AADT Development – SR 780 (Fruitville Road)

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									Design Year 2045 AADT
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	
1	SR 780 Fruitville west of Lowes Driveway	62,000	42,900	46,000	62,100	16,100	78,100	1.4	83,700	78,000	1.2%	82,000
2	Cattlemen Rd north of SR 780 Fruitville Rd	29,500	20,100	21,500	28,900	7,400	36,900	1.3	39,700	37,000	1.2%	38,500
3	Coburn Rd (west) north of SR 780 Fruitville Rd	2,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Coburn Rd (east) north of Fruitville Rd	0	3,000	4,700	13,500	8,800	8,800	2.9	NA	0	NA	16,000
5	SR 780 Fruitville east of Coburn Rd East	30,500	23,400	26,400	42,400	16,000	46,500	1.6	49,000	47,500	2.7%	52,000
6	Coburn Rd (east) south of SR 780 Fruitville Rd	10,500	16,600	15,900	12,100	-3,800	6,700	0.8	8,000	0	-4.8%	11,500
7	Cattlemen Rd south of SR 780 Fruitville Rd	24,500	15,800	17,900	28,800	10,900	35,400	1.6	39,400	35,500	2.1%	38,000
8	Lowe's Driveway south of SR 780	2,100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3-33: Design Year 2045 AADTs – SR 780 (Fruitville Road)

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	SR 780 Fruitville west of Lowes Driveway	62,000	D1RPM	1.2%	82,000
2	Cattlemen Rd north of SR 780 Fruitville Rd	29,500	D1RPM	1.2%	38,500
3	Coburn Rd (west) north of SR 780 Fruitville Rd	2,500	BEBR Low Forecast	0.3%	2,700
4	Lakewood Ranch Blvd north of Fruitville Rd	0	D1RPM	14.0%	16,000
5	SR 780 Fruitville east of Coburn Rd East	30,500	D1RPM	2.7%	52,000
6	Coburn Rd (east) south of SR 780 Fruitville Rd	10,500	BEBR Low Forecast	0.3%	11,500
7	Cattlemen Rd south of SR 780 Fruitville Rd	24,500	D1RPM	2.1%	38,000
8	Lowe's Driveway south of SR 780	2,100	BEBR Low Forecast	0.3%	2,300

Table 3-34: Design Year 2045 Target DDHVs – SR 780 (Fruitville Road)

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	SR 780 Fruitville west of Lowes Driveway	82,000	0.09	0.58	3,115	4,265	0.09	0.54	3,373	4,007
2	Cattlemen Rd north of SR 780 Fruitville Rd	38,500	0.09	0.58	1,465	2,000	0.09	0.57	1,501	1,964
3	Coburn Rd (west) north of SR 780 Fruitville Rd	2,700	0.06	0.53	77	86	0.09	0.61	93	147
4	Lakewood Ranch Blvd north of Fruitville Rd	16,000	0.06	0.53	454	512	0.09	0.61	550	871
5	SR 780 Fruitville east of Coburn Rd East	52,000	0.09	0.50	2,327	2,353	0.09	0.51	2,295	2,385
6	Coburn Rd (east) south of SR 780 Fruitville Rd	11,500	0.09	0.58	437	598	0.09	0.67	341	694
7	Cattlemen Rd south of SR 780 Fruitville Rd	38,000	0.08	0.52	1,460	1,554	0.09	0.60	1,303	1,936
8	Lowe's Driveway south of SR 780	2,300	0.05	0.56	51	67	0.06	0.71	43	104

Table 3-35: Design Year 2045 DDHVs and AADT Forecast Check – SR 780 (Fruitville Road)

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	SR 780 Fruitville west of Lowes Driveway	0.09	3,044	4,311	0.09	4,159	3,414	84,000	82,000	2,000	2.4%
2	Cattlemen Rd north of SR 780 Fruitville Rd	0.09	2,018	1,415	0.09	1,936	1,537	38,500	38,500	0	0.0%
3	Coburn Rd (west) north of SR 780 Fruitville Rd	0.06	36	29	0.09	37	62	1,100	2,700	1,600	59.3%
4	Lakewood Ranch Blvd north of Fruitville Rd	0.06	446	458	0.09	490	849	15,000	16,000	1,000	6.3%
5	SR 780 Fruitville east of Coburn Rd East	0.09	2,291	2,271	0.09	2,273	2,432	52,500	52,000	500	1.0%
6	Coburn Rd (east) south of SR 780 Fruitville Rd	0.09	464	673	0.09	718	309	12,500	11,500	1,000	8.7%
7	Cattlemen Rd south of SR 780 Fruitville Rd	0.08	1,434	1,535	0.09	1,934	1,216	37,000	38,000	1,000	2.6%
8	Lowe's Driveway south of SR 780	0.05	80	57	0.06	114	39	2,400	2,300	100	4.3%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

Table 3-36: Design Year 2045 AADT Growth No-Build vs. Build - SR 780 (Fruitville Road)

ID	Location	No-Build Design Year 2045 AADT	Build Design Year 2045 AADT	Percent Change
1	SR 780 Fruitville west of Lowes Driveway	76,500	82,000	7.2%
2	Cattlemen Rd north of SR 780 Fruitville Rd	37,500	38,500	2.7%
3	Coburn Rd (west) north of SR 780 Fruitville Rd	2,700	2,700	0.0%
4	Lakewood Ranch Blvd north of Fruitville Rd	16,000	16,000	0.0%
5	SR 780 Fruitville east of Coburn Rd East	51,000	52,000	2.0%
6	Coburn Rd (east) south of SR 780 Fruitville Rd	11,500	11,500	0.0%
7	Cattlemen Rd south of SR 780 Fruitville Rd	36,500	38,000	4.1%
8	Lowe's Driveway south of SR 780	2,300	2,300	0.0%

3.8 SR 758 (Bee Ridge Road) Forecast

The interchange of I-75 at SR 758 (Bee Ridge Road) consists of 12 network input zones and extends from east of Mauna Loa Boulevard to west of Maxfield Drive and is represented in **Figure 3.8**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.37**. Based on the network input zones within the interchange study area, Bee Ridge Road has a D1RPM weighted growth rate of 1.5 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.38**. The Design Year 2045 AADTs were used along with K and D factors from Existing Year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.39**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.40**. Growth in Design Year 2045 AADT between the No-Build and Build scenarios is provided in **Table 3.41**.

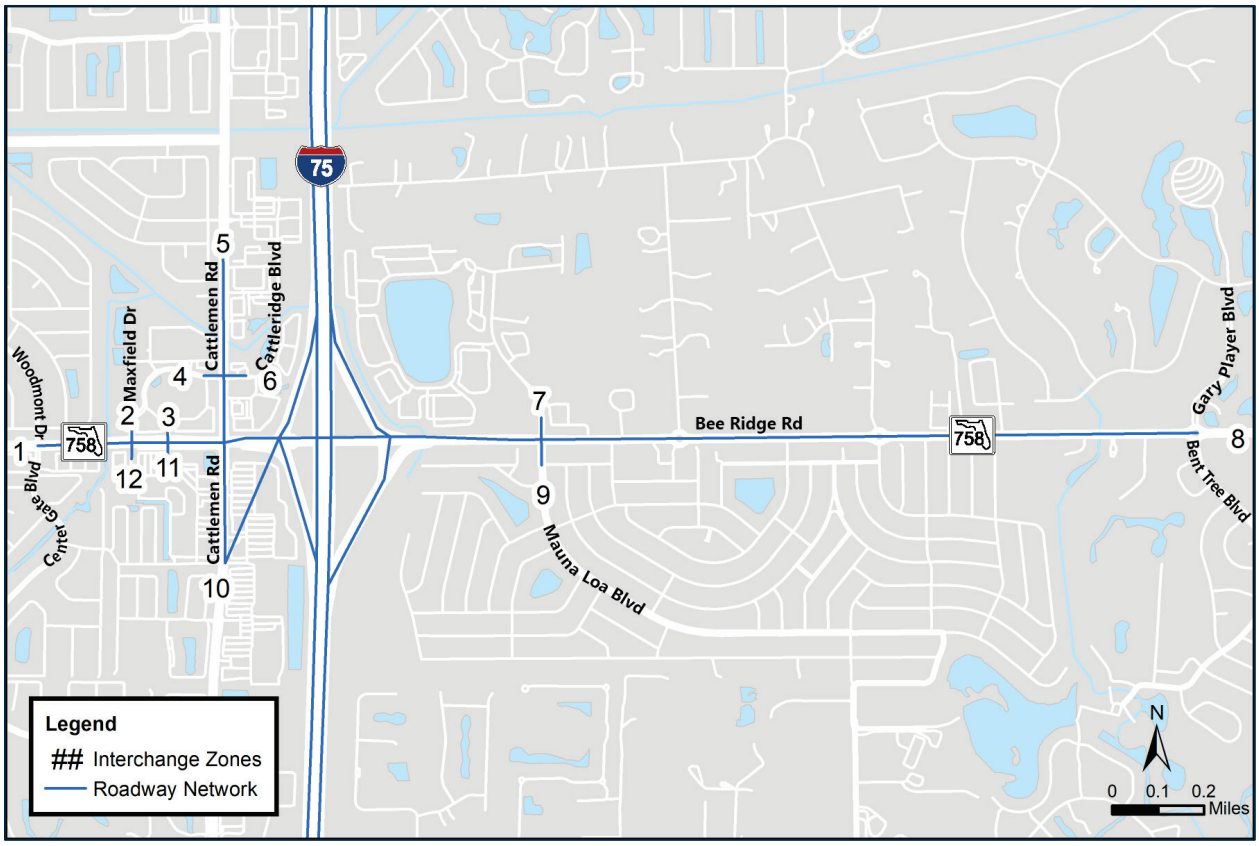

Figure 3.8: Map of Interchange Area and Zones – SR 758 (Bee Ridge Road)

Table 3-37: Year 2045 AADT Development – SR 758 (Bee Ridge Road)

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									Design Year 2045 AADT
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	
1	Bee Ridge Rd west of Maxfield Dr	37,500	34,900	36,600	45,600	9,000	46,500	1.2	46,700	46,500	1.1%	49,000
2	Maxfield Dr north of Bee Ridge Rd	6,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	Marathon Gas Driveway north of Bee Ridge Rd	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Cattleridge Rd west of Cattleman Blvd	5,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	Cattlemen Blvd north of Cattleridge Rd	26,000	25,800	26,600	30,900	4,300	30,300	1.2	30,200	30,000	0.7%	31,000
6	Cattleridge Rd east of Cattlemen Blvd	4,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7	Mauna Loa Blvd north of Bee Ridge Rd	7,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8	Bee Ridge Rd east of Mauna Loa Blvd	19,500	28,400	31,600	48,700	17,100	36,600	1.5	30,100	36,500	4.2%	40,500
9	Mauna Loa Blvd south of Bee Ridge Rd	7,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10	Cattlemen Rd south of Bee Ridge Rd plus new SB Off Ramp	28,500	22,500	23,200	27,100	3,900	32,400	1.2	33,300	33,000	0.8%	34,000
11	Publix Driveway south of Bee Ridge Rd	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12	Maxfield Dr south of Bee Ridge Rd	7,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3-38: Design Year 2045 AADTs – SR 758 (Bee Ridge Road)

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	Bee Ridge Rd west of Maxfield Dr	37,500	D1RPM	1.2%	49,000
2	Maxfield Dr north of Bee Ridge Rd	6,500	BEBR Low Forecast	0.3%	7,100
3	Marathon Gas Driveway north of Bee Ridge Rd	1,200	BEBR Low Forecast	0.3%	1,300
4	Cattleridge Rd west of Cattleman Blvd	5,400	BEBR Low Forecast	0.3%	5,900
5	Cattlemen Blvd north of Cattleridge Rd	26,000	D1RPM	0.8%	31,000
6	Cattleridge Rd east of Cattlemen Blvd	4,300	BEBR Low Forecast	0.3%	4,700
7	Mauna Loa Blvd north of Bee Ridge Rd	7,200	BEBR Low Forecast	0.3%	7,800
8	Bee Ridge Rd east of Mauna Loa Blvd	19,500	D1RPM	4.2%	40,500
9	Mauna Loa Blvd south of Bee Ridge Rd	7,500	BEBR Low Forecast	1.9%	11,000
10	Cattlemen Rd south of Bee Ridge Rd plus new SB Off Ramp	28,500	D1RPM	0.7%	34,000
11	Publix Driveway south of Bee Ridge Rd	3,900	BEBR Low Forecast	0.3%	4,200
12	Maxfield Dr south of Bee Ridge Rd	7,000	BEBR Low Forecast	0.3%	7,600

Table 3-39: Design Year 2045 Target DDHVs – SR 758 (Bee Ridge Road)

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	Bee Ridge Rd west of Maxfield Dr	49,000	0.09	0.59	1,797	2,613	0.09	0.53	2,059	2,351
2	Maxfield Dr north of Bee Ridge Rd	7,100	0.06	0.51	221	229	0.08	0.66	186	363
3	Marathon Gas Driveway north of Bee Ridge Rd	1,300	0.08	0.73	27	75	0.06	0.58	34	46
4	Cattleridge Rd west of Cattleman Blvd	5,900	0.09	0.60	212	323	0.08	0.56	217	275
5	Cattlemen Blvd north of Cattleridge Rd	31,000	0.09	0.60	1,130	1,660	0.09	0.55	1,262	1,528
6	Cattleridge Rd east of Cattlemen Blvd	4,700	0.07	0.72	95	249	0.09	0.71	122	304
7	Mauna Loa Blvd north of Bee Ridge Rd	7,800	0.09	0.51	346	356	0.09	0.61	272	430
8	Bee Ridge Rd east of Mauna Loa Blvd	40,500	0.09	0.60	1,443	2,202	0.09	0.57	1,578	2,067
9	Mauna Loa Blvd south of Bee Ridge Rd	11,000	0.09	0.67	326	664	0.09	0.64	358	632
10	Cattlemen Rd south of Bee Ridge Rd plus new SB Off Ramp	34,000	0.09	0.50	1,521	1,539	0.09	0.56	1,344	1,716
11	Publix Driveway south of Bee Ridge Rd	4,200	0.09	0.68	118	257	0.05	0.54	99	115
12	Maxfield Dr south of Bee Ridge Rd	7,600	0.03	0.51	116	120	0.08	0.53	294	335

Table 3-40: Design Year 2045 DDHVs and AADT Forecast Check – SR 758 (Bee Ridge Road)

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	Bee Ridge Rd west of Maxfield Dr	0.09	1,645	2,677	0.09	2,461	2,142	51,000	49,000	2,000	4.1%
2	Maxfield Dr north of Bee Ridge Rd	0.06	245	252	0.08	200	413	7,900	7,100	800	11.3%
3	Marathon Gas Driveway north of Bee Ridge Rd	0.08	86	25	0.06	50	32	1,400	1,300	100	7.7%
4	Cattleridge Rd west of Cattleman Blvd	0.09	205	372	0.08	290	214	6,400	5,900	500	8.5%
5	Cattlemen Blvd north of Cattleridge Rd	0.09	1,749	1,159	0.09	1,269	1,578	32,500	31,000	1,500	4.8%
6	Cattleridge Rd east of Cattlemen Blvd	0.07	294	101	0.09	149	339	5,400	4,700	700	14.9%
7	Mauna Loa Blvd north of Bee Ridge Rd	0.09	386	409	0.09	293	497	8,800	7,800	1,000	12.8%
8	Bee Ridge Rd east of Mauna Loa Blvd	0.09	1,318	1,907	0.09	1,912	1,273	36,000	40,500	4,500	11.1%
9	Mauna Loa Blvd south of Bee Ridge Rd	0.09	591	247	0.09	329	608	10,500	11,000	500	4.5%
10	Cattlemen Rd south of Bee Ridge Rd plus new SB Off Ramp	0.09	1,356	1,431	0.09	1,251	1,666	32,500	34,000	1,500	4.4%
11	Publix Driveway south of Bee Ridge Rd	0.09	271	141	0.05	141	94	4,600	4,200	400	9.5%
12	Maxfield Dr south of Bee Ridge Rd	0.03	177	129	0.08	326	365	8,400	7,600	800	10.5%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

Table 3-41: Design Year 2045 AADT Growth No-Build vs. Build - SR 758 (Bee Ridge Road)

ID	Location	No-Build Design Year 2045 AADT	Build Design Year 2045 AADT	Percent Change
1	Bee Ridge Rd west of Maxfield Dr	44,500	49,000	10.1%
2	Maxfield Dr north of Bee Ridge Rd	7,100	7,100	0.0%
3	Marathon Gas Driveway north of Bee Ridge Rd	1,300	1,300	0.0%
4	Cattleridge Rd west of Cattleman Blvd	5,900	5,900	0.0%
5	Cattlemen Blvd north of Cattleridge Rd	29,000	31,000	6.9%
6	Cattleridge Rd east of Cattlemen Blvd	4,700	4,700	0.0%
7	Mauna Loa Blvd north of Bee Ridge Rd	7,800	7,800	0.0%
8	Bee Ridge Rd east of Mauna Loa Blvd	39,500	40,500	2.5%
9	Mauna Loa Blvd south of Bee Ridge Rd	11,000	11,000	0.0%
10	Cattlemen Rd south of Bee Ridge Rd plus new SB Off Ramp	30,000	34,000	13.3%
11	Publix Driveway south of Bee Ridge Rd	4,200	4,200	0.0%
12	Maxfield Dr south of Bee Ridge Rd	7,600	7,600	0.0%

3.9 SR 72 (Clark Road) Forecast

The interchange of I-75 at SR 72 (Clark Road) consists of 11 network input zones and extends from east of Hummingbird Avenue to west of Gantt Road and is represented in **Figure 3.9**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.42**. Based on the network input zones within the interchange study area, Clark Road has a D1RPM weighted growth rate of 0.6 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.43**. The Design Year 2045 AADTs were used along with K and D factors from Existing Year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.44**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.45**. Growth in Design Year 2045 AADT between the No-Build and Build scenarios is provided in **Table 3.46**.

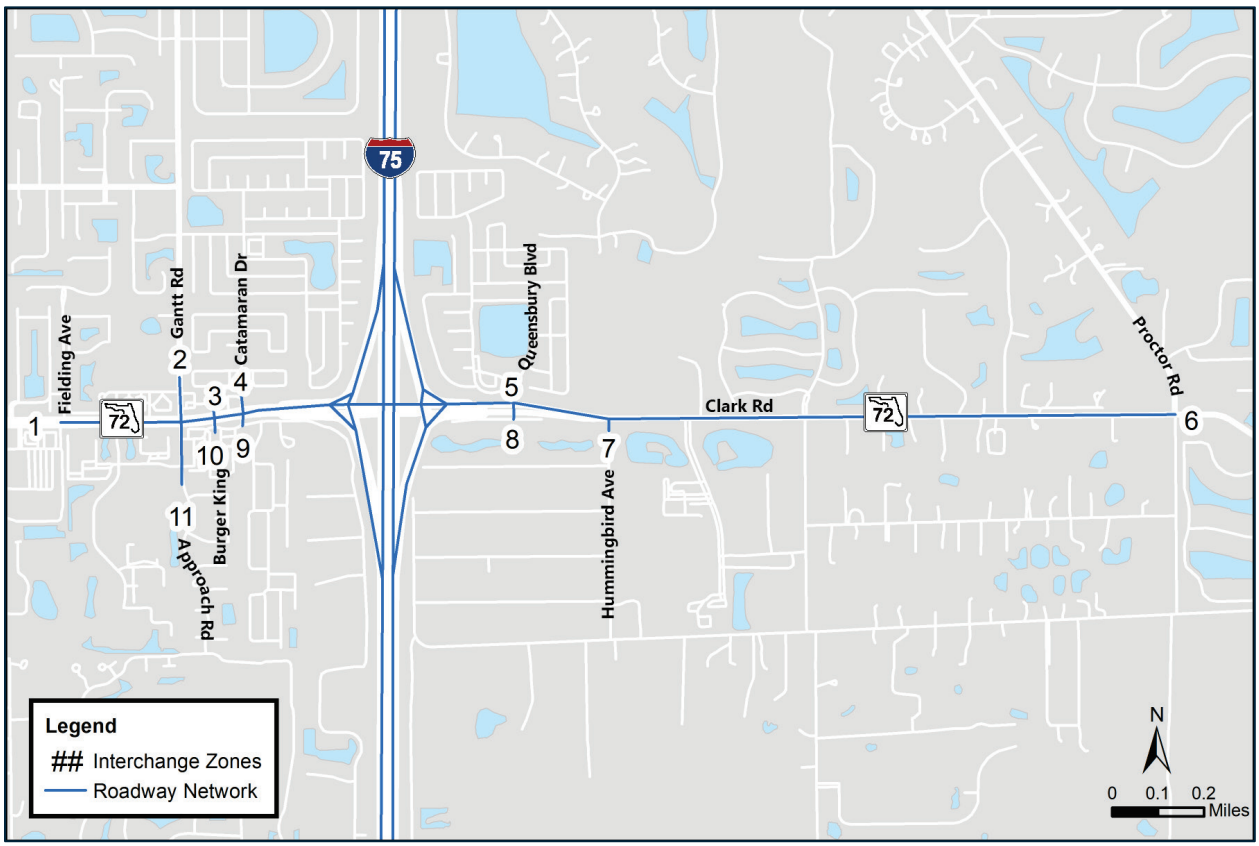

Figure 3.9: Map of Interchange Area and Zones – SR 72 (Clark Road)

Table 3-42: Design Year 2045 AADT Development – SR 72 (Clark Road)

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	Design Year 2045 AADT
1	Clark Rd west of Gantt Rd	57,000	53,700	55,400	64,100	8,700	65,700	1.2	66,000	66,000	0.8%	68,000
2	Gantt Rd north of SR 72 Clark Rd	11,500	9,800	9,800	9,800	0	11,500	1.0	11,500	11,500	0.0%	12,500
3	Driveway north of Clark Rd	2,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Catamaran Dr north of SR 72 Clark Rd	1,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	Queensbury Blvd north of SR 72 Clark Rd	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6	Clark Rd east of Hummingbird Ave	17,000	12,300	12,700	15,000	2,300	19,300	1.2	20,100	19,500	0.7%	20,000
7	Hummingbird Ave south of SR 72 Clark Rd	1,600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8	Queensbury Blvd south of SR 72 Clark Rd	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9	Catamaran Dr south of SR 72 Clark Rd	3,600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10	Approach Rd south of Clark Rd	2,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11	Gantt Rd south of SR 72 Clark Rd	4,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3-43: Design Year 2045 AADTs – SR 72 (Clark Road)

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	Clark Rd west of Gantt Rd	57,000	D1RPM	0.7%	68,000
2	Gantt Rd north of SR 72 Clark Rd	11,500	D1RPM	0.1%	12,500
3	Driveway north of Clark Rd	2,900	BEBR Low Forecast	0.3%	3,200
4	Catamaran Dr north of SR 72 Clark Rd	1,800	BEBR Low Forecast	0.3%	2,000
5	Queensbury Blvd north of SR 72 Clark Rd	1,200	BEBR Low Forecast	0.3%	1,300
6	Clark Rd east of Hummingbird Ave	17,000	D1RPM	0.6%	20,000
7	Hummingbird Ave south of SR 72 Clark Rd	1,600	Interchange Growth	0.6%	1,900
8	Queensbury Blvd south of SR 72 Clark Rd	400	BEBR Low Forecast	0.3%	450
9	Catamaran Dr south of SR 72 Clark Rd	3,600	BEBR Low Forecast	0.3%	3,900
10	Approach Rd south of Clark Rd	2,900	BEBR Low Forecast	0.3%	3,200
11	Gantt Rd south of SR 72 Clark Rd	4,900	BEBR Low Forecast	0.3%	5,300

Table 3-44: Design Year 2045 Target DDHVs – SR 72 (Clark Road)

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	Clark Rd west of Gantt Rd	68,000	0.09	0.60	2,434	3,686	0.09	0.57	2,650	3,470
2	Gantt Rd north of SR 72 Clark Rd	12,500	0.09	0.58	469	656	0.09	0.54	517	608
3	Driveway north of Clark Rd	3,200	0.09	0.53	135	149	0.06	0.60	73	111
4	Catamaran Dr north of SR 72 Clark Rd	2,000	0.09	0.65	62	114	0.07	0.54	62	74
5	Queensbury Blvd north of SR 72 Clark Rd	1,300	0.04	0.60	21	31	0.07	0.56	38	48
6	Clark Rd east of Hummingbird Ave	20,000	0.09	0.53	851	949	0.09	0.63	669	1,131
7	Hummingbird Ave south of SR 72 Clark Rd	1,900	0.09	0.67	56	115	0.09	0.63	63	108
8	Queensbury Blvd south of SR 72 Clark Rd	450	0.22	0.92	8	92	0.02	0.50	5	4
9	Catamaran Dr south of SR 72 Clark Rd	3,900	0.08	0.64	114	199	0.10	0.54	176	208
10	Approach Rd south of Clark Rd	3,200	0.09	0.56	128	163	0.05	0.59	66	95
11	Gantt Rd south of SR 72 Clark Rd	5,300	0.09	0.55	213	264	0.09	0.67	157	320

Table 3-45:: Design Year 2045 DDHVs and AADT Forecast Check – SR 72 (Clark Road)

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	Clark Rd west of Gantt Rd	0.09	2,338	3,674	0.09	3,545	2,497	67,000	68,000	1,000	1.5%
2	Gantt Rd north of SR 72 Clark Rd	0.09	505	759	0.09	497	647	14,000	12,500	1,500	12.0%
3	Driveway north of Clark Rd	0.09	132	205	0.06	113	85	3,800	3,200	600	18.8%
4	Catamaran Dr north of SR 72 Clark Rd	0.09	118	72	0.07	75	76	2,200	2,000	200	10.0%
5	Queensbury Blvd north of SR 72 Clark Rd	0.04	34	48	0.07	55	48	1,600	1,300	300	23.1%
6	Clark Rd east of Hummingbird Ave	0.09	1,012	1,004	0.09	1,165	732	22,500	20,000	2,500	12.5%
7	Hummingbird Ave south of SR 72 Clark Rd	0.09	131	55	0.09	66	98	2,100	1,900	200	10.5%
8	Queensbury Blvd south of SR 72 Clark Rd	0.22	14	85	0.02	21	20	450	450	0	0.0%
9	Catamaran Dr south of SR 72 Clark Rd	0.08	220	126	0.10	219	229	4,600	3,900	700	17.9%
10	Approach Rd south of Clark Rd	0.09	146	184	0.05	103	70	3,600	3,200	400	12.5%
11	Gantt Rd south of SR 72 Clark Rd	0.09	239	258	0.09	388	144	5,900	5,300	600	11.3%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

Table 3-46: Design Year 2045 AADT Growth No-Build vs. Build - SR 72 (Clark Road)

ID	Location	No-Build Design Year 2045 AADT	Build Design Year 2045 AADT	Percent Change
1	Clark Rd west of Gantt Rd	66,000	68,000	3.0%
2	Gantt Rd north of SR 72 Clark Rd	12,500	12,500	0.0%
3	Driveway north of Clark Rd	3,200	3,200	0.0%
4	Catamaran Dr north of SR 72 Clark Rd	2,000	2,000	0.0%
5	Queensbury Blvd north of SR 72 Clark Rd	1,300	1,300	0.0%
6	Clark Rd east of Hummingbird Ave	19,500	20,000	2.6%
7	Hummingbird Ave south of SR 72 Clark Rd	1,900	1,900	0.0%
8	Queensbury Blvd south of SR 72 Clark Rd	450	450	0.0%
9	Catamaran Dr south of SR 72 Clark Rd	3,900	3,900	0.0%
10	Burger King Driveway south of SR 72 Clark Rd	3,200	3,200	0.0%
11	Gantt Rd south of SR 72 Clark Rd	5,300	5,300	0.0%

3.10 SR 681 Forecast

The interchange of I-75 at SR 681 consists of three network input zones and only has a west-bound direction extending west of Honore Ave and is represented in **Figure 3.10**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.47**. Based on the network input zones within the interchange study area, SR 681 has a D1RPM weighted growth rate of 1.4 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.48**. The Design Year 2045 AADTs were used along with K and D factors from Existing Year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.49**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.50**. Growth in Design Year 2045 AADT between the No-Build and Build scenarios is provided in **Table 3.6**.

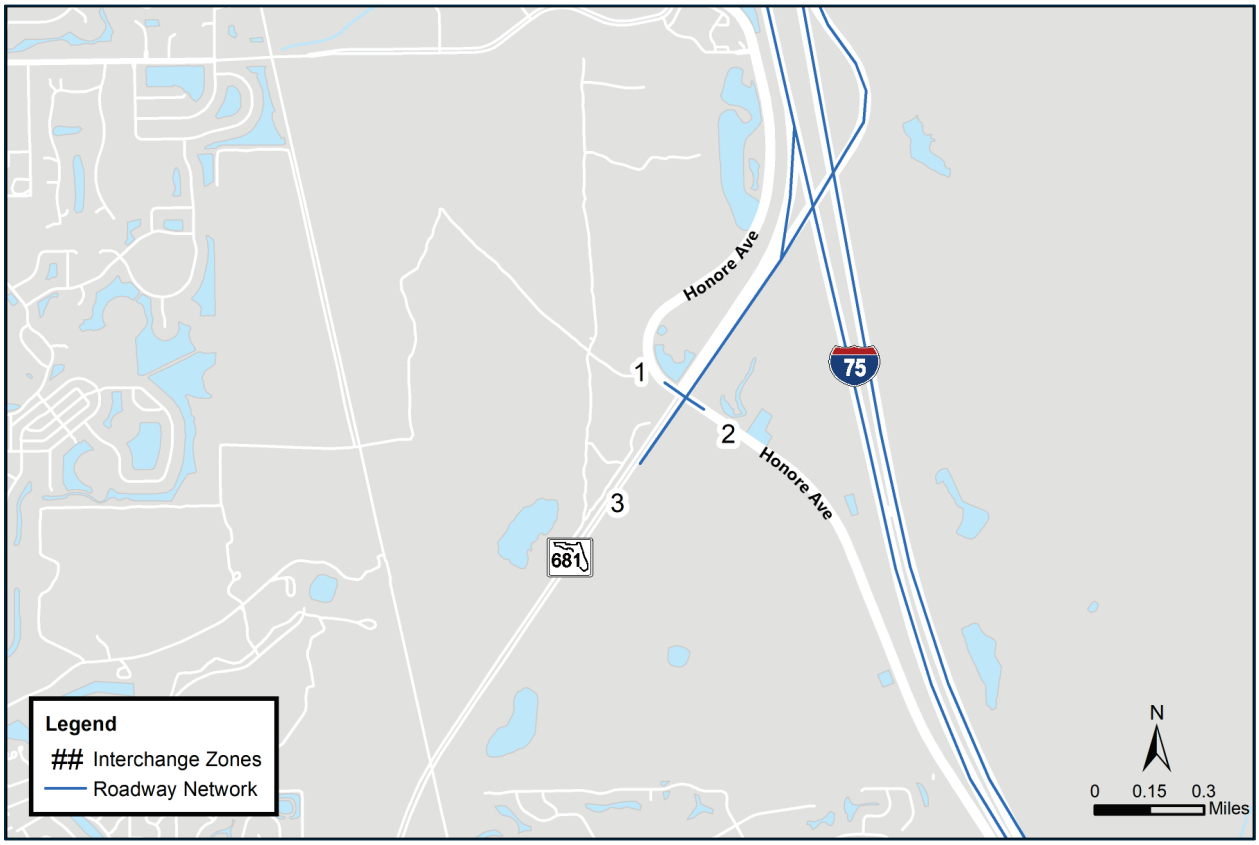

Figure 3.10: Map of Interchange Area and Zones – SR 681

Table 3-47: Design Year 2045 AADT Development – SR 681

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									Design Year 2045 AADT
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	
1	Honore Ave west of SR 681	6,400	9,600	9,900	11,700	1,800	8,200	1.2	7,600	8,200	1.3%	11,000
2	Honore Ave east of SR 681	4,600	6,500	6,700	8,000	1,300	5,900	1.2	5,500	5,900	1.3%	7,400
3	SR 681 south of Honore Ave	16,500	13,900	14,800	19,700	4,900	21,400	1.3	22,000	21,500	1.4%	23,000

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3-48: Design Year 2045 AADTs – SR 681

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	Honore Ave west of SR 681	6,400	D1RPM	1.3%	11,000
2	Honore Ave east of SR 681	4,600	D1RPM	1.3%	7,400
3	SR 681 south of Honore Ave	16,500	D1RPM	1.5%	23,000

Table 3-49: Design Year 2045 Target DDHVs – SR 681

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	Honore Ave west of SR 681	11,000	0.09	0.62	381	609	0.09	0.58	415	575
2	Honore Ave east of SR 681	7,400	0.09	0.60	267	399	0.09	0.59	275	391
3	SR 681 south of Honore Ave	23,000	0.09	0.51	1,018	1,052	0.09	0.51	1,020	1,050

Table 3-50: Design Year 2045 DDHVs and AADT Forecast Check – SR 681

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	Honore Ave west of SR 681	0.09	454	776	0.09	783	476	14,000	11,000	3,000	27.3%
2	Honore Ave east of SR 681	0.09	352	561	0.09	512	373	10,000	7,400	2,600	35.1%
3	SR 681 south of Honore Ave	0.09	1,025	1,062	0.09	1,150	968	23,500	23,000	500	2.2%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

Table 3-51: Design Year 2045 AADT Growth No-Build vs. Build - SR 681

ID	Location	No-Build Design Year 2045 AADT	Build Design Year 2045 AADT	Percent Change
1	Honore Ave west of SR 681	11,000	11,000	0.0%
2	Honore Ave east of SR 681	7,400	7,400	0.0%
3	SR 681 south of Honore Ave	17,500	23,000	31.4%

3.11 SR 762 (Laurel Road) Forecast

The study area of I-75 at SR 762 (Laurel Road) consists of 10 network input zones and extends from east of Knights Trail Road to west of Twin Laurel Boulevard and is represented in **Figure 3.11**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.52**. Based on the network input zones within the study area, Laurel Road has a D1RPM weighted growth rate of 3.5 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.53**. The Design Year 2045 AADTs were used along with K and D factors from Existing Year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.54**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.55**. Growth in Design Year 2045 AADT between the No-Build and Build scenarios is provided in **Table 3.56**.

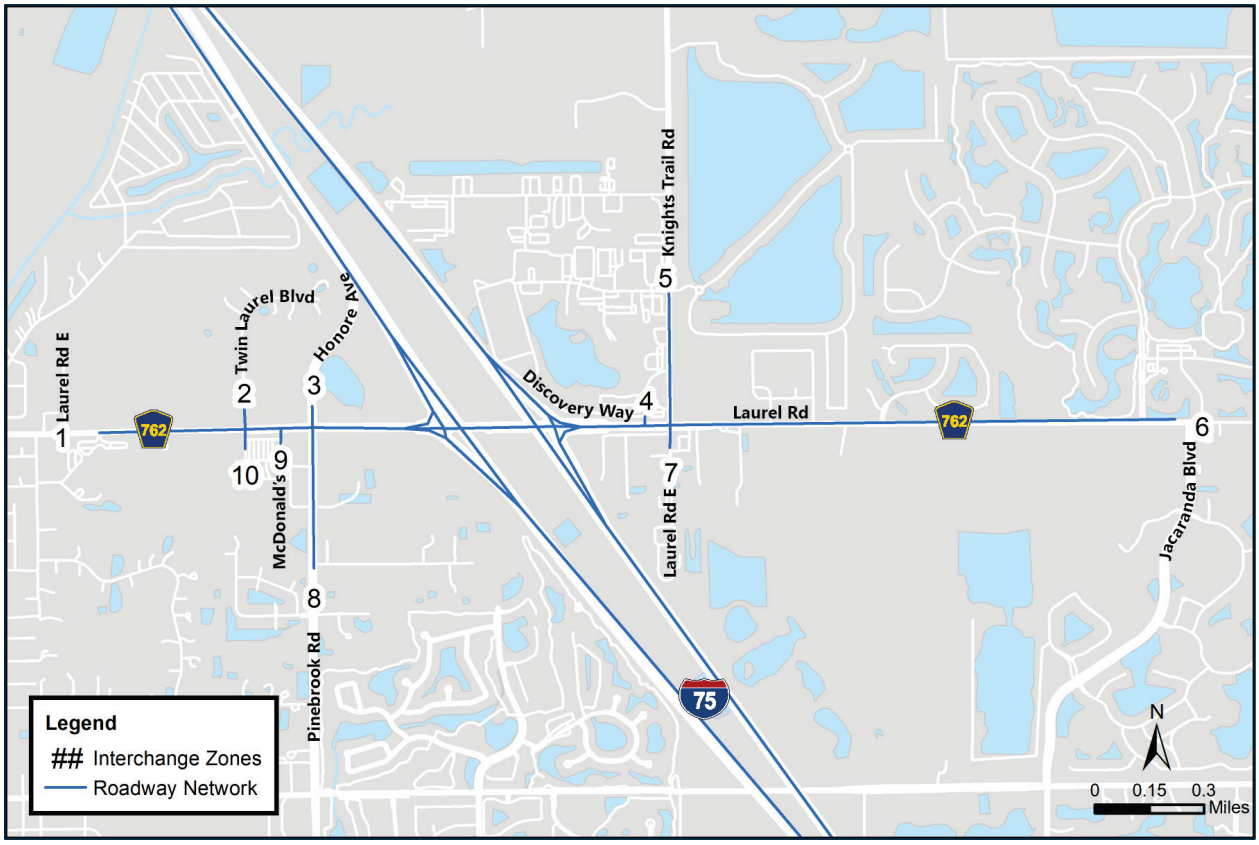

Figure 3.11: Map of Interchange Area and Zones – SR 762 (Laurel Road)

Table 3-52: Year 2045 AADT Development – SR 762 (Laurel Road)

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	Design Year 2045 AADT
1	SR 762 (Laurel Rd E) west of Twin Laurel Blvd	15,500	12,900	13,300	15,400	2,100	17,600	1.2	17,900	18,000	0.8%	18,500
2	Twin Laurel Blvd north of SR 762 (Laurel Rd E)	80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	Pinebrook Rd north of SR 762 (Laurel Rd E)	5,000	6,500	6,700	8,000	1,300	6,300	1.2	6,000	6,300	1.2%	7,800
4	Discovery Way north of SR 762 (Laurel Rd E)	2,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	Haul Rd north of SR 762 (Laurel Rd E)	13,000	9,600	12,700	28,900	16,200	29,200	2.3	29,600	29,500	6.0%	33,500
6	SR 762 (Laurel Rd E) east of Haul Rd	5,500	2,200	3,600	10,700	7,100	12,600	3.0	16,300	12,500	6.1%	15,000
7	Haul Rd south of SR 762 (Laurel Rd E)	750	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8	Pinebrook Rd south of SR 762 (Laurel Rd E)	10,500	15,400	17,100	26,300	9,200	19,700	1.5	16,100	19,500	4.1%	22,000
9	McDonalds Driveway south of SR 762 (Laurel Rd E)	1,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10	Twin Laurel Blvd south of SR 762 (Laurel Rd E)	16,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3-53: Design Year 2045 AADTs – SR 762 (Laurel Road)

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	SR 762 (Laurel Rd E) west of Twin Laurel Blvd	15,500	D1RPM	0.7%	18,500
2	Twin Laurel Blvd north of SR 762 (Laurel Rd E)	80	BEBR Low Forecast	0.3%	90
3	Pinebrook Rd north of SR 762 (Laurel Rd E)	5,000	D1RPM	1.2%	7,800
4	Discovery Way north of SR 762 (Laurel Rd E)	2,200	BEBR Low Forecast	0.3%	2,400
5	Haul Rd north of SR 762 (Laurel Rd E)	13,000	D1RPM	6.0%	33,500
6	SR 762 (Laurel Rd E) east of Haul Rd	5,500	D1RPM	6.2%	15,000
7	Haul Rd south of SR 762 (Laurel Rd E)	750	BEBR Low Forecast	0.3%	800
8	Pinebrook Rd south of SR 762 (Laurel Rd E)	10,500	D1RPM	4.2%	22,000
9	McDonalds Driveway south of SR 762 (Laurel Rd E)	1,700	BEBR Low Forecast	0.3%	1,900
10	Twin Laurel Blvd south of SR 762 (Laurel Rd E)	16,000	BEBR Low Forecast	0.3%	17,500

Table 3-54: Design Year 2045 Target DDHVs – SR 762 (Laurel Road)

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	SR 762 (Laurel Rd E) west of Twin Laurel Blvd	18,500	0.09	0.59	680	985	0.09	0.54	769	896
2	Twin Laurel Blvd north of SR 762 (Laurel Rd E)	90	0.20	0.63	7	11	0.11	0.56	5	5
3	Pinebrook Rd north of SR 762 (Laurel Rd E)	7,800	0.10	0.61	296	459	0.09	0.61	284	440
4	Discovery Way north of SR 762 (Laurel Rd E)	2,400	0.04	0.82	17	79	0.10	0.93	17	228
5	Haul Rd north of SR 762 (Laurel Rd E)	33,500	0.09	0.67	992	2,023	0.09	0.65	1,068	1,947
6	SR 762 (Laurel Rd E) east of Haul Rd	15,000	0.09	0.67	444	906	0.09	0.56	591	759
7	Haul Rd south of SR 762 (Laurel Rd E)	800	0.09	0.57	31	41	0.09	0.54	33	39
8	Pinebrook Rd south of SR 762 (Laurel Rd E)	22,000	0.09	0.55	891	1,089	0.09	0.63	734	1,246
9	McDonalds Driveway south of SR 762 (Laurel Rd E)	1,900	0.09	0.80	35	140	0.04	0.78	16	57
10	Twin Laurel Blvd south of SR 762 (Laurel Rd E)	17,500	0.01	0.62	74	123	0.02	0.52	205	218

Table 3-55: Design Year 2045 DDHVs and AADT Forecast Check – SR 762 (Laurel Road)

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	SR 762 (Laurel Rd E) west of Twin Laurel Blvd	0.09	800	1,021	0.09	971	873	20,500	18,500	2,000	10.8%
2	Twin Laurel Blvd north of SR 762 (Laurel Rd E)	0.20	20	11	0.11	20	14	300	90	210	233.3%
3	Pinebrook Rd north of SR 762 (Laurel Rd E)	0.10	413	326	0.09	286	435	7,600	7,800	200	2.6%
4	Discovery Way north of SR 762 (Laurel Rd E)	0.04	31	100	0.10	32	231	2,600	2,400	200	8.3%
5	Haul Rd north of SR 762 (Laurel Rd E)	0.09	1,882	959	0.09	957	1,752	31,500	33,500	2,000	6.0%
6	SR 762 (Laurel Rd E) east of Haul Rd	0.09	248	941	0.09	695	463	13,000	15,000	2,000	13.3%
7	Haul Rd south of SR 762 (Laurel Rd E)	0.09	38	30	0.09	41	62	1,100	800	300	37.5%
8	Pinebrook Rd south of SR 762 (Laurel Rd E)	0.09	1,030	669	0.09	599	1,193	20,000	22,000	2,000	9.1%
9	McDonalds Driveway south of SR 762 (Laurel Rd E)	0.09	158	31	0.04	60	14	2,000	1,900	100	5.3%
10	Twin Laurel Blvd south of SR 762 (Laurel Rd E)	0.01	89	118	0.02	219	255	19,500	17,500	2,000	11.4%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

Table 3-56: Design Year 2045 AADT Growth No-Build vs. Build - SR 762 (Laurel Road)

ID	Location	No-Build Design Year 2045 AADT	Build Design Year 2045 AADT	Percent Change
1	SR 762 (Laurel Rd E) west of Twin Laurel Blvd	17,500	18,500	5.7%
2	Twin Laurel Blvd north of SR 762 (Laurel Rd E)	90	90	0.0%
3	Pinebrook Rd north of SR 762 (Laurel Rd E)	7,800	7,800	0.0%
4	Discovery Way north of SR 762 (Laurel Rd E)	2,400	2,400	0.0%
5	Haul Rd north of SR 762 (Laurel Rd E)	33,500	33,500	0.0%
6	SR 762 (Laurel Rd E) east of Haul Rd	15,000	15,000	0.0%
7	Haul Rd south of SR 762 (Laurel Rd E)	800	800	0.0%
8	Pinebrook Rd south of SR 762 (Laurel Rd E)	21,000	22,000	4.8%
9	McDonalds Driveway south of SR 762 (Laurel Rd E)	1,900	1,900	0.0%
10	Twin Laurel Blvd south of SR 762 (Laurel Rd E)	17,500	17,500	0.0%

3.12 Jacaranda Boulevard Forecast

The interchange of I-75 at Jacaranda Boulevard consists of seven network input zones and extends from north of Commerce Drive to south of Oak Heritage Drive and is represented in **Figure 3.12**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.57**. Based on the network input zones within the interchange study area, Jacaranda Boulevard has a D1RPM weighted growth rate of 1.1 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.58**. The Design Year 2045 AADTs were used along with K and D factors from Existing Year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.59**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.60**. Growth in Design Year 2045 AADT between the No-Build and Build scenarios is provided in **Table 3.61**.

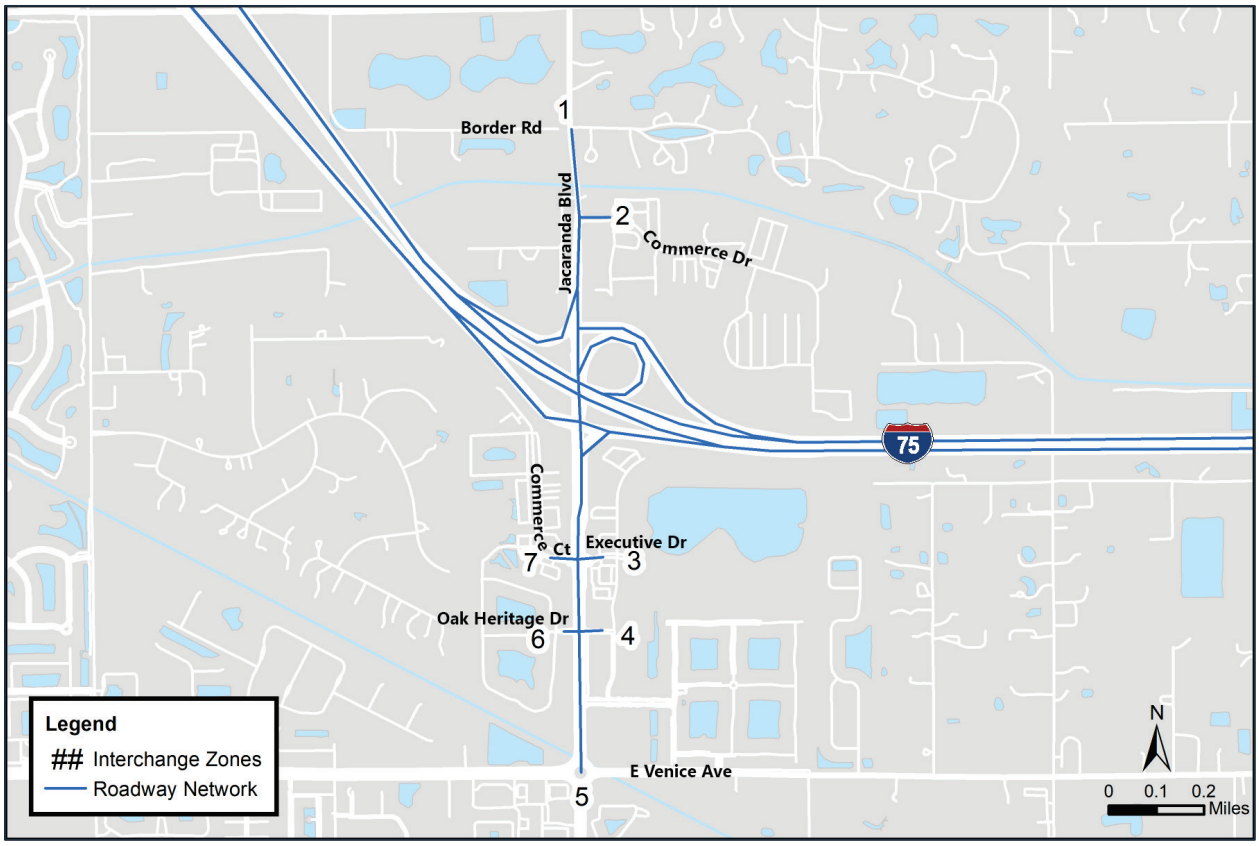

Figure 3.12: Map of Interchange Area and Zones – Jacaranda Boulevard

Table 3-57: Design Year 2045 AADT Development – Jacaranda Boulevard

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									Design Year 2045 AADT
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	
1	Jacaranda Blvd north of Commerce Dr	5,900	5,200	5,900	9,600	3,700	9,600	1.6	9,600	9,600	3.0%	10,500
2	Commerce Dr east of Jacaranda Blvd	4,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	Executive Dr east of Jacaranda Blvd	8,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Oak Heritage Dr east of Jacaranda Blvd	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	Jacaranda Blvd south of Oak Heritage Dr	31,000	31,800	32,800	38,100	5,300	36,300	1.2	36,000	36,000	0.8%	37,500
6	Oak Heritage Dr west of Jacaranda Blvd	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7	Executive Dr west of Jacaranda Blvd	8,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3-58: Design Year 2045 AADTs – Jacaranda Boulevard

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	Jacaranda Blvd north of Commerce Dr	5,900	D1RPM	3.0%	10,500
2	Commerce Dr east of Jacaranda Blvd	4,300	BEBR Low Forecast	0.3%	4,700
3	Executive Dr east of Jacaranda Blvd	8,400	Interchange Growth	1.1%	11,000
4	Oak Heritage Dr east of Jacaranda Blvd	500	BEBR Low Forecast	0.3%	550
5	Jacaranda Blvd south of Oak Heritage Dr	31,000	D1RPM	0.8%	37,500
6	Oak Heritage Dr west of Jacaranda Blvd	500	BEBR Low Forecast	0.3%	550
7	Executive Dr west of Jacaranda Blvd	8,000	BEBR Low Forecast	0.3%	8,700

Table 3-59: Design Year 2045 Target DDHVs – Jacaranda Boulevard

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	Jacaranda Blvd north of Commerce Dr	10,500	0.09	0.54	437	508	0.09	0.52	457	488
2	Commerce Dr east of Jacaranda Blvd	4,700	0.09	0.67	140	283	0.09	0.67	139	284
3	Executive Dr east of Jacaranda Blvd	11,000	0.09	0.54	455	535	0.09	0.53	462	528
4	Oak Heritage Dr east of Jacaranda Blvd	550	0.08	0.85	7	37	0.07	0.94	2	37
5	Jacaranda Blvd south of Oak Heritage Dr	37,500	0.09	0.51	1,650	1,725	0.09	0.51	1,642	1,733
6	Oak Heritage Dr west of Jacaranda Blvd	550	0.03	0.81	3	15	0.06	0.52	15	17
7	Executive Dr west of Jacaranda Blvd	8,700	0.07	0.63	224	388	0.08	0.57	302	397

Table 3-60: Design Year 2045 DDHVs and AADT Forecast Check – Jacaranda Boulevard

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	Jacaranda Blvd north of Commerce Dr	0.09	409	422	0.09	429	384	9,200	10,500	1,300	12.4%
2	Commerce Dr east of Jacaranda Blvd	0.09	339	204	0.09	110	334	6,000	4,700	1,300	27.7%
3	Executive Dr east of Jacaranda Blvd	0.09	572	711	0.09	606	674	14,500	11,000	3,500	31.8%
4	Oak Heritage Dr east of Jacaranda Blvd	0.08	34	7	0.07	35	6	500	550	50	9.1%
5	Jacaranda Blvd south of Oak Heritage Dr	0.09	1,790	1,513	0.09	1,530	1,837	37,500	37,500	0	0.0%
6	Oak Heritage Dr west of Jacaranda Blvd	0.03	22	10	0.06	16	19	600	550	50	9.1%
7	Executive Dr west of Jacaranda Blvd	0.07	272	401	0.08	420	376	9,900	8,700	1,200	13.8%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

Table 3-61: Design Year 2045 AADT Growth No-Build vs. Build - Jacaranda Boulevard

ID	Location	No-Build Design Year 2045 AADT	Build Design Year 2045 AADT	Percent Change
1	Jacaranda Blvd north of Commerce Dr	9,900	10,500	6.1%
2	Commerce Dr east of Jacaranda Blvd	4,700	4,700	0.0%
3	Executive Dr east of Jacaranda Blvd	10,500	11,000	4.8%
4	Oak Heritage Dr east of Jacaranda Blvd	550	550	0.0%
5	Jacaranda Blvd south of Oak Heritage Dr	36,000	37,500	4.2%
6	Oak Heritage Dr west of Jacaranda Blvd	550	550	0.0%
7	Executive Dr west of Jacaranda Blvd	8,700	8,700	0.0%

3.13 River Road Forecast

The interchange of I-75 at River Road consists of four network input zones and extends from I-75 to south of East Venice Avenue and is represented in **Figure 3.13**. As consistent with the proposed methodology of forecasting for this analysis, the D1RPM forecast results for the network input zones can be found in **Table 3.62**. Based on the network input zones within the interchange study area, River Road has a D1RPM weighted growth rate of 1.7 percent per year. Forecasting source and Design Year 2045 AADTs at network input zones are found in **Table 3.63**. The Design Year 2045 AADTs were used along with K and D factors from Existing Year 2019 to yield target AM and PM peak hour DDHVs and are reflected in **Table 3.64**. Balanced AM and PM peak hour results from the least squares regression process and the associated estimate of 2045 AADTs can be found in **Table 3.65**. Growth in Design Year 2045 AADT between the No-Build and Build scenarios is provided in **Table 3.66**.

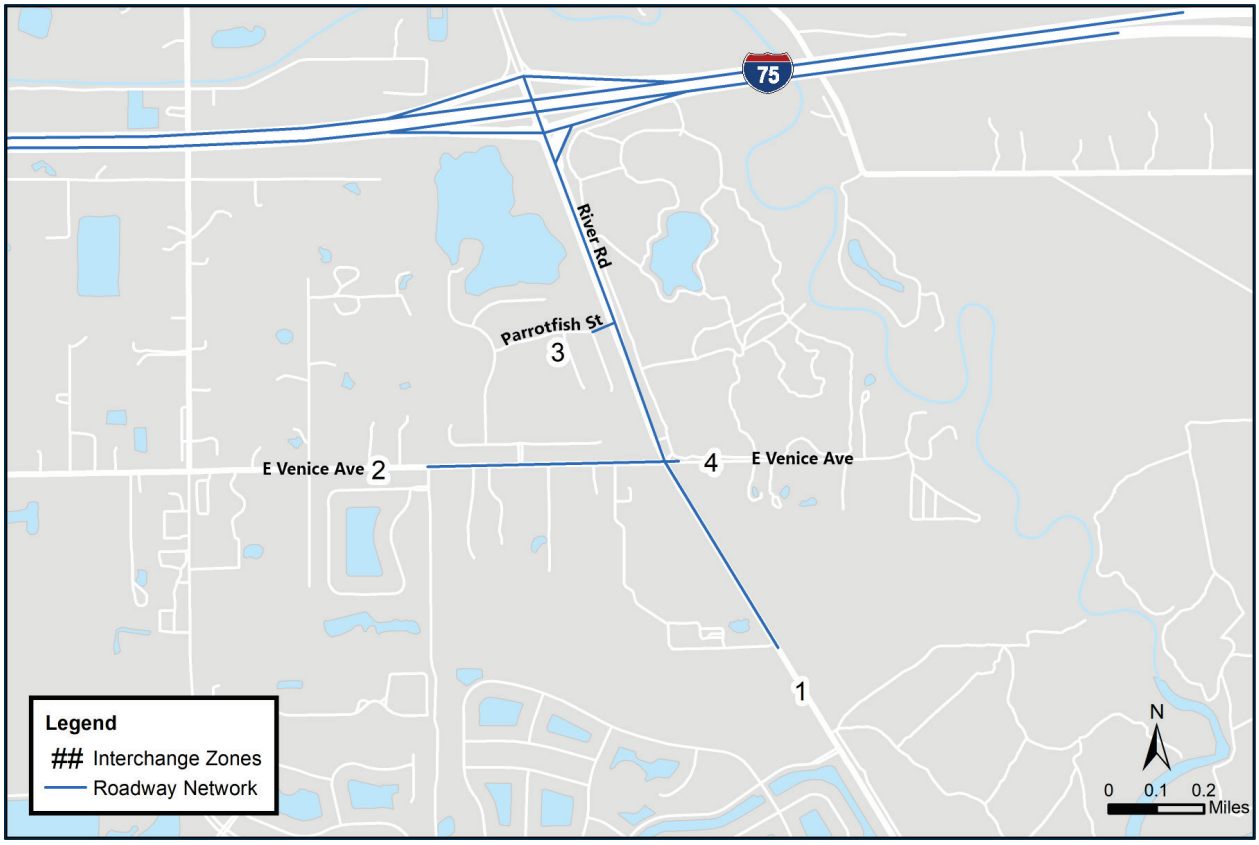

Figure 3.13: Map of Interchange Area and Zones – River Road

Table 3-62: Design Year 2045 AADT Development – River Road

ID	Location	Existing Year 2019 AADT	NCHRP 765 Adjustment Process									
			D1RPM 2015 AADT	D1RPM 2019 AADT	D1RPM 2040 AADT	Delta	Delta 2040 AADT	Ratio	Ratio 2040 AADT	NCHRP 2040 AADT	NCHRP AGR	Design Year 2045 AADT
1	River Rd south of Venice Ave	22,500	29,300	30,300	35,700	5,400	27,900	1.2	26,500	28,000	1.2%	29,000
2	Venice Ave west of River Rd	6,400	8,500	9,400	14,200	4,800	11,200	1.5	9,700	11,000	3.4%	12,500
3	Parrotfish St west of River Rd	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Venice Ave east of River Rd	350	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
D1RPM 2019 AADTs are calculated using linear interpolation between the D1RPM Base Year (2015) and Horizon Year (2040) D1RPM outputs.
Delta 2040 AADTs are yielded by applying the difference between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
Ratio 2040 AADTs are yielded by applying the ratio between the 2019 and 2040 D1RPM AADTs to the Existing Year 2019 AADTs.
NCHRP 2040 AADTs are an average between the Delta and Ratio yielded 2040 AADTs as described in the 2019 Project Traffic Forecasting Manual.

Table 3-63: Design Year 2045 AADTs – River Road

ID	Location	Existing Year 2019 AADT	Forecasting Method	Recommended AGR	Design Year 2045 AADT
1	River Rd south of Venice Ave	22,500	D1RPM	1.1%	29,000
2	Venice Ave west of River Rd	6,400	D1RPM	3.6%	12,500
3	Parrotfish St west of River Rd	200	BEBR Low Forecast	0.3%	200
4	Venice Ave east of River Rd	350	BEBR Low Forecast	0.3%	400

Table 3-64: Design Year 2045 Target DDHVs – River Road

ID	Location	Design Year 2045 AADT	AM Peak Hour				PM Peak Hour			
			K	D	NB/EB DDHV	SB/WB DDHV	K	D	NB/EB DDHV	SB/WB DDHV
1	River Rd south of Venice Ave	29,000	0.09	0.62	999	1,611	0.09	0.60	1,049	1,561
2	Venice Ave west of River Rd	12,500	0.09	0.65	390	735	0.09	0.64	404	721
3	Parrotfish St west of River Rd	200	0.06	0.55	5	6	0.10	0.75	5	15
4	Venice Ave east of River Rd	400	0.09	0.50	18	18	0.09	0.55	16	20

Table 3-65: Design Year 2045 DDHVs and AADT Forecast Check – River Road

ID	Location	AM Peak Hour			PM Peak Hour			Balance Comparison			
		K	NB/EB DDHV	SB/WB DDHV	K	NB/EB DDHV	SB/WB DDHV	Estimate 2045 AADT	Design Year 2045 AADT	Delta	Percent
1	River Rd south of Venice Ave	0.09	1,557	1,050	0.09	1,134	1,722	31,500	29,000	2,500	8.6%
2	Venice Ave west of River Rd	0.09	513	850	0.09	810	472	15,000	12,500	2,500	20.0%
3	Parrotfish St west of River Rd	0.06	7	11	0.10	5	40	450	200	250	125.0%
4	Venice Ave east of River Rd	0.09	23	22	0.09	31	37	750	400	350	87.5%

NOTES:
The difference (delta) and percent difference between the Estimate 2045 AADT and the Design Year 2045 AADT is provided for comparative purposes only. A statistical comparison is provided in Section 3.14.

Table 3-66: Design Year 2045 AADT Growth No-Build vs. Build - River Road

ID	Location	No-Build Design Year 2045 AADT	Build Design Year 2045 AADT	Percent Change
1	River Rd south of Venice Ave	27,000	29,000	7.4%
2	Venice Ave west of River Rd	12,500	12,500	0.0%
3	Parrotfish St west of River Rd	200	200	0.0%
4	Venice Ave east of River Rd	400	400	0.0%

3.14 Interchange Variance Check

To provide a check for the smoothed volumes with forecasting consistency, a maximum of the AM and PM peak hour volume and the application of K factors to yield an estimated 2045 AADT. This estimate 2045 AADT was plotted against Design Year 2045 AADTs at network input zone and checked for statistical fit and is depicted in **Figure 3.14**. The trendline slope of nearly 1 and R-squared values of 0.99 indicate that the estimated 2045 AADTs consistently reflect the distribution found in the Design Year 2045 AADTs.

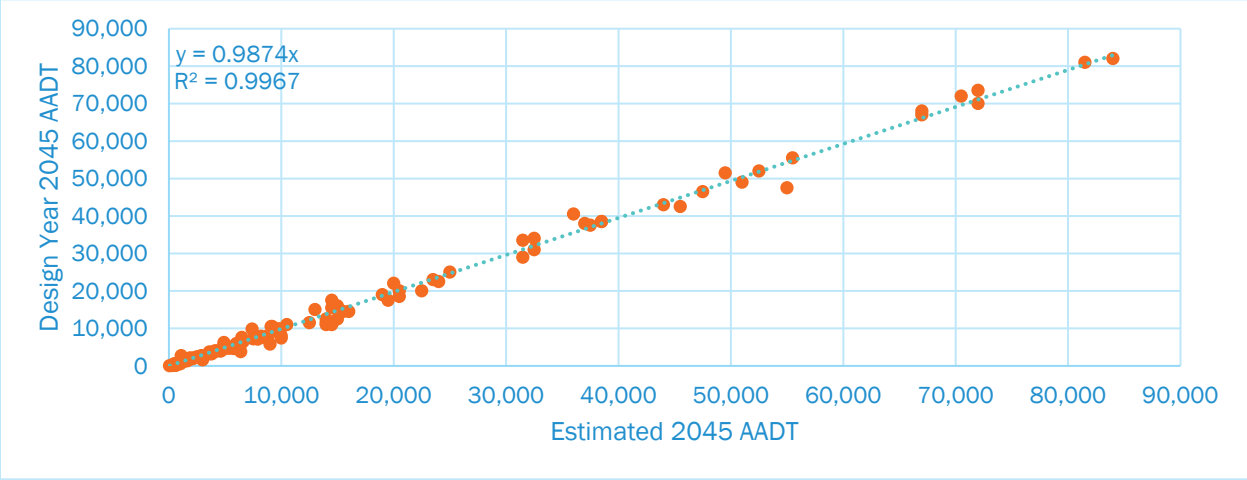

Figure 3.14: I-75 Interchange Variance

Each of the individual turning movements in the study area were reviewed for appropriate growth. **Table 3.67** identifies the turning movements with high growth rates (greater than 10 percent and more than 100 volume) which were not previously identified in the No-Build documentation. On review, each of these movements is reasonable and is tied to growth in the model.

Table 3.67 Turning Movement High Growth Rate Review

Interchange	Location	Movement	AM AGR	PM AGR
3 - US 41	US 41 & I-275 Eastbound Ramp Terminal	SBL	12.7%	Less than 10%
1 - Moccasin Wallow Road	I-75 & Moccasin Wallow Road East Ramp Terminal	NBL	Less than 10%	12.3%

4.0 Distribution Comparison

4.1 Comparison of Design Year 2045 O-D Matrix to Existing Year 2019 Streetlight O-D Matrix

The Design Year 2045 AADTs and DDHVs are tied to an O-D matrix. The interchange-to-interchange distribution of this matrix was compared to the same distribution found in the Existing Year 2019 Streetlight O-D matrix. **Figure 4.1** and **Figure 4.2** indicate a good match between the Streetlight distribution and the O-D matrix from this study. A slope of nearly 1 and an R2 of nearly 0.9 is a good match between sampled 2019 travel distributions and forecasted 2045 travel distributions. More detailed interchange level distributions can be found in **Appendix G**.

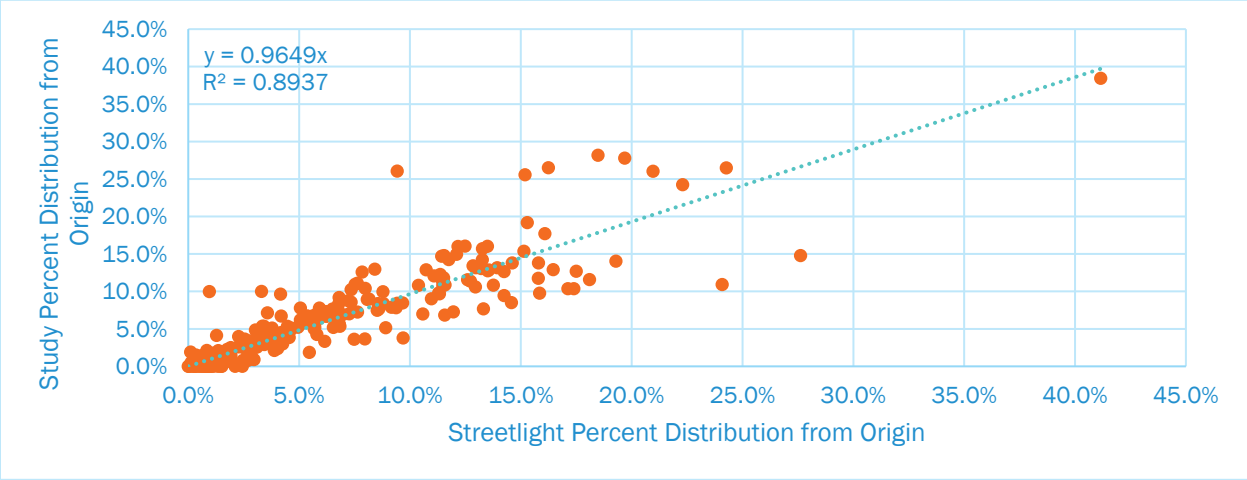

Figure 4.1: Streetlight Distribution Comparison – AM Peak Hour

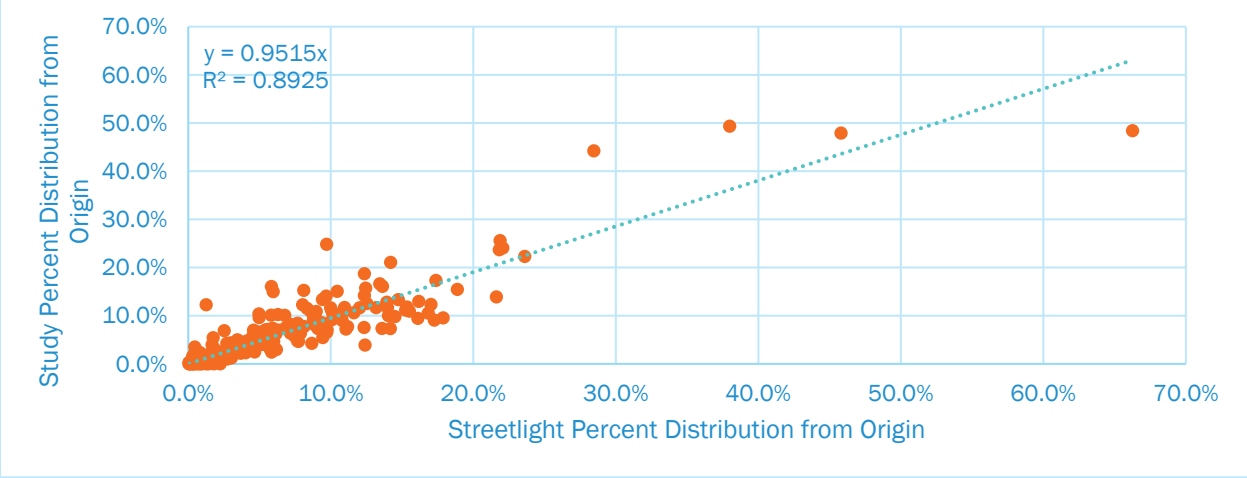

Figure 4.2: Streetlight Distribution Comparison – PM Peak Hour

Appendix F
Historical Counts and Population Growth Data

2019 Florida Traffic Online Historical Count Data

Table 1 - FTO Annual Growth Rate on I-75 Mainline

Location	COSITE	Florida Traffic Online					
		2015	2016	2017	2018	2019	AGR
I-75 North of Moccasin Wallow Road	130044	64,500	65,500	71,500	72,500	74,000	3.7%
I-75 South of Moccasin Wallow Road	130043	71,000	74,000	78,500	80,500	71,500	0.2%
I-75 North of US 301	130042	88,500	94,000	92,000	100,500	104,000	4.4%
I-75 North of SR 64	130041	110,500	116,000	113,500	120,000	120,000	2.1%
I-75 North of SR 70	130040	119,000	120,500	118,000	123,500	127,500	1.8%
I-75 North of University Parkway	130039	123,500	124,500	130,000	130,500	134,500	2.2%
I-75 North of SR 780 Fruitville Road	170047	128,000	133,000	139,000	142,000	137,500	1.9%
I-75 North of Bee Ridge Road	170046	119,500	121,500	127,500	120,000	122,000	0.5%
I-75 North of Clark Road	170225	104,223	106,049	109,384	113,416	116,233	2.9%
I-75 North of SR 681	170044	89,000	96,000	94,000	96,500	97,000	2.2%
I-75 North of Laurel Road	170043	78,500	85,000	81,000	84,000	83,500	1.6%
I-75 North of Jacaranda Boulevard	175075	81,500	86,000	84,500	84,000	85,000	1.1%
I-75 North of River Road	170042	72,500	78,000	74,500	78,000	83,000	3.6%
I-75 South of River Road	170361	23,127	24,597	24,968	24,970	26,404	3.5%

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TRANSPORTATION STATISTICS OFFICE
2019 HISTORICAL AADT REPORT

COUNTY: 13 - MANATEE

SITE: 0044 - SR-93A/I-75, N OF MOCCASIN WALLOW RD

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	74000 C	N 37000	S 37000	10.50	53.50	12.70
2018	72500 C	N 36000	S 36500	9.50	53.10	12.40
2017	71500 C	N 36000	S 35500	9.50	53.60	13.00
2016	65500 C	N 33000	S 32500	9.00	54.00	13.00
2015	64500 C	N 32500	S 32000	9.00	54.00	13.30
2014	64000 C	N 31500	S 32500	9.00	53.80	12.20
2013	60000 C	N 30500	S 29500	9.00	54.00	12.20
2012	59500 C	N 30000	S 29500	9.00	54.00	12.80
2011	50000 C	N 24000	S 26000	9.00	54.00	13.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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2019 HISTORICAL AADT REPORT

COUNTY: 13 - MANATEE

SITE: 0043 - SR 93A/I 75, SOUTHWEST OF MOCCASIN WALLOW ROAD

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	71500 C	N 32500	S 39000	9.00	53.50	15.80
2018	80500 C	N 41500	S 39000	9.00	53.10	14.40
2017	78500 C	N 39000	S 39500	9.00	53.60	12.70
2016	74000 F	N 37000	S 37000	9.00	54.00	15.00
2015	71000 C	N 35500	S 35500	9.00	54.00	15.00
2014	61500 C	N 31000	S 30500	9.00	53.80	16.00
2013	60500 C	N 30500	S 30000	9.00	54.00	15.60
2012	56000 C	N 30500	S 25500	9.00	54.00	15.50
2011	57000 C	N 28500	S 28500	9.00	54.00	16.00
2010	57000 C	N 29000	S 28000	9.35	54.86	15.50
2009	55500 C	N 27500	S 28000	9.10	54.45	16.10
2008	53500 C	N 26000	S 27500	9.40	55.15	18.80
2007	63000 C	N 31500	S 31500	9.29	52.37	17.80
2006	54000 C	N 27000	S 27000	9.05	51.89	17.30
2005	61500 C	N 30500	S 31000	9.10	55.20	12.30
2004	62000 C	N 31000	S 31000	9.60	51.20	19.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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TRANSPORTATION STATISTICS OFFICE
2019 HISTORICAL AADT REPORT

COUNTY: 13 - MANATEE

SITE: 0042 - SR 93/I 75, NORTH OF SR 43/US 301

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	104000 C	N 52000	S 52000	9.00	53.50	11.20
2018	100500 C	N 50000	S 50500	9.00	53.10	13.00
2017	92000 C	N 45000	S 47000	9.00	53.60	13.50
2016	94000 C	N 46500	S 47500	9.00	54.00	13.00
2015	88500 C	N 44000	S 44500	9.00	54.00	13.40
2014	79000 C	N 39500	S 39500	9.00	53.80	13.40
2013	85500 C	N 43500	S 42000	9.00	54.00	11.10
2012	79000 C	N 39500	S 39500	9.00	54.00	12.10
2011	77000 C	N 38500	S 38500	9.00	54.00	12.70
2010	76000 C	N 38000	S 38000	9.35	54.86	13.80
2009	72500 C	N 36000	S 36500	9.10	54.45	13.70
2008	75000 C	N 38000	S 37000	9.40	55.15	15.50
2007	83000 C	N 41000	S 42000	9.29	52.37	12.50
2006	85000 C	N 42500	S 42500	9.05	51.89	12.70
2005	81500 C	N 41500	S 40000	9.10	55.20	12.30
2004	83500 C	N 41000	S 42500	9.60	51.20	9.20

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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TRANSPORTATION STATISTICS OFFICE
2019 HISTORICAL AADT REPORT

COUNTY: 13 - MANATEE

SITE: 0041 - SR 93/I 75, NORTHWEST OF SR 64

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	120000 C	N 59500	S 60500	9.00	53.50	12.30
2018	120000 C	N 59500	S 60500	9.00	53.10	11.50
2017	113500 C	N 56000	S 57500	9.00	53.60	12.40
2016	116000 C	N 57500	S 58500	9.00	54.00	11.60
2015	110500 C	N 54500	S 56000	9.00	54.00	11.40
2014	100000 C	N 50000	S 50000	9.00	53.80	11.60
2013	99000 C	N 49500	S 49500	9.00	54.00	11.80
2012	93500 C	N 46000	S 47500	9.00	54.00	10.90
2011	90500 C	N 45000	S 45500	9.00	54.00	11.90
2010	89500 C	N 44500	S 45000	9.35	54.86	12.60
2009	88000 C	N 44500	S 43500	9.10	54.45	13.40
2008	88500 C	N 44500	S 44000	9.40	55.15	13.70
2007	98000 C	N 48500	S 49500	9.29	52.37	11.80
2006	101000 C	N 51000	S 50000	9.05	51.89	12.10
2005	96500 C	N 47500	S 49000	9.10	55.20	12.30
2004	80000 C	N 40000	S 40000	9.60	51.20	11.10

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2019 HISTORICAL AADT REPORT

COUNTY: 13 - MANATEE

SITE: 0040 - SR 93/I 75, NORTH OF SR 70

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	127500 F	N 63500	S 64000	9.00	53.50	10.60
2018	123500 C	N 61500	S 62000	9.00	53.10	10.60
2017	118000 C	N 58000	S 60000	9.00	53.60	11.20
2016	120500 C	N 60000	S 60500	9.00	54.00	10.90
2015	119000 C	N 58500	S 60500	9.00	54.00	10.90
2014	109000 C	N 54000	S 55000	9.00	53.80	11.00
2013	110500 C	N 55500	S 55000	9.00	54.00	10.20
2012	101000 C	N 52500	S 48500	9.00	54.00	10.00
2011	96000 C	N 47000	S 49000	9.00	54.00	11.50
2010	96000 C	N 47500	S 48500	9.35	54.86	11.80
2009	96500 C	N 49000	S 47500	9.10	54.45	11.00
2008	94000 C	N 47000	S 47000	9.40	55.15	12.90
2007	104000 C	N 52000	S 52000	9.29	52.37	9.60
2006	107000 C	N 54000	S 53000	9.05	51.89	11.00
2005	102500 C	N 51000	S 51500	9.10	55.20	12.30
2004	88000 C	N 40500	S 47500	9.60	51.20	11.10

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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2019 HISTORICAL AADT REPORT

COUNTY: 13 - MANATEE

SITE: 0039 - SR 93/I 75, SOUTH OF SR 70

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	134500 F	N 67000	S 67500	9.00	53.50	9.20
2018	130500 C	N 65000	S 65500	9.00	53.10	9.20
2017	130000 C	N 63500	S 66500	9.00	53.60	10.00
2016	124500 C	N 61500	S 63000	9.00	54.00	9.80
2015	123500 C	N 61000	S 62500	9.00	54.00	9.90
2014	119500 C	N 59500	S 60000	9.00	53.80	8.20
2013	114500 C	N 57000	S 57500	9.00	54.00	9.30
2012	106500 C	N 53500	S 53000	9.00	54.00	9.10
2011	101500 C	N 50000	S 51500	9.00	54.00	9.80
2010	106000 C	N 53000	S 53000	9.35	54.86	8.50
2009	98000 C	N 49000	S 49000	9.10	54.45	10.40
2008	101000 C	N 51000	S 50000	9.40	55.15	13.10
2007	105500 C	N 51000	S 54500	9.29	52.37	9.30
2006	113500 C	N 57000	S 56500	9.05	51.89	9.90
2005	103500 C	N 52000	S 51500	9.10	55.20	13.10
2004	95500 C	N 48500	S 47000	9.60	51.20	13.10

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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2019 HISTORICAL AADT REPORT

COUNTY: 17 - SARASOTA

SITE: 0047 - SR 93/I 75, NORTH OF SR 780/FRUITVILLE ROAD

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	137500 C	N 68500	S 69000	9.00	56.70	10.30
2018	142000 E			9.00	56.40	9.70
2017	139000 S	N 69000	S 70000	9.00	56.30	9.80
2016	133000 F	N 66000	S 67000	9.00	54.00	9.80
2015	128000 C	N 63500	S 64500	9.00	54.00	9.80
2014	126500 C	N 63000	S 63500	9.00	56.20	9.70
2013	123500 C	N 61500	S 62000	9.00	56.10	7.40
2012	111000 C	N 56500	S 54500	9.00	55.80	8.90
2011	109500 C	N 54000	S 55500	9.00	55.50	9.60
2010	109000 C	N 54000	S 55000	9.78	53.88	10.20
2009	107500 C	N 53500	S 54000	9.49	56.51	10.20
2008	105500 C	N 52500	S 53000	9.80	55.31	11.20
2007	116500 C	N 58500	S 58000	9.29	52.37	9.40
2006	127500 C	N 64000	S 63500	9.57	51.00	9.40
2005	119000 C	N 58500	S 60500	9.60	51.40	12.30
2004	107500 C	N 52500	S 55000	9.60	51.20	10.20

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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2019 HISTORICAL AADT REPORT

COUNTY: 17 - SARASOTA

SITE: 0046 - SR 93/I 75, SOUTH OF SR 780/FRUITVILLE ROAD

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	122000 C	N 60500	S 61500	9.00	56.70	8.80
2018	120000 C	N 59000	S 61000	9.00	56.40	8.70
2017	127500 C	N 63500	S 64000	9.00	56.30	8.10
2016	121500 C	N 60000	S 61500	9.00	54.00	7.60
2015	119500 C	N 59000	S 60500	9.00	54.00	7.40
2014	120500 C	N 59500	S 61000	9.00	56.20	8.00
2013	113000 C	N 55500	S 57500	9.00	56.10	7.40
2012	105500 C	N 52000	S 53500	9.00	55.80	9.00
2011	104000 C	N 51500	S 52500	9.00	55.50	6.40
2010	105500 C	N 52500	S 53000	9.78	53.88	7.50
2009	103500 C	N 51500	S 52000	9.49	56.51	7.60
2008	104000 C	N 52000	S 52000	9.80	55.31	9.60
2007	108500 C	N 54500	S 54000	9.29	52.37	9.80
2006	114500 C	N 57000	S 57500	9.57	51.00	9.60
2005	107500 C	N 54000	S 53500	9.60	51.40	8.30
2004	99000 C	N 49500	S 49500	9.60	51.20	8.30

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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2019 HISTORICAL AADT REPORT

COUNTY: 17 - SARASOTA

SITE: 0225 - SR-93/I-75,0.7 MI N SR72@PROCTOR RD OP,SARASOTA CO

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	116233 C	N 57767	S 58466	9.00	53.50	10.10
2018	113416 C	N 56296	S 57120	9.00	53.10	10.60
2017	109384 C	N 54315	S 55069	9.00	53.60	10.40
2016	106049 C	N 52628	S 53421	9.00	54.00	10.30
2015	104223 C	N 51850	S 52373	9.00	54.00	9.70
2014	98049 C	N 48882	S 49167	9.00	53.80	9.70
2013	93870 C	N 46696	S 47174	9.00	54.00	9.40
2012	89880 C	N 44818	S 45062	9.00	54.00	9.20
2011	89715 C	N 44710	S 45005	9.00	54.00	9.30
2010	90242 C	N 44960	S 45282	9.76	55.24	9.20
2009	88452 C	N 43597	S 44855	9.40	55.84	9.10
2008	88692 C	N 44321	S 44371	9.82	54.81	10.20
2007	94959 C	N 47422	S 47537	9.29	52.37	10.80
2006	97307 C	N 48545	S 48762	9.57	51.00	11.90
2005	97929 C	N 49178	S 48751	9.60	51.40	12.00
2004	96406 C	N 48306	S 48100	9.60	51.20	11.60

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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2019 HISTORICAL AADT REPORT

COUNTY: 17 - SARASOTA

SITE: 0044 - SR 93/I 75, SOUTH OF SR 72/CLARK ROAD

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	97000 C	N 48000	S 49000	9.00	56.70	10.80
2018	96500 C	N 48000	S 48500	9.00	56.40	10.70
2017	94000 C	N 47000	S 47000	9.00	56.30	10.90
2016	96000 C	N 48000	S 48000	9.00	54.00	9.90
2015	89000 C	N 44500	S 44500	9.00	54.00	10.40
2014	89500 C	N 45000	S 44500	9.00	56.20	9.00
2013	83500 C	N 41500	S 42000	9.00	56.10	8.90
2012	74500 C	N 36500	S 38000	9.00	55.80	10.90
2011	81000 C	N 41000	S 40000	9.00	55.50	8.40
2010	82000 C	N 41000	S 41000	9.78	53.88	9.30
2009	80500 C	N 40500	S 40000	9.49	56.51	9.90
2008	82000 C	N 41000	S 41000	9.80	55.31	9.90
2007	84500 C	N 41000	S 43500	9.29	52.37	13.40
2006	94000 C	N 47000	S 47000	9.57	51.00	15.90
2005	81500 C	N 40500	S 41000	9.60	51.40	14.10
2004	72000 C	N 33500	S 38500	9.60	51.20	14.10

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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2019 HISTORICAL AADT REPORT

COUNTY: 17 - SARASOTA

SITE: 0043 - SR 93/I 75, SOUTH OF SR 681/VENICE CONNECTOR

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	83500 C	N 42000	S 41500	10.50	56.70	11.00
2018	84000 C	N 42000	S 42000	9.50	56.40	10.90
2017	81000 C	N 40500	S 40500	9.50	56.30	11.70
2016	85000 C	N 42500	S 42500	9.00	54.00	8.70
2015	78500 C	N 39500	S 39000	9.00	54.00	10.50
2014	78000 C	N 39500	S 38500	9.00	56.20	10.10
2013	70500 C	N 35500	S 35000	9.00	56.10	10.30
2012	61000 C	N 29500	S 31500	9.00	55.80	11.50
2011	68500 F	N 34500	S 34000	9.00	55.50	12.10
2010	68500 C	N 34500	S 34000	9.78	53.88	12.10
2009	70500 C	N 35500	S 35000	9.49	56.51	12.50
2008	72000 C	N 36000	S 36000	9.80	55.31	15.20
2007	77000 C	N 39000	S 38000	9.29	52.37	15.30
2006	77000 C	N 39000	S 38000	9.57	51.00	16.40
2005	74500 C	N 37500	S 37000	9.60	51.40	14.60
2004	70000 C	N 34000	S 36000	9.60	51.20	14.60

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2019 HISTORICAL AADT REPORT

COUNTY: 17 - SARASOTA

SITE: 5075 - SR 93/I 75, SOUTH OF LAUREL ROAD

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	85000 C	N 42500	S 42500	9.00	56.70	10.70
2018	84000 C	N 42000	S 42000	9.00	56.40	11.00
2017	84500 C	N 42000	S 42500	9.00	56.30	8.20
2016	86000 C	N 43500	S 42500	9.00	54.00	8.20
2015	81500 C	N 41000	S 40500	9.00	54.00	9.50
2014	77000 C	N 39000	S 38000	9.00	56.20	8.60
2013	71500 C	N 35500	S 36000	9.00	56.10	9.60
2012	66000 S	N 33000	S 33000	9.00	55.80	12.30
2011	66000 F	N 33000	S 33000	9.00	55.50	12.30
2010	66000 C	N 33000	S 33000	9.78	53.88	12.30
2009	70500 C	N 35500	S 35000	9.49	56.51	13.00
2008	70500 C	N 35500	S 35000	9.80	55.31	15.20
2007	76000 C	N 38500	S 37500	9.29	52.37	13.00
2006	80500 C	N 40000	S 40500	9.57	51.00	17.10
2005	80500 C	N 40500	S 40000	9.60	51.40	12.00
2004	69500 S	N 34000	S 35500	9.60	51.20	14.60

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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2019 HISTORICAL AADT REPORT

COUNTY: 17 - SARASOTA

SITE: 0042 - SR 93/I 75, EAST OF JACARANDA BOULEVARD

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	83000 C	W 41500	E 41500	9.00	56.70	10.60
2018	78000 C	W 39000	E 39000	9.00	56.40	10.80
2017	74500 C	W 37000	E 37500	9.00	56.30	11.50
2016	78000 C	W 39000	E 39000	9.00	54.00	11.30
2015	72500 C	W 36500	E 36000	9.00	54.00	10.90
2014	68500 C	W 35000	E 33500	9.00	56.20	9.00
2013	67500 C	W 33500	E 34000	9.00	56.10	10.10
2012	56500 C	W 28000	E 28500	9.00	55.80	11.70
2011	58500 F	W 29500	E 29000	9.00	55.50	13.40
2010	58500 C	W 29500	E 29000	9.78	53.88	13.40
2009	61000 C	W 31000	E 30000	9.49	56.51	13.40
2008	61500 C	W 31000	E 30500	9.80	55.31	15.30
2007	68000 C	W 34500	E 33500	9.29	52.37	15.40
2006	70000 C	W 35000	E 35000	9.57	51.00	18.40
2005	66000 C	W 33000	E 33000	9.60	51.40	14.40
2004	57000 C	W 29000	E 28000	9.60	51.20	15.80

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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2019 HISTORICAL AADT REPORT

COUNTY: 17 - SARASOTA

SITE: 0361 - SR-93/I-75, @PONCE DE LEON BLVD O/P, SARASOTA CO.

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	71772 C	N 35805	S 35967	9.00	59.90	12.30
2018	69464 C	N 34651	S 34813	9.00	59.60	12.20
2017	66927 C	N 33441	S 33486	9.00	58.90	12.00
2016	61200 C	N 32500	S 28700	9.00	58.60	11.20
2015	61129 C	N 32475	S 28654	9.00	58.60	11.20
2014	56960 C	N 29897	S 27063	9.00	58.60	11.20
2013	54191 C	N 27131	S 27060	9.00	58.10	11.40
2012	51232 C	N 25661	S 25571	9.00	57.60	11.20
2011	51220 C	N 25640	S 25580	9.00	57.10	11.10
2010	51903 C	N 25993	S 25910	9.80	52.52	10.90
2009	52003 C	N 26019	S 25984	9.59	57.18	11.40
2008	51649 C	N 25735	S 25914	9.78	55.81	12.70
2007	52653 C	N 25525	S 27128	9.29	52.37	19.60

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2019 Bureau of Economic and Business Research – Population Forecasts

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Bureau of Economic and Business Research

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Projections of Florida Population by County, 2020–2045, with Estimates for 2019

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The Bureau of Economic and Business Research (BEBR) has been making population projections for Florida and its counties since the 1970s. This report presents our most recent set of projections and describes the methodology used to construct those projections. To account for uncertainty regarding future population growth, we publish three series of projections. We believe the medium series is the most likely to provide accurate forecasts in most circumstances, but the low and high series provide an indication of the uncertainty surrounding the medium series. It should be noted that these projections refer solely to permanent residents of Florida; they do not include tourists or seasonal residents.

State projections

The starting point for the state-level projections was the April 1, 2010 census population count by age, sex, race, and Hispanic origin, as adjusted by the National Center for Health Statistics (NCHS) in the Vintage 2017 bridged race population estimates. Projections were made in one-year intervals using a cohort-component methodology in which births, deaths, and migration are projected separately for each age-sex cohort in Florida for non-Hispanic whites, non-Hispanic nonwhites, and Hispanics. We applied three different sets of assumptions to provide low, medium, and high series of projections. Although the low and high series do not provide absolute bounds on future population change, they provide a reasonable range in which Florida's future population is likely to fall.

Survival rates were applied by single year of age, sex, race, and Hispanic origin to project future deaths in the population. These rates were based on Florida Life Tables for 2007–2013, using mortality data published by the Office of Vital Statistics in the Florida Department of Health. The survival rates were adjusted upward each year until 2044 to account for projected increases in life expectancy. These adjustments were based on projected increases in survival rates released by the U.S. Census Bureau. We used the same mortality assumptions for all three series of projections because there is less uncertainty regarding future changes in mortality rates than is true for migration and fertility rates.

Domestic migration rates by age and sex were based on Public Use Microdata Sample (PUMS) files from the 2005–2009 and 2013–2017 American Community Survey (ACS) 5-year estimates. We chose an average of those two sets of migration estimates because the recession of 2007–2009 had a substantial impact on migration patterns in Florida, affecting in- and out-migration in both time periods; in addition, projections based on more than one time period

tend to be more accurate than those based on a single time period. The 2005–2009 data are the earliest ACS 5-year migration estimates that are available, and the 2013–2017 data were the most recent at the time the state projections were made (early December 2019).

For all three racial/ethnic groups, we applied smoothing techniques to the age/sex-specific migration rates to adjust for data irregularities caused by small sample size. The smoothed in- and out-migration rates were weighted to account for recent changes in Florida's population growth rates. Projections of domestic in-migration were made by applying weighted in-migration rates to the projected population of the United States (minus Florida), using the most recent set of national projections produced by the U.S. Census Bureau. Projections of out-migration were made by applying weighted out-migration rates to the Florida population. In both instances, rates were calculated separately for males and females by race and ethnicity for each age up to 90 and over.

For the medium projection series, in-migration weights for non-Hispanic whites varied from 1.15 to 1.06, and out-migration weights varied from 0.97 to 0.95; for non-Hispanic nonwhites, in-migration weights varied from 1.12 to 1.03, and out-migration weights varied from 0.99 to 0.96; and for Hispanics, in-migration weights varied from 1.11 to 1.03, and out-migration weights varied from 0.99 to 0.96. For the low projection series, the in-migration weights described above were lowered for all three racial/ethnic groups over time – from 7% in 2020 to 11% in 2045; the out-migration weights were raised by the same margins. For the high projection series, the in-migration weights described above were raised for all three racial/ethnic groups over time – from 7% in 2020 to 11% in 2045; the out-migration weights were lowered by the same margins.

The distribution of foreign immigrants for the three racial/ethnic groups by age and sex was also based on an average of the patterns observed for 2005–2009 and 2013–2017. Again, we smoothed the estimates to account for irregularities in the age/sex distribution of immigrants. For the medium projection series, we held foreign immigration at an average of the 2005–2009 and 2013–2017 levels, with some short-term adjustments based on recent trends. In addition, we made minor adjustments to the racial/ethnic distribution of those migrants based on recent trends. For the low series, foreign immigration was projected to decrease by 1,500 per year from the average of the 2005–2009 and 2013–2017 levels; for the high series, foreign immigration was projected to increase by 1,000 per year. Foreign emigration was assumed to equal 25% of foreign immigration for each series of projections.

Projections were made in one-year intervals, with each projection serving as the base for the following projection. Projected in-migration for each one-year interval was added to the survived Florida population at the end of the interval and projected out-migration was subtracted, giving a projection of the population age one and older.

Births were projected by applying age-specific birth rates (adjusted for child mortality) to the projected female population of each racial/ethnic group. These birth rates were based on Florida birth data for 2007–2013 published by the Office of Vital Statistics in the Florida Department of Health. They imply a total fertility rate (TFR) of 1.66 births per woman for non-Hispanic whites, 2.08 births per woman for non-Hispanic nonwhites, 1.92 births per woman for Hispanics, and 1.83 births per woman for total population. These rates were adjusted in the short-term projections to make them consistent with recent fertility trends. We also raised them long-term, though slightly less than last year. We made this downward adjustment, because recorded resident births in Florida, after having increased each year from 2012 through 2016, have trended downward again over the past three years (the birth data for 2019 are still provisional). By 2033, the adjusted rates imply a total fertility rate of 1.68 births per woman for non-Hispanic whites, 2.12 births per woman for non-Hispanic nonwhites, 1.97 births per woman for Hispanics, and 1.86 births per woman for total population.

As a final step, projections for non-Hispanic whites, non-Hispanic nonwhites, and Hispanics were added together to provide projections of the total population. The medium projections of total population for 2020–2024 were adjusted to be consistent with the state population forecasts for those years produced by the State of Florida's Demographic Estimating Conference (DEC) held December 3, 2019. None of the projections after 2024 had any further adjustments. In this publication, we provide projections for 2020, 2025, 2030, 2035, 2040, and 2045. State projections for other years are available by request.

County projections

The cohort-component method is a good way to make population projections at the state level, but is not necessarily the best way to make projections at the county level. Many counties in Florida are so small that the number of persons in each age-sex category is inadequate for making reliable cohort-component projections, given the lack of detailed small-area data. Even more important, county growth patterns are so volatile that a single technique based on data from a single time period may provide misleading results. We believe more useful projections of total population can be made by using several different techniques and historical base periods.

For counties, we started with the population estimate constructed by BEBR for April 1, 2019. We made projections for each county using five different techniques. After 2020, the projections were made in five-year increments. The five techniques were:

1. Linear – the population will change by the same number of persons in each future year as the average annual change during the base period.

2. Exponential – the population will change at the same percentage rate in each future year as the average annual rate during the base period.

3. Share-of-growth – each county's share of state population growth in the future will be the same as its share during the base period.

4. Shift-share – each county's share of the state population will change by the same annual amount in the future as the average annual change during the base period.

5. Constant-share – each county's share of the state population will remain constant at its 2019 level.

For the linear and share-of-growth techniques we used base periods of two, ten, and twenty years (2017–2019, 2009–2019, and 1999–2019), yielding three sets of projections for each technique. For the exponential and shift-share techniques we used base periods of five and fifteen years (2014–2019 and 2004–2019), yielding two sets of projections for each technique. The constant-share method was based on data for a single year (2019).

This methodology produced eleven projections for each county for each projection year (2020, 2025, 2030, 2035, 2040, and 2045). From these, we calculated five averages: one using all eleven projections (AVE-11), one that excluded the highest and lowest projections (AVE-9), one that excluded the two highest and two lowest projections (AVE-7), one that excluded the three highest and three lowest projections (AVE-5), and one that excluded the four highest and four lowest projections (AVE-3). Based on the results of previous research, we designated the average that excluded the three highest and three lowest projections (AVE-5) as the default technique for each county. We evaluated the resulting projections by comparing them with historical population trends and with the level of population growth projected for the state as a whole. For counties in which AVE-5 did not provide reasonable projections, we selected the technique producing projections that fit most closely with our evaluation criteria.

For 66 counties we selected AVE-5, the average in which the three highest and three lowest projections were excluded. For Monroe County, we selected an average of projections made with the exponential technique with a base period of five years and the linear technique with a base period of two years. In

addition, we made manual adjustments to the projections in six counties in the Florida Panhandle to account for estimated population losses or slowdowns in growth due to the impacts of Hurricane Michael (Bay, Calhoun, Gadsden, Gulf, Jackson, and Liberty counties).

We also made adjustments in several counties to account for changes in institutional populations such as university students and prison inmates. Adjustments were made only in counties in which institutional populations account for a large proportion of total population or where changes in the institutional population have been substantially different than changes in the rest of the population. In the present set of projections, adjustments were made for Alachua, Baker, Bradford, Calhoun, Columbia, DeSoto, Dixie, Franklin, Gadsden, Gilchrist, Glades, Gulf, Hamilton, Hardee, Hendry, Holmes, Jackson, Jefferson, Lafayette, Leon, Liberty, Madison, Okeechobee, Santa Rosa, Sumter, Suwannee, Taylor, Union, Wakulla, Walton, and Washington counties.

Range of county projections

The techniques described in the previous section were used to construct the medium series of county projections. This is the series we believe will generally provide the most accurate forecasts of future population change. We also constructed low and high projections to provide an indication of the uncertainty surrounding the medium county projections. The low and high projections were based on analyses of past population forecast errors for counties in Florida, broken down by population size and growth rate. They indicate the range into which approximately three-quarters of future county populations will fall, if the future distribution of forecast errors is similar to the past distribution.

The range between the low and high projections varies according to a county's population size in 2019 (less than 30,000; 30,000 to 199,999; and 200,000 or more), rate of population growth between 2009 and 2019 (less than 7.5%; 7.5–15%; 15–30%; and 30% or more), and the length of the projection horizon (on average, projection errors grow with the length of the projection horizon). Our studies have found that the distribution of absolute percent errors tends to remain fairly stable over time, leading us to believe that the low and high projections provide a reasonable range of errors for most counties. It must be emphasized, however, that the actual future population of any given county could be below the low projection or above the high projection.

For the medium series of projections, the sum of the county projections equals the state projection for each year (except for slight differences due to rounding). For the low and high series, however, the sum of the county projections does not equal the state projection. The sum of the low projections for counties is lower than the state's low projection and the sum of the high projections for counties is higher than the state's high projection. This occurs because potential variation around the medium projection is greater for counties than for the state as a whole.

Acknowledgement

Funding for these projections was provided by the Florida Legislature.

Projections of Florida Population by County, 2020–2045, with Estimates for 2019

County and State	Estimates April 1, 2019	Projections, April 1 2020	2025	2030	2035	2040	2045
ALACHUA	267,306						
Low		258,900	262,300	264,300	265,100	264,500	262,300
Medium		269,800	281,500	291,600	300,200	307,400	313,300
High		280,500	299,400	318,000	334,300	348,800	361,400
BAKER	28,249						
Low		27,100	27,500	27,700	27,700	27,600	27,300
Medium		28,500	29,900	31,100	32,000	32,900	33,600
High		29,900	32,400	34,900	37,300	39,700	41,900
BAY	167,283						
Low		168,500	173,300	176,400	178,400	179,400	179,700
Medium		175,300	185,700	193,700	200,300	206,000	210,900
High		182,500	198,500	213,700	228,000	241,000	253,800
BRADFORD	28,682						
Low		27,400	26,900	26,300	25,600	24,900	24,300
Medium		28,800	29,200	29,500	29,800	30,000	30,300
High		30,200	31,700	33,100	34,500	35,900	37,200
BREVARD	594,469						
Low		577,900	594,000	603,000	608,300	610,400	612,200
Medium		602,400	637,600	665,000	687,900	707,400	726,000
High		626,000	678,100	725,700	766,900	805,100	843,700
BROWARD	1,919,644						
Low		1,862,500	1,899,500	1,917,100	1,924,900	1,923,700	1,920,500
Medium		1,941,200	2,039,000	2,115,200	2,179,100	2,233,900	2,285,100
High		2,017,700	2,168,500	2,307,300	2,426,900	2,537,300	2,646,600
CALHOUN	14,067						
Low		14,100	14,200	14,100	13,900	13,800	13,600
Medium		14,900	15,400	15,800	16,200	16,500	16,800
High		15,600	16,700	17,800	18,800	19,800	20,800
CHARLOTTE	181,770						
Low		175,300	181,500	185,200	187,200	188,200	188,900
Medium		184,700	198,100	208,700	217,400	225,200	232,500
High		193,800	213,800	232,500	250,200	266,900	284,600
CITRUS	147,744						
Low		143,300	146,600	149,000	150,300	150,800	150,900
Medium		149,400	157,100	163,600	168,900	173,400	177,300
High		155,300	168,000	180,400	192,100	202,600	213,100
CLAY	215,246						
Low		210,100	220,600	229,300	235,200	239,300	242,400
Medium		219,000	236,800	252,500	265,000	275,600	285,100
High		227,600	251,800	276,000	296,600	315,700	334,100
COLLIER	376,706						
Low		365,000	385,500	400,300	410,800	416,600	420,100
Medium		384,600	421,200	451,700	477,200	498,400	517,400
High		403,400	451,600	497,500	538,500	575,500	611,300
COLUMBIA	70,492						
Low		67,700	68,600	69,200	69,300	69,100	68,700
Medium		70,500	73,500	76,000	78,000	79,700	81,200
High		73,300	78,600	83,800	88,600	92,900	97,100
DESOTO	36,065						
Low		34,900	35,000	34,800	34,500	34,100	33,500
Medium		36,300	37,500	38,300	38,900	39,500	39,900
High		37,800	40,100	42,200	44,100	45,700	47,400
DIXIE	16,610						
Low		15,900	15,500	15,100	14,600	14,200	13,700
Medium		16,700	16,900	17,000	17,100	17,100	17,100
High		17,500	18,300	19,000	19,700	20,300	21,000

Projections of Florida Population by County, 2020–2045, with Estimates for 2019 (continued)

County and State	Estimates April 1, 2019	Projections, April 1 2020	2025	2030	2035	2040	2045
DUVAL	970,672						
Low		945,300	979,800	1,001,700	1,017,300	1,024,700	1,025,400
Medium		985,500	1,051,900	1,104,300	1,148,700	1,185,300	1,216,200
High		1,024,100	1,118,600	1,205,600	1,282,700	1,351,600	1,413,100
ESCAMBIA	321,134						
Low		314,100	319,200	321,500	322,100	321,800	321,600
Medium		324,000	336,400	345,800	353,000	359,300	365,200
High		333,600	354,800	374,200	389,700	404,100	418,200
FLAGLER	110,635						
Low		106,500	113,900	119,900	124,500	127,700	129,600
Medium		113,400	126,500	138,300	148,400	157,300	165,200
High		120,000	137,700	155,800	173,600	190,500	207,500
FRANKLIN	12,273						
Low		11,600	11,500	11,400	11,200	11,000	10,800
Medium		12,200	12,500	12,800	13,100	13,200	13,400
High		12,800	13,600	14,400	15,200	15,900	16,600
GADSDEN	46,277						
Low		44,500	43,900	42,800	41,700	40,600	39,500
Medium		46,300	47,000	47,100	47,200	47,300	47,400
High		48,300	50,300	51,800	53,300	54,500	55,700
GILCHRIST	17,766						
Low		17,100	17,400	17,600	17,600	17,500	17,400
Medium		18,000	18,900	19,700	20,400	20,900	21,400
High		18,900	20,500	22,200	23,700	25,200	26,700
GLADES	13,121						
Low		12,600	12,400	12,200	12,000	11,700	11,500
Medium		13,200	13,500	13,700	13,900	14,100	14,200
High		13,900	14,700	15,400	16,200	16,800	17,600
GULF	13,082						
Low		14,000	14,000	14,000	13,800	13,700	13,500
Medium		14,700	15,300	15,700	16,000	16,400	16,600
High		15,500	16,500	17,600	18,600	19,700	20,700
HAMILTON	14,600						
Low		13,900	13,600	13,200	12,800	12,300	11,900
Medium		14,600	14,800	14,900	14,900	14,900	15,000
High		15,300	16,000	16,600	17,200	17,700	18,300
HARDEE	27,385						
Low		26,200	25,400	24,600	23,800	23,000	22,200
Medium		27,600	27,600	27,700	27,800	27,800	27,900
High		28,900	30,000	31,000	32,100	33,100	34,100
HENDRY	40,120						
Low		38,900	39,400	39,600	39,500	39,400	39,300
Medium		40,500	42,200	43,500	44,500	45,500	46,400
High		42,100	45,200	48,000	50,600	53,000	55,500
HERNANDO	188,358						
Low		181,700	188,900	194,300	197,200	198,300	198,100
Medium		191,500	206,100	218,900	228,900	237,200	244,400
High		200,900	222,500	244,000	263,600	281,200	298,500
HIGHLANDS	103,434						
Low		100,000	100,700	100,800	100,400	99,700	98,900
Medium		104,200	107,800	110,800	113,200	115,200	117,100
High		108,300	115,300	122,100	128,400	133,900	139,700
HILLSBOROUGH	1,444,870						
Low		1,399,100	1,474,700	1,525,600	1,555,200	1,577,000	1,590,200
Medium		1,474,300	1,611,300	1,721,600	1,809,000	1,887,700	1,959,200
High		1,546,400	1,727,500	1,895,700	2,038,500	2,178,600	2,314,000

Projections of Florida Population by County, 2020–2045, with Estimates for 2019 (continued)

County and State	Estimates April 1, 2019	Projections, April 1					
		2020	2025	2030	2035	2040	2045
HOLMES	20,049						
Low		19,200	18,700	18,100	17,500	17,000	16,400
Medium		20,200	20,300	20,400	20,400	20,500	20,500
High		21,200	22,000	22,800	23,600	24,400	25,100
INDIAN RIVER	154,939						
Low		149,600	155,700	160,000	162,100	163,000	162,800
Medium		157,600	170,000	180,200	188,200	195,000	200,900
High		165,400	183,400	200,900	216,700	231,100	245,300
JACKSON	46,969						
Low		45,400	44,500	43,400	42,400	41,300	40,200
Medium		47,100	47,600	47,800	48,000	48,100	48,300
High		49,100	50,900	52,600	54,100	55,500	56,800
JEFFERSON	14,776						
Low		14,100	13,900	13,600	13,300	12,900	12,600
Medium		14,800	15,100	15,300	15,400	15,600	15,700
High		15,600	16,400	17,200	17,900	18,600	19,300
LAFAYETTE	8,482						
Low		8,300	8,400	8,400	8,400	8,300	8,200
Medium		8,700	9,100	9,400	9,700	9,900	10,100
High		9,100	9,900	10,600	11,300	11,900	12,600
LAKE	357,247						
Low		347,800	376,000	399,700	417,200	429,500	438,400
Medium		366,600	410,900	450,300	482,700	510,300	534,800
High		384,400	440,400	496,700	546,800	593,400	638,000
LEE	735,148						
Low		714,200	764,600	802,400	829,000	848,300	863,900
Medium		752,800	835,500	904,700	961,400	1,010,900	1,056,600
High		789,400	895,600	997,000	1,086,600	1,171,800	1,257,100
LEON	296,499						
Low		287,600	293,300	296,900	298,400	298,100	296,900
Medium		299,800	314,900	327,500	337,800	346,200	353,700
High		311,600	334,900	357,400	376,300	393,200	409,100
LEVY	41,330						
Low		39,900	39,900	39,700	39,300	38,800	38,200
Medium		41,600	42,700	43,600	44,300	44,900	45,500
High		43,200	45,700	48,000	50,200	52,100	54,000
LIBERTY	8,772						
Low		8,300	8,300	8,300	8,300	8,300	8,200
Medium		8,800	9,100	9,400	9,600	9,900	10,100
High		9,200	9,800	10,500	11,200	11,900	12,500
MADISON	19,570						
Low		18,300	17,900	17,500	17,000	16,600	16,100
Medium		19,200	19,500	19,700	19,800	20,000	20,100
High		20,200	21,100	22,000	23,000	23,800	24,700
MANATEE	387,414						
Low		375,600	397,700	413,500	425,400	435,600	442,900
Medium		395,800	434,600	466,500	493,800	519,200	542,200
High		415,100	465,900	513,800	557,600	601,800	644,500
MARION	360,421						
Low		351,000	365,200	376,500	383,700	388,000	389,700
Medium		365,900	392,100	414,800	432,800	447,900	460,800
High		380,300	416,900	453,100	483,700	511,700	537,000
MARTIN	158,598						
Low		152,400	155,400	156,800	157,100	156,700	155,800
Medium		160,600	169,500	176,900	182,900	188,200	193,000
High		168,500	183,000	196,900	210,000	222,200	234,700

Projections of Florida Population by County, 2020–2045, with Estimates for 2019 (continued)

County and State	Estimates April 1, 2019	Projections, April 1 2020	2025	2030	2035	2040	2045
MIAMI-DADE	2,812,130						
Low		2,734,000	2,815,500	2,873,400	2,917,900	2,938,500	2,944,500
Medium		2,849,900	3,022,600	3,167,900	3,294,700	3,399,200	3,489,900
High		2,961,800	3,214,300	3,458,200	3,679,000	3,875,800	4,057,700
MONROE	76,212						
Low		73,200	71,500	69,800	68,100	66,400	64,700
Medium		76,300	76,500	76,800	77,100	77,400	77,700
High		79,300	81,900	84,500	87,000	89,200	91,400
NASSAU	85,070						
Low		81,600	86,200	89,400	91,200	92,100	92,500
Medium		86,900	95,800	103,100	109,100	114,300	118,900
High		92,100	104,300	116,100	127,200	137,500	148,000
OKALOOSA	201,514						
Low		195,500	199,600	202,500	203,600	203,900	203,900
Medium		203,800	214,300	223,300	230,400	236,600	242,300
High		211,800	227,900	243,700	256,800	269,000	280,900
OKEECHOBEE	41,808						
Low		40,400	40,600	40,400	40,200	39,800	39,400
Medium		42,100	43,400	44,400	45,300	46,000	46,700
High		43,800	46,500	48,900	51,300	53,500	55,700
ORANGE	1,386,080						
Low		1,346,300	1,439,500	1,504,600	1,548,500	1,584,300	1,610,900
Medium		1,418,900	1,573,000	1,696,800	1,797,400	1,888,700	1,972,200
High		1,488,000	1,686,200	1,869,600	2,029,700	2,188,600	2,344,100
OSCEOLA	370,552						
Low		361,000	406,300	442,500	469,700	491,000	508,900
Medium		384,800	452,100	510,200	558,900	602,200	642,600
High		407,000	488,400	568,000	640,700	711,600	783,900
PALM BEACH	1,447,857						
Low		1,406,300	1,441,300	1,465,900	1,483,700	1,494,900	1,497,500
Medium		1,465,800	1,547,200	1,616,500	1,676,600	1,729,500	1,775,200
High		1,523,500	1,645,400	1,764,200	1,870,700	1,971,800	2,063,600
PASCO	527,122						
Low		515,300	545,800	569,400	585,600	597,100	605,200
Medium		537,300	586,100	626,800	659,200	686,700	711,000
High		558,300	623,100	685,200	738,300	787,600	833,900
PINELLAS	978,045						
Low		955,000	962,400	962,500	957,600	953,600	948,200
Medium		984,900	1,014,400	1,035,600	1,051,300	1,066,600	1,080,600
High		1,014,100	1,069,900	1,120,200	1,158,700	1,197,400	1,233,300
POLK	690,606						
Low		668,200	701,500	723,800	737,600	745,000	748,800
Medium		704,100	766,400	817,000	858,000	893,100	924,700
High		738,500	821,700	899,500	966,700	1,029,200	1,089,600
PUTNAM	73,268						
Low		70,400	68,700	66,900	65,300	63,500	61,800
Medium		73,300	73,600	73,700	73,900	74,100	74,300
High		76,300	78,700	81,100	83,400	85,400	87,300
ST. JOHNS	254,412						
Low		247,500	278,000	301,300	318,500	332,400	343,900
Medium		263,900	309,300	347,600	379,400	408,100	434,900
High		279,200	334,200	386,800	434,500	481,800	529,700
ST. LUCIE	309,359						
Low		302,300	319,300	333,800	344,300	352,000	357,600
Medium		315,200	342,900	367,500	387,400	404,400	419,400
High		327,500	364,600	401,700	434,100	464,300	492,800

Projections of Florida Population by County, 2020–2045, with Estimates for 2019 (continued)

County and State	Estimates April 1, 2019	Projections, April 1 2020	2025	2030	2035	2040	2045
SANTA ROSA	179,054						
Low		171,600	179,700	184,800	188,000	189,300	189,500
Medium		182,800	199,600	213,400	225,100	235,100	244,200
High		193,600	217,400	240,100	262,100	282,500	303,400
SARASOTA	426,275						
Low		415,600	433,000	444,200	452,400	459,000	463,900
Medium		433,300	464,900	489,600	510,500	529,400	546,500
High		450,200	494,300	534,600	570,400	605,400	639,200
SEMINOLE	471,735						
Low		459,300	475,700	485,800	493,100	496,900	498,500
Medium		478,800	510,700	535,600	556,900	574,700	590,400
High		497,600	543,100	584,700	621,800	655,400	686,900
SUMTER	128,633						
Low		122,800	134,700	144,600	151,000	155,700	158,800
Medium		132,300	152,300	170,800	185,700	199,100	211,500
High		141,300	167,400	194,500	219,800	245,000	270,800
SUWANNEE	45,423						
Low		44,000	45,100	45,900	46,400	46,500	46,500
Medium		45,900	48,300	50,400	52,100	53,500	54,700
High		47,700	51,700	55,600	59,300	62,500	65,700
TAYLOR	22,458						
Low		21,500	21,300	21,000	20,700	20,300	19,900
Medium		22,600	23,200	23,600	24,000	24,300	24,700
High		23,800	25,100	26,500	27,800	29,200	30,600
UNION	15,505						
Low		14,700	14,300	13,900	13,400	12,900	12,400
Medium		15,500	15,600	15,600	15,700	15,700	15,700
High		16,300	16,900	17,500	18,100	18,600	19,100
VOLUSIA	538,763						
Low		523,000	534,500	540,000	541,900	542,700	542,400
Medium		545,200	573,800	595,800	613,600	629,700	644,700
High		566,600	610,200	650,000	683,300	715,800	747,400
WAKULLA	32,976						
Low		31,600	32,400	33,000	33,100	33,000	32,700
Medium		33,300	35,400	37,200	38,500	39,600	40,600
High		34,900	38,200	41,400	44,300	46,800	49,300
WALTON	70,071						
Low		67,600	73,400	77,700	80,800	83,000	84,800
Medium		72,100	81,500	89,600	96,200	102,200	107,700
High		76,300	88,800	101,000	112,600	123,900	135,700
WASHINGTON	25,387						
Low		23,900	23,800	23,600	23,200	22,800	22,300
Medium		25,200	25,900	26,500	27,000	27,300	27,700
High		26,500	28,100	29,700	31,300	32,700	34,200
FLORIDA	21,208,589						
Low		20,926,300	22,105,500	22,970,200	23,580,900	24,020,900	24,340,400
Medium		21,556,000	23,130,900	24,426,200	25,498,000	26,428,700	27,266,900
High		22,173,900	24,133,900	25,847,700	27,370,100	28,783,400	30,135,700

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Appendix G
Intersection Approach DDHV and Growth Consistency Checks

No Build

I-75 North Corridor Master Plan
No-Build Design Year (2045) Approach Volumes

Map ID	Location	Intersection Leg	Existing Year (2019) AADT	Design Year (2045) No-Build AADT	No-Build Annual Growth Rate	No-Build AM Peak Hour				No-Build PM Peak Hour			
						K	D	Entering Volume	Leaving Volume	K	D	Entering Volume	Leaving Volume
1	Moccasin Wallow Road and Gateway Boulevard	North	3,300	3,800	0.6%	0.14	0.52	269	249	0.12	0.55	248	204
1	Moccasin Wallow Road and Gateway Boulevard	South	5,100	5,800	0.5%	0.13	0.64	276	486	0.07	0.52	205	192
1	Moccasin Wallow Road and Gateway Boulevard	East	14,500	41,000	7.0%	0.09	0.53	1,700	1,942	0.09	0.59	1,506	2,171
1	Moccasin Wallow Road and Gateway Boulevard	West	12,000	38,000	8.3%	0.08	0.57	1,784	1,352	0.09	0.59	1,948	1,340
2	Moccasin Wallow Road and Gillette Drive	North	150	150	0.0%	0.33	0.74	13	37	0.20	0.53	14	16
2	Moccasin Wallow Road and Gillette Drive	East	14,500	41,000	7.0%	0.09	0.53	1,723	1,941	0.09	0.59	1,509	2,172
2	Moccasin Wallow Road and Gillette Drive	West	15,000	41,000	6.7%	0.09	0.53	1,942	1,700	0.09	0.59	2,171	1,506
3	Moccasin Wallow Road and I-75 Southbound Ramps	North	2,800	9,000	8.5%	0.07	1.00	648	0	0.08	1.00	700	0
3	Moccasin Wallow Road and I-75 Southbound Ramps	South	4,800	12,000	5.8%	0.13	1.00	0	1,530	0.08	1.00	0	907
3	Moccasin Wallow Road and I-75 Southbound Ramps	East	17,000	50,000	7.5%	0.09	0.57	2,587	1,923	0.09	0.55	2,012	2,468
3	Moccasin Wallow Road and I-75 Southbound Ramps	West	14,500	41,000	7.0%	0.09	0.53	1,941	1,723	0.09	0.59	2,172	1,509
4	Moccasin Wallow Road and I-75 Northbound Ramps	North	7,300	9,000	0.9%	0.12	1.00	0	1,089	0.11	1.00	0	952
4	Moccasin Wallow Road and I-75 Northbound Ramps	South	2,400	12,000	15.4%	0.07	1.00	811	0	0.11	1.00	1,362	0
4	Moccasin Wallow Road and I-75 Northbound Ramps	East	13,000	57,000	13.0%	0.08	0.60	2,777	1,835	0.09	0.58	2,142	3,008
4	Moccasin Wallow Road and I-75 Northbound Ramps	West	17,000	50,000	7.5%	0.09	0.57	1,923	2,587	0.09	0.55	2,468	2,012
5	Moccasin Wallow Road and Buffalo Road	North	150	150	0.0%	0.26	0.69	12	27	0.33	0.69	34	15
5	Moccasin Wallow Road and Buffalo Road	South	2,900	7,600	6.2%	0.06	0.65	292	159	0.06	0.58	193	268
5	Moccasin Wallow Road and Buffalo Road	East	10,000	55,000	17.3%	0.08	0.59	2,673	1,849	0.09	0.58	2,066	2,876
5	Moccasin Wallow Road and Buffalo Road	West	13,000	57,000	13.0%	0.08	0.60	1,835	2,777	0.09	0.58	3,008	2,142
6	Moccasin Wallow Road and 71st Avenue	South	1,400	1,600	0.5%	0.16	0.67	175	85	0.12	0.57	85	111
6	Moccasin Wallow Road and 71st Avenue	East	9,100	47,500	16.2%	0.10	0.58	2,642	1,915	0.10	0.58	2,061	2,794
6	Moccasin Wallow Road and 71st Avenue	West	10,500	54,500	16.1%	0.08	0.59	1,856	2,673	0.09	0.58	2,825	2,066
7	US 41 and 85th Street	North	24,500	46,000	3.4%	0.08	0.64	2,372	1,331	0.09	0.66	1,353	2,601
7	US 41 and 85th Street	South	42,500	44,000	0.1%	0.09	0.64	1,366	2,402	0.09	0.66	2,626	1,333
7	US 41 and 85th Street	East	1,500	1,700	0.5%	0.15	0.51	126	133	0.14	0.58	103	142
7	US 41 and 85th Street	West	200	250	1.0%	0.16	0.53	21	19	0.18	0.57	19	25
8	US 41 and I-275 Northbound Ramps	North	29,500	44,000	1.9%	0.09	0.64	2,402	1,366	0.09	0.66	1,333	2,626
8	US 41 and I-275 Northbound Ramps	South	31,000	44,500	1.7%	0.08	0.57	1,558	2,098	0.09	0.64	2,567	1,417
8	US 41 and I-275 Northbound Ramps	East	7,600	8,300	0.4%	0.07	1.00	583	0	0.09	1.00	746	0
8	US 41 and I-275 Northbound Ramps	West	3,200	12,000	10.6%	0.09	1.00	0	1,079	0.05	1.00	0	603
9	US 41 and I-275 Southbound Ramps	North	31,000	44,500	1.7%	0.08	0.57	2,098	1,558	0.09	0.64	1,417	2,567
9	US 41 and I-275 Southbound Ramps	South	31,000	44,500	1.7%	0.08	0.52	1,809	1,922	0.09	0.64	2,553	1,463
9	US 41 and I-275 Southbound Ramps	East	3,800	11,000	7.3%	0.09	1.00	0	973	0.08	1.00	0	881
9	US 41 and I-275 Southbound Ramps	West	6,200	10,500	2.7%	0.05	1.00	546	0	0.09	1.00	941	0
10	US 41 and 73rd Street	North	27,000	44,500	2.5%	0.08	0.52	1,922	1,809	0.09	0.64	1,463	2,553
10	US 41 and 73rd Street	South	25,500	42,500	2.6%	0.08	0.59	1,363	1,998	0.09	0.68	2,698	1,290
10	US 41 and 73rd Street	East	12,500	14,500	0.6%	0.09	0.67	909	453	0.09	0.63	492	825
10	US 41 and 73rd Street	West	3,400	6,200	3.2%	0.04	0.62	167	101	0.07	0.52	210	195
11	US 301 and 51st Avenue	North	6,600	17,500	6.4%	0.06	0.58	623	456	0.06	0.51	504	480
11	US 301 and 51st Avenue	South	1,400	1,600	0.5%	0.06	0.62	61	37	0.08	0.66	43	84
11	US 301 and 51st Avenue	East	40,500	47,500	0.7%	0.09	0.56	2,402	1,866	0.09	0.56	1,905	2,386
11	US 301 and 51st Avenue	West	35,500	41,000	0.6%	0.08	0.61	1,357	2,084	0.08	0.57	1,988	1,490
12	US 301 and I-75 Southbound Ramps	North	6,300	9,000	1.6%	0.09	1.00	846	0	0.10	1.00	875	0
12	US 301 and I-75 Southbound Ramps	East	42,500	51,000	0.8%	0.08	0.72	3,075	1,214	0.09	0.51	2,359	2,243
12	US 301 and I-75 Southbound Ramps	West	39,500	47,500	0.8%	0.09	0.56	1,866	2,402	0.09	0.56	2,386	1,905
13	US 301 and I-75 Northbound Ramps	North	6,800	10,000	1.8%	0.06	1.00	0	630	0.06	1.00	0	598
13	US 301 and I-75 Northbound Ramps	East	48,000	54,500	0.5%	0.07	0.64	2,498	1,395	0.09	0.65	1,706	3,210
13	US 301 and I-75 Northbound Ramps	West	43,000	51,000	0.7%	0.08	0.72	1,214	3,075	0.09	0.51	2,243	2,359
14	US 301 and 60th Avenue	North	16,500	19,500	0.7%	0.07	0.67	975	478	0.09	0.58	720	976
14	US 301 and 60th Avenue	South	3,000	3,400	0.5%	0.03	0.67	67	33	0.09	0.62	119	194
14	US 301 and 60th Avenue	East	39,000	41,500	0.2%	0.07	0.60	1,688	1,116	0.09	0.66	1,283	2,456
14	US 301 and 60th Avenue	West	27,500	54,500	3.8%	0.07	0.64	1,395	2,498	0.09	0.65	3,210	1,706
15	US 301 and Kmart Driveway	North	3,200	3,700	0.6%	0.06	0.55	95	116	0.08	0.53	161	145
15	US 301 and Kmart Driveway	South	10	10	0.0%	1.50	0.67	5	10	1.80	0.67	6	12
15	US 301 and Kmart Driveway	East	36,500	39,500	0.3%	0.07	0.61	1,667	1,047	0.09	0.66	1,209	2,356
15	US 301 and Kmart Driveway	West	38,000	41,000	0.3%	0.07	0.61	1,094	1,688	0.09	0.65	2,420	1,283
16	US 301 and 18th Street	South	1,500	1,700	0.5%	0.05	0.85	12	68	0.08	0.63	89	53
16	US 301 and 18th Street	East	37,500	45,000	0.8%	0.06	0.62	1,724	1,048	0.08	0.66	1,248	2,431
16	US 301 and 18th Street	West	36,000	39,500	0.4%	0.07	0.61	1,047	1,667	0.09	0.66	2,356	1,209
17	SR 64 and 62nd Street	North	3,500	4,000	0.5%	0.05	0.79	46	171	0.09	0.79	78	285
17	SR 64 and 62nd Street	South	3,100	3,500	0.5%	0.09	0.53	157	174	0.08	0.50	138	136
17	SR 64 and 62nd Street	East	53,500	67,500	1.0%	0.09	0.57	3,480	2,582	0.09	0.50	3,040	3,009
17	SR 64 and 62nd Street	West	51,000	68,000	1.3%	0.08	0.57	2,499	3,255	0.09	0.51	2,996	2,822
18	SR 64 and 65th Street	North	1,800	2,100	0.6%	0.06	0.72	88	35	0.08	0.55	92	75
18	SR 64 and 65th Street	South	1,300	1,500	0.6%	0.10	0.77	114	34	0.08	0.77	89	27
18	SR 64 and 65th Street	East	50,000	67,500	1.3%	0.09	0.56	3,427	2,662	0.09	0.50	3,023	3,071
18	SR 64 and 65th Street	West	54,500	67,500	0.9%	0.09	0.57	2,582	3,480	0.09	0.50	3,009	3,040
19	SR 64 and 66th Street	North	7,000	8,000	0.5%	0.09	0.56	311	392	0.10	0.52	400	364
19	SR 64 and 66th Street	South	3,700	4,700	1.0%	0.06	0.54	146	122	0.09	0.52	196	215
19	SR 64 and 66th Street	East	49,500	71,000	1.7%	0.09	0.57	3,546	2,724	0.09	0.51	3,157	3,222

I-75 North Corridor Master Plan
No-Build Design Year (2045) Approach Volumes

Map ID	Location	Intersection Leg	Existing Year (2019) AADT	Design Year (2045) No-Build AADT	No-Build Annual Growth Rate	No-Build AM Peak Hour				No-Build PM Peak Hour			
						K	D	Entering Volume	Leaving Volume	K	D	Entering Volume	Leaving Volume
19	SR 64 and 66th Street	West	50,000	67,500	1.3%	0.09	0.56	2,662	3,427	0.09	0.50	3,071	3,023
20	SR 64 and I-75 Southbound Ramps	North	13,000	20,500	2.2%	0.16	0.72	2,342	898	0.10	0.76	1,549	494
20	SR 64 and I-75 Southbound Ramps	South	8,700	21,500	5.7%	0.05	1.00	0	1,063	0.04	1.00	0	865
20	SR 64 and I-75 Southbound Ramps	East	47,500	68,500	1.7%	0.09	0.54	3,200	2,759	0.09	0.52	2,945	3,200
20	SR 64 and I-75 Southbound Ramps	West	54,500	71,000	1.2%	0.09	0.57	2,724	3,546	0.09	0.51	3,222	3,157
21	SR 64 and I-75 Northbound Ramps	North	12,500	19,000	2.0%	0.08	1.00	0	1,547	0.12	1.00	0	2,275
21	SR 64 and I-75 Northbound Ramps	South	15,000	21,000	1.5%	0.07	1.00	1,499	0	0.11	1.00	2,268	0
21	SR 64 and I-75 Northbound Ramps	East	59,500	68,000	0.5%	0.09	0.54	3,233	2,744	0.09	0.52	2,939	3,187
21	SR 64 and I-75 Northbound Ramps	West	52,500	68,500	1.2%	0.09	0.54	2,759	3,200	0.09	0.52	3,200	2,945
22	SR 64 and Grand Harbour Parkway	North	7,200	9,600	1.3%	0.06	0.67	373	180	0.08	0.51	376	393
22	SR 64 and Grand Harbour Parkway	East	46,500	69,000	1.9%	0.08	0.53	2,902	2,606	0.08	0.52	2,679	2,910
22	SR 64 and Grand Harbour Parkway	West	59,500	69,000	0.6%	0.09	0.54	2,744	3,233	0.09	0.52	3,187	2,939
23	SR 70 and Creekwood Boulevard	North	13,500	16,000	0.7%	0.07	0.74	864	304	0.09	0.54	787	659
23	SR 70 and Creekwood Boulevard	South	7,100	8,100	0.5%	0.09	0.68	492	235	0.09	0.59	411	289
23	SR 70 and Creekwood Boulevard	East	55,000	65,500	0.7%	0.09	0.55	2,582	3,129	0.09	0.57	2,519	3,375
23	SR 70 and Creekwood Boulevard	West	56,500	69,000	0.9%	0.07	0.53	2,362	2,632	0.07	0.56	2,824	2,218
24	SR 70 and 73rd Lane	North	5,600	6,400	0.5%	0.05	0.67	104	212	0.08	0.62	206	332
24	SR 70 and 73rd Lane	South	5,200	5,900	0.5%	0.06	0.59	141	201	0.09	0.60	203	302
24	SR 70 and 73rd Lane	East	49,500	69,500	1.6%	0.09	0.53	2,814	3,193	0.09	0.55	2,811	3,442
24	SR 70 and 73rd Lane	West	56,500	65,500	0.6%	0.09	0.55	3,129	2,582	0.09	0.57	3,375	2,519
25	SR 70 and I-75 Southbound Ramps	North	13,000	14,500	0.4%	0.16	0.72	1,617	635	0.13	0.64	1,237	684
25	SR 70 and I-75 Southbound Ramps	South	9,000	16,000	3.0%	0.07	1.00	0	1,194	0.06	1.00	0	917
25	SR 70 and I-75 Southbound Ramps	East	52,000	68,000	1.2%	0.08	0.52	2,565	2,732	0.09	0.52	2,926	3,193
25	SR 70 and I-75 Southbound Ramps	West	59,000	69,500	0.7%	0.09	0.53	3,193	2,814	0.09	0.55	3,442	2,811
26	SR 70 and I-75 Northbound Ramps	North	12,500	14,500	0.6%	0.08	1.00	0	1,166	0.11	1.00	0	1,657
26	SR 70 and I-75 Northbound Ramps	South	13,000	14,000	0.3%	0.09	1.00	1,282	0	0.09	1.00	1,282	0
26	SR 70 and I-75 Northbound Ramps	East	53,500	67,000	1.0%	0.08	0.53	2,650	2,933	0.09	0.51	3,063	2,955
26	SR 70 and I-75 Northbound Ramps	West	64,000	68,000	0.2%	0.08	0.52	2,732	2,565	0.09	0.52	3,193	2,926
27	SR 70 and Lena Road	North	3,700	4,200	0.5%	0.11	0.71	134	322	0.09	0.51	198	190
27	SR 70 and Lena Road	South	6,300	7,200	0.5%	0.04	0.85	40	226	0.09	0.68	212	461
27	SR 70 and Lena Road	East	51,500	61,000	0.7%	0.08	0.51	2,562	2,471	0.09	0.53	2,925	2,576
27	SR 70 and Lena Road	West	53,500	67,000	1.0%	0.08	0.53	2,933	2,650	0.09	0.51	2,955	3,063
28	SR 70 and 87th Street	North	4,700	9,600	4.0%	0.05	0.60	267	176	0.06	0.58	331	243
28	SR 70 and 87th Street	South	12,500	14,500	0.6%	0.05	0.51	350	363	0.09	0.62	808	500
28	SR 70 and 87th Street	East	44,500	56,000	1.0%	0.09	0.50	2,426	2,413	0.09	0.50	2,506	2,553
28	SR 70 and 87th Street	West	50,500	61,000	0.8%	0.08	0.51	2,471	2,562	0.09	0.53	2,576	2,925
29	Tara Boulevard and 55th Avenue	North	7,200	8,100	0.5%	0.09	0.68	235	492	0.09	0.59	289	411
29	Tara Boulevard and 55th Avenue	South	6,900	7,900	0.6%	0.09	0.66	454	235	0.07	0.51	299	289
29	Tara Boulevard and 55th Avenue	East	1,500	1,700	0.5%	0.05	0.71	64	26	0.09	0.88	129	17
30	Creekwook Boulevard at CVS	North	12,500	15,000	0.8%	0.07	0.69	678	304	0.09	0.50	672	659
30	Creekwook Boulevard at CVS	South	13,500	16,000	0.7%	0.07	0.74	304	864	0.09	0.54	659	787
30	Creekwook Boulevard at CVS	West	2,400	2,700	0.5%	0.09	0.89	213	27	0.07	0.81	151	36
31	Creekwood Boulevard and 52nd Place	North	8,300	9,900	0.7%	0.07	0.73	474	177	0.08	0.61	321	505
31	Creekwood Boulevard and 52nd Place	South	12,500	15,000	0.8%	0.07	0.69	304	678	0.09	0.50	659	672
31	Creekwood Boulevard and 52nd Place	East	6,900	7,900	0.6%	0.05	0.55	228	183	0.09	0.65	457	249
31	Creekwood Boulevard and 52nd Place	West	1,600	1,800	0.5%	0.06	0.64	74	42	0.09	0.53	74	85
32	University Parkway and Cooper Creek Boulevard/Cattlemen Road	North	25,000	29,000	0.6%	0.06	0.57	773	1,026	0.09	0.53	1,238	1,370
32	University Parkway and Cooper Creek Boulevard/Cattlemen Road	South	24,000	28,000	0.6%	0.05	0.51	671	648	0.09	0.58	1,473	1,057
32	University Parkway and Cooper Creek Boulevard/Cattlemen Road	East	69,000	97,000	1.6%	0.09	0.51	4,221	4,309	0.09	0.50	4,370	4,342
32	University Parkway and Cooper Creek Boulevard/Cattlemen Road	West	63,000	78,000	0.9%	0.08	0.52	3,387	3,069	0.08	0.52	3,000	3,312
33	University Parkway and I-75 Southbound Ramps	North	17,500	19,000	0.3%	0.12	1.00	2,219	0	0.08	1.00	1,506	0
33	University Parkway and I-75 Southbound Ramps	South	22,000	26,000	0.7%	0.10	1.00	0	2,583	0.10	1.00	0	2,697
33	University Parkway and I-75 Southbound Ramps	East	76,000	90,500	0.7%	0.09	0.52	4,220	3,944	0.09	0.57	4,690	3,471
33	University Parkway and I-75 Southbound Ramps	West	69,000	97,000	1.6%	0.09	0.51	4,309	4,221	0.09	0.50	4,342	4,370
34	University Parkway and I-75 Northbound Ramps	North	17,500	19,000	0.3%	0.07	1.00	0	1,401	0.12	1.00	0	2,209
34	University Parkway and I-75 Northbound Ramps	South	21,000	25,500	0.8%	0.11	1.00	2,843	0	0.10	1.00	2,591	0
34	University Parkway and I-75 Northbound Ramps	East	54,500	88,500	2.4%	0.09	0.57	3,410	4,576	0.09	0.55	4,331	3,494
34	University Parkway and I-75 Northbound Ramps	West	73,000	90,500	0.9%	0.09	0.52	3,944	4,220	0.09	0.57	3,471	4,690
35	University Parkway and Lake Osprey Drive	North	18,500	25,000	1.4%	0.08	0.51	1,059	1,033	0.08	0.56	1,098	848
35	University Parkway and Lake Osprey Drive	South	9,500	15,000	2.2%	0.07	0.76	259	830	0.08	0.66	781	408
35	University Parkway and Lake Osprey Drive	East	39,000	51,000	1.2%	0.11	0.56	2,489	3,110	0.11	0.52	2,916	2,702
35	University Parkway and Lake Osprey Drive	West	54,500	88,500	2.4%	0.09	0.57	4,576	3,410	0.09	0.55	3,494	4,331
36	University Parkway and Lawrence Building Driveway	South	550	600	0.3%	0.11	0.90	6	57	0.08	0.65	31	17
36	University Parkway and Lawrence Building Driveway	East	48,000	62,500	1.2%	0.09	0.55	2,501	3,071	0.09	0.52	2,921	2,721
36	University Parkway and Lawrence Building Driveway	West	39,000	62,500	2.3%	0.09	0.56	3,110	2,489	0.09	0.52	2,702	2,916
37	University Parkway and Town Center Parkway	North	8,600	11,500	1.3%	0.09	0.53	504	572	0.11	0.62	759	467
37	University Parkway and Town Center Parkway	South	4,200	4,600	0.4%	0.08	0.91	30	321	0.11	0.85	432	75
37	University Parkway and Town Center Parkway	East	34,500	54,000	2.2%	0.08	0.52	2,106	2,317	0.08	0.55	1,876	2,325
37	University Parkway and Town Center Parkway	West	49,000	62,500	1.1%	0.09	0.55	3,071	2,501	0.09	0.52	2,721	2,921
38	Cattlemen Road and University Town Center Drive	North	24,500	28,000	0.5%	0.05	0.51	648	671	0.09	0.58	1,057	1,473

I-75 North Corridor Master Plan
No-Build Design Year (2045) Approach Volumes

Map ID	Location	Intersection Leg	Existing Year (2019) AADT	Design Year (2045) No-Build AADT	No-Build Annual Growth Rate	No-Build AM Peak Hour				No-Build PM Peak Hour			
						K	D	Entering Volume	Leaving Volume	K	D	Entering Volume	Leaving Volume
38	Cattlemen Road and University Town Center Drive	South	14,500	19,000	1.2%	0.06	0.57	669	512	0.08	0.63	982	584
38	Cattlemen Road and University Town Center Drive	East	8,400	9,100	0.3%	0.02	0.84	24	125	0.09	0.63	302	511
38	Cattlemen Road and University Town Center Drive	West	4,500	4,900	0.3%	0.02	0.67	32	65	0.08	0.79	312	85
39	Cooper Creek Boulevard and Tourist Center Drive	North	19,500	21,500	0.4%	0.07	0.56	681	873	0.09	0.55	1,113	915
39	Cooper Creek Boulevard and Tourist Center Drive	South	25,000	29,000	0.6%	0.06	0.57	1,026	773	0.09	0.53	1,370	1,238
39	Cooper Creek Boulevard and Tourist Center Drive	East	4,000	4,600	0.6%	0.02	0.93	5	65	0.09	0.96	17	390
39	Cooper Creek Boulevard and Tourist Center Drive	West	4,500	5,100	0.5%	0.05	0.50	135	136	0.09	0.55	247	204
40	SR 780 Fruitville Road and Cattlemen Road	North	29,500	37,500	1.0%	0.08	0.58	1,274	1,791	0.09	0.55	1,429	1,772
40	SR 780 Fruitville Road and Cattlemen Road	South	24,500	36,500	1.9%	0.07	0.51	1,265	1,309	0.08	0.61	1,717	1,088
40	SR 780 Fruitville Road and Cattlemen Road	East	68,500	92,500	1.3%	0.09	0.61	4,868	3,134	0.09	0.56	3,652	4,683
40	SR 780 Fruitville Road and Cattlemen Road	West	64,000	77,500	0.8%	0.08	0.59	2,599	3,772	0.09	0.55	3,867	3,122
41	SR 780 Fruitville Road and I-75 Southbound Ramps	North	21,000	23,000	0.4%	0.13	1.00	2,912	0	0.08	1.00	1,904	0
41	SR 780 Fruitville Road and I-75 Southbound Ramps	South	11,500	22,000	3.5%	0.07	1.00	0	1,572	0.11	1.00	0	2,439
41	SR 780 Fruitville Road and I-75 Southbound Ramps	East	51,500	72,500	1.6%	0.08	0.53	3,157	2,763	0.09	0.54	3,023	3,519
41	SR 780 Fruitville Road and I-75 Southbound Ramps	West	68,500	92,500	1.3%	0.09	0.61	3,134	4,868	0.09	0.56	4,683	3,652
42	SR 780 Fruitville Road and I-75 Northbound Ramps	North	5,600	24,000	12.6%	0.08	1.00	0	1,907	0.12	1.00	0	2,827
42	SR 780 Fruitville Road and I-75 Northbound Ramps	South	15,500	21,500	1.5%	0.12	1.00	2,535	0	0.08	1.00	1,622	0
42	SR 780 Fruitville Road and I-75 Northbound Ramps	East	36,500	59,000	2.4%	0.08	0.52	2,325	2,559	0.09	0.57	3,011	2,302
42	SR 780 Fruitville Road and I-75 Northbound Ramps	West	52,000	72,500	1.5%	0.08	0.53	2,763	3,157	0.09	0.54	3,519	3,023
43	SR 780 Fruitville Road and Coburn Road West	North	2,500	2,700	0.3%	0.01	0.74	26	9	0.02	0.92	57	5
43	SR 780 Fruitville Road and Coburn Road West	East	36,500	58,500	2.3%	0.08	0.53	2,308	2,559	0.09	0.56	2,959	2,302
43	SR 780 Fruitville Road and Coburn Road West	West	36,500	59,000	2.4%	0.08	0.52	2,559	2,325	0.09	0.57	2,302	3,011
44	SR 780 Fruitville Road and Coburn Road East	North	0	16,000	NA	0.05	0.50	420	421	0.08	0.61	788	501
44	SR 780 Fruitville Road and Coburn Road East	South	10,500	11,500	0.4%	0.09	0.59	436	635	0.08	0.70	663	289
44	SR 780 Fruitville Road and Coburn Road East	East	30,500	51,000	2.6%	0.08	0.51	1,998	2,049	0.08	0.50	2,155	2,159
44	SR 780 Fruitville Road and Coburn Road East	West	36,000	58,500	2.4%	0.08	0.53	2,559	2,308	0.09	0.56	2,302	2,959
45	SR 758 Bee Ridge Road and Maxfield Drive	North	6,500	7,100	0.4%	0.07	0.53	247	216	0.08	0.67	387	189
45	SR 758 Bee Ridge Road and Maxfield Drive	South	7,000	7,600	0.3%	0.04	0.61	177	114	0.09	0.52	316	344
45	SR 758 Bee Ridge Road and Maxfield Drive	East	37,000	42,500	0.6%	0.08	0.60	2,065	1,390	0.09	0.57	1,650	2,173
45	SR 758 Bee Ridge Road and Maxfield Drive	West	37,500	44,500	0.7%	0.08	0.61	1,359	2,128	0.09	0.54	2,171	1,818
46	SR 758 Bee Ridge Road at Publix	North	1,000	1,300	1.2%	0.08	0.75	25	75	0.06	0.58	32	44
46	SR 758 Bee Ridge Road at Publix	South	3,900	15,000	10.9%	0.03	0.67	252	125	0.01	0.57	123	94
46	SR 758 Bee Ridge Road at Publix	East	37,700	43,000	0.5%	0.08	0.58	2,115	1,517	0.09	0.57	1,662	2,202
46	SR 758 Bee Ridge Road at Publix	West	37,400	42,500	0.5%	0.08	0.60	1,390	2,065	0.09	0.57	2,173	1,650
47	SR 758 Bee Ridge Road and Cattlemen Road	North	29,000	32,000	0.4%	0.09	0.64	1,044	1,839	0.09	0.61	1,677	1,087
47	SR 758 Bee Ridge Road and Cattlemen Road	South	28,500	30,000	0.2%	0.06	0.61	1,159	733	0.07	0.50	1,085	1,066
47	SR 758 Bee Ridge Road and Cattlemen Road	East	53,000	59,000	0.4%	0.09	0.59	3,148	2,181	0.09	0.61	2,057	3,206
47	SR 758 Bee Ridge Road and Cattlemen Road	West	41,000	43,000	0.2%	0.08	0.58	1,517	2,115	0.09	0.57	2,202	1,662
48	SR 758 Bee Ridge Road and I-75 Southbound Ramps	North	15,000	20,000	1.3%	0.04	1.00	801	0	0.05	1.00	950	0
48	SR 758 Bee Ridge Road and I-75 Southbound Ramps	South	9,500	12,000	1.0%	0.08	1.00	0	961	0.12	1.00	0	1,430
48	SR 758 Bee Ridge Road and I-75 Southbound Ramps	East	41,500	50,000	0.8%	0.09	0.55	2,490	2,032	0.09	0.62	1,684	2,797
48	SR 758 Bee Ridge Road and I-75 Southbound Ramps	West	53,000	53,500	0.0%	0.09	0.53	2,181	2,479	0.09	0.67	3,206	1,613
49	SR 758 Bee Ridge Road and I-75 Northbound Ramps	North	4,100	18,500	13.5%	0.09	1.00	0	1,638	0.08	1.00	0	1,478
49	SR 758 Bee Ridge Road and I-75 Northbound Ramps	South	9,700	10,500	0.3%	0.12	1.00	1,275	0	0.09	1.00	908	0
49	SR 758 Bee Ridge Road and I-75 Northbound Ramps	East	32,000	41,500	1.1%	0.09	0.61	2,280	1,459	0.09	0.58	1,538	2,081
49	SR 758 Bee Ridge Road and I-75 Northbound Ramps	West	40,500	50,000	0.9%	0.09	0.55	2,032	2,490	0.09	0.62	2,797	1,684
50	SR 758 Bee Ridge Road and Mauna Loa Boulevard	North	7,200	7,800	0.3%	0.10	0.53	395	356	0.10	0.64	473	271
50	SR 758 Bee Ridge Road and Mauna Loa Boulevard	South	7,500	9,300	0.9%	0.08	0.72	546	211	0.09	0.63	305	528
50	SR 758 Bee Ridge Road and Mauna Loa Boulevard	East	19,500	39,500	3.9%	0.07	0.59	1,532	1,085	0.07	0.60	1,024	1,546
50	SR 758 Bee Ridge Road and Mauna Loa Boulevard	West	32,000	41,500	1.1%	0.09	0.61	1,459	2,280	0.09	0.58	2,081	1,538
51	Cattlemen Road and Cattleridge Boulevard	North	26,000	29,000	0.4%	0.09	0.59	1,085	1,553	0.09	0.56	1,484	1,143
51	Cattlemen Road and Cattleridge Boulevard	South	29,000	32,000	0.4%	0.09	0.64	1,839	1,044	0.09	0.61	1,087	1,677
51	Cattlemen Road and Cattleridge Boulevard	East	4,300	4,700	0.4%	0.08	0.74	96	270	0.10	0.69	325	145
51	Cattlemen Road and Cattleridge Boulevard	West	5,400	5,900	0.4%	0.09	0.64	201	354	0.08	0.57	273	204
52	SR 72 Clark Road and Gantt Road	North	11,500	12,500	0.3%	0.10	0.60	718	482	0.09	0.56	603	473
52	SR 72 Clark Road and Gantt Road	South	4,900	5,300	0.3%	0.09	0.53	218	248	0.09	0.72	354	140
52	SR 72 Clark Road and Gantt Road	East	53,000	61,500	0.6%	0.09	0.58	3,176	2,303	0.09	0.61	2,132	3,401
52	SR 72 Clark Road and Gantt Road	West	57,000	66,000	0.6%	0.08	0.60	2,117	3,196	0.08	0.59	3,160	2,235
53	SR 72 Clark Road at Burger King/Waffle House	North	2,900	3,200	0.4%	0.10	0.58	182	130	0.06	0.60	73	111
53	SR 72 Clark Road at Burger King/Waffle House	South	2,900	3,200	0.4%	0.10	0.54	143	171	0.05	0.59	96	67
53	SR 72 Clark Road at Burger King/Waffle House	East	51,900	62,000	0.7%	0.09	0.58	3,124	2,275	0.09	0.61	2,170	3,430
53	SR 72 Clark Road at Burger King/Waffle House	West	51,200	61,500	0.8%	0.09	0.58	2,303	3,176	0.09	0.61	3,401	2,132
54	SR 72 Clark Road and Catamaran Drive	North	1,800	2,000	0.4%	0.09	0.63	68	114	0.07	0.50	73	74
54	SR 72 Clark Road and Catamaran Drive	South	3,600	3,900	0.3%	0.08	0.64	210	120	0.11	0.53	204	226
54	SR 72 Clark Road and Catamaran Drive	East	54,000	65,000	0.8%	0.09	0.57	3,204	2,399	0.09	0.61	2,316	3,553
54	SR 72 Clark Road and Catamaran Drive	West	52,000	62,000	0.7%	0.09	0.58	2,275	3,124	0.09	0.61	3,430	2,170
55	SR 72 Clark Road and I-75 Southbound Ramps	North	18,000	18,000	0.0%	0.12	1.00	2,177	0	0.09	1.00	1,691	0
55	SR 72 Clark Road and I-75 Southbound Ramps	South	8,400	9,700	0.6%	0.09	1.00	0	825	0.11	1.00	0	1,092
55	SR 72 Clark Road and I-75 Southbound Ramps	East	36,500	45,500	0.9%	0.08	0.57	1,625	2,172	0.09	0.72	1,127	2,963
55	SR 72 Clark Road and I-75 Southbound Ramps	West	54,000	65,000	0.8%	0.09	0.57	2,399	3,204	0.09	0.61	3,553	2,316

I-75 North Corridor Master Plan
No-Build Design Year (2045) Approach Volumes

Map ID	Location	Intersection Leg	Existing Year (2019) AADT	Design Year (2045) No-Build AADT	No-Build Annual Growth Rate	No-Build AM Peak Hour				No-Build PM Peak Hour			
						K	D	Entering Volume	Leaving Volume	K	D	Entering Volume	Leaving Volume
56	SR 72 Clark Road and I-75 Northbound Ramps	North	17,500	21,500	0.9%	0.08	1.00	0	1,665	0.10	1.00	0	2,120
56	SR 72 Clark Road and I-75 Northbound Ramps	South	8,300	9,600	0.6%	0.12	1.00	1,149	0	0.08	1.00	773	0
56	SR 72 Clark Road and I-75 Northbound Ramps	East	19,500	23,000	0.7%	0.09	0.51	1,016	1,047	0.09	0.62	774	1,263
56	SR 72 Clark Road and I-75 Northbound Ramps	West	37,000	45,500	0.9%	0.08	0.57	2,172	1,625	0.09	0.72	2,963	1,127
57	SR 72 Clark Road and Queensbury Boulevard	North	1,200	1,300	0.3%	0.06	0.59	47	33	0.08	0.55	45	54
57	SR 72 Clark Road and Queensbury Boulevard	South	400	450	0.5%	0.22	0.87	13	85	0.09	0.51	19	20
57	SR 72 Clark Road and Queensbury Boulevard	East	18,500	23,000	0.9%	0.09	0.51	1,050	1,023	0.08	0.62	734	1,213
57	SR 72 Clark Road and Queensbury Boulevard	West	19,500	23,000	0.7%	0.09	0.51	1,047	1,016	0.09	0.62	1,263	774
58	SR 72 Clark Road and Hummingbird Avenue	South	1,600	1,900	0.7%	0.09	0.70	123	52	0.08	0.61	60	95
58	SR 72 Clark Road and Hummingbird Avenue	East	17,000	19,500	0.6%	0.10	0.51	942	986	0.09	0.62	684	1,128
58	SR 72 Clark Road and Hummingbird Avenue	West	18,500	23,000	0.9%	0.09	0.51	1,023	1,050	0.08	0.62	1,213	734
59	SR 681 at Honore Avenue	North	6,400	11,000	2.8%	0.18	0.56	1,112	865	0.19	0.57	893	1,169
59	SR 681 at Honore Avenue	South	4,600	7,400	2.3%	0.24	0.54	819	951	0.25	0.54	1,011	861
59	SR 681 at Honore Avenue	East	17,000	17,500	0.1%	0.05	0.61	540	345	0.05	0.58	357	487
59	SR 681 at Honore Avenue	West	16,500	20,900	1.0%	0.06	0.63	436	746	0.06	0.61	728	472
60	Laurel Road and Twin Laurel Boulevard	North	80	90	0.5%	0.34	0.65	11	20	0.38	0.59	14	20
60	Laurel Road and Twin Laurel Boulevard	South	16,000	17,500	0.4%	0.01	0.58	84	118	0.03	0.53	213	240
60	Laurel Road and Twin Laurel Boulevard	East	15,500	20,000	1.1%	0.09	0.58	1,028	737	0.09	0.53	854	947
60	Laurel Road and Twin Laurel Boulevard	West	15,500	17,500	0.5%	0.10	0.57	743	991	0.10	0.54	944	818
61	Laurel Road at McDonald's	South	1,700	2,000	0.7%	0.09	0.83	147	31	0.04	0.80	57	14
61	Laurel Road at McDonald's	East	16,400	21,000	1.1%	0.09	0.55	1,028	853	0.09	0.54	854	990
61	Laurel Road at McDonald's	West	15,300	20,000	1.2%	0.09	0.58	737	1,028	0.09	0.53	947	854
62	Laurel Road and Pinebrook Road	North	5,000	7,800	2.2%	0.09	0.56	306	394	0.09	0.61	415	270
62	Laurel Road and Pinebrook Road	South	10,500	21,000	3.8%	0.07	0.59	839	572	0.07	0.66	518	994
62	Laurel Road and Pinebrook Road	East	24,500	32,500	1.3%	0.09	0.50	1,418	1,422	0.09	0.53	1,569	1,374
62	Laurel Road and Pinebrook Road	West	17,000	21,000	0.9%	0.09	0.55	853	1,028	0.09	0.54	990	854
63	Laurel Road and I-75 Southbound Ramps	North	5,500	6,600	0.8%	0.08	1.00	547	0	0.11	1.00	732	0
63	Laurel Road and I-75 Southbound Ramps	South	7,200	10,000	1.5%	0.08	1.00	0	814	0.12	1.00	0	1,227
63	Laurel Road and I-75 Southbound Ramps	East	19,500	30,500	2.2%	0.09	0.55	1,503	1,240	0.09	0.63	1,666	976
63	Laurel Road and I-75 Southbound Ramps	West	24,500	32,500	1.3%	0.09	0.50	1,422	1,418	0.09	0.53	1,374	1,569
64	Laurel Road and I-75 Northbound Ramps	North	5,200	6,300	0.8%	0.13	1.00	0	810	0.09	1.00	0	552
64	Laurel Road and I-75 Northbound Ramps	South	6,600	9,600	1.7%	0.12	1.00	1,183	0	0.07	1.00	666	0
64	Laurel Road and I-75 Northbound Ramps	East	18,500	29,000	2.2%	0.08	0.52	1,158	1,268	0.09	0.61	1,596	1,020
64	Laurel Road and I-75 Northbound Ramps	West	19,500	30,500	2.2%	0.09	0.55	1,240	1,503	0.09	0.63	976	1,666
65	Laurel Road and Discovery Way	North	2,200	2,400	0.3%	0.05	0.74	87	31	0.10	0.88	220	30
65	Laurel Road and Discovery Way	East	15,500	27,000	2.9%	0.09	0.54	1,102	1,268	0.09	0.58	1,406	1,020
65	Laurel Road and Discovery Way	West	16,000	29,000	3.1%	0.08	0.52	1,268	1,158	0.09	0.61	1,020	1,596
66	Laurel Road and Haul Road	North	13,000	33,500	6.1%	0.07	0.66	790	1,545	0.07	0.63	1,451	844
66	Laurel Road and Haul Road	South	750	800	0.3%	0.08	0.55	36	29	0.12	0.59	40	57
66	Laurel Road and Haul Road	East	5,500	15,000	6.6%	0.06	0.81	768	186	0.07	0.60	388	592
66	Laurel Road and Haul Road	West	15,500	27,000	2.9%	0.09	0.54	1,268	1,102	0.09	0.58	1,020	1,406
67	Jacaranda Boulevard and Commerce Drive	North	5,900	9,900	2.6%	0.08	0.51	408	398	0.08	0.53	376	425
67	Jacaranda Boulevard and Commerce Drive	South	10,500	14,000	1.3%	0.09	0.55	703	570	0.08	0.58	490	667
67	Jacaranda Boulevard and Commerce Drive	East	4,300	4,700	0.4%	0.11	0.63	194	337	0.09	0.76	331	105
68	Jacaranda Boulevard and I-75 Northbound Ramps	North	10,500	14,000	1.3%	0.09	0.55	570	703	0.08	0.58	667	490
68	Jacaranda Boulevard and I-75 Northbound Ramps	South	14,000	31,000	4.7%	0.09	0.61	1,713	1,096	0.07	0.54	1,200	1,008
68	Jacaranda Boulevard and I-75 Northbound Ramps	East	5,600	9,600	2.7%	0.24	0.58	957	1,309	0.15	0.59	592	843
68	Jacaranda Boulevard and I-75 Northbound Ramps	West	800	11,500	51.4%	0.01	1.00	0	132	0.01	1.00	0	118
69	Jacaranda Boulevard and I-75 Southbound Ramps	North	23,500	31,000	1.2%	0.09	0.61	1,096	1,713	0.07	0.54	1,008	1,200
69	Jacaranda Boulevard and I-75 Southbound Ramps	South	34,000	44,000	1.1%	0.09	0.54	2,133	1,839	0.09	0.52	1,908	2,057
69	Jacaranda Boulevard and I-75 Southbound Ramps	East	5,800	8,400	1.7%	0.07	1.00	0	615	0.12	1.00	0	975
69	Jacaranda Boulevard and I-75 Southbound Ramps	West	9,100	11,000	0.8%	0.09	1.00	938	0	0.12	1.00	1,316	0
70	Jacaranda Boulevard and Executive Drive	North	34,000	44,000	1.1%	0.09	0.54	1,839	2,133	0.09	0.52	2,057	1,908
70	Jacaranda Boulevard and Executive Drive	South	29,500	36,000	0.8%	0.09	0.55	1,765	1,448	0.09	0.54	1,493	1,750
70	Jacaranda Boulevard and Executive Drive	East	8,400	10,500	1.0%	0.12	0.55	688	569	0.12	0.52	668	605
70	Jacaranda Boulevard and Executive Drive	West	8,000	8,700	0.3%	0.08	0.61	256	398	0.09	0.53	416	371
71	Jacaranda Boulevard and Oak Heritage Drive	North	29,500	36,000	0.8%	0.09	0.55	1,448	1,765	0.09	0.54	1,750	1,493
71	Jacaranda Boulevard and Oak Heritage Drive	South	31,000	36,000	0.6%	0.09	0.55	1,787	1,454	0.09	0.53	1,523	1,751
71	Jacaranda Boulevard and Oak Heritage Drive	East	500	550	0.4%	0.07	0.83	7	34	0.07	0.85	6	33
71	Jacaranda Boulevard and Oak Heritage Drive	West	500	550	0.4%	0.06	0.68	21	10	0.06	0.53	16	18
72	N River Road and I-75 Northbound Ramps	South	1,900	5,900	8.1%	0.28	0.66	1,071	562	0.18	0.63	682	396
72	N River Road and I-75 Northbound Ramps	East	1900	6,200	8.7%	0.09	1.00	562	0	0.06	1.00	396	0
72	N River Road and I-75 Northbound Ramps	West	8100	12,000	1.9%	0.09	1.00	0	1,071	0.06	1.00	0	682
73	N River Road and I-75 Southbound Ramps	North	12,400	18,000	1.7%	0.09	0.66	562	1,071	0.06	0.63	396	682
73	N River Road and I-75 Southbound Ramps	South	19,800	31,000	2.2%	0.09	0.53	1,468	1,304	0.09	0.55	1,256	1,515
73	N River Road and I-75 Southbound Ramps	East	2000	5,500	6.7%	0.07	1.00	0	397	0.10	1.00	0	574
73	N River Road and I-75 Southbound Ramps	West	8000	8,700	0.3%	0.09	1.00	742	0	0.13	1.00	1,119	0
74	N River Road at Subdivision Entrance	North	19,500	31,000	2.3%	0.09	0.53	1,304	1,468	0.09	0.55	1,515	1,256
74	N River Road at Subdivision Entrance	South	19,500	31,000	2.3%	0.09	0.53	1,468	1,300	0.09	0.54	1,256	1,480
74	N River Road at Subdivision Entrance	West	200	200	0.0%	0.09	0.61	7	11	0.23	0.89	5	40

I-75 North Corridor Master Plan
No-Build Design Year (2045) Approach Volumes

Map ID	Location	Intersection Leg	Existing Year (2019) AADT	Design Year (2045) No-Build AADT	No-Build Annual Growth Rate	No-Build AM Peak Hour				No-Build PM Peak Hour			
						K	D	Entering Volume	Leaving Volume	K	D	Entering Volume	Leaving Volume
75	N River Road and Venice Avenue	North	19,500	31,000	2.3%	0.09	0.53	1,300	1,468	0.09	0.54	1,480	1,256
75	N River Road and Venice Avenue	South	22,500	27,000	0.8%	0.09	0.60	1,429	970	0.10	0.61	1,039	1,632
75	N River Road and Venice Avenue	East	350	400	0.5%	0.11	0.51	22	23	0.17	0.54	36	31
75	N River Road and Venice Avenue	West	6,400	12,500	3.7%	0.10	0.61	507	797	0.10	0.65	796	432

Build

I-75 North Corridor Master Plan
Build Design Year (2045) Approach Volumes

Map ID	Location	Intersection Leg	Existing Year (2019) AADT	Design Year (2045) Build AADT	Build Annual Growth Rate	Build AM Peak Hour				Build PM Peak Hour			
						K	D	Entering Volume	Leaving Volume	K	D	Entering Volume	Leaving Volume
1	Moccasin Wallow Road and Gateway Boulevard	North	3,300	3,800	0.6%	0.15	0.53	304	271	0.13	0.51	255	244
1	Moccasin Wallow Road and Gateway Boulevard	South	5,100	5,800	0.5%	0.14	0.64	291	507	0.07	0.50	206	209
1	Moccasin Wallow Road and Gateway Boulevard	East	14,500	43,500	7.7%	0.09	0.56	1,726	2,174	0.09	0.59	1,579	2,318
1	Moccasin Wallow Road and Gateway Boulevard	West	12,000	38,500	8.5%	0.09	0.59	1,989	1,358	0.09	0.61	2,099	1,368
2	Moccasin Wallow Road and Gillette Drive	North	150	150	0.0%	0.37	0.75	14	42	0.24	0.58	15	21
2	Moccasin Wallow Road and Gillette Drive	East	14,500	43,500	7.7%	0.09	0.55	1,754	2,174	0.09	0.59	1,587	2,320
2	Moccasin Wallow Road and Gillette Drive	West	15,000	43,500	7.3%	0.09	0.56	2,174	1,726	0.09	0.59	2,318	1,579
3	Moccasin Wallow Road and I-75 Southbound Ramps	North	2,800	9,000	8.5%	0.07	1.00	650	0	0.08	1.00	705	0
3	Moccasin Wallow Road and I-75 Southbound Ramps	South	4,800	15,000	8.2%	0.12	1.00	0	1,838	0.07	1.00	0	1,073
3	Moccasin Wallow Road and I-75 Southbound Ramps	East	17,000	53,000	8.1%	0.09	0.58	2,778	2,010	0.09	0.54	2,164	2,529
3	Moccasin Wallow Road and I-75 Southbound Ramps	West	14,500	43,500	7.7%	0.09	0.55	2,174	1,754	0.09	0.59	2,320	1,587
4	Moccasin Wallow Road and I-75 Northbound Ramps	North	7,300	9,000	0.9%	0.13	1.00	0	1,147	0.11	1.00	0	1,006
4	Moccasin Wallow Road and I-75 Northbound Ramps	South	2,400	15,000	20.2%	0.06	1.00	912	0	0.11	1.00	1,661	0
4	Moccasin Wallow Road and I-75 Northbound Ramps	East	13,000	60,500	14.1%	0.08	0.60	2,943	1,940	0.09	0.59	2,216	3,236
4	Moccasin Wallow Road and I-75 Northbound Ramps	West	17,000	53,000	8.1%	0.09	0.58	2,010	2,778	0.09	0.54	2,529	2,164
5	Moccasin Wallow Road and Buffalo Road	North	150	150	0.0%	0.29	0.73	12	32	0.36	0.65	35	19
5	Moccasin Wallow Road and Buffalo Road	South	2,900	7,600	6.2%	0.07	0.65	324	173	0.08	0.64	211	372
5	Moccasin Wallow Road and Buffalo Road	East	10,000	57,000	18.1%	0.08	0.59	2,812	1,940	0.09	0.59	2,121	2,996
5	Moccasin Wallow Road and Buffalo Road	West	13,000	60,500	14.1%	0.08	0.60	1,940	2,943	0.09	0.59	3,236	2,216
6	Moccasin Wallow Road and 71st Avenue	South	1,400	1,600	0.5%	0.18	0.69	194	87	0.14	0.60	90	137
6	Moccasin Wallow Road and 71st Avenue	East	9,100	47,500	16.2%	0.10	0.58	2,762	1,998	0.10	0.58	2,111	2,861
6	Moccasin Wallow Road and 71st Avenue	West	10,500	56,000	16.7%	0.08	0.59	1,941	2,812	0.09	0.58	2,918	2,121
7	US 41 and 85th Street	North	24,500	51,500	4.2%	0.09	0.65	2,907	1,549	0.09	0.64	1,565	2,817
7	US 41 and 85th Street	South	42,500	50,000	0.7%	0.09	0.65	1,577	2,938	0.09	0.65	2,834	1,546
7	US 41 and 85th Street	East	1,500	1,700	0.5%	0.16	0.50	136	136	0.15	0.56	113	145
7	US 41 and 85th Street	West	200	250	1.0%	0.16	0.54	22	19	0.19	0.54	22	26
8	US 41 and I-275 Northbound Ramps	North	29,500	50,000	2.7%	0.09	0.65	2,938	1,577	0.09	0.65	1,546	2,834
8	US 41 and I-275 Northbound Ramps	South	31,000	48,000	2.1%	0.09	0.60	1,717	2,577	0.09	0.63	2,697	1,610
8	US 41 and I-275 Northbound Ramps	East	7,600	9,400	0.9%	0.07	1.00	656	0	0.09	1.00	843	0
8	US 41 and I-275 Northbound Ramps	West	3,200	13,000	11.8%	0.09	1.00	0	1,157	0.05	1.00	0	642
9	US 41 and I-275 Southbound Ramps	North	31,000	48,000	2.1%	0.09	0.60	2,577	1,717	0.09	0.63	1,610	2,697
9	US 41 and I-275 Southbound Ramps	South	31,000	47,000	2.0%	0.09	0.52	2,021	2,229	0.09	0.63	2,616	1,565
9	US 41 and I-275 Southbound Ramps	East	3,800	14,000	10.3%	0.09	1.00	0	1,258	0.07	1.00	0	1,006
9	US 41 and I-275 Southbound Ramps	West	6,200	11,500	3.3%	0.05	1.00	606	0	0.09	1.00	1,042	0
10	US 41 and 73rd Street	North	27,000	47,000	2.8%	0.09	0.52	2,229	2,021	0.09	0.63	1,565	2,616
10	US 41 and 73rd Street	South	25,500	42,500	2.6%	0.09	0.60	1,522	2,315	0.10	0.66	2,701	1,388
10	US 41 and 73rd Street	East	12,500	14,500	0.6%	0.10	0.67	960	467	0.09	0.61	540	833
10	US 41 and 73rd Street	West	3,400	6,200	3.2%	0.05	0.65	196	104	0.07	0.54	235	204
11	US 301 and 51st Avenue	North	6,600	17,500	6.4%	0.08	0.56	742	573	0.07	0.50	588	578
11	US 301 and 51st Avenue	South	1,400	1,600	0.5%	0.06	0.62	63	39	0.09	0.68	44	93
11	US 301 and 51st Avenue	East	40,500	55,500	1.4%	0.09	0.57	2,841	2,142	0.09	0.56	2,168	2,717
11	US 301 and 51st Avenue	West	35,500	43,000	0.8%	0.09	0.61	1,540	2,432	0.09	0.58	2,251	1,663
12	US 301 and I-75 Southbound Ramps	North	6,300	11,500	3.2%	0.11	1.00	1,278	0	0.11	1.00	1,297	0
12	US 301 and I-75 Southbound Ramps	East	42,500	59,000	1.5%	0.08	0.69	3,373	1,551	0.09	0.52	2,538	2,788
12	US 301 and I-75 Southbound Ramps	West	39,500	55,500	1.6%	0.09	0.57	2,142	2,841	0.09	0.56	2,717	2,168
13	US 301 and I-75 Northbound Ramps	North	6,800	12,500	3.2%	0.07	1.00	0	875	0.07	1.00	0	861
13	US 301 and I-75 Northbound Ramps	East	48,000	61,500	1.1%	0.07	0.63	2,759	1,627	0.09	0.66	1,855	3,664
13	US 301 and I-75 Northbound Ramps	West	43,000	59,000	1.4%	0.08	0.69	1,551	3,373	0.09	0.52	2,788	2,538
14	US 301 and 60th Avenue	North	16,500	20,000	0.8%	0.08	0.67	1,103	555	0.09	0.59	755	1,094
14	US 301 and 60th Avenue	South	3,000	3,400	0.5%	0.03	0.65	76	41	0.10	0.65	119	221
14	US 301 and 60th Avenue	East	39,000	46,500	0.7%	0.07	0.59	1,828	1,279	0.09	0.66	1,406	2,774
14	US 301 and 60th Avenue	West	27,500	61,500	4.8%	0.07	0.63	1,627	2,759	0.09	0.66	3,664	1,855
15	US 301 and Kmart Driveway	North	3,200	3,700	0.6%	0.06	0.56	99	126	0.09	0.51	168	160
15	US 301 and Kmart Driveway	South	10	10	0.0%	1.50	0.67	5	10	1.80	0.67	6	12
15	US 301 and Kmart Driveway	East	36,500	44,000	0.8%	0.07	0.60	1,805	1,185	0.09	0.66	1,332	2,637
15	US 301 and Kmart Driveway	West	38,000	45,500	0.8%	0.07	0.60	1,240	1,828	0.09	0.66	2,709	1,406
16	US 301 and 18th Street	South	1,500	1,700	0.5%	0.05	0.86	12	71	0.09	0.60	89	59
16	US 301 and 18th Street	East	37,500	46,500	0.9%	0.07	0.61	1,865	1,186	0.09	0.66	1,375	2,710
16	US 301 and 18th Street	West	36,000	44,000	0.9%	0.07	0.60	1,185	1,805	0.09	0.66	2,637	1,332
17	SR 64 and 62nd Street	North	3,500	4,000	0.5%	0.06	0.79	50	183	0.09	0.78	80	290
17	SR 64 and 62nd Street	South	3,100	3,500	0.5%	0.10	0.52	165	181	0.08	0.50	144	145
17	SR 64 and 62nd Street	East	53,500	75,500	1.6%	0.09	0.57	3,892	2,914	0.09	0.50	3,346	3,385
17	SR 64 and 62nd Street	West	51,000	70,000	1.4%	0.09	0.56	2,824	3,653	0.09	0.52	3,370	3,120
18	SR 64 and 65th Street	North	1,800	2,100	0.6%	0.06	0.72	94	37	0.08	0.55	93	75
18	SR 64 and 65th Street	South	1,300	1,500	0.6%	0.10	0.78	121	35	0.08	0.76	91	29
18	SR 64 and 65th Street	East	50,000	76,000	2.0%	0.09	0.56	3,835	3,000	0.09	0.51	3,328	3,447
18	SR 64 and 65th Street	West	54,500	75,500	1.5%	0.09	0.57	2,914	3,892	0.09	0.50	3,385	3,346
19	SR 64 and 66th Street	North	7,000	8,000	0.5%	0.09	0.55	330	405	0.10	0.52	409	378
19	SR 64 and 66th Street	South	3,700	4,900	1.2%	0.06	0.55	159	129	0.09	0.53	202	232
19	SR 64 and 66th Street	East	49,500	79,000	2.3%	0.09	0.56	3,962	3,082	0.09	0.51	3,487	3,607

I-75 North Corridor Master Plan
Build Design Year (2045) Approach Volumes

Map ID	Location	Intersection Leg	Existing Year (2019) AADT	Design Year (2045) Build AADT	Build Annual Growth Rate	Build AM Peak Hour				Build PM Peak Hour			
						K	D	Entering Volume	Leaving Volume	K	D	Entering Volume	Leaving Volume
19	SR 64 and 66th Street	West	50,000	76,000	2.0%	0.09	0.56	3,000	3,835	0.09	0.51	3,447	3,328
20	SR 64 and I-75 Southbound Ramps	North	13,000	21,500	2.5%	0.16	0.70	2,470	1,076	0.10	0.74	1,672	581
20	SR 64 and I-75 Southbound Ramps	South	8,700	21,500	5.7%	0.06	1.00	0	1,201	0.04	1.00	0	946
20	SR 64 and I-75 Southbound Ramps	East	47,500	77,000	2.4%	0.09	0.55	3,763	3,076	0.09	0.52	3,335	3,600
20	SR 64 and I-75 Southbound Ramps	West	54,500	79,000	1.7%	0.09	0.56	3,082	3,962	0.09	0.51	3,607	3,487
21	SR 64 and I-75 Northbound Ramps	North	12,500	20,000	2.3%	0.08	1.00	0	1,608	0.12	1.00	0	2,393
21	SR 64 and I-75 Northbound Ramps	South	15,000	21,000	1.5%	0.08	1.00	1,674	0	0.12	1.00	2,486	0
21	SR 64 and I-75 Northbound Ramps	East	59,500	78,000	1.2%	0.09	0.54	3,766	3,145	0.09	0.53	3,323	3,681
21	SR 64 and I-75 Northbound Ramps	West	52,500	77,000	1.8%	0.09	0.55	3,076	3,763	0.09	0.52	3,600	3,335
22	SR 64 and Grand Harbour Parkway	North	7,200	10,500	1.8%	0.06	0.69	428	189	0.08	0.51	401	420
22	SR 64 and Grand Harbour Parkway	East	46,500	73,500	2.2%	0.09	0.53	3,393	3,011	0.09	0.53	3,062	3,401
22	SR 64 and Grand Harbour Parkway	West	59,500	72,000	0.8%	0.10	0.54	3,145	3,766	0.10	0.53	3,681	3,323
23	SR 70 and Creekwood Boulevard	North	13,500	17,500	1.1%	0.07	0.74	952	334	0.09	0.54	843	728
23	SR 70 and Creekwood Boulevard	South	7,100	8,700	0.9%	0.09	0.68	536	247	0.09	0.59	448	316
23	SR 70 and Creekwood Boulevard	East	55,000	79,000	1.7%	0.09	0.54	3,270	3,780	0.09	0.56	3,113	4,000
23	SR 70 and Creekwood Boulevard	West	56,500	72,000	1.1%	0.09	0.53	2,965	3,362	0.09	0.55	3,463	2,823
24	SR 70 and 73rd Lane	North	5,600	6,400	0.5%	0.05	0.65	120	223	0.09	0.60	235	357
24	SR 70 and 73rd Lane	South	5,200	5,900	0.5%	0.06	0.59	153	223	0.09	0.61	210	329
24	SR 70 and 73rd Lane	East	49,500	83,000	2.6%	0.09	0.52	3,506	3,843	0.09	0.54	3,411	4,057
24	SR 70 and 73rd Lane	West	56,500	79,000	1.5%	0.09	0.54	3,780	3,270	0.09	0.56	4,000	3,113
25	SR 70 and I-75 Southbound Ramps	North	13,000	17,500	1.3%	0.15	0.73	1,909	705	0.13	0.63	1,404	827
25	SR 70 and I-75 Southbound Ramps	South	9,000	18,500	4.1%	0.08	1.00	0	1,413	0.06	1.00	0	1,074
25	SR 70 and I-75 Southbound Ramps	East	52,000	81,000	2.1%	0.08	0.51	3,147	3,275	0.09	0.51	3,576	3,725
25	SR 70 and I-75 Southbound Ramps	West	59,000	83,000	1.6%	0.09	0.52	3,843	3,506	0.09	0.54	4,057	3,411
26	SR 70 and I-75 Northbound Ramps	North	12,500	16,500	1.2%	0.08	1.00	0	1,303	0.11	1.00	0	1,851
26	SR 70 and I-75 Northbound Ramps	South	13,000	19,500	1.9%	0.07	1.00	1,418	0	0.08	1.00	1,492	0
26	SR 70 and I-75 Northbound Ramps	East	53,500	79,000	1.8%	0.08	0.52	3,234	3,477	0.09	0.51	3,656	3,446
26	SR 70 and I-75 Northbound Ramps	West	64,000	81,000	1.0%	0.08	0.51	3,275	3,147	0.09	0.51	3,725	3,576
27	SR 70 and Lena Road	North	3,700	4,200	0.5%	0.12	0.72	140	352	0.10	0.52	225	205
27	SR 70 and Lena Road	South	6,300	7,200	0.5%	0.04	0.84	47	241	0.10	0.69	231	507
27	SR 70 and Lena Road	East	51,500	72,500	1.6%	0.08	0.51	3,146	2,983	0.09	0.54	3,495	3,029
27	SR 70 and Lena Road	West	53,500	79,000	1.8%	0.08	0.52	3,477	3,234	0.09	0.51	3,446	3,656
28	SR 70 and 87th Street	North	4,700	9,800	4.2%	0.05	0.60	320	210	0.07	0.58	382	280
28	SR 70 and 87th Street	South	12,500	14,500	0.6%	0.05	0.51	378	398	0.10	0.61	862	547
28	SR 70 and 87th Street	East	44,500	67,000	1.9%	0.09	0.51	3,012	2,939	0.09	0.50	3,037	2,988
28	SR 70 and 87th Street	West	50,500	72,500	1.7%	0.08	0.51	2,983	3,146	0.09	0.54	3,029	3,495
29	Tara Boulevard and 55th Avenue	North	7,200	8,700	0.8%	0.09	0.68	247	536	0.09	0.59	316	448
29	Tara Boulevard and 55th Avenue	South	6,900	7,900	0.6%	0.09	0.66	490	247	0.08	0.51	325	316
29	Tara Boulevard and 55th Avenue	East	1,500	1,700	0.5%	0.06	0.73	72	26	0.09	0.89	140	17
30	Creekwook Boulevard at CVS	North	12,500	16,000	1.1%	0.07	0.69	752	334	0.09	0.50	718	728
30	Creekwook Boulevard at CVS	South	13,500	17,500	1.1%	0.07	0.74	334	952	0.09	0.54	728	843
30	Creekwook Boulevard at CVS	West	2,400	2,700	0.5%	0.09	0.89	228	28	0.07	0.82	161	36
31	Creekwood Boulevard and 52nd Place	North	8,300	9,900	0.7%	0.07	0.73	528	197	0.09	0.62	336	550
31	Creekwood Boulevard and 52nd Place	South	12,500	16,000	1.1%	0.07	0.69	334	752	0.09	0.50	728	718
31	Creekwood Boulevard and 52nd Place	East	6,900	7,900	0.6%	0.06	0.56	245	194	0.10	0.65	486	266
31	Creekwood Boulevard and 52nd Place	West	1,600	1,800	0.5%	0.07	0.65	80	44	0.09	0.55	76	92
32	University Parkway and Cooper Creek Boulevard/Cattlemen Road	North	25,000	30,500	0.8%	0.07	0.58	858	1,179	0.09	0.51	1,340	1,412
32	University Parkway and Cooper Creek Boulevard/Cattlemen Road	South	24,000	30,000	1.0%	0.05	0.50	758	767	0.09	0.59	1,606	1,113
32	University Parkway and Cooper Creek Boulevard/Cattlemen Road	East	69,000	110,000	2.3%	0.09	0.50	4,797	4,890	0.09	0.51	4,900	5,001
32	University Parkway and Cooper Creek Boulevard/Cattlemen Road	West	63,000	81,000	1.1%	0.09	0.53	3,887	3,464	0.09	0.52	3,492	3,812
33	University Parkway and I-75 Southbound Ramps	North	17,500	24,000	1.4%	0.11	1.00	2,743	0	0.07	1.00	1,741	0
33	University Parkway and I-75 Southbound Ramps	South	22,000	26,000	0.7%	0.10	1.00	0	2,612	0.11	1.00	0	2,884
33	University Parkway and I-75 Southbound Ramps	East	76,000	103,000	1.4%	0.09	0.51	4,479	4,703	0.09	0.56	5,138	4,096
33	University Parkway and I-75 Southbound Ramps	West	69,000	110,000	2.3%	0.09	0.50	4,890	4,797	0.09	0.51	5,001	4,900
34	University Parkway and I-75 Northbound Ramps	North	17,500	24,500	1.5%	0.07	1.00	0	1,689	0.11	1.00	0	2,690
34	University Parkway and I-75 Northbound Ramps	South	21,000	27,500	1.2%	0.11	1.00	2,890	0	0.09	1.00	2,601	0
34	University Parkway and I-75 Northbound Ramps	East	54,500	98,500	3.1%	0.09	0.58	3,710	5,135	0.09	0.56	4,953	3,822
34	University Parkway and I-75 Northbound Ramps	West	73,000	103,000	1.6%	0.09	0.51	4,703	4,479	0.09	0.56	4,096	5,138
35	University Parkway and Lake Osprey Drive	North	18,500	25,000	1.4%	0.09	0.50	1,130	1,119	0.09	0.58	1,238	903
35	University Parkway and Lake Osprey Drive	South	9,500	15,500	2.4%	0.08	0.76	291	915	0.08	0.67	873	423
35	University Parkway and Lake Osprey Drive	East	39,000	52,000	1.3%	0.12	0.57	2,715	3,527	0.12	0.53	3,334	2,988
35	University Parkway and Lake Osprey Drive	West	54,500	98,500	3.1%	0.09	0.58	5,135	3,710	0.09	0.56	3,822	4,953
36	University Parkway and Lawrence Building Driveway	South	550	600	0.3%	0.11	0.90	7	60	0.09	0.67	34	17
36	University Parkway and Lawrence Building Driveway	East	48,000	70,500	1.8%	0.09	0.56	2,727	3,486	0.09	0.53	3,339	3,010
36	University Parkway and Lawrence Building Driveway	West	39,000	70,000	3.1%	0.09	0.57	3,527	2,715	0.09	0.53	2,988	3,334
37	University Parkway and Town Center Parkway	North	8,600	11,500	1.3%	0.10	0.54	516	616	0.11	0.62	783	477
37	University Parkway and Town Center Parkway	South	4,200	4,600	0.4%	0.08	0.91	33	337	0.11	0.85	438	80
37	University Parkway and Town Center Parkway	East	34,500	55,500	2.3%	0.09	0.54	2,327	2,682	0.09	0.53	2,270	2,605
37	University Parkway and Town Center Parkway	West	49,000	70,500	1.7%	0.09	0.56	3,486	2,727	0.09	0.53	3,010	3,339
38	Cattlemen Road and University Town Center Drive	North	24,500	30,000	0.9%	0.05	0.50	767	758	0.09	0.59	1,113	1,606

I-75 North Corridor Master Plan
Build Design Year (2045) Approach Volumes

Map ID	Location	Intersection Leg	Existing Year (2019) AADT	Design Year (2045) Build AADT	Build Annual Growth Rate	Build AM Peak Hour				Build PM Peak Hour			
						K	D	Entering Volume	Leaving Volume	K	D	Entering Volume	Leaving Volume
38	Cattlemen Road and University Town Center Drive	South	14,500	19,000	1.2%	0.07	0.55	759	619	0.09	0.63	1,082	624
38	Cattlemen Road and University Town Center Drive	East	8,400	9,100	0.3%	0.02	0.85	25	137	0.09	0.63	315	525
38	Cattlemen Road and University Town Center Drive	West	4,500	4,900	0.3%	0.02	0.68	33	70	0.09	0.79	333	88
39	Cooper Creek Boulevard and Tourist Center Drive	North	19,500	22,500	0.6%	0.08	0.57	768	1,015	0.10	0.56	1,202	940
39	Cooper Creek Boulevard and Tourist Center Drive	South	25,000	30,500	0.8%	0.07	0.58	1,179	858	0.09	0.51	1,412	1,340
39	Cooper Creek Boulevard and Tourist Center Drive	East	4,000	4,600	0.6%	0.02	0.93	5	70	0.09	0.96	17	401
39	Cooper Creek Boulevard and Tourist Center Drive	West	4,500	5,100	0.5%	0.06	0.52	139	148	0.09	0.55	261	211
40	SR 780 Fruitville Road and Cattlemen Road	North	29,500	38,500	1.2%	0.09	0.59	1,415	2,018	0.09	0.56	1,537	1,936
40	SR 780 Fruitville Road and Cattlemen Road	South	24,500	38,000	2.1%	0.08	0.52	1,434	1,535	0.08	0.61	1,934	1,216
40	SR 780 Fruitville Road and Cattlemen Road	East	68,500	102,000	1.9%	0.09	0.61	5,514	3,566	0.09	0.56	4,029	5,168
40	SR 780 Fruitville Road and Cattlemen Road	West	64,000	85,000	1.3%	0.09	0.58	3,067	4,311	0.09	0.55	4,234	3,414
41	SR 780 Fruitville Road and I-75 Southbound Ramps	North	21,000	27,500	1.2%	0.13	1.00	3,448	0	0.08	1.00	2,203	0
41	SR 780 Fruitville Road and I-75 Southbound Ramps	South	11,500	22,000	3.5%	0.07	1.00	0	1,636	0.12	1.00	0	2,558
41	SR 780 Fruitville Road and I-75 Southbound Ramps	East	51,500	81,000	2.2%	0.08	0.51	3,383	3,247	0.09	0.55	3,262	4,046
41	SR 780 Fruitville Road and I-75 Southbound Ramps	West	68,500	102,000	1.9%	0.09	0.61	3,566	5,514	0.09	0.56	5,168	4,029
42	SR 780 Fruitville Road and I-75 Northbound Ramps	North	5,600	31,500	17.8%	0.07	1.00	0	2,188	0.11	1.00	0	3,399
42	SR 780 Fruitville Road and I-75 Northbound Ramps	South	15,500	21,500	1.5%	0.12	1.00	2,548	0	0.08	1.00	1,663	0
42	SR 780 Fruitville Road and I-75 Northbound Ramps	East	36,500	64,000	2.9%	0.08	0.52	2,602	2,826	0.09	0.58	3,357	2,405
42	SR 780 Fruitville Road and I-75 Northbound Ramps	West	52,000	81,000	2.1%	0.08	0.51	3,247	3,383	0.09	0.55	4,046	3,262
43	SR 780 Fruitville Road and Coburn Road West	North	2,500	2,700	0.3%	0.01	0.72	26	10	0.02	0.91	61	6
43	SR 780 Fruitville Road and Coburn Road West	East	36,500	63,500	2.8%	0.09	0.52	2,586	2,826	0.09	0.58	3,302	2,405
43	SR 780 Fruitville Road and Coburn Road West	West	36,500	64,000	2.9%	0.08	0.52	2,826	2,602	0.09	0.58	2,405	3,357
44	SR 780 Fruitville Road and Coburn Road East	North	0	16,000	NA	0.06	0.51	461	472	0.09	0.62	850	521
44	SR 780 Fruitville Road and Coburn Road East	South	10,500	11,500	0.4%	0.10	0.59	464	673	0.09	0.70	718	309
44	SR 780 Fruitville Road and Coburn Road East	East	30,500	52,000	2.7%	0.09	0.50	2,271	2,291	0.09	0.52	2,432	2,273
44	SR 780 Fruitville Road and Coburn Road East	West	36,000	63,500	2.9%	0.09	0.52	2,826	2,586	0.09	0.58	2,405	3,302
45	SR 758 Bee Ridge Road and Maxfield Drive	North	6,500	7,100	0.4%	0.07	0.51	252	245	0.09	0.67	413	200
45	SR 758 Bee Ridge Road and Maxfield Drive	South	7,000	7,600	0.3%	0.04	0.58	177	129	0.09	0.53	326	365
45	SR 758 Bee Ridge Road and Maxfield Drive	East	37,000	50,000	1.4%	0.09	0.61	2,632	1,655	0.09	0.55	2,006	2,499
45	SR 758 Bee Ridge Road and Maxfield Drive	West	37,500	49,000	1.2%	0.09	0.62	1,645	2,677	0.09	0.53	2,461	2,142
46	SR 758 Bee Ridge Road at Publix	North	1,000	1,300	1.2%	0.09	0.77	25	86	0.06	0.61	32	50
46	SR 758 Bee Ridge Road at Publix	South	3,900	15,000	10.9%	0.03	0.66	271	141	0.02	0.60	141	94
46	SR 758 Bee Ridge Road at Publix	East	37,700	51,000	1.4%	0.09	0.60	2,693	1,785	0.09	0.56	2,024	2,546
46	SR 758 Bee Ridge Road at Publix	West	37,400	50,000	1.3%	0.09	0.61	1,655	2,632	0.09	0.55	2,499	2,006
47	SR 758 Bee Ridge Road and Cattlemen Road	North	29,000	35,500	0.9%	0.09	0.65	1,124	2,074	0.08	0.60	1,793	1,218
47	SR 758 Bee Ridge Road and Cattlemen Road	South	28,500	34,000	0.7%	0.07	0.61	1,356	861	0.07	0.52	1,251	1,140
47	SR 758 Bee Ridge Road and Cattlemen Road	East	53,000	70,500	1.3%	0.09	0.61	3,854	2,491	0.09	0.60	2,504	3,712
47	SR 758 Bee Ridge Road and Cattlemen Road	West	41,000	51,000	0.9%	0.09	0.60	1,785	2,693	0.09	0.56	2,546	2,024
48	SR 758 Bee Ridge Road and I-75 Southbound Ramps	North	15,000	24,500	2.4%	0.05	1.00	1,118	0	0.06	1.00	1,383	0
48	SR 758 Bee Ridge Road and I-75 Southbound Ramps	South	9,500	12,000	1.0%	0.08	1.00	0	995	0.12	1.00	0	1,481
48	SR 758 Bee Ridge Road and I-75 Southbound Ramps	East	41,500	60,000	1.7%	0.09	0.53	2,804	2,458	0.09	0.66	1,845	3,563
48	SR 758 Bee Ridge Road and I-75 Southbound Ramps	West	53,000	62,500	0.7%	0.09	0.54	2,491	2,960	0.09	0.66	3,712	1,896
49	SR 758 Bee Ridge Road and I-75 Northbound Ramps	North	4,100	24,000	18.7%	0.08	1.00	0	1,893	0.08	1.00	0	1,913
49	SR 758 Bee Ridge Road and I-75 Northbound Ramps	South	9,700	11,500	0.7%	0.11	1.00	1,283	0	0.08	1.00	909	0
49	SR 758 Bee Ridge Road and I-75 Northbound Ramps	East	32,000	49,000	2.0%	0.09	0.61	2,685	1,729	0.09	0.58	1,793	2,507
49	SR 758 Bee Ridge Road and I-75 Northbound Ramps	West	40,500	60,000	1.9%	0.09	0.53	2,458	2,804	0.09	0.66	3,563	1,845
50	SR 758 Bee Ridge Road and Mauna Loa Boulevard	North	7,200	7,800	0.3%	0.10	0.51	409	386	0.10	0.63	497	293
50	SR 758 Bee Ridge Road and Mauna Loa Boulevard	South	7,500	10,500	1.5%	0.08	0.71	591	247	0.09	0.65	329	608
50	SR 758 Bee Ridge Road and Mauna Loa Boulevard	East	19,500	40,500	4.1%	0.08	0.59	1,907	1,318	0.08	0.60	1,273	1,912
50	SR 758 Bee Ridge Road and Mauna Loa Boulevard	West	32,000	49,000	2.0%	0.09	0.61	1,729	2,685	0.09	0.58	2,507	1,793
51	Cattlemen Road and Cattleridge Boulevard	North	26,000	31,000	0.7%	0.09	0.60	1,159	1,749	0.09	0.55	1,578	1,269
51	Cattlemen Road and Cattleridge Boulevard	South	29,000	35,500	0.9%	0.09	0.65	2,074	1,124	0.08	0.60	1,218	1,793
51	Cattlemen Road and Cattleridge Boulevard	East	4,300	4,700	0.4%	0.08	0.74	101	294	0.10	0.69	339	149
51	Cattlemen Road and Cattleridge Boulevard	West	5,400	5,900	0.4%	0.10	0.64	205	372	0.09	0.58	290	214
52	SR 72 Clark Road and Gantt Road	North	11,500	12,500	0.3%	0.10	0.60	759	505	0.09	0.57	647	497
52	SR 72 Clark Road and Gantt Road	South	4,900	5,300	0.3%	0.09	0.52	239	258	0.10	0.73	388	144
52	SR 72 Clark Road and Gantt Road	East	53,000	68,000	1.1%	0.09	0.59	3,609	2,508	0.09	0.62	2,346	3,788
52	SR 72 Clark Road and Gantt Road	West	57,000	68,000	0.7%	0.09	0.61	2,338	3,674	0.09	0.59	3,545	2,497
53	SR 72 Clark Road at Burger King/Waffle House	North	2,900	3,200	0.4%	0.11	0.61	205	132	0.06	0.57	85	113
53	SR 72 Clark Road at Burger King/Waffle House	South	2,900	3,200	0.4%	0.10	0.56	146	184	0.05	0.60	103	70
53	SR 72 Clark Road at Burger King/Waffle House	East	51,900	69,000	1.3%	0.09	0.59	3,536	2,470	0.09	0.62	2,374	3,821
53	SR 72 Clark Road at Burger King/Waffle House	West	51,200	68,000	1.3%	0.09	0.59	2,508	3,609	0.09	0.62	3,788	2,346
54	SR 72 Clark Road and Catamaran Drive	North	1,800	2,000	0.4%	0.10	0.62	72	118	0.08	0.50	76	75
54	SR 72 Clark Road and Catamaran Drive	South	3,600	3,900	0.3%	0.09	0.64	220	126	0.11	0.51	219	229
54	SR 72 Clark Road and Catamaran Drive	East	54,000	72,000	1.3%	0.09	0.58	3,609	2,591	0.09	0.61	2,515	3,953
54	SR 72 Clark Road and Catamaran Drive	West	52,000	69,000	1.3%	0.09	0.59	2,470	3,536	0.09	0.62	3,821	2,374
55	SR 72 Clark Road and I-75 Southbound Ramps	North	18,000	18,500	0.1%	0.14	1.00	2,523	0	0.10	1.00	1,836	0
55	SR 72 Clark Road and I-75 Southbound Ramps	South	8,400	9,700	0.6%	0.09	1.00	0	825	0.11	1.00	0	1,096
55	SR 72 Clark Road and I-75 Southbound Ramps	East	36,500	50,500	1.5%	0.08	0.58	1,691	2,371	0.09	0.74	1,182	3,360
55	SR 72 Clark Road and I-75 Southbound Ramps	West	54,000	72,000	1.3%	0.09	0.58	2,591	3,609	0.09	0.61	3,953	2,515

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						K	D	Entering Volume	Leaving Volume	K	D	Entering Volume	Leaving Volume
56	SR 72 Clark Road and I-75 Northbound Ramps	North	17,500	25,000	1.6%	0.07	1.00	0	1,840	0.10	1.00	0	2,484
56	SR 72 Clark Road and I-75 Northbound Ramps	South	8,300	9,600	0.6%	0.12	1.00	1,149	0	0.08	1.00	777	0
56	SR 72 Clark Road and I-75 Northbound Ramps	East	19,500	24,000	0.9%	0.09	0.50	1,088	1,077	0.09	0.61	833	1,304
56	SR 72 Clark Road and I-75 Northbound Ramps	West	37,000	50,500	1.4%	0.08	0.58	2,371	1,691	0.09	0.74	3,360	1,182
57	SR 72 Clark Road and Queensbury Boulevard	North	1,200	1,300	0.3%	0.06	0.59	48	34	0.08	0.53	48	55
57	SR 72 Clark Road and Queensbury Boulevard	South	400	450	0.5%	0.22	0.86	14	85	0.09	0.51	21	20
57	SR 72 Clark Road and Queensbury Boulevard	East	18,500	24,000	1.1%	0.09	0.52	1,120	1,052	0.09	0.61	788	1,253
57	SR 72 Clark Road and Queensbury Boulevard	West	19,500	24,000	0.9%	0.09	0.50	1,077	1,088	0.09	0.61	1,304	833
58	SR 72 Clark Road and Hummingbird Avenue	South	1,600	1,900	0.7%	0.10	0.70	131	55	0.09	0.60	66	98
58	SR 72 Clark Road and Hummingbird Avenue	East	17,000	20,000	0.7%	0.10	0.50	1,004	1,012	0.09	0.61	732	1,165
58	SR 72 Clark Road and Hummingbird Avenue	West	18,500	24,000	1.1%	0.09	0.52	1,052	1,120	0.09	0.61	1,253	788
59	SR 681 at Honore Avenue	North	6,400	11,000	2.8%	0.22	0.53	1,260	1,110	0.22	0.57	1,029	1,379
59	SR 681 at Honore Avenue	South	4,600	7,400	2.3%	0.28	0.51	1,025	1,062	0.29	0.54	1,150	968
59	SR 681 at Honore Avenue	East	17,000	23,000	1.4%	0.04	0.61	561	352	0.04	0.58	373	512
59	SR 681 at Honore Avenue	West	16,500	26,000	2.2%	0.05	0.63	454	776	0.05	0.62	783	476
60	Laurel Road and Twin Laurel Boulevard	North	80	90	0.5%	0.34	0.65	11	20	0.38	0.59	14	20
60	Laurel Road and Twin Laurel Boulevard	South	16,000	17,500	0.4%	0.01	0.57	89	118	0.03	0.54	219	255
60	Laurel Road and Twin Laurel Boulevard	East	15,500	21,000	1.4%	0.09	0.57	1,057	798	0.09	0.51	924	980
60	Laurel Road and Twin Laurel Boulevard	West	15,500	18,500	0.7%	0.10	0.56	800	1,021	0.10	0.53	971	873
61	Laurel Road at McDonald's	South	1,700	2,100	0.9%	0.09	0.84	158	31	0.04	0.81	60	14
61	Laurel Road at McDonald's	East	16,400	22,000	1.3%	0.09	0.53	1,057	925	0.09	0.53	924	1,026
61	Laurel Road at McDonald's	West	15,300	21,000	1.4%	0.09	0.57	798	1,057	0.09	0.51	980	924
62	Laurel Road and Pinebrook Road	North	5,000	7,800	2.2%	0.09	0.56	326	413	0.09	0.60	435	286
62	Laurel Road and Pinebrook Road	South	10,500	22,000	4.2%	0.08	0.61	1,030	669	0.08	0.67	599	1,193
62	Laurel Road and Pinebrook Road	East	24,500	36,500	1.9%	0.09	0.52	1,505	1,647	0.09	0.55	1,815	1,472
62	Laurel Road and Pinebrook Road	West	17,000	22,000	1.1%	0.09	0.53	925	1,057	0.09	0.53	1,026	924
63	Laurel Road and I-75 Southbound Ramps	North	5,500	8,000	1.7%	0.08	1.00	618	0	0.11	1.00	864	0
63	Laurel Road and I-75 Southbound Ramps	South	7,200	10,000	1.5%	0.08	1.00	0	826	0.13	1.00	0	1,257
63	Laurel Road and I-75 Southbound Ramps	East	19,500	34,000	2.9%	0.09	0.51	1,573	1,507	0.09	0.62	1,848	1,112
63	Laurel Road and I-75 Southbound Ramps	West	24,500	36,500	1.9%	0.09	0.52	1,647	1,505	0.09	0.55	1,472	1,815
64	Laurel Road and I-75 Northbound Ramps	North	5,200	8,500	2.4%	0.12	1.00	0	980	0.08	1.00	0	677
64	Laurel Road and I-75 Northbound Ramps	South	6,600	9,600	1.7%	0.12	1.00	1,199	0	0.07	1.00	672	0
64	Laurel Road and I-75 Northbound Ramps	East	18,500	33,000	3.0%	0.09	0.53	1,338	1,491	0.09	0.62	1,861	1,120
64	Laurel Road and I-75 Northbound Ramps	West	19,500	34,000	2.9%	0.09	0.51	1,507	1,573	0.09	0.62	1,112	1,848
65	Laurel Road and Discovery Way	North	2,200	2,400	0.3%	0.05	0.76	100	31	0.11	0.88	231	32
65	Laurel Road and Discovery Way	East	15,500	31,000	3.8%	0.09	0.54	1,269	1,491	0.09	0.60	1,662	1,120
65	Laurel Road and Discovery Way	West	16,000	33,000	4.1%	0.09	0.53	1,491	1,338	0.09	0.62	1,120	1,861
66	Laurel Road and Haul Road	North	13,000	33,500	6.1%	0.08	0.66	959	1,882	0.08	0.65	1,752	957
66	Laurel Road and Haul Road	South	750	800	0.3%	0.09	0.56	38	30	0.13	0.60	41	62
66	Laurel Road and Haul Road	East	5,500	15,000	6.6%	0.08	0.79	941	248	0.08	0.60	463	695
66	Laurel Road and Haul Road	West	15,500	31,000	3.8%	0.09	0.54	1,491	1,269	0.09	0.60	1,120	1,662
67	Jacaranda Boulevard and Commerce Drive	North	5,900	10,500	3.0%	0.08	0.51	422	409	0.08	0.53	384	429
67	Jacaranda Boulevard and Commerce Drive	South	10,500	14,500	1.5%	0.09	0.55	716	594	0.08	0.58	498	677
67	Jacaranda Boulevard and Commerce Drive	East	4,300	4,700	0.4%	0.12	0.62	204	339	0.09	0.75	334	110
68	Jacaranda Boulevard and I-75 Northbound Ramps	North	10,500	14,500	1.5%	0.09	0.55	594	716	0.08	0.58	677	498
68	Jacaranda Boulevard and I-75 Northbound Ramps	South	14,000	31,500	4.8%	0.09	0.61	1,726	1,117	0.07	0.54	1,207	1,020
68	Jacaranda Boulevard and I-75 Northbound Ramps	East	5,600	11,000	3.7%	0.21	0.58	959	1,309	0.13	0.59	598	843
68	Jacaranda Boulevard and I-75 Northbound Ramps	West	800	8,400	36.5%	0.02	1.00	0	137	0.01	1.00	0	121
69	Jacaranda Boulevard and I-75 Southbound Ramps	North	23,500	31,500	1.3%	0.09	0.61	1,117	1,726	0.07	0.54	1,020	1,207
69	Jacaranda Boulevard and I-75 Southbound Ramps	South	34,000	45,000	1.2%	0.09	0.53	2,156	1,884	0.09	0.53	1,918	2,145
69	Jacaranda Boulevard and I-75 Southbound Ramps	East	5,800	11,500	3.8%	0.05	1.00	0	632	0.09	1.00	0	979
69	Jacaranda Boulevard and I-75 Southbound Ramps	West	9,100	9,600	0.2%	0.10	1.00	969	0	0.15	1.00	1,393	0
70	Jacaranda Boulevard and Executive Drive	North	34,000	45,000	1.2%	0.09	0.53	1,884	2,156	0.09	0.53	2,145	1,918
70	Jacaranda Boulevard and Executive Drive	South	29,500	37,000	1.0%	0.09	0.54	1,768	1,506	0.09	0.55	1,497	1,836
70	Jacaranda Boulevard and Executive Drive	East	8,400	11,000	1.2%	0.12	0.55	711	572	0.12	0.53	674	606
70	Jacaranda Boulevard and Executive Drive	West	8,000	8,700	0.3%	0.08	0.60	272	401	0.09	0.53	420	376
71	Jacaranda Boulevard and Oak Heritage Drive	North	29,500	37,000	1.0%	0.09	0.54	1,506	1,768	0.09	0.55	1,836	1,497
71	Jacaranda Boulevard and Oak Heritage Drive	South	31,000	37,500	0.8%	0.09	0.54	1,790	1,513	0.09	0.55	1,530	1,837
71	Jacaranda Boulevard and Oak Heritage Drive	East	500	550	0.4%	0.07	0.83	7	34	0.07	0.85	6	35
71	Jacaranda Boulevard and Oak Heritage Drive	West	500	550	0.4%	0.06	0.69	22	10	0.06	0.54	16	19
72	N River Road and I-75 Northbound Ramps	South	1,900	19,500	35.6%	0.09	0.67	1,179	590	0.06	0.66	762	400
72	N River Road and I-75 Northbound Ramps	East	1900	5,900	8.1%	0.10	1.00	590	0	0.07	1.00	400	0
72	N River Road and I-75 Northbound Ramps	West	8100	9,700	0.8%	0.12	1.00	0	1,179	0.08	1.00	0	762
73	N River Road and I-75 Southbound Ramps	North	12,400	19,500	2.2%	0.09	0.67	590	1,179	0.06	0.66	400	762
73	N River Road and I-75 Southbound Ramps	South	19,800	33,500	2.7%	0.09	0.53	1,594	1,429	0.09	0.55	1,366	1,645
73	N River Road and I-75 Southbound Ramps	East	2000	5,500	6.7%	0.08	1.00	0	415	0.11	1.00	0	604
73	N River Road and I-75 Southbound Ramps	West	8000	9,900	0.9%	0.08	1.00	839	0	0.13	1.00	1,245	0
74	N River Road at Subdivision Entrance	North	19,500	33,500	2.8%	0.09	0.53	1,429	1,594	0.09	0.55	1,645	1,366
74	N River Road at Subdivision Entrance	South	19,500	33,500	2.8%	0.09	0.53	1,594	1,425	0.09	0.54	1,366	1,610
74	N River Road at Subdivision Entrance	West	200	200	0.0%	0.09	0.61	7	11	0.23	0.89	5	40

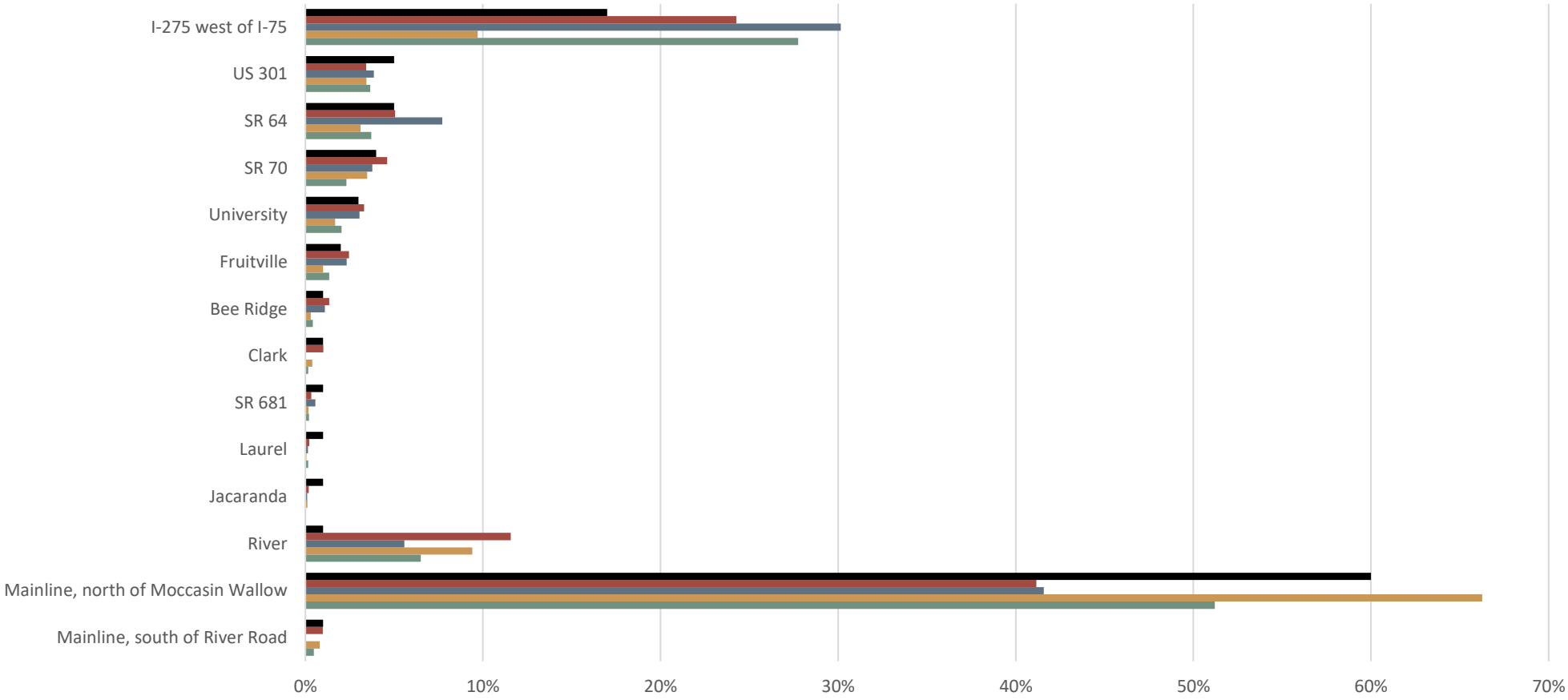
I-75 North Corridor Master Plan
Build Design Year (2045) Approach Volumes

Map ID	Location	Intersection Leg	Existing Year (2019) AADT	Design Year (2045) Build AADT	Build Annual Growth Rate	Build AM Peak Hour				Build PM Peak Hour			
						K	D	Entering Volume	Leaving Volume	K	D	Entering Volume	Leaving Volume
75	N River Road and Venice Avenue	North	19,500	33,500	2.8%	0.09	0.53	1,425	1,594	0.09	0.54	1,610	1,366
75	N River Road and Venice Avenue	South	22,500	29,000	1.1%	0.09	0.60	1,557	1,050	0.10	0.60	1,134	1,722
75	N River Road and Venice Avenue	East	350	400	0.5%	0.11	0.51	22	23	0.17	0.54	37	31
75	N River Road and Venice Avenue	West	6,400	12,500	3.7%	0.11	0.62	513	850	0.10	0.63	810	472

Appendix H
Streetlight Distribution Comparison

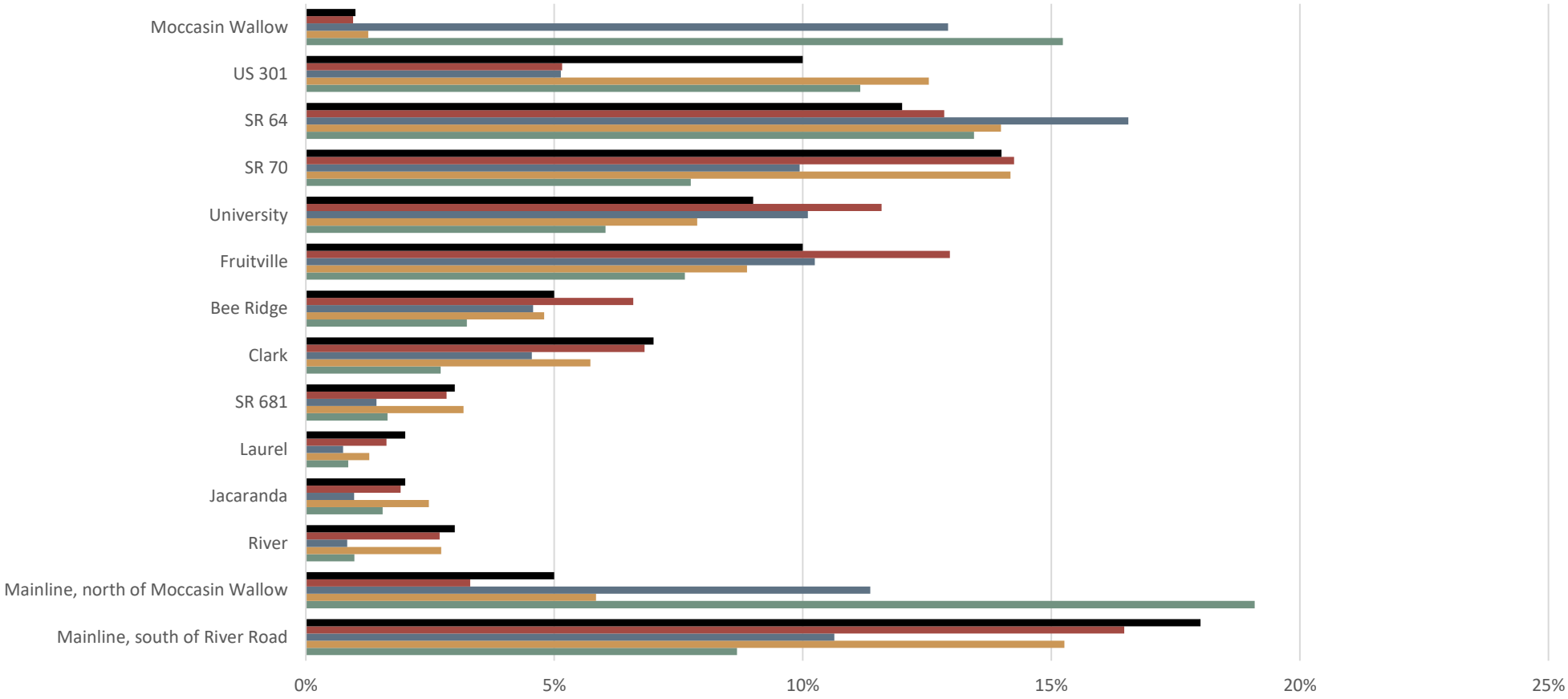
No Build

Coming from Moccasin Wallow Road

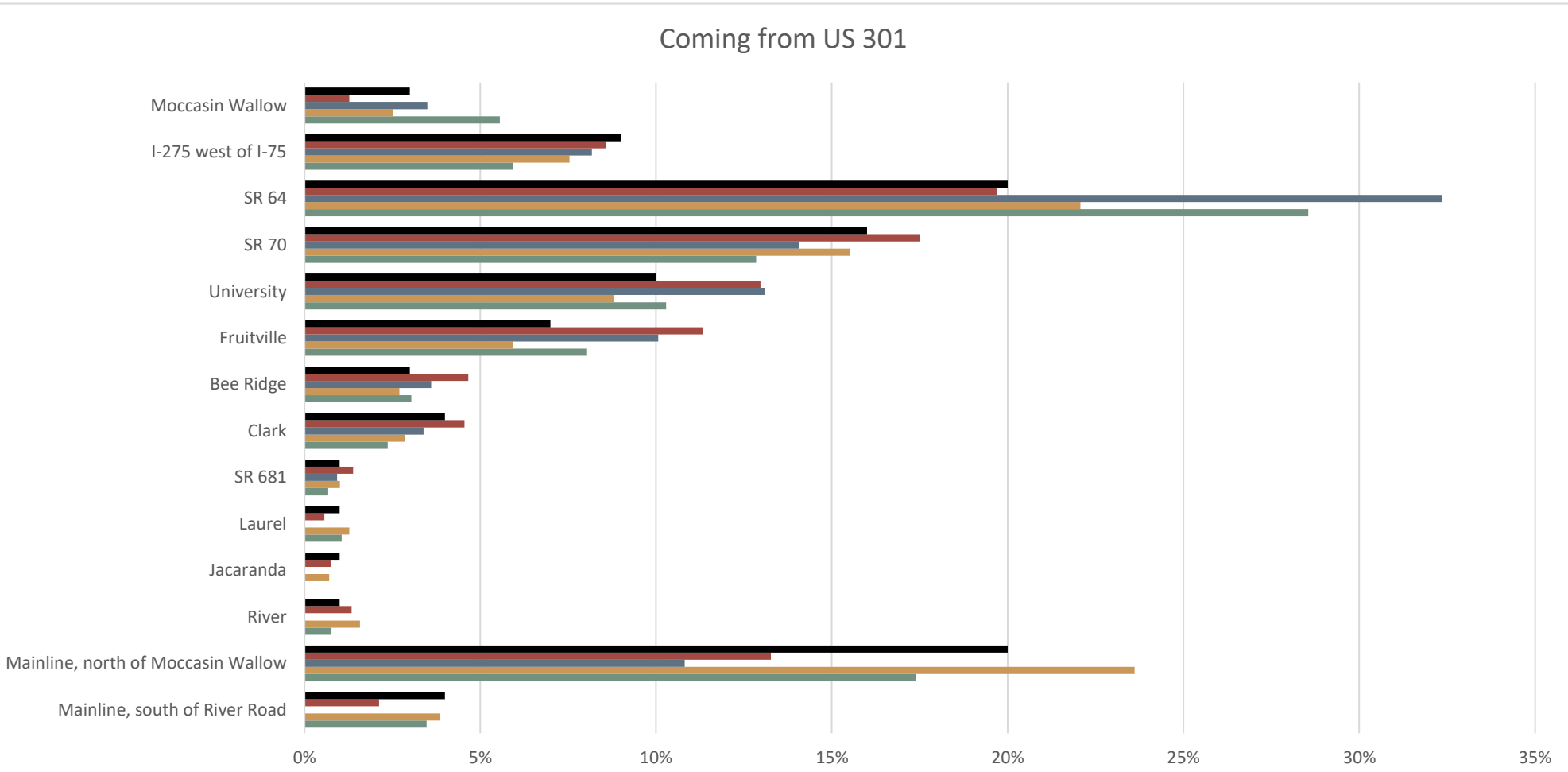


	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Jacaranda	Laurel	SR 681	Clark	Bee Ridge	Fruitville	University	SR 70	SR 64	US 301	I-275 west of I-75
Daily Streetlight	1%	60%	1%	1%	1%	1%	1%	1%	2%	3%	4%	5%	5%	17%
Streetlight AM	1%	41%	12%	0%	0%	0%	1%	1%	2%	3%	5%	5%	3%	24%
Study AM	0%	42%	6%	0%	0%	1%	0%	1%	2%	3%	4%	8%	4%	30%
Streetlight PM	1%	66%	9%	0%	0%	0%	0%	0%	1%	2%	3%	3%	3%	10%
Study PM	0%	51%	7%	0%	0%	0%	0%	0%	1%	2%	2%	4%	4%	28%

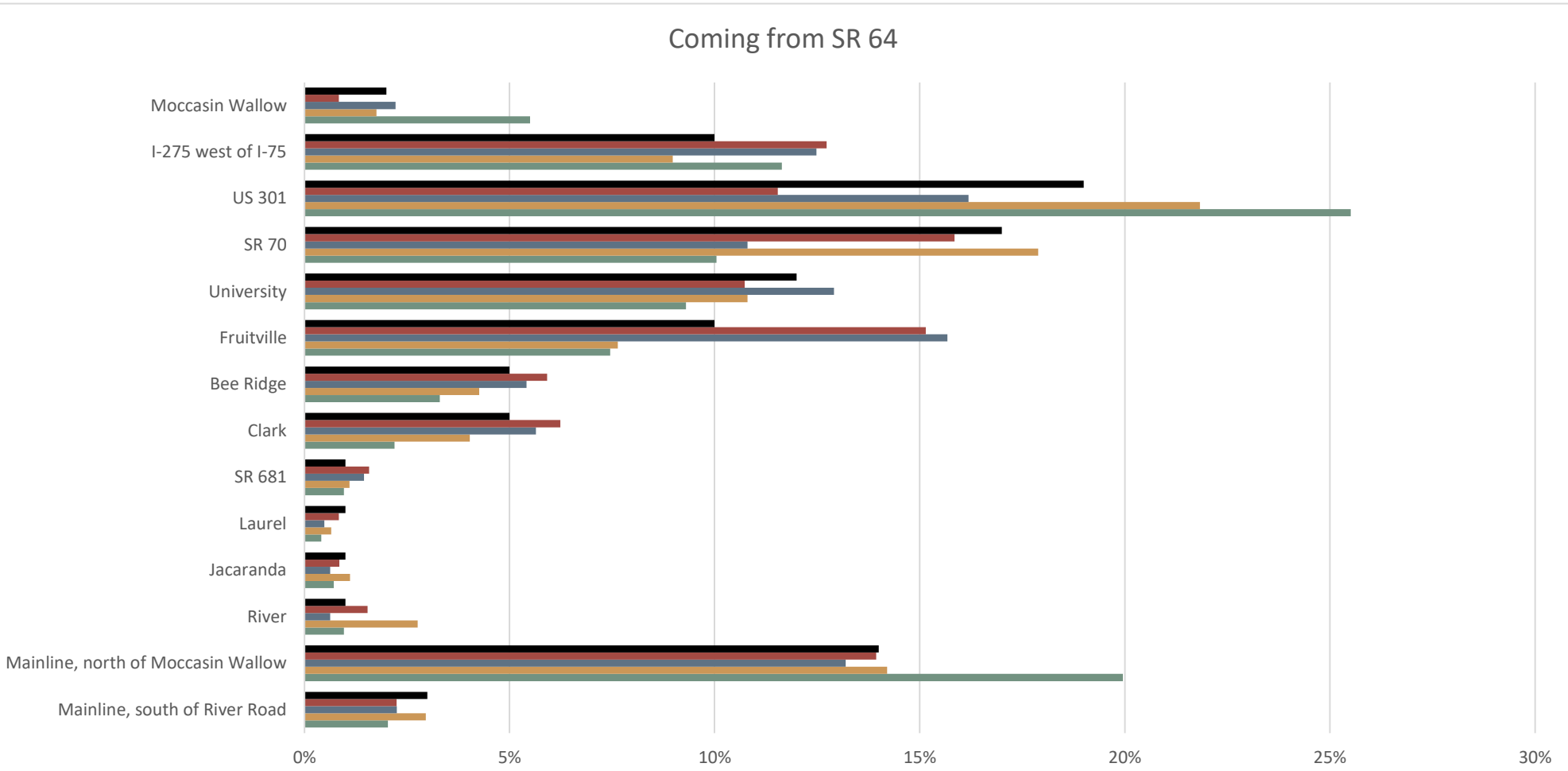
Coming from I-275 West of I-75



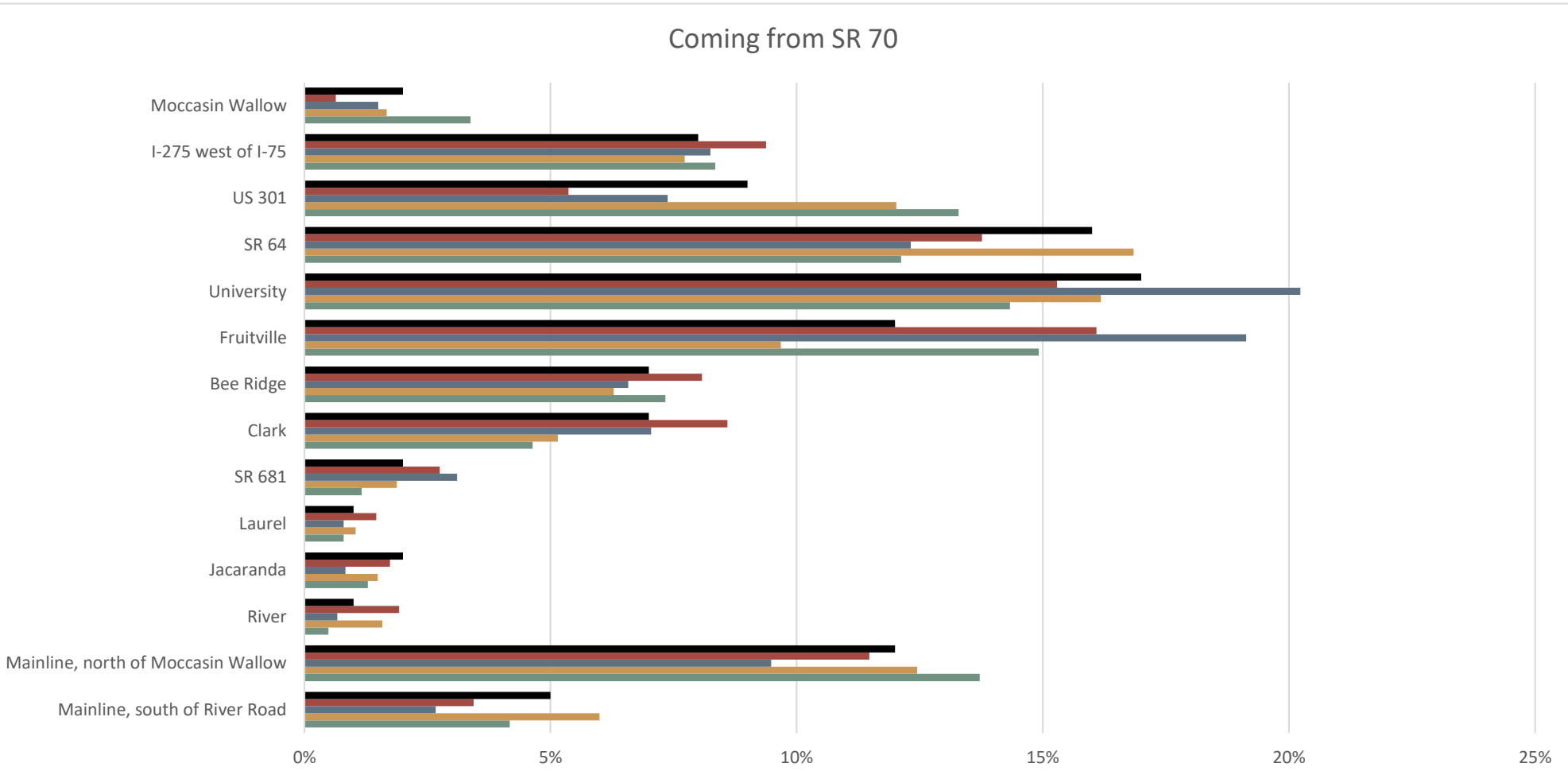
	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Jacaranda	Laurel	SR 681	Clark	Bee Ridge	Fruitville	University	SR 70	SR 64	US 301	Moccasin Wallow
Daily Streetlight	18%	5%	3%	2%	2%	3%	7%	5%	10%	9%	14%	12%	10%	1%
Streetlight AM	16%	3%	3%	2%	2%	3%	7%	7%	13%	12%	14%	13%	5%	1%
Study AM	11%	11%	1%	1%	1%	1%	5%	5%	10%	10%	10%	17%	5%	13%
Streetlight PM	15%	6%	3%	2%	1%	3%	6%	5%	9%	8%	14%	14%	13%	1%
Study PM	9%	19%	1%	2%	1%	2%	3%	3%	8%	6%	8%	13%	11%	15%



	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Jacaranda	Laurel	SR 681	Clark	Bee Ridge	Fruitville	University	SR 70	SR 64	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	4%	20%	1%	1%	1%	1%	4%	3%	7%	10%	16%	20%	9%	3%
Streetlight AM	2%	13%	1%	1%	1%	1%	5%	5%	11%	13%	18%	20%	9%	1%
Study AM	0%	11%	0%	0%	0%	1%	3%	4%	10%	13%	14%	32%	8%	3%
Streetlight PM	4%	24%	2%	1%	1%	1%	3%	3%	6%	9%	16%	22%	8%	3%
Study PM	3%	17%	1%	0%	1%	1%	2%	3%	8%	10%	13%	29%	6%	6%

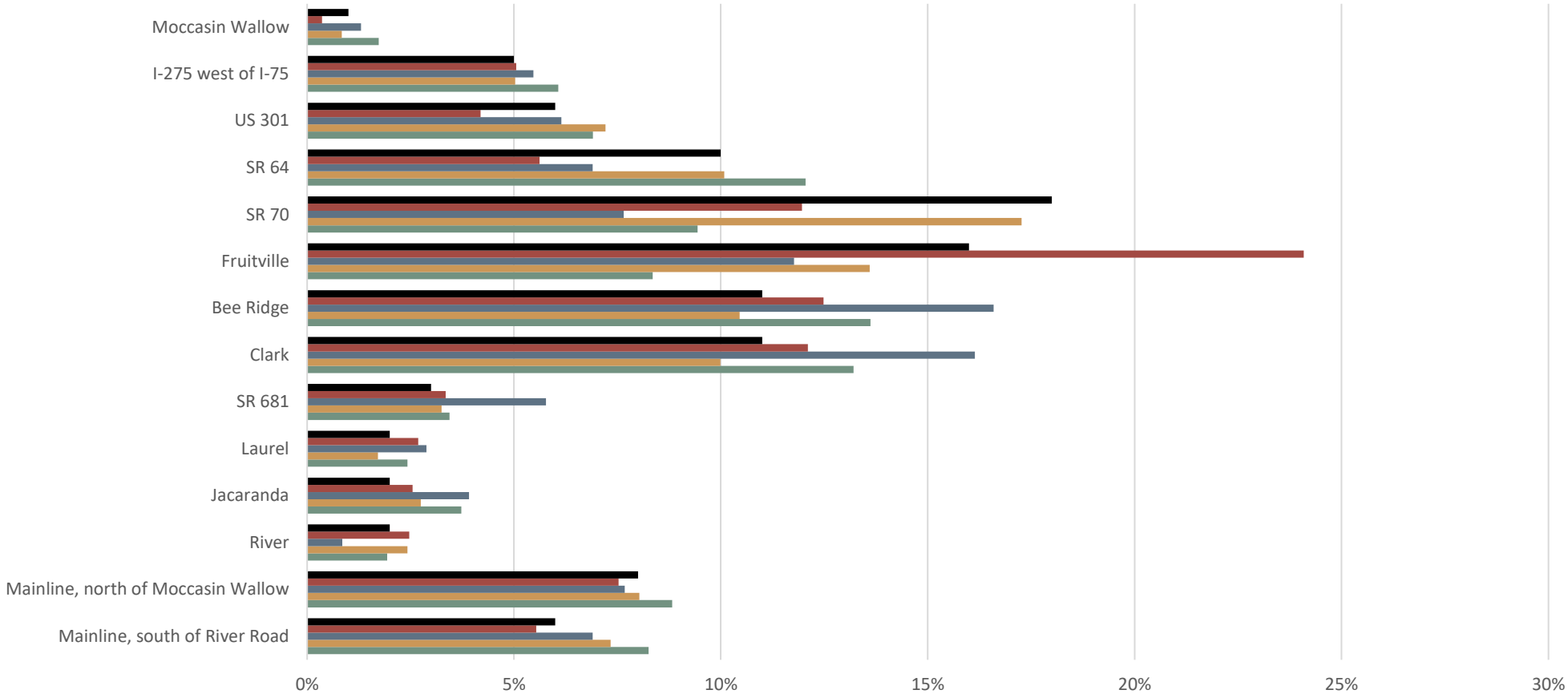


	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Jacaranda	Laurel	SR 681	Clark	Bee Ridge	Fruitville	University	SR 70	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	3%	14%	1%	1%	1%	1%	5%	5%	10%	12%	17%	19%	10%	2%
Streetlight AM	2%	14%	2%	1%	1%	2%	6%	6%	15%	11%	16%	12%	13%	1%
Study AM	2%	13%	1%	1%	0%	1%	6%	5%	16%	13%	11%	16%	12%	2%
Streetlight PM	3%	14%	3%	1%	1%	1%	4%	4%	8%	11%	18%	22%	9%	2%
Study PM	2%	20%	1%	1%	0%	1%	2%	3%	7%	9%	10%	26%	12%	6%

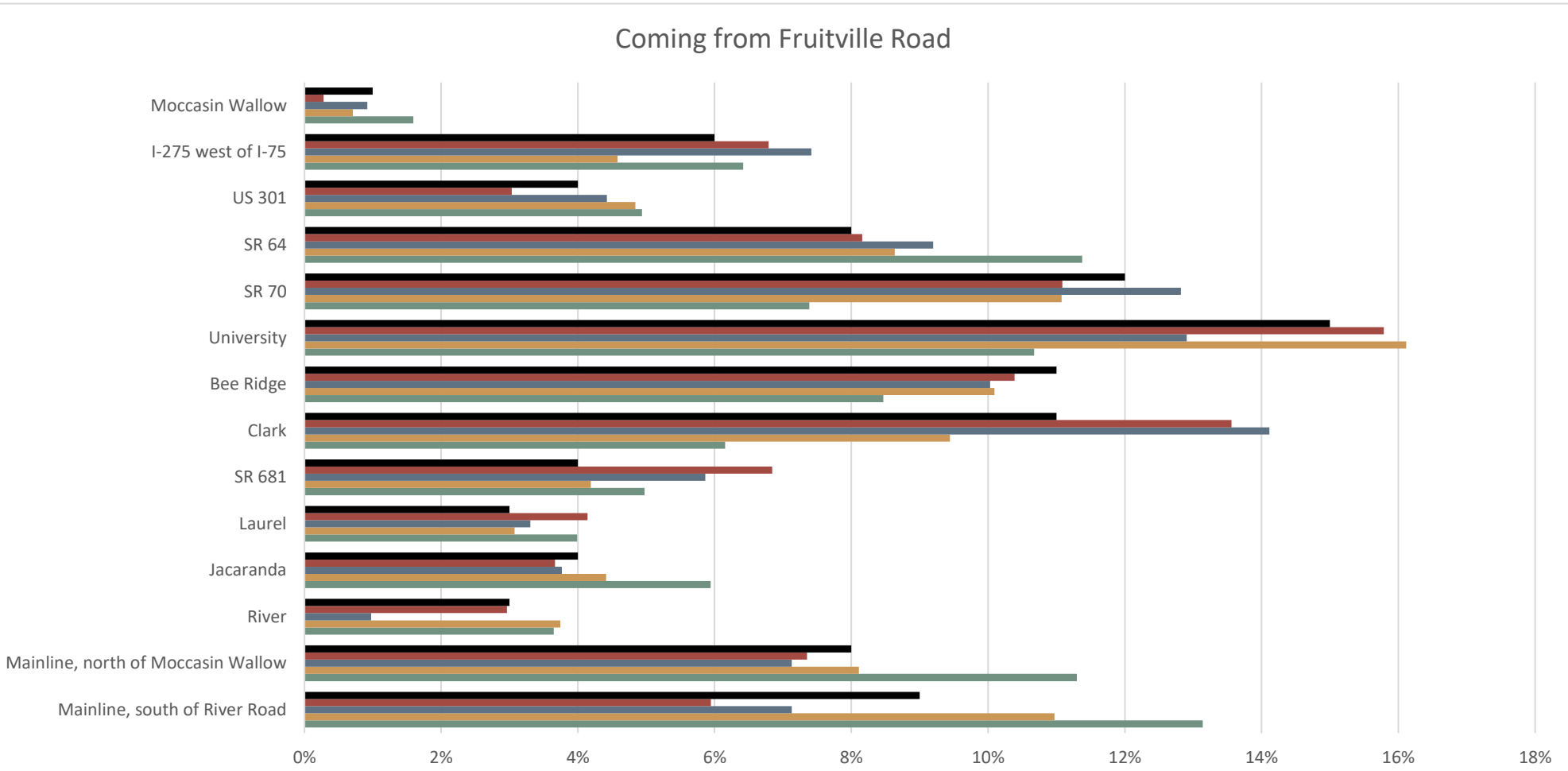


	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Jacaranda	Laurel	SR 681	Clark	Bee Ridge	Fruitville	University	SR 64	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	5%	12%	1%	2%	1%	2%	7%	7%	12%	17%	16%	9%	8%	2%
Streetlight AM	3%	11%	2%	2%	1%	3%	9%	8%	16%	15%	14%	5%	9%	1%
Study AM	3%	9%	1%	1%	1%	3%	7%	7%	19%	20%	12%	7%	8%	2%
Streetlight PM	6%	12%	2%	1%	1%	2%	5%	6%	10%	16%	17%	12%	8%	2%
Study PM	4%	14%	0%	1%	1%	1%	5%	7%	15%	14%	12%	13%	8%	3%

Coming from University Parkway

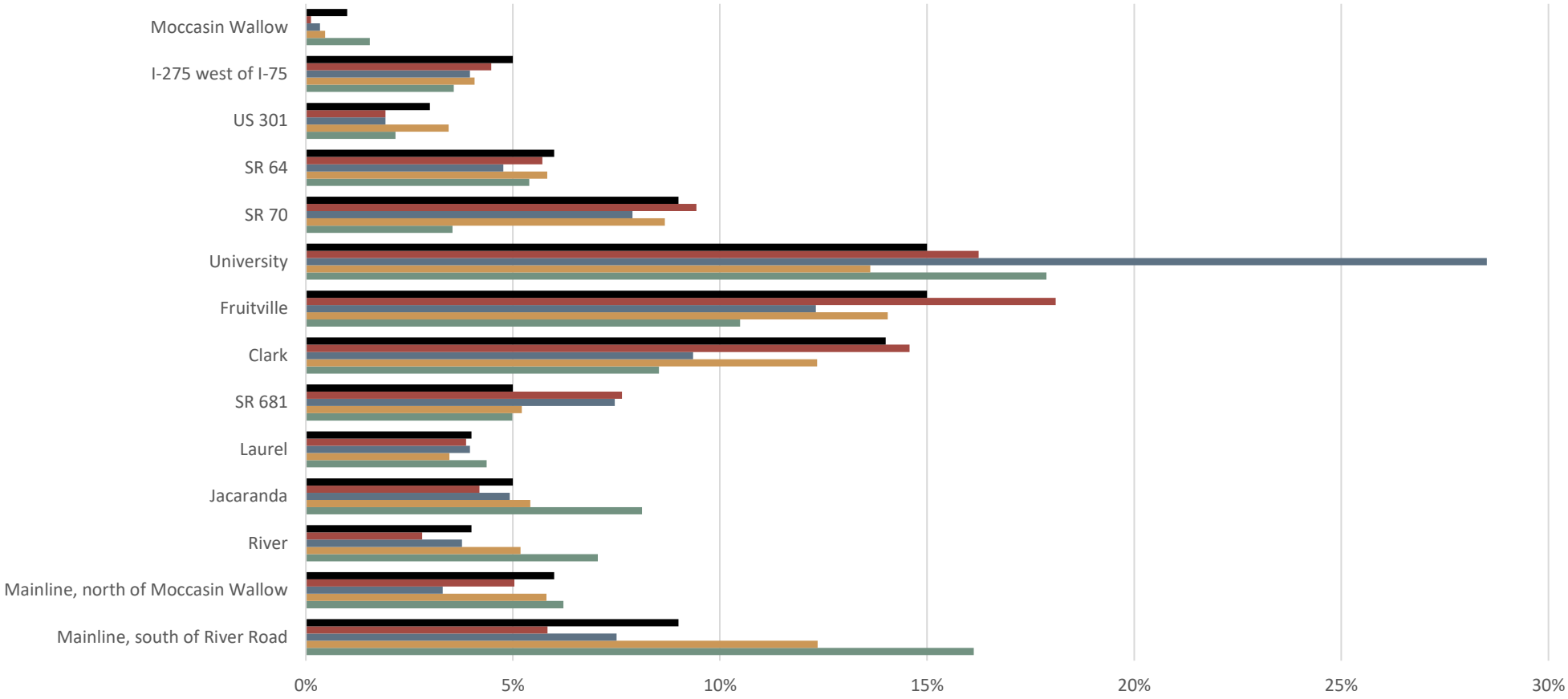


	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Jacaranda	Laurel	SR 681	Clark	Bee Ridge	Fruitville	SR 70	SR 64	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	6%	8%	2%	2%	2%	3%	11%	11%	16%	18%	10%	6%	5%	1%
Streetlight AM	6%	8%	2%	3%	3%	3%	12%	12%	24%	12%	6%	4%	5%	0%
Study AM	7%	8%	1%	4%	3%	6%	16%	17%	12%	8%	7%	6%	5%	1%
Streetlight PM	7%	8%	2%	3%	2%	3%	10%	10%	14%	17%	10%	7%	5%	1%
Study PM	8%	9%	2%	4%	2%	3%	13%	14%	8%	9%	12%	7%	6%	2%



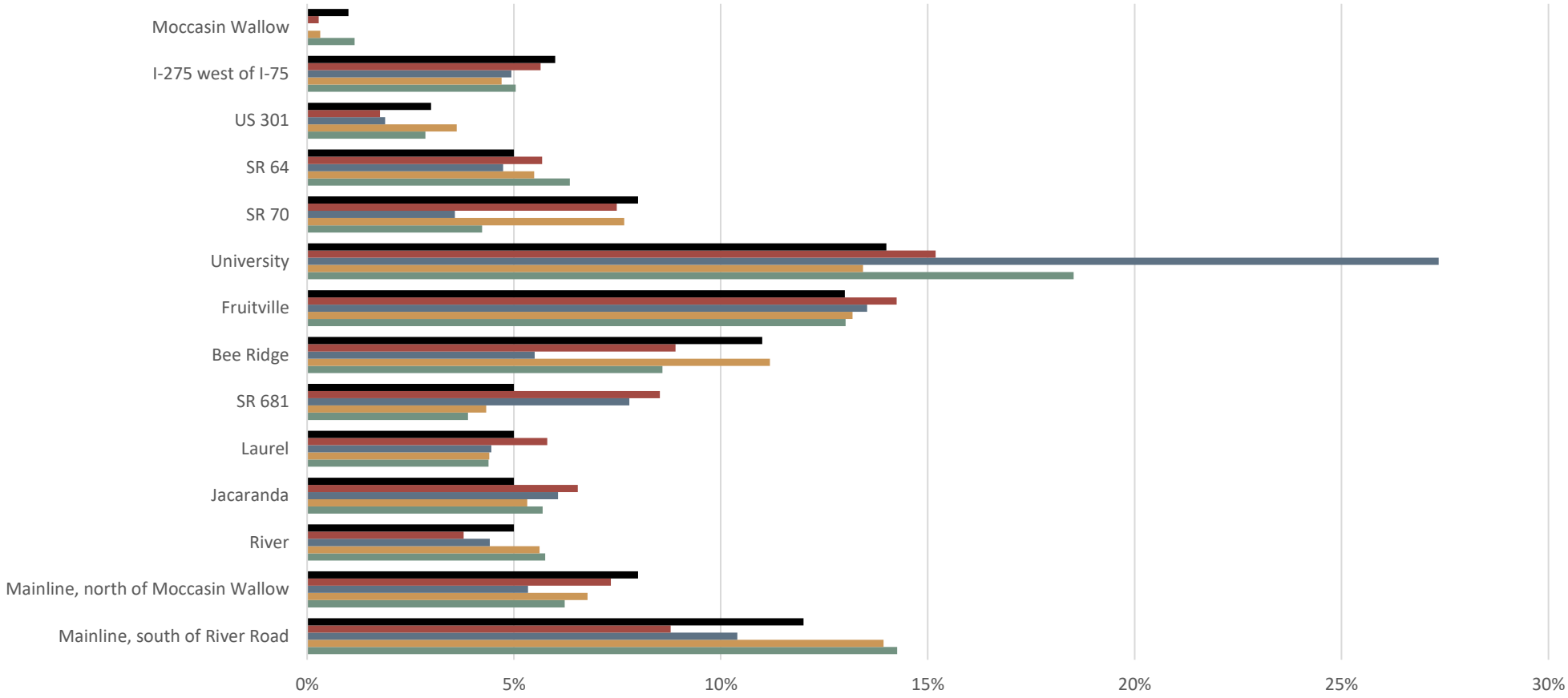
	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Jacaranda	Laurel	SR 681	Clark	Bee Ridge	University	SR 70	SR 64	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	9%	8%	3%	4%	3%	4%	11%	11%	15%	12%	8%	4%	6%	1%
Streetlight AM	6%	7%	3%	4%	4%	7%	14%	10%	16%	11%	8%	3%	7%	0%
Study AM	7%	7%	1%	4%	3%	6%	14%	10%	13%	13%	9%	4%	7%	1%
Streetlight PM	11%	8%	4%	4%	3%	4%	9%	10%	16%	11%	9%	5%	5%	1%
Study PM	13%	11%	4%	6%	4%	5%	6%	8%	11%	7%	11%	5%	6%	2%

Coming from Bee Ridge Road

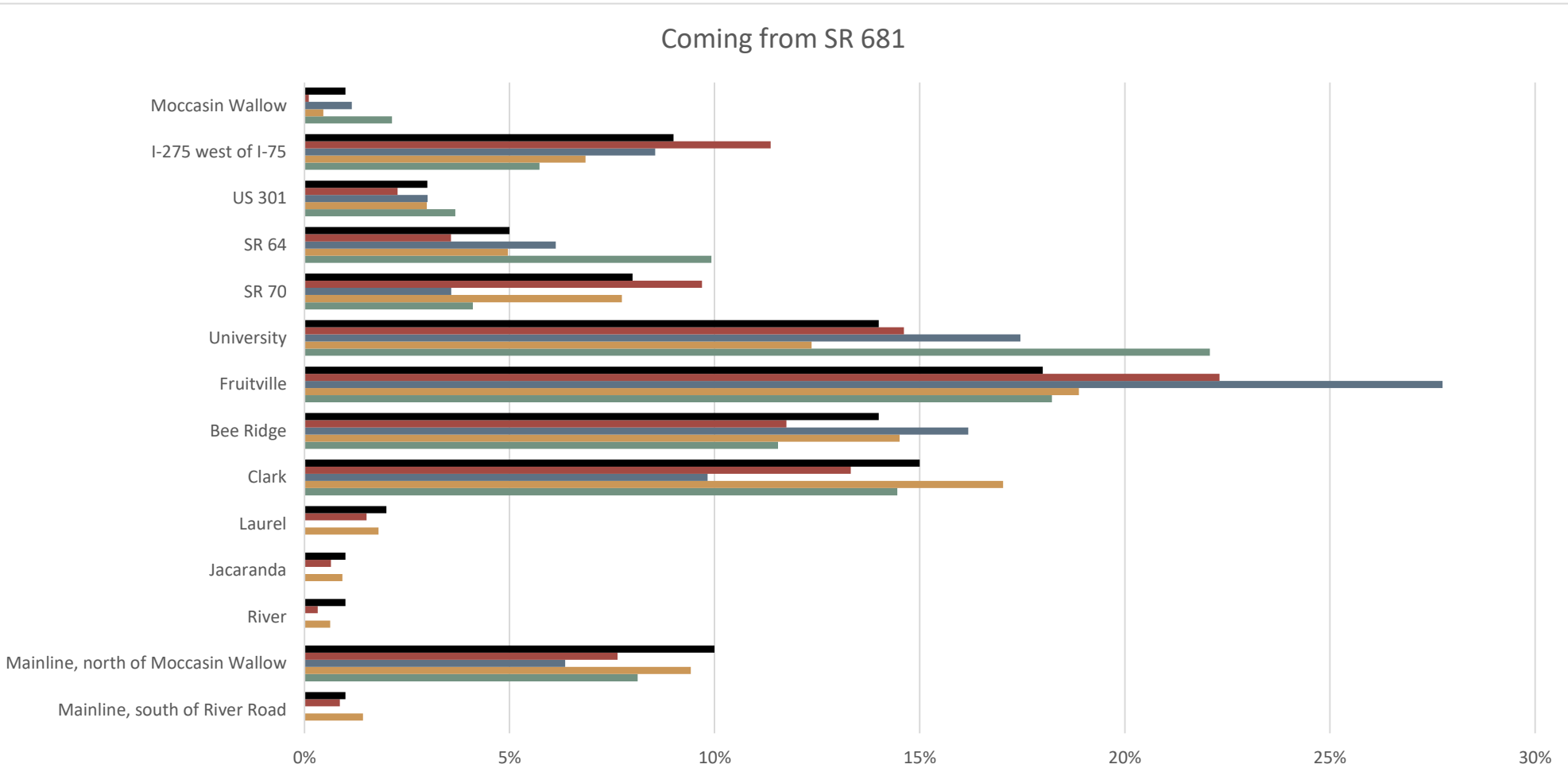


	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Jacaranda	Laurel	SR 681	Clark	Fruitville	University	SR 70	SR 64	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	9%	6%	4%	5%	4%	5%	14%	15%	15%	9%	6%	3%	5%	1%
Streetlight AM	6%	5%	3%	4%	4%	8%	15%	18%	16%	9%	6%	2%	4%	0%
Study AM	8%	3%	4%	5%	4%	7%	9%	12%	29%	8%	5%	2%	4%	0%
Streetlight PM	12%	6%	5%	5%	3%	5%	12%	14%	14%	9%	6%	3%	4%	0%
Study PM	16%	6%	7%	8%	4%	5%	9%	10%	18%	4%	5%	2%	4%	2%

Coming from Clark Road

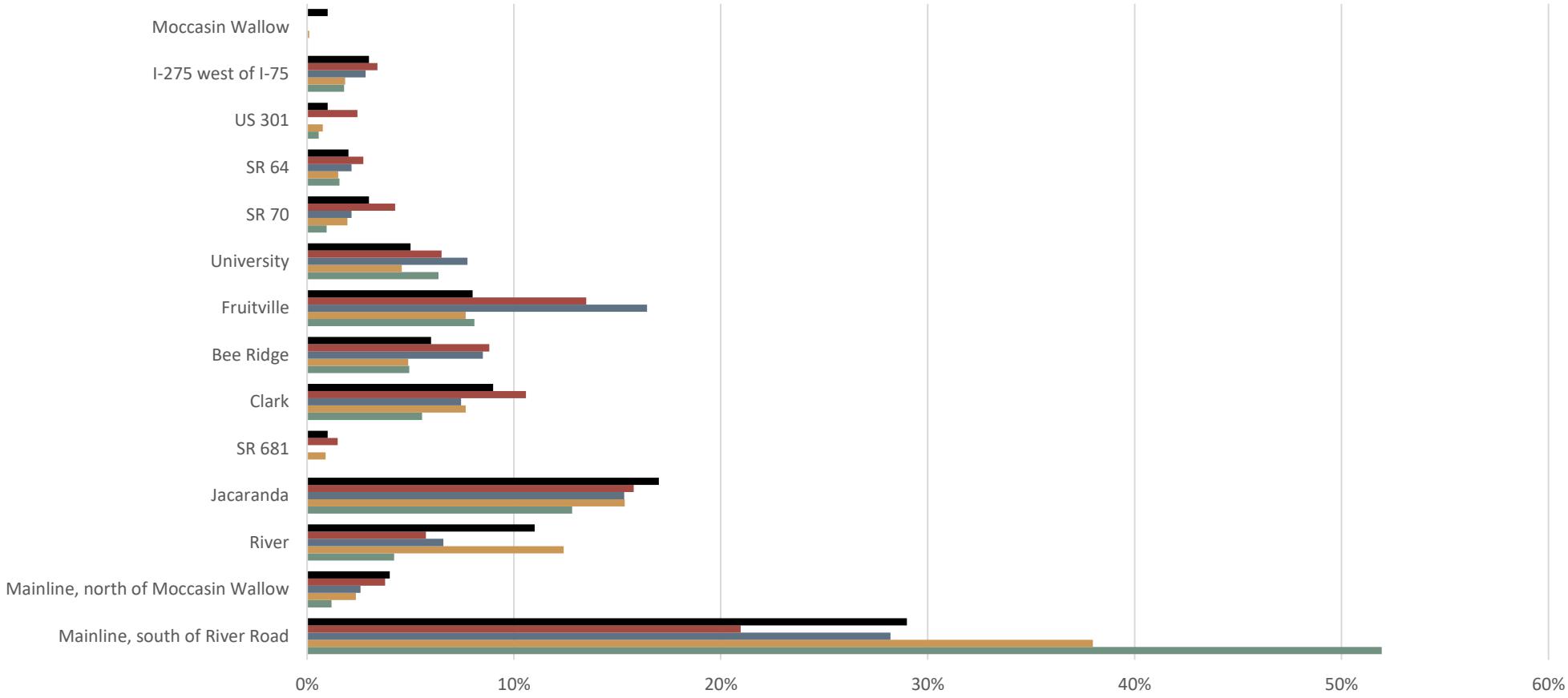


	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Jacaranda	Laurel	SR 681	Bee Ridge	Fruitville	University	SR 70	SR 64	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	12%	8%	5%	5%	5%	5%	11%	13%	14%	8%	5%	3%	6%	1%
Streetlight AM	9%	7%	4%	7%	6%	9%	9%	14%	15%	7%	6%	2%	6%	0%
Study AM	10%	5%	4%	6%	4%	8%	6%	14%	27%	4%	5%	2%	5%	0%
Streetlight PM	14%	7%	6%	5%	4%	4%	11%	13%	13%	8%	5%	4%	5%	0%
Study PM	14%	6%	6%	6%	4%	4%	9%	13%	19%	4%	6%	3%	5%	1%



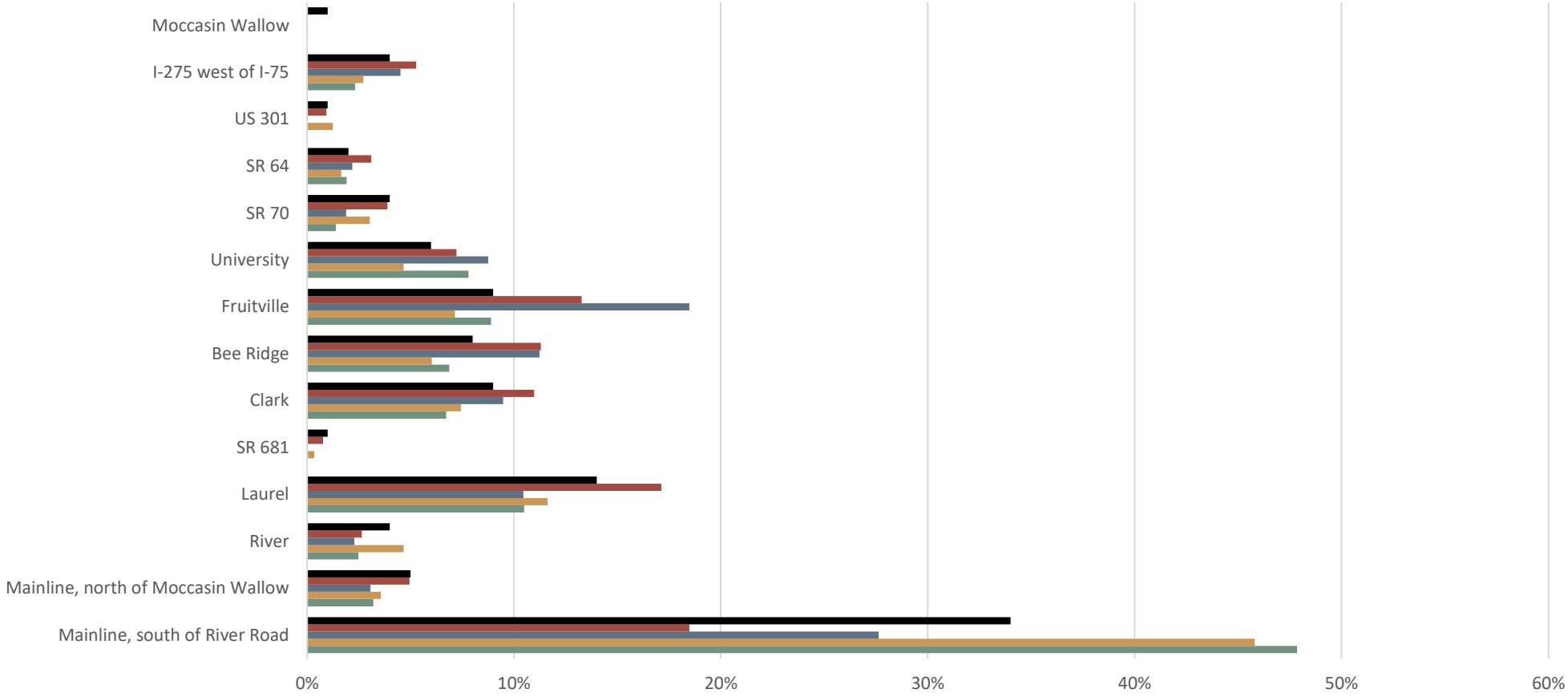
	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Jacaranda	Laurel	Clark	Bee Ridge	Fruitville	University	SR 70	SR 64	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	1%	10%	1%	1%	2%	15%	14%	18%	14%	8%	5%	3%	9%	1%
Streetlight AM	1%	8%	0%	1%	2%	13%	12%	22%	15%	10%	4%	2%	11%	0%
Study AM	0%	6%	0%	0%	0%	10%	16%	28%	17%	4%	6%	3%	9%	1%
Streetlight PM	1%	9%	1%	1%	2%	17%	15%	19%	12%	8%	5%	3%	7%	0%
Study PM	0%	8%	0%	0%	0%	14%	12%	18%	22%	4%	10%	4%	6%	2%

Coming from Laurel Road



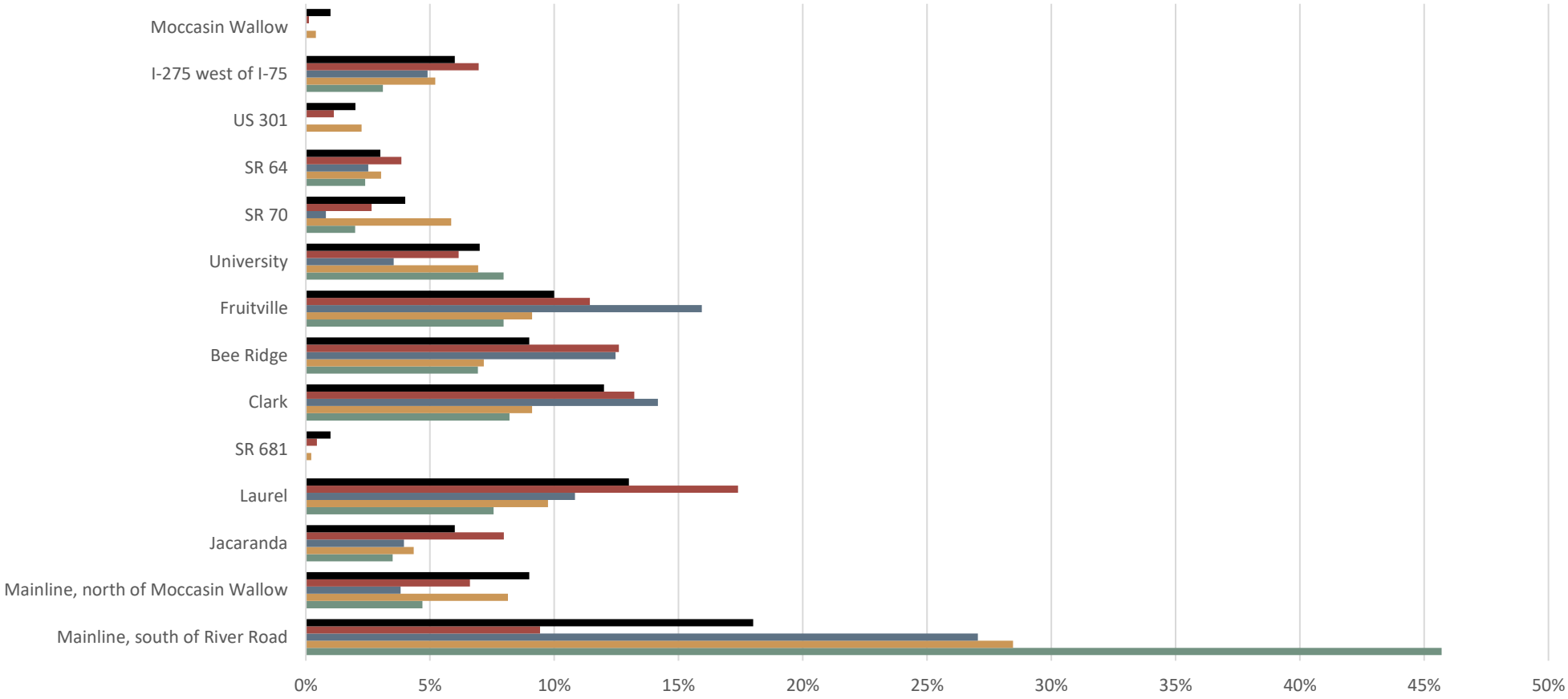
	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Jacaranda	SR 681	Clark	Bee Ridge	Fruitville	University	SR 70	SR 64	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	29%	4%	11%	17%	1%	9%	6%	8%	5%	3%	2%	1%	3%	1%
Streetlight AM	21%	4%	6%	16%	1%	11%	9%	13%	7%	4%	3%	2%	3%	0%
Study AM	28%	3%	7%	15%	0%	7%	8%	16%	8%	2%	2%	0%	3%	0%
Streetlight PM	38%	2%	12%	15%	1%	8%	5%	8%	5%	2%	2%	1%	2%	0%
Study PM	52%	1%	4%	13%	0%	6%	5%	8%	6%	1%	2%	1%	2%	0%

Coming from Jacaranda Boulevard



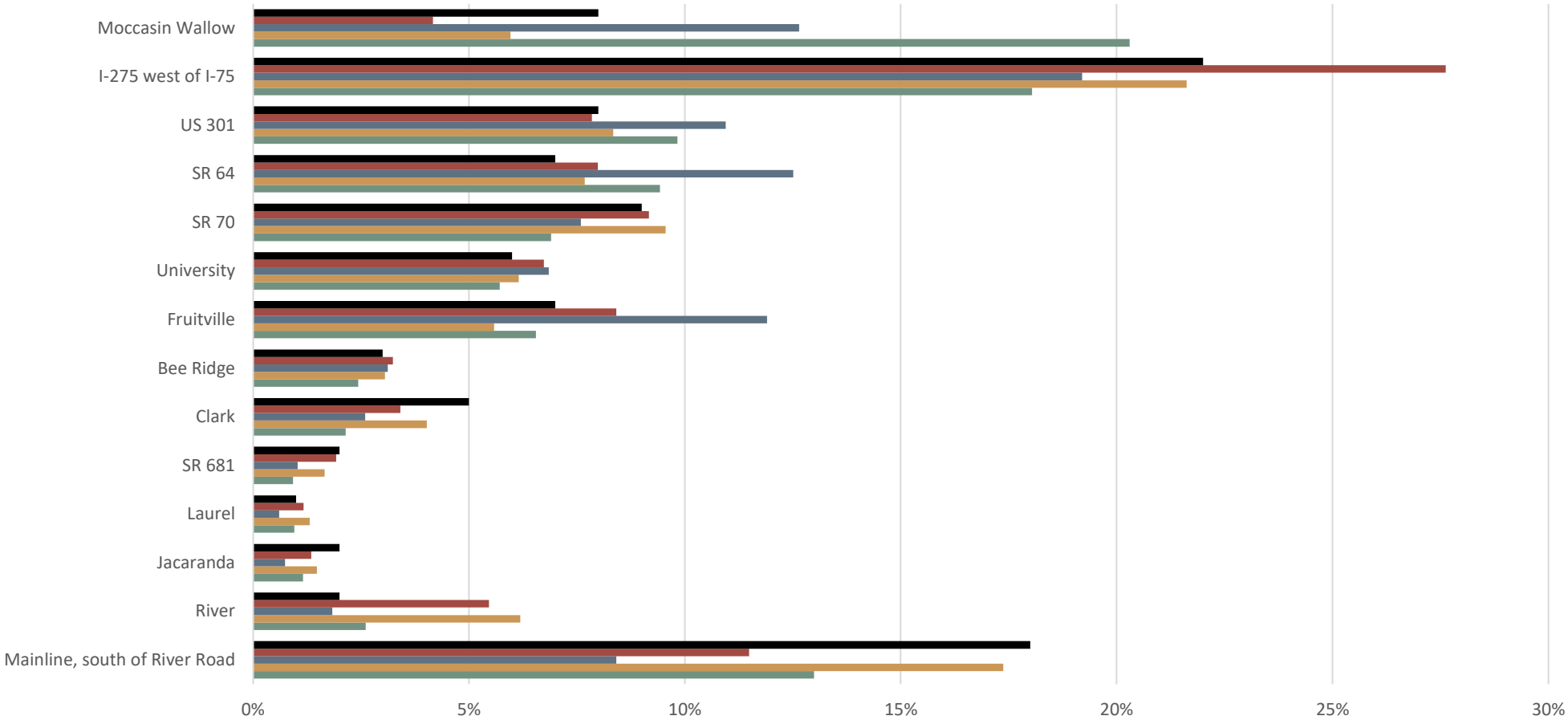
	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Laurel	SR 681	Clark	Bee Ridge	Fruitville	University	SR 70	SR 64	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	34%	5%	4%	14%	1%	9%	8%	9%	6%	4%	2%	1%	4%	1%
Streetlight AM	18%	5%	3%	17%	1%	11%	11%	13%	7%	4%	3%	1%	5%	0%
Study AM	28%	3%	2%	10%	0%	9%	11%	18%	9%	2%	2%	0%	5%	0%
Streetlight PM	46%	4%	5%	12%	0%	7%	6%	7%	5%	3%	2%	1%	3%	0%
Study PM	48%	3%	2%	11%	0%	7%	7%	9%	8%	1%	2%	0%	2%	0%

Coming from River Road



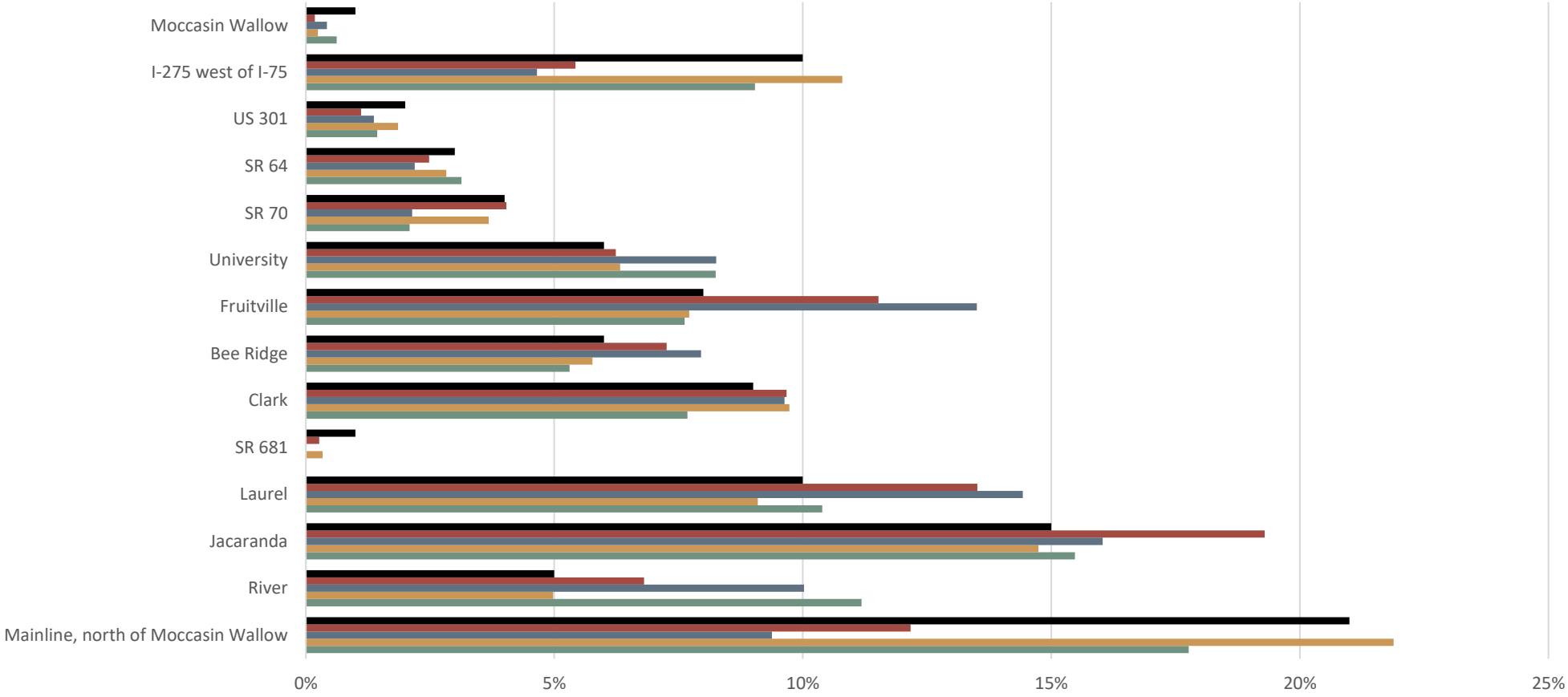
	Mainline, south of River Road	Mainline, north of Moccasin Wallow	Jacaranda	Laurel	SR 681	Clark	Bee Ridge	Fruitville	University	SR 70	SR 64	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	18%	9%	6%	13%	1%	12%	9%	10%	7%	4%	3%	2%	6%	1%
Streetlight AM	9%	7%	8%	17%	0%	13%	13%	11%	6%	3%	4%	1%	7%	0%
Study AM	27%	4%	4%	11%	0%	14%	12%	16%	4%	1%	3%	0%	5%	0%
Streetlight PM	28%	8%	4%	10%	0%	9%	7%	9%	7%	6%	3%	2%	5%	0%
Study PM	46%	5%	4%	8%	0%	8%	7%	8%	8%	2%	2%	0%	3%	0%

Coming from I-75 Mainline North of Moccasin Wallow Road



	Mainline, south of River Road	River	Jacaranda	Laurel	SR 681	Clark	Bee Ridge	Fruitville	University	SR 70	SR 64	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	18%	2%	2%	1%	2%	5%	3%	7%	6%	9%	7%	8%	22%	8%
Streetlight AM	11%	5%	1%	1%	2%	3%	3%	8%	7%	9%	8%	8%	28%	4%
Study AM	8%	2%	1%	1%	1%	3%	3%	12%	7%	8%	13%	11%	19%	13%
Streetlight PM	17%	6%	1%	1%	2%	4%	3%	6%	6%	10%	8%	8%	22%	6%
Study PM	13%	3%	1%	1%	1%	2%	2%	7%	6%	7%	9%	10%	18%	20%

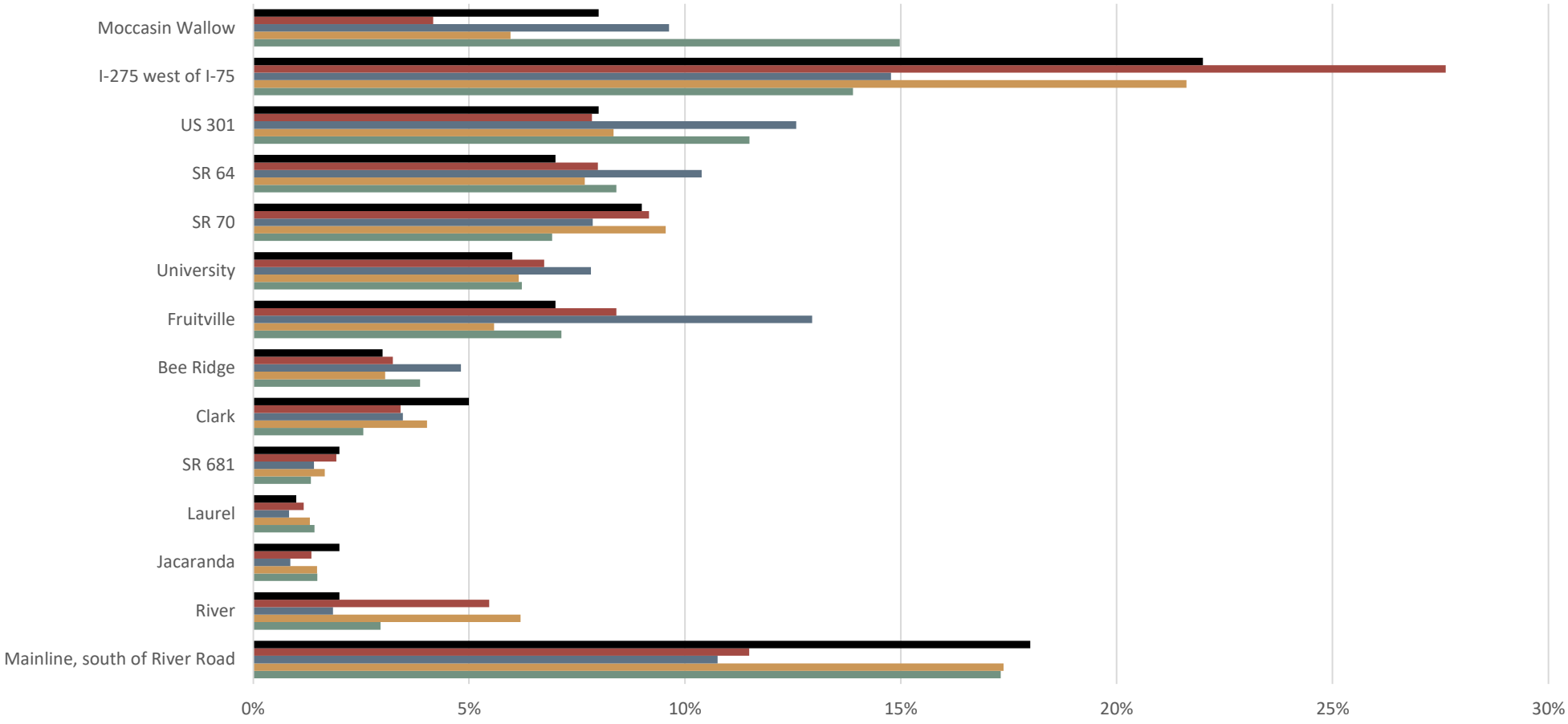
Coming from I-75 Mainline South of River Road



	Mainline, north of Moccasin Wallow	River	Jacaranda	Laurel	SR 681	Clark	Bee Ridge	Fruitville	University	SR 70	SR 64	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	21%	5%	15%	10%	1%	9%	6%	8%	6%	4%	3%	2%	10%	1%
Streetlight AM	12%	7%	19%	14%	0%	10%	7%	12%	6%	4%	2%	1%	5%	0%
Study AM	9%	10%	16%	14%	0%	10%	8%	14%	8%	2%	2%	1%	5%	0%
Streetlight PM	22%	5%	15%	9%	0%	10%	6%	8%	6%	4%	3%	2%	11%	0%
Study PM	18%	11%	15%	10%	0%	8%	5%	8%	8%	2%	3%	1%	9%	1%

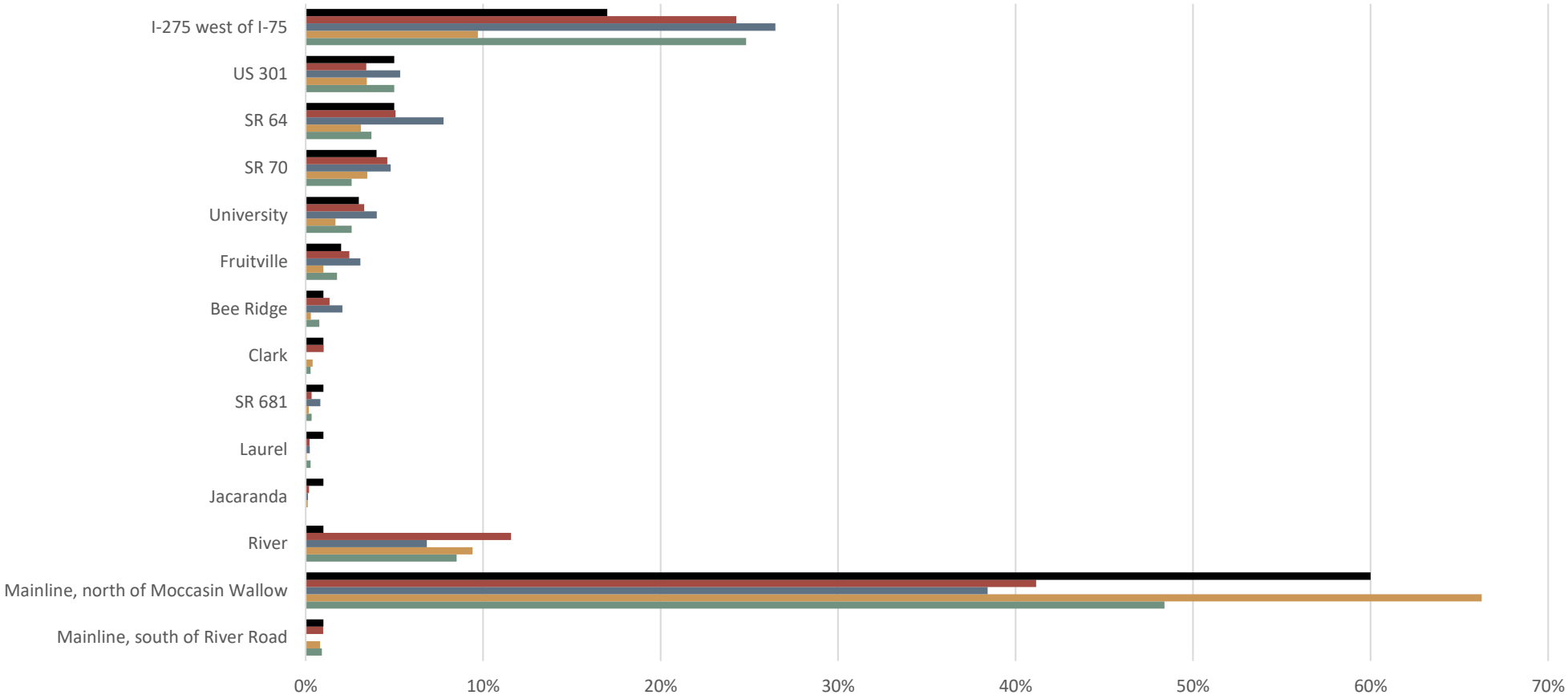
Build

Coming from I-75 Mainline North of Moccasin Wallow Road



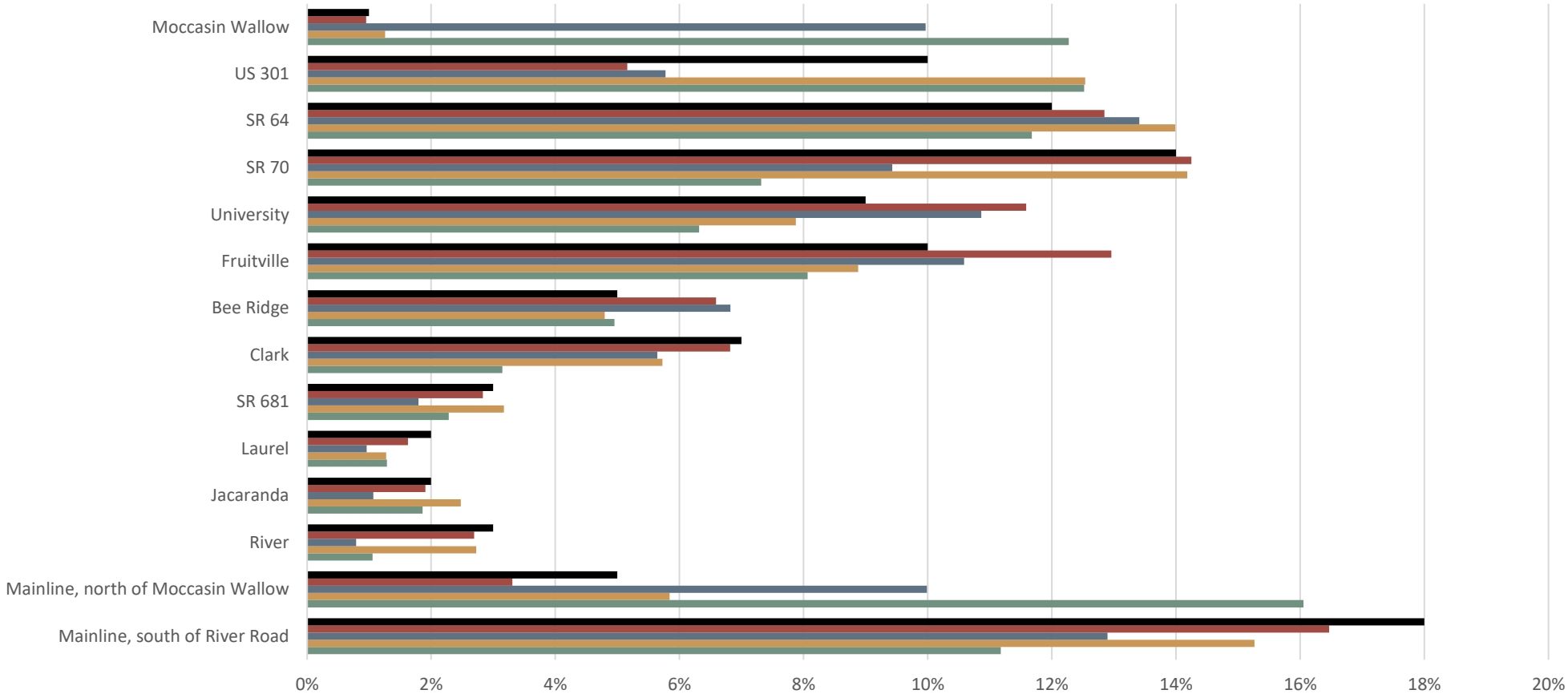
	Mainline, south of River Road	River	Jacaranda	Laurel	SR 681	Clark	Bee Ridge	Fruitville	University	SR 70	SR 64	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	18%	2%	2%	1%	2%	5%	3%	7%	6%	9%	7%	8%	22%	8%
Streetlight AM	11%	5%	1%	1%	2%	3%	3%	8%	7%	9%	8%	8%	28%	4%
Study AM	11%	2%	1%	1%	1%	3%	5%	13%	8%	8%	10%	13%	15%	10%
Streetlight PM	17%	6%	1%	1%	2%	4%	3%	6%	6%	10%	8%	8%	22%	6%
Study PM	17%	3%	1%	1%	1%	3%	4%	7%	6%	7%	8%	11%	14%	15%

Coming from Moccasin Wallow Road

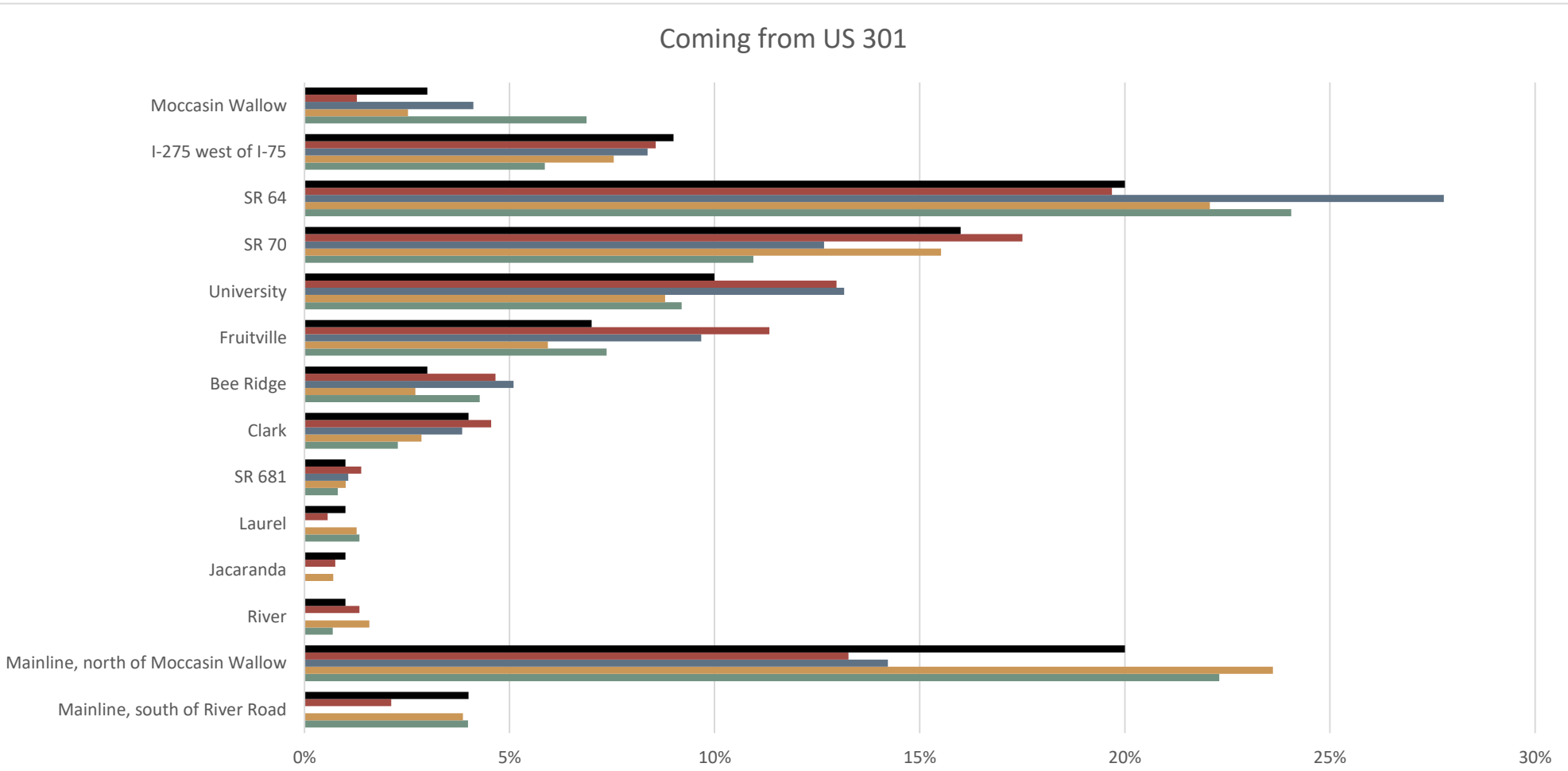


	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Jacaranda	Laurel	SR 681	Clark	Bee Ridge	Fruitville	University	SR 70	SR 64	US 301	I-275 west of I-75
Daily Streetlight	1%	60%	1%	1%	1%	1%	1%	1%	2%	3%	4%	5%	5%	17%
Streetlight AM	1%	41%	12%	0%	0%	0%	1%	1%	2%	3%	5%	5%	3%	24%
Study AM	0%	38%	7%	0%	0%	1%	0%	2%	3%	4%	5%	8%	5%	26%
Streetlight PM	1%	66%	9%	0%	0%	0%	0%	0%	1%	2%	3%	3%	3%	10%
Study PM	1%	48%	9%	0%	0%	0%	0%	1%	2%	3%	3%	4%	5%	25%

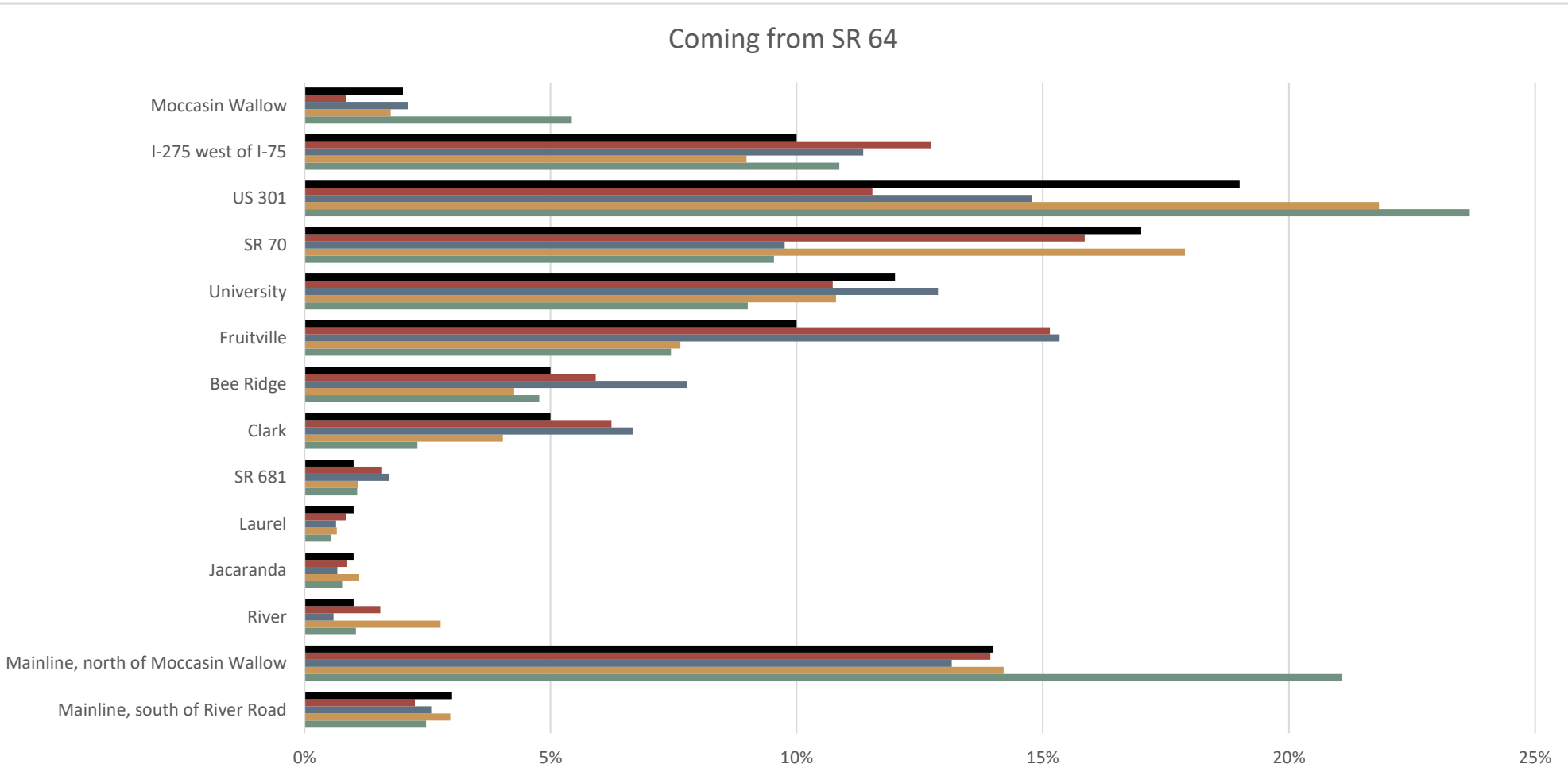
Coming from I-275 West of I-75



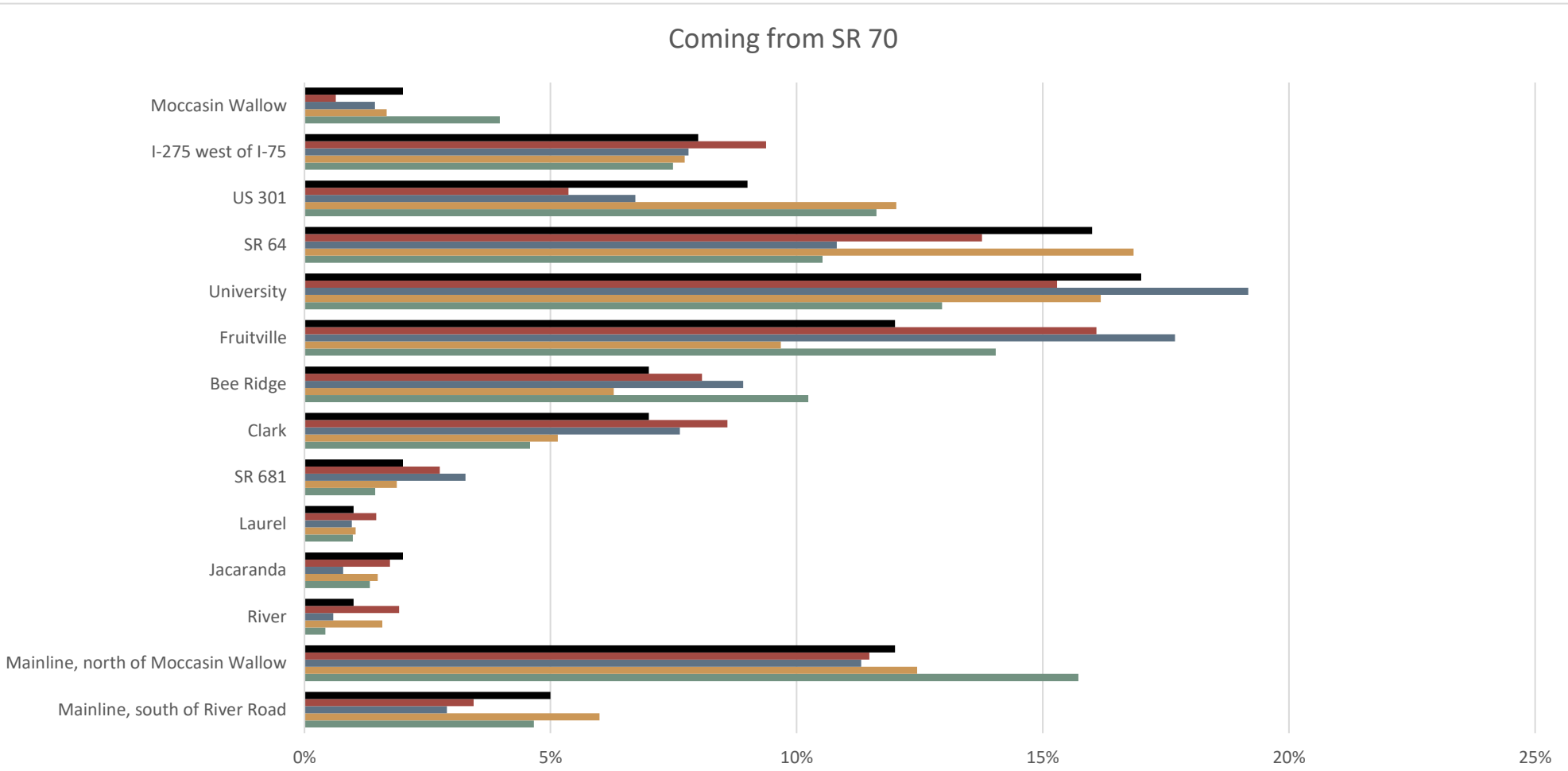
	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Jacaranda	Laurel	SR 681	Clark	Bee Ridge	Fruitville	University	SR 70	SR 64	US 301	Moccasin Wallow
Daily Streetlight	18%	5%	3%	2%	2%	3%	7%	5%	10%	9%	14%	12%	10%	1%
Streetlight AM	16%	3%	3%	2%	2%	3%	7%	7%	13%	12%	14%	13%	5%	1%
Study AM	13%	10%	1%	1%	1%	2%	6%	7%	11%	11%	9%	13%	6%	10%
Streetlight PM	15%	6%	3%	2%	1%	3%	6%	5%	9%	8%	14%	14%	13%	1%
Study PM	11%	16%	1%	2%	1%	2%	3%	5%	8%	6%	7%	12%	13%	12%



	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Jacaranda	Laurel	SR 681	Clark	Bee Ridge	Fruitville	University	SR 70	SR 64	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	4%	20%	1%	1%	1%	1%	4%	3%	7%	10%	16%	20%	9%	3%
Streetlight AM	2%	13%	1%	1%	1%	1%	5%	5%	11%	13%	18%	20%	9%	1%
Study AM	0%	14%	0%	0%	0%	1%	4%	5%	10%	13%	13%	28%	8%	4%
Streetlight PM	4%	24%	2%	1%	1%	1%	3%	3%	6%	9%	16%	22%	8%	3%
Study PM	4%	22%	1%	0%	1%	1%	2%	4%	7%	9%	11%	24%	6%	7%

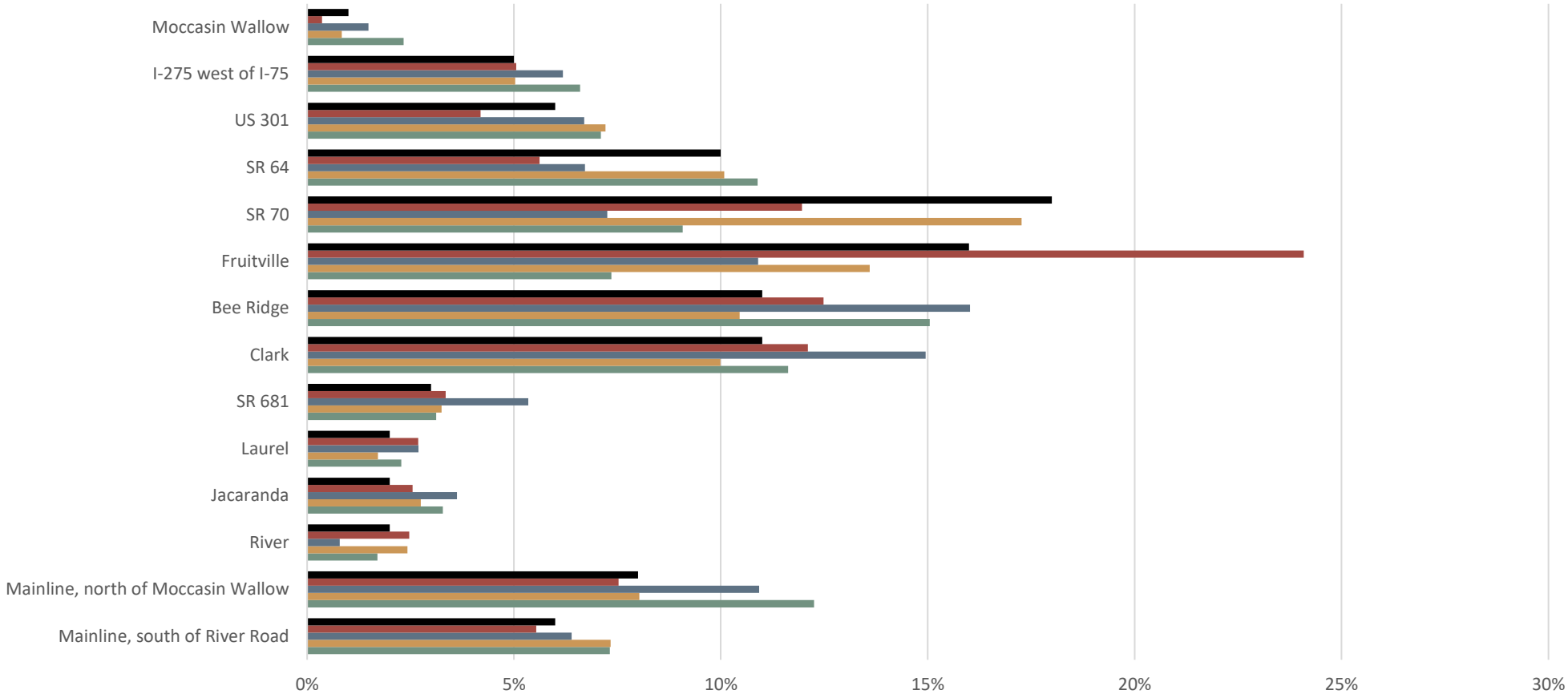


	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Jacaranda	Laurel	SR 681	Clark	Bee Ridge	Fruitville	University	SR 70	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	3%	14%	1%	1%	1%	1%	5%	5%	10%	12%	17%	19%	10%	2%
Streetlight AM	2%	14%	2%	1%	1%	2%	6%	6%	15%	11%	16%	12%	13%	1%
Study AM	3%	13%	1%	1%	1%	2%	7%	8%	15%	13%	10%	15%	11%	2%
Streetlight PM	3%	14%	3%	1%	1%	1%	4%	4%	8%	11%	18%	22%	9%	2%
Study PM	2%	21%	1%	1%	1%	1%	2%	5%	7%	9%	10%	24%	11%	5%

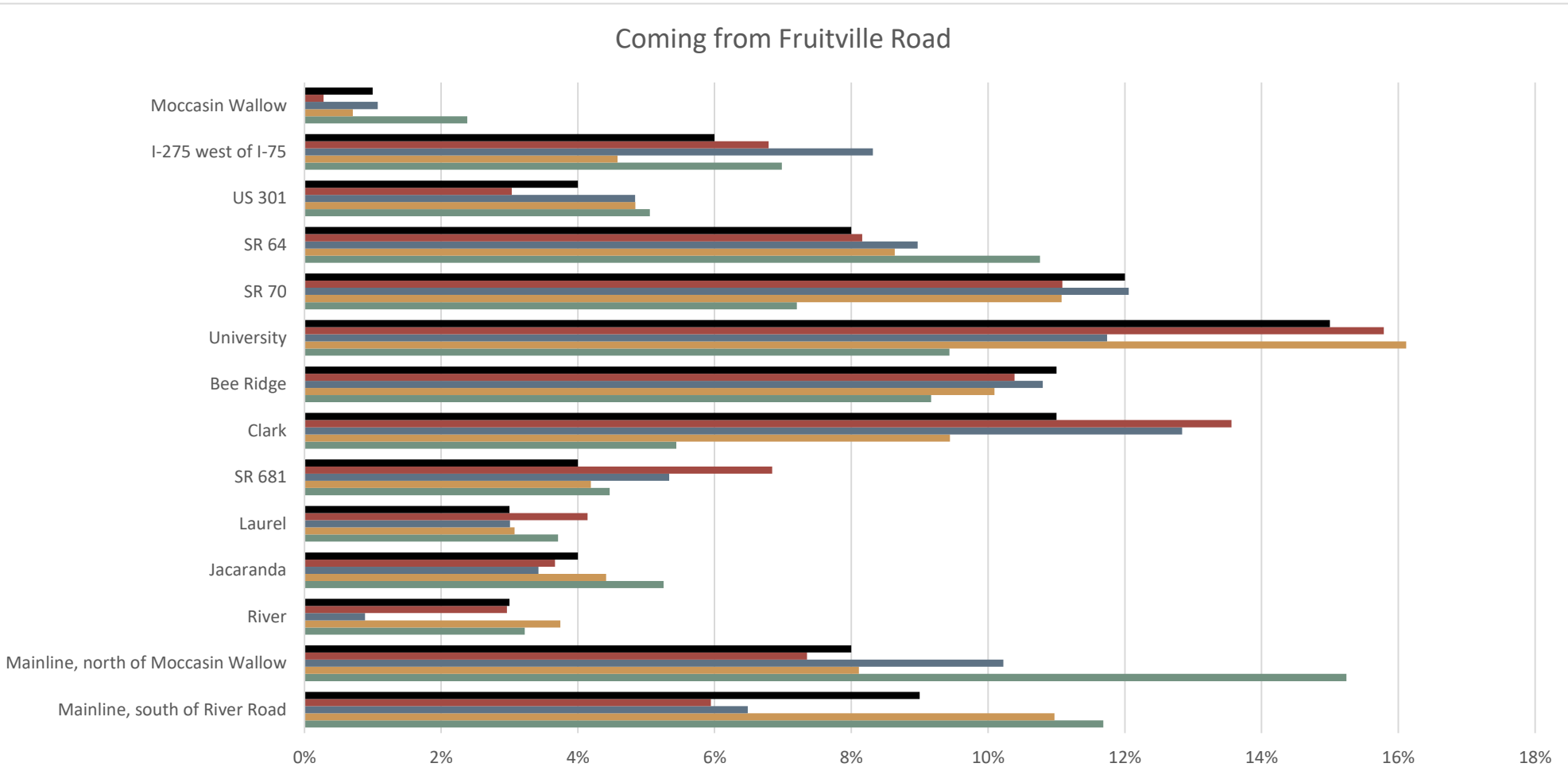


	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Jacaranda	Laurel	SR 681	Clark	Bee Ridge	Fruitville	University	SR 64	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	5%	12%	1%	2%	1%	2%	7%	7%	12%	17%	16%	9%	8%	2%
Streetlight AM	3%	11%	2%	2%	1%	3%	9%	8%	16%	15%	14%	5%	9%	1%
Study AM	3%	11%	1%	1%	1%	3%	8%	9%	18%	19%	11%	7%	8%	1%
Streetlight PM	6%	12%	2%	1%	1%	2%	5%	6%	10%	16%	17%	12%	8%	2%
Study PM	5%	16%	0%	1%	1%	1%	5%	10%	14%	13%	11%	12%	7%	4%

Coming from University Parkway

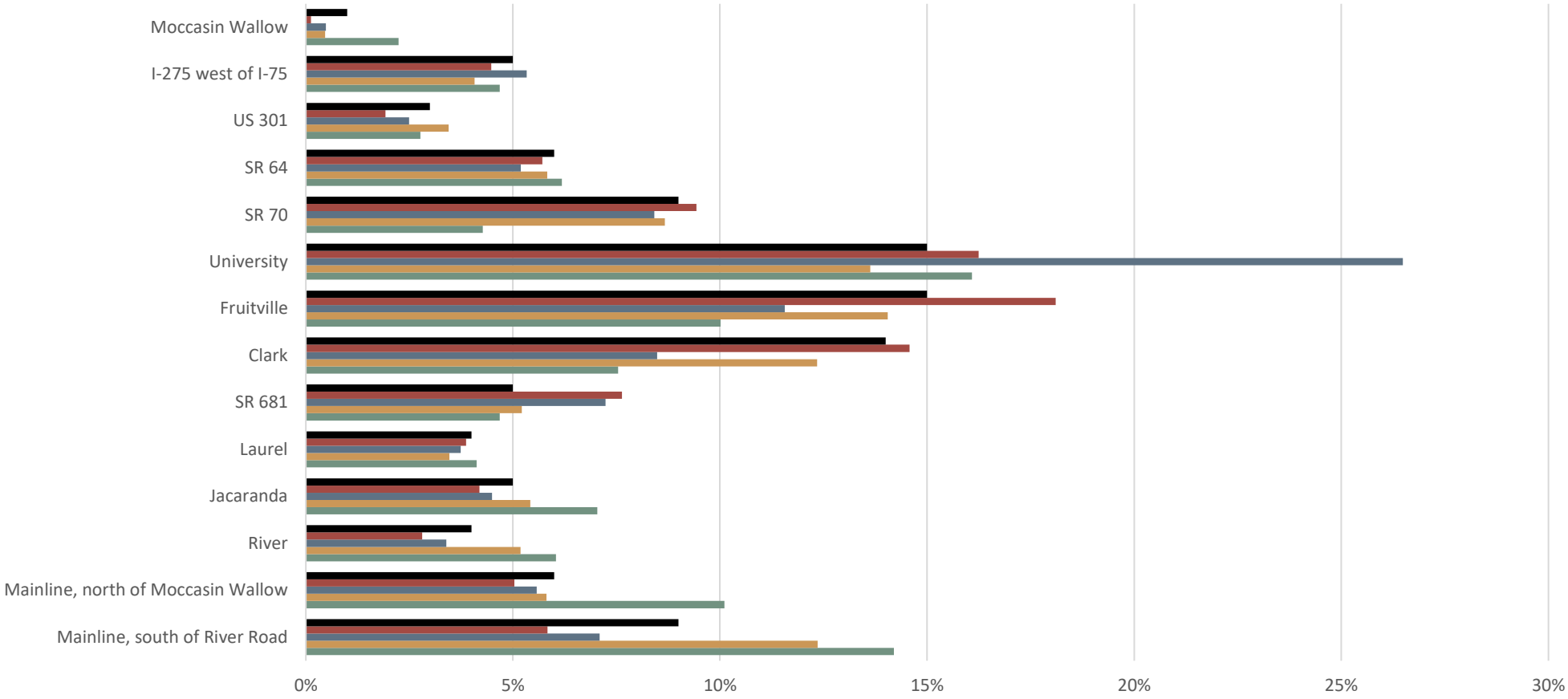


	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Jacaranda	Laurel	SR 681	Clark	Bee Ridge	Fruitville	SR 70	SR 64	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	6%	8%	2%	2%	2%	3%	11%	11%	16%	18%	10%	6%	5%	1%
Streetlight AM	6%	8%	2%	3%	3%	3%	12%	12%	24%	12%	6%	4%	5%	0%
Study AM	6%	11%	1%	4%	3%	5%	15%	16%	11%	7%	7%	7%	6%	1%
Streetlight PM	7%	8%	2%	3%	2%	3%	10%	10%	14%	17%	10%	7%	5%	1%
Study PM	7%	12%	2%	3%	2%	3%	12%	15%	7%	9%	11%	7%	7%	2%

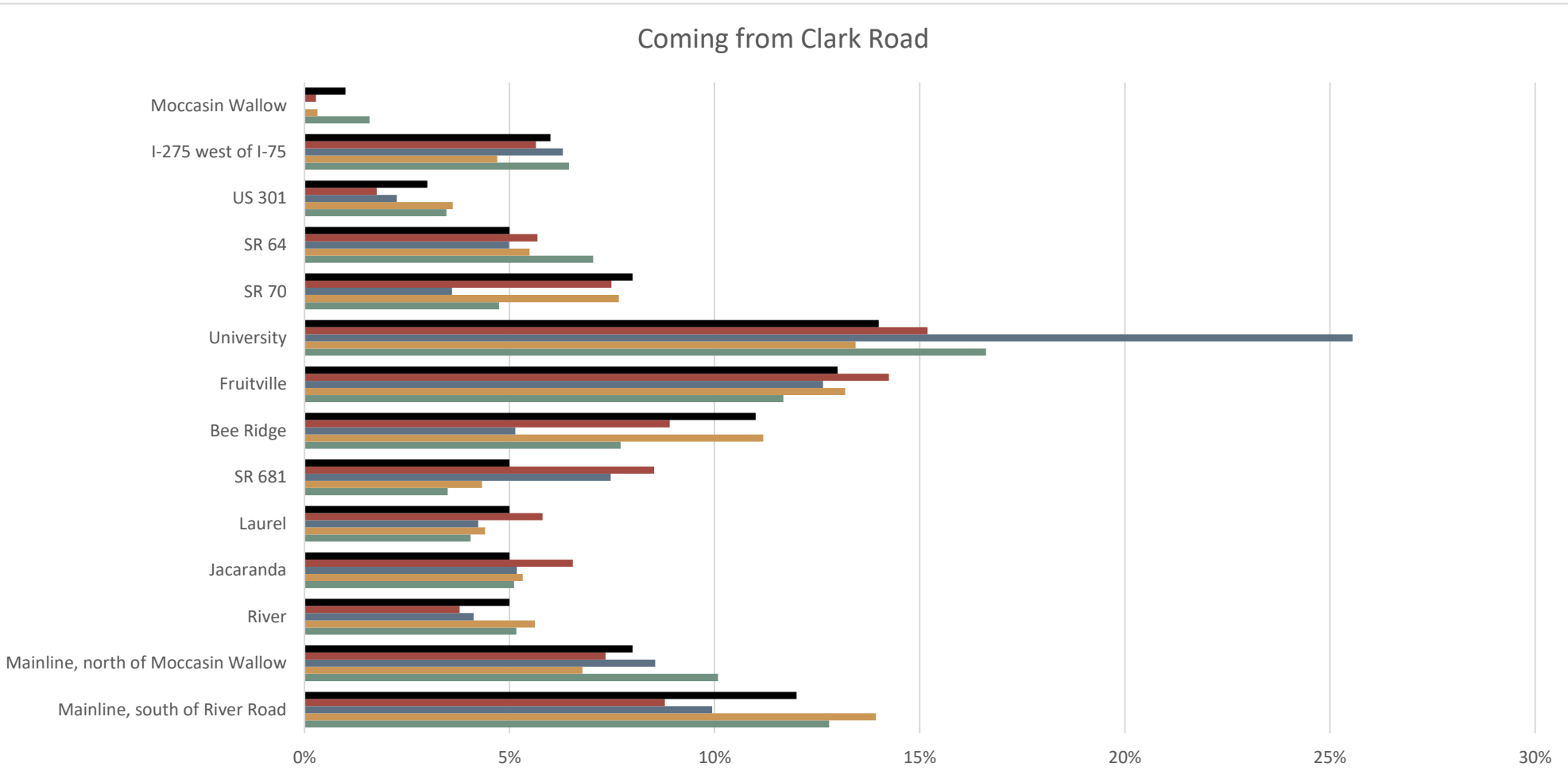


	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Jacaranda	Laurel	SR 681	Clark	Bee Ridge	University	SR 70	SR 64	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	9%	8%	3%	4%	3%	4%	11%	11%	15%	12%	8%	4%	6%	1%
Streetlight AM	6%	7%	3%	4%	4%	7%	14%	10%	16%	11%	8%	3%	7%	0%
Study AM	6%	10%	1%	3%	3%	5%	13%	11%	12%	12%	9%	5%	8%	1%
Streetlight PM	11%	8%	4%	4%	3%	4%	9%	10%	16%	11%	9%	5%	5%	1%
Study PM	12%	15%	3%	5%	4%	4%	5%	9%	9%	7%	11%	5%	7%	2%

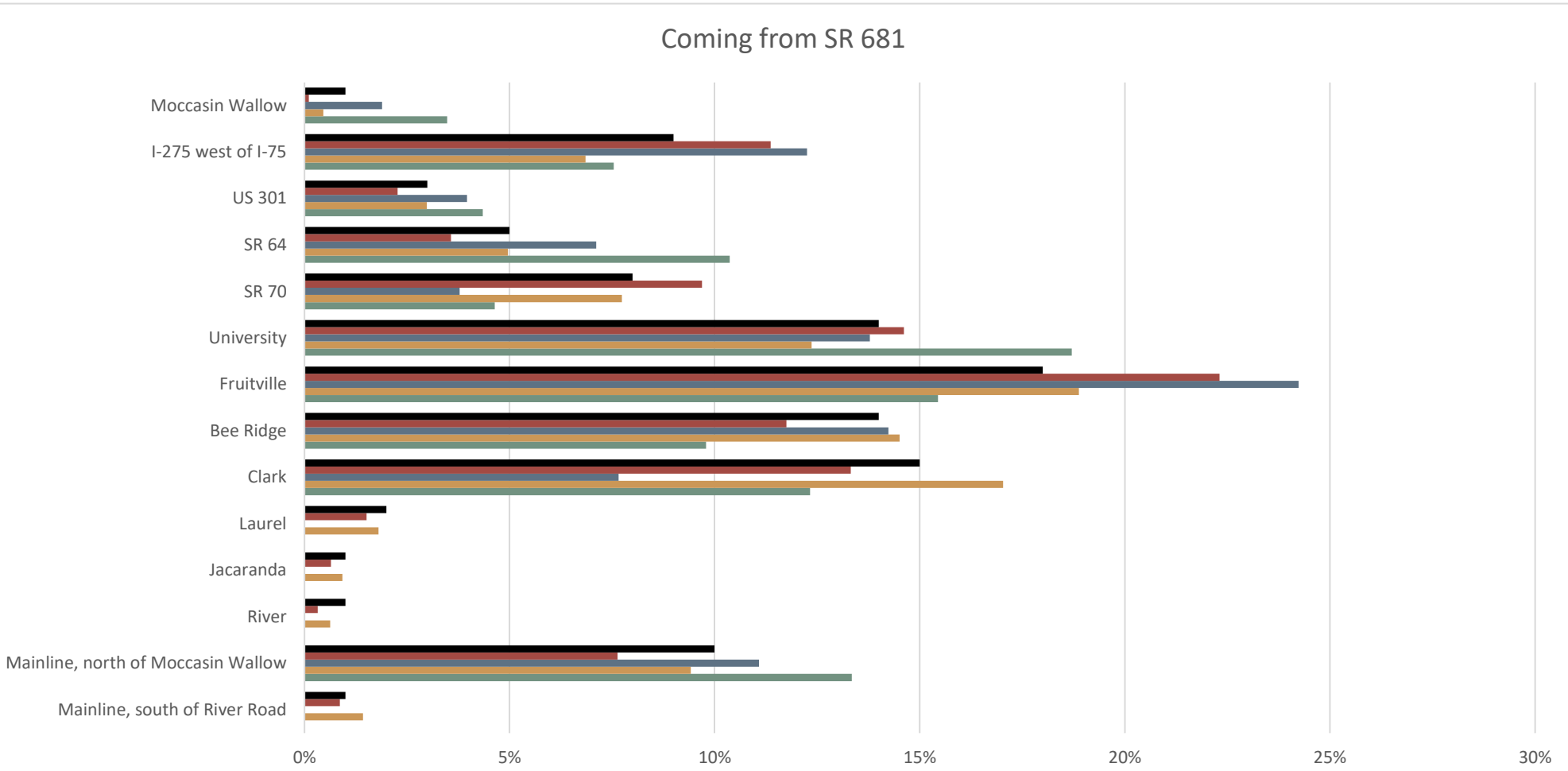
Coming from Bee Ridge Road



	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Jacaranda	Laurel	SR 681	Clark	Fruitville	University	SR 70	SR 64	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	9%	6%	4%	5%	4%	5%	14%	15%	15%	9%	6%	3%	5%	1%
Streetlight AM	6%	5%	3%	4%	4%	8%	15%	18%	16%	9%	6%	2%	4%	0%
Study AM	7%	6%	3%	5%	4%	7%	8%	12%	26%	8%	5%	2%	5%	0%
Streetlight PM	12%	6%	5%	5%	3%	5%	12%	14%	14%	9%	6%	3%	4%	0%
Study PM	14%	10%	6%	7%	4%	5%	8%	10%	16%	4%	6%	3%	5%	2%

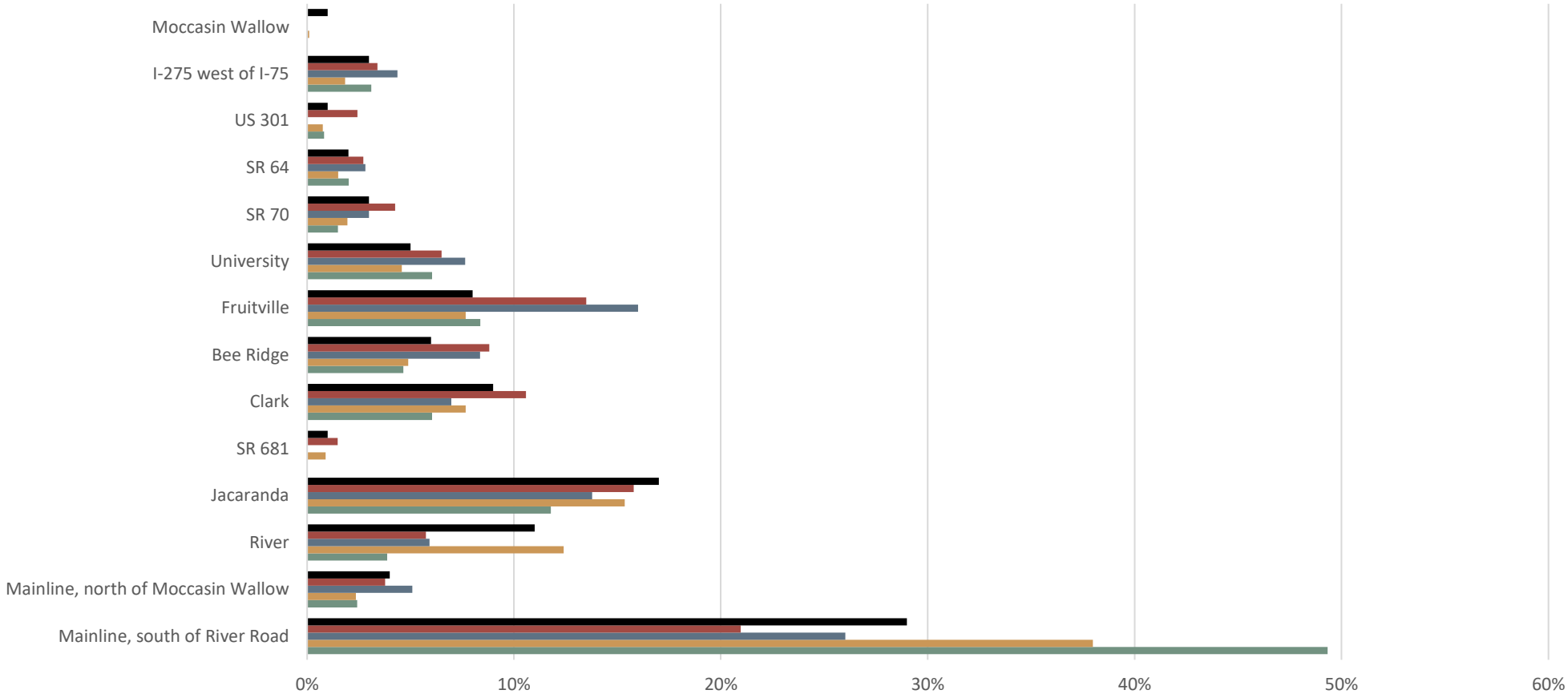


	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Jacaranda	Laurel	SR 681	Bee Ridge	Fruitville	University	SR 70	SR 64	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	12%	8%	5%	5%	5%	5%	11%	13%	14%	8%	5%	3%	6%	1%
Streetlight AM	9%	7%	4%	7%	6%	9%	9%	14%	15%	7%	6%	2%	6%	0%
Study AM	10%	9%	4%	5%	4%	7%	5%	13%	26%	4%	5%	2%	6%	0%
Streetlight PM	14%	7%	6%	5%	4%	4%	11%	13%	13%	8%	5%	4%	5%	0%
Study PM	13%	10%	5%	5%	4%	3%	8%	12%	17%	5%	7%	3%	6%	2%



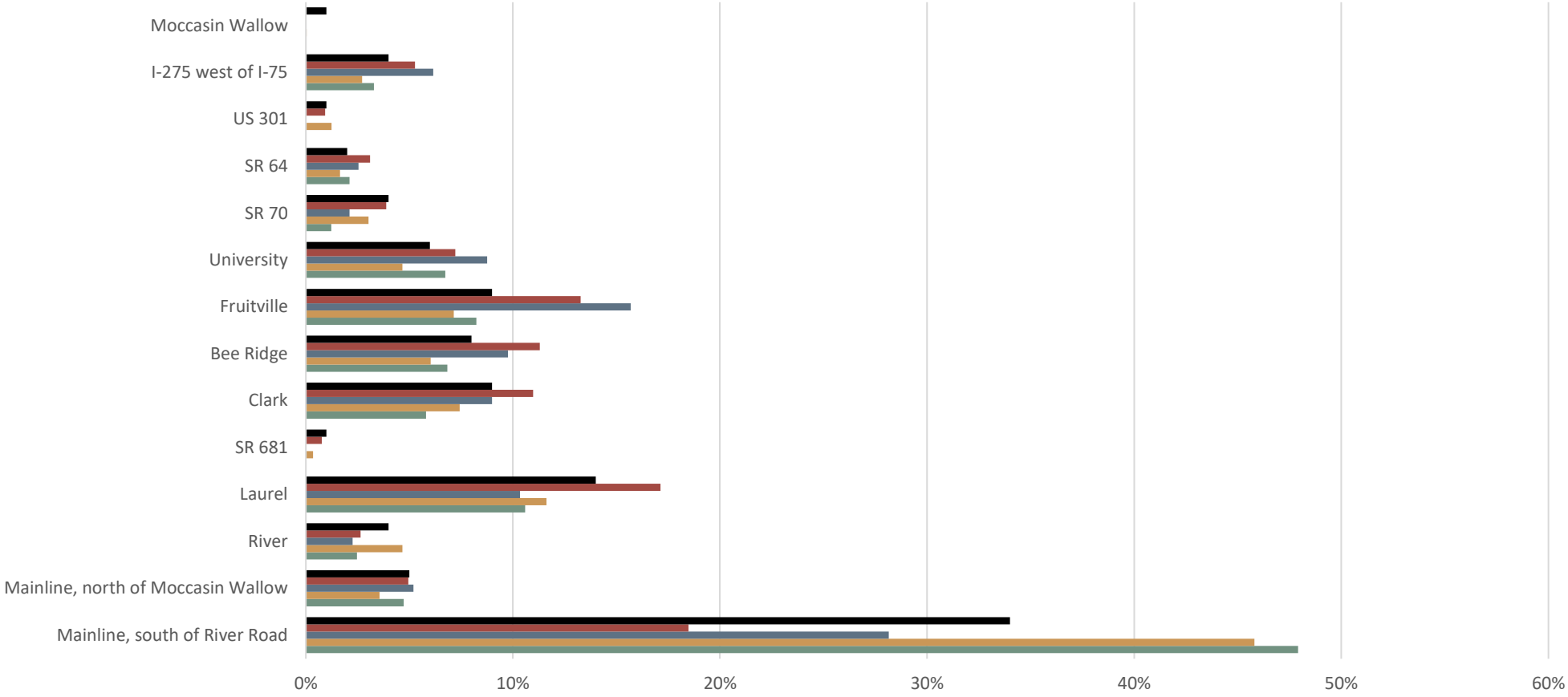
	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Jacaranda	Laurel	Clark	Bee Ridge	Fruitville	University	SR 70	SR 64	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	1%	10%	1%	1%	2%	15%	14%	18%	14%	8%	5%	3%	9%	1%
Streetlight AM	1%	8%	0%	1%	2%	13%	12%	22%	15%	10%	4%	2%	11%	0%
Study AM	0%	11%	0%	0%	0%	8%	14%	24%	14%	4%	7%	4%	12%	2%
Streetlight PM	1%	9%	1%	1%	2%	17%	15%	19%	12%	8%	5%	3%	7%	0%
Study PM	0%	13%	0%	0%	0%	12%	10%	15%	19%	5%	10%	4%	8%	3%

Coming from Laurel Road

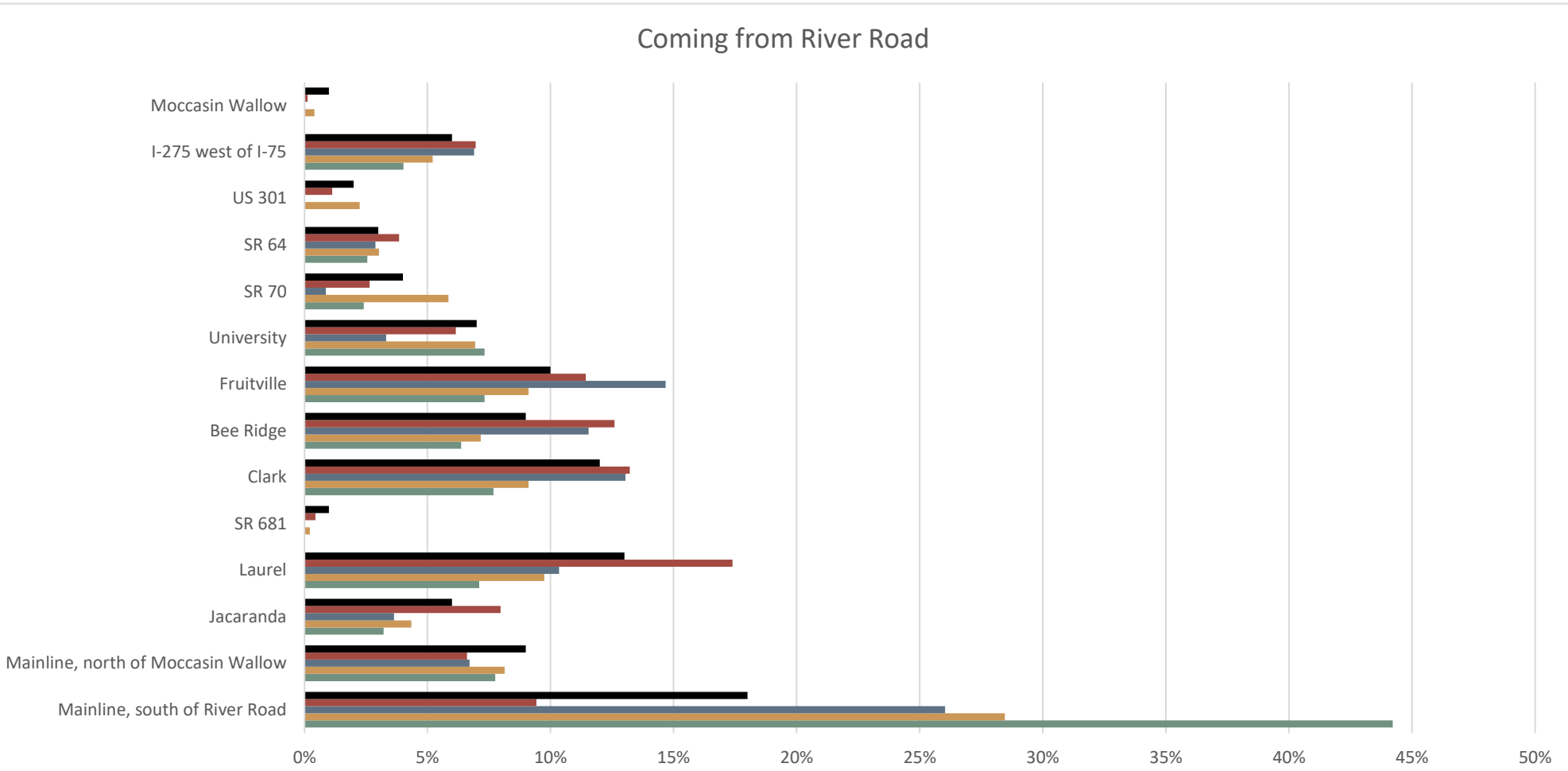


	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Jacaranda	SR 681	Clark	Bee Ridge	Fruitville	University	SR 70	SR 64	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	29%	4%	11%	17%	1%	9%	6%	8%	5%	3%	2%	1%	3%	1%
Streetlight AM	21%	4%	6%	16%	1%	11%	9%	13%	7%	4%	3%	2%	3%	0%
Study AM	26%	5%	6%	14%	0%	7%	8%	16%	8%	3%	3%	0%	4%	0%
Streetlight PM	38%	2%	12%	15%	1%	8%	5%	8%	5%	2%	2%	1%	2%	0%
Study PM	49%	2%	4%	12%	0%	6%	5%	8%	6%	1%	2%	1%	3%	0%

Coming from Jacaranda Boulevard

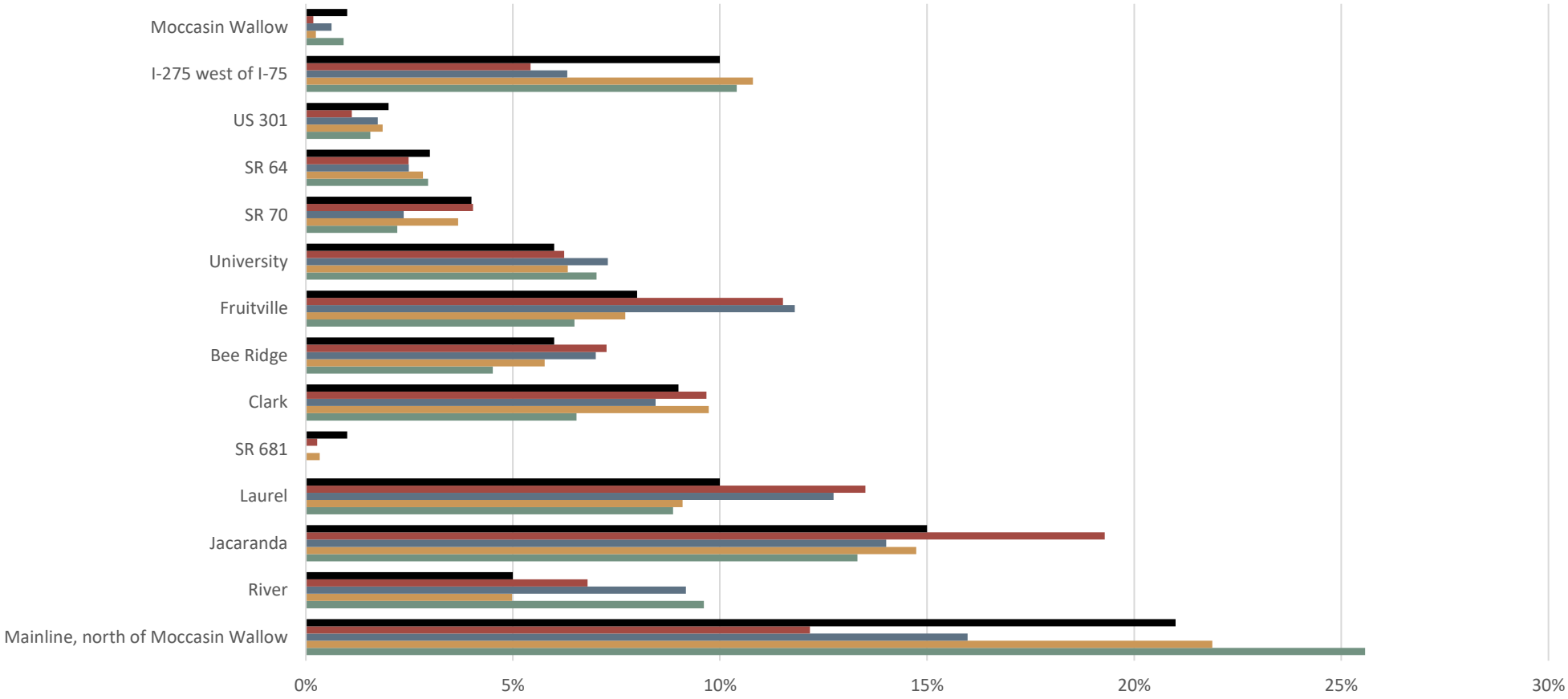


	Mainline, south of River Road	Mainline, north of Moccasin Wallow	River	Laurel	SR 681	Clark	Bee Ridge	Fruitville	University	SR 70	SR 64	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	34%	5%	4%	14%	1%	9%	8%	9%	6%	4%	2%	1%	4%	1%
Streetlight AM	18%	5%	3%	17%	1%	11%	11%	13%	7%	4%	3%	1%	5%	0%
Study AM	28%	5%	2%	10%	0%	9%	10%	16%	9%	2%	3%	0%	6%	0%
Streetlight PM	46%	4%	5%	12%	0%	7%	6%	7%	5%	3%	2%	1%	3%	0%
Study PM	48%	5%	2%	11%	0%	6%	7%	8%	7%	1%	2%	0%	3%	0%



	Mainline, south of River Road	Mainline, north of Moccasin Wallow	Jacaranda	Laurel	SR 681	Clark	Bee Ridge	Fruitville	University	SR 70	SR 64	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	18%	9%	6%	13%	1%	12%	9%	10%	7%	4%	3%	2%	6%	1%
Streetlight AM	9%	7%	8%	17%	0%	13%	13%	11%	6%	3%	4%	1%	7%	0%
Study AM	26%	7%	4%	10%	0%	13%	12%	15%	3%	1%	3%	0%	7%	0%
Streetlight PM	28%	8%	4%	10%	0%	9%	7%	9%	7%	6%	3%	2%	5%	0%
Study PM	44%	8%	3%	7%	0%	8%	6%	7%	7%	2%	3%	0%	4%	0%

Coming from I-75 Mainline South of River Road



	Mainline, north of Moccasin Wallow	River	Jacaranda	Laurel	SR 681	Clark	Bee Ridge	Fruitville	University	SR 70	SR 64	US 301	I-275 west of I-75	Moccasin Wallow
Daily Streetlight	21%	5%	15%	10%	1%	9%	6%	8%	6%	4%	3%	2%	10%	1%
Streetlight AM	12%	7%	19%	14%	0%	10%	7%	12%	6%	4%	2%	1%	5%	0%
Study AM	16%	9%	14%	13%	0%	8%	7%	12%	7%	2%	2%	2%	6%	1%
Streetlight PM	22%	5%	15%	9%	0%	10%	6%	8%	6%	4%	3%	2%	11%	0%
Study PM	26%	10%	13%	9%	0%	7%	5%	6%	7%	2%	3%	2%	10%	1%

Appendix I
No Build (E+C) Improvements

Interchange	E+C Improvement	Notes	Document/Source	Document/Source Date
I-75	Add auxiliary lanes on I-75 between SR 64 and US 301		I-75 at US-301 IMR final 10.08.15	October 2015
	Widen I-75 from 6 to 8 lanes from south of University Parkway to Fruitville Road		CF D1RPM/SMC LRTP	2040
	Add auxiliary lanes on I-75 between Clark Road and Bee Ridge Road	Recommended in 2011 PD&E Study. DTTM assumed 2 SUL on NB/SB I-75	201277 I-75_Clark DTTM 20141216	December 2014
Moccasin Wallow Road	No change from existing configuration (no funded improvements identified)			
I-275	No change from existing configuration (no funded improvements identified)			
US 41	No change from existing configuration (no funded improvements identified)			
US 301	Reconfigure I-75/US 301 interchange to an Enhanced Diamond Interchange	Active design-build. This is the Preferred Alternative	I-75 at US-301 IMR final 10.08.15	October 2015
	Add 2-lane exit for northbound I-75 off ramp to US 301		I-75 at US-301 IMR final 10.08.15	October 2015
	Add 2-lane entrance for southbound I-75 on ramp from US 301 with merge onto I-75		I-75 at US-301 IMR final 10.08.15	October 2015
	Relocate ramps (new structures for ramps south of US 301)		I-75 at US-301 IMR final 10.08.15	October 2015
SR 64	No change from existing configuration (no funded improvements identified)			
SR 70	No change from existing configuration (no funded improvements identified)			
University Parkway	No change from existing configuration (no funded improvements identified)			
SR 780 (Fruitville Road)	Reconfigure I-75/Fruitville Road interchange to a Diverging Diamond Interchange (DDI)	In design and funded for construction. This is the Preferred Alternative	I75_Fruitville_InterchangeModificationReport_20160509_Final	May 2016
	Add 2-lane exit for northbound I-75 off ramp to Fruitville Road	Ties into planned Aux lanes between University and Bee Ridge	I75_Fruitville_InterchangeModificationReport_20160509_Final	May 2016
	Add 2-lane exit for southbound I-75 off ramp to Fruitville Road	Ties into planned Aux lanes between University and Bee Ridge	I75_Fruitville_InterchangeModificationReport_20160509_Final	May 2016
	Add 2-lane entrance for northbound I-75 on ramp from Fruitville Road with merge onto I-75	Ties into planned Aux lane between Fruitville and University (2040 CFP/LRTP)	I75_Fruitville_InterchangeModificationReport_20160509_Final	May 2016
	Add 2-lane entrance for southbound I-75 on ramp from Fruitville Road with merge onto I-75	Ties into planned Aux lane between Fruitville and Bee Ridge	I75_Fruitville_InterchangeModificationReport_20160509_Final	May 2016
	Widen eastbound Fruitville Road from 4 to 6 lanes from the loop ramp to Coburn Road	This is listed as an interchange modification in the LRTP	CF D1RPM/SMC LRTP	2040
	Add a third southbound left-turn lane to the Fruitville Road/Cattlemen Road intersection	Part of interchange improvements	I75_Fruitville_InterchangeModificationReport_20160509_Final	May 2016
	Add lanes on Fruitville Road from Paramount Drive to Coburn Road	Part of interchange improvements	I75_Fruitville_InterchangeModificationReport_20160509_Final	May 2016
	Add new north leg to the Fruitville Road/Lakewood Ranch Blvd intersection		CF D1RPM/SMC LRTP	2040
SR 758 (Bee Ridge Road)	Reconfigure I-75/Bee Ridge Road interchange to a DDI variant with relocated southbound I-75 off ramp (Ramp E)	Planned for construction in 2030. This is the Preferred Alternative	I-75 at Bee Ridge Rd (SR-758) IMR final 03.16.17	March 2017
	Add 2-lane exit for northbound I-75 off ramp to Bee Ridge Road	I-75 PD&E included aux lane between Bee Ridge and Clark	I-75 at Bee Ridge Rd (SR-758) IMR final 03.16.17	March 2017
	Add 2-lane exit for southbound I-75 off ramp to Bee Ridge Road	I-75 PD&E included aux lane between Bee Ridge and Fruitville	I-75 at Bee Ridge Rd (SR-758) IMR final 03.16.17	March 2017
	Add 2-lane entrance for northbound I-75 on ramp from Bee Ridge Road with merge onto I-75		I-75 at Bee Ridge Rd (SR-758) IMR final 03.16.17	March 2017
	Add 2-lane entrance for southbound I-75 on ramp from Bee Ridge Road with merge onto I-75		I-75 at Bee Ridge Rd (SR-758) IMR final 03.16.17	March 2017
	Reconfigure the Bee Ridge Road/Cattlemen Road intersection to a Continuous-Flow Intersection (CFI)		I-75 at Bee Ridge Rd (SR-758) IMR final 03.16.17	March 2017
SR 72 (Clark Road)	Reconfigure I-75/Clark Road interchange to a DDI	Project being let for construction. This is the Preferred Alternative	201277 I-75_Clark DTTM 20141216	December 2014
	Add 2-lane exit for northbound I-75 off ramp to Clark Road	Currently in design	201277 I-75_Clark DTTM 20141216	December 2014
	Add 2-lane exit for southbound I-75 off ramp to Clark Road	Currently in design	201277 I-75_Clark DTTM 20141216	December 2014
	Add 2-lane entrance for southbound I-75 on ramp from Clark Road with merge onto I-75	Currently in design	201277 I-75_Clark DTTM 20141216	December 2014
	Widen Clark Road from 4 to 6 lanes from east of I-75 to Hummingbird Road	This is listed as an interchange modification in the LRTP	CF D1RPM/SMC LRTP	2040
	Add new through/turn lanes from west of Gantt Road to I-75		201277 I-75_Clark DTTM 20141216	December 2014
	Signalize the Clark Road/Queensbury Blvd intersection	Recommended in 2011 PD&E Study	201277 I-75_Clark DTTM 20141216	December 2014
SR 681	No change from existing configuration (no funded improvements identified)			
Laurel Road	No change from existing configuration (no funded improvements identified)			
Jacaranda Boulevard	No change from existing configuration (no funded improvements identified)			
N River Road	Widen N River Road from 2 to 4 lanes south of Venice Avenue		CF D1RPM/SMC LRTP	2040

I-75 & US 301

I-75 & Fruitville Road (SR 780)

I-75 & Bee Ridge Road (SR 758)

I-75 & Clark Road (SR 72)

Appendix J
No Build Intersection Vissim Analysis Results

2045 NoBuild - AM Peak: US 41

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
US 41	85th St	200	EB	EBL	5	4	80%	142.1	F	74	142.1	F
		200		EBT	7	7	100%	90.8	F	74		
		200		EBR	9	9	100%	35.8	E	101		
		200	WB	WBL	63	62	98%	27.8	D	100		
		200		WBT	6	6	100%	25.4	D	72		
		200		WBR	57	56	98%	9.3	A	113		
		200	NB	NBL	8	8	100%	36.6	E	37		
		200		NBT	1269	1176	93%	3.5	A	0		
		200		NBR	89	71	80%	5.6	A	0		
		200	SB	SBL	37	37	100%	9.5	A	51		
		200		SBT	2330	2335	100%	2.4	A	0		
		200		SBR	5	4	80%	2.1	A	2		
US 41	I-275 WB Ramps	205	WB	WBL	436	434	100%	39.8	D	275	22.8	C
		205		WBR	147	145	99%	2.6	A	0		
		205	NB	NBL	339	357	105%	64.6	E	691		
		205		NBT	1219	1105	91%	9.0	A	461		
		205	SB	SBT	1662	1664	100%	26.8	C	577		
		205		SBR	740	752	102%	7.6	A	405		
US 41	I-275 EB Ramps	210	NB	NBT	1209	1247	103%	2.6	A	40	701.6	F
		210		NBR	600	608	101%	8.9	A	317		
		210	SB	SBL	373	367	98%	28.1	D	493		
		210		SBT	1725	1744	101%	8.4	A	238		
		210	EB	EBL	349	171	49%	701.6	F	1542		
		210		EBR	197	95	48%	432.8	F	0		
US 41	73rd St	215	EB	EBL	99	96	97%	36.7	D	163	62.4	E
		215		EBT	34	35	103%	31.0	C	120		
		215		EBR	34	34	100%	21.1	C	163		
		215	WB	WBL	295	296	100%	77.3	E	862		
		215		WBT	35	34	97%	92.0	F	1089		
		215		WBR	579	583	101%	72.1	E	1071		
		215	NB	NBL	23	22	96%	62.1	E	98		
		215		NBT	1131	1155	102%	47.2	D	1020		
		215		NBR	209	204	98%	18.9	B	179		
		215	SB	SBL	210	188	90%	87.5	F	370		
		215		SBT	1669	1670	100%	72.6	E	1783		
		215		SBR	43	39	91%	15.5	B	78		

2045 NoBuild - PM Peak: US 41

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
US 41	85th St	200	EB	EBL	6	4	67%	48.6	E	41	48.6	E
		200		EBT	6	6	100%	16.7	C	41		
		200		EBR	7	6	86%	11.5	B	69		
		200	WB	WBL	41	40	98%	24.1	C	57		
		200		WBT	9	8	89%	25.8	D	67		
		200		WBR	53	52	98%	12.8	B	108		
		200	NB	NBL	7	4	57%	9.0	A	20		
		200		NBT	2542	1679	66%	4.9	A	0		
		200		NBR	77	44	57%	7.7	A	0		
		200	SB	SBL	59	60	102%	12.0	B	62		
		200		SBT	1285	1281	100%	1.1	A	0		
		200		SBR	9	7	78%	1.1	A	0		
US 41	I-275 WB Ramps	205	WB	WBL	532	527	99%	38.6	D	342	17.9	B
		205		WBR	214	210	98%	3.5	A	0		
		205	NB	NBL	155	97	63%	16.2	B	123		
		205		NBT	2412	1517	63%	18.0	B	567		
		205	SB	SBT	885	882	100%	17.0	B	276		
		205		SBR	448	446	100%	2.5	A	122		
US 41	I-275 EB Ramps	210	NB	NBT	1911	1305	68%	1.7	A	0	431.5	F
		210		NBR	642	477	74%	5.3	A	124		
		210	SB	SBL	239	238	100%	16.8	C	246		
		210		SBT	1178	1179	100%	0.8	A	0		
		210	EB	EBL	656	263	40%	431.5	F	1542		
		210		EBR	285	114	40%	279.6	F	0		
US 41	73rd St	215	EB	EBL	94	92	98%	36.4	D	133	94.0	F
		215		EBT	81	81	100%	31.7	C	152		
		215		EBR	35	33	94%	19.3	B	194		
		215	WB	WBL	190	191	101%	43.5	D	247		
		215		WBT	36	36	100%	35.2	D	270		
		215		WBR	266	259	97%	13.1	B	253		
		215	NB	NBL	43	28	65%	165.9	F	80		
		215		NBT	2193	1427	65%	177.1	F	2206		
		215		NBR	462	292	63%	154.4	F	485		
		215	SB	SBL	282	187	66%	55.7	E	298		
		215		SBT	1065	1028	97%	18.7	B	405		
		215		SBR	116	93	80%	4.3	A	101		

2045 NoBuild - AM Peak: Moccasin Wallow Road

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
Moccasin Wallow Rd	Gateway Blvd	100	EB	EBL	58	33	57%	74.0	E	67	61.6	E
		100		EBT	1599	941	59%	100.9	F	1518		
		100		EBR	127	73	57%	90.7	F	1533		
		100	WB	WBL	340	148	44%	39.7	D	258		
		100		WBT	1192	491	41%	26.8	C	1180		
		100		WBR	168	72	43%	4.6	A	88		
		100	NB	NBL	110	106	96%	30.2	C	142		
		100		NBT	23	22	96%	45.8	D	58		
		100		NBR	143	145	101%	24.4	C	225		
		100	SB	SBL	200	197	99%	51.9	D	347		
		100		SBT	19	21	111%	43.0	D	122		
		100		SBR	50	49	98%	19.3	B	137		
Moccasin Wallow Rd	Gillette Dr	105	EB	EBT	1935	1308	68%	55.5	F	846	298.3	F
		105		EBL	7	7	100%	68.5	F	26		
		105	WB	WBT	1693	705	42%	1.3	A	43		
		105		WBR	30	12	40%	1.6	A	24		
		105	SB	SBL	6	6	100%	298.3	F	86		
		105		SBR	7	7	100%	93.6	F	84		
Moccasin Wallow Rd	I-75 SB Ramps	110	EB	EBT	1605	1064	66%	84.8	F	1217	1874.8	F
		110		EBR	336	278	83%	20.5	C	195		
		110	WB	WBT	1393	630	45%	45.2	E	93		
		110		WBL	1194	528	44%	159.0	F	1057		
		110	SB	SBR	330	85	26%	1576.0	F	0		
		110		SBL	318	83	26%	1874.8	F	2184		
Moccasin Wallow Rd	I-75 NB Ramps	115	EB	EBL	688	446	65%	163.6	F	1056	1265.1	F
		115		EBT	1235	699	57%	24.1	C	0		
		115	WB	WBT	2376	1096	46%	218.3	F	1745		
		115		WBR	401	259	65%	73.6	F	278		
		115	NB	NBL	211	75	36%	1265.1	F	2380		
		115		NBR	600	215	36%	732.9	F	0		
Moccasin Wallow Rd	Buffalo Rd	120	EB	EBL	21	7	33%	49.8	D	24	88.2	F
		120		EBT	1734	870	50%	31.7	C	1052		
		120		EBR	80	28	35%	4.5	A	0		
		120	WB	WBL	79	33	42%	131.0	F	73		
		120		WBT	2588	1160	45%	148.3	F	1829		
		120		WBR	6	2	33%	107.6	F	0		
		120	SB	SBL	6	7	117%	44.9	D	44		
		120		SBR	6	6	100%	50.7	D	44		
		120	NB	NBL	183	180	98%	51.5	D	261		
		120		NBR	109	109	100%	7.8	A	145		
Moccasin Wallow Rd	71st Ave	125	EB	EBT	1837	998	54%	18.5	C	1456	5985.3	F
		125		EBR	19	8	42%	17.1	C	1407		
		125	WB	WBL	66	29	44%	87.1	F	65		
		125		WBT	2576	1183	46%	65.3	F	1769		
		125	NB	NBL	97	7	7%	5985.3	F	722		
		125		NBR	78	6	8%	5862.4	F	722		

2045 NoBuild - PM Peak: Moccasin Wallow Road

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
Moccasin Wallow Rd	Gateway Blvd	100	EB	EBL	47	32	68%	57.7	E	74	48.5	D
		100		EBT	1845	1251	68%	63.6	E	1498		
		100		EBR	56	36	64%	56.2	E	1514		
		100	WB	WBL	127	64	50%	40.3	D	114		
		100		WBT	1235	640	52%	35.8	D	1388		
		100		WBR	144	52	36%	6.5	A	74		
		100	NB	NBL	67	63	94%	27.9	C	103		
		100		NBT	13	13	100%	44.7	D	44		
		100		NBR	125	126	101%	16.2	B	120		
		100	SB	SBL	201	199	99%	40.5	D	305		
		100		SBT	9	10	111%	37.2	D	74		
		100		SBR	38	37	97%	14.2	B	108		
Moccasin Wallow Rd	Gillette Dr	105	EB	EBT	2166	1583	73%	22.2	C	631	47.7	E
		105		EBL	5	5	100%	20.2	C	21		
		105	WB	WBT	1498	753	50%	2.8	A	217		
		105		WBR	11	3	27%	1.2	A	172		
		105	SB	SBL	6	5	83%	47.7	E	66		
		105		SBR	8	7	88%	5.8	A	64		
Moccasin Wallow Rd	I-75 SB Ramps	110	EB	EBT	2017	1467	73%	36.0	E	1100	1567.0	F
		110		EBR	155	117	75%	9.3	A	55		
		110	WB	WBT	1260	698	55%	42.7	E	6		
		110		WBL	752	455	61%	211.3	F	1038		
		110	SB	SBR	249	63	25%	1326.4	F	0		
		110		SBL	451	118	26%	1567.0	F	2184		
Moccasin Wallow Rd	I-75 NB Ramps	115	EB	EBL	610	449	74%	119.4	F	1029	1097.7	F
		115		EBT	1858	1128	61%	14.2	B	6		
		115	WB	WBT	1800	1087	60%	248.9	F	1725		
		115		WBR	342	223	65%	77.8	F	184		
		115	NB	NBL	212	59	28%	1097.7	F	2367		
		115		NBR	1150	308	27%	725.9	F	2359		
Moccasin Wallow Rd	Buffalo Rd	120	EB	EBL	10	2	20%	168.5	F	15	123.4	F
		120		EBT	2760	1380	50%	105.0	F	1599		
		120		EBR	238	68	29%	109.4	F	0		
		120	WB	WBL	30	18	60%	153.1	F	39		
		120		WBT	2031	1179	58%	163.8	F	1820		
		120		WBR	5	3	60%	89.2	F	0		
		120	SB	SBL	13	14	108%	45.9	D	73		
		120		SBR	21	19	90%	49.1	D	73		
		120	NB	NBL	90	89	99%	46.6	D	136		
		120		NBR	103	101	98%	11.0	B	109		
Moccasin Wallow Rd	71st Ave	125	EB	EBT	2757	1459	53%	28.2	D	1558	8167.1	F
		125		EBR	68	25	37%	27.6	D	1509		
		125	WB	WBL	43	29	67%	199.7	F	1426		
		125		WBT	2018	1154	57%	80.4	F	1751		
		125	NB	NBL	48	2	4%	8141.8	F	708		
		125		NBR	37	1	3%	8167.1	F	708		

2045 NoBuild - AM Peak: US 301

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
US 301	51st Ave	300	EB	EBL	57	57	100%	114.1	F	549	48.9	D
		300		EBT	1277	1277	100%	29.8	C	672		
		300		EBR	23	22	96%	6.1	A	64		
		300	WB	WBL	8	8	100%	96.0	F	43		
		300		WBT	2007	2008	100%	34.2	C	839		
		300		WBR	387	390	101%	18.2	B	254		
		300	NB	NBL	38	36	95%	31.5	C	99		
		300		NBT	12	11	92%	26.6	C	99		
		300		NBR	11	11	100%	13.3	B	137		
		300	SB	SBL	578	570	99%	153.2	F	2238		
		300		SBT	6	6	100%	155.3	F	2238		
		300		SBR	39	40	103%	155.6	F	2274		
US 301	I-75 SB Ramp	305	EB	EBT	880	888	101%	27.8	C	289	16.1	B
		305		EBR	986	971	98%	10.5	B	556		
		305	WB	WBL	1185	1187	100%	13.7	B	126		
		305		WBT	1890	1892	100%	11.8	B	459		
		305	SB	SBL	334	343	103%	52.8	D	263		
		305		SBR	512	502	98%	2.8	A	0		
US 301	I-75 NB Ramp	310	EB	EBL	318	322	101%	4.3	A	45	40.9	D
		310		EBT	896	908	101%	9.8	A	268		
		310	WB	WBT	2186	2186	100%	53.6	D	468		
		310		WBR	312	316	101%	2.0	A	0		
		310	NB	NBL	889	887	100%	61.6	E	613		
		310		NBR	499	502	101%	52.5	D	299		
US 301	60th Ave	315	EB	EBL	362	369	102%	51.5	D	285	34.9	C
		315		EBT	1011	1025	101%	26.7	C	384		
		315		EBR	22	19	86%	4.2	A	88		
		315	WB	WBL	5	4	80%	84.7	F	31		
		315		WBT	1577	1580	100%	29.6	C	426		
		315		WBR	106	107	101%	7.6	A	80		
		315	NB	NBL	49	48	98%	74.6	E	128		
		315		NBT	10	11	110%	61.5	E	60		
		315		NBR	8	8	100%	15.4	B	62		
		315	SB	SBL	97	98	101%	73.8	E	410		
		315		SBT	6	7	117%	83.8	F	35		
		315		SBR	872	851	98%	44.1	D	751		
US 301	Kmart Driveway	320	EB	EBL	47	51	109%	22.3	C	114	22.3	C
		320		EBT	1042	1053	101%	2.2	A	0		
		320		EBR	5	4	80%	0.9	A	0		
		320	WB	WBL	5	4	80%	8.0	A	16		
		320		WBT	1593	1596	100%	0.9	A	0		
		320		WBR	69	67	97%	1.0	A	0		
		320	NB	NBR	5	4	80%	5.2	A	37		
		320	SB	SBR	95	94	99%	9.8	A	106		
US 301	18th St	325	EB	EBT	1042	1052	101%	1.1	A	0	19.5	C
		325		EBR	5	5	100%	0.6	A	0		
		325	WB	WBL	63	66	105%	10.4	B	80		
		325		WBT	1661	1659	100%	2.2	A	0		
		325	NB	NBL	6	7	117%	19.5	C	32		
		325		NBR	6	5	83%	15.0	C	32		

2045 NoBuild - PM Peak: US 301

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
US 301	51st Ave	300	EB	EBL	23	24	104%	114.2	F	441	33.3	C
		300		EBT	1918	1914	100%	31.1	C	1245		
		300		EBR	47	45	96%	11.8	B	76		
		300	WB	WBL	8	9	113%	25.6	C	41		
		300		WBT	1451	1443	99%	31.1	C	506		
		300		WBR	446	448	100%	20.0	B	251		
		300	NB	NBL	24	23	96%	37.7	D	78		
		300		NBT	11	11	100%	31.6	C	78		
		300		NBR	8	8	100%	15.4	B	116		
		300	SB	SBL	460	450	98%	58.5	E	883		
		300		SBT	29	28	97%	61.6	E	883		
		300		SBR	15	16	107%	51.6	D	919		
US 301	I-75 SB Ramp	305	EB	EBT	1589	1585	100%	24.2	C	552	20.1	C
		305		EBR	797	792	99%	4.3	A	174		
		305	WB	WBL	675	660	98%	9.5	A	76		
		305		WBT	1684	1682	100%	15.3	B	459		
		305	SB	SBL	654	661	101%	57.7	E	461		
		305		SBR	221	210	95%	1.5	A	0		
US 301	I-75 NB Ramp	310	EB	EBL	361	353	98%	8.7	A	174	48.3	D
		310		EBT	1882	1892	101%	10.4	B	483		
		310	WB	WBT	1469	1452	99%	73.8	E	302		
		310		WBR	237	234	99%	2.3	A	0		
		310	NB	NBL	890	892	100%	54.8	D	417		
		310		NBR	1328	1312	99%	89.0	F	798		
US 301	60th Ave	315	EB	EBL	797	792	99%	64.6	E	754	33.0	C
		315		EBT	2281	2276	100%	28.7	C	1029		
		315		EBR	132	127	96%	16.3	B	105		
		315	WB	WBL	30	31	103%	72.1	E	107		
		315		WBT	1124	1117	99%	30.4	C	293		
		315		WBR	129	131	102%	11.6	B	107		
		315	NB	NBL	38	37	97%	70.8	E	100		
		315		NBT	50	49	98%	75.8	E	191		
		315		NBR	31	33	106%	42.2	D	194		
		315	SB	SBL	144	144	100%	55.8	E	287		
		315		SBT	32	34	106%	63.8	E	90		
		315		SBR	544	536	99%	1.5	A	0		
US 301	Kmart Driveway	320	EB	EBL	64	68	106%	15.1	C	106	26.4	D
		320		EBT	2350	2343	100%	5.2	A	170		
		320		EBR	6	6	100%	0.9	A	0		
		320	WB	WBL	6	7	117%	26.4	D	29		
		320		WBT	1122	1121	100%	0.6	A	0		
		320		WBR	81	80	99%	0.9	A	0		
		320	NB	NBR	6	4	67%	5.5	A	37		
		320	SB	SBR	161	160	99%	9.3	A	120		
US 301	18th St	325	EB	EBT	2348	2338	100%	2.2	A	0	83.2	F
		325		EBR	8	8	100%	1.4	A	0		
		325	WB	WBL	45	47	104%	34.5	D	88		
		325		WBT	1203	1200	100%	1.4	A	0		
		325	NB	NBL	6	6	100%	83.2	F	184		
		325		NBR	83	80	96%	78.4	F	184		

2045 NoBuild - AM Peak: SR 64

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
SR 64	62nd St	400	EB	EBL	34	29	85%	40.0	E	75	428.6	F
		400		EBT	2399	2330	97%	25.4	D	704		
		400		EBR	66	63	95%	1.0	A	0		
		400	WB	WBU	26	17	65%	425.2	F	548		
		400		WBL	108	65	60%	428.6	F	550		
		400		WBT	3209	2642	82%	0.9	A	0		
		400		WBR	137	122	89%	1.3	A	53		
		400	NB	NBR	157	140	89%	129.6	F	349		
		400	SB	SBR	46	44	96%	10.1	B	71		
SR 64	65th St	405	EB	EBT	2548	2462	97%	23.7	C	475	1043.7	F
		405		EBR	34	23	68%	7.1	A	290		
		405	WB	WBT	3392	2767	82%	12.4	B	411		
		405		WBR	35	33	94%	0.5	A	406		
		405	NB	NBR	114	45	39%	1043.7	F	566		
		405	SB	SBR	88	85	97%	16.7	C	105		
SR 64	66th St	410	EB	EBL	118	106	90%	193.7	F	509	44.1	D
		410		EBT	2435	2329	96%	8.5	A	299		
		410		EBR	31	32	103%	6.5	A	325		
		410		EBU	78	52	67%	181.3	F	590		
		410	WB	WBL	86	70	81%	85.8	F	151		
		410		WBT	3192	2613	82%	26.0	C	995		
		410		WBR	268	233	87%	11.2	B	100		
		410	NB	NBL	34	31	91%	114.7	F	307		
		410		NBT	6	5	83%	84.8	F	307		
		410		NBR	106	100	94%	56.5	E	339		
		410	SB	SBL	183	138	75%	803.0	F	1374		
		410		SBT	5	4	80%	145.2	F	1374		
		410		SBR	123	115	93%	93.3	F	1422		
SR 64	I-75 SB Ramps	415	EB	EBT	1661	1578	95%	11.8	B	439	62.1	E
		415		EBR	1063	1005	95%	3.3	A	0		
		415	WB	WBT	2302	1900	83%	26.0	C	578		
		415		WBR	898	678	76%	5.3	A	0		
		415	SB	SBL	1098	825	75%	160.7	F	2109		
		415		SBR	1244	929	75%	238.7	F	2116		
SR 64	I-75 NB Ramps	420	EB	EBL	572	521	91%	64.4	E	372	71.5	E
		420		EBT	2187	1968	90%	5.0	A	178		
		420	WB	WBT	2258	1669	74%	120.7	F	2299		
		420		WBR	975	712	73%	161.2	F	397		
		420	NB	NBL	942	902	96%	62.4	E	415		
		420		NBR	557	550	99%	66.1	E	422		
SR 64	Grand Harbour Pkwy	425	EB	EBL	167	145	87%	60.4	E	130	139.7	F
		425		EBT	2577	2371	92%	9.0	A	370		
		425	WB	WBT	2889	2089	72%	247.8	F	2141		
		425		WBR	13	10	77%	284.4	F	46		
		425	SB	SBL	29	28	97%	207.2	F	84		
		425		SBR	344	268	78%	498.0	F	1328		

2045 NoBuild - PM Peak: SR 64

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
SR 64	62nd St	400	EB	EBL	75	66	88%	27.8	D	99	1705.2	F
		400		EBT	2864	2475	86%	46.9	E	742		
		400		EBR	57	50	88%	1.0	A	0		
		400	WB	WBU	7	6	86%	569.5	F	474		
		400		WBL	79	70	89%	296.5	F	475		
		400		WBT	2744	2332	85%	0.8	A	0		
		400		WBR	210	170	81%	1.5	A	9		
		400	NB	NBR	138	31	22%	1705.2	F	562		
		400	SB	SBR	78	77	99%	10.2	B	90		
SR 64	65th St	405	EB	EBT	2982	2528	85%	31.4	D	487	1102.7	F
		405		EBR	27	22	81%	15.5	C	301		
		405	WB	WBT	2948	2494	85%	5.6	A	236		
		405		WBR	75	55	73%	0.6	A	196		
		405	NB	NBR	89	49	55%	1102.7	F	551		
		405	SB	SBR	92	89	97%	13.7	B	97		
SR 64	66th St	410	EB	EBL	109	82	75%	54.7	D	230	69.2	E
		410		EBT	2820	2422	86%	29.5	C	325		
		410		EBR	73	60	82%	17.1	B	347		
		410		EBU	69	27	39%	32.9	C	138		
		410	WB	WBL	130	120	92%	80.7	F	239		
		410		WBT	2778	2389	86%	30.4	C	877		
		410		WBR	249	218	88%	13.2	B	168		
		410	NB	NBL	69	61	88%	72.1	E	319		
		410		NBT	6	7	117%	75.0	E	319		
		410		NBR	121	119	98%	48.6	D	351		
		410	SB	SBL	281	176	63%	1049.2	F	1601		
		410		SBT	12	8	67%	492.6	F	1601		
		410		SBR	107	74	69%	525.2	F	1649		
SR 64	I-75 SB Ramps	415	EB	EBT	2357	1971	84%	150.0	F	1531	120.4	F
		415		EBR	865	726	84%	8.7	A	0		
		415	WB	WBT	2451	2090	85%	21.6	C	452		
		415		WBR	494	414	84%	3.6	A	0		
		415	SB	SBL	843	621	74%	495.6	F	2112		
		415		SBR	706	533	75%	208.0	F	2119		
SR 64	I-75 NB Ramps	420	EB	EBL	1048	856	82%	187.3	F	1177	131.0	F
		420		EBT	2152	1855	86%	19.3	B	391		
		420	WB	WBT	1712	1444	84%	106.8	F	2241		
		420		WBR	1227	1019	83%	157.7	F	2360		
		420	NB	NBL	1233	953	77%	203.7	F	1846		
		420		NBR	1035	781	75%	256.1	F	1853		
SR 64	Grand Harbour Pkwy	425	EB	EBL	340	278	82%	105.9	F	235	139.6	F
		425		EBT	2847	2440	86%	7.7	A	363		
		425	WB	WBT	2626	2239	85%	226.8	F	2138		
		425		WBR	53	47	89%	256.0	F	78		
		425	SB	SBL	63	50	79%	252.4	F	93		
		425		SBR	313	230	73%	692.1	F	1328		

2045 NoBuild - AM Peak: SR 70

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
Creekwood Blvd	52nd Pl	500	EB	EBL	16	14	88%	19.6	C	101	125.0	F
		500		EBT	10	9	90%	21.2	C	101		
		500		EBR	48	50	104%	30.5	D	130		
		500	WB	WBL	204	187	92%	125.0	F	463		
		500		WBT	5	6	120%	117.4	F	463		
		500		WBR	19	19	100%	49.5	E	48		
		500	NB	NBL	32	29	91%	6.1	A	47		
		500		NBT	142	139	98%	1.5	A	36		
		500		NBR	130	129	99%	1.6	A	36		
		500	SB	SBL	43	45	105%	25.1	D	449		
		500		SBT	426	414	97%	23.8	C	382		
		500		SBR	5	4	80%	3.9	A	443		
SR 70	Creekwood Blvd	505	EB	EBL	100	99	99%	68.7	E	151	43.6	D
		505		EBT	2214	2202	99%	40.3	D	970		
		505		EBR	48	50	104%	10.4	B	89		
		505	WB	WBL	101	96	95%	56.4	E	137		
		505		WBT	2325	2284	98%	26.3	C	750		
		505		WBR	129	125	97%	4.2	A	101		
		505		WBU	27	25	93%	54.3	D	137		
		505	NB	NBR	270	272	101%	45.1	D	368		
		505		NBT	75	73	97%	67.4	E	179		
		505		NBR	270	272	101%	45.1	D	368		
		505	SB	SBL	618	548	89%	121.6	F	866		
		505		SBT	86	79	92%	71.6	E	153		
		505		SBR	160	146	91%	33.7	C	184		
Tara Blvd	55th Ave	510	NB	NBT	428	427	100%	2.7	A	19	7.9	A
		510		NBR	26	27	104%	3.7	A	19		
		510	SB	SBT	235	226	96%	0.1	A	0		
		510	WB	WBR	64	63	98%	7.9	A	85		
SR 70	73rd Ln	515	EB	EBL	9	9	100%	6.5	A	23	35.8	E
		515		EBT	3052	2970	97%	2.8	A	239		
		515		EBR	68	66	97%	3.1	A	0		
		515	WB	WBL	133	125	94%	25.5	D	185		
		515		WBT	2478	2432	98%	3.3	A	387		
		515		WBR	203	195	96%	2.6	A	0		
		515	NB	NBR	141	136	96%	35.8	E	197		
		515	SB	SBR	104	102	98%	22.4	C	142		
SR 70	I-75 SB Ramp	520	EB	EBT	1999	1960	98%	38.9	D	725	30.3	C
		520		EBR	1194	1143	96%	3.8	A	0		
		520	WB	WBR	635	627	99%	5.6	A	0		
		520		WBT	1930	1903	99%	19.9	B	430		
		520	SB	SBL	733	717	98%	68.8	E	1825		
		520		SBR	884	841	95%	55.6	E	1446		
SR 70	I-75 NB Ramp	525	EB	EBL	473	449	95%	101.0	F	363	25.0	C
		525		EBT	2259	2230	99%	6.8	A	306		
		525	WB	WBT	1957	1934	99%	17.6	B	781		
		525		WBR	693	684	99%	5.0	A	0		
		525	NB	NBL	608	599	99%	61.0	E	293		
		525		NBR	674	674	100%	43.7	D	391		
SR 70	Lena Rd	530	EB	EBL	276	258	93%	133.4	F	972	133.4	F
		530		EBT	2431	2419	100%	4.2	A	7		
		530		EBR	226	226	100%	3.7	A	0		
		530	WB	WBR	46	51	111%	1.3	A	0		
		530		WBT	2516	2486	99%	2.2	A	33		
		530	NB	NBR	40	40	100%	36.4	E	76		
		530	SB	SBR	134	133	99%	22.4	C	161		
SR 70	87th St	535	EB	EBU	24	24	100%	83.6	F	218	32.2	C
		535		EBL	85	83	98%	75.4	E	218		
		535		EBT	2189	2169	99%	29.0	C	651		
		535		EBR	173	181	105%	4.1	A	94		
		535	WB	WBL	165	174	105%	69.9	E	186		
		535		WBT	2178	2153	99%	29.1	C	1680		
		535		WBR	83	82	99%	16.5	B	99		
		535	NB	NBL	220	217	99%	65.0	E	199		
		535		NBT	8	9	113%	67.5	E	49		
		535		NBR	122	118	97%	13.9	B	102		
		535	SB	SBL	102	101	99%	68.1	E	137		
		535		SBT	25	24	96%	70.6	E	83		
		535		SBR	140	139	99%	24.2	C	150		

2045 NoBuild - PM Peak: SR 70

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
Creekwood Blvd	52nd Pl	500	EB	EBL	20	19	95%	13.3	B	72	486.3	F
		500		EBT	16	16	100%	14.0	B	72		
		500		EBR	38	38	100%	19.1	C	101		
		500	WB	WBL	362	166	46%	486.3	F	1120		
		500		WBT	5	3	60%	484.1	F	1121		
		500		WBR	90	37	41%	315.0	F	83		
		500	NB	NBL	75	71	95%	3.5	A	125		
		500		NBT	395	388	98%	3.6	A	114		
		500		NBR	189	188	99%	3.6	A	114		
		500	SB	SBL	44	41	93%	19.6	C	288		
		500		SBT	272	272	100%	20.2	C	220		
		500		SBR	5	6	120%	3.3	A	282		
SR 70	Creekwood Blvd	505	EB	EBL	273	277	101%	76.5	E	251	60.6	E
		505		EBT	2474	2456	99%	28.9	C	896		
		505		EBR	77	77	100%	8.7	A	89		
		505	WB	WBL	155	153	99%	377.4	F	760		
		505		WBT	1977	1907	96%	17.9	B	585		
		505		WBR	285	271	95%	7.8	A	252		
		505		WBU	102	86	84%	850.1	F	760		
		505	NB	NBR	198	195	98%	44.3	D	278		
		505		NBT	101	102	101%	110.5	F	301		
		505		NBR	198	195	98%	44.3	D	278		
		505	SB	SBL	601	482	80%	173.9	F	869		
		505		SBT	57	46	81%	106.5	F	140		
		505		SBR	129	107	83%	33.1	C	145		
Tara Blvd	55th Ave	510	NB	NBT	282	279	99%	4.5	A	70	11.6	B
		510		NBR	17	18	106%	3.6	A	70		
		510	SB	SBT	289	275	95%	0.2	A	0		
		510	WB	WBR	129	127	98%	11.6	B	118		
SR 70	73rd Ln	515	EB	EBL	13	13	100%	10.4	B	29	504.9	F
		515		EBT	3239	3060	94%	2.3	A	63		
		515		EBR	123	124	101%	2.8	A	0		
		515	WB	WBL	179	171	96%	39.5	E	253		
		515		WBT	2313	2255	97%	7.4	A	598		
		515		WBR	319	319	100%	5.4	A	0		
		515	NB	NBR	203	200	99%	29.9	D	227		
		515	SB	SBR	206	141	68%	504.9	F	849		
SR 70	I-75 SB Ramp	520	EB	EBT	2525	2449	97%	33.3	C	1023	25.9	C
		520		EBR	917	851	93%	2.7	A	0		
		520	WB	WBR	684	649	95%	6.5	A	0		
		520		WBT	2242	2203	98%	19.2	B	541		
		520	SB	SBL	668	656	98%	59.1	E	1586		
		520		SBR	569	549	96%	38.6	D	417		
SR 70	I-75 NB Ramp	525	EB	EBL	825	799	97%	104.0	F	899	31.2	C
		525		EBT	2368	2365	100%	9.7	A	668		
		525	WB	WBT	2231	2180	98%	26.1	C	842		
		525		WBR	832	787	95%	3.2	A	0		
		525	NB	NBL	695	677	97%	62.7	E	333		
		525		NBR	587	573	98%	39.2	D	295		
SR 70	Lena Rd	530	EB	EBL	130	129	99%	98.4	F	316	259.4	F
		530		EBT	2364	2343	99%	3.8	A	93		
		530		EBR	461	456	99%	4.8	A	0		
		530	WB	WBR	60	63	105%	1.2	A	0		
		530		WBT	2865	2763	96%	1.9	A	79		
		530	NB	NBR	212	195	92%	259.4	F	742		
		530	SB	SBR	198	195	98%	130.0	F	470		
SR 70	87th St	535	EB	EBU	107	94	88%	543.5	F	590	60.6	E
		535		EBL	114	110	96%	139.7	F	590		
		535		EBT	2212	2208	100%	24.1	C	653		
		535		EBR	143	144	101%	5.3	A	96		
		535	WB	WBL	310	309	100%	78.2	E	271		
		535		WBT	2099	2123	101%	44.2	D	2041		
		535		WBR	97	101	104%	35.8	D	98		
		535	NB	NBL	581	458	79%	188.3	F	978		
		535		NBT	32	22	69%	175.8	F	81		
		535		NBR	195	158	81%	101.8	F	348		
		535	SB	SBL	146	138	95%	67.1	E	166		
		535		SBT	47	46	98%	77.8	E	134		
		535		SBR	138	135	98%	36.6	D	149		

2045 NoBuild - AM Peak: University Parkway

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Served Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
University Pkwy	Cooper Creek Blvd/ Cattlemen Rd	605	EB	EBL	117	90	77%	443.4	F	834	141.4	F
		605		EBT	3228	2307	71%	217.6	F	3336		
		605		EBR	42	31	74%	201.8	F	47		
		605	WB	WBL	527	449	85%	275.8	F	1663		
		605		WBT	2943	2381	81%	53.2	D	1753		
		605		WBR	751	583	78%	20.4	C	1300		
		605	NB	NBL	49	47	96%	217.9	F	141		
		605		NBT	158	158	100%	167.0	F	481		
		605		NBR	464	461	99%	135.1	F	909		
		605	SB	SBL	617	398	65%	199.3	F	465		
		605		SBT	79	60	76%	29.4	C	61		
		605		SBR	77	53	69%	59.3	E	160		
University Pkwy	I-75 SB Off Ramp	615	EB	EBT	2963	2078	70%	128.4	F	1586	92.4	F
		615		EBR	1346	994	74%	22.6	C	7		
		615	WB	WBL	1237	952	77%	8.4	A	100		
		615		WBT	2983	2175	73%	91.0	F	1032		
		615	SB	SBL	981	911	93%	163.5	F	2817		
		615		SBR	1238	1164	94%	105.8	F	2841		
University Pkwy	I-75 NB Off Ramp	620	EB	EBL	919	642	70%	15.4	B	0	102.6	F
		620		EBT	3025	2280	75%	86.6	F	1263		
		620	WB	WBT	2928	2163	74%	111.7	F	1528		
		620		WBR	482	378	78%	23.8	C	0		
		620	NB	NBL	1292	957	74%	148.9	F	2828		
		620		NBR	1551	1172	76%	152.9	F	2903		
University Pkwy	Lake Osprey Dr/Market St	625	EB	EBL	907	718	79%	135.4	F	1461	77.8	E
		625		EBT	2980	2259	76%	62.6	E	1461		
		625		EBR	689	532	77%	33.1	C	1515		
		625	WB	WBL	61	51	84%	75.3	E	214		
		625		WBT	2371	1574	66%	102.6	F	676		
		625		WBR	57	48	84%	11.7	B	104		
		625	NB	NBL	133	127	95%	75.7	E	182		
		625		NBT	69	64	93%	49.6	D	203		
		625		NBR	57	58	102%	34.2	C	251		
		625	SB	SBL	73	69	95%	119.5	F	510		
		625		SBT	80	76	95%	93.3	F	940		
		625		SBR	906	866	96%	56.5	E	940		
University Pkwy	Lakewood Ranch Driveway	630	EB	EBT	3065	2336	76%	2.0	A	271	146.5	F
		630		EBR	45	40	89%	1.0	A	0		
		630	WB	WBL	12	11	92%	84.7	F	30		
		630		WBT	2489	1635	66%	146.5	F	973		
		630	NB	NBR	6	4	67%	21.6	C	21		
University Pkwy	Town Center Pkwy	635	EB	EBU	6	4	67%	89.5	F	717	195.4	F
		635		EBL	506	410	81%	87.3	F	717		
		635		EBT	2270	1678	74%	18.0	B	910		
		635		EBR	289	230	80%	8.5	A	222		
		635	WB	WBL	8	6	75%	378.1	F	40		
		635		WBT	2037	1261	62%	445.8	F	4057		
		635		WBR	61	34	56%	424.8	F	59		
		635	NB	NBL	20	16	80%	413.4	F	113		
		635		NBT	5	6	120%	70.3	E	29		
		635		NBR	5	5	100%	7.7	A	63		
		635	SB	SBL	42	31	74%	256.3	F	118		
		635		SBT	24	20	83%	371.5	F	1051		
		635		SBR	438	352	80%	349.6	F	1051		
Cooper Creek Blvd	Tourist Center Dr	600	EB	EBL	17	18	106%	74.3	F	65	779.1	F
		600		EBR	118	109	92%	241.1	F	480		
		600	WB	WBR	5	4	80%	5.7	A	36		
		600	NB	NBL	110	89	81%	9.4	A	149		
		600		NBT	851	691	81%	0.7	A	0		
		600		NBR	65	53	82%	1.0	A	0		
		600	SB	SBT	655	376	57%	779.1	F	1928		
		600		SBR	26	15	58%	490.6	F	1928		
Cattlemen Rd	University Town Center Dr	610	EB	EBL	20	20	100%	35.5	D	40	23.8	C
		610		EBT	6	6	100%	25.3	C	39		
		610		EBR	6	6	100%	7.3	A	51		
		610	WB	WBL	12	12	100%	35.2	D	45		
		610		WBT	5	5	100%	31.0	C	27		
		610		WBR	7	6	86%	18.3	B	31		
		610	NB	NBL	17	19	112%	36.2	D	51		
		610		NBT	644	644	100%	26.9	C	308		
		610		NBR	8	6	75%	18.8	B	332		
		610	SB	SBL	111	89	80%	32.0	C	99		
		610		SBT	494	420	85%	17.4	B	781		
		610		SBR	43	35	81%	5.8	A	0		

2045 NoBuild - PM Peak: University Parkway

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Served Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
University Pkwy	Cooper Creek Blvd/ Cattlemen Rd	605	EB	EBL	211	182	86%	218.0	F	193	110.8	F
		605		EBT	2657	2366	89%	176.2	F	3335		
		605		EBR	132	119	90%	176.3	F	168		
		605	WB	WBL	701	562	80%	213.6	F	999		
		605		WBT	2777	2267	82%	38.0	D	863		
		605		WBR	892	815	91%	29.7	C	1081		
		605	NB	NBL	298	292	98%	116.4	F	293		
		605		NBT	267	258	97%	99.3	F	272		
		605		NBR	908	833	92%	124.9	F	913		
		605	SB	SBL	777	676	87%	99.8	F	465		
		605		SBT	224	196	88%	71.1	E	329		
		605		SBR	237	208	88%	82.8	F	443		
University Pkwy	I-75 SB Off Ramp	615	EB	EBT	3066	2740	89%	44.4	D	880	32.7	C
		615		EBR	1276	1148	90%	3.6	A	0		
		615	WB	WBL	1421	1144	81%	7.8	A	0		
		615		WBT	3269	2625	80%	41.0	D	727		
		615	SB	SBL	405	411	101%	37.3	D	306		
		615		SBR	1101	1089	99%	38.0	D	461		
University Pkwy	I-75 NB Off Ramp	620	EB	EBL	1231	1121	91%	8.0	A	0	36.7	D
		620		EBT	2240	2027	90%	27.1	C	345		
		620	WB	WBT	3353	2412	72%	58.0	E	1085		
		620		WBR	978	754	77%	3.0	A	0		
		620	NB	NBL	1337	1335	100%	41.1	D	967		
		620		NBR	1254	1252	100%	52.5	D	1332		
University Pkwy	Lake Osprey Dr/Market St	625	EB	EBL	651	627	96%	66.5	E	1053	107.7	F
		625		EBT	2539	2420	95%	42.4	D	1096		
		625		EBR	304	294	97%	7.4	A	236		
		625	WB	WBL	66	59	89%	69.2	E	162		
		625		WBT	2795	1883	67%	81.7	F	653		
		625		WBR	55	46	84%	9.6	A	114		
		625	NB	NBL	544	488	90%	167.7	F	1045		
		625		NBT	142	132	93%	129.2	F	980		
		625		NBR	95	91	96%	118.4	F	971		
		625	SB	SBL	68	44	65%	608.1	F	1568		
		625		SBT	38	26	68%	575.6	F	1732		
		625		SBR	992	632	64%	427.3	F	1732		
University Pkwy	Lakewood Ranch Driveway	630	EB	EBT	2690	2541	94%	2.3	A	305	108.2	F
		630		EBR	12	12	100%	0.5	A	0		
		630	WB	WBL	5	4	80%	88.7	F	18		
		630		WBT	2916	1940	67%	108.2	F	965		
		630	NB	NBR	31	29	94%	14.0	B	54		
University Pkwy	Town Center Pkwy	635	EB	EBU	23	21	91%	160.3	F	688	237.6	F
		635		EBL	376	375	100%	183.9	F	688		
		635		EBT	2263	2114	93%	3.8	A	213		
		635		EBR	59	49	83%	5.5	A	139		
		635	WB	WBL	8	4	50%	504.9	F	35		
		635		WBT	1828	1051	57%	670.5	F	4040		
		635		WBR	40	21	53%	708.4	F	41		
		635	NB	NBL	370	341	92%	198.4	F	934		
		635		NBT	51	46	90%	92.6	F	117		
		635		NBR	11	11	100%	40.0	D	67		
		635	SB	SBL	51	28	55%	408.3	F	109		
		635		SBT	8	5	63%	498.3	F	1050		
		635		SBR	700	397	57%	435.2	F	1050		
Cooper Creek Blvd	Tourist Center Dr	600	EB	EBL	44	45	102%	25.9	D	73	416.0	F
		600		EBR	203	200	99%	77.5	F	422		
		600	WB	WBR	17	16	94%	5.7	A	48		
		600	NB	NBL	126	102	81%	24.0	C	188		
		600		NBT	854	793	93%	1.1	A	7		
		600		NBR	390	353	91%	2.3	A	7		
		600	SB	SBT	1035	719	69%	416.0	F	1948		
		600		SBR	78	56	72%	297.6	F	1948		
Cattlemen Rd	University Town Center Dr	610	EB	EBL	245	245	100%	79.0	E	363	143.8	F
		610		EBT	35	34	97%	44.8	D	240		
		610		EBR	32	33	103%	19.0	B	252		
		610	WB	WBL	7	6	86%	92.4	F	37		
		610		WBT	19	16	84%	70.6	E	60		
		610		WBR	276	256	93%	109.6	F	898		
		610	NB	NBL	17	16	94%	151.2	F	59		
		610		NBT	952	879	92%	293.9	F	2498		
		610		NBR	13	12	92%	237.1	F	2522		
		610	SB	SBL	463	366	79%	60.9	E	296		
		610		SBT	545	453	83%	4.1	A	193		
		610		SBR	49	40	82%	1.8	A	0		

2045 NoBuild - AM Peak: Fruitville Road

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
Fruitville Rd	Cattlemen Rd	700	EB	EBL	240	250	104%	119.4	F	284	87.8	F
		700		EBT	2046	2030	99%	31.9	C	491		
		700		EBR	313	303	97%	17.1	B	302		
		700	WB	WBL	526	516	98%	98.1	F	521		
		700		WBT	3201	2989	93%	29.6	C	798		
		700		WBR	1141	1037	91%	32.9	C	1257		
		700	NB	NBL	328	318	97%	86.1	F	289		
		700		NBT	410	392	96%	116.9	F	656		
		700		NBR	527	520	99%	38.7	D	581		
		700	SB	SBL	561	357	64%	705.1	F	2293		
		700		SBT	470	312	66%	436.0	F	2289		
		700		SBR	243	168	69%	315.0	F	1110		
Fruitville Rd	I-75 SB Off Ramp	705	EB	EBT	2101	2036	97%	21.9	C	647	56.4	E
		705		EBR	1033	880	85%	2.1	A	0		
		705	WB	WBL	539	530	98%	10.2	B	119		
		705		WBT	2618	2338	89%	124.3	F	1170		
		705	SB	SBL	662	665	100%	30.7	C	800		
		705		SBR	2250	2201	98%	57.1	E	1240		
Fruitville Rd	I-75 NB Off Ramp	710	EB	EBL	1175	1136	97%	3.3	A	0	62.3	E
		710		EBT	1588	1571	99%	23.8	C	514		
		710	WB	WBT	1593	1586	100%	37.3	D	502		
		710		WBR	732	731	100%	5.3	A	0		
		710	NB	NBL	1564	1298	83%	233.5	F	2267		
		710		NBR	971	876	90%	47.8	D	511		
Fruitville Rd	Coburn Rd W	715	EB	EBT	2559	2444	96%	14.9	B	1063	21.2	C
		715	WB	WBT	2299	2297	100%	3.0	A	0		
		715		WBR	9	9	100%	6.3	A	0		
		715	SB	SBR	26	24	92%	21.2	C	102		
Fruitville Rd	Coburn Rd E	720	EB	EBL	280	279	100%	77.2	E	239	53.7	D
		720		EBT	1789	1693	95%	45.8	D	960		
		720		EBR	490	469	96%	18.0	B	587		
		720	WB	WBL	140	127	91%	344.3	F	1238		
		720		WBT	1722	1712	99%	48.2	D	1353		
		720		WBR	136	128	94%	10.7	B	96		
		720	NB	NBL	304	298	98%	81.0	F	640		
		720		NBT	5	4	80%	67.8	E	189		
		720		NBR	127	126	99%	35.4	D	212		
		720	SB	SBL	133	131	98%	65.4	E	150		
		720		SBT	5	4	80%	63.2	E	39		
		720		SBR	282	281	100%	32.2	C	310		

2045 NoBuild - PM Peak: Fruitville Road

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
Fruitville Rd	Cattlemen Rd	700	EB	EBL	324	328	101%	83.1	F	310	96.8	F
		700		EBT	3313	3313	100%	57.7	E	1098		
		700		EBR	230	233	101%	11.8	B	195		
		700	WB	WBL	516	511	99%	70.6	E	416		
		700		WBT	2400	2252	94%	34.4	C	580		
		700		WBR	736	698	95%	23.1	C	513		
		700	NB	NBL	417	275	66%	104.1	F	285		
		700		NBT	712	488	69%	221.3	F	1212		
		700		NBR	588	384	65%	90.5	F	1044		
		700	SB	SBL	782	622	80%	434.9	F	2301		
		700		SBT	342	276	81%	306.0	F	1910		
		700		SBR	305	246	81%	224.2	F	2130		
Fruitville Rd	I-75 SB Off Ramp	705	EB	EBT	3053	2804	92%	38.5	D	926	34.4	C
		705		EBR	1630	1527	94%	4.3	A	0		
		705	WB	WBL	809	767	95%	10.8	B	472		
		705		WBT	2214	2041	92%	75.2	E	861		
		705	SB	SBL	466	478	103%	28.5	C	222		
		705		SBR	1438	1425	99%	15.2	B	353		
Fruitville Rd	I-75 NB Off Ramp	710	EB	EBL	1731	1591	92%	4.2	A	0	17.3	B
		710		EBT	1788	1692	95%	18.4	B	547		
		710	WB	WBT	1915	1721	90%	32.2	C	529		
		710		WBR	1096	960	88%	6.9	A	0		
		710	NB	NBL	1108	1094	99%	17.0	B	246		
		710		NBR	514	524	102%	24.4	C	221		
Fruitville Rd	Coburn Rd W	715	EB	EBT	2302	2211	96%	14.4	B	988	26.6	D
		715	WB	WBT	2954	2632	89%	3.1	A	0		
		715		WBR	5	5	100%	6.2	A	0		
		715	SB	SBR	57	55	96%	26.6	D	96		
Fruitville Rd	Coburn Rd E	720	EB	EBL	356	340	96%	74.3	E	303	141.3	F
		720		EBT	1755	1674	95%	53.1	D	941		
		720		EBR	191	188	98%	8.6	A	162		
		720	WB	WBL	92	95	103%	106.9	F	246		
		720		WBT	1925	1931	100%	53.4	D	1304		
		720		WBR	138	135	98%	13.1	B	116		
		720	NB	NBL	504	314	62%	535.9	F	1973		
		720		NBT	7	3	43%	472.5	F	117		
		720		NBR	152	93	61%	425.0	F	140		
		720	SB	SBL	252	125	50%	549.4	F	914		
		720		SBT	6	3	50%	575.3	F	33		
		720		SBR	530	252	48%	866.1	F	1969		

2045 NoBuild - AM Peak: Bee Ridge Road

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
Bee Ridge Rd	Maxfield Dr	800	EB	EBL	134	133	99%	74.6	E	272	22.3	C
		800		EBT	1179	1170	99%	21.4	C	348		
		800		EBR	46	48	104%	11.5	B	93		
		800	WB	WBL	56	56	100%	49.2	D	145		
		800		WBT	1941	1858	96%	13.5	B	557		
		800		WBR	68	69	101%	3.7	A	89		
		800	NB	NBL	68	68	100%	66.5	E	98		
		800		NBT	14	13	93%	63.9	E	234		
		800		NBR	95	93	98%	61.5	E	234		
		800	SB	SBL	116	111	96%	66.1	E	240		
		800		SBT	12	12	100%	68.8	E	240		
		800		SBR	119	119	100%	6.6	A	105		
Bee Ridge Rd	Cattlemen Rd	810	EB	EBL	167	160	96%	42.3	D	158	39.4	D
		810		EBT	1196	1176	98%	19.0	B	236		
		810		EBR	154	157	102%	56.8	E	312		
		810	WB	WBL	181	176	97%	15.8	B	126		
		810		WBT	1850	1777	96%	44.7	D	571		
		810		WBR	1117	1100	98%	24.3	C	527		
		810	NB	NBL	152	157	103%	63.2	E	156		
		810		NBT	555	552	99%	57.7	E	418		
		810		NBR	452	443	98%	50.8	D	302		
		810	SB	SBL	533	537	101%	65.3	E	306		
		810		SBT	398	400	101%	47.7	D	315		
		810		SBR	113	103	91%	0.9	A	0		
Bee Ridge Rd	I-75 SB Off Ramp	815	EB	EBT	1612	1593	99%	22.8	C	560	27.0	C
		815		EBR	569	563	99%	13.4	B	179		
		815	WB	WBL	392	363	93%	67.8	E	535		
		815		WBT	2098	2014	96%	18.7	B	689		
		815	SB	SBL	420	408	97%	18.1	B	184		
		815		SBR	1050	1052	100%	54.5	D	525		
Bee Ridge Rd	I-75 NB Off Ramp	820	EB	EBL	925	905	98%	3.8	A	0	23.8	C
		820		EBT	1107	1093	99%	27.7	C	310		
		820	WB	WBT	1567	1454	93%	27.5	C	593		
		820		WBR	713	686	96%	5.5	A	0		
		820	NB	NBL	923	925	100%	35.7	D	762		
		820		NBR	352	353	100%	51.6	D	268		
Bee Ridge Rd	Mauna Loa Blvd	825	EB	EBL	267	257	96%	129.3	F	574	84.8	F
		825		EBT	1009	1004	100%	33.5	C	897		
		825		EBR	183	177	97%	13.9	B	175		
		825	WB	WBL	15	13	87%	77.4	E	58		
		825		WBT	1495	1484	99%	37.3	D	984		
		825		WBR	22	23	105%	23.7	C	72		
		825	NB	NBL	461	326	71%	439.5	F	1777		
		825		NBT	67	47	70%	397.5	F	269		
		825		NBR	18	15	83%	387.0	F	295		
		825	SB	SBL	58	57	98%	59.8	E	140		
		825		SBT	13	13	100%	68.0	E	52		
		825		SBR	324	313	97%	58.4	E	454		
Cattlemen Rd	Maxfield Dr	805	EB	EBL	105	101	96%	59.7	E	196	13.5	B
		805		EBT	15	16	107%	79.0	E	67		
		805		EBR	81	81	100%	16.0	B	136		
		805	WB	WBL	61	59	97%	67.1	E	139		
		805		WBT	5	4	80%	61.6	E	70		
		805		WBR	30	32	107%	14.8	B	98		
		805	NB	NBL	192	185	96%	22.4	C	172		
		805		NBT	1418	1414	100%	9.3	A	675		
		805		NBR	229	209	91%	6.7	A	94		
		805	SB	SBL	26	25	96%	22.3	C	43		
		805		SBT	902	902	100%	10.1	B	220		
		805		SBR	157	158	101%	9.0	A	38		
Bee Ridge Rd	EB Cattlemen Rd Displaced Left	809	EB	EBL	167	163	98%	30.6	C	115	8.6	A
		809	WB	WBT	2115	2042	97%	6.8	A	342		

2045 NoBuild - PM Peak: Bee Ridge Road

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
Bee Ridge Rd	Maxfield Dr	800	EB	EBL	106	104	98%	97.2	F	201	53.1	D
		800		EBT	1880	1840	98%	79.1	E	2626		
		800		EBR	185	185	100%	66.3	E	105		
		800	WB	WBL	128	124	97%	45.6	D	231		
		800		WBT	1469	1423	97%	16.7	B	374		
		800		WBR	53	51	96%	3.4	A	83		
		800	NB	NBL	156	155	99%	78.0	E	373		
		800		NBT	30	28	93%	85.1	F	453		
		800		NBR	130	127	98%	64.4	E	453		
		800	SB	SBL	163	161	99%	69.8	E	328		
		800		SBT	31	30	97%	65.6	E	328		
		800		SBR	193	191	99%	6.9	A	124		
Bee Ridge Rd	Cattlemen Rd	810	EB	EBL	197	197	100%	53.1	D	186	39.1	D
		810		EBT	1779	1735	98%	21.0	C	232		
		810		EBR	226	225	100%	46.2	D	357		
		810	WB	WBL	237	237	100%	32.5	C	140		
		810		WBT	1307	1260	96%	38.9	D	468		
		810		WBR	513	570	111%	21.3	C	293		
		810	NB	NBL	210	212	101%	56.8	E	187		
		810		NBT	377	380	101%	57.2	E	301		
		810		NBR	498	485	97%	44.2	D	294		
		810	SB	SBL	929	918	99%	60.3	E	537		
		810		SBT	603	604	100%	57.8	E	546		
		810		SBR	145	142	98%	5.5	A	0		
Bee Ridge Rd	I-75 SB Off Ramp	815	EB	EBT	2218	2159	97%	11.3	B	504	19.4	B
		815		EBR	988	979	99%	9.9	A	290		
		815	WB	WBL	442	437	99%	74.6	E	758		
		815		WBT	1242	1249	101%	26.6	C	424		
		815	SB	SBL	579	574	99%	26.9	C	226		
		815		SBR	815	821	101%	13.4	B	176		
Bee Ridge Rd	I-75 NB Off Ramp	820	EB	EBL	1077	1052	98%	3.2	A	0	25.0	C
		820		EBT	1720	1675	97%	36.2	D	574		
		820	WB	WBT	1137	1132	100%	24.0	C	721		
		820		WBR	401	397	99%	3.9	A	0		
		820	NB	NBL	547	550	101%	29.8	C	350		
		820		NBR	361	356	99%	55.8	E	244		
Bee Ridge Rd	Mauna Loa Blvd	825	EB	EBL	201	195	97%	62.7	E	189	36.9	D
		825		EBT	1398	1363	97%	24.6	C	1099		
		825		EBR	482	468	97%	16.5	B	320		
		825	WB	WBL	18	20	111%	74.8	E	69		
		825		WBT	971	970	100%	21.1	C	537		
		825		WBR	35	34	97%	7.6	A	77		
		825	NB	NBL	247	240	97%	170.8	F	666		
		825		NBT	35	33	94%	138.1	F	246		
		825		NBR	23	21	91%	104.3	F	272		
		825	SB	SBL	125	122	98%	76.9	E	256		
		825		SBT	28	29	104%	69.0	E	92		
		825		SBR	320	314	98%	17.8	B	249		
Cattlemen Rd	Maxfield Dr	805	EB	EBL	120	119	99%	45.8	D	219	21.0	C
		805		EBT	10	9	90%	62.1	E	39		
		805		EBR	143	143	100%	33.3	C	261		
		805	WB	WBL	232	224	97%	52.9	D	418		
		805		WBT	36	40	111%	63.9	E	193		
		805		WBR	57	60	105%	31.8	C	220		
		805	NB	NBL	53	53	100%	25.4	C	76		
		805		NBT	966	1018	105%	8.4	A	393		
		805		NBR	68	73	107%	3.6	A	12		
		805	SB	SBL	67	65	97%	25.9	C	96		
		805		SBT	1302	1296	100%	21.0	C	723		
		805		SBR	115	119	103%	11.9	B	25		
Bee Ridge Rd	EB Cattlemen Rd Displaced Left	809	EB	EBL	197	198	101%	29.7	C	138	9.3	A
		809	WB	WBT	1662	1616	97%	6.8	A	313		

2045 NoBuild - AM Peak: Clark Road

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
Clark Rd	Gantt Rd	900	EB	EBL	176	165	94%	180.5	F	606	43.5	D
		900		EBT	1903	1892	99%	32.3	C	828		
		900		EBR	38	39	103%	30.3	C	871		
		900	WB	WBL	126	120	95%	107.1	F	359		
		900		WBT	2794	2687	96%	16.1	B	444		
		900		WBR	256	261	102%	14.2	B	280		
		900		WBU	0	0	0%	0.0	A	359		
		900	NB	NBL	124	119	96%	63.7	E	261		
		900		NBT	50	50	100%	114.3	F	257		
		900		NBR	44	44	100%	64.2	E	281		
		900	SB	SBL	356	266	75%	180.9	F	763		
		900		SBT	84	63	75%	173.8	F	760		
		900		SBR	278	198	71%	150.2	F	790		
Clark Rd	Catamaran Dr	905	EB	EBL	8	6	75%	33.3	C	2	19.3	B
		905		EBT	2223	2146	97%	6.8	A	317		
		905		EBR	44	38	86%	1.7	A	86		
		905		EBU	0	0	0%	0.0	A	2		
		905	WB	WBL	71	68	96%	40.2	D	133		
		905		WBT	3032	3021	100%	22.3	C	986		
		905		WBR	101	98	97%	6.8	A	128		
		905	NB	NBL	67	65	97%	116.0	F	462		
		905		NBT	5	5	100%	105.3	F	462		
		905		NBR	138	138	100%	82.3	F	503		
		905	SB	SBL	38	39	103%	79.0	E	117		
		905		SBT	5	5	100%	93.8	F	72		
		905		SBR	25	22	88%	14.7	B	115		
Clark Rd	I-75 SB Off Ramp	910	EB	EBT	1744	1690	97%	40.0	D	743	29.8	C
		910		EBR	655	628	96%	0.9	A	0		
		910	WB	WBL	170	171	101%	2.5	A	147		
		910		WBT	1455	1446	99%	21.7	C	322		
		910	SB	SBL	428	428	100%	23.6	C	206		
		910		SBR	1749	1744	100%	41.0	D	590		
Clark Rd	I-75 NB Off Ramp	915	EB	EBL	1329	1293	97%	4.7	A	258	13.6	B
		915		EBT	843	825	98%	19.0	B	431		
		915	WB	WBT	680	681	100%	26.0	C	211		
		915		WBR	336	324	96%	1.5	A	0		
		915	NB	NBL	945	937	99%	13.1	B	234		
		915		NBR	204	205	100%	28.8	C	143		
Clark Rd	Queensbury Rd	920	EB	EBL	28	28	100%	96.2	F	92	10.4	B
		920		EBT	1013	996	98%	8.8	A	745		
		920		EBR	6	5	83%	5.9	A	792		
		920	WB	WBL	79	76	96%	85.0	F	191		
		920		WBT	966	959	99%	3.6	A	231		
		920		WBR	5	4	80%	2.1	A	29		
		920	NB	NBL	8	7	88%	0.4	A	0		
		920		NBT	0	0	0%	0.0	A	21		
		920		NBR	5	5	100%	10.4	B	42		
		920	SB	SBL	5	5	100%	87.4	F	49		
		920		SBT	0	0	0%	0.0	A	49		
		920		SBR	42	41	98%	8.6	A	49		
Clark Rd	Hummingbird Ave	925	EB	EBT	976	958	98%	6.9	A	0	47.5	E
		925		EBR	47	49	104%	7.9	A	38		
		925	WB	WBL	5	5	100%	14.6	B	542		
		925		WBT	937	923	99%	2.6	A	523		
		925	NB	NBL	113	108	96%	47.5	E	191		
		925		NBR	10	11	110%	42.7	E	226		
Clark Rd	Driveway	930	EB	EBT	2132	2050	96%	1.4	A	203	605.5	F
		930		EBR	171	163	95%	1.8	A	211		
		930	WB	WBR	130	128	98%	1.4	A	363		
		930		WBT	2994	2977	99%	5.0	A	363		
		930	NB	NBR	143	142	99%	10.2	B	117		
		930	SB	SBR	182	77	42%	605.5	F	582		

2045 NoBuild - PM Peak: Clark Road

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
Clark Rd	Gantt Rd	900	EB	EBL	231	229	99%	92.3	F	548	76.3	E
		900		EBT	2885	2866	99%	46.9	D	1840		
		900		EBR	44	43	98%	45.5	D	1883		
		900	WB	WBL	55	42	76%	929.5	F	444		
		900		WBT	1887	1883	100%	23.8	C	439		
		900		WBR	190	195	103%	13.0	B	201		
		900		WBU	0	0	0%	0.0	A	444		
		900	NB	NBL	146	112	77%	323.6	F	1057		
		900		NBT	52	37	71%	681.9	F	1057		
		900		NBR	156	110	71%	630.5	F	1081		
		900	SB	SBL	360	308	86%	186.5	F	753		
		900		SBT	41	34	83%	173.3	F	695		
		900		SBR	202	174	86%	133.4	F	726		
Clark Rd	Catamaran Dr	905	EB	EBL	10	10	100%	48.0	D	27	25.1	C
		905		EBT	3333	3251	98%	8.8	A	339		
		905		EBR	87	84	97%	3.2	A	114		
		905		EBU	0	0	0%	0.0	A	27		
		905	WB	WBL	134	130	97%	100.0	F	349		
		905		WBT	2123	2112	99%	30.4	C	692		
		905		WBR	59	60	102%	3.4	A	93		
		905	NB	NBL	38	37	97%	242.6	F	600		
		905		NBT	5	4	80%	205.4	F	600		
		905		NBR	161	154	96%	182.6	F	641		
		905	SB	SBL	59	57	97%	85.3	F	166		
		905		SBT	5	4	80%	95.4	F	44		
		905		SBR	9	10	111%	11.5	B	87		
Clark Rd	I-75 SB Off Ramp	910	EB	EBT	2609	2550	98%	37.6	D	944	25.4	C
		910		EBR	944	918	97%	1.2	A	0		
		910	WB	WBL	148	150	101%	2.1	A	80		
		910		WBT	979	980	100%	26.7	C	241		
		910	SB	SBL	354	347	98%	28.8	C	161		
		910		SBR	1337	1342	100%	19.6	B	309		
Clark Rd	I-75 NB Off Ramp	915	EB	EBL	1880	1834	98%	4.9	A	316	11.8	B
		915		EBT	1083	1062	98%	16.0	B	489		
		915	WB	WBT	534	537	101%	27.9	C	175		
		915		WBR	240	232	97%	1.2	A	0		
		915	NB	NBL	593	592	100%	10.0	A	160		
		915		NBR	180	177	98%	29.2	C	119		
Clark Rd	Queensbury Rd	920	EB	EBL	49	50	102%	92.6	F	129	7.2	A
		920		EBT	1201	1181	98%	5.1	A	438		
		920		EBR	13	11	85%	2.5	A	485		
		920	WB	WBL	7	6	86%	72.8	E	36		
		920		WBT	722	720	100%	3.8	A	149		
		920		WBR	5	5	100%	1.8	A	17		
		920	NB	NBL	12	11	92%	0.9	A	2		
		920		NBT	0	0	0%	0.0	A	23		
		920		NBR	7	6	86%	15.4	B	43		
		920	SB	SBL	5	5	100%	92.1	F	48		
		920		SBT	0	0	0%	0.0	A	48		
		920		SBR	40	39	98%	7.6	A	48		
Clark Rd	Hummingbird Ave	925	EB	EBT	1123	1105	98%	7.5	A	0	31.4	D
		925		EBR	90	86	96%	8.0	A	52		
		925	WB	WBL	5	4	80%	15.6	C	308		
		925		WBT	679	671	99%	1.8	A	291		
		925	NB	NBL	55	55	100%	28.2	D	95		
		925		NBR	5	4	80%	31.4	D	130		
Clark Rd	Driveway	930	EB	EBT	3334	3248	97%	1.9	A	273	74.3	F
		930		EBR	67	62	93%	2.8	A	289		
		930	WB	WBR	111	108	97%	1.5	A	351		
		930		WBT	2059	2045	99%	26.9	D	351		
		930	NB	NBR	96	95	99%	20.9	C	100		
		930	SB	SBR	73	71	97%	74.3	F	169		

2045 No Build - AM Peak: SR 681

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
SR 681	Honore Ave	1000	EB	EBL	65	64	98%	44.7	D	137	28.1	C
		1000		EBT	311	312	100%	22.6	C	298		
		1000		EBR	60	55	92%	8.0	A	136		
		1000	WB	WBL	12	13	108%	51.3	D	56		
		1000		WBT	472	464	98%	28.3	C	234		
		1000		WBR	56	53	95%	7.9	A	97		
		1000	NB	NBL	65	62	95%	48.6	D	107		
		1000		NBT	744	753	101%	27.9	C	358		
		1000		NBR	10	10	100%	5.4	A	71		
		1000	SB	SBL	24	27	113%	45.5	D	54		
		1000		SBT	879	885	101%	33.9	C	442		
		1000		SBR	209	206	99%	8.9	A	196		

2045 No Build - PM Peak: SR 681

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
SR 681	Honore Ave	1000	EB	EBL	213	209	98%	49.5	D	281	36.3	D
		1000		EBT	432	420	97%	25.3	C	447		
		1000		EBR	83	87	105%	8.1	A	142		
		1000	WB	WBL	18	16	89%	60.2	E	53		
		1000		WBT	284	281	99%	33.9	C	170		
		1000		WBR	55	53	96%	10.3	B	96		
		1000	NB	NBL	103	104	101%	50.5	D	131		
		1000		NBT	901	903	100%	38.9	D	479		
		1000		NBR	7	7	100%	6.5	A	71		
		1000	SB	SBL	48	50	104%	54.7	D	76		
		1000		SBT	760	765	101%	41.1	D	382		
		1000		SBR	85	84	99%	6.8	A	117		

2045 NoBuild - AM Peak: Laurel Road

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
Laurel Rd	Twin Laurel Blvd	1100	EB	EBL	5	6	120%	5.3	A	21	24.7	C
		1100		EBT	690	691	100%	0.8	A	2		
		1100		EBR	48	45	94%	1.7	A	23		
		1100	WB	WBL	70	75	107%	4.0	A	58		
		1100		WBT	949	942	99%	2.2	A	0		
		1100		WBR	9	7	78%	1.1	A	0		
		1100	NB	NBL	37	37	100%	19.7	C	68		
		1100		NBT	6	5	83%	24.7	C	68		
		1100		NBR	41	40	98%	8.2	A	110		
		1100	SB	SBL	6	5	83%	20.2	C	27		
		1100		SBT	0	0	0%	0.0	A	27		
		1100		SBR	5	3	60%	7.6	A	52		
Laurel Rd	Pinebrook Rd	1105	EB	EBL	68	68	100%	52.4	D	123	37.9	D
		1105		EBT	677	675	100%	41.9	D	476		
		1105		EBR	108	107	99%	44.9	D	476		
		1105		EBU	0	0	0%	0.0	A	123		
		1105	WB	WBL	374	376	101%	48.3	D	230		
		1105		WBT	835	829	99%	38.1	D	423		
		1105		WBR	209	204	98%	14.9	B	205		
		1105	NB	NBL	123	123	100%	41.4	D	245		
		1105		NBT	117	115	98%	31.9	C	178		
		1105		NBR	599	596	99%	31.5	C	712		
		1105	SB	SBL	146	144	99%	55.7	E	118		
		1105		SBT	90	85	94%	34.5	C	91		
		1105		SBR	70	73	104%	9.1	A	91		
Laurel Rd	I-75 SB Off Ramp	1110	EB	EBT	965	976	101%	30.3	C	484	26.1	C
		1110		EBR	457	446	98%	4.6	A	42		
		1110	WB	WBL	357	351	98%	71.8	E	802		
		1110		WBT	1146	1131	99%	13.9	B	437		
		1110	SB	SBL	275	265	96%	37.9	D	330		
		1110		SBR	272	273	100%	25.0	C	135		
Laurel Rd	I-75 NB Off Ramp	1115	EB	EBL	413	413	100%	34.9	C	201	24.9	C
		1115		EBT	827	827	100%	29.8	C	640		
		1115	WB	WBT	761	747	98%	32.0	C	428		
		1115		WBR	397	397	100%	2.7	A	122		
		1115	NB	NBL	742	730	98%	32.0	C	340		
		1115		NBR	441	435	99%	2.0	A	0		
Laurel Rd	Discovery Way	1120	WB	WBT	1071	1062	99%	0.5	A	0	10.1	B
		1120		WBR	31	31	100%	0.8	A	0		
		1120	SB	SBR	87	85	98%	10.1	B	146		
Laurel Rd	Haul Rd	1125	EB	EBL	1155	1153	100%	33.5	C	580	47.8	D
		1125		EBT	94	92	98%	21.5	C	101		
		1125		EBR	19	19	100%	7.0	A	73		
		1125		EBU	0	0	0%	0.0	A	580		
		1125	WB	WBL	5	5	100%	67.9	E	36		
		1125		WBT	378	373	99%	99.8	F	1376		
		1125		WBR	385	378	98%	99.9	F	1670		
		1125	NB	NBL	26	27	104%	50.2	D	79		
		1125		NBT	5	4	80%	53.1	D	32		
		1125		NBR	5	5	100%	5.4	A	55		
		1125	SB	SBL	87	91	105%	83.2	F	317		
		1125		SBT	5	4	80%	46.6	D	27		
		1125		SBR	698	693	99%	14.9	B	241		

2045 NoBuild - PM Peak: Laurel Road

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
Laurel Rd	Twin Laurel Blvd	1100	EB	EBL	7	9	129%	3.8	A	21	34.8	D
		1100		EBT	837	836	100%	1.1	A	5		
		1100		EBR	100	99	99%	2.2	A	41		
		1100	WB	WBL	140	136	97%	7.8	A	126		
		1100		WBT	707	717	101%	1.2	A	0		
		1100		WBR	7	8	114%	0.8	A	0		
		1100	NB	NBL	105	107	102%	34.8	D	151		
		1100		NBT	6	6	100%	31.6	D	151		
		1100		NBR	102	96	94%	8.4	A	128		
		1100	SB	SBL	8	7	88%	26.8	D	39		
		1100		SBT	0	0	0%	0.0	A	39		
		1100		SBR	6	5	83%	7.8	A	64		
Laurel Rd	Pinebrook Rd	1105	EB	EBL	32	27	84%	61.3	E	84	36.4	D
		1105		EBT	866	868	100%	43.4	D	526		
		1105		EBR	92	94	102%	45.5	D	526		
		1105		EBU	0	0	0%	0.0	A	84		
		1105	WB	WBL	722	721	100%	37.9	D	366		
		1105		WBT	737	744	101%	13.5	B	292		
		1105		WBR	110	110	100%	7.2	A	118		
		1105	NB	NBL	86	84	98%	61.2	E	179		
		1105		NBT	128	128	100%	124.2	F	403		
		1105		NBR	304	302	99%	11.3	B	264		
		1105	SB	SBL	204	205	100%	51.4	D	150		
		1105		SBT	180	179	99%	53.9	D	163		
		1105		SBR	31	28	90%	7.9	A	72		
Laurel Rd	I-75 SB Off Ramp	1110	EB	EBT	737	721	98%	40.5	D	388	31.6	C
		1110		EBR	637	634	100%	18.0	B	514		
		1110	WB	WBL	590	599	102%	59.4	E	1036		
		1110		WBT	1076	1089	101%	15.4	B	356		
		1110	SB	SBL	239	241	101%	51.3	D	313		
		1110		SBR	493	486	99%	27.9	C	184		
Laurel Rd	I-75 NB Off Ramp	1115	EB	EBL	266	264	99%	65.0	E	183	22.2	C
		1115		EBT	710	719	101%	10.1	B	171		
		1115	WB	WBT	1310	1308	100%	22.9	C	628		
		1115		WBR	286	294	103%	3.0	A	55		
		1115	NB	NBL	356	359	101%	45.6	D	235		
		1115		NBR	310	303	98%	1.3	A	0		
Laurel Rd	Discovery Way	1120	WB	WBT	1376	1391	101%	0.5	A	0	14.1	B
		1120		WBR	30	31	103%	0.5	A	0		
		1120	SB	SBR	220	219	100%	14.1	B	192		
Laurel Rd	Haul Rd	1125	EB	EBL	679	685	101%	15.8	B	203	41.3	D
		1125		EBT	308	308	100%	21.9	C	272		
		1125		EBR	33	34	103%	3.7	A	73		
		1125		EBU	0	0	0%	0.0	A	203		
		1125	WB	WBL	7	8	114%	60.3	E	39		
		1125		WBT	222	221	100%	41.9	D	154		
		1125		WBR	159	159	100%	9.1	A	153		
		1125	NB	NBL	27	26	96%	91.6	F	91		
		1125		NBT	6	6	100%	68.0	E	43		
		1125		NBR	7	7	100%	10.7	B	72		
		1125	SB	SBL	277	271	98%	197.4	F	1966		
		1125		SBT	17	16	94%	104.6	F	78		
		1125		SBR	1157	1174	101%	28.5	C	446		

2045 NoBuild - AM Peak: Jacaranda Boulevard

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
Jacaranda Blvd	Commerce Dr	1200	WB	WBL	183	180	98%	29.4	D	243	29.4	D
		1200		WBR	11	11	100%	6.7	A	29		
		1200	NB	NBT	387	309	80%	1.1	A	0		
		1200		NBR	316	273	86%	2.8	A	106		
		1200	SB	SBL	21	22	105%	3.1	A	70		
		1200		SBT	387	382	99%	1.8	A	8		
Jacaranda Blvd	I-75 NB Off Ramp	1205	WB	WBL	658	497	76%	320.1	F	2683	320.1	F
		1205		WBR	299	223	75%	152.1	F	1931		
		1205	NB	NBT	404	358	89%	1.1	A	0		
		1205		NBR	1309	1115	85%	8.3	A	0		
		1205	SB	SBT	438	436	100%	0.9	A	0		
		1205		SBR	132	129	98%	0.9	A	0		
Jacaranda Blvd	I-75 SB Off Ramp	1210	EB	EBL	87	90	103%	37.1	D	88	38.2	D
		1210		EBR	851	848	100%	25.9	C	339		
		1210	NB	NBT	1626	1383	85%	69.4	E	1529		
		1210		NBR	507	429	85%	17.4	B	98		
		1210	SB	SBL	108	109	101%	34.1	C	167		
		1210		SBT	988	821	83%	10.0	A	223		
Jacaranda Blvd	Commercial Ct	1220	EB	EBL	124	120	97%	68.2	E	307	85.8	F
		1220		EBT	18	19	106%	63.2	E	219		
		1220		EBR	114	115	101%	25.2	C	231		
		1220	WB	WBL	105	84	80%	212.3	F	1773		
		1220		WBT	8	5	63%	385.8	F	1769		
		1220		WBR	575	439	76%	373.8	F	1804		
		1220	NB	NBL	138	119	86%	52.1	D	276		
		1220		NBT	1434	1239	86%	75.3	E	862		
		1220		NBR	193	170	88%	52.3	D	159		
		1220	SB	SBL	358	321	90%	56.2	E	493		
		1220		SBT	1229	1098	89%	21.0	C	478		
		1220		SBR	252	246	98%	7.0	A	130		
Jacaranda Blvd	Oak Heritage Dr/Driveway	1225	EB	EBL	10	7	70%	260.4	F	66	260.4	F
		1225		EBR	11	12	109%	5.2	A	0		
		1225	WB	WBR	7	4	57%	0.6	A	0		
		1225	NB	NBL	5	4	80%	105.8	F	21		
		1225		NBT	1748	1388	79%	146.0	F	1721		
		1225		NBR	34	27	79%	127.3	F	0		
		1225	SB	SBT	1443	1303	90%	2.7	A	232		
		1225		SBR	5	5	100%	1.7	A	0		

2045 NoBuild - PM Peak: Jacaranda Boulevard

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
Jacaranda Blvd	Commerce Dr	1200	WB	WBL	303	241	80%	300.2	F	954	300.2	F
		1200		WBR	28	22	79%	174.6	F	48		
		1200	NB	NBT	397	351	88%	1.6	A	0		
		1200		NBR	93	91	98%	1.6	A	16		
		1200	SB	SBL	12	11	92%	3.0	A	44		
		1200		SBT	364	362	99%	1.6	A	2		
Jacaranda Blvd	I-75 NB Off Ramp	1205	WB	WBL	459	458	100%	50.8	F	697	50.8	F
		1205		WBR	133	132	99%	8.4	A	116		
		1205	NB	NBT	357	310	87%	1.1	A	0		
		1205		NBR	843	763	91%	7.1	A	0		
		1205	SB	SBT	549	529	96%	0.9	A	0		
		1205		SBR	118	113	96%	0.9	A	0		
Jacaranda Blvd	I-75 SB Off Ramp	1210	EB	EBL	41	43	105%	26.1	C	58	55.2	E
		1210		EBR	1275	1273	100%	28.1	C	577		
		1210	NB	NBT	1159	1030	89%	142.2	F	1547		
		1210		NBR	749	681	91%	24.0	C	368		
		1210	SB	SBL	226	217	96%	38.4	D	229		
		1210		SBT	782	769	98%	17.8	B	274		
Jacaranda Blvd	Commercial Ct	1220	EB	EBL	196	197	101%	46.7	D	297	95.6	F
		1220		EBT	28	28	100%	55.0	D	249		
		1220		EBR	192	186	97%	30.2	C	278		
		1220	WB	WBL	113	77	68%	308.2	F	1777		
		1220		WBT	12	9	75%	616.5	F	1772		
		1220		WBR	543	377	69%	508.8	F	1807		
		1220	NB	NBL	115	107	93%	51.3	D	211		
		1220		NBT	1169	1102	94%	85.6	F	854		
		1220		NBR	209	192	92%	64.4	E	152		
		1220	SB	SBL	368	366	99%	54.1	D	572		
		1220		SBT	1445	1435	99%	34.4	C	1261		
		1220		SBR	244	240	98%	15.2	B	137		
Jacaranda Blvd	Oak Heritage Dr/Driveway	1225	EB	EBL	7	6	86%	131.9	F	61	131.9	F
		1225		EBR	9	10	111%	5.1	A	0		
		1225	WB	WBR	6	4	67%	0.6	A	0		
		1225	NB	NBL	10	11	110%	85.5	F	32		
		1225		NBT	1480	1345	91%	115.8	F	1589		
		1225		NBR	33	30	91%	108.6	F	0		
		1225	SB	SBT	1742	1700	98%	3.0	A	303		
		1225		SBR	8	8	100%	2.1	A	0		

2045 NoBuild - AM Peak: River Road

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
River Rd	I-75 NB Off Ramp	1300	WB	WBL	562	280	50%	609.2	F	1778	609.2	F
		1300	NB	NBL	1071	1071	100%	4.2	A	0		
		1300	SB	SBT	0	0	0%	0.0	A	0		
		1300		SBR	0	0	0%	0.0	A	0		
River Rd	I-75 SB Off Ramp	1305	EB	EBL	0	0	0%	0.0	A	0	35.1	E
		1305		EBR	742	732	99%	35.1	E	853		
		1305	NB	NBT	1071	1069	100%	3.1	A	0		
		1305		NBR	397	278	70%	4.2	A	0		
		1305	SB	SBL	0	0	0%	0.0	A	0		
		1305		SBT	562	304	54%	0.5	A	0		
River Rd	Subdivision Entrance Dr	1310	EB	EBR	7	4	57%	6.3	A	52	6.3	A
		1310	SB	SBT	1293	1036	80%	0.7	A	0		
		1310		SBR	11	6	55%	1.3	A	0		
River Rd	Venice Ave	1315	EB	EBL	333	204	61%	356.6	F	1131	64.4	E
		1315		EBT	9	5	56%	369.1	F	1131		
		1315		EBR	165	103	62%	344.3	F	1186		
		1315	WB	WBL	6	6	100%	55.9	E	96		
		1315		WBT	11	10	91%	68.8	E	96		
		1315		WBR	5	5	100%	13.9	B	108		
		1315	NB	NBL	292	285	98%	55.1	E	621		
		1315		NBT	1130	1128	100%	18.5	B	608		
		1315		NBR	7	7	100%	18.3	B	633		
		1315	SB	SBL	7	4	57%	28.2	C	19		
		1315		SBT	799	721	90%	29.6	C	530		
		1315		SBR	494	310	63%	33.7	C	543		

2045 NoBuild - PM Peak: River Road

Primary Road	Secondary Road	Node #	Approach	Movement	Movement						Intersection	
					Demand Volume (vph)	Modeled Volume (vph)	% Served	Vehicle Delay (sec)	Movement LOS	Max Queue (ft)	Vehicle Delay (sec)	Intersection LOS
River Rd	I-75 NB Off Ramp	1300	WB	WBL	396	392	99%	42.1	E	534	42.1	E
		1300	NB	NBL	682	658	96%	2.2	A	0		
		1300	SB	SBT	0	0	0%	0.0	A	0		
		1300		SBR	0	0	0%	0.0	A	0		
River Rd	I-75 SB Off Ramp	1305	EB	EBL	0	0	0%	0.0	A	0	370.3	F
		1305		EBR	1119	652	58%	370.3	F	1795		
		1305	NB	NBT	682	654	96%	2.3	A	0		
		1305		NBR	574	450	78%	4.2	A	0		
		1305	SB	SBL	0	0	0%	0.0	A	0		
		1305		SBT	396	395	100%	0.4	A	0		
River Rd	Subdivision Entrance Dr	1310	EB	EBR	5	4	80%	6.7	A	52	6.7	A
		1310	SB	SBT	1475	1072	73%	0.7	A	0		
		1310		SBR	40	40	100%	1.7	A	0		
River Rd	Venice Ave	1315	EB	EBL	389	234	60%	229.9	F	1119	64.1	E
		1315		EBT	19	11	58%	231.8	F	1119		
		1315		EBR	388	230	59%	221.5	F	1174		
		1315	WB	WBL	8	8	100%	32.7	C	59		
		1315		WBT	11	12	109%	49.4	D	59		
		1315		WBR	17	15	88%	8.5	A	71		
		1315	NB	NBL	184	187	102%	41.9	D	305		
		1315		NBT	850	850	100%	20.0	B	369		
		1315		NBR	5	4	80%	22.6	C	394		
		1315	SB	SBL	7	8	114%	28.8	C	27		
		1315		SBT	1236	875	71%	32.9	C	479		
		1315		SBR	237	197	83%	33.1	C	504		

Appendix K
Sensitivity Analysis HCM Reports

Year of Failure HCM Reports

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB - From Limit to Moccasin Wallow Road Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5124	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1962
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.84
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	61.8
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	31.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB - From Limit to Moccasin Wallow Road Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3448	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1320
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.57
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	71.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	18.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB - Moccasin Wallow Rd Off-Ramp to I-275 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6006	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1725
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.74
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	66.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	25.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB - Moccasin Wallow Rd Off-Ramp to I-275 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3655	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1050
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.45
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	73.1
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	14.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2033
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB - I-275 On-Ramp to US 301 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5442	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2084
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB - I-275 On-Ramp to US 301 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5273	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2019
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.87
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	60.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	33.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2038
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB- from US 301 On-Ramp to SR 64 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7285	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2092
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB- from US 301 On-Ramp to SR 64 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5870	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1686
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.73
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	67.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	25.0
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2040
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB - from US 301 On-Ramp to SR 70 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7254	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2084
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB - from US 301 On-Ramp to SR 70 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5680	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1631
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.70
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	68.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	23.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2038
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB -From SR 70 On-Ramp to CR 610 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7249	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2082
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.8
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB -From SR 70 On-Ramp to CR 610 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6044	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1736
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.75
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	66.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	26.1
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2034
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB -from CR 610 Off-Ramp to Fruitville Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7300	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2097
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB -from CR 610 Off-Ramp to Fruitville Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7235	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2078
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB-From FruitvilleRd On-Ramp to BeeRidge Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7126	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2047
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.88
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	59.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	34.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2040
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB-From FruitvilleRd On-Ramp to BeeRidge Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7281	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2091
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB -From Bee Ridge Rd On-Ramp to Clark Rd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6236	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1791
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.77
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	27.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2043
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB -From Bee Ridge Rd On-Ramp to Clark Rd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7246	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2081
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.8
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB - from Bee Ridge Rd On-Ramp to SR 681 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	4884	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1870
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.81
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	63.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	29.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2030
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB - from Bee Ridge Rd On-Ramp to SR 681 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5439	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2083
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.8
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB - From SR 681 Off-Ramp to Laurel Road Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3772	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1444
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.62
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	20.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2039
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB - From SR 681 Off-Ramp to Laurel Road Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5437	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2082
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.8
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB-From Laurel Rd OnRamp to Jacaranda Blvd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	4039	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1547
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	22.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2034
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB-From Laurel Rd OnRamp to Jacaranda Blvd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5439	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2083
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.8
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB-From Jacaranda Blvd OnRamp to River Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3716	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1423
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.61
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	71.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	20.0
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2037
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB-From Jacaranda Blvd OnRamp to River Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5447	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2086
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB - From River Rd On-Ramp to Study limit	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3371	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1291
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.56
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	72.1
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	17.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2044
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB - From River Rd On-Ramp to Study limit	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5470	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2095
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - From Moccasin Wallow Road On-Ramp to Limit	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	4061	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1555
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	22.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2043
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - From Moccasin Wallow Road On-Ramp to Limit	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5433	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2081
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.8
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - I-275 On-Ramp to Moccasin Wallow Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3783	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1086
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	73.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	14.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - I-275 On-Ramp to Moccasin Wallow Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5970	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1715
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.74
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	66.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	25.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - US 301 On-Ramp to I-275 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5075	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1943
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.84
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	62.2
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	31.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2031
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - US 301 On-Ramp to I-275 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5471	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2095
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB- from SR 64 On-Ramp to US 301 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5833	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1675
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.72
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	67.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	24.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2035
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB- from SR 64 On-Ramp to US 301 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7262	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2086
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - from SR 70 On-Ramp to US 301 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5785	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1662
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.72
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	67.8
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	24.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2035
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - from SR 70 On-Ramp to US 301 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7297	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2096
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB -From CR 610 On-Ramp to SR 70 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5901	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1695
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.73
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	67.2
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	25.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2037
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB -From CR 610 On-Ramp to SR 70 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7235	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2078
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2044
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB -from Fruitville Rd On-Ramp to CR 610 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7253	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2083
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.8
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2034
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB -from Fruitville Rd On-Ramp to CR 610 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7247	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2082
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.8
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2038
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB-From BeeRidge On-Ramp to FruitvilleRd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7255	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2084
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB-From BeeRidge On-Ramp to FruitvilleRd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7168	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2059
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	59.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	34.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2042
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - From Clark Rd OnRamp to Bee Ridge Rd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7305	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2098
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - From Clark Rd OnRamp to Bee Ridge Rd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6598	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1895
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.82
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	63.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	29.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2026
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - from SR 681 On-Ramp to Bee Ridge Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5423	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2077
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - from SR 681 On-Ramp to Bee Ridge Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5251	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2011
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.87
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	60.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	33.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2036
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - From Laurel Road On-Ramp to SR 681 On-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5492	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2103
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.91
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.2
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	36.1
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - From Laurel Road On-Ramp to SR 681 On-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	4082	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1563
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	22.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2031
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB-From Jacaranda Blvd OnRamp to Laurel Rd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5459	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2091
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB-From Jacaranda Blvd OnRamp to Laurel Rd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	4196	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1607
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.69
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	68.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	23.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2035
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB-From River Rd On-Ramp to Jacaranda Blvd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5430	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2079
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB-From River Rd On-Ramp to Jacaranda Blvd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3827	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1466
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	20.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2043
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - From River Road On-Ramp to Limit	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5455	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2089
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - From River Road On-Ramp to Limit	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3541	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1356
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.58
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	71.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	18.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Moccasin Wallow Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5124	648
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935
Flow Rate (v_i), pc/h	5887	737
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.84	0.38

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.506
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2168
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	57.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.579	Outer Lanes Freeway Speed (S_O), mi/h	75.6
Flow in Lanes 1 and 2 (v_{12}), pc/h	3719	Ramp Junction Speed (S), mi/h	63.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	31.1
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	31.7

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Moccasin Wallow Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	3448	700
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935
Flow Rate (v_i), pc/h	3961	796
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.57	0.41

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.511
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1190
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	57.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.624	Outer Lanes Freeway Speed (S_O), mi/h	79.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	2771	Ramp Junction Speed (S), mi/h	62.4

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	21.2
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	23.6

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Moccasin Wallow Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4476	1530
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935
Flow Rate (v_i), pc/h	5142	1741
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.99	0.90

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.607
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1954
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	67.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	3188	Ramp Junction Speed (S), mi/h	57.5

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4929	Average Density (D), pc/mi/ln	39.9
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	33.8

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Moccasin Wallow Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	2748	907
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935
Flow Rate (v_i), pc/h	3157	1032
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.60	0.53

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.296
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1200
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	63.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	70.6
Flow in Lanes 1 and 2 (v_{12}), pc/h	1957	Ramp Junction Speed (S), mi/h	65.7

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2989	Average Density (D), pc/mi/ln	21.3
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	19.0

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB I275 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6006	1773
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	6900	1981
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.99	1.02

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.618
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2479
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	53.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.496	Outer Lanes Freeway Speed (S_O), mi/h	74.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	4421	Ramp Junction Speed (S), mi/h	60.3

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4421	Average Density (D), pc/mi/ln	38.5
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	28.8

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB I275 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	3655	1138
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	4199	1272
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.60	0.66

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.554
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1180
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	55.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.597	Outer Lanes Freeway Speed (S_O), mi/h	79.5
Flow in Lanes 1 and 2 (v_{12}), pc/h	3019	Ramp Junction Speed (S), mi/h	61.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	22.9
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	16.7

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2039
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB I275 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	3789	2405
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	4353	2688
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.01	0.69

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1866
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	2487	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5175	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB I275 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	2517	2756
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	2892	3080
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	0.86	0.80

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.607
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1239
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (S_O), mi/h	70.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	1653	Ramp Junction Speed (S), mi/h	56.9

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4733	Average Density (D), pc/mi/ln	35.0
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	31.6

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB I275 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	3655	1138
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	4199	1272
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.60	0.66

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.554
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1180
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	55.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.597	Outer Lanes Freeway Speed (S_O), mi/h	79.5
Flow in Lanes 1 and 2 (v_{12}), pc/h	3019	Ramp Junction Speed (S), mi/h	61.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	22.9
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	16.7

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2036
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB US 301 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	425
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5818	701
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6684	775
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.96	0.40

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.509
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2618
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	57.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.557	Outer Lanes Freeway Speed (S_O), mi/h	73.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	4066	Ramp Junction Speed (S), mi/h	62.8

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	35.5
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	35.4

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB US 301 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	6100	2171
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7008	2401
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	1.01	0.62

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2103
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.209	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	2803	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5204	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB US 301 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4398	1472
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5053	1628
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.72	0.42

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.369
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1516
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	61.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.209	Outer Lanes Freeway Speed (S_O), mi/h	69.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	2021	Ramp Junction Speed (S), mi/h	64.9

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3649	Average Density (D), pc/mi/ln	25.7
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	23.9

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2044
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB SR 64 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	8130	2298
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	9340	2541
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	1.01	0.66

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2516
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4309	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4309	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB SR 64 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5870	1549
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6744	1713
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.73	0.44

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.594
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1862
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	54.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	76.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	3021	Ramp Junction Speed (S), mi/h	65.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	25.9
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	16.7

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB SR 64 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	6827	1063
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7843	1176
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.97	0.61

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.510
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2353
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	57.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.071	Outer Lanes Freeway Speed (S_O), mi/h	66.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	3137	Ramp Junction Speed (S), mi/h	61.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4313	Average Density (D), pc/mi/ln	36.6
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	29.2

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB SR 64 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4815	865
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5532	957
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.70	0.49

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	2
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.312
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1660
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.4
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.098	Outer Lanes Freeway Speed (SO), mi/h	68.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	2213	Ramp Junction Speed (S), mi/h	66.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3170	Average Density (D), pc/mi/ln	24.5
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	20.4

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2036
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB SR 70 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	600
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6746	1389
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7750	1536
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.83	0.79

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.578
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1753
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	55.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.436	Outer Lanes Freeway Speed (S_O), mi/h	77.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	4245	Ramp Junction Speed (S), mi/h	63.3

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	30.6
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	35.4

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB SR 70 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	600
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5680	1237
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6525	1368
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.70	0.71

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.563
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1455
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	55.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.436	Outer Lanes Freeway Speed (S_O), mi/h	78.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	3616	Ramp Junction Speed (S), mi/h	63.9

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	25.5
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	29.9

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB SR 70 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1250
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	6908	1194
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7936	1320
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	1.00	0.68

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.585
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2381
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.053	Outer Lanes Freeway Speed (S_O), mi/h	66.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	3174	Ramp Junction Speed (S), mi/h	60.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4494	Average Density (D), pc/mi/ln	38.5
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	32.2

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB SR 70 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1250
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5127	917
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5890	1014
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.74	0.52

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M_S)	0.349
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1767
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	62.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.091	Outer Lanes Freeway Speed (S_O), mi/h	68.5
Flow in Lanes 1 and 2 (v_{12}), pc/h	2356	Ramp Junction Speed (S), mi/h	65.3

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3370	Average Density (D), pc/mi/ln	26.4
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	23.5

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB SR 70 On-Ramp (Loop)	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1250
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	6273	635
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7207	702
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.85	0.36

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.376
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2162
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	61.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.130	Outer Lanes Freeway Speed (S_O), mi/h	67.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	2883	Ramp Junction Speed (S), mi/h	64.4

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3585	Average Density (D), pc/mi/ln	30.7
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	25.4

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB SR 70 On-Ramp (Loop)	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1250
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4443	684
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5104	756
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.63	0.39

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.300
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1531
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	63.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.123	Outer Lanes Freeway Speed (S_O), mi/h	69.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	2042	Ramp Junction Speed (S), mi/h	66.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2798	Average Density (D), pc/mi/ln	22.0
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	19.2

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2029
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB CR 610 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6153	1676
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	7069	1873
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.01	0.48

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4369	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4369	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB CR 610 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6044	1506
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	6944	1683
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.00	0.43

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.591
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	54.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	73.6
Flow in Lanes 1 and 2 (v_{12}), pc/h	4244	Ramp Junction Speed (S), mi/h	60.8

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	38.1
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	27.3

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2023
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB CR 610 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	3950	2184
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	4538	2441
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.00	0.63

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.607
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1945
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (S_O), mi/h	67.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	2593	Ramp Junction Speed (S), mi/h	57.4

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5034	Average Density (D), pc/mi/ln	40.5
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	34.3

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2033
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB CR 610 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	3763	2445
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	4323	2732
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.01	0.71

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1853
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	2470	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5202	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2023
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Fruiteville Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6134	2302
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7047	2546
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.01	0.66

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2476
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4571	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4571	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2032
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Fruiteville Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6122	1663
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7033	1839
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.01	0.47

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4333	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4333	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2021
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Fruiteville Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4934	1259
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5668	1392
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.01	0.36

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2429
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	3239	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4631	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2019
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Fruiteville Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5226	1639
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6004	1812
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.12	0.47

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2573
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	3431	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5243	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information

Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2034
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Bee Ridge Road Off-Ramp	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors

Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity

Demand Volume (V_i), veh/h	6121	1672
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7032	1849
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.01	0.48

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4332	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4332	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Bee Ridge Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	7770	1765
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	8927	1952
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.28	0.50

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	6227	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	6227	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Bee Ridge Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5275	961
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6060	1063
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.77	0.27

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.346
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1818
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	62.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.209	Outer Lanes Freeway Speed (S_O), mi/h	68.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	2424	Ramp Junction Speed (S), mi/h	65.3

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3487	Average Density (D), pc/mi/ln	27.3
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	22.9

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Bee Ridge Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	6005	1430
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6899	1581
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.91	0.41

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.518
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2070
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	57.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.209	Outer Lanes Freeway Speed (S_O), mi/h	67.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	2760	Ramp Junction Speed (S), mi/h	61.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4341	Average Density (D), pc/mi/ln	34.4
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	29.3

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Clark Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6236	2177
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	7164	2433
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.77	0.63

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.659
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1751
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	52.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	77.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	3663	Ramp Junction Speed (S), mi/h	62.3

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	28.7
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	22.3

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Clark Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	7435	1691
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	8542	1890
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.92	0.49

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.610
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2461
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	54.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	74.5
Flow in Lanes 1 and 2 (v_{12}), pc/h	3620	Ramp Junction Speed (S), mi/h	64.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	33.3
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	21.9

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Clark Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	825	4059
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	948	4536
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	0.79	1.00

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.607
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	406
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (S_O), mi/h	73.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	542	Ramp Junction Speed (S), mi/h	55.3

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5078	Average Density (D), pc/mi/ln	33.1
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	33.7

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2027
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Clark Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	941	4218
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	1081	4713
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	0.83	1.00

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.607
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	463
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (S_O), mi/h	73.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	618	Ramp Junction Speed (S), mi/h	55.3

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5331	Average Density (D), pc/mi/ln	34.9
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	35.6

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB SR 681 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	4884	1112
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5611	1230
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	0.81	0.32

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.550
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2405
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	56.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	74.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	3206	Ramp Junction Speed (S), mi/h	62.7

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	29.8
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	18.3

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2037
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB SR 681 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6091	823
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6998	910
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.00	0.24

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.522
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	56.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	73.6
Flow in Lanes 1 and 2 (v_{12}), pc/h	4298	Ramp Junction Speed (S), mi/h	62.4

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	37.4
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	27.7

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Laurel Rd Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	710
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	3772	547
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	4333	605
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.62	0.31

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.494
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1402
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	57.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.624	Outer Lanes Freeway Speed (S_O), mi/h	78.6
Flow in Lanes 1 and 2 (v_{12}), pc/h	2931	Ramp Junction Speed (S), mi/h	63.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	22.9
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	23.1

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Laurel Rd Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	710
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5943	732
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6828	809
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.98	0.42

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.513
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2697
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	57.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.552	Outer Lanes Freeway Speed (S_O), mi/h	73.6
Flow in Lanes 1 and 2 (v_{12}), pc/h	4131	Ramp Junction Speed (S), mi/h	62.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	36.4
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	33.4

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Laurel Rd On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	3225	814
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	3705	900
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.66	0.46

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.314
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1408
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	63.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	69.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	2297	Ramp Junction Speed (S), mi/h	65.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3197	Average Density (D), pc/mi/ln	23.5
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	20.7

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2042
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Laurel Rd On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4988	1178
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5730	1303
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	1.01	0.67

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2177
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	3553	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4856	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Jacaranda Blvd Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1270
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	4039	938
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	4640	1037
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.67	0.54

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.533
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1456
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	56.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.596	Outer Lanes Freeway Speed (S_O), mi/h	78.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	3184	Ramp Junction Speed (S), mi/h	61.9

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	25.0
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	20.2

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2041
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Jacaranda Blvd Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1270
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6075	1249
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6979	1381
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	1.00	0.71

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.564
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2676
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	55.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.522	Outer Lanes Freeway Speed (S_O), mi/h	73.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	4303	Ramp Junction Speed (S), mi/h	61.4

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	37.9
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	29.8

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Jacaranda Blvd On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1300
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	3101	615
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	3563	680
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.61	0.35

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.301
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1375
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.614	Outer Lanes Freeway Speed (SO), mi/h	69.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	2188	Ramp Junction Speed (S), mi/h	65.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2868	Average Density (D), pc/mi/ln	21.6
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	19.5

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Jacaranda Blvd On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1300
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5122	975
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5884	1078
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	1.00	0.56

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.620
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2271
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	53.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.614	Outer Lanes Freeway Speed (S_O), mi/h	66.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	3613	Ramp Junction Speed (S), mi/h	57.4

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4691	Average Density (D), pc/mi/ln	40.4
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	33.5

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 River Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	625
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	3716	742
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	4269	821
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.61	0.42

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.514
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1324
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	57.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.616	Outer Lanes Freeway Speed (SO), mi/h	78.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	2945	Ramp Junction Speed (S), mi/h	62.5

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	22.8
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	24.0

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2044
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 River Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	625
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6016	1107
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6911	1224
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.99	0.63

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.550
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2667
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	56.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.531	Outer Lanes Freeway Speed (SO), mi/h	73.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	4244	Ramp Junction Speed (S), mi/h	61.7

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	37.3
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	35.1

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 River Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1210
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	2974	397
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	3417	439
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.55	0.23

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.287
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1329
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	64.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.611	Outer Lanes Freeway Speed (S_O), mi/h	70.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	2088	Ramp Junction Speed (S), mi/h	66.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2527	Average Density (D), pc/mi/ln	19.4
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	17.5

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 River Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1210
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4978	574
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5719	635
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.91	0.33

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.481
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2225
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	58.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.611	Outer Lanes Freeway Speed (S_O), mi/h	66.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	3494	Ramp Junction Speed (S), mi/h	60.9

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4129	Average Density (D), pc/mi/ln	34.8
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	29.9

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB River Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	605
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5607	562
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6442	621
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.92	0.32

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.496
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2503
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	57.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.570	Outer Lanes Freeway Speed (S_O), mi/h	74.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	3939	Ramp Junction Speed (S), mi/h	63.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	34.0
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	32.7

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB River Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	605
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	3541	396
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	4068	438
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.58	0.23

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.479
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1314
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	58.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.638	Outer Lanes Freeway Speed (S_O), mi/h	79.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	2754	Ramp Junction Speed (S), mi/h	63.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	21.3
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	22.5

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB River Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1002
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5045	1071
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5796	1184
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	1.00	0.61

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M_S)	0.641
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2284
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	53.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.606	Outer Lanes Freeway Speed (S_O), mi/h	66.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	3512	Ramp Junction Speed (S), mi/h	57.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4696	Average Density (D), pc/mi/ln	40.8
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	35.3

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB River Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1002
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	3145	682
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	3613	754
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.63	0.39

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.327
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1424
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	62.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.606	Outer Lanes Freeway Speed (S_O), mi/h	69.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	2189	Ramp Junction Speed (S), mi/h	65.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2943	Average Density (D), pc/mi/ln	22.4
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	21.9

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2039
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Jacaranda Blvd Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	450
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5704	909
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6553	1005
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.94	0.52

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.530
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2497
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	56.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.550	Outer Lanes Freeway Speed (SO), mi/h	74.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	4056	Ramp Junction Speed (S), mi/h	62.3

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	35.1
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	35.1

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Jacaranda Blvd Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	450
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	3827	592
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	4397	655
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.63	0.34

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.499
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1422
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	57.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	78.5
Flow in Lanes 1 and 2 (v_{12}), pc/h	2975	Ramp Junction Speed (S), mi/h	63.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	23.3
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	25.8

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2039
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Jacaranda Blvd On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	960
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5995	116
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6887	128
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	1.01	0.07

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.604	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4187	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4315	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Jacaranda Blvd On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	960
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4078	118
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	4685	130
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.69	0.07

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.331
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1855
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	62.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.604	Outer Lanes Freeway Speed (S_O), mi/h	68.2
Flow in Lanes 1 and 2 (v_{12}), pc/h	2830	Ramp Junction Speed (S), mi/h	64.8

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2960	Average Density (D), pc/mi/ln	24.8
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	22.6

HCS Freeway Merge Report

Project Information

Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2041
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB On-Ramp from NB Jacaranda Blvd	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors

Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity

Demand Volume (V_i), veh/h	4916	1237
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5648	1368
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	1.01	0.71

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2146
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	3502	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4870	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB On-Ramp from NB Jacaranda Blvd	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	3235	843
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	3717	932
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.67	0.48

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.318
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1412
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	63.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	69.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	2305	Ramp Junction Speed (S), mi/h	65.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3237	Average Density (D), pc/mi/ln	23.8
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	21.0

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2039
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Laurel Rd Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6111	1113
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7021	1231
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.01	0.32

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4321	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4321	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Laurel Rd Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	4196	666
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	4821	736
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	0.69	0.19

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.506
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2066
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	57.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (SO), mi/h	76.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	2755	Ramp Junction Speed (S), mi/h	64.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	25.1
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	14.4

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2044
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Laurel Rd On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5347	798
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6143	882
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	1.01	0.46

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2334
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	3809	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4691	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Laurel Rd On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	3530	552
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	4055	610
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.67	0.32

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M_S)	0.307
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1541
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	63.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	69.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	2514	Ramp Junction Speed (S), mi/h	65.4

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3124	Average Density (D), pc/mi/ln	23.8
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	20.2

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2034
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB SR 681 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5328	798
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6121	882
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	1.00	0.46

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.607
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2326
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	66.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	3795	Ramp Junction Speed (S), mi/h	57.7

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4677	Average Density (D), pc/mi/ln	40.5
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	32.2

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB SR 681 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4082	1169
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	4690	1293
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.86	0.67

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.479
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1782
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	58.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	68.5
Flow in Lanes 1 and 2 (v_{12}), pc/h	2908	Ramp Junction Speed (S), mi/h	60.9

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4201	Average Density (D), pc/mi/ln	32.7
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	28.3

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2034
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Clark Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6126	1100
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	7038	1229
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.01	0.32

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4338	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4338	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Clark Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5251	773
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	6033	864
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	0.87	0.22

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.517
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2586
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	57.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (SO), mi/h	74.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	3447	Ramp Junction Speed (S), mi/h	63.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	31.8
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	20.4

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Clark Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5943	1665
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	6828	1861
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.94	0.48

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.604
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2049
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.209	Outer Lanes Freeway Speed (S_O), mi/h	67.5
Flow in Lanes 1 and 2 (v_{12}), pc/h	2731	Ramp Junction Speed (S), mi/h	59.8

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4592	Average Density (D), pc/mi/ln	36.3
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	31.1

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Clark Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4478	2120
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	5145	2369
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.81	0.61

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.545
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1544
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	56.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.209	Outer Lanes Freeway Speed (S_O), mi/h	69.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	2058	Ramp Junction Speed (S), mi/h	60.9

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4427	Average Density (D), pc/mi/ln	30.8
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	29.6

HCS Freeway Diverge Report

Project Information

Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Bee Ridge Road Off-Ramp	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors

Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity

Demand Volume (V_i), veh/h	7608	1275
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	8740	1410
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.94	0.36

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.567
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2622
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	55.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	73.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	3496	Ramp Junction Speed (S), mi/h	65.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	33.5
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	20.8

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Bee Ridge Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6598	908
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7580	1004
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.82	0.26

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.530
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2274
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	56.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	75.2
Flow in Lanes 1 and 2 (v_{12}), pc/h	3032	Ramp Junction Speed (S), mi/h	66.5

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	28.5
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	16.8

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2027
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Bee Ridge Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4700	1429
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5400	1580
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.00	0.41

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.607
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2314
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (S_O), mi/h	66.5
Flow in Lanes 1 and 2 (v_{12}), pc/h	3086	Ramp Junction Speed (S), mi/h	57.7

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4666	Average Density (D), pc/mi/ln	40.3
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	31.8

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2034
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Bee Ridge Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4809	1385
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5525	1532
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.01	0.40

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2368
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	3157	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4689	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2027
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Fruiteville Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6129	1982
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7041	2192
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.01	0.57

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2667
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4374	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4374	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information

Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2033
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Fruiteville Road Off-Ramp	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors

Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity

Demand Volume (V_i), veh/h	6105	1419
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7014	1569
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.01	0.41

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4314	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4314	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2032
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Fruiteville Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4505	1662
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5176	1838
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.01	0.47

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2218
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	2958	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4796	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2024
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Fruiteville Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4041	2182
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	4642	2413
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.01	0.62

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1989
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	2653	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5066	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2031
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB CR 610 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6076	2506
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	6980	2800
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.00	0.72

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.692
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2299
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	75.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	4681	Ramp Junction Speed (S), mi/h	57.5

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	40.5
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	31.0

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2023
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB CR 610 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6121	2044
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	7032	2284
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.01	0.59

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2611
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4421	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4421	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB CR 610 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4500	1401
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	5170	1566
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	0.97	0.40

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.577
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2216
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	55.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (S_O), mi/h	66.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	2954	Ramp Junction Speed (S), mi/h	58.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4520	Average Density (D), pc/mi/ln	38.3
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	30.7

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2026
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB CR 610 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4310	1887
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	4952	2109
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.01	0.54

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2122
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	2830	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4939	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB SR 70 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5901	1282
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6779	1418
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.73	0.73

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.567
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1512
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	55.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.436	Outer Lanes Freeway Speed (S_O), mi/h	78.2
Flow in Lanes 1 and 2 (v_{12}), pc/h	3755	Ramp Junction Speed (S), mi/h	63.8

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	26.6
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	23.0

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB SR 70 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	7991	1282
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	9180	1418
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.99	0.73

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.567
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2189
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	55.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.436	Outer Lanes Freeway Speed (S_O), mi/h	75.6
Flow in Lanes 1 and 2 (v_{12}), pc/h	4802	Ramp Junction Speed (S), mi/h	63.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	36.1
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	32.0

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB SR 70 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	795
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4619	1166
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5307	1289
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.71	0.67

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.385
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1592
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	61.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.057	Outer Lanes Freeway Speed (S_O), mi/h	69.2
Flow in Lanes 1 and 2 (v_{12}), pc/h	2123	Ramp Junction Speed (S), mi/h	64.8

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3412	Average Density (D), pc/mi/ln	25.4
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	26.6

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2039
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB SR 70 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	795
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	6196	1529
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7118	1691
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.95	0.87

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.631
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2136
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	53.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.006	Outer Lanes Freeway Speed (S_O), mi/h	67.2
Flow in Lanes 1 and 2 (v_{12}), pc/h	2847	Ramp Junction Speed (S), mi/h	59.4

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4538	Average Density (D), pc/mi/ln	37.1
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	35.2

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB SR 64 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5785	1499
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6646	1658
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.72	0.43

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.589
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1846
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	54.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	76.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	2955	Ramp Junction Speed (S), mi/h	65.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	25.5
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	16.2

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2043
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB SR 64 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	8152	2185
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	9365	2416
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	1.01	0.62

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2571
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4223	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4223	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB SR 64 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	980
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4286	1547
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	4924	1711
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.71	0.88

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.409
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1477
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	60.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.004	Outer Lanes Freeway Speed (S_O), mi/h	69.6
Flow in Lanes 1 and 2 (v_{12}), pc/h	1970	Ramp Junction Speed (S), mi/h	64.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3681	Average Density (D), pc/mi/ln	25.8
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	27.3

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2038
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB SR 64 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	980
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5639	1957
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6478	2164
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.93	1.00

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.642
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1944
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	53.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.000	Outer Lanes Freeway Speed (S_O), mi/h	67.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	2591	Ramp Junction Speed (S), mi/h	58.9

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4755	Average Density (D), pc/mi/ln	36.7
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	35.5

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB US 301 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5833	1388
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6701	1535
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.72	0.40

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.578
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1912
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	55.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	76.6
Flow in Lanes 1 and 2 (v_{12}), pc/h	2878	Ramp Junction Speed (S), mi/h	65.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	25.5
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	15.5

HCS Freeway Diverge Report

Project Information

Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2043
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB US 301 Off-Ramp	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors

Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity

Demand Volume (V_i), veh/h	8151	2173
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	9364	2403
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	1.01	0.62

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2576
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4213	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4213	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB US 301 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4445	630
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5107	697
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.83	0.36

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M_S)	0.404
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1941
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	60.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	67.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	3166	Ramp Junction Speed (S), mi/h	62.8

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3863	Average Density (D), pc/mi/ln	30.8
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	26.0

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2038
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB US 301 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5535	576
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6359	637
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	1.00	0.33

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.599
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2416
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	65.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	3943	Ramp Junction Speed (S), mi/h	58.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4580	Average Density (D), pc/mi/ln	40.2
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	31.6

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB I275 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5075	2162
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	5830	2416
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	0.84	0.62

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.657
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1878
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	52.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	76.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	3952	Ramp Junction Speed (S), mi/h	58.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	33.2
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	24.7

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2038
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB I275 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6112	2060
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	7022	2302
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.01	0.59

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2596
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4426	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4426	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB I275 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	2913	870
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	3347	972
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.62	0.50

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.301
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1272
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	63.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	70.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	2075	Ramp Junction Speed (S), mi/h	65.5

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3047	Average Density (D), pc/mi/ln	22.0
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	19.5

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB I275 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4530	1440
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	5204	1609
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.98	0.83

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.607
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1978
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	67.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	3226	Ramp Junction Speed (S), mi/h	57.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4835	Average Density (D), pc/mi/ln	39.4
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	33.1

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Moccasin Wallow Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	610
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	3783	811
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935
Flow Rate (v_i), pc/h	4346	923
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.62	0.48

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.523
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1338
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	56.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.609	Outer Lanes Freeway Speed (S_O), mi/h	78.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	3008	Ramp Junction Speed (S), mi/h	62.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	23.3
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	24.6

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2044
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Moccasin Wallow Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	610
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5879	1321
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935
Flow Rate (v_i), pc/h	6754	1503
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.97	0.78

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.575
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2510
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	55.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.522	Outer Lanes Freeway Speed (S_O), mi/h	74.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	4244	Ramp Junction Speed (S), mi/h	61.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	36.9
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	35.3

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Moccasin Wallow Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1270
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	2972	1089
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935
Flow Rate (v_i), pc/h	3414	1239
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.67	0.64

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.344
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1321
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	62.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.613	Outer Lanes Freeway Speed (S_O), mi/h	70.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	2093	Ramp Junction Speed (S), mi/h	64.4

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3332	Average Density (D), pc/mi/ln	24.1
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	23.0

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Moccasin Wallow Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1270
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4608	952
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935
Flow Rate (v_i), pc/h	5294	1083
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.91	0.56

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.530
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2049
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	56.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.613	Outer Lanes Freeway Speed (S_O), mi/h	67.5
Flow in Lanes 1 and 2 (v_{12}), pc/h	3245	Ramp Junction Speed (S), mi/h	59.7

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4328	Average Density (D), pc/mi/ln	35.6
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	30.8

Design Year HCM Reports

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB - From Limit to Moccasin Wallow Road Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5124	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1962
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.84
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	61.8
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	31.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB - From Limit to Moccasin Wallow Road Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3448	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1320
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.57
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	71.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	18.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB - Moccasin Wallow Rd Off-Ramp to I-275 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6006	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1725
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.74
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	66.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	25.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB - Moccasin Wallow Rd Off-Ramp to I-275 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3655	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1050
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.45
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	73.1
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	14.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB - I-275 On-Ramp to US 301 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6946	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2660
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.14
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB - I-275 On-Ramp to US 301 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5273	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2019
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.87
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	60.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	33.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB- from US 301 On-Ramp to SR 64 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	8271	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2376
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.02
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB- from US 301 On-Ramp to SR 64 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5870	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1686
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.73
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	67.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	25.0
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB - from US 301 On-Ramp to SR 70 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7890	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2266
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.98
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	53.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	42.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB - from US 301 On-Ramp to SR 70 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5680	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1631
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.70
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	68.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	23.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB -From SR 70 On-Ramp to CR 610 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	8102	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2327
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.00
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB -From SR 70 On-Ramp to CR 610 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6044	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1736
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.75
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	66.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	26.1
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB -from CR 610 Off-Ramp to Fruitville Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	8466	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2432
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.05
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB -from CR 610 Off-Ramp to Fruitville Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7235	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2078
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB-From FruitvilleRd On-Ramp to BeeRidge Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7126	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2047
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.88
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	59.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	34.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB-From FruitvilleRd On-Ramp to BeeRidge Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7770	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2232
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.96
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	54.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	41.0
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB -From Bee Ridge Rd On-Ramp to Clark Rd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6236	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1791
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.77
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	27.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB -From Bee Ridge Rd On-Ramp to Clark Rd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7435	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2136
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.92
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	57.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	37.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB - from Bee Ridge Rd On-Ramp to SR 681 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	4884	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1870
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.81
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	63.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	29.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB - from Bee Ridge Rd On-Ramp to SR 681 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6836	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2618
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.13
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB - From SR 681 Off-Ramp to Laurel Road Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3772	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1444
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.62
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	20.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB - From SR 681 Off-Ramp to Laurel Road Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5943	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2276
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.98
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	53.1
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	42.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB-From Laurel Rd OnRamp to Jacaranda Blvd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	4039	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1547
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	22.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB-From Laurel Rd OnRamp to Jacaranda Blvd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6438	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2465
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.06
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB-From Jacaranda Blvd OnRamp to River Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3716	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1423
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.61
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	71.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	20.0
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB-From Jacaranda Blvd OnRamp to River Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6097	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2335
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.01
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB - From River Rd On-Ramp to Study limit	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3371	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1291
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.56
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	72.1
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	17.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB - From River Rd On-Ramp to Study limit	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5552	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2126
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.92
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	57.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	36.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - From Moccasin Wallow Road On-Ramp to Limit	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	4061	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1555
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	22.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - From Moccasin Wallow Road On-Ramp to Limit	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5560	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2129
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.92
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	57.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	37.0
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - I-275 On-Ramp to Moccasin Wallow Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3783	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1086
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	73.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	14.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - I-275 On-Ramp to Moccasin Wallow Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5970	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1715
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.74
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	66.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	25.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - US 301 On-Ramp to I-275 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5075	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1943
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.84
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	62.2
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	31.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - US 301 On-Ramp to I-275 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6753	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2586
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.11
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB- from SR 64 On-Ramp to US 301 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5833	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1675
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.72
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	67.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	24.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB- from SR 64 On-Ramp to US 301 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	8373	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2405
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.04
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - from SR 70 On-Ramp to US 301 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5785	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1662
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.72
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	67.8
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	24.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - from SR 70 On-Ramp to US 301 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	8366	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2403
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB -From CR 610 On-Ramp to SR 70 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5901	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1695
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.73
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	67.2
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	25.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB -From CR 610 On-Ramp to SR 70 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7991	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2295
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.99
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	52.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	43.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB -from Fruitville Rd On-Ramp to CR 610 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7343	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2109
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.91
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.1
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	36.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB -from Fruitville Rd On-Ramp to CR 610 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	8373	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2405
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.04
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB-From BeeRidge On-Ramp to FruitvilleRd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7971	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2289
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.99
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	52.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	43.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB-From BeeRidge On-Ramp to FruitvilleRd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7168	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2059
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	59.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	34.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - From Clark Rd OnRamp to Bee Ridge Rd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7608	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2185
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.94
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	55.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	39.1
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - From Clark Rd OnRamp to Bee Ridge Rd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6598	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1895
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.82
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	63.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	29.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - from SR 681 On-Ramp to Bee Ridge Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7092	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2716
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.17
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - from SR 681 On-Ramp to Bee Ridge Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5251	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2011
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.87
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	60.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	33.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - From Laurel Road On-Ramp to SR 681 On-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6227	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2385
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - From Laurel Road On-Ramp to SR 681 On-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	4082	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1563
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	22.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB-From Jacaranda Blvd OnRamp to Laurel Rd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6600	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2527
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.09
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB-From Jacaranda Blvd OnRamp to Laurel Rd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	4196	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1607
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.69
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	68.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	23.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB-From River Rd On-Ramp to Jacaranda Blvd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6116	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2342
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.01
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB-From River Rd On-Ramp to Jacaranda Blvd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3827	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1466
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	20.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - From River Road On-Ramp to Limit	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5607	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2147
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.92
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	57.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	37.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - From River Road On-Ramp to Limit	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3541	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1356
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.58
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	71.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	18.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Freeway Weaving Report

Project Information

Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2022
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	Weaving Segment - Bee Ridge to Clark	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Segment Type	Freeway
Segment Length (L_S), ft	5000	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	0.50	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000
Proportion of CAVs in Traffic Stream	0	Final Capacity Adjustment Factor (CAF)	0.968

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	2041	1508	64	604
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	8.00	5.00	5.00	5.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952	0.952	0.952
Flow Rate (v_i), pc/h	2344	1686	72	675
Weaving Flow Rate (v_w), pc/h	2361	Ideal Conditions Capacity (c_{IFL}), pc/h/ln		2400
Non-Weaving Flow Rate (v_{NW}), pc/h	2416	Density-Based Capacity ($c_{IWL} \times N \times f_{HV}$), veh/h		8224
Total Flow Rate (v), pc/h	4777	Demand Flow-Based Capacity ($c_{IW} \times f_{HV}$), veh/h		4563
Volume Ratio (VR)	0.494	Weaving Area Capacity (c_W), veh/h		4563
Minimum Lane Change Rate (LC_{MIN}), lc/h	0	Adjusted Weaving Area Capacity (c_{WA}), veh/h		4417
Maximum Weaving Length (L_{MAX}), ft	7756	Demand-to-Capacity Ratio (v/c)		1.02

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	-	Average Weaving Speed (S_W), mi/h	-
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	-	Average Non-Weaving Speed (S_{NW}), mi/h	-
Weaving Lane Change Rate (LC_W), lc/h	-	Average Speed (S), mi/h	-
Weaving Lane Change Rate (LC_{All}), lc/h	-	Density (D), pc/mi/ln	-
Weaving Intensity Factor (W)	-	Level of Service (LOS)	F

HCS Freeway Weaving Report

Project Information

Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2019
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	Weaving Segment - Clark to Bee Ridge	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Segment Type	Freeway
Segment Length (L_S), ft	5000	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	0.50	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000
Proportion of CAVs in Traffic Stream	0	Final Capacity Adjustment Factor (CAF)	0.968

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	2773	1003	7	1200
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	8.00	5.00	5.00	5.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952	0.952	0.952
Flow Rate (v_i), pc/h	3186	1121	8	1341
Weaving Flow Rate (v_w), pc/h	2462	Ideal Conditions Capacity (c_{IFL}), pc/h/ln		2400
Non-Weaving Flow Rate (v_{NW}), pc/h	3194	Density-Based Capacity ($c_{IWL} \times N \times f_{HV}$), veh/h		8402
Total Flow Rate (v), pc/h	5656	Demand Flow-Based Capacity ($c_{IW} \times f_{HV}$), veh/h		5172
Volume Ratio (VR)	0.435	Weaving Area Capacity (c_W), veh/h		5172
Minimum Lane Change Rate (LC_{MIN}), lc/h	0	Adjusted Weaving Area Capacity (c_{WA}), veh/h		5006
Maximum Weaving Length (L_{MAX}), ft	7077	Demand-to-Capacity Ratio (v/c)		1.06

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	-	Average Weaving Speed (S_W), mi/h	-
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	-	Average Non-Weaving Speed (S_{NW}), mi/h	-
Weaving Lane Change Rate (LC_W), lc/h	-	Average Speed (S), mi/h	-
Weaving Lane Change Rate (LC_{All}), lc/h	-	Density (D), pc/mi/ln	-
Weaving Intensity Factor (W)	-	Level of Service (LOS)	F

Design Year HCM Reports

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB - From Limit to Moccasin Wallow Road Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5124	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1962
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.84
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	61.8
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	31.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB - From Limit to Moccasin Wallow Road Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3448	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1320
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.57
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	71.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	18.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB - Moccasin Wallow Rd Off-Ramp to I-275 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6006	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1725
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.74
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	66.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	25.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB - Moccasin Wallow Rd Off-Ramp to I-275 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3655	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1050
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.45
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	73.1
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	14.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB - I-275 On-Ramp to US 301 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6946	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2660
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.14
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB - I-275 On-Ramp to US 301 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5273	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2019
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.87
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	60.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	33.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB- from US 301 On-Ramp to SR 64 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	8271	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2376
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.02
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB- from US 301 On-Ramp to SR 64 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5870	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1686
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.73
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	67.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	25.0
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB - from US 301 On-Ramp to SR 70 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7890	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2266
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.98
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	53.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	42.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB - from US 301 On-Ramp to SR 70 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5680	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1631
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.70
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	68.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	23.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB -From SR 70 On-Ramp to CR 610 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	8102	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2327
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.00
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB -From SR 70 On-Ramp to CR 610 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6044	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1736
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.75
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	66.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	26.1
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB -from CR 610 Off-Ramp to Fruitville Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	8466	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2432
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.05
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB -from CR 610 Off-Ramp to Fruitville Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7235	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2078
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB-From FruitvilleRd On-Ramp to BeeRidge Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7126	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2047
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.88
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	59.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	34.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB-From FruitvilleRd On-Ramp to BeeRidge Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7770	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2232
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.96
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	54.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	41.0
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB -From Bee Ridge Rd On-Ramp to Clark Rd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6236	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1791
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.77
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	27.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB -From Bee Ridge Rd On-Ramp to Clark Rd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7435	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2136
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.92
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	57.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	37.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB - from Bee Ridge Rd On-Ramp to SR 681 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	4884	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1870
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.81
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	63.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	29.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB - from Bee Ridge Rd On-Ramp to SR 681 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6836	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2618
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.13
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB - From SR 681 Off-Ramp to Laurel Road Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3772	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1444
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.62
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	20.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB - From SR 681 Off-Ramp to Laurel Road Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5943	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2276
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.98
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	53.1
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	42.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB-From Laurel Rd OnRamp to Jacaranda Blvd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	4039	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1547
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	22.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB-From Laurel Rd OnRamp to Jacaranda Blvd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6438	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2465
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.06
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB-From Jacaranda Blvd OnRamp to River Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3716	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1423
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.61
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	71.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	20.0
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB-From Jacaranda Blvd OnRamp to River Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6097	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2335
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.01
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	SB - From River Rd On-Ramp to Study limit	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3371	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1291
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.56
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	72.1
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	17.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	SB - From River Rd On-Ramp to Study limit	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5552	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2126
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.92
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	57.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	36.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - From Moccasin Wallow Road On-Ramp to Limit	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	4061	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1555
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	22.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - From Moccasin Wallow Road On-Ramp to Limit	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5560	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2129
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.92
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	57.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	37.0
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - I-275 On-Ramp to Moccasin Wallow Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3783	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1086
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	73.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	14.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - I-275 On-Ramp to Moccasin Wallow Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5970	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1715
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.74
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	66.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	25.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - US 301 On-Ramp to I-275 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5075	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1943
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.84
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	62.2
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	31.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - US 301 On-Ramp to I-275 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6753	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2586
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.11
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB- from SR 64 On-Ramp to US 301 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5833	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1675
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.72
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	67.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	24.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB- from SR 64 On-Ramp to US 301 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	8373	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2405
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.04
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - from SR 70 On-Ramp to US 301 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5785	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1662
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.72
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	67.8
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	24.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - from SR 70 On-Ramp to US 301 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	8366	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2403
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB -From CR 610 On-Ramp to SR 70 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5901	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1695
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.73
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	67.2
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	25.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB -From CR 610 On-Ramp to SR 70 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7991	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2295
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.99
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	52.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	43.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB -from Fruitville Rd On-Ramp to CR 610 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7343	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2109
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.91
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	58.1
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	36.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB -from Fruitville Rd On-Ramp to CR 610 Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	8373	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2405
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.04
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB-From BeeRidge On-Ramp to FruitvilleRd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7971	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2289
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.99
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	52.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	43.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB-From BeeRidge On-Ramp to FruitvilleRd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7168	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2059
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	59.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	34.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - From Clark Rd OnRamp to Bee Ridge Rd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7608	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2185
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.94
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	55.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	39.1
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - From Clark Rd OnRamp to Bee Ridge Rd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6598	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1895
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.82
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	63.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	29.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - from SR 681 On-Ramp to Bee Ridge Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	7092	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2716
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.17
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - from SR 681 On-Ramp to Bee Ridge Rd Off-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5251	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2011
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.87
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	60.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	33.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - From Laurel Road On-Ramp to SR 681 On-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6227	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2385
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - From Laurel Road On-Ramp to SR 681 On-Ramp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	4082	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1563
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	22.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB-From Jacaranda Blvd OnRamp to Laurel Rd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6600	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2527
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.09
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB-From Jacaranda Blvd OnRamp to Laurel Rd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	4196	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1607
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.69
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	68.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	23.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB-From River Rd On-Ramp to Jacaranda Blvd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	6116	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2342
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.01
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB-From River Rd On-Ramp to Jacaranda Blvd OffRamp	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3827	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1466
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	20.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	NB - From River Road On-Ramp to Limit	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	5607	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2147
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.92
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	57.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	37.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Basic Freeway Report

Project Information

Analyst	Caleb Van Nostrand	Date	6/18/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	NB - From River Road On-Ramp to Limit	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	-	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	75.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	0.968
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3541	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1356
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.58
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	71.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	18.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	73.1		

HCS Freeway Weaving Report

Project Information

Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	Weaving Segment - Mocassin to I 275	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Segment Type	Freeway
Segment Length (L_S), ft	2000	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	0.50	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000
Proportion of CAVs in Traffic Stream	0	Final Capacity Adjustment Factor (CAF)	0.968

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	3492	741	789	984
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	8.00	7.00	7.00	7.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935	0.935	0.935
Flow Rate (v_i), pc/h	4012	843	898	1120
Weaving Flow Rate (v_w), pc/h	1963	Ideal Conditions Capacity (c_{IFL}), pc/h/ln		2400
Non-Weaving Flow Rate (v_{NW}), pc/h	4910	Density-Based Capacity ($c_{IWL} \times N \times f_{HV}$), veh/h		7947
Total Flow Rate (v), pc/h	6873	Demand Flow-Based Capacity ($c_{IW} \times f_{HV}$), veh/h		7802
Volume Ratio (VR)	0.286	Weaving Area Capacity (c_W), veh/h		7802
Minimum Lane Change Rate (LC_{MIN}), lc/h	0	Adjusted Weaving Area Capacity (c_{WA}), veh/h		7552
Maximum Weaving Length (L_{MAX}), ft	5434	Demand-to-Capacity Ratio (v/c)		0.85

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	-	Average Weaving Speed (S_W), mi/h	-
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	-	Average Non-Weaving Speed (S_{NW}), mi/h	-
Weaving Lane Change Rate (LC_W), lc/h	-	Average Speed (S), mi/h	-
Weaving Lane Change Rate (LC_{All}), lc/h	-	Density (D), pc/mi/ln	-
Weaving Intensity Factor (W)	-	Level of Service (LOS)	F

HCS Freeway Weaving Report

Project Information

Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	Weaving Segment - Mocassin to I 275	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Segment Type	Freeway
Segment Length (L_S), ft	2000	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	0.50	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000
Proportion of CAVs in Traffic Stream	0	Final Capacity Adjustment Factor (CAF)	0.968

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	2126	391	516	622
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	8.00	7.00	7.00	7.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935	0.935	0.935
Flow Rate (v_i), pc/h	2442	445	587	708
Weaving Flow Rate (v_w), pc/h	1153	Ideal Conditions Capacity (c_{IFL}), pc/h/ln		2400
Non-Weaving Flow Rate (v_{NW}), pc/h	3029	Density-Based Capacity ($c_{IWL} \times N \times f_{HV}$), veh/h		7977
Total Flow Rate (v), pc/h	4182	Demand Flow-Based Capacity ($c_{IW} \times f_{HV}$), veh/h		8085
Volume Ratio (VR)	0.276	Weaving Area Capacity (c_W), veh/h		7977
Minimum Lane Change Rate (LC_{MIN}), lc/h	1153	Adjusted Weaving Area Capacity (c_{WA}), veh/h		7722
Maximum Weaving Length (L_{MAX}), ft	5328	Demand-to-Capacity Ratio (v/c)		0.50

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	303	Average Weaving Speed (S_W), mi/h	60.9
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	938	Average Non-Weaving Speed (S_{NW}), mi/h	59.8
Weaving Lane Change Rate (LC_W), lc/h	1509	Average Speed (S), mi/h	60.1
Weaving Lane Change Rate (LC_{All}), lc/h	2447	Density (D), pc/mi/ln	17.4
Weaving Intensity Factor (W)	0.265	Level of Service (LOS)	B

HCS Freeway Weaving Report

Project Information

Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	Weaving Segment - I 275 to Mocassin	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Segment Type	Freeway
Segment Length (L_S), ft	2000	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	0.50	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000
Proportion of CAVs in Traffic Stream	0	Final Capacity Adjustment Factor (CAF)	0.968

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	2565	407	463	348
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	8.00	7.00	7.00	7.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935	0.935	0.935
Flow Rate (v_i), pc/h	2947	463	527	396
Weaving Flow Rate (v_w), pc/h	859	Ideal Conditions Capacity (c_{IFL}), pc/h/ln		2400
Non-Weaving Flow Rate (v_{NW}), pc/h	3474	Density-Based Capacity ($c_{IWL} \times N \times f_{HV}$), veh/h		8204
Total Flow Rate (v), pc/h	4333	Demand Flow-Based Capacity ($c_{IW} \times f_{HV}$), veh/h		11259
Volume Ratio (VR)	0.198	Weaving Area Capacity (c_W), veh/h		8204
Minimum Lane Change Rate (LC_{MIN}), lc/h	859	Adjusted Weaving Area Capacity (c_{WA}), veh/h		7941
Maximum Weaving Length (L_{MAX}), ft	4516	Demand-to-Capacity Ratio (v/c)		0.51

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	347	Average Weaving Speed (S_W), mi/h	61.6
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	1029	Average Non-Weaving Speed (S_{NW}), mi/h	61.7
Weaving Lane Change Rate (LC_W), lc/h	1215	Average Speed (S), mi/h	61.7
Weaving Lane Change Rate (LC_{All}), lc/h	2244	Density (D), pc/mi/ln	17.6
Weaving Intensity Factor (W)	0.247	Level of Service (LOS)	B

HCS Freeway Weaving Report

Project Information

Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	Weaving Segment - I 275 to Mocassin	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Segment Type	Freeway
Segment Length (L_S), ft	2000	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	0.50	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000
Proportion of CAVs in Traffic Stream	0	Final Capacity Adjustment Factor (CAF)	0.968

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	3807	801	639	723
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	8.00	7.00	7.00	7.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935	0.935	0.935
Flow Rate (v_i), pc/h	4374	911	727	823
Weaving Flow Rate (v_w), pc/h	1734	Ideal Conditions Capacity (c_{IFL}), pc/h/ln		2400
Non-Weaving Flow Rate (v_{NW}), pc/h	5101	Density-Based Capacity ($c_{IWL} \times N \times f_{HV}$), veh/h		8040
Total Flow Rate (v), pc/h	6835	Demand Flow-Based Capacity ($c_{IW} \times f_{HV}$), veh/h		8780
Volume Ratio (VR)	0.254	Weaving Area Capacity (c_W), veh/h		8040
Minimum Lane Change Rate (LC_{MIN}), lc/h	1734	Adjusted Weaving Area Capacity (c_{WA}), veh/h		7783
Maximum Weaving Length (L_{MAX}), ft	5096	Demand-to-Capacity Ratio (v/c)		0.82

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	510	Average Weaving Speed (S_W), mi/h	58.1
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	1364	Average Non-Weaving Speed (S_{NW}), mi/h	52.4
Weaving Lane Change Rate (LC_W), lc/h	2090	Average Speed (S), mi/h	53.7
Weaving Lane Change Rate (LC_{All}), lc/h	3454	Density (D), pc/mi/ln	31.8
Weaving Intensity Factor (W)	0.348	Level of Service (LOS)	D

HCS Freeway Weaving Report

Project Information

Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	Weaving Segment - Bee Ridge to Clark	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Segment Type	Freeway
Segment Length (L_S), ft	5000	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	0.50	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000
Proportion of CAVs in Traffic Stream	0	Final Capacity Adjustment Factor (CAF)	0.968

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	3341	1934	243	718
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	8.00	5.00	5.00	5.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952	0.952	0.952
Flow Rate (v_i), pc/h	3838	1776	224	802
Weaving Flow Rate (v_w), pc/h	2578	Ideal Conditions Capacity (c_{IFL}), pc/h/ln		2400
Non-Weaving Flow Rate (v_{NW}), pc/h	4062	Density-Based Capacity ($c_{IWL} \times N \times f_{HV}$), veh/h		8460
Total Flow Rate (v), pc/h	6640	Demand Flow-Based Capacity ($c_{IW} \times f_{HV}$), veh/h		5372
Volume Ratio (VR)	0.419	Weaving Area Capacity (c_W), veh/h		5372
Minimum Lane Change Rate (LC_{MIN}), lc/h	0	Adjusted Weaving Area Capacity (c_{WA}), veh/h		5200
Maximum Weaving Length (L_{MAX}), ft	6895	Demand-to-Capacity Ratio (v/c)		1.28

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	-	Average Weaving Speed (S_W), mi/h	-
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	-	Average Non-Weaving Speed (S_{NW}), mi/h	-
Weaving Lane Change Rate (LC_W), lc/h	-	Average Speed (S), mi/h	-
Weaving Lane Change Rate (LC_{All}), lc/h	-	Density (D), pc/mi/ln	-
Weaving Intensity Factor (W)	-	Level of Service (LOS)	F

HCS Freeway Weaving Report

Project Information

Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	Weaving Segment - Bee Ridge to Clark	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Segment Type	Freeway
Segment Length (L_S), ft	5000	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	0.50	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000
Proportion of CAVs in Traffic Stream	0	Final Capacity Adjustment Factor (CAF)	0.968

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	4562	1443	248	1182
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	8.00	5.00	5.00	5.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952	0.952	0.952
Flow Rate (v_i), pc/h	5241	1613	277	1321
Weaving Flow Rate (v_w), pc/h	2934	Ideal Conditions Capacity (c_{IFL}), pc/h/ln		2400
Non-Weaving Flow Rate (v_{NW}), pc/h	5518	Density-Based Capacity ($c_{IWL} \times N \times f_{HV}$), veh/h		8670
Total Flow Rate (v), pc/h	8452	Demand Flow-Based Capacity ($c_{IW} \times f_{HV}$), veh/h		6473
Volume Ratio (VR)	0.347	Weaving Area Capacity (c_W), veh/h		6473
Minimum Lane Change Rate (LC_{MIN}), lc/h	0	Adjusted Weaving Area Capacity (c_{WA}), veh/h		6266
Maximum Weaving Length (L_{MAX}), ft	6094	Demand-to-Capacity Ratio (v/c)		1.26

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	-	Average Weaving Speed (S_W), mi/h	-
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	-	Average Non-Weaving Speed (S_{NW}), mi/h	-
Weaving Lane Change Rate (LC_W), lc/h	-	Average Speed (S), mi/h	-
Weaving Lane Change Rate (LC_{All}), lc/h	-	Density (D), pc/mi/ln	-
Weaving Intensity Factor (W)	-	Level of Service (LOS)	F

HCS Freeway Weaving Report

Project Information

Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	Weaving Segment - Clark to Bee Ridge	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Segment Type	Freeway
Segment Length (L_S), ft	5000	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	0.50	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000
Proportion of CAVs in Traffic Stream	0	Final Capacity Adjustment Factor (CAF)	0.968

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	4805	1138	137	1528
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	8.00	5.00	5.00	5.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952	0.952	0.952
Flow Rate (v_i), pc/h	5520	1272	153	1707
Weaving Flow Rate (v_w), pc/h	2979	Ideal Conditions Capacity (c_{IFL}), pc/h/ln		2400
Non-Weaving Flow Rate (v_{NW}), pc/h	5673	Density-Based Capacity ($c_{IWL} \times N \times f_{HV}$), veh/h		8677
Total Flow Rate (v), pc/h	8652	Demand Flow-Based Capacity ($c_{IW} \times f_{HV}$), veh/h		6526
Volume Ratio (VR)	0.344	Weaving Area Capacity (c_W), veh/h		6526
Minimum Lane Change Rate (LC_{MIN}), lc/h	0	Adjusted Weaving Area Capacity (c_{WA}), veh/h		6317
Maximum Weaving Length (L_{MAX}), ft	6061	Demand-to-Capacity Ratio (v/c)		1.28

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	-	Average Weaving Speed (S_W), mi/h	-
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	-	Average Non-Weaving Speed (S_{NW}), mi/h	-
Weaving Lane Change Rate (LC_W), lc/h	-	Average Speed (S), mi/h	-
Weaving Lane Change Rate (LC_{All}), lc/h	-	Density (D), pc/mi/ln	-
Weaving Intensity Factor (W)	-	Level of Service (LOS)	F

HCS Freeway Weaving Report

Project Information

Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	Weaving Segment - Clark to Bee Ridge	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Segment Type	Freeway
Segment Length (L_S), ft	5000	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	0.50	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000
Proportion of CAVs in Traffic Stream	0	Final Capacity Adjustment Factor (CAF)	0.968

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	3846	632	276	1844
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	8.00	5.00	5.00	5.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952	0.952	0.952
Flow Rate (v_i), pc/h	4418	706	308	2061
Weaving Flow Rate (v_w), pc/h	2767	Ideal Conditions Capacity (c_{IFL}), pc/h/ln		2400
Non-Weaving Flow Rate (v_{NW}), pc/h	4726	Density-Based Capacity ($c_{IWL} \times N \times f_{HV}$), veh/h		8610
Total Flow Rate (v), pc/h	7493	Demand Flow-Based Capacity ($c_{IW} \times f_{HV}$), veh/h		6092
Volume Ratio (VR)	0.369	Weaving Area Capacity (c_W), veh/h		6092
Minimum Lane Change Rate (LC_{MIN}), lc/h	0	Adjusted Weaving Area Capacity (c_{WA}), veh/h		5897
Maximum Weaving Length (L_{MAX}), ft	6336	Demand-to-Capacity Ratio (v/c)		1.19

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	-	Average Weaving Speed (S_W), mi/h	-
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	-	Average Non-Weaving Speed (S_{NW}), mi/h	-
Weaving Lane Change Rate (LC_W), lc/h	-	Average Speed (S), mi/h	-
Weaving Lane Change Rate (LC_{All}), lc/h	-	Density (D), pc/mi/ln	-
Weaving Intensity Factor (W)	-	Level of Service (LOS)	F

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Moccasin Wallow Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4476	1530
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935
Flow Rate (v_i), pc/h	5142	1741
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.99	0.90

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.607
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1954
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	67.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	3188	Ramp Junction Speed (S), mi/h	57.5

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4929	Average Density (D), pc/mi/ln	39.9
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	33.8

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Moccasin Wallow Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	2748	907
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935
Flow Rate (v_i), pc/h	3157	1032
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.60	0.53

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.296
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1200
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	63.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	70.6
Flow in Lanes 1 and 2 (v_{12}), pc/h	1957	Ramp Junction Speed (S), mi/h	65.7

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2989	Average Density (D), pc/mi/ln	21.3
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	19.0

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB I275 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4233	2713
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	4863	3032
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.13	0.78

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2084
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	2779	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5811	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB I275 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	2517	2756
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	2892	3080
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	0.86	0.80

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.607
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1239
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (S_O), mi/h	70.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	1653	Ramp Junction Speed (S), mi/h	56.9

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4733	Average Density (D), pc/mi/ln	35.0
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	31.6

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB US 301 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	6100	2171
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7008	2401
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	1.01	0.62

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2103
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.209	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	2803	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5204	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB US 301 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4398	1472
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5053	1628
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.72	0.42

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.369
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1516
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	61.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.209	Outer Lanes Freeway Speed (S_O), mi/h	69.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	2021	Ramp Junction Speed (S), mi/h	64.9

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3649	Average Density (D), pc/mi/ln	25.7
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	23.9

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB SR 64 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	6827	1063
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7843	1176
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.97	0.61

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.510
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2353
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	57.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.071	Outer Lanes Freeway Speed (S_O), mi/h	66.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	3137	Ramp Junction Speed (S), mi/h	61.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4313	Average Density (D), pc/mi/ln	36.6
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	29.2

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB SR 64 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4815	865
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5532	957
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.70	0.49

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	2
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.312
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1660
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.098	Outer Lanes Freeway Speed (SO), mi/h	68.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	2213	Ramp Junction Speed (S), mi/h	66.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3170	Average Density (D), pc/mi/ln	24.5
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	20.4

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB SR 70 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1250
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	6908	1194
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7936	1320
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	1.00	0.68

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.585
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2381
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.053	Outer Lanes Freeway Speed (S_O), mi/h	66.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	3174	Ramp Junction Speed (S), mi/h	60.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4494	Average Density (D), pc/mi/ln	38.5
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	32.2

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB SR 70 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1250
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5127	917
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5890	1014
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.74	0.52

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	2
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.349
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1767
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.091	Outer Lanes Freeway Speed (SO), mi/h	68.5
Flow in Lanes 1 and 2 (v_{12}), pc/h	2356	Ramp Junction Speed (S), mi/h	65.3

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3370	Average Density (D), pc/mi/ln	26.4
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	23.5

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB SR 70 On-Ramp (Loop)	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1250
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	6273	635
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7207	702
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.85	0.36

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.376
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2162
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	61.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.130	Outer Lanes Freeway Speed (S_O), mi/h	67.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	2883	Ramp Junction Speed (S), mi/h	64.4

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3585	Average Density (D), pc/mi/ln	30.7
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	25.4

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB SR 70 On-Ramp (Loop)	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1250
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4443	684
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5104	756
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.63	0.39

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.300
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1531
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	63.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.123	Outer Lanes Freeway Speed (S_O), mi/h	69.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	2042	Ramp Junction Speed (S), mi/h	66.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2798	Average Density (D), pc/mi/ln	22.0
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	19.2

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Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB CR 610 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5883	2583
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	6759	2886
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.38	0.75

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4059	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	6945	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB CR 610 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4538	2697
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	5213	3014
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.18	0.78

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2234
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.555	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	2979	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5993	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

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Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Fruiteville Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	7126	1572
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	8187	1738
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.42	0.45

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.555	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	5487	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	7225	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

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Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Fruiteville Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	7770	2439
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	8927	2697
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.67	0.70

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	6227	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	8924	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Bee Ridge Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5275	961
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6060	1063
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.77	0.27

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.346
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1818
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	62.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.209	Outer Lanes Freeway Speed (S_O), mi/h	68.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	2424	Ramp Junction Speed (S), mi/h	65.3

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3487	Average Density (D), pc/mi/ln	27.3
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	22.9

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Bee Ridge Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	6005	1430
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6899	1581
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.91	0.41

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.518
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2070
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	57.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.209	Outer Lanes Freeway Speed (S_O), mi/h	67.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	2760	Ramp Junction Speed (S), mi/h	61.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4341	Average Density (D), pc/mi/ln	34.4
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	29.3

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Clark Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	825	4059
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	948	4536
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	0.79	1.00

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.607
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	406
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (S_O), mi/h	73.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	542	Ramp Junction Speed (S), mi/h	55.3

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5078	Average Density (D), pc/mi/ln	33.1
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	33.7

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Clark Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	1092	5744
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	1255	6419
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.10	1.00

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	538
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	717	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	7136	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Laurel Rd On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	3225	814
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	3705	900
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.66	0.46

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.314
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1408
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	63.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	69.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	2297	Ramp Junction Speed (S), mi/h	65.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3197	Average Density (D), pc/mi/ln	23.5
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	20.7

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Laurel Rd On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5211	1227
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5987	1357
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	1.05	0.70

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2275
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	3712	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5069	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Jacaranda Blvd On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1300
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	3101	615
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	3563	680
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.61	0.35

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.301
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1375
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.614	Outer Lanes Freeway Speed (SO), mi/h	69.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	2188	Ramp Junction Speed (S), mi/h	65.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2868	Average Density (D), pc/mi/ln	21.6
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	19.5

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Jacaranda Blvd On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1300
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5122	975
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5884	1078
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	1.00	0.56

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.620
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2271
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	53.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.614	Outer Lanes Freeway Speed (SO), mi/h	66.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	3613	Ramp Junction Speed (S), mi/h	57.4

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4691	Average Density (D), pc/mi/ln	40.4
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	33.5

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 River Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1210
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	2974	397
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	3417	439
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.55	0.23

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.287
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1329
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	64.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.611	Outer Lanes Freeway Speed (S_O), mi/h	70.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	2088	Ramp Junction Speed (S), mi/h	66.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2527	Average Density (D), pc/mi/ln	19.4
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	17.5

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 River Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1210
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4978	574
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5719	635
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.91	0.33

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.481
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2225
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	58.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.611	Outer Lanes Freeway Speed (S_O), mi/h	66.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	3494	Ramp Junction Speed (S), mi/h	60.9

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4129	Average Density (D), pc/mi/ln	34.8
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	29.9

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB River Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1002
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5045	1071
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5796	1184
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	1.00	0.61

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.641
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2284
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	53.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.606	Outer Lanes Freeway Speed (S_O), mi/h	66.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	3512	Ramp Junction Speed (S), mi/h	57.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4696	Average Density (D), pc/mi/ln	40.8
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	35.3

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB River Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1002
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	3145	682
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	3613	754
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.63	0.39

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.327
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1424
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	62.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.606	Outer Lanes Freeway Speed (S_O), mi/h	69.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	2189	Ramp Junction Speed (S), mi/h	65.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2943	Average Density (D), pc/mi/ln	22.4
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	21.9

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Jacaranda Blvd On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	960
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	6468	132
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7431	146
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	1.09	0.08

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.604	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4731	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4877	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Jacaranda Blvd On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	960
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4078	118
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	4685	130
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.69	0.07

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.331
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1855
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	62.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.604	Outer Lanes Freeway Speed (S_O), mi/h	68.2
Flow in Lanes 1 and 2 (v_{12}), pc/h	2830	Ramp Junction Speed (S), mi/h	64.8

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2960	Average Density (D), pc/mi/ln	24.8
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	22.6

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB On-Ramp from NB Jacaranda Blvd	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5159	1309
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5927	1448
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	1.06	0.75

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2252
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	3675	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5123	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB On-Ramp from NB Jacaranda Blvd	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	3235	843
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	3717	932
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.67	0.48

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.318
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1412
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	63.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	69.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	2305	Ramp Junction Speed (S), mi/h	65.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3237	Average Density (D), pc/mi/ln	23.8
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	21.0

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Laurel Rd On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5417	810
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6223	896
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	1.02	0.46

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2365
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	3858	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4754	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Laurel Rd On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	3530	552
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	4055	610
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.67	0.32

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.307
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1541
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	63.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	69.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	2514	Ramp Junction Speed (S), mi/h	65.4

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3124	Average Density (D), pc/mi/ln	23.8
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	20.2

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB SR 681 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	6227	865
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7154	957
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	1.16	0.49

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4454	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5411	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB SR 681 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4082	1169
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	4690	1293
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.86	0.67

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.479
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1782
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	58.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	68.5
Flow in Lanes 1 and 2 (v_{12}), pc/h	2908	Ramp Junction Speed (S), mi/h	60.9

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4201	Average Density (D), pc/mi/ln	32.7
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	28.3

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Clark Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5943	1665
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	6828	1861
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.94	0.48

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.604
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2049
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.209	Outer Lanes Freeway Speed (S_O), mi/h	67.5
Flow in Lanes 1 and 2 (v_{12}), pc/h	2731	Ramp Junction Speed (S), mi/h	59.8

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4592	Average Density (D), pc/mi/ln	36.3
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	31.1

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Clark Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4478	2120
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	5145	2369
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.81	0.61

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.545
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1544
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	56.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.209	Outer Lanes Freeway Speed (S_O), mi/h	69.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	2058	Ramp Junction Speed (S), mi/h	60.9

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4427	Average Density (D), pc/mi/ln	30.8
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	29.6

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Bee Ridge Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	6333	1638
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7276	1811
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.30	0.47

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4576	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	6387	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Bee Ridge Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5690	1478
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6537	1634
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.17	0.42

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	3837	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5471	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Fruiteville Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5436	1907
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6245	2109
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.20	0.54

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2676
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	3569	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5678	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Fruiteville Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5546	2827
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6371	3126
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.36	0.81

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.555	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	3671	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	6797	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB CR 610 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4500	1401
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	5170	1566
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	0.97	0.40

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.577
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2216
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	55.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.555	Outer Lanes Freeway Speed (S_O), mi/h	66.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	2954	Ramp Junction Speed (S), mi/h	58.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4520	Average Density (D), pc/mi/ln	38.3
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	30.7

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Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB CR 610 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	5782	2209
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	6643	2468
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.31	0.64

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.555	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	3943	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	6411	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

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Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB SR 70 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	795
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4619	1166
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5307	1289
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.71	0.67

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.385
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1592
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	61.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.057	Outer Lanes Freeway Speed (S_O), mi/h	69.2
Flow in Lanes 1 and 2 (v_{12}), pc/h	2123	Ramp Junction Speed (S), mi/h	64.8

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3412	Average Density (D), pc/mi/ln	25.4
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	26.6

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Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB SR 70 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	795
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	6709	1657
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7708	1832
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	1.03	0.95

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	2
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2313
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.000	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	3083	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4915	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB SR 64 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	980
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4286	1547
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	4924	1711
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.71	0.88

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.409
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1477
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	60.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.004	Outer Lanes Freeway Speed (S_O), mi/h	69.6
Flow in Lanes 1 and 2 (v_{12}), pc/h	1970	Ramp Junction Speed (S), mi/h	64.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3681	Average Density (D), pc/mi/ln	25.8
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	27.3

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB SR 64 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	980
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	6098	2275
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7006	2516
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	1.02	1.00

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	2
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2102
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.000	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	2802	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5318	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB US 301 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4445	630
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5107	697
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.83	0.36

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.404
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1941
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	60.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	67.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	3166	Ramp Junction Speed (S), mi/h	62.8

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3863	Average Density (D), pc/mi/ln	30.8
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	26.0

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB US 301 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	6155	598
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7071	661
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	1.11	0.34

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2687
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4384	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5045	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB I275 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	2913	870
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	3347	972
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.62	0.50

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.301
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1272
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	63.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	70.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	2075	Ramp Junction Speed (S), mi/h	65.5

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3047	Average Density (D), pc/mi/ln	22.0
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	19.5

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB I275 On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4530	1440
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	5204	1609
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.98	0.83

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.607
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1978
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	67.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	3226	Ramp Junction Speed (S), mi/h	57.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4835	Average Density (D), pc/mi/ln	39.4
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	33.1

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Moccasin Wallow Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1270
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	2972	1089
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935
Flow Rate (v_i), pc/h	3414	1239
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.67	0.64

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.344
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1321
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	62.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.613	Outer Lanes Freeway Speed (S_O), mi/h	70.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	2093	Ramp Junction Speed (S), mi/h	64.4

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3332	Average Density (D), pc/mi/ln	24.1
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	23.0

HCS Freeway Merge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Moccasin Wallow Road On-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1270
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	0.968	0.968

Demand and Capacity		
Demand Volume (V_i), veh/h	4608	952
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935
Flow Rate (v_i), pc/h	5294	1083
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.91	0.56

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.530
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2049
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	56.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.613	Outer Lanes Freeway Speed (S_O), mi/h	67.5
Flow in Lanes 1 and 2 (v_{12}), pc/h	3245	Ramp Junction Speed (S), mi/h	59.7

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4328	Average Density (D), pc/mi/ln	35.6
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	30.8

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Moccasin Wallow Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5124	648
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935
Flow Rate (v_i), pc/h	5887	737
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.84	0.38

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.506
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2168
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	57.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.579	Outer Lanes Freeway Speed (S_O), mi/h	75.6
Flow in Lanes 1 and 2 (v_{12}), pc/h	3719	Ramp Junction Speed (S), mi/h	63.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	31.1
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	31.7

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Moccasin Wallow Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	3448	700
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935
Flow Rate (v_i), pc/h	3961	796
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.57	0.41

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.511
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1190
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	57.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.624	Outer Lanes Freeway Speed (S_O), mi/h	79.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	2771	Ramp Junction Speed (S), mi/h	62.4

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	21.2
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	23.6

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB I275 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6006	1773
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	6900	1981
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.99	1.02

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.618
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2479
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	53.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.496	Outer Lanes Freeway Speed (S_O), mi/h	74.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	4421	Ramp Junction Speed (S), mi/h	60.3

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4421	Average Density (D), pc/mi/ln	38.5
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	28.8

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB I275 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	3655	1138
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	4199	1272
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.60	0.66

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.554
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1180
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	55.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.597	Outer Lanes Freeway Speed (S_O), mi/h	79.5
Flow in Lanes 1 and 2 (v_{12}), pc/h	3019	Ramp Junction Speed (S), mi/h	61.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	22.9
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	16.7

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB US 301 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	425
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6946	846
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7980	936
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	1.14	0.48

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.517	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	5280	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5280	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB US 301 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	425
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5273	875
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6058	968
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.87	0.50

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.527
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2219
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	56.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.564	Outer Lanes Freeway Speed (S_O), mi/h	75.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	3839	Ramp Junction Speed (S), mi/h	62.4

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	32.4
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	33.4

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB SR 64 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	8271	2342
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	9502	2590
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	1.02	0.67

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2558
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4387	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4387	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB SR 64 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5870	1549
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6744	1713
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.73	0.44

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	2
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.594
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1862
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	54.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (SO), mi/h	76.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	3021	Ramp Junction Speed (S), mi/h	65.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	25.9
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	16.7

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB SR 70 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	600
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	7890	1617
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	9064	1788
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.98	0.92

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.601
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2052
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	54.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.436	Outer Lanes Freeway Speed (S_O), mi/h	76.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	4960	Ramp Junction Speed (S), mi/h	62.5

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	36.3
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	41.5

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB SR 70 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	600
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5680	1237
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6525	1368
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.70	0.71

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.563
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1455
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	55.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.436	Outer Lanes Freeway Speed (S_O), mi/h	78.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	3616	Ramp Junction Speed (S), mi/h	63.9

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	25.5
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	29.9

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB CR 610 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	8102	2219
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	9308	2480
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.34	0.64

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	6608	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	6608	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB CR 610 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6044	1506
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	6944	1683
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.00	0.43

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.591
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	54.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	73.6
Flow in Lanes 1 and 2 (v_{12}), pc/h	4244	Ramp Junction Speed (S), mi/h	60.8

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	38.1
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	27.3

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Fruiteville Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	8466	2912
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	9726	3220
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.40	0.83

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	7026	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	7026	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Fruiteville Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	7235	1904
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	8312	2106
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.19	0.54

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	5612	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5612	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Bee Ridge Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	7126	1851
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	8187	2047
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.17	0.53

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	5487	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5487	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Bee Ridge Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	7770	1765
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	8927	1952
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.28	0.50

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	6227	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	6227	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Clark Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6236	2177
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	7164	2433
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.77	0.63

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.659
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1751
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	52.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	77.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	3663	Ramp Junction Speed (S), mi/h	62.3

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	28.7
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	22.3

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Clark Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	7435	1691
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	8542	1890
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.92	0.49

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.610
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2461
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	54.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	74.5
Flow in Lanes 1 and 2 (v_{12}), pc/h	3620	Ramp Junction Speed (S), mi/h	64.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	33.3
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	21.9

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB SR 681 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	4884	1112
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	5611	1230
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	0.81	0.32

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.550
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2405
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	56.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	74.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	3206	Ramp Junction Speed (S), mi/h	62.7

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	29.8
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	18.3

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB SR 681 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6836	893
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7853	988
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.13	0.26

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	5153	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5153	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Laurel Rd Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	710
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	3772	547
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	4333	605
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.62	0.31

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.494
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1402
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	57.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.624	Outer Lanes Freeway Speed (S_O), mi/h	78.6
Flow in Lanes 1 and 2 (v_{12}), pc/h	2931	Ramp Junction Speed (S), mi/h	63.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	22.9
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	23.1

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Laurel Rd Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	710
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5943	732
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6828	809
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.98	0.42

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.513
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2697
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	57.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.552	Outer Lanes Freeway Speed (SO), mi/h	73.6
Flow in Lanes 1 and 2 (v_{12}), pc/h	4131	Ramp Junction Speed (S), mi/h	62.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	36.4
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	33.4

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 SB Jacaranda Blvd Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1270
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	4039	938
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	4640	1037
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.67	0.54

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.533
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1456
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	56.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.596	Outer Lanes Freeway Speed (S_O), mi/h	78.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	3184	Ramp Junction Speed (S), mi/h	61.9

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	25.0
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	20.2

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 SB Jacaranda Blvd Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1270
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6438	1316
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7396	1455
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	1.06	0.75

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.508	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4696	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4696	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 River Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	625
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	3716	742
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	4269	821
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.61	0.42

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.514
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1324
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	57.1
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.616	Outer Lanes Freeway Speed (SO), mi/h	78.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	2945	Ramp Junction Speed (S), mi/h	62.5

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	22.8
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	24.0

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 River Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	625
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6097	1119
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7005	1237
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	1.01	0.64

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.528	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4305	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4305	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB River Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	605
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5607	562
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6442	621
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.92	0.32

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.496
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2503
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	57.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.570	Outer Lanes Freeway Speed (S_O), mi/h	74.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	3939	Ramp Junction Speed (S), mi/h	63.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	34.0
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	32.7

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB River Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	605
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	3541	396
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	4068	438
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.58	0.23

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.479
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1314
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	58.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.638	Outer Lanes Freeway Speed (S_O), mi/h	79.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	2754	Ramp Junction Speed (S), mi/h	63.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	21.3
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	22.5

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Jacaranda Blvd Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	450
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6116	957
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7026	1058
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	1.01	0.55

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.536	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4326	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4326	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Jacaranda Blvd Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	450
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	3827	592
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	4397	655
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.63	0.34

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.499
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1422
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	57.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	78.5
Flow in Lanes 1 and 2 (v_{12}), pc/h	2975	Ramp Junction Speed (S), mi/h	63.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	23.3
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	25.8

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Laurel Rd Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6600	1183
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7582	1308
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.09	0.34

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4882	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4882	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Laurel Rd Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	4196	666
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	4821	736
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	0.69	0.19

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.506
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2066
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	57.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (SO), mi/h	76.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	2755	Ramp Junction Speed (S), mi/h	64.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	25.1
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	14.4

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Clark Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	7092	1149
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	8148	1284
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.17	0.33

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	5448	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5448	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Clark Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5251	773
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	6033	864
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	0.87	0.22

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.517
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2586
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	57.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (SO), mi/h	74.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	3447	Ramp Junction Speed (S), mi/h	63.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	31.8
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	20.4

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Bee Ridge Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	7608	1275
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	8740	1410
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.94	0.36

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.567
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2622
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	55.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	73.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	3496	Ramp Junction Speed (S), mi/h	65.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	33.5
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	20.8

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Bee Ridge Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6598	908
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	7580	1004
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.82	0.26

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.530
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2274
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	56.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	75.2
Flow in Lanes 1 and 2 (v_{12}), pc/h	3032	Ramp Junction Speed (S), mi/h	66.5

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	28.5
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	16.8

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Fruiteville Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	7971	2535
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	9157	2803
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.31	0.72

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	6457	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	6457	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Fruiteville Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	7168	1622
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	8235	1794
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.18	0.46

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	5535	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5535	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB CR 610 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	7343	2843
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	8436	3177
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.21	0.82

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	5736	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5736	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB CR 610 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	8373	2591
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	9619	2895
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.38	0.75

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	6919	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	6919	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB SR 70 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5901	1282
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6779	1418
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.73	0.73

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	2
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.567
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1512
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	55.5
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	78.2
Flow in Lanes 1 and 2 (v_{12}), pc/h	3755	Ramp Junction Speed (S), mi/h	63.8

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	26.6
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	23.0

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB SR 70 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	7991	1282
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	9180	1418
Capacity (c_{md}), pc/h	9600	2000
Adjusted Capacity (c_{md}), pc/h	9293	1936
Volume-to-Capacity Ratio (v/c)	0.99	0.73

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.567
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2189
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	55.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.436	Outer Lanes Freeway Speed (S_O), mi/h	75.6
Flow in Lanes 1 and 2 (v_{12}), pc/h	4802	Ramp Junction Speed (S), mi/h	63.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	36.1
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	32.0

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB SR 64 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5785	1499
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6646	1658
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.72	0.43

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.589
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1846
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	54.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	76.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	2955	Ramp Junction Speed (S), mi/h	65.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	25.5
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	16.2

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB SR 64 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	8366	2268
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	9611	2508
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	1.03	0.65

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2628
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4355	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4355	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB US 301 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5833	1388
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	6701	1535
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	0.72	0.40

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.578
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1912
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	55.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	76.6
Flow in Lanes 1 and 2 (v_{12}), pc/h	2878	Ramp Junction Speed (S), mi/h	65.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	25.5
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	15.5

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB US 301 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	8373	2218
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.962
Flow Rate (v_i), pc/h	9619	2453
Capacity (c_{md}), pc/h	9600	4000
Adjusted Capacity (c_{md}), pc/h	9293	3872
Volume-to-Capacity Ratio (v/c)	1.04	0.63

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2652
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4316	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4316	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB I275 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5075	2162
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	5830	2416
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	0.84	0.62

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.657
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1878
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	52.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	76.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	3952	Ramp Junction Speed (S), mi/h	58.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	33.2
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	24.7

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB I275 Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	6753	2223
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	7758	2484
Capacity (c_{md}), pc/h	7200	4000
Adjusted Capacity (c_{md}), pc/h	6970	3872
Volume-to-Capacity Ratio (v/c)	1.11	0.64

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	5058	Ramp Junction Speed (S), mi/h	-

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5058	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	-

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	AM
Project Description	I-75 NB Moccasin Wallow Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	610
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	3783	811
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935
Flow Rate (v_i), pc/h	4346	923
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.62	0.48

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.523
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1338
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	56.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.609	Outer Lanes Freeway Speed (S_O), mi/h	78.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	3008	Ramp Junction Speed (S), mi/h	62.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	23.3
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	24.6

HCS Freeway Diverge Report

Project Information			
Analyst	Caleb Van Nostrand	Date	3/19/2021
Agency	H.W. Lochner	Analysis Year	2045
Jurisdiction	FDOT	Time Analyzed	PM
Project Description	I-75 NB Moccasin Wallow Road Off-Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	610
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	Mostly Familiar	Mostly Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	0.975	0.975
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	0.968	0.968
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	5970	1362
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935
Flow Rate (v_i), pc/h	6859	1550
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	6970	1936
Volume-to-Capacity Ratio (v/c)	0.98	0.80

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.579
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2564
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	55.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.517	Outer Lanes Freeway Speed (S_O), mi/h	74.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	4295	Ramp Junction Speed (S), mi/h	60.9

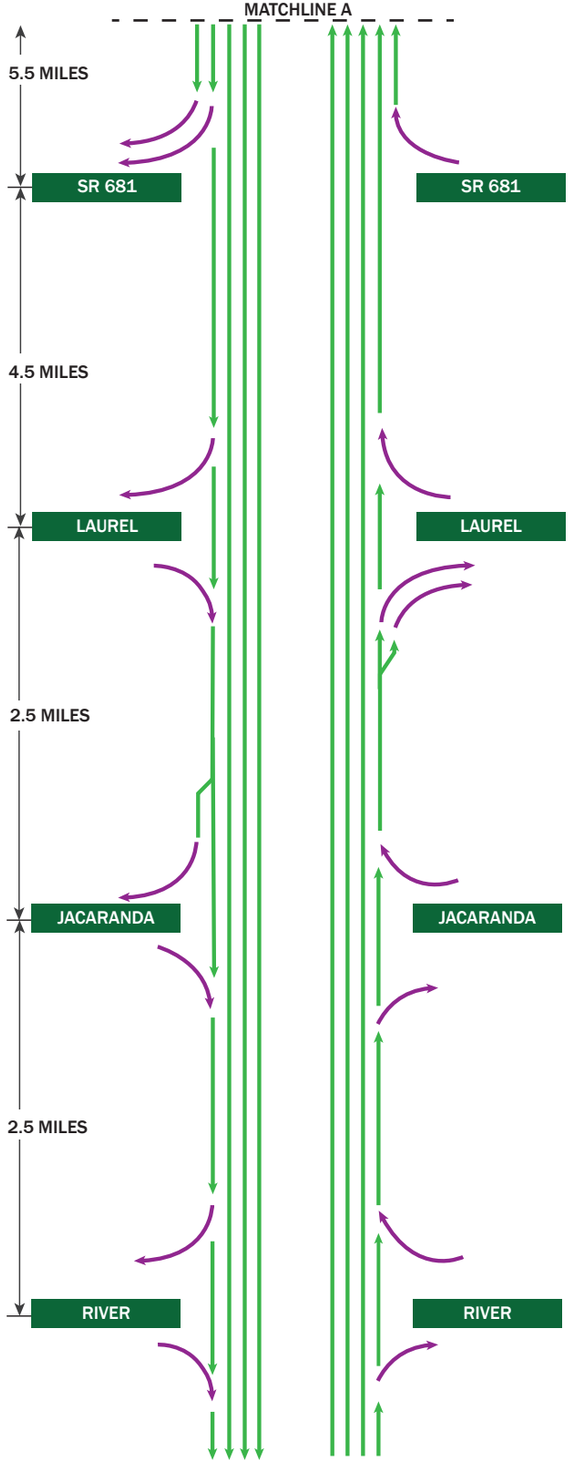
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	37.5
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	35.7

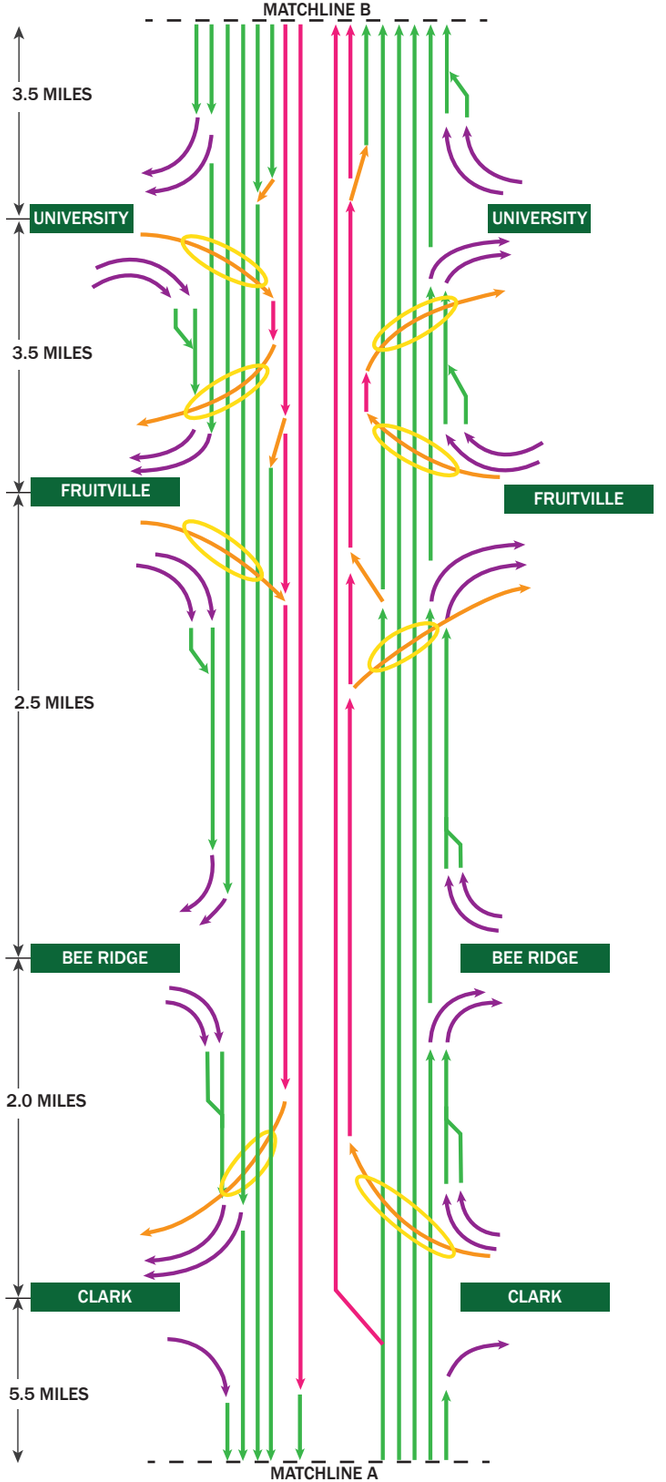
Appendix L
Line Diagrams for Build Alternatives Considered

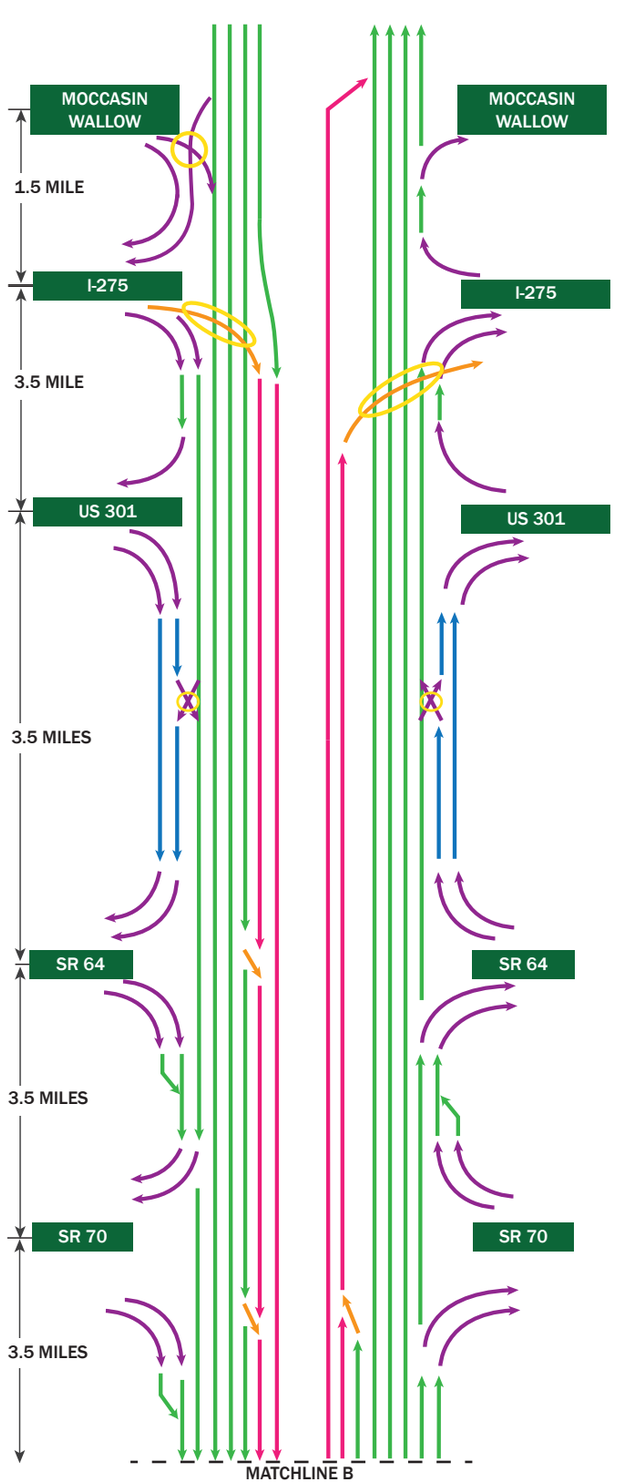
INTERSTATE 75 SOUTHWEST CONNECT

FDOT DISTRICT ONE INTERSTATE PROJECT ™

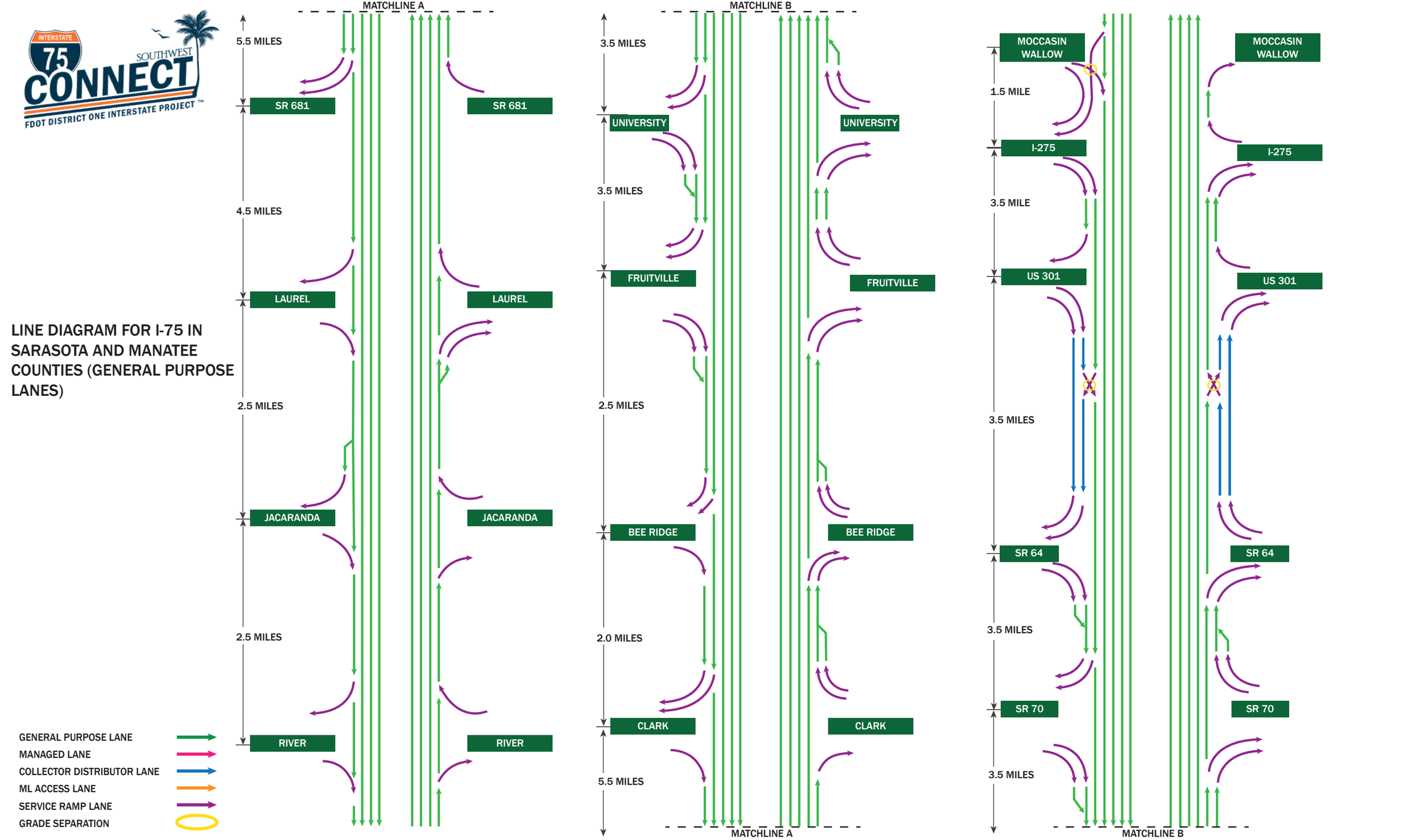
LINE DIAGRAM FOR I-75 IN SARASOTA AND MANATEE COUNTIES (MANAGED LANES)







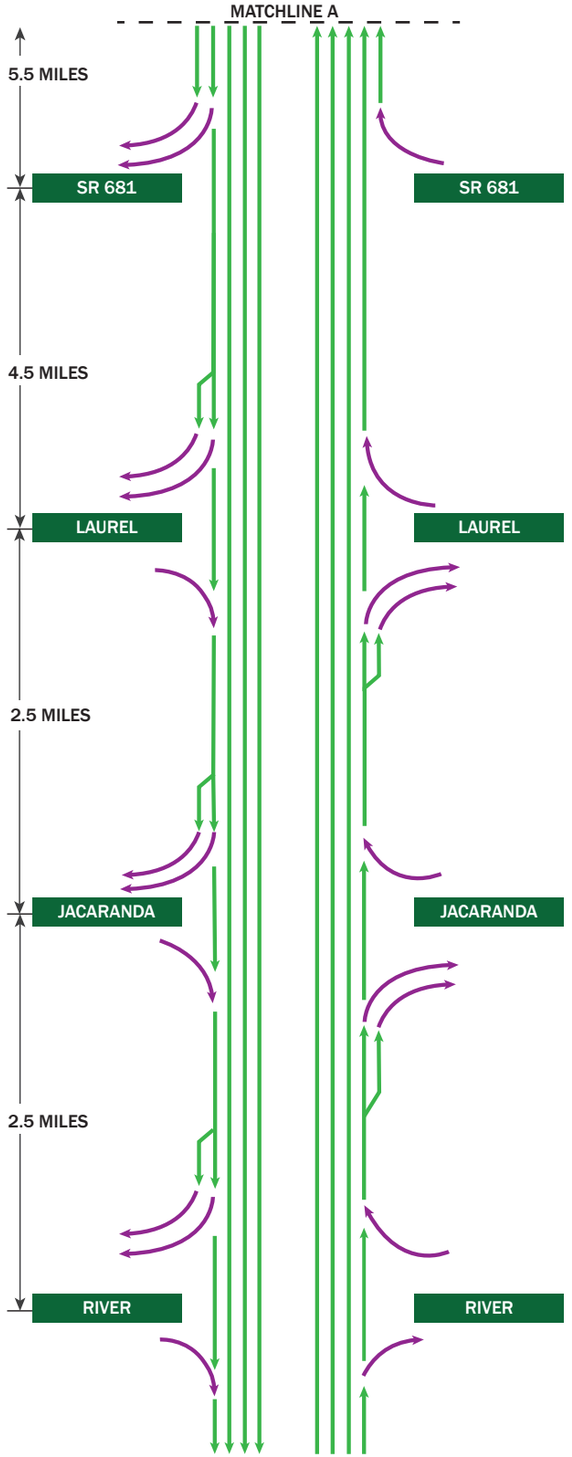
- GENERAL PURPOSE LANE
- MANAGED LANE
- COLLECTOR DISTRIBUTOR LANE
- ML ACCESS LANE
- SERVICE RAMP LANE
- GRADE SEPARATION

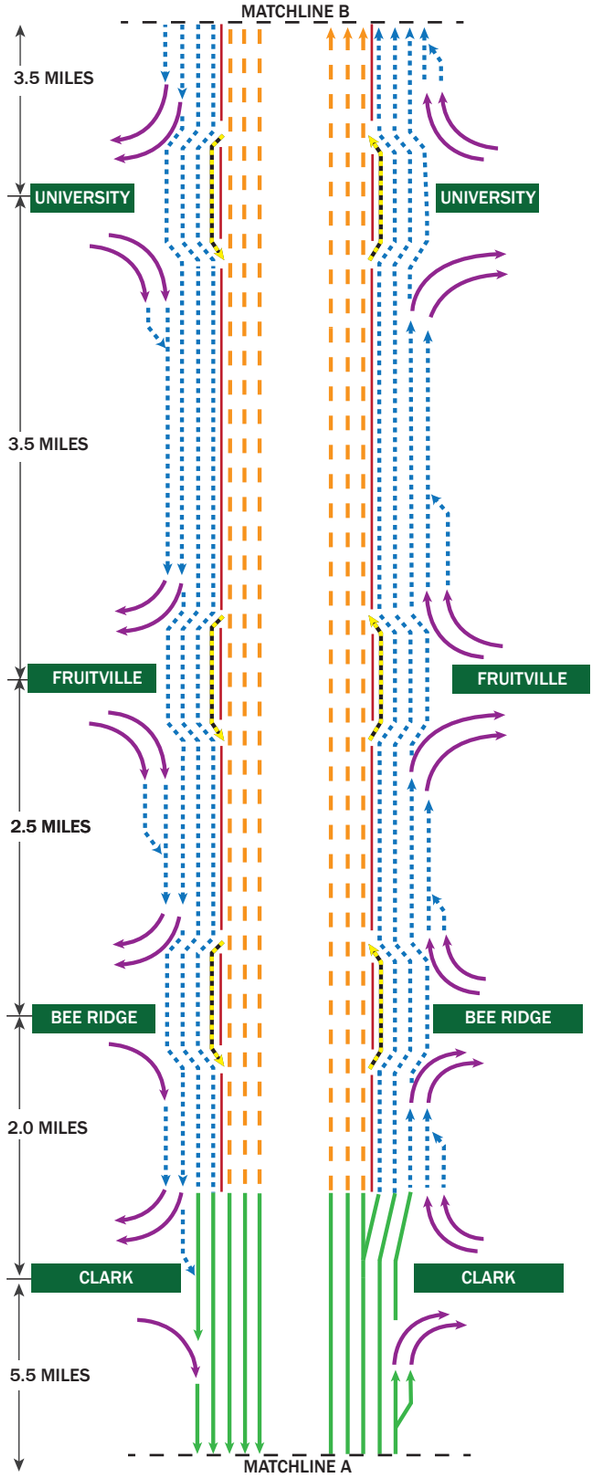

INTERSTATE 75 SOUTHWEST CONNECT
FDOT DISTRICT ONE INTERSTATE PROJECT ™
LINE DIAGRAM FOR I-75 IN SARASOTA AND MANATEE COUNTIES (GENERAL PURPOSE LANES)
MATCHLINE A
MATCHLINE B
5.5 MILES
4.5 MILES
2.5 MILES
2.5 MILES
SR 681
LAUREL
JACARANDA
RIVER
3.5 MILES
3.5 MILES
2.5 MILES
2.0 MILES
5.5 MILES
UNIVERSITY
FRUITVILLE
BEE RIDGE
CLARK
1.5 MILE
3.5 MILE
3.5 MILES
3.5 MILES
3.5 MILES
MOCCASIN WALLOW
I-275
US 301
SR 64
SR 70
GENERAL PURPOSE LANE
MANAGED LANE
COLLECTOR DISTRIBUTOR LANE
ML ACCESS LANE
SERVICE RAMP LANE
GRADE SEPARATION

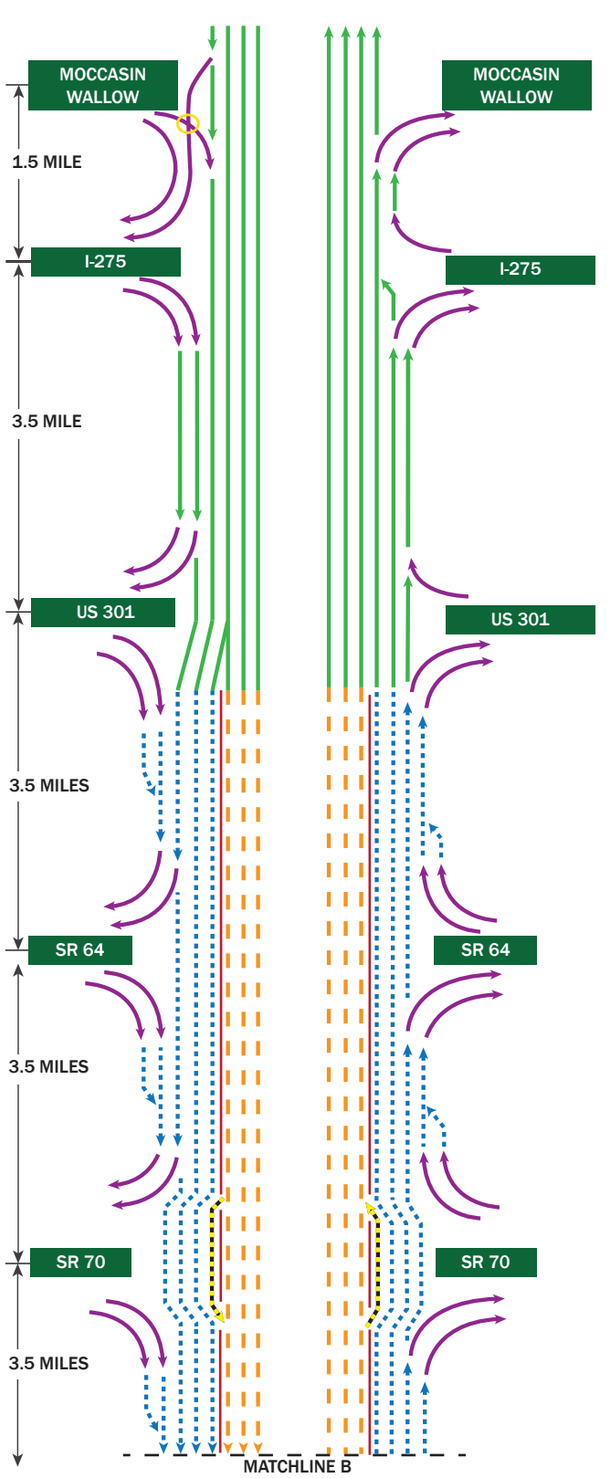
SOUTHWEST CONNECT
FDOT DISTRICT ONE INTERSTATE PROJECT ™

LINE DIAGRAM FOR I-75 IN SARASOTA AND MANATEE COUNTIES (3 THRU LANES + 3 LOCAL LANES WITH SLIP RAMPS)

APRIL 21, 2022







GENERAL PURPOSE LANE
BARRIER
LOCAL LANE
MAINLINE THROUGH LANE
SERVICE RAMP LANE
SLIP RAMP LANE

Appendix M
Preferred Build Conceptual Layout

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT — SOUTHWEST FLORIDA — FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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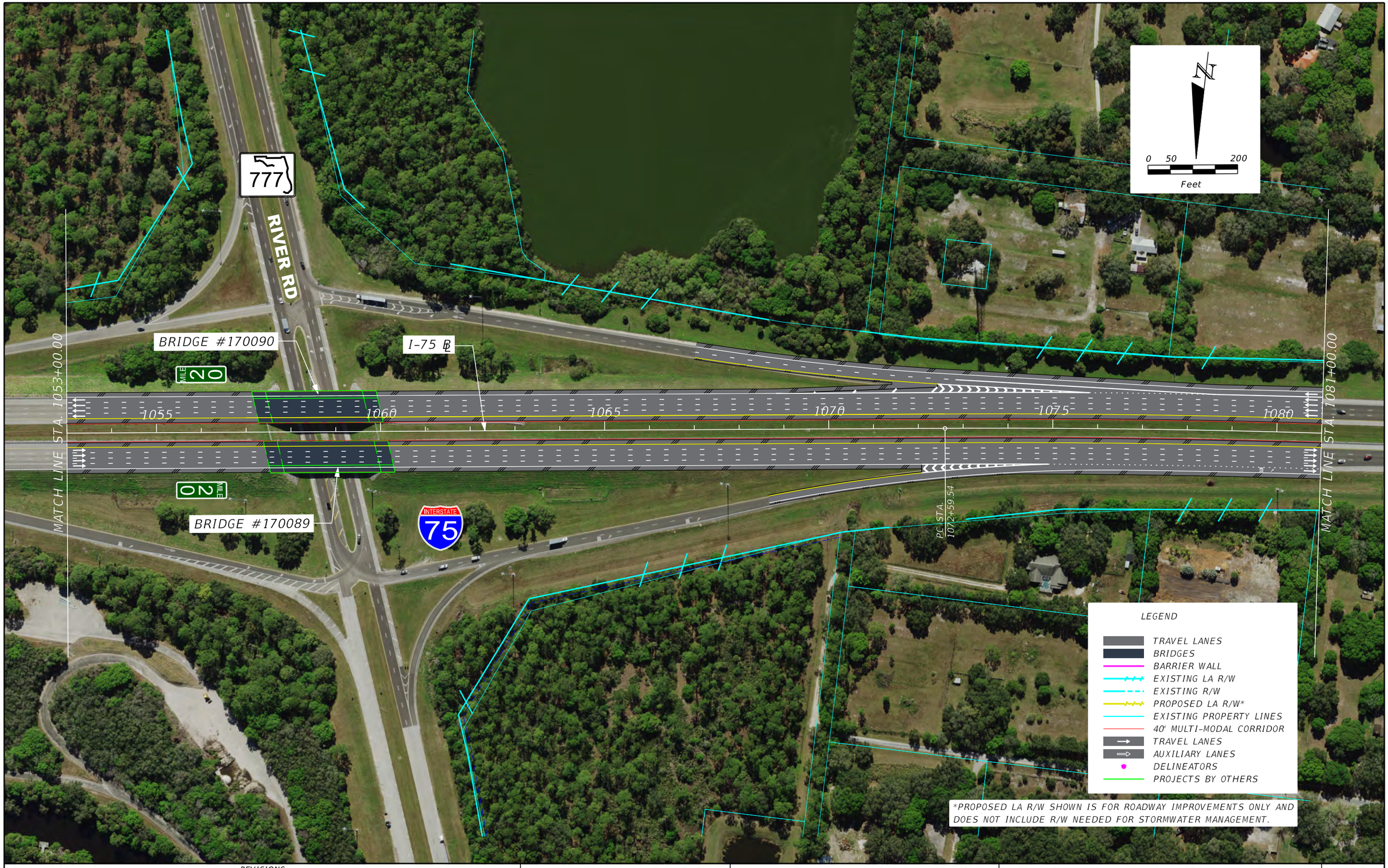

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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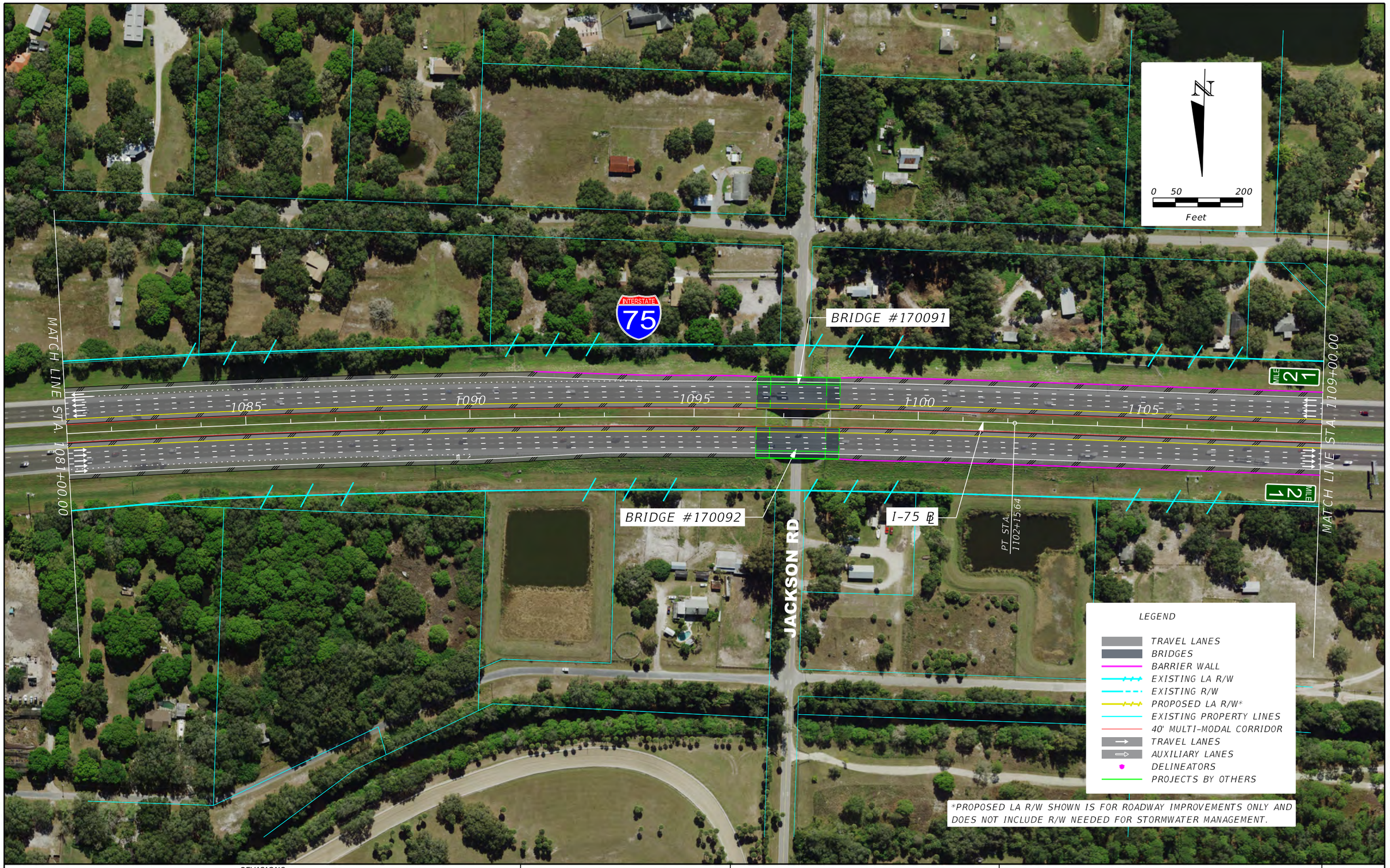

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I-75 MASTER PLAN CONCEPT PLAN

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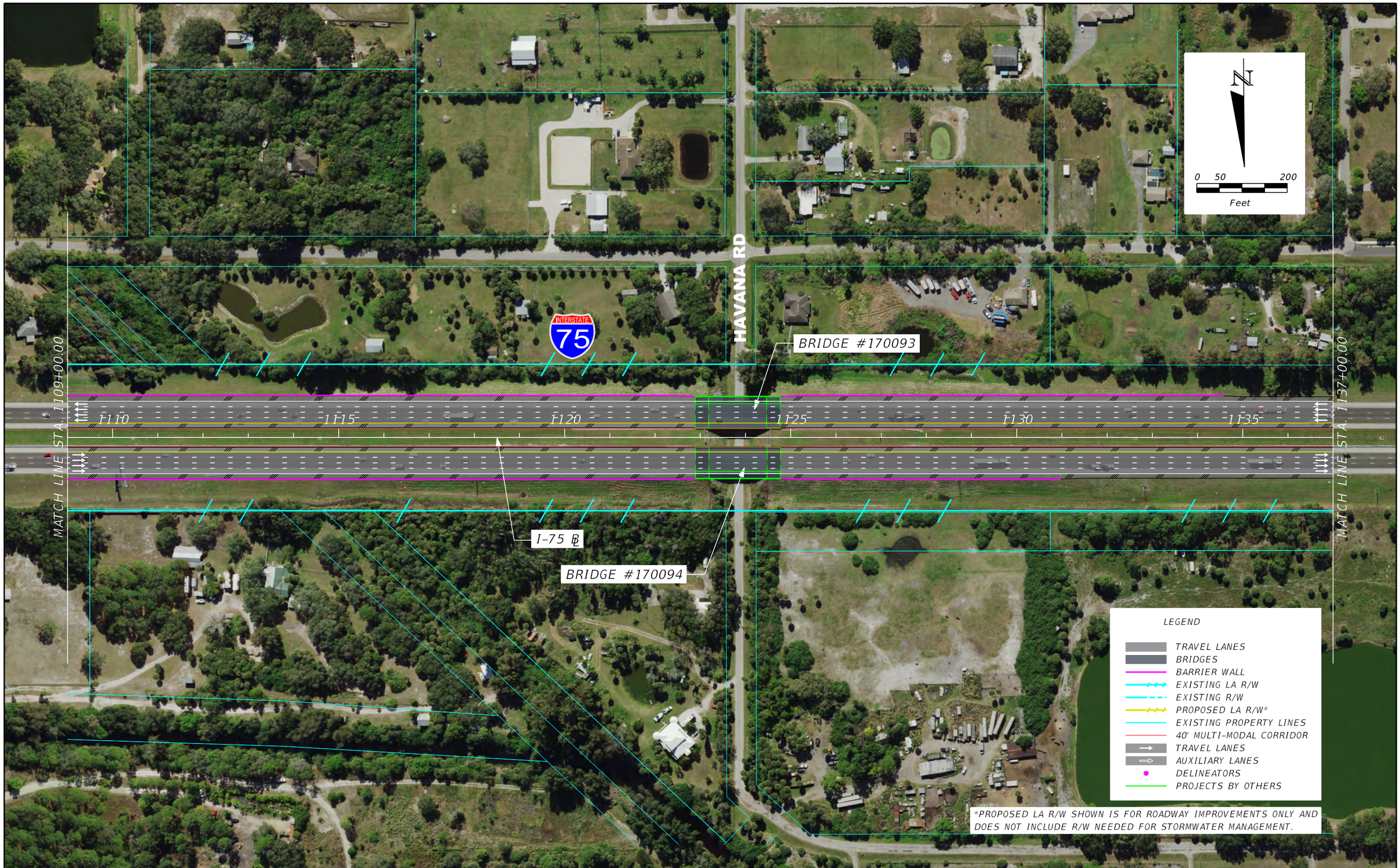

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT SOUTHWEST FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

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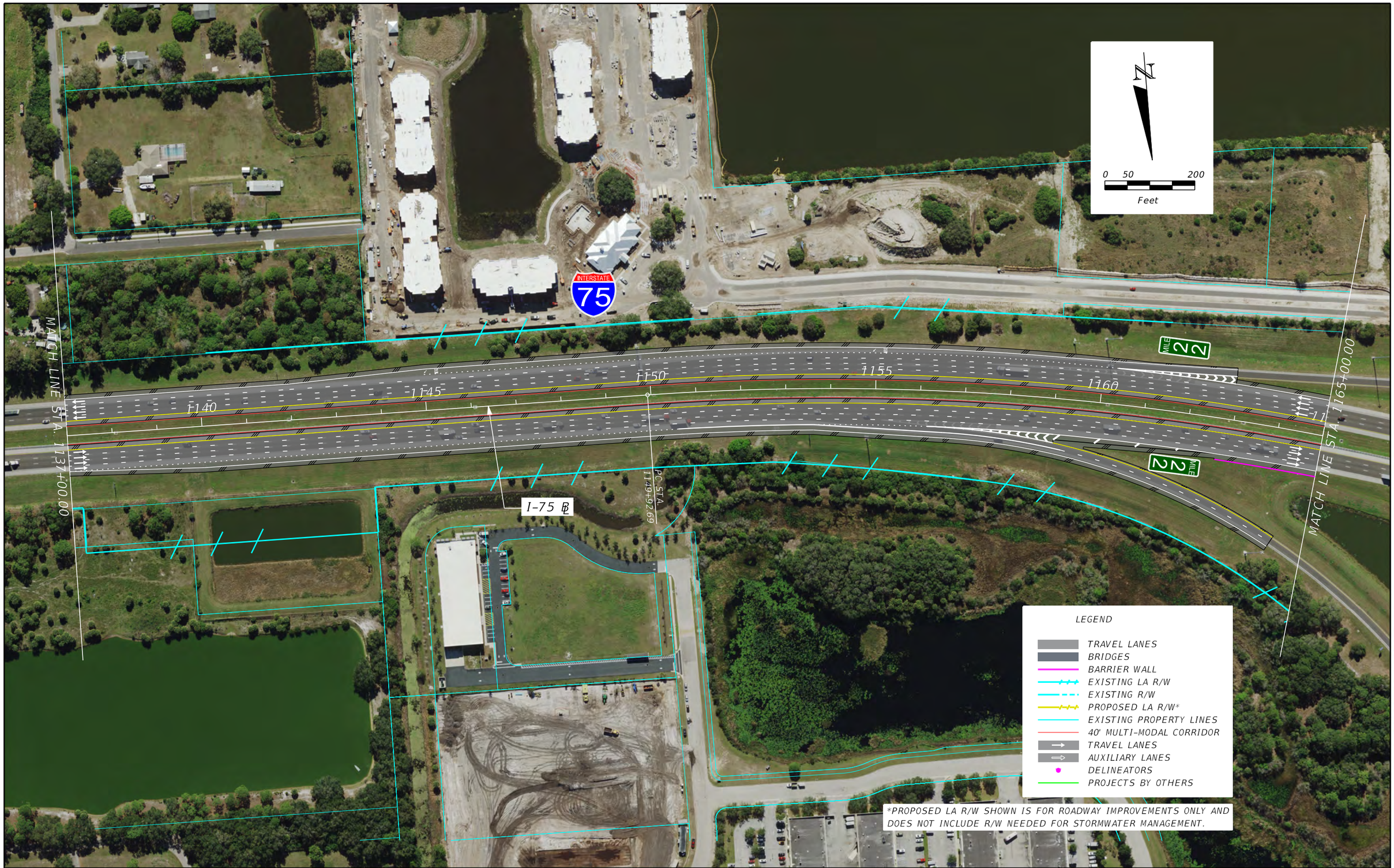

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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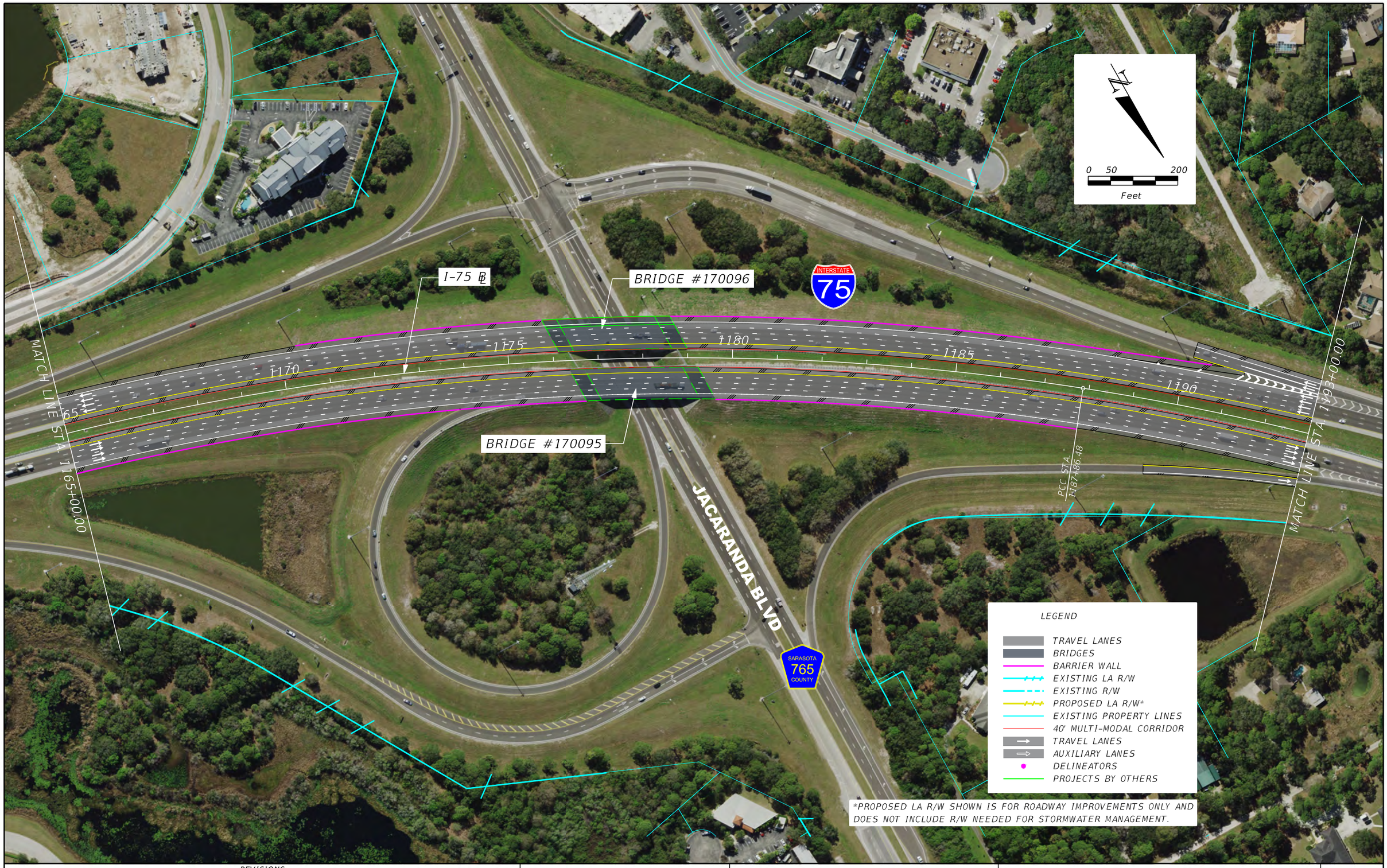

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT SOUTHWEST FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

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SR 93	SARASOTA	442518-1-12-01

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I-75 SOUTHWEST CONNECT — FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

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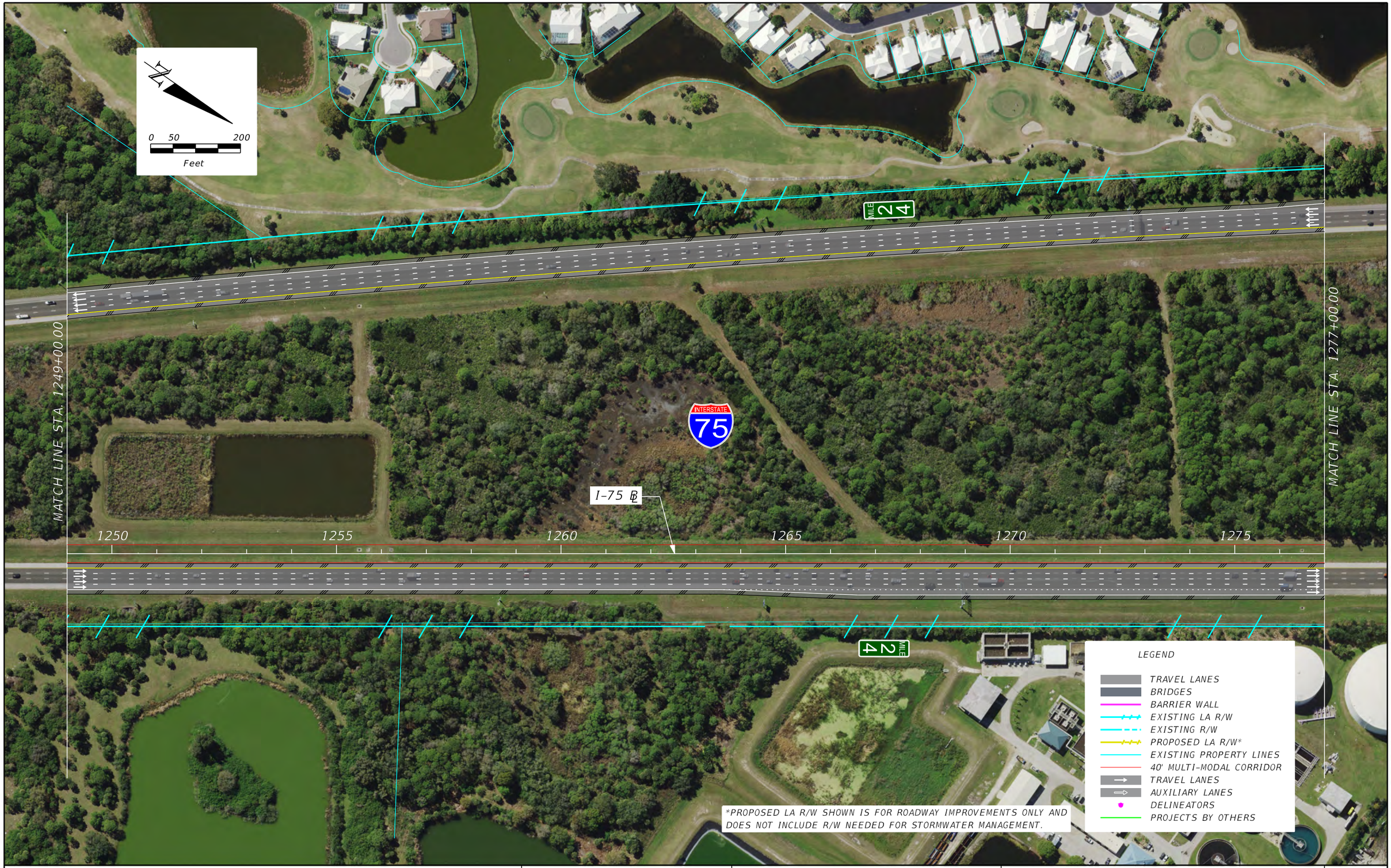

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DATE	DESCRIPTION	DATE	DESCRIPTION

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

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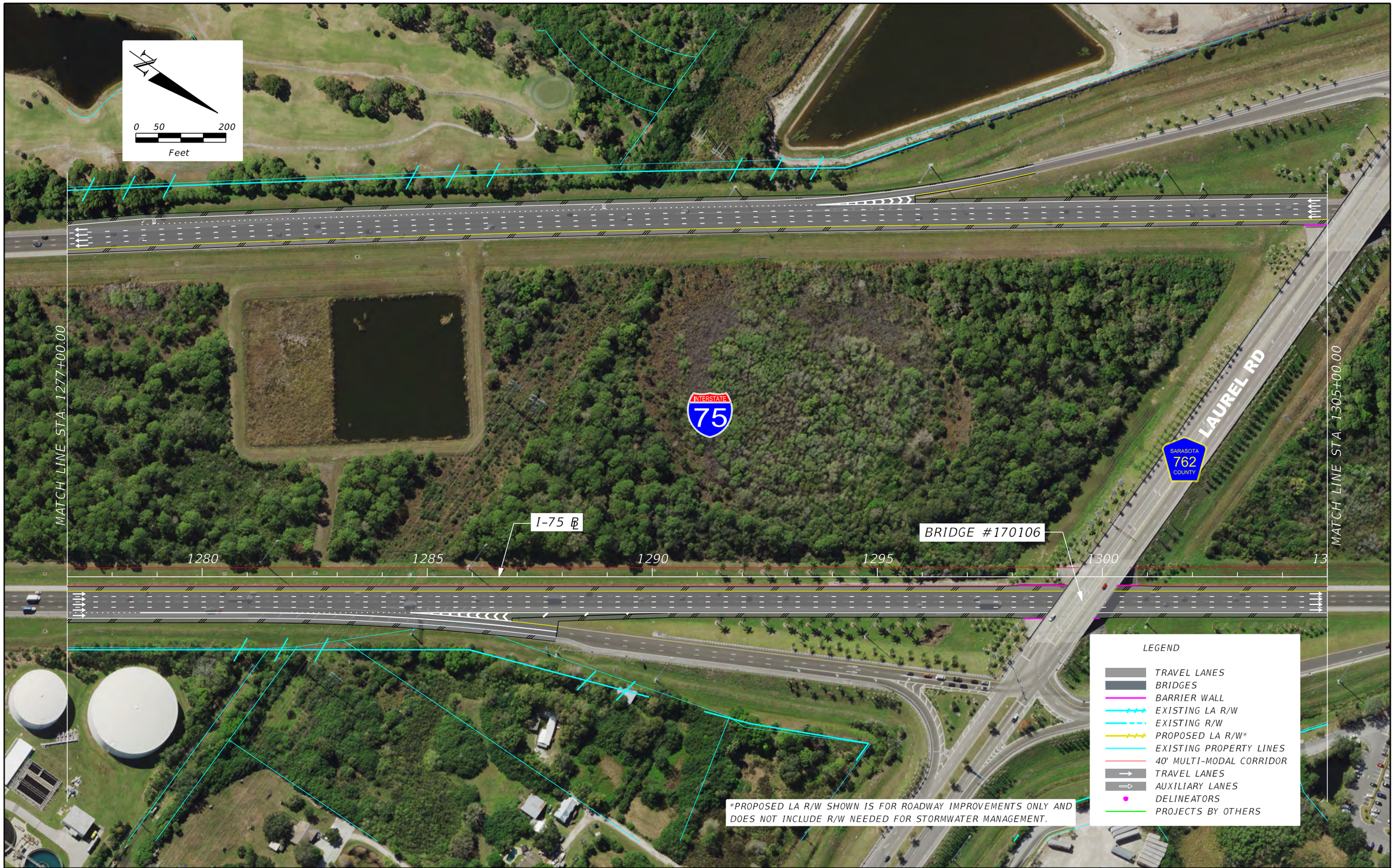

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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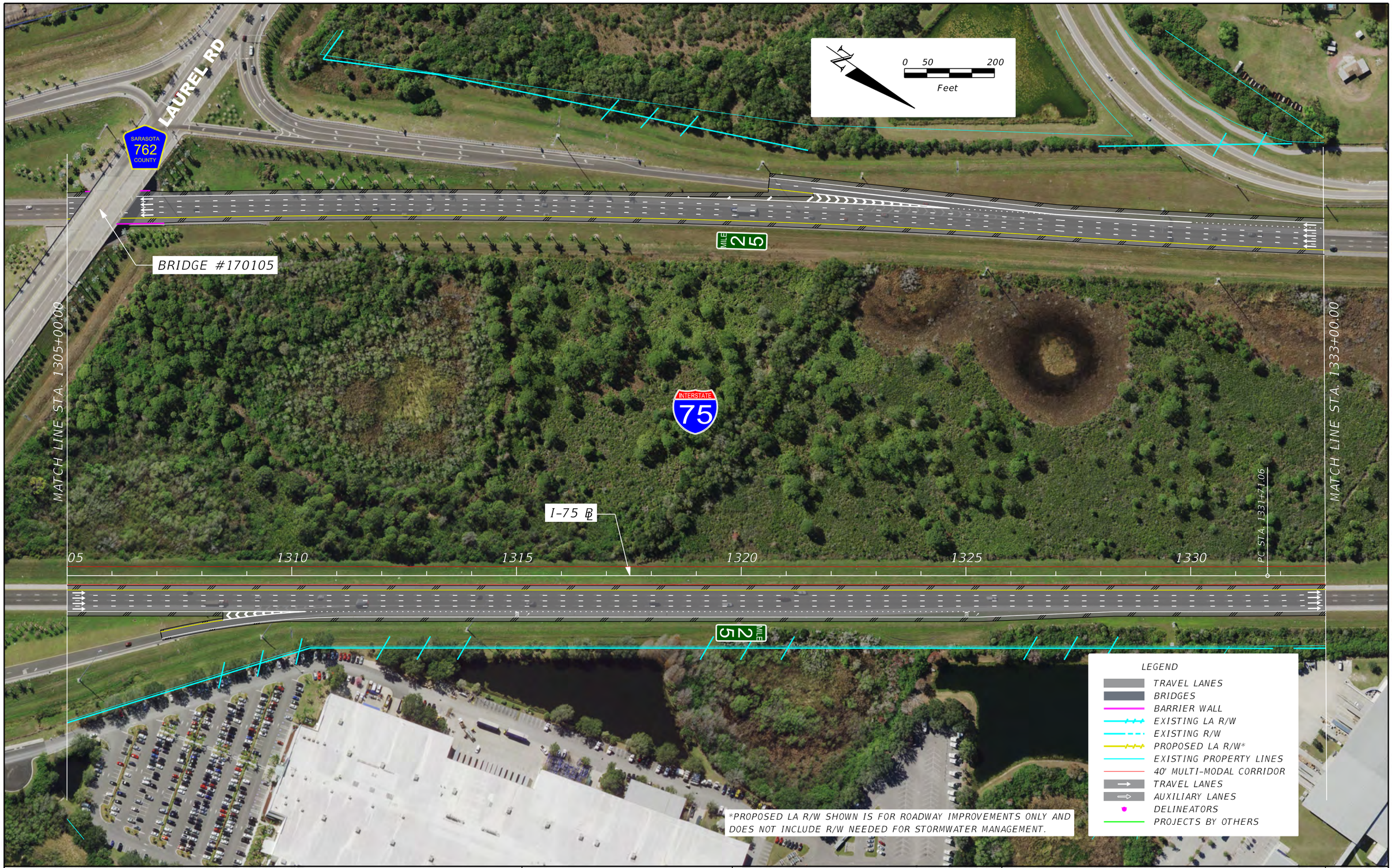

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

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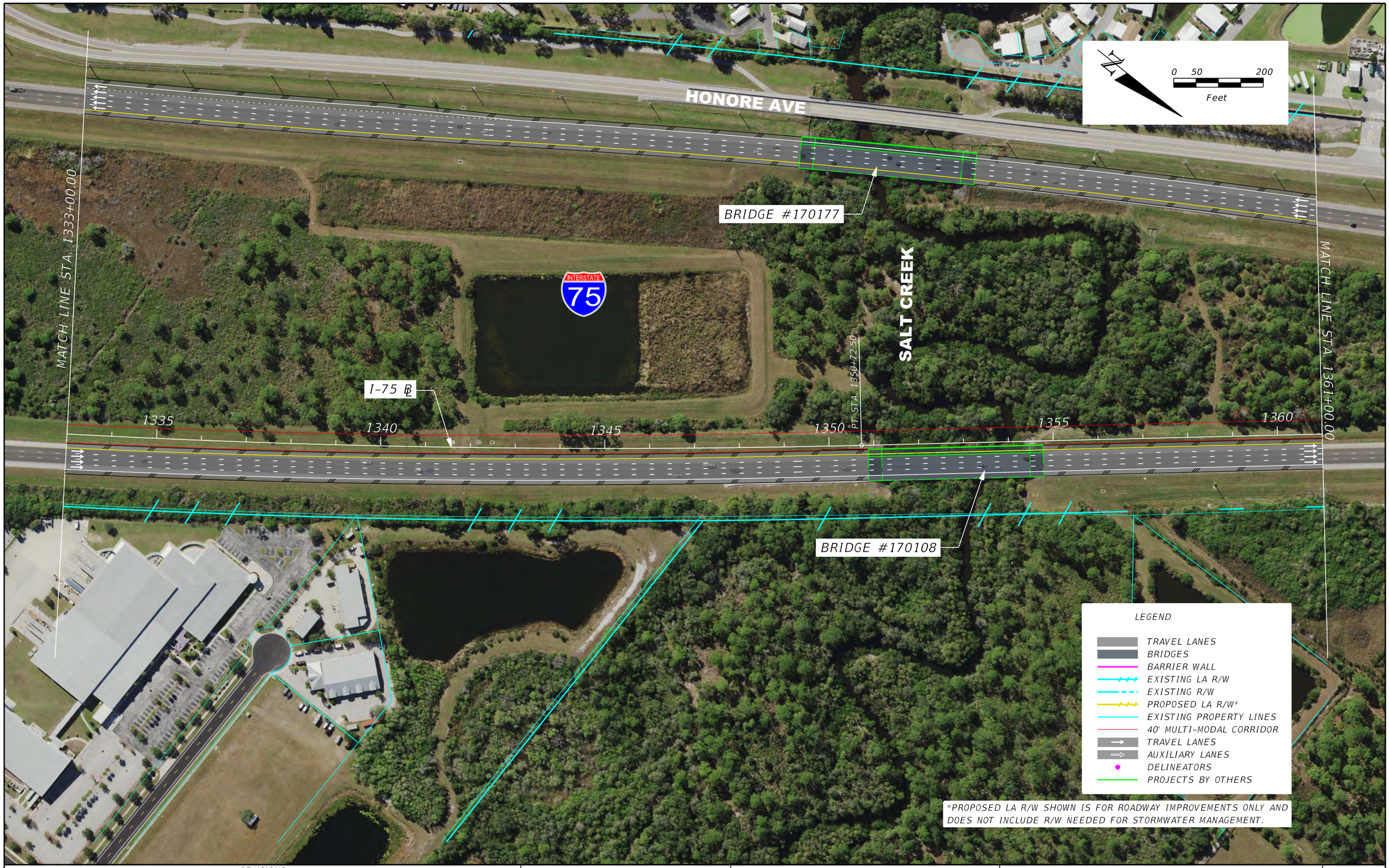

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT — SOUTHWEST FLORIDA — FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

SOUTHWEST I-75 CONNECT FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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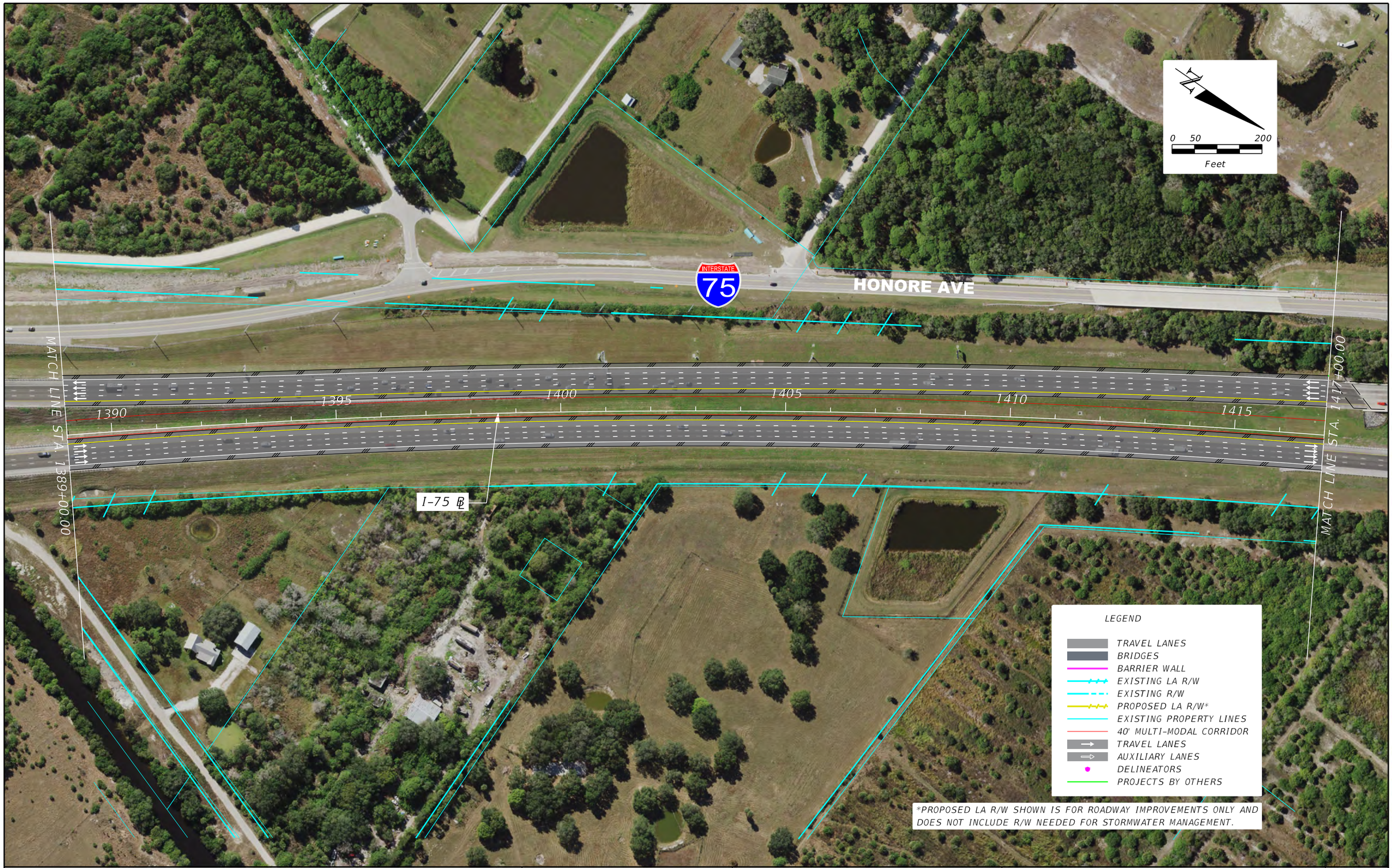

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT — SOUTHWEST — FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT SOUTHWEST FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT SOUTHWEST FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

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HONORE AVE

0 50 200
Feet

INTERSTATE 75

MILE 28

MILE 28

MATCH LINE STA. 1473+00.00

1475 1480 1485 1490 1495 1500

PT STA. 1480+86.35

I-75 ℄

MATCH LINE STA. 1501+00.00

LEGEND

- TRAVEL LANES
- BRIDGES
- BARRIER WALL
- EXISTING LA R/W
- EXISTING R/W
- PROPOSED LA R/W*
- EXISTING PROPERTY LINES
- 40' MULTI-MODAL CORRIDOR
- TRAVEL LANES
- AUXILIARY LANES
- DELINEATORS
- PROJECTS BY OTHERS

*PROPOSED LA R/W SHOWN IS FOR ROADWAY IMPROVEMENTS ONLY AND DOES NOT INCLUDE R/W NEEDED FOR STORMWATER MANAGEMENT.

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

SOUTHWEST I-75 CONNECT FDOT DISTRICT ONE INTERSTATE PROJECT

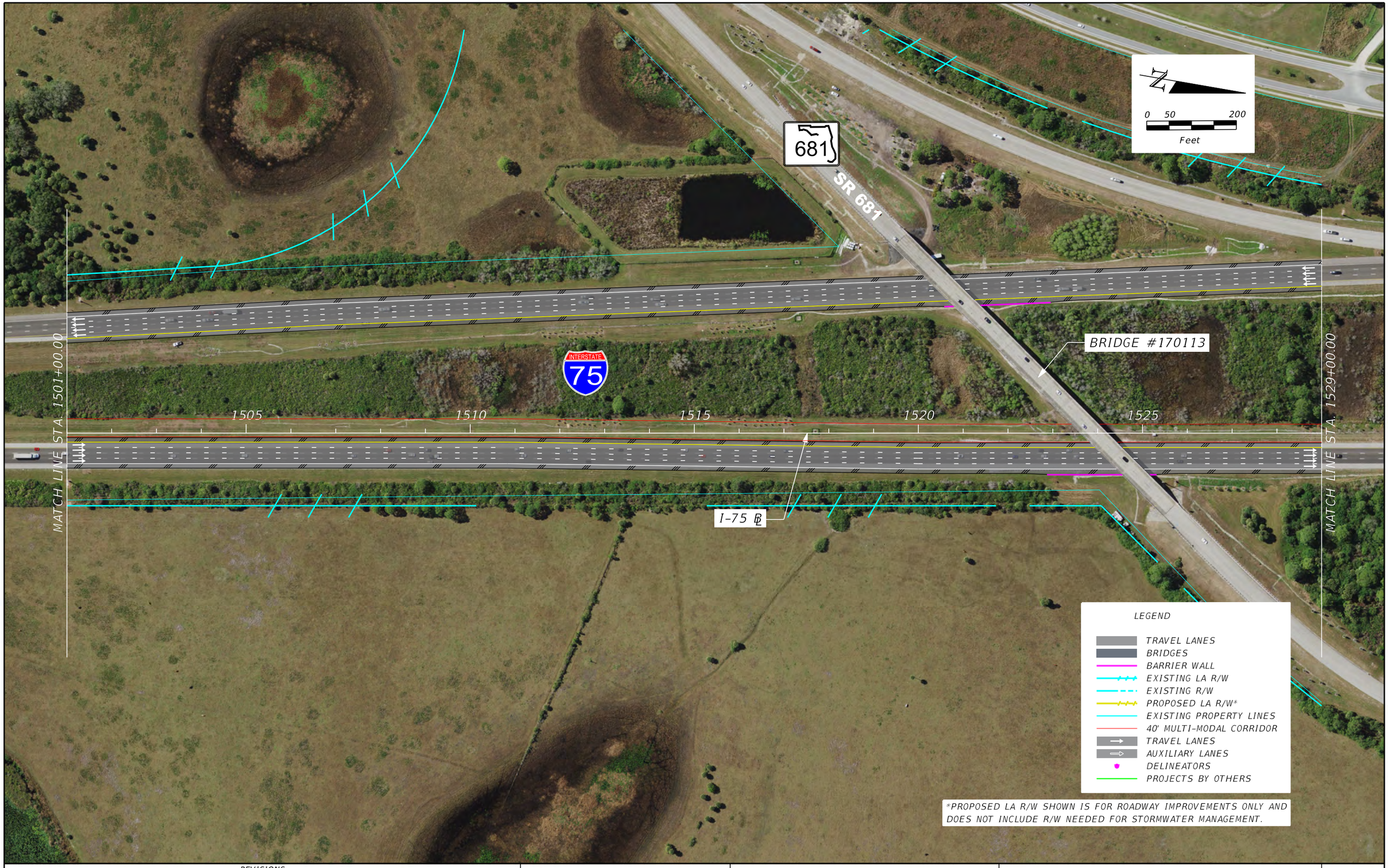
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

PDUNNINGBA 5/18/2022 1:31:46 PM standard PW:\



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 SOUTHWEST CONNECT FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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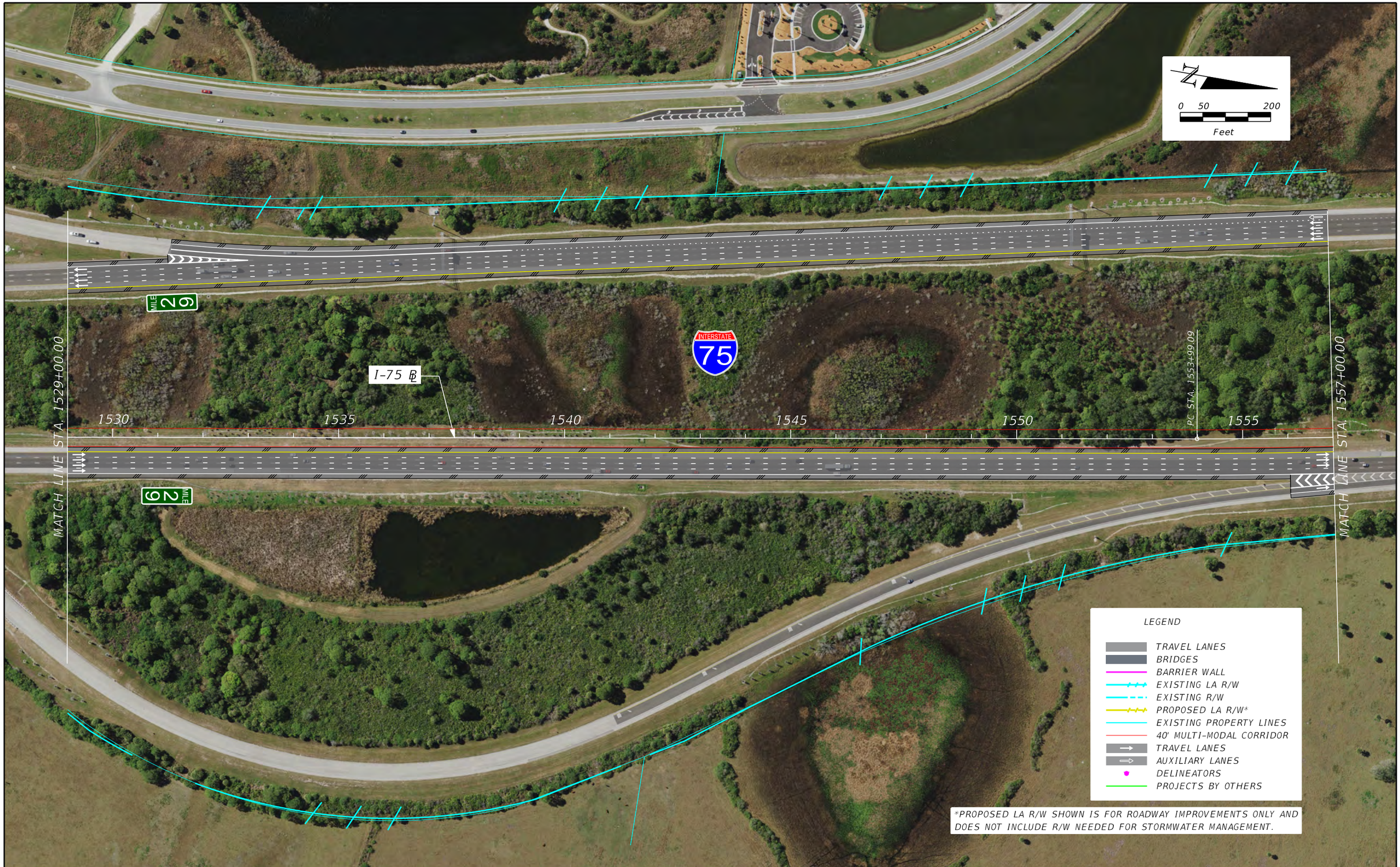

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT SOUTHWEST FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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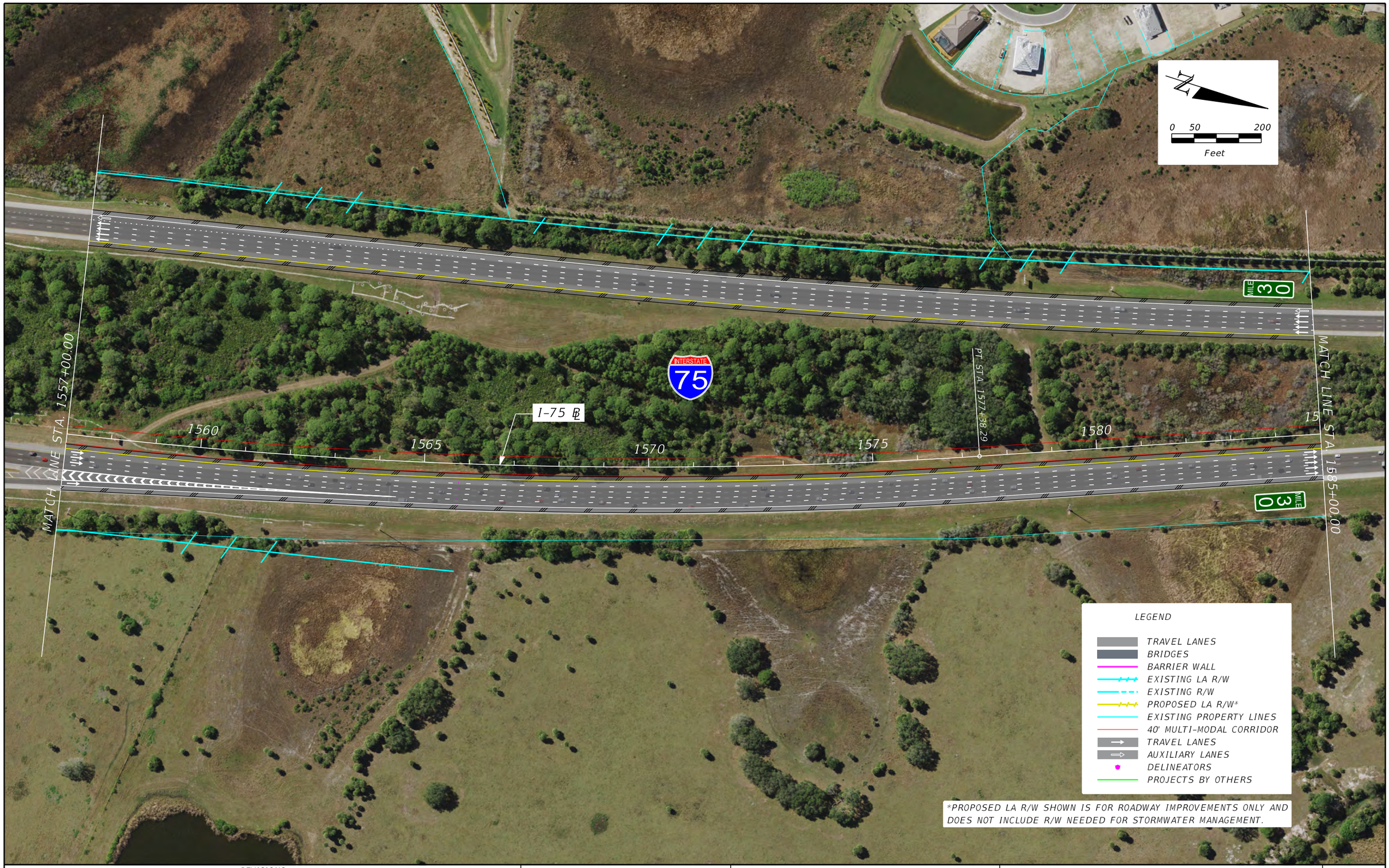

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

SOUTHWEST I-75 CONNECT FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

PDUNNINGBA 5/18/2022 1:33:42 PM standard PW:\

REPLACE BRIDGE CULVERT
#170147

INTERSTATE 75

0 50 200
Feet

MATCH LINE STA. 1585+00.00

1585 1590 1595 1600 1605 1610

MATCH LINE STA. 1613+00.00

I-75 ℄

REPLACE BRIDGE CULVERT
#170148

SUNRISE CREEK

LEGEND

- TRAVEL LANES
- BRIDGES
- BARRIER WALL
- EXISTING LA R/W
- EXISTING R/W
- PROPOSED LA R/W*
- EXISTING PROPERTY LINES
- 40' MULTI-MODAL CORRIDOR
- TRAVEL LANES
- AUXILIARY LANES
- DELINEATORS
- PROJECTS BY OTHERS

*PROPOSED LA R/W SHOWN IS FOR ROADWAY IMPROVEMENTS ONLY AND DOES NOT INCLUDE R/W NEEDED FOR STORMWATER MANAGEMENT.

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT
SOUTHWEST
FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN
CONCEPT PLAN

SHEET NO.

PDUNNINGBA 5/18/2022 1:35:27 PM standard PW:\

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REPLACE BRIDGE CULVERT
#170149

REPLACE BRIDGE CULVERT
#170150

I-75 ℄

1645 1650 1655 1660 1665

MATCH LINE STA. 1641+00.00

PC STA. 1652+69.69

HABATOWSKI CREEK

MATCH LINE STA. 1669+00.00

N

0 50 200
Feet

LEGEND

- TRAVEL LANES
- BRIDGES
- BARRIER WALL
- EXISTING LA R/W
- EXISTING R/W
- PROPOSED LA R/W*
- EXISTING PROPERTY LINES
- 40' MULTI-MODAL CORRIDOR
- TRAVEL LANES
- AUXILIARY LANES
- DELINEATORS
- PROJECTS BY OTHERS

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT SOUTHWEST FLORIDA'S FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN
CONCEPT PLAN

SHEET NO.

PDUNNINGBA 5/18/2022 1:36:53 PM standard PW:\

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT SOUTHWEST FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA MANATEE	442518-1-12-01

I-75 MASTER PLAN
CONCEPT PLAN

SHEET NO.

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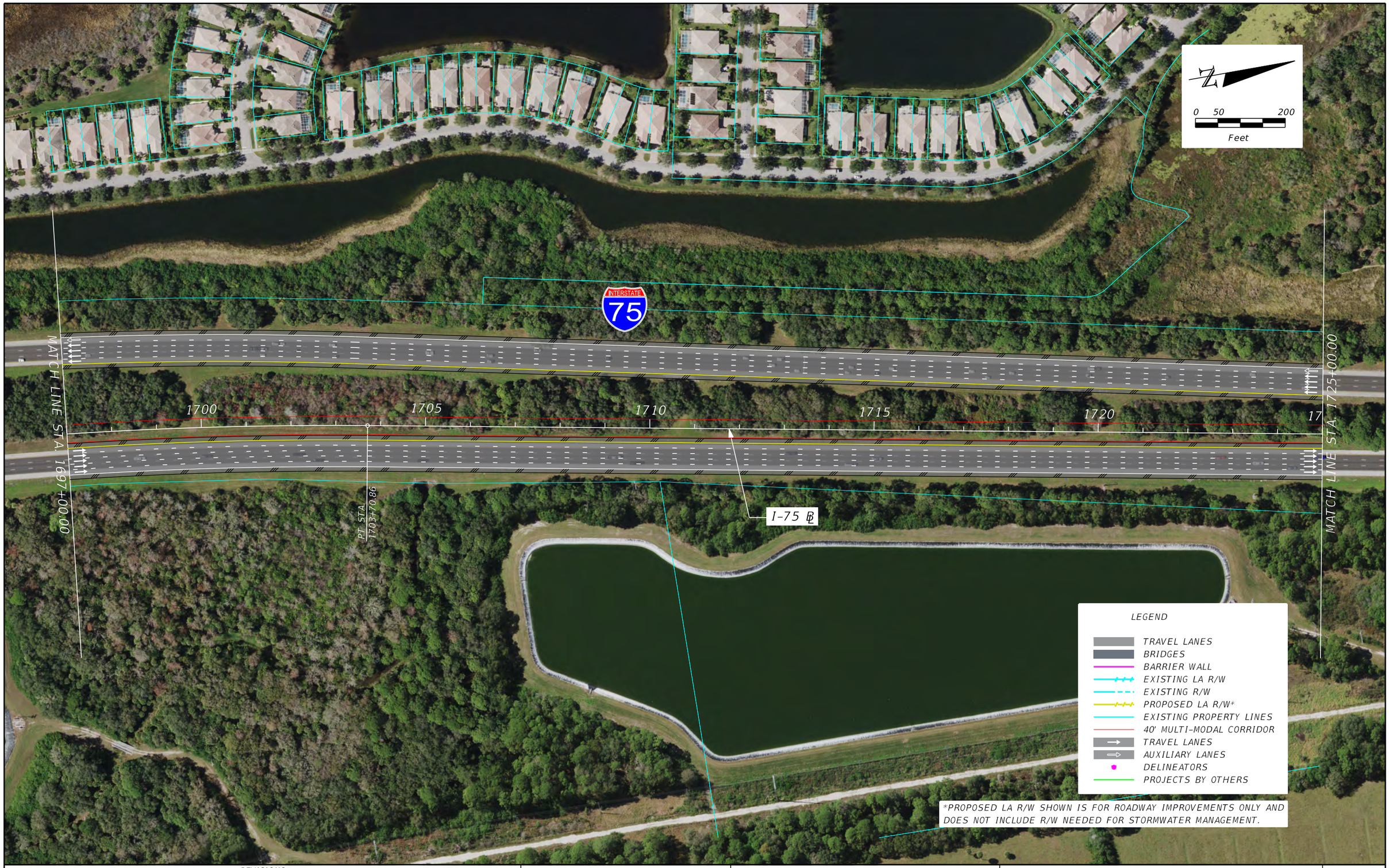


REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

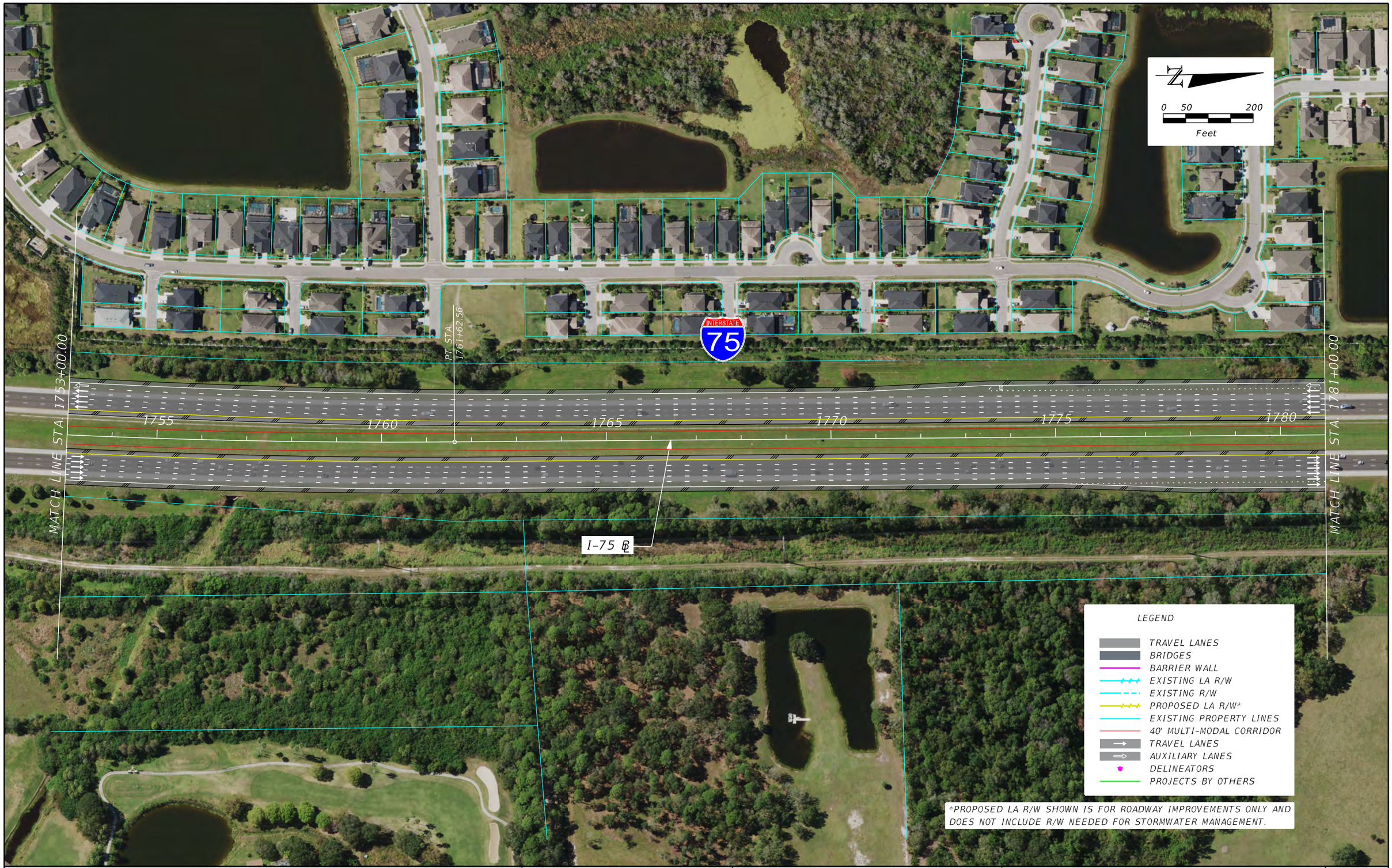
PDUNNINGBA 5/18/2022 1:38:19 PM standard PW:\

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA MANATEE	442518-1-12-01

SHEET NO.



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

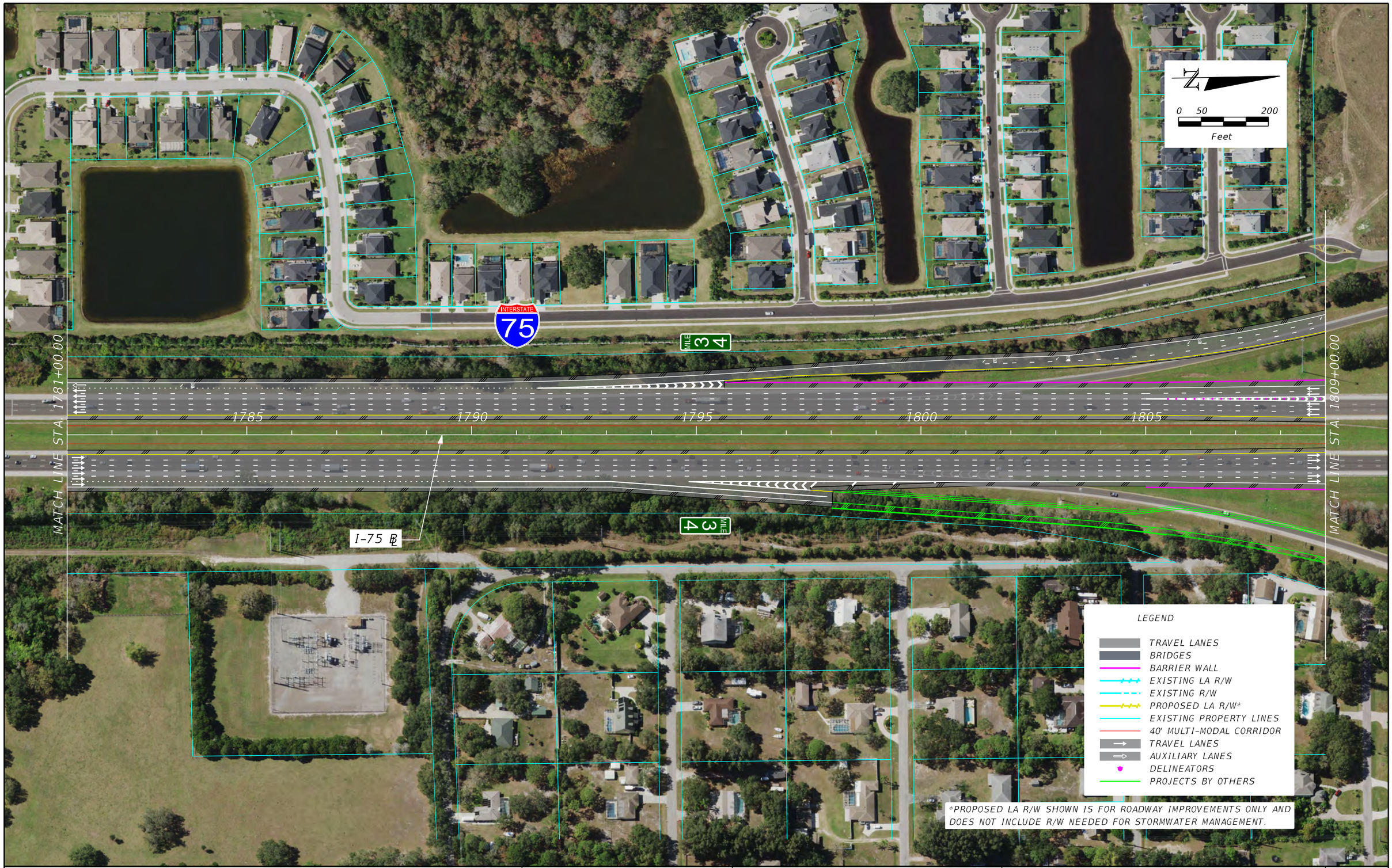
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN
CONCEPT PLAN

SHEET NO.

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 SOUTHWEST CONNECT — FDOT DISTRICT ONE INTERSTATE PROJECT

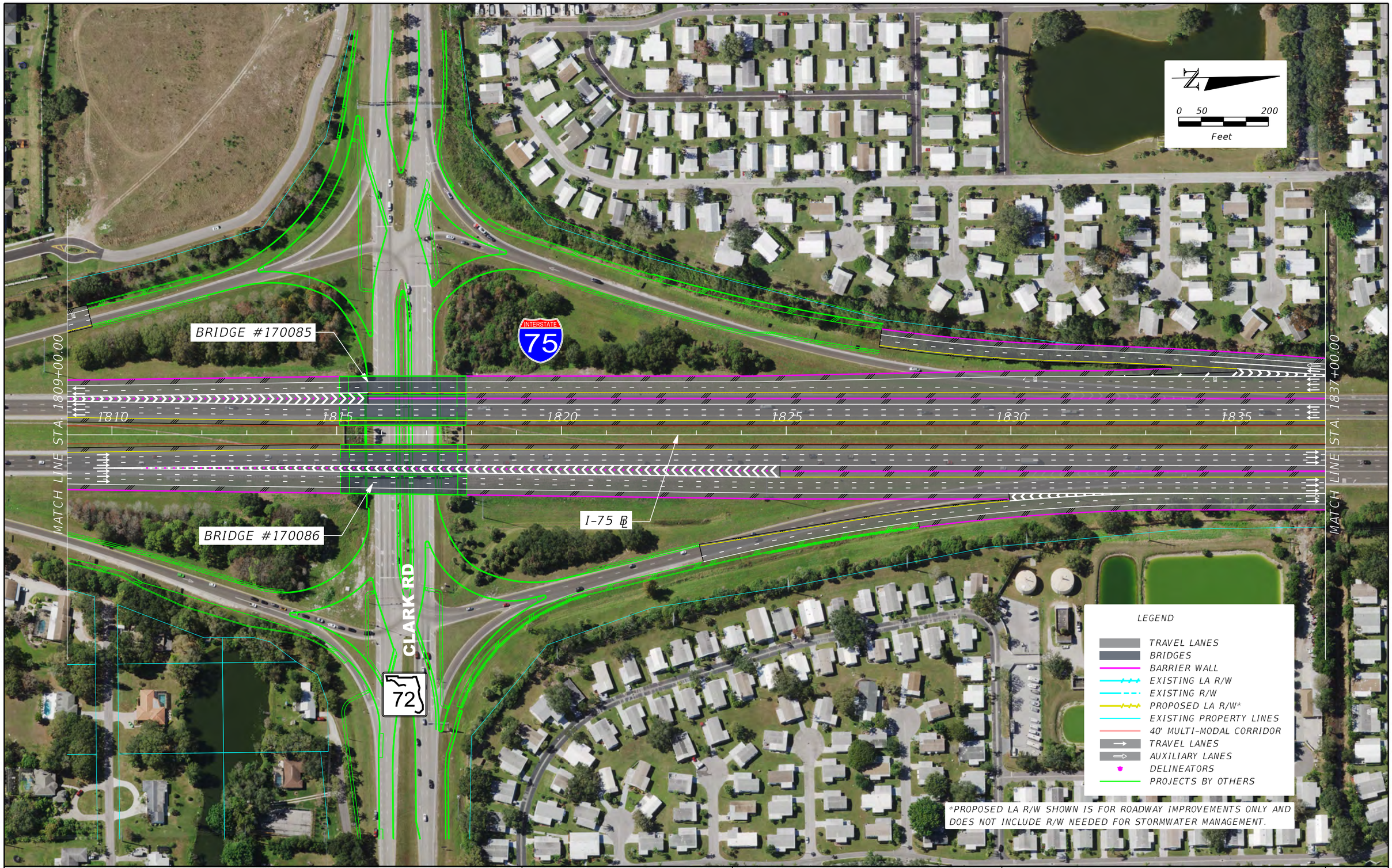
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

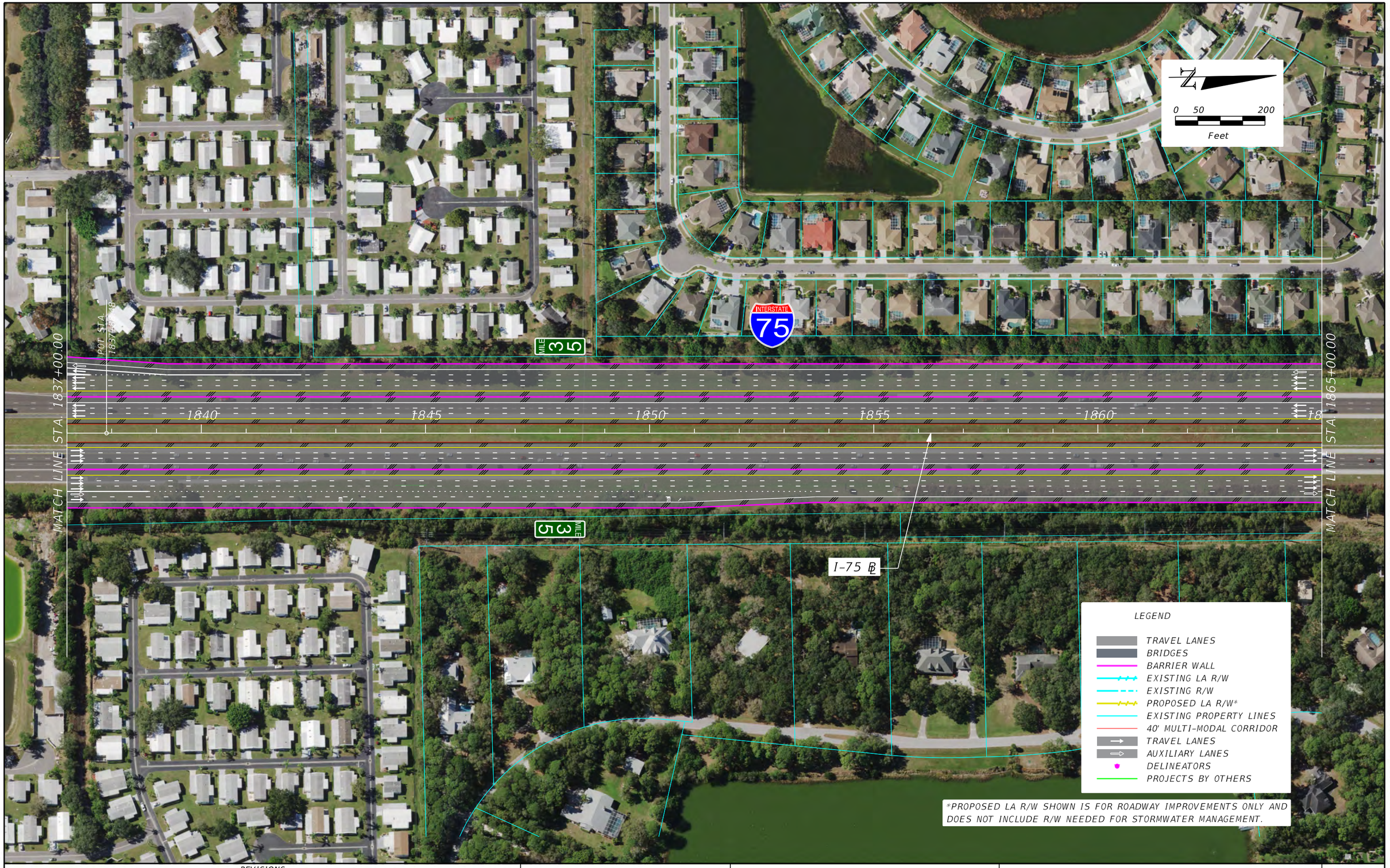
I-75 CONNECT SOUTHWEST FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

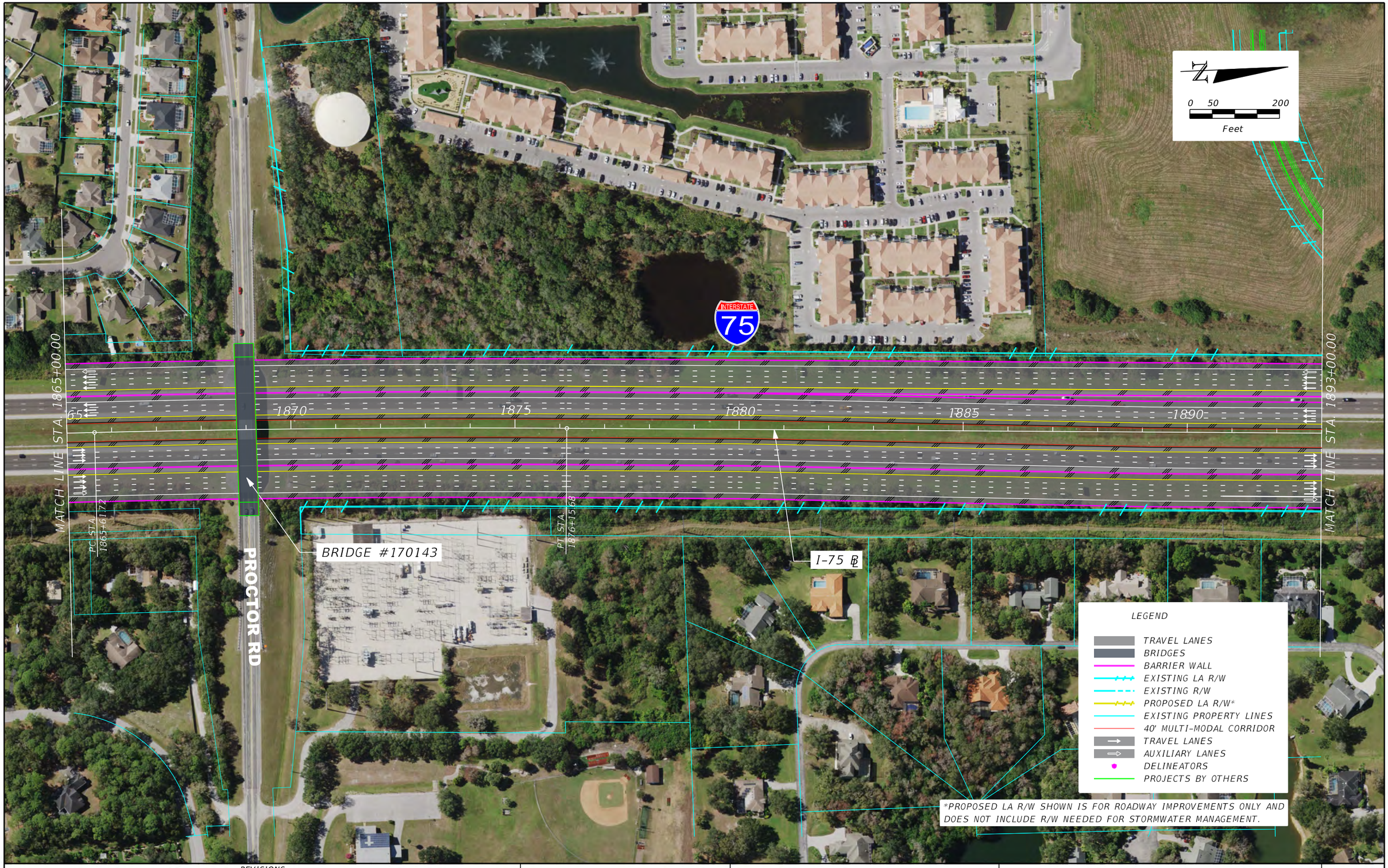
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT SOUTHWEST FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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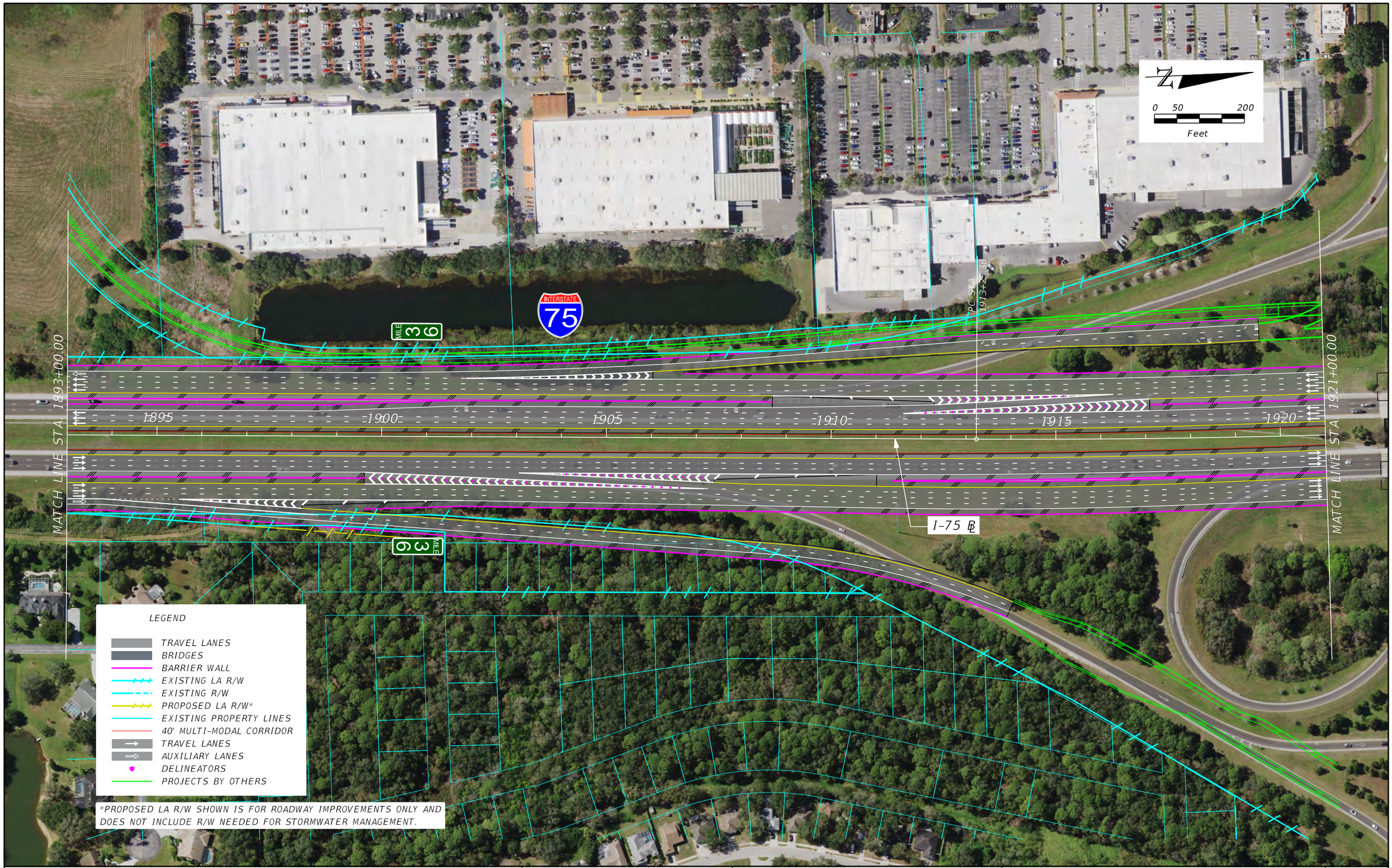

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT — SOUTHWEST FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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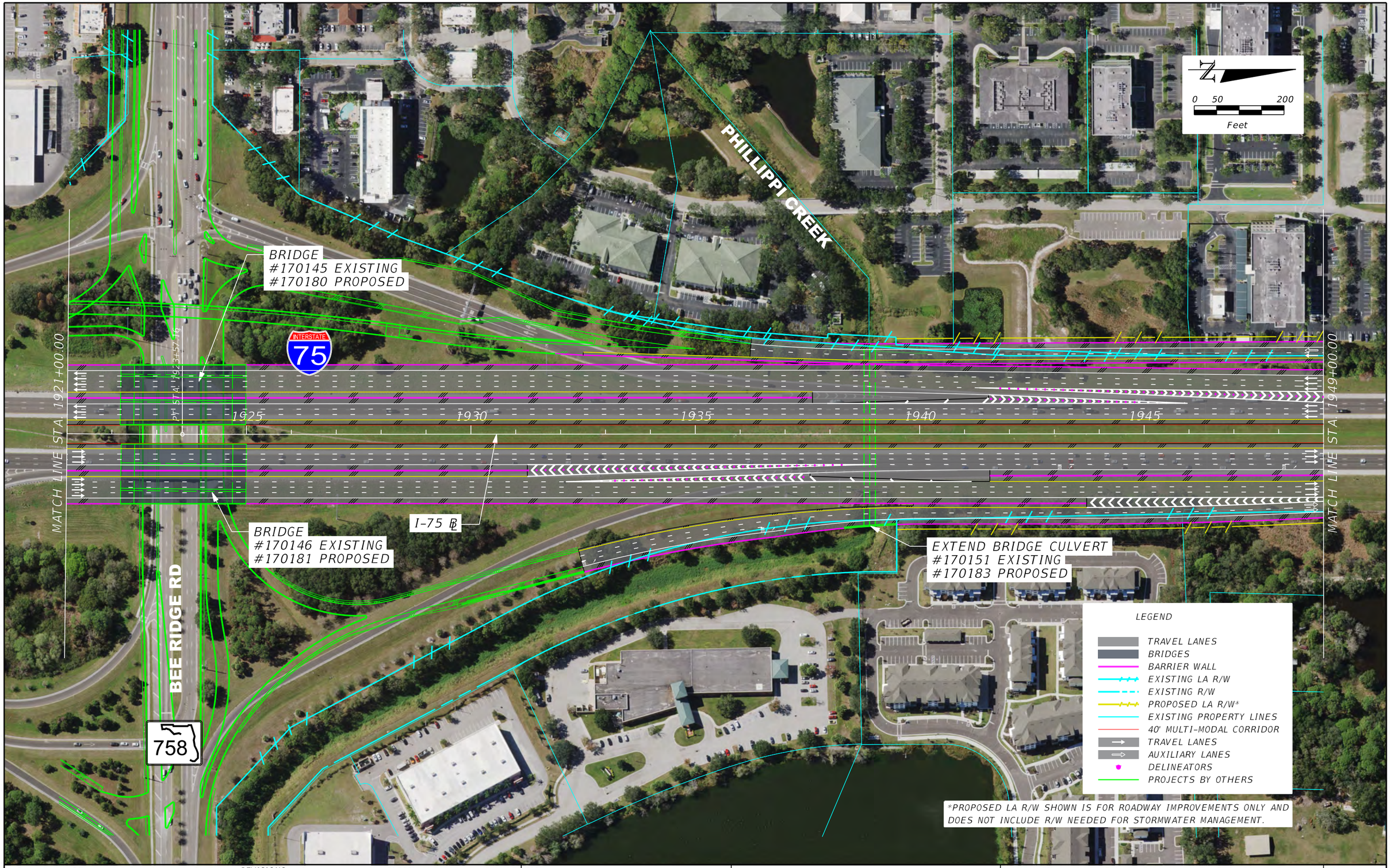

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT SOUTHWEST FLORIDA DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

MAIN A CANAL

BRIDGE #170079

BRIDGE #170080

I-75 ℄

MILE 37

MILE 37

INTERSTATE 75

MATCH LINE STA. 1949+00.00

MATCH LINE STA. 1977+00.00

PC STA. 1974+60.89

1950 1955 1960 1965 1970 1975

N

0 50 200

Feet

LEGEND

- TRAVEL LANES
- BRIDGES
- BARRIER WALL
- EXISTING LA R/W
- EXISTING R/W
- PROPOSED LA R/W*
- EXISTING PROPERTY LINES
- 40' MULTI-MODAL CORRIDOR
- TRAVEL LANES
- AUXILIARY LANES
- DELINEATORS
- PROJECTS BY OTHERS

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 SOUTHWEST CONNECT FDOT DISTRICT ONE INTERSTATE PROJECT

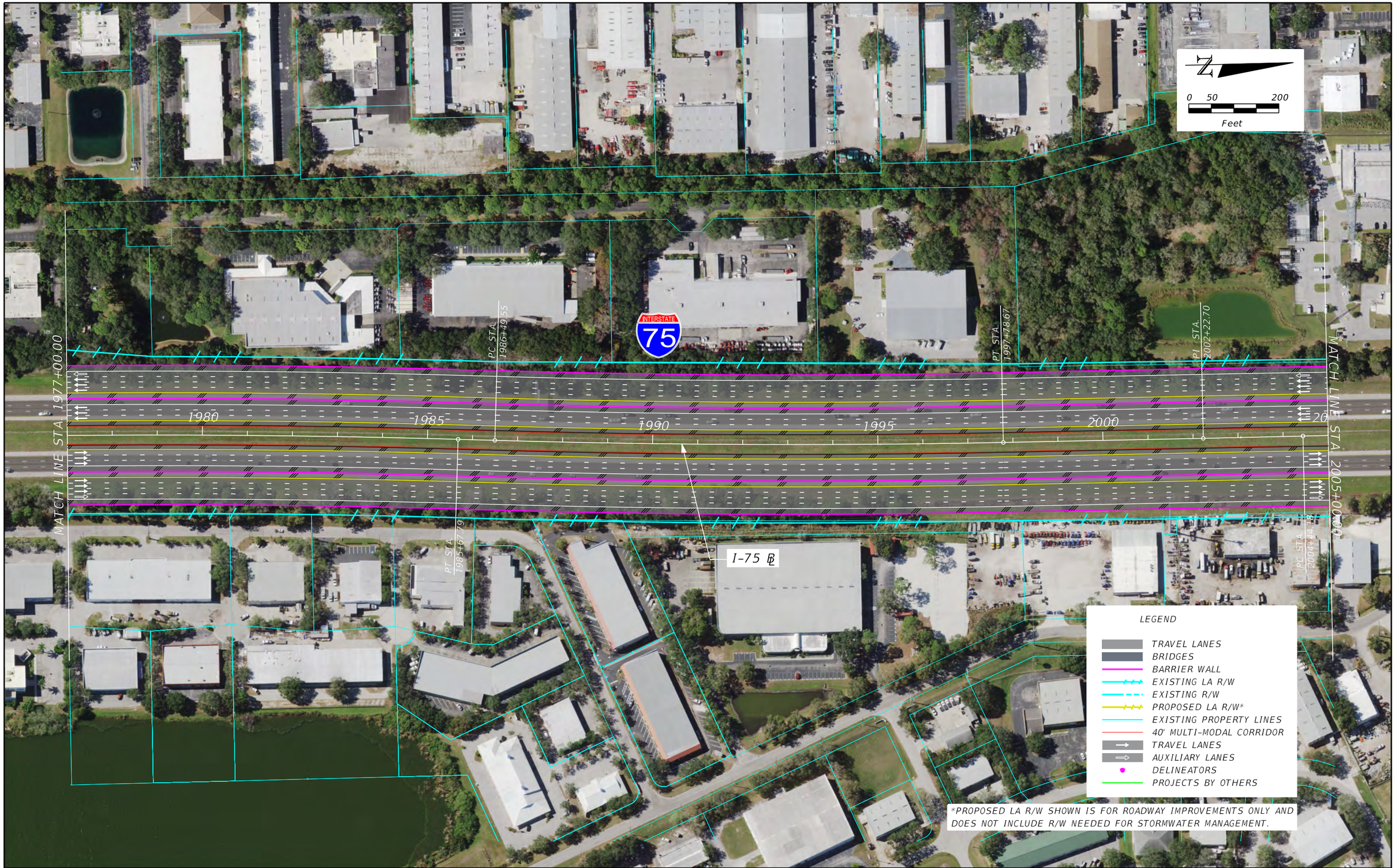
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO. 34

PDUNNINGBA 5/18/2022 1:44:41 PM standard PW:\



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 SOUTHWEST CONNECT 75 FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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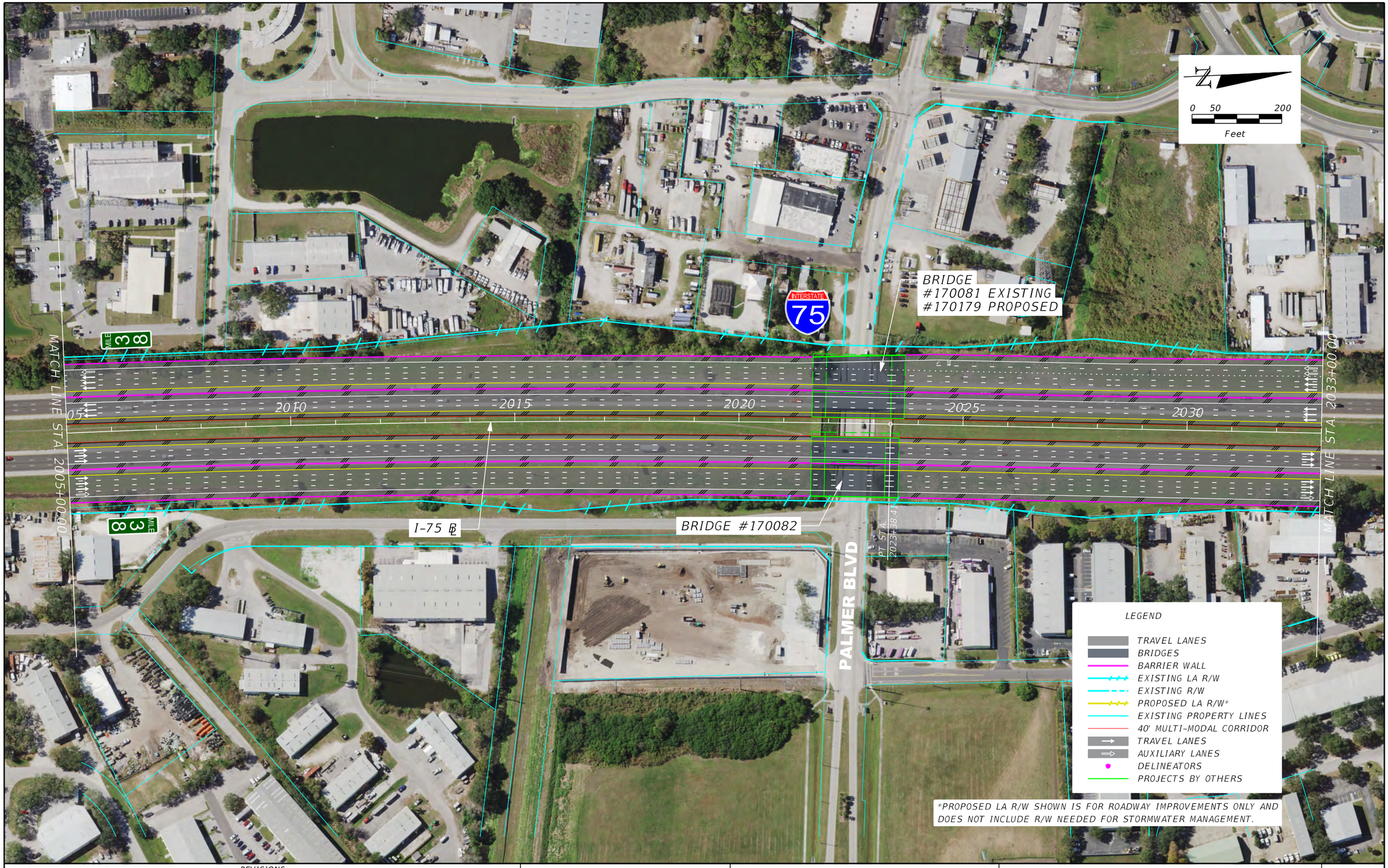

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT SOUTHWEST FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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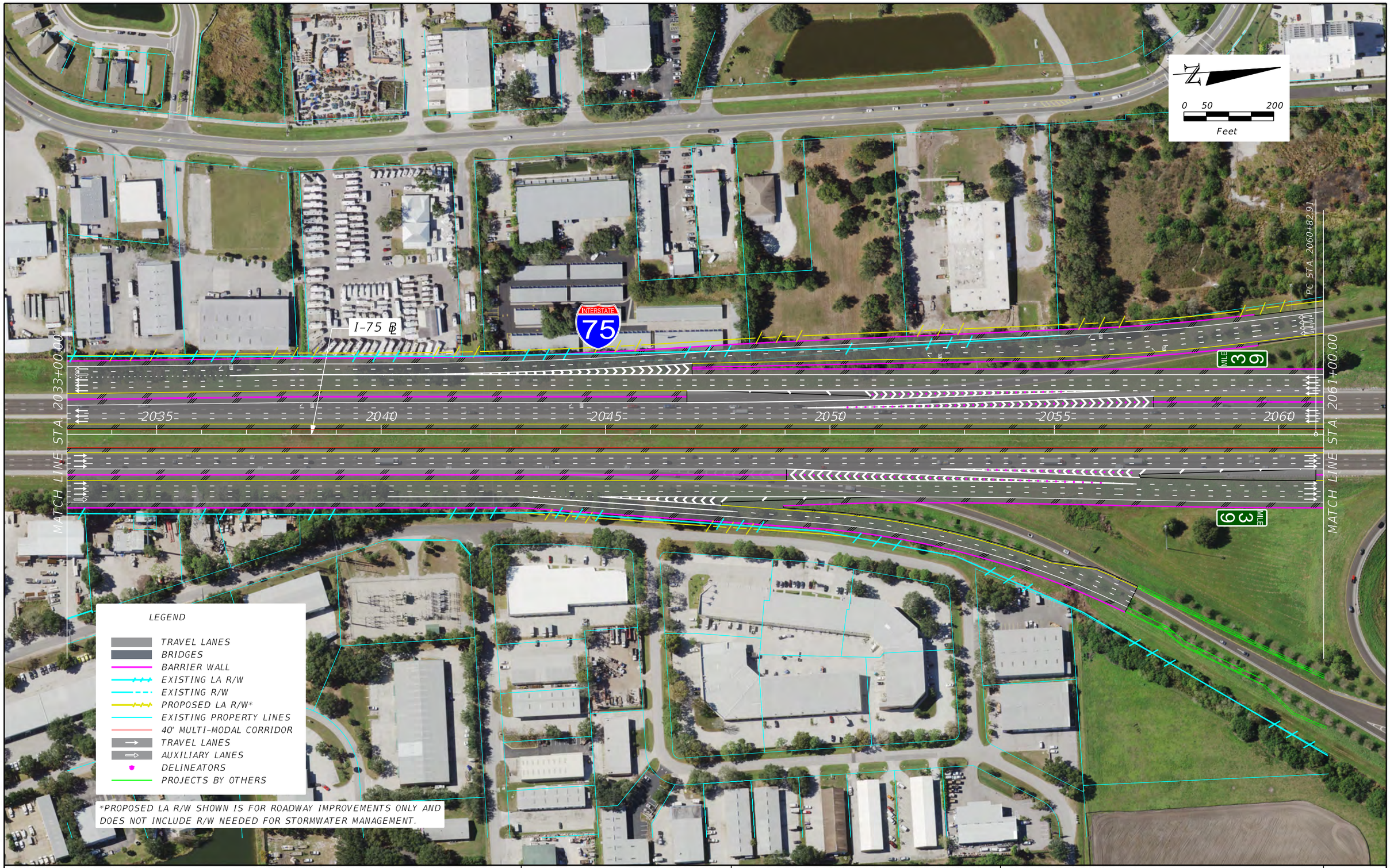


THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT — SOUTHWEST FDOT DISTRICT ONE INTERSTATE PROJECT

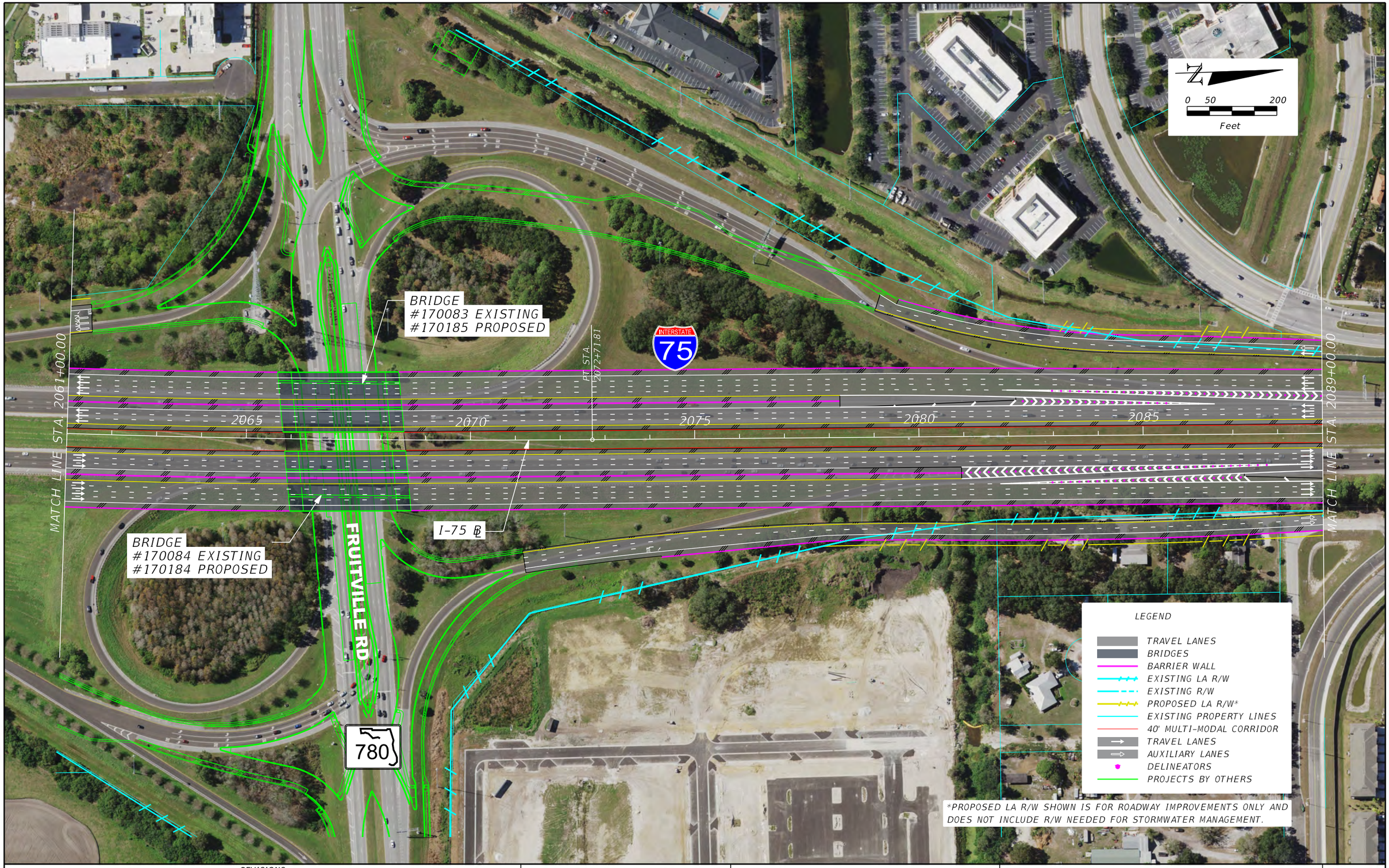
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

PDUNNINGBA 5/18/2022 1:46:48 PM standard PW:\



THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT — SOUTHWEST FDOT DISTRICT ONE INTERSTATE PROJECT

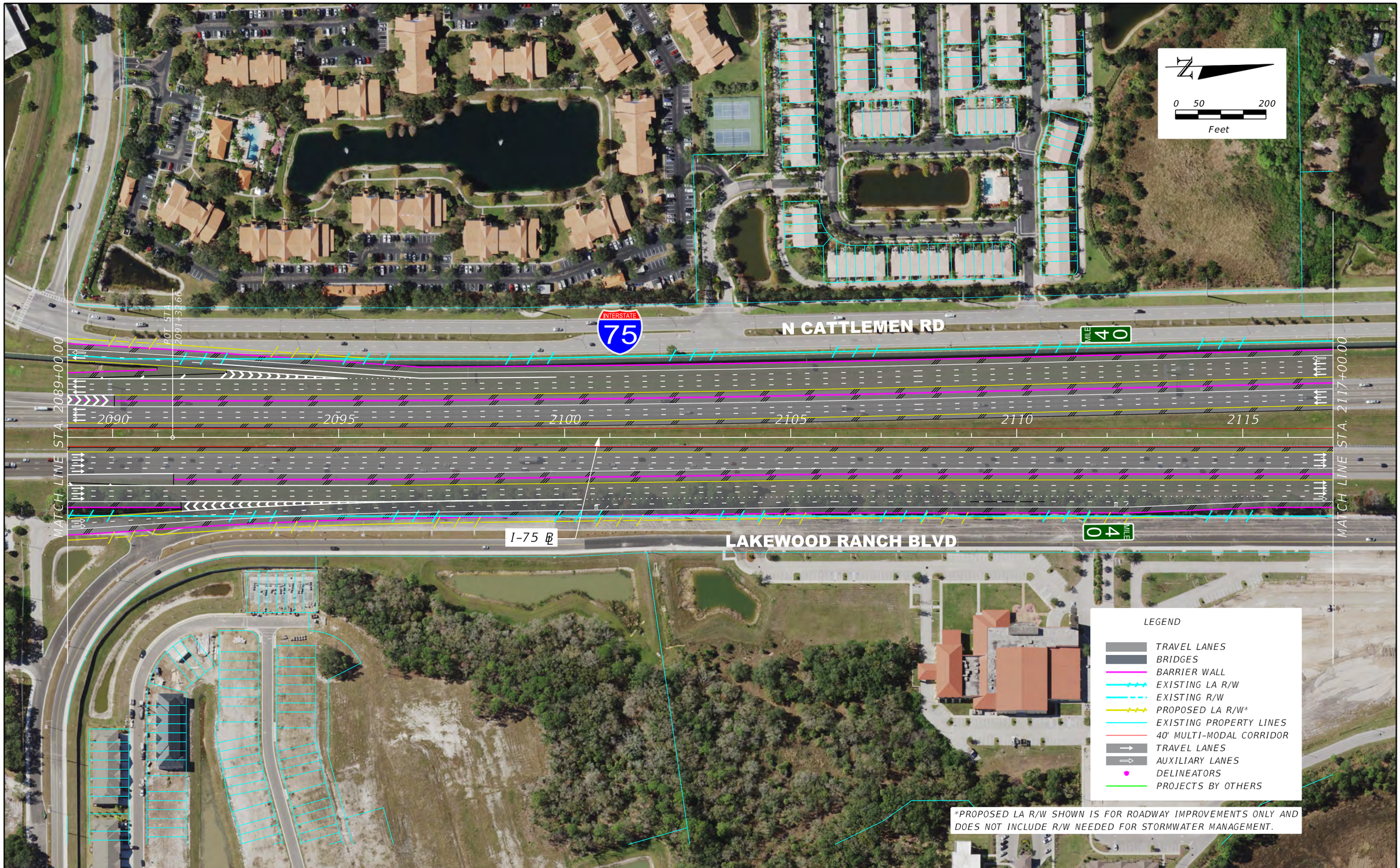
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

PDUNNINGBA 5/18/2022 1:47:31 PM standard PW:\



THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT SOUTHWEST FDOT DISTRICT ONE INTERSTATE PROJECT

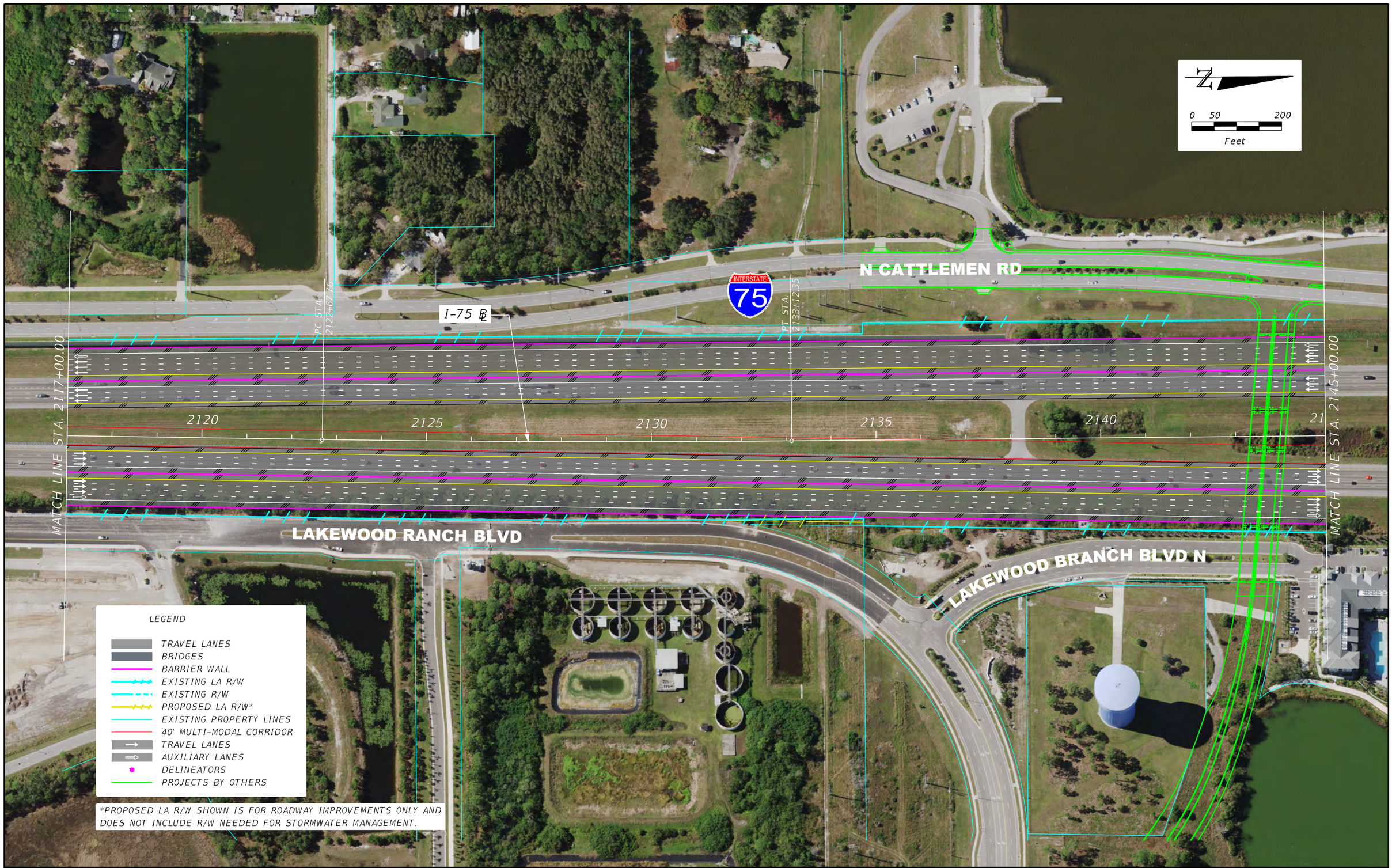
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

PDUNNINGBA 5/18/2022 1:48:13 PM standard PW:\



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT SOUTHWEST FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

PDUNNINGBA 5/18/2022 1:48:57 PM standard PW:\

N

0 50 200

Feet

N CATTLEMEN RD

INTERSTATE 75

MILE 41

BRIDGE #170077

MATCH LINE STA. 2145+00.00

45 2150 2155 2160 2165 2170

MATCH LINE STA. 2173+00.00

I-75 ℄

MILE 41

BRIDGE #170078

ERRIE CREEK

LEGEND

- TRAVEL LANES
- BRIDGES
- BARRIER WALL
- EXISTING LA R/W
- EXISTING R/W
- PROPOSED LA R/W*
- EXISTING PROPERTY LINES
- 40' MULTI-MODAL CORRIDOR
- TRAVEL LANES
- AUXILIARY LANES
- DELINEATORS
- PROJECTS BY OTHERS

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT SOUTHWEST FDOT DISTRICT ONE INTERSTATE PROJECT

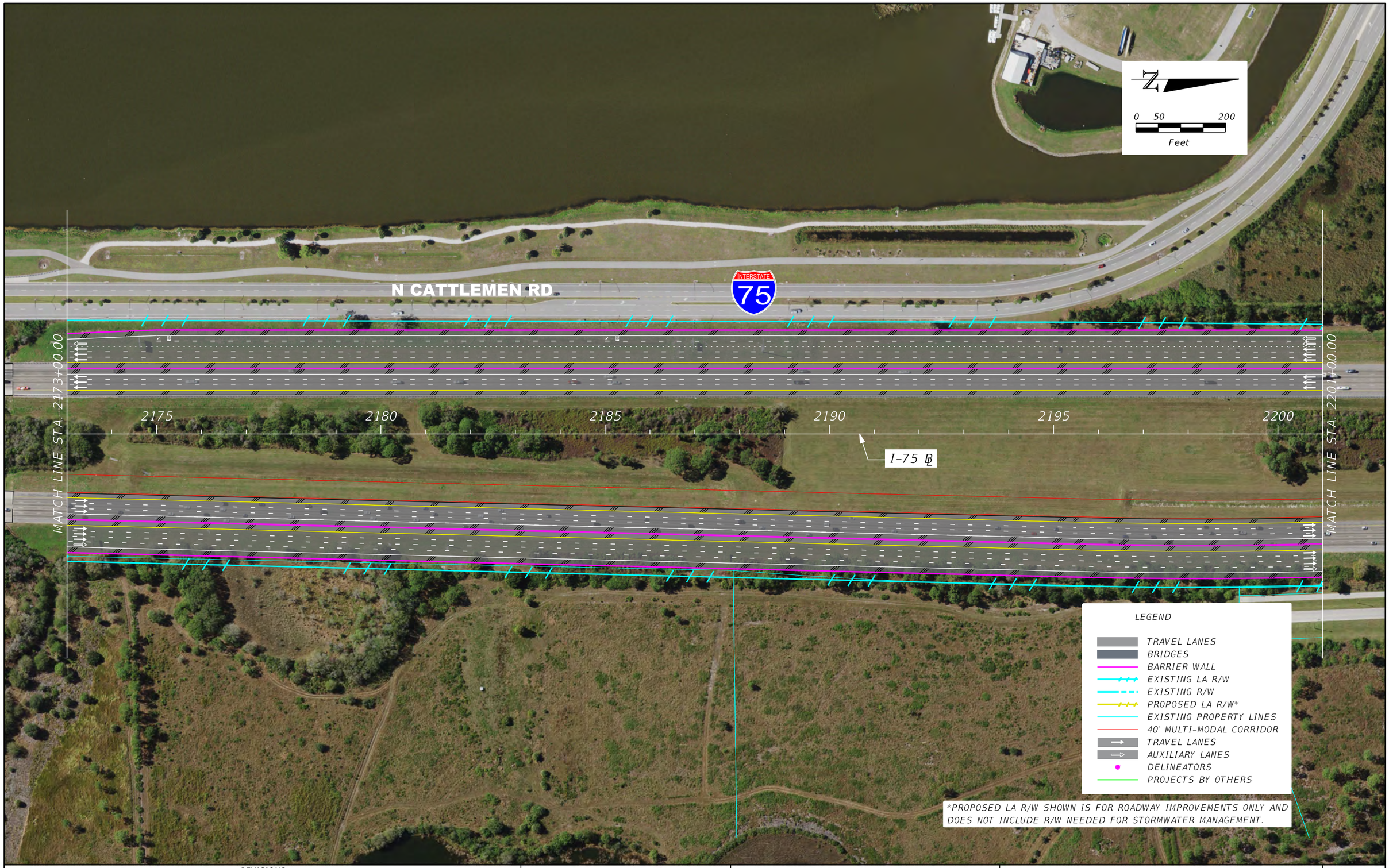
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

PDUNNINGBA 5/18/2022 1:52:35 PM standard PW:\



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

SOUTHWEST 75 CONNECT FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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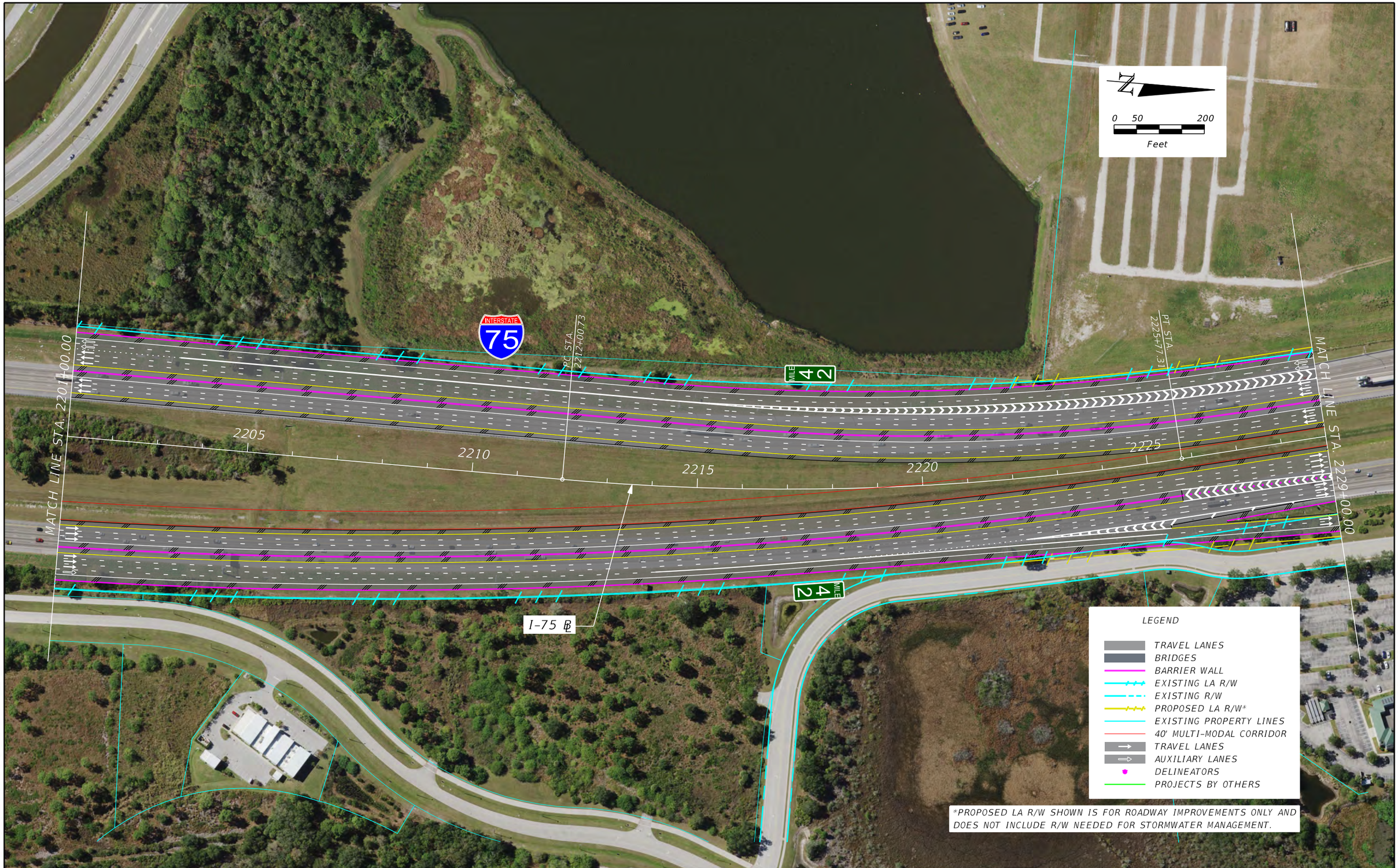

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 SOUTHWEST CONNECT — FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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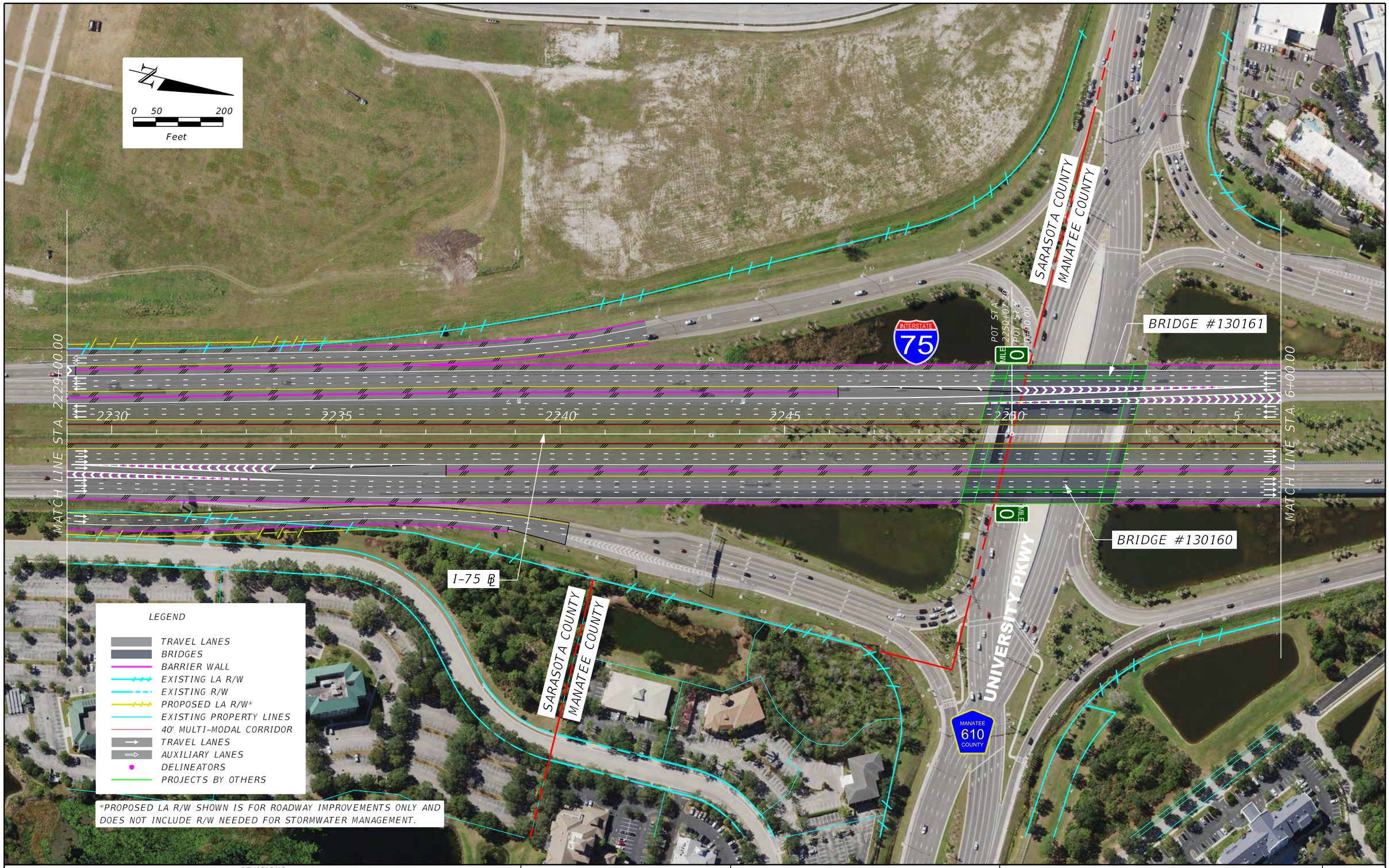


REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

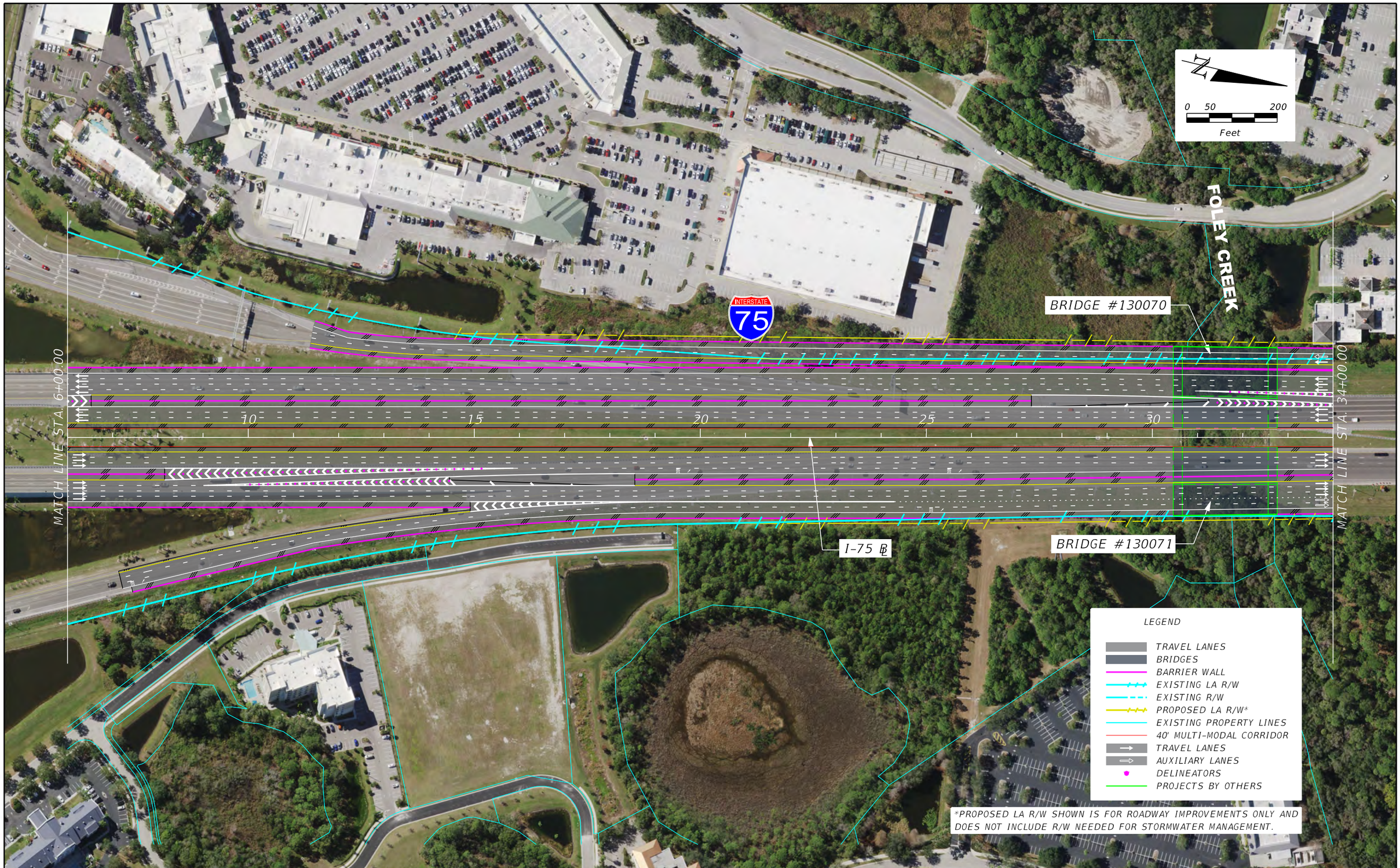
I-75 SOUTHWEST CONNECT — FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	SARASOTA MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.



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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 SOUTHWEST CONNECT — FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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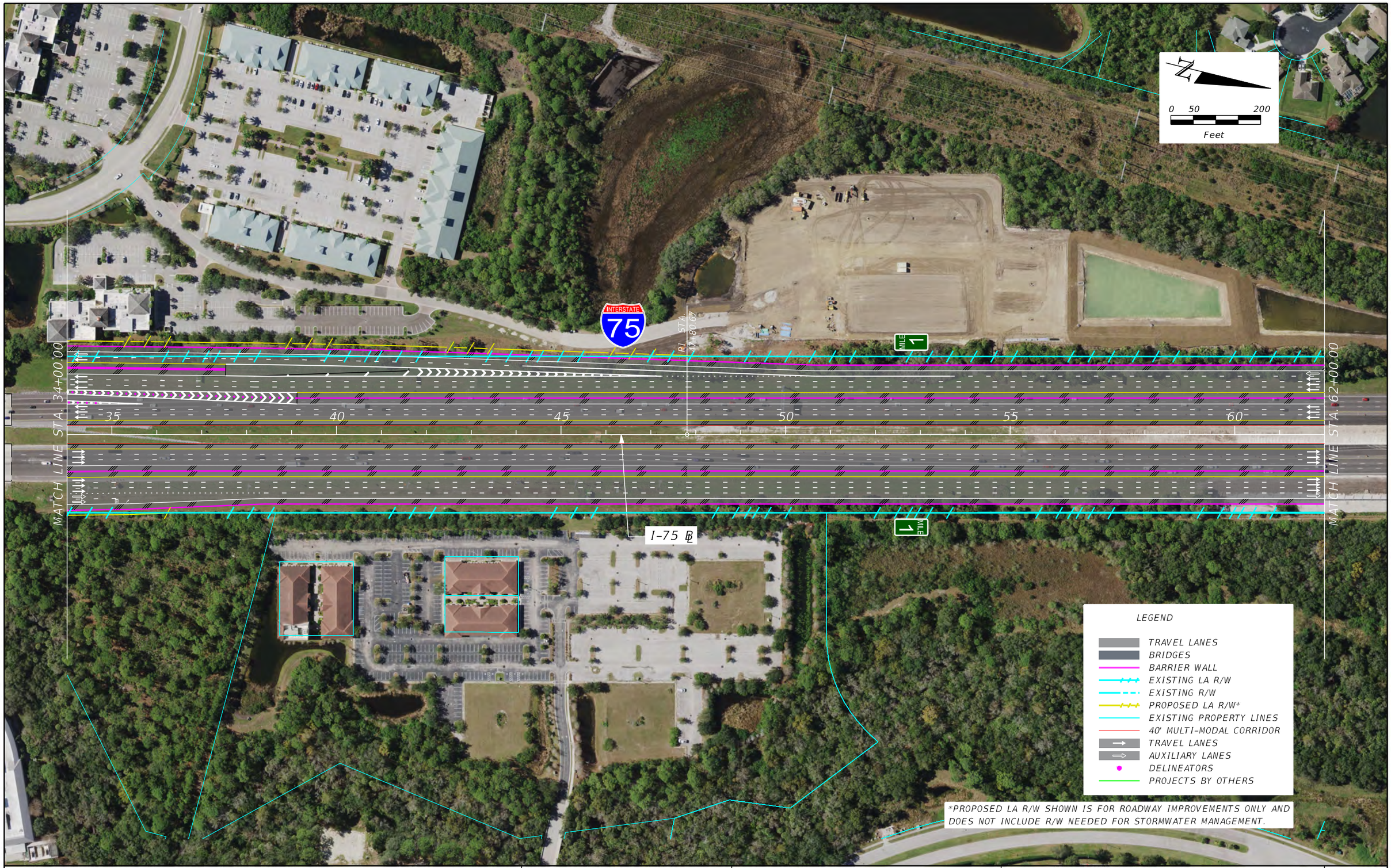

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 SOUTHWEST CONNECT — FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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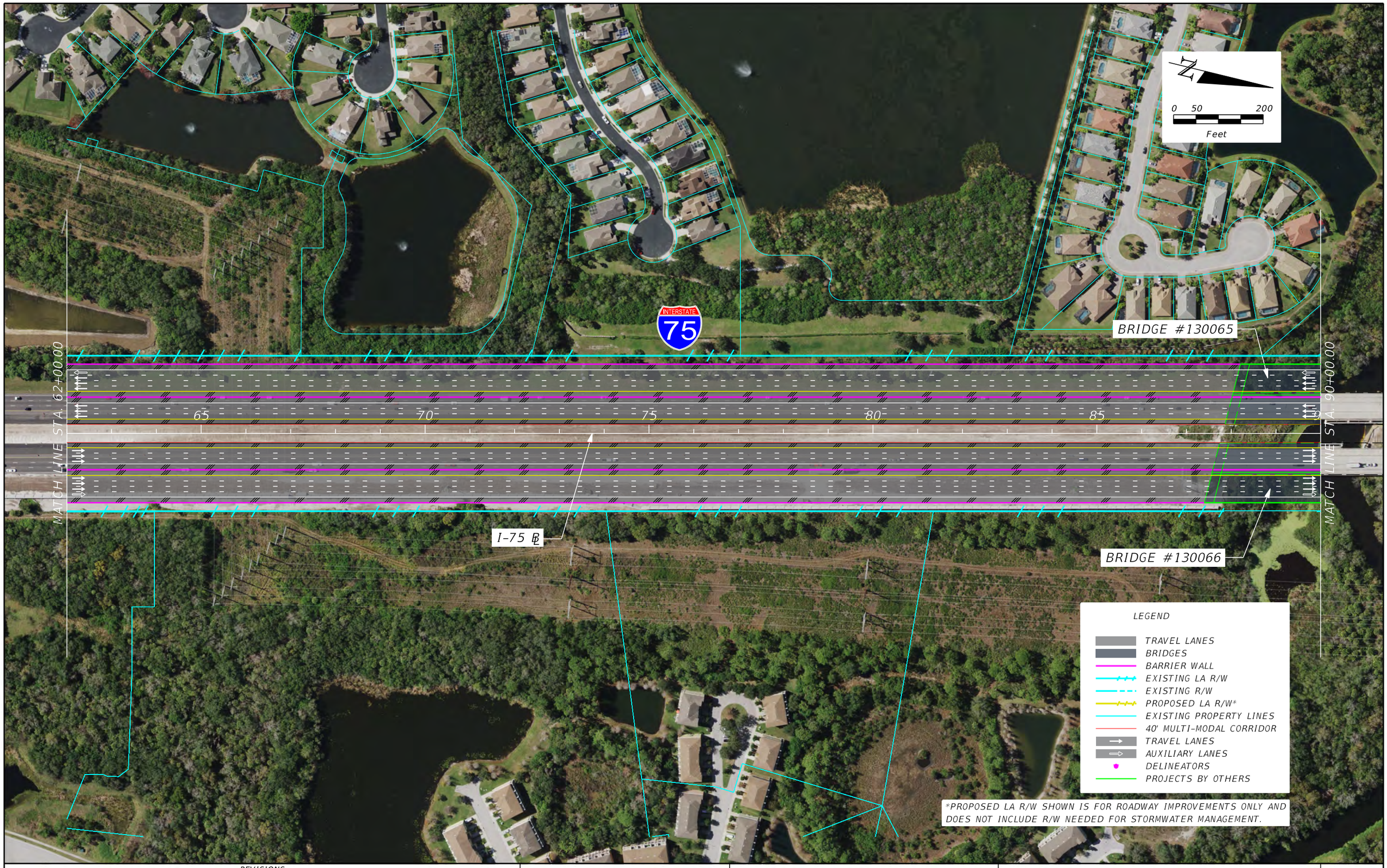

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 SOUTHWEST CONNECT — FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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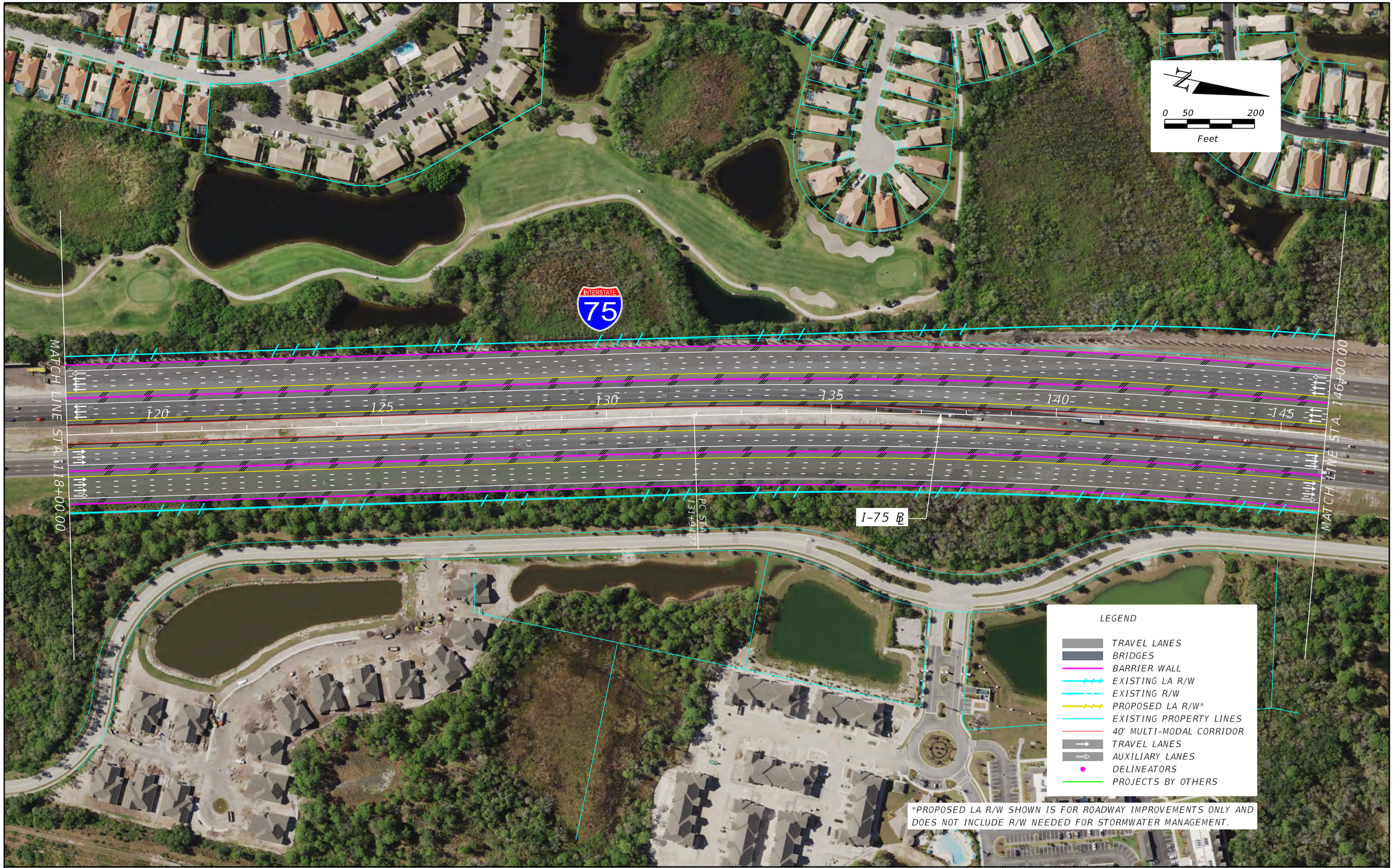

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT SOUTHWEST FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

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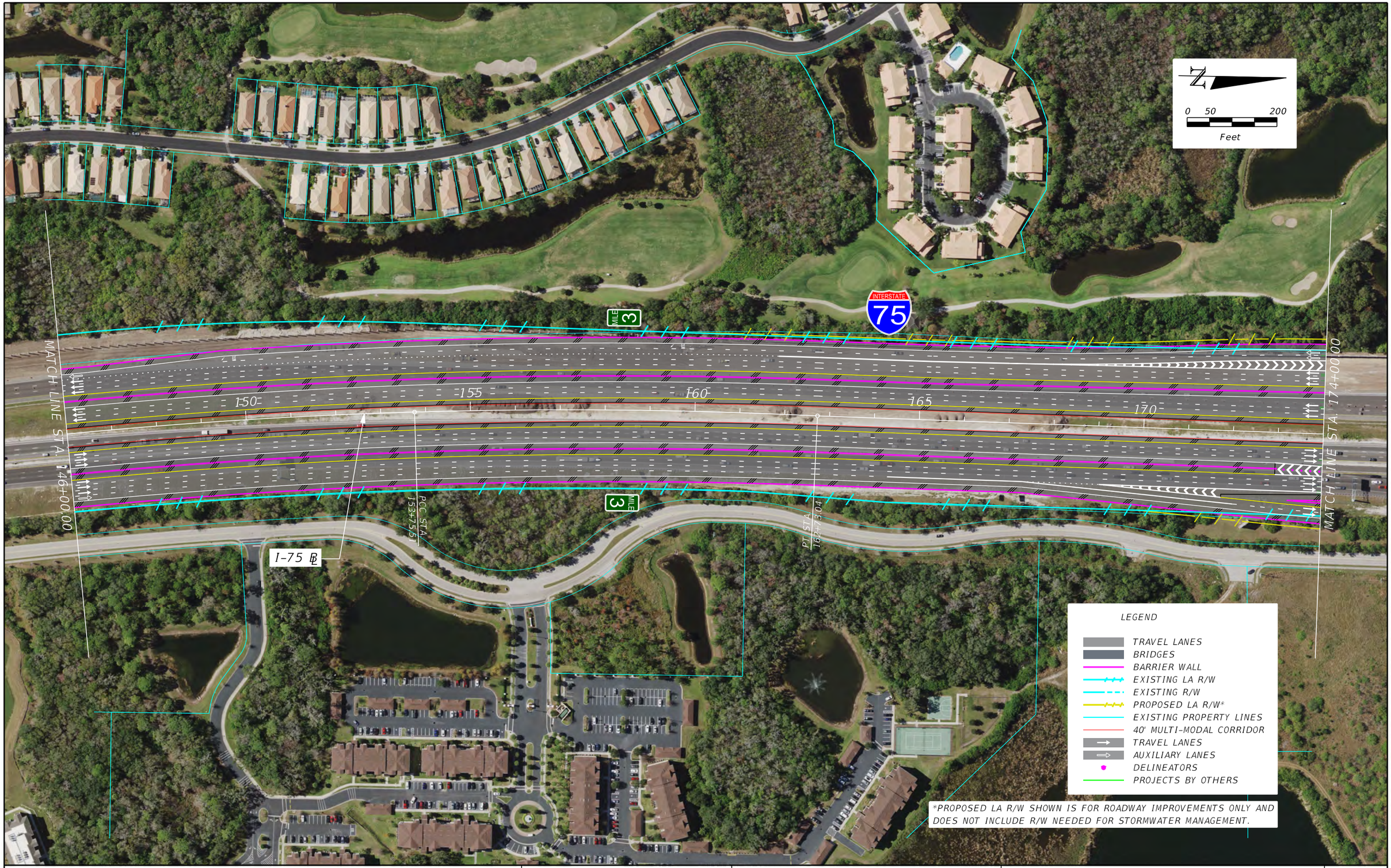

REVISIONS			
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

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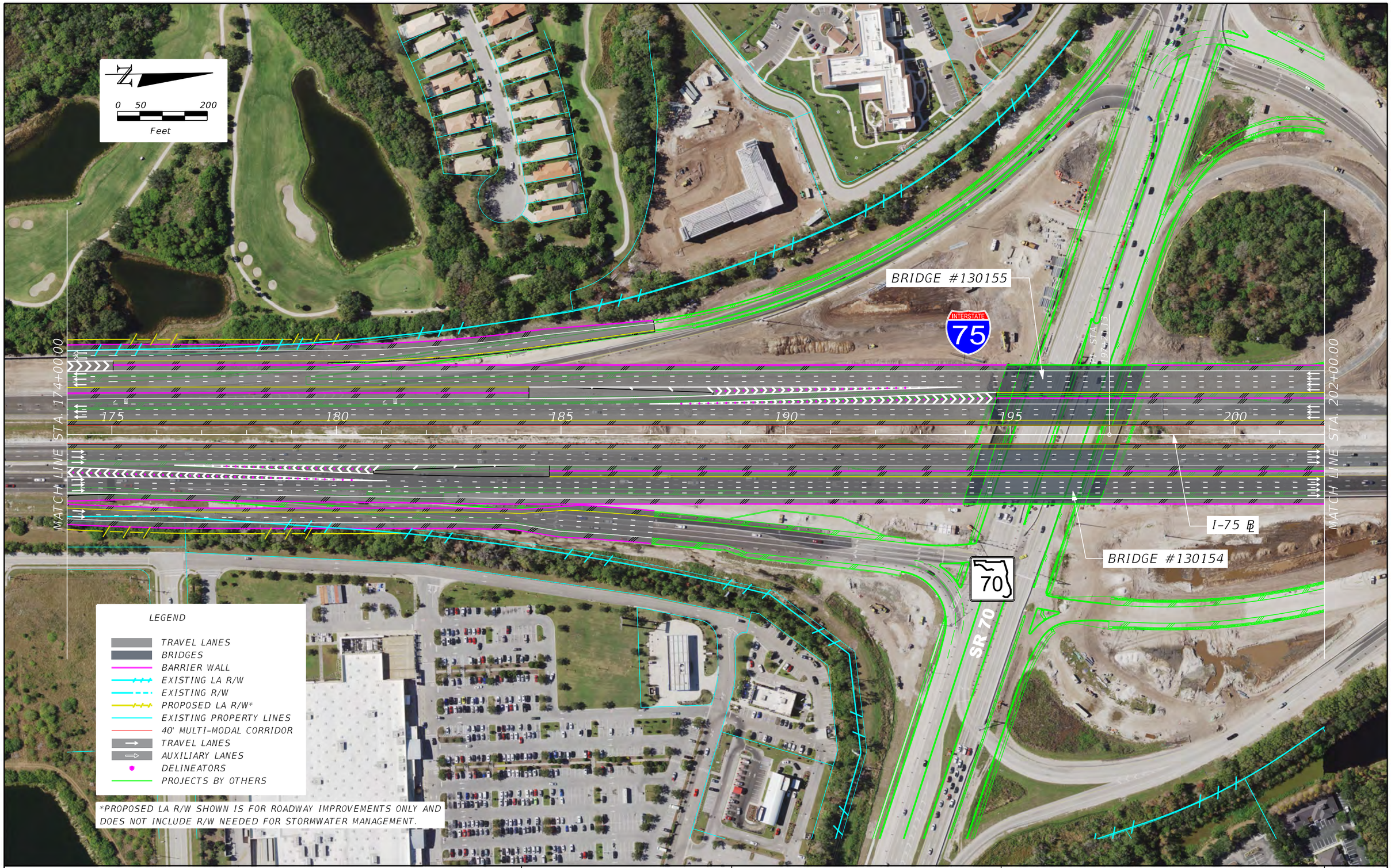

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT SOUTHWEST FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
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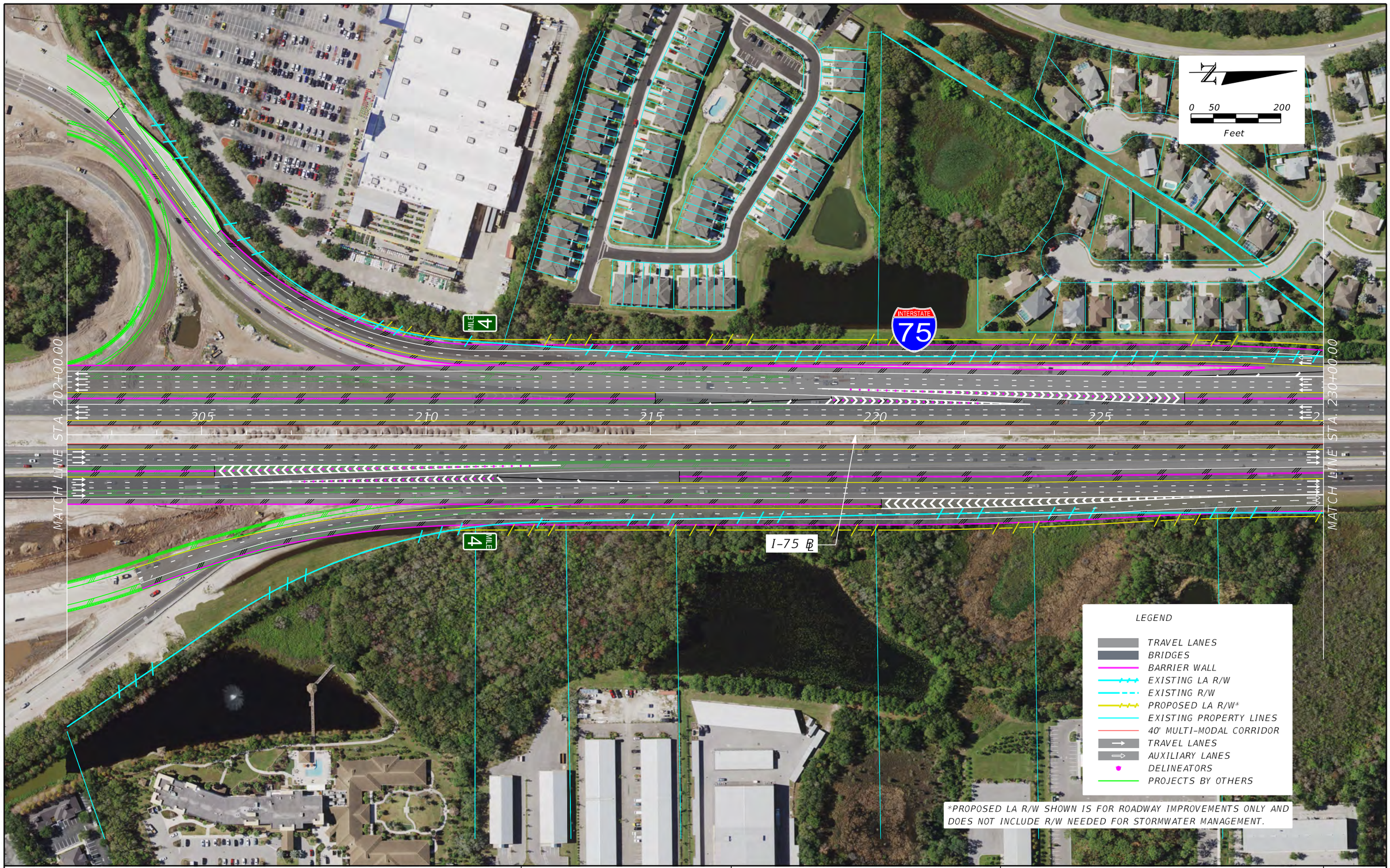

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT SOUTHWEST FLORIDA — FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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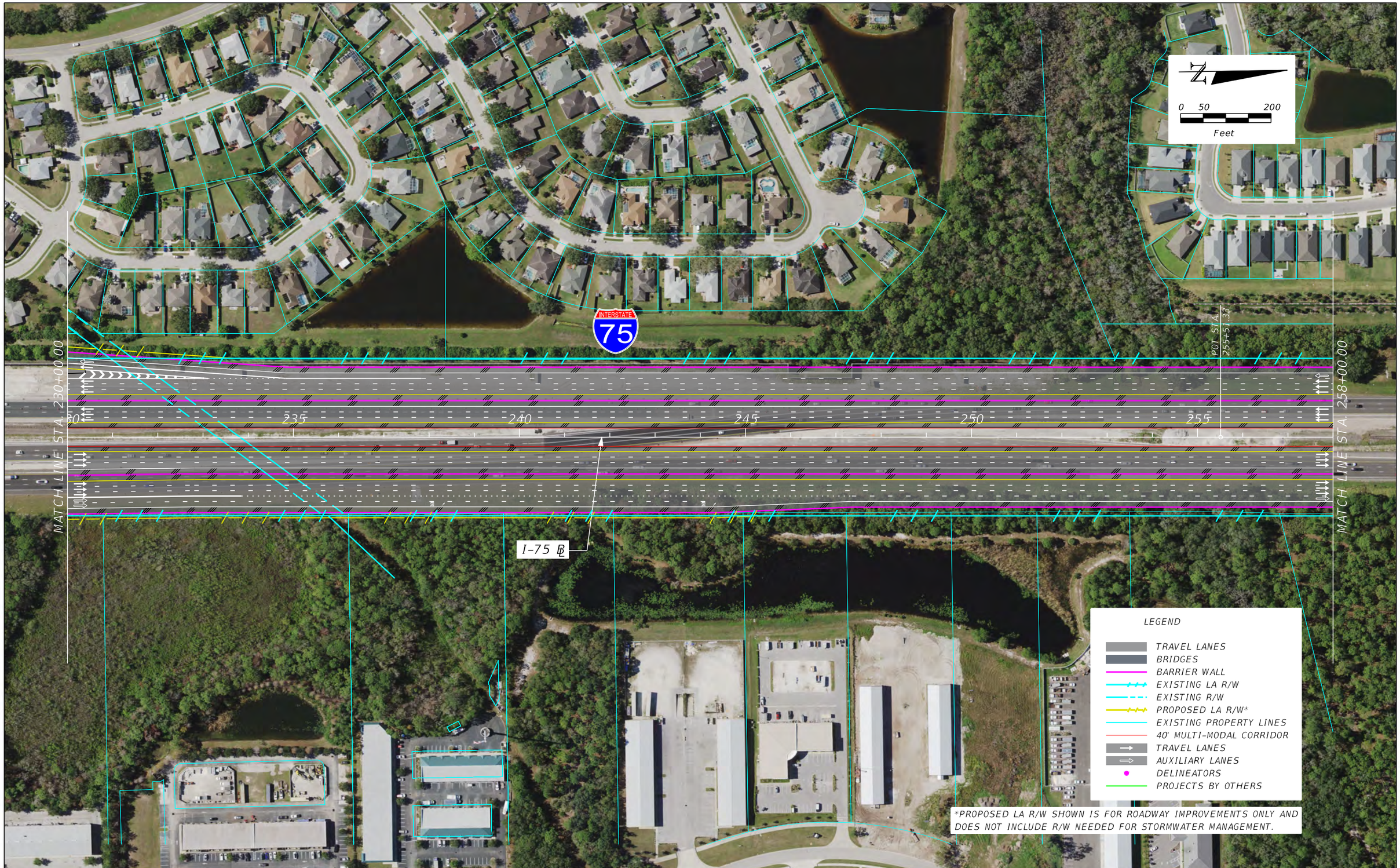

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

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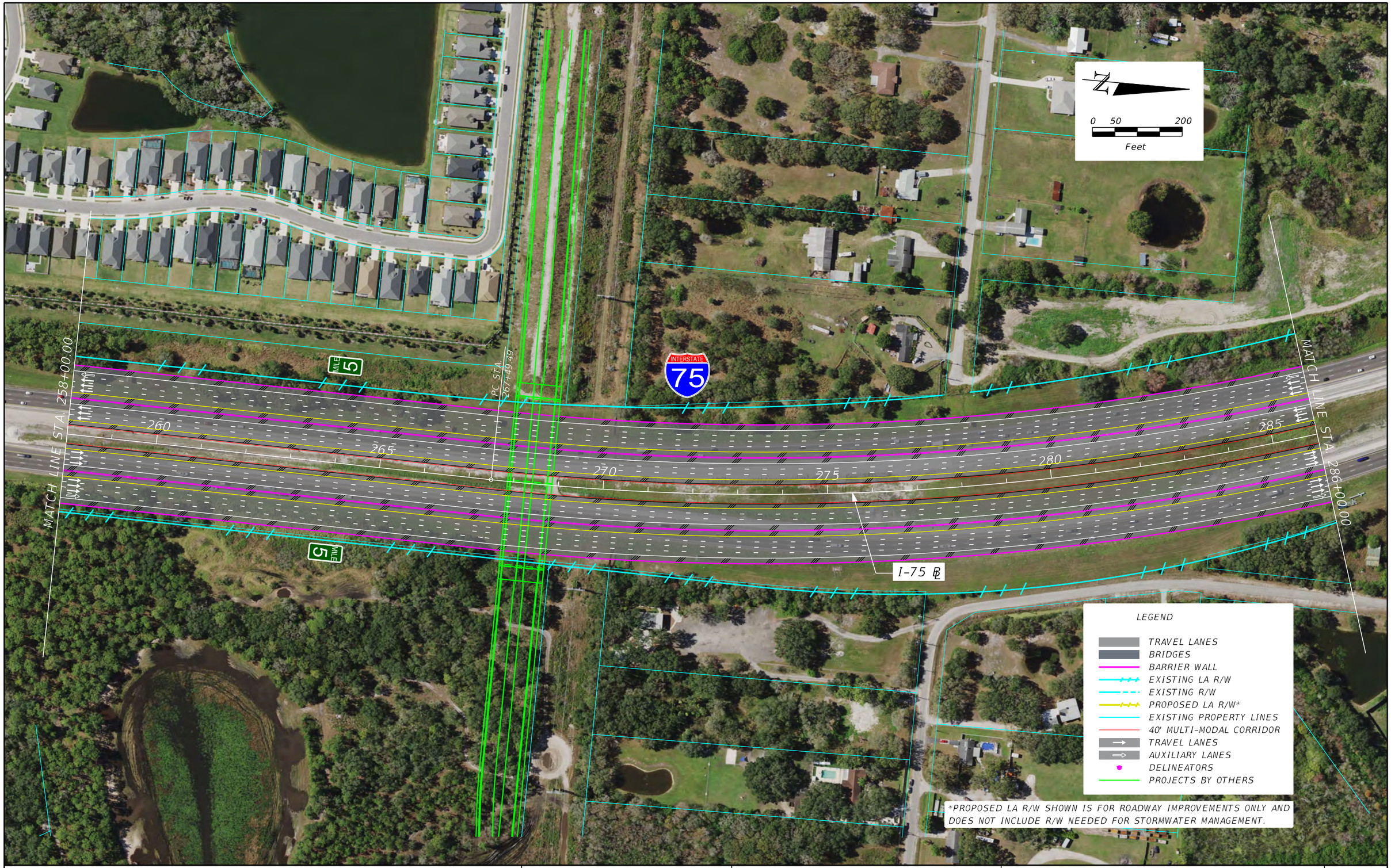

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT SOUTHWEST FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

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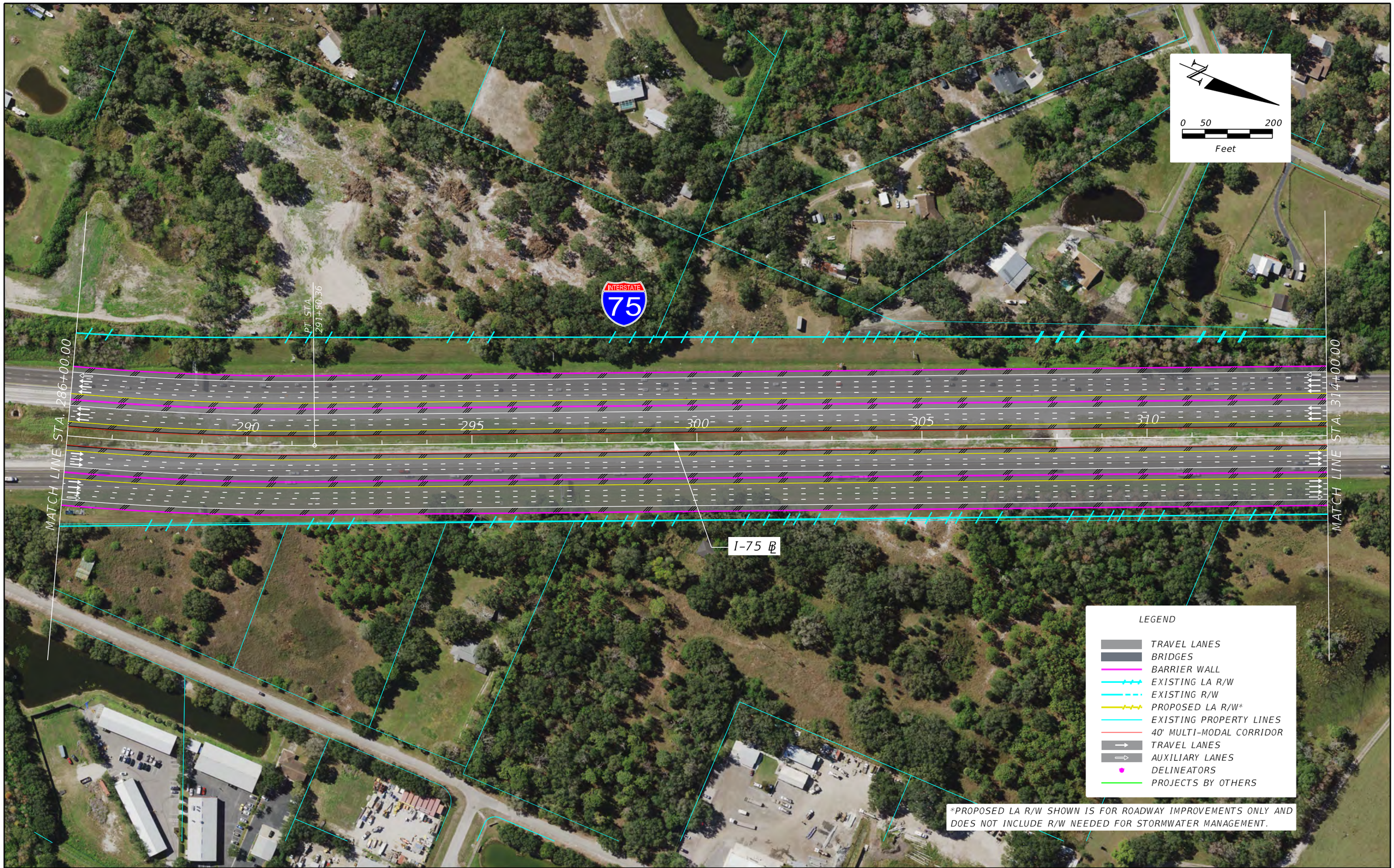

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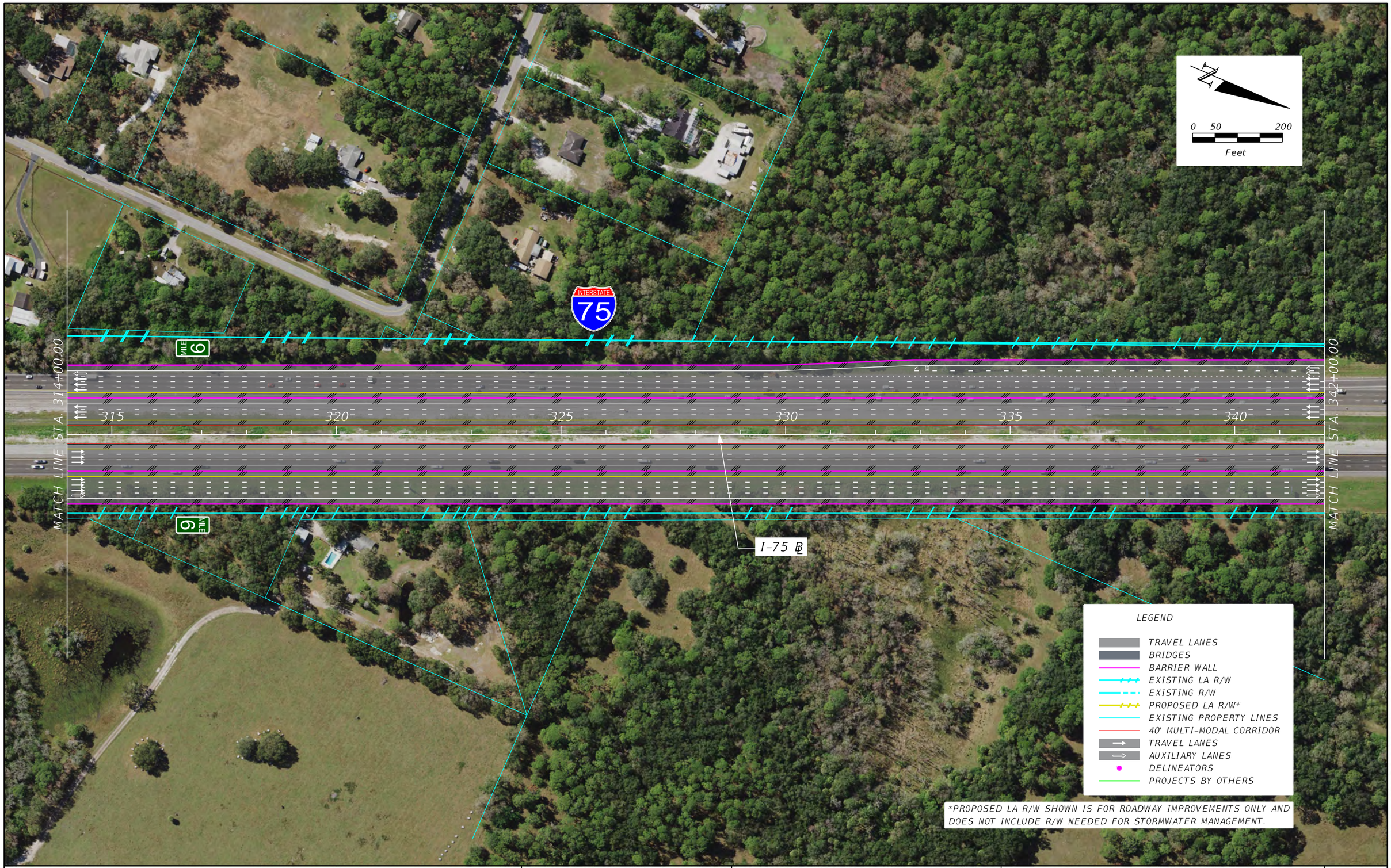
I-75 SOUTHWEST CONNECT
FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.



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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT SOUTHWEST FLORIDA — FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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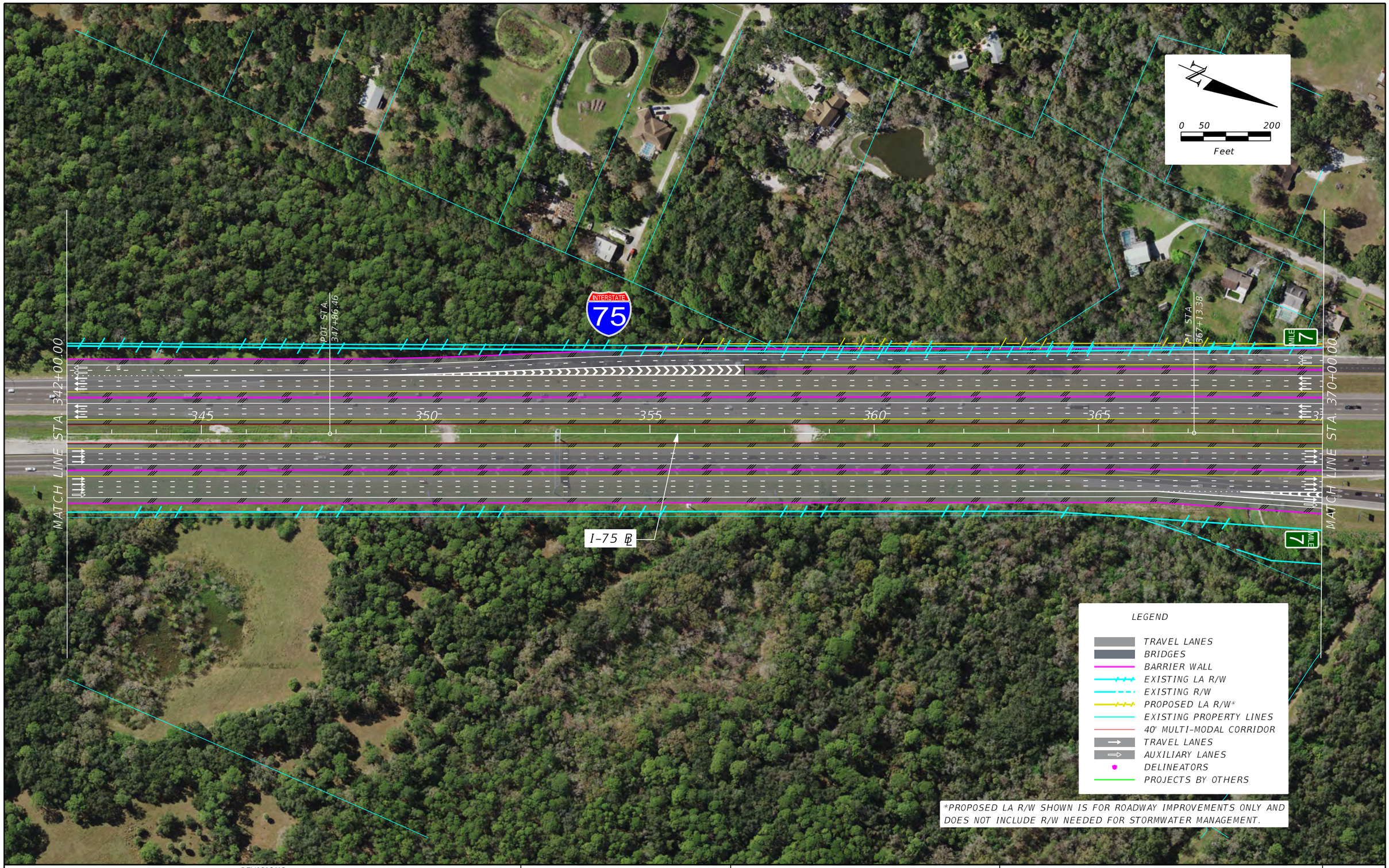

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT SOUTHWEST FLORIDA FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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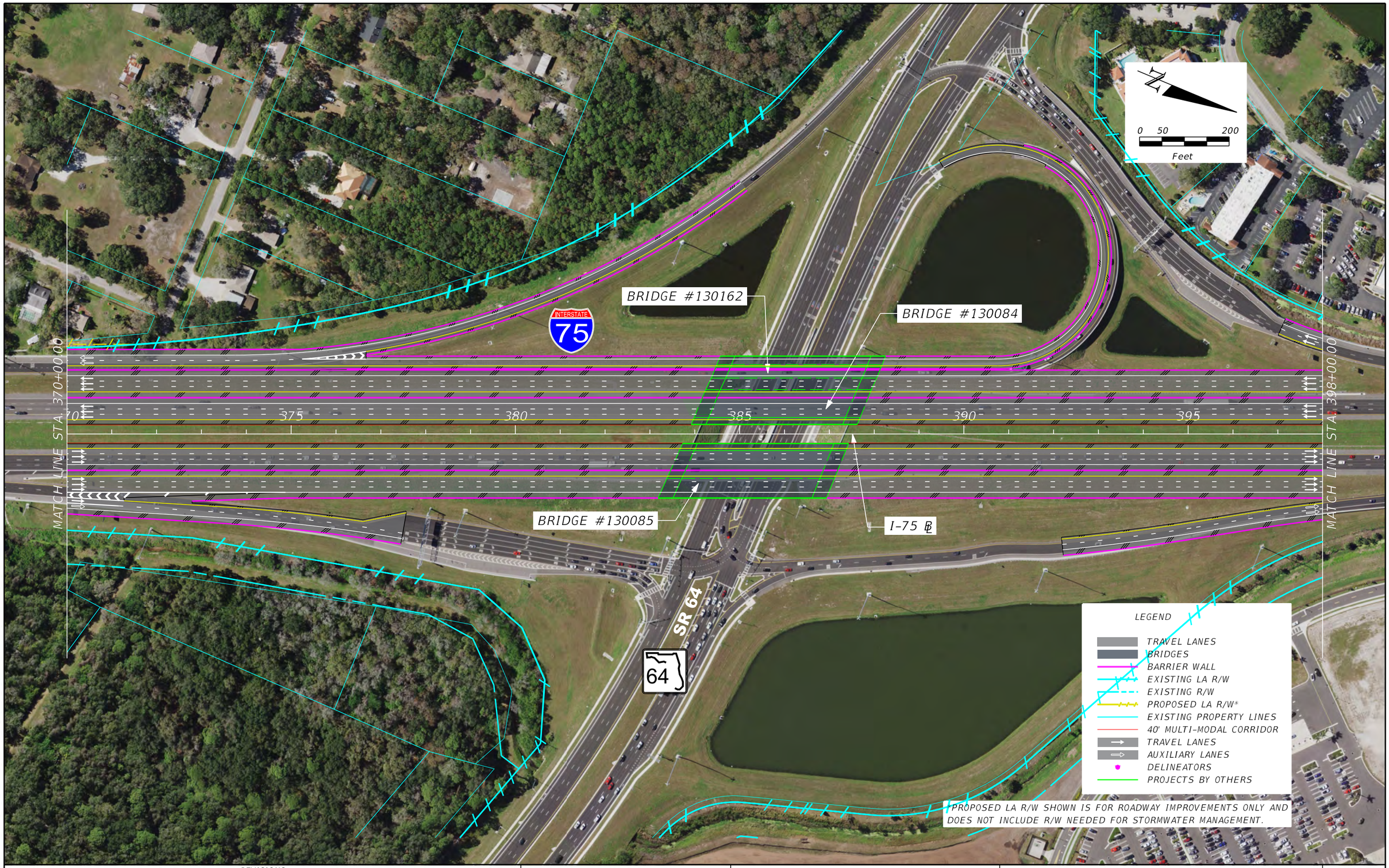

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT SOUTHWEST FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

SOUTHWEST I-75 CONNECT
FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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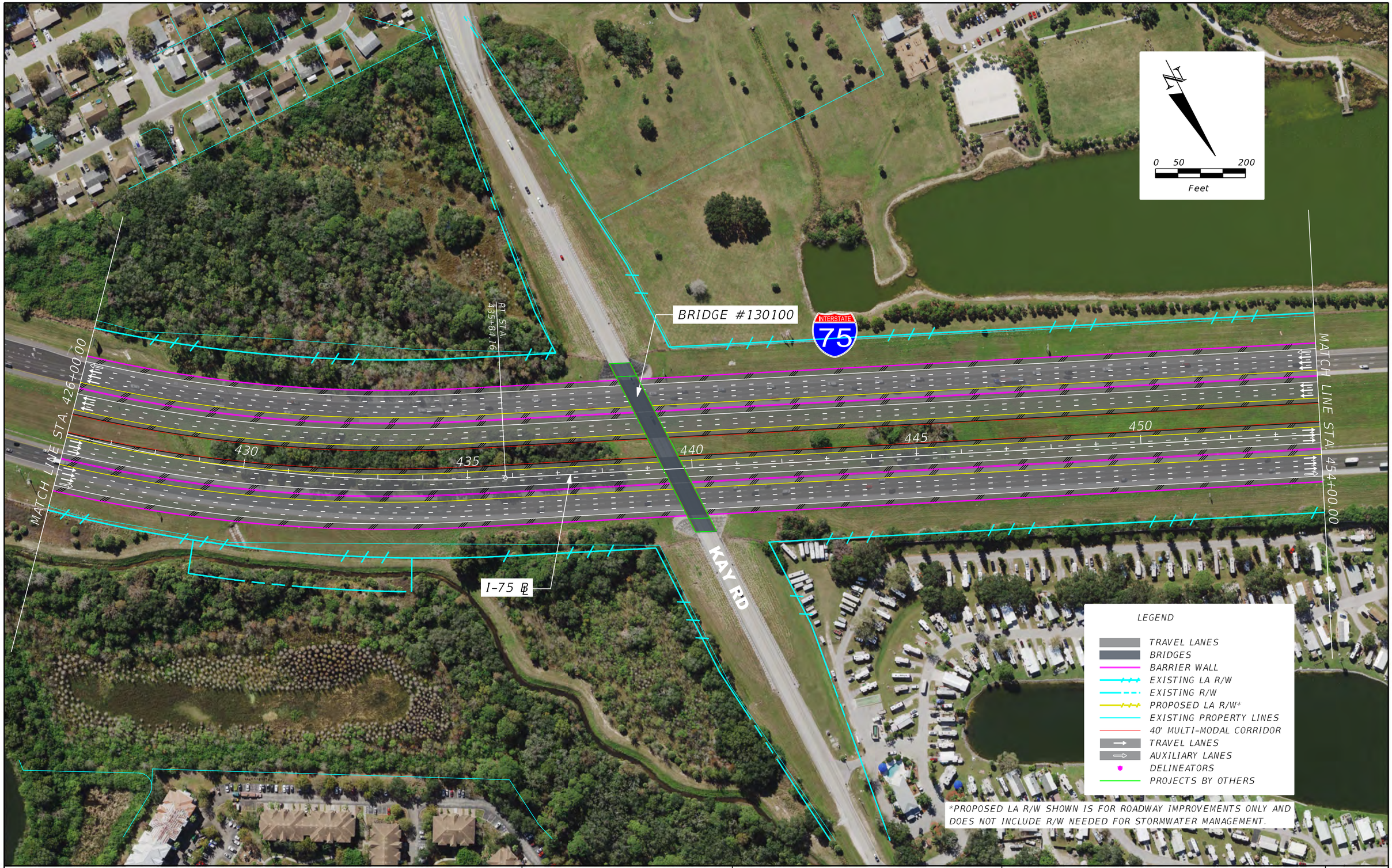

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

SOUTHWEST I-75 CONNECT FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN
CONCEPT PLAN

SHEET NO.

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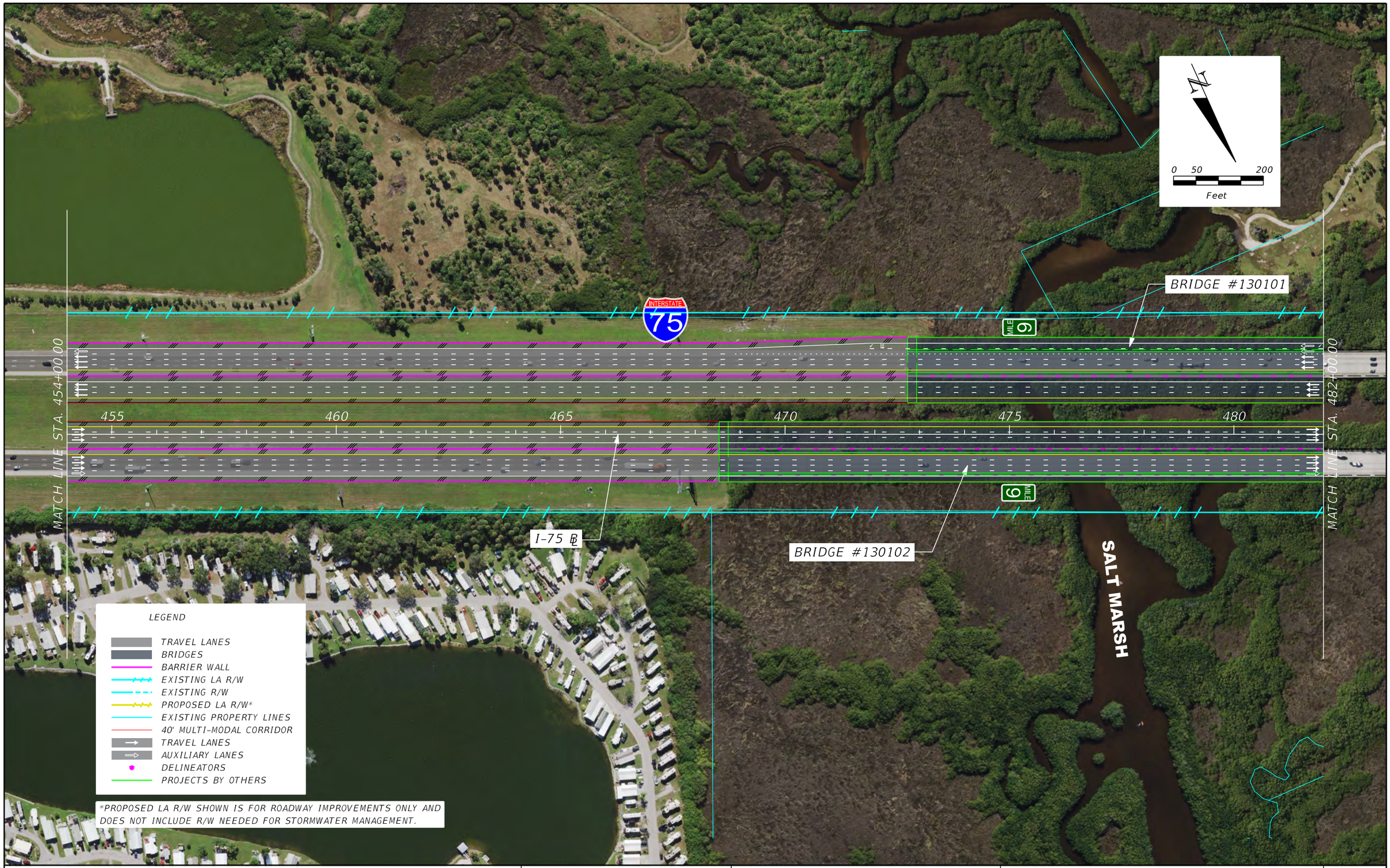

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

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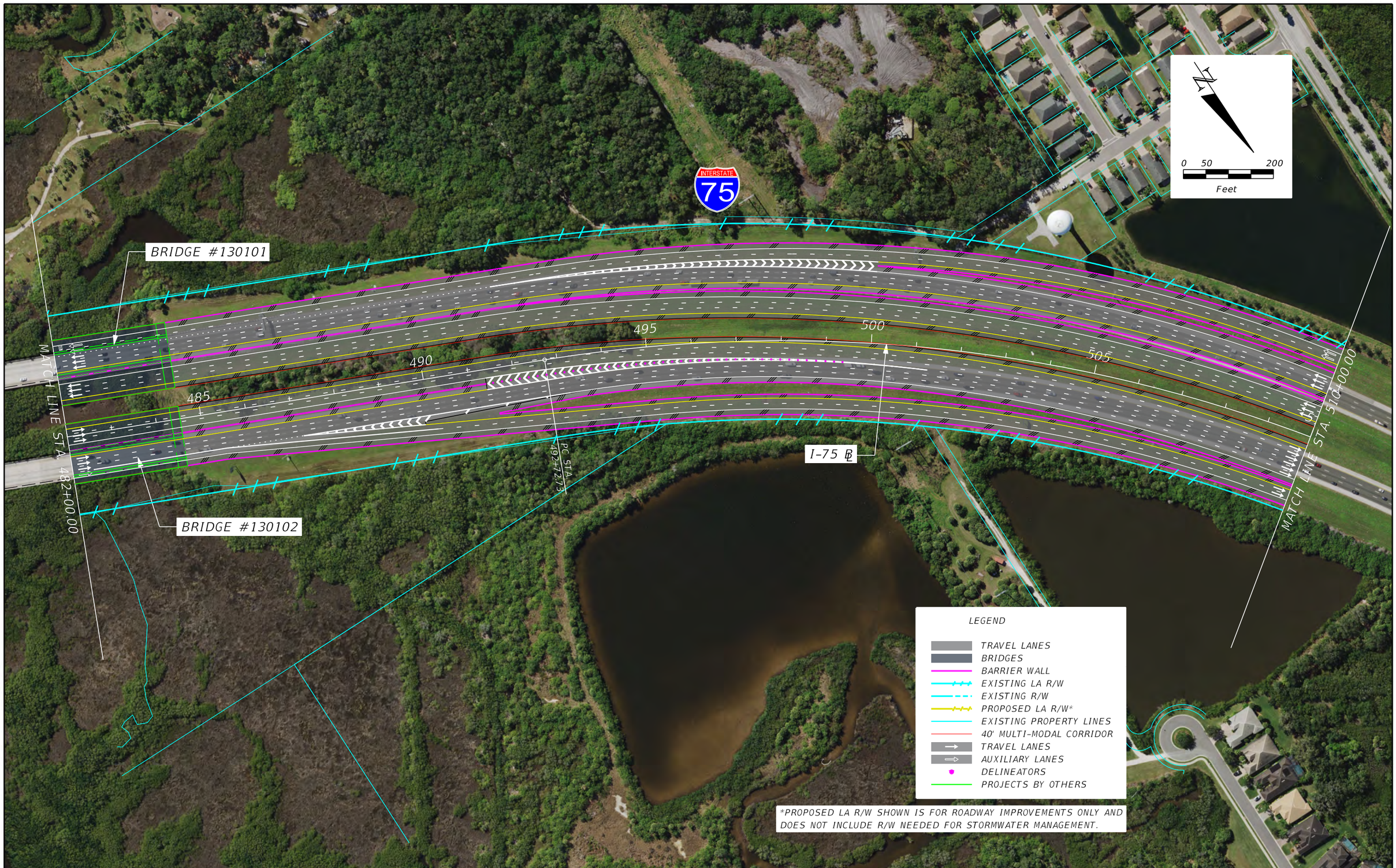

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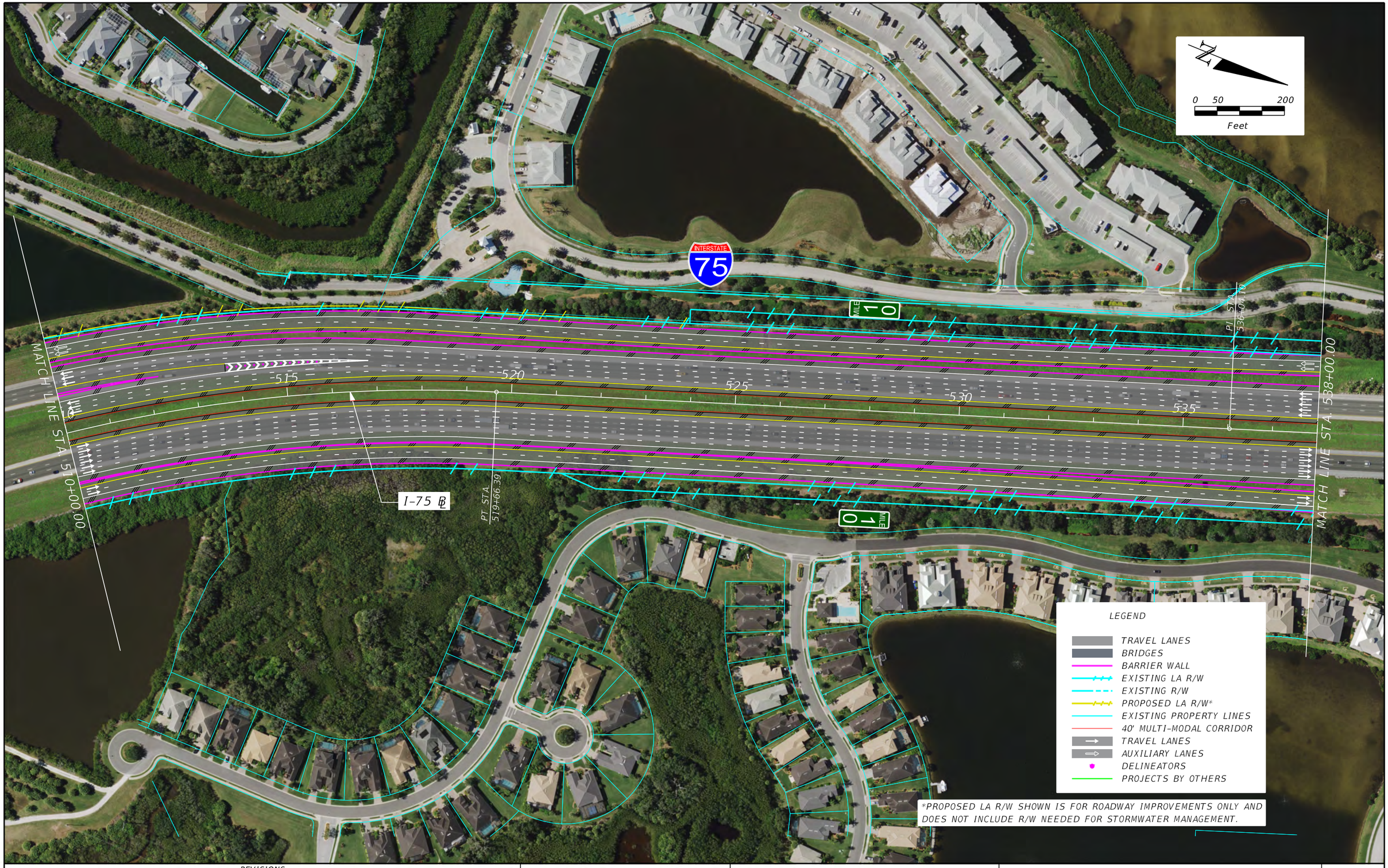
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT — SOUTHWEST FLORIDA — FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

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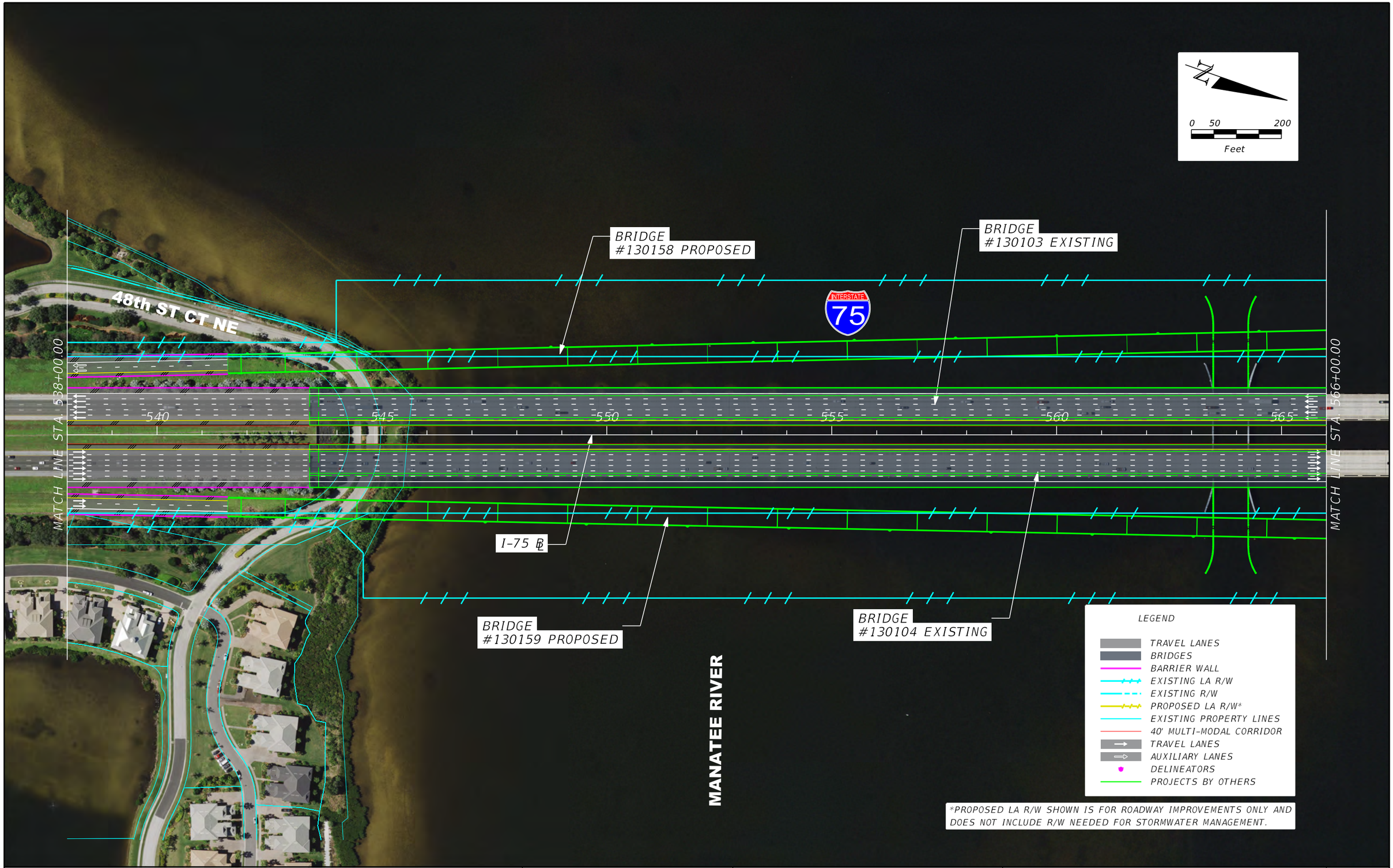

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

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SR 93	MANATEE	442518-1-12-01

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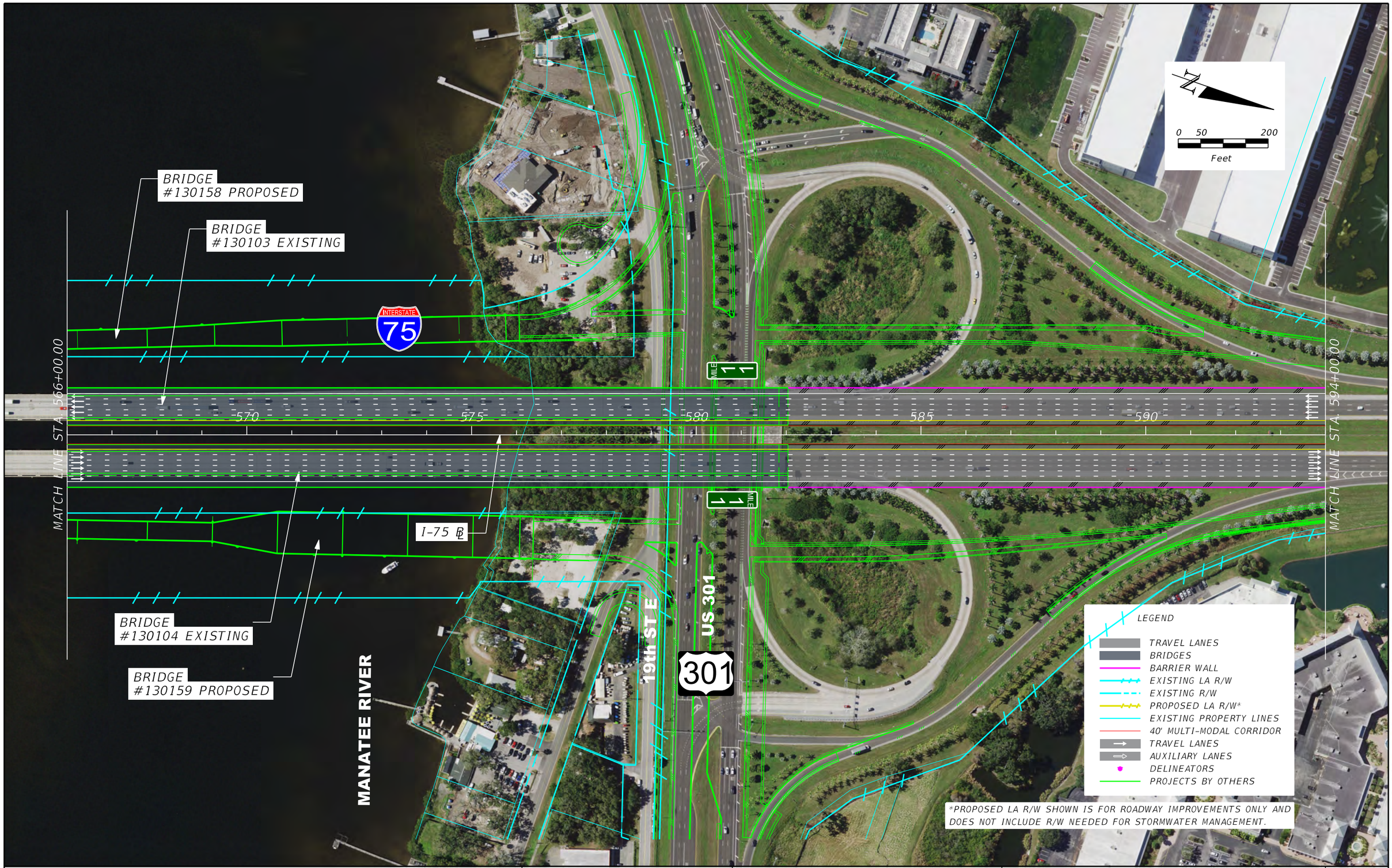

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT SOUTHWEST FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

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SOUTHWEST I-75 CONNECT
FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN
CONCEPT PLAN

SHEET NO.

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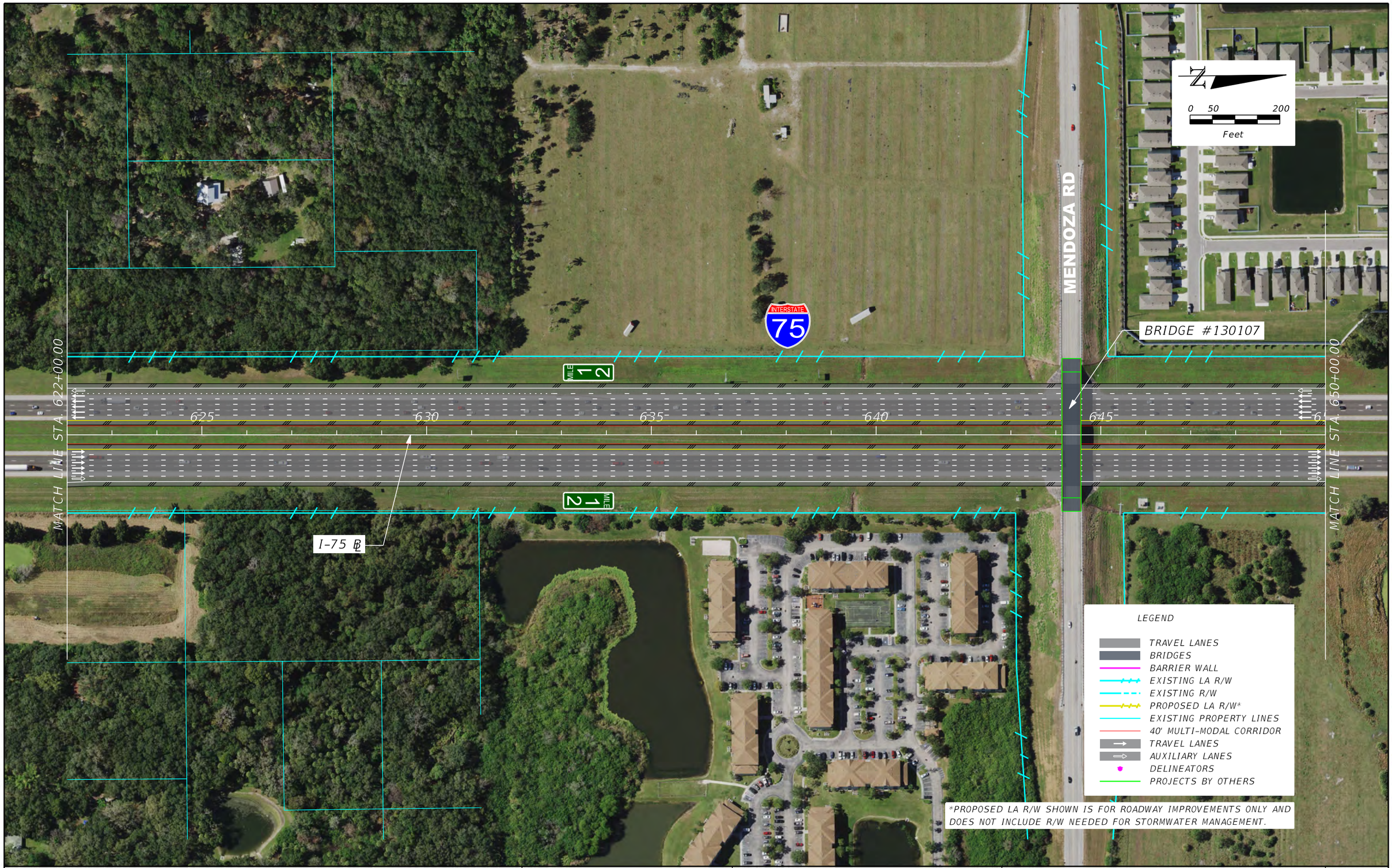

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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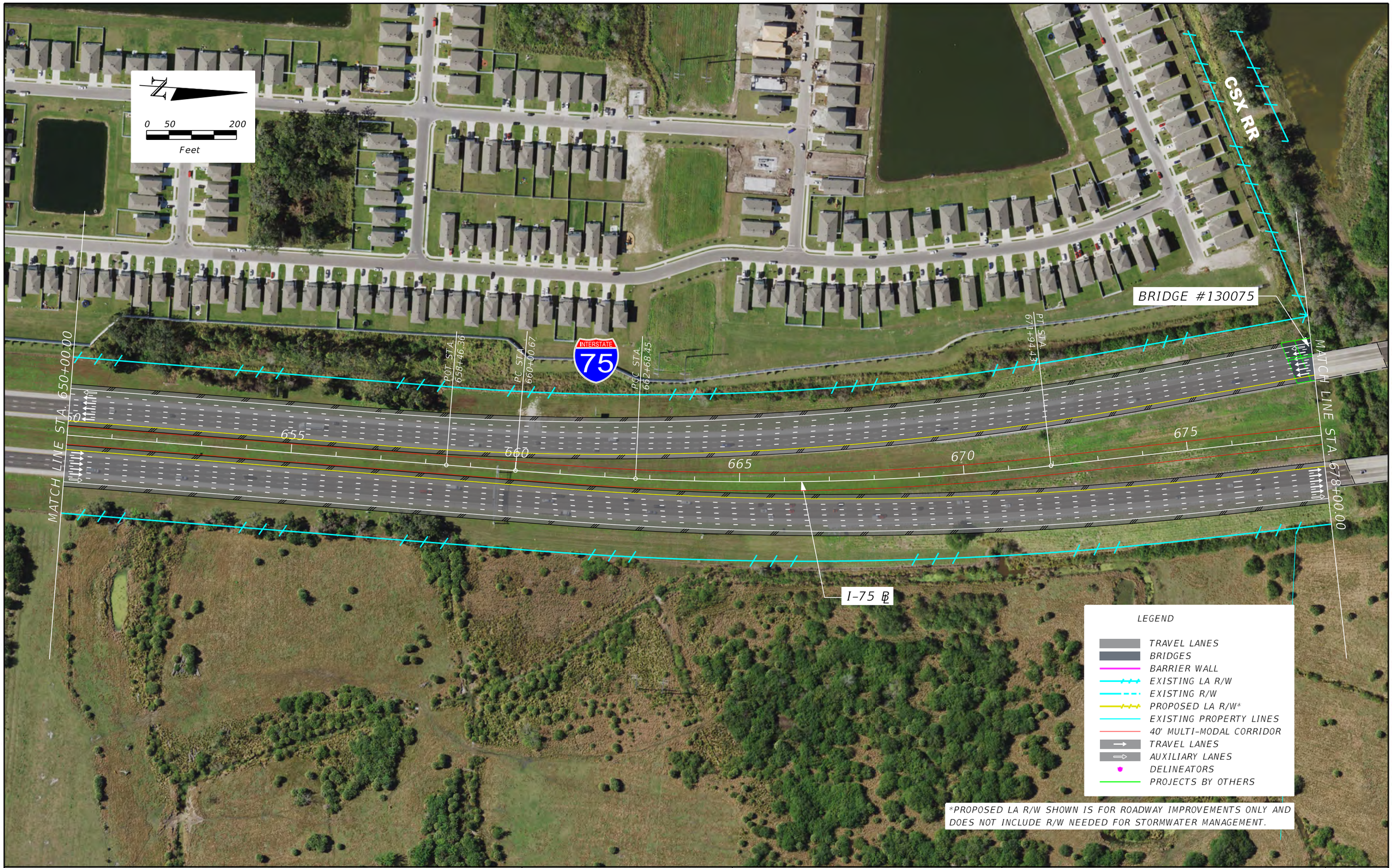

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 CONNECT SOUTHWEST FLORIDA'S 75 — FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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REVISIONS			
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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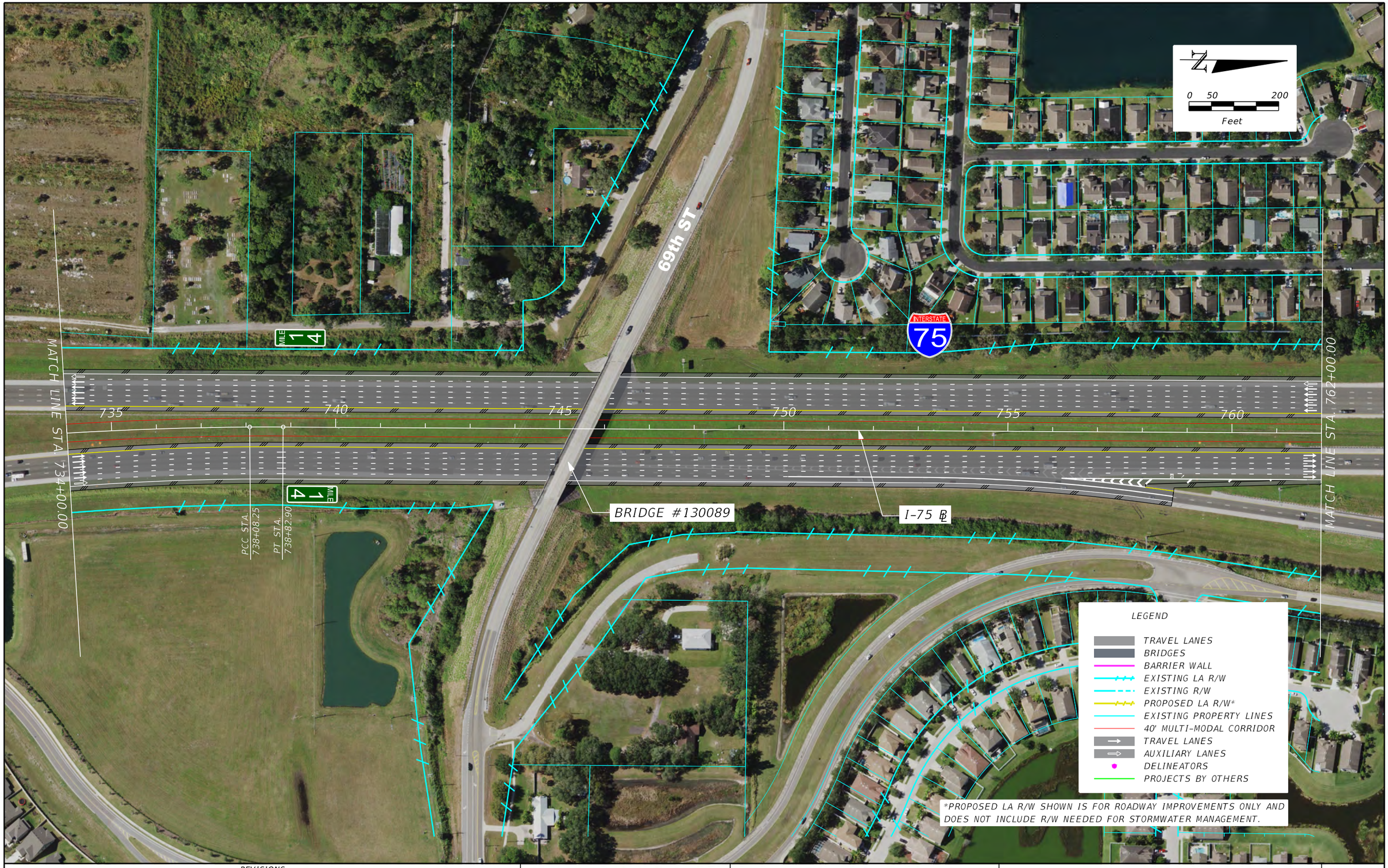

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

75 CONNECT SOUTHWEST FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN
CONCEPT PLAN

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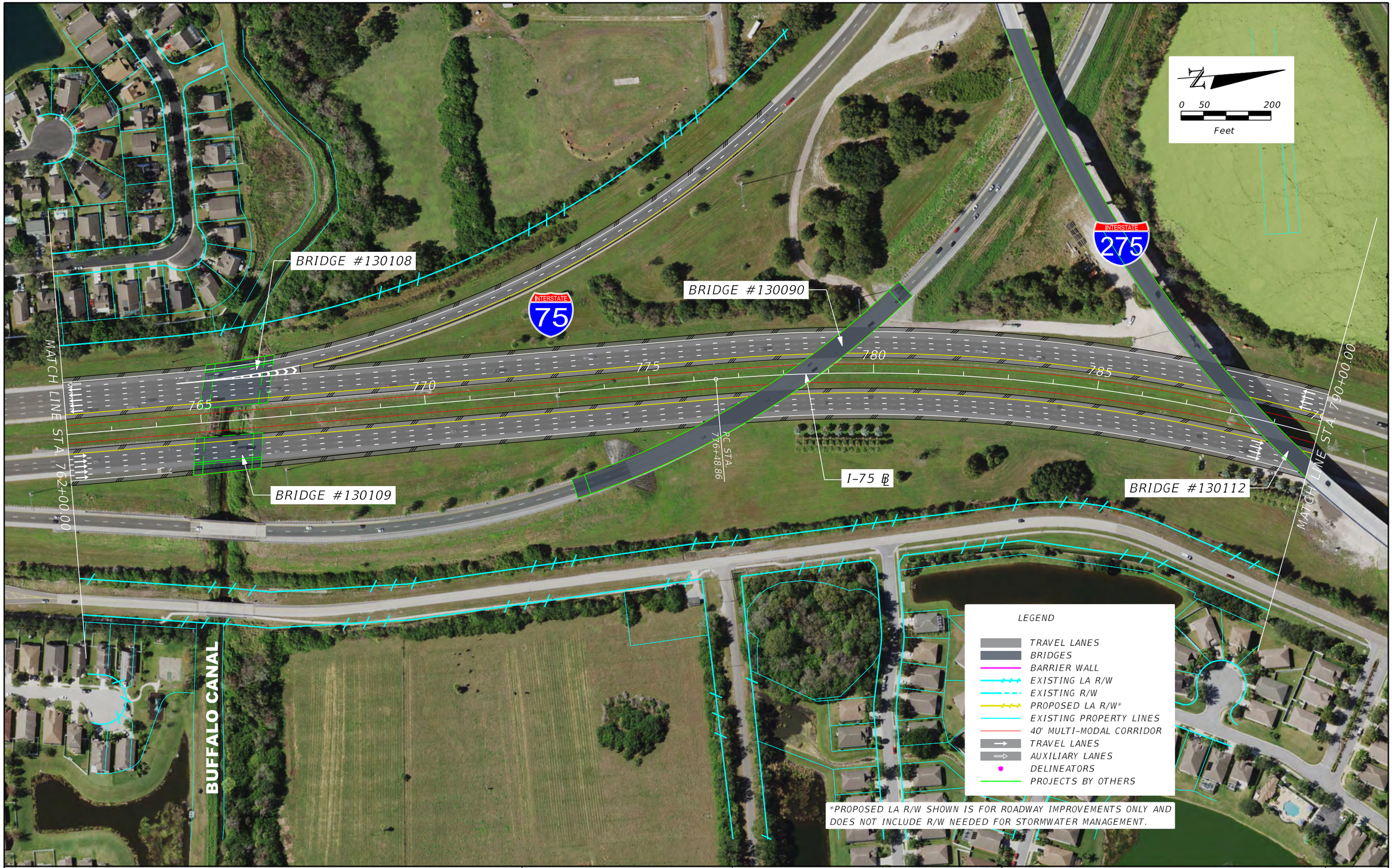

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DATE	DESCRIPTION	DATE	DESCRIPTION

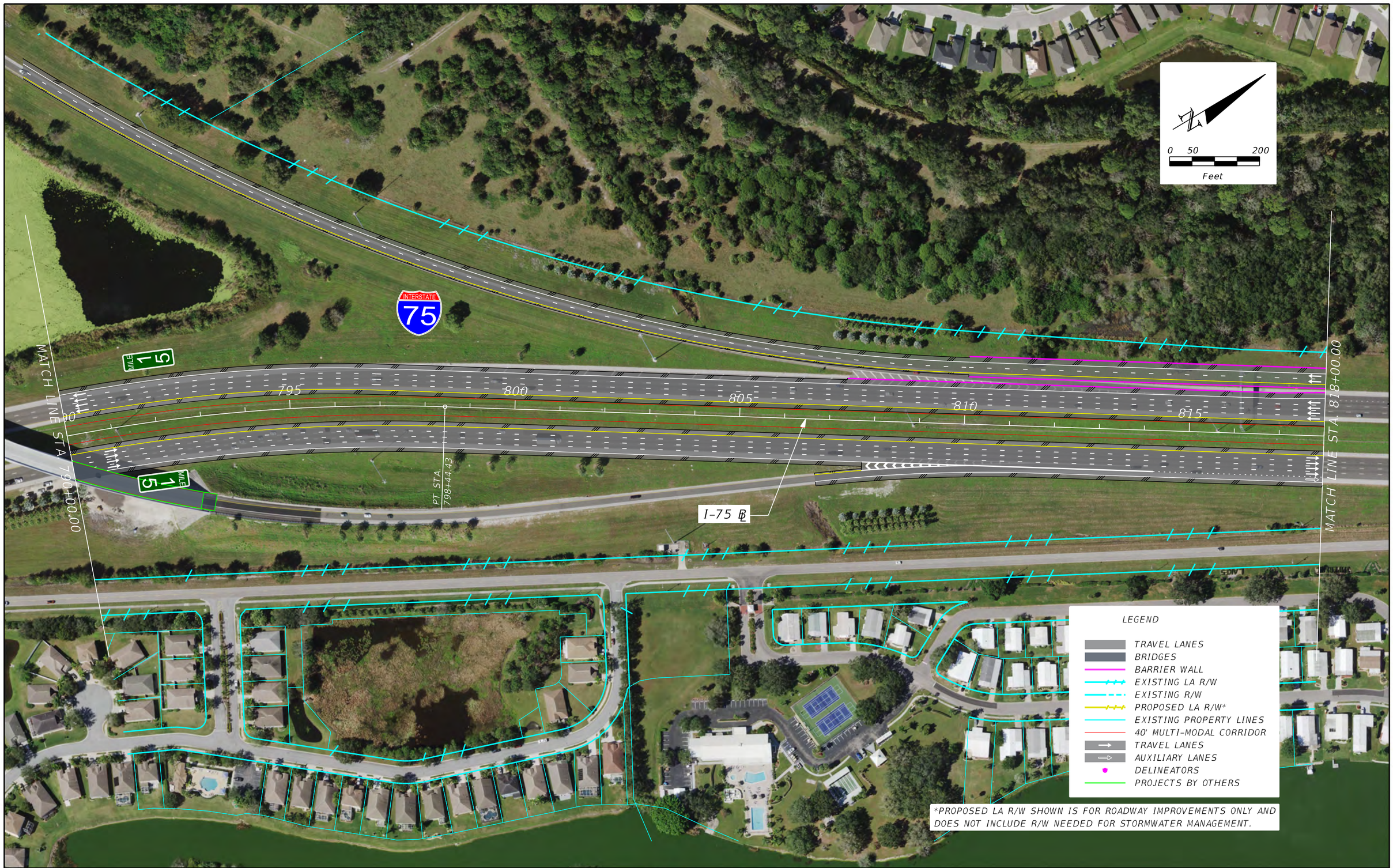
75 CONNECT SOUTHWEST FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.



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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

I-75 SOUTHWEST CONNECT 75 FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.

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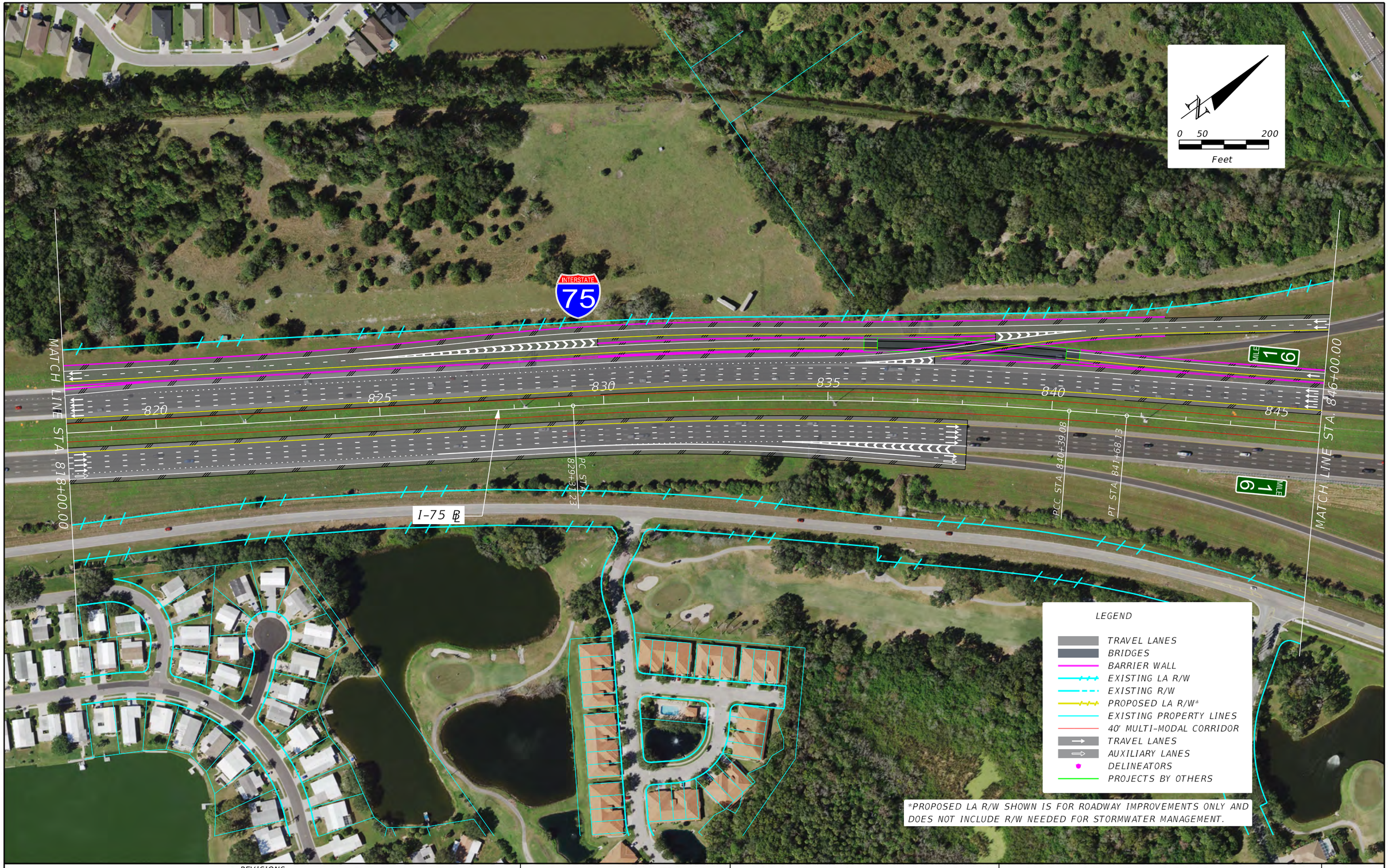

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STATE OF FLORIDA
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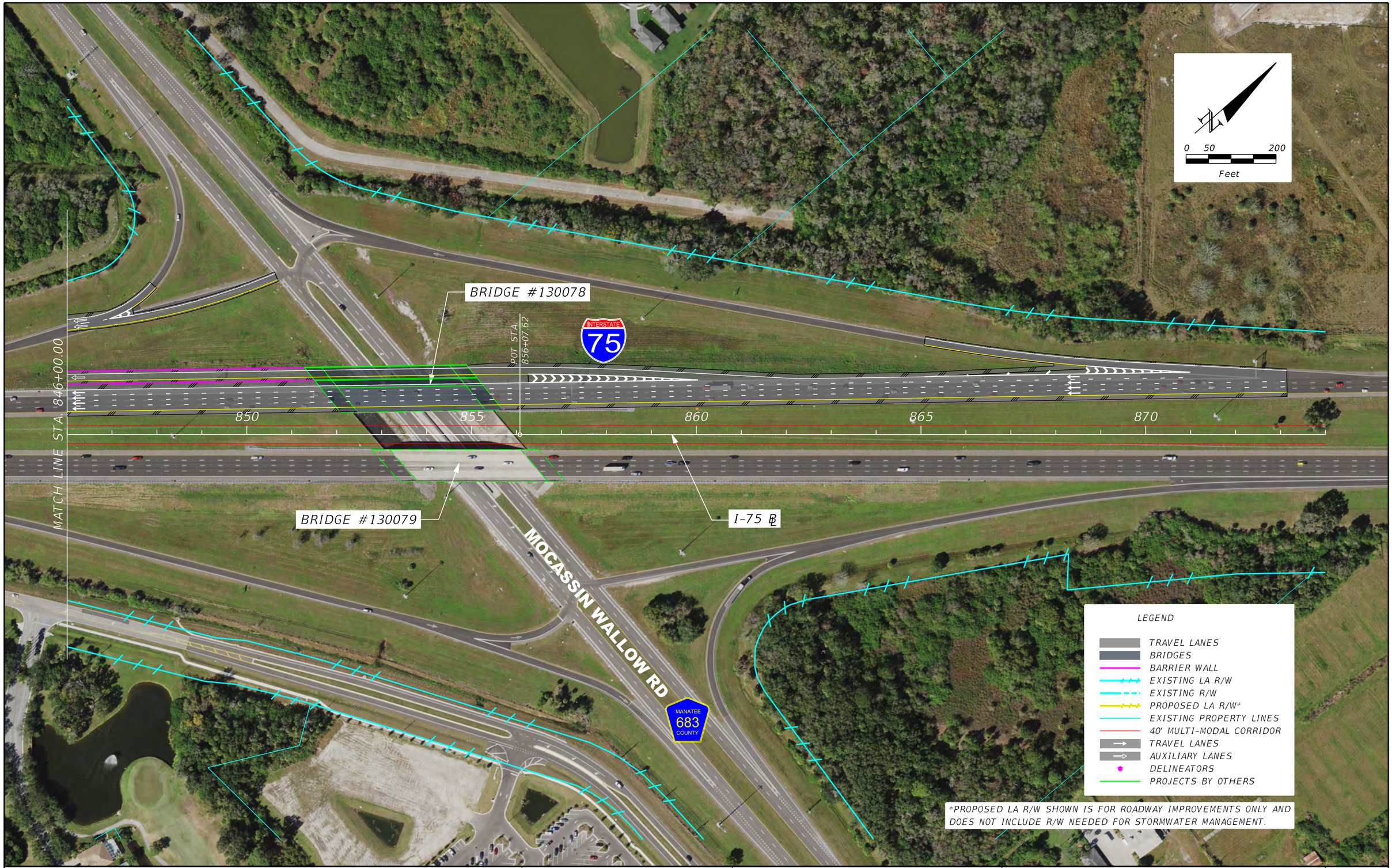
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN CONCEPT PLAN

SHEET NO.



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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

SOUTHWEST I-75 CONNECT FDOT DISTRICT ONE INTERSTATE PROJECT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MANATEE	442518-1-12-01

I-75 MASTER PLAN
CONCEPT PLAN

SHEET NO.