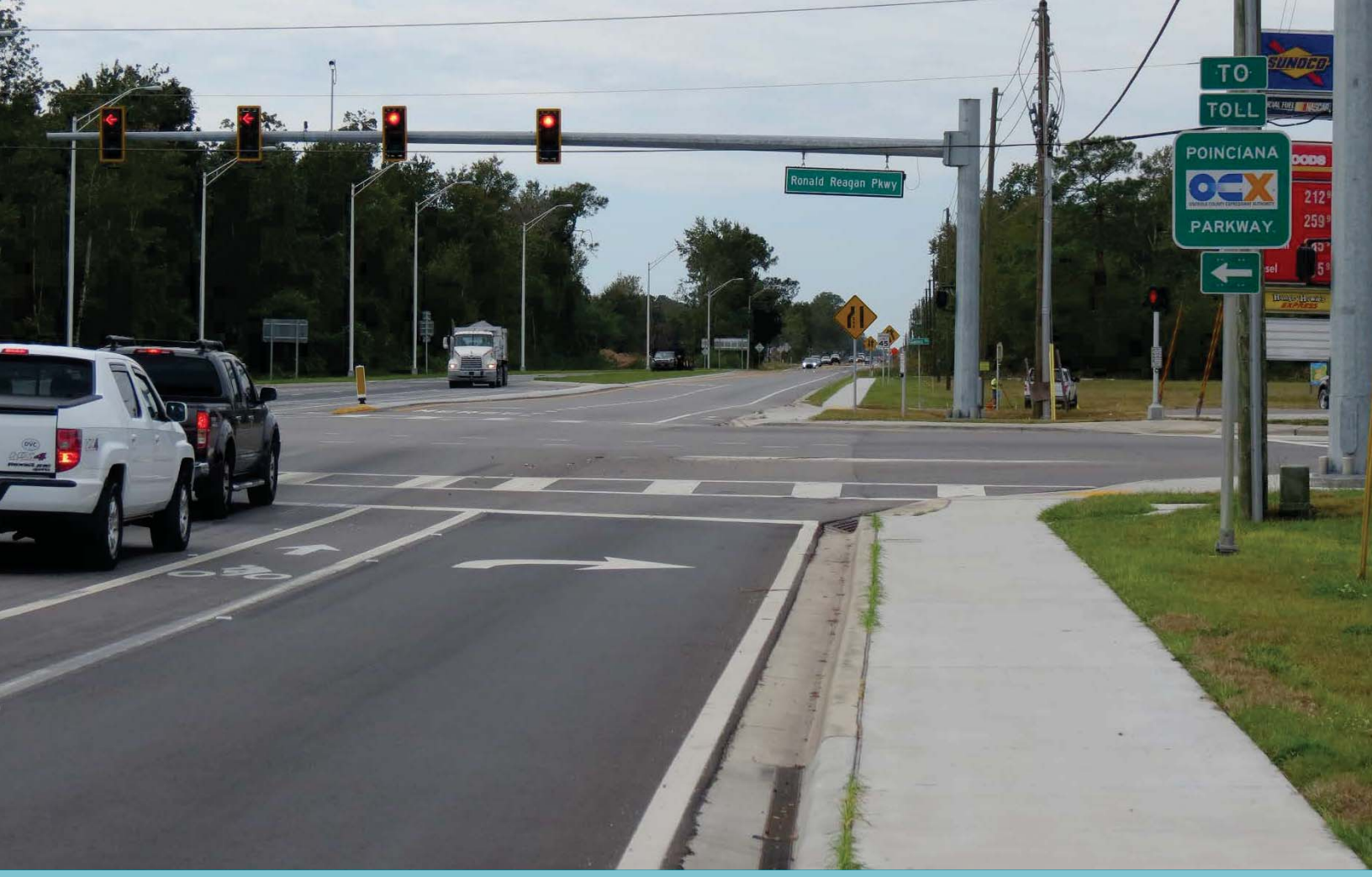

US 17/92 CORRIDOR PLANNING STUDY

FROM RONALD REAGAN PARKWAY TO POINCIANA BOULEVARD

Final Report

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Prepared For: FDOT District Five Office

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TABLE OF CONTENTS

Introduction **1**
Study Area 1
Background Context 2
Purpose and Need **4**
Purpose 4
Need for Improvement 4
Traffic **9**
Existing Transportation Characteristics 9
Traffic Methodology and Analysis 17
Future Year Traffic Volumes and Level of Service 18
Alternatives Analysis and Development **22**
TSM&O and Multimodal Systems 22
Design Criteria 22
No-Build Alternative 24
Build Alternatives 25
Initial Alternatives Comparison 38
Selected Alternatives Description 40
Public Involvement **48**
Summary of Public Involvement 48
Project Visioning Team 48
Small Group Interaction 49
Public Meeting 49
Next Steps **50**
Appendices **51**
Appendix A: Selected Alternative Concept Plans 52
Appendix B: Supporting Traffic Data 82
Appendix C: Supporting Environmental Materials 137
Appendix D: Public Involvement Materials 146
Appendix E: Previous PD&E Documents 147

FIGURES

Figure 1: Study Area Map 2
Figure 2: Crash Locations (all crashes) 6
Figure 3: Typical section for existing roadway 10
Figure 4: Typical section for existing roadway thru Intercession City 12
Figure 5: Character segments along study corridor 26
Figure 6: Proposed Section 1 – rural condition 30
Figure 7: Proposed Section 2 – suburban condition 32
Figure 8: Proposed Section 3 – Intercession City 34
Figure 9: Proposed Section 4 – Reedy Creek Bridge 36
Figure 10: Historic and archeological sites 46
Figure 11: Historic and archeological sites – detail near Ronald Reagan Parkway 47

TABLES

Table 1: Turning movement counts and forecasts – US 17/92 at CR 54 14
Table 2: Turning movement counts and forecasts – US 17/92 at CR 532 14
Table 3: Turning movement counts and forecasts – US 17/92 at Old Tampa Highway 15
Table 4: Turning movement counts and forecasts – US 17/92 at Tallahassee Boulevard 15
Table 5: Existing AM intersection level of service (LOS) 16
Table 6: Existing PM intersection level of service (LOS) 16
Table 7: Population forecasts, Osceola County - BEBR 17
Table 8: Growth rate calculations 18
Table 9: Segment LOS calculations 19
Table 10: Future year (2040) intersection conditions 20
Table 11: Future year (2040) conditions with improvements 20
Table 12: Potential sections for corridor roadway segments 38
Table 13: Potential roadway alignment options for corridor roadway segments 38
Table 14: Summary of potential impacts for corridor roadway segments 39

Introduction

The US 17/92 project is located within the jurisdiction of MetroPlan Orlando, the Metropolitan Planning Organization (MPO) covering Orange, Osceola and Seminole Counties. The next phase of project development, the Project Development and Environment (PD&E) Study, is documented in MetroPlan Orlando's Transportation Improvement Plan (TIP) for fiscal year 2019/20 with an anticipated cost of just over $1 million – currently funded with state funds. In the 2040 LRTP, this project is the #12 priority (out of 36 projects) in the State Road System Projects List. There is currently no funding for the design, right-of-way or construction phases. It is FDOT's policy to conduct a planning study prior to beginning the PD&E study.

This project involves the two-lane to four-lane widening of US 17/92 along the study corridor from west of the Polk/Osceola county line to approximately 1,900-feet west of Poinciana Boulevard. The project also involves widening of the existing bridge (or addition of a second bridge) over Reedy Creek [Reedy Creek Bridge (920174)].

Study Area

The section of US 17/92 under study, shown in Figure 1, begins at County Road 54 (Ronald Reagan Parkway) in Polk County and terminates at the intersection of Poinciana Boulevard in Osceola County, approximately 5.5 miles. Intercession City, an unincorporated community, is in the eastern portion of the corridor. US 17/92 through the corridor is primarily a two-lane principal arterial with four-foot paved shoulders and open drainage within a varied width right-of-way (generally +/- 100' but widening to 200' east of Intercession City and 240' across Reedy Creek).

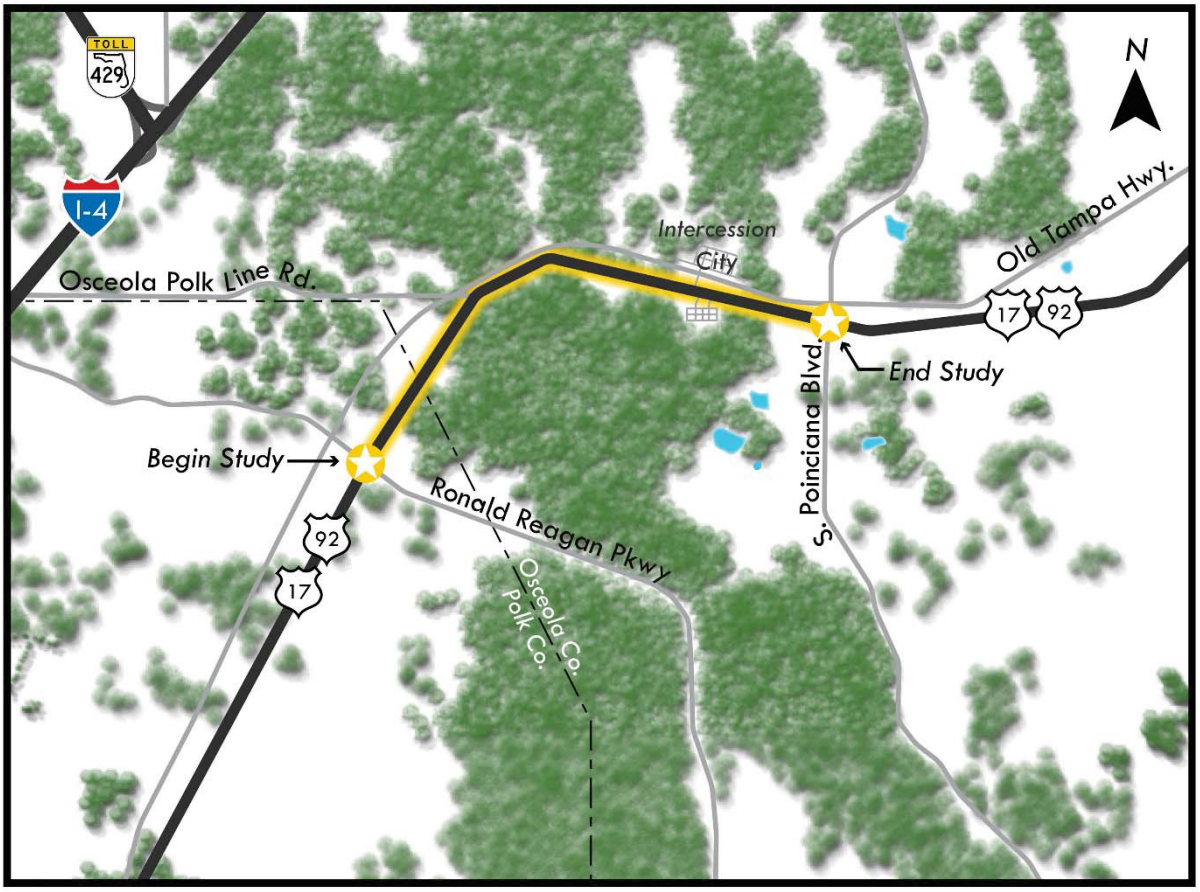


Figure 1: Study Area Map

Background Context

The corridor's location close to major roadways, rail lines, transit, Kissimmee, Disney attractions and the Four Corners area means that its activity and development potential will be influenced in part by trends and conditions at the regional level. A look at current conditions and forecasts for the future frame growth potential along the corridor that may take place, as summarized below:

Ronald Reagan Parkway to Osceola Polk Line Road

This area is set to grow as a commercial node. Polk County has designated the parcels surrounding the Ronald Reagan Parkway and US 17/92 intersection as a CAC (Community Activity Center) future land use. The purpose of this designation is to provide for the shopping needs of residents living within the surrounding community. CAC permits non-residential uses such as office, department stores, supermarkets, restaurants and community facilities, as well as certain residential uses. The opening of the Poinciana Parkway, combined with the start of

the Phase 2 at Providence residential development, has led to increased commercial development interest at the intersection.

The proposed I-4 Poinciana Parkway Connector, a planned limited access roadway crossing the western portion of the study corridor, could have an interchange at US 17/92 (the Central Florida Expressway Authority is evaluating this connection as part of a series of concept studies). The area along the study corridor from this interchange to Ronald Reagan Parkway, mostly vacant land, has CAC and Residential Medium Density future land uses and will likely develop consistent with those designations.

Old Tampa Highway to Intercession City

Much of this area has a future land use designation of Low Density Residential, reflecting both the rural nature of the area and the transition to the surrounding Reedy Creek conservation areas. The environmental sensitivity associated with Reedy Creek will likely factor into future development decisions - the desire to maintain its floodplain, aquifer recharge, wetland and wildlife benefits will be key in those decisions. There are some small areas with Commercial and Industrial future land use in and west of Intercession City.

The BK Ranch property, located north of US 17/92 and Old Tampa Highway and abutting Intercession City, is a 962-acre property that has requested a future land use designation change from Industrial to Mixed Use in support of a master plan proposing approximately 3,000 residential units and 370,000 SF of commercial, office, civic and industrial uses when completely built out. The development proposes two entrances on Old Tampa Highway, with the possibility of extending a future roadway to US 17/92.

Poinciana Boulevard Area

This area currently has the most development activity in the study area. The industrial and office uses along US 17/92, Avenue A and Avenue B are growing employment centers. Poinciana has been one of the fastest growing residential areas in Osceola County over the last decade, and Poinciana Boulevard provides connections to US 192 and the Disney attractions area.

The SunRail Poinciana Station is under construction north of the CSX railroad tracks and east of Poinciana Boulevard, at the eastern edge of the study corridor. The station is scheduled to open for service in mid-2018 and will have a park-and-ride lot and bus drop-off area. As the southern terminus of service, the station is expected to attract riders from both the immediate areas and surrounding region.

Osceola County is preparing for expected growth around the SunRail Station by developing Transit-Oriented Development (TOD) design guidelines intended to promote mixed uses, sustainable land use practices and to help connect activity centers. Development north of the CSX tracks will be required to design to the TOD guidelines, while it will be optional for development south of the tracks.

Infrastructure Improvements

There are several infrastructure improvements programmed and planned in the study area that should be considered during the development of alternative concepts for the corridor, including but not limited to:

- **Natural Gas Pipelines:** The Sabal Trail and Florida Southeast Connector pipelines are under construction near and along the study corridor. These distribution lines (shown on the plan sheets in Appendix A) will be located within 50-foot easements and their location may influence the location of proposed corridor improvements.
- **US 17/92 Widening:** MetroPlan Orlando's TIP identifies funding for the widening of US 17/92 to four lanes from west of Poinciana Boulevard to CR 535/Ham Brown Road, with funding starting in 2018.
- **CR 532 (Osceola Polk Line Road):** Per MetroPlan Orlando's 2040 LRTP, this road is expected to be funded in 2030 for widening to six lanes from I-4 to Old Lake Wilson Road and to four lanes from Old Lake Wilson Road to US 17/92.
- **Old Tampa Highway:** Per MetroPlan's 2040 LRTP, Old Tampa Highway is to be widened to four lanes from US 17/92 to Poinciana Boulevard.
- **I-4 Poinciana Parkway Connector:** This project, currently in the PD&E phase, seeks to improve the roadway connection from I-4 to Poinciana as a route to jobs and employment centers; enhance mobility due to anticipated population and employment growth in the area; improve overall traffic operations; and promote regional system linkages to serve Osceola County's urban growth area as part of MetroPlan's 2040 LRTP.

Purpose and Need

Purpose

The purpose of this project is to develop widening or reconstruction alternatives, including bridge replacement/addition options, that satisfy future travel demand (2040), improve safety and provide system linkage for this regionally significant arterial roadway.

Need for Improvement

The need for this project is based on transportation demand/capacity, safety, system linkage, economic development and modal interrelationships.

The study area has been designated as a multimodal corridor by Osceola County due to the proximity of the SunRail Station on Poinciana Boulevard. Expanding mobility options is necessary due to the demand for multimodal travel based on both existing and upcoming/future economic growth anticipated along the corridor. The following information justifies the need for the corridor improvements:

Roadway Capacity

The corridor is a two-lane principal arterial with four-foot paved shoulders. Under existing conditions, the roadway is operating at a Level of Service (LOS) C with an Annual Average Daily Traffic (AADT) of approximately 17,000 vehicles with some areas exceeding 20,000 vehicles. Around 10% of the traffic is heavy vehicle/freight users. In the future year (2040) no-build condition, this segment of US 17/92 is projected to operate at LOS F, exceeding capacity, with an AADT of approximately 40,000 vehicles with some areas exceeding 46,000 vehicles. Based on the 2012 Generalized Level of Service Tables, the roadway would generally operate at LOS D in 2040 in the Build scenario.

Crash data for the study area was obtained from the State Signal 4 Analytics database for the 5-year period between 2011 and 2015. During this period, there were 436 crashes along the corridor, including 165 crashes with an injury and three fatalities (see Figure 2). Primary crash types include rear end (229) and left turn (59). During this period, the annual number of crashes increased from 71 to 104, or an eight-percent annual increase. Clusters of crashes are evident near major intersections, particularly near Poinciana Boulevard and along the corridor through Intercession City. Five-year average crash rates (crashes per million entering vehicles) at the US 17/92 intersections at Poinciana Boulevard, Tallahassee Boulevard, Old Tampa Highway, Osceola Polk Line Road and CR 54 all exceed FDOT statewide average crash rates for the same facility type and number of approaches. There is a clear peaking in crashes by time of day, with the highest percentage occurring during the PM peak between 3:00 pm and 6:00 pm and a relatively smaller peak between 6:00 am and 9:00 am. The combination of rear-end accidents and time of day distribution is consistent with a corridor experiencing high levels of congestion.

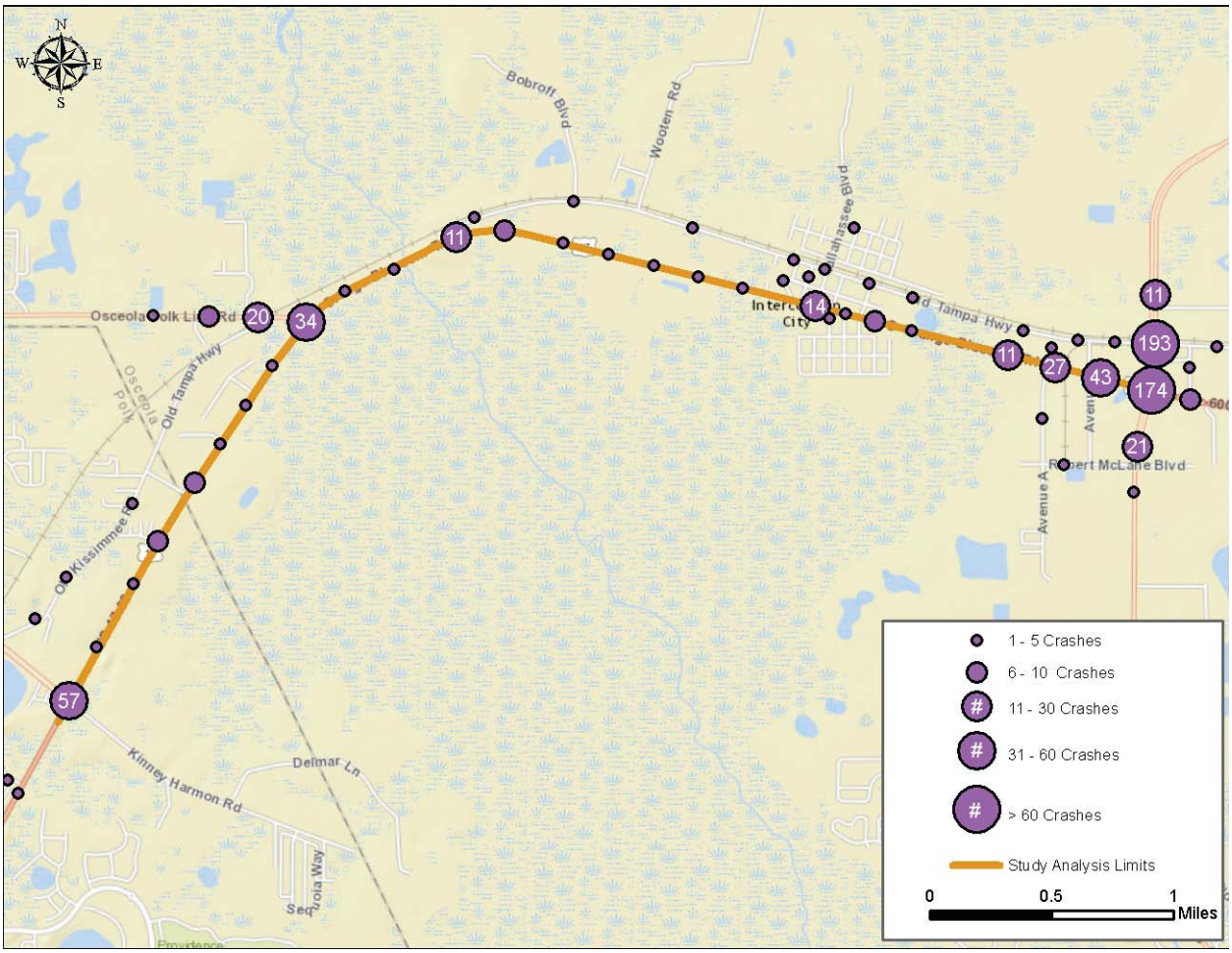


Figure 2: Crash Locations (all crashes)

Between 2011 and 2015, there were seven crashes involving a pedestrian/bicyclist, with one pedestrian fatality. These crashes were primarily located in Intercession City. There are no signals or marked/signed pedestrian crossings there and lighting is limited. The two primary community destinations, the post office (residents do not receive mail service but instead must travel to the Intercession City Post Office on Tallahassee Avenue) and Circle K convenience store, are located on opposite sides of US 17/92, with many people crossing the roadway each day on foot or by bicycle.

Another safety issue is that large trucks are using Old Tampa Highway more frequently to bypass traffic backups on US 17/92. This is especially problematic in the Intercession City area, where many people walk or bicycle on a regular basis. The small intersection radii on the local street network also complicate truck turns onto Old Tampa Highway without encroachment.

An examination of field conditions aided in identifying potential crash contributors. Contributing conditions observed from driving and walking the corridor, as well as from stakeholder engagement, include:

- **Traffic volume**: During most of the daytime periods, traffic volumes are relatively constant from one end of the corridor to the other. Traffic signals at either end of the corridor provide some interruption to continuous traffic movements, yet the length of the corridor and additional volume from side roads reduces the effectiveness of those breaks in creating gaps in platoons for unsignalized street and driveway access.
- **Traffic speed**: The study team has regularly observed prevailing travel speeds above the posted speed limit throughout the corridor, except during rush hours when congestion occurs, and traffic is unable to operate at high speeds, resulting in "stop-and-go" traffic.
- **Traffic type**: A noticeable amount of traffic along the corridor consists of large trucks and construction vehicles, which are often wider than typical vehicles, reducing the forward range of visibility and reaction time for drivers following behind.
- **Local traffic turning movements**: Because of the steady flow of vehicles, residents have expressed concerns about difficulty finding a break to safely enter the traffic flow, particularly for left turns. The perception of unacceptable delays creates an incentive for both crossing pedestrians and entering vehicles to undertake risky maneuvers.
- **Truck turning movements**: Truck turning movements (both on and off US 17/92) create traffic slowdown and additional congestion.
- **Pedestrian and bicycle presence**: There is pedestrian and bicycle traffic along the corridor, especially between Intercession City and the Poinciana Boulevard area. The FDOT Signal Warrant Analysis (Sept. 2017) noted eight pedestrians and 23 bicycles over an 8-hour period crossing at the US 17/92 and Tallahassee Boulevard intersection on a mid-week day. There are no sidewalks on either US 17/92 or Old Tampa Highway; pedestrians walk along the road shoulder or grassed slopes. Walking along Old Tampa Highway is difficult in places due to flooding that comes up close to the road. Additionally, there is not a pedestrian crossing on US 17/92 in Intercession City. It is common for many pedestrians to cross the road to travel to the Circle K convenience store or the post office and some describe waiting in the median for a break in traffic to finish crossing.
- **Bicycle conditions**: Bicyclists use the US 17/92 road shoulder as a bike lane. Aside from the safety concerns associated with the common occurrence of large and speeding vehicles, the condition of the shoulder itself varies and often creates a poor environment for riding.
- **Lighting**: The corridor lacks both vehicular and pedestrian scale lighting, even in the Intercession City area, which makes pedestrian and bicycle use even more problematic in the twilight morning and evening hours. Additionally, fog from the Reedy Creek area often compounds the issue of low visibility.

System Linkage

US 17/92 is a regional arterial roadway that traverses Polk, Osceola, Orange, Seminole and Volusia counties. This five-mile section is the remaining two-lane segment of the regional corridor, which contains truck traffic volumes in excess of 10% in the existing (2016) condition. The widening of this section would provide for a continuous four-lane roadway throughout FDOT District Five.

Economic Development

The SunRail Poinciana Station is currently scheduled to open for service in mid-2018 and will serve as a catalyst for development in the surrounding area. In anticipation of new economic interest in an already fast-growing employment and residential area, Osceola County is developing transit-oriented development (TOD) design guidelines that will help promote orderly and sustainable land use practices within a one-mile radius of the station. TOD is meant to create compact development, within easy walking distance of stations (typically up to ½ mile), that contains a mix of uses such as housing, jobs, shops, restaurants and parks. TOD helps boost transit ridership, reduces impacts of traffic and increases location efficiency so people of all ages can walk, bike and take public transportation.

New transportation infrastructure and planning will be needed to support this anticipated growth. Not only will there be changes in traffic volumes, but likely changes in traffic patterns as well. New urban forms (such as buildings fronting walkable streets) will need to function with the industrial uses and freight movement/logistics that currently exist.

Multimodal Networks

At present, no regular sidewalks, bicycle lanes or other pedestrian features are present along the corridor, and there is limited to no access to the planned Poinciana SunRail Station under construction on Poinciana Boulevard. Expanding mobility options is necessary not only because of anticipated economic growth, but also because of existing conditions along the corridor and the current demand for multimodal access, as evidenced by the following observations:

Pedestrian Network

- Although there are some sidewalks in Intercession City, there are many gaps in the community-wide network
- Existing sidewalks are narrow and, in many places, need repair
- There are no sidewalks between Intercession City and the SunRail Poinciana Station
- There are no marked and/or signed pedestrian crossings on US 17/92 in the Intercession City area
- Lighting is limited along the corridor

Bicycle Network

- Apart from a short length just north of Ronald Reagan Parkway, there are no bicycle facilities (bike lanes or signage) on US 17/92
- Some bicyclists use the paved shoulder along US 17/92, but its condition varies along the corridor, there is often debris or vegetation to dodge, and the high volume of traffic and large freight/construction vehicles contribute to a poor riding environment
- There are no bicycle facilities (connected routes or signage) on Old Tampa Highway

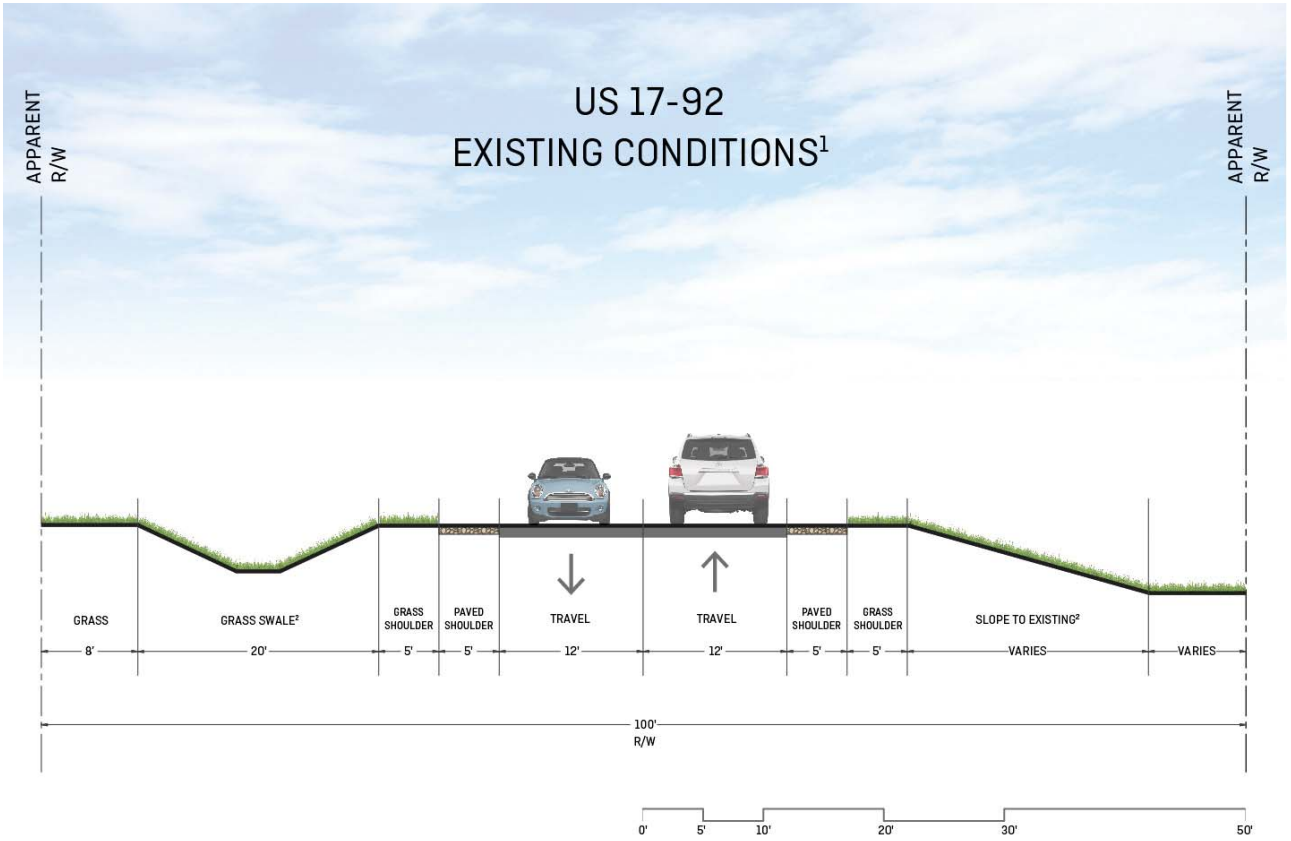
Transit System

- Connectivity from LYNX is limited – there is no regular transit service along the corridor
- Neighbor Link Transportation Service (Route 604 Intercession City/Campbell City) is available for a portion of the corridor – it provides transportation anywhere within the designated service area or to a LYNX local bus stop
- The SunRail Poinciana Station, being the southern terminus of the system, will likely attract a large ridership from the surrounding region – traffic flow and parking will be important issues to monitor

Traffic

Existing Transportation Characteristics

The US 17/92 corridor is functionally classified as a principal arterial between Ronald Reagan Parkway (CR 54) and Poinciana Boulevard. It is generally two-lanes undivided with a posted speed limit of 55 mph west of Intercession City and 45 mph east of Intercession City (see Figures 3 and 4 for typical sections).



[1]GENERALLY TYPICAL FOR CORRIDOR EXCEPT REEDY CREEK BRIDGE (SEE SECTION 4) AND BETWEEN INTERCESSION CITY AND AVENUE 'A' WHERE RIGHT OF WAY WIDENS TO 200 FEET.

[2]ONE OR BOTH OF THESE EDGE CONDITIONS MAY BE PRESENT ALONG THE SAME SIDE OF THE ROADWAY AT DIFFERENT LOCATIONS ON THE CORRIDOR.

Figure 3: Typical section for existing roadway

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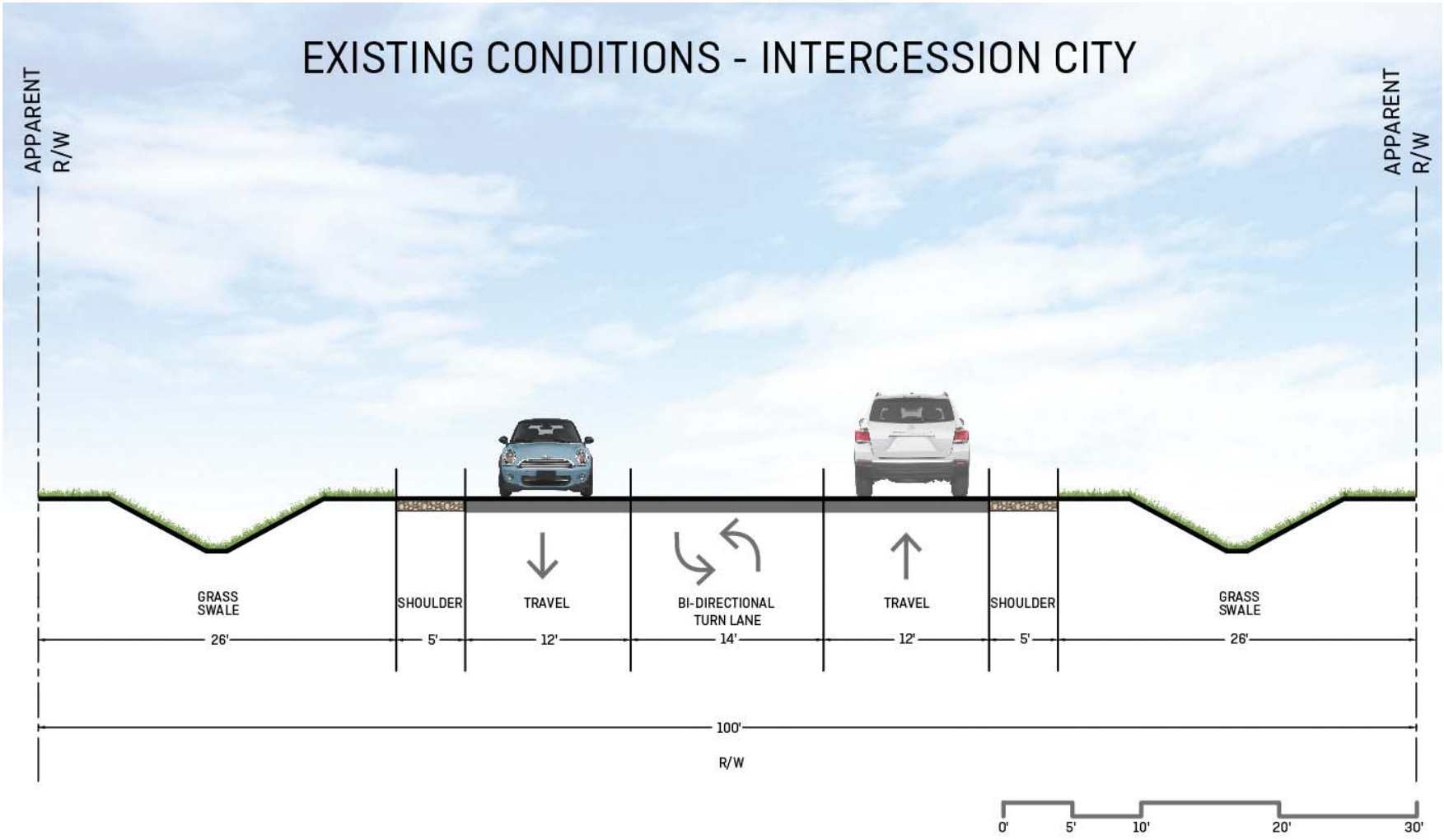

Figure 4: Typical section for existing roadway thru Intercession City

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The study corridor includes three signalized intersections and two (2) two-way stop controlled (TWSC) intersections. Based on traffic counts conducted by the FDOT, trucks make up approximately 8.8% of daily traffic to the west of Old Tampa Highway and 11.5% of daily traffic to the east of Old Tampa Highway. The FDOT traffic count data is provided in Appendix B.

Turning movement counts were collected on typical weekdays during March 2016 on US 17/92 at CR 54, CR 532, Old Tampa Highway and Tallahassee Boulevard. Based on an analysis of rolling hourly counts, 7:00 AM to 8:00 AM was selected as the AM peak hour and 4:45 PM to 5:45 PM was selected as the PM peak hour. These counts are provided in Tables 1 - 4.

	US 17/92 (Northbound)			US 17/92 (Southbound)			CR 54 (Eastbound)			CR 54 (Westbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing AM Peak Hour 7:00-8:00 AM	516	255	4	21	222	24	82	16	239	5	44	17
Existing PM Peak Hour 4:45-5:45 PM	256	272	4	19	334	25	75	32	385	8	15	10
Future 2040 AM Peak Hour 7:00-8:00 AM	551	546	32	243	317	64	197	167	308	33	551	211
Future 2040 PM Peak Hour 4:45-5:45 PM	544	469	23	214	372	105	182	256	305	61	434	235

Table 1: Turning movement counts and forecasts – US 17/92 at CR 54

	US 17/92 (Northbound)			US 17/92 (Southbound)			CR 532 (Eastbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing AM Peak Hour 7:00-8:00 AM	49	325	0	0	241	625	380	0	23
Existing PM Peak Hour 4:45-5:45 PM	27	342	0	0	446	510	674	0	45
Future 2040 AM Peak Hour 7:00-8:00 AM	110	726	0	0	539	1397	849	0	51
Future 2040 PM Peak Hour 4:45-5:45 PM	60	764	0	0	997	1140	1507	0	101

Table 2: Turning movement counts and forecasts – US 17/92 at CR 532

	US 17/92 (Eastbound)			US 17/92 (Westbound)			Old Tampa Hwy (Southbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing AM Peak Hour 7:00-8:00 AM	105	603	0	0	810	0	0	0	99
Existing PM Peak Hour 4:45-5:45 PM	147	836	0	0	764	1	1	0	185
Future 2040 AM Peak Hour 7:00-8:00 AM	235	1348	0	0	1811	0	0	0	221
Future 2040 PM Peak Hour 4:45-5:45 PM	329	1869	0	0	1708	2	2	0	414

Table 3: Turning movement counts and forecasts – US 17/92 at Old Tampa Highway

	US 17/92 (Eastbound)			US 17/92 (Westbound)			Tallahassee Blvd (Southbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing AM Peak Hour 7:00-8:00 AM	21	583	0	1	775	12	16	0	15
Existing PM Peak Hour 4:45-5:45 PM	26	805	1	1	695	21	13	0	48
Future 2040 AM Peak Hour 7:00-8:00 AM	47	1303	0	2	1732	27	36	0	34
Future 2040 PM Peak Hour 4:45-5:45 PM	58	1799	2	2	1553	47	29	0	107

Table 4: Turning movement counts and forecasts – US 17/92 at Tallahassee Boulevard

The results of a Synchro analysis of key intersections are provided in Tables 5 and 6:

AM Peak Hour		Max VC	Delay (sec)	LOS	Approach			
Intersection	Type				NB	SB	EB	WB
US 17/92 @ Ronald Reagan Parkway (CR 54)	Signalized	2.37	255	F	F	D	B	C
US 17/92 @ Osceola Polk Line Road (CR 532)	Signalized	0.69	15	B	B	A	C	
US 17/92 @ Old Tampa Highway	TWSC*	0.31	20	C		C		
US 17/92 @ Tallahassee Boulevard	TWSC*	0.11	19	C		C		

Table 5: Existing AM intersection level of service (LOS)

PM Peak Hour		Max VC	Delay (sec)	LOS	Approach			
Intersection	Type				NB	SB	EB	WB
US 17/92 @ Ronald Reagan Parkway (CR 54)	Signalized	1.17	54	D	F	D	B	C
US 17/92 @ Osceola Polk Line Road (CR 532)	Signalized	1.22	56	E	B	B	F	
US 17/92 @ Old Tampa Highway	TWSC*	0.57	28	D		D		
US 17/92 @ Tallahassee Boulevard	TWSC*	0.19	18	C		C		

Table 6: Existing PM intersection level of service (LOS)

*HCM 2010 TWSC Analysis – maximum delay and LOS provided

Except for the CR 54 intersection during the AM peak hour (LOS F) and CR 532 (Osceola Polk Line Road) during the PM peak hour (LOS E), the intersections are currently performing at an acceptable level of service during the AM and PM peak hours.

The level of service at CR 54 is primarily governed by the northbound approach, specifically the left turn movements, which make up 66% of all northbound movements in the AM peak hour and 48% of all northbound movements in the PM peak hour. The analysis of the CR 54 intersection reflects conditions observed prior to the intersection widening project under construction during the study period. The level of service at CR 532 is primarily governed by the eastbound approach during the PM peak hour, specifically the left turn movements, which make up 94% of all eastbound movements.

Traffic Methodology and Analysis

The US 17/92 corridor is expected to experience substantial growth during the next two decades, particularly with the new SunRail Station opening. The Bureau of Economic and Business Research (BEBR) at the University of Florida estimates Osceola County will experience between 1.4% and 3.3 % annual growth (AGR) through 2040, compared to statewide growth of 0.76% to 1.5% as indicated in Table 7. This increase in population will correlate with increases in traffic volumes along the US 17/92 corridor.

	2020		2025		2030		2035		2040	
	Pop	AGR	Pop	AGR	Pop	AGR	Pop	AGR	Pop	AGR
Osceola County										
Low	344,200	1.61	379,800	1.82	410,800	1.74	432,100	1.55	445,900	1.35
Med	372,800	3.66	435,200	3.37	491,200	3.04	537,600	2.72	577,600	2.45
High	393,900	5.10	471,100	4.29	550,000	3.88	625,200	3.54	698,400	3.27
Statewide										
Low	20,838,000	0.84	21,972,900	0.97	22,875,200	0.91	23,601,600	0.84	24,177,300	0.76
Med	21,438,700	1.56	22,943,900	1.45	24,244,300	1.33	25,397,400	1.23	26,426,400	1.14
High	22,047,700	2.28	23,934,700	1.93	25,651,900	1.74	27,257,600	1.60	28,774,600	1.50

Table 7: Population forecasts, Osceola County - BEBR

To quantify the expected growth in traffic volumes, the Central Florida Regional Planning Model for the Southport and I-4 Poinciana Parkway Connector PD&E Study was used to compare the base year 2010 volumes to the forecasted 2040 volumes at each major intersection approach along the corridor. These volumes are provided in Table 8. The 2040 forecasted volumes were taken from the Build Alternative that includes ramps for the I-4 Poinciana Parkway Connector between CR 54 and CR 532. Annual growth rates at each of these approaches ranged from 1.7% to 11.1% between 2010 and 2040. These approach growth rates were weighted based on daily volumes to compute a weighted area-wide average annual growth rate of 3.4%. This growth rate is consistent with the high BEBR forecast for Osceola County at 3.27%. This growth rate was presented to and agreed upon by the Project Visioning Team (PVT) and Osceola County for use in this project.

	Base Year Model	Poinciana Parkway No-Build Alternative		Poinciana Parkway Build Alternative	
Street	2010	2040	2010 – 2040 AGR	2040	2010 – 2040 AGR
US 17/92 south of Ronald Reagan Pkwy	14,906	36,260	3.0	37,763	3.1
US 17/92 north of Ronald Reagan Pkwy	7,827	40,951	5.7	33,837	5.0
Ronald Reagan Pkwy west of US 17/92	7,717	47,678	6.3	38,796	5.5
US 17/92 south of CR 532	7,788	39,963	5.6	38,913	5.5
US 17/92 north of CR 532	19,132	61,382	4.0	58,172	3.8
CR 532 west of US 17/92	11,230	21,132	2.0	21,349	2.2
US 17/92 west of Old Tampa Hwy	19,132	61,382	4.0	58,172	3.8
US 17/92 east of Old Tampa Hwy	18,220	37,688	2.5	36,120	2.3
Old Tampa Hwy north of US 17/92	942	24,458	11.5	22,224	11.1
US 17/92 west of Poinciana Blvd	17,246	54,363	3.9	50,935	3.7
US 17/92 east of Poinciana Blvd	15,932	41,330	3.2	40,181	3.1
Poinciana Blvd south of US 17/92	26,194	43,398	1.7	41,197	1.5
Poinciana Blvd north of US 17/92	21,939	40,859	2.1	36,709	1.7
Area-Wide Average			**3.6**		**3.4**

Table 8: Growth rate calculations

Future Year Traffic Volumes and Level of Service

Traffic level of service is analyzed here at two different scales. First, segment level of service on US17/92 is provided between each study intersection. This analysis is based on traffic traveling along US17/92 and compared to Generalized Service Volume tables provided by FDOT to assign a letter grade where F is considered over-capacity or failing. These tables are based on equations from the Highway Capacity Manual. Second, intersection level of service at each of the study intersections is computed to understand the impacts of each intersection on traffic at all approaches. This analysis uses hourly turning movement counts and is completed using Synchro 9.

US 17/92 operates at a LOS C/D during the base year 2016, except between CR 532 and Old Tampa Highway during the PM peak hour where it drops to LOS F. The level of service standard for this roadway is LOS D, and so this corridor is currently operating at an acceptable LOS based on the FDOT Q/LOS generalized service volume tables. US 17/92 west of CR 532 will reach failing conditions, LOS F, during the AM peak hour and all of US 17/92 within the

study area is expected to fail during the PM peak hour during the 2040 forecast year (see Table 9). To address this congestion, widening US 17/92 from two to four lanes is recommended. This roadway widening will address peak hour segment LOS issues at all locations, except for the PM peak between CR 532 and Old Tampa Highway, which is expected to operate at LOS F in 2040. However, this segment constitutes the Reedy Creek bridge and is only nominally higher than the LOS D/F threshold of 3,580. This is the shortest segment of the corridor, constituting less than ten percent of the total project length.

Segment	Dir	2016			2040 No-Build			2040 with Improvements
		Volume		LOS*	Volume		LOS*	LOS*
AM Peak Hour								
CR 54 to CR 532	EB	354	618	C	791	1381	C	C
	WB	264			590			
CR 532 to Old Tampa Hwy	EB	705	1614	F	1575	3607	F	F
	WB	909			2032			
Old Tampa Hwy to Tallahassee Blvd	EB	603	1393	C	1348	3114	F	C
	WB	790			1766			
Tallahassee Blvd to Poinciana Blvd	EB	599	1387	C	1339	3100	F	C
	WB	788			1761			
PM Peak Hour								
CR 54 to CR 532	EB	357	848	C	798	1896	F	C
	WB	491			1098			
CR 532 to Old Tampa Hwy	EB	1016	1965	F	2271	4393	F	F
	WB	949			2122			
Old Tampa Hwy to Tallahassee Blvd	EB	837	1580	D	1871	3531	F	D
	WB	743			1660			
Tallahassee Blvd to Poinciana Blvd	EB	818	1535	D	1828	3430	F	D
	WB	717			1602			

Table 9: Segment LOS calculations

*2012 FDOT Quality/Level of Service Handbook Tables

The tables below present an operational analysis of the major study intersections for 2040 with no improvements (Table 10) and 2040 with a widening of US 17/92 from two to four lanes, intersection improvements, and optimized signal timing (Table 11). This analysis was performed using Synchro 9, with the turning movement counts found in Tables 1 through 4 and signal timing sheets for the intersections at CR-532 and CR-54. These signal timing sheets were provided by Osceola County Public Works.

Table 10 provides the results of the operational analysis of US 17/92 intersections using forecasted 2040 traffic volumes. The expected growth in traffic along US 17/92 will cause all the four intersections to fail during both the AM and PM peak hours. With no improvements the corridor will experience failing conditions at all intersections.

Intersection	Type	Max VC	Delay (sec)	LOS	Approach			
					NB	SB	EB	WB
AM Peak Hour								
US 17/92 @ CR 54	Signalized	2.53	161	F	F	E	C	D
US 17/92 @ CR 532	Signalized	1.52	100	F	C	E	F	
US 17/92 @ Old Tampa Hwy	TWSC*	2.89	961	F		F		
US 17/92 @ Tallahassee Blvd	TWSC*	1.35	363	F		F		
PM Peak Hour								
US 17/92 @ CR 54	Signalized	2.49	154	F	F	E	C	C
US 17/92 @ CR 532	Signalized	2.69	293	F	D	E	F	
US 17/92 @ Old Tampa Hwy	TWSC*	4.68	1747	F		F		
US 17/92 @ Tallahassee Blvd	TWSC*	1.49	343	F		F		

Table 10: Future year (2040) intersection conditions

*HCM Two-Way Stop Controlled Analysis – maximum delay and LOS provided

Table 11 provides the results of the operational analysis of US 17/92 intersections using forecasted 2040 traffic volumes, plus an assumed widening of US 17/92 from two to four lanes, one additional left turn lane on the eastbound approach to CR-54, and one additional left turn lane on the eastbound approach of CR-532. A signal timing optimization using Synchro was performed. These improvements improve conditions along the corridor, reducing both volume to capacity (VC) ratio and delay.

Intersection	Type	Max VC	Delay (sec)	LOS	Approach			
					NB	SB	EB	WB
AM Peak Hour								
US 17/92 @ CR 54	Signalized	0.86	41	D	D	D	C	D
US 17/92 @ CR 532	Signalized	1.07	44	D	B	D	E	
US 17/92 @ Old Tampa Hwy	TWSC*	0.93	83	F		F		
US 17/92 @ Tallahassee Blvd	TWSC*	0.84	140	F		F		
PM Peak Hour								
US 17/92 @ CR 54	Signalized	0.81	40	D	D	D	C	C
US 17/92 @ CR 532	Signalized	0.99	36	D	C	C	D	
US 17/92 @ Old Tampa Hwy	TWSC*	1.61	327	F		F		
US 17/92 @ Tallahassee Blvd	TWSC*	7.26	60	F		F		

Table 11: Future year (2040) conditions with improvements

*HCM Two-Way Stop Controlled Analysis – maximum delay and LOS provided

Expected growth within the project study area is expected to exceed existing capacity on US 17/92 by 2040. Level of service on both segments and at intersections during the base year

2016 is generally acceptable, though intersection level of service is failing on CR 54 during the AM peak hour and CR 532 during the PM peak hour.

If no improvements are made, all segments and intersections along US 17/92 in the project study area will be expected to fail by 2040. If improvements are made (i.e., four-lane US 17/92, optimize signal timing, and create duel left turns on the eastbound approaches at CR 54 and CR 532) then conditions are expected to meet the level of service standards for both the segments and two signalized intersections in 2040. The study's two unsignalized intersections at Old Tampa Highway and Tallahassee Boulevard would still expect to fail as stop-controlled intersections due to operational, rather than capacity, considerations. The Old Tampa Highway junction, with side street volumes over 130 peak hour vehicles in the 2040 PM peak, would be expected to meet traffic signal warrant criteria. The Tallahassee Boulevard junction requires additional review in the subsequent PD&E study to determine the likelihood that with additional localized development and access control (in the form of the 17/92 widening median) would increase traffic volumes to warrant signalization at some point in the future.

Alternatives Analysis and Development

TSM&O and Multimodal Systems

Although there are no Federal requirements to develop a Transportation Systems Management and Operations (TSM&O) program plan, the FHWA has recognized that transportation agencies at all levels (such as state and local DOT's and MPO's) are realizing the importance of TSM&O activities as part of their core mission. As a result, FHWA has produced program guidance designed to optimize the performance of existing multimodal infrastructure through implementation of systems, services and projects to preserve capacity and improve the reliability of transportation systems. Goals of the TSM&O program include mode choice, minimization of connection gaps, transit availability, and bicycle/pedestrian network enhancements. Each phase of project development provides an opportunity to include TSM&O strategies that can improve safety and operations, beginning with this planning process.

The study corridor has been designated as a multimodal corridor by Osceola County due to the proximity of the Poinciana SunRail station. Providing mobility options is necessary due to the demand for multimodal travel based on both existing use and future economic growth anticipated along the corridor.

The FDOT TSM&O 2017 Strategic Plan provides several tools that have the potential to not only increase the safety of multimodal networks along the study corridor, but further FDOT program goals as well. While these tools will be developed and evaluated in greater detail during the PD&E process, there is a benefit to noting TSM&O options now to ensure they are adequately considered moving forward. Tools that could be implemented for this project may include but are not limited to:

- Intersection Collision Avoidance
- Intersection System Detection
- Walk Smart/Bike Smart
- Active Arterial Management

Design Criteria

Designs for roadway and bridge projects are based on established design controls for the various elements of the project. Prior to developing concept alternatives and typical sections, design guidance from the 2018 FDOT Design Manual was gathered, including the following:

- **Table 200.4.1 Context Classifications**: The corridor and areas immediately adjacent fall within context classifications C1 (natural), C2 (rural), and C2T (rural town). It is anticipated that portions of the corridor at either end of the study area may evolve into C3C (suburban commercial).
- **Table 201.4.1 Design Speed**: The allowable design speed range for C1 and C2 is 55-70 mph, for C2T is 25-45 mph and for C3 is 35-55 mph.
- **Table 210.2.1 Minimum Travel and Auxiliary Lane Widths**: For C1-C3 context classifications, 11-foot travel lanes for design speeds 40-45 mph and 12-foot travel lanes for design speeds 50+ mph are recommended.

- **Table 210.3.1 Median Widths**: For C1 and C2, the median width is 30-feet for a high speed curbed roadway (50-55 mph) and 40-feet for a flush shoulder roadway (50+ mph). For C2T, the median width is 15.5-feet (25-35 mph) and 22-feet (40-45 mph) regardless of curbed roadway or flush shoulder. For C3, the median width is 22-feet (25-45 mph) regardless of curbed roadway or flush shoulder, 30-feet for high speed curbed roadway (50-55 mph) and 40-feet for a flush shoulder roadway.
- **Table 210.4.1 Shoulder Width**: For two lanes in the same direction without a shoulder gutter: outside - full width 10-feet and paved width 5-feet; median or left – full width 8-feet and paved width 0-feet. [Note: consider 12-foot outside full width shoulder adjacent to travel lanes with high AADT or greater than 10% trucks]. For two lanes in the same direction with a shoulder gutter: outside - full width 15.5-feet and paved width 8-feet; median or left – full width 13.5-feet and paved width 6-feet.
- **Sub-Section 210.5.1 High Speed Curbed Roadway**: High speed curbed sections are typically used within context classification C3 and transitional areas.
- **Table 210.7.1 Minimum Border Width**: For flush shoulder and design speeds 50+ mph, the minimum border width from the shoulder break to ROW is 40-feet.
- **Table 210.8.1 Length of Horizontal Curve**: The horizontal curve length should be the greater of the lengths based on design speed or deflection angle. The curve lengths based on design speed are 675-feet (45 mph), 750-feet (50 mph) and 825-feet (55 mph). the curve lengths based on deflection angle are 500-feet (5 deg.), 600-feet (4 deg.), 700-feet (3 deg.), 800-feet (2 deg.) and 900-feet (1 deg.).
- **Table 222.1.1 Sidewalk Widths**: Standard sidewalk width in C1 and C2 is 5-feet, in C2T and C3 is 6-feet. In C2T and C3, the sidewalk width may be increased up to 8-feet when demand is demonstrated.
- **Sub-Section 223.2.1.1 Bicycle Lane Widths**: A 7-foot buffered bicycle lane is the highest priority design, working down to 4-feet minimum. Do not provide a bike lane when available pavement is less than 4-feet.
- **Sub-Section 223.2.2 Paved Shoulders**: A paved shoulder must be a minimum width of 4-feet to serve as a bicycle facility.
- **Sub-Section 224.4 Widths [shared-use path]**: The appropriate paved width for a two-directional shared use path is dependent on context, volume and mix of users. Widths range from 10- to 14-feet, with a standard width of 12-feet. Short 8-feet wide sections may be used in constrained conditions.
- **Sub-Section 224.12 Separation from Roadway [shared-use path]**: On roadways with design speeds of 50+ mph, the edge of the shared use path should be at least 5-feet from the shoulder break. On roadways with design speeds 45 mph or less, the edge of the path should be at least 4-feet from the back of curb on curbed roadways and 5-feet from the edge of the paved shoulder on flush shoulder roadways.
- **Figure 260.1.1 Partial Bridge Sections**: For a divided arterial with design speeds 50+ mph, the cross-section will have two (2) 12-foot travel lanes, 6-foot inside shoulder, 10-foot outside shoulder with perimeter barrier walls.

Additionally, the following information was used for reference:

- **SR 600 Contract Plans, Project ID 239714-1-52-01 dated January 2002 for US 17/92 from Avenue A to Ham Brown Road (CR 535)**: These plans provided the plan layout and cross-section that this project matched west of Avenue A.
- **SR 600 Preliminary Engineering Report, Project ID 92010-1520 dated February 1996 for US 17/92 from CR 532 to Poinciana Boulevard:** This report documents the previous PD&E Study along the corridor and provides initial guidance that can be used for this project, including:

    - The goal of the project was to increase the roadway from two- to four-lanes to accommodate projected traffic demands and replace three aging bridge structures over Reedy Creek.
    - The project proposed a new single bridge to the south of that existing over Reedy Creek (what is now the current bridge in use today, in 2017), with another bridge proposed in the future in the same location as the three aging bridges that were abandoned. This future location was chosen because there are utility lines and an above-ground sanitary force main to the north and protected trees to the south that need to be avoided.
    - Preservation of trees was a very important part of this project. The new bridge location to the south was chosen in large part to protect existing Cypress trees. Easements granted to the DEP called for preservation of those trees, a position was also supported by Osceola County, Kissimmee Valley Audubon Society, Florida Native Plant Society and residents.
    - Roadway expansion was favored to the south of the existing pavement because there were no utilities and less development, reducing potential mitigation and infrastructure costs.
    - The proposed roadway shift to the north between Intercession City and Poinciana Boulevard was made to take advantage of the wider 200-foot right-of-way.

No-Build Alternative

The No-Build (no action) alternative is the option in which the proposed project activity would not take place. For this project it considers leaving US 17/92 in its present state as a two-lane roadway through the study corridor. The No-Build provides the baseline for establishing impacts of the Build alternatives. It has remained an option throughout this study and was used for comparison purposes in the evaluation of traffic operations. The existing conditions Synchro models were updated with future land uses and planned improvements (from LRTP's and other sources) to produce an operational analysis that looked at traffic volumes and turning movements in the design year (2040). This data has been summarized in Table 8 in the Traffic Section of this report.

Build Alternatives

A series of planning level concepts were developed (see Appendix A) illustrating a range of possible alternatives for improvements along the study corridor. The plans were created using the framework and guidance provided in the SR 600 PD&E Study from 1996 (see Design Criteria section above for more information) and context provided by the issues and opportunities, and purpose and need statements developed for this project.

To adequately address the different conditions in the study area, improvements and impacts were divided into a series of roadway segments (see Figure 5), each with unique characteristics and potential solutions. These segments have been identified as follows, ordered from west to east:

- **Segment 1 – Ronald Reagan Parkway to CR 532** (Context C2 for existing conditions, C3C for 2040 conditions): This segment consists primarily of residential lots in Osceola County, with several small commercial parcels, community uses and utility infrastructure sites in Polk County. It has concentrated areas with commercial and activity center future land use near Ronald Reagan Parkway, and with the potential development of the I-4 Poinciana Parkway Connector, this area has a likelihood of transitioning to a higher context classification.
- **Segment 2 – CR 532 to Old Tampa Highway** (Context C1): This segment primarily covers the bridge crossing of Reedy Creek and its adjacent swamp floodplain.
- **Segment 3 – Old Tampa Highway to Intercession City** (Context C2): This segment contains a mix of small and large rural residential parcels, with some scattered commercial uses.
- **Segment 4 – Intercession City** (Context C2T): This unincorporated community consists primarily of residential development, with several small commercial parcels and community uses. There is noticeable multimodal activity.
- **Segment 5 – Intercession City to Avenue A** (Context C2, C3C for 2040 conditions): This segment has the most development activity along the corridor. In addition to the Poinciana SunRail Station under construction, there are a variety of commercial and industrial uses.

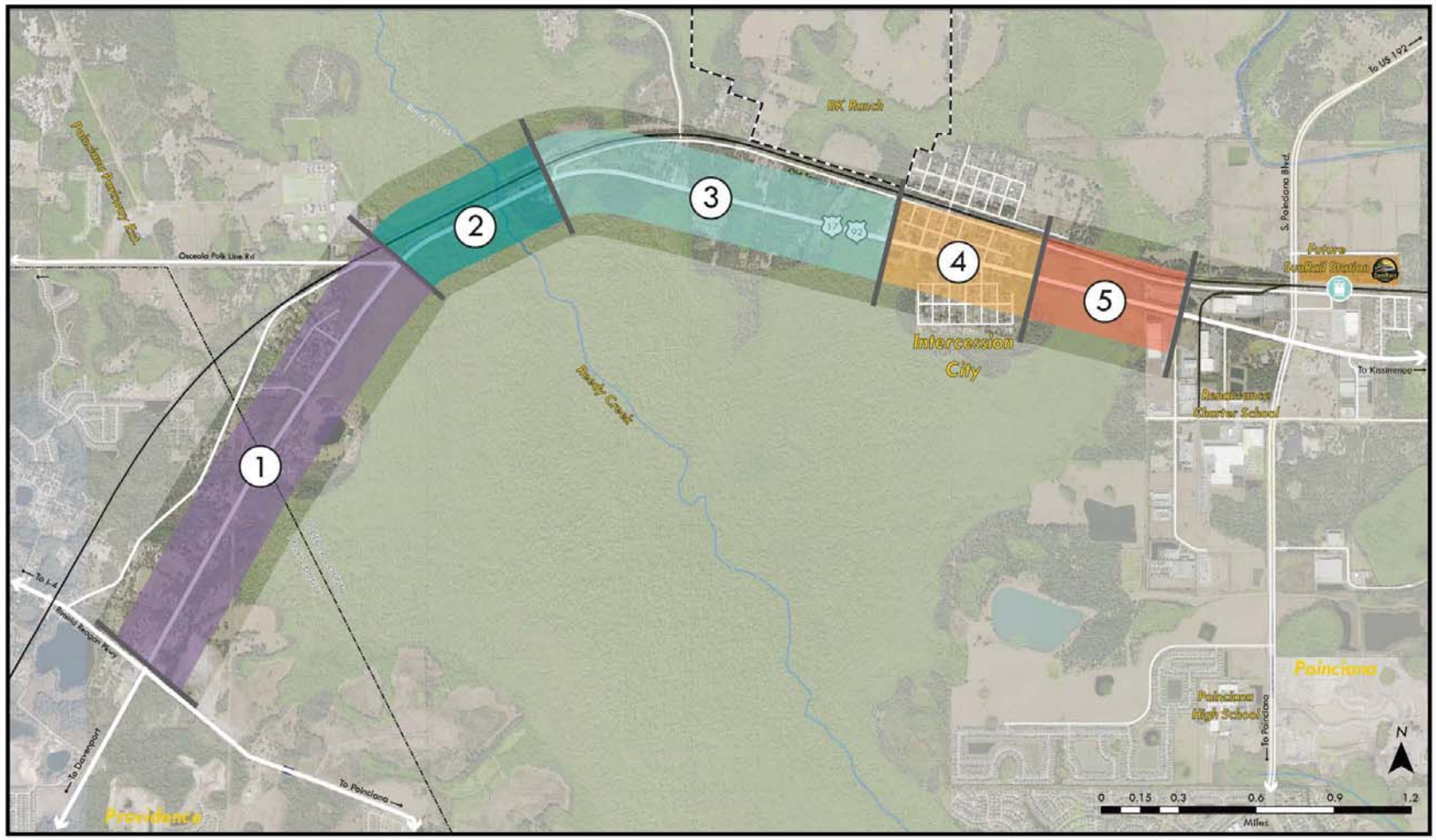

Figure 5: Roadway segments along study corridor, by character

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Within each of these segments, the planning level concepts considered different roadway layout options – improvements either north, south or centered on the existing roadway – to create and evaluate a "best fit" alignment that minimizes costs and impacts. Along some segments, specific conditions were not considered – these are noted below in the Alternatives Comparison section.

In addition to the "best fit" roadway expansion, roundabouts were also considered in strategic locations. Level 1 roundabout screening forms were filled out for the intersections at CR-532 and Tallahassee Boulevard. These forms are provided in Appendix B. For both of these intersections, the FDOT Intersection Guide recommends using a 200-ft. Inscribed Circle Diameter (ICD) to estimate right of way needs. This 200-ft. circle is measured to the outside curb and so it does not include sidewalks, drainage, or other right of way needs. The intersection at CR-532 is constrained by the designated wetlands on the south side of the intersection. In addition to the Level 1 roundabout screening, the FDOT Intersection Design Guide advises against roundabouts where the AADT at an intersection exceeds 45,000 for a two-lane roundabout. Based on the collected turning movement counts, growth factors, and assumed K value of 0.09, AADT entering the intersection at CR-532 is expected to exceed 45,000 in 2040. The intersection at Tallahassee Boulevard fails two of the screening criteria. The major roadway AADT exceeds 90 percent of the total intersection AADT and the required roundabout footprint would require relocating two residences at the north corners of US17/92 and Tallahassee Boulevard and one business on the south side of US17/92.

Several typical sections were developed as part of the planning level concepts evaluation. These proposed sections have been identified as follows:

- **Section Option 1 (see Figure 6)**: This section includes the addition of two (2) 12-foot wide travel lanes separated by a 40-foot flush wide grassed median, and 5-foot wide sidewalks located on both sides of the road (where possible). This would be a rural section with a 55-mph posted speed limit. Open swale drainage would be maintained. The apparent existing right-of-way width is 100-feet and the proposed right-of-way width would require approximately 88-feet of acquisition.
- **Section Option 2 (see Figure 7)**: This section includes the addition of two (2) 12-foot wide travel lanes separated by a 30-foot wide curbed and grassed median, and 5-foot wide sidewalks located on both sides of the road (where possible). This is labeled as a suburban section due to the application of median curbing to reduce the right-of-way width but would remain appropriate for rural context with a 55-mph posted speed limit. Open swale drainage would be maintained. The apparent existing right-of-way width is 100-feet and the proposed right-of-way width would require approximately 78-feet of acquisition.
- **Section Option 3 (see Figure 8)**: This section includes the addition of two (2) 11-foot wide travel lanes separated by a 22-foot wide curbed and grassed median, 6-foot wide sidewalks, and 7-foot wide bicycle lanes. This would be a suburban section with a 45-mph posted speed limit. Open swale drainage would be maintained in some places but may also include underground piping. The apparent existing right-of-way width is 100-feet and no additional right-of-way acquisition would be required; however, easements may be required for slopes or utilities in select locations.

- **Section Option 4 (see Figure 9)**: This section includes the addition of two (2) 12-foot wide travel lanes in a new bridge construction over Reedy Creek. A 6-foot wide sidewalk would be incorporated into the bridge structure. This would be a rural section with 55-mph posted speed limit. The apparent right-of-way width is 240-feet and no additional right-of-way acquisition would be required. The bridge would be constructed in the location of the old roadway to reduce environmental impacts and save trees.

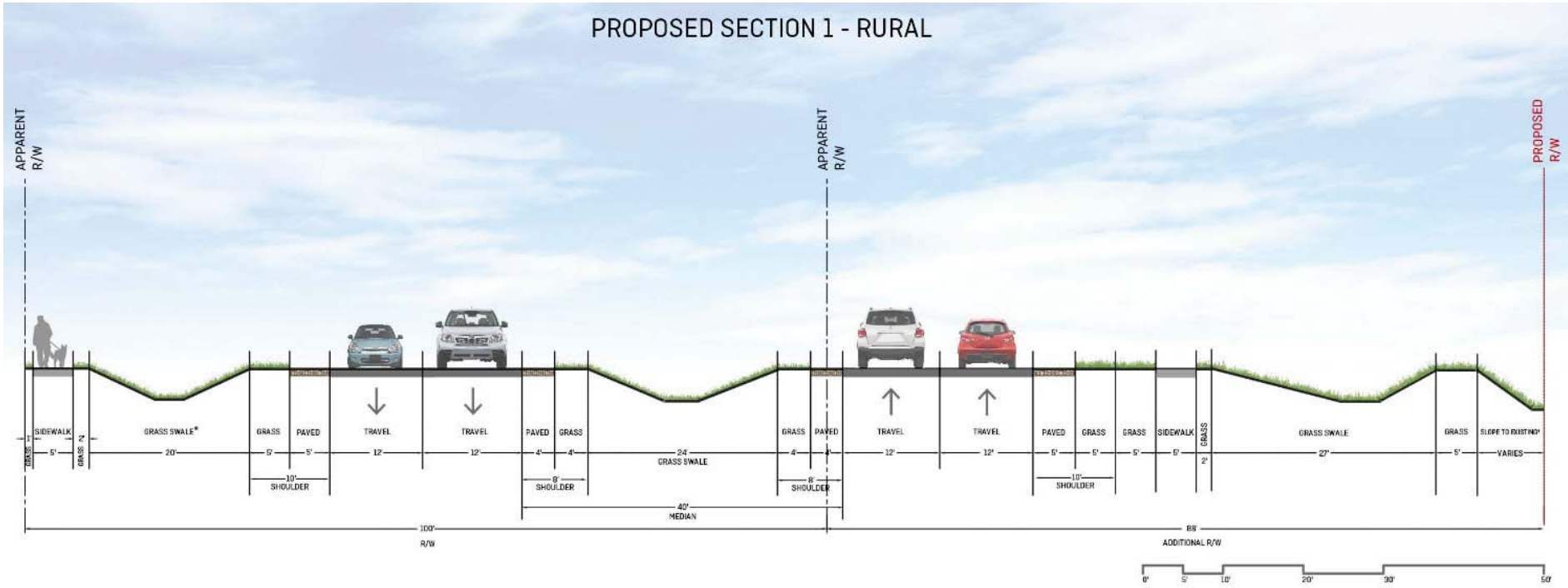

Figure 6: Proposed Section 1 – rural condition

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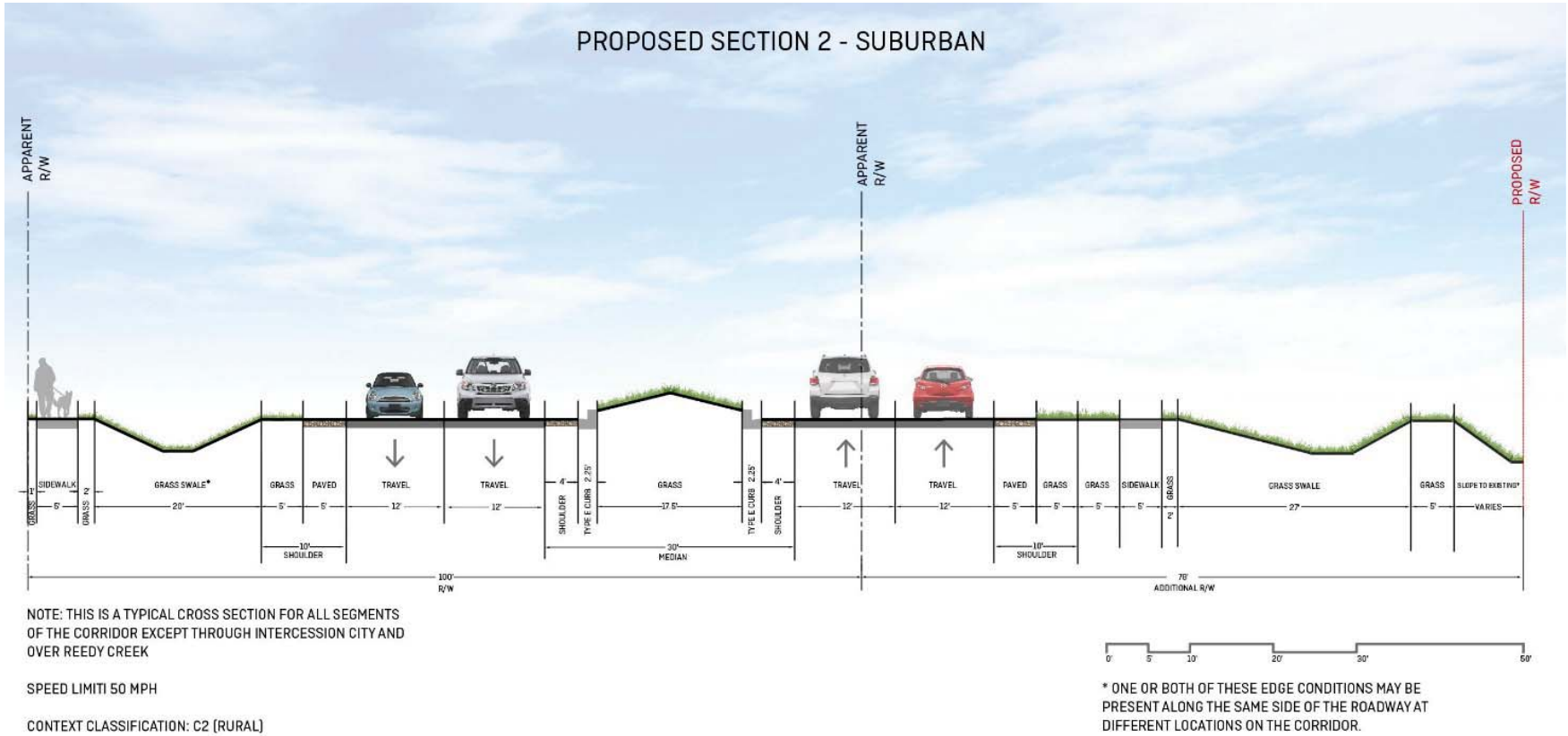

Figure 7: Proposed Section 2 – suburban condition

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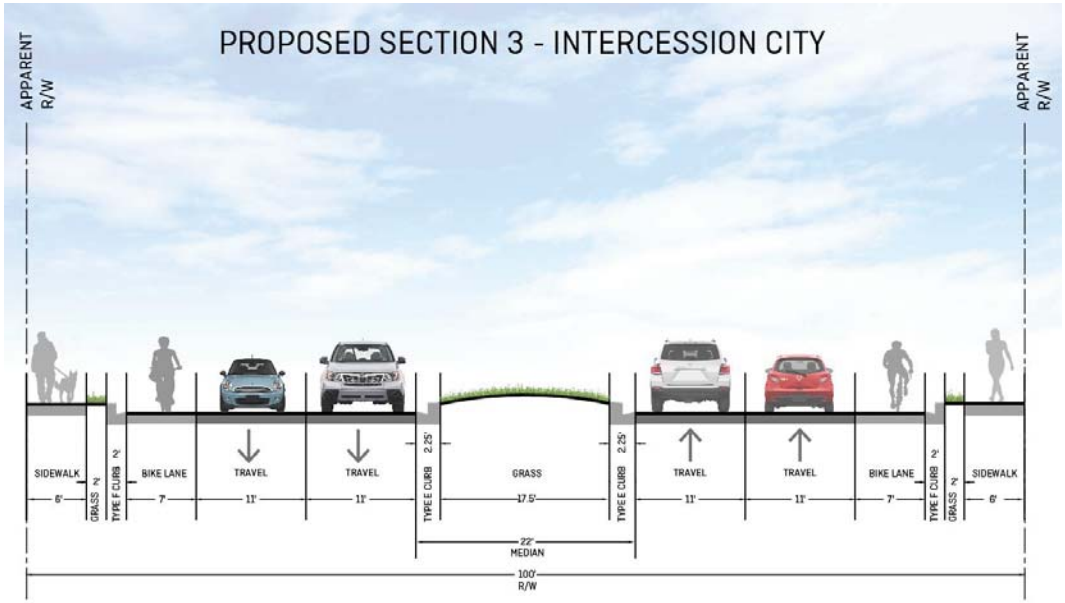

Figure 8: Proposed Section 3 – Intercession City

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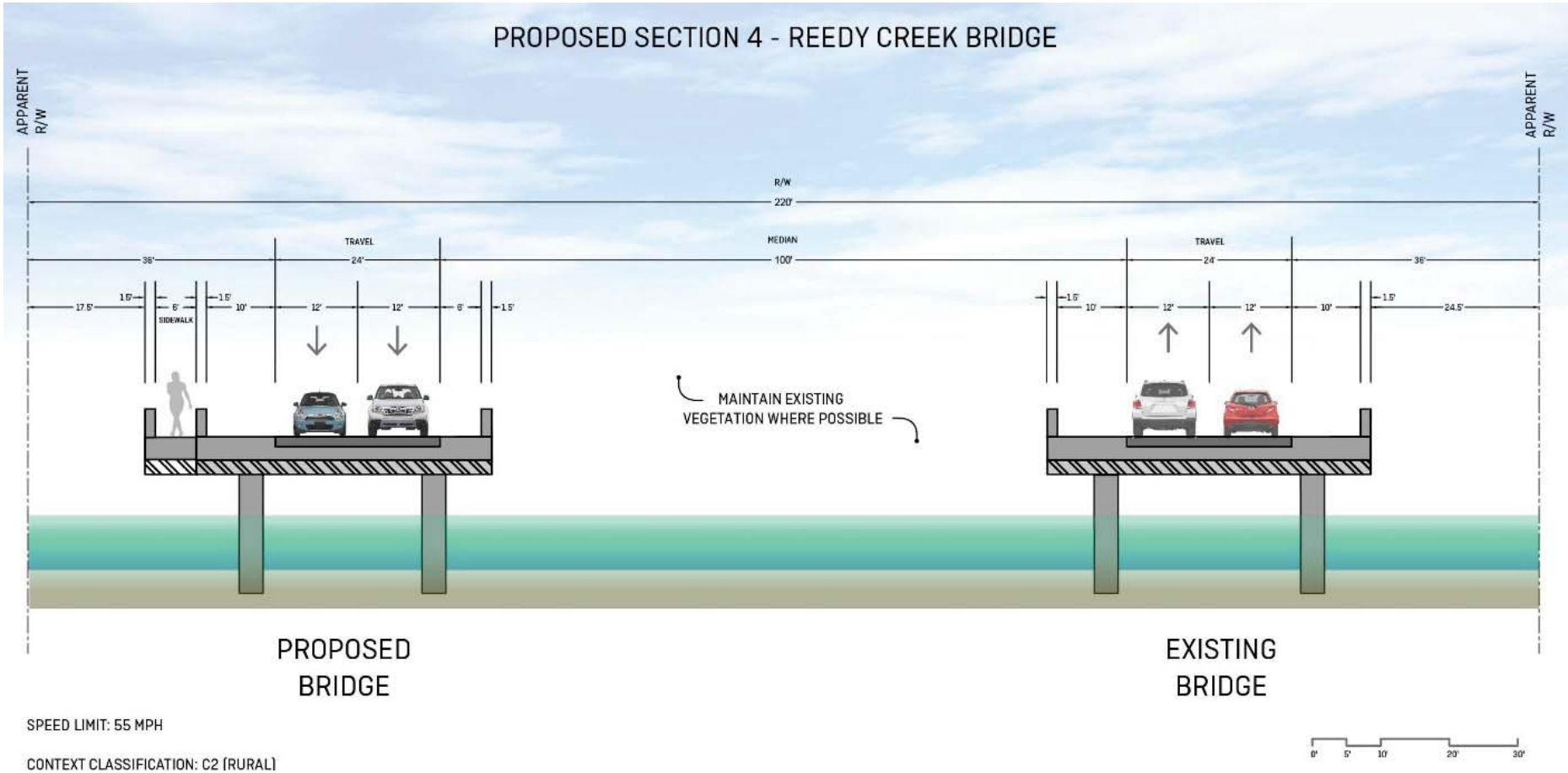

Figure 9: Proposed Section 4 – Reedy Creek Bridge

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Initial Alternatives Comparison

To compare alternatives, two key components were looked at – type of section (Table 12) and roadway alignment (Table 13). These two components were considered for each roadway segment. Various section and alignment combinations were compared for planning purposes, resulting in a final concept that has the potential to be evaluated during the PD&E Study; this concept is similar to and draws from the recommendations put forth in the 1996 PD&E Study.

Table 12 identifies which of the proposed sections were evaluated for each roadway segment, with notations describing any rationale for only considering one cross-section (Segments 2, 4, and 5). For segment 1, the study team recommended Section Option 2 to reduce property and environmental impacts and because of the potential transition of the area to a more suburban character in the future. In Segment 3, the study team recommended Section Option 1 due to the more rural nature of the roadway.

	Cross-Section				
Corridor Segment	**1**	**2**	**3**	**4**	**Notes**
Segment 1	X	X			
Segment 2				X	Specific bridge section over Reedy Creek
Segment 3	X	X			
Segment 4			X		Specific urban section for Intercession City
Segment 5	X				Rural section matches connection to east

Table 12: Potential sections for corridor roadway segments

Table 13 identifies which alignment configurations were evaluated for each roadway segment to achieve a “best fit”, with notations describing any rationale for not considering multiple configurations (Segments 2, 4, and 5):

	Improvements Location (in relation to existing roadway)			
Corridor Segment	**North**	**South**	**Centered**	**Notes**
Segment 1	X	X	X	
Segment 2	X			Centered option not feasible without existing bridge relocation but northern option facilitates re-use of Old Tampa Highway bridge alignment
Segment 3	X	X	X	
Segment 4			X	Locate within existing right-of-way to minimize property impacts
Segment 5	X			Fixed connection point with adjacent widening project to the east

Table 13: Potential roadway alignment options for corridor roadway segments

Table 14 summarizes potential impacts for each "best fit" configuration evaluated, done by roadway segment. In some segments, as previously discussed, only one option was considered:

Potential Impact	Corridor Segment														
	Segment 1			Segment 2			Segment 3			Segment 4			Segment 5		
	N	S	C	N	S	C	N	S	C	N	S	C	N	S	C
R/W acreage to acquire	14.0	14.0	14.0	0.2	x	x	13.0	11.0	12.0	x	x	0	1.5	x	x
Parcels impacted	36	28	64	3	x	x	39	21	60	x	x	0	4	x	x
Vacant parcels	26	16	42	3	x	x	23	12	35	x	x	0	1	x	x
Improved parcels	10	12	22	0	x	x	16	9	25	x	x	0	3	x	x
Public ownership	5	4	9	2	x	x	5	2	7	x	x	0	1	x	x
Private ownership	31	24	55	1	x	x	34	19	53	x	x	0	3	x	x
Structure taking[1]	2	2	2	0	x	x	10	1	5	x	x	0	0	x	x
Residential relocation[2]	0	2	2	0	x	x	0	0	0	x	x	0	0	x	x
Wetland impacts (ac)	3.4	2.2	2.8	2.2	x	x	3.0	0.7	1.8	x	x	0	0.5	x	x
Power pole relocation (ft)	9700	0	9700	0	x	x	7400	0	7400	x	x	0	3750	x	x
Gas line relocation (ft)	5100	0	5100	0	x	x	0	0	0	x	x	0	0	x	x

Table 14: Summary of potential impacts for corridor roadway segments

Note: For each Segment, N=expansion of the roadway to the north, S=expansion of the roadway to the south, and C=centered roadway expansion

1. Where the proposed right-of-way acquisition falls in the footprint of an existing solid foundation structure
2. Where the proposed right-of-way acquisition falls in the footprint of a mobile home, where there is room to move the residence within the same parcel

The impacts quantified above, in particular the utility relocation impacts, guided the recommendation to support a southern alignment configuration of the roadway in Segments 1 and 3. This is consistent with the 1996 PD&E Study.

Selected Alternatives Description

Alignment and Typical Section

Based on the evaluation of planning level concepts presented above, a preferred plan layout was defined. It should be noted that this is a high-level analysis of the alignments that will be expanded during the PD&E Study. This plan addresses the different corridor conditions as follows:

Segment 1 – Ronald Reagan Parkway to CR 532

- Section: Option 2, 4-lane suburban section with 30-foot median
- Median Openings: Full opening medians at Sundown Drive, Ivy Mist Lane, Church Road and Parker Road
- Multimodal Facilities: Sidewalk on both sides of roadway, paved shoulders serve as bicycle lanes
- Segment Notes:
    - Additional required right-of-way to be located on the south side of existing roadway to avoid power poles, gas lines and existing development.
    - Location of the I-4 Poinciana Parkway Connector and its potential interchange will likely change the typical section through this segment

Segment 2 – CR 532 to Old Tampa Highway

- Section: Option 4, 4-lane divided bridge section with 100-foot median
- Median Openings: None
- Multimodal Facilities: Sidewalk on north side of roadway (new bridge), paved shoulders serve as bicycle lanes
- Segment Notes:
    - Location of new bridge is proposed where abandoned bridge now exists – this provides a chance to clean up old infrastructure and preserve existing trees as outlined in the previous PD&E Study
    - There will need to be discussion on whether a sidewalk is located only on the north side of the roadway or if a sidewalk can be incorporated into the existing bridge
    - If a sidewalk is only located on the north side of the roadway, there will need to be enhanced pedestrian crossings on either side of the bridge

Segment 3 – Old Tampa Highway to Sawannee Avenue

- Section: Option 1, 4-lane rural section with 40-foot median
- Median Openings: Full opening medians at the western entrance of the Furniture Gallery parcel, Aspire Health Campus and approximately ½ mile east of Aspire; directional opening median west of Intercession City
- Multimodal Facilities: Sidewalk on both sides of roadway, paved shoulders serve as bicycle lanes
- Segment Notes:

- Additional required right-of-way to be located on the south side of existing roadway to avoid power poles and existing development

Segment 4 – Sawannee Avenue to Nocatee Street (Intercession City)

- Section: Option 3, 4-lane urban section with 22-foot median
- Median Openings: Full opening medians at Tallahassee Boulevard and Nocatee Street
- Multimodal Facilities: Sidewalk on both sides of roadway, buffered bicycle lanes
- Segment Notes:
  - Although the section is designed within the existing right-of-way, some easements may be required to accommodate utilities and slopes
  - Stormwater and drainage will need to be considered in this more urban setting – how much will be surface flow and how much can be piped?

Segment 5 – Nocatee Street to 500' west of Avenue A

- Section: Option 1, 4-lane rural section with 40-foot median
- Median Openings: Directional opening median east of Intercession City
- Multimodal Facilities: Sidewalk on both sides of roadway, paved shoulders serve as bicycle lanes
- Segment Notes:
  - Additional required right-of-way to be located on the north side of existing roadway to match proposed US 17/92 widening project from Ham Brown Road to Avenue A
  - Power poles will need to be relocated with the new roadway work – are upgrades needed where cost-sharing could be utilized?

Design Variations

The primary places where the alignment will vary from the proposed sections previously described will be at the segment transitions. For instance, the Segment 5 rural section with a 40-foot median will transition down to the suburban section with 22-foot median through Intercession City, then transition back to a rural section with 40-foot median through Segment 3. In these areas, design guidance will be provided by **Sub-Section 210.2.5 Roadway Transitions** and the accompanying Exhibits 210-1 through 210-6 from the 2018 FDOT Design Manual.

The study team considered several options for accommodating the pedestrian and bicyclist crossing of Reedy Creek. The existing two-lane US 17/92 bridge can readily be converted to carry two lanes of northbound traffic with adequate shoulders but cannot accommodate acceptable pedestrian or shared-use path facilities (although northbound on-road cyclists could be accommodated on the right shoulder). Retrofitting or rebuilding the existing bridge to accommodate a sidewalk or shared-use path would increase both the cost and introduce both permanent and construction-related environmental impacts. In contrast, the reconstruction of the Old Tampa Highway bridge to accommodate two southbound lanes of US 17/92 will require full structural replacement, and the new bridge can be designed to include a shared-use path (and commitments should be made to pursue end-on construction techniques to minimize

additional ecosystem disruption). Given the distance of more than two-miles between significant pedestrian generators on either side of Reedy Creek (at Intersession City and the future BK Farms to the east and future development in Polk County to the west), providing pedestrian accommodation on the north side of the Reedy Creek crossing appears to be a prudent approach to a "complete streets" solution in this environmentally sensitive area. The north-side crossing also facilitates pedestrian and bicycle connectivity to the portions of Old Tampa Highway that will remain as a low-speed, low-volume parallel route to US 17/92 both west and east of Reedy Creek. The PD&E process should consider commitments to provide safe pedestrian crossings of US 17/92 on either end of the Reedy Creek crossing where the south side sidewalk would be terminated, presumed to be at the signalized intersection of CR 532 on the southwest end and at Old Tampa Highway on the northeast end.

Access Management

Access management is the coordinated planning and design of access between roadways and land development. It promotes the efficient and safe movement of people and goods by reducing conflicts on the roadway system. By reducing conflicts, safety is improved, and traffic capacity is increased.

With the expansion of the roadway from two- lanes to four-lanes and the introduction of a median, the concept alternatives utilized the following criteria and guidance:

- 1320-feet minimum spacing between full openings (with a 10% flex to accommodate existing roadways)
- 660-feet minimum spacing between full openings and directional openings
- Medians utilized through Intercession City since they have a complete gridded street network
- Directional openings added on either end of Intercession City to allow U-turns from edge parcels without having to travel through Intercession City

The Alignment and Typical Sections text above summarizes median type and location for each segment of roadway.

Drainage Considerations

The existing storm drainage system along the corridor can be characterized as rural, with primarily open swale drainage that parallels the roadway and carries surface runoff to the wetlands surrounding Reedy Creek. As shown on Figure 10, there are two pipe crossings of US 17/92 under the study corridor, as well as the unimpeded flow of Reedy Creek and its adjacent wetlands under US 17/92 bridges.

Although the roadway improvements will create a more complex surface drainage and piping network, the general framework and drainage basins of the existing system will remain intact. Parcels for storm drainage were not evaluated for this study; however, they will need to be evaluated as the project moves forward to the PD&E study. There are State, FDOT, and Water Management District parcels along the corridor that should be considered instead of private property where appropriate.

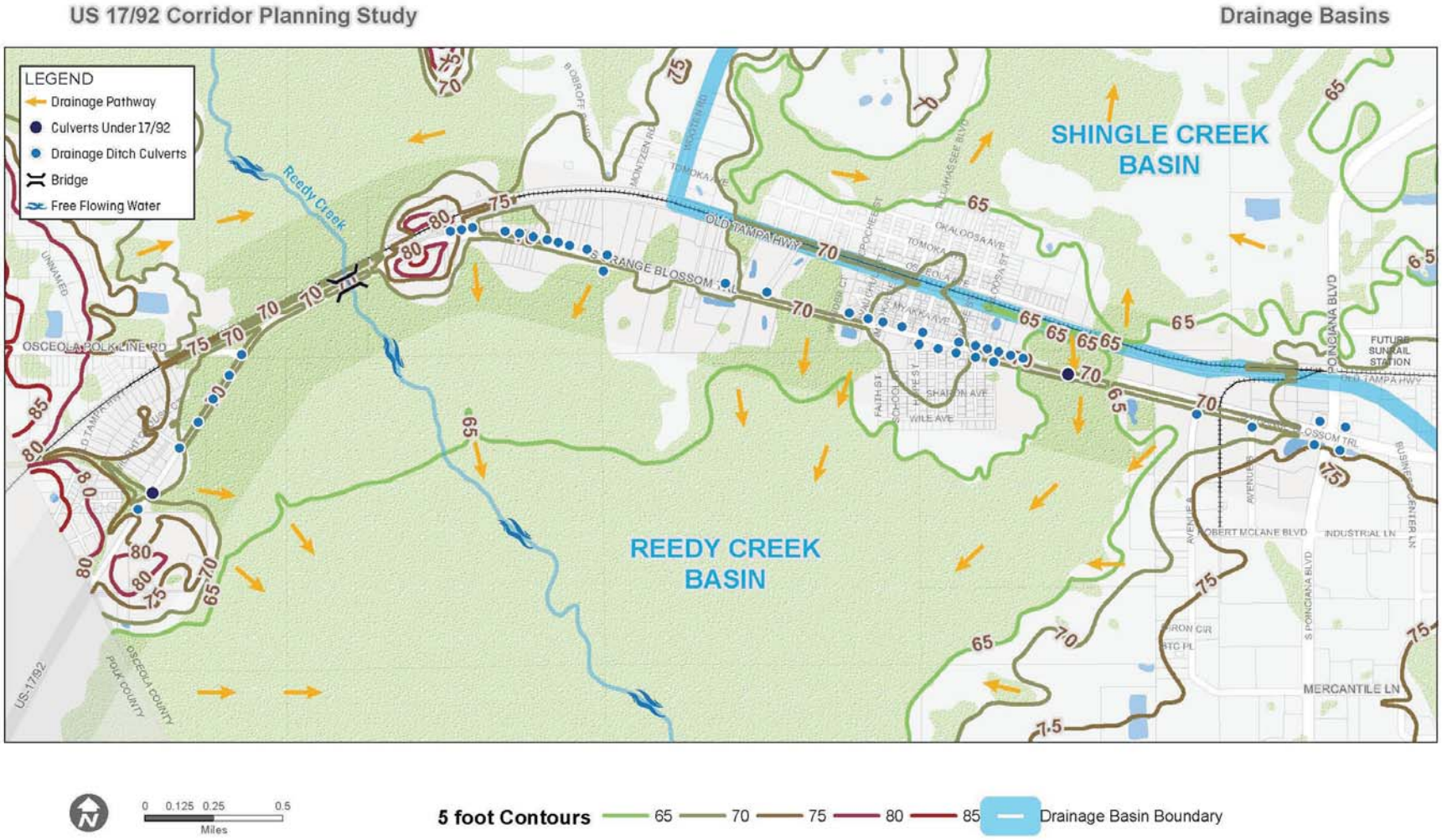

Figure 10: Drainage Basin Map

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Environmental Impacts

Roadway improvements can have multiple effects on the surrounding environment, both direct impacts and indirect impacts. Direct impacts are caused by the construction itself and are generally easier to inventory, assess and control. Indirect impacts, while linked to a project, can have a wider range of consequences and are more difficult to measure.

As part of this corridor planning study, existing environmental features were identified using GIS data base information, including flood zones and wetlands. Appendix C contains additional environmental information including graphics of existing environmental features along the corridor.

Threatened and Endangered Species Impacts

According to the SFWMD, the water bodies of the Kissimmee Chain of Lakes, and Kissimmee River and floodplain support breeding, shelter and foraging habitats for 178 species of fish, wetland-dependent wading birds, amphibians, reptiles and mammals. As this project moves forward, a review and assessment of threatened and endangered species should be undertaken to confirm if any affected species are located within the project area or immediate surroundings. If so, and if those habitats will be impacted by the roadway improvements, then avoidance measures or design changes should be applied to avoid the impacts. Beyond that, mitigation and/or relocation measures may need to be considered. A map showing potential species habitat is included in Appendix C.

Cultural/Historic Impacts

There are a variety of cultural resources along the study corridor. While none are threatened by the roadway improvements, there may be ways to better incorporate them into the context of the corridor. The Osceola County and Polk County Historical Societies can provide valuable input regarding these resources:

- There are several archeological sites on or near the corridor that could be marked for recognition (see Figures 11 and 12).
- The Polk County/Citrus Center marker that is located on Old Tampa Highway at the Osceola/Polk County Line could be moved to a more prominent location – maybe as part of a median or gateway feature.
- Fletcher Park, while not an actual park but a state preserve, could be enhanced in several ways. Upland areas along the edges of the Reedy Creek Swamp could be converted into a passive park, and an interpretive trail or boardwalk extended to Reedy Creek. The Fletcher Park monument, which is now located at the Osceola County Welcome Center and Historical Museum, could be returned to the site as a centerpiece and historic artifact.
- The brick pavement on Old Tampa Highway could be restored and that section of roadway highlighted for bicycle and pedestrian travel, extending north to tie into Fletcher Park.

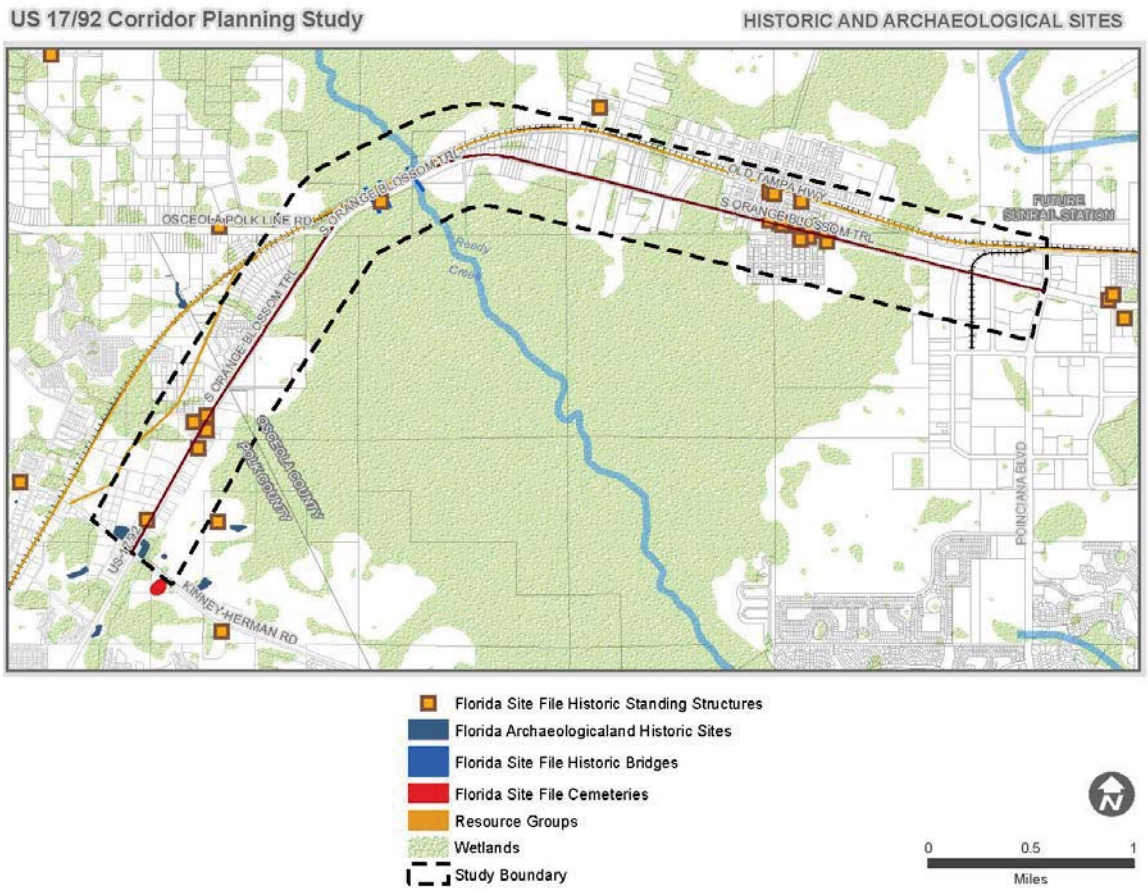


Figure 11: Historic and archeological sites

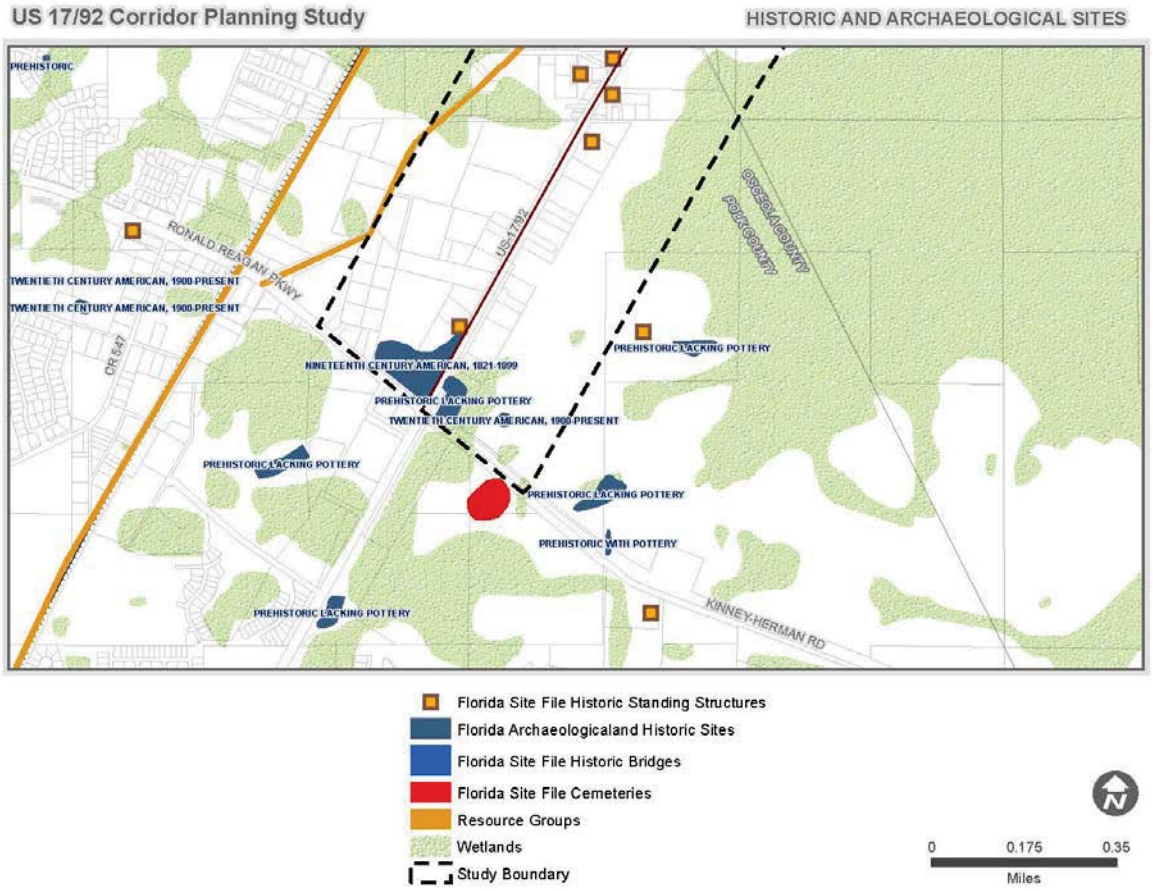


Figure 12: Historic and archeological sites – detail near Ronald Reagan Parkway

Public Involvement

Summary of Public Involvement

The purpose of public outreach for this corridor study was to facilitate communication and feedback between the project team and the corridor constituents and stakeholders. The public involvement activities were designed to share information as well as receive input on evolving ideas related to the study. Objectives of the public involvement strategy included:

- **Early and continuous engagement**: The project team engaged agencies, stakeholders and the public early and regularly throughout the project – during the framing of the problem, the definition of the study's purpose and needs, and the development and selection of concept plans and alternatives.
- **Engagement through various channels**: The project team used multiple avenues of community engagement, from traditional large-scale public workshops to small-group meetings and stakeholder interviews. The team also leveraged existing channels of communication with FDOT and partner agencies including Osceola County and Polk County in sharing project information and receiving input.
- **Engage a diverse group of community members**: The project team provided opportunities for interacting with the corridor's diverse stakeholders and users, including residents, businesses and property owners.

Project Visioning Team

Collaboration between the project team and key stakeholders included the establishment of a Project Visioning Team (PVT) comprised of agency staff from Osceola County, Polk County, MetroPlan Orlando, ECFRPC and LYNX, as well as local residents. The group met twice over the course of the study and was a sounding board where preliminary findings, ideas and concepts were vetted before they were presented to FDOT management and the larger community.

The first PVT meeting was held on February 7, 2017 in the DRC Conference Room at Osceola County Administrative Complex. The purpose of the meeting was to obtain input on existing conditions along the corridor from the different stakeholder's perspectives; their insight would help guide the needs assessment and concept planning as the project progressed.

The second PVT meeting was held on October 18, 2017 at the MetroPlan Orlando office. The purpose of this meeting was to review the planning level concepts under consideration by the project team and obtain feedback from the different PVT disciplines. A detailed summary of both PVT meetings is in Appendix D.

Small Group Interaction

The project team attended two community meetings at the Intercession City Civic Center in the early stages of the project. At the first meeting, the team presented an overview of the project goals, process and timeline (see Appendix D for PowerPoint presentation), and afterwards engaged in a question-and-answer session with attendees. At the second meeting, the project team gave an update on the project and answered questions from the previous meeting that had needed additional research.

The project team conducted telephone interviews with local businesses to gather input on the future vision of the corridor, particularly regarding the transportation system. The information obtained was used to help inform the concept plan alternatives and recommendations. Appendix D contains the stakeholder interview form and responses.

Public Meeting

A public workshop was held on January 16, 2018 at the St. Nicholas Anglican Church (1729 Business Center Lane, Kissimmee), located on US 17/92 just east of Poinciana Boulevard. The purpose of the workshop was to present the roadway improvement options being considered, which included roadway and bridge widening and the addition of bicycle and pedestrian features. The event was an open house – maps and other project information were on display for review and comment, and members of the project team were available to answer questions and obtain input from attendees. Approximately 20 people attended the workshop. Most of the questions and comments from attendees concerned timing of improvements, this project as well as others in the vicinity. People are ready for any improvements that will ease the traffic congestion along the corridor.

Figure 13: Public Workshop discussion

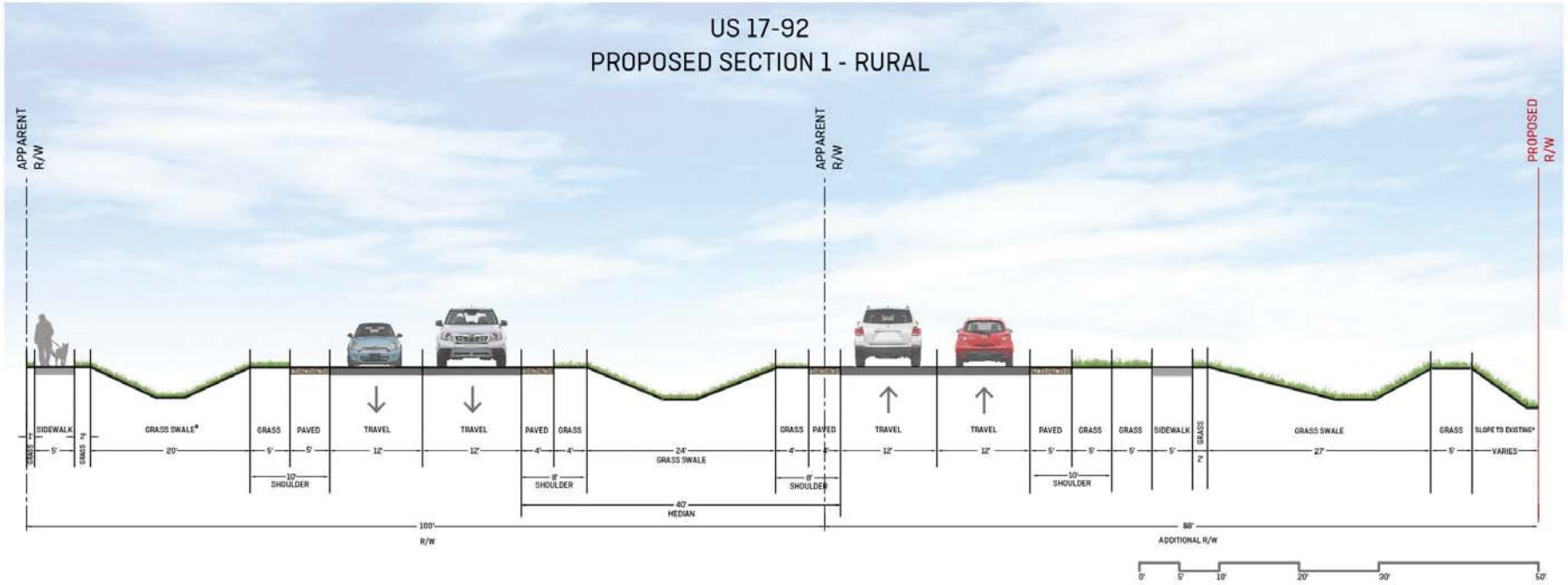
Next Steps

The project is located within the jurisdiction of MetroPlan Orlando, the Metropolitan Planning Organization (MPO) covering Orange, Osceola and Seminole Counties. The next phase of this project's development, the Project Development and Environment (PD&E) Study, is documented in MetroPlan Orlando's Transportation Improvement Plan (TIP) for fiscal year 2019/2020 with an anticipated cost of just over $1 million dollars – currently funded with State funds. MetroPlan's TIP identifies US 17/92 to be widened from two to four lanes from the Polk/Osceola line to west of Poinciana Boulevard. There is currently no funding for the design, right-of-way or construction phases.

Appendices

Appendix A: Selected Alternative Concept Plans

The graphics on the following pages represent the planning level concepts created during this project:



NOTE: THIS IS A TYPICAL CROSS-SECTION FOR ALL SEGMENTS OF THE CORRIDOR EXCEPT THROUGH INTERCESSION CITY AND OVER REEDY CREEK

SPEED LIMIT: 55 MPH

CONTEXT CLASSIFICATION: C2 (RURAL)

* ONE OR BOTH OF THESE EDGE CONDITIONS MAY BE PRESENT ALONG THE SAME SIDE OF THE ROADWAY AT DIFFERENT LOCATIONS ON THE CORRIDOR.

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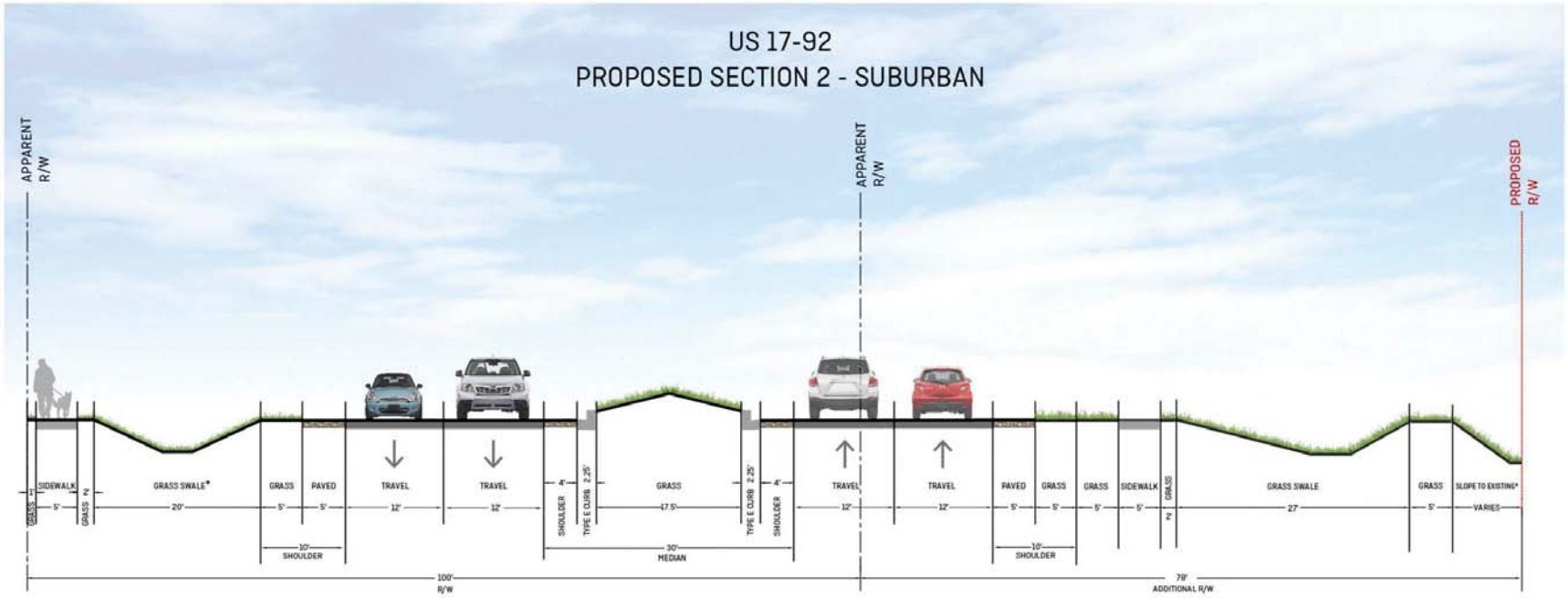

NOTE: THIS IS A TYPICAL CROSS SECTION FOR ALL SEGMENTS OF THE CORRIDOR EXCEPT THROUGH INTERCESSION CITY AND OVER REEDY CREEK

SPEED LIMIT: 50 MPH

CONTEXT CLASSIFICATION: C2 (RURAL)

0' 5' 10' 20' 30' 50'

* ONE OR BOTH OF THESE EDGE CONDITIONS MAY BE PRESENT ALONG THE SAME SIDE OF THE ROADWAY AT DIFFERENT LOCATIONS ON THE CORRIDOR.

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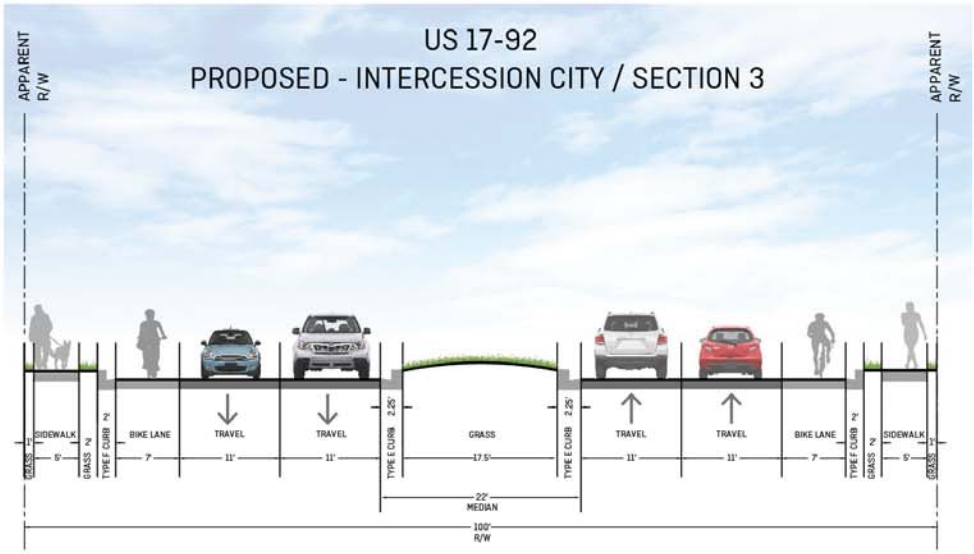

NOTE: THIS IS A TYPICAL CROSS SECTION FOR INTERCESSION CITY FROM APPROXIMATELY NOCATEE STREET TO SAWANEE AVENUE

SPEED LIMIT: 45 MPH

CONTEXT CLASSIFCATION: C2T (RURAL TOWN)

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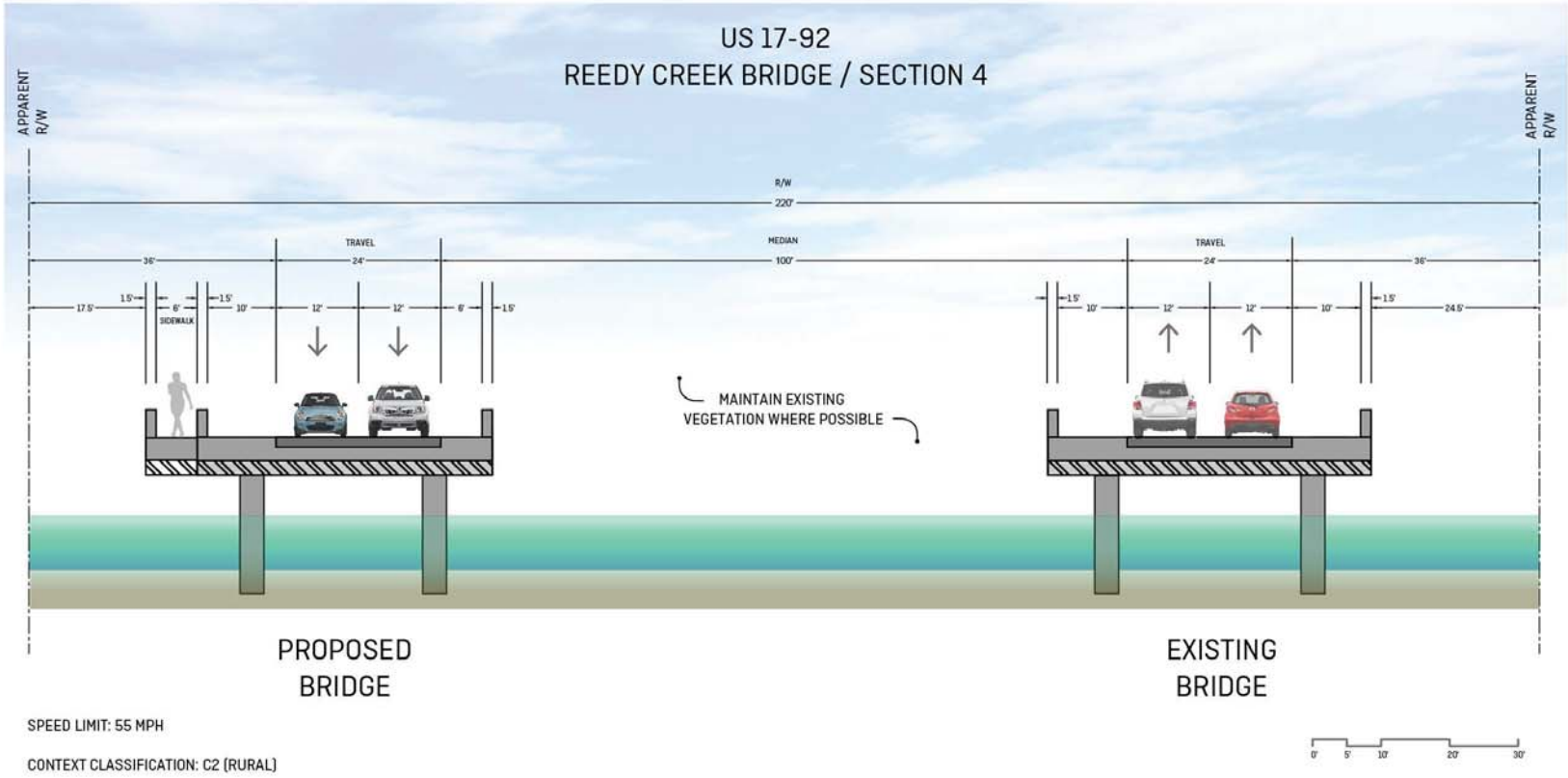
US 17-92
REEDY CREEK BRIDGE / SECTION 4
APPARENT R/W
APPARENT R/W
R/W
220'
MEDIAN
100'
TRAVEL
24'
36'
17.5'
1.5'
6'
SIDEWALK
1.5'
10'
12'
12'
6'
1.5'
TRAVEL
24'
36'
1.5'
10'
12'
12'
10'
1.5'
24.5'
MAINTAIN EXISTING
VEGETATION WHERE POSSIBLE
PROPOSED
BRIDGE
EXISTING
BRIDGE
SPEED LIMIT: 55 MPH
CONTEXT CLASSIFICATION: C2 (RURAL)
0'
5'
10'
20'
30'

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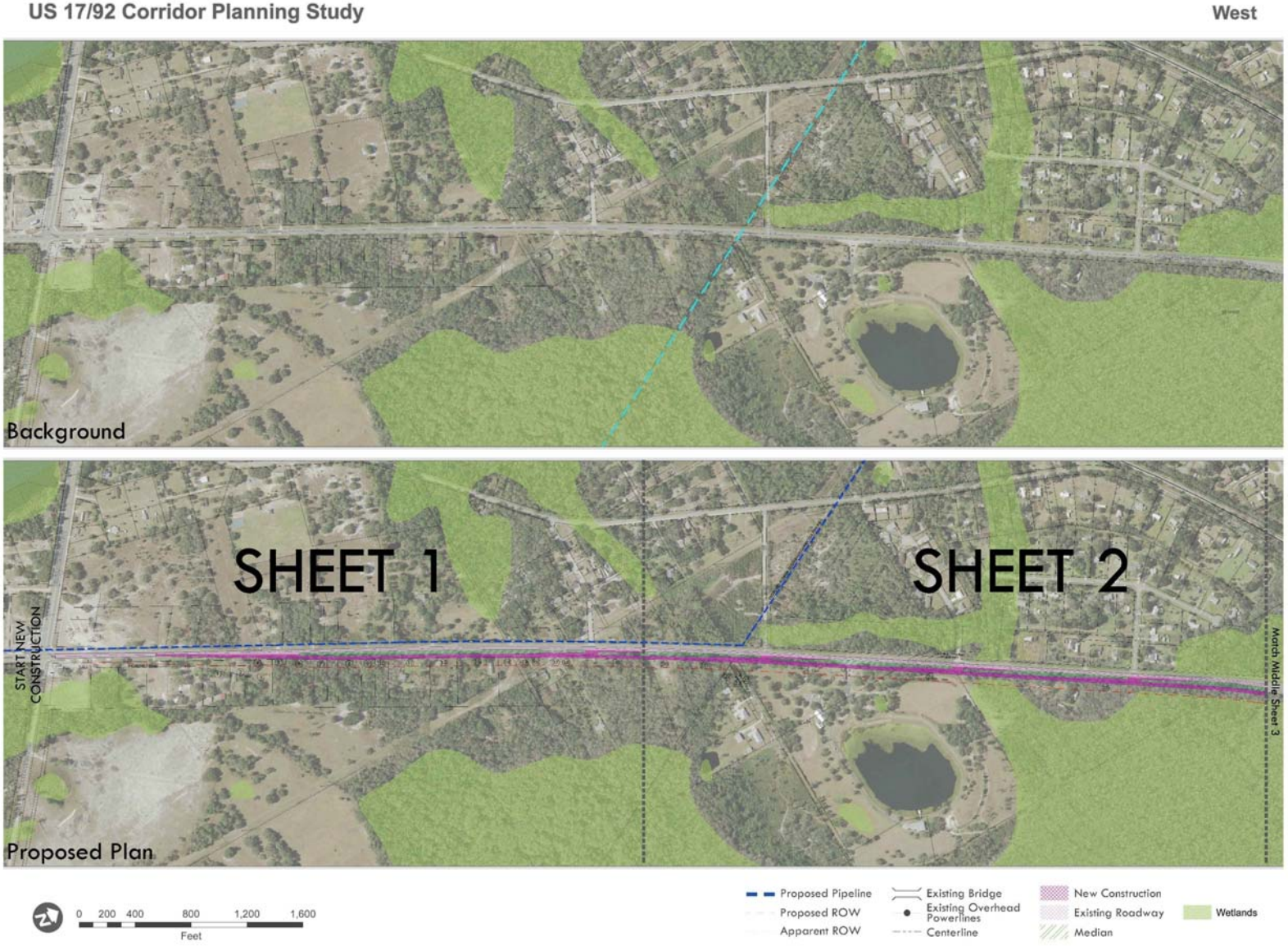
East Segment Key Sheet



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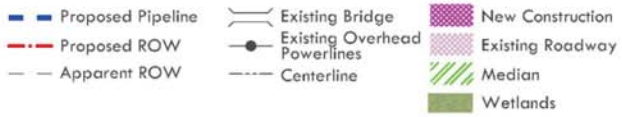
East Segment Sheet 1



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East Segment Sheet 2

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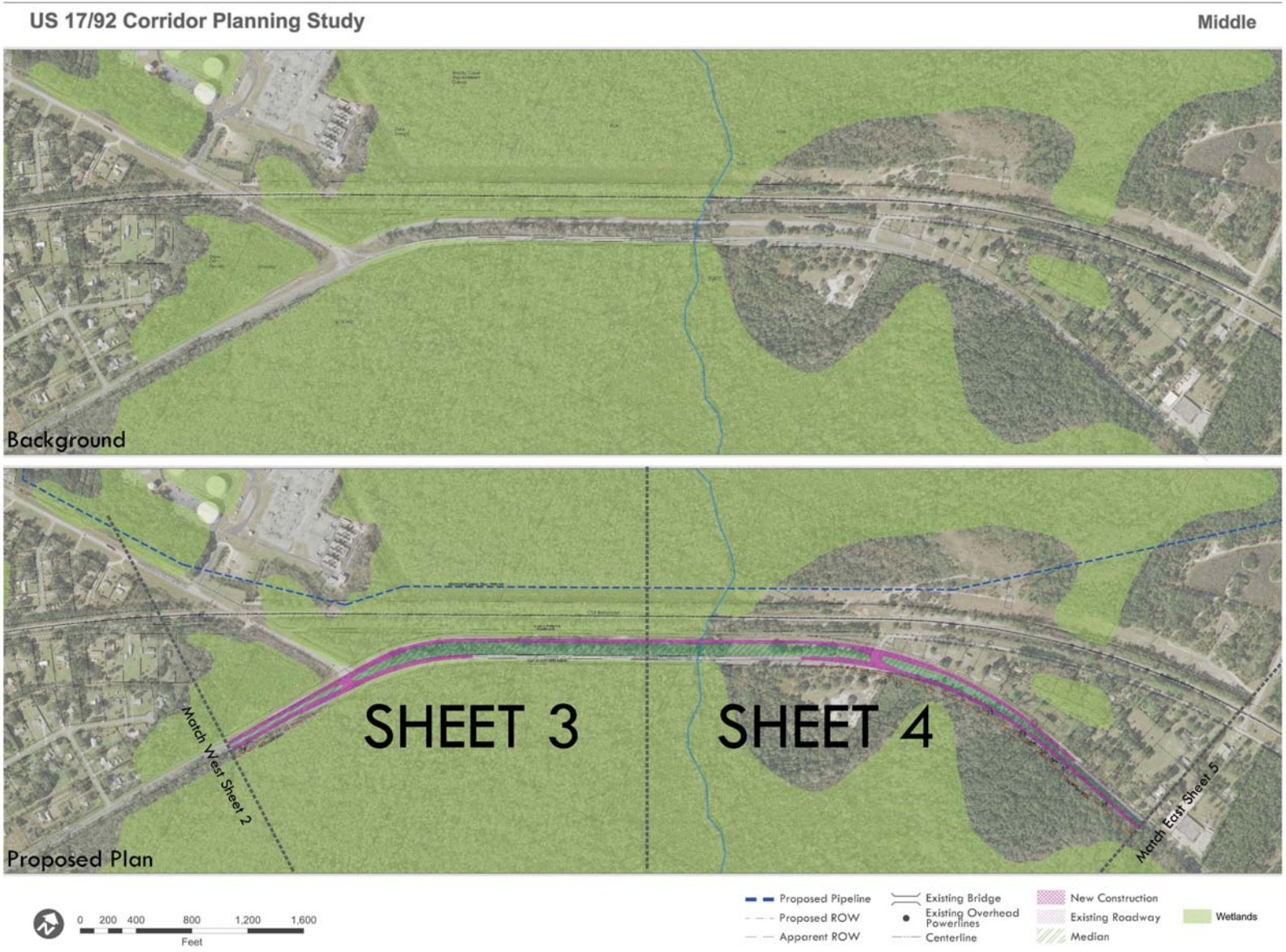
Middle Segment Key Sheet



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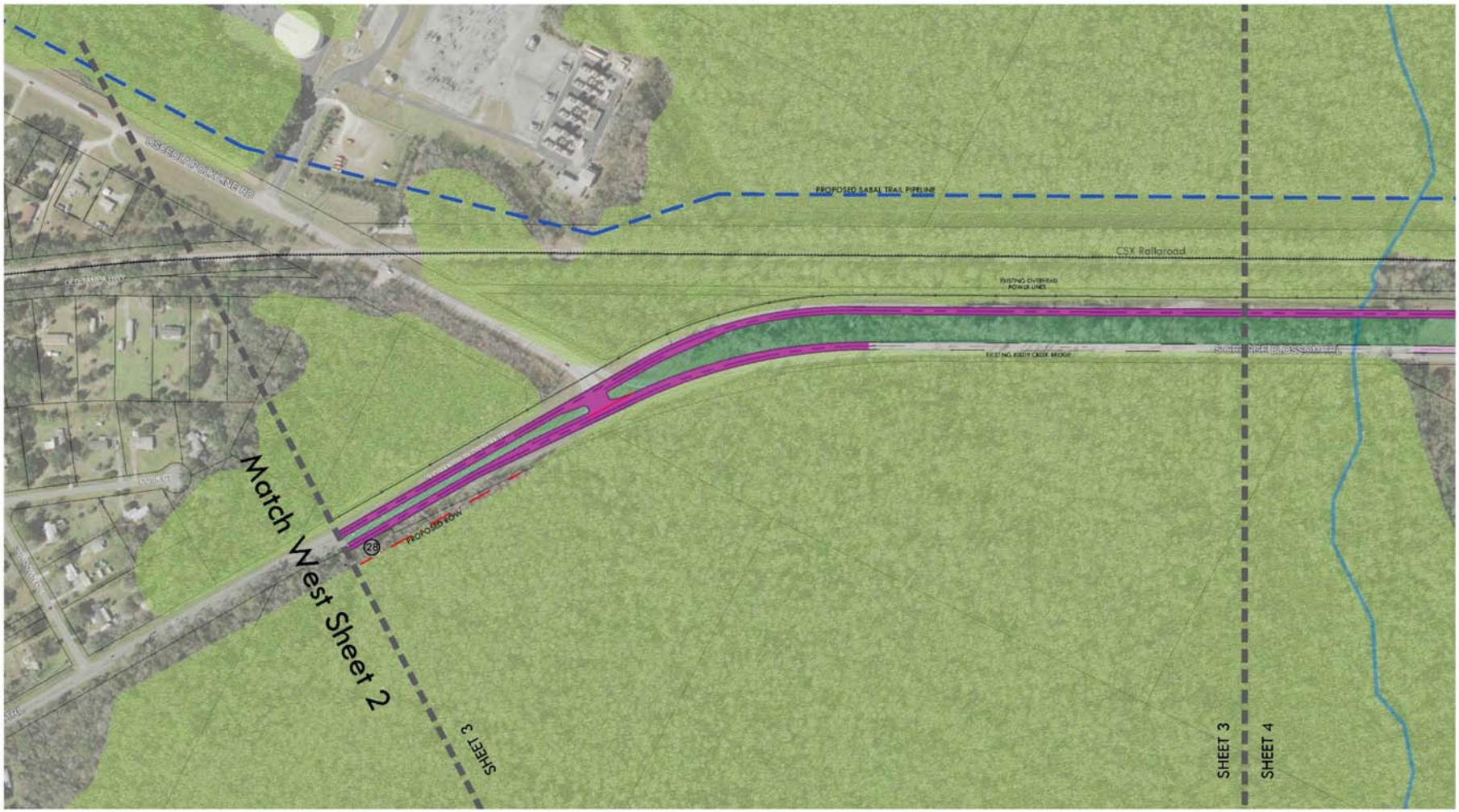
Middle Segment Sheet 3



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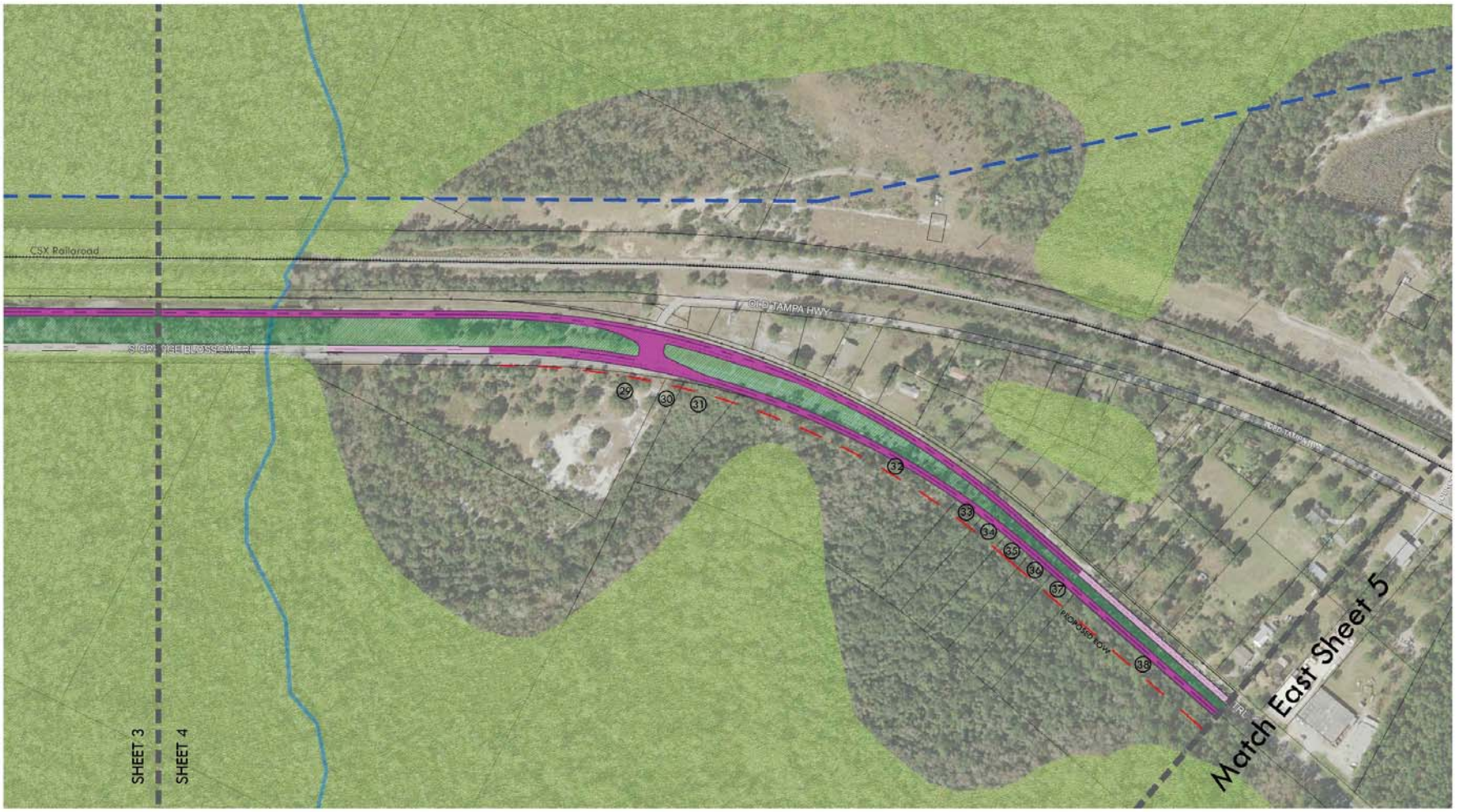
Middle Segment Sheet 4



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East Segment Key Sheet

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East Segment Sheet 5

Proposed Pipeline
Proposed ROW
Apparent ROW
Existing Bridge
Existing Overhead Powerlines
Centerline
New Construction
Existing Roadway
Median
Wetlands

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East Segment Sheet 6

Proposed Pipeline
Proposed ROW
Apparent ROW
Existing Bridge
Existing Overhead Powerlines
Centerline
New Construction
Existing Roadway
Median
Wetlands

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East Segment Sheet 7

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Appendix B: Supporting Traffic Data

The following data supports the traffic recommendations presented in the report:

Lanes, Volumes, Timings
1: US17/92 & CR 54

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	516	255	4	21	222	24	82	16	239	5	44	17
Future Volume (vph)	516	255	4	21	222	24	82	16	239	5	44	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	312		365	360		450	507		0	316		625
Storage Lanes	2		0	2		1	1		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.859				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	1770	3040	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	1770	3040	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			189			189		260				189
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		55			1201			3403			3985	
Travel Time (s)		0.8			18.2			51.6			60.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	561	277	4	23	241	26	89	17	260	5	48	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	561	277	4	23	241	26	89	277	0	5	48	18
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width (ft)		24			24			24			24	
Link Offset (ft)		0			0			0			0	
Crosswalk Width (ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	40	40	40	40	40	40	40	40		40	40	40
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size (ft)	40	40	40	40	40	40	40	40		40	40	40
Detector 1 Type	Extend	Extend	Extend	Extend	Extend	Extend	Extend	Extend		Extend	Extend	Extend
Detector 1 Channel												
Detector 1 Extend (s)	3.0	2.0	2.0	3.0	2.0	2.0	2.0	3.0		3.0	3.0	3.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6			2						4
Detector Phase	1	6	6	5	2	2	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	12.4	46.8	46.8	12.5	36.8	36.8	12.8	11.8		15.0	11.8	11.8
Total Split (s)	15.0	50.0	50.0	15.0	50.0	50.0	15.0	30.0		15.0	30.0	30.0

AM Peak Hour

Synchro 9 Report
Page 1

Lanes, Volumes, Timings
1: US17/92 & CR 54

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Total Split (%)	13.6%	45.5%	45.5%	13.6%	45.5%	45.5%	13.6%	27.3%		13.6%	27.3%	27.3%
Maximum Green (s)	7.6	43.2	43.2	7.5	43.2	43.2	7.2	23.2		7.9	23.2	23.2
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8		4.8	4.8	4.8
All-Red Time (s)	2.6	2.0	2.0	2.7	2.0	2.0	3.0	2.0		2.3	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.4	6.8	6.8	7.5	6.8	6.8	7.8	6.8		7.1	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	2.0	2.0	3.0	2.0	2.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	C-Min	C-Min	Max	C-Min	C-Min	Max	Max		Max	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		33.0	33.0		23.0	23.0		31.0			31.0	31.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	7.6	13.1	13.1	7.5	13.1	13.1	37.3	23.2		38.0	23.2	23.2
Actuated g/C Ratio	0.07	0.12	0.12	0.07	0.12	0.12	0.34	0.21		0.35	0.21	0.21
v/c Ratio	2.37	0.66	0.01	0.10	0.57	0.07	0.15	0.33		0.00	0.06	0.04
Control Delay	651.8	53.6	0.0	49.2	50.8	0.4	27.3	6.8		25.4	35.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	651.8	53.6	0.0	49.2	50.8	0.4	27.3	6.8		25.4	35.1	0.1
LOS	F	D	A	D	D	A	C	A		C	D	A
Approach Delay		451.9			46.1			11.8			25.5	
Approach LOS		F			D			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 45 (41%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.37			
Intersection Signal Delay: 255.0		Intersection LOS: F	
Intersection Capacity Utilization 49.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: US17/92 & CR 54

Lanes, Volumes, Timings
2: US17/92 & CR 532

Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	380	23	49	325	241	625
Future Volume (vph)	380	23	49	325	241	625
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	430			360
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.593			
Satd. Flow (perm)	1770	1583	1105	1863	1863	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		25				679
Link Speed (mph)	50			55	55	
Link Distance (ft)	3633			8545	3793	
Travel Time (s)	49.5			105.9	47.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	413	25	53	353	262	679
Shared Lane Traffic (%)						
Lane Group Flow (vph)	413	25	53	353	262	679
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	2	
Permitted Phases	4	4	2			2
Minimum Split (s)	11.3	11.3	17.0	17.0	17.0	17.0
Total Split (s)	40.0	40.0	55.0	55.0	55.0	55.0
Total Split (%)	42.1%	42.1%	57.9%	57.9%	57.9%	57.9%
Maximum Green (s)	32.2	32.2	47.2	47.2	47.2	47.2
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.8	7.8	7.8	7.8	7.8	7.8
Lead/Lag						
Lead-Lag Optimize?						
Act Effct Green (s)	32.2	32.2	47.2	47.2	47.2	47.2
Actuated g/C Ratio	0.34	0.34	0.50	0.50	0.50	0.50
v/c Ratio	0.69	0.05	0.10	0.38	0.28	0.60
Control Delay	34.2	8.5	13.3	16.4	15.0	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.2	8.5	13.3	16.4	15.0	3.7

AM Peak Hour

Synchro 9 Report
Page 3

Lanes, Volumes, Timings
2: US17/92 & CR 532

Lane Group	SEL	SER	NEL	NET	SWT	SWR
LOS	C	A	B	B	B	A
Approach Delay	32.7			16.0	6.8	
Approach LOS	C			B	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Offset: 0 (0%), Referenced to phase 2:NESW and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 15.3		Intersection LOS: B	
Intersection Capacity Utilization 57.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: US17/92 & CR 532

Lanes, Volumes, Timings
4: US17/92 & Old Tampa Hwy

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	105	603	810	0	0	99
Future Volume (vph)	105	603	810	0	0	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected	0.950					
Satd. Flow (prot)	1770	1863	1863	0	1611	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1863	1863	0	1611	0
Link Speed (mph)		55	55		45	
Link Distance (ft)		3793	1170		687	
Travel Time (s)		47.0	14.5		10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	655	880	0	0	108
Shared Lane Traffic (%)						
Lane Group Flow (vph)	114	655	880	0	108	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 64.6%		ICU Level of Service C	
Analysis Period (min) 15			

HCM 2010 TWSC
4: US17/92 & Old Tampa Hwy

Intersection						
Int Delay, s/veh	1.9					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	105	603	810	0	0	99
Future Vol, veh/h	105	603	810	0	0	99
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	430	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	655	880	0	0	108

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	880	0	-	0	1764	880
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	884	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	768	-	-	-	92	346
Stage 1	-	-	-	-	406	-
Stage 2	-	-	-	-	404	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	768	-	-	-	78	346
Mov Cap-2 Maneuver	-	-	-	-	78	-
Stage 1	-	-	-	-	406	-
Stage 2	-	-	-	-	344	-

Approach	EB	WB	SB
HCM Control Delay, s	1.6	0	20
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	768	-	-	-	346
HCM Lane V/C Ratio	0.149	-	-	-	0.311
HCM Control Delay (s)	10.5	-	-	-	20
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.5	-	-	-	1.3

Lanes, Volumes, Timings
12: US17/92 & Tallahassee Blvd

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	21	583	775	12	16	15
Future Volume (vph)	21	583	775	12	16	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.998		0.935	
Flt Protected		0.998			0.975	
Satd. Flow (prot)	0	1859	1859	0	1698	0
Flt Permitted		0.998			0.975	
Satd. Flow (perm)	0	1859	1859	0	1698	0
Link Speed (mph)		45	45		30	
Link Distance (ft)		6818	3322		780	
Travel Time (s)		103.3	50.3		17.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	634	842	13	17	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	657	855	0	33	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 57.7%		ICU Level of Service B	
Analysis Period (min) 15			

HCM 2010 TWSC
12: US17/92 & Tallahassee Blvd

Intersection						
Int Delay, s/veh	0.5					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	583	775	12	16	15
Future Vol, veh/h	21	583	775	12	16	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	634	842	13	17	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	855	0	-	0	1528	849
Stage 1	-	-	-	-	849	-
Stage 2	-	-	-	-	679	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	785	-	-	-	129	361
Stage 1	-	-	-	-	419	-
Stage 2	-	-	-	-	504	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	785	-	-	-	123	361
Mov Cap-2 Maneuver	-	-	-	-	260	-
Stage 1	-	-	-	-	419	-
Stage 2	-	-	-	-	481	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	18.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	785	-	-	-	301
HCM Lane V/C Ratio	0.029	-	-	-	0.112
HCM Control Delay (s)	9.7	0	-	-	18.5
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Lanes, Volumes, Timings
1: US17/92 & CR 54

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	251	248	14	110	144	29	90	76	140	15	251	96
Future Volume (vph)	251	248	14	110	144	29	90	76	140	15	251	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	312		365	360		450	507		0	316		625
Storage Lanes	2		0	2		1	1		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.903				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	1770	3196	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	1770	3196	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			189			189		335				230
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		55			1201			3403			3985	
Travel Time (s)		0.8			18.2			51.6			60.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	220%	220%	220%	220%	220%	220%	220%	220%	220%	220%	220%	220%
Adj. Flow (vph)	600	593	33	263	344	69	215	182	335	36	600	230
Shared Lane Traffic (%)												
Lane Group Flow (vph)	600	593	33	263	344	69	215	517	0	36	600	230
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	40	40	40	40	40	40	40	40		40	40	40
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	40	40	40	40	40	40	40	40		40	40	40
Detector 1 Type	Extend	Extend	Extend	Extend	Extend	Extend	Extend	Extend		Extend	Extend	Extend
Detector 1 Channel												
Detector 1 Extend (s)	3.0	2.0	2.0	3.0	2.0	2.0	2.0	3.0		3.0	3.0	3.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6			2						4
Detector Phase	1	6	6	5	2	2	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	12.4	46.8	46.8	12.5	36.8	36.8	12.8	11.8		15.0	11.8	11.8

AM Peak Hour - 2040 Traffic

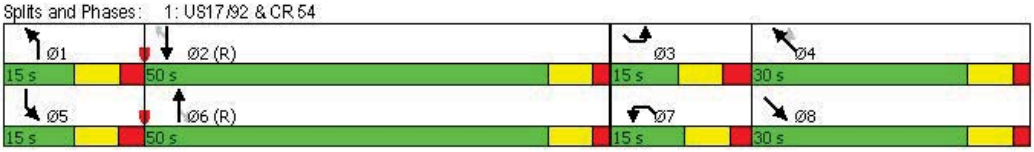
Synchro 9 Report
Page 1

Lanes, Volumes, Timings
1: US17/92 & CR 54

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Total Split (s)	15.0	50.0	50.0	15.0	50.0	50.0	15.0	30.0		15.0	30.0	30.0
Total Split (%)	13.6%	45.5%	45.5%	13.6%	45.5%	45.5%	13.6%	27.3%		13.6%	27.3%	27.3%
Maximum Green (s)	7.6	43.2	43.2	7.5	43.2	43.2	7.2	23.2		7.9	23.2	23.2
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8		4.8	4.8	4.8
All-Red Time (s)	2.6	2.0	2.0	2.7	2.0	2.0	3.0	2.0		2.3	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.4	6.8	6.8	7.5	6.8	6.8	7.8	6.8		7.1	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	2.0	2.0	3.0	2.0	2.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	C-Min	C-Min	Max	C-Min	C-Min	Max	Max		Max	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		33.0	33.0		23.0	23.0		31.0			31.0	31.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	7.6	23.4	23.4	7.5	23.4	23.4	27.0	23.2		27.7	23.2	23.2
Actuated g/C Ratio	0.07	0.21	0.21	0.07	0.21	0.21	0.25	0.21		0.25	0.21	0.21
v/c Ratio	2.53	0.79	0.07	1.12	0.46	0.14	0.50	0.55		0.04	0.30	0.45
Control Delay	723.9	48.7	0.3	143.1	39.1	0.6	41.7	15.6		33.7	50.7	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	723.9	48.7	0.3	143.1	39.1	0.6	41.7	15.6		33.7	50.7	7.8
LOS	F	D	A	F	D	A	D	B		C	D	A
Approach Delay		377.8			75.6			23.2			38.6	
Approach LOS		F			E			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 45 (41%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.53			
Intersection Signal Delay: 161.4		Intersection LOS: F	
Intersection Capacity Utilization 74.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: US17/92 & CR 54



Lanes, Volumes, Timings
2: US17/92 & CR 532

Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	380	23	49	325	241	625
Future Volume (vph)	380	23	49	325	241	625
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	430			360
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.308			
Satd. Flow (perm)	1770	1583	574	1863	1863	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		38				1091
Link Speed (mph)	50			55	55	
Link Distance (ft)	3633			8545	3793	
Travel Time (s)	49.5			105.9	47.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	220%	220%	220%	220%	220%	220%
Adj. Flow (vph)	909	55	117	777	576	1495
Shared Lane Traffic (%)						
Lane Group Flow (vph)	909	55	117	777	576	1495
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	2	
Permitted Phases	4	4	2			2
Minimum Split (s)	11.3	11.3	17.0	17.0	17.0	17.0
Total Split (s)	40.0	40.0	55.0	55.0	55.0	55.0
Total Split (%)	42.1%	42.1%	57.9%	57.9%	57.9%	57.9%
Maximum Green (s)	32.2	32.2	47.2	47.2	47.2	47.2
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.8	7.8	7.8	7.8	7.8	7.8
Lead/Lag						
Lead-Lag Optimize?						
Act Effct Green (s)	32.2	32.2	47.2	47.2	47.2	47.2
Actuated g/C Ratio	0.34	0.34	0.50	0.50	0.50	0.50
v/c Ratio	1.52	0.10	0.41	0.84	0.62	1.12
Control Delay	268.5	10.7	20.7	30.8	21.1	74.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0

AM Peak Hour - 2040 Traffic

Synchro 9 Report
Page 3

Lanes, Volumes, Timings
2: US17/92 & CR 532

Lane Group	SEL	SER	NEL	NET	SWT	SWR
Total Delay	268.5	10.7	20.7	30.8	21.1	74.2
LOS	F	B	C	C	C	E
Approach Delay	253.8			29.5	59.4	
Approach LOS	F			C	E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Offset: 0 (0%), Referenced to phase 2:NESW and 6:, Start of Green			
Natural Cycle: 140			
Control Type: Pretimed			
Maximum v/c Ratio: 1.52			
Intersection Signal Delay: 100.3		Intersection LOS: F	
Intersection Capacity Utilization 104.1%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 2: US17/92 & CR 532

Lanes, Volumes, Timings
4: US17/92 & Old Tampa Hwy

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	105	603	810	0	0	99
Future Volume (vph)	105	603	810	0	0	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected	0.950					
Satd. Flow (prot)	1770	1863	1863	0	1611	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1863	1863	0	1611	0
Link Speed (mph)		55	55		45	
Link Distance (ft)		3793	1170		687	
Travel Time (s)		47.0	14.5		10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	220%	220%	220%	220%	220%	220%
Adj. Flow (vph)	251	1442	1937	0	0	237
Shared Lane Traffic (%)						
Lane Group Flow (vph)	251	1442	1937	0	237	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	130.1%	ICU Level of Service	H
Analysis Period (min)	15		

HCM 2010 TWSC
4: US17/92 & Old Tampa Hwy

Intersection						
Int Delay, s/veh	62.4					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	105	603	810	0	0	99
Future Vol, veh/h	105	603	810	0	0	99
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	430	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	251	1442	1937	0	0	237

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1937	0	-	0	3881	1937
Stage 1	-	-	-	-	1937	-
Stage 2	-	-	-	-	1944	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	303	-	-	-	4	~ 82
Stage 1	-	-	-	-	123	-
Stage 2	-	-	-	-	122	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	303	-	-	-	1	~ 82
Mov Cap-2 Maneuver	-	-	-	-	1	-
Stage 1	-	-	-	-	123	-
Stage 2	-	-	-	-	21	-

Approach	EB	WB	SB
HCM Control Delay, s	8.2	0	$ 960.6
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	303	-	-	-	82
HCM Lane V/C Ratio	0.829	-	-	-	2.887
HCM Control Delay (s)	55.3	-	-	-	$ 960.6
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	7	-	-	-	23.2

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

Lanes, Volumes, Timings
12: US17/92 & Tallahassee Blvd

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	21	583	775	12	16	15
Future Volume (vph)	21	583	775	12	16	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.998		0.934	
Flt Protected		0.998			0.975	
Satd. Flow (prot)	0	1859	1859	0	1696	0
Flt Permitted		0.998			0.975	
Satd. Flow (perm)	0	1859	1859	0	1696	0
Link Speed (mph)		45	45		30	
Link Distance (ft)		6818	3322		780	
Travel Time (s)		103.3	50.3		17.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	220%	220%	220%	220%	220%	220%
Adj. Flow (vph)	50	1394	1853	29	38	36
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1444	1882	0	74	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 115.5%		ICU Level of Service H	
Analysis Period (min) 15			

HCM 2010 TWSC
12: US17/92 & Tallahassee Blvd

Intersection						
Int Delay, s/veh	8.2					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	583	775	12	16	15
Future Vol, veh/h	21	583	775	12	16	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	1394	1853	29	38	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1882	0	-	0	3363	1868
Stage 1	-	-	-	-	1868	-
Stage 2	-	-	-	-	1495	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	318	-	-	-	~ 9	90
Stage 1	-	-	-	-	134	-
Stage 2	-	-	-	-	205	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	318	-	-	-	~ 3	90
Mov Cap-2 Maneuver	-	-	-	-	40	-
Stage 1	-	-	-	-	134	-
Stage 2	-	-	-	-	62	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	$ 362.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	318	-	-	-	55
HCM Lane V/C Ratio	0.158	-	-	-	1.348
HCM Control Delay (s)	18.4	0	-	-	$ 362.8
HCM Lane LOS	C	A	-	-	F
HCM 95th %tile Q(veh)	0.6	-	-	-	6.6

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

Lanes, Volumes, Timings
1: US17/92 & CR 54

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	251	248	14	110	144	29	90	76	140	15	251	96
Future Volume (vph)	251	248	14	110	144	29	90	76	140	15	251	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	312		365	360		450	507		0	316		625
Storage Lanes	2		1	2		1	2		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.903				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3196	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3196	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			167			235		335				235
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		55			1201			3403			3985	
Travel Time (s)		0.8			18.2			51.6			60.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	220%	220%	220%	220%	220%	220%	220%	220%	220%	220%	220%	220%
Adj. Flow (vph)	600	593	33	263	344	69	215	182	335	36	600	230
Shared Lane Traffic (%)												
Lane Group Flow (vph)	600	593	33	263	344	69	215	517	0	36	600	230
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	40	40	40	40	40	40	40	40		40	40	40
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	40	40	40	40	40	40	40	40		40	40	40
Detector 1 Type	Extend	Extend	Extend	Extend	Extend	Extend	Extend	Extend		Extend	Extend	Extend
Detector 1 Channel												
Detector 1 Extend (s)	3.0	2.0	2.0	3.0	2.0	2.0	2.0	3.0		3.0	3.0	3.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6			2						4
Detector Phase	1	6	6	5	2	2	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	12.4	46.8	46.8	12.5	36.8	36.8	12.8	11.8		15.0	11.8	11.8

AM Peak Hour - 2040 Traffic - Improved

Synchro 9 Report
Page 1

Lanes, Volumes, Timings
1: US17/92 & CR 54

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Total Split (s)	33.0	48.3	48.3	22.7	38.0	38.0	18.0	34.0		15.0	31.0	31.0
Total Split (%)	27.5%	40.3%	40.3%	18.9%	31.7%	31.7%	15.0%	28.3%		12.5%	25.8%	25.8%
Maximum Green (s)	25.6	41.5	41.5	15.2	31.2	31.2	10.2	27.2		7.9	24.2	24.2
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8		4.8	4.8	4.8
All-Red Time (s)	2.6	2.0	2.0	2.7	2.0	2.0	3.0	2.0		2.3	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.4	6.8	6.8	7.5	6.8	6.8	7.8	6.8		7.1	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	2.0	2.0	3.0	2.0	2.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	None		None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		33.0	33.0		23.0	23.0		31.0			31.0	31.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	23.8	41.8	41.8	13.5	31.6	31.6	10.0	32.4		6.7	23.0	23.0
Actuated g/C Ratio	0.20	0.36	0.36	0.12	0.27	0.27	0.09	0.28		0.06	0.20	0.20
v/c Ratio	0.86	0.47	0.05	0.67	0.36	0.12	0.74	0.46		0.18	0.86	0.46
Control Delay	58.7	31.2	0.1	58.9	36.7	0.4	68.5	14.4		55.8	59.5	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	58.7	31.2	0.1	58.9	36.7	0.4	68.5	14.4		55.8	59.5	8.0
LOS	E	C	A	E	D	A	E	B		E	E	A
Approach Delay		43.8			41.6			30.3			45.7	
Approach LOS		D			D			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 117.3			
Natural Cycle: 100			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 41.0		Intersection LOS: D	
Intersection Capacity Utilization 68.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: US17/92 & CR 54

Lanes, Volumes, Timings
2: US17/92 & CR 532

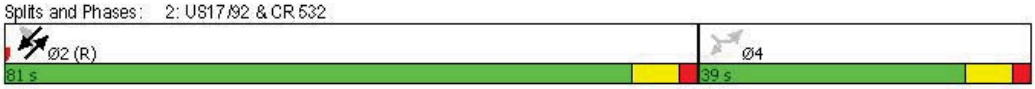
Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	380	23	49	325	241	625
Future Volume (vph)	380	23	49	325	241	625
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250	0	430			360
Storage Lanes	2	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.425			
Satd. Flow (perm)	3433	1583	792	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		52				1091
Link Speed (mph)	50			45	45	
Link Distance (ft)	3633			8545	3793	
Travel Time (s)	49.5			129.5	57.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	220%	220%	220%	220%	220%	220%
Adj. Flow (vph)	909	55	117	777	576	1495
Shared Lane Traffic (%)						
Lane Group Flow (vph)	909	55	117	777	576	1495
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	2	
Permitted Phases	4	4	2			2
Minimum Split (s)	11.3	11.3	17.0	17.0	17.0	17.0
Total Split (s)	39.0	39.0	81.0	81.0	81.0	81.0
Total Split (%)	32.5%	32.5%	67.5%	67.5%	67.5%	67.5%
Maximum Green (s)	31.2	31.2	73.2	73.2	73.2	73.2
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.8	7.8	7.8	7.8	7.8	7.8
Lead/Lag						
Lead-Lag Optimize?						
Act Effct Green (s)	31.2	31.2	73.2	73.2	73.2	73.2
Actuated g/C Ratio	0.26	0.26	0.61	0.61	0.61	0.61
v/c Ratio	1.02	0.12	0.24	0.36	0.27	1.07
Control Delay	79.0	10.6	12.3	12.3	11.3	55.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings
2: US17/92 & CR 532

Lane Group	SEL	SER	NEL	NET	SWT	SWR
Total Delay	79.0	10.6	12.3	12.3	11.3	55.8
LOS	E	B	B	B	B	E
Approach Delay	75.1			12.3	43.4	
Approach LOS	E			B	D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NESW and 6:, Start of Green			
Natural Cycle: 120			
Control Type: Pretimed			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 44.1		Intersection LOS: D	
Intersection Capacity Utilization 104.1%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 2: US17/92 & CR 532



Lanes, Volumes, Timings
4: US17/92 & Old Tampa Hwy

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	105	603	810	0	0	99
Future Volume (vph)	105	603	810	0	0	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt					0.865	
Flt Protected	0.950					
Satd. Flow (prot)	1770	3539	3539	0	1611	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	3539	3539	0	1611	0
Link Speed (mph)		45	45		45	
Link Distance (ft)		3793	1170		687	
Travel Time (s)		57.5	17.7		10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	220%	220%	220%	220%	220%	220%
Adj. Flow (vph)	251	1442	1937	0	0	237
Shared Lane Traffic (%)						
Lane Group Flow (vph)	251	1442	1937	0	237	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 85.5%		ICU Level of Service E	
Analysis Period (min) 15			

HCM 2010 TWSC
4: US17/92 & Old Tampa Hwy

Intersection	
Int Delay, s/veh	8.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	105	603	810	0	0	99
Future Vol, veh/h	105	603	810	0	0	99
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	430	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	251	1442	1937	0	0	237

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1937	0	-	0	3160	968
Stage 1	-	-	-	-	1937	-
Stage 2	-	-	-	-	1223	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	300	-	-	-	8	254
Stage 1	-	-	-	-	98	-
Stage 2	-	-	-	-	241	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	300	-	-	-	1	254
Mov Cap-2 Maneuver	-	-	-	-	1	-
Stage 1	-	-	-	-	98	-
Stage 2	-	-	-	-	39	-

Approach	EB	WB	SB
HCM Control Delay, s	8.4	0	82.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	300	-	-	-	254
HCM Lane V/C Ratio	0.837	-	-	-	0.932
HCM Control Delay (s)	56.9	-	-	-	82.5
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	7.1	-	-	-	8.4

Lanes, Volumes, Timings
12: US17/92 & Tallahassee Blvd

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	21	583	775	12	16	15
Future Volume (vph)	21	583	775	12	16	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.998		0.934	
Flt Protected		0.998			0.975	
Satd. Flow (prot)	0	3532	3532	0	1696	0
Flt Permitted		0.998			0.975	
Satd. Flow (perm)	0	3532	3532	0	1696	0
Link Speed (mph)		45	45		30	
Link Distance (ft)		6818	3322		780	
Travel Time (s)		103.3	50.3		17.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	220%	220%	220%	220%	220%	220%
Adj. Flow (vph)	50	1394	1853	29	38	36
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1444	1882	0	74	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 79.7%		ICU Level of Service D	
Analysis Period (min) 15			

HCM 2010 TWSC
12: US17/92 & Tallahassee Blvd

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↑	↑↕		↾	
Traffic Vol, veh/h	21	583	775	12	16	15
Future Vol, veh/h	21	583	775	12	16	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	1394	1853	29	38	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1882	0	-	0	2666	941
Stage 1	-	-	-	-	1868	-
Stage 2	-	-	-	-	798	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	315	-	-	-	~ 18	264
Stage 1	-	-	-	-	108	-
Stage 2	-	-	-	-	404	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	315	-	-	-	~ 5	264
Mov Cap-2 Maneuver	-	-	-	-	54	-
Stage 1	-	-	-	-	108	-
Stage 2	-	-	-	-	120	-

Approach	EB	WB	SB
HCM Control Delay, s	6.5	0	139.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	315	-	-	-	88
HCM Lane V/C Ratio	0.159	-	-	-	0.842
HCM Control Delay (s)	18.6	6.1	-	-	139.9
HCM Lane LOS	C	A	-	-	F
HCM 95th %tile Q(veh)	0.6	-	-	-	4.5

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

Lanes, Volumes, Timings
1: US17/92 & CR 54

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	256	272	4	19	334	25	75	32	385	8	15	10
Future Volume (vph)	256	272	4	19	334	25	75	32	385	8	15	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	312		365	360		450	507		0	316		625
Storage Lanes	2		0	2		1	1		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.862				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	1770	3051	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	1770	3051	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			189			189		418				189
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		55			1201			3403			3985	
Travel Time (s)		0.8			18.2			51.6			60.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	278	296	4	21	363	27	82	35	418	9	16	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	278	296	4	21	363	27	82	453	0	9	16	11
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	40	40	40	40	40	40	40	40		40	40	40
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	40	40	40	40	40	40	40	40		40	40	40
Detector 1 Type	Extend	Extend	Extend	Extend	Extend	Extend	Extend	Extend		Extend	Extend	Extend
Detector 1 Channel												
Detector 1 Extend (s)	3.0	2.0	2.0	3.0	2.0	2.0	2.0	3.0		3.0	3.0	3.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6			2						4
Detector Phase	1	6	6	5	2	2	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	12.4	46.8	46.8	12.5	36.8	36.8	12.8	11.8		15.0	11.8	11.8
Total Split (s)	15.0	50.0	50.0	15.0	50.0	50.0	15.0	30.0		15.0	30.0	30.0

PM Peak Hour Baseline

Synchro 9 Report
Page 1

Lanes, Volumes, Timings
1: US17/92 & CR 54

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Total Split (%)	13.6%	45.5%	45.5%	13.6%	45.5%	45.5%	13.6%	27.3%		13.6%	27.3%	27.3%
Maximum Green (s)	7.6	43.2	43.2	7.5	43.2	43.2	7.2	23.2		7.9	23.2	23.2
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8		4.8	4.8	4.8
All-Red Time (s)	2.6	2.0	2.0	2.7	2.0	2.0	3.0	2.0		2.3	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.4	6.8	6.8	7.5	6.8	6.8	7.8	6.8		7.1	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	2.0	2.0	3.0	2.0	2.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	C-Min	C-Min	Max	C-Min	C-Min	Max	Max		Max	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		33.0	33.0		23.0	23.0		31.0			31.0	31.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	7.6	15.9	15.9	7.5	15.9	15.9	34.5	23.2		35.2	23.2	23.2
Actuated g/C Ratio	0.07	0.14	0.14	0.07	0.14	0.14	0.31	0.21		0.32	0.21	0.21
v/c Ratio	1.17	0.58	0.01	0.09	0.71	0.07	0.15	0.47		0.01	0.02	0.02
Control Delay	158.3	48.1	0.0	49.1	52.5	0.4	29.5	6.8		27.8	34.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	158.3	48.1	0.0	49.1	52.5	0.4	29.5	6.8		27.8	34.6	0.1
LOS	F	D	A	D	D	A	C	A		C	C	A
Approach Delay		100.8			48.9			10.3			22.3	
Approach LOS		F			D			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 45 (41%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.17			
Intersection Signal Delay: 54.3		Intersection LOS: D	
Intersection Capacity Utilization 47.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: US17/92 & CR 54

Lanes, Volumes, Timings
2: US17/92 & CR 532

Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	674	45	27	342	446	510
Future Volume (vph)	674	45	27	342	446	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	430			360
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.385			
Satd. Flow (perm)	1770	1583	717	1863	1863	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		42				554
Link Speed (mph)	50			55	55	
Link Distance (ft)	3633			8545	3793	
Travel Time (s)	49.5			105.9	47.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	733	49	29	372	485	554
Shared Lane Traffic (%)						
Lane Group Flow (vph)	733	49	29	372	485	554
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	2	
Permitted Phases	4	4	2			2
Minimum Split (s)	11.3	11.3	17.0	17.0	17.0	17.0
Total Split (s)	40.0	40.0	55.0	55.0	55.0	55.0
Total Split (%)	42.1%	42.1%	57.9%	57.9%	57.9%	57.9%
Maximum Green (s)	32.2	32.2	47.2	47.2	47.2	47.2
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.8	7.8	7.8	7.8	7.8	7.8
Lead/Lag						
Lead-Lag Optimize?						
Act Effct Green (s)	32.2	32.2	47.2	47.2	47.2	47.2
Actuated g/C Ratio	0.34	0.34	0.50	0.50	0.50	0.50
v/c Ratio	1.22	0.09	0.08	0.40	0.52	0.52
Control Delay	145.2	8.8	13.4	16.7	18.8	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	145.2	8.8	13.4	16.7	18.8	3.2

Lanes, Volumes, Timings
2: US17/92 & CR 532

Lane Group	SEL	SER	NEL	NET	SWT	SWR
LOS	F	A	B	B	B	A
Approach Delay	136.7			16.5	10.5	
Approach LOS	F			B	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Offset: 0 (0%), Referenced to phase 2:NESW and 6:, Start of Green			
Natural Cycle: 75			
Control Type: Pretimed			
Maximum v/c Ratio: 1.22			
Intersection Signal Delay: 56.0		Intersection LOS: E	
Intersection Capacity Utilization 73.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: US17/92 & CR 532

Lanes, Volumes, Timings
4: US17/92 & Old Tampa Hwy

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	147	836	764	1	1	185
Future Volume (vph)	147	836	764	1	1	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.866	
Flt Protected	0.950					
Satd. Flow (prot)	1770	1863	1863	0	1613	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1863	1863	0	1613	0
Link Speed (mph)		55	55		45	
Link Distance (ft)		3793	1170		687	
Travel Time (s)		47.0	14.5		10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	160	909	830	1	1	201
Shared Lane Traffic (%)						
Lane Group Flow (vph)	160	909	831	0	202	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 69.9%		ICU Level of Service C	
Analysis Period (min) 15			

HCM 2010 TWSC
4: US17/92 & Old Tampa Hwy

Intersection						
Int Delay, s/veh	3.5					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	147	836	764	1	1	185
Future Vol, veh/h	147	836	764	1	1	185
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	430	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	160	909	830	1	1	201

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	832	0	-	0	2059	831
Stage 1	-	-	-	-	831	-
Stage 2	-	-	-	-	1228	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	801	-	-	-	60	370
Stage 1	-	-	-	-	428	-
Stage 2	-	-	-	-	277	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	801	-	-	-	48	370
Mov Cap-2 Maneuver	-	-	-	-	48	-
Stage 1	-	-	-	-	428	-
Stage 2	-	-	-	-	222	-

Approach	EB	WB	SB
HCM Control Delay, s	1.6	0	27.5
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	801	-	-	-	357
HCM Lane V/C Ratio	0.199	-	-	-	0.566
HCM Control Delay (s)	10.6	-	-	-	27.5
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0.7	-	-	-	3.3

Lanes, Volumes, Timings
12: US17/92 & Tallahassee Blvd

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	26	805	695	21	13	48
Future Volume (vph)	26	805	695	21	13	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.996		0.894	
Flt Protected		0.998			0.990	
Satd. Flow (prot)	0	1859	1855	0	1649	0
Flt Permitted		0.998			0.990	
Satd. Flow (perm)	0	1859	1855	0	1649	0
Link Speed (mph)		45	45		30	
Link Distance (ft)		6818	3322		780	
Travel Time (s)		103.3	50.3		17.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	875	755	23	14	52
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	903	778	0	66	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 73.7%		ICU Level of Service D	
Analysis Period (min) 15			

HCM 2010 TWSC
12: US17/92 & Tallahassee Blvd

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	805	695	21	13	48
Future Vol, veh/h	26	805	695	21	13	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	875	755	23	14	52

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	778	0	-	0	1699	767
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	932	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	839	-	-	-	101	402
Stage 1	-	-	-	-	458	-
Stage 2	-	-	-	-	383	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	839	-	-	-	94	402
Mov Cap-2 Maneuver	-	-	-	-	225	-
Stage 1	-	-	-	-	458	-
Stage 2	-	-	-	-	358	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	17.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	839	-	-	-	344
HCM Lane V/C Ratio	0.034	-	-	-	0.193
HCM Control Delay (s)	9.4	0	-	-	17.9
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7

Lanes, Volumes, Timings
1: US17/92 & CR 54

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	247	213	10	98	169	48	83	117	139	28	197	107
Future Volume (vph)	247	213	10	98	169	48	83	117	139	28	197	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	312		365	360		450	507		0	316		625
Storage Lanes	2		0	2		1	1		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.919				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	1770	3253	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	1770	3253	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			189			189		246				256
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		55			1201			3403			3985	
Travel Time (s)		0.8			18.2			51.6			60.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	220%	220%	220%	220%	220%	220%	220%	220%	220%	220%	220%	220%
Adj. Flow (vph)	591	509	24	234	404	115	198	280	332	67	471	256
Shared Lane Traffic (%)												
Lane Group Flow (vph)	591	509	24	234	404	115	198	612	0	67	471	256
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	40	40	40	40	40	40	40	40		40	40	40
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	40	40	40	40	40	40	40	40		40	40	40
Detector 1 Type	Extend	Extend	Extend	Extend	Extend	Extend	Extend	Extend		Extend	Extend	Extend
Detector 1 Channel												
Detector 1 Extend (s)	3.0	2.0	2.0	3.0	2.0	2.0	2.0	3.0		3.0	3.0	3.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6			2						4
Detector Phase	1	6	6	5	2	2	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	12.4	46.8	46.8	12.5	36.8	36.8	12.8	11.8		15.0	11.8	11.8

PM Peak Hour - 2040 Traffic Baseline

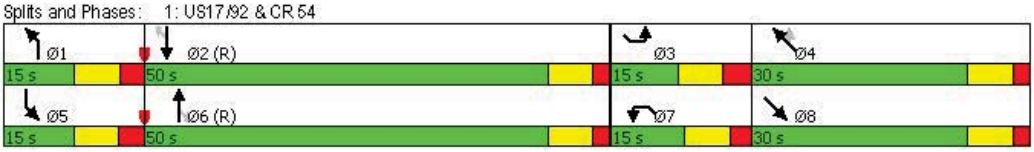
Synchro 9 Report
Page 1

Lanes, Volumes, Timings
1: US17/92 & CR 54

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Total Split (s)	15.0	50.0	50.0	15.0	50.0	50.0	15.0	30.0		15.0	30.0	30.0
Total Split (%)	13.6%	45.5%	45.5%	13.6%	45.5%	45.5%	13.6%	27.3%		13.6%	27.3%	27.3%
Maximum Green (s)	7.6	43.2	43.2	7.5	43.2	43.2	7.2	23.2		7.9	23.2	23.2
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8		4.8	4.8	4.8
All-Red Time (s)	2.6	2.0	2.0	2.7	2.0	2.0	3.0	2.0		2.3	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.4	6.8	6.8	7.5	6.8	6.8	7.8	6.8		7.1	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	2.0	2.0	3.0	2.0	2.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	C-Min	C-Min	Max	C-Min	C-Min	Max	Max		Max	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		33.0	33.0		23.0	23.0		31.0			31.0	31.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	7.6	20.6	20.6	7.5	20.6	20.6	29.8	23.2		30.5	23.2	23.2
Actuated g/C Ratio	0.07	0.19	0.19	0.07	0.19	0.19	0.27	0.21		0.28	0.21	0.21
v/c Ratio	2.49	0.77	0.05	1.00	0.61	0.26	0.41	0.70		0.07	0.63	0.48
Control Delay	707.2	50.2	0.2	110.9	44.6	1.6	37.4	28.3		31.4	43.9	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	707.2	50.2	0.2	110.9	44.6	1.6	37.4	28.3		31.4	43.9	7.8
LOS	F	D	A	F	D	A	D	C		C	D	A
Approach Delay		394.6			58.6			30.5			31.2	
Approach LOS		F			E			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 45 (41%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.49			
Intersection Signal Delay: 154.3		Intersection LOS: F	
Intersection Capacity Utilization 71.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: US17/92 & CR 54



Lanes, Volumes, Timings
2: US17/92 & CR 532

Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	674	45	27	342	446	510
Future Volume (vph)	674	45	27	342	446	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	430			360
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.085			
Satd. Flow (perm)	1770	1583	158	1863	1863	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		42				1091
Link Speed (mph)	50			55	55	
Link Distance (ft)	3633			8545	3793	
Travel Time (s)	49.5			105.9	47.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	220%	220%	220%	220%	220%	220%
Adj. Flow (vph)	1612	108	65	818	1067	1220
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1612	108	65	818	1067	1220
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	2	
Permitted Phases	4	4	2			2
Minimum Split (s)	11.3	11.3	17.0	17.0	17.0	17.0
Total Split (s)	40.0	40.0	55.0	55.0	55.0	55.0
Total Split (%)	42.1%	42.1%	57.9%	57.9%	57.9%	57.9%
Maximum Green (s)	32.2	32.2	47.2	47.2	47.2	47.2
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.8	7.8	7.8	7.8	7.8	7.8
Lead/Lag						
Lead-Lag Optimize?						
Act Effct Green (s)	32.2	32.2	47.2	47.2	47.2	47.2
Actuated g/C Ratio	0.34	0.34	0.50	0.50	0.50	0.50
v/c Ratio	2.69	0.19	0.83	0.88	1.15	0.91
Control Delay	784.1	15.1	92.0	34.8	106.7	15.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0

PM Peak Hour - 2040 Traffic Baseline

Synchro 9 Report
Page 3

Lanes, Volumes, Timings
2: US17/92 & CR 532

Lane Group	SEL	SER	NEL	NET	SWT	SWR
Total Delay	784.1	15.1	92.0	34.8	106.7	15.0
LOS	F	B	F	C	F	B
Approach Delay	735.8			39.0	57.8	
Approach LOS	F			D	E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Offset: 0 (0%), Referenced to phase 2:NESW and 6:, Start of Green			
Natural Cycle: 120			
Control Type: Pretimed			
Maximum v/c Ratio: 2.69			
Intersection Signal Delay: 292.9		Intersection LOS: F	
Intersection Capacity Utilization 146.8%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 2: US17/92 & CR 532

Lanes, Volumes, Timings
4: US17/92 & Old Tampa Hwy

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	147	836	764	1	1	185
Future Volume (vph)	147	836	764	1	1	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.866	
Flt Protected	0.950					
Satd. Flow (prot)	1770	1863	1863	0	1613	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1863	1863	0	1613	0
Link Speed (mph)		55	55		45	
Link Distance (ft)		3793	1170		687	
Travel Time (s)		47.0	14.5		10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	220%	220%	220%	220%	220%	220%
Adj. Flow (vph)	352	1999	1827	2	2	442
Shared Lane Traffic (%)						
Lane Group Flow (vph)	352	1999	1829	0	444	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	141.8%	ICU Level of Service	H
Analysis Period (min)	15		

HCM 2010 TWSC
4: US17/92 & Old Tampa Hwy

Intersection						
Int Delay, s/veh	175.6					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	147	836	764	1	1	185
Future Vol, veh/h	147	836	764	1	1	185
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	430	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	352	1999	1827	2	2	442

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1829	0	-	0	4530	1828
Stage 1	-	-	-	-	1828	-
Stage 2	-	-	-	-	2702	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	~ 334	-	-	-	~ 1	~ 95
Stage 1	-	-	-	-	140	-
Stage 2	-	-	-	-	50	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	~ 334	-	-	-	0	~ 95
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	140	-
Stage 2	-	-	-	-	0	-

Approach	EB	WB	SB
HCM Control Delay, s	15	0	$ 1746.6
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	~ 334	-	-	-	95
HCM Lane V/C Ratio	1.052	-	-	-	4.682
HCM Control Delay (s)	100	-	-		$ 1746.6
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	12.6	-	-	-	47.3

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

Lanes, Volumes, Timings
12: US17/92 & Tallahassee Blvd

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	26	805	695	21	13	48
Future Volume (vph)	26	805	695	21	13	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.996		0.894	
Flt Protected		0.998			0.989	
Satd. Flow (prot)	0	1859	1855	0	1647	0
Flt Permitted		0.998			0.989	
Satd. Flow (perm)	0	1859	1855	0	1647	0
Link Speed (mph)		45	45		30	
Link Distance (ft)		6818	3322		780	
Travel Time (s)		103.3	50.3		17.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	220%	220%	220%	220%	220%	220%
Adj. Flow (vph)	62	1925	1662	50	31	115
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1987	1712	0	146	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 154.1%		ICU Level of Service H	
Analysis Period (min) 15			

HCM 2010 TWSC
12: US17/92 & Tallahassee Blvd

Intersection						
Int Delay, s/veh	13.3					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	805	695	21	13	48
Future Vol, veh/h	26	805	695	21	13	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	1925	1662	50	31	115

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1712	0	-	0	3736	1687
Stage 1	-	-	-	-	1687	-
Stage 2	-	-	-	-	2049	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	370	-	-	-	~ 5	116
Stage 1	-	-	-	-	165	-
Stage 2	-	-	-	-	108	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	370	-	-	-	~ 5	116
Mov Cap-2 Maneuver	-	-	-	-	62	-
Stage 1	-	-	-	-	165	-
Stage 2	-	-	-	-	108	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	$ 343.2
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	370	-	-	-	98
HCM Lane V/C Ratio	0.168	-	-	-	1.488
HCM Control Delay (s)	16.7	0	-	-	$ 343.2
HCM Lane LOS	C	A	-	-	F
HCM 95th %tile Q(veh)	0.6	-	-	-	11

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

HCM 2010 TWSC
12: US17/92 & Tallahassee Blvd

Intersection						
Int Delay, s/veh	0.5					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	583	775	12	16	15
Future Vol, veh/h	21	583	775	12	16	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	634	842	13	17	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	855	0	-	0	1528	849
Stage 1	-	-	-	-	849	-
Stage 2	-	-	-	-	679	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	785	-	-	-	129	361
Stage 1	-	-	-	-	419	-
Stage 2	-	-	-	-	504	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	785	-	-	-	123	361
Mov Cap-2 Maneuver	-	-	-	-	260	-
Stage 1	-	-	-	-	419	-
Stage 2	-	-	-	-	481	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	18.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	785	-	-	-	301
HCM Lane V/C Ratio	0.029	-	-	-	0.112
HCM Control Delay (s)	9.7	0	-	-	18.5
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Lanes, Volumes, Timings
1: US17/92 & CR 54

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	247	213	10	98	169	48	83	117	139	28	197	107
Future Volume (vph)	247	213	10	98	169	48	83	117	139	28	197	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	312		365	360		450	507		0	316		625
Storage Lanes	2		1	2		1	2		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.919				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3253	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3253	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			167			235		230				256
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		55			1201			3403			3985	
Travel Time (s)		0.8			18.2			51.6			60.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	220%	220%	220%	220%	220%	220%	220%	220%	220%	220%	220%	220%
Adj. Flow (vph)	591	509	24	234	404	115	198	280	332	67	471	256
Shared Lane Traffic (%)												
Lane Group Flow (vph)	591	509	24	234	404	115	198	612	0	67	471	256
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	40	40	40	40	40	40	40	40		40	40	40
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	40	40	40	40	40	40	40	40		40	40	40
Detector 1 Type	Extend	Extend	Extend	Extend	Extend	Extend	Extend	Extend		Extend	Extend	Extend
Detector 1 Channel												
Detector 1 Extend (s)	3.0	2.0	2.0	3.0	2.0	2.0	2.0	3.0		3.0	3.0	3.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6			2						4
Detector Phase	1	6	6	5	2	2	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	12.4	46.8	46.8	12.5	36.8	36.8	12.8	11.8		15.0	11.8	11.8

PM Peak Hour - 2040 Traffic - Improved

Synchro 9 Report
Page 1

Lanes, Volumes, Timings
1: US17/92 & CR 54

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Total Split (s)	33.0	48.3	48.3	22.7	38.0	38.0	18.0	34.0		15.0	31.0	31.0
Total Split (%)	27.5%	40.3%	40.3%	18.9%	31.7%	31.7%	15.0%	28.3%		12.5%	25.8%	25.8%
Maximum Green (s)	25.6	41.5	41.5	15.2	31.2	31.2	10.2	27.2		7.9	24.2	24.2
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8		4.8	4.8	4.8
All-Red Time (s)	2.6	2.0	2.0	2.7	2.0	2.0	3.0	2.0		2.3	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.4	6.8	6.8	7.5	6.8	6.8	7.8	6.8		7.1	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	2.0	2.0	3.0	2.0	2.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Min	Min	Max	Min	Min	Max	Max		Max	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		33.0	33.0		23.0	23.0		31.0			31.0	31.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	25.6	28.3	28.3	15.2	18.0	18.0	10.2	41.0		7.9	38.0	38.0
Actuated g/C Ratio	0.21	0.23	0.23	0.13	0.15	0.15	0.08	0.34		0.07	0.31	0.31
v/c Ratio	0.81	0.61	0.05	0.54	0.77	0.26	0.68	0.49		0.30	0.42	0.38
Control Delay	55.6	44.7	0.2	55.3	59.4	1.5	67.0	20.8		58.6	34.6	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	55.6	44.7	0.2	55.3	59.4	1.5	67.0	20.8		58.6	34.6	5.6
LOS	E	D	A	E	E	A	E	C		E	C	A
Approach Delay		49.5			49.3			32.1			27.3	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120.7			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 40.3		Intersection LOS: D	
Intersection Capacity Utilization 69.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: US17/92 & CR 54

Lanes, Volumes, Timings
2: US17/92 & CR 532

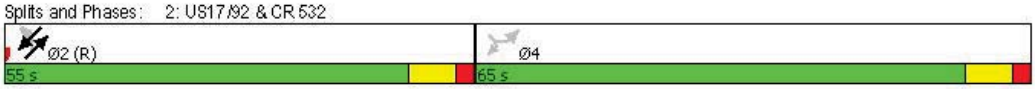
Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	674	45	27	342	446	510
Future Volume (vph)	674	45	27	342	446	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350	0	430			360
Storage Lanes	2	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.125			
Satd. Flow (perm)	3433	1583	233	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		28				1091
Link Speed (mph)	50			55	55	
Link Distance (ft)	3633			8545	3793	
Travel Time (s)	49.5			105.9	47.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	220%	220%	220%	220%	220%	220%
Adj. Flow (vph)	1612	108	65	818	1067	1220
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1612	108	65	818	1067	1220
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	2	
Permitted Phases	4	4	2			2
Minimum Split (s)	11.3	11.3	17.0	17.0	17.0	17.0
Total Split (s)	65.0	65.0	55.0	55.0	55.0	55.0
Total Split (%)	54.2%	54.2%	45.8%	45.8%	45.8%	45.8%
Maximum Green (s)	57.2	57.2	47.2	47.2	47.2	47.2
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.8	7.8	7.8	7.8	7.8	7.8
Lead/Lag						
Lead-Lag Optimize?						
Act Effct Green (s)	57.2	57.2	47.2	47.2	47.2	47.2
Actuated g/C Ratio	0.48	0.48	0.39	0.39	0.39	0.39
v/c Ratio	0.99	0.14	0.71	0.59	0.77	0.95
Control Delay	50.4	13.5	73.8	30.8	36.1	20.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings
2: US17/92 & CR 532

Lane Group	SEL	SER	NEL	NET	SWT	SWR
Total Delay	50.4	13.5	73.8	30.8	36.1	20.9
LOS	D	B	E	C	D	C
Approach Delay	48.1			34.0	28.0	
Approach LOS	D			C	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NESW and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 36.1		Intersection LOS: D	
Intersection Capacity Utilization 93.1%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 2: US17/92 & CR 532



Lanes, Volumes, Timings
4: US17/92 & Old Tampa Hwy

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	147	836	764	1	1	185
Future Volume (vph)	147	836	764	1	1	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt					0.866	
Flt Protected	0.950					
Satd. Flow (prot)	1770	3539	3539	0	1613	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	3539	3539	0	1613	0
Link Speed (mph)		55	55		45	
Link Distance (ft)		3793	1170		687	
Travel Time (s)		47.0	14.5		10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	220%	220%	220%	220%	220%	220%
Adj. Flow (vph)	352	1999	1827	2	2	442
Shared Lane Traffic (%)						
Lane Group Flow (vph)	352	1999	1829	0	444	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 99.8%		ICU Level of Service F	
Analysis Period (min) 15			

HCM 2010 TWSC
4: US17/92 & Old Tampa Hwy

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	147	836	764	1	1	185
Future Vol, veh/h	147	836	764	1	1	185
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	430	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	352	1999	1827	2	2	442

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1829	0	-	0	3531	915
Stage 1	-	-	-	-	1828	-
Stage 2	-	-	-	-	1703	-
Critical Hdwy	4.14	-	-	-	7.54	6.94
Critical Hdwy Stg 1	-	-	-	-	6.54	-
Critical Hdwy Stg 2	-	-	-	-	6.54	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	~ 330	-	-	-	~ 2	~ 275
Stage 1	-	-	-	-	79	-
Stage 2	-	-	-	-	95	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	~ 330	-	-	-	-	~ 275
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	79	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	15.6	0	
HCM LOS			-

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	~ 330	-	-	-	-
HCM Lane V/C Ratio	1.065	-	-	-	-
HCM Control Delay (s)	104.4	-	-	-	-
HCM Lane LOS	F	-	-	-	-
HCM 95th %tile Q(veh)	12.9	-	-	-	-

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

Lanes, Volumes, Timings
12: US17/92 & Tallahassee Blvd

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	26	805	695	21	13	48
Future Volume (vph)	26	805	695	21	13	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.996		0.894	
Flt Protected		0.998			0.989	
Satd. Flow (prot)	0	3532	3525	0	1647	0
Flt Permitted		0.998			0.989	
Satd. Flow (perm)	0	3532	3525	0	1647	0
Link Speed (mph)		45	45		30	
Link Distance (ft)		6818	3322		780	
Travel Time (s)		103.3	50.3		17.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	220%	220%	220%	220%	220%	220%
Adj. Flow (vph)	62	1925	1662	50	31	115
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1987	1712	0	146	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 105.2%		ICU Level of Service G	
Analysis Period (min) 15			

HCM 2010 TWSC
12: US17/92 & Tallahassee Blvd

Intersection						
Int Delay, s/veh	2.5					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	805	695	21	13	48
Future Vol, veh/h	26	805	695	21	13	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	1925	1662	50	31	115

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1712	0	-	0	2774	856
Stage 1	-	-	-	-	1687	-
Stage 2	-	-	-	-	1087	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	367	-	-	-	~ 15	301
Stage 1	-	-	-	-	135	-
Stage 2	-	-	-	-	285	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	367	-	-	-	~ 15	301
Mov Cap-2 Maneuver	-	-	-	-	90	-
Stage 1	-	-	-	-	135	-
Stage 2	-	-	-	-	285	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	59.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	367	-	-	-	201
HCM Lane V/C Ratio	0.169	-	-	-	0.726
HCM Control Delay (s)	16.8	0	-	-	59.5
HCM Lane LOS	C	A	-	-	F
HCM 95th %tile Q(veh)	0.6	-	-	-	4.7

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

FLORIDA DEPARTMENT OF TRANSPORTATION
STEP 1 - ROUNDABOUT SCREENING

Prepared by:	*Caleb Van Nostrand*	**Date Prepared:**	
Financial Project ID:	*437200-1-12-01*	**Project Name:**	*US 17/92 Corridor Planning Study*
FAP No.:		**State Road:**	*US 17/92*
County:	*Osceola*	**Intersecting Road:**	*CR-532*

EXISTING CONTROL/PROJECT CLASSIFICATION					
Control:	■ Signal	☐ All Way Stop	☐ 2 Way Stop	☐ Yield	☐ None
Classification:		☐ Design.	☐ Traffic Operations	■ Other	

SCREENING CRITERIA		
1. Does the intersection have physical or geometric constraints that would limit visibility or complicate construction? *(comment below if "yes")*	☐ yes	■ no
2. Does the major roadway AADT exceed 90% of the total intersection AADT? *(comment below if "yes")*	☐ yes	■ no
3. Does the intersection have pedestrians with special needs that would have difficulty crossing the road? *(comment below if "yes")*	☐ yes	■ no
4. Is the intersection located within a coordinated signal network? *(comment below if "yes")*	☐ yes	■ no
5. Is there downstream traffic control or conditions that could cause queues to back up into the intersection? *(comment below if "yes")*	☐ yes	■ no
6. Would the installation of a roundabout create impacts to historical, 4(f), or environmentally sensitive sites? Would the relocation of residences or businesses be required? *(comment below if "yes")*	■ yes	☐ no
A two-lane roundabout (estimated 200 foot ICD) would be required for this roadway. The land directly bordering this intersection is designated wetlands and this required footprint exceeds that of the proposed roadway cross section.		

Step 2 evaluation is required if no is checked for all criteria. Level 2 is optional if yes is checked for one or more of the criteria.

Advance Roundabout Alternative to step 2 Roundabout b/c Evaluation	☐ yes	■ no

Approved by: ☐ DDE or ☐ DTOE

Signature: _____ Date: _____

HCM 2010 Roundabout
2: US17/92 & CR 532

Intersection								
Intersection Delay, s/veh	164.4							
Intersection LOS	F							

Approach	SE	NE	SW
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	1720	883	2287
Demand Flow Rate, veh/h	1754	900	2332
Vehicles Circulating, veh/h	1088	1644	66
Vehicles Exiting, veh/h	66	1088	2478
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	287.6	191.5	61.3
Approach LOS	F	F	F

Lane	Left	Right	Bypass	Left	Right	Left	Right	Bypass
Designated Moves	L	LTR	R	LT	TR	LT	TR	R
Assumed Moves	L	LTR	R	LT	TR	LT	TR	R
RT Channelized			Yield					Yield
Lane Util	0.530	0.470		0.470	0.530	0.470	0.530	
Critical Headway, s	4.293	4.113		4.293	4.113	4.293	4.113	
Entry Flow, veh/h	871	773	110	423	477	511	577	1244
Cap Entry Lane, veh/h	500	528	381	329	357	1075	1079	1058
Entry HV Adj Factor	0.981	0.980	0.980	0.981	0.981	0.981	0.980	0.980
Flow Entry, veh/h	854	758	108	415	468	501	565	1220
Cap Entry, veh/h	490	517	373	323	351	1055	1057	1037
V/C Ratio	1.743	1.465	0.289	1.285	1.334	0.475	0.535	1.176
Control Delay, s/veh	363.2	241.3	15.0	182.9	199.2	8.8	9.9	106.6
LOS	F	F	B	F	F	A	A	F
95th %tile Queue, veh	52	38	1	19	22	3	3	36

FLORIDA DEPARTMENT OF TRANSPORTATION
STEP 1 - ROUNDABOUT SCREENING

Prepared by:	*Caleb Van Nostrand*	**Date Prepared:**	
Financial Project ID:	*437200-1-12-01*	**Project Name:**	*US 17/92 Corridor Planning Study*
FAP No.:		**State Road:**	*US 17/92*
County:	*Osceola*	**Intersecting Road:**	*Tallahassee Boulevard*

EXISTING CONTROL/PROJECT CLASSIFICATION

Control: ☐ Signal ☐ All Way Stop ■ 2 Way Stop ☐ Yield ☐ None

Classification: ☐ Design. ☐ Traffic Operations ■ Other

SCREENING CRITERIA

1. Does the intersection have physical or geometric constraints that would limit visibility or complicate construction? *(comment below if "yes")* ☐ yes ☐ no

2. Does the major roadway AADT exceed 90% of the total intersection AADT? *(comment below if "yes")* ■ yes ☐ no

Current AADT on Tallahassee Boulevard is not available, turning movement counts during the AM and PM peak hours were collected. During the AM Peak Hour mainline traffic accounts for 97.8 percent of traffic. During the PM Peak Hour mainline

3. Does the intersection have pedestrians with special needs that would have difficulty crossing the road? *(comment below if "yes")* ☐ yes ■ no

4. Is the intersection located within a coordinated signal network? *(comment below if "yes")* ☐ yes ■ no

5. Is there downstream traffic control or conditions that could cause queues to back up into the intersection? *(comment below if "yes")* ☐ yes ■ no

6. Would the installation of a roundabout create impacts to historical, 4(f), or environmentally sensitive sites? Would the relocation of residences or businesses be required? *(comment below if "yes")* ■ yes ☐ no

Two residences on the north side of US17/92 would need to be relocated. One business on the south side of US17/92 would need to be relocated.

Step 2 evaluation is required if no is checked for all criteria. Level 2 is optional if yes is checked for one or more of the criteria.

Advance Roundabout Alternative to step 2 Roundabout b/c Evaluation ☐ yes ■ no

Approved by: ☐ DDE or ☐ DTOE

Signature: _____ Date: _____

HCM 2010 Roundabout
12: US17/92 & Tallahassee Blvd

Intersection					
Intersection Delay, s/veh	27.0				
Intersection LOS	D				

Approach	EB	WB	SB
Entry Lanes	2	2	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	1987	1712	146
Demand Flow Rate, veh/h	2027	1746	149
Vehicles Circulating, veh/h	32	63	1695
Vehicles Exiting, veh/h	1812	1995	114
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	32.9	20.7	20.7
Approach LOS	D	C	C

Lane	Left	Right	Left	Right	Left
Designated Moves	LT	TR	LT	TR	LR
Assumed Moves	LT	TR	LT	TR	LR
RT Channelized					
Lane Util	0.470	0.530	0.470	0.530	1.000
Critical Headway, s	4.293	4.113	4.293	4.113	4.113
Entry Flow, veh/h	953	1074	821	925	149
Cap Entry Lane, veh/h	1103	1105	1078	1081	345
Entry HV Adj Factor	0.980	0.981	0.980	0.981	0.980
Flow Entry, veh/h	934	1053	805	907	146
Cap Entry, veh/h	1081	1084	1056	1060	338
V/C Ratio	0.864	0.972	0.762	0.856	0.432
Control Delay, s/veh	24.3	40.5	17.2	23.8	20.7
LOS	C	E	C	C	C
95th %tile Queue, veh	12	18	8	11	2

Appendix C: Supporting Environmental Materials

The following pages contain background environmental information:

It is important to promote the protection of natural resources. As a growing population and associated development continue to place increasing pressures and demands on the environment, it becomes more important to review and amend regulations and policies to sustain natural resources for both current and future generations. Both Osceola County and Polk County have policies in place to responsibly use, enhance, protect and restore natural resources including air, water, land, wildlife, and habitat. Environmental considerations that may factor into design elements of the corridor study include the following:

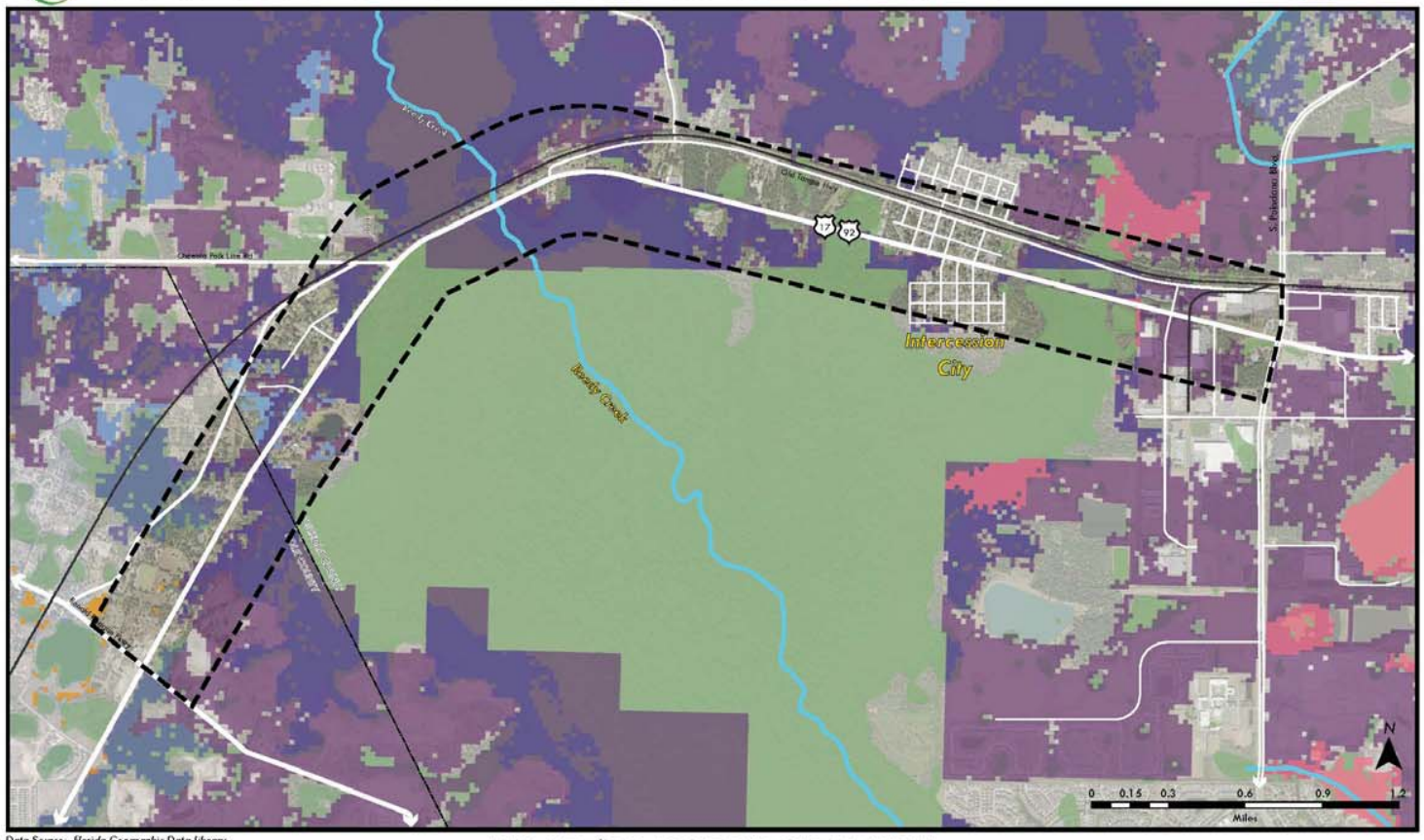
- **Groundwater -** Groundwater is the principal source of fresh water in this area. Protection of the quality, quantity and availability of water resources is recognized as one of the highest priorities for both Osceola and Polk counties. There are numerous threats to water resources including contamination, increased demand from residential and agricultural users, and the potential of declining recharge rates. It is recognized water is a public resource essential to the long-term health, safety and welfare of the public. The maintenance and viability of wetlands, lakes, streams, recharge areas, and agricultural activities are of critical importance to the environment
- **Wetlands -** Many wetlands have suffered degradation due to human impacts. The federal government has a “no net loss” wetlands policy. Wetlands provide many important functions such as providing vital fish and wildlife habitats, acting as storage areas for excess surface water and improving water quality as impurities enter the wetland and are filtered through the vegetation. It is important precautions are taken, such as land acquisition, buffers, and stricter development standards, to curb future degradation. In addition, past wetland damage should be mitigated by restoring and creating wetlands to the greatest extent possible.
- **The Reedy Creek Swamp -** The swamp floodplain provides recharge to the Surficial Aquifer, which in turn recharges the Immediate and Floridian Aquifers. The recharge rate from the swamps is relatively low now; however, the long period of inundation in the swamp provides ample opportunities for recharge.
- **Reedy Creek -** The Creek is a seasonally fluctuating black water stream. It remains unchannelized and meanders through a floodplain swamp forest dominated by bald cypress, red maple, and strangler fig. the Reedy Creek Watershed provides a range of habitat types supporting a diversity of species. The use of Reedy Creek by wildlife fluctuates with the seasons and changing water levels. During the winter and spring, water flow slows due to low amounts of rainfall, and may dry up in certain areas. When summer rains begin, the creek swells, rising to depths greater than four feet.
- **Air quality -** The air quality in the area is sufficient. However, with the area’s projected population, increased commercial activity and urbanization in surrounding areas, there is a concern of the potential increase in air quality degradation. There are two FDEP air pollution sites in the study area: Duke Energy Intercession City Power Plant and Kissimmee Utilities Cane Island Power Park.

Threatened and Endangered Species

According to SFWMD, the water bodies of the Kissimmee Chain of Lakes and Kissimmee River and floodplain support breeding, shelter, and foraging habitats for 178 species of fish, wetland-dependent wading birds, amphibians, reptiles and mammals, which depend on year-round availability of water for survival. Per data from the Florida Geographic Data Library (see Figure 28), the following threatened and endangered species habitats may be present in the study area:

- **Cooper's Hawk** – Copper's Hawk habitat includes mature forest, open woodlands, and wood edges. They have become increasingly common in suburban areas with tall trees. The primary threat facing Copper's Hawk is degradation and loss of habitat.
- **Florida Scrub Jay** – The Florida Scrub Jay is the only species of bird unique to Florida. They inhabit sand pine and xeric oak scrub and scrubby flatwoods, which occur in some of the highest and driest areas of Florida – ancient sandy ridges running down the middle of the state and sandy deposits along rivers in the interior of the state. Scrub Jays do best in areas that contain large containing quantities of oak shrubs. The primary threats to the Florida Scrub Jay are habitat destruction, fragmentation, and degradation from development and agriculture.
- **Florida Snail Kite** – Within the United States, the Snail Kite is found only in Florida. The species is somewhat nomadic, moving from wetland to wetland in search of snails, but they are regularly seen in the marshes associated with lakes Kissimmee, Okeechobee, and Tohopekaliga. Wetland drainage and development has eliminated or altered much of its shallow freshwater foraging habitat.
- **Sand Skink** – Sand Skinks are endemic to xeric habitats found along the central Florida sand ridges. These habitats include rosemary scrub, scrubby flatwoods, sand pine, and oak scrubs and turkey oak ridge. The Sand Skink is found only in seven Florida counties, including Osceola and Polk. The main threat to the Sand Skink is loss of habitat – over two-thirds of historic xeric habitat has been altered or lost to agriculture or development in Florida.
- **Short-tailed Hawk** – The Short-tailed Hawk is uncommon in Florida, but can be found in patchy woodlands near water, high pine-oak woodlands, and cypress swamps in the central part of the state. It prefers borders between wooded and open areas for both nesting and hunting. The primary threat facing the Short-tailed Hawk is degradation and loss of habitat.

THREATENED & ENDANGERED SPECIES' HABITATS



Data Source: Florida Geographic Data Library

US 17/92 CORRIDOR STUDY

November 2016

Legend

- Florida Scrub Jay SHCA
- Sand Skink SHCA
- Florida Snail Kite SHCA
- Cooper's Hawk SHCA
- Short-tailed Hawk SHCA
- Wetlands
- Project Boundary

*SHCA denotes a Strategic Habitat Conservation Area

RENAISSANCE PLANNING

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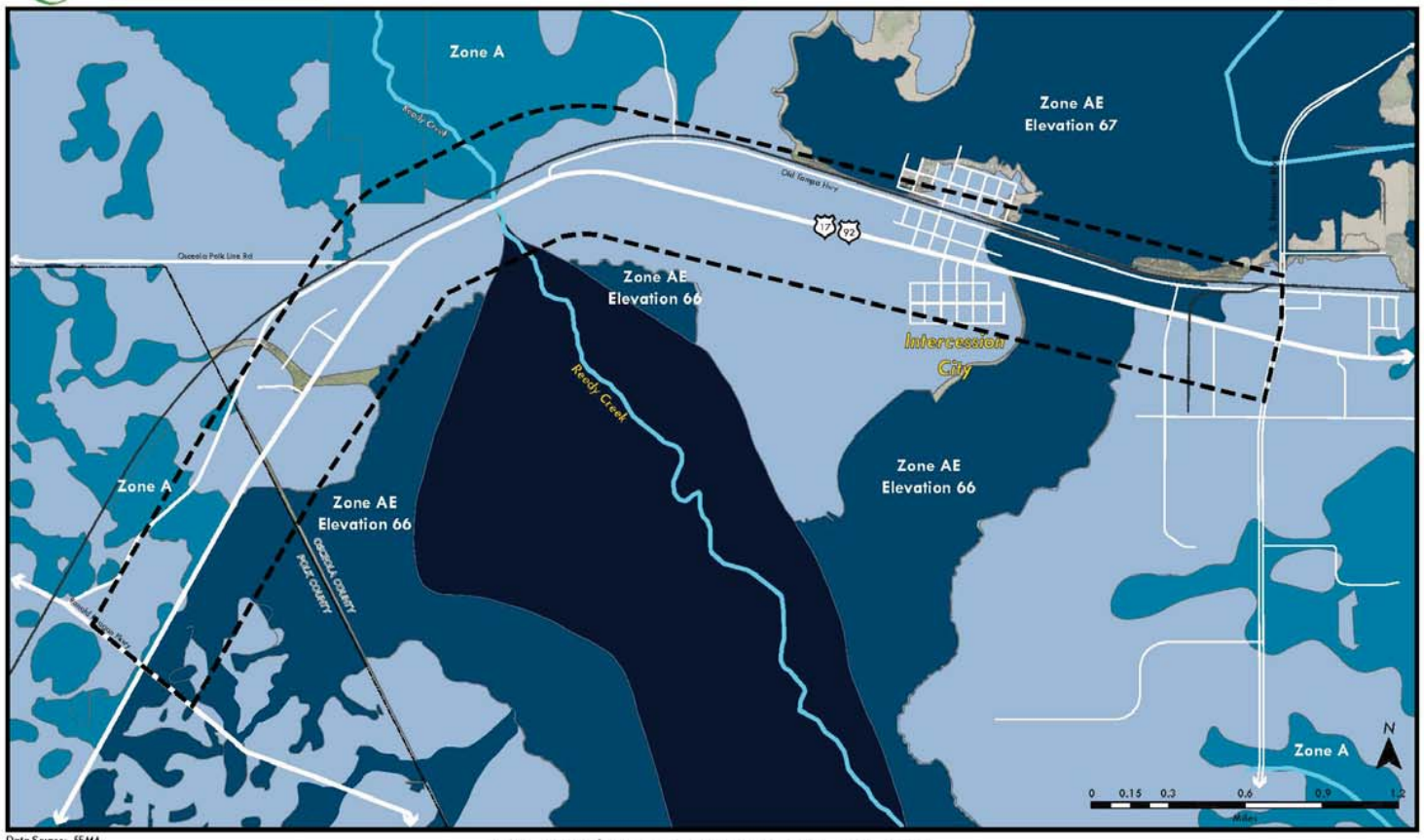
FLOODZONE AREAS



Data Source: FEMA

US 17/92 CORRIDOR STUDY

November 2016

Legend

- Zone X - Area of Minimal Flood Hazard
- Zone X - 0.2% Annual Chance of Flood
- Zone A - Area of 100 Year Flood Base Flood Elevation not Determined
- Zone AE - Area of 100 Year Flood Base Flood Elevation Determined
- Floodway Area in Zone AE
- Reedy Creek
- Project Boundary

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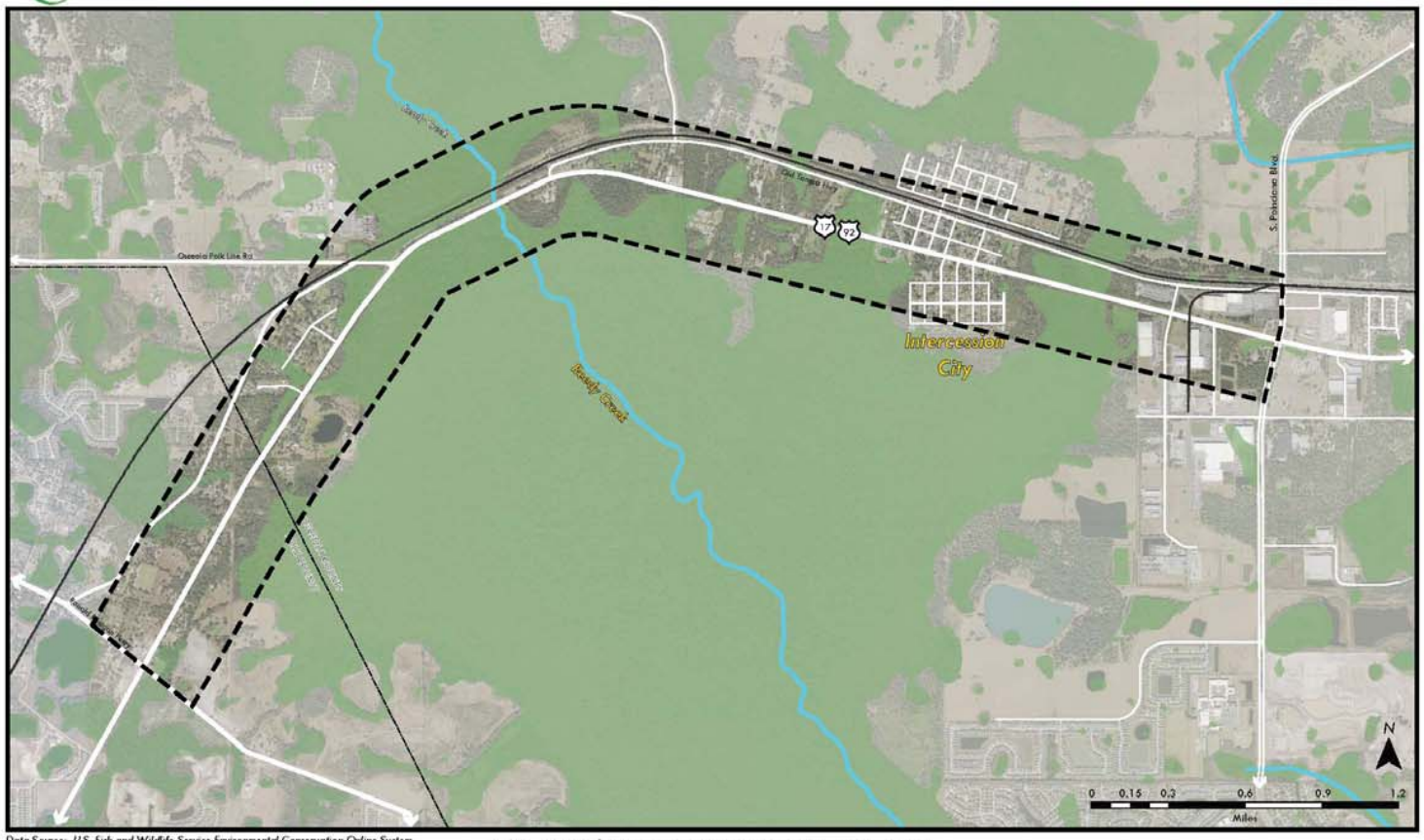
WETLAND AREAS



Data Source: U.S. Fish and Wildlife Service Environmental Conservation Online System

US 17/92 CORRIDOR STUDY

November 2016

Legend

Wetlands

Project Boundary

Appendix D: Public Involvement Materials

The following are presentation boards used during public meeting held on January 16, 2018 at the St. Nicholas Anglican Church (1729 Business Center Lane, Kissimmee),

US 17/92 CORRIDOR PLANNING STUDY FM# 437200

FROM RONALD REAGAN PARKWAY TO POINCIANA BOULEVARD

Title VI

The Florida Department of Transportation complies with various nondiscrimination laws and regulations, including Title VI of the Civil Rights Act of 1964 and the Americans with Disabilities Act (ADA).

Public participation is solicited without regard to race, color, national origin, age, sex, religion, disability or family status. Persons wishing to express their concerns relative to FDOT compliance with Title VI may do so by contacting either:

District 5 Office

Florida Department of Transportation

Jennifer Smith
District 5 Title VI Coordinator
719 South Woodland Boulevard
DeLand, FL 32720
(386) 943-5367
Jennifer.Smith2@dot.state.fl .us

Cental Office

Florida Department of Transportation

Jacqueline Paramore
State Title VI Coordinator
605 Suwannee Street, MS 65
Tallahassee, FL 32399-0450
(850) 414-4753
Jacqueline.Paramore@dot.state.fl .us

US 17/92 CORRIDOR PLANNING STUDY FM# 437200

FROM RONALD REAGAN PARKWAY TO POINCIANA BOULEVARD

Why Are You Here?

1) To participate in the Corridor Planning Study process
2) To review the future build alternatives along U.S. 17/92
3) To provide your thoughts, concerns, and comments regarding the project

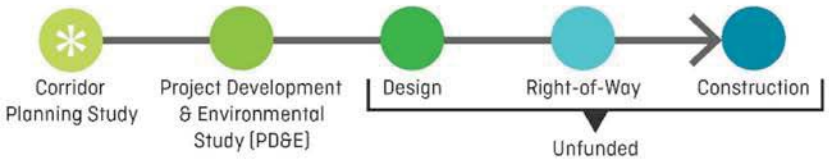
WE WANT YOUR FEEDBACK!

How Can You Get Involved?

- Participate in open discussion with the project team
- Ask questions about specific aspects of the project
- Fill out a comment form with your input
- Visit the project website at www.cfl roads.com and search by FM number: FM# 437200

Project Location

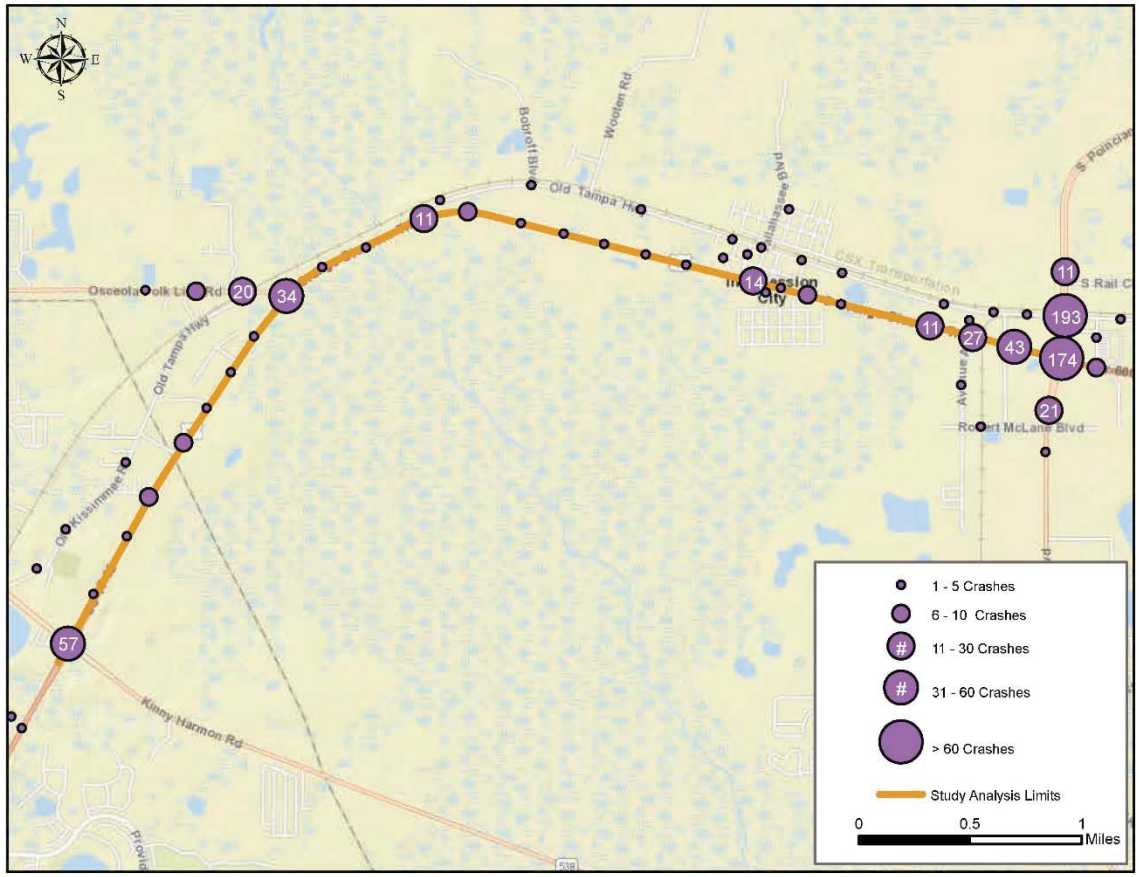
Where Are We Now?



US 17/92 CORRIDOR PLANNING STUDY FM# 437200

FROM RONALD REAGAN PARKWAY TO POINCIANA BOULEVARD

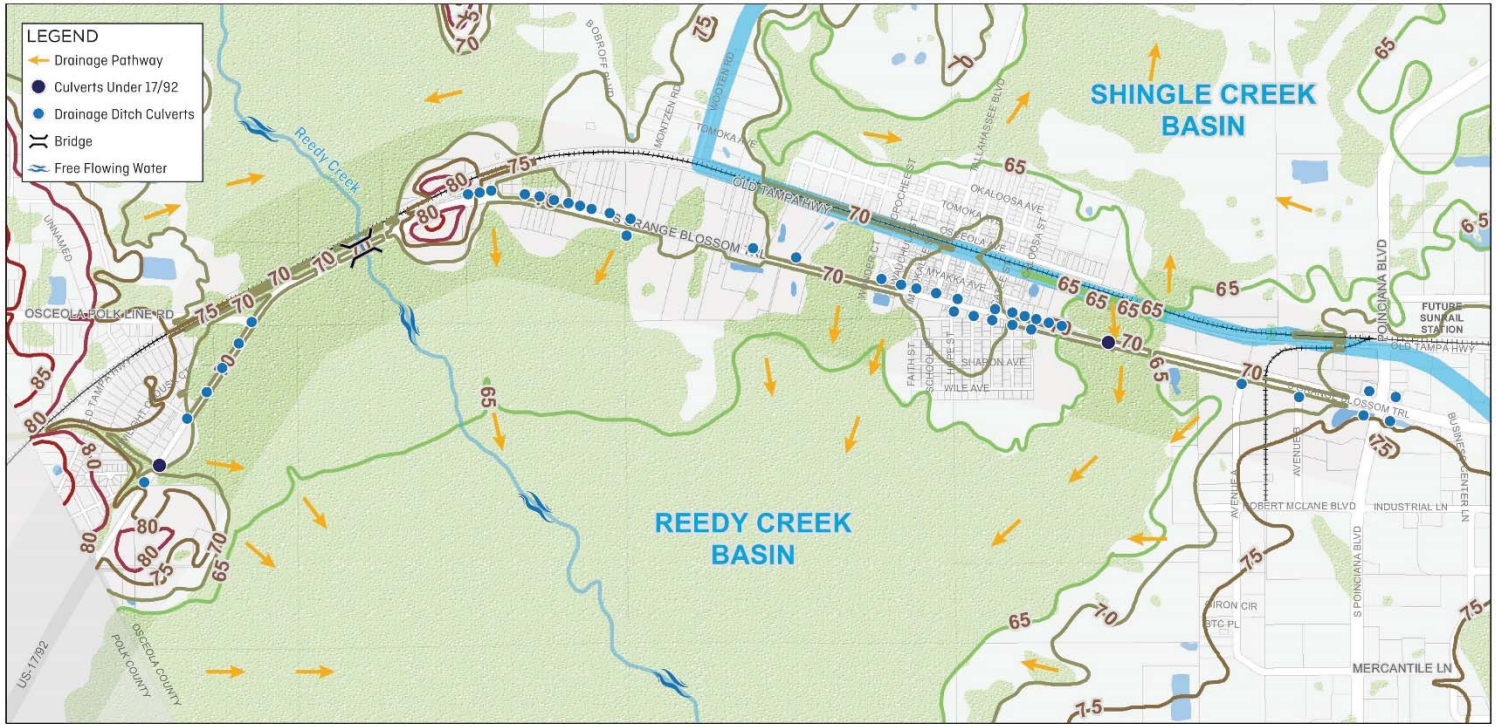
Crash Data



US 17/92 CORRIDOR PLANNING STUDY FM# 437200

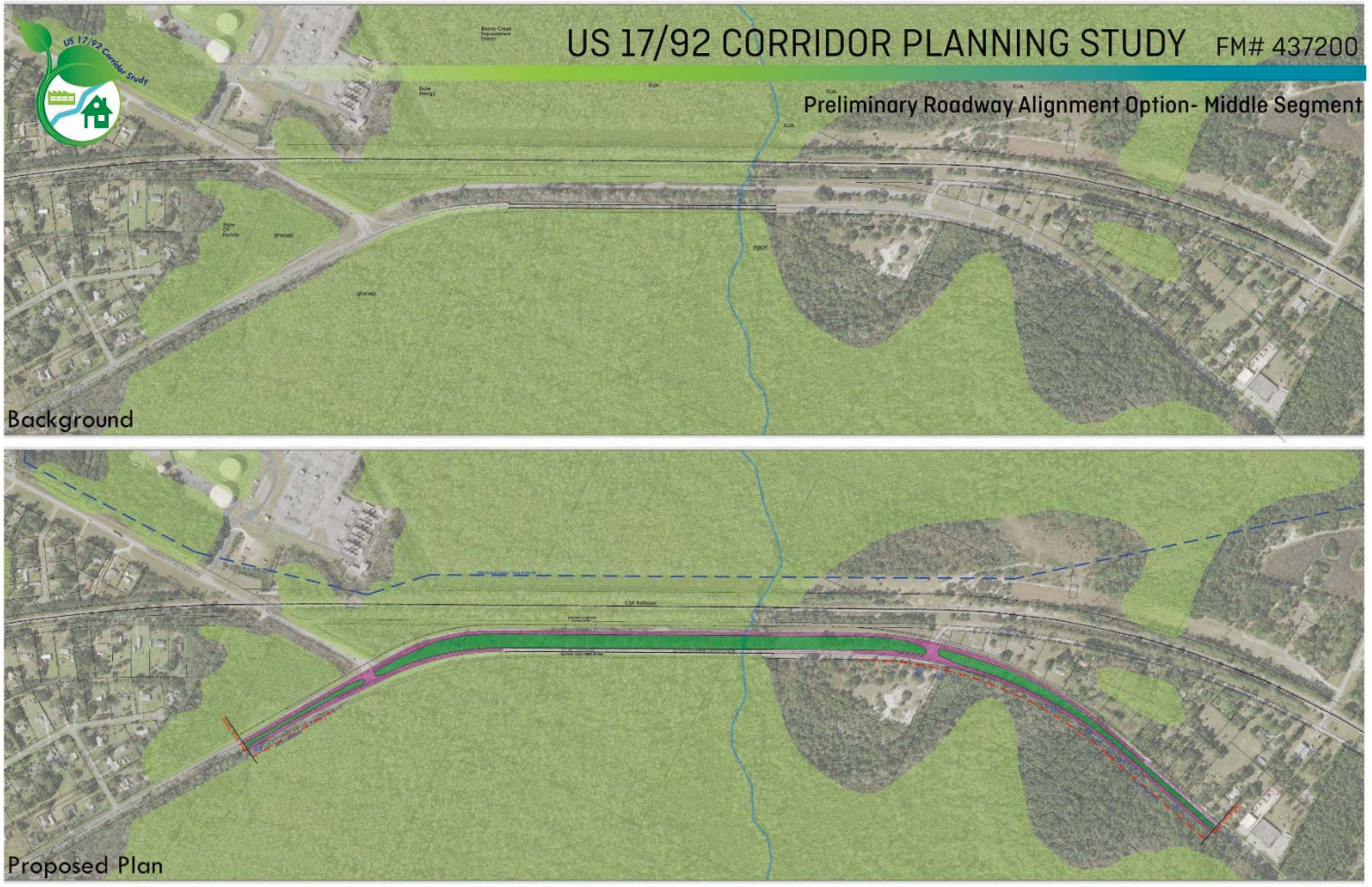
FROM RONALD REAGAN PARKWAY TO POINCIANA BOULEVARD

Drainage Basin and Culverts

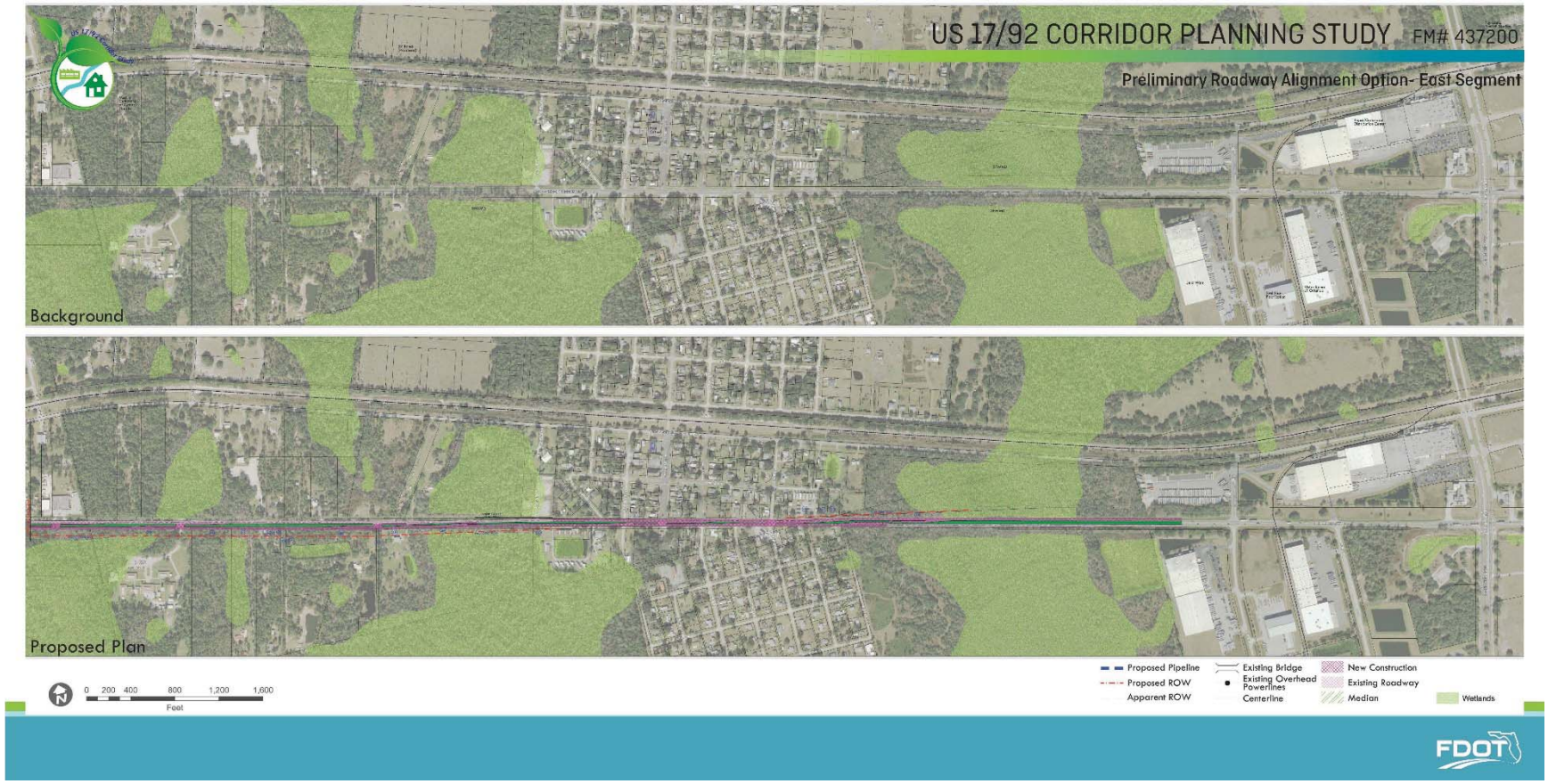


0 0.125 0.25 0.5 Miles

5 foot Contours 65 70 75 80 85 Drainage Basin Boundary


US 17/92 CORRIDOR PLANNING STUDY
FM# 437200
Preliminary Roadway Alignment Option- Middle Segment
Background
Proposed Plan
0 200 400 800 1,200 1,600
Feet
Proposed Pipeline
Proposed ROW
Apparent ROW
Existing Bridge
Existing Overhead Powerlines
Centerline
New Construction
Existing Roadway
Median
Wetlands


US 17/92 CORRIDOR PLANNING STUDY
FM# 437200
Preliminary Roadway Alignment Option- West Segment
Background
Proposed Plan
0 200 400 800 1,200 1,600
Feet
Proposed Pipeline
Proposed ROW
Apparent ROW
Existing Bridge
Existing Overhead Powerlines
Centerline
New Construction
Existing Roadway
Median
Wetlands
FDOT


US 17/92 CORRIDOR PLANNING STUDY
FM# 437200
Preliminary Roadway Alignment Option- East Segment
Background
Proposed Plan
0 200 400 800 1,200 1,600
Feet
Proposed Pipeline
Proposed ROW
Apparent ROW
Existing Bridge
Existing Overhead Powerlines
Centerline
New Construction
Existing Roadway
Median
Wetlands
FDOT

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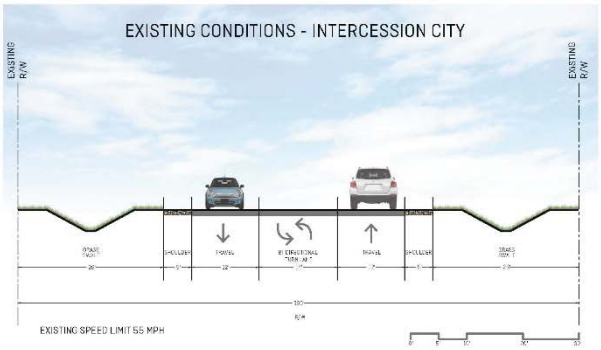
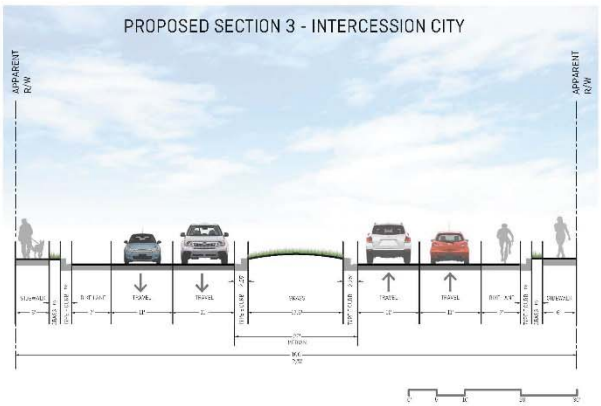
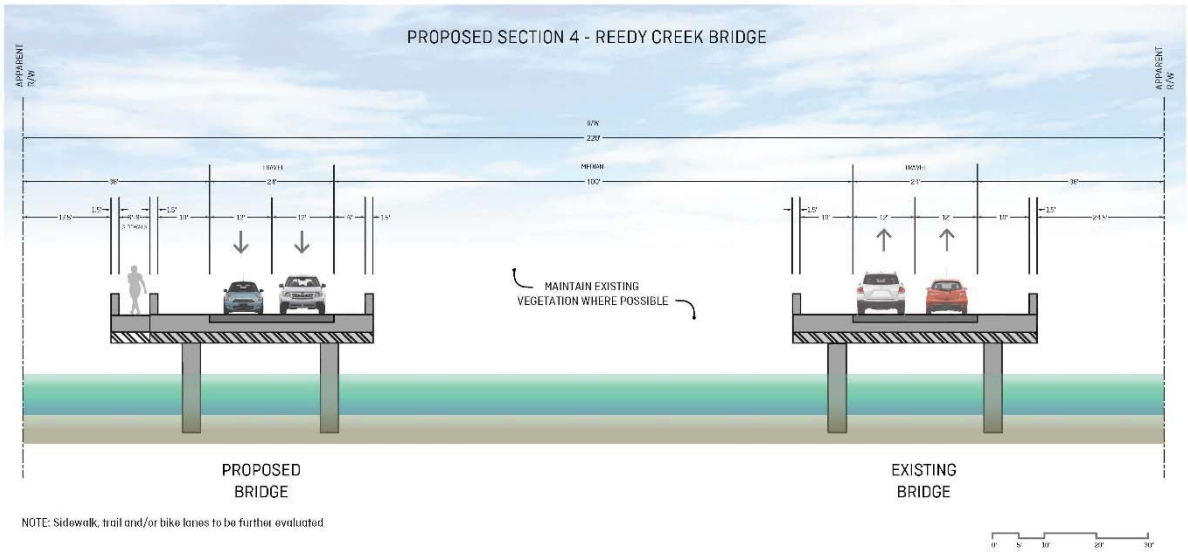
US 17/92 CORRIDOR PLANNING STUDY FM# 437200

FROM RONALD REAGAN PARKWAY TO POINCIANA BOULEVARD







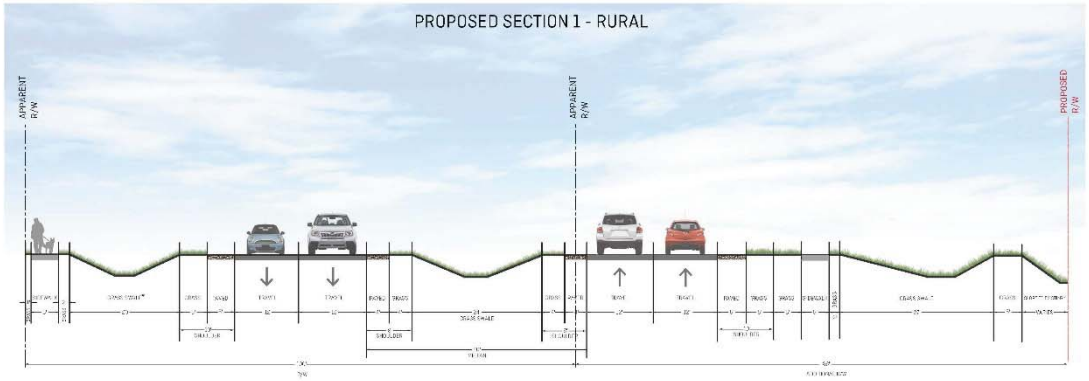
US 17/92 CORRIDOR PLANNING STUDY FM# 437200

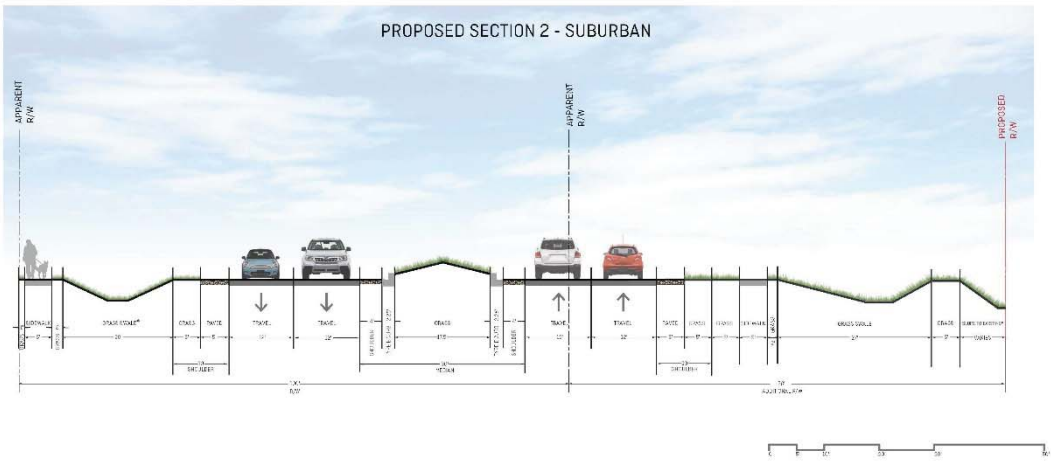
FROM RONALD REAGAN PARKWAY TO POINCIANA BOULEVARD

EXISTING SPEED LIMIT 55 MPH

[1]GENERALLY TYPICAL FOR CORRIDOR EXCEPT REEDY CREEK BRIDGE (SEE SECTION 4) AND BETWEEN INTERCESSION CITY AND AVENUE 'A' WHERE RIGHT OF WAY WIDENS TO 200 FEET.

[2]ONE OR BOTH OF THESE EDGE CONDITIONS MAY BE PRESENT ALONG THE SAME SIDE OF THE ROADWAY AT DIFFERENT LOCATIONS ON THE CORRIDOR.





The following pages document telephone interviews conducted with corridor stakeholders:

US 17/92 Stakeholder Interview Form

US 17/92 Corridor Planning Study – Interviewees				
Type	Stakeholder	Location	Contact	Contact #
Utility	Duke Energy	Intercession City Plant, at 17/92 and Osceola Polk Line Rd	Spoke to station manager Jeff, 6/30 8:30a	Media Hotline 24 hr – 800.559.3853 (DUKE)
	Sabal Trail Transmission		Brian Fahrenthold	888.2156683 bcfahrenthold@ spectraenergy.com
Church/ Religious	G5 Church	6810 S Orange Blossom Trail Davenport, FL 33896	Left msg 6/26 2:45p	
	Antioch Missionary Baptist Church	215 Church Rd, Loughman, FL 33858	No voicemail option, 6/29 2:50p	863.424.6313
	New Destiny Assembly of God	6311 US17, Davenport, FL 33896		863.424.2747
	St Nicholas Anglican Church	1729 Business Center Ln, Kissimmee, FL 34758	Left message 6/26 11:25a	407.344.2700
	Albir Islamic Association	4870 Old Tampa Hwy, Kissimmee, FL 34758	Left message 6/26 2:50p	407.344.9500
	Higher Ground Church	5563 S. Orange Blossom Tr Intercession City, FL 33848		407-933-4803
	Victory Baptist Church	5646 S. Orange Blossom Tr Intercession city, FL 33848	Can't find working phone #	863-422-5874
	Iglesia Evangelica El Tabor	5625 Orange Blossom Tr, Intercession City	Left message 6/26 2:30p	787-717-8778
Behavioral Health Residential	Aspire Health Partners	5970 S Orange Blossom Trail, Intercession City, FL 33848		407.846.5294 ext. 238
Distribution Center	Vistar Roma of Orlando	1700 Ave B, Kissimmee, FL 34758	Left msg with Gil Martin of transpo dept, 6/26 11:30a. Tried again 6/29, 2:30pm	407.738.4275

	PepsiCo Gatorade Beverages	1650 S Poinciana Blvd, Kissimmee, FL 34758	Spoke to Dan Munoz	407.933.5542
	Jeld Wen Interior Doors	1700 Ave A, Kissimmee, FL 34758	Spoke to Rosie Watson	407.944.9939
	McLane Suneast	1818 S Poinciana Blvd, Kissimmee, FL 34758	No voicemail option, 6/29 2:30pm	407.931.5200
Commercial	Home Depot	1651 S. Poinciana Blvd. Kissimmee, FL 34758	Spoke to Diego	407-932-2196
	Circle K	1608 Shepherd Ln, Kissimmee, FL 34741	Didn't want to talk, said to call corporate	(407) 933-2303

Interviewee: Rosie Watson, office manager at Jeld-Wen, 6/26

In your opinion, what are the issues in the study area that should be addressed for mobility, accessibility, and/or safety (bike/ped, transit, auto)?
Occasionally see people biking or walking, but not very often. Road is too dangerous in general (texting and driving).

Where problem areas or hot spots? What are the issues in these particular locations?
Avenue A to OBT: no light and no signage there; road gets blocked, especially bad at rush hour; have to cross it to go in the direction away from Kissimmee. Trucks get stuck as well.

Light at Poinciana @ OBT is too long for traffic heading north towards Kissimmee – says it's a least a mile long. It's really long wait.

What projects/actions that might improve mobility/accessibility/safety in the study area?
Might want to add a lane on either side for biking, if more people are going to be going to SunRail. Barely any shoulder.

Is there anyone else we should talk to with respect to business travel in the corridor?
Pepsi is across the road. Don't know who specifically to talk to

Do you think SunRail will affect your travel?
Yes, mostly personal travel. 5pm-5:30 rush hour. Not as bad at 7pm or so. Coming in early at 6 is fine, but 7:30am rush hour is bad,

Trucks generally travel 5am to 5pm. Before there was all-night travel, but not anymore, there's only one shift now. Pepsi is probably frustrated too. Very dangerous (esp turning left; people wait in adjoining turning lane)

What would you like to see accomplished as a result of this study?
Widening road would be good. Right turning lane in addition to left turn lane.

Interviewee: Diego store manager at Home Depot, 6/26

In your opinion, what are the issues in the study area that should be addressed for mobility, accessibility, and/or safety (bike/ped, transit, auto)?
No safety issues. Construction along Old Tampa Road makes traffic back up. Before construction, took that route to work because it's faster, fewer lights than OBT.

Very rarely see people walking or biking in the area. Know of only one or two people biking to work. Too far from residential areas.

Where problem areas or hot spots? What are the issues in these particular locations?
Main issue is backup during rush hour.

What projects/actions that might improve mobility/accessibility/safety in the study area?
Area is growing a lot. Widening the road might be good bc of backup during rush hour. Just bought a house about 2 miles away, N toward Poinciana – sometimes takes 2 mins to get home, other times takes 15 mins.

Is there anyone else we should talk to with respect to travel in the corridor?
none

Do you think SunRail will affect your business travel?
Not expected to affect personal travel. Definitely expects business traffic to rise

What would you like to see accomplished as a result of this study?
Widening road from single lane to two lanes

Interviewee: Jeffrey Hart, station manager at Intercession City plant

In your opinion, what are the issues in the study area that should be addressed for mobility, accessibility, and/or safety (bike/ped, transit, auto)?
Mobility: there's been an increase in construction along Osceola Polk Line Road, traffic is picking up, once condos and apartments are done, expect to see more traffic. All employees drive to the office; don't see anyone walking or biking in the area.

Safety: Plant very close to the railroad crossing, and drivers speed over it.

Where problem areas or hot spots? What are the issues in these particular locations?

Light at 17/92 at Osceola Polk line will back up. Maybe increase in timing cycles at the light.

What projects/actions that might improve mobility/accessibility/safety in the study area?

Widening the road; heard from guys who have worked at the plant for a long time (respondent has been at the plant for less than 2 years) that ROW was obtained for future widening

Is there anyone else we should talk to with respect to business travel in the corridor?
Matt Reis, 863-679-3023, longtime employee

Interviewee: Dan Munoz, plant director at PepsiCo Gatorade, 7/6

In your opinion, what are the issues in the study area that should be addressed for mobility, accessibility, and/or safety (bike/ped, transit, auto)?
Since the light was installed at Poinciana, accidents have been greatly reduced, but there are still a few (pretty much the result of drivers not paying attention; doesn't seem like there's anything FDOT could do). Everyone is wondering about the effect of the train station, what's going to happen with the traffic patterns, concerns about parking, littering.

In the area, very few people are seen walking. Those that do seem to be going to Dollar General and other small stores.

Where problem areas or hot spots? What are the issues in these particular locations?
At light next to 7/11, traffic is always backed up to the warehouse during rush hour (could be light synchro issue); will get worse when school starts. About 2-3 light cycles to get through.

What projects/actions that might improve mobility/accessibility/safety in the study area?
Light signal timing next to 7/11. Drivers coming out know to always turn right, never can turn left. Have to make wide maneuvers just to get through and avoid hitting cars during a turn.

Warehouse employees wanting to go left on 17/92 can't leave that way; company opens up the back gate for them.

Do you think SunRail will affect your business' travel?
Positive from some employees, talking about the possibility of taking it to work. Includes workers from Lakeland, who would be glad to have a connection.

The following PowerPoint presentation was given at the Intercession City Community Meeting on March 13, 2017, after which a question-and-answer period was held:

PROJECT OVERVIEW

US 17/92 CORRIDOR PLANNING STUDY
Ronald Reagan Pkwy to Poinciana Blvd

INTERCESSION CITY COMMUNITY MEETING - MARCH 13, 2017

FDOT

AGENDA

- Purpose of Project
- Overview of Corridor Planning Process
- Existing Conditions Analysis
- Issues/Opportunities
- Major Work Tasks / Time Frames

US 17/92 CORRIDOR PLANNING 2 Introduction

PROJECT PURPOSE

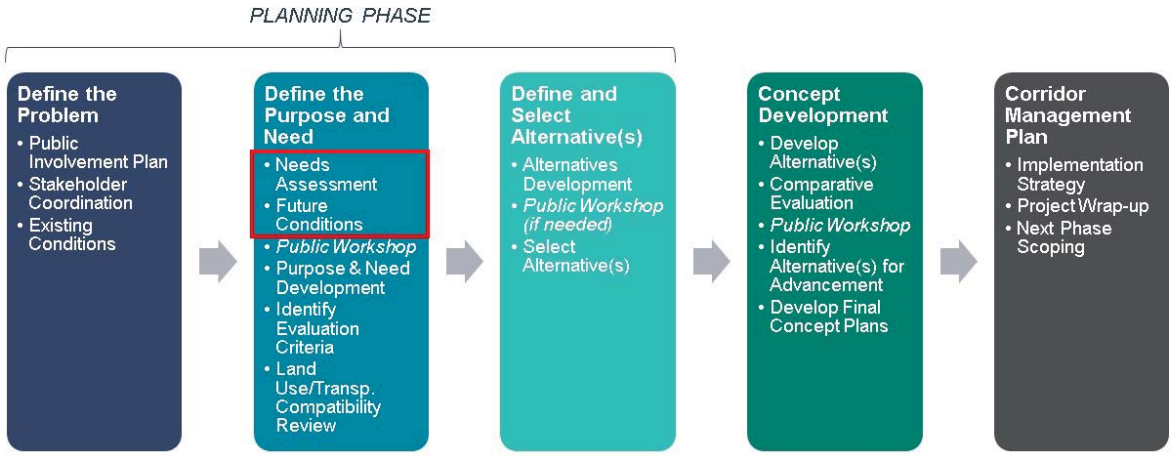
- Evaluate conditions in the corridor
- Address both roadway capacity and bike/pedestrian safety
- Develop potential solutions that establish a multimodal approach to future transportation needs
- Balance transportation and land use planning to meet current and future needs
- Develop concept plans that can be advanced in the near-term

PROJECT SCHEDULE

Corridor Planning Study
US 17/92 from County Line to Poinciana Boulevard
Project Schedule
Draft: August 23, 2016 / Update: December 28, 2016

	Duration			2016							2017							
	Start	Finish	Weeks	M1 Sep	M2 Oct	M3 Nov	M4 Dec	M5 Jan	M6 Feb	M7 Mar	M8 Apr	M9 May	M10 Jun	M11 Jul	M12 Aug	M13 Sep	M14 Oct
1.0 Define the Problem																	
1.1 Public Involvement	1-Sep-16	16-Sep-16	2	Public Involvement Plan													
1.2 Outreach and coordination	19-Sep-16	27-Oct-17	54														
1.3 Existing conditions	3-Oct-16	24-Feb-17	14						Existing Conditions Summary								
Task: Total Duration			**56**														
2.0 Define the Purpose and Need																	
2.1 Needs assessment	5-Dec-16	13-Jan-17	6														
2.2 Future conditions	2-Jan-17	10-Feb-17	6						Future Conditions Summary								
2.3 Project visioning team meeting	13-Feb-17	24-Feb-17	2														
2.4 Public involvement kick-off meeting	13-Feb-17	10-Mar-17	4														
2.5 Purpose and need development	13-Mar-17	14-Apr-17	4														
2.6 Evaluation criteria/measures of success	3-Apr-17	12-May-17	6														
2.7 Land use/transportation compatibility review	1-May-17	26-May-17	4										Purpose and Need Report				
Task: Total Duration			**24**														
3.0 Define and Select Alternatives																	
3.1 Alternatives development	15-May-17	14-Jul-17	8														
3.2 Management meetings	17-Jul-17	28-Jul-17	2														
3.3 Project visioning team meeting	17-Jul-17	28-Jul-17	2														
3.4 Alternatives development public workshop	17-Jul-17	18-Aug-17	4														
3.5 Select alternatives and determine next steps	21-Aug-17	15-Sep-17	4										Alternatives and Strategies Summary				
3.6 PVT team meeting/project wrap-up	18-Sep-17	13-Oct-17	4														
3.7 Project debrief meeting	16-Oct-17	27-Oct-17	2														
Task: Total Duration			**22**														
Deliverable																	
Meeting																	
Stakeholder Interviews																	
Workshop																	

PROJECT TIMELINE



US 17/92 CORRIDOR PLANNING 5 PLANNING PROCESS

PRESENTATION OVERVIEW

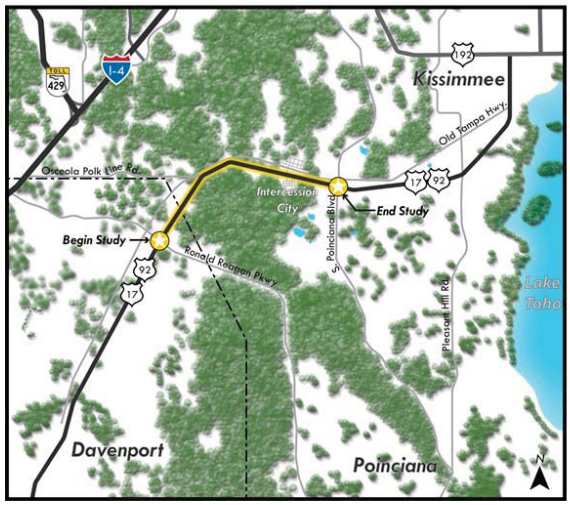
1 EXISTING CONDITIONS ANALYSIS

2 ISSUES & OPPORTUNITIES

3 MAJOR WORK TASKS / TIME FRAMES

US 17/92 CORRIDOR PLANNING 6 • EXISTING CONDITIONS

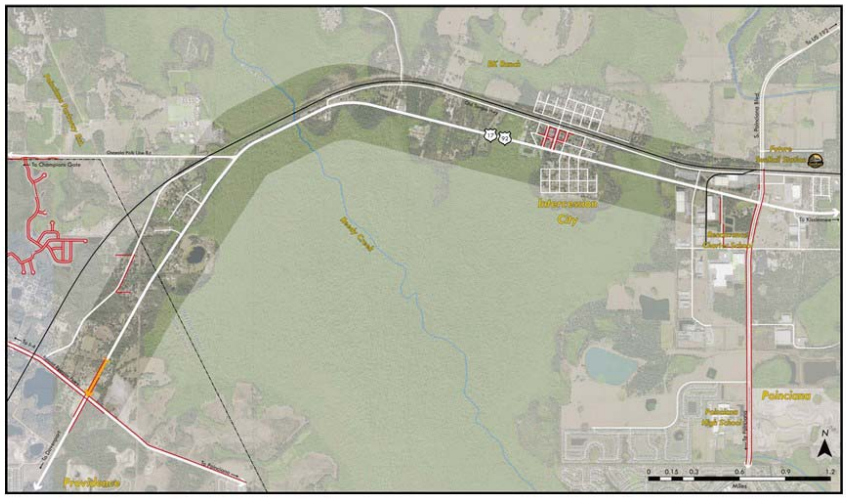
PROJECT STUDY CORRIDOR



US 17/92 CORRIDOR

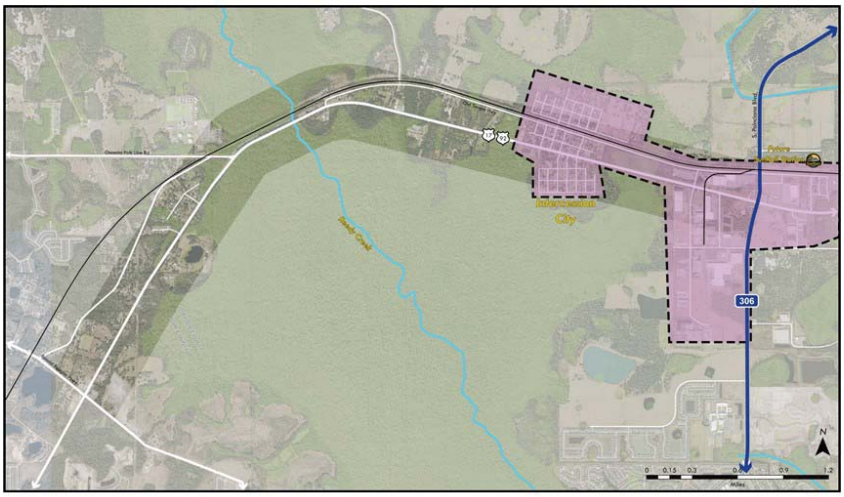
- 5.5 miles long
- From Ronald Reagan Pkwy to the S. Poinciana Blvd.
- Primarily 2 lane roadway
- Posted speed: 55 mph west of Intercession City, 45 east of Intercession City
- Used by all modes of transportation, including freight, bicycle and pedestrian

BICYCLE & PEDESTRIAN FACILITIES



Existing Sidewalks
Existing Bike Lanes

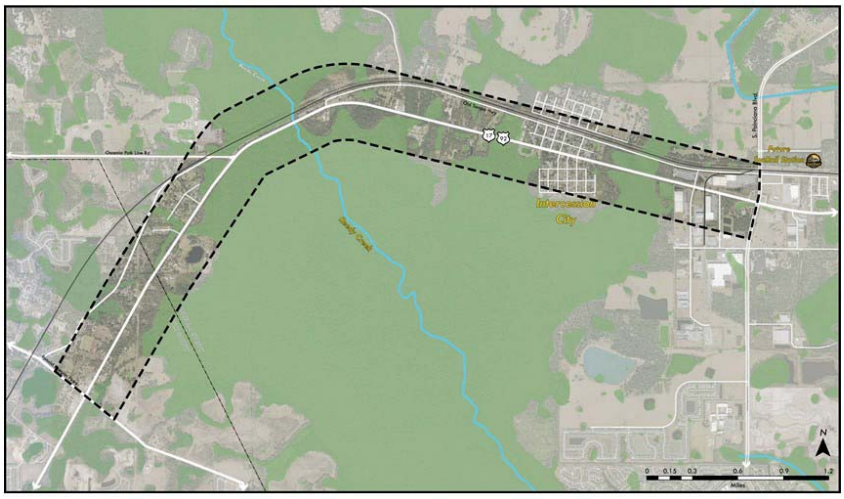
TRANSIT FACILITIES



US 17/92 CORRIDOR PLANNING 9

• EXISTING CONDITIONS

WETLANDS & CONSERVATION AREAS

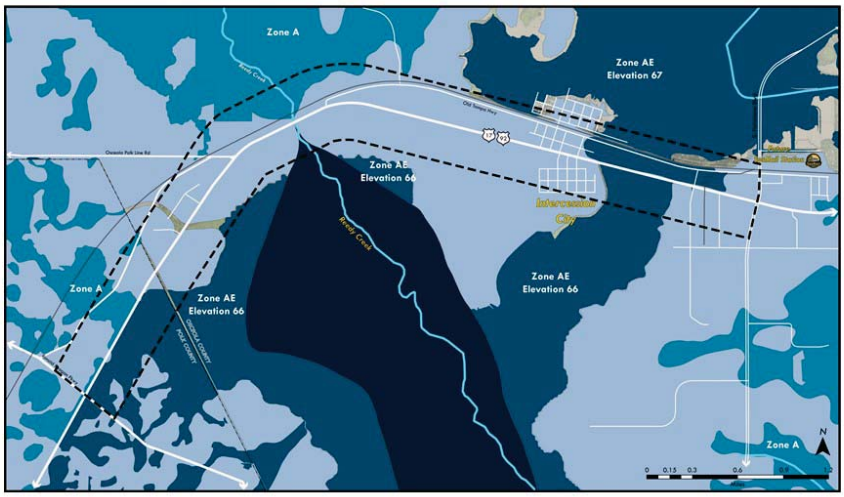


Data Source: U.S. Fish and Wildlife Service Environmental Conservation Online System

US 17/92 CORRIDOR PLANNING 10

• EXISTING CONDITIONS

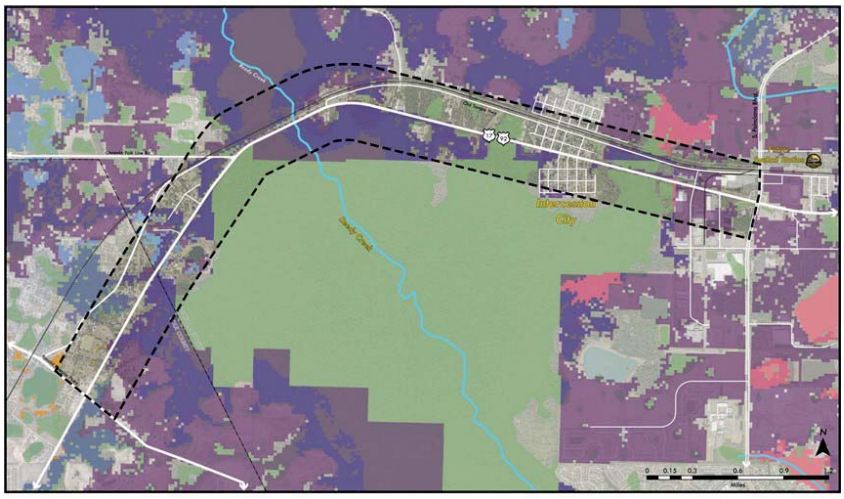
FLOODZONE AREAS



Zone X - Area of Minimal Flood Hazard
Zone X - 0.2% Annual Chance of Flood
Zone A - Area of 100 Year Flood Base Flood Elevation not Determined
Zone AE - Area of 100 Year Flood Base Flood Elevation Determined
Floodway Area in Zone AE
Reedy Creek
Project Boundary

Data Source: FEMA

THREATENED & ENDANGERED SPECIES' HABITATS

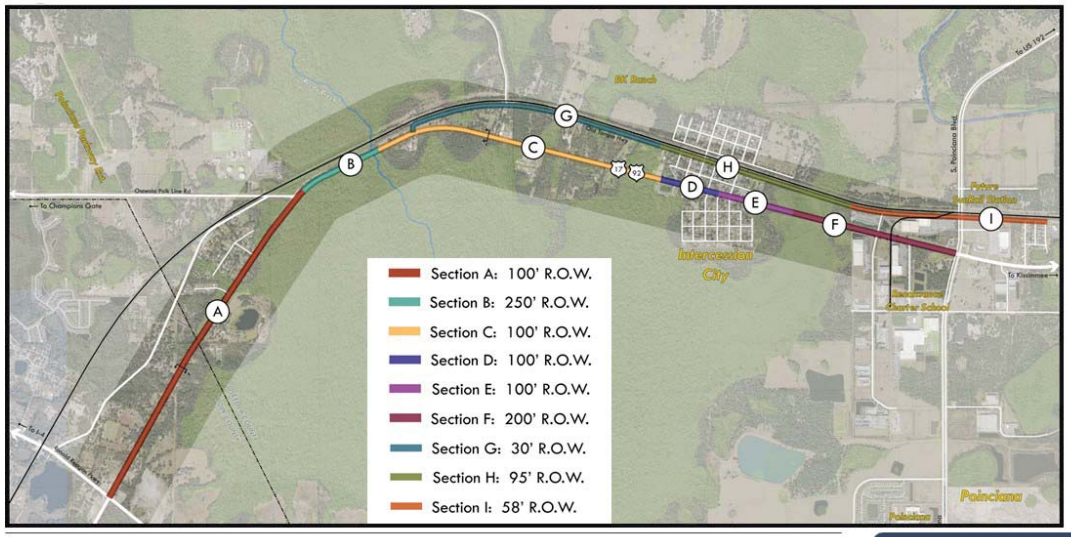


Florida Scrub Jay SHCA
Sand Skink SHCA
Florida Snail Kite SHCA
Cooper's Hawk SHCA
Short-tailed Hawk SHCA
Wetlands
Project Boundary

*SHCA denotes a Strategic Habitat Conservation Area

Data Source: Florida Geographic Data Library

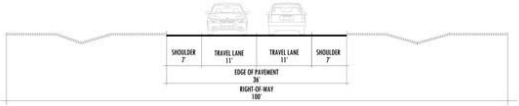
RIGHT-OF-WAY & TYPICAL ROADWAY SECTIONS



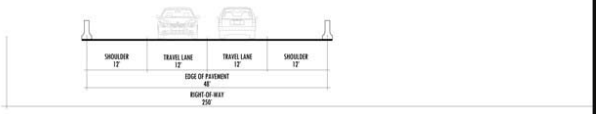
US 17/92 CORRIDOR PLANNING 13 • EXISTING CONDITIONS

RIGHT-OF-WAY & TYPICAL ROADWAY SECTIONS

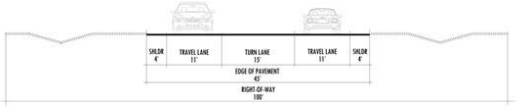
A. 17/92 SOUTHWEST OF REEDY CREEK BRIDGE

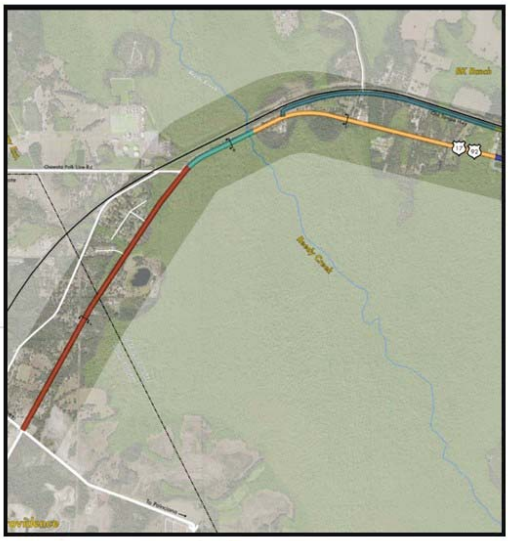


B. 17/92 REEDY CREEK BRIDGE



C. 17/92 BETWEEN REEDY CREEK BRIDGE & INTERCESSION CITY



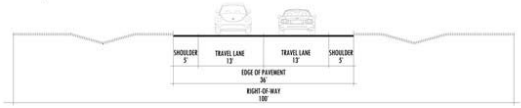


US 17/92 CORRIDOR PLANNING 14 • EXISTING CONDITIONS

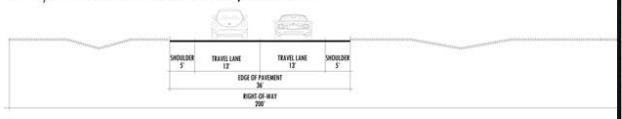
RIGHT-OF-WAY & TYPICAL ROADWAY SECTIONS

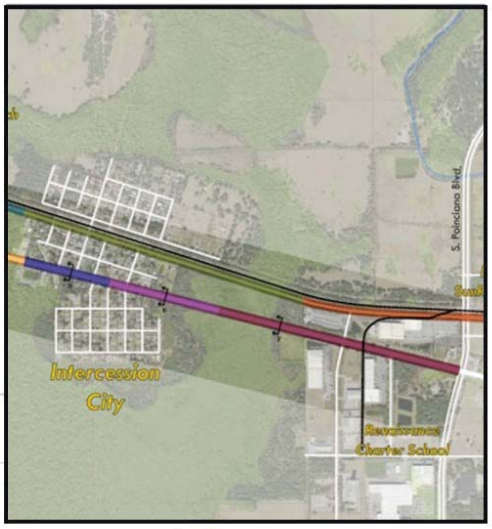
D. 17/92 INTERCESSION CITY

E. 17/92 EAST OF INTERCESSION CITY



F. 17/92 EAST OF INTERCESSION CITY, 200' R.O.W.



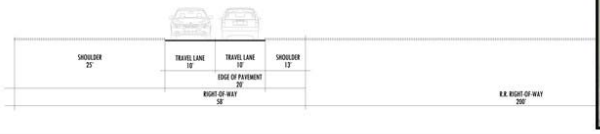


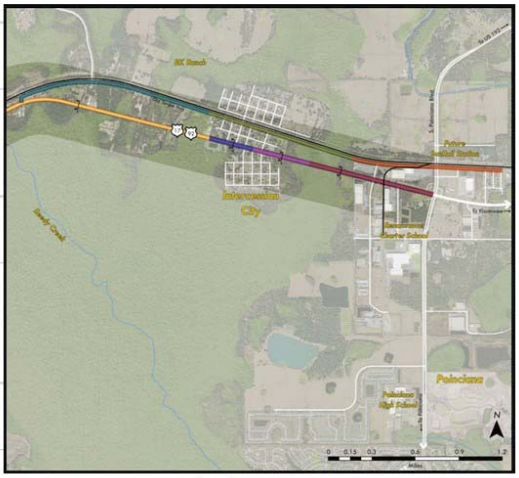
RIGHT-OF-WAY & TYPICAL ROADWAY SECTIONS

G. OLD TAMPA HIGHWAY

H. OLD TAMPA HIGHWAY AT INTERCESSION CITY

I. OLD TAMPA HIGHWAY AT PEPSI/GATORADE





INTERSECTION LEVEL OF SERVICE

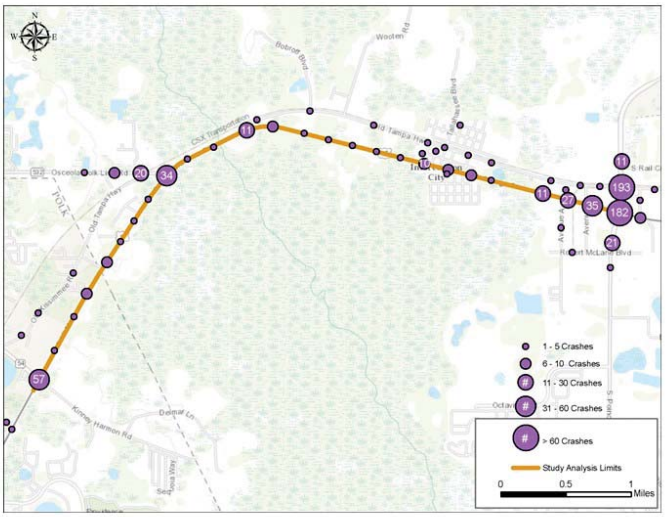
AM Peak Hour					Approach			
Intersection	Type	Max VC	Delay (s)	LOS	NB	SB	EB	WB
US17/92 @ CR 54	Signalized	2.37	255	F	F	D	B	C
US17/92 @ CR 532	Signalized	0.69	15	B	B	A	C	
US17/92 @ Old Tampa Hwy	TWSC*	0.31	20	C		C		
US17/92 @ Tallahassee Blvd	TWSC*	0.13	21	C		C		

*HCM 2010 TWSC Analysis - maximum delay and LOS provided

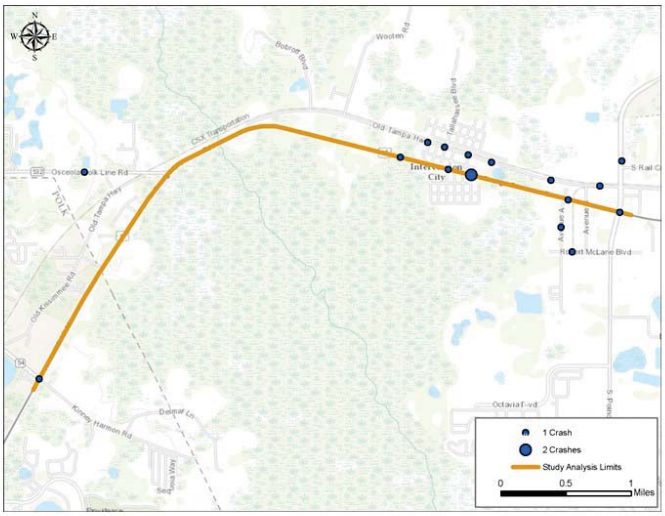
PM Peak Hour					Approach			
Intersection	Type	Max VC	Delay (s)	LOS	NB	SB	EB	WB
US17/92 @ CR 54	Signalized	1.17	54	D	F	D	B	C
US17/92 @ CR 532	Signalized	1.22	56	E	B	B	F	
US17/92 @ Old Tampa Hwy	TWSC*	0.57	28	D		D		
US17/92 @ Tallahassee Blvd	TWSC*	0.19	18	C		C		

*HCM 2010 TWSC Analysis - maximum delay and LOS provided

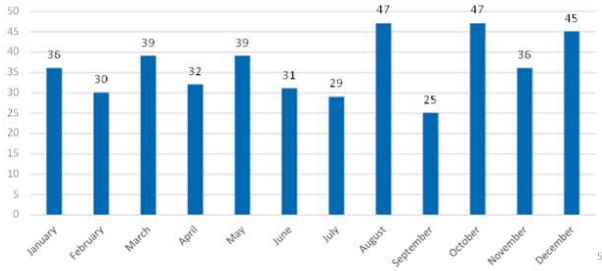
CRASH HISTORY (2011 – 2015)



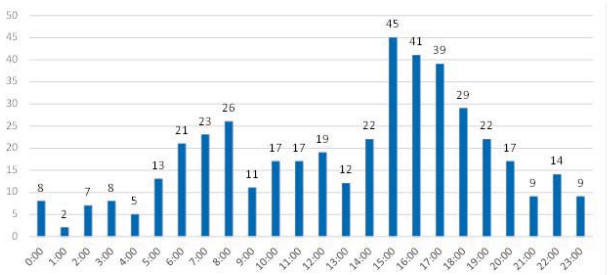
PEDESTRIAN & BICYCLE CRASH HISTORY (2011-2015)



DISTRIBUTION OF CRASHES



Crashes by Month



Crashes by Time of Day

ISSUES & OPPORTUNITIES

1 EXISTING CONDITIONS ANALYSISNTEXT

2 ISSUES & OPPORTUNITIES

3 MAJOR WORK TASKS / TIME FRAMES

ISSUES & OPPORTUNITIES - PEDESTRIAN

PEDESTRIAN ISSUES

- There are long pedestrian crossings at major US 17/92 intersections (Poinciana Boulevard and Ronald Reagan Parkway)
- There are no marked and/or signed pedestrian crossings on US 17/92 in the Intercession City area
- There are limited pedestrian connections to the future Poinciana SunRail station

PEDESTRIAN OPPORTUNITIES

- New sidewalks to increase multimodal activity and connect uses and destinations
- New or enhanced pedestrian crosswalks
- Pedestrian scale lighting

ISSUES & OPPORTUNITIES - BICYCLE

BICYCLE ISSUES

- There are no bicycle facilities (bike lane or signage) along most of US 17/92
- There are no bicycle facilities (signage or connected routes) along Old Tampa Highway
- There are safety issues for bicyclists along US 17/92 due to the high traffic volumes, freight traffic, and bicyclists using road shoulder

BICYCLE OPPORTUNITIES

- Bike lanes or signed bike routes along either (or both) US 17/92 and Old Tampa Highway
- New bicycle facilities and amenities

US 17/92 CORRIDOR PLANNING 23 ISSUES & OPPORTUNITIES

ISSUES & OPPORTUNITIES - TRANSIT

TRANSIT ISSUES

- There is a lack of/limited connectivity for the study area from LYNX services
- How will corridor deal with SunRail as “end-of-line” station?

TRANSIT OPPORTUNITIES

- New transit and/or shuttle connections to the Poinciana SunRail station

US 17/92 CORRIDOR PLANNING 24 ISSUES & OPPORTUNITIES

ISSUES & OPPORTUNITIES - ROADWAY

ROADWAY ISSUES

- There are high volumes of commuter traffic on US 17/92
- There are high volumes of freight traffic on US 17/92
- New development near the study area will further increase traffic on US 17/92

ROADWAY OPPORTUNITIES

- Expand the roadway cross-section with wider and/or new travel lanes
- Add new signalized intersection

ISSUES & OPPORTUNITIES - INFRASTRUCTURE

INFRASTRUCTURE & DEVELOPMENT ISSUES

- There is a lack of certainty about how the area around the new SunRail station will transform in terms of form and function, and how it will mesh with the existing industrial activities.
- Will new development around the SunRail station require infrastructure upgrades (utilities and roadway)?

INFRASTRUCTURE & DEVELOPMENT OPPORTUNITIES

- New Transit Oriented Development (TOD) around the SunRail station.

ISSUES & OPPORTUNITIES - AESTHETICS

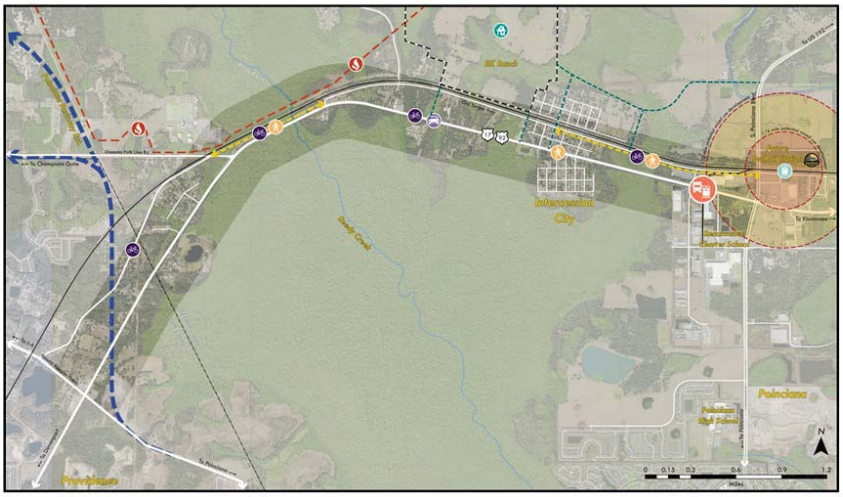
AESTHETIC ISSUES

- There is a lack of area identification (both gateways and wayfinding).

AESTHETIC OPPORTUNITIES

- New gateways that identify and theme the area.
- New directional signage to guide visitors to destinations.
- New historic and/or cultural markers

ISSUES & OPPORTUNITIES

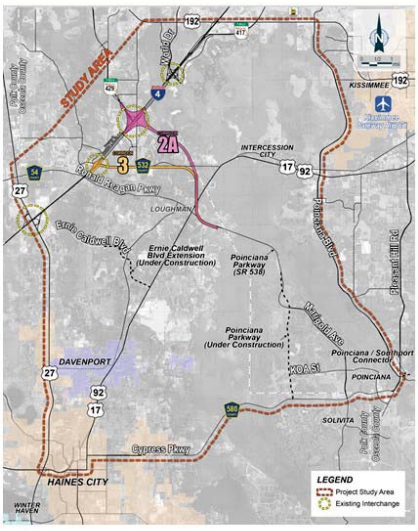


ISSUES & OPPORTUNITIES – OCX MASTER PLAN

PROJECT GOALS

- Reduce delay by providing limited access transportation options
- Improve capacity with new lineage & transit options
- Integrate into the regional arterial & highway system
- Ensure regional connectivity
- Move people efficiently within the Urban Growth Boundary

ISSUES & OPPORTUNITIES – PROPOSED POINCIANA PKWY EXT.



PROJECT GOALS

- Improve roadway connection from I-4 to Poinciana
- Enhance mobility
- Improve overall traffic operations
- Promote regional system linkage
- Support economic development
- Enhance emergency response/evacuation

MAJOR WORK TASKS / TIME FRAMES

1 EXISTING CONDITIONS ANALYSISNTEXT

2 ISSUES & OPPORTUNITIES

3 MAJOR WORK TASKS / TIME FRAMES

MAJOR WORK TASKS / TIME FRAMES

- Existing Conditions Analysis
  - Project Visioning Team (Feb 2017)
  - Existing Conditions Summary (Mar 2017)
- Future Conditions Analysis
  - Purpose and Need Development (Mar/Apr 2017)
  - Public Meeting (Apr 2017)
- Define and Select Alternatives
  - Concept Plans (May/Jun 2017)
  - Project Visioning Team (Jul 2017)
  - Public Meeting (Aug 2017)
  - Select Alternatives (Aug/Sep 2017)
- Project Wrap-Up
  - Project Visioning Team (Sep 2017)
  - Presentations and Next Steps (Oct 2017)

FDOT PROJECT CONTACTS

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(386) 943-5077
Email: heather.Garcia@dot.state.fl.us

SR 520 CORRIDOR PLANNING 33 CONTACT INFORMATION

US 17/92 CORRIDOR PLANNING STUDY
Ronald Reagan Pkwy to Poinciana Blvd

The following documents summarize the PVT (Project Visioning Team) meetings held during the project:

Florida Department of Transportation

US 17/92 Corridor Planning Study – FM437200-1

From County Road 54 to Poinciana Boulevard

February 7, 2017 Project Visioning Team Meeting #1 Summary

Introduction

The first Project Visioning Team (PVT) meeting for the US 17/92 Corridor Planning Study was held on February 7, 2017 in the DRC conference room at Osceola County Administrative Complex. The purpose of the meeting was to obtain input on the existing conditions phase of the project from this key stakeholder group who will guide the needs assessment and other elements of the study.

Meeting attendees included Jesse Blouin, **Consultant to FDOT** (FDOT Project Manager); Heather Garcia (D5) and Sarah Catala (D1) from **FDOT**; Jay Jarvis from **Polk County**; Joshua DeVries, Tawny Olore and Joedel Zaballero from **Osceola County**; Nick Lepp from **MetroPlan Orlando**; Hugh Harling from **East Central Florida Regional Planning Council**; Myles O'Keefe from **LYNX**; Ted Lavigne from **Historic Intercession City**; and Franco Saraceno and David Nelson from **Renaissance Planning** (consultant).

Project Overview and Issues Discussion

The meeting began with introductions and a short presentation that outlined the purpose of the study, presented an overview of the study area and project schedule, and summarized existing conditions in the corridor. After the presentation, the project team solicited input from the stakeholder group on the issues they saw as most important to address. Key issues and points of discussion included:

- Lake Wilson Road (US 192 to Osceola Polk Line Road) - Polk County is working on an alignment study to improve the roadway from 2 lanes to either 4 or 5 lanes. Although this is outside the study area, has an impact on traffic moving through the project corridor.
- US 17/92 is a primary freight route.

- As we move forward with design concepts and analysis of alternatives for this project, it is important to maintain flexibility to accommodate Osceola County Expressway/Central Florida Expressway Master Plan efforts.
- There is a southern spur off the Sabal Trail pipeline that runs south along US 17/92. While this may be an obstacle to potential roadway widening, it could also be an opportunity for a multi-use trail.
- Although most TOD potential around the Poinciana SunRail station may occur northeast of the station (larger available parcels), there is development potential to the west and southwest. The project team will need to consider how urban planning and freight movement will mesh where these two uses meet.
- Part of the original BK Ranch property closer to the SunRail station site has been removed from the current submittals and could be used as a mitigation bank.
- Poinciana SunRail station TOD guidelines will impose associated development regulations on properties north of the railroad tracks, but not on those south of the tracks, unless developers decide to take advantage of the increased densities/intensities, in which case the regulations will apply.
- Lighting along the corridor, and especially at intersections, may need to be evaluated along US 17/92.
- Fog in the Reedy Creek area can be a hazard in the early morning/late night hours and may also contribute to collisions with wildlife.
- Education needs to be part of the strategy toolbox for this project – people are often unsure of how and whether to utilize multimodal infrastructure, even simple elements like crosswalks.
- The need for new traffic signals on US 17/92 will need to be assessed, in addition to HAWK signals and pedestrian refuge islands that may be considered to accommodate multimodal activity. One of the main locations for this may be at US 17/92 and Tallahassee in Intercession City.
- There may be right-of-way within the BK Ranch project on the north side of the railroad tracks that could be used for a multi-use path.
- Roadway modifications - intersection, shoulder, turning radii and travel lane widths need to be designed to account for large/heavy truck traffic.
- There is a potential to have multiple typical sections (i.e. urban section around Intercession City)
- Since the Poinciana SunRail station will be an "end-of-the-line" station, parking will be an important issue to consider. 125 spaces will initially be available, and there is land to construct more spaces if needed. Rail users will not only come from the Poinciana area, but neighboring areas of Polk County. The FDOT and LYNX have an interlocal agreement to implement feeder service.
- The FDOT "Complete Streets" policy prefers to keep bike and pedestrian facilities on the main corridor. However, because of the traffic on US 17/92, parallel multimodal facilities on Old Tampa Highway may a safer option. A JPA with the County for maintenance and upkeep would need to be considered.
- The Osceola County Comprehensive Plan shows Old Tampa Highway as a bicycle boulevard.

- The jurisdiction of Old Tampa Highway was discussed.
- Can Old Tampa Highway be considered a cultural resource? If so, what implications would that mean in terms of design for this project?
- Even if we use Old Tampa Highway as a bicycle facility, it is only a 5 mile stretch of road. How does it connect into the larger Polk/Osceola trail system to connect a variety of destinations?
- We should look at transmission line and other utility corridors and note their requirements for trail uses that could help improve facilities and connections.
- Wide sidewalks adjacent to the curb are important to accommodate transit service loading/unloading from both the front and back of buses. Consideration of ADA maneuverability at stops is important.
- Amenities are also important at transit stops and can help make wait times seem shorter. Shelters, trees/shade, lighting are all important to encourage ridership.
- Trucks often stack or queue along Old Tampa Highway at the Gatorade distribution facility. Truck movements on this road vs. multimodal facilities would need to be carefully considered.

Items to Research

Several items came up during discussion that will require additional research. The project team will:

- make sure that future year SE data in CFRPM is reflective of planned developments in the study area
- add truck count data and percentage use to Existing Conditions Report
- verify Sabal Trail pipeline spur along US 17/92 and add alignment information to maps
- determine the jurisdiction of Old Tampa Highway
- check with Polk County regarding Lake Wilson Road study information
- research "Best Foot Forward" program
- send Existing Conditions Report to PVT members and provide two weeks for review

Next Steps

Next steps for the project team include the following tasks:

- Complete Existing Conditions Report (February)
- Prepare for the first public meeting (March or April)
- Work on the Purpose and Need development and Future Conditions analysis (March and April)

Florida Department of Transportation

US 17/92 Corridor Planning Study – FM437200-1-12-01

From County Road 54 to Poinciana Boulevard

October 18, 2017 Project Visioning Team Meeting #2 Summary

Introduction

The second Project Visioning Team (PVT) meeting for the US 17/92 Corridor Planning Study was held on October 18, 2017 at the MetroPlan Orlando office. The purpose of the meeting was to review the concept plans under consideration and to obtain feedback from the PVT.

Meeting attendees included Jesse Blouin (Planning and PD&E Project Manager) and Heather Garcia (Planning and Corridor Development Manager) from **FDOT District 5**, Vishaka Shiva Raman from **FDOT District 1**; Joshua DeVries, Mary Moskowitz, Tawny Olore and Joedel Zaballero from **Osceola County**; Keith Caskey from **MetroPlan Orlando**; Myles O'Keefe from **LYNX**; and Dan Hardy and David Nelson from **Renaissance Planning** (consultant).

Project Review and Issues Discussion

The meeting began with introductions and a short presentation that reviewed issues and opportunities, the project's purpose and need, and typical section and alignment concepts. After the presentation, the group reviewed the alignments. Key points brought up during the meeting included:

- BK Ranch: This large-scale project near Intercession City is being coordinated with Osceola County – some of the items discussed include:
  - Entrances for the development onto Old Tampa Highway and/or Tallahassee Road via US 17/92. Coordination will occur to determine the access points.
  - Initial discussions have considered relocating the existing Tallahassee Boulevard CSX Railroad crossing – however, this would interrupt the "main street" of Intercession City and require the closing of three additional crossings.

- The FDOT developed a design scope for a pushbutton project to install sidewalks between Intercession City and Poinciana Boulevard, but it is currently low on the priority list.
- Osceola County is completing TOD regulations for the SunRail Station area – these regulations would be mandatory for development north of the station and optional for development south of the station.
- As drainage and right-of-way widening is considered along the study corridor, sites for stormwater runoff/filtering and wetland fill mitigation will need to be identified. FDOT and SFWMD own several parcels along the corridor and there are other parcels where isolated wetlands could be enhanced.
- Speed limits along the corridor need to be considered – will this corridor maintain a rural nature or will it transform into more of a suburban area?
- Sidewalks in the Reedy Creek area were discussed – can a sidewalk be attached to the existing bridge or should a sidewalk only be present on the north side of the roadway. The Osceola County Master Trails Plan (shown in the Comprehensive Plan) shows future trails in the Reedy Creek wetlands area – those are envisioned as a mix of "planned on-street multi-use trails" as part of US 17/92, along with "planned off-street trails". The planned off-street trails are envisioned potentially as future boardwalk type trails.
- Design traffic will be one of the first steps in the PD&E study.
- Polk County is looking at express bus service to the Poinciana SunRail Station. LYNX may also be looking to enhance service in the immediate area.
- Polk County is exploring the possibility of 4-laning Lake Wilson Road from Ronald Reagan Parkway to CR 532.
- A protected left turn signal phase has been added at the CR 532 and US 17/92 intersection (for northbound US 17/92 to westbound CR 532 movement).
- Renaissance confirmed that the I-4 Poinciana Parkway Connector was included in project traffic analysis.

Follow-up

Several items came up during discussion that will require additional follow-up. The project team will:

- Renaissance to research 4(f) and 6(f) resources and document these findings in the final report.
- Renaissance to follow-up with Jay Jarvis regarding Polk County projects.
- Renaissance to coordinate with Osceola County staff prior to the public meeting – this will be to obtain any updates on BK Ranch planning efforts.
- Renaissance to begin coordination for the public meeting following the FDOT management meeting being held on Monday, October 30th.
- Jesse Blouin to coordinate with FDOT District 1 regarding any potential projects in the area.
- FDOT to send the traffic study for the portion of US 17/92 in Intercession City to Osceola County.

- Osceola County to provide an updated master plan for the BK Ranch.

Next Steps

Next steps for the project team include the following tasks:

- FDOT Management Meetings/Review (October 30)
- Community meeting (early December)
- Final Documentation (draft in January, final in February)

Other Comments

PVT members not attending the meeting, but reviewing the summary materials, offered some additional comments:

- Consider sidewalks on both sides of US 17/92 from CR 532 to CR 54. Polk County is looking to add bus service to the SunRail Station and sidewalks would help support this route.
- Create a walking/bike path that is out of the flow of US 17/92 traffic, using the area adjacent to the railroad tracks along Old Tampa Highway.

The following public notices were advertised and/or sent out prior to the public workshop:

Florida Department of Transportation

RICK SCOTT
GOVERNOR

719 South Woodland Boulevard
DeLand, Florida 32720

MIKE DEW
SECRETARY

The Florida Department of Transportation (FDOT), District Five, is conducting a Corridor Planning Study to evaluate transportation improvements to the approximately five-mile section of US 17-92 from just south of the Osceola/Polk County line to west of Poinciana Boulevard in Osceola County.

As part of the Corridor Planning Study, the FDOT District Five would like to invite you to attend a Public Workshop, the details of which are provided below:

Public Workshop
Tuesday, January 16, 2018
St. Nicholas Anglican Church
1729 Business Center Lane, Kissimmee, FL 34758
From 5:30 pm to 7:00 pm

The purpose of the Public Workshop is to present the roadway improvement options being considered, which include roadway and bridge widening and the addition of bicycle and pedestrian features. The event will be conducted in an open house format; maps and other information will on display for review and comment and members of the study team will be available to answer questions and obtain input from attendees.

Persons with disabilities who require special accommodations under the Americans with Disabilities Act or persons who require translation services (free of charge) should contact me, Ms. Heather Garcia, Project Manager, Florida Department of Transportation, by phone at (386) 943-5077, or via email at heather.garcia@dot.state.fl.us at least seven (7) days prior to the workshop. If you are hearing or speech impaired, please contact us by using the Florida Relay Service, 1-800-955-8771 (TTY/TDD) or 1-800-955-8770 (Voice).

Public participation is solicited without regard to race, color, national origin, age, sex, religion, disability or family status. Persons wishing to express their concerns relative to FDOT compliance with Title VI may do so by contacting Jennifer Smith, FDOT District Five Title VI Coordinator at Jennifer.Smith2@dot.state.fl.us.

If you have questions about the project or the public workshops, please contact me at 386-943-5077, or by email at heather.garcia@dot.state.fl.us. For more information, please visit the project website at CFLRoads.com and search by project number 437200-1.

www.fdot.gov

Florida Department of Transportation

RICK SCOTT
GOVERNOR

719 South Woodland Boulevard
DeLand, Florida 32720

MIKE DEW
SECRETARY

JANUARY 6, 2017

Steve Olson, 386-943-5479
Steve.Olson @dot.state.fl.us

FDOT holds workshop to talk about US 17-92 improvements

Osceola County – The Florida Department of Transportation (FDOT), District Five, will conduct a Public Information Workshop to discuss the proposed transportation improvements to FM #437200-1, US 17-92 from south of the Polk/Osceola County line to west of Poinciana Boulevard in Osceola County. The details of the workshop are provided below:

Public Workshop
Tuesday, January 16, 2018
St. Nicholas Anglican Church
1729 Business Center Lane, Kissimmee, FL 34758
From 5:30 pm to 7:00 pm

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The purpose of the Public Workshop is to present the roadway improvement options being considered, which include roadway and bridge widening and the addition of bicycle and pedestrian features. The event will be conducted in an open house format; maps and other information will on display for review and comment and members of the study team will be available to answer questions and obtain input from attendees.

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www.fdot.gov

Florida Department of Transportation

RICK SCOTT
GOVERNOR

719 South Woodland Boulevard
DeLand, Florida 32720

MIKE DEW
SECRETARY

December 14, 2017

US 17-92 Corridor Planning Study – Public Workshop Invitation
US 17-92 from the Osceola/Polk County line to west of Poinciana Boulevard
Osceola County, Florida
Financial Management Number: 437200-1

Dear Elected Official:

As you may be aware, the Florida Department of Transportation (FDOT), District Five, is conducting a Corridor Planning Study to evaluate transportation improvements to the approximately five-mile section of US 17-92 from just south of the Osceola/Polk County line to west of Poinciana Boulevard in Osceola County. A project location map is included as an attachment to this email.

As part of the Corridor Planning Study, the FDOT District Five would like to invite you to attend a Public Workshop, the details of which are provided below:

Public Workshop
Tuesday, January 16, 2018
St. Nicholas Anglican Church
1729 Business Center Lane, Kissimmee, FL 34758
From 5:30 pm to 7:00 pm

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If you have questions about the project or the public workshops, please contact Ms. Garcia at 386-943-5077, or by email at heather.garcia@dot.state.fl.us. For more information, please visit the project website at CFLRoads.com and search by project number 437200-1.

www.fdot.gov

Sincerely,

Steve Martin
District Secretary

Notice of Public Information Workshop
DEPARTMENT OF TRANSPORTATION

Financial Management Number: 437200-1-22-01

The Florida Department of Transportation, District Five, announces a workshop to which all persons are invited.

DATE AND TIME: January 16, 2018 from 5:30 PM to 7:00 PM

PLACE: St. Nicholas Anglican Church, 1729 Business Center Lane, Kissimmee, FL 34758

GENERAL SUBJECT MATTER TO BE CONSIDERED:

The US 17/92 Corridor Planning Study is evaluating transportation improvements to the approximately 5-mile section of US 17/92 from south of the Polk/Osceola County line to west of Poinciana Boulevard in Osceola County. These improvements include the widening of US 17/92 from two-to-four lanes roadway.

The purpose of the Public Workshop is to present the roadway improvement options being considered, which include roadway and bridge widening and the addition of bicycle and pedestrian features. The event will be conducted in an open house format; maps and other information will on display for review and comment and members of the study team will be available to answer questions and obtain input from attendees.

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Public participation is solicited without regard to race, color, national origin, age, sex, religion, disability or family status. Persons wishing to express their concerns relative to FDOT compliance with Title VI may do so by contacting Jennifer Smith, FDOT District Five Title VI Coordinator by phone at 386-943-5367, or via email at Jennifer.Smith2@dot.state.fl.us.

If you have questions about the project or the public workshops, please contact Heather Garcia, FDOT Project Manager, at 386-943-5392, or by email at heather.garcia@dot.state.fl.us. For more information, please visit the project website on CFLRoads.com and search by project number 437200-1.

A copy of the agenda may be obtained by contacting:

Heather Garcia, Project Manager, Florida Department of Transportation, at 386-943-5077 or heather.garcia@dot.state.fl.us

For more information, you may contact:

Heather Garcia, Project Manager, Florida Department of Transportation, at (386) 943-5392 or heather.garcia@dot.state.fl.us

Florida Department of Transportation

RICK SCOTT
GOVERNOR

719 South Woodland Boulevard
DeLand, Florida 32720

MIKE DEW
SECRETARY

PUBLIC WORKSHOP ANOUNCEMENT

US 17/92 Corridor Planning Study
from the Polk/Osceola County line to west of Poinciana Boulevard
Osceola County, Florida

Financial Management Number: 437200-1-22-01

The Florida Department of Transportation (FDOT), District Five, will conduct a Public Information Workshop to discuss the proposed transportation improvements to US 17/92 from south of the Polk/Osceola County line to west of Poinciana Boulevard in Osceola County. The details of the workshop are provided below:

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www.fdot.gov

Appendix E: Previous PD&E Documents

The following pages contain background PD&E information from the 1996 study of the same corridor:

FORM 508-01
Page 1 of 3
02/94

Florida Department of Transportation
ENVIRONMENTAL DETERMINATION

1. GENERAL INFORMATION

County: Osceola
Project Name State Road 600 (US 17/92)
Project Limits From County Road 532 to Poinciana Boulevard

Project Numbers	92010-1520	SA-399-3(30)	5115692
	State	**Federal**	**WPA**

2. PROJECT DESCRIPTION

a Existing State Road 600 is a two lane roadway located in the northwestern portion of Osceola County The project begins at County Road 532 and ends at Poinciana Boulevard, a distance of approximately 6 4 kms (4 miles) (See attached location map) There are three existing bridges (920002, 920003 and 920004) that currently require replacement due to their low structural rating The bridges traverse wetlands associated with the floodplain of Reedy Creek. East of Reedy Creek the roadway passes through the community of Intercession City The area is largely rural and there is only one traffic signal in the project limits The signal is located at the Poinciana Boulevard intersection

The current arterial level of service (LOS) is LOS "D" along the entire study section of SR 600 Traffic studies performed for the study indicate that the four laning is warranted at present The MPO has identified the need to four lane the study portion of SR 600 in their long range plan, but currently has no programmed funds in the five year work program beyond this study phase By the design year 2020 the arterial level of service will be operating at LOS "E" or worse In addition, SR 600 through Intercession City is experiencing a high rate of accidents as compared to that of similar type facilities Refer to the Preliminary Engineering Report for further detail

b Proposed Improvements The proposed improvements include widening State Road 600 from two to four lanes, addition of a stormwater management system and construction of two bridges over the Reedy Creek floodplain. With these proposed improvements, the arterial LOS in the design year will range from "B" to "C"

Special provisions have been made to minimize impacts to the forested wetlands in Reedy Creek during selection of the preferred roadway alignment and bridge lengths The proposed widening at the Reedy Creek portion of the project consists of two lanes in each direction separated by approximately a 30 m (100 ft) median. The existing roadway will remain as the westbound lanes and the eastbound lanes will be placed 30 m (100 ft) to the south

In mid 1998, FDOT will replace the existing bridges in Reedy Creek since they are in very poor condition. In order to do this with the least amount of wetland impacts and disturbance of traffic, FDOT plans to construct the eastbound lanes of the proposed four-lane project and to use this roadway as a two lane roadway until funds are available for completion of the four-lane facility Construction of the east bound lanes will begin approximately 0 4 km (0 25 miles) west of CR 532 and end 0 8 km (0 5 miles) east of the bridge over Reedy Creek. Access to the old roadway will be removed from both ends until the entire length of SR 600 within the project termini is widened to four lanes

When SR 600 is widened to four lanes, the old roadway will be resurfaced and the three bridges over Reedy Creek will be replaced by one long bridge Connection to SR 600 will be restored and this roadway will become the westbound lane pair The southern alignment would then become the eastbound lane pair This is the most effective maintenance of traffic plan because there is no need to construct temporary pavement and there are no additional impacts for the 1998 bridge replacement project, since the southern most lanes would have to be built at some point in the future anyway

Since the southern roadway alignment is proposed to be used as a two lane facility prior to its use as an eastbound lane pair it will have 3 0m (10 ft) inside and outside shoulders The westbound bridge will have a 3 0 m outside shoulder and a 1 8m (6 ft) inside shoulder after SR 600 is widened to four lanes

The proposed bridge lengths are 720m (2362 ft) for the southern (eastbound) bridge and 436 8m (1933 ft.) for the northern (westbound) bridge The eastern end of the proposed southern (eastbound) bridge is longer than the northern (westbound) bridge due to the fact that the wetland limit at that location is slightly further to the east. Complete bridging of the wetlands through the Reedy Creek lowland area was not feasible since it would have created a "T" shaped, bridged intersection at the CR 532 intersection, which would be undesirable for safety reasons The western most end of the southern bridge was placed at the point where safety was maintained and the maximum number of cypress trees could remain The footprint of additional fill any further to the east of the western most end of the southern bridge would have an impact to additional trees

---

3. CLASS OF ACTION

a. Class of Action:
[] Environmental Assessment
[] Environmental Impact Statement
[x] Type 2 Categorical Exclusion

b. Other Actions:
[] Section 4(f) Statement
[] Section 106 Consultation
[] Endangered Species Assessment

c Public Involvement

1 [x] A public hearing was held on March 22, 1994 and a transcript is included with the environmental determination Approval of this Type 2 Categorical Exclusion determination constitutes acceptance of the location and design concepts for this project

2 [] A public hearing will be held and the public hearing transcript will be provided at a later date Approval of this Type 2 Categorical Exclusion DOES NOT constitute location and design concept acceptance for this project

d Cooperating Agency [ ] COE [ ] USCG [ ] FWS [ ] EPA [ ] NMFS [x] NONE

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4. REVIEWER'S SIGNATURE BLOCK:

FDOT Project Engineer — Date: 4/24/96

FDOT Environmental Specialist — Date: 4/25/96

FHWA Area Engineer — Date: 5/9/96

---

5. FHWA CONCURRENCE BLOCK

(For) Division Administrator — Date: 5/9/96

6 IMPACT EVALUATION

Topical Categories	Sign	Min	None	Noinv	REMARKS
A. SOCIAL IMPACTS					
1 Land Use Changes	[ ]	[ ]	[x]	[ ]	See Attachment A
2 Community Cohesion	[ ]	[ ]	[x]	[ ]	See Attachment A
3 Relocation Potential	[ ]	[x]	[ ]	[ ]	See Attachment A
4 Churches and Schools	[ ]	[ ]	[x]	[ ]	See Attachment A
5 Title VI Considerations	[ ]	[ ]	[x]	[ ]	See Attachment A
6 Controversy Potential	[ ]	[ ]	[x]	[ ]	See Attachment A
7 Energy	[ ]	[ ]	[ ]	[x]	
8 Utilities & Railroads	[ ]	[ ]	[ ]	[x]	See Attachment A
B CULTURAL IMPACTS					
1 Section 4(f) Lands	[ ]	[ ]	[ ]	[x]	
2 Historic Sites	[ ]	[ ]	[x]	[ ]	See SHPO letter dated 12/9/94
3 Archaeological Sites	[ ]	[ ]	[x]	[ ]	See SHPO letter dated 12/9/94
4 Recreation Areas	[ ]	[ ]	[ ]	[x]	
C NATURAL ENVIRONMENT					
1 Wetlands	[ ]	[x]	[ ]	[ ]	See Attachment A
2 Aquatic Preserves	[ ]	[ ]	[ ]	[x]	
3 Water Quality	[ ]	[ ]	[x]	[ ]	See Attachment A
4 Outstanding Florida Waters	[ ]	[ ]	[ ]	[x]	
5 Wild/Scenic Rivers	[ ]	[ ]	[ ]	[x]	
6 Floodplains	[ ]	[ ]	[x]	[ ]	See Attachment A
7 Coastal Zone Consistency	[ ]	[ ]	[x]	[x]	See Attachment A
8 Coastal Barrier Island	[ ]	[ ]	[ ]	[x]	
9 Wildlife and Habitat	[ ]	[ ]	[ ]	[x]	See Attachment A
10 Farmlands	[ ]	[ ]	[ ]	[x]	
D PHYSICAL IMPACTS					
1 Noise	[ ]	[x]	[ ]	[ ]	See Attachment A
2 Air	[ ]	[ ]	[x]	[ ]	See Attachment A
3 Construction	[ ]	[ ]	[x]	[ ]	See Attachment A
4 Contamination	[ ]	[ ]	[x]	[ ]	See Attachment A
5 Navigation	[ ]	[ ]	[ ]	[x]	See Attachment A

a [✓] FHWA has determined that a Coast Guard Permit **IS NOT** required in accordance with 23 CFR 650, Subpart H
b [ ] FHWA has determined that a Coast Guard Permit **IS** required in accordance with 23 CFR 650, Subpart H

E PERMITS REQUIRED

Permits from the South Florida Water Management District, the Army Corps of Engineers (COE) and the Environmental Protection Agency will be required pr to construction A COE Nationwide permit is not applicable to this project Applications for these permits will be made during the design phase of the projec

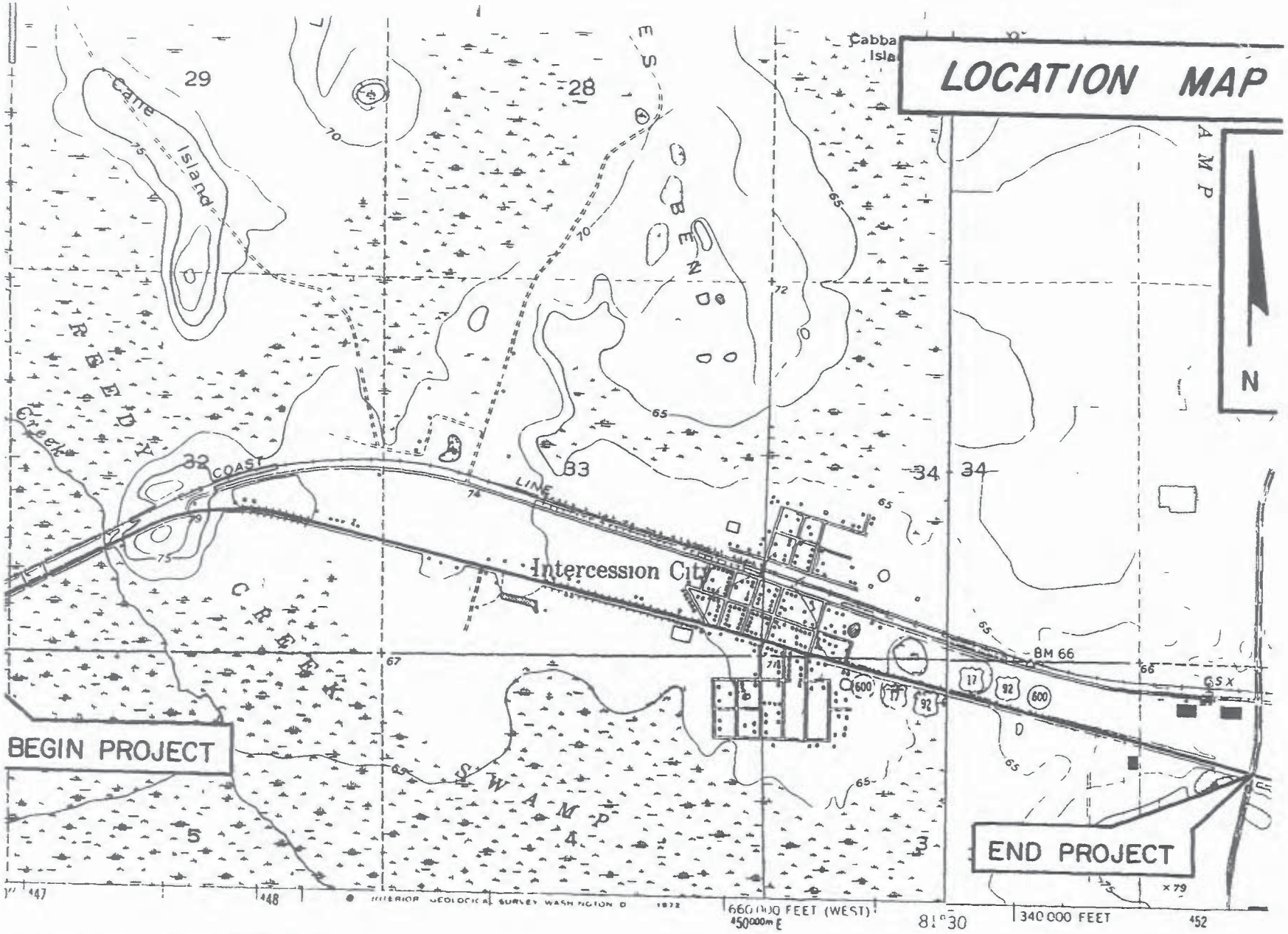
7 WETLANDS FINDING (Applies to Type 2 Categorical Exclusion Only)

The proposed project will result in the loss of approximately 6 9 hectares (17/ 0 acres) of wetlands It was determined that there is no practicable alternative construction in wetlands Wetland impacts have been avoided and minimized wherever possible The project will have no significant short term or long term impa to wetlands (see Attachment A - Section C 1)

8 COMMITMENTS AND RECOMMENDATIONS (Applies to Type 2 Categorical Exclusions Only

(1) FDOT will coordinate with the Florida Department of Environmental Protection to relocate the Fletcher Park Monument prior to construction

(2) Final approval for the use of the Three Lakes Wildlife Mitigation Bank for mitigation of project wetland impacts will be obtained from the regulatory agenc during the design and permitting phase of the project If approval is not obtained an alternative mitigation plan will be developed



7-92)

OSCEOLA COUNTY

ATTACHMENT A

A. SOCIAL IMPACTS

1. Land Use Changes

Land use on the project site is primarily characterized as rural to low density residential with scattered commercial use On the west end of the project, the roadway crosses an approximately mile wide expanse of forested wetlands associated with the Reedy Creek Floodplain There is an industrial park and the Florida Bible College located near the eastern terminus of the project CSX railroad maintains a railway parallel and north of SR 600 throughout the project limits Land use is not expected to change due to the proposed roadway improvements Improvement of this transportation corridor is consistent with the Osceola County Comprehensive Plan

2. Community Cohesion

Increasing roadway capacity by adding lanes along the existing alignment will prevent the splitting of neighborhoods Existing right-of-way is being used wherever possible to avoid relocations The road improvements will reduce congestion, thereby providing better conditions for the movement of safety vehicles, such as fire engines and ambulances Additionally, it will prevent an increase in accidents which is likely to occur as congestion worsens

Pedestrian and bicyclist movement will be improved by the project No facilities are currently provided for bicyclists Proposed improvements include adding paved shoulders through the rural portions of the proposed project for use by bicyclists Sidewalks are proposed on both sides of the project within Intercession City

3. Relocation Potential

A conceptual stage relocation plan was developed and it was determined that two families will have to be relocated In order to minimize the unavoidable effects of right-of-way acquisition and displacement of people, the FDOT will carry out a right-of-way and relocation program in accordance with Florida Statutes 339 09 and the Uniform Relocation Assistance and Real Property Acquisition Act of 1970

4. Churches and Schools

The project corridor was inventoried for the location and type of community oriented features and cultural facilities The following sites are located along the roadway

Cypress Pathway Church of God
Florida Bible College

Access to all of these properties from US 192 will be maintained The project will not require relocation of any of the aforementioned properties and impacts will be negligible

5. Title VI Considerations

The project has been developed in accordance with the Civil Rights Act of 1964, as amended by the Civil Rights Act of 1968

6. Controversy Potential

An Advance Notification package was mailed to local, state and federal agencies on May 12, 1993 No indication of controversy was received in the responses

A public information meeting was held on February 3, 1994 and a public hearing was held on March 22, 1994 to give all interested parties an opportunity to express their opinion and concerns regarding the project Concerns were expressed that the proposed widening would result in the removal of several large cypress trees thereby destroying the scenic nature of Reedy Creek Additionally there was concern that the project would further restrict water flow in the creek and impede wildlife movement in the area The preferred alignment has been selected to minimize these impacts to the greatest extent possible FDOT has coordinated extensively with state and local officials and concerned citizens to minimize controversy over the project

8. Utilities and Railroads

SR 600 crosses a railroad spur on the east end of the project This railroad crossing is a spur from the mainline Its usage is limited and any improvements that will need to be made will be the responsibility of GAC Properties Inc and subject to FDOT approval The crossing will meet the current safety criteria at the time of construction FDOT will coordinate with railroad owners to minimize impacts during construction The final design of SR 600 will be coordinated with the utility owners in order to minimize relocation adjustments and disruptions of service to the public Design of the roadway on the west end will avoid relocation of the above ground sanitary force main

B. CULTURAL IMPACTS

1. Section 4(f) Lands

Fletcher Park is the only publicly owned property along the project corridor It is a 32 4 acre site located within the Reedy Creek Swamp adjacent to SR 600 The land was donated to Tufts College in the 1930's by a man named Fletcher In 1935 the Trustees of Tufts College granted the Department of Transportation a 100 foot wide perpetual easement and right-of-way needed for construction of SR 600 and donated the remaining acreage to the State of Florida The donation stipulated that the land was to be used for park purposes and that the large cypress trees thereon should be preserved as a heritage to future generations This land became known as Fletcher Park The park site is currently undeveloped and there is no access, parking or recreational facilities on the property A small pull-off exists on the north side of SR 600 that contains a plaque explaining that the area is a public park Due to its small size, the pull-off is very dangerous to use

The FDOT has coordinated extensively with the FHWA regarding the applicability of Section 4(f) to this property The FHWA determined that Section 4(f) provisions do not apply to Fletcher Park This is based on the fact that "Fletcher Park" has never been managed or utilized as a park and is not listed as a recreational area in the local comprehensive plan There are no recreational facilities on the property, and it is not used by the public The purpose of the park donation and designation as a park was to preserve the large cypress trees as a heritage to future generations Even though Section 4(f) is not applicable to the property, FDOT has coordinated extensively with the Florida Department of Environmental Protection to develop a plan that will minimize impacts to the large cypress trees and to provide for public use of the park

2&3. Historic and Archeological Sites

A Cultural Resources Assessment Survey was conducted for the project The survey resulted in the identification of four previously unidentified archeological sites and 19 historic structures The State Historic Preservation Office has reviewed the findings and concurred with the survey conclusions that none of these sites or structures are eligible for listing in the National Register of Historic Places Therefore, the proposed work is unlikely to affect historic or archeological resources

The State Historic Preservation Office recommended that the Fletcher Park Monument be relocated if it is in danger of being destroyed during the construction process FDOT will coordinate with the Department of Environmental Protection to relocate the monument prior to construction of the roadway (See Commitment and Recommendations)

C. NATURAL ENVIRONMENT

1. Wetlands

A wetlands evaluation, including a WET 2 1 Analysis has been conducted and is available in the project file It was determined that there is no practicable alternative to construction in wetlands The proposed widening and construction of a stormwater management system to serve the four lane roadway will result in the loss of approximately 6 9 hectares (17 0 acres) of wetlands The project includes construction of a short causeway on the west end of the project to allow for construction of an intersection with CR 532, and construction of one 436 8 m (1433 ft) westbound bridge and a 720 m (2362 ft) eastbound bridge across the main channels of Reedy Creek and its floodplain In addition there are wetlands located east of the proposed bridges that will be filled for construction of the additional lanes

Project design features which will minimize wetland impacts include the removal of the existing causeways and replacement with a single bridge A second single bridge will be constructed 30 m (100 ft) south of the existing lanes instead of constructing a second causeway The alignment of the bridges has been selected to minimize impacts to the large cypress trees in the Reedy Creek Floodplain In the 1940's, Tufts College donated a portion of the Reedy Creek Swamp to the state of Florida for the purpose of creating a park that would preserve thirty-two large cypress trees A portion of this park lies within the proposed right-of-way The project alignment has been

selected to preserve all of the large cypress trees in the Tufts College grant Elsewhere, the large cypress trees are being protected to the greatest degree possible such that only four to six of the large trees will be removed In addition to preserving the cypress trees, the proposed bridges will enhance water flow and facilitate wildlife movement FDOT has coordinated extensively with Osceola County, the Florida Department of Environmental Protection, the South Florida Water Management District and the Corps of Engineers during development and selection of the project alternatives Additional information regarding coordination with these agencies is available in the project file

The loss of the 6 9 hectares of wetlands will be offset through mitigation located within the Prairie Lakes Unit of the 20,473 hectare Three Lakes Wildlife Management Area in Osceola County The Three Lakes Wildlife Management Area is owned by the State of Florida Trustees and is leased and managed by the Florida Game and Fresh Water Fish Commission (FGFWFC) The FGFWFC manages the preserve for public recreation such as camping, hiking, fishing and hunting The FGFWFC has determined that the proposed mitigation project is consistent with the management of Three Lakes Water Management Area and the FGFWFC is cooperating with FDOT on construction and long term management and maintenance This offsite mitigation proposal will enhance wildlife habitat values within the Kissimmee Lakes Regional Watershed by restoring and enhancing wetlands associated with Lake Jackson FDOT has coordinated extensively with the U S Corps of Engineers, U S Environmental Protection Agency, U S Fish and Wildlife Service, South Florida Water Management District and the FGFWFC during development of the Three Lakes Regional Mitigation Bank (See attachment B for further details regarding the Three Lakes Regional Mitigation Bank)

Based upon the efforts to minimize wetland impacts and the proposed mitigation it has been determined that the project will have no significant short term or long term impacts to wetlands

3. Water Quality

The proposed stormwater facility design will include, at a minimum, the water quantity requirements for water quality impacts as required by the South Florida Water Management District in Rule 40E-4, Florida Administrative Code Therefore, no further mitigation for water quality impacts will be needed Please see the attached Water Quality Impact Evaluation (WQIE) check list for additional information

6. Floodplains

The FEMA Flood Insurance Rate Maps for the project area were used to identify potential floodplain and floodway encroachments The project does not involve any floodways The project lies primarily in Zone C, which is designated as areas of minimal flooding There are four cross drains and three bridges in this project All of the crossdrains and bridges are located outside the 100-year floodplain except the Reedy Creek Main Channel Bridge The floodplain encroachments through the bridge sections are not significant due to the large size of the Reedy Creek Basin The proposed project will not promote development within the floodplain and is consistent with the Citrus County Comprehensive Plan

The degree of floodplain encroachment resulting from the proposed roadway improvements has been classified as Category 4 These changes will cause minimal increases in flood heights and flood limits These minimal increases will not result in any significant change in flood risks or damage There will not be a significant change in the potential for interruption or termination of emergency service or emergency evacuation routes Therefore, it has been determined that these encroachments are not significant

Further information regarding the floodplain evaluation is available in the project files

7. Coastal Zone Consistency

The Office of Planning and Budget, Office of the Governor has determined that this project is consistent with the Coastal Zone Management Plan

9. Wildlife and Habitat

A wildlife and habitat evaluation was conducted along the project corridor Through field surveys, coordination with Florida Natural Areas Inventory, the Fish and Wildlife Service and the Florida Game and Fresh Water Fish Commission, a list of protected species with the potential to occur in the project vicinity was developed (See attached correspondence from the Fish and Wildlife Service) Based on this list, surveys of the project site were conducted and no evidence of use by species which are listed as threatened or endangered by the United States Fish and Wildlife Service was found There is no "critical habitat" located in the project vicinity The project was therefore determined to have no involvement with wildlife and habitat Details concerning the evaluation are available in the project file

D. PHYSICAL IMPACTS

1. Noise

A noise study was conducted for the project Thirteen noise sensitive sites were identified along the project corridor Noise levels at the sites were predicted for existing, 2020 Build and 2020 No Build alternatives, using the STAMINA 2 1 Model Noise levels for all of the sites are predicted to exceed FHWA noise abatement criteria in the design year for both the Build and No Build Alternatives The use of traffic management measures to reduce noise impacts, such as reduced speeds and the reduction of truck traffic were dismissed as impractical for this roadway In addition, since State Road 600 is a free access roadway with numerous driveway and side street connections, effective noise barriers can not be constructed without blocking access to the roadway Therefore noise abatement measures were considered but were determined to be either not reasonable or not feasible A noise study report is available in the project file

2. Air

The project passed the Air Screening Test This is in an area which has been designated as attainment for the ozone standards under the criteria provided in the Clean Air Act Amendments of 1990 This project is in conformance with the State Implementation Plan because it will not cause violations of the National Ambient Air Quality Standards

3. Construction

Construction activities will have temporary air, noise, water quality, traffic flow, and visual impacts for those residents and travelers within the immediate vicinity of the project These impacts will be effectively controlled by adherence to all state and local regulations, the FDOT's "Standard Specifications for Road and Bridge Construction", and Best Management Practices as indicated in "The Florida Development Manual-A Guide to Sound Land and Water Management" and the "FDOT Erosion and Sediment Control Handbook"

4. Contamination

A Contamination Screening Evaluation was completed for the project corridor and can be found in the project files Seven sites were identified during the contamination screening evaluation Four of these sites were determined to be at low or no risk of contamination The remaining three sites were determined to have medium risk and will require remediation during the right-of-way or construction phases The proposed project contains no known significant contamination

5. Navigation

Reedy Creek is not a tidal nor navigable waterway

FLORIDA DEPARTMENT OF TRANSPORTATION

S.R.600 (U.S.17-92)

From CR 532 to Poinciana Boulevard

Osceola County

STATE PROJECT NUMBER	92010-1520
WORK PROGRAM NUMBER	5115692
FEDERAL AID PROJECT NUMBER	SA-399-3(30)

PRELIMINARY ENGINEERING REPORT

Date 2/12/96

PRELIMINARY ENGINEERING REPORT

STATE PROJECT NUMBER: 92010-1520
WORK PROGRAM NUMBER: 5115692
FEDERAL AID PROJECT NUMBER: SA-399-3(30)

SR 600 (US 17/92) From CR 532 to Poinciana Boulevard

OSCEOLA COUNTY, FLORIDA

Thomas G. Percival, Jr.
Environmental Management Office

Concurred by: _____
Frederick R. Birnie, P.E.
District Environmental Management Engineer
February 16, 1996

Date:

Table of Contents

I. ABSTRACT and PROJECT COMMITMENTS 1

II. INTRODUCTION 2

III. EXISTING FACILITY 2
- 1. Functional Classification 2
- 2. Typical Section 2
- 3. Horizontal Alignment 2
- 4. Vertical Alignment 4
- 5. Existing Bridges 4
- 6. Utilities 4
- 7. Traffic 5
- 8. Soils 6
- 9. Accident Data 6
- 10 Drainage 6
- 11. Pedestrian and Bicycle Facilities 8
- 12. Right of Way 8
- 13. Traffic Signals 8
- 14. Highway Lighting 8

IV. EXISTING ENVIRONMENTAL INFORMATION 9
- 1. Land Use Data 9
- 2. Cultural Features and Community Services 9
- 3. Natural and Biological Features 9

V. MULTI-MODAL TRANSPORTATION SYSTEMS 9

VI. NEED FOR IMPROVEMENT 10
- 1. Capacity 10
- 2. Safety 10

VII. CORRIDOR ANALYSIS 13

VIII. ALIGNMENT ANALYSIS 13
- 1. The "No Project" Alternative 13
- 2. Study Alternates 13
- 3. Alternates Analysis 15
- 4. Preferred Alignment 16

IX. CONCEPTUAL DESIGN ANALYSIS 28
(within selected alignment)
- 1. Design Traffic Volumes 28
- 2. Design Speeds 28
- 3. Typical Sections 28

4. Alignment and Right of Way Needs 28
5. Bridges 28
6. Highway Lighting 30
7. Relocation 30
8. Right of Way Cost 30
9. Construction Costs 30
10. Preliminary Engineering Costs 30
11. Recycling of Salvageable Materials 30
12. User Benefits 31
13. Pedestrian and Bicycle Facilities 31
14. Safety 31
15. Access Management 31
16. Economic & Community Development 31
17. Environmental Impacts 31
18. Hydraulic Analysis 32
19. Utility Impacts 34
20. Value Engineering 34
21. Maintenance of Traffic 35
22. Results of Public Workshops and Advance Notification Responses 35

X. COORDINATION DOCUMENTATION 35

LIST OF FIGURES

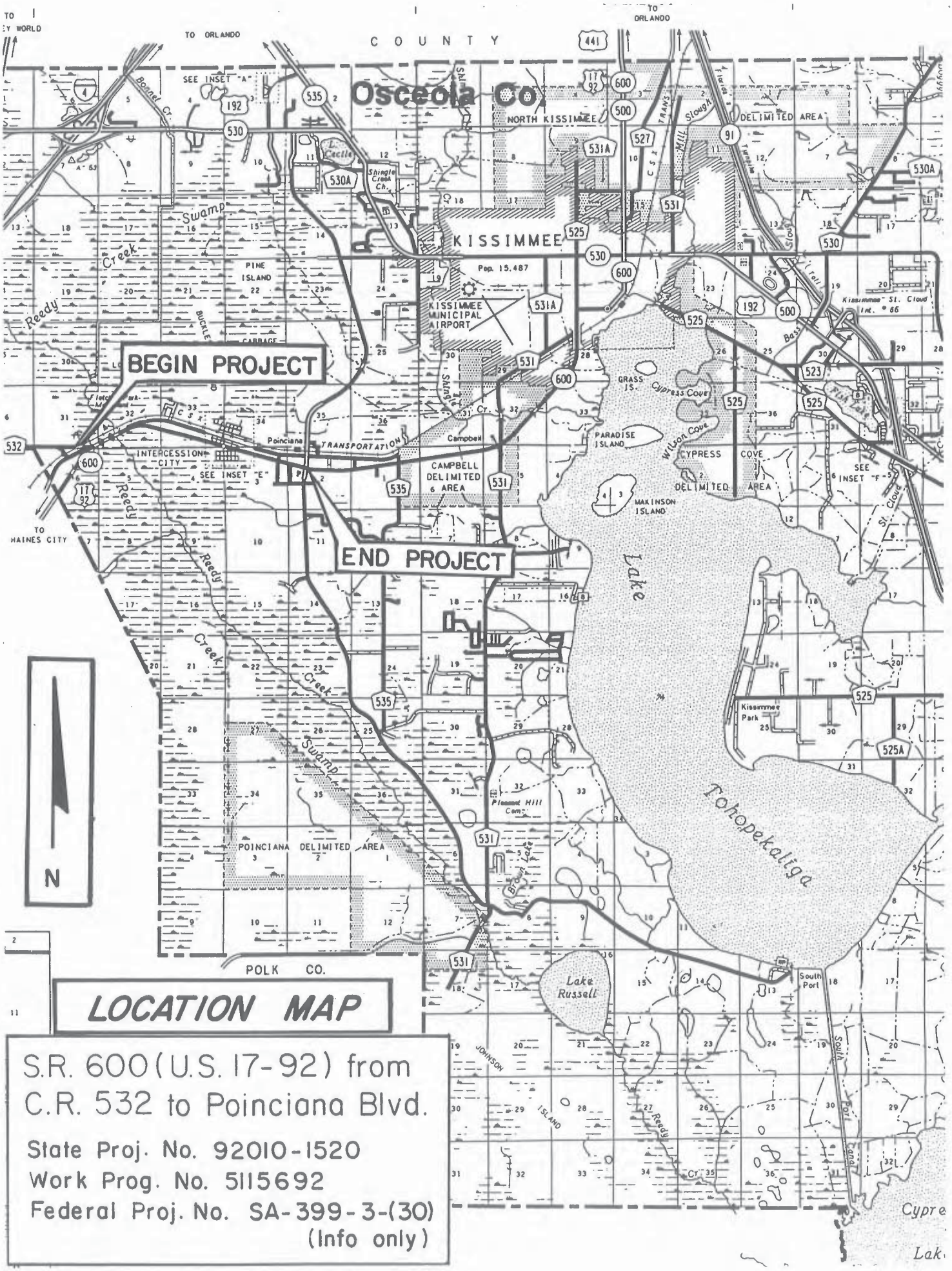
FIGURE 1:	Project Location Map	iv
FIGURE 2:	Existing SR 600	v
FIGURE 3:	Existing Typical Sections	3
FIGURE 4:	Daily and Design Hour Traffic (No build concept)	10
FIGURE 5:	Daily and Design Hour Traffic (Build concept)	11
FIGURE 6A THRU 6J:	Proposed Typical Sections	18
FIGURE 7:	Proposed Intersection Geometry	29

LIST OF TABLES

TABLE 1:	Preliminary Alignment Evaluation Chart	17

LIST OF APPENDICES

APPENDIX	DESCRIPTION	
A	Aerials - Preferred Alignment Concept	36



LOCATION MAP

S.R. 600 (U.S. 17-92) from C.R. 532 to Poinciana Blvd.

State Proj. No. 92010-1520
Work Prog. No. 5115692
Federal Proj. No. SA-399-3-(30)
(Info only)

FIGURE 1

EXISTING SR 600

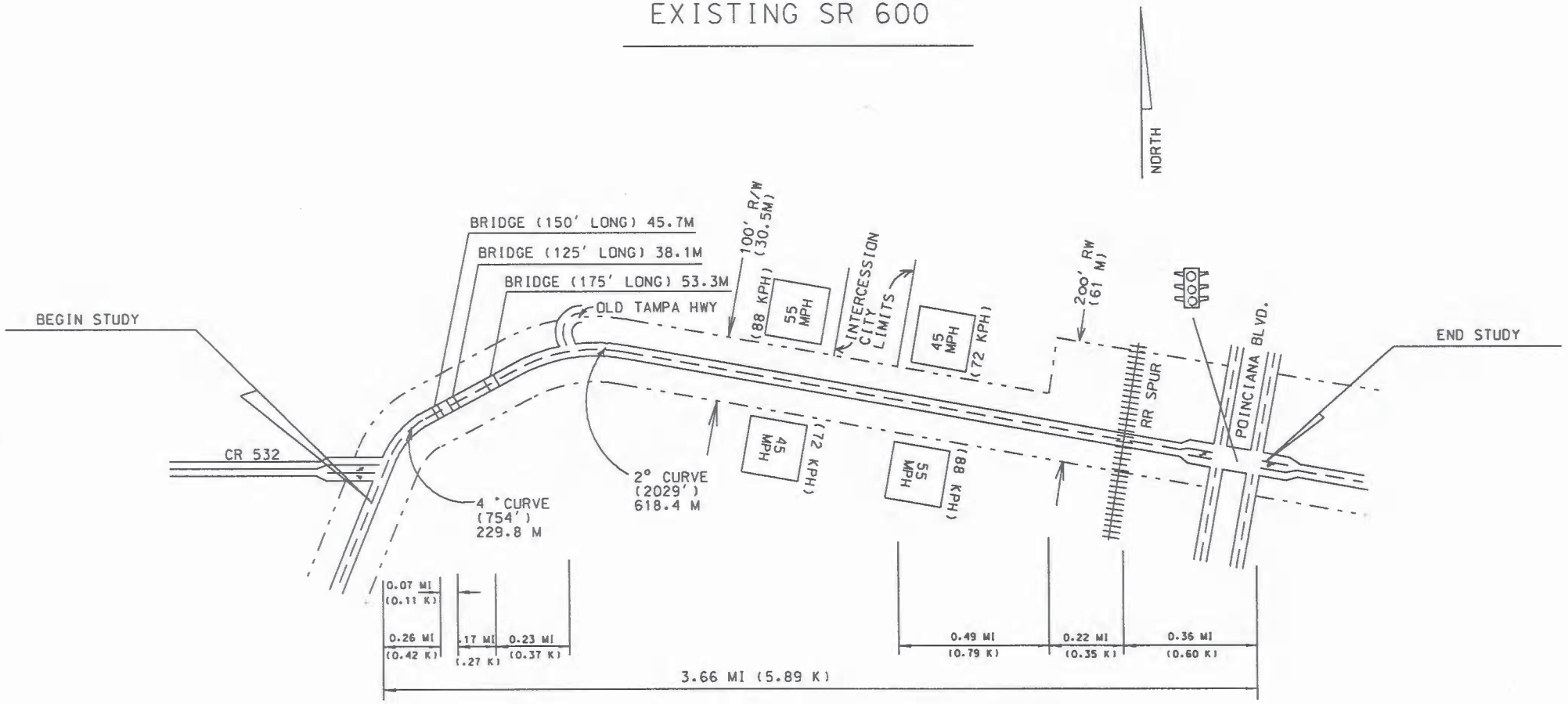


FIGURE 2

I. ABSTRACT:

The Florida Department of Transportation intends to use federal aid funds authorized by the Federal Highway Administration in the development of the four laning of SR 600 (US 17/92) from CR 532 to Poinciana Boulevard in Osceola County, Florida. The purpose of this project is to accommodate projected traffic demands and replace three aged bridge structures.

The project cost as follows are in terms of 1993 dollars.

Estimate Costs (In Millions)

Preliminary Engineering	2.00
Right of Way	3.38
Construction	13.74
Engineering & Inspection	1.37
Mitigation	0.25
Total	20.74

This total cost is less than that for any other project alternative considered.

Project Commitments

Project commitments were made concerning the bridges in the Reedy Creek vicinity. The alignment of the southern bridge was determined by selecting a route which would preserve the large cypress trees as set forth by Tufts College in the 1930's, now under the jurisdiction of the Department of Environmental Protection (DEP). Tufts College donated the original 100 feet of right of way for the existing two lane roadway with the stipulation that the large cypress be perpetually protected for future generations.

In order to meet this stipulation, satisfying DEP, satisfying a resolution by Osceola County to protect the trees, and satisfying local citizens as well as environmental groups, the bifurcated section which preserves the trees in the median was selected.

The southern bridge length was determined through a coordinative effort with South Florida Water Management District (SFWMD), DEP, the U.S.Fish and Wildlife Service and Florida Game and Fresh Water Fish Commission. The selected bridge length was acceptable to these agencies in that it was the single solution which would be approved by all. This was the only buildable project concept.

Due to additional floodplain fill in a "Save Our Rivers" designation given the Reedy Creek area, the Department has agreed to a future date to offset that fill when the northern bridge is constructed. The existing alignment has three separate bridges which in the future will be reconstructed as one, beginning at the western most beginning of the first bridge and ending at the eastern most end of the third bridge. The fill between the existing bridges would be removed at the time the single bridge is constructed. This removal of fill and bridging concept is included as a SFWMD permit requirement to build the southern bridge.

The Department has also agreed to exchange an equal amount of land to DEP in exchange for their land needed to construct the bridge in accordance with the net positive benefit rule Chapter 18-2.004(1)(0), F.A.C.. This land will likely be in the parcel on the east side of Reedy Creek and the south side of US 441. It is DEP's intention to use the exchanged land as a parking area in order to create a more active rather than passive Fletcher Park. Fletcher Park currently has been determined by FHWA as a non Section 4(f) property.

II. INTRODUCTION:

The proposed widening project is located in the north western portion of Osceola County and begins at CR 532 and ends at Poinciana Boulevard. (See Location Map Figure 1.)

The purpose of this report is to ensure that the final design concept will reflect and be consistent with federal, state and local goals and objectives.

The objectives of this report are as follows:

a. To reach and analyze the various factors which will be instrumental in the formulation of a design concept for the proposed highway.

b. To analyze alternate design concepts.

c. To conduct a public involvement program.

d. To document the recommendation of a specific design concept and specify why the recommended design concept was selected.

III. EXISTING FACILITY:

1. **Functional Classification:**
SR 600 within the study limits is functionally classified as a Rural Principal Arterial.

2. **Typical Section:**

The typical section for SR 600 is a two-lane rural roadway with 3.6 meter (12') lanes. The typical section for the SR 600 Reedy Creek Bridges is a clear roadway width of 7.92 meters (26') curb to curb, with an overall width of 8.84 meters (29').

Sketches of the existing typical sections are shown in Figure 3.

3. **Horizontal Alignment:**

SR 600's horizontal alignment runs generally in an easterly direction. Both a 4°

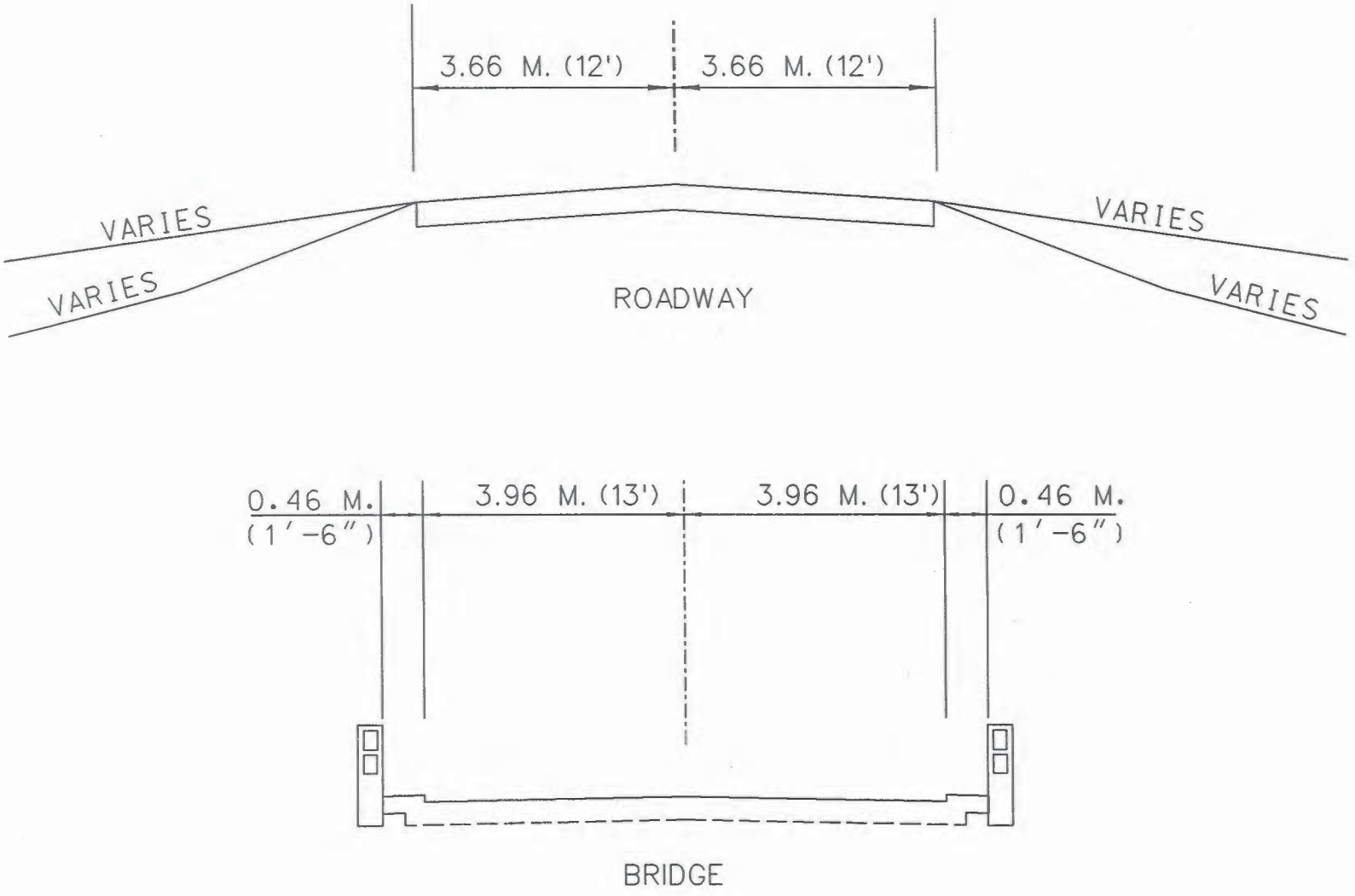


FIGURE 3

EXISTING TYPICAL SECTIONS

and a 2° curve occur within the first mile of the study with the remainder of the alignment being straight. The 4° curve meets current design criteria for a 105 km/h(65 mph) design speed. See Figure 2 for detail.

4. **Vertical Alignment:**

The vertical alignment along this study section of SR 600 is relatively flat with no apparent deviations from current design criteria.

5. **Existing Bridges:**

a. Type of Structure

The three existing bridge structures on this project consist of concrete decks supported by rolled steel beams with span lengths of 7.62 meters (25'). Bridge #920002 is 45.72 meters (150') long with 6 spans, #920003 is 38.10 meters (125') long with 5 spans, and #920004 is 53.34 meters (175') long with 7 spans. Each bridge is supported by a substructure of timber piles with timber bent caps.

b. Condition and Year of Construction

The bridges were constructed in 1938 and have a design load of H-15. There have been no improvements or upgrades during the life of the bridges. Damage to the bridge rail and approach guardrail is visible in a few locations. The FDOT Structure Inventory and Appraisal (SIA) of each bridge indicates a Sufficiency Rating of 53.8 for bridge #920002, 68.5 for bridge #920003 and 50.9 for bridge #920004 with all three bridges being functionally obsolete. Problems such as decaying timber piles and bent caps, cracking concrete deck, and damaged bridge rail are evident.

c. Channel Data

The existing bridge sites are a heavily vegetated swamp with no defined channel. Normal depth is about 0.61 meters (2').

6. **Utilities:**

SR 600 involves four (4) utility owners within the boundaries of this study. The following is a list of known owners and their contact personnel.

Mr. Ron Worley, Liaison Specialist
Florida Power Corporation
P.O. Box 14042-Mail Code D2D
St. Petersburg, Florida 33733
813/866-4214

Mr. C. T. Johns, Distribution Manager
United Telephone Of Florida
1101 East Donnagan Avenue
Kissimmee, Florida 34744
407/847-1700

w/copy to: Mr. James D. Williams
Division Distribution Manager
United Telephone of Florida
P. O. Box 490048
Leesburg, Florida 34749-0048
904/326-1177

Mr. Samuel J. Metz, Supervisor
A T & T Communications
1717 South Apopka-Vineland Road
Orlando, Florida 32811
Attention: Mr. Harry Van Loon
Communications Technician
407/294-3005

Mr. Brian L. Wheeler, Director
Water/Sewer Department
City of Kissimmee
P. O. Box 421608
Kissimmee, Florida 32742-1608
407/846-1540

7. **Traffic:**

SR 600 is primarily a northerly route but within the study limits is an easterly route through Intercession City in northwest Osceola County. Approximately 13 kilometers (8 miles) to the northwest of Intercession City, SR 600 runs through the City of Kissimmee. Approximately 24 kilometers (15 miles) to the south of Intercession City SR 600 passes through Haines City. This U.S. highway is a free access facility and serves all types of motorized traffic.

Within the project study limits the 1993 AADT ranges from approximately 8,200 vehicles just east of CR 532 to approximately 10,200 vehicles just west of Poinciana Boulevard. See Figure 4 for existing AADT. The peak hour "K" factor is 8.1% with the directional distribution "D" factory being 54.3% and truck traffic "T" factor 10.5%. The current arterial level of service "D". The final traffic report (Technical Memorandum) for SR 600 provides full traffic data and analysis.

8. **Soils:**

From the Soil Conservation Service (SCS) General Soil Map of Osceola County, it can be noted that there are four major soil associations that SR 600 traverses within the project limits. The four major soil associations are as follows:

Soils of the Low Ridges, Knolls, and Flatwoods

Immokalee-Pomello-Myakka: Nearly level to gently sloping, moderately well drained and poorly drained sandy soils that have a weakly cemented sandy subsoil.

Smyrna-Myakka-Immokalee: Nearly level, poorly drained soils that are sandy throughout and have a weekly cemented subsoil.

Riviera-Vero: Nearly level, poorly drained soils that are sandy to a depth of less than 40 inches and loamy below; some have a weakly cemented sandy subsoil.

Soils of the Swamps, Marshes, and Very Wet Areas, Generally Subject to Flooding or Ponding

Pompano: Nearly level, poorly drained soils that are sandy throughout.

An area of muck exists at and immediately north of CR 532 on SR 600. This muck area traverses approximately .5 kilometers (.3 miles) of SR 600 and will be unavoidable with any widening alternate.

9. **Accident Data:**

A review of the accident data from the Florida Traffic Accident Report was made for the five year period from January, 1987 through December, 1991. A review of this data indicates a high number of accidents along this two lane study section of SR 600. Left turn, rear end and angle collisions accounted for most of the accidents. Approximately half of the accidents occurred at intersections. Most of the intersection accidents were at CR 532 and Poinciana Boulevard. During the 5 year report period, the accident reports indicated 194 personal injuries, 6 fatalities, and an economic loss of $11,236,600. The accident ratio was above 1.0 for each of the five years reviewed, ranging from 1.247 to 2.059. A figure above 1.0 indicates a high accident section compared to similar type facilities.

10. **Drainage:**

This study section of SR 600 contains three separate drainage basins. They are all part of the approximately 479 square kilometers (185 square mile) Reedy Creek Basin. This area is under the jurisdiction of the South Florida Water Management District.

Basin 1 begins approximately 564m (1850') west of CR 532 and extends in an easterly direction to station 45+50. This basin includes one crossdrain and three bridge sections. The crossdrain is a 2' x 2' CBC at station 9+68 that has been extended on each side with 30" RCP due to the intersection improvement of CR 532 and SR 600. The first bridge known at the South Relief Bridge (#920002) starts at station 21+57 and ends at station 23+07 with a total length of 45.7m (150.0'). The next bridge section called the North Relief Bridge (#920003), extends from station 25+34 to station 26+59 for a length of 38.1m (125.0'). Lastly, the Reedy Creek Bridge (#920004) which spans a length of 53.3m (175') extends from station 34+15 to station 35+90. The crossdrain conveys roadway runoff and functions as an equalizer. The existing roadside ditches are not adequate to convey the roadway runoff. The water from the start of the first bridge (station 21+57) back to the crossdrain at station 9+68 is partially conveyed through these ditches, but much of it runs off into the Reedy Creek Basin. The remaining roadway runoff from station 21+57 to 45+50 drains directly into the Reedy Creek Swamp due to the fact that there are little or no ditches in this section to convey the water. There is no treatment of runoff currently.

Basin 2 beings at station 45+50 and extends easterly to station 133+60 in Intercession City. This basin contains two culverts, the first being a 4' x 2' CBC at station 58+47 and the second is a 3' x 2' CBC at station 106+46. In addition to conveying roadway runoff these crossdrains convey 74 hectares (183 acres) of offsite runoff from the area located north of the project site.

Roadway ditches on the north side of the road between stations 45+50 and station 75+00 convey both roadway and offsite runoff to the crossing at station 58+47, while roadway ditches between station 75+75 to 133+60 convey both roadway and offsite runoff to the crossing at station 106+46. On the south side of SR 600, roadway ditches convey roadway runoff from station 45+50 to station 77+00 to the outfall at the lower end of the 4' x 2' CBC. Likewise, roadway ditches convey runoff from station 77+00 to station 133+60 to the outfall at the lower end of the 3' x 2' CBC. Currently, none of this roadway runoff is being treated.

Basin 3 begins at station 133+60 and extends 274 meters (900 feet) past the end of the project at Poinciana Boulevard to station 211+50. This basin contains one crossing which is an 8' x 3' CBC at station 164+19. Roadway ditches convey roadway runoff to this crossing. The natural flow through this crossing is north, however, it acts as an equalizer allowing high water to flow south.

Flood Zone Designations

From the FEMA Flood Insurance rate Maps for Osceola County, flood zones for State Road 600 within the limits of this project are primarily in zone C which is designated as areas of minimal flooding. There is only one area that encroaches upon the 100-year floodplain. The location of this area is as follows:

From	To
34+00	36+00

It should be noted that this are of encroachment is in the location of the Reedy Creek Main Channel Bridge (#920004). The floodplain encroachment due to the project has been calculated and was determined to not have a significant impact on the floodplain due to the vast 479 square kilometer (185 square mile) area of the Reedy Creek Basin.

Existing Crossing and Flood Zone Designations

There are four crossdrains in this project, plus three bridges. According to the FEMA Flood Insurance Maps, the crossdrains and bridges are all located outside the 100-year floodplain with the exception of the Reedy Creek Main Channel Bridge (#920004).

Through research of existing FDOT drainage files, maintenance records, conducting site investigations, and using historical data, it has been determined that presently the entire area has severe flooding problems. The area floods through all three of the bridge sections into Intersession City encroaching on the roadway. This occurs since the elevation of the roadway in some sections is below the 50 year floodplain elevation of 21.5 meters (70.6 feet). Therefore, it is suggested that all sections of roadway that do not have a base clearance of 0.91 meters (3 feet) above the 50 year flood elevation be raised.

11. **Pedestrian and Bicycle Facilities:**

No pedestrian or bicycle facilities currently exist along the study section of SR 600.

12. **Right of Way:**

For general right of way (R/W) information see Figure 2. The typical R/W width for the project from south of CR 532 to approximately 0.91 kilometers (3000′) west of Poinciana Boulevard is 30.48 meters (100′) with the existing roadway centered within it. From approximately 0.91 kilometers (3000′) west of Poinciana Boulevard to east of Poinciana Boulevard, the R/W width is 60.96 meters (200′) with the centerline of the existing roadway being 15.24 meters (50′) north of the southern R/W line.

13. **Traffic Signals:**

There is one existing traffic signal within the study limits, at Poinciana Boulevard.

14. **Highway Lighting:**

Existing lighting consists of sporadic lights on wooden poles within Intercession City. No lighting exists on the remainder of the project study section.

IV. EXISTING ENVIRONMENTAL INFORMATION

1. Land Use Data:

The land use characteristics are primarily rural to low density residential with scattered commercial use. At the eastern end of the study area, land use is industrial. The future land use along this study section of SR 600 remains relatively the same as that of the existing.

2. Cultural Features and Community Service:

Located adjacent to SR 600 at the western end of the study, is a monument in memory of Austin B. Fletcher (Fletcher Park) erected in 1938 at Reedy Creek assigning the area as a cypress preserve. Located along the roadway within Intercession City is the Victory Baptist Church and the Cypress Pathway Church of God. At the east end of the project study is the Florida Bible College.

3. Natural and Biological Features:

The environmental file for this project contains information used to prepare the Categorical Exclusion.

V. MULTI-MODAL TRANSPORTATION SYSTEMS

BUS STOPS

1. Osceola County Board

For school transportation, the Osceola County school Bus System serves students along the SR 600 corridor attending Reedy Creek Elementary, Osceola High School and Poinciana High School. Bus transportation is also provided for Cooperative Opportunities for Parental Education (COPE), a teenage pregnancy program.

There are four buses making a total of twelve stops per day. This is a lightly populated area and there are no plans to increase/decrease the number of routes along SR 600. The school bus information was supplied by the Osceola County School Board, Director of Transportation.

2. Public Transportation

SR 600 has no fixed route public transit, however, available to anyone is "demand responsive portal to portal transportation" put on by the Orange-Seminole-Osceola Transportation Authority. There are two types of rides.

- Non sponsored general public - pay their own fare.
- Sponsored riders (Transportation Disadvantaged) - fares paid by human service agency.

VI. NEED FOR IMPROVEMENT

SR 600 is a two lane "Rural Principal Arterial" through the study area. The main factors that constitute the need to improve SR 600 are projected traffic demands and safety.

1. Capacity:

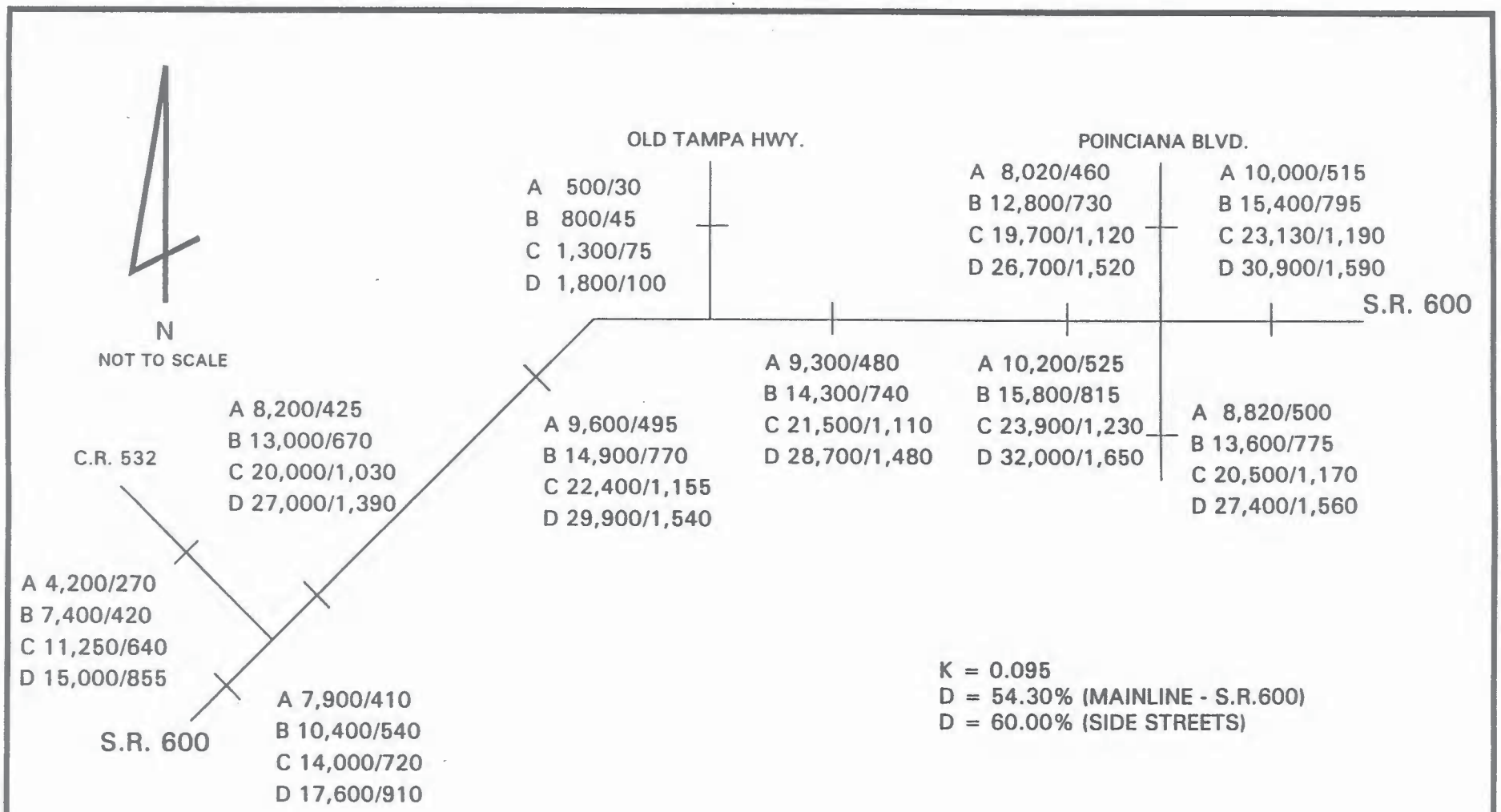
Design traffic studies were conducted to determine the travel demand of the roadway. 1993 traffic counts range from approximately 8,200 vehicles per day just east of CR 532 to approximately 10,200 vehicles per day just west of Poinciana Boulevard. By the year 2010, these figures are projected to increase to approximately 21,500 and 25,200 respectively. Further projections to the 20 year design year 2020, show increases to approximately 29,400 and 33,900 vehicles per day respectively. Design characteristics for the project show a peak hour "K" factor of 9.5% with the directional distribution "D" factor being 54.3%. The truck Traffic "T" factor is 10.5% (5.2% medium trucks, 5.3% heavy trucks). See Figures 4 and 5 for "No Build" and "Build" design traffic.

The current arterial level of service is LOS "D" along the entire study section of SR 600. By the design year 2020 the arterial level of service will be operating at LOS "E" or worse. With the "build" concept in the design year 2020, the arterial LOS ranges from "B" to "C". The project files contain the Design Traffic Report providing a full analysis.

2. Safety:

SR 600 through Intercession City is experiencing a high rate of accidents as compared to that of similar type facilities. Safety ratios during the 3 year period from 1989 through 1991 were 1.695, 1.247 and 1.537 respectively. An accident ratio of 1.0 or higher is considered a high accident section.

Roadway design aspects of an expanded facility can enhance safety along the project limits. Median design will separate opposing flows of traffic while 4 laning will allow passing without facing oncoming traffic. Left turn storage bays will separate left turners from through traffic. Access management techniques such as median crossover placements and driveway spacing requirements reduce the number of potential conflict points along the roadway. Four foot lanes at the edge of the roadway will enhance bicycle safety, as there are no provisions for bicycles along the existing facility.



Greiner, Inc.

LEGEND

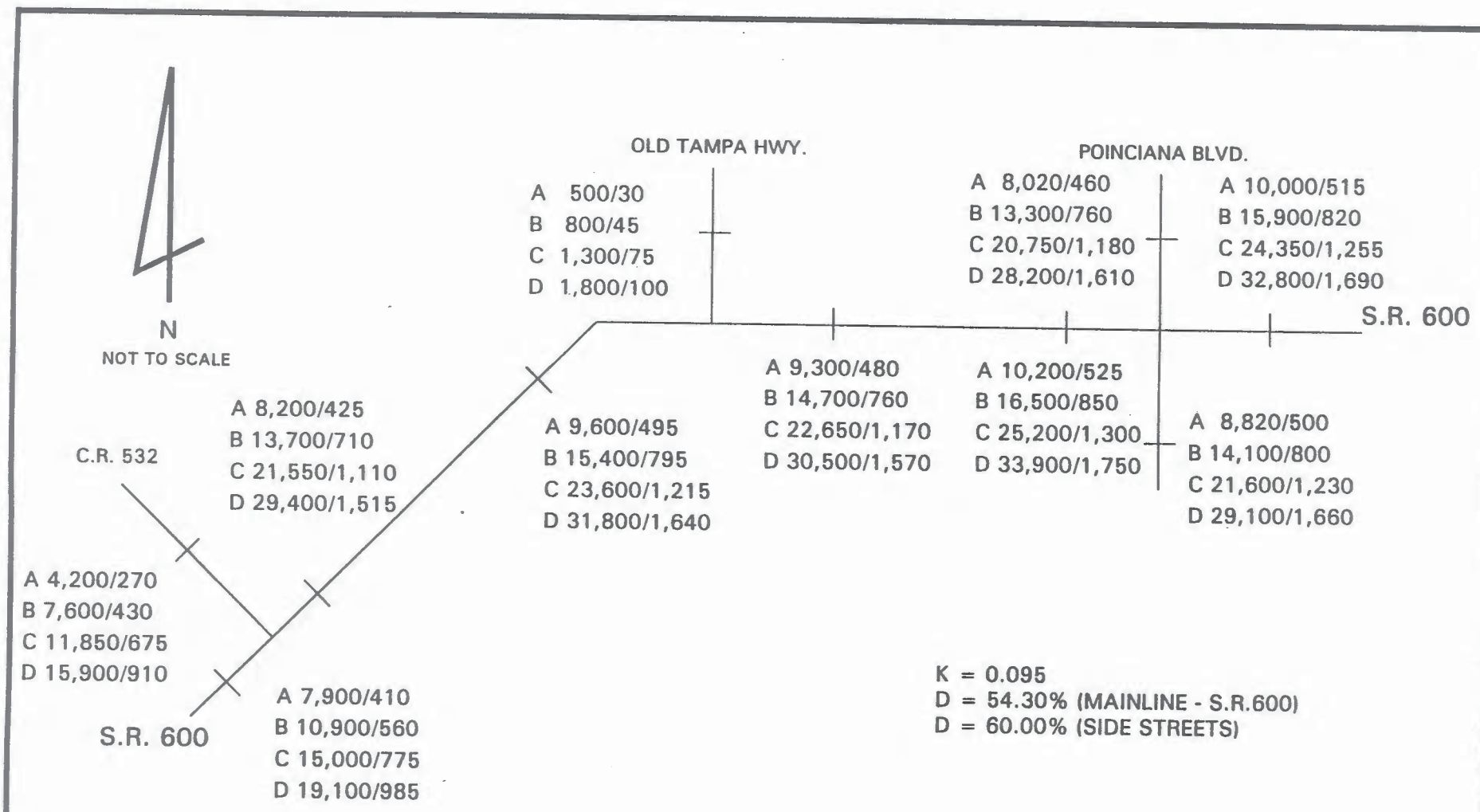
A 7,900/410	- 1993 AADT/1993 DHV
B 10,400/540	- 2000 AADT/2000 DHV
C 14,000/720	- 2010 AADT/2010 DHV
D 17,600/910	- 2020 AADT/2020 DHV

FLORIDA DEPARTMENT OF TRANPORTATION

Districtwide Design Traffic PD&E and Design

DAILY AND DESIGN HOUR TRAFFIC FORECASTS (NO-BUILD)

FIGURE 4



Greiner, Inc.

LEGEND

A 7,900/410 - 1993 AADT/1993 DHV
B 10,900/560 - 2000 AADT/2000 DHV
C 15,000/775 - 2010 AADT/2010 DHV
D 19,100/985 - 2020 AADT/2020 DHV

FLORIDA DEPARTMENT OF TRANPORTATION

Districtwide Design Traffic PD&E and Design

DAILY AND DESIGN HOUR TRAFFIC FORECASTS (BUILD)

FIGURE 5

VII. CORRIDOR ANALYSIS

The only viable corridor to study for the project limits is the existing corridor. Any major shifts to the north or south would have major impacts to the 479 square kilometer (185 sq.mi.) Reedy Creek wetland system.

VIII. ALIGNMENT(s) ANALYSIS:

Within the SR 600 corridor, the No Project concept and alternate alignments were considered. The results of this analysis were compared in an effort to choose the most viable alignment in terms of social, economic, environmental and engineering impacts. Some of the major concerns on this project were relocation of people (homes), environmental impacts, disruption to the community, improvement of transportation, cost, utility relocation, and engineering requirements.

All of the alignment alternates considered have the same logical termini. The west end termini is CR 532 and the east end termini is at Poinciana Boulevard.

1. The "No Project" Alternative:

The No Project alternative would result in worsening adverse impacts on the road users. The future traffic volumes shown in Figure 4 would result in significant delays in travel time with a resultant increase in operating expenses. The increased traffic would adversely affect safety by accentuating existing roadway deficiencies.

2. Study Alternates:

a. Typical Section

The typical section selection process involved evaluation of both rural and urban sections. Drainage and wetland impacts played a major part in the modification of standard typical sections for this project study.

In the vicinity of Reedy Creek, a rural typical section with an approximate 100' median was selected to preserve the large cypress trees there. It became evident as the project study progressed that preservation of these trees was a major issue. Easements granted to the Department in the 1930's called for the preservation of these trees. The Department of Environmental Protection was granted jurisdiction over the easement grant and their position is continuance of protection for the large cypress. This position is also supported by Osceola County, Kissimmee Valley Audubon Society, Florida Native Plant Society, and local residents.

From approximately 170 meters (550 ft.) east of CR 532 to approximately 280 meters (900 ft.) west of Old Tampa Highway, a bridge typical section is proposed.

This section will consist of bridges with an approximate 30 meter (100 ft.) median width. Each bridge will consist of two 3.6 meter (12 ft.) lanes with 3.0 meter (10 ft.) outside shoulders. The inside shoulder will be 3.0 meters (10 ft.) on the eastbound bridge and 1.8 meter (6 ft.) on the westbound bridge. The eastbound bridge has a 3.0 meter inside shoulder because this bridge will become the alignment for the two lane bridge replacement project scheduled for construction in the near future. At a later date, the existing roadway will be resurfaced and the existing three bridges will be replaced by a single span thus completing the four laning through this area. Each bridge additionally has 0.47 meter barrier wall on the outside of the structure. (See Figure 6B for detailed typical section.)

To the west of Intercession City, a rural typical section with a 12.0 m (40') median was selected due to the rural nature of the area and having a posted speed of 90 km/h (55 mph). In areas where the roadway traverses wetland areas, the rural typical section was modified to minimize wetland impacts by collecting roadway runoff by means of shoulder gutter and then transporting by pipe to join other roadway runoff, thus eliminating the roadside ditches. Some areas west of Intercession City have offsite water which must be collected by way of an outside roadway ditch. (See Figures 6A through 6G for detailed typical sections through this section of the project.)

A 30 meter (100') typical section was selected for Intercession City due to a 100' existing right of way, posted speed of 70 km/h (45 mph), and closely spaced housing and businesses (urban characteristics). (See Figure 6H for a detailed typical section.)

To the east of Intercession City, a rural typical section with a 12.0m (40') median was selected due to the rural nature of the area, a posted speed of 90 km/h (55 mph), and a four-lane rural typical that meets it from the east. Roadway portions traversing wetlands will be treated in the same manner as to the west of Intercession City. The eastern end of the project not traversing wetlands will be treated with standard slopes and ditches. (See Figures 6I and 6J for detailed typical sections.)

b. Alignment

In the early stages of alignment analysis, many alignment alternates were evaluated and ruled out rather quickly due to their impact. The following discusses the reasoning behind the ruling out of these alternates:

At the western end of the project through Reedy Creek, either a northerly alignment or a centered alignment would impact a major above ground sanitary force main with an estimated relocation cost of $2.2 million. In addition, power line and poles would be impacted as well as wetland area. A southerly alignment at Reedy Creek would not have the utility impact.

Given the above, and the cypress tree preservation issue, one alignment was brought forth through the Reedy Creek portion of the study.

In the area of around station 50 to station 75, many homes and businesses are on the north side of the existing roadway. The south side of the roadway consists of vacant land as well as wetlands. Mitigation costs would be small as compared to the loss of many homes and businesses, and therefore a southerly alignment was retained for evaluation.

In the area east of station 75 and west of Intercession City, a shift from the south to a centered alignment going into Intercession is necessary to avoid mainline right of way acquisition in Intercession City. A number of transition points were reviewed with the one having the least amount of impact brought forward for a more detailed analyses.

Within Intercession City, any continuation of a rural typical section would have a major impact on the community to the extent of relocating every home and business fronting the roadway on, at the very least, one side of the roadway. With an existing right of way of 100' and a current speed limit of 45 mph an urban typical section within the existing right of way was brought forward.

To the east of Intercession City, a shift to the north is necessary to make maximum usage of the 200' right of way beginning at station 171+50. Either side of the roadway west of station 166 is wetland area with the south side being of higher quality. The northerly shift was therefore retained for evaluation.

From station 171+50 to Poinciana Boulevard (the eastern project termini), the existing right of way is 200'. One alignment which fits within the 200' was brought forward.

3. Alternate Analysis:

Four alignment alternates were analyzed with each utilizing the same basic typical section package. Additionally, the Water Retention Areas (WRA's) were the same for each alternate alignment. Table 1 is an alignment evaluation chart for each alternate analyzed. The following is a summary of the alignments analyzed:

Alignment "A":

1) Widening occurs all to the south side from the beginning of the project to station 96+50,
2) then transitions to a center alignment through Intercession City within the existing 100' right of way,
3) then transition northward to utilize existing pavement as the eastbound two lanes,

4) then at station 186+50, all widening occurs within the existing 200' of right of way to Poinciana Boulevard.

Alignment "B":

1) Widening occurs all to the south side from the beginning of the project to station 96+50,
2) then transitions to a center alignment through Intercession City within the existing 100' of right of way,
3) then transitions northward to utilize all of the existing 200' of right of way beginning at station 170+50 and continuing to Poinciana Boulevard.

Alignment "C":

1) Widening occurs all to the south side from the beginning of the project to station 42+00,
2) then transitions slightly northward to utilize the existing pavement as the westbound two lanes to station 98+00,
3) then transitions to a center alignment through Intercession City within the existing 100' of right of way,
4) then transitions northward to utilize existing pavement as the eastbound two lanes,
5) then at station 186+50, all widening occurs within the existing 200' of right of way to Poinciana Boulevard.

Alignment "D":

1) Widening occurs all to the south side from the beginning of the project to station 42+00,
2) then transitions slightly northward to utilize the existing pavement as the westbound two lanes to station 98+00,
3) then transitions to a center alignment through Intercession City within the existing 100' of right of way,
4) then transitions northward to utilize all of the existing 200' of right of way at station 170+50 and continuing to Poinciana Boulevard.

4. Recommended Alignment (See aerials at rear of this report):

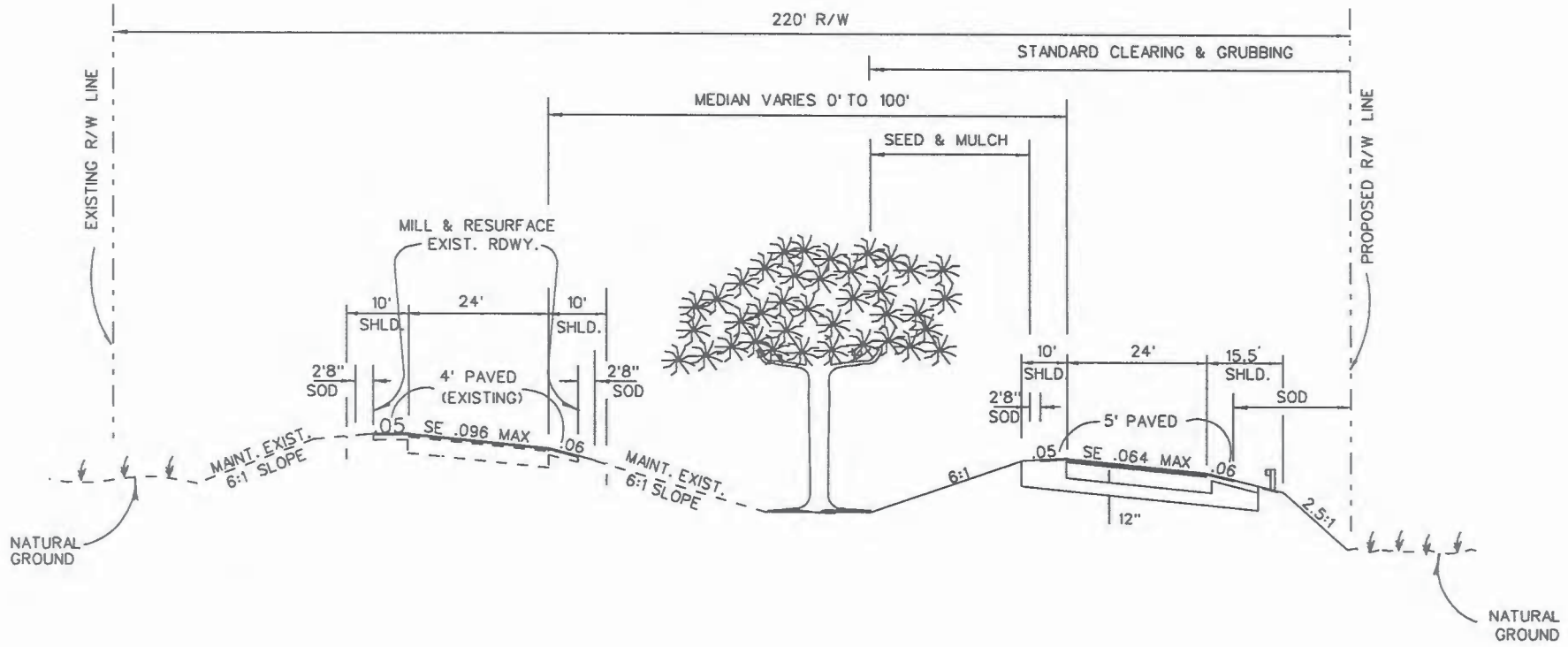
The recommended approach to improving SR 600 through the study limits is Alignment "B". Alignment "B" is recommended due to its having the least overall impact as well as the least overall cost. It is important to note that while the overall costs of the other three alternates do not appear significantly higher, their cost is based on resurfacing some existing portions of the roadway. This cost savings may not actually be realized due to the fact that drainage design on the project may very well require grade changes in the roadway.

PRELIMINARY ALIGNMENT EVALUATION CHART
(1993 COST IN MILLION DOLLARS)

	ALIGNMENT "A"	ALIGNMENT "B"	ALIGNMENT "C"	ALIGNMENT "D"
Length (kilometers/miles)	6.44/4.00			
Typical Section	12.0m (40') Median (rural) 7.0m (22') Median (urban)			
New Roadway ROW (hectares/acres)	11.57/28.6	11.41/28.2	11.57/28.6	11.41/28.2
New WRA ROW (hectares/acres)	7.97/19.7			
Business Property Impacted	3	2	5	4
Businesses Displaced	0	0	0	0
Residential Property	15	15	34	34
Families Displaced	2	2	2	2
Wetland Impacted-Higher Quality (hectares/acres)	4.69/11.58	4.41/10.89	4.52/11.18	4.25/10.49
Wetland Impacted-Lower Quality (hectares/acres)	2.76/6.83	2.79/6.89	2.76/6.83	2.79/6.89
Mitigation Costs	0.250			
ROW Ops. - PH 32	0.487	0.453	0.804	0.770
ROW Land/Dam. - PH 31	2.406	2.305	2.711	2.610
ROW Support - PH 30	0.609	0.570	1.116	1.077
ROW Relocation - PH 38	0.052	0.052	0.059	0.059
Total ROW Cost	3.554	3.380	4.690	4.516
P.E. - PH 20/23	2.00			
Utility Relocation Impacts	Low			
Construction Cost	13.591	13.735	13.064	13.209
C.E.I. (10%)	1.359	1.374	1.306	1.321
TOTAL CONSTRUCTION COST	*14.950	15.109	*14.370	*14.530
OVERALL COST	20.754	20.739	21.310	21.296

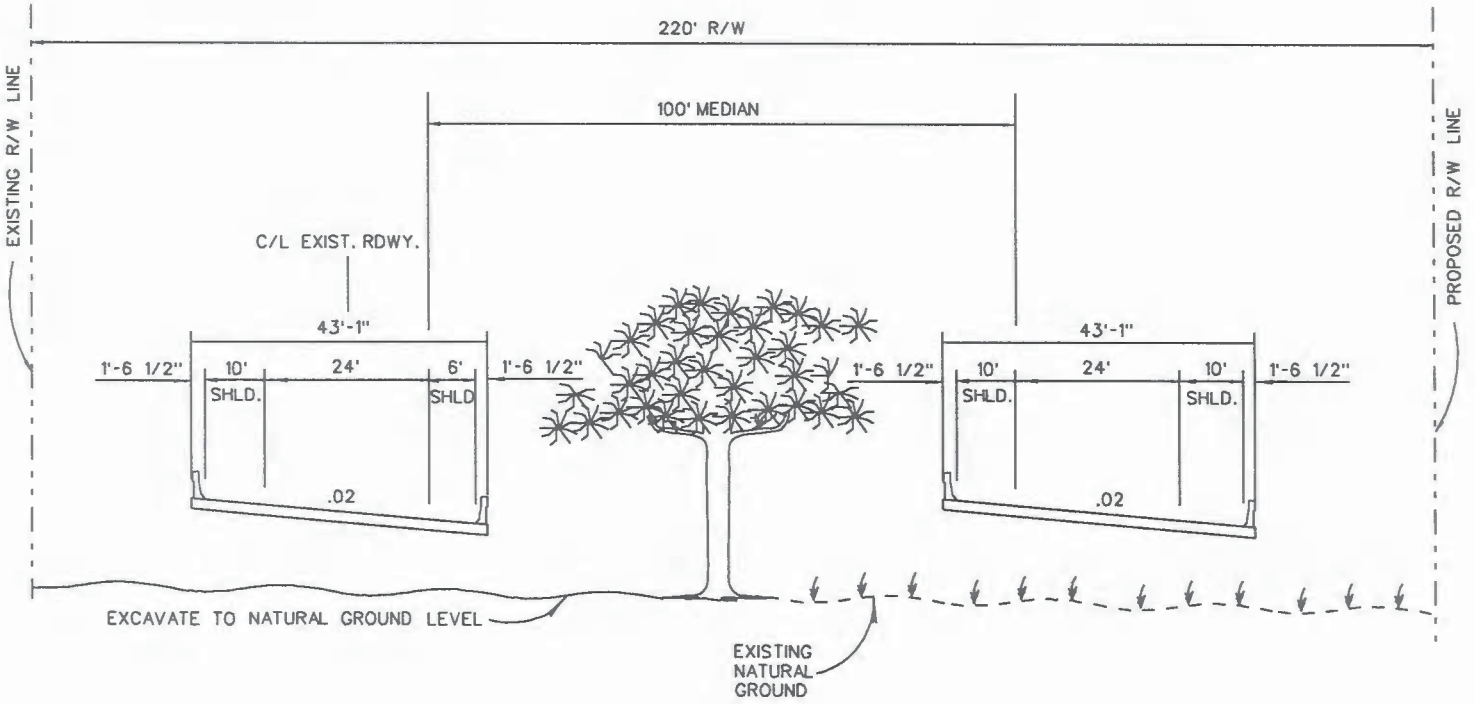
* ASSUMES EXISTING ROADWAY CAN BE UTILIZED ON PORTIONS OF THE PROJECT.

TABLE 1



FROM 1591' WEST OF CR 532 TO STA 21+57 LT RDWY
STA 13+43 RT RDWY

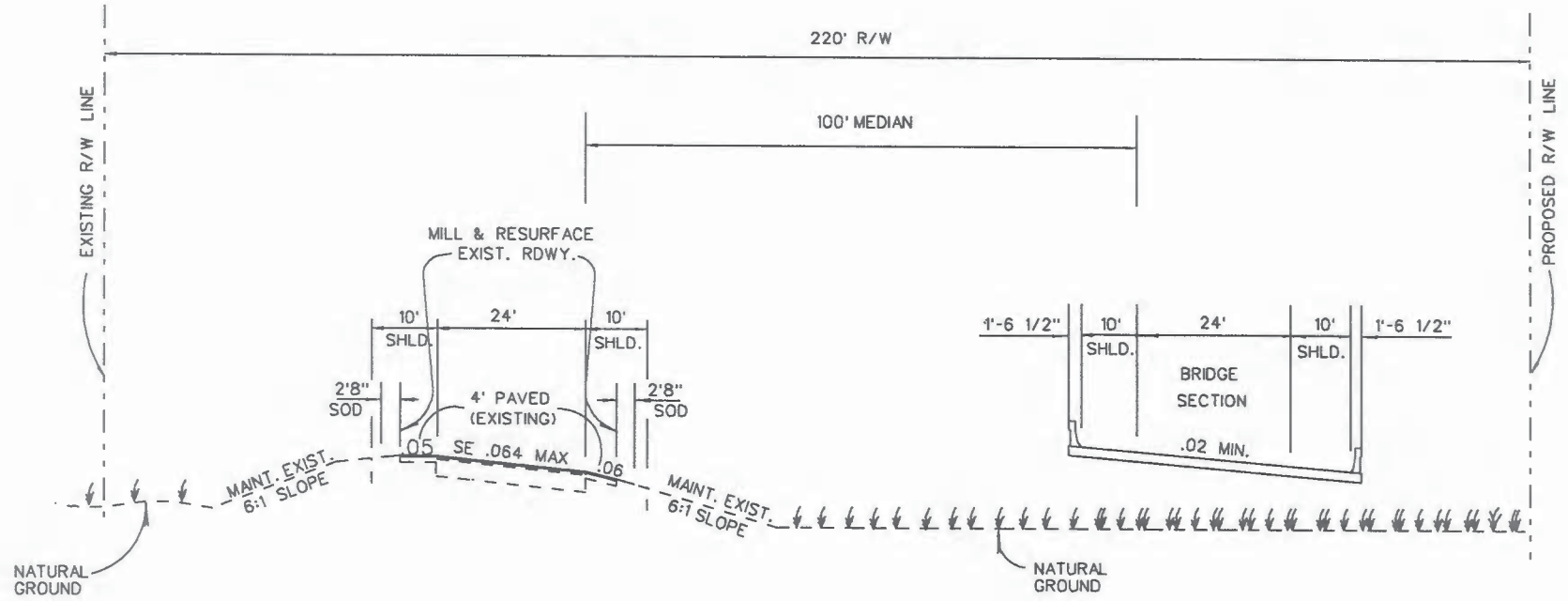
FIGURE 6-A



4-LANE BRIDGE SECTION (2 STRUCTURES)

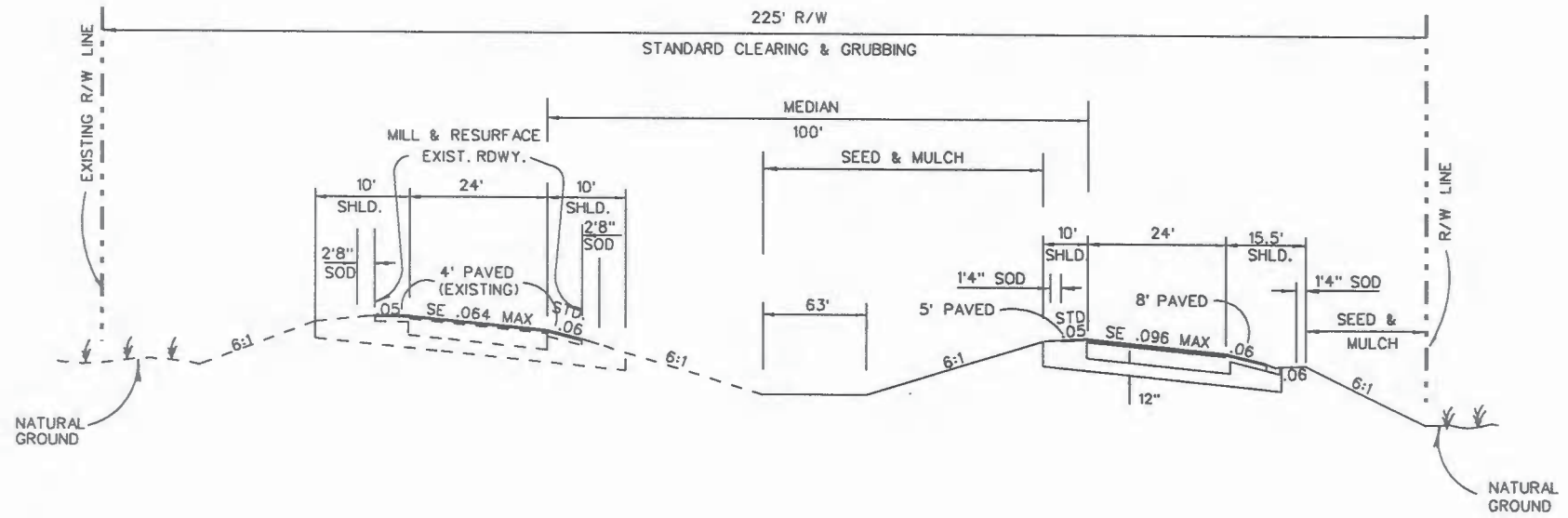
STA 13+43 TO STA 37+05 RT RDWY
STA 21+57 TO STA 35+90 LT RDWY

FIGURE 6-B



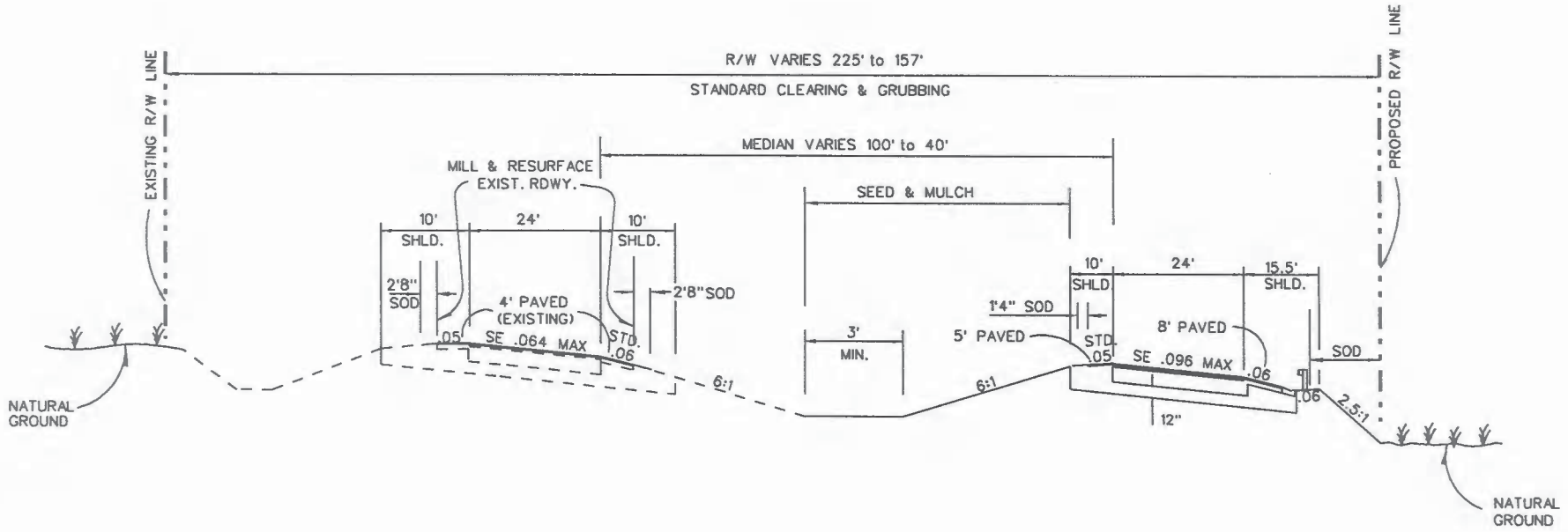
STA 35+90 TO STA 37+05

FIGURE 6-C



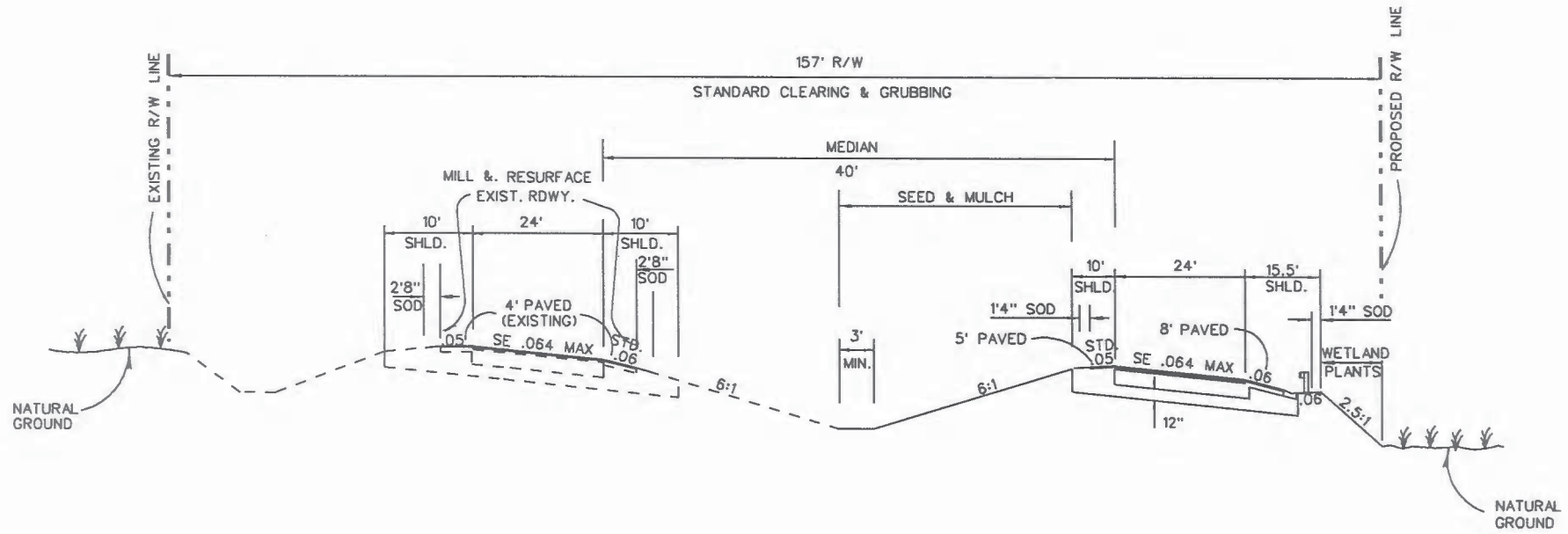
STA 37+05 TO STA 45+50

FIGURE 6-D



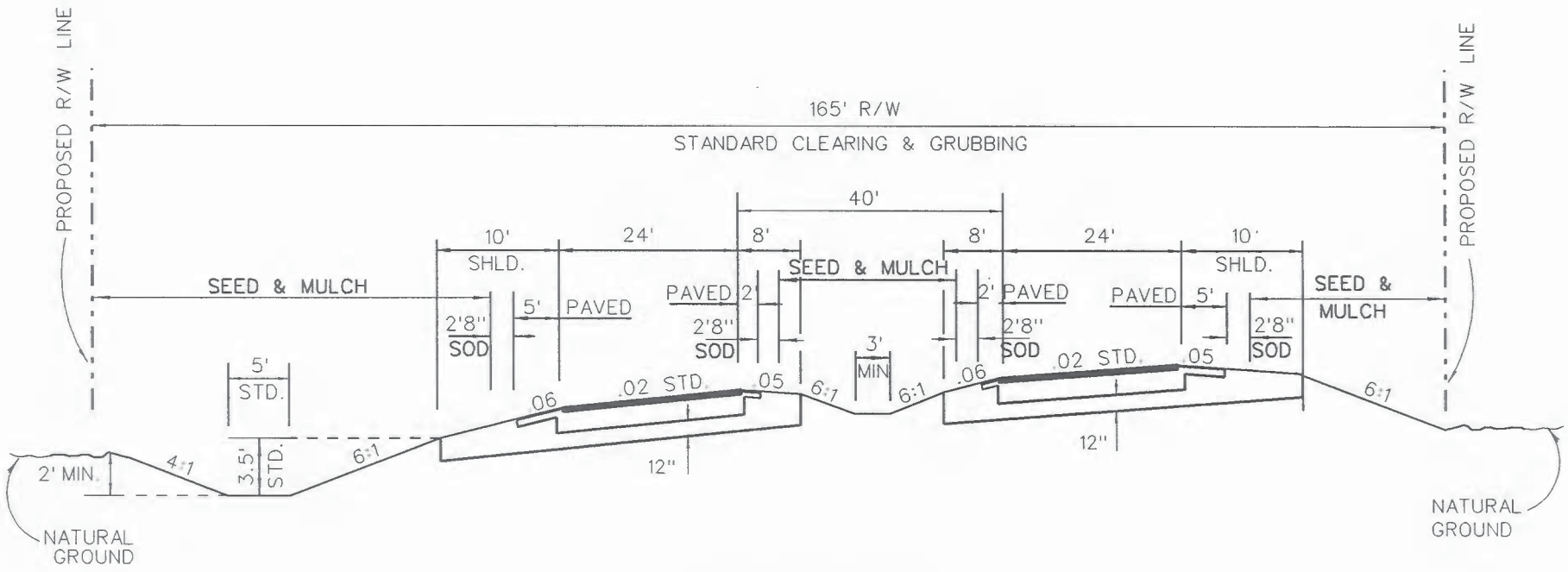
STA 45+50 TO STA 51+00

FIGURE 6-E



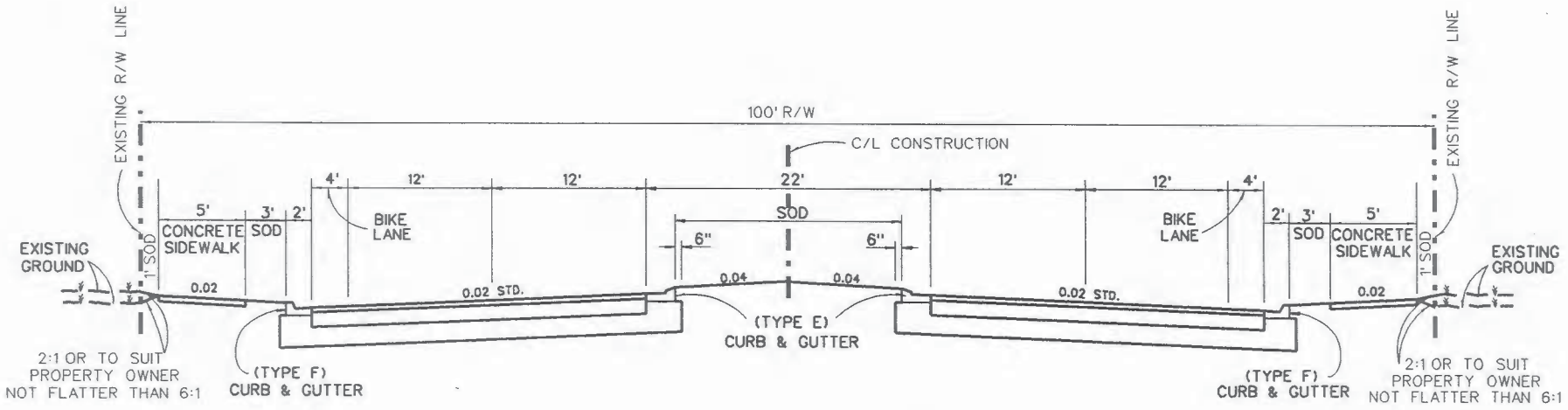
STA 51+00 TO STA 66+00

FIGURE 6-F



STA 66+00 TO STA 114+65

FIGURE 6-G



STA 114+65 TO STA 145+75

FIGURE 6-H

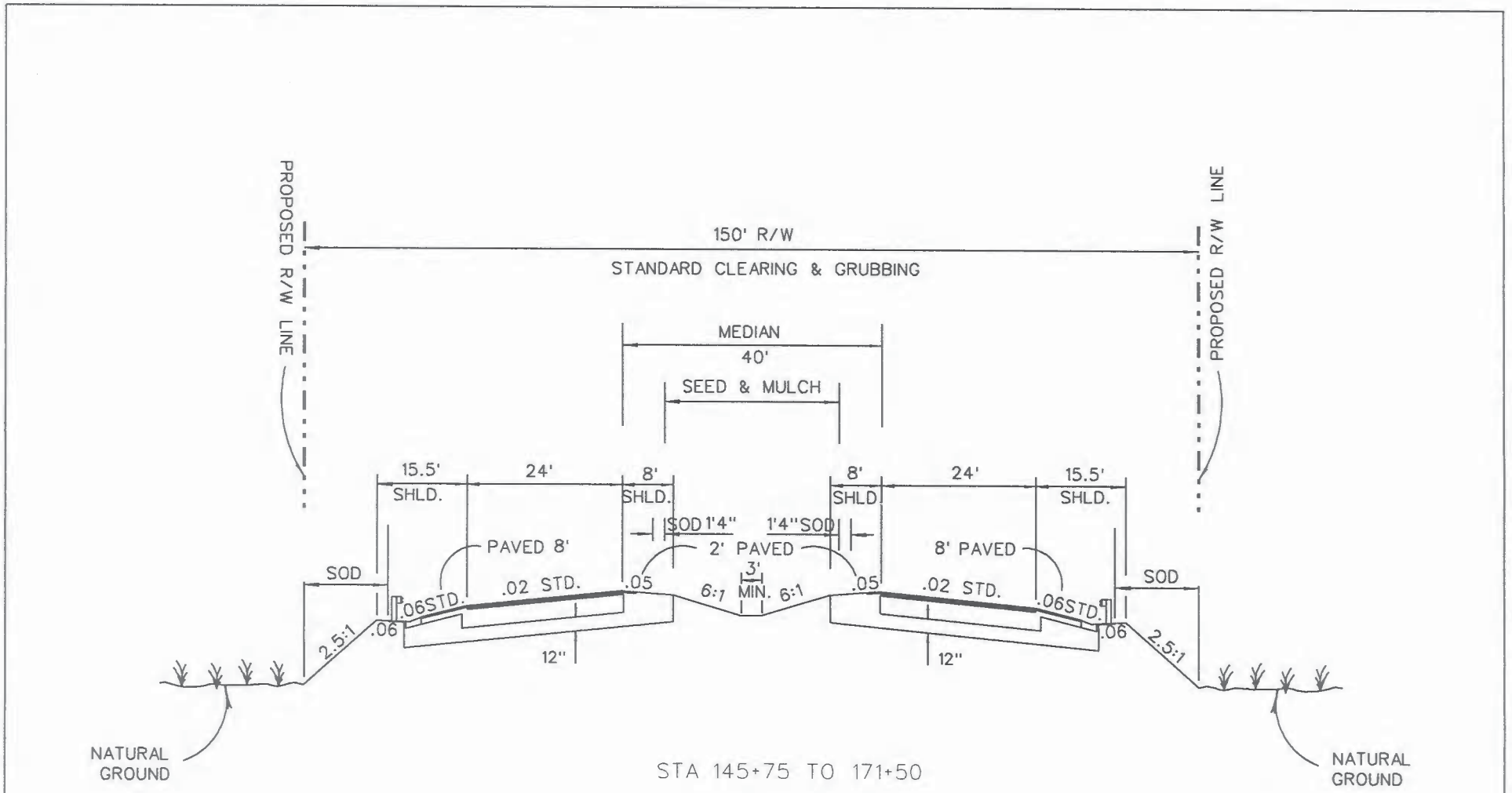
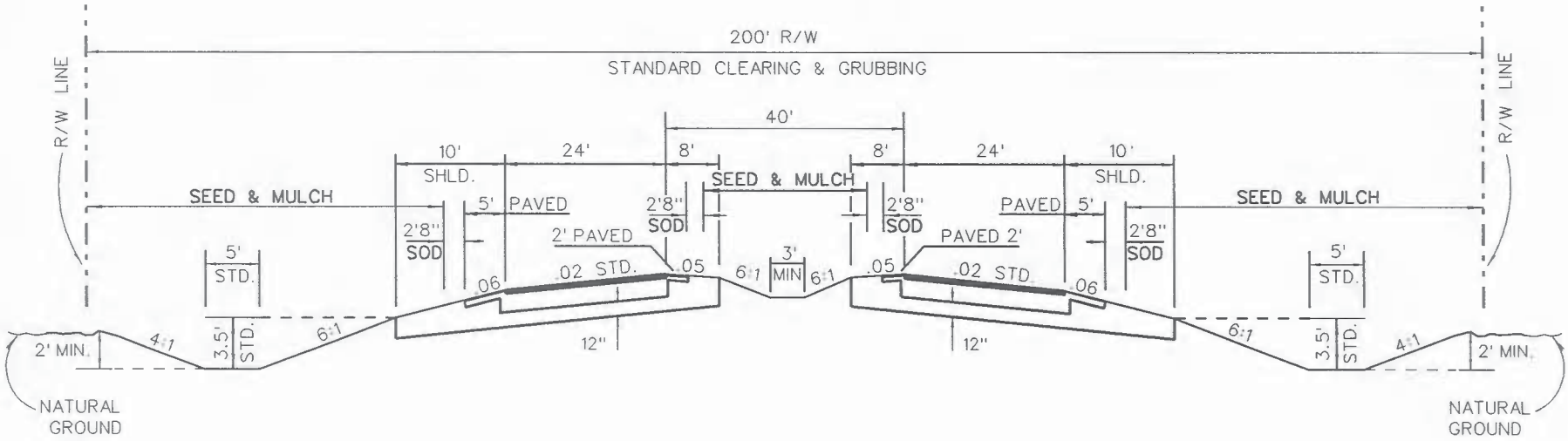

PROPOSED R/W LINE
150' R/W
STANDARD CLEARING & GRUBBING
PROPOSED R/W LINE
MEDIAN
40'
SEED & MULCH
15.5'
SHLD.
24'
8'
SHLD.
8'
SHLD
24'
15.5'
SHLD.
SOD 1'4"
1'4" SOD
PAVED 8'
2' PAVED
8' PAVED
SOD
3'
.02 STD.
.05
6:1 MIN. 6:1
.05
.02 STD.
SOD
.06STD.
.06STD.
2.5:1
.06
.06
2.5:1
12"
12"
NATURAL GROUND
NATURAL GROUND
STA 145+75 TO 171+50

FIGURE 6-1



STA 171+50 TO STA 202+00

FIGURE 6-J

IX. CONCEPTUAL DESIGN ANALYSIS:

1. Design Traffic Volumes:

See Section VI-1 of this report.

2. Design Speeds:

The design speeds for SR 600 are 110 km/h (65 mph) for rural, and 90 km/h (45 mph) for the urban curb and gutter section.

3. Typical Sections:

See Typical Section Package (Figures 6A through 6H).

4. Alignment and Right of Way Needs:

Section VIII-4 discusses the recommended approach to improving SR 600. The approximate location of the new right of way including water retention areas is delineated in the aerials at the rear of this report.

Horizontal Alignment:

The proposed horizontal alignment will remain generally that of the existing alignment. Figure 7 depicts intersection geometry for the project as per the Design Traffic Report.

Vertical Alignment:

The proposed vertical alignment will be adjusted to meet the drainage requirements of the project. Sloping of the pavement to the median will be employed to minimize the impact at wetland areas along the project. All vertical alignment criteria will be designed to meet current "K" values.

5. Bridges:

The recommended alignment proposes new bridges at the western end of the project. The typical section for the proposed bridges is shown in Figure 6C. The bridge structures have proposed lengths as follows:

Northern Bridge	**436.8 meters (1433')**
Southern Bridge	**720 meters (2362')**

These bridge lengths were determined based upon preservation of the large cypress trees as well as meeting the permit requirements for this project.

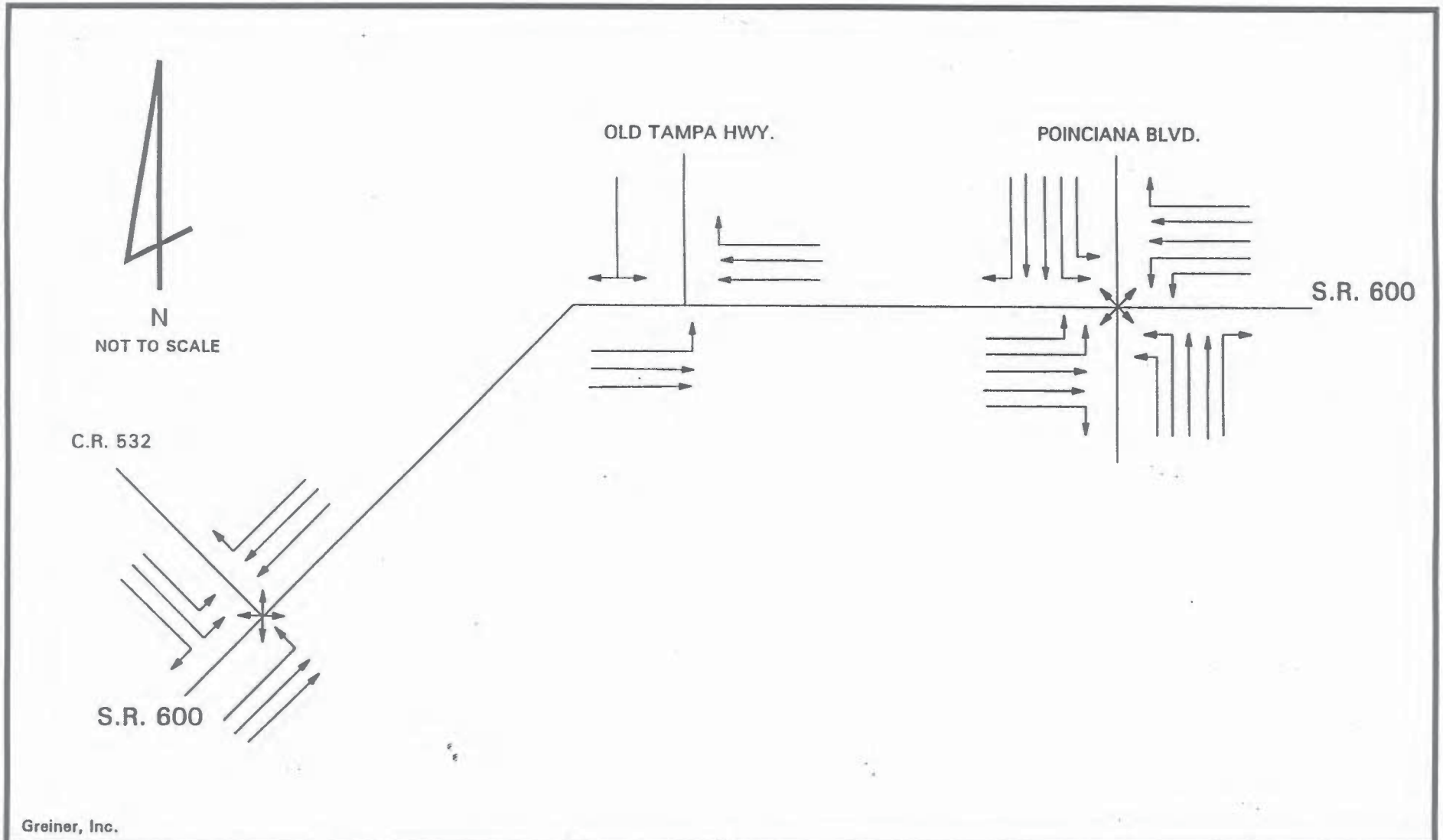

N
NOT TO SCALE
OLD TAMPA HWY.
POINCIANA BLVD.
S.R. 600
C.R. 532
S.R. 600
Greiner, Inc.
LEGEND
LANEAGE
TRAFFIC SIGNAL
FLORIDA DEPARTMENT OF TRANPORTATION
Districtwide Design Traffic PD&E and Design
PROPOSED GEOMETRY

FIGURE 7

6. **Highway Lighting:**

Highway lighting was not found to be justified on SR 600 within the limits of the project. A copy of the Lighting Justification Report is in the project files.

7. **Relocation:**

The upgrading of SR 600 would require the relocation of one family for the roadway portion and one family for water retention areas. Additionally, two personal properties would require removal.

8. **Right of Way Costs:**

Right of way acquisition for the recommended alignment is estimated to be a follows:

	Hectares/Acres	Cost
Roadway	9.06/22.4	1.94 Million
Water Retention	7.97/19.7	1.44 Million
Total	**17.03/42.1**	**3.38 Million**

Right of way costs were supplied by the District Right of Way Staff.

9. **Construction Costs:**

The cost for construction for the recommended alignment is estimated to be (1993 dollars): $15.11 Million.

(For additional details, see Table 1.)

10. **Preliminary Engineering Costs (PE):**

For the purpose of this report, the total PE costs to include Project Development and Design phases are estimated to be $2,000,000.

11. **Recycling of Salvageable Materials:**

The proposed project will salvage existing pavement through milling operations.

12. User Benefits:

Highway user costs are defined by AASHTO's "A Manual on User Benefit Analysis of Highway and Bus-Transit Improvements", 1977, as the sum of (1) motor vehicle running cost, (2) the value of vehicle user travel time, (3) traffic accident cost. User benefits are the cost reductions and other advantages that accrue to highway motor vehicle users through the use of a particular transportation facility as compared with the use of another. Benefits are generally measured in terms of a decrease in user costs. The proposed improvement provides user benefits to the extent that it reduces user costs as compared to the No Project concept that will operate at an unacceptable level of service.

13. Pedestrian and Bicycle Facilities:

Through the rural portions of the proposed project, 1.2m (4') paved shoulders will be incorporated on both sides of the facility for use by bicyclists. Within the urban portion (Intercession City), 1.2m (4') lanes will be designed on both sides of the facility for use by bicyclists. 1.5m (5') wide sidewalks will also be designed on both sides of the proposed project within Intercession City.

14. Safety:

The design alternate incorporates features that will offer provisions for a safe and efficient transportation facility along SR 600. Standard lane widths, divided roadways, paved shoulders, bicycle lane provision, pedestrian sidewalks within Intercession City, adequate left turn storage and access management design all add to the safety of the proposed project.

15. Access Management:

The Access Class for SR 600 through the project limits is a Class 3. Class 3 is characterized by restrictive medians with 600m (1320') directional and 1200m (2640') full crossover spacings.

16. Economic and Community Development:

The proposed project will increase the capacity of the highway thus improving travel for its many users. Travelers will more efficiently and safely reach their destinations whether it be home or area businesses.

17. Environmental Impacts:

For complete details of the environmental impacts of this project, refer to the categorical exclusion documentation.

18. Hydraulic Analysis:

This project involves replacing all of the existing crossdrains and therefore falls under category 4 of the FDOT drainage manual for floodplain classification. These changes will cause minimal increases in flood heights and flood limits. These minimal increases will not result in any significant adverse impacts on the natural and beneficial floodplain values or any significant change in flood risks or damage. The floodplain encroachments through the bridge sections were calculated and have also been determined not to be significant since the (185 square mile) Reedy Creek Basin is so large. There will not be a significant change in the potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, it has been determined that these encroachments are not significant. (See the Location Hydraulics Report in the project files for a detailed analysis.)

Proposed Conditions

The drainage patterns for the proposed conditions contain three separate drainage basins:

BASIN 1 begins approximately 564m (1850') west of CR 532 and extends in an easterly direction to station 45+50. The section from 56.4m (1850') west of CR 532 to CR 532 is in transition from two lanes to four lanes and is also in superelevation so the travel lanes will be sloped to the right. If possible, the runoff from these lanes will be picked up with shoulder gutter and conveyed to Pond #1. A two structure, four lane bridge typical section will be used in place of the three existing twin bridge sections. The roadway transitions into superelevation about station 37+00 to station 45+50. Since the right lane will be sloped to the outside, it will be necessary to incorporate a shoulder gutter into the typical section to pick up this water. The water will then be piped to the median where it will join up to the piping system in the median to convey the stormwater.

BASIN 2 begins at station 45+50 and extends easterly to station 133+60. Offsite runoff is conveyed by an offsite ditch on the left side of the alignment to the crossings at stations 48+47.33 and 196+46.17. Roadway runoff in the portion of this basin west of Intercession City is collected via a covered pipe swale in the median and transmitted into Pond #2 for treatment and attenuation. Runoff in Intercession City is collected by a series of curb inlets along SR 600 and transmitted via a proposed storm sewer to the west side of the city where it is picked up by the covered pipe swale and transmitted to Pond #2. Pond #2 is located on the left side of the proposed alignment and is in the vicinity of the 3' x 2' CBC at station 106+46.17 where it will outfall.

A french drain system was also sized as an alternative to retention/detention ponds for water quality treatment. It was determined that 2932m (9621') of 107cm (42") pipe at an approximate cost of $630,000 would be required for water quality treatment for this basin.

BASIN 3 begins at station 133+60 and extends easterly to station 211+50. From station 133+60 to station 145+75, a four lane urban facility will use curb inlets to collect and a storm sewer to transmit roadway runoff east to Pond #3. From station 145+75 to station 171+50, a four lane rural facility with a covered pipe swale in the median will collect and transmit roadway runoff to Pond #4. From station 171+50 to the end of the project a four lane rural facility will collect and transmit roadway runoff via a system of roadside ditches to Pond 4. Pond #4 is located in the vicinity of station 175+00. Pond #3 is located at approximate stationing 146+00.

Like the first two basins a french drain system was also sized for basin 3. For basin 3, 2800m (9185') of 107cm (42") pipe at an approximate cost of $600,700 would be necessary for water quality treatment if a french drain was used instead of a retention/detention pond.

Proposed Retention/Detention Ponds

As a part of this study a total of four retention/detention areas were chosen to provide water storage and treatment for the project. These areas are shown in the aerials at the rear of this report. Since it has been determined that none of these areas are located in land locked basins, they can be designed to provide storage for a Pre-Post discharge of a 25 year-24 hour storm event and must meet water quality requirement for a Class III water body.

Summary

Existing and proposed hydraulic conditions for the SR 600 widening project have been evaluated. Generally, the proposed drainage scheme follows the existing drainage pattern and no diversion of stormwater runoff is anticipated. The analysis of the onsite drainage conditions yield the following conditions.

BASIN 1 - Approximately 1.82 hectares (4.5 acres) of additional right of way will be required for Pond #1. This pond will provide the volume for water quality treatment of roadway runoff in basin 1. In the process of increasing from a two lane to a four lane highway, the 100-year floodplain elevation of 21.6m (71.0') will be encroached upon a total of 15.5 acre-feet. This is an insignificant amount when you consider the size of the 479 square kilometer (185 square mile) basin.

BASIN 2 - Approximately 3.20 hectares (7.9 acres) of additional right of way will be required for pond #2. This pond provides the required treatment and attenuation volumes for basin 2.

In addition, 74 hectares (183 acres) of offsite runoff will require a ditch on the left side of the alignment to collect and transmit offsite runoff to either of the two crossing in this basin. As an alternative the offsite runoff in Intercession City might also be collected by a separate offsite storm sewer system instead of a ditch.

BASIN 3 - Approximately 0.89 hectares (2.2 acres) of additional right of way will be required for pond #3. Pond #4 will require an approximate 2.06 hectares (5.1 acres) of right of way. These ponds will provide the required treatment volume for basin 3. Calculations have shown that the post peak discharge will be lower than the existing peak discharge so that storage volume in ponds #3 and #4 for attenuation will not be necessary. Since SR 600 passes directly through the Reedy Creek Basin, the widening of this highway from two to four lanes will cause 203,547 cu.meters(165 acre-feet)of encroachment into the floodplain in this basin, but due to the size of this drainage basin only minimal increases in flood heights are expected from this project.

The proposed crossdrains were evaluated using the method shown in the revised Drainage Manual for crossdrain analysis. The existing crossdrain sizes, end treatments, and Allowable High Waters were used in the analysis. The crossdrain lengths had to be increased due to the roadway widening and in order to meet the 36' Clear Recovery Zone criteria. The flow lines had to be adjusted also to keep with the existing slope for the new pipe lengths. It was determined that none of the crossdrains are exceeding the Allowable High Water for the 50 year design discharge. However, they will all have to be replaced since they were built in 1937 and have exceeded their practical service life. Since this is the case, a cost analysis was done on all of the crossdrains to see if it would be more cost effective to replace them with the same size and type of culvert or if they should be replaced with equivalent sized pipes. The crossdrain at station 9+68 is currently a 2' x 2' CBC that has been extended with 30" CP. During analysis, it was found to just barely handle the 50 year discharge of 36.9 CFS without overtopping. Therefore, it is suggested that this crossdrain either be replaced with a 30" CP or double 24" CP's. The crossdrain at station 58+47.33 is a 4' x 2' CBC. Following a cost analysis, it was found that this box culvert should be replaced with double 30" CP's. Upon analysis of the crossdrain at station 106+46.17, it was determined that it would be cost effective to replace the 3' x 2' CBC with double 24" CP's. After analyzing the crossdrain at station 164+19.18, it was found that it would be cost effective to replace the 8' x 3' CBC with double 48" CP's.

19. Utility Impacts:

The final design of SR 600 will be coordinated with the utility owners in such a manner as to minimize relocation adjustments and disruptions of service to the public. The four laning of the roadway at the west end is to be designed such that no relocation of the above ground sanitary force main to the north of the roadway will be necessary. For a list of known utility companies in the project vicinity, see Section III-6 of this report.

20. Value Engineering:

A Value Engineering (V.E.) Study was performed for the SR 600 widening study. No value improvements were identified.

21. **Maintenance of Traffic:**

Some lane shifting will be necessary during the construction procedure, but two lanes of traffic can be maintained. Maintenance of traffic provisions will follow the FDOT Manual on Traffic Control and Safe Practices.

22. **Results of Public Meetings and Advance Notification Responses:**

A Public Involvement Plan, complying with the 1978 Florida Department of Transportation Action Plan for Transportation Planning and development, served as the guideline for all public meetings and Advance Notification responses pertaining to this project.

- Advance Notification was mailed May 12, 1993 to approximately 33 persons. Responses will be addressed in the Categorical Exclusion.

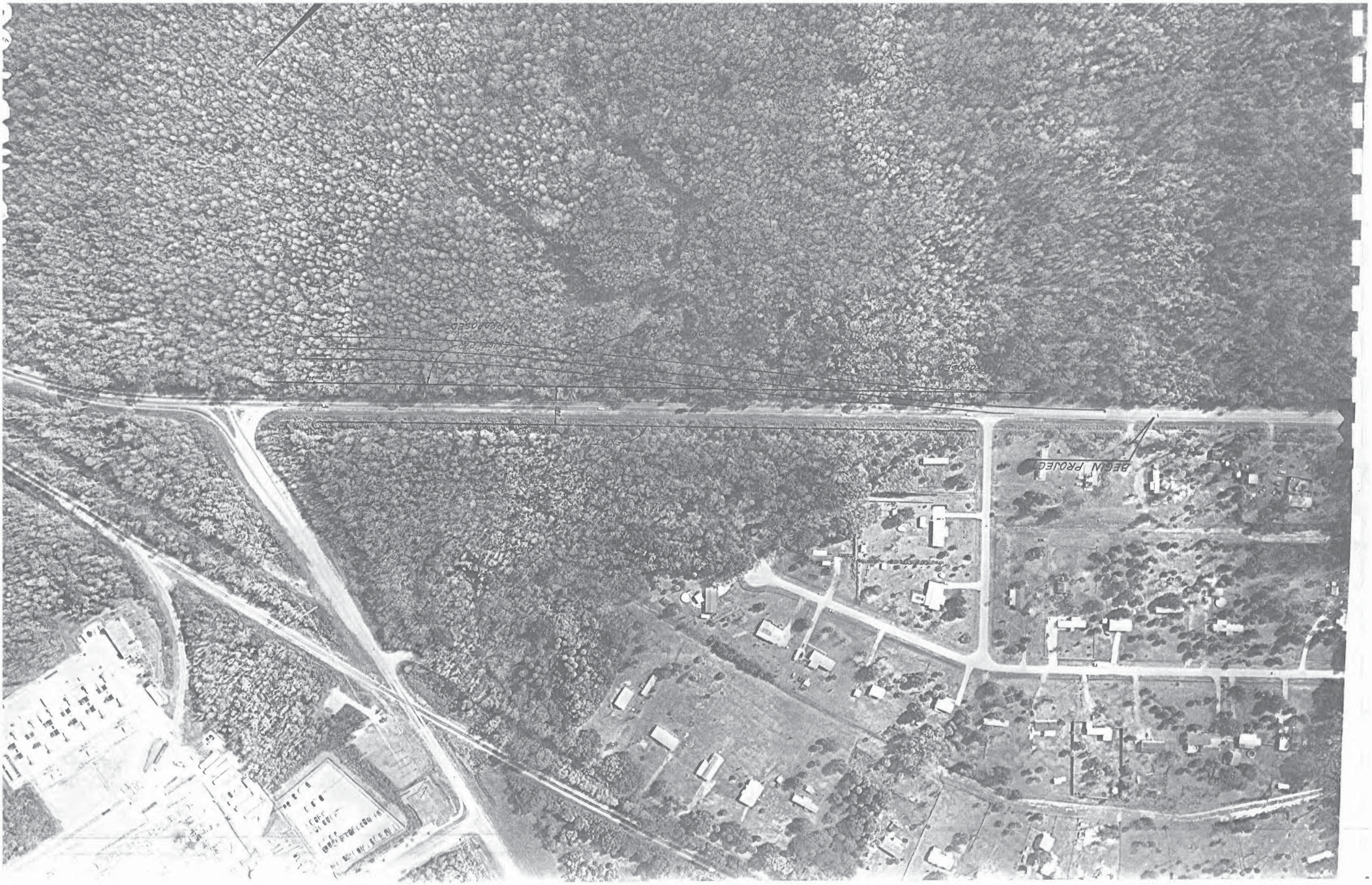
- A public information meeting was held on February 3, 1994.

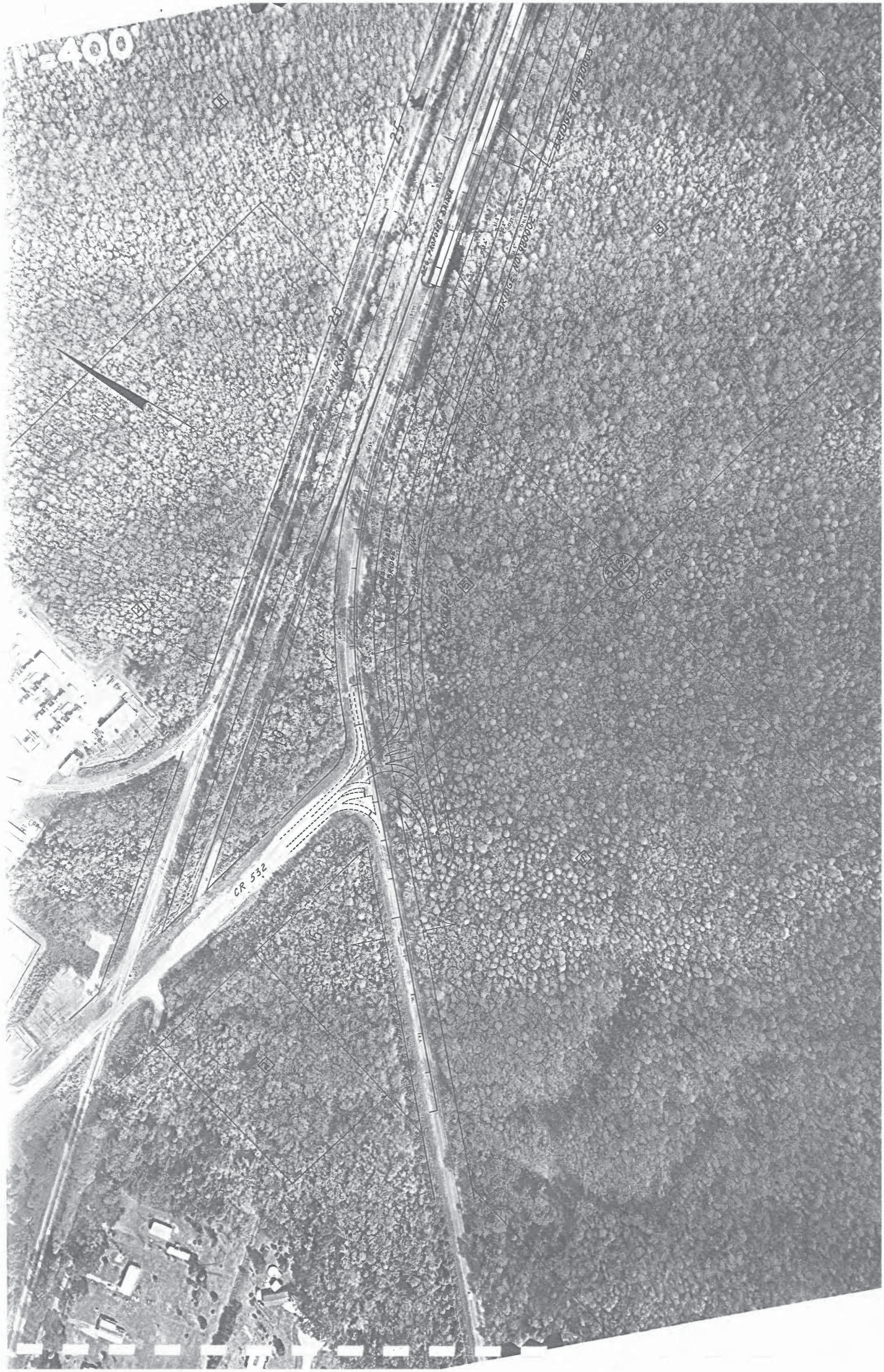
- A public hearing was held on March 22, 1994

X. COORDINATION DOCUMENTATION

The District files contain copies of actual correspondence relative to this project, generated throughout the study period. It includes interoffice memorandums, intergovernmental correspondence on the Federal, State and county levels, summaries of meetings, public hearings, and coordination with permitting agencies.

APPENDIX A





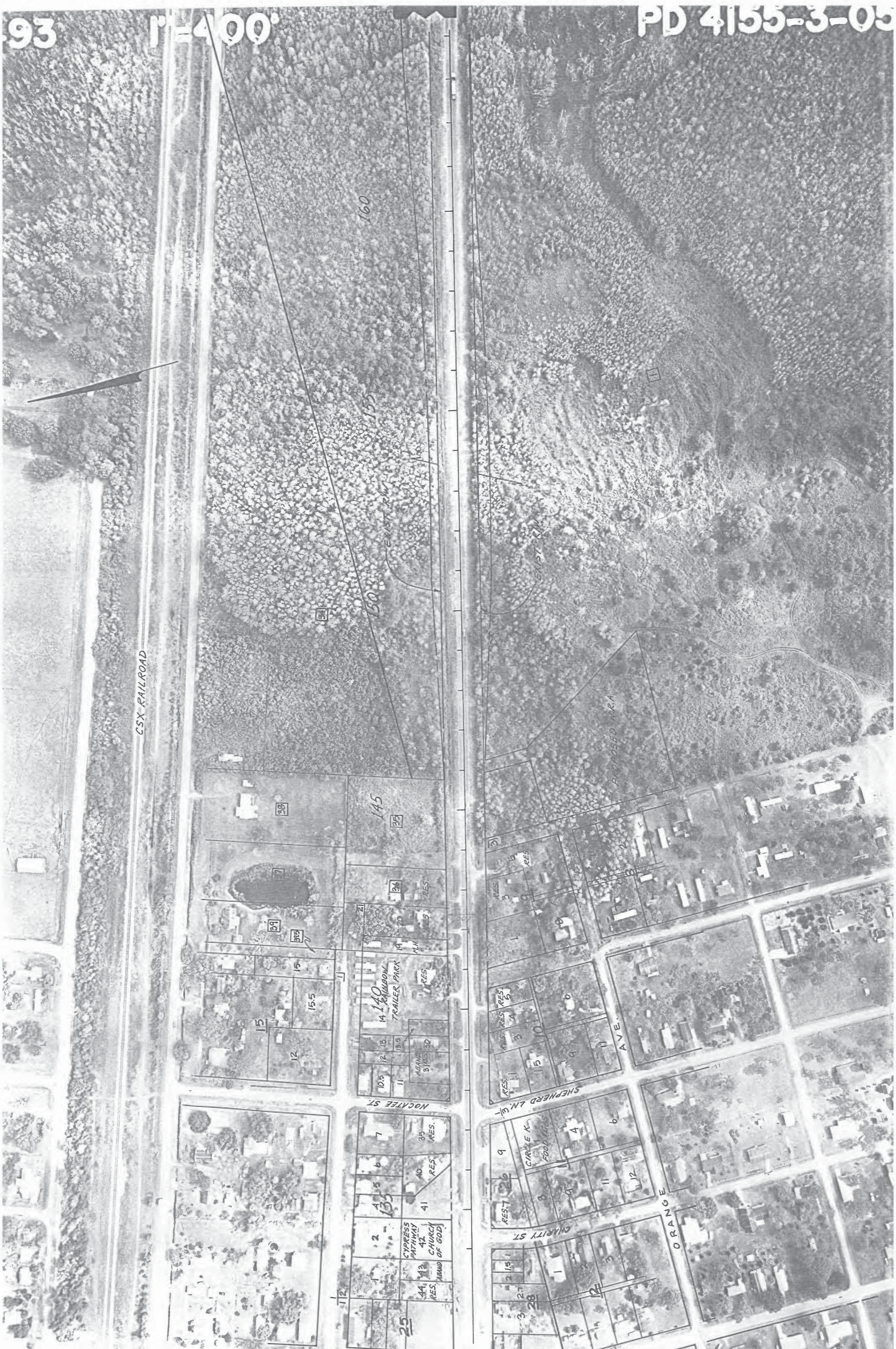
CR 532


CSX RAILROAD
OLD TAMPA HWY.
EXIST. R/W
END PROPOSED BRIDGE
PROPOSED R/W
4" PROPOSED — COMPOUND — 2" PROPOSED
19 M.H.
18 M.H.
15 RES.
14.1 RES.
30
35
40
45
50
22
400'

28-93 1"=400' PD 4155-

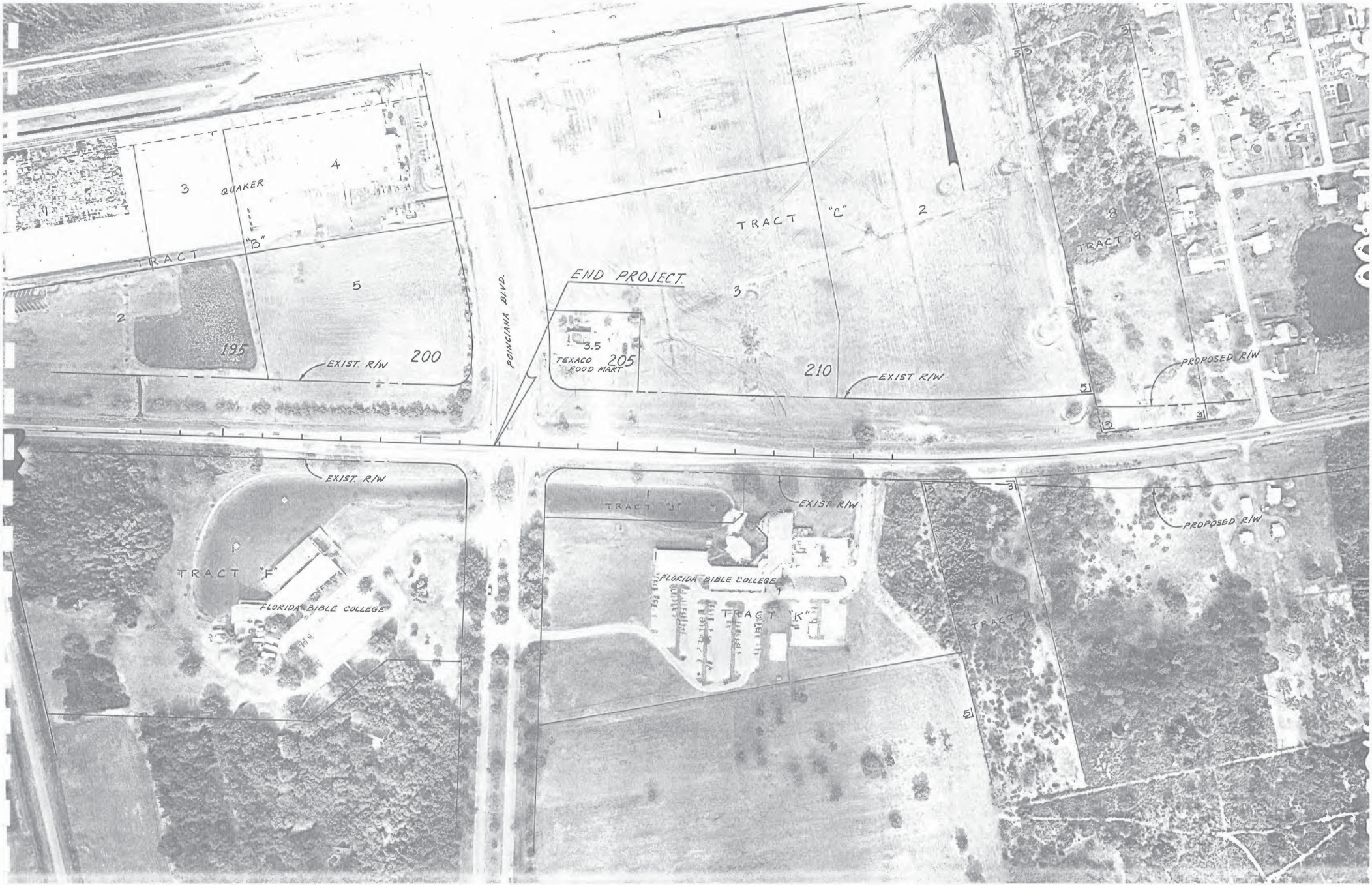

PROPOSED W.R.A.
12
100
PROPOSED R/W
RES.
95
90
80
14
15
16
PROPOSED R/W
PARKSIDE LODGE
35
31
28
27
26
RES.


CSX RAILROAD
SEC. 33
SEC. 34
MYAKKA AVE.
SUWANNEE AV.
TALLAHASSEE BLVD.
MANATEE ST.
HOPE ST.
CHRISTY ST.
PROPOSED R/W
EXIST. R/W
MULTI FAMILY RES.
6 UNITS
STORAGE
MILLERS LAKESIDE MOTEL
CYPRESS WOOD & CLOCKS
SHED
GAR.
RES.
CYPRESS PATHWAY CHURCH OF GOD
JEAYE GROCERY
SEC. 3
SEC. 4



93
1"=400'
PD 4155-3-05
CSX RAILROAD
NOCATEE ST.
SHEPHERD LN.
CHARITY ST
ORANGE AVE.
RAINBOW TRAILER PARK
CYPRESS PATHWAY
CIRCLE K FOOD STORE


93
PD 4155-3-07
AVENUE B
AVENUE B
190
185
180
175
170
165
RAILROAD SPUR
LEPRINO FOODS
"E"
TRACT
TRACT 'A'
TRACT 'D'
AVENUE A
AVENUE A
EXIST. R/W
PROPOSED WRA
CSX RAILROAD
SEC. 2


TRACT "B"
QUAKER
3
4
5
2
195
200
EXIST. R/W
POINCIANA BLVD.
END PROJECT
TRACT "C"
1
2
3
3.5
TEXACO FOOD MART
205
210
EXIST R/W
TRACT 9
8
PROPOSED R/W
51
31
TRACT "F"
FLORIDA BIBLE COLLEGE
TRACT "K"
TRACT "J"
11