FINAL NOISE STUDY REPORT

PROJECT DEVELOPMENT AND ENVIRONMENT STUDY US 19 (SR 55) FROM SOUTH OF US 98 TO CR 488 CITRUS COUNTY, FLORIDA

Work Program Item Segment No: 4058221 Federal-Aid Project No: 1852 007 P

The proposed project involves improving US 19 (SR 55) to a six-lane divided facility from US 98 to Turkey Oak Drive, and improvements to the CR 488 intersection in Citrus County. The total length of the project is approximately 18.8 miles.



Prepared for:

Florida Department of Transportation District Seven 11201 North McKinley Drive Tampa, Florida 33612-6456

May 2004

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EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) conducted a Project Development and Environment (PD&E) Study for improvement alternatives along US 19 (SR 55) from south of US 98 (milepost 1.730) to North Dunnellon Road (CR 488) (milepost 20.742) in Citrus County, Florida. The project is approximately 18.8 miles in length. The project location map (Figure 1-1) illustrates the location and limits of the PD&E Study.

This Noise Study Report documented the effect of the proposed project on traffic noise levels. Specifically, the study evaluated the traffic noise levels at the sensitive sites, documented predicted noise levels at sensitive sites, and addressed noise abatement considerations. The study was prepared in accordance with *Title 23 CFR Part 772*, <u>Procedures for Abatement of Highway Traffic Noise and Construction Noise</u> using methodology established by the FDOT in the <u>PD&E Manual</u>, *Part 2, Chapter 17* (November, 2001).

For the Build Alternative, 33 residences and 2 outdoor recreation areas (a congregational area for the Sugarmill Manor and Bicentennial Park) were predicted to experience noise levels that approach or exceed the Noise Abatement Criteria (NAC). Noise abatement measures were evaluated for these sites. An evaluation of traffic system management techniques, alignment modifications and property acquisition indicated that these abatement measures were not feasible or cost reasonable. Land use controls can be used by local planning officials to minimize development or redevelopment of noise sensitive land uses in proximity to US 19. A copy of the final Noise Study Report will be furnished to local officials to assist them in the development of compatible land uses for future development.

A noise barrier evaluation was also performed. Within the project limits, US 19 is characterized by numerous access drives and intersecting side streets. Access requirements for driveways and intersecting streets limit the length of a noise barrier. Consequently, noise barriers could not provide the minimum 5 dBA reduction at some locations. At other locations, a 5 dBA reduction could be achieved, but the number of benefited residences was small because of the gaps in the barriers needed to accommodate access to US 19. Because of the small number of benefited residences, noise barriers were not cost reasonable at locations where a 5 dBA could be achieved. Based on the noise barrier evaluation at representative areas, noise barriers were determined to not be a feasible and cost reasonable abatement measure for the 33 residences and 2 outdoor recreation areas (congregational area for the Sugarmill Manor and Bicentennial Park) with predicted noise levels that approach or exceed the NAC.

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SECTION 1 INTRODUCTION

The FDOT conducted a PD&E Study for improvement alternatives along US 19 (SR 55) from south of US 98 (milepost 1.730) to North Dunnellon Road (CR 488) (milepost 20.742) in Citrus County, Florida. The project location map (Figure 1-1) illustrates the location and limits of the PD&E Study.

This Noise Study Report documented the effect of the proposed project on traffic noise levels. Specifically, the study evaluated the traffic noise levels at the sensitive sites, documented predicted noise levels at sensitive sites, and addressed noise abatement considerations.

1.1 PURPOSE

The purpose of the PD&E Study was to provide documented environmental and engineering analyses to assist the FDOT and the Federal Highway Administration (FHWA) in reaching a decision on the type, location and conceptual design of the necessary improvements, in order to accommodate future traffic demand in a safe and efficient manner. The PD&E Study also satisfied the requirements of the National Environmental Policy Act (NEPA) and other Federal requirements in order to qualify the project for federal-aid funding of future development phases of the project.

This Study documents the need for the improvements, and presents the procedures utilized to develop and evaluate various improvement alternatives. Information relating to the engineering and environmental characteristics essential for alternatives and analytical decisions were collected. Design criteria have been established and preliminary alternatives have been developed. The comparison of alternatives was based on a variety of parameters utilizing a matrix format. This process identified the alternative that would have minimal impacts, while providing the necessary improvements. **The design year for the analysis is 2025.**

Figure 1-1 Project Location Map



1.2 PROJECT DESCRIPTION

The PD&E Study limits encompass the portion of US 19 from south of US 98 to North Dunnellon Road (CR 488) in western Citrus County (Sections 1, 12, 13, 24, and 25 of Township 20 South, Range 17 East; Sections 3, 10, 15, 22, 26, 27, 34, and 35 of Township 19 South, Range 17 East; Sections 5, 6, 8, 17, 20, 21, 22, 27, 28, and 34 of Township 18 South, Range 17 East; Sections 30 and 31 of Township 17 South, Range 17 East; and Section 25 of Township 17 South, Range 16 East). The total length of the Study is approximately 18.8 miles (mi). US 19 is primarily a north/south rural principal arterial which follows the West Coast of Florida. Within the project limits, US 19 is part of the National Highway System (NHS) and the Florida Intrastate Highway System (FIHS). The facility serves as a major evacuation route for residents in Citrus County.

For the purposes of evaluating improvement alternatives, the project was divided into six segments based on the existing and future land use, projected traffic volumes for the design year 2025, existing typical sections and available existing ROW. The project segments are as follows:

Segment 1: South of US 98 to West Green Acres Street; 4.86 mi Segment 2: West Green Acres Street to West Jump Court; 2.07 mi Segment 3: West Jump Court to West Fort Island Trail (CR 44); 4.65 mi Segment 4: West Fort Island Trail (CR 44) to NE 1st Terrace; 0.86 mi Segment 5: NE 1st Terrace to Turkey Oak Drive; 2.05 mi Segment 6: Turkey Oak Drive to North Dunnellon Road (CR 488); 4.31 mi

1.3 NEED FOR IMPROVEMENT

1.3.1 Background

The need for improvement along the proposed project was established based on the evaluation of the following:

- Current quality of traffic operations in the study area;
- The expected future quality of traffic operations along US 19 under the No-Build Alternative;
- Traffic safety statistics for the period between 1995 and 1999;
- Consistency with local government comprehensive plans; and
- The projected socioeconomic growth within the study corridor.

1.3.2 Existing Conditions

The US 19 Study corridor is functionally classified as a rural principal arterial from south of US 98 to North Dunnellon Road (CR 488). The nine existing typical sections found within all six of the project segments are shown in Figures 1-2 through 1-10.

1.3.3 Proposed Improvements

Improvements considered as part of this PD&E Study included widening US 19 from a 4, 5, and 7-lane roadway to a 6-lane divided roadway along the majority of the corridor to improve capacity, meet level of service standards, and improve safety. The roadway is currently and will remain a controlled access facility. However, the level of access control will be improved in Homosassa and Crystal River to incorporate a raised restricted median where none exists today. All signalized intersections along with CR 488 will be improved. In addition to pedestrian signals and crosswalks at each signalized intersection, a pedestrian overpass is proposed for the Crystal River bike path and over US 19 just south of US 98. The recommended typical sections for all six of the project segments are shown in Figures 1-11 through 1-16. Refer to the Final Preliminary Engineering Report for more detailed information.







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1-6



WPI SEG NO: 405822 1 FAP: 1852 007 P







WPI SEG NO: 405822 1 FAP: 1852 007 P

FIGURE 1-6

1-9







EXISTING TYPICAL SECTION

WPI SEG NO: 405822 1 FAP: 1852 007 P

1-10



COUNT

EXISTING TYPICAL SECTION WPI SEG NO: 405822 1 FAP: 1852 007 P



1-12





From South of US 98 to CR 488 **Citrus County, Florida**

EXISTING TYPICAL SECTION

WPI SEG NO: 405822 1 FAP: 1852 007 P







COUNTY

WIDENING TYPICAL SECTION WPI SEG NO: 405822 1 FAP: 1852 007 P



CITRUS

COUNT

RECOMMENDED TYPICAL SECTION

WPI SEG NO: 405822 1 FAP: 1852 007 P



WPI SEG NO: 405822 1 FAP: 1852 007 P





WPI SEG NO: 405822 1 FAP: 1852 007 P









SECTION 2 METHODOLOGY

2.1 EVALUATION PROCESS

The study was prepared in accordance with *Title 23 CFR Part 772*, <u>Procedures for</u> <u>Abatement of Highway Traffic Noise and Construction Noise¹ using methodology</u> established by the Florida Department of Transportation (FDOT) in the <u>PD&E Manual</u>², *Part 2, Chapter 17* (November, 2001). Predicted noise levels were produced using the Federal Highway Administration (FHWA) Traffic Noise Model (TNM), version 2.1.

2.2 NOISE METRICS

All measured and predicted noise levels are expressed in decibels (dB) using an "A"scale (dBA) weighting. This scale most closely approximates the response characteristics of the human ear. All noise levels are reported as hourly equivalent noise levels (L_{Aeq1h}). The L_{Aeq1h} is defined as the equivalent steady-state sound level that, in a given hourly period, contains the same acoustic energy as the time-varying sound for the same hourly period.

2.3 TRAFFIC DATA

Traffic noise is heavily dependent on traffic speed with the amount of noise generated by traffic increasing as the vehicle speed increases. Traffic data for existing and year 2025 conditions with the improvements were reviewed to determine traffic volumes that would allow traffic to flow at speeds consistent with established speed limits. To simulate high speed traffic flow, and thus "worst-case" noise conditions, level of service (LOS) C or demand traffic volumes, whichever is less, was modeled. Similarly, the "without Suncoast Parkway Phase 2" traffic scenario was chosen over the "with Suncoast Parkway Phase 2" scenario to simulate a "worst-case" noise condition.

The traffic data sheets prepared for this study are included in Appendix A. In addition, traffic data for the Existing, 2025 No-Build and Build conditions are summarized in Tables 2-1 through 2-3. The factor used to reduce the average daily traffic volumes to hourly volumes and the truck factors used to divide hourly volumes between cars, medium trucks and heavy trucks are also provided in Tables 2-1 through 2-3. The modeled hourly vehicle volumes by vehicle type and lane are provided in Appendix A. The vehicle speeds are based on posted speed limits.

	Existing Condition				
Mainline Traffic Segment	LOS C (Hourly Volumes)		Demand (Hourly Volumes)		Posted
	Peak	Off-Peak	Peak	Off-Peak	Speed (mpn)
US 19 south of US 98	2,457	2,084	674	572	60
US 19 between US 98 and W. Cardinal Street	2,457	2,084	1,031	875	60
US 19 between W. Cardinal Street and W. Yulee Drive	2,457	2,084	1,474	1,251	55
US 19 between W. Yulee Drive and CR 490A	1,720	1,459	1,777	1,507	45
US 19 between CR 490A and CR 490	1,720	1,459	1,668	1,415	45
US 19 between CR 490 and CR 494	2,457	2,084	1,560	1,323	45
US 19 between CR 494 and W. Venable Street	2,457	2,084	1,600	1,357	55
US 19 between W. Venable Street and Crystal River Plaza	2,457	2,084	1,645	1,396	55
US 19 between Crystal River Plaza and CR 44	2,457	2,084	1,720	1,459	45
US 19 between CR 44 and SE Kings Bay Drive	2,588	2,196	1,691	1,435	45
US 19 between SE Kings Bay Drive and SR 44	2,588	2,196	1,840	1,561	45
US 19 between SR 44 and NE 3rd Avenue	1,720	1,459	1,685	1,430	40
US 19 between NE 3rd Avenue and CR 495	1,720	1,459	1,622	1,377	40
US 19 between CR 495 and NW 6th Avenue	1,720	1,459	1,251	1,062	45
US 19 between NW 6th Avenue and the Crystal River Mall	1,720	1,459	1,120	950	45
US 19 between the Crystal River Mall and Turkey Oak Dr./NW 19 th Street	1,720	1,459	990	838	45
US 19 between Turkey Oak Dr./NW 19 th Street and Seven Rivers Community Hospital	2,457	2,084	880	748	45
US 19 between Seven Rivers Community Hospital and West Power Line Street	2,457	2,084	720	610	55
US 19 between West Power Line Street and CR 488	2,457	2,084	634	538	60
US 19 north of CR 488	2,457	2,084	560	474	60

Table 2-1Traffic Volumes for the Existing Condition

Notes: A factor of 10.56 percent was used to reduce daily volumes to hourly volumes.

A truck factor of 1 percent was used for medium trucks and 5 or 6% was used for heavy trucks.

Gray shading denotes volumes used in noise analysis (traffic segments without shading denote volumes that were not used in the analysis because they were not adjacent to noise sensitive sites).

	(Design Year 2025) No-Build Condition				
Mainline Traffic Segment	LOS C (Hourly Volumes)		Demand (Hourly Volumes)		Posted
	Peak	Off-Peak	Peak	Off-Peak	Speed (mpn)
US 19 south of US 98	2,457	2,084	1,012	858	60
US 19 between US 98 and W. Cardinal Street	2,457	2,084	1,900	1,612	60
US 19 between W. Cardinal Street and W. Yulee Drive	2,457	2,084	2,479	2,104	55
US 19 between W. Yulee Drive and CR 490A	1,720	1,459	2,582	2,191	45
US 19 between CR 490A and CR 490	1,720	1,459	2,422	2,055	45
US 19 between CR 490 and CR 494	2,457	2,084	2,142	1,818	45
US 19 between CR 494 and W. Venable Street	2,457	2,084	2,217	1,881	55
US 19 between W. Venable Street and Crystal River Plaza	2,457	2,084	2,285	1,939	55
US 19 between Crystal River Plaza and CR 44	2,457	2,084	2,374	2,014	45
US 19 between CR 44 and SE Kings Bay Drive	2,588	2,196	2,348	1,992	45
US 19 between SE Kings Bay Drive and SR 44	2,588	2,196	2,348	1,992	45
US 19 between SR 44 and NE 3rd Avenue	1,720	1,459	2,514	2,133	40
US 19 between NE 3rd Avenue and CR 495	1,720	1,459	2,365	2,007	40
US 19 between CR 495 and NW 6th Avenue	1,720	1,459	1,971	1,672	45
US 19 between NW 6th Avenue and the Crystal River Mall	1,720	1,459	1,508	1,280	45
US 19 between the Crystal River Mall and Turkey Oak Dr./NW 19 th Street	1,720	1,459	1,640	1,392	45
US 19 between Turkey Oak Dr./NW 19 th Street and Seven Rivers Community Hospital	2,547	2,084	1,532	1,298	45
US 19 between Seven Rivers Community Hospital and West Power Line Street	2,547	2,084	1,370	1,164	55
US 19 between West Power Line Street and CR 488	2,547	2,084	1,290	1,094	60
US 19 north of CR 488	2,547	2,084	1,040	882	60

Table 2-2Traffic Volumes for the No-Build Condition

Notes: A factor of 10.56 percent was used to reduce daily volumes to hourly volumes.

A truck factor of 1 percent was used for medium trucks and 5 or 6% was used for heavy trucks.

Gray shading denotes volumes used in noise analysis (traffic segments without shading denote volumes that were not used in the analysis because they were not adjacent to noise sensitive sites).

	(Design Year 2025) Build Condition				
Mainline Traffic Segment	LOS C (Hourly Volumes)		Demand (Hourly Volumes)		Posted Speed (mph)
	Peak	Off-Peak	Peak	Off-Peak	~ F (F)
US 19 south of US 98	2,457	2,084	1,012	858	60
US 19 between US 98 and W. Cardinal Street	3,685	3,126	1,900	1,612	60
US 19 between W. Cardinal Street and W. Yulee Drive	3,685	3,126	2,479	2,104	55
US 19 between W. Yulee Drive and CR 490A	2,588	2,196	2,582	2,191	45
US 19 between CR 490A and CR 490	2,588	2,196	2,422	2,055	45
US 19 between CR 490 and CR 494	3,685	3,126	2,142	1,818	45
US 19 between CR 494 and W. Venable Street	3,685	3,126	2,217	1,881	55
US 19 between W. Venable Street and Crystal River Plaza	3,685	3,126	2,285	1,939	55
US 19 between Crystal River Plaza and CR 44	3,685	3,126	2,374	2,014	45
US 19 between CR 44 and SE Kings Bay Drive	2,588	2,196	2,348	1,992	45
US 19 between SE Kings Bay Drive and SR 44	2,588	2,196	2,348	1,992	45
US 19 between SR 44 and NE 3rd Avenue	2,588	2,196	2,514	2,133	40
US 19 between NE 3rd Avenue and CR 495	2,588	2,196	2,365	2,007	40
US 19 between CR 495 and NW 6th Avenue	2,588	2,196	1,971	1,672	45
US 19 between NW 6th Avenue and the Crystal River Mall	2,588	2,196	1,508	1,280	45
US 19 between the Crystal River Mall and Turkey Oak Dr./NW 19 th Street	2,457	2,084	1,671	1,419	60
US 19 between Turkey Oak Dr./NW 19 th Street and Seven Rivers Community Hospital	2,457	2,084	1,532	1,298	60
US 19 between Seven Rivers Community Hospital and West Power Line Street	2,457	2,084	1,370	1,164	60
US 19 between West Power Line Street and CR 488	2,457	2,084	1,290	1,094	60
US 19 north of CR 488	2,457	2,084	1,040	882	60

Table 2-3 **Traffic Volumes for the Build Condition**

Notes:

A factor of 10.56 percent was used to reduce daily volumes to hourly volumes. A truck factor of 1 percent was used for medium trucks and 5 or 6% was used for heavy trucks.

Gray shading denotes volumes used in noise analysis (traffic segments without shading denote volumes that were not used in the analysis because they were not adjacent to noise sensitive sites).

SECTION 3 TRAFFIC NOISE ANALYSIS

3.1 NOISE SENSITIVE SITES

Noise sensitive sites are any property (owner-occupied, rented, or leased) where frequent exterior human use occurs and where a lowered noise level would be of benefit. The FHWA has established noise levels at which noise abatement must be considered for various types of noise sensitive sites. These noise levels are referred to as the Noise Abatement Criteria (NAC). As shown in Table 3-1, the NAC vary according to the activity category. Noise abatement measures are considered when predicted traffic noise levels for design year Build conditions approach or exceed the NAC. The FDOT defines "approach" as within 1 dBA of the FHWA criteria.

Noise abatement measures must also be considered if the Build Alternative is predicted to cause a substantial increase in noise at sensitive sites. A "substantial increase" is defined as an increase of 15 dBA, or more, above existing noise levels as a direct result of the transportation improvement project.

Activity Category	Leq(h)	Description of Land Use Activity Category
А	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
В	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
С	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B.
D		Undeveloped lands.
Е	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Table 3-1FHWA Noise Abatement Criteria

Source: 23 CFR Part 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise, FHWA, 2001.

US 19 bisects Homosassa, Homosassa Springs, the City of Crystal River, and unincorporated areas of Citrus County. The existing land use within the US 19 corridor consisted of residential, commercial, public/semi-public (including community facilities), conservation and open areas containing upland forests and wetlands in both rural and urban settings. There were also limited industrial, transportation and extractive uses. The existing land use is shown in Figure 3-1.

Most of the existing noise sensitive sites within the study area occurred within the following residential developments: Whispering Pines Mobile Home Park, apartments located behind Miss Jean's Emporium south of Industrial Lane, Covered Wagon RV Park, a mobile home park located south of West Elkhorn Drive, Bell Villa Mobile Home Park, Forest View Mobile Home Park, Imperial Gardens Mobile Home Park, Suncoast Mobile Home Park, and Crystal Wood Mobile Home Park. In addition to the residences associated with these developments, there were many isolated residences and small neighborhoods that were scattered throughout the study area.

In addition to the residential areas described above, noise sensitive land uses along the project corridor included the Crystal River Pre-school, eleven churches (St. Thomas the Apostle, Suncoast Baptist, Christian Center, Homosassa Church of God, St. Benedict, St. Timothy Lutheran, First Presbyterian, Baily Temple Church of God in Christ, New Life Christian Center, House of God church and a small church located along NE 2nd Avenue) and outdoor recreation areas associated with the Sugarmill Manor (assisted living facility) and Bicentennial Park. No outdoor areas of frequent human use were noted at the churches; therefore, the churches were evaluated under Activity Category E. The residences, recreation areas and school were evaluated under Activity Category B of the NAC. There were no libraries, hotel/motels or hospitals in close proximity to the project corridor that would be affected by traffic noise attributable to the project.

The designated land uses on the <u>Citrus County Comprehensive Plan 1995-2020</u>³ Future Land Use Map (Figure 3-2) indicated that future land uses would show an increase in residential, commercial, industrial, transportation, communication, utility, public/semi-

Figure 3-1 Existing Land Use Map





GRAPHICS/COREL/PD&E/US 19 CITRUS CO/ NOISE REPORT/FIG 3-1.CDR 7-11-0

Open Land Rangeland

Wetlands Other Counties



Figure 3-2 Future Land Use Map





public, recreation and open space. Likewise, the <u>City of Crystal River Comprehensive</u> <u>Plan</u>⁴ indicated that there will be a small increase in residential, commercial and public/semi public land uses and a decrease in vacant/other use. The future land use did not indicate that the existing noise sensitive uses would transition into less sensitive uses in future years.

In addition to the established residential areas, the traffic noise evaluation also considered residential areas that have been planned, designed and programmed. Field reviews were conducted in 2002 and 2003 which indicated no construction of additional noise sensitive sites has taken place. Consistent with the FDOT <u>PD&E Manual</u>, noise sensitive use for which a building permit has been granted shall be evaluated as existing noise sensitive sites. Because of the elapsed time between when the noise study is performed and when the date of public knowledge will be established, there is the potential for residential building permits to be granted subsequent to this study. Any noise analysis performed during the design phase of this project will include a review of new development and building permit dates.

Receiver points representing the noise sensitive sites were located in accordance with the <u>PD&E Manual</u>, *Part 2, Chapter 17* (November 2001), as follows:

- Receiver sites for residences and institutional uses were placed at the edge of the building closest to the major traffic noise source.
- Receivers for outdoor recreational areas were located in areas where frequent human use would commonly occur (i.e., benches, etc.).
- Where more than one noise sensitive site was clustered together, single sites were analyzed as representative of the group.
- Ground floor receiver sites were assumed to be 5 ft above the ground elevation.

The noise sensitive sites associated with the receivers are described below and all referenced street names and receiver locations can be found on the aerials in Appendix B.
East of US 19

Segment 1

- Congregational area at Sugarmill Manor (assisted living facility) located north of Delaware Street, represented by receiver R5 (aerial sheet number 2).
- 1 isolated residence located in front of Yanni's Restaurant south of Cardinal Street, represented by receiver R12 (aerial sheet number 5).
- 1 isolated residence located adjacent to Emily's Family Restaurant north of Cardinal Street, represented by receiver R14 (aerial sheet number 6).
- 3 scattered residences located to the north and south of W. Industrial Lane, represented by receivers R16, R132 and R17 (aerial sheet number 7).
- 15 residences located north of W. Industrial Lane in the Covered Wagon RV Park, represented by receivers R18 through R26 and R133 (aerial sheet number 7)
- 3 residences located along S. Kerley Way, south of W. McKinley Street, represented by receivers R27 and R28 (aerial sheet number 8).
- 2 residences located along S. Memorial Drive, north of W. McKinley Street, represented by receiver R31 (aerial sheet number 8).
- 1 residence located along S. Knobhill Terrace, represented by receiver R32 (aerial sheet number 9).

- Christian Center Church located north of W. Green Acres St, represented by receiver R34 (aerial sheet number 10).
- 12 residences located north of W. Bradshaw Street in the Homosassa Commons Apartments complex, represented by receivers R39 through R44 (aerial sheet number 11).
- 13 residences located in a mobile home park located south of W. Elkhorn Drive, represented by receivers R45 through R51, R57 and R134 through R136 (aerial sheet number 13).

• 2 residences located south of S. Canadian Way, represented by receiver R82 (aerial sheet number 14).

Segment 3

- 10 residences located along W. Longfellow Street and S. Sandburg Point, represented by receivers R85 through R88 (aerial sheet number 16).
- St. Benedict Catholic Church located south of CR 494, represented by receivers R102 and R103 (aerial sheet number 19).
- 2 residences located in the Crystalwood Court Mobile Home Park north of the Crystal River Airport, represented by receivers R112 and R113 (aerial sheet number 22).

Segment 4

• First Presbyterian Church located north of CR 44W, represented by receiver R115 (aerial sheet number 23).

- Crystal River Preschool located north of NE 1st Street, represented by receiver R116 (aerial sheet number 24).
- Bailey Temple Church of God in Christ located north of NE 2nd Street, represented by receiver R117 (aerial sheet number 24).
- Small church located east of NE 2nd Avenue, represented by receiver R123 (aerial sheet number 26).
- Single residence located west of NE 2nd Avenue, represented by receiver R121 (aerial sheet number 26).
- Benches at Bicentennial Park located west of NW 2nd Avenue, represented by receiver R124 (aerial sheet number 26).
- New Life Christian Center Church located south of the Crystal River Mall, represented by receiver R 129 (aerial sheet number 27).

West of US 19

Segment 1

- 5 residences located north and south of Maine Street, represented by receivers R1 through R4 (aerial sheet number 1).
- 1 isolated residence located south of New York Street, represented by receiver R6 (aerial sheet number 2).
- 6 residences located north of Ohio Street, represented by receiver R7 (aerial sheet number 3).
- 4 residences located south of Cardinal Street in the Whispering Pines Mobile Home Park, represented by receivers R8 through R11 (aerial sheet number 5).
- St. Thomas the Apostle Church located south of Cardinal Street, represented by receiver R13 (aerial sheet number 5).
- 4 apartment residences located south of W. Industrial Lane, represented by receivers R15, and R129 through R131 (aerial sheet number 7).
- 2 residences located between W. McKinley Street and W. Fair Acres Place, represented by receivers R29 and R30 (aerial sheet number 8).
- Suncoast Baptist Church located south of W. Cyprian Court, represented by receiver R33 (aerial sheet number 9).

- 5 residences located along S. Roebuck Street and W. Bradshaw Street, represented by receivers R35 through R37 (aerial sheet numbers 10 and 11).
- Homosassa Church of God located north of W. Bradshaw Street, represented by receiver R38 (aerial sheet number 11).
- 12 residences located north of W. Elkhorn Drive in the Bell Villa Mobile Home Park, represented by receivers R68 through R75 (aerial sheet numbers 13 and 14).

Segment 3

- 3 residences located along S. Gabin Terrace south of W. Kingston Drive, represented by receivers R83 and R84 (aerial sheet number 16).
- 2 residences located north and 2 residences located south of W. Arber Court, represented by receivers R89 and R90 (aerial sheet number 17).
- 10 residences located along W. Forestview Drive in the Forest View Mobile Home Park, represented by receivers R92 through R94 (aerial sheet number 18).
- 10 residences located north of Highland Street in the Imperial Gardens Mobile Home Park, represented by receivers R95 through R100, and R 133 (aerial sheet numbers 18 and 19).
- 7 residences located south of W. Venable Street in the Suncoast Mobile Home Park, represented by receivers R134 and R104 through R108 (aerial sheet number 20).
- St. Timothy Lutheran Church located south of W. Sue Lane, represented by receiver R111 (aerial sheet number 22).

Segment 4

• No noise sensitive sites are located west of US 19 within this segment.

- 2 residences located north of NE 2nd Street, represented by receiver R118 and R119 (aerial sheet number 24).
- 1 residence located north of NE 5th Street, represented by R120 (aerial sheet number 26).
- House of God Church located east of the Crystal River bike path, represented by receiver R122 (aerial sheet number 26).
- 1 residence located to the east and 1 residence located to the west of NW 1st Avenue, represented by receivers R126 and R125 (aerial sheet number 26).

- 1 residence located to the south of NW 6th Street, represented by receiver R127 (aerial sheet number 27).
- 3 residences located along NW Snug Harbor Road and represented by receiver R128 (aerial sheet number 27).

3.2 MODEL VALIDATION

To validate the computer noise model, field measurements were taken within the project area following procedures documented in FHWA's <u>Measurement of Highway-Related</u> <u>Noise</u>⁵. On October 8, 2002, field measurements were obtained using a Quest Q300 noise monitor. All monitoring events lasted 10 minutes. The noise monitor was calibrated using a Quest QC-10 sound level calibrator. Traffic speeds were recorded with a MPH, Model K-15 hand-held radar gun.

Site selection for model validation was based on the location of noise sensitive sites and access to monitoring sites where a representative sampling of free-flow traffic could be obtained. Traffic volumes by vehicle classification and vehicle speeds were recorded at each monitoring site. The recorded speeds indicated that traffic was typically traveling at about the posted speed.

Data for each monitoring event is provided in Table 3-2. The variance between measured and predicted noise levels is less than 3 dBA. Therefore, the noise model validation is within the accepted level of accuracy documented in the FDOT's *PD&E Manual*.

Location	Trial #	Date	Time	Field Measured Level (dBA)	Computer Predicted Level (dBA)	Variance (dBA)
Monitoring Site #1	1	10/8/02	9:20 AM	59.7	59.7	0
St. Thomas the Apostle Church West of US 19, South of	2	10/8/02	9:34 AM	60.4	59.2	1.2
Cardinal Street	3	10/8/02	9:45 AM	60.7	60.0	0.7
Monitoring Site #2	1	10/8/02	10:20 AM	61.0	63.0	2.0
Ballard Residence – East of US 19,	2	10/8/02	10:33 AM	60.5	62.5	2.0
North of Cardinal Street	3	10/8/02	10:45 AM	61.6	64.4	2.8
Monitoring Site #3	1	10/8/02	11:14 AM	65.3	67.1	1.8
Forest View Mobile Home Park –	2	10/8/02	11:25 AM	63.4	64.9	1.5
West of US 19, South of CR 494	3	10/8/02	11:36 AM	64.1	65.1	1.0

Table 3-2Noise Model Validation

3.3 PREDICTED NOISE LEVELS

The distance to the 66 dBA noise contour for the proposed improvements was estimated using the TNM computer model and previously discussed traffic volumes and speed data. The 66 dBA contour delineates the distance from the nearest proposed edge of pavement for US 19 that an approach of the NAC for Activity Category B was anticipated to occur for year 2025 Build conditions. The contour did not consider any shielding of noise provided by structures or topographic features between the receiver and the roadway. Additionally, the noise contour did not account for traffic noise from roadways other than US 19 (i.e., no intersecting streets). The distances between the edge of the nearest lane for the proposed US 19 project and the 66 dBA contour are provided in Table 3-3.

Segment of US 19	Distance to 66 dBA ¹
US 19 between US 98 and W. Cardinal Street	180 ft
US 19 between W. Cardinal Street and W. Green Acres Street	190 ft
US 19 between W. Green Acres Street and W. Yulee Drive	200 ft
US 19 between W. Yulee Drive and CR 490A	160 ft
US 19 between CR 490A and CR 490	150 ft
US 19 between CR 490 and W. Elkhorn Drive	140 ft
US 19 between W. Elkhorn Drive and W. Jump Ct.	140 ft
US 19 between W. Jump Ct and CR 494	140 ft
US 19 between CR 494 and W. Venable Street	190 ft
US 19 between W. Venable Street and Crystal River Plaza	190 ft
US 19 between Crystal River Plaza and CR 44	140 ft
US 19 between CR 44 and NE 1st Terrace	160 ft
US 19 between NE 1st Terrace and SR 44	150 ft
US 19 between SR 44 and NE 3rd Avenue	130 ft
US 19 between NE 3rd Avenue and CR 495	130 ft
US 19 between CR 495 and NW 6th Avenue	130 ft
US 19 between NW 6th Avenue and the Crystal River Mall	110 ft

Table 3-366 dBA Noise Contour for the Year 2025 Build Condition

¹The 66 dBA contour line is measured from the nearest proposed edge of pavement.

Based on the noise contour data, a review of land use data, proximity of noise sensitive sites to US 19, and field verification of noise sensitive locations, a total of 113 receivers were modeled. East of the US 19 corridor, 54 receivers representing 66 residences, 6 churches and 2 outdoor recreation areas (congregational area for Sugarmill Manor and Bicentennial Park) were modeled. West of the US 19 corridor, 59 receivers representing 82 residences and 5 churches were modeled. The noise sensitive sites represented by the receivers were discussed previously in Section 3.1 - Noise Sensitive Sites. Predicted noise levels are summarized in Tables 3-4 (receivers east of US 19) and 3-5 (receivers west of US 19).

Table 3-4Predicted Noise Levels for the US 19 (Citrus County) PD&E Study
Eastern Receivers

Receiver Identificatio	Noise Sensitive	Existing	2025 No- Build	2025 Build	Difference between Existing	NAC Approached
Sheet No.)	Represented	(UDA)	(dBA)	(dBA)	and Build (dBA)	Exceeded
	-	-	Segment	1	-	-
	Sug	garmill Mano	r (Assisted Li	ving Facility)	
R5 (A2)	Congregational area	69.3	71.9	71.5	2.2	Y
	1	Priv	ate Residence	e		1
R12 (A5)	1 residence	69.2	71.8	71.7	2.5	Y
		Priv	ate Residence	e		
R14 (A6)	1 residence	65.6	67.9	68.4	2.8	Y
$\mathbf{D}(\mathbf{A},7)$	1	Priva	ate Residence	es (7.5	2.0	N/
$\frac{\text{R16}(\text{A}/)}{\text{P17}(\text{A7})}$	1 residence	64.7	67.0	67.5	2.8	Y V
$\frac{K1}{(A/)}$	1 residence	61.7	62.0	63.0	2.8	I N
K152 (A7)	Tresidence	Covered	Wagon RV	Park	2.2	1
R18 (A7)	1 residence	69.6	71.8	717	21	Y
R19 (A7)	1 residence	68.3	70.5	70.4	2.1	Y
R20 (A7)	1 residence	66.5	68.8	68.8	2.3	Y
R21 (A7)	1 residence	64.0	66.3	66.8	2.8	Y
R22 (A7)	2 residences	63.9	66.1	66.6	2.7	Y
R23 (A7)	2 residences	62.9	65.1	65.4	2.5	N
R24 (A7)	2 residences	62.2	64.4	64.8	2.6	Ν
R25 (A7)	1 residence	63.6	65.8	66.3	2.7	Y
R26 (A7)	3 residences	62.3	64.5	65.0	2.7	N
R133 (A7)	1 residence	69.7	71.9	71.7	2.0	Y
	ſ	Priva	ate Residence	es	T	ſ
R27 (A8)	1 residence	62.6	64.9	64.7	2.1	N
R28 (A8)	2 residences	62.2	64.4	64.0	1.8	N
R31 (A8)	2 residences	61.8	64.0	63.6	1.8	N
R32 (A9)	1 residence	63.9	66.1	65.9	2.0	N
		S	egment 2	_		
D24 (4.10)	<u> </u>	Christia	in Center Chi	urch	2.0	N
R34 (A10)	Church	46.4 ⁻	48.6	49.2	2.8	Ν
D20 (A11)	2	Homosassa (Commons Ap		26	N
R39 (A11)	2 residences	60.0	62.0	62.8	2.0	IN N
R40(A11)	2 residences	60.1	62.9	62.8	2.9	N
R41(A11) R42(A11)	2 residences	60.0	62.0	62.0	2.7	N
R43 (A11)	2 residences	59.7	61.6	62.0	2.2	N
R44 (A11)	2 residences	62.8	64.9	65.3	2.5	N
	Mobile Ho	me Park Locs	ated South of	West Elkhor	rn Drive	1 - '
R45 (A13)	1 residence	71.2	72.5	73.1	1.9	Y
R46 (A13)	1 residence	70.9	72.2	73.0	2.1	Y
R47 (A13)	1 residence	67.3	68.6	69.2	1.9	Y

Table 3-4 (Cont.)Predicted Noise Levels for the US 19 (Citrus County) PD&E Study
Eastern Receivers

Receiver Identificatio	Noise Sensitive Sites	Existing (dBA)	2025 No- Build	2025 Build	Difference between Existing	NAC Approached Or					
Sheet No.)	Represented	(uDII)	(dBA)	(dBA)	and Build (dBA)	Exceeded					
R48 (A13)	1 residence	65.9	67.2	67.6	1.7	Y					
R49 (A13)	1 residence	64.2	65.6	65.9	1.7	N					
R50 (A13)	1 residence	65.4	66.8	67.1	1.7	Y					
R51 (A13)	3 residences	63.9	65.2	65.5	1.6	N					
R57 (A13)	1 residence	64.8	66.2	66.4	1.6	Y					
R134 (A13)	1 residence	71.8	73.2	74.0	2.2	Y					
R135 (A13)	1 residence	65.3	66.6	66.9	1.6	Y					
R136 (A13)	1 residence	64.3	65.6	65.8	1.5	Ν					
		Priva	ate Residence	s							
R82 (A14)	2 residences	60.8	62.2	63.2	2.4	Ν					
		S	egment 3								
		Priva	ate Residence	s							
R85 (A16)	4 residences	57.9	59.3	59.8	1.9	Ν					
R86 (A16)	4 residences	58.2	59.6	60.0	1.8	Ν					
R87 (A16)	1 residence	58.8	60.1	60.7	1.9	Ν					
R88 (A16)	1 residence	58.3	59.7	59.9	1.6	Ν					
St. Benedict Catholic Church											
R102 (A19)	Church	43.5^{1}	44.8^{1}	46.7^{1}	3.2	Ν					
R103 (A19)	Church	38.9^{1}	40.2^{1}	40.8^{1}	1.9	Ν					
		Crystalwood C	ourt Mobile	Home Park							
R112 (A22)	1 residence	62.0	63.3	65.3	3.3	N					
R113 (A22)	1 residence	60.8	62.2	62.8	2.0	Ν					
		S	egment 4								
D115(A22)	Church	First Pre	AZ C ¹	47.0^{1}	17	N					
K115 (A25)	Church	40.1	47.0	47.8	1.7	IN					
		S	egment 5	•							
		Crystal	River Presch	nool							
R116 (A24)	Preschool	62.3	63.4	63.4	1.1	N					
	E	Baily Temple (Church of Go	d in Christ	1.6						
R117 (A24)	Church	43.9	45.0 [°]	45.5	1.6	N					
		Priv	ate Residence	e							
R121 (A26)	I residence	59.7	60.1	61.1	1.4	N					
D102 (126)	<u> </u>	10 01	Church	42.1	0.2	Ъ Т					
R123 (A26)	Church	42.8	43.1	43.1	0.3	Ν					
D104 (100)		Bice	ntennial Parl	K 71.0	0.0	\$ 7					
R124 (A26)	Benches at park	68.5	69.9	71.3	2.8	Ŷ					
D100 (107)	<u> </u>	New Life Ch	ristian Cente	r Church	2.5	Ъ.Т.					
K129 (A27)	Church	38.8	40.1	41.4	2.6	N					

Represents an interior noise level. Reduced predicted noise level by 20 dBA to account for noise reduction provided by the building. The reduction factor is consistent with FHWA guidance.

Table 3-5Predicted Noise Levels for the US 19 (Citrus County) PD&E Study
Western Receivers

Receiver	Noise		2025 No-	2025	Difference between	NAC
Identification	Sensitive	Existing	Build	Build	Existing	Approached
(Aerial	Sites	(dBA)	(dBA)	(dBA)	and Build	Or
Sheet No.)	Represented		, , ,		(dBA)	Exceeded
	-	S	egment 1	-	-	-
	Privat	e Residences -	– Maine Stree	et Neighborh	ood	
R1 (A1)	2 residences	68.3	71.0	70.7	2.4	Y
R2 (A1)	1 residence	64.0	66.7	67.7	3.7	Y
R3 (A1)	1 residence	63.3	65.9	66.5	3.2	Y
R4 (A1)	1 residence	67.0	69.7	70.7	3.7	Y
R6 (A2)	1 residence	61.5	64.2	65.3	3.8	N
R7 (A3)	5 residences	59.9	62.6	61.9	2.0	Ν
	'	Whispering Pi	ines Mobile H	Iome Park	1	l.
R8 (A5)	1 residence	63.0	65.6	65.7	2.7	N
R9 (A5)	1 residence	62.0	64.7	64.8	2.8	N
R10 (A5)	1 residence	61.4	64.0	63.3	1.9	N
R11 (A5)	1 residence	61.6	64.2	64.3	2.7	Ν
		St. Thomas	the Apostle	Church		
R13 (A5)	Church	40.4	43.1	43.31	2.9	N
		A	partments		2.5	**
R15 (A'/)	l residence	64.2	66.4	66.7	2.5	Y
R129 (A7)	l residence	63.5	65.7	66.0	2.5	Ŷ
R130 (A7)	1 residence	62.7	64.9	65.2	2.5	N
R131 (A7)	1 residence	61.6	63.8	64.0	2.4	Ν
D20 (4.9)	1	Priva	ate Residence	es (4.2	2.2	N
R29 (A8)	1 residence	62.0	64.2	64.3	2.3	N N
K30 (A8)	1 residence	62.2 Supcoor	04.4	04.0	2.4	N
P33 (AQ)	Church		$\frac{16}{46}$		2.4	N
K33 (K9)	Church	++.2 C	40.4	40.0	2.4	1
		O Prive	egilient 2 ate Residence	NC .		
R35 (A10)	3 residences	61.9	64 1	64 1	2.2	N
R36 (A11)	1 residence	58.1	60.2	62.0	3.9	N
R37 (A11)	1 residence	61.9	64.1	63.8	19	N
	Trestaence	Homosas	sa Church of	f God	1.9	11
R38 (A11)	Church	440^{1}	46.2^{1}	46.6 ¹	2.6	Ν
	Church	Bell Villa	Mobile Home	e Park	2.0	11
R68 (A13)	1 residence	61.9	63.2	63.5	1.6	Ν
R69 (A13)	1 residence	59.6	60.9	61.4	1.8	N
R70 (A13)	2 residences	62.0	63.3	62.8	0.8	N
R71 (A14)	2 residences	61.3	62.6	62.9	1.6	N
R72 (A14)	1 residence	64.2	65.5	65.6	1.4	N
R73 (A14)	1 residence	63.0	64.3	64.3	1.3	N
R74 (A14)	2 residences	62.2	63.5	63.4	1.2	N
R75 (A14)	2 residences	61.1	62.5	62.7	1.6	N

Table 3-5 (Cont.)Predicted Noise Levels for the US 19 (Citrus County) PD&E Study
Western Receivers

Receiver Identification (Aerial	Noise Sensitive Sites	Existing (dBA)	2025 No- Build (dBA)	2025 Build (dBA)	Difference between Existing and Build	NAC Approached Or					
Sheet No.)	Represented				(dBA)	Exceeded					
	-	S	egment 3	-							
		Priva	ate Residence	es		_					
R83 (A16)	2 residences	62.3	63.7	63.1	0.8	N					
R84 (A16)	1 residence	62.4	63.7	63.2	0.8	N					
R89 (A17)	2 residences	61.3	62.6	63.1	1.8	N					
R90 (A17)	2 residences	60.0	61.4	61.9	1.9	N					
Forest View Mobile Home Park											
R92 (A18)	3 residences	58.8	60.2	59.9	1.1	N					
R93 (A18)	4 residences	58.6	60.0	59.6	1.0	N					
R94 (A18)	3 residences	58.5	59.9	59.5	1.0	N					
]	mperial Gard	lens Mobile H	Iome Park	1	1					
R95 (A18)	2 residences	65.1	66.5	65.8	0.7	N					
R96 (A19)	1 residence	67.9	69.3	68.7	0.8	Y					
R97 (A18)	2 residences	64.1	65.4	64.9	0.8	N					
R98 (A18)	1 residence	63.2	64.5	63.9	0.7	N					
R99 (A18)	1 residence	62.1	63.5	62.9	0.8	N					
R100 (A19)	2 residences	61.7	63.0	62.6	0.9	N					
R133 (A18)	1 residence	67.3	68.7	67.9	0.6	Y					
		Suncoast	Mobile Home	e Park		-					
R134 (A20)	1 residence	65.9	67.3	66.8	0.9	Y					
R104 (A20)	1 residence	69.8	71.2	70.9	1.1	Y					
R105 (A20)	1 residence	67.6	69.0	69.2	1.6	Y					
R106 (A20)	1 residence	66.6	68.0	67.3	0.7	Y					
R107 (A20)	2 residences	64.6	66.0	65.5	0.9	Ν					
R108 (A20)	1 residence	63.3	64.7	65.4	2.1	Ν					
		St. Timoth	y Lutheran (Church							
R111 (A22)	Church	46.9^{1}	48.3 ¹	48.5^{1}	1.6	Ν					
		S	egment 5								
		Priva	ate Residence	s							
R118 (A24)	1 residence	64.7	65.8	65.4	0.7	N					
R119 (A24)	1 residence	63.3	64.4	63.9	0.6	N					
R120 (A26)	1 residence	63.9	64.1	64.0	0.1	N					
	•	Church	n – House of (God		•					
R122 (A26)	Church	47.9^{1}	48.1^{1}	48.3 ¹	0.4	N					
		Priva	ate Residence	es							
R125 (A26)	1 residence	63.2	64.5	64.5	1.3	N					
R126 (A26)	1 residence	61.2	62.4	63.4	2.2	N					
R127 (A27)	1 residence	57.0	58.3	59.0	2.0	N					
R128 (A27)	3 residences	59.0	60.3	60.2	1.2	N					

¹ Represents an interior noise level. Reduced predicted noise level by 20 dBA to account for noise reduction provided by the building. The reduction factor is consistent with FHWA guidance.

For the 2025 Build Alternative 33 receivers representing 33 residences and 2 outdoor recreation areas were predicted to experience noise levels that approach or exceed the NAC for the Build condition.

Comparing the existing to the design year Build condition, the range of increase for the predicted noise levels is from 0.1 to 3.9 dBA. No noise sensitive sites were predicted to experience a substantial increase in traffic noise attributable to the project.

3.4 NOISE ABATEMENT TECHNIQUES

As stipulated in 23 CFR Part 772, the FHWA requires that noise abatement measures be considered if the noise level at a sensitive site approaches or exceeds the NAC. Therefore, abatement measures were evaluated for the residences with a predicted outdoor noise level of 66 dBA, or greater, for the Build alternative. Abatement measures considered included traffic system management techniques, alignment modifications, property acquisition, land use controls and noise barriers.

3.4.1 Traffic System Management Techniques

Traffic system management techniques that limit motor vehicle speeds and reduce traffic volumes can be used to abate traffic noise. However, these measures conflict with the purpose of providing a facility that can accommodate forecasted traffic volumes. For example, a substantial speed reduction on the proposed roadway would lower traffic noise levels. However, the capacity of the roadway to service traffic would also be reduced. As a major north-south route in Citrus County, reducing traffic volumes or prohibiting truck traffic is not a viable alternative. Therefore, traffic system management techniques were not considered feasible abatement measures.

3.4.2 Alignment Modifications

Alignment modification involves orientating and/or siting the roadway at sufficient distances from the noise sensitive areas so as to minimize traffic noise. Since this project involved lane additions to an existing roadway, the existing alignment dictated the proposed horizontal and vertical alignment. Making use of the existing corridor would minimize project costs and detrimental environmental/community impacts. An alignment modification that could provide a substantial noise reduction was, therefore, not a feasible or reasonable abatement measure.

3.4.3 Property Acquisition

Property acquisition of vacant land to serve as a noise buffer was not feasible due to the limited availability of vacant land in proximity to noise sensitive sites.

3.4.4 Land Use Controls

Land use controls can be used to minimize noise sensitive sites that may be affected by traffic noise. The traffic noise evaluation determined that residences within 110 to 200 ft of the nearest proposed travel lane (see Table 3-3) would experience traffic noise levels that approach or exceed the NAC. Local planning officials can use this information as a guide to minimize development of noise sensitive land uses in proximity to the proposed roadway.

3.4.5 Noise Barriers

Noise barriers reduce noise levels by blocking the sound path between a roadway and noise sensitive site. To effectively reduce traffic noise, a noise barrier must be relatively long, continuous (with no intermittent openings) and of sufficient height. On roadways

with minimal access control, such as US 19, the ability of a noise barrier to reduce noise levels can be limited by the need to accommodate access drives and side streets. Noise barriers located along the ROW line were evaluated for heights ranging from 8 to 22 ft in 2-ft increments. For a particular height, the length of the barrier was optimized to minimize cost while trying to maintain at least a 5 dBA reduction at affected noise sensitive sites. The evaluation included a preliminary line-of-sight review to ensure that safety requirements are maintained.

For a noise barrier to be considered feasible and cost reasonable, the following minimum conditions should be met:

- A noise barrier must provide a minimum noise reduction of at least 5 dBA with a design goal of 10 dBA, or more.
- The cost of the noise barrier should not exceed \$30,000 per benefited noise sensitive site. This is the upper cost limit established by FDOT. A benefited noise sensitive site is defined as a site that would experience at least a 5 dBA reduction as a result of providing a noise barrier. The current unit cost used to evaluate economic reasonableness is \$25 per square foot, which covers barrier materials and labor.

After consideration of the amount of noise reduction and cost reasonableness, other factors such as community desires, adjacent land uses and land use stability, antiquity, predicted noise level increases, safety considerations, drainage issues, utility conflicts, maintenance requirements and construction issues are also considered when evaluating the feasibility and reasonableness of providing noise barriers.

In order to analyze the effectiveness of noise barriers, the TNM model was used. Noise study areas are established by reviewing the proximity of affected noise sensitive sites to each other and grouping the sites (e.g., neighborhood, apartment complex, etc.). A noise barrier is then modeled to reduce noise levels for the group of noise sensitive sites. At each noise barrier location, the feasibility (i.e., at least a 5 dBA reduction can be achieved) is established. If feasible, then the cost reasonableness is evaluated.

Within the project limits, US 19 is characterized by numerous access drives and intersecting side streets. At any specific location, the length of a noise barrier was very limited to accommodate the access to US 19. The numerous access drives and intersecting side streets also divided the affected noise sensitive sites into numerous small groups typically composed of only one or two sites. Therefore, a noise barrier evaluation was performed for representative areas. The premise behind this approach is that if noise barriers were not feasible and cost reasonable under best-case conditions, then noise barriers would not be feasible and cost reasonable at other locations.

The grouping of affected noise sensitive sites were reviewed to identify representative areas where a noise barrier had the greatest possibility of being both feasible and cost reasonable. These areas were selected based on the following criteria:

- Area where spacing between access drives allows for longer noise barriers (the longer the potential barrier length, the greater the potential noise reduction),
- Area with a higher density of affected residences (the higher the density of residences, the lower the cost per benefited residence),
- Area where the affected residences are closer to the potential noise barrier (the decreased distance between the residence and barrier allows for a lower barrier height which will decrease the cost per benefited residence), and
- Area where the affected residences are further away from an access drive or intersecting street (the further away from the edge of the barrier the better the noise reduction).

If determined to be feasible and cost reasonable for an area, then subsequent areas were selected for noise barrier evaluation. The noise barriers that were evaluated are discussed below.

Segment 1 – East side of US 19, Sugarmill Manor outdoor recreation area north of Delaware Street

A congregational area (benches represented by receiver R5 on aerial sheet 2) associated with Sugarmill Manor (assisted living facility) was predicted to experience noise levels that approach or exceed the NAC for the Build Alternative. This noise sensitive site has characteristics similar to the residences identified as R96 and R133 (aerial sheets 18 and 19) in the Imperial Gardens Mobile Home Park. As with the residences in Imperial Gardens, the noise sensitive area is about 50 ft from the ROW and located very close to an access road that limits the noise barrier length. Based on the noise barrier evaluation for Imperial Gardens, a noise barrier would also not be a feasible abatement measure at this location.

Segment 1 - East side of US 19, Single Residence south of Cardinal Street

A single residence was predicted to experience noise levels that exceed the NAC for the Build Alternative. This residence is located in front of Yanni's Greek/Italian Seafood and Steak and was represented by receiver R12 (aerial sheet number 5). At a height of 22 ft, the maximum noise barrier height considered by FDOT, a noise barrier along the ROW did not provide at least a 5 dBA reduction to this residence. A noise barrier was not effective in this area due to the adjacent driveway which limited the length of the barrier, and close proximity of the residence to US 19. Based on the evaluation, a noise barrier was not a feasible abatement measure at this location.

Segment 1 - East side of US 19, Single Residence north of Cardinal Street

A single residence was predicted to experience noise levels that exceed the NAC for the Build Alternative. This residence is located adjacent to Emily's Family Restaurant and was represented by receiver R14 (aerial sheet number 6). There is driveway access to both the restaurant and residence from US 19. A noise barrier would be shorter than the building structure length at this location because of a driveway access. Based on the evaluation, a noise barrier was not a feasible abatement measure at this location.

Segment 1 - East side of US 19, Single Residence south of Industrial Lane

A single residence was predicted to experience noise levels that exceed the NAC for the Build Alternative. This residence (represented by R16 on aerial sheet 7) is approximately 150 ft from the ROW. At a height of 22 ft, the maximum noise barrier height considered by FDOT, a noise barrier along the ROW did not provide at least a 5 dBA reduction to this residence. A noise barrier was not effective in this area due to the large distance between US 19 and the affected residence. Based on the evaluation, a noise barrier was not a feasible abatement measure at this location.

Segment 1 - East side of US 19, Single Residence north of Industrial Lane

A single residence was predicted to experience noise levels that approach the NAC for the Build Alternative. This residence (represented by R17 on aerial sheet 7) is approximately 250 ft from the ROW, and has very similar characteristics as the residence represented by R16 on aerial sheet 7 (same property/lot frontage and large distance between US 19 and the affected residence). Based on the noise barrier evaluation for R16, a noise barrier was not a feasible abatement measure at this location.

Segment 1 - East side of US 19, Covered Wagon RV Park

Eight residences within the Covered Wagon RV Park represented by receivers R18 through R22, R25 and R133 (aerial sheet 7), were predicted to experience noise levels that approach or exceed the NAC for the Build Alternative. The analysis determined that noise barriers along the ROW could provide at least a 5 dBA reduction to only one of the eight affected residences because the access drives to the park will not allow for a continuous barrier. Additionally, the adjacent properties limited the length of each of the barriers.

The results of the noise barrier analysis are provided in Table 3-6. At heights ranging from 12 to 22 ft and combined lengths ranging between 138 and 176 ft, the two modeled barriers provided at least a 5 dBA reduction to only one of the eight affected residences with predicted noise levels that approach or exceed the NAC. The lowest barrier cost per benefited residence that could be achieved was \$48,300 for 14 ft high noise barriers with a combined length of 138 ft, which exceeds the cost criteria of \$30,000. Therefore, a noise barrier at this location was not cost reasonable.

Barrier	Num	ber of R	Resider Reductio	nces Wi on Rang	ithin a l ge	Noise	Numbe Ro	er of Benef esidences	ited	Total	Cost Per
Length ¹ (ft)	5- 5.9 dBA	6- 6.9 dBA	7- 7.9 dBA	8- 8.9 dBA	9 + dBA	Avg.	Affected	Other ²	Total	Estimated Cost	Benefited Residence
8 / N/A	0	0	0	0	0	N/A	0	0	0	N/A	N/A
10 / N/A	0	0	0	0	0	N/A	0	0	0	N/A	N/A
12 / 176	1	0	0	0	0	5.0	1	0	1	\$52,800	\$52,800
14 /138	1	0	0	0	0	5.1	1	0	1	\$48,300	\$48,300
16 / 138	1	0	0	0	0	5.2	1	0	1	\$55,200	\$55,200
18 / 138	1	0	0	0	0	5.4	1	0	1	\$62,100	\$62,100
20 / 138	1	0	0	0	0	5.5	1	0	1	\$69,000	\$69,000
22 / 138	1	0	0	0	0	5.5	1	0	1	\$75,900	\$75,900

Table 3-6Covered Wagon RV Park Barrier Analysis Results

¹ Length was optimized for a given height.

² Other refers to residences that are not affected by the project, but are benefited by the noise barrier.

Segment 2 - East side of US 19, Mobile Home Park Located South of West Elkhorn Drive

Eight residences represented by receivers R45 through R48, R50, R57, R134 and R135 (aerial sheet 13) located within this mobile home park were predicted to experience noise levels that approach or exceed the NAC for the Build Alternative. Line-of-sight and access requirements for vehicles on driveways and side streets intersecting US 19 were addressed in the noise barrier evaluation. With only 12 ft. between the edge of pavement of US 19 and the ROW, line-of-sight requirements for the commercial driveways preclude the construction of a noise barrier at this location. Because of the safety issue, a noise barrier was not a feasible measure to abate noise at this location.

Segment 5 - East side of US 19, Bicentennial Park located west of NW 2nd Avenue

Some of the facilities located within Bicentennial Park, represented by receiver R124 (aerial sheet 26), were predicted to experience noise levels that approach or exceed the

NAC for the Build Alternative. This noise sensitive site has characteristics similar to the residence identified as R16 on aerial sheet 7. Many of the park facilities are located 100 ft or more from the ROW and the barrier length would be limited to less than 100 ft by NW 22nd Avenue to the east and a spring fed creek to the west. Based on the noise barrier evaluation for R16, a noise barrier was not a feasible abatement measure at this location.

Segment 1 - West side of US 19, Maine Street Neighborhood

Five residences located north and south of Maine Street represented by receivers R1 through R4 (aerial sheet A1) were predicted to experience noise levels that approach or exceed the NAC for the Build Alternative. The analysis determined that noise barriers along the ROW could provide at least a 5 dBA reduction to all of the five affected residences. Two barriers were modeled at this location due to the residences being separated by Maine Street (one to the north and four on the south side of Maine Street).

The results of the noise barrier analysis are provided in Table 3-7. At heights ranging from 12 to 22 ft and combined lengths ranging between 475 and 676 ft, the two modeled barriers would provide at least a 5 dBA reduction to all five of the affected residences with predicted noise levels that approach or exceed the NAC. The lowest barrier cost per benefited residence that could be achieved was \$38,000 for two 16 ft high noise barriers with a combined length of 475 ft, which exceeds the cost criteria of \$30,000. Therefore, a noise barrier at this location was not cost reasonable.

Barrier	Num	ber of R	Resider Reductio	nces Wi on Rang	ithin a l ge	Noise	Numbe	er of Benef esidences	ited	Total	Cost Per
Length ¹ (ft)	5- 5.9 dBA	6- 6.9 dBA	7- 7.9 dBA	8- 8.9 dBA	9 + dBA	Avg.	Affected	fected Other ²		Estimated Cost	Benefited Residence
8 /668	0	1	1	0	1	7.1	3	0	3	\$133,600	\$44,533
10 /658	1	1	0	1	1	7.4	4	0	4	\$164,500	\$41,125
12/676	2	0	0	1	2	7.9	5	0	5	\$202,800	\$40,560
14 /576	2	0	0	1	2	8.2	5	0	5	\$201,600	\$40,320
16 /475	2	0	1	0	2	8.0	5	0	5	\$190,000	\$38,000
18 / 475	2	0	1	0	2	8.2	5	0	5	\$213,750	\$42,750
20 / 475	2	0	1	0	2	8.4	5	0	5	\$237,500	\$47,500
22 / 475	2	0	1	0	2	8.6	5	0	5	\$261,250	\$52,250

 Table 3-7

 Maine Street Neighborhood Barrier Analysis Results

¹ Length was optimized for a given height.

² Other refers to residences that are not affected by the project, but are benefited by the noise barrier.

Segment 1 - West side of US 19, Apartments

Two residences are predicted to experience noise levels that approach or exceed the NAC for the Build Alternative. These residences represented by receivers R15 and R129 (aerial sheet 7) are located behind a commercial property, which precludes construction of a noise barrier along the ROW. Based on the evaluation, a noise barrier was not a feasible abatement measure at this location.

Segment 3 - West side of US 19, Imperial Gardens Mobile Home Park

Two residences within the Imperial Gardens Mobile Home Park represented by receivers R96 and R133 (aerial sheets 18 and 19), were predicted to experience noise levels that approach or exceed the NAC for the Build Alternative. Two barriers were modeled at this location because the access drive to the park will not allow for a continuous barrier. At a height of 22 ft, noise barriers along the ROW did not provide at least a 5 dBA

reduction to the residences. Noise barriers are not effective in this area due to the opening in the barriers for the access drive and the close proximity of the adjacent properties which limited the length of the barriers. Based on the evaluation, a noise barrier was not a feasible abatement measure at this location.

Segment 3 - West side of US 19, Suncoast Mobile Home Park

Four residences within the Suncoast Mobile Home Park represented by receivers R104 through R106 and R134 (aerial sheet 20), were predicted to experience noise levels that approach or exceed the NAC for the Build Alternative. One residence is located behind a commercial property, which precludes construction of a noise barrier along the ROW. The remaining three residences have characteristics very similar to residences in the Imperial Garden Homes Mobile Home Park shown on aerial sheets 18 and 19 (residences are located near an access drive or very near the property limits of the mobile home park which limit the noise barrier length). Based on the noise barrier evaluation for Imperial Gardens, a noise barrier was not a feasible abatement measure at this location.

3.4.6 Conclusions

For the Build Alternative, 33 residences, a congregational area for Sugarmill Manor and an outdoor recreation area at Bicentennial Park were predicted to experience noise levels that approach or exceed the NAC. Noise abatement measures were evaluated for these sites. An evaluation of traffic system management techniques, alignment modifications and property acquisition indicated that these abatement measures were not feasible or reasonable. Land use controls can be used by local planning officials to minimize development or redevelopment of noise sensitive land uses in proximity to US 19. A copy of the final Noise Study Report will be furnished to local officials to assist them in the development of compatible land uses for future development. A noise barrier evaluation was also performed. Within the project limits, US 19 was characterized by numerous access drives and intersecting side streets. Access requirements for driveways and intersecting streets limit the length of a noise barrier. Consequently, noise barriers could not provide a minimum reduction at some locations. At other locations, a 5 dBA reduction could be achieved, but the number of benefited residences was small because of the gaps in the barriers to accommodate access to US 19. Because of the small number of benefited residences, noise barriers were not cost reasonable at locations where a 5 dBA reduction could be achieved. Based on the noise analysis performed to date, there are no apparent solutions available to mitigate traffic noise at 33 residences, a congregational area for Sugarmill Manor and an outdoor recreation area at Bicentennial Park.

SECTION 4 CONSTRUCTION NOISE AND VIBRATION

During the construction phase of the proposed project, short-term noise may be generated by stationary and mobile construction equipment. The construction noise will be temporary at any location and will be controlled by adherence to the most recent edition of the <u>FDOT Standard Specifications for Road and Bridge Construction</u>⁶.

Using FDOT's listing of vibration sensitive sites; residences were identified as potentially sensitive to vibration caused during construction. If during final design it is determined that provisions to control vibration are necessary, the project's construction provisions can be modified as needed.

SECTION 5 PUBLIC COORDINATION

Local officials can promote compatibility between land development and highways. A copy of this report will be provided to local agencies responsible for controlling land use.

The traffic noise evaluation determined that noise sensitive sites within 110 to 200 feet of the nearest proposed travel lane would experience traffic noise levels that approach or exceed the NAC for the Build Alternative. The distance between the nearest proposed travel lane and the 66 dBA contour (ie., approach of the NAC Activity Category B) by project segment is provided in Table 3-3. Local officials can use the noise contour data as a guide to minimize development of noise sensitive land uses in proximity to the proposed roadway.

SECTION 6 REFERENCES

- Title 23 CFR Part 772, <u>Procedures for Abatement of Highway Traffic Noise and</u> <u>Construction Noise</u>; Federal Highway Administration; April 2001.
- 2. <u>PD&E Manual</u>, Part 2, Chapter 17, Florida Department of Transportation; Tallahassee, Florida; November, 2001.
- 3. <u>Citrus County Comprehensive Plan 1995-2020</u>; Citrus County Department of Development Services; Lecanto, Florida; Revisions through December 14, 1999.
- 4. <u>City of Crystal River Comprehensive Plan;</u> Crystal River Florida; Adopted March 1998.
- 5. <u>Measurement of Highway-Related Noise</u>; Federal Highway Administration; Springfield, VA; May 1996.
- 6. <u>Standard Specifications for Road and Bridge Construction;</u> Florida Department of Transportation; Tallahassee, Florida; 2003.

APPENDICES

Appendix A:	Traffic Data
Appendix B:	Project Aerials
Appendix C:	Technical Appendix

Appendix A

Traffic Data

Existing Traffic (year 2001) - Hourly Vehicle Volume by Lane														
			Peak Dire	ction Hourly	Volumes	Off-Peak Direction Hourly Volumes							Bi-	
Mainline Traffic Segment	LOS C ADT	Demand ADT	Cars	МТ	нт	Cars	МТ	нт	% MT	% HT	K-factor	D-factor	directional Hourly	Speed (mph)
US 19 South of US 98 (2 lanes)	43000	11800	314	3	20	266	3	17	1%	6%	10.6%	54.1%	1246.08	60
US 19 between US 98 and W. Cardinal St. (2														
lanes)	43000	18050	480	5	30	407	4	26	1%	6%	10.6%	54.1%	1906.08	60
US 19 between W. Cardinal St. and W. Yulee	10000	05000		-	10	500	-		1.01	0.01	10.001		0704.40	
Dr. (2 lanes)	43000	25800	686	7	43	582	6	37	1%	6%	10.6%	54.1%	2724.48	55
US 19 between W. Yulee Dr. and CR 490A (2	00400	04400	004		50	000	-	10	4.07	0.04	10.00/	54.404	0170 50	45
lanes)	30100	31100	801	9	50	680	/	43	1%	6%	10.6%	54.1%	3178.56	45
US 19 between CR 490A and CR 490 (2	20100	20200	777	0	10	650	7	44	10/	60/	10.0%	E4 10/	2002 52	45
LIS 10 between CB 400 and CB 404 (2	30100	29200	111	0	49	659	/	41	170	0%	10.0%	54.1%	3063.52	45
US 19 Delween CR 490 and CR 494 (2	42000	27200	726	0	46	616	7	20	10/	60/	10.6%	54 10/	2002.00	45
LIS 10 between CR 404 and W. Venable St	43000	27300	720	0	40	010	/		1 70	0 %	10.0 %	54.170	2002.00	40
(2 lange)	43000	28000	745	8	47	632	7	40	19/	6%	10.6%	5/ 10/	2056.8	55
LIS 19 between W/ Venable St and Crystal	43000	20000	145	0	47	032	1	40	1 70	0 70	10.076	54.170	2930.0	- 55
River Plaza (2 lanes)	43000	28800	766	8	48	650	7	41	1%	6%	10.6%	54 1%	3041.28	55
US 19 between Crystal River Plaza and CR	40000	20000	100	0	40	000	1	41	1 70	0 /0	10.070	04.170	0041.20	
44 (2 Janes)	43000	30100	801	9	50	680	7	43	1%	6%	10.6%	54 1%	3178 56	45
US 19 between CR 44 and SE Kings Bay Dr	10000	00100	001			000		40	170	070	10.070	04.170	0170.00	40
(3 Janes)	45300	29600	525	6	33	445	5	28	1%	6%	10.6%	54 1%	3125 76	45
US 19 between SE Kings Bay Dr. and SR 44	10000	20000	010			110		20	170	0,0	10.070	011170	0120110	10
(3 Janes)	45300	32200	571	6	36	485	5	30	1%	6%	10.6%	54.1%	3400.32	45
US 19 between SR 44 and NE 3rd Ave. (2	10000	01100				100				0.00		0.11170	0.00102	
lanes)	30100	29500	792	8	42	672	7	36	1%	5%	10.6%	54.1%	3115.2	40
US 19 between NE 3rd Ave, and CR 495 (2													C	
lanes)	30100	28400	763	8	41	647	7	34	1%	5%	10.6%	54.1%	2999.04	40
US 19 between CR 495 and NW 6th Ave (2														
lanes)	30100	21900	588	6	31	499	5	27	1%	5%	10.6%	54.1%	2312.64	45
US 19 between NW 6th Ave and the Crystal										- //				
River Mall (2 Janes)	20100	10600	500	c	20	447	5	24	10/	E 0/	10.6%	E4 10/	2060 76	45
	30100	19600	526	0	28	447	5	24	1%	5%	10.6%	54.1%	2009.70	40
US 19 between the Crystal River Mall and														
Turkey Oak Dr./NW 19th St. (2 lanes)	30100	17300	465	5	25	394	4	21	1%	5%	10.6%	54.1%	1826.88	45
US 19 betweenTurkey Oak Dr./NW 19th St.														
and Seven Rivers Comm. Hospital (2 lanes)	43000	15400	414	4	22	351	4	19	1%	5%	10.6%	54.1%	1626.24	45
US 19 between Seven Rivers Comm.														
Hospital and West Power Line St. (2 lanes)	43000	12600	338	4	18	287	3	15	1%	5%	10.6%	54.1%	1330.56	55
US 19 between West Power Line St. And CR							1000							
488 (2 lanes)	43000	11100	298	3	16	253	3	13	1%	5%	10.6%	54.1%	1172.16	60
US 19 North of CR 488 (2 lanes)	43000	9800	263	3	14	223	2	12	1%	5%	10.6%	54.1%	1034.88	60

Note: traffic used was the "without Suncoast Parkway Phase 2"

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No-Build Traffic (design year 2025) - Hourly Vehicle Volume by Lane														
Mainline Traffic Segment	LOS C	Demand	Peak Dire	ection Hourly Per Lane	/ Volumes	Off-Peak Di	rection Hou Per Lane	rly Volumes	% MT	% HT	K-factor	D-factor	Bi- directional	Speed
	ADT	ADT	Cars	МТ	НТ	Cars	МТ	HT					Hourly	(mpn)
US 19 South of US 98 (2 lanes)	43000	17700	471	5	30	400	4	25	1%	6%	10.6%	54.1%	1869.12	60
US 19 between US 98 and W. Cardinal St. (2 lanes)	43000	33250	885	9	56	751	8	47	1%	6%	10.6%	54.1%	3511.2	60
US 19 between W. Cardinal St. and W. Yulee Dr. (2 lanes)	43000	43400	1144	12	72	971	10	61	1%	6%	10.6%	54.1%	4540.8	55
US 19 between W. Yulee Dr. and CR 490A (2 lanes)	30100	45200	801	9	50	680	7	43	1%	6%	10.6%	54.1%	3178.56	45
US 19 between CR 490A and CR 490 (2 lanes)	30100	42400	801	9	50	680	7	43	1%	6%	10.6%	54.1%	3178.56	45
US 19 between CR 490 and CR 494 (2 lanes)	43000	37500	998	11	63	847	9	53	1%	6%	10.6%	54.1%	3960	45
US 19 between CR 494 and W. Venable St. (2 lanes)	43000	38800	1032	11	65	876	9	55	1%	6%	10.6%	54.1%	4097.28	55
US 19 between W. Venable St.and Crystal River Plaza (2 lanes)	43000	40000	1064	11	67	903	10	57	1%	6%	10.6%	54.1%	4224	55
US 19 between Crystal River Plaza and CR 44 (2 lanes)	43000	41550	1106	12	69	938	10	59	1%	6%	10.6%	54.1%	4387.68	45
US 19 between CR 44 and SE Kings Bay Dr. (3 lanes)	45300	41100	729	8	46	619	7	39	1%	6%	10.6%	54.1%	4340.16	45
US 19 between SE Kings Bay Dr. and SR 44 (3 lanes)	45300	41100	729	8	46	619	7	39	1%	6%	10.6%	54.1%	4340.16	45
US 19 between SR 44 and NE 3rd Ave. (2 lanes)	30100	44000	808	9	43	686	7	36	1%	5%	10.6%	54.1%	3178.56	40
US 19 between NE 3rd Ave. and CR 495 (2 lanes)	30100	41400	808	9	43	686	7	36	1%	5%	10.6%	54.1%	3178.56	40
US 19 between CR 495 and NW 6th Ave (2 lanes)	30100	34500	808	9	43	686	7	36	1%	5%	10.6%	54.1%	3178.56	45
US 19 between NW 6th Ave and the Crystal River Mall (2 lanes)	30100	26400	709	8	38	601	6	32	1%	5%	10.6%	54.1%	2787.84	45
US 19 between the Crystal River Mall and Turkey Oak Dr./NW 19th St. (2 lanes)	30100	28700	771	8	41	654	7	35	1%	5%	10.6%	54.1%	3030.72	45
US 19 betweenTurkey Oak Dr./NW 19th St. and Seven Rivers Comm. Hospital (2 lanes)	43000	26800	720	8	38	611	6	32	1%	5%	10.6%	54.1%	2830.08	45
US 19 between Seven Rivers Comm. Hospital and West Power Line St. (2 lanes)	43000	24000	644	7	34	547	6	29	1%	5%	10.6%	54.1%	2534.4	55
US 19 between West Power Line St. And CR 488 (2 lanes)	43000	22600	607	6	32	515	5	27	1%	5%	10.6%	54.1%	2386.56	60
US 19 North of CR 488 (2 lanes)	43000	18200	489	5	26	415	4	22	1%	5%	10.6%	54.1%	1921.92	60

Note: traffic used was the "without Suncoast Parkway Phase 2"

Build Traffic (design year 2025) - Hourly Vehicle Volume by Lane														
Mainline Treffie Comment	LOS C	Demand	Peak Dire	ection Hourl Per Lane	y Volumes	Off-Peak Direction Hourly Volumes Per Lane				a/ 117		Dan	Bi-	Speed
Mainline Traffic Segment	ADT	ADT	Cars	МТ	НТ	Cars	МТ	нт	% M I	70 11	K-factor	D-factor	Hourly	(mph)
US 19 South of US 98 (2 lanes)	43000	17700	471	5	30	400	4	25	1%	6%	10.6%	54.1%	1869.12	60
US 19 between US 98 and W. Cardinal St. (3 lanes)	64500	33250	604	6	37	513	5	31	1%	6%	10.6%	54.1%	3511.2	60
US 19 between W. Cardinal St. and W. Yulee Dr. (3 lanes)	64500	43400	789	8	48	669	7	41	1%	6%	10.6%	54.1%	4583.04	55
US 19 between W. Yulee Dr. and CR 490A (3 lanes)	45300	45200	821	9	50	697	7	43	1%	6%	10.6%	54.1%	4773.12	45
US 19 between CR 490A and CR 490 (3 lanes)	45300	42400	771	8	47	654	7	40	1%	6%	10.6%	54.1%	4477.44	45
US 19 between CR 490 and CR 494 (3 lanes)	64500	37500	682	7	42	578	6	35	1%	6%	10.6%	54.1%	3960	45
US 19 between CR 494 and W. Venable St. (3 lanes)	64500	38800	705	7	43	598	6	37	1%	6%	10.6%	54.1%	4097.28	55
US 19 between W. Venable St.and Crystal River Plaza (3 lanes)	64500	40000	727	8	45	617	6	38	1%	6%	10.6%	54.1%	4224	55
US 19 between Crystal River Plaza and CR 44 (3 lanes)	64500	41550	755	8	46	641	7	39	1%	6%	10.6%	54.1%	4387.68	45
US 19 between CR 44 and SE Kings Bay Dr. (3 lanes)	45300	41100	729	8	46	619	7	39	1%	6%	10.6%	54.1%	4340.16	45
US 19 between SE Kings Bay Dr. and SR 44 (3 lanes)	45300	41100	729	8	46	619	7	39	1%	6%	10.6%	54.1%	4340.16	45
US 19 between SR 44 and NE 3rd Ave. (3 lanes)	45300	44000	804	8	42	682	7	36	1%	5%	10.6%	54.1%	4646.4	40
Ianes)	45300	41400	757	8	39	642	7	33	1%	5%	10.6%	54.1%	4371.84	40
lanes)	45300	34500	631	7	33	535	6	28	1%	5%	10.6%	54.1%	3643.2	45
US 19 between NW 6th Ave and the Crystal River Mall (3 lanes)	45300	26400	483	5	25	409	4	21	1%	5%	10.6%	54.1%	2787.84	45
US 19 between the Crystal River Mall and Turkey Oak Dr./NW 19th St. (3 lanes)	45300	28700	525	5	27	445	5	23	1%	5%	10.6%	54.1%	3030.72	60
US 19 betweenTurkey Oak Dr./NW 19th St. and Seven Rivers Comm. Hospital (2 lanes)	64500	26800	720	8	38	611	6	32	1%	5%	10.6%	54.1%	2830.08	60
US 19 between Seven Rivers Comm. Hospital and West Power Line St. (2 lanes)	64500	24000	644	7	34	547	6	29	1%	5%	10.6%	54.1%	2534.4	60
US 19 between West Power Line St. And CR 488 (2 lanes)	64500	22600	607	6	32	515	5	27	1%	5%	10.6%	54.1%	2386.56	60
US 19 North of CR 488 (2 lanes)	64500	18200	489	5	26	415	4	22	1%	5%	10.6%	54.1%	1921.92	60

Note: traffic used was the "without Suncoast Parkway Phase 2"

DATE: PREPARED BY: 16-Apr-02 A. Robinson

Financial Project Number	er(s):	405822 1	
Federal Aid Numbers (s	;):	1852 007 P	
Project Description:	US 19 from	n south of US 98 to CR 488	

Segment Description: US 19 south of US 98

(data sheets are to be filled out for every segment having a change in traffic parameters such as volume, posted speed, typical section, etc.)

NOTE: AADT is the LOS (C) or Demand, whichever is less.

LOS C volume obtained from FDOT 1998 Level of Service Handbook, Table 5-6 (Rural Undeveloped Areas and Cities less than 5000)

Without Suncoast Parkway Phase 2

Exis	sting Facility	No-Bui	ld (design	year)	Build (design year)		ear)
Year:	2001	Year:	2025		Year:	2025	
AADT:		AADT:			AADT:		
LOS (C)	43000	LOS (C)	43000		LOS (C)	43000	
Demand	11800	Demand	17700		Demand	17700	
Posted Speed:	60 mph	Posted Speed:	60	mph	Posted Speed:	60	mph
	100 km/h		100	km/h		100	km/h
K =	10.56 %	K =	10.56	%	K =	10.56	%
D =	54.1 %	D =	54.1	%	D =	54.1	%
T =	14 % for 24 hrs	T =	14	% for 24 hrs	T =	14	% for 24 hrs
T =	7 % Design Hr.	T =	7	% Design Hr.	T =	7	% Design Hr.
6.00	% Heavy Trucks DHV	6.00	% Heavy	Trucks DHV	6.00	% Heavy	Trucks DHV
1.00	%Medium Trucks DHV	1.00	%Medium	Trucks DHV	1.00	%Medium	Trucks DHV

With the Suncoast Parkway Phase 2

Exi	isting F	acility	No-Bui	ld (desigr	n year)	Build (design year)		/ear)
Year:	Not Ap	plicable	Year:	2025		Year:	2025	
AADT:		-	AADT:			AADT:		
LOS (C)	-		LOS (C)	43000		LOS (C)	43000	
Demand	-	_	Demand	15800		Demand	15800	
Posted Speed:	-	mph	Posted Speed:	60	mph	Posted Speed:	60	mph
	-	 km/h		100	km/h		100	km/h
K =	-	%	K =	10.56	%	K =	10.56	%
D =	-	%	D =	54.1	%	D =	54.1	%
T =	-	% for 24 hrs	T =	14	% for 24 hrs	Τ =	14	% for 24 hrs
T =	-	% Design Hr.	T =	7	% Design Hr.	T =	7	% Design Hr.
-	% Hea	vy Trucks DHV	6.00	% Heavy	Trucks DHV	6.00	% Heavy	Trucks DHV
-	%Medi	um Trucks DHV	1.00	%Medium	Trucks DHV	1.00	%Medium	n Trucks DHV

DATE: PREPARED BY:

16-Apr-02	
A. Robinson	

Financial Project Number(s):		405822 1		
Federal Aid Numbers (s):		1852 007 P		
Project Description:	US 19 from sout	h of US 98 to CR 488	_	

Segment Description: US 19 between US 98 and W. Cardinal St. (data sheets are to be filled out for every segment having a change in traffic parameters such as volume, posted speed, typical section, etc.)

NOTE: AADT is the LOS (C) or Demand, whichever is less.

LOS C volume obtained from FDOT 1998 Level of Service Handbook, Table 5-6 (Rural Undeveloped Areas and Cities less than 5000)

Without Suncoast Parkway Phase 2

Existing Facility	No-Bui	ld (design year)	Build	(design year)
Year: 2001	Year:	2025	Year:	2025
AADT:	AADT:		AADT:	
LOS (C) 43000	LOS (C)	43000	LOS (C)	64500
Demand 18050*	Demand	33250*	Demand	33250*
Posted Speed: 60 mph	Posted Speed:	60 mph	Posted Speed:	60 mph
100 km/h		100 km/h		100 km/h
K = 10.56 %	K =	10.56 %	K =	10.56 %
D = 54.1 %	D =	54.1 %	D =	54.1 %
T = 14 % for 24 hrs	T =	14 % for 24 hrs	T =	14 % for 24 hrs
T = 7 % Design Hr	. T =	7 % Design Hr.	T =	7 % Design Hr.
6.00 % Heavy Trucks DHV	6.00	% Heavy Trucks DHV	6.00	% Heavy Trucks DHV
1.00 %Medium Trucks DH	1.00	%Medium Trucks DHV	1.00	%Medium Trucks DHV

With the Suncoast Parkway Phase 2

Ex	isting F	acility	No-Bui	No-Build (design year)			l (design year)
Year:	Not Ap	plicable	Year:	2025		Year:	2025
AADT:		-	AADT:			AADT:	
LOS (C)	-		LOS (C)	43000		LOS (C)	64500
Demand	-	_	Demand	28750*		Demand	28750*
Posted Speed:	-	mph	Posted Speed:	60	mph	Posted Speed:	60 mph
	-	km/h		100	km/h		100 km/h
K =	-	%	K =	10.56	%	K =	10.56 %
D =	-	%	D =	54.1	%	D =	54.1 %
Τ=	-	% for 24 hrs	T =	14	% for 24 hrs	T =	14 % for 24 hrs
T =	-	% Design Hr.	T =	7	% Design Hr.	T =	7 % Design Hr.
-	% Hea	vy Trucks DHV	6.00	% Heavy	Trucks DHV	6.00	% Heavy Trucks DHV
-	%Med	ium Trucks DHV	1.00	%Medium	Trucks DHV	1.00	%Medium Trucks DHV

* Average of segment volumes

DATE:	
PREPARED	BY

16-Apr-02 A. Robinson

Financial Project Number(s):		405822 1	
Federal Aid Numbers (s):		1852 007 P	
Project Description:	US 19 from	n south of US 98 to CR 488	

Segment Description: US 19 between W. Cardinal St. and W. Yulee Dr. (data sheets are to be filled out for every segment having a change in traffic parameters such as volume, posted speed, typical section, etc.)

NOTE: AADT is the LOS (C) or Demand, whichever is less.

LOS C volume obtained from FDOT 1998 Level of Service Handbook, Table 5-6 (Rural Undeveloped Areas and Cities less than 5000)

Without Suncoast Parkway Phase 2

Existin	g Facility	No-Buil	d (design	year)	Build	(design y	vear)
Year:	2001	Year:	2025		Year:	2025	
AADT:		AADT:			AADT:		
LOS (C) 4	3000	LOS (C)	43000		LOS (C)	64500	
Demand 25	800*	Demand	43400*		Demand	43400*	
Posted Speed:	55 mph	Posted Speed:	55	mph	Posted Speed:	60	mph
	90 km/h		90	km/h		100	km/h
K = 1	10.56 %	K =	10.56	%	K =	10.56	%
D =	54.1 %	D =	54.1	%	D =	54.1	%
T =	14 % for 24 hrs	T =	14	% for 24 hrs	T =	14	% for 24 hrs
T =	7 % Design Hr.	T =	7	% Design Hr.	T =	7	% Design Hr.
6.00 %	Heavy Trucks DHV	6.00	% Heavy	Trucks DHV	6.00	% Heavy	Trucks DHV
1.00 %N	ledium Trucks DHV	1.00	%Medium	Trucks DHV	1.00	%Medium	Trucks DHV

With the Suncoast Parkway Phase 2

Exi	sting Fa	acility	No-Buil	d (desigr	n year)	Build (design year)		
Year:	Not Ap	plicable	Year:	2025		Year:	2025	
AADT:		_	AADT:			AADT:		
LOS (C)	-		LOS (C)	43000		LOS (C)	64500	
Demand	-	_	Demand	36250*		Demand	36250*	
Posted Speed:	-	mph	Posted Speed:	55	mph	Posted Speed:	60 mph	
	-	km/h		90	km/h		100 km/h	
K =		%	К =	10.56	%	K =	10.56 %	
D =	-	~%	D =	54.1	%	D =	54.1 %	
Τ=	-	% for 24 hrs	T =	14	% for 24 hrs	T =	14 % for 24 hrs	
Τ =	-	% Design Hr.	T =	7	% Design Hr.	T =	7 % Design Hr.	
-	% Heav	vy Trucks DHV	6.00	% Heavy	Trucks DHV	6.00	% Heavy Trucks DHV	
-	%Medi	um Trucks DHV	1.00	%Medium	Trucks DHV	1.00	%Medium Trucks DHV	

* Average of segment volumes

DATE: PREPARED BY:

16-Apr-02	
A. Robinson	

Financial Project Number(s):		405822 1	
Federal Aid Numbers ((s):	1852 007 P	
Project Description:	US 19 fro	m south of US 98 to CR 488	

Segment Description: US 19 between W. Yulee Dr. and W. Grover Cleveland Blvd. / W. Halls River Rd. (CR 490A) (data sheets are to be filled out for every segment having a change in traffic parameters such as volume, posted speed, typical section, etc.)

NOTE: AADT is the LOS (C) or Demand, whichever is less.

LOS C volume obtained from FDOT 1998 Level of Service Handbook, Table 5-6 (Rural Undeveloped Areas and Cities less than 5000)

Without Suncoast Parkway Phase 2

Exis	ting Facility	No-Buil	d (design year)	Build (design year)		
Year:	2001	Year:	2025	Year:	2025	
AADT:		AADT:		AADT:		
LOS (C)	30100	LOS (C)	30100	LOS (C)	45300	
Demand	31100	Demand	45200	Demand	45200	
Posted Speed:	45 mph	Posted Speed:	45 mph	Posted Speed:	45 mph	
	70 km/h		70 km/h		70 km/h	
K =	10.56 %	K =	10.56 %	K =	10.56 %	
D =	54.1 %	D =	54.1 %	D =	54.1 %	
Т = Т	14 % for 24 hrs	T =	14 % for 24 hrs	T =	14 % for 24 hrs	
Т =	7 % Design Hr.	T =	7 % Design Hr.	T =	7 % Design Hr.	
6.00	% Heavy Trucks DHV	6.00	% Heavy Trucks DHV	6.00	% Heavy Trucks DHV	
1.00	Medium Trucks DHV	1.00	%Medium Trucks DHV	1.00	%Medium Trucks DHV	

With the Suncoast Parkway Phase 2

Existing Facility			No-Build (design year)			Build (design year)		
Year: Not Applicable			Year:	2025		Year:	2025	
AADT:			AADT:			AADT:		
LOS (C)	-		LOS (C)	30100		LOS (C)	45300	
Demand	-		Demand	39400		Demand	39400	
Posted Speed:	-	mph	Posted Speed:	45	mph	Posted Speed:	45	mph
	-	km/h		70	km/h		70	km/h
K =	-	%	K =	10.56	%	K =	10.56	%
D =	-	%	D =	54.1	%	D =	54.1	%
T =	-	% for 24 hrs	Τ =	14	% for 24 hrs	T =	14	% for 24 hrs
T =	-	% Design Hr.	T =	7	% Design Hr.	T =	7	% Design Hr.
	% Hea	vy Trucks DHV	6.00	% Heavy	Trucks DHV	6.00	% Heavy	Trucks DHV
- %Medium Trucks DHV		1.00 %Medium Trucks DHV			1.00 %Medium Trucks DHV			

DATE:	
PREPARED	BY

16-Apr-02 A. Robinson

Financial Project Num	ber(s):	405822 1
Federal Aid Numbers	(s):	1852 007 P
Project Description:	US 19 from	south of US 98 to CR 488

Segment Description: US 19 between W. Grover Cleveland Blvd. / W. Halls River Rd. (CR 490A) and

W. Homosassa Tr. (CR 490) (data sheets are to be filled out for every segment having a change in traffic parameters such as volume, posted speed, typical section, etc.)

NOTE: AADT is the LOS (C) or Demand, whichever is less.

LOS C volume obtained from FDOT 1998 Level of Service Handbook, Table 5-6 (Rural Undeveloped Areas and Cities less than 5000)

Without Suncoast Parkway Phase 2

Existing Facility		No-Build	d (design year)	Build (design year)		
Year: 2001		Year:	2025	Year:	2025	
AADT:		AADT:		AADT:		
LOS (C)	30100	LOS (C)	30100	LOS (C)	45300	
Demand	29200	Demand	42400	Demand	42400	
Posted Speed:	45 mph	Posted Speed:	45 mph	Posted Speed:	45 mph	
	70 km/h		70 km/h	-	70 km/h	
K =	10.56 %	K =	10.56 %	K =	10.56 %	
D =	54.1 %	D =	54.1 %	D =	54.1 %	
Τ =	14 % for 24 hrs	T =	14 % for 24 hrs	T =	14 % for 24 hrs	
Т = Т	7 % Design Hr.	T =	7 % Design Hr.	T =	7 % Design Hr.	
6.00 % Heavy Trucks DHV		6.00 % Heavy Trucks DHV		6.00 % Heavy Trucks DHV		
1.00 %Medium Trucks DHV		1.00 %Medium Trucks DHV		1.00 %Medium Trucks DHV		

With the Suncoast Parkway Phase 2

Existing Facility			No-Build (design year)			Build (design year)		
Year: Not Applicable		Year:	2025		Year:	2025		
AADT:			AADT:			AADT:	4	
LOS (C)	-		LOS (C)	30100		LOS (C	45300	
Demand	-		Demand	37000		Demand	37000	
Posted Speed:	-	mph	Posted Speed:	45	mph	Posted Speed	45	mph
	-	km/h		70	km/h		70	km/h
K =	-	%	K =	10.56	%	K =	10.56	%
D =	-	%	D =	54.1	%	D =	54.1	%
T =	-	% for 24 hrs	T =	14	% for 24 hrs	T =	14	% for 24 hrs
T =	-	% Design Hr.	T =	7	% Design Hr.	T =	7	% Design Hr.
-	% He	eavy Trucks DHV	6.00	% Heavy	Trucks DHV	6.00	% Heavy	Trucks DHV
- %Medium Trucks DHV		1.00	%Medium	Trucks DHV	1.00	%Medium	n Trucks DHV	
DATE: PREPARED BY: 16-Apr-02 A. Robinson

Financial Project Num	ber(s):	405822 1
Federal Aid Numbers	(s):	1852 007 P
Project Description:	US 19	from south of US 98 to CR 488

Segment Description: US 19 between W. Homosassa Tr. (CR 490) and W. Ozello Tr. (CR 494) (data sheets are to be filled out for every segment having a change in traffic parameters such as volume, posted speed, typical section, etc.)

NOTE: AADT is the LOS (C) or Demand, whichever is less.

LOS C volume obtained from FDOT 1998 Level of Service Handbook, Table 5-6 (Rural Undeveloped Areas and Cities less than 5000)

Without Suncoast Parkway Phase 2



With the Suncoast Parkway Phase 2

Ex	isting F	acility	No-Bui	ld (design y	year)	Bu	uild (desi	gn year)
Year:	Not Ap	plicable	Year:	2025		Year:	2	2025
AADT:		_	AADT:			AADT:		
LOS (C)	-		LOS (C)	43000		LOS	(C) 64	500
Demand	-		Demand	33050*		Dema	and 3305	0*
Posted Speed:	-	mph	Posted Speed:	45 m	nph	Posted Spe	ed:	45 mph
	-	km/h		70 k	m/h			70 km/h
К =	-	%	K =	10.56 %	6	ł	< = 10	0.56 %
D =	-	%	D =	54.1 %	6	[) = (54.1 %
Τ=	-	% for 24 hrs	T =	14 %	6 for 24 hrs		Τ =	14 % for 24 hrs
Τ=	-	% Design Hr.	T =	7 %	6 Design Hr.		T =	7 % Design Hr.
-	% Hea	vy Trucks DHV	6.00	% Heavy Tr	rucks DHV	6.	.00 % He	avy Trucks DHV
-	%Medi	um Trucks DHV	1.00	%Medium 1	Frucks DHV	1.	.00 %Me	dium Trucks DHV

*Average of segment volume

DATE: PREPARED BY: 16-Apr-02 A. Robinson

Financial Project Numb	per(s):	405822 1
Federal Aid Numbers (s):	1852 007 P
Project Description:	US 19 fr	rom south of US 98 to CR 488

Segment Description: US 19 between W. Ozello Tr.(CR 494) and W. Venable St. (data sheets are to be filled out for every segment having a change in traffic parameters such as volume, posted speed, typical section, etc.)

NOTE: AADT is the LOS (C) or Demand, whichever is less.

LOS C volume obtained from FDOT 1998 Level of Service Handbook, Table 5-6 (Rural Undeveloped Areas and Cities less than 5000)

Without Suncoast Parkway Phase 2



Exis	sting F	acility	No-Build	d (design year)	Build (design year)
Year: I	Not Ap	plicable	Year:	2025	Year:	2025
AADT:		_	AADT:		AADT:	
LOS (C)	-		LOS (C)	43000	LOS (C)	64500
Demand	-		Demand	33600	Demand	33600
Posted Speed:	-	mph	Posted Speed:	55 mph	Posted Speed:	60 mph
_	-	km/h		90 km/h	-	100 km/h
K =	-	%	K =	10.56 %	K =	10.56 %
D =	-	%	D =	54.1 %	D =	54.1 %
Т = Т	-	% for 24 hrs	T =	14 % for 24 hrs	T =	14 % for 24 hrs
T = T	-	% Design Hr.	T =	7 % Design Hr.	T =	7 % Design Hr.
	% Hea	vy Trucks DHV	6.00 9	% Heavy Trucks DHV	6.00	% Heavy Trucks DHV
	%Medi	um Trucks DHV	1.00 9	Medium Trucks DHV	1.00 9	%Medium Trucks DHV

DATE:	
PREPARED	BY

16-Apr-02 A. Robinson

Financial Project Numb	er(s):	405822 1
Federal Aid Numbers (s):	1852 007 P
Project Description:	US 1	9 from south of US 98 to CR 488

Segment Description: US 19 between W. Venable St. and Crystal River Plaza (data sheets are to be filled out for every segment having a change in traffic parameters such as volume, posted speed, typical section, etc.)

NOTE: AADT is the LOS (C) or Demand, whichever is less.

LOS C volume obtained from FDOT 1998 Level of Service Handbook, Table 5-6 (Rural Undeveloped Areas and Cities less than 5000)

Without Suncoast Parkway Phase 2

Exis	sting Facility	No-Build	d (design year)	Build	(design year)
Year:	2001	Year:	2025	Year:	2025
AADT:		AADT:		AADT:	
LOS (C)	43000	LOS (C)	43000	LOS (C)	64500
Demand	28800	Demand	40000	Demand	40000
Posted Speed:	55 mph	Posted Speed:	55 mph	Posted Speed:	60 mph
-	90 km/h		90 km/h		100 km/h
K =	10.56 %	K =	10.56 %	K =	10.56 %
D =	54.1 %	D =	54.1 %	D =	54.1 %
T =	14 % for 24 hrs	T =	14 % for 24 hrs	T =	14 % for 24 hrs
Τ=	7 % Design Hr.	T =	7 % Design Hr.	T =	7 % Design Hr.
6.00	% Heavy Trucks DHV	6.00 9	% Heavy Trucks DHV	6.00	% Heavy Trucks DHV
1.00	%Medium Trucks DHV	1.00 9	%Medium Trucks DHV	1.00 9	%Medium Trucks DHV

Exi	isting F	acility	No-Buil	d (design	year)	Build	d (design y	(ear)
Year:	Not Ap	oplicable	Year:	2025		Year:	2025	
AADT:		<u> </u>	AADT:			AADT:		
LOS (C)	-		LOS (C)	43000		LOS (C) 64500	
Demand	-		Demand	35800		Demano	35800	
Posted Speed:	-	mph	Posted Speed:	55	mph	Posted Speed	: 60	mph
	-	km/h		90	km/h		100	km/h
K =	-	%	K =	10.56	%	K =	10.56	%
D =	-	%	D =	54.1	%	D =	54.1	%
Τ=	-	% for 24 hrs	T =	14	% for 24 hrs	T =	= 14	% for 24 hrs
Τ=	-	% Design Hr.	T =	7	% Design Hr.	T =	7	% Design Hr.
-	% Hea	vy Trucks DHV	6.00	% Heavy	Trucks DHV	6.00) % Heavy	Trucks DHV
-	%Med	ium Trucks DHV	1.00 9	%Medium	Trucks DHV	1.00) %Medium	n Trucks DHV
						1		

DATE:	16-Apr-02
PREPARED BY:	A. Robins

on

Financial Project Numb	er(s):	405822 1
Federal Aid Numbers (s	5):	1852 007 P
Project Description:	US 19 fro	m south of US 98 to CR 488

Segment Description: US 19 between Crystal River Plaza and S.E. 8th Ave. W. Fort Island TR. (CR 44) (data sheets are to be filled out for every segment having a change in traffic parameters such as volume, posted speed, typical section, etc.)

NOTE: AADT is the LOS (C) or Demand, whichever is less.

LOS C volume obtained from FDOT 1998 Level of Service Handbook, Table 5-6 (Rural Undeveloped Areas and Cities less than 5000)

Without Suncoast Parkway Phase 2



With the Suncoast Parkway Phase 2

Exi	isting	Facility	No-Buil	d (desigr	n year)	Build	(design year)
Year:	Not A	pplicable	Year:	2025		Year:	2025
AADT:			AADT:			AADT:	
LOS (C)	-		LOS (C)	43000		LOS (C)	64500
Demand			Demand	37300*		Demand	37300*
Posted Speed:	-	mph	Posted Speed:	45	mph	Posted Speed:	60 mph
	-	km/h		70	km/h		100 km/h
K =	-	%	K =	10.56	%	K =	10.56 %
D =	-	%	D =	54.1	%	D =	54.1 %
Τ =	-	% for 24 hrs	T =	14	% for 24 hrs	T =	14 % for 24 hrs
T =	-	% Design Hr.	T =	7	% Design Hr.	T =	7 % Design Hr.
-	% He	avy Trucks DHV	6.00	% Heavy	Trucks DHV	6.00	% Heavy Trucks DHV
-	%Me	dium Trucks DHV	1.00	%Medium	Trucks DHV	1.00	%Medium Trucks DHV

* Average of segment volumes

DATE: PREPARED BY: 16-Apr-02 A. Robinson

Financial Project Num	ber(s):	405822 1
Federal Aid Numbers	(s):	1852 007 P
Project Description:	US 19 from	south of US 98 to CR 488

Segment Description: US 19 between S.E. 8th Ave. / W. Fort Island Tr. (CR 44) and S.E. Kings Bay Dr. (data sheets are to be filled out for every segment having a change in traffic parameters such as volume, posted speed, typical section, etc.)

NOTE: AADT is the LOS (C) or Demand, whichever is less.

LOS C volume obtained from EDOT 1998 Level of Service Handbook, Table 5-6 (Rural Undeveloped Areas and Cities less than 5000)

Without Suncoast Parkway Phase 2



Existing Facility		No-Build (design year)		Build	Build (design year)	
Year:	Not Ap	oplicable	Year:	2025	Year:	2025
AADT:			AADT:		AADT:	
LOS (C)	-		LOS (C)	45300	LOS (C)	45300
Demand	-		Demand	35700	Demand	35700
Posted Speed:	-	mph	Posted Speed:	45 mph	Posted Speed:	45 mph
	-	km/h		70 km/h		70 km/h
K =	-	%	K =	10.56 %	K =	10.56 %
D =	-	%	D =	54.1 %	D =	54.1 %
Τ =	-	% for 24 hrs	T =	14 % for 24 hrs	T =	14 % for 24 hrs
Τ =	-	% Design Hr.	T =	7 % Design H	r. T = T	7 % Design Hr.
-	% Hea	avy Trucks DHV	6.00	% Heavy Trucks DHV	6.00	% Heavy Trucks DHV
-	%Med	ium Trucks DHV	1.00	%Medium Trucks DH\	1.00	%Medium Trucks DHV

DATE:	
PREPARED	BY

16-Apr-02 A. Robinson

Financial Project Number	r(s): 405822 1	
Federal Aid Numbers (s	1852 007 P	
Project Description:	US 19 from south of US 98 to CR 4	88

Segment Description: US 19 between S.E. Kings Bay Dr. and SR 44 (data sheets are to be filled out for every segment having a change in traffic parameters such as volume, posted speed, typical section, etc.)

NOTE: AADT is the LOS (C) or Demand, whichever is less.

LOS C volume obtained from FDOT 1998 Level of Service Handbook, Table 5-6 (Rural Undeveloped Areas and Cities less than 5000)

Without the Suncoast Parkway



Existing Facility		No-Build (design year)		Build (design year)				
Year:	Not Ap	plicable	Year:	2025		Year:	2025	
AADT:		_	AADT:			AADT:		
LOS (C)	-		LOS (C)	45300		LOS (C)	45300	
Demand	-		Demand	35700		Demand	35700	
Posted Speed:	-	mph	Posted Speed:	45 r	mph	Posted Speed:	45 1	mph
	-	km/h		70 H	km/h		70 1	km/h
K =	-	%	K =	10.56	%	K =	10.56	%
D =	-	- %	D =	54.1 9	%	D =	54.1	%
T =	-	% for 24 hrs	T =	14 9	% for 24 hrs	T =	14	% for 24 hrs
Τ =	-	% Design Hr.	T =	7 9	% Design Hr.	Τ =	7	% Design Hr.
	% Hea	vy Trucks DHV	6.00	% Heavy T	rucks DHV	6.00	% Heavy 1	Frucks DHV
-	%Medi	um Trucks DHV	1.00 9	%Medium	Trucks DHV	1.00	%Medium	Trucks DHV

DATE: PREPARED BY: 16-Apr-02 A. Robinson

Financial Project Num	ber(s):	405822 1
Federal Aid Numbers	(s):	1852 007 P
Project Description:	US 19 from	n south of US 98 to CR 488

Segment Description: US 19 between SR 44 and N.E. 3rd Ave. (data sheets are to be filled out for every segment having a change in traffic parameters such as volume, posted speed, typical section, etc.)

NOTE: AADT is the LOS (C) or Demand, whichever is less.

LOS C volume obtained from FDOT 1998 Level of Service Handbook, Table 5-6 (Rural Undeveloped Areas and Cities less than 5000)

Without Suncoast Parkway Phase 2



Existing Facility			No-Build (design year)		Build (design year)		
Year:	Not A	pplicable	Year:	2025		Year:	2025
AADT:			AADT:			AADT:	
LOS (C)	-		LOS (C)	30100		LOS (C)	45300
Demand	-		Demand	37000		Demand	37000
Posted Speed:	-	mph	Posted Speed:	40	mph	Posted Speed:	45 mph
	-	km/h		60	km/h	-	70 km/h
K =	-	%	K =	10.56	%	K =	10.56 %
D =	-	%	D =	54.1	%	D =	54.1 %
T =	-	% for 24 hrs	T =	12	% for 24 hrs	T =	12 % for 24 hrs
T =	-	% Design Hr.	T =	6	% Design Hr.	T =	6 % Design Hr.
-	% Hea	avy Trucks DHV	5.00	% Heavy	Trucks DHV	5.00	% Heavy Trucks DHV
-	%Mec	ium Trucks DHV	1.00 9	%Medium	Trucks DHV	1.00	%Medium Trucks DHV

DATE:		
PREPARE	D	BY

16-Apr-02 A. Robinson

Financial Project Numl	per(s):	405822 1
Federal Aid Numbers (s):	1852 007 P
Project Description:	US 19	from south of US 98 to CR 488

Segment Description: US 19 between N.E. 3rd Ave. and N. Citrus Ave. (CR 495) (data sheets are to be filled out for every segment having a change in traffic parameters such as volume, posted speed, typical section, etc.)

NOTE: AADT is the LOS (C) or Demand, whichever is less.

LOS C volume obtained from FDOT 1998 Level of Service Handbook, Table 5-6 (Rural Undeveloped Areas and Cities less than 5000)

Without Suncoast Parkway Phase 2



Year: AADT:	2025	Year:	2025
AADT:		AADT.	
109/01		AADI.	
LUS (U)	30100	LOS (C)	45300
Demand	35900	Demand	35900
Posted Speed:	40 mph	Posted Speed:	45 mph
	60 km/h		70 km/h
K =	10.56 %	K =	10.56 %
D =	54.1 %	D =	54.1 %
s T =	12 % for 24 hrs	T =	12 % for 24 hrs
Hr. T =	6 % Design Hr.	T =	6 % Design Hr
V 5.00 9	% Heavy Trucks DHV	5.00	% Heavy Trucks DHV
HV9	%Medium Trucks DHV	1.00	%Medium Trucks DHV
	Demand Posted Speed: B T T T V 5.00 HV	$\begin{array}{c c} Demand & 35900\\ \hline Demand & 35900\\ \hline Posted Speed: & 40 mph\\ & & 60 \ \text{km/h}\\ \hline K = & 10.56 \ \%\\ D = & 54.1 \ \%\\ \hline S & T = & 12 \ \% \ \text{for 24 hrs}\\ \hline \text{Hr.} & T = & 6 \ \% \ \text{Design Hr.}\\ \hline V & & 5.00 \ \% \ \text{Heavy Trucks DHV}\\ \hline \text{HV} & & 1.00 \ \% \ \text{Medium Trucks DHV}\\ \end{array}$	Demand 35900 Demand Posted Speed: 40 mph Posted Speed: 60 km/h K = 10.56 % D = 54.1 % D = s T = 12 % for 24 hrs T = Hr. T = 6 % Design Hr. T = V 5.00 % Heavy Trucks DHV 5.00 HV 1.00 % Medium Trucks DHV 1.00

DATE: PREPARED BY: 16-Apr-02 A. Robinson

Financial Project Numb	er(s):	405822 1
Federal Aid Numbers (s):	1852 007 P
Project Description:	US 19 from	south of US 98 to CR 488

Segment Description: US 19 between N.Citrus Ave. (CR 495) and N.W. 6th Ave. (data sheets are to be filled out for every segment having a change in traffic parameters such as volume, posted speed, typical section, etc.)

NOTE: AADT is the LOS (C) or Demand, whichever is less.

LOS C volume obtained from FDOT 1998 Level of Service Handbook, Table 5-6 (Rural Undeveloped Areas and Cities less than 5000)

Without Suncoast Parkway Phase 2



Existing Facility		No-Build (design year)		Build	Build (design year)	
Year:	Not Ap	plicable	Year:	2025	Year:	2025
AADT:			AADT:		AADT:	
LOS (C)	-		LOS (C)	30100	LOS (C)	45300
Demand	-	_	Demand	29000	Demand	29000
Posted Speed:	-	mph	Posted Speed:	45 mph	Posted Speed:	45 mph
	-	km/h		70 km/h		70 km/h
K =	-	%	K =	10.56 %	K =	10.56 %
D =	-	%	D =	54.1 %	D =	54.1 %
T =	-	% for 24 hrs	T =	12 % for 24 hrs	T =	12 % for 24 hrs
T =	-	% Design Hr.	T =	6 % Design H	r. T =	6 % Design Hr.
-	% Hea	vy Trucks DHV	5.00	% Heavy Trucks DHV	5.00	% Heavy Trucks DHV
-	%Med	ium Trucks DHV	1.00	%Medium Trucks DH\	1.00	%Medium Trucks DHV

DATE:	
PREPARED	BY

16	5-Apr-02	
Α.	Robinson	

Financial Project Numb	er(s):	405822 1
Federal Aid Numbers (s):	1852 007 P
Project Description:	US 1	9 from south of US 98 to CR 488

Segment Description: US 19 between N.W. 6th Ave. and Crystal River Mall (data sheets are to be filled out for every segment having a change in traffic parameters such as volume, posted speed, typical section, etc.)

NOTE: AADT is the LOS (C) or Demand, whichever is less.

LOS C volume obtained from FDOT 1998 Level of Service Handbook, Table 5-6 (Rural Undeveloped Areas and Cities less than 5000)

Without Suncoast Parkway Phase 2

Existing Facility		No-Build	d (design year)	Build ((design year)
Year:	2001	Year:	2025	Year:	2025
AADT:		AADT:		AADT:	
LOS (C)	30100	LOS (C)	30100	LOS (C)	45300
Demand	19600	Demand	26400	Demand	26400
Posted Speed:	45 mph	Posted Speed:	45 mph	Posted Speed:	45 mph
	70 km/h		70 km/h		70 km/h
K =	10.56 %	K =	10.56 %	K =	10.56 %
D =	54.1 %	D =	54.1 %	D =	54.1 %
T =	12 % for 24 hrs	T =	12 % for 24 hrs	T =	12 % for 24 hrs
T =	6 % Design Hr.	T =	6 % Design Hr.	T =	6 % Design Hr.
5.00	% Heavy Trucks DHV	5.00 %	% Heavy Trucks DHV	5.00	% Heavy Trucks DHV
1.00	%Medium Trucks DHV	1.00 %	Medium Trucks DHV	1.00	%Medium Trucks DHV

Existing Facility		No-Build	d (design year)	Bui	Build (design year)	
Not Ap	plicable	Year:	2025	Year:	2025	
		AADT:		AADT:		
-		LOS (C)	30100	LOS (C) 45300	
	_	Demand	21300	Demar	nd 21300	
-	mph	Posted Speed:	45 mph	Posted Spee	d: 45 mph	
-	 km/h		70 km/h		70 km/h	
-	%	K =	10.56 %	K	= 10.56 %	
-	%	D =	54.1 %	D	= 54.1 %	
-	% for 24 hrs	T =	12 % for 24	hrs T	= 12 % for 24 hrs	
-	% Design Hr.	T =	6 % Desig	gn Hr. T	= 6 % Design Hr.	
% Hea	vy Trucks DHV	5.00 9	6 Heavy Trucks E	DHV 5.0	0 % Heavy Trucks DHV	
%Medi	um Trucks DHV	1.00 %	6Medium Trucks	DHV 1.0	00 %Medium Trucks DHV	
	- - - - - - - - - - - - - - - - - - -	Not Applicable	Not Applicable Year: - AADT: - LOS (C) - Demand - Modeliant -	Not Applicable Year: 2025 - AADT: 20300 - Demand 21300 - mph Posted Speed: 45 mph - % 70 km/h - % 54.1 % - % for 24 hrs T = 12.56 % - % for 24 hrs T = 6 % Design - % Design Hr. T = 6 % Design % Heavy Trucks DHV 5.00 % Heavy Trucks DHV 1.00 %Medium Trucks	Not Applicable Year: 2025 Year: - AADT: AADT: AADT: - LOS (C) 30100 Demand - mph Posted Speed: 45 mph Posted Speed - km/h 70 km/h K Posted Speed: 45 mph - % 0 54.1 % D D - % for 24 hrs T = 12.6 % for 24 hrs T - % for 24 hrs T = 6 % Design Hr. T - % Design Hr. T = 6 % Design Hr. T - % Medium Trucks DHV 5.00 % Medium Trucks DHV 5.00	

DATE: PREPARED BY: 16-Apr-02 A. Robinson

Financial Project Numb	er(s):	405822 1
Federal Aid Numbers (s	s):	1852 007 P
Project Description:	US 19 from	m south of US 98 to CR 488

Segment Description: US 19 between Crystal River Mall and Turkey Oak Dr. / N.W. 19th St. (data sheets are to be filled out for every segment having a change in traffic parameters such as volume, posted speed, typical section, etc.)

NOTE: AADT is the LOS (C) or Demand, whichever is less.

LOS C volume obtained from FDOT 1998 Level of Service Handbook, Table 5-6 (Rural Undeveloped Areas and Cities less than 5000)

Without Suncoast Parkway Phase 2

Exis	sting Facility	No-Build (design year)			Build (design year)		
Year:	2001	Year:	2025		Year:	2025	
AADT:		AADT:			AADT:		
LOS (C)	30100	LOS (C)	30100		LOS (C)	45300	
Demand	17300	Demand	28700		Demand	28700	
Posted Speed:	45 mph	Posted Speed:	45	mph	Posted Speed:	60	mph
	70 km/h		70	km/h		100	km/h
K =	10.56 %	K =	10.56	%	K =	10.56	%
D =	54.1 %	D =	54.1	%	D =	54.1	%
T =	12 % for 24 hrs	T =	12	% for 24 hrs	T =	12	% for 24 hrs
Τ =	6 % Design Hr.	T =	6	% Design Hr.	T =	6	% Design Hr.
5.00	% Heavy Trucks DHV	5.00	% Heavy	Trucks DHV	5.00	% Heavy	Trucks DHV
1.00	%Medium Trucks DHV	1.00	%Medium	Trucks DHV	1.00	%Medium	Trucks DHV

Existing Facility			No-Buil	d (design	year)	Build (design year)	
Year:	Not Applicable		Year:	2025		Year:	2025
AADT:			AADT:			AADT:	
LOS (C)	-		LOS (C)	30100		LOS (C)	45300
Demand	-		Demand	23900		Demand	23900
Posted Speed:	-	mph	Posted Speed:	45	mph	Posted Speed:	60 mph
	-	km/h		70	km/h		100 km/h
K =	-	%	K =	10.56	%	K =	10.56 %
D =	-	%	D =	54.1	%	D =	54.1 %
Τ =	-	% for 24 hrs	T =	12	% for 24 hrs	Τ =	12 % for 24 hrs
Τ =	-	% Design Hr.	T =	6	% Design Hr.	T =	6 % Design Hr.
-	% Hea	avy Trucks DHV	5.00	% Heavy	Trucks DHV	5.00	% Heavy Trucks DHV
-	%Med	lium Trucks DHV	1.00	%Medium	Trucks DHV	1.00	%Medium Trucks DHV

DATE: PREPARED BY:

16-Apr-02 A. Robinson

Financial Project Numb	per(s):	405822 1
Federal Aid Numbers (s):	1852 007 P
Project Description:	US 19 fro	m south of US 98 to CR 488

Segment Description: US 19 between Turkey Oak Dr. / N.W. 19th St. and Seven Rivers Community Hospital (data sheets are to be filled out for every segment having a change in traffic parameters such as volume, posted speed, typical section, etc.)

NOTE: AADT is the LOS (C) or Demand, whichever is less.

LOS C volume obtained from FDOT 1998 Level of Service Handbook, Table 5-6 (Rural Undeveloped Areas and Cities less than 5000)

Without Suncoast Parkway Phase 2



Existing Facility			No-Build (design year)			Build (design year)		
Year:	Not Ap	plicable	Year:	2025		Year:	2025	
AADT:			AADT:			AADT:		
LOS (C)	-		LOS (C)	43000		LOS (C) 64500	
Demand	-		Demand	21600		Demand	21600	
Posted Speed:	-	mph	Posted Speed:	45	mph	Posted Speed	: 60 mph	
	-	km/h		70	km/h		100 km/h	
K =	-	%	K =	10.56	%	K =	10.56 %	
D =	-	%	D =	54.1	%	D =	54.1 %	
Τ=	-	% for 24 hrs	T =	12	% for 24 hrs	T =	= 12 % for 24 hrs	
T =	-	% Design Hr.	T =	6	% Design Hr.	T =	6 % Design Hr	
-	% Hea	vy Trucks DHV	5.00 9	% Heavy	Trucks DHV	5.00	% Heavy Trucks DHV	
	%Medi	um Trucks DHV	1.00 9	%Medium	Trucks DHV	1.00	%Medium Trucks DHV	

DATE: PREPARED BY:

16	-Apr-02	
Α.	Robinson	

Financial Project Numb	per(s):	405822 1
Federal Aid Numbers (s):	1852 007 P
Project Description:	US 19 from	m south of US 98 to CR 488

Segment Description: US 19 between Seven Rivers Community Hospital and W. Power Line St. (data sheets are to be filled out for every segment having a change in traffic parameters such as volume, posted speed, typical section, etc.)

NOTE: AADT is the LOS (C) or Demand, whichever is less.

LOS C volume obtained from FDOT 1998 Level of Service Handbook, Table 5-6 (Rural Undeveloped Areas and Cities less than 5000)

Without Suncoast Parkway Phase 2

Existing Facility		No-Build	d (design year)	Build	(design year)
Year:	2001	Year:	2025	Year:	2025
AADT:		AADT:		AADT:	
LOS (C)	43000	LOS (C)	43000	LOS (C)	64500
Demand	12600	Demand	24000	Demand	24000
Posted Speed:	55 mph	Posted Speed:	55 mph	Posted Speed:	60 mph
	90 km/h		90 km/h		100 km/h
K =	10.56 %	K =	10.56 %	K =	10.56 %
D =	54.1 %	D =	54.1 %	D =	54.1 %
T =	12 % for 24 hrs	T =	12 % for 24 hrs	T =	12 % for 24 hrs
T =	6 % Design Hr.	T =	6 % Design Hr.	T =	6 % Design Hr.
5.00	% Heavy Trucks DHV	5.00 9	% Heavy Trucks DHV	5.00	% Heavy Trucks DHV
1.00	%Medium Trucks DHV	1.00 9	%Medium Trucks DHV	1.00	%Medium Trucks DHV

Existing Facility			No-Build (design year)			Build (design year)		
Year:	Not A	pplicable	Year:	2025		Year:	2025	
AADT:			AADT:			AADT:		
LOS (C)	-		LOS (C)	43000		LOS (C)	64500	
Demand	-		Demand	19000		Demand	19000	
Posted Speed:	-	mph	Posted Speed:	55 1	mph	Posted Speed:	60	
	-	km/h		90	km/h		100	
K =	-	%	K =	10.56	%	K =	10.56 %	
D =	-	%	D =	54.1	%	D =	54.1 %	
T =	-	% for 24 hrs	T =	12	% for 24 hrs	T =	12 % for 24 hrs	
T =	-	% Design Hr.	Τ =	6	% Design Hr.	T =	6 % Design Hr.	
	% He	avy Trucks DHV	5.00	% Heavy 7	rucks DHV	5.00	% Heavy Trucks DHV	
-	- %Medium Trucks DHV		1.00 %Medium Trucks DHV		1.00 %Medium Trucks DHV			

DATE: PREPARED BY: 16-Apr-02 A. Robinson

Financial Project Numb	er(s):	405822 1		
Federal Aid Numbers (s	s):	1852 007 P		
Project Description:	US 19 from sou	th of US 98 to CR 488		

Segment Description: US 19 between W. Power Line St and CR 488 (data sheets are to be filled out for every segment having a change in traffic parameters such as volume, posted speed, typical section, etc.)

NOTE: AADT is the LOS (C) or Demand, whichever is less.

LOS C volume obtained from FDOT 1998 Level of Service Handbook, Table 5-6 (Rural Undeveloped Areas and Cities less than 5000)

Without Suncoast Parkway Phase 2

Existing Facility		No-Build (design year)			Build (design year)		
Year:	2001	Year:	2025		Year:	2025	
AADT:		AADT:			AADT:		
LOS (C)	43000	LOS (C)	43000		LOS (C)	64500	
Demand	11100	Demand	22600		Demand	22600	
Posted Speed:	60 mph	Posted Speed:	60	mph	Posted Speed:	60	mph
	100 km/h		100	km/h		100	km/h
K =	10.56 %	K =	10.56	%	K =	10.56	%
D =	54.1 %	D =	54.1	%	D =	54.1	%
T =	12 % for 24 hrs	T =	12	% for 24 hrs	T =	12	% for 24 hrs
T =	6 % Design Hr.	T =	6	% Design Hr.	Τ =	6	% Design Hr.
5.00	% Heavy Trucks DHV	5.00	% Heavy	Trucks DHV	5.00	% Heavy	Trucks DHV
1.00	%Medium Trucks DHV	1.00	%Medium	Trucks DHV	1.00	%Medium	Trucks DHV

Existing Facility			No-Build (design year)			Build (design year)				
Year:	Year: Not Applicable		Year:	2025		Year:		2025		
AADT:			AADT:			AADT:	1			
LOS (C)	-		LOS (C)	43000		LOS	S (C)	64500		
Demand	-		Demand	18900		Den	nand	18900		
Posted Speed:	-	mph	Posted Speed:	60	mph	Posted Sp	eed:	60	mph	
	-	km/h		100	km/h			100	km/h	
K =	-	%	K =	10.56	%		K =	10.56	%	
D =	-	%	D =	54.1	%		D =	54.1	%	
T =	-	% for 24 hrs	T =	12	% for 24 hrs		T =	12	% for 24 hrs	
T =	-	% Design Hr.	T =	6	% Design Hr.		Τ=	6	% Design Hr.	
-	% Hea	vy Trucks DHV	5.00 %	% Heavy 7	Frucks DHV		5.00 %	% Heavy	Trucks DHV	
-	%Med	- %Medium Trucks DHV			1.00 %Medium Trucks DHV			1.00 %Medium Trucks DHV		

		DATE:	16-Apr-02
		PREPARED BY:	A. Robinson
Financial Project Number(s):	405822 1		
Federal Aid Numbers (s):	1852 007 P		
Project Description: US 19 fro	m south of US 98 to	CR 488	

Segment Description: US 19 north of CR 488

(data sheets are to be filled out for every segment having a change in traffic parameters such as volume, posted speed, typical section, etc.)

NOTE: AADT is the LOS (C) or Demand, whichever is less.

LOS C volume obtained from FDOT 1998 Level of Service Handbook, Table 5-6 (Rural Undeveloped Areas and Cities less than 5000)

Without Suncoast Parkway Phase 2

Existing Facility		No-Buil	d (design year)	Build (design year)		
Year:	2001	Year:	2025	Year:	2025	
AADT:	-	AADT:	14	AADT:		
LOS (C)	43000	LOS (C)	43000	LOS (C)	64500	
Demand	9800	Demand	18200	Demand	18200	
Posted Speed:	60 mph	Posted Speed:	60 mph	Posted Speed:	60 mph	
	100 km/h		100 km/h	-	100 km/h	
K =	10.56 %	K =	10.56 %	K =	10.56 %	
D =	54.1 %	D =	54.1 %	D =	54.1 %	
Τ =	12 % for 24 hrs	T =	12 % for 24 hrs	T =	12 % for 24 hrs	
Τ =	6 % Design Hr.	T =	6 % Design Hr.	T =	6 % Design Hr.	
5.00 % Heavy Trucks DHV		5.00 % Heavy Trucks DHV		5.00 % Heavy Trucks DHV		
1.00 %Medium Trucks DHV		1.00 9	%Medium Trucks DHV	1.00 9	%Medium Trucks DHV	

Existing Facility			No-Buil	d (design year)	Build (design year)		
Year:	Not A	pplicable	Year:	2025	Year:	2025	
AADT:			AADT:		AADT:		
LOS (C)	-		LOS (C)	43000 -	LOS (C)	64500	
Demand	-		Demand	15100	Demand	15100	
Posted Speed:	-	mph	Posted Speed:	60 mph	Posted Speed:	60 mph	
	-	km/h		100 km/h		100 km/h	
K =	-	%	K =	10.56 %	K =	10.56 %	
D =	-	%	D =	54.1 %	D =	54.1 %	
T =	-	% for 24 hrs	T =	12 % for 24 hrs	T =	12 % for 24 hrs	
T =	-	% Design Hr.	T =	6 % Design Hr.	T =	6 % Design Hr.	
-	% He	avy Trucks DHV	5.00	% Heavy Trucks DHV	5.00	% Heavy Trucks DHV	
-	%Mec	lium Trucks DHV	1.00 9	%Medium Trucks DHV	1.00	%Medium Trucks DHV	

Appendix B

Project Aerials








































































