Noise Study Report

S.R. 50 PD&E Reevaluation Study

From U.S. 19 (S.R. 55) to the east intersection of S.R. 50 / S.R. 50A [along the Brooksville Bypass]

Hernando County, Florida

WPI Segment No: 407951 1
FAP No: 300-1(7)

Florida Department of Transportation
District 7

July 2003

NOISE STUDY REPORT

Florida Department of Transportation
Project Development and Environment (PD&E) Study Reevaluation

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Prepared by:

Florida Department of Transportation

July 2003

MEMORANDUM

Florida Department of Transportation
District Seven Modal Planning and Development – MS 7-500

Date: June 12, 2003

To: Project File

From: Robin Rhinesmith, Environmental Scientist

Subject: WPI No: 407951/ Air Quality Screening Test
SR 50 PD&E Reevaluation -- From U.S. 19 to the east intersection of S.R.50/S.R. 50A (the Brooksville Bypass), Hernando County

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The project alternatives were subjected to a Screening Test that makes various conservative worst-case assumptions related to site conditions, meteorology and traffic. The Screening Test, COSCREEN 98 (revised August 2000) uses the worst-case assumptions in the MOBILE emission model and CALINE 3 model to produce estimates of one-hour and eight-hour carbon monoxide (CO) at air quality sensitive locations adjacent to the project. The one-hour and eight-hour estimates can be directly compared to the one-and eight-hour National Ambient Air Quality Standards (NAAQS) for CO that are 35 parts per million (ppm) and 9 parts per million (ppm), respectively.

The roadway intersections with the highest total volume and the lowest departure speeds were analyzed for the Build and No-Build scenarios for both the opening year (2005) and the design year (2025). The traffic data input used for the analysis is attached to this memorandum.

Estimates of CO were predicted for the sensitive receptor located closest to the improved roadway for each worst-case scenario intersection. The results of the Screening Test are provided in Table 1 and the attached results from COSCREEN 98. Notably, the worst-case CO one- and eight-hour levels are not predicted to meet or exceed the one- or eight-hour NAAQS for the pollutant with either the No-Build or Build alternatives. As such, the project "passes" the Screening Test.

All state and local agencies were provided with an opportunity to comment on this project. There were no adverse comments regarding air quality. The project is in an area that has been designated as attainment for all the air quality standards under the criteria provided in the Clean Air Act Amendments of 1990. Therefore, conformity does not apply.

This project's design concept is in conformance with the State Implementation Plan and in the Transportation Improvement Plan. The FDOT memorandum documenting conformity is provided as an attachment to this memorandum.

Table 1: Screening Test Results

Alternative	Receptor	Location	Average Cruise Speed (mph)	Peak Traffic Volume (vph)	CO Levels (ppm)*		Passes the Screening Test?
					NAAQS 1-hr/ Project 1-hr	NAAQS 8-hr/ Project 8-hr	
Build (2005)	R1 (Eckerds)	S.R. 50 at U.S.19	26	1007	35 / 4.5	9 / 2.7	Yes
No-Build (2005)	R2 (Circle K)	S.R. 50 at Mariner Blvd.	22	1553	35 / 11.4	9 / 6.8	Yes
Build (2025)	R3 (Speedway)	S.R. 50 at Barclay Avenue	15	2182	35 / 11.0	9 / 6.6	Yes
No-Build (2025)	R3 (Speedway)	S.R. 50 at Barclay Ave	19	2182	35 / 10.5	9 / 6.3	Yes

EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Reevaluation Study to evaluate capacity improvement alternatives for S.R. 50 in Hernando County. The proposed project involves improving S.R. 50 from U.S. 19 (Commercial Way) to the east intersection of S.R.50/S.R. 50A (along the Brooksville Bypass) a distance of approximately 13.7 miles (mi).

The objectives of this Noise Study Report were to identify noise sensitive sites adjacent to the project corridor, to evaluate the significance of future traffic noise levels at the sites with and without the improvements, and to evaluate the need for and effectiveness of noise abatement measures. Additional objectives included the evaluation of construction noise impacts and the identification of noise impact "contours" adjacent to the corridor.

Seventy-eight (78) noise sensitive sites were identified and analyzed to determine their potential to be affected by traffic-related noise with the proposed improvements. Sixty-three (63) sites were single-family residential properties. Two (2) sites were multifamily units (representing a total of eight dwellings). Five (5) sites were evaluated at the Comfort Inn Hotel. Two (2) sites were evaluated for the Exciting Brooksville Assembly of God and the St Anthony Catholic Church. Interior traffic noise levels were evaluated for the hotel and the churches.

Based on the results of the analysis, exterior traffic noise levels for the existing condition are predicted to range from 52.9 to 66.6 decibels (dBA). The predicted traffic noise levels in the future (2025,) without the proposed improvements (no-build), range from 52.9 to 68.8 dBA. With the proposed improvements (build), exterior traffic noise levels are predicted to range from 55.9 to 68.9 dBA.

A multi-family unit (a total of 4 sites) at Sabre Drive is predicted to exceed the FHWA Noise Abatement Criteria (NAC) in the existing, no-build, and build scenarios. One single-family residence (1 site) east of Barclay Avenue is predicted to exceed the NAC in the build scenario.

Noise abatement measures were evaluated for the 5 sites. There appear to be no feasible and reasonable measures to reduce traffic noise levels for those noise sensitive sites predicted to be affected by traffic noise with the proposed improvements. The ability of a noise barrier to provide the required insertion loss was affected by restrictions on the physical length of a barrier due to required property access (driveways), and intersecting roadways.

Construction of roadway improvements will have a temporary effect on noise-sensitive sites adjacent to the project corridor. Special provisions will be included in the construction contract that relate to the control of noise.

Land uses such as residences, motels, schools, churches, recreation areas, and parks are considered incompatible with exterior highway noise levels above 66 dBA. In order to improve future land use compatibility in areas adjacent to S.R. 50, noise level contours were developed for the future improved roadway facility. The results of the analysis indicate that the extent of

the 66 dBA noise level would vary by roadway segment from 84 feet to 128 feet from the roadway's edge-of-pavement.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

Section 1.0
INTRODUCTION

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Study Reevaluation to evaluate capacity improvement alternatives for S.R. 50 in Hernando County as shown in Figure 1-1. The proposed project involves improving S.R. 50 from U.S. 19 (Commercial Way) to the east intersection of S.R.50/S.R. 50A (along the Brooksville Bypass) a distance of approximately 13.7 miles (mi).

The objectives of this Noise Study Report (NSR) are:

- To identify noise sensitive sites adjacent to the project corridor,
- To evaluate the significance of future traffic noise levels at the sites with and without the improvements, and
- To evaluate the need for and effectiveness of noise abatement measures.

Additional objectives include the evaluation of construction noise impacts and the identification of noise impact "contours" adjacent to the project corridor.

1.1 PROJECT DESCRIPTION

S.R. 50 is an east/west principal arterial facility. This Reevaluation examines the section of S.R. 50 from U.S. 19 (S.R. 55) to the east intersection of S.R. 50/S.R. 50A [along the Brookville Bypass], a distance of approximately 13.7 miles (see Figure 1-1). The majority of the project is located within an unincorporated area of Hernando County; however, portions extend through the City of Weeki Wachee and the City of Brooksville. The project is located in Section 36 of Township 22 South, Range 17 East; Sections 25 through 36 of Township 22 South, Range 18 East; Sections 20, and 25 through 30 of Township 22 South, Range 19 East; and Sections 1 and 2 of Township 23 South, Range 17 East.

S.R. 50, which is part of the Florida Intrastate Highway System (FIHS), is typically a 4-lane divided roadway with 12-foot travel lanes, which was constructed according to the original Type II Categorical Exclusion. The existing posted speed limit along S.R. 50 varies between 45 mph and 55 mph.

1.2 EXISTING LAND USE

Generally, the existing land uses adjacent to the S.R. 50 corridor consist of commercial, residential, medical, institutional and recreational uses, which can be characterized as generally urbanized and suburban in nature with undeveloped tracts interspersed. The existing land use within the project corridor is depicted in Figure 1-2. The project can be divided into two sections based on the existing roadway network, S.R. 50 and S.R. 50 (Brooksville Bypass). Below is a description of the existing land use within each section.

The existing land uses along S.R. 50 are predominantly commercial with residential land uses located behind the commercial frontage as well as isolated areas of medical, institutional and recreational uses. Commercial uses include medium scale shopping centers, service stations, restaurants, motels, financial institutions, and miscellaneous retail establishments. Residential uses include both single-family residences/ subdivisions and mobile home parks. The medical land uses within the study corridor consist of medical offices/complexes and hospitals (Oak Hill Hospital and Springbrook Hospital). Institutional land uses include the Hernando County Public Library (West Side), Hernando County Fire & Rescue Station #12 and two churches. The Weeki Wachee tourist attraction, Sand Hill Scout Reservation and Suncoast Pedestrian Trail are recreational land uses within the Study corridor. Although vacant land exists throughout this section of the Study corridor, the majority of the vacant land occurs along the eastern portion of this section.

The existing land uses along the remainder of the Study corridor, S.R. 50 (Brooksville Bypass), are primarily commercial with isolated areas of residential and institutional uses as well as vacant land. Medium scale shopping centers, miscellaneous retail establishments, restaurants, and financial institutions are the types of commercial development within this area. The residential land uses are primarily single-family residences that border the commercial frontage. The institutional uses are comprised of the Hernando County Sheriff's Office, U.S. Post Office, Hernando County Utility Department and two churches. The vacant land along this portion of the Study corridor occurs throughout this section of roadway with the majority occurring at the eastern end. Although vacant land exists within the Study corridor, developments are planned for some of these areas.

1.3 FUTURE LAND USE

Hernando County has developed the Hernando County Comprehensive Plan Map to provide guidance for future land use planning. The designated land uses along the S.R. 50 project corridor indicate that future land uses will follow the established trends of the existing land uses in the study area. Future land use designations of existing vacant parcels will consist primarily of commercial development with residential development both behind the commercial development and adjacent to the S.R. 50 corridor.

Although there are no requests for a Development of Regional Impact (DRI) within the Study corridor, it should be noted that eleven parcels have applied for and been granted rezoning. Nine of these parcels are located adjacent to S.R. 50 or S.R. 50 (Brooksville Bypass), and the two

remaining parcels are located within close proximity to S.R. 50 or S.R. 50 (Brooksville Bypass). In general, these developments are proposed on vacant land or require modification to existing structures to provide additional services. The location of these developments is identified in Figure 1-3.

1.4 PROJECT SEGMENTS

The S.R. 50 project corridor is divided into four segments for analysis purposes based on existing land use, projected traffic volumes, and roadway characteristics.

Table 1-1
PROJECT SEGMENTS

Segment	Limits	Length (Miles)
1	U.S. 19 (S.R. 55) to Mariner Boulevard (C.R. 587)	3.877
2	Mariner Boulevard (C.R. 587) to the Suncoast Parkway	2.020
3	Suncoast Parkway to the west S.R. 50/S.R. 50A intersection	3.997
4	West S.R. 50/S.R. 50A intersection to the east S.R. 50/ S.R. 50A intersection [along the Brooksville Bypass]	3.836

1.5 EXISTING TYPICAL SECTIONS

Throughout the project limits, the S.R. 50 corridor consists of several variations of a 4-lane typical section. S.R. 50 has a 4-lane rural typical section from U.S. 19 (S.R. 55) to west of the west intersection of S.R. 50/S.R. 50A that changes to a 4-lane urban typical section. The 4-lane urban typical section is retained for the portion of the project corridor from east of the west intersection of S.R. 50/S.R. 50A to west of Clinton Blvd. [along the Brooksville Bypass]. The remaining portion of S.R. 50 (Brooksville Bypass) within the Study corridor has a 4-lane rural typical section to the east intersection of S.R. 50/S.R. 50A, with the exception of the portion of S.R. 50 from west of Candlelight Boulevard to east of Ray Browning Road, which has a 4-lane suburban typical section. See Figures 1-4 to 1-9 for the existing typical sections.

1.6 RECCOMMENDED TYPICAL SECTIONS

The alignment for the entire project corridor is primarily within the existing right of way.

The recommended alternative typical sections for the widening of S.R. 50 from U.S. 19 (S.R. 55) to the east intersection of S.R. 50/S.R. 50A [along the Brooksville Bypass] consists of five typical sections. The proposed improvements for the portion of the project between U.S. 19 (S.R. 55) and west of the west intersection of S.R. 50/S.R. 50A is a 6-lane rural typical section (65 mph design speed) within the 200 feet of existing right-of-way. It also includes a 12-foot shared used path and 5-foot sidewalk on the south and north side of the roadway, respectively. A 6-lane urban

typical section (50 mph design speed) is recommended for the section of S.R. 50 that is immediately west and east of the west intersection of S.R. 50/S.R. 50A. This typical section includes a 5-foot sidewalk and a 4-foot bicycle lane on both the north and south side of the roadway, which requires a 126-foot right-of-way width. The recommended typical section for the portion of S.R. 50 (Brooksville Bypass) from east of the west intersection of S.R. 50/S.R. 50A to west of Candlelight Boulevard is a 6-lane modified urban typical section with a 50 mph design speed within the existing right-of-way (170 feet to 205 feet). This typical section provides curb and gutter within the median while maintaining the existing open drainage system to the outside, and also provides a 5-foot sidewalk on both the north and south side of the roadway. A 6-lane urban typical section is recommended along S.R. 50 (Brooksville Bypass) from west of Candlelight Boulevard to east of Ray Browning Road (50 mph design speed), which will provide curb and gutter in the median. This typical section will maintain the existing closed drainage system to the outside within the existing right-of-way (varies between 132 feet and 185 feet). Similarly, a 6-lane modified urban typical section (50 mph design speed) is recommended for the remaining portion of the project from east of Ray Browning Road to the east intersection of S.R. 50/S.R. 50A [along the Brooksville Bypass] within the existing right-of-way (varies 180 feet to 240 feet). This typical section provides curb and gutter within the median while maintaining the existing open drainage system to the outside as well as 5-foot sidewalk along both sides of the roadway. Additional right-of-way is required for the recommended typical sections to provide right-turn lanes at unsignalized and signalized intersections. See Figures 1-10 to 1-14 for the recommended typical sections.

Section 2.0
METHODOLOGY

The S.R. 50 noise analysis was performed following FDOT guidelines (PD&E Manual: Chapter 17: November 20, 2001). The FDOT guidelines comply with 23 Code of Federal Regulations (CFR) Part 772 (Procedures for Abatement of Highway Traffic Noise and Construction Noise).

The prediction of existing and future traffic noise levels with and without the roadway improvements was performed using the Federal Highway Administration's (FHWA's) computer model for highway traffic noise prediction and analysis – the Traffic Noise Model (TNM-Version 2.0). The TNM propagates sound energy, in one-third octave bands, between highways and nearby receivers taking the intervening ground's acoustical characteristics/topography and rows of buildings into account.

The noise levels presented in this report are expressed in decibels (dB) on the A-weighted scale (dBA). This scale most closely approximates the response characteristics of the human ear to low level sound. All noise levels are reported as equivalent levels (L_{Aeq1h}), values which theoretically contain the same amount of acoustic energy as an actual time-varying A-weighted sound level over a period of 1 hour.

The forecast future year (2025) traffic data used in the TNM for the S.R. 50 noise analysis is presented in Table 2-1. The year 2025 is the design year for the proposed improvements. The traffic data documentation is provided in Appendix A.

TABLE 2-1
EXISTING (2002) AND FUTURE (2025) TRAFFIC DATA

Roadway Segment	Scenario	AADT [a]		Percent			Traffic Data				
								TNM Input			
		Volume	LOS C / Demand	K [b]	D [c]	T [d]	Total Volume	Cars	Medium Trucks	Heavy Trucks	Speed (mph)
US 19 to Community Blvd.	Existing [e]	27,000	Demand	9.6	53	3	2590	2514	38	38	55
	No Build [f]	32,800	LOS C	9.6	53	3	5526	3054	48	48	55
	Build [g]	39,500	Demand	9.6	53	3	3790	3678	56	56	55
Community Blvd.to Winter Street	Existing	24,400	LOS C	9.6	53	3	2344	2272	36	36	55
	No Build	24,400	LOS C	9.6	53	3	2344	2272	36	36	55
	Build	38,000	LOS C	9.6	53	3	2646	2538	54	54	55
Winter Street to the Bypass	Existing	21,500	Demand	9.6	53	3	2062	2002	30	30	55
	No Build	29,000	Demand	9.6	53	3	2784	2700	42	42	55
	Build	29,000	Demand	9.6	53	3	2784	2700	42	42	55
US 41 to the S.R. 50/S.R. 50A	Existing	18,000	Demand	9.6	53	8	1730	1590	70	70	45
	No Build	30,000	Demand	9.6	53	8	2940	2650	116	116	45
	Build	30,000	Demand	9.6	53	8	2940	2650	116	116	45

[a] AADT= Annual Average Daily Traffic
[b] K = Peak Hour Factor
[c] D = Directional Factor
[d] T = Truck Factor
[e] Existing Year = 2002
[f] Future No Build Year = 2025
[g] Future Build Year = 2025

Section 3.0
NOISE ANALYSIS

3.1 NOISE-SENSITIVE SITES

Noise-sensitive sites are defined as properties where frequent human use occurs and where a lowered noise level would be of benefit. To evaluate traffic noise, the FHWA established Noise Abatement Criteria (NAC). As shown in Table 3-1, the criteria vary according to a property's activity category.

TABLE 3-1
FHWA NOISE ABATEMENT CRITERIA

Activity Category	Description	L_{Aeq1h}
A	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.	57 (Exterior)
B	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.	67 (Exterior)
C	Developed lands, properties or activities not included in Categories A or B above.	72 (Exterior)
D	Undeveloped lands.	N/A
E	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.	52 (Interior)
Source: Code of Federal Regulations, Title 23, Part 772 L_{Aeq1h} - values that contain the same amount of acoustic energy as a time varying A-weighted sound level over a period of one hour.		

When predicted traffic noise levels "approach" or exceed the NAC or, when predicted noise levels increase substantially from existing levels, the FHWA requires that noise abatement measures be considered. The FDOT defines the word "approach" as within 1 dBA of the NAC and that a substantial increase occurs if traffic noise levels are predicted to increase 15 dBA or more as a direct result of a transportation improvement project.

Seventy-eight (78) noise sensitive sites were identified and analyzed to determine their potential to be affected by traffic-related noise with the proposed improvements. Sixty-three (63) sites were single-family residential properties. Two (2) sites were multifamily units (representing a total of eight dwellings). Five (5) sites were evaluated at the Comfort Inn hotel and pool. Two (2) sites were evaluated for the Exciting Brooksville Assembly of God and the St Anthony Catholic Church.

The location of each noise sensitive site is shown in Appendix C. The residential sites and hotel pool area were considered Activity Category "B". As such, exterior noise levels were evaluated for the sites and noise abatement measures were considered if the traffic noise level was predicted to be 66.0 dBA or more, or traffic noise levels were predicted to increase 15 dBA or more from existing levels. The locations at the Exciting Brooksville Assembly of God and the St Anthony Catholic Church are considered Activity Category "E". Interior traffic noise level were evaluated for these sites and noise abatement measures would be considered if traffic noise is predicted to be 51.0 dBA or more or to increase 15 dBA or more from existing levels.

3.2 FACTORS AFFECTING SOUND TRANSMITTAL

Various factors affect the "transmittal" of sound from a source to a receiver. The factors include vegetation, intervening structures, elevation of the source and/or the receiver, surrounding topography and the type of ground surface between the source and the receiver. The attenuation (reduction) of sound levels due to intervening structures occurs when a receiver's view (line-of-sight) is obstructed by dense objects (i.e., rows of buildings, barriers). The attenuation provided by a row of buildings (houses) depends on the actual length of the row occupied by the buildings.

3.3 MEASURED NOISE LEVELS

As previously stated, existing and future no build/build noise levels with and without the proposed improvements were modeled using the TNM. To insure that these predictions are as accurate as possible, the computer model was validated using measured noise levels at locations adjacent to the project corridor. Traffic and meteorological data including motor vehicle volumes, vehicle mix, vehicle speeds, and wind/cloud conditions were recorded during each measurement period.

The field measurements were conducted in accordance with the FHWA's *Measurement of Highway-Related Noise*. Each field measurement was obtained using a Metrosonics db 308 Sound Analyzer. The Sound Analyzer was calibrated before and after each monitoring period with a Metrosonics Sound-Level Calibrator.

The measured data were used as input for the TNM to determine if, given the topography and actual site conditions of the area, the computer model could "re-create" the measured levels with the existing roadway. Following FDOT guidelines, a noise prediction model is considered valid for the use of predicting traffic noise levels if the measured and predicted noise levels are within a tolerance standard of plus or minus 3 dBA.

Table 3-3 presents the field measurements and the validation results for S.R. 50. As shown, the ability of the model to accurately predict noise levels for the project was confirmed.

TABLE 3-3
VALIDATION DATA

Location	Measurement Period	Modeled (dBA)	Measured (dBA)	Difference (dBA)
Sandhill Scout Reservation	1	66.5	67.8	1.3
	2	67.0	66.3	0.7
	3	68.4	66.8	1.6
Future Site of Brooksville Regional Hospital East of Lykes Dublin Rd.	1	67.2	67.4	0.2
	2	69.8	66.8	3.0
	3	67.4	67.8	0.4
East of Oxley Rd.	1	69.0	69.4	0.4
	2	67.1	68.9	1.8
	3	69.0	70.2	1.2

3.4 RESULTS OF THE NOISE ANALYSIS

Table 3-4 presents a summary of the predicted existing (2002) and future build and no build (2025) traffic noise levels for the noise sensitive sites adjacent to SR 50. Predicted results for individual sites are provided in Appendix B. Aerials depicting the location of the noise sensitive sites are provided in Appendix C.

3.4.1 U.S. 19 TO COMMUNITY BLVD.

Within the above noted limits, a Comfort Inn Hotel and nine (9) single-family residences were evaluated to determine their potential to be affected by traffic noise (Receiver numbers The hotel is located on the north side of S.R.50 just east of U.S. 19. The residential sites were located adjacent to Brentlawn Street on the south side of S.R. 50. Receiver numbers 1 through 14 in Appendices B and C represents these sites.

As shown in Table 3-4, existing traffic noise levels range from 58.1 to 62.9 dBA with levels predicted to approach, meet, or exceed the NAC at no sites. In the future without the proposed improvements, traffic noise levels are predicted to range from 59.0 to 63.8 dBA with levels approaching, meeting, or exceeding the NAC at no sites. Finally, future traffic noise levels with the proposed improvements are predicted to range from 59.7 to 63.8 dBA with levels approaching, meeting, or exceeding the NAC at no sites.

TABLE 3-4
SUMMARY OF PREDICTED TRAFFIC NOISE LEVELS

Location	Number of Noise Sensitive Sites				Range of Predicted Laeq1h (dBA[c])			Predicted Increase in L_{Aeq1h}[d] (dBA)		
	Evaluated	Affected			Existing	No Build	Build	Existing to No Build	No Build to Build	Existing to Build
		Existing	No Build	Build						
U.S. 19 to Community Blvd	9 Residences (SF[a])	0	0	0	58.1-62.9	59.0-63.8	59.7-63.8	0.9	0.7	0.9-1.6
	4 Hotel rooms (Interior)	0	0	0	39.1-43.4	40.0-44.3	41.2-45.9	0.9-	1.2-1.6	2.1-2.5
	Pool	0	0	0	59.4	60.4	61.8	1	1.4	2.4
Community Blvd to Winter Street	10 Residences (SF)	0	0	1	52.9-65.8	52.9-65.8	55.9-68.8	0	3.0	3.0
Winter Street to the Bypass	25 Residences (SF)	0	0		56.0-64.0	57.4-65.3	57.9-65.9	1.3-1.4	0.5-0.6	1.9
U.S. 41 to S.R. 50/50A	19 Residences (SF)	0	0	0	55.2-58.8	57.4-63.6	59.8-63.7	2.2-4.8	0.1-2.4	4.6-4.9
	8 Residences (MF[b])	4	4	4	56.4-66.6	58.6-68.8	60.5-68.9	2.2	0.1-1.9	2.3-4.1
	2 Churches (Interior)	0	0	0	42.9-44.5	45.1- 46.7	45.2-46.8	2.2	0.1	2.3

[a] SF= Single Family
[b] MF= Multi-Family
[c] dBA= decibel
[d] L_{aeq1h}= the hourly value of L_{Aeq} which is the A-weighted equivalent steady-state sound level.

3.4.2 COMMUNITY BLVD. TO WINTER ST.

Within the above noted limits, ten (10) residences were evaluated in Segment B to determine their potential to be affected by traffic noise. The residential sites are located near Twin Dolphin Drive and east of Barclay Avenue. Receiver numbers 15 through 24 in Appendices B and C represents these sites.

As shown in Table 3-4, existing traffic noise levels are predicted to range from 52.9 to 65.8 dBA with levels predicted to approach, meet, or exceed the NAC at none of the residential sites. In the future without the proposed improvements, traffic noise levels are predicted to range from 52.9 to 65.8 dBA with levels approaching, meeting, or exceeding the NAC at none of the sites. Finally, future traffic noise levels with the proposed improvements are predicted to range from 55.9 to 68.8 dBA with levels approaching, meeting, or exceeding the NAC at one (1) site, Receiver17 (located east of Barclay Avenue).

3.4.3 WINTER ST TO THE BYPASS

Within the above noted limits, twenty-five (25) residential sites were evaluated to determine their potential to be affected by traffic noise. Of the 25 residential sites, 16 are residential sites located in the Frontier Campground. The remaining nine residential sites are scattered throughout this segment. Receiver numbers 25 through 40 in Appendices B and C represent these sites.

As shown in Table 3-4, existing traffic noise levels are predicted to range from 56.0 to 64.0 dBA with levels that approach, meet, or exceed the NAC at no sites. Traffic noise levels in the future without the proposed improvements are predicted to range from 57.4 to 65.3 dBA with levels approaching, meeting, or exceeding the NAC at no sites. Finally, with the improvements to C.R. 581/S.R. 581, traffic noise levels are predicted to range from 57.9 to 65.9 dBA with levels predicted to approach, meet, or exceed the NAC at no residential sites.

3.4.4 U.S. 41 TO S.R. 50/50A

Within the above noted limits, twenty-nine (29) sites were evaluated to determine their potential to be affected by traffic noise. Of these 29 sites, 19 are single-family residences located between June Avenue and Mitchell Road. Eight sites are multi-family units located just east of U.S. 41 and on Sabra Drive. Two sites are churches (Exciting Brooksville Assembly of God and St. Anthony Catholic Church). Receiver numbers 41through 63 in Appendices B and C represent these sites.

As shown in Table 3-4, traffic noise levels for the existing condition are predicted to range from 55.2 to 66.6 dBA at the residential sites. Receiver 56 represents four sites (multi-family units on Sabre Drive) that have existing levels that are predicted to approach, meet, or exceed the NAC. Interior levels at the churches are predicted to range from 42.9 to 44.5 dBA, which do not approach, meet, or exceed the NAC. Traffic noise levels in the future without the proposed improvements are predicted to range from 57.4 to 68.8 dBA at the residential sites. The same four sites (multi-family units on Sabre Drive) have levels that are predicted to approach, meet, or exceed the NAC. Interior levels at the churches are predicted to range from 45.1 to 46.7 dBA, which do not approach, meet, or exceed the NAC. Finally, in the future with the proposed improvements, exterior traffic noise levels are predicted to range from 59.8 to 68.9dBA at the residential site. The same four multi-family units have levels that are predicted

to approach, meet, or exceed the NAC. Interior levels at the churches are predicted to range from 45.2 to 46.8 dBA, which do not approach, meet, or exceed the NAC.

3.5 NOISE ANALYSIS SUMMARY

Seventy-eight (78) noise sensitive sites were identified and analyzed to determine their potential to be affected by traffic-related noise with the proposed improvements. Exterior traffic noise levels for the existing condition are predicted to range from 52.9 to 66.6 dBA. Data from Table 3-4 indicates that four (4) of the sites experience existing traffic noise levels that approach, meet, or exceed the NAC. The predicted traffic noise levels in the future (2025) without the proposed improvements range from 52.9 to 68.8 dBA. Four (4) of the sites are predicted to experience traffic noise levels that approach, meet, or exceed the NAC with the no build alternative. Finally, in the future with the improvements, exterior traffic noise levels are predicted to range from 55.9 to 68.9dBA. Five (5) sites are predicted to experience traffic noise levels that could approach, meet or exceed the FHWA's NAC with the build alternative. The interior noise levels did not exceed the NAC for any of the scenarios.

Section 4.0
EVALUATION OF ABATEMENT ALTERNATIVES

The FDOT considers abatement alternatives when predicted traffic noise levels approach or exceed the NAC. The measures considered for S.R. 50 were traffic management, alternative roadway alignment, property acquisition, and noise barriers. The following discusses the feasibility (engineering considerations) and reasonableness (amount of noise reduction provided, number of noise-sensitive sites benefited, absolute noise levels, cost, etc.) of the measures.

4.1 TRAFFIC MANAGEMENT

Traffic management measures that limit motor vehicle speeds and reduce volumes can be effective noise mitigation measures. However, these measures also negate a project's ability to accommodate forecast traffic volumes. For example, if the posted speed on S.R. 50 were reduced, the capacity of the roadway to handle the forecast motor vehicle demand would also be reduced. Therefore, reducing traffic speeds and/or traffic volumes is inconsistent with the goal of improving the ability of the roadway to handle the forecast volumes. As such, although feasible, traffic management measures are not considered a reasonable noise mitigation measure for the project.

4.2 ALTERNATIVE ROADWAY ALIGNMENT

The proposed alignment seeks to minimize the need for additional ROW within the project corridor. A shift in the roadway alignment would result in the need for additional ROW. Additionally, a shift in the roadway alignment would not provide a positive benefit, since noise-sensitive sites are located on both sides of the roadway. As such, an alternative roadway alignment is not considered a reasonable noise mitigation measure for the project.

4.3 PROPERTY ACQUISITIONS

To be considered reasonable, the FDOT has determined that the amount of public funds to be used for noise abatement should not exceed $30,000 per benefited receiver (noise-sensitive site). Property and homes within this area far exceed this value; therefore, property acquisition is not considered a reasonable abatement measure.

4.4 NOISE BARRIERS

Noise barriers reduce noise levels by blocking the sound path between the source and the receiver. In order to effectively reduce traffic noise, a noise barrier must be relatively long, continuous (without intermittent openings), and sufficiently tall to provide a reduction in noise levels. Following FDOT procedures, the minimum requirements for a noise barrier to be considered both feasible and economically reasonable are:

- The barrier must provide at least a 5 dBA reduction in traffic noise with a design goal of 10 dBA or more desired.

- The barrier should not cost more than $30,000 per benefited receiver (a benefited receiver is a site that receives at least a 5 dBA reduction in noise from the barrier), unless a higher level of expenditure can be justified by other circumstances. The current estimated cost to construct a noise barrier (materials and labor) is $25.00 per square foot.

Other factors considered when evaluating noise barriers as a potential noise abatement measure address both the feasibility of the barriers (given site-specific details, can a barrier actually be constructed) and the reasonableness of the barriers.

Other feasibility factors that relate to noise barriers include driver/pedestrian sight distance (safety), ingress and egress requirements to and from affected properties, ROW requirements including access rights and easements for construction and/or maintenance, impacts on existing/planned utilities, and drainage.

Other reasonableness factors include:

- The relationship of the predicted future noise levels to the NAC (do the predicted levels approach, meet, or far surpass the NAC);

- Land use stability (are the noise-sensitive land uses likely to remain for an indefinite period of time);

- Antiquity (the amount of development that has occurred before and after the initial construction of a roadway);

- The desires of the affected property owners to have a noise barrier adjacent to their property; and

- The physical appearance (aesthetics) of a barrier on both the highway and affected property sides with consideration for local requirements relative to color, height, style, materials, etc.

4.4.1 NOISE BARRIER ANALYSIS

As previously stated, during the year 2025 with the proposed improvements to S.R. 50, traffic noise levels are predicted to approach, meet, or exceed the FHWA's NAC at five sites (two locations) represented by Receiver numbers 17 and 56. Due to property access and intersecting roadways, a barrier at these locations cannot be continuous enough to effectively reduce noise levels.

4.5 ABATEMEMENT ALTERNATIVES SUMMARY

Noise abatement measures were evaluated at two locations where a total of five sites are predicted to experience traffic noise approaching, meeting, or exceeding the NAC with the proposed improvements to S.R.50. The measures were traffic management, alternative roadway alignments, property acquisition, and noise barriers. Although feasible, traffic management, alternative roadway alignments, and property acquisition were determined to be unreasonable methods to reduce the predicted traffic noise impacts for the affected sites.

Noise barriers were determined to be an unreasonable abatement measure for both locations. The ability of a noise barrier to provide the required insertion loss was affected by the distance of the sites from the roadway and/or restrictions on the physical length of a barrier due to required property access (driveways), and intersecting roadways.

Section 5.0
CONSTRUCTION NOISE AND VIBRATION

Construction of roadway improvements will have a temporary impact on noise-sensitive sites adjacent to the project corridor. Trucks, earth moving equipment, pumps, and generators are sources of construction noise and vibration. Special provisions will be included in the construction contract that relate to the control of noise.

Section 6.0
NOISE CONTOURS

Land uses such as residences, motels, schools, churches, recreation areas, and parks are considered incompatible with highway noise levels above 66 dBA. In order to reduce the possibility of additional noise related impacts, noise level contours were developed for the future improved roadway facility. These noise contours delineate the distance from the improved roadway edge of pavement where the FDOT and FHWA Activity Category B land use is expected to occur in the year 2025 with the proposed improvements to S.R. 50.

As shown in Table 6-1, from U.S.19 to S.R.50/50A the extent of the 66 dBA noise level varies by roadway segment from 128 feet to 84 feet from the roadway's edge-of-pavement. Table 6-1 illustrates the noise impact contours.

TABLE 6-1
NOISE CONTOURS

Roadway Segment	Distance to 66 dBA From Edge-of-Pavement (ft)
U.S. 19 to Deltona Blvd.	89
Deltona Blvd. to Community Blvd.	128
Community Blvd. to Winter St..	119
Winter St. to the Bypass	84
Bypass to U.S. 41	84
U.S. 41 to S.R. 50/50A.	84

PREDICTED TRAFFIC NOISE LEVELS

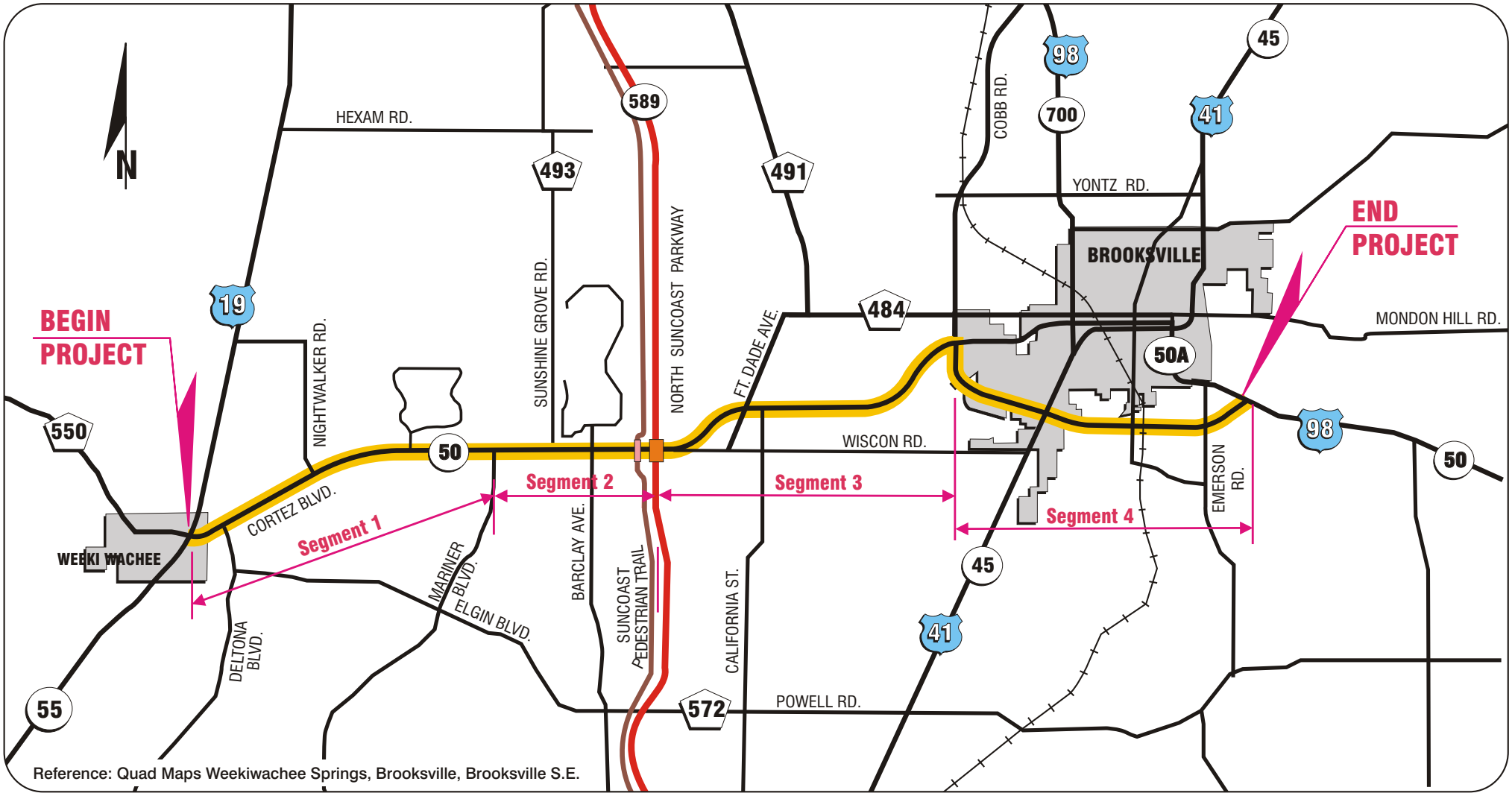
Project Segment	Site ID*	# of Dwelling Units	Land Use	Predicted L_{Aeq1h} (dBA)			Approaches, Meets, or Exceeds NAC?
				Existing (2002)	No Build (2025)	Build (2025)	
US 19 to Community Blvd	1	1	Hotel (pool)	59.4	60.4	61.8	
	2	1	Hotel (1st story interior)	39.3	40.2	41.6	
	3	1	Hotel (1st story interior)	39.1	40.0	41.2	
	4	1	Hotel (2nd story interior)	43.4	44.3	45.9	
	5	1	Hotel (2nd story interior)	43.2	44.1	45.4	
	6	1	SF Residential	60.8	61.7	62.1	
	7	1	SF Residential	60.2	61.1	61.7	
	8	1	SF Residential	61.8	62.6	63.3	
	9	1	SF Residential	62.9	63.8	63.8	
	10	1	SF Residential	58.1	59.0	59.7	
	11	1	SF Residential	59.6	60.5	61.0	
	12	1	SF Residential	58.2	59.1	60.6	
	13	1	SF Residential	59.2	60.1	61.9	
	14	1	SF Residential	59.3	60.2	62.5	
Community Blvd to Winter Street	15	1	SF Residential	56.1	56.1	59.2	
	16	1	SF Residential	62.6	62.6	65.6	
	17	1	SF Residential	65.8	65.8	68.8	Yes
	18	1	SF Residential	61.8	61.8	65.2	
	19	1	SF Residential	60.3	60.3	63.5	
	20	1	SF Residential	62.2	62.2	65.2	
	21	1	SF Residential	60.2	60.2	65.0	
	22	1	SF Residential	52.9	52.9	55.9	
	23	1	SF Residential	54.3	54.3	57.8	
	24	1	SF Residential	62.1	62.1	65.4	
Winter Street to the Bypass	25	1	Frontier Campground	57.5	58.9	59.3	
	26	2	Frontier Campground	56.9	58.2	58.6	
	27	2	Frontier Campground	57.8	59.1	59.4	
	28	3	Frontier Campground	58.1	59.4	59.8	
	29	2	Frontier Campground	59.3	60.7	61.2	
	30	3	Frontier Campground	60.0	61.3	61.8	
	31	3	Frontier Campground	61.1	62.5	63.0	
	32	1	SF Residential	64.0	65.3	65.9	
	33	1	SF Residential	59.3	60.6	60.9	
	34	1	SF Residential	60.1	61.5	62.0	
	35	1	SF Residential	61.0	62.3	62.9	
	36	1	SF Residential	63.0	64.3	64.9	
	37	1	SF Residential	62.6	63.9	64.4	
	38	1	SF Residential	56.0	57.4	57.9	
	39	1	SF Residential	56.8	58.2	58.2	
	40	1	SF Residential	58.5	59.9	60.5	

PREDICTED TRAFFIC NOISE LEVELS (CONTINUED)

Project Segment	Site ID*	# of Dwelling Units	Land Use	Predicted L_{Aeq1h} (dBA)			Approaches, Meets, or Exceeds NAC?
				Existing (2002)	No Build (2025)	Build (2025)	
U.S. 41 to S.R. 50/50A	41	4	MF Residential	56.4	58.6	60.5	
	42	1	SF Residential	58.2	60.4	60.6	
	43	1	SF Residential	56.2	58.4	60.5	
	44	1	SF Residential	58.2	60.4	60.6	
	45	1	SF Residential	55.6	57.8	60.5	
	46	1	SF Residential	57.3	59.5	60.0	
	47	1	SF Residential	55.2	57.4	59.8	
	48	1	SF Residential	58.8	61.0	61.3	
	49	1	SF Residential	55.6	57.8	60.8	
	50	1	SF Residential	58.6	60.8	61.3	
	51	1	SF Residential	55.6	57.8	60.6	
	52	1	SF Residential	57.7	59.9	60.9	
	53	1	SF Residential	55.6	57.8	60.8	
	54	1	SF Residential	60.3	62.5	62.9	
	55	1	SF Residential	57.3	59.5	61.4	
	56	4	MF Residential	66.6	68.8	68.9	Yes
	57	1	SF Residential	61.2	63.4	63.5	
	58	1	SF Residential	57.4	59.6	61.5	
	59	1	SF Residential	61.4	63.6	63.7	
	60	1	Church (interior)	42.9	45.1	45.2	
	61	1	Church (interior)	44.5	46.7	46.8	
	62	1	SF Residential	61.1	63.3	63.4	
	63	1	SF Residential	56.7	58.9	62.4	

* Site locations are illustrated in Appendix C.

GRAPHICS: JOBS/ PD&E / DIST 7 / SR 50 / REPORT /NOISE / NOISE.CDR / FIG 1-1 / 04-30-03



Reference: Quad Maps Weekiwachee Springs, Brooksville, Brooksville S.E.

LEGEND

- Project Study Limits
- Major Interchange
- Railroad

FLORIDA DEPARTMENT OF TRANSPORTATION

S.R. 50 (CORTEZ BLVD.)

PD&E STUDY REEVALUATION

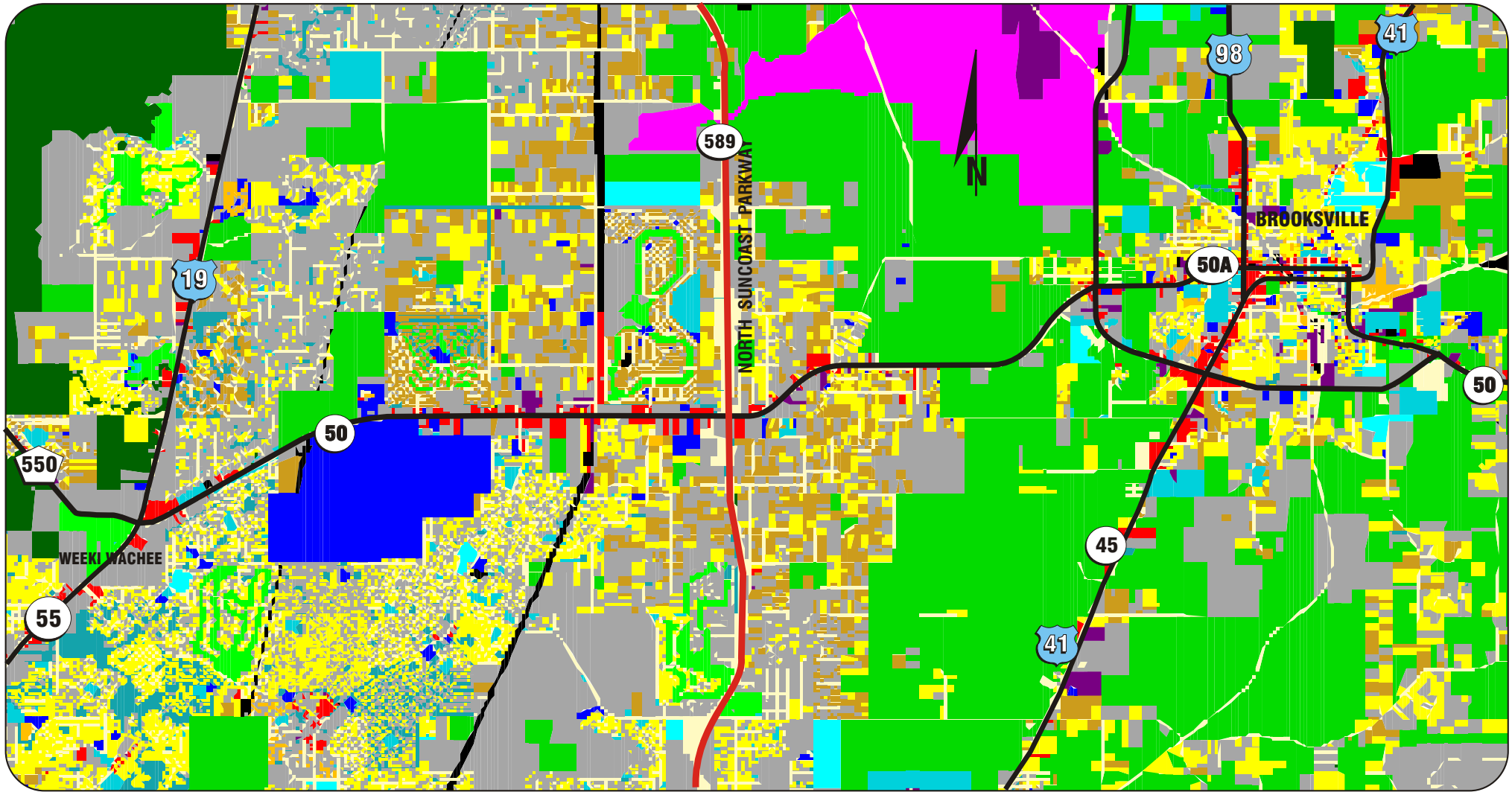
From U.S. 19 (S.R. 55) to the East Intersection of S.R. 50 / 50A [along the Brooksville Bypass]
Hernando County, Florida

PROJECT LOCATION MAP

WPI SEG. NO: 407951 1
FAP NO: 300 - 1 (7)

FIGURE 1-1

GRAPHICS: JOBS/ PD&E / DIST 7 / SR 50 / REPORTS /NOISE / NOISE.CDR / FIG 1-2 / 04-30-03



LEGEND

- Agriculture
- Commercial
- Conservation
- Education
- Mining
- Mobile Home
- Private Institutional
- Publically Owned
- Recreational
- Right of Way
- Single Family
- Utilities
- Vacant
- Water / DRA
- Industrial
- Multi-Family

FLORIDA DEPARTMENT OF TRANSPORTATION

S.R. 50 (CORTEZ BLVD.)

PD&E STUDY REEVALUATION

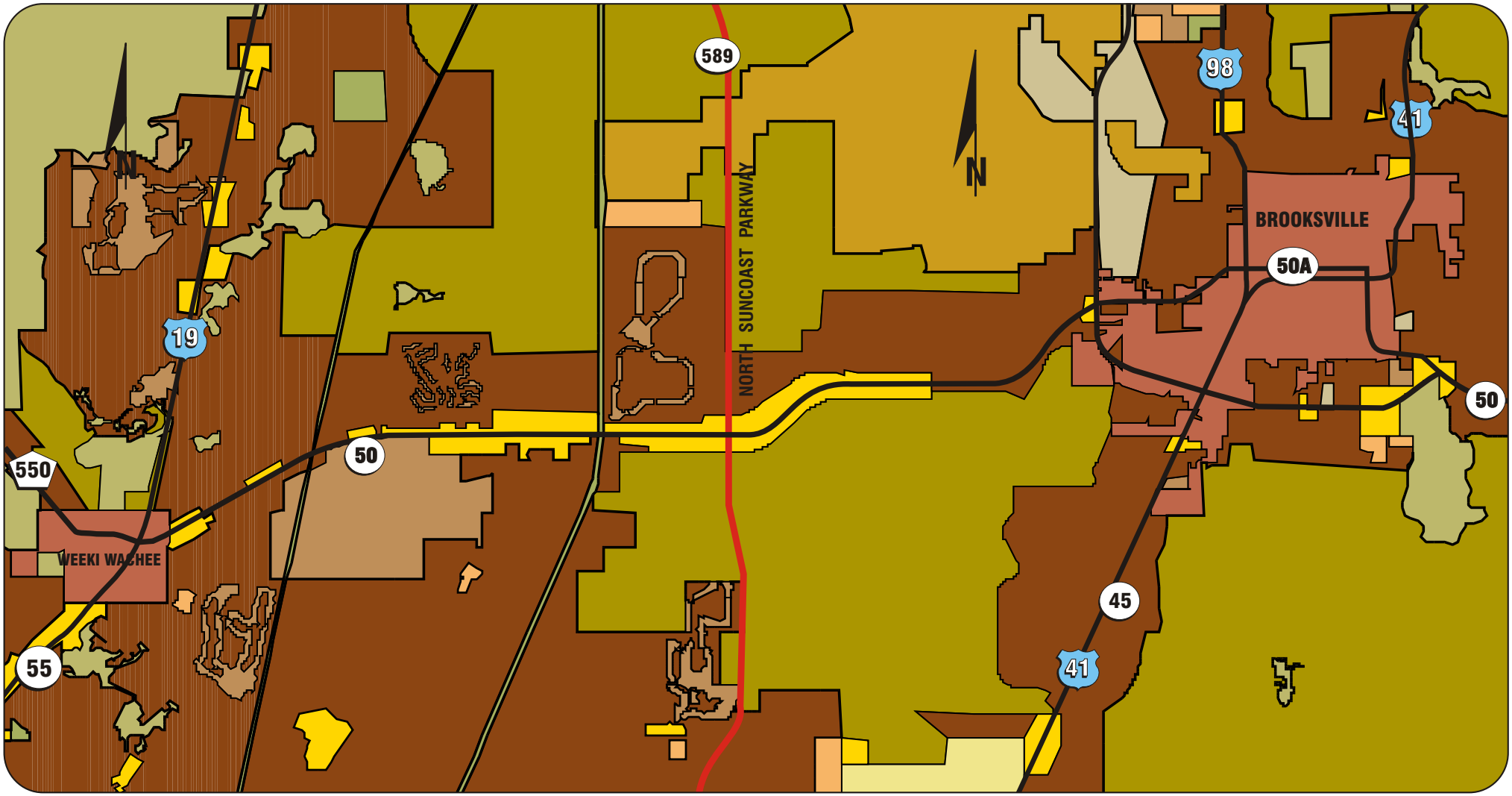
From U.S. 19 (S.R. 55) to the East Intersection of
S.R. 50 / 50A [along the Brooksville Bypass]
Hernando County, Florida

EXISTING LAND USE MAP

WPI SEG. NO: 407951 1
FAP NO: 300 - 1 (7)

FIGURE 1-2

GRAPHICS: JOBS/ PD&E / DIST 7 / SR 50 / REPORT /NOISE / NOISE.CDR / FIG 1-3 / 04-30-03



LEGEND

- City
- Commercial
- Conservation
- Education
- Industrial
- Mining
- Plan Development
- Public Facilities
- Recreation
- Residential
- Rural

FLORIDA DEPARTMENT OF TRANSPORTATION

S.R. 50 (CORTEZ BLVD.)

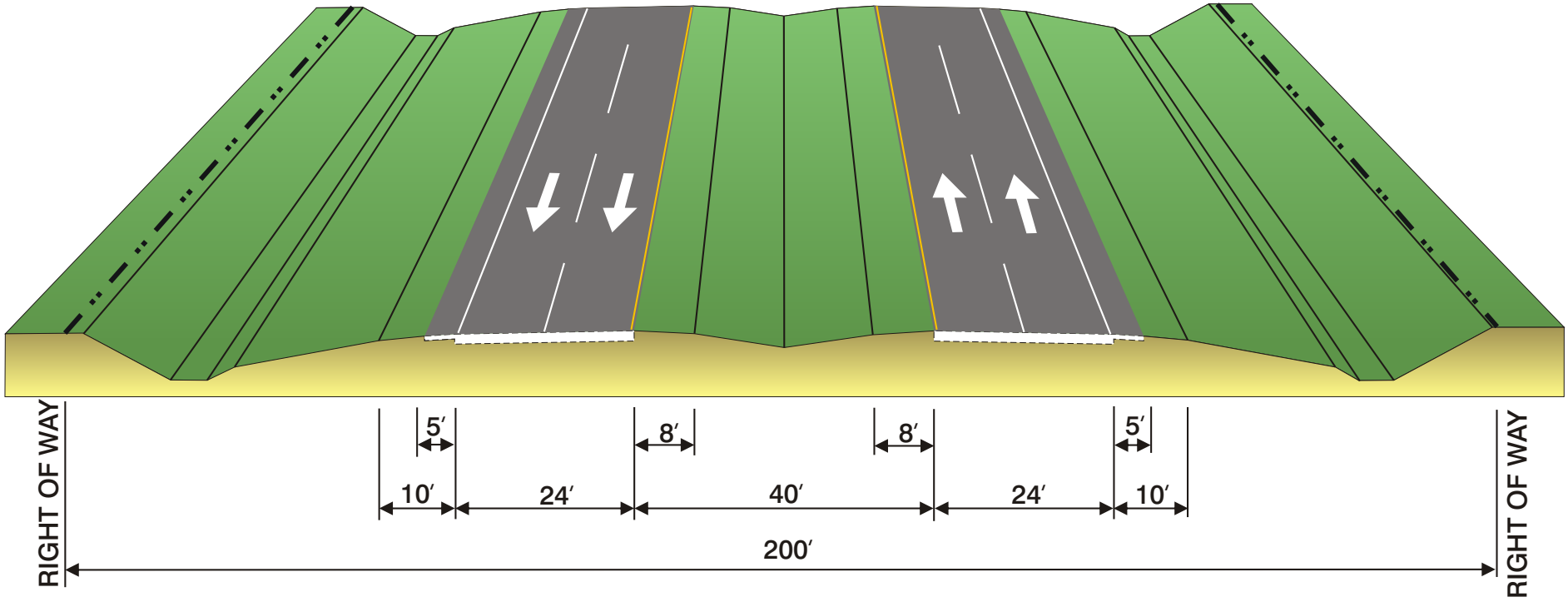
PD&E STUDY REEVALUATION

From U.S. 19 (S.R. 55) to the East Intersection of
S.R. 50 / 50A [along the Brooksville Bypass]
Hernando County, Florida

FUTURE LAND USE MAP

WPI SEG. NO: 407951 1
FAP NO: 300 - 1 (7)

FIGURE 1-3



U.S. 19 to WEST of the WESTERN INTERSECTION S.R. 50 / S.R. 50A

FLORIDA DEPARTMENT OF TRANSPORTATION

S.R. 50 (CORTEZ BLVD.)

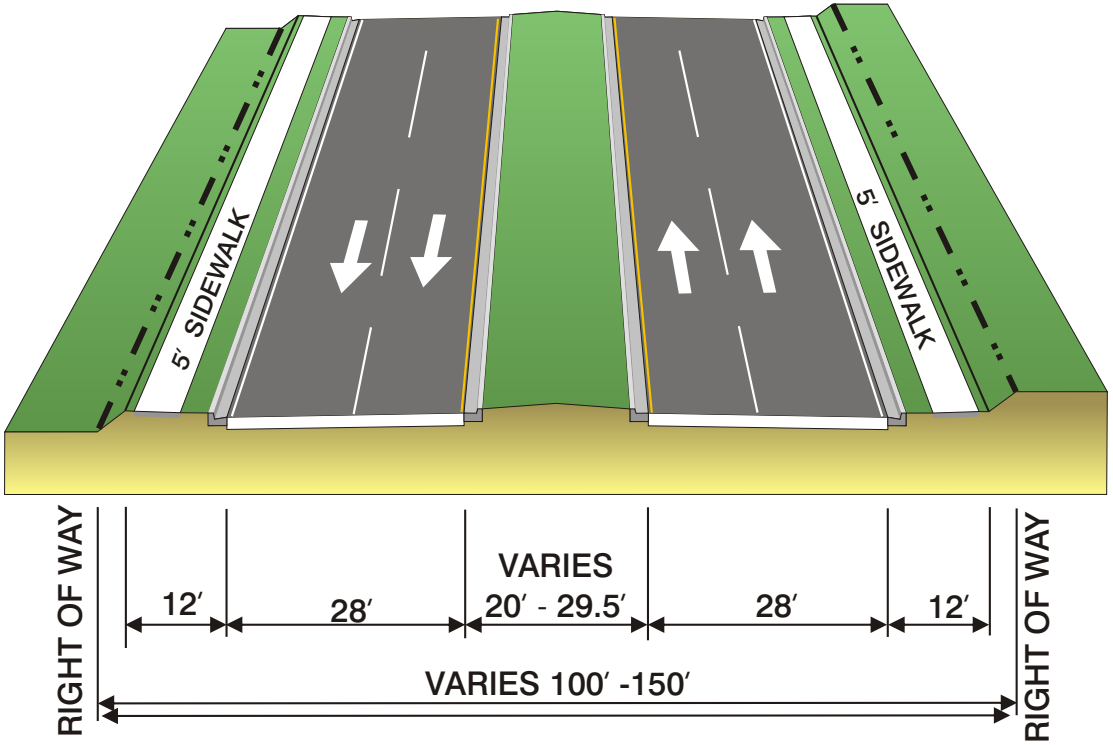
PD&E STUDY REEVALUATION

From U.S. 19 (S.R. 55) to the East Intersection of
S.R. 50 / 50A [along the Brooksville Bypass]
Hernando County, Florida

EXISTING ROADWAY TYPICAL SECTION

WPI SEG. NO: 407951 1
FAP NO: 300 - 1 (7)

FIGURE 1-4



WEST of the WESTERN INTERSECTION S.R. 50 / 50A to EAST of the WESTERN INTERSECTION S.R. 50 / 50A [along the BROOKSVILLE BYPASS]

FLORIDA DEPARTMENT OF TRANSPORTATION

S.R. 50 (CORTEZ BLVD.)

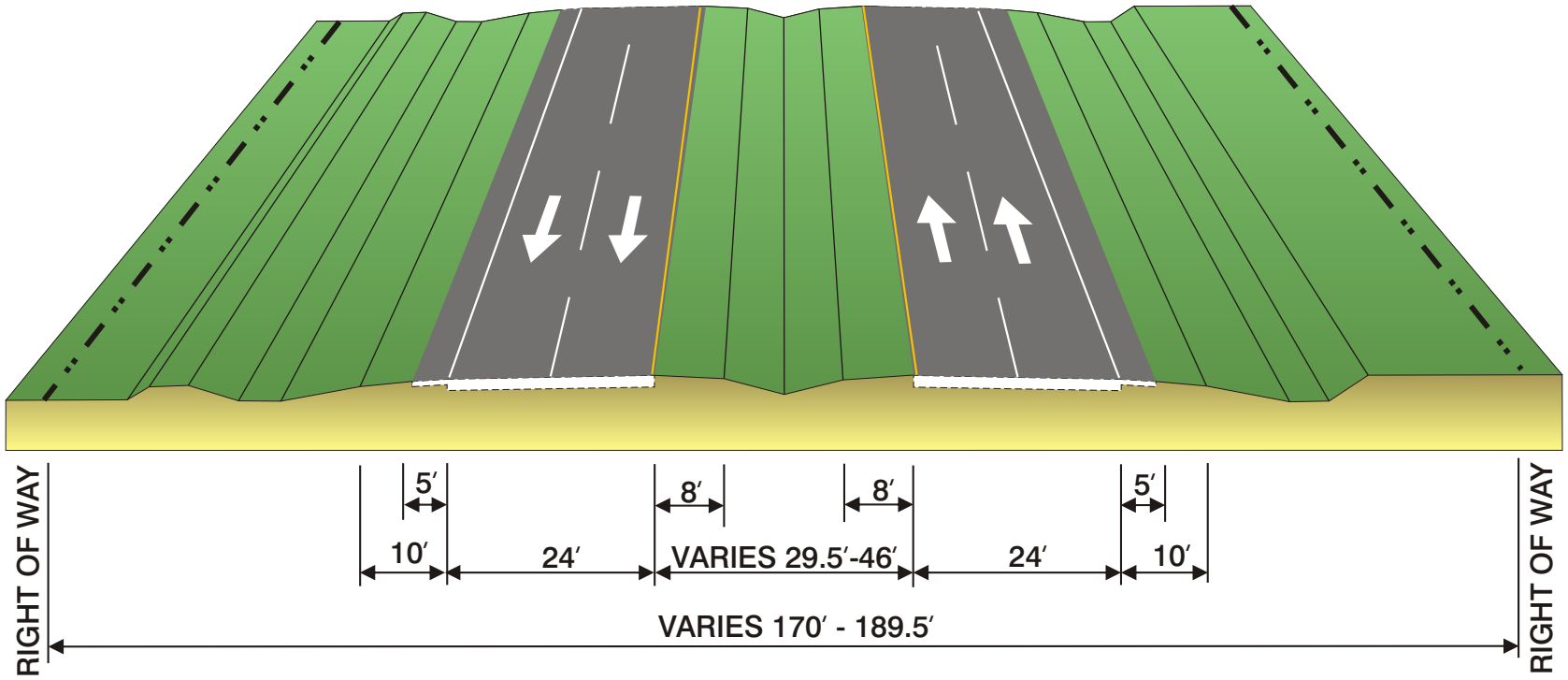
PD&E STUDY REEVALUATION

From U.S. 19 (S.R. 55) to the East Intersection of S.R. 50 / 50A [along the Brooksville Bypass]
Hernando County, Florida

EXISTING ROADWAY TYPICAL SECTION

WPI SEG. NO: 407951 1
FAP NO: 300 - 1 (7)

FIGURE 1-5



EAST of the WESTERN INTERSECTION S.R. 50 / 50A to WEST of CLINTON BLVD.
[along the BROOKSVILLE BYPASS]

FLORIDA DEPARTMENT OF TRANSPORTATION

S.R. 50 (CORTEZ BLVD.)

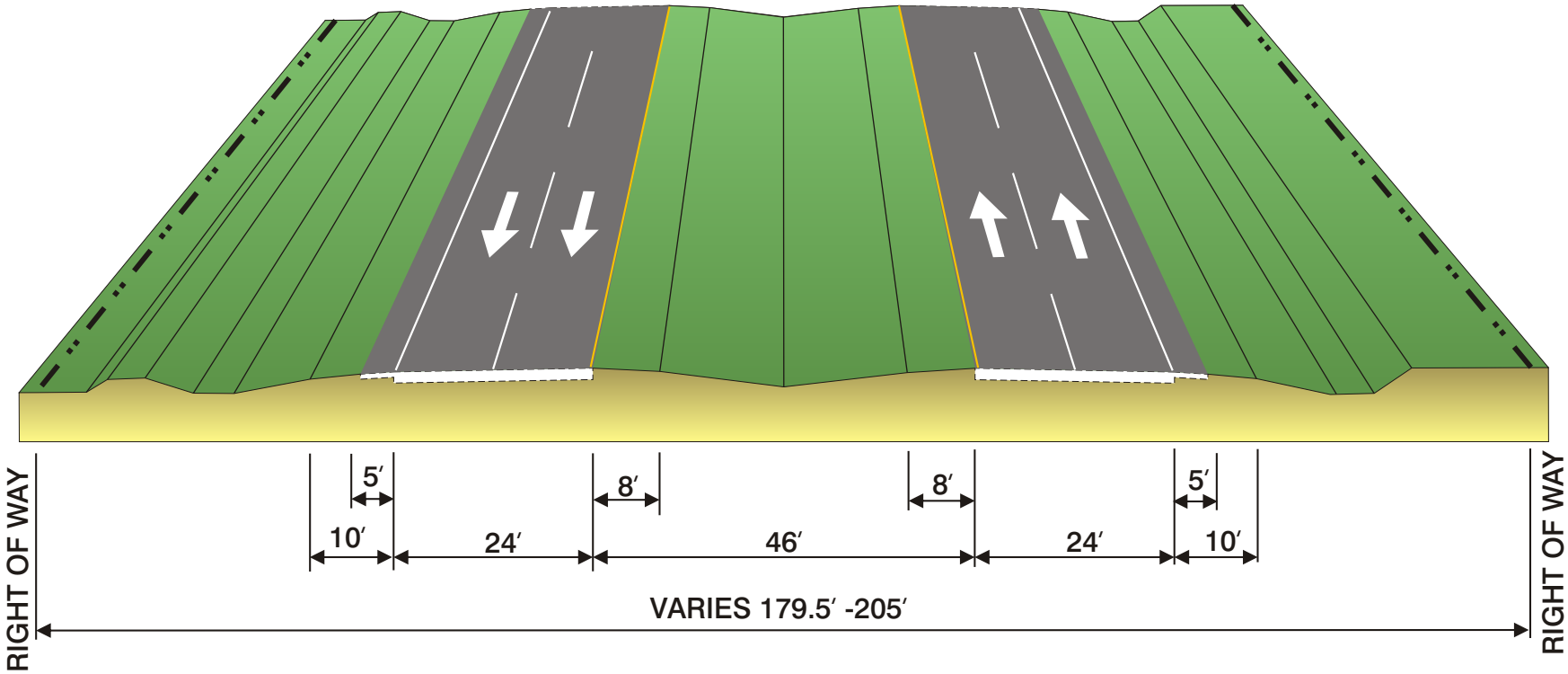
PD&E STUDY REEVALUATION

From U.S. 19 (S.R. 55) to the East Intersection of
S.R. 50 / 50A [along the Brooksville Bypass]
Hernando County, Florida

EXISTING ROADWAY TYPICAL SECTION

WPI SEG. NO: 407951 1
FAP NO: 300 - 1 (7)

FIGURE 1-6



WEST of CLINTON BLVD. to WEST of CANDLELIGHT BLVD.
[along the BROOKSVILLE BYPASS]

FLORIDA DEPARTMENT OF TRANSPORTATION

S.R. 50 (CORTEZ BLVD.)

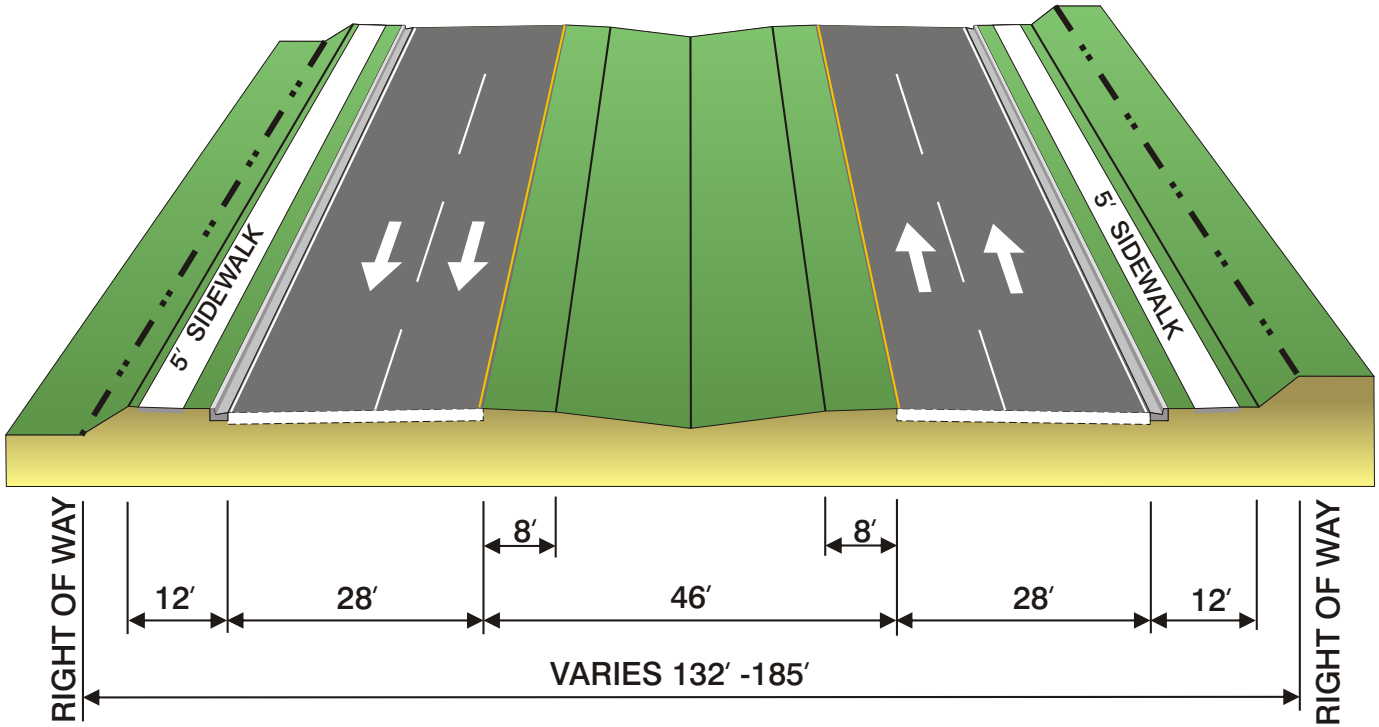
PD&E STUDY REEVALUATION

From U.S. 19 (S.R. 55) to the East Intersection of
S.R. 50 / 50A [along the Brooksville Bypass]
Hernando County, Florida

EXISTING ROADWAY TYPICAL SECTION

WPI SEG. NO: 407951 1
FAP NO: 300 - 1 (7)

FIGURE 1-7



WEST of CANDLELIGHT BLVD. to EAST of RAY BROWNING RD.
[along the BROOKSVILLE BYPASS]

FLORIDA DEPARTMENT OF TRANSPORTATION

S.R. 50 (CORTEZ BLVD.)

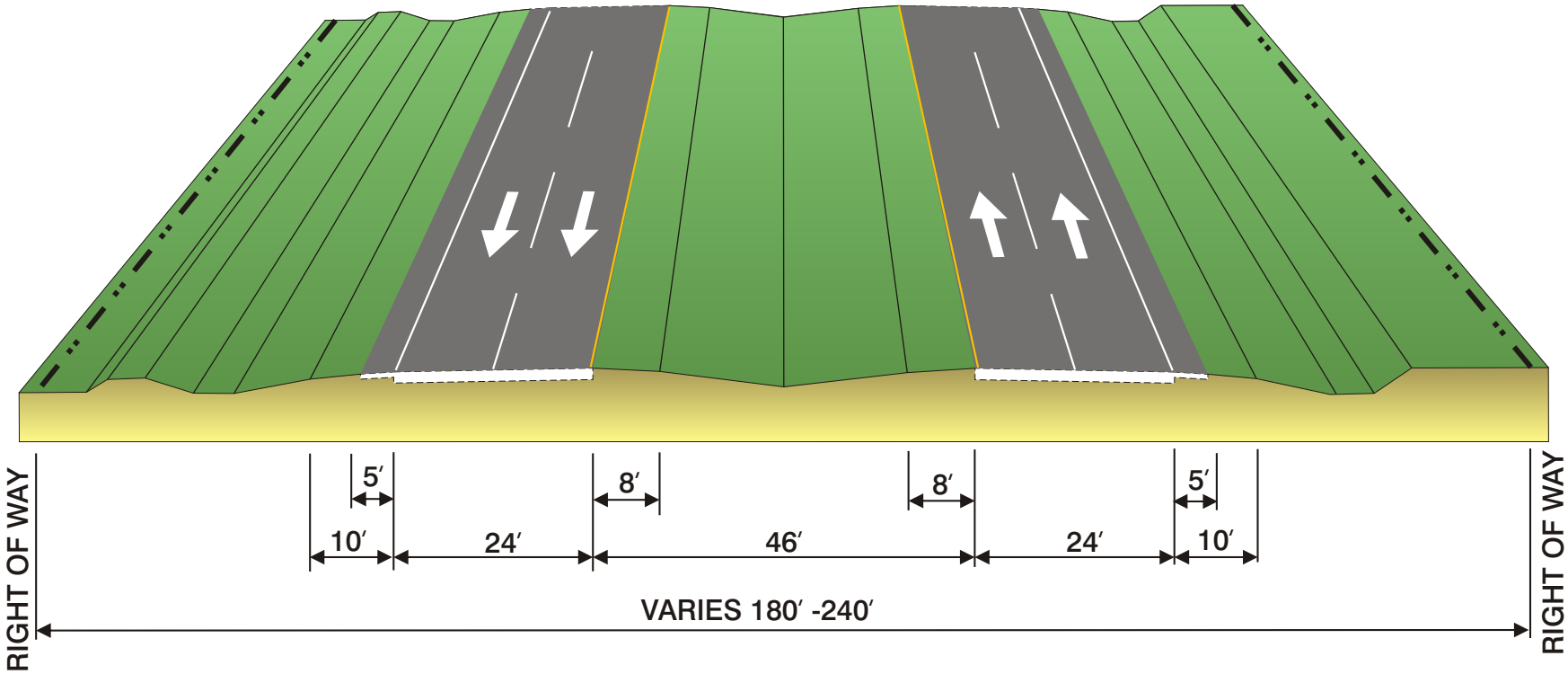
PD&E STUDY REEVALUATION

From U.S. 19 (S.R. 55) to the East Intersection of
S.R. 50 / 50A [along the Brooksville Bypass]
Hernando County, Florida

EXISTING ROADWAY TYPICAL SECTION

WPI SEG. NO: 407951 1
FAP NO: 300 - 1 (7)

FIGURE 1-8



EAST of RAY BROWNING RD. to the EASTERN INTERSECTION S.R. 50 / 50A
[along the BROOKSVILLE BYPASS]

FLORIDA DEPARTMENT OF TRANSPORTATION

S.R. 50 (CORTEZ BLVD.)

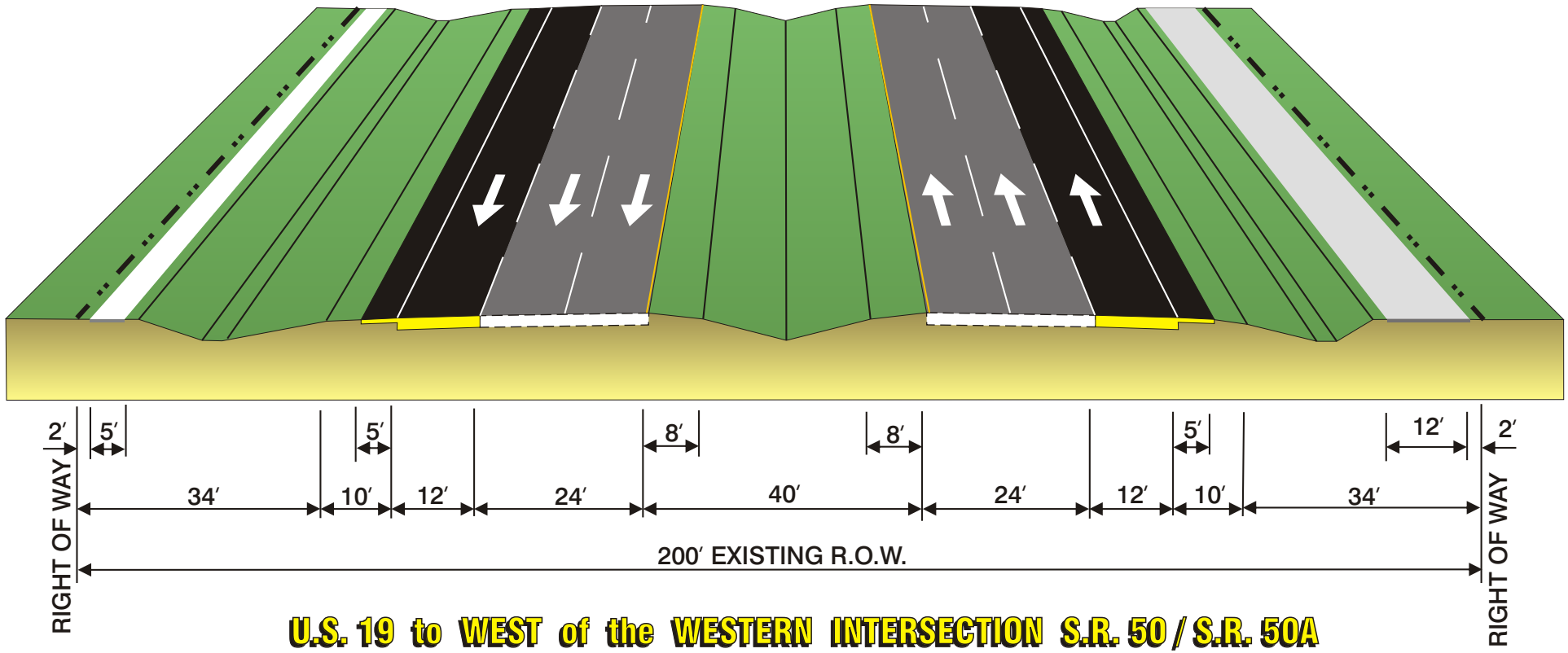
PD&E STUDY REEVALUATION

From U.S. 19 (S.R. 55) to the East Intersection of
S.R. 50 / 50A [along the Brooksville Bypass]
Hernando County, Florida

EXISTING ROADWAY TYPICAL SECTION

WPI SEG. NO: 407951 1
FAP NO: 300 - 1 (7)

FIGURE 1-9



U.S. 19 to WEST of the WESTERN INTERSECTION S.R. 50 / S.R. 50A
(Design Speed = 65 mph)

FLORIDA DEPARTMENT OF TRANSPORTATION

S.R. 50 (CORTEZ BLVD.)

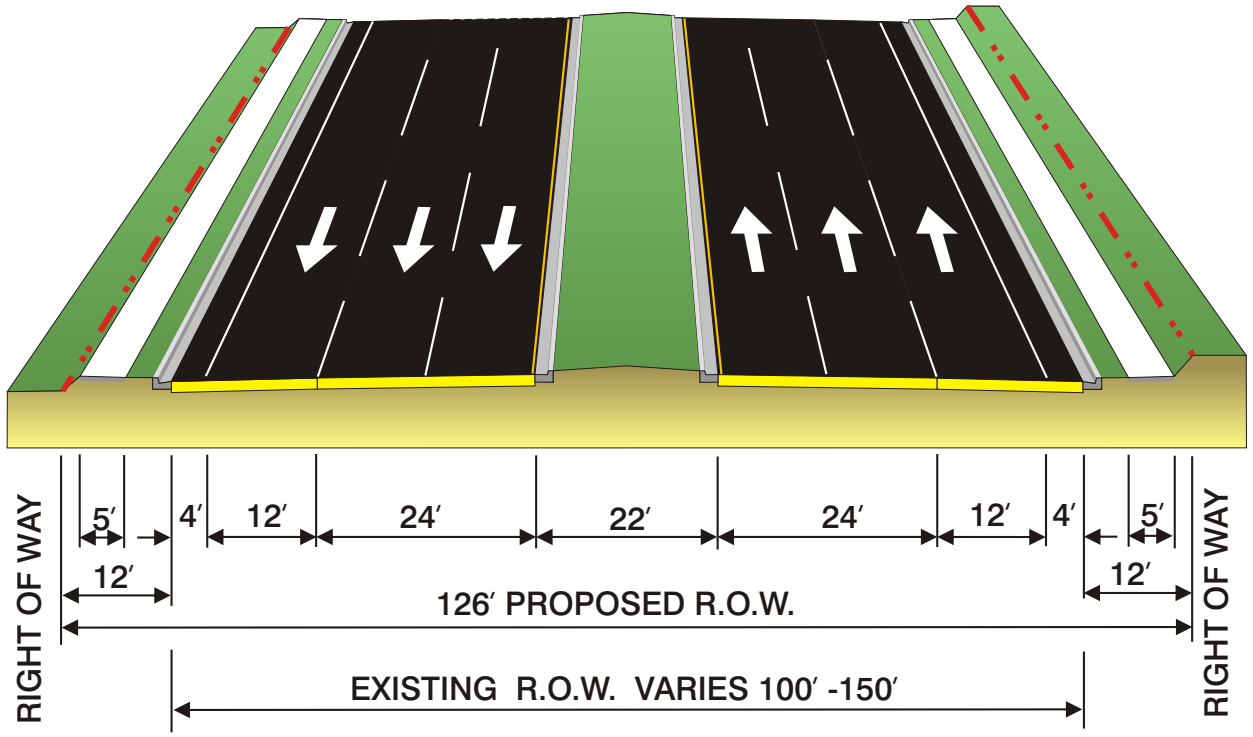
PD&E STUDY REEVALUATION

From U.S. 19 (S.R. 55) to the East Intersection of
S.R. 50 / 50A [along the Brooksville Bypass]
Hernando County, Florida

RECOMMENDED 6 - LANE RURAL ROADWAY TYPICAL SECTION

WPI SEG. NO: 407951 1
FAP NO: 300 - 1 (7)

FIGURE 1-10



WEST of the WESTERN INTERSECTION S.R. 50 / 50A to EAST of the WESTERN INTERSECTION S.R. 50 / 50A [along the BROOKSVILLE BYPASS] (Design Speed = 50 mph)

FLORIDA DEPARTMENT OF TRANSPORTATION

S.R. 50 (CORTEZ BLVD.)

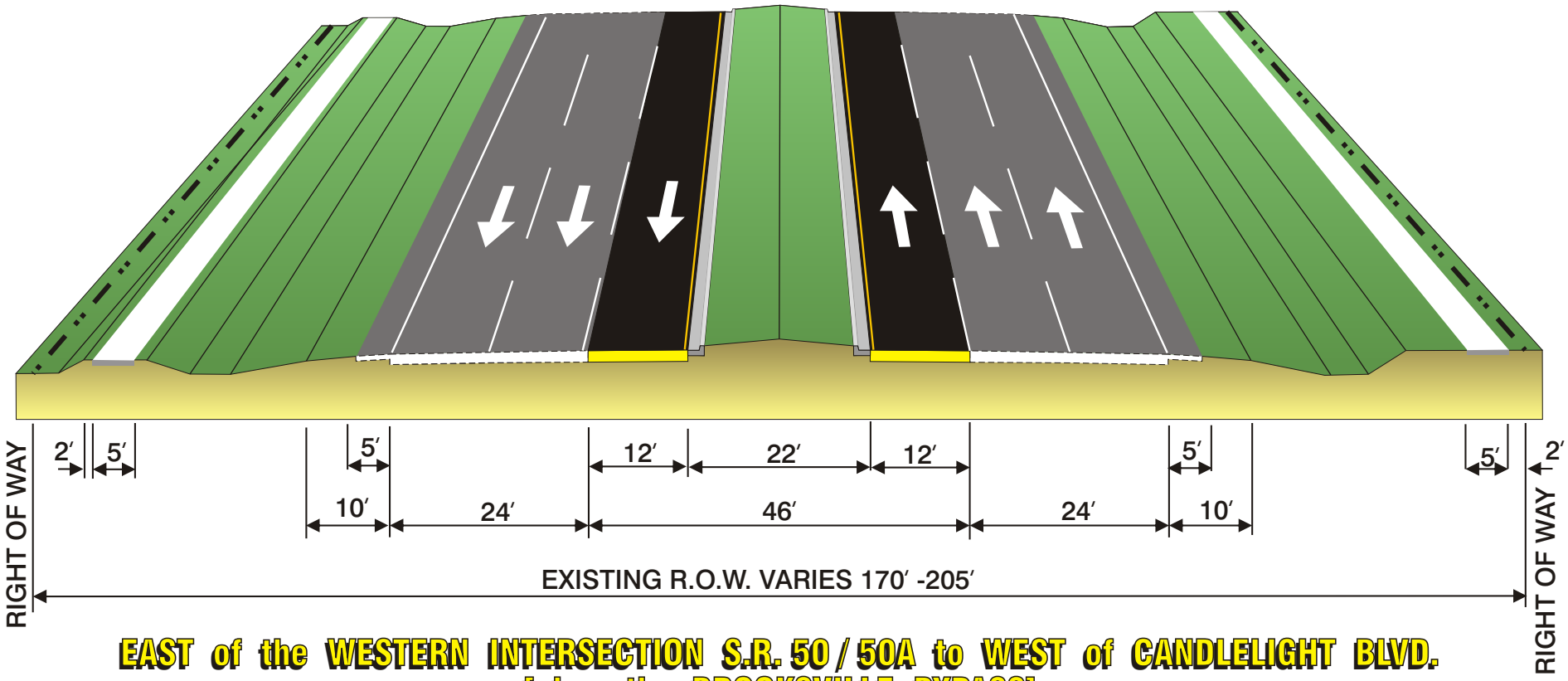
PD&E STUDY REEVALUATION

From U.S. 19 (S.R. 55) to the East Intersection of S.R. 50 / 50A [along the Brooksville Bypass] Hernando County, Florida

RECOMMENDED 6 - LANE URBAN ROADWAY TYPICAL SECTION

WPI SEG. NO: 407951 1
FAP NO: 300 - 1 (7)

FIGURE 1-11



EAST of the WESTERN INTERSECTION S.R. 50 / 50A to WEST of CANDLELIGHT BLVD.
[along the BROOKSVILLE BYPASS]

(Design Speed = 50 mph)

FLORIDA DEPARTMENT OF TRANSPORTATION

S.R. 50 (CORTEZ BLVD.)

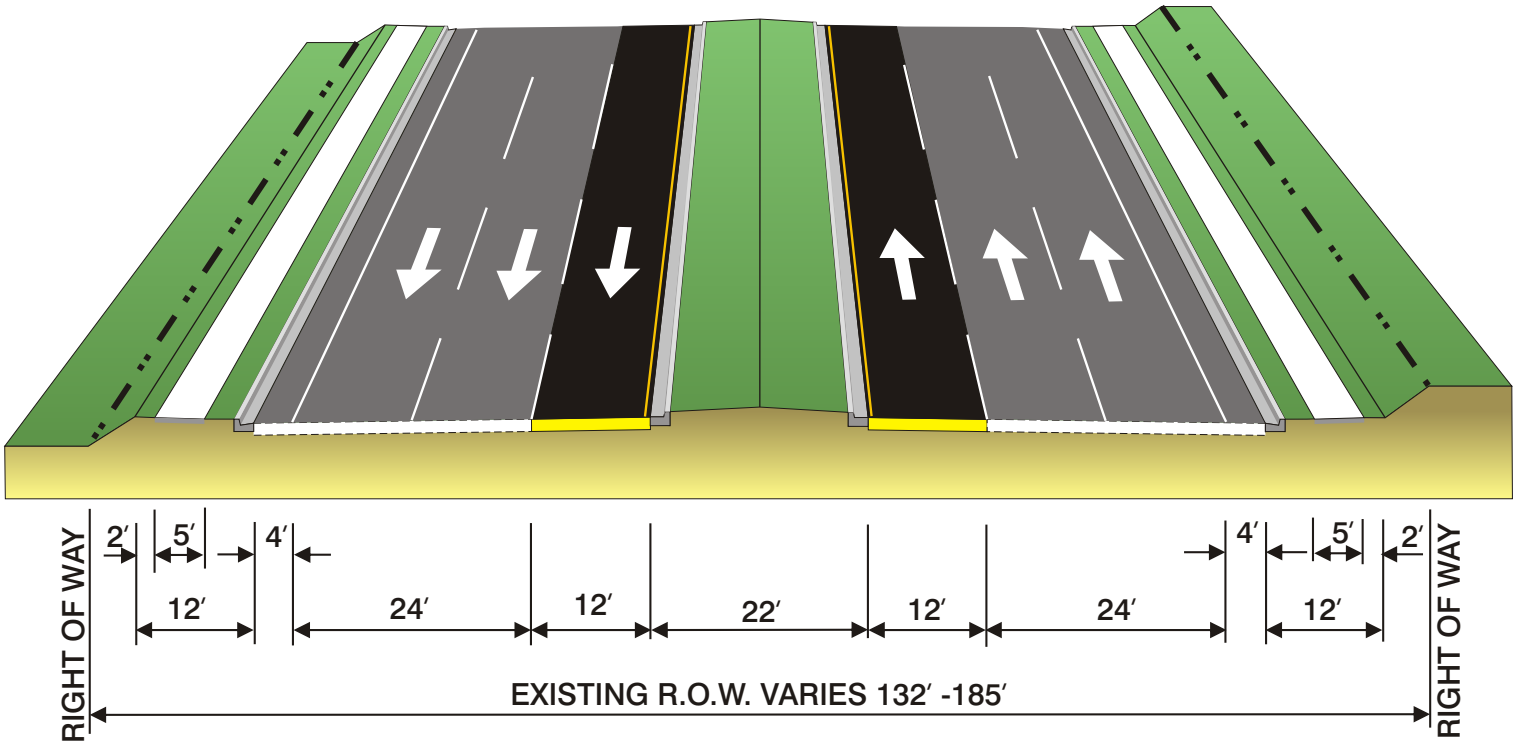
PD&E STUDY REEVALUATION

From U.S. 19 (S.R. 55) to the East Intersection of
S.R. 50 / 50A [along the Brooksville Bypass]
Hernando County, Florida

RECOMMENDED 6 - LANE MODIFIED URBAN ROADWAY TYPICAL SECTION

WPI SEG. NO: 407951 1
FAP NO: 300 - 1 (7)

FIGURE 1-12



WEST of CANDLELIGHT BLVD. to EAST of RAY BROWNING RD.
[along the BROOKSVILLE BYPASS]

(Design Speed = 50 mph)

FLORIDA DEPARTMENT OF TRANSPORTATION

S.R. 50 (CORTEZ BLVD.)

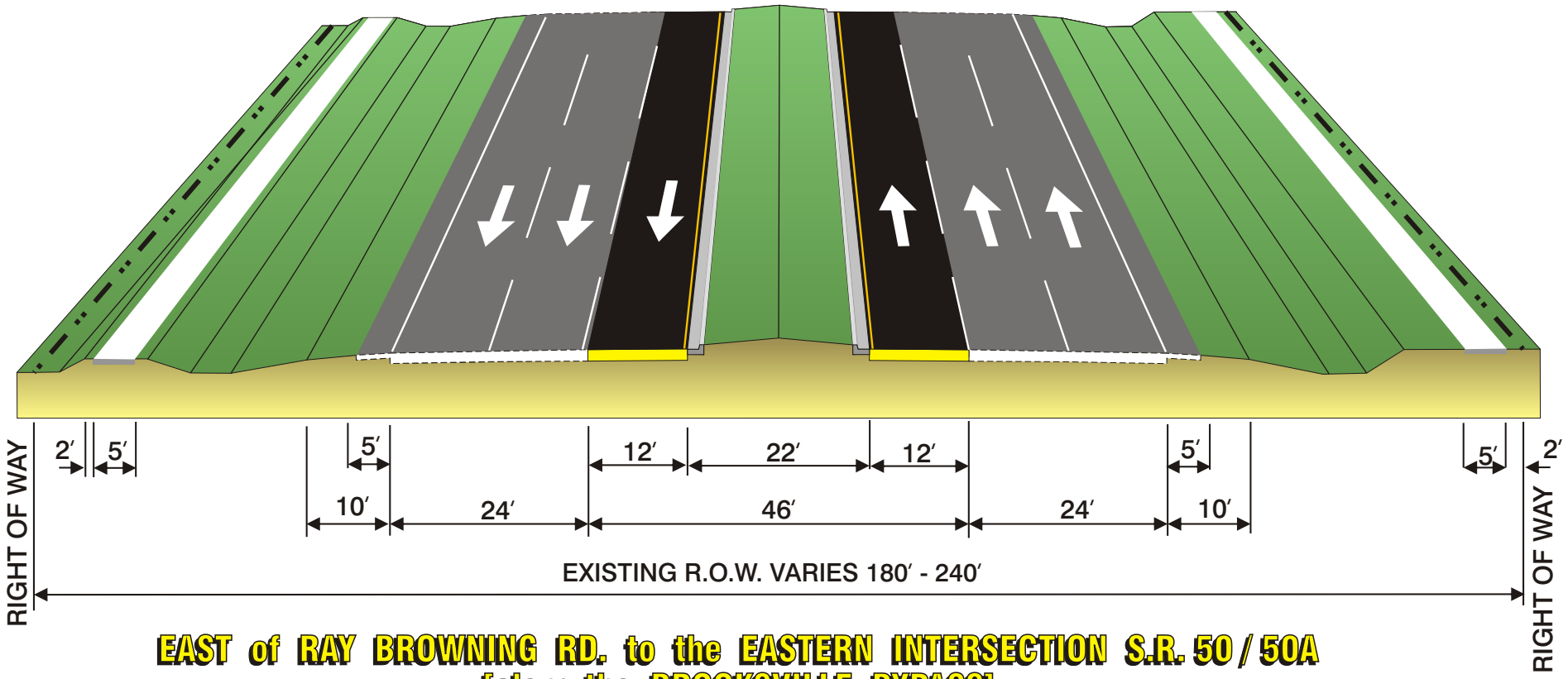
PD&E STUDY REEVALUATION

From U.S. 19 (S.R. 55) to the East Intersection of
S.R. 50 / 50A [along the Brooksville Bypass]
Hernando County, Florida

RECOMMENDED 6 - LANE URBAN ROADWAY TYPICAL SECTION

WPI SEG. NO: 407951 1
FAP NO: 300 - 1 (7)

FIGURE 1-13



EAST of RAY BROWNING RD. to the EASTERN INTERSECTION S.R. 50 / 50A
[along the BROOKSVILLE BYPASS]

(Design Speed = 50 mph)

FLORIDA DEPARTMENT OF TRANSPORTATION

S.R. 50 (CORTEZ BLVD.)

PD&E STUDY REEVALUATION

From U.S. 19 (S.R. 55) to the East Intersection of
S.R. 50 / 50A [along the Brooksville Bypass]
Hernando County, Florida

RECOMMENDED 6 - LANE MODIFIED URBAN ROADWAY TYPICAL SECTION

WPI SEG. NO: 4079511
FAP NO: 300 - 1 (7)

FIGURE 1-14

DISTRICT 7 EMO
TRAFFIC DATA FOR NOISE STUDIES

DATE: 3/28/03
PREPARED BY: Ayres / Gannet-Fleming

Work Program Item Segment Number(s): 407951-1-22-01
Federal Aid Number(s):
Project Description: SR 50 (Cortez Blvd.) PD&E Study Reevaluation
Segment Description: US 19 to Community Boulevard.

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

NOTE: ADT is the LOS(C) volume referenced in the FDOT tables or Demand, whichever is less.

Existing Facility	No-Build (design year)	Build (design year)
Year: 2002 ADT: 4LD LOS(C) 32,800 Demand 27,000 Posted Speed: 45*/55 mph *US19 to Deltona: 45 mph K= 9.62 % D= 53.00 % T= 6.00 % for 24 hrs. T= 3.00 % Design hr. 1.5% Heavy Trucks DHV 1.5%Medium Truck DHV ___%Buses DHV ___%Motorcycles DHV	Year: 2025 ADT: 4LD LOS(C) 32,800 Demand 39,500 Posted Speed: 45*/55 mph *US19 to Deltona: 45 mph K= 9.62 % D= 53.00 % T= 6.00 % for 24 hrs. T= 3.00 % Design hr. 1.5% Heavy Trucks DHV 1.5%Medium Truck DHV ___%Buses DHV ___%Motorcycles DHV	Year: 2025 ADT: 6LD LOS(C) 49,300 Demand 39,500 Proposed Posted Speed: 45*/55 mph *US19 to Deltona: 45 mph K= 9.62 % D= 53.00 % T= 6.00 % for 24 hrs. T= 3.00 % Design hr. 1.5% Heavy Trucks DHV 1.5%Medium Truck DHV ___%Buses DHV ___%Motorcycles DHV

Traffic Data Source: LOS (C):Table 4-2, 2002 Quality/Level of Service

revised 01/09/02

DISTRICT 7 EMO
TRAFFIC DATA FOR NOISE STUDIES

DATE: 3/28/03
PREPARED BY: Ayres / Gannett-Fleming

Work Program Item Segment Number(s): 407951-1-22-01
Federal Aid Number(s):
Project Description: SR 50 (Cortez Blvd.) PD&E Study Reevaluation
Segment Description: Community Boulevard to Mariner Boulevard

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

NOTE: ADT is the LOS(C) volume referenced in the FDOT tables or Demand, whichever is less.

Existing Facility	No-Build (design year)	Build (design year)
Year: 2002	Year: 2025	Year: 2025
ADT: 4LD LOS(C) 24,400	ADT: 4LD LOS(C) 24,400	ADT: 6LD LOS(C) 38,000
Demand 29,500	Demand 41,000	Demand 41,000
Posted Speed: 55 mph	Posted Speed: 55 mph	Proposed Posted Speed: 55 mph
K= 9.62 %	K= 9.62 %	K= 9.62 %
D= 53.00 %	D= 53.00 %	D= 53.00 %
T= 6.00 % for 24 hrs.	T= 6.00 % for 24 hrs.	T= 6.00 % for 24 hrs.
T= 3.00 % Design hr.	T= 3.00 % Design hr.	T= 3.00 % Design hr.
1.5% Heavy Trucks DHV	1.5 % Heavy Trucks DHV	1.5% Heavy Trucks DHV
1.5%Medium Truck DHV	1.5%Medium Truck DHV	1.5%Medium Truck DHV
___%Buses DHV	___%Buses DHV	___%Buses DHV
___%Motorcycles DHV	___%Motorcycles DHV	___%Motorcycles DHV

Traffic Data Source: LOS (C):Table 4-2, 2002 Quality/Level of Service revised 01/09/02

DISTRICT 7 EMO
TRAFFIC DATA FOR NOISE STUDIES

DATE: 3/28/03
PREPARED BY: Ayres / Gannett-Fleming

Work Program Item Segment Number(s): 407951-1-22-01
Federal Aid Number(s):
Project Description: SR 50 (Cortez Blvd.) PD&E Study Reevaluation
Segment Description: Mariner Boulevard to North Suncoast Parkway

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

NOTE: ADT is the LOS(C) volume referenced in the FDOT tables or Demand, whichever is less.

Existing Facility	No-Build (design year)	Build (design year)
Year: 2002	Year: 2025	Year: 2025
ADT: 4LD LOS(C) 24,400	ADT: 4LD LOS(C) 24,400	ADT: 6LD LOS(C) 38,000
Demand 33,000	Demand 48,500	Demand 48,500
Posted Speed: 55 mph	Posted Speed: 55 mph	Proposed Posted Speed: 55 mph
K= 9.62 %	K= 9.62 %	K= 9.62 %
D= 53.00 %	D= 53.00 %	D= 53.00 %
T= 6.00 % for 24 hrs.	T= 6.00 % for 24 hrs.	T= 6.00 % for 24 hrs.
T= 3.00 % Design hr.	T= 3.00 % Design hr.	T= 3.00 % Design hr.
15% Heavy Trucks DHV	15% Heavy Trucks DHV	15% Heavy Trucks DHV
1.5%Medium Truck DHV	1.5 %Medium Truck DHV	1.5%Medium Truck DHV
___%Buses DHV	___%Buses DHV	___%Buses DHV
___%Motorcycles DHV	___%Motorcycles DHV	___%Motorcycles DHV

Traffic Data Source: LOS (C):Table 4-2, 2002 Quality/Level of Service revised 01/09/02

DISTRICT 7 EMO
TRAFFIC DATA FOR NOISE STUDIES

DATE: 3/28/03
PREPARED BY: Ayres / Gannett-Fleming

Work Program Item Segment Number(s): 407951-1-22-01
Federal Aid Number(s):
Project Description: SR 50 (Cortez Blvd.) PD&E Study Reevaluation
Segment Description: North Suncoast Parkway to Winter Street

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

NOTE: ADT is the LOS(C) volume referenced in the FDOT tables or Demand, whichever is less.

Existing Facility	No-Build (design year)	Build (design year)
Year: 2002	Year: 2025	Year: 2025
ADT: 4LD LOS(C) 24,400	ADT: 4LD LOS(C) 24,400	ADT: 6LD LOS(C) 38,000
Demand 28,000	Demand 40,000	Demand 40,000
Posted Speed: 55 mph	Posted Speed: 55 mph	Proposed Posted Speed: 55 mph
K= 9.62 %	K= 9.62 %	K= 9.62 %
D= 53.00 %	D= 53.00 %	D= 53.00 %
T= 6.00 % for 24 hrs.	T= 6.00 % for 24 hrs.	T= 6.00 % for 24 hrs.
T= 3.00 % Design hr.	T= 3.00 % Design hr.	T= 3.00 % Design hr.
1.5% Heavy Trucks DHV	1.5% Heavy Trucks DHV	1.5% Heavy Trucks DHV
1.5%Medium Truck DHV	1.5%Medium Truck DHV	1.5%Medium Truck DHV
___%Buses DHV	___%Buses DHV	___%Buses DHV
___%Motorcycles DHV	___%Motorcycles DHV	___%Motorcycles DHV

Traffic Data Source: LOS (C):Table 4-2, 2002 Quality/Level of Service revised 01/09/02

DISTRICT 7 EMO
TRAFFIC DATA FOR NOISE STUDIES

DATE: 3/28/03
PREPARED BY: Ayres / Gannett-Fleming

Work Program Item Segment Number(s): 407951-1-22-01
Federal Aid Number(s):
Project Description: SR 50 (Cortez Blvd.) PD&E Study Reevaluation
Segment Description: Winter Street to The Bypass

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

NOTE: ADT is the LOS(C) volume referenced in the FDOT tables or Demand, whichever is less.

Existing Facility	No-Build (design year)	Build (design year)
Year: 2002	Year: 2025	Year: 2025
ADT: 4LD LOS(C) 32,800	ADT: 4LD LOS(C) 32,800	ADT: 6LD LOS(C) 49,300
Demand 21,500	Demand 29,000	Demand 29,000
Posted Speed: 55 mph	Posted Speed: 55 mph	Proposed Posted Speed: 55 mph
K= 9.62 %	K= 9.62 %	K= 9.62 %
D= 53.00 %	D= 53.00 %	D= 53.00 %
T= 6.00 % for 24 hrs.	T= 6.00 % for 24 hrs.	T= 6.00 % for 24 hrs.
T= 3.00 % Design hr.	T= 3.00 % Design hr.	T= 3.00 % Design hr.
1.5% Heavy Trucks DHV	1.5% Heavy Trucks DHV	1.5% Heavy Trucks DHV
1.5%Medium Truck DHV	1.5%Medium Truck DHV	1.5%Medium Truck DHV
___%Buses DHV	___%Buses DHV	___%Buses DHV
___%Motorcycles DHV	___%Motorcycles DHV	___%Motorcycles DHV

Traffic Data Source: LOS (C):Table 4-2, 2002 Quality/Level of Service

revised 01/09/02

DISTRICT 7 EMO
TRAFFIC DATA FOR NOISE STUDIES

DATE: 3/28/03
PREPARED BY: Ayres / Gannett-Fleming

Work Program Item Segment Number(s): 407951-1-22-01
Federal Aid Number(s):
Project Description: SR 50 (Cortez Blvd.) PD&E Study Reevaluation
Segment Description: The Bypass to US 41

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

NOTE: ADT is the LOS(C) volume referenced in the FDOT tables or Demand, whichever is less.

Existing Facility	No-Build (design year)	Build (design year)
Year: 2002	Year: 2025	Year: 2025
ADT: 4LD LOS(C) 24,400	ADT: 4LD LOS(C) 24,400	ADT: 6LD LOS(C) 38,000
Demand 15,500	Demand 24,500	Demand 24,500
Posted Speed: 40*/45 mph *Buck Hope to US41: 40 mph K= 9.62 %	Posted Speed: 40*/45 mph *Buck Hope to US41: 40 mph K= 9.62 %	Proposed Posted Speed: 40*/45 mph *Buck Hope to US41: 40 mph K= 9.62 %
D= 53.00 %	D= 53.00 %	D= 53.00 %
T= 18.00 % for 24 hrs.	T= 18.00 % for 24 hrs.	T= 18.00 % for 24 hrs.
T= 8.00 % Design hr.	T= 8.00 % Design hr.	T= 8.00 % Design hr.
4 % Heavy Trucks DHV	4 % Heavy Trucks DHV	4 % Heavy Trucks DHV
4 %Medium Truck DHV	4 %Medium Truck DHV	4 %Medium Truck DHV
___%Buses DHV	___%Buses DHV	___%Buses DHV
___%Motorcycles DHV	___%Motorcycles DHV	___%Motorcycles DHV

Traffic Data Source: LOS (C):Table 4-2, 2002 Quality/Level of Service

revised 01/09/02

DISTRICT 7 EMO
TRAFFIC DATA FOR NOISE STUDIES

DATE: 3/28/03
PREPARED BY: Ayres / Gannett-Fleming

Work Program Item Segment Number(s): 407951-1-22-01
Federal Aid Number(s):
Project Description: SR 50 (Cortez Blvd.) PD&E Study Reevaluation
Segment Description: US 41 to SR 50

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

NOTE: ADT is the LOS(C) volume referenced in the FDOT tables or Demand, whichever is less.

Existing Facility	No-Build (design year)	Build (design year)
Year: 2002	Year: 2025	Year: 2025
ADT: 4LD LOS(C) 32,800	ADT: 4LD LOS(C) 32,800	ADT: 6LD LOS(C) 49,300
Demand 18,000	Demand 30,000	Demand 30,000
Posted Speed: 40*/45 mph *US 41 to June Ave: 40 mph K= 9.62 %	Posted Speed: 40*/45 mph *US 41 to June Ave: 40 mph K= 9.62 %	Proposed Posted Speed: 40*/45 mph *US 41 to June Ave: 40 mph K= 9.62 %
D= 53.00 %	D= 53.00 %	D= 53.00 %
T= 18.00 % for 24 hrs.	T= 18.00 % for 24 hrs.	T= 18.00 % for 24 hrs.
T= 8.00 % Design hr.	T= 8.00 % Design hr.	T= 8.00 % Design hr.
4 % Heavy Trucks DHV	4 % Heavy Trucks DHV	4 % Heavy Trucks DHV
4 %Medium Truck DHV	4 %Medium Truck DHV	4 %Medium Truck DHV
___%Buses DHV	___%Buses DHV	___%Buses DHV
___%Motorcycles DHV	___%Motorcycles DHV	___%Motorcycles DHV

Traffic Data Source: LOS (C):Table 4-2, 2002 Quality/Level of Service

revised 01/09/02

Noise Study Report Appendix

S.R. 50 PD&E Reevaluation Study

From U.S. 19 to the east intersection of S.R. 50 / S.R. 50A [along the Brooksville Bypass]

Hernando County, Florida

WPI Segment No: 407951 1
FAP No: 300-1(7)

Florida Department of Transportation
District 7

July 2003

NOISE STUDY REPORT APPENDIX

Florida Department of Transportation
Project Development and Environment (PD&E) Study Reevaluation

S.R. 50 PD&E Reevaluation Study

From U.S. 19 to the east intersection of S.R. 50 / S.R. 50A [along the Brooksville Bypass]

Hernando County, Florida

WPI Segment No: 407951 1
FAP No: 300-1(7)

Prepared by:

Florida Department of Transportation

July 2003

Appendix A

Traffic Data

Appendix B

Predicted Traffic Levels
(Individual Sites)

Appendix C

Noise Sensitive Sites