Task E.3 Preliminary Engineering Report

NORTH TAMPA PARKWAY SUPPLEMENTAL NUMBER 1

Federal Aid Project Number: M-206-1(1) State Project Number: 10230-1521

W.P.I. Number: 7113892

FLORIDA DEPARTMENT OF TRANSPORTATION

June 1993

PRELIMINARY ENGINEERING REPORT

NORTH TAMPA PARKWAY U.S. 41/DALE MABRY HIGHWAY TO INTERSTATES 75/275 PASCO AND HILLSBOROUGH COUNTIES, FLORIDA

U.S. Department of Transportation Federal Highway Administration and Florida Department of Transportation

State Project Number 10230-1521 Federal Project Number M-206-1(1) Work Program 7113892

This project extends from Dale Mabry Highway to Interstates 75/275, approximately 5.2 miles, and analyzes alternatives for providing a multilane roadway for eastwest travel.

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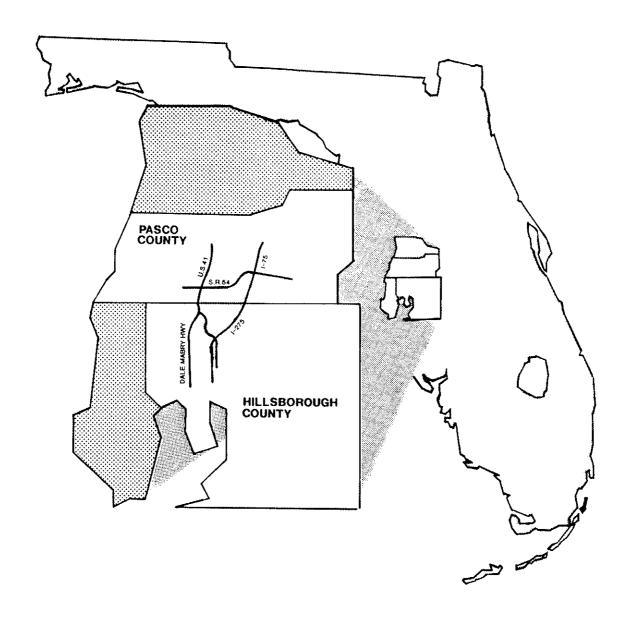
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1.0 ABSTRACT

The Florida Department of Transportation (FDOT) has identified the need to improve east-west travel in northern Hillsborough and southern Pasco Counties (see Exhibit 1.1). Greiner, Inc., in association with Howard Needles Tammen and Bergendoff, Florida Transportation Engineering, Mesimer Faller and Associates, Piper Archaeological Research and Knight Appraisal Services, has been retained by the FDOT to conduct the necessary preliminary engineering and environmental evaluations to identify the need, type, design and location of a multi-lane east-west travel corridor to serve the anticipated population of the study area and the urbanized region in the year 2010.

The North Tampa Parkway study area was bounded by Dale Mabry Highway (S.R. 597) and U.S. 41 (S.R. 45) on the west. It was bounded by Interstates 75 and 275 on the east. The northern boundary was S.R. 54. The southern boundary, the only boundary which was not an existing roadway, was approximately one mile south of Van Dyke Road. The Parkway was proposed as a four-lane divided, controlled-access facility with interchanges for local traffic at Dale Mabry Highway, U.S. 41, Collier Parkway/Livingston Avenue and Interstates 75/275. This proposed east-west corridor was envisioned as a scenic corridor incorporating landscaping and other design amenities to provide a buffer area between the roadway and adjacent land use. Included with the development of the North Tampa Parkway were proposed improvements to provide and/or upgrade non-motorized means of travel (i.e., bicycles and pedestrians) through the use of bicycle curb lanes, bicycle paths, sidewalks, and recreational trails. In addition to the six proposed "Build" alternatives, two other alternatives were carried through the analyses process. These alternatives were the No-Parkway Alternative and the No-Build Alternative.



ENGINEERING REPORT

PROJECT AREA

EXHIBIT 1.1

The No-Build Alternative provided for no improvements to the existing roadway system other than those improvements proposed in the long range transportation plans for Hillsborough and Pasco Counties. The No-Parkway Alternative provided for the same improvements as the No-Build along with additional improvements to enable traffic in the study area to operate at an acceptable level of service in the design year.

After careful analysis of the Build, No-Build, and No-Parkway Alternatives, the No-Parkway Alternative was selected as the preferred alternative. With this alternative, Dale Mabry Highway would be improved to a six-lane divided highway from Van Dyke Road north to U.S. 41. An interchange would be designed to link the Veterans Expressway to Dale Mabry Highway just north of Van Dyke Road. U.S. 41 from Dale Mabry Highway to S.R. 54 would be a six-lane divided highway with an urban interchange at the intersection of U.S. 41 and S.R. 54. The "No-Parkway Alternative" assumes improvements to S.R. 54 under a separate project. S.R. 54 would be a fourlane, rural arterial with an extension added east of Cypress Creek, linking it to I-75 at the new proposed interchange for S.R. 54 and I-75.

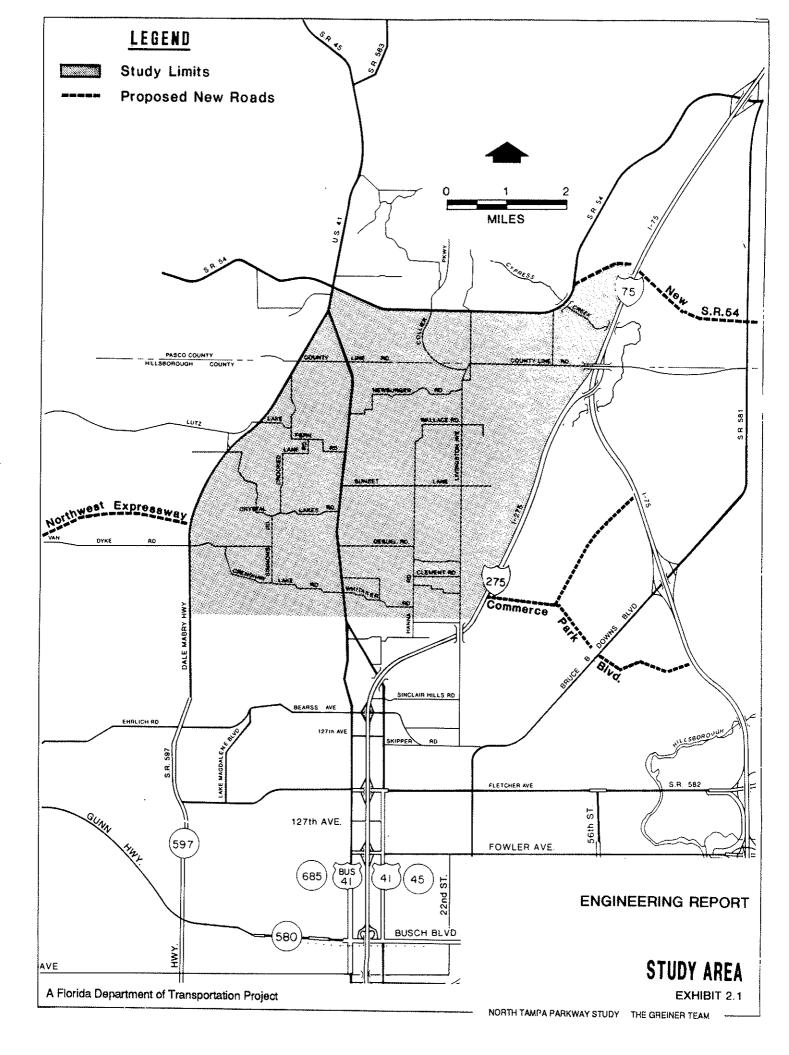
2.0 <u>INTRODUCTION</u>

2.1 PURPOSE

The Florida Department of Transportation (FDOT) and the Hillsborough County Metropolitan Planning Organization (MPO) have identified the need to provide an east-west roadway connection between Dale Mabry Highway/U.S. 41 and Interstates 75/275 (I-75/I-275). Greiner Inc. has been retained to perform the necessary project development and environmental studies to provide documentation regarding the need, type, design and location of the project. The project is located in the vicinity of northern Hillsborough County and southern Pasco County. Exhibit 2.1 shows the project study area. The geographical limits of the study area are from approximately one mile south of Van Dyke Road north to State Road 54 (S.R. 54) and from Dale Mabry Highway (S.R. 597)/U.S. 41 east to I-75/I-275.

The objective of the study is to identify viable corridors and prepare a series of engineering and environmental reports documenting the existing roadway conditions, right-of-way requirements, typical sections, environmental and social impacts, economic considerations and design analysis of the project. The study includes evaluation of the S.R. 54 corridor as to its feasibility for an east-west connector.

An important step in the study process is the preparation of a draft preliminary engineering report, as presented herein. The purpose of the draft preliminary engineering report is to provide objective and complete documentation for reaching a decision as to the type, design and location of the east-west connector. This documentation includes the analysis of proposed alternative alignments. Topics addressed within this report include existing physical features, need for the facility, future travel demand and conceptual design alternatives.



2.2 PROJECT DESCRIPTION

The study area as shown in Exhibit 2.1 for this project encompasses an area of approximately 35 square miles in northern Hillsborough County and southern Pasco County. This area is bounded by Dale Mabry Highway on the west, S.R. 54 on the north, I-75/I-275 on the east and a line one mile south of Van Dyke Road on the south.

The North Tampa Parkway was proposed as a four-lane divided, controlled-access facility. Typically, the roadway had a parkway character with a widened median for landscaping, ramps and frontage roads for parkway access and local travel and landscaped areas with paths 12 feet and 10 feet wide for bicycles and pedestrians, respectively, depending on the volume of traffic.

3.0 <u>EXISTING CONDITIONS</u>

3.1 EXISTING ROADWAY CHARACTERISTICS

The following four existing east-west through roadway systems serve the study area:

State Road 54 - Through most of the study area, S.R. 54 is a two-lane undivided rural roadway. From the U.S. 41 intersection to approximately three quarters of a mile eastward, the road widens to a four-lane undivided section. This facility carried approximately 20,800 vehicles per day during 1990. From U.S. 41 to Cypress Creek, S.R. 54 follows an east-west alignment, running approximately one mile north and parallel to the Hillsborough-Pasco County line. However, just east of Cypress Creek, the alignment takes on a northeasterly direction until the road intersects I-75 approximately 5 miles north of the Pasco-Hillsborough County line.

Lutz Lake Fern Road/U.S. 41/Newburger Road/Livingston Avenue/County Line Road (hereafter referred to as Lutz Lake Fern/County Line Road) - This system is made up of a combination of east-west and north-south roadways, and it is partially being utilized as an alternative east-west route. During 1990, Lutz Lake Fern Road carried approximately 3,300 vehicles per day just east of Dale Mabry Highway and 3,900 vehicles per day in the vicinity of U.S. 41. Approximately 10,700 vehicles per day traveled on Livingston Avenue in 1990.

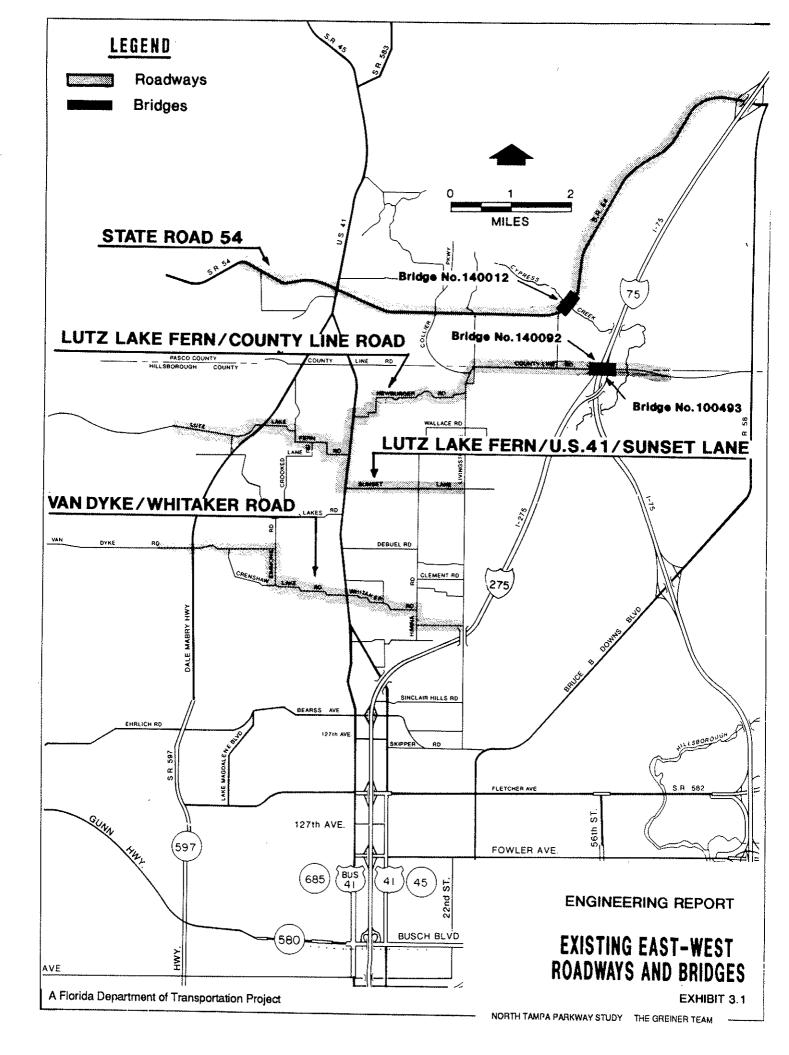
Given the numerous turns and alignment changes contained within this east-west roadway system and the amount of north-south travel required, its function as a east-west route for the area is rather limited.

Lutz Lake Fern/U.S. 41/Sunset Lane (hereafter referred to as Lutz Lake Fern/Sunset Lane) - This corridor provides an alternative east-west route which would primarily serve the central section of the study area. All the east-west roads involved in this system are two-lane undivided. During 1990, Sunset Lane carried approximately 8,600 daily vehicles per day just east of U.S. 41 and approximately 5,650 vehicles per day just west of the Livingston Avenue intersection.

Van Dyke Road/Simmons Road/Crenshaw Lake Road/Whitaker Road/Hanna Road/Vandervort Road (hereafter referred to as Van Dyke/Whitaker Road) - This system includes numerous connections and turns through several minor two-lane rural roadways in the southern portion of the study area. Van Dyke Road carried approximately 10,250 daily vehicles per day in 1990, on the section between Dale Mabry Highway and Crenshaw Lake Road. During 1990, the average daily traffic for Crenshaw Lake Road was approximately 9,125 vehicles per day.

These existing east-west roadway systems are shown in Exhibit 3.1. The characteristics of the roadway systems are described in this section. In addition, background information on drainage, geotechnical data and utilities is discussed as it pertains to the study area.

None of the existing roadway systems link U.S. 41 and Dale Mabry Highway to I-75 or I-275 within the study area. S.R. 54 links U.S. 41 to I-75 at an interchange located in Pasco County approximately eight miles north of Cypress Creek, considerably outside the study area.



3.1.1 Functional Classification

As illustrated on Exhibit 3.2, the majority of the continuous, existing routes in the study area are presently classified as arterials. These routes include Dale Mabry Highway, U.S. 41, and S.R. 54. All other facilities highlighted on Exhibit 3.2 are classified as collector routes in accordance with the existing functional classification for Hillsborough County.

The adopted Long-Range Transportation Plan for Hillsborough County calls for several of the existing collector routes to be upgraded to an arterial classification following their improvement in accordance with the plan recommendations. While additional discussion of the Plan recommendations is contained in Subsection 4.3 of this document, those facilities anticipated to be re-classified consist of County Line Road and Livingston Avenue. The Plan recommends that both of these routes be upgraded in terms of continuity and cross section. In both instances, these routes are proposed for widening from the existing two-lane to a four-lane cross section.

3.1.2 <u>Typical Sections</u>

Each of the existing east-west roadway systems is a two-lane (12-foot or less each lane), asphalt pavement, rural facility with side drainage ditches with the exception of portions of S.R. 54 near the U.S. 41, and Collier Parkway intersections, where S.R. 54 widens into a four-lane undivided section.

Table 3.1 displays existing roadway and typical section characteristics for each relevant road within the study area. The information presented in the table includes number of lanes, lane widths, presence of shoulders, curb and gutter and/or sidewalks,

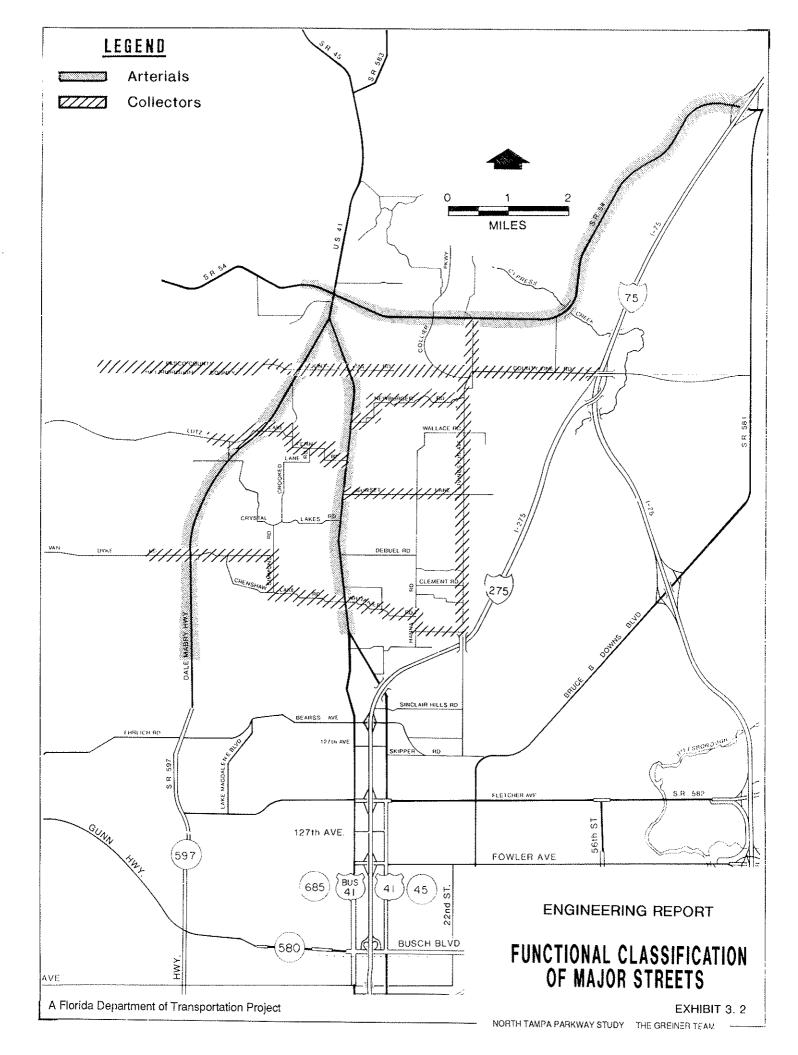


TABLE 3.1

EXISTING ROADWAY CHARACTERISTICS

		Width	Shoulder Width		рітсн	H	RIG	RIGHT-OF-WAY	AY
Location	Number Lanes	Per Lane	or Curb Type	Sidewalk Width	PI to PI Width	Depth	C.L. to Right	C.L. to Left	Lighting
					,		1	1	
SR 54 West	2	12,	.9/.9	0	12'/15'	2,	50,	50,	None
SR 54 Middle	2	12,	8,/8	0	17'/15'	3,	50.	50,	None
SR 54 East	2	12,	8'/10'	Slopes to R/W	R/W	ĬĮ,	50.	50,	None
Lutz Lake Fern Rd. West	2	11.	0	Slopes to R/W	R/W	1,	25'	25.	None
Lutz Lake Fern Rd. Mid	2	11,	0	Slopes to R/W	R/W	1,	25.	25.	None
Lutz Lake Fern Rd. East	2	12,	0	Slopes to R/W	R/W	0	30,	30.	None
Newburger Rd. West	2	*	0	Slopes to R/W	R/W	0	20,	20,	None
Newburger Rd. Mid	2	.8	0	Slopes to R/W	R/W	0	25°	20.	None
Newburger Rd. East	2	∞	0	Slopes to R/W	R/W	0	25°	18,	None
Livingston Ave. North	7	10,	4.	Slopes to R/W	R/W	1,	25'	25'	None
Livingston Ave. Mid	2	11,	.9	Slopes to R/W	R/W	1,	25°	25;	None
Livingston Ave. South	2	11,	4	Shallow Swale to R/W	ale to R/W	1,	25,	25,	None
County Line Rd. East of Livingston Ave.	2	12,	8,	0	20,/30,	2./4	30.	.59	None
US 41 No. of Lutz Lake Fern Rd.	2	12,	10.	Slopes to R/W	R/W	4,/0,	50,	50,	None
US 41 So. of Lutz Lake Fern Rd.	2	12,	10,	0/4.	0	5./0,	30,	50,	None
Sunset Lane West	3	111	0	Slopes to R/W	R/W	0	25,	25.	None
Sunset Lane East	2	12,	0	Slopes to R/W	R/W		30,	25'	None
Van Dyke Rd.	2	10.	0	Slopes to R/W	R/W	<u></u>	23.	28.	None
Simmons Rd.	2	12,	0	Slopes to R/W	R/W	-	25'	25'	None
Crenshaw Lake Rd.	2	11,	0	Shallow Swale Lt	vale Lt.	-1	25.	25'	None
Whitaker Rd.	2	10,	0	Shallow Swale L & R	ale L & R	-	25'	25.	None
Hanna Rd.	2	9,	5,	0	10,	3,	25'	25°	None
Vandervort Rd.	2	10,	0	Slopes to R/W	R/W	0	25'	25.	None

type of drainage system (all roadways have an open system, with ditches on one or both sides of the road) as well as existing right-of-way widths.

3.1.3 Pedestrian and Bicycle Facilities

None of the roadways identified provide separate facilities for pedestrian or bicycle facilities. Sidewalks are confined to residential subdivision streets located beyond the right-of-way of the existing east-west roadway systems. There is a 300-foot, 4-foot-wide sidewalk on the east side of U.S. 41 south of Lutz Lake Fern Road.

3.1.4 Right-of-Way

Right-of-way for each of the existing east-west roadway systems is no greater than 50 to 60 feet with the exception of S.R. 54 and U.S. 41 and of several isolated locations on the other roadways. The west side of Dale Mabry Highway has an existing right-of-way width of 132 feet. The east side is less at only 68 feet.

S.R. 54 has a 100-foot right-of-way throughout the study area with exceptions in the vicinities of Collier Parkway and U.S. 41, where the right-of-way is widened to approximately 150 feet. U.S. 41 between Newburger Road and Sunset Lane has a 100-foot right-of-way.

3.1.5 Horizontal Alignment

With the exception of S.R. 54, each of the existing roadway systems has abrupt curves in alignment that require extremely low speeds at numerous points (see Exhibit 3.1).

Posted speed limits on each system other than S.R. 54 and a portion of U.S. 41 are restricted predominantly to 25 to 35 miles per hour (mph). U.S. 41 and S.R. 54 have posted speeds up to 55 mph.

Intersections on each of the roadway systems generally do not have provisions for higher capacity movements, such as left and right turn lanes and signalization.

Only S.R. 54 has a continuous alignment throughout the study corridor, yet without a new extension to a new interchange on I-75 the alignment fails to connect U.S. 41 to I-75/I-275 within the study area. A new extension is proposed for S.R. 54 east of its crossing of Cypress Creek. S.R. 54 will curve eastward and connect with I-75 at the proposed S.R. 54/I-75 interchange. An Interchange Justification Report was prepared and approved for the interchange. The S.R. 54 project has received Location/Design Acceptance from FHWA.

Each of the other east-west roadway systems lacks continuity. The Lutz Lake Fern/County Line Road, Lutz Lake Fern/Sunset Lane, and Van Dyke Road/Whitaker Road systems require 90 degree turns at numerous locations and/or at intersections. None of these systems connect directly with I-75 or I-275.

3.1.6 <u>Vertical Alignment</u>

The flat topography within the study area has resulted in generally flat grades for sight distance for each of the roadway systems. There are no overpasses requiring vertical elevation except where County Line Road crosses I-75. There are no sight problems within these existing roadway systems caused by vertical alignment.

3.1.7 <u>Drainage</u>

The study area is primarily rural in nature, containing low-density residential areas, groves, pastures and wetlands. The eastern portion of the study area drains to the east and is characterized by large hardwood wetland areas which are included in the Big Cypress Swamp and Cypress Creek.

The western portion of the study area generally drains to the southwest and consists of low-lying areas and lakes which are either isolated or interconnected by man-made ditches. Several areas within the western portion of the study area are considered "volume sensitive" due to limited outfall capacity.

Major lakes within the study area include: Brant Lake, North and South Crystal Lake, Reinheimer Lake, Pearl Lake, Lake Thomas, Cooper Lake, Lake Hobbs, Lake Brooker, Deer Lake, Lake Kell, Hog Island Lake, Hart Lake, Feinsinger Lake, Keene Lake, Commstock Lake, Hanna Lake, Lake Stamper, Bird Lake, Lake Floyd and Tampa Lake. A large percentage of this area consists of low-lying marshes and interconnected lake systems which are connected to Big Cypress Swamp and Cypress Creek in the northeast section of the study area.

Major creeks include Cypress Creek and Sherry Branch which are located in the eastern portion of the study area. Cypress Creek flows northwest to southeast, flowing southward east of and parallel to the I-275 corridor, and eventually joining the Hillsborough River. There is a major crossing of Cypress Creek by S.R. 54 at the eastern edge of the study area (see Exhibit 3.1).

Major roadways in the study area are Dale Mabry Highway, U.S. 41, S.R. 54 and I-275. Dale Mabry Highway, U.S. 41 and S.R. 54 have open roadway ditches to convey stormwater runoff.

FDOT, Hillsborough County, and Pasco County roadway maintenance and drainage staff were contacted regarding existing drainage problems with the study area. Existing drainage problem areas were identified along U.S. 41 in the Lutz area and along U.S. 54 in areas adjacent to low-lying areas and several Hillsborough County roadways located south of Debuel Road and north of the I-275/U.S. 41 overpass, just south of the study limits. These areas were identified during telephone conversations with FDOT maintenance and drainage staff. Telephone conversation records are provided in Appendix D.

3.1.8 Geotechnical Data

A data search was performed for available geotechnical information relative to the project study area within northern Hillsborough County and southern Pasco County for this project. Among the sources utilized were county soil survey reports, state and U.S. Geological Survey publications, Southwest Florida Water Management District (SWFWMD) mapping, infrared photography, FDOT and private data for adjacent projects, and interviews with various people knowledgeable with vicinity subsurface conditions. USDA soil maps for the entire project study area are shown in Appendix B.

In general, existing roadways are usually located to avoid lakes and swamp areas; however, most roadways within the study area cross some areas of existing organic and/or plastic soils. It is therefore likely that considerable organic muck deposits are

prevalent throughout the study area. The concentrations of these areas are such that no individual existing corridors are superior for strictly geotechnical reasons.

The high density of lakes and depressional features in the study area indicate historic solution (sinkhole) activity. Evidence was not found which would indicate significant ongoing sinkhole activity, nor do the features indicate significantly greater potential for future sinkhole development within the study area.

3.1.9 Accident Data

Accident statistics for the last six years, as available from the FDOT and from Hillsborough County, are presented in detail in the Accident Analysis Summary Report prepared for the study area and are contained in Appendix C of this report. A summary of this detailed information is presented in Table 3.2. The information summarized in Table 3.2 includes the number of accidents for each individual year between 1984 and 1989, length in miles of each analysis segment, actual accident rate, critical accident rate and the safety ratio for each roadway link. The critical accident rate is the statewide average accident rate for a similar facility. The safety ratio (the ratio of the actual accident rate to the critical accident rate) serves to identify safety problems and/or high accident locations. Thus, a safety ratio greater than 1.00 indicates that the roadway is experiencing more accidents than would be anticipated on this type of facility. Shown in Table 3.2, three route segments (Lutz Lake Fern Road, Van Dyke Road, and County Line Road) exhibit accident rates approaching levels typically considered significant by the FDOT. The existing conditions

TABLE 3.2

SUMMARY OF ACCIDENT CONDITIONS*

North Tampa Parkway

								1990	ACTUAL	
		N	UMBE	ER OF	ACC	IDEN	TS	AVERAGE	ACCIDENT	ACCIDENT
LOCATION	MILEAGE	1984	1985	<u>1986</u>	<u>1987</u>	<u>1988</u>	1989	DAILY VOLUM	E RATE**	RATIO***
DALE MABRY HIGHWAY										
Lakeview to Lutz Lake Fern	3.7000	26	48	53	56	33	16	19,082	0.62	0.13
Lutz Lake Fern to County Line	1.2500	14	18	13	14	8	3	20,866	0.32	0.07
County Line to U.S. 41	1.0000	6	5	5	7	7	5	14,409	0.95	0.2
U.S. 41										
Crenshaw Lake to County Line	3.8750	41	61	67	64	68	33	23,712	0.98	0.21
County Line to S.R. 54	2.0625	13	13	19	21	24	8	27,745	0.38	0.08
CRENSHAW LAKE ROAD										
Berger to Hanna	3.2000	NA	NA	NA	25	25	NA	9,125	2.35	0.5
LIVINGSTON ROAD										
County Line to Sunset Lane	2.0625	NA	NA	NA	21	15	NA	10,719	1.86	0.4
LUTZ LAKE FERN ROAD										
U.S. 41 to Dale Mabry	1.7500	NA	NA	NA	25	17	NA	3,600	7.39	1.57
SUNSET LANE										
U.S. 41 to 30th Street	2.3500	NA	NA	NA	19	21	NA	7,132	3.43	0.73
VAN DYKE ROAD										
Simmons to Dale Mabry	1.3750	NA	NA	NA	36	22	NA	10,247	4.28	0.91
STATE ROUTE 54										
U.S. 41 to Cypress Creek	3.5000	NA	NA	NA	NA	29	36	20,824	1.35	0.29
COUNTY LINE ROAD										
Dale Mabry to I-75	5.0000	NA	NA	NA	NA	2	9	1,094	4.51	0.96

^{*} Refer to Accident Analysis Summary in Appendix C.

^{**} Actual Accident Rate = Number of accidents per million vehicle miles of travel.

^{***} Accident Ratio = Actual Accident Rate/Average Critical Accident Rate of 4.7

evaluation suggests that existing congestion levels may be contributing to an above average accident condition along a number of the east-west routes within the general study area. Improving traffic safety in the study area requires an examination of roadway improvements to accommodate increasing traffic volumes. Improvements to roadway capacity should decrease the number of rear-end, sideswipe and pedestrian/bicycle accidents.

3.1.10 Traffic Signals, Locations and Intersections Design

Exhibit 3.3 graphically locates the current signalized intersections within the North Tampa Parkway study area. As documented further in Subsections 4.1 and 6.1 in this document, each of these intersections was evaluated in regard to existing volume conditions (for morning and evening peak periods as well as daily conditions) and in relation to existing traffic operations. In general, the existing signals occur along the primary arterials at intersections with other arterials or major collectors.

The intersection design at each of the signalized intersections is documented in the Existing Conditions Analysis Technical Memorandum prepared as part of the overall study report sequence and appended to the report. Table 3.3 summarizes the approach lane usage conditions at each of these intersections. In general, each of these locations has been developed with exclusive left-turn lanes on most approaches, a single through lane for each travel direction, and an exclusive right-turn lane for the west approach to the intersection (serving eastbound travel desiring to turn southbound).

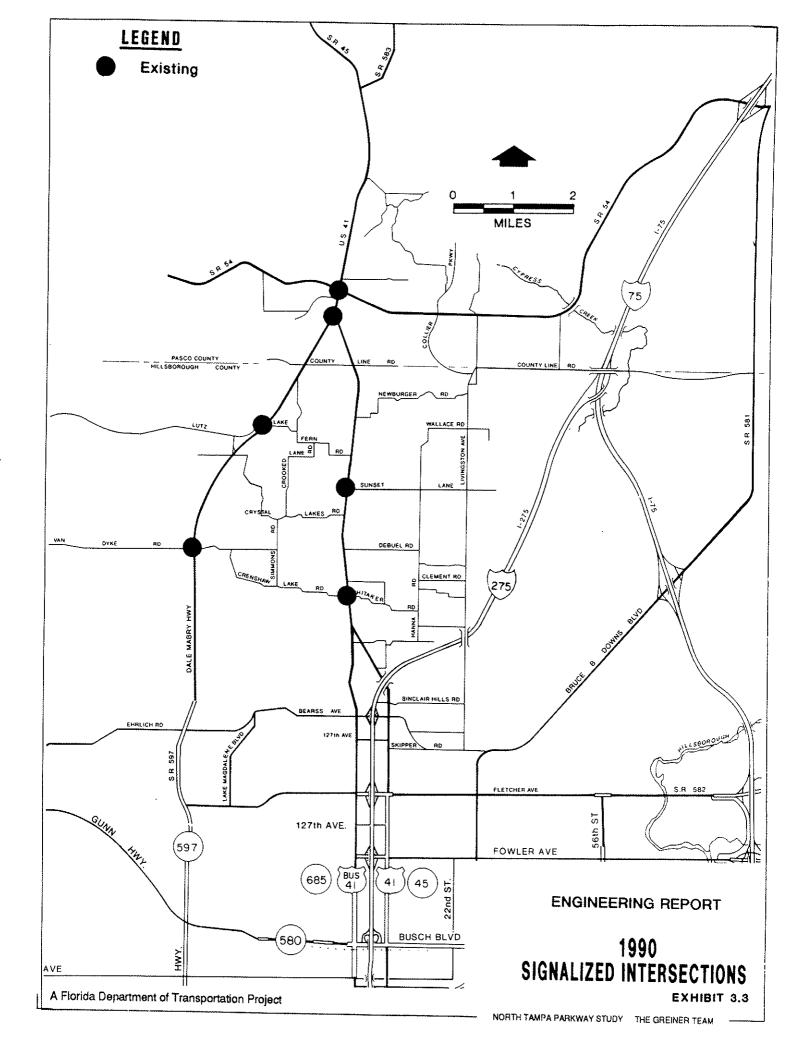


TABLE 3.3 SIGNALIZED INTERSECTION LANEAGE CONFIGURATIONS North Tampa Parkway

	Approach			
Intersection	North	South	<u>East</u>	<u>West</u>
U.S. 41 @ S.R. 54 Left-Turn Through Right-Turn	1 1 C	1 1 1	1 1 C	1 1 C
U.S. 41 @ Dale Mabry Hwy. Left-Turn Through Right-Turn	NA I I	i I NA	NA NA NA	i NA 1
U.S. 41 @ Sunset Lane Left-Turn Through Right-Turn	l 1 1	1 1 1	1 1 C	1 1 1
U.S. 41 @ Crenshaw Lake Rd. Left-Turn Through Right-Turn	1 1 C	1 1 C	C I C	C 1
Dale Mabry Highway @ Lutz Lake Fer Left-Turn Through Right-Turn	n Rd. 1 1 C	1 1 C	C 1 C	C 1 C
Dale Mabry Highway @ Van Dyke Rd. Left-Turn Through Right-Turn	1 2 1	1 2 1	C 1 C	1 1 C

See Exhibit 3.3 for locations of intersections.

C = Lane is combined with through lane. NA = Not Applicable

3.1.11 Lighting

None of the existing east-west roadway systems provide continuous lighting. Lighting is generally restricted to intersections and developed areas. Maintenance responsibility is a combination of Hillsborough County, Pasco County or private owners.

3.1.12 Utilities

The study area contains numerous distribution type facilities, both overhead and underground. Major utility installations affecting the various corridors are shown on Exhibit 3.4 and discussed as follows.

* Florida Power Corporation (FPC)

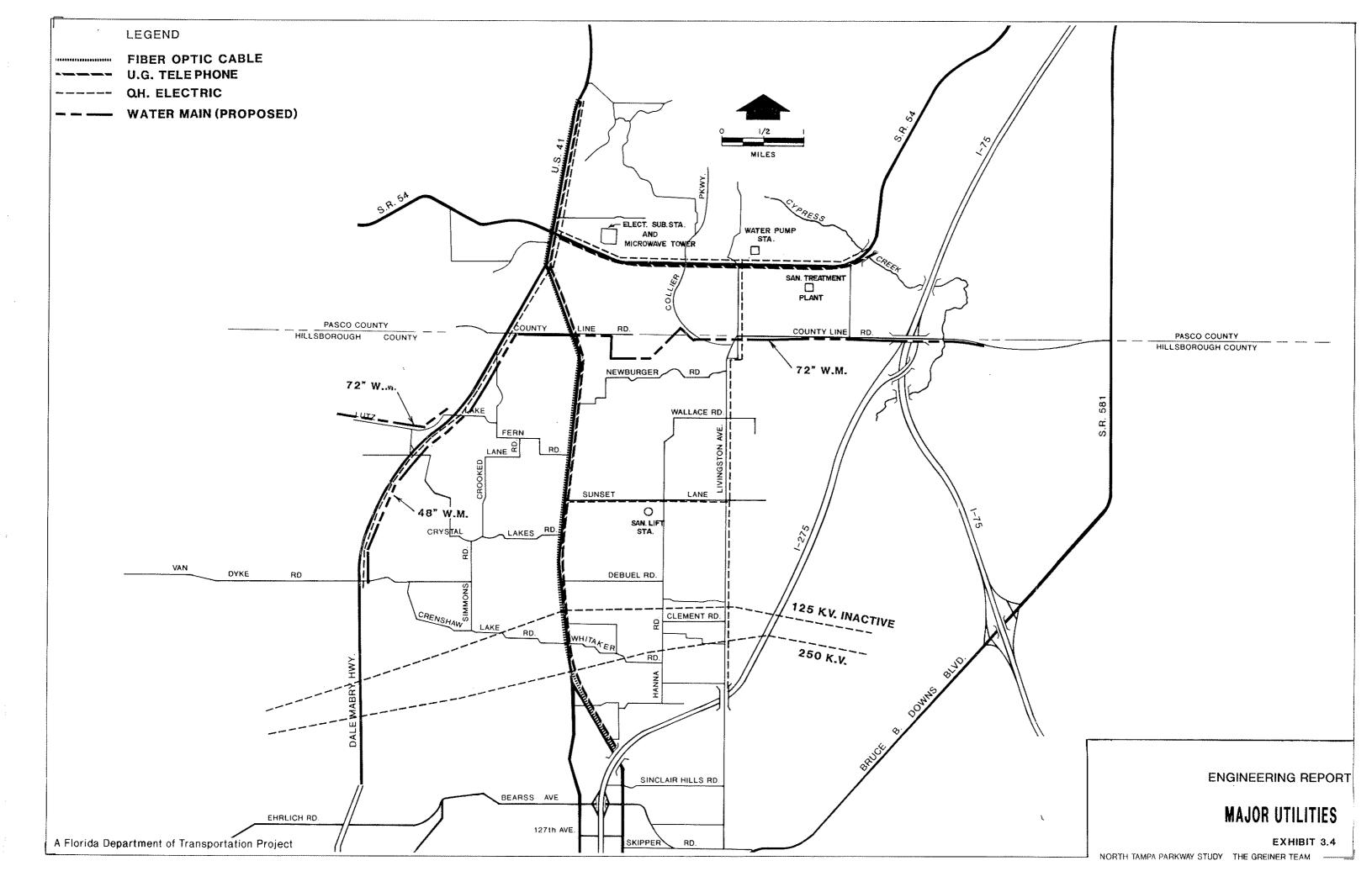
On the north side of S.R. 54, east of U.S. 41, FPC has constructed a major electrical substation and a microwave communications complex. Primary distribution (13KV) is located along S.R. 54 and north along U.S. 41. FPC owns an inactive 125KV system which is scheduled to be upgraded to a 500KV system beginning in 1992. This system lies in the southern portion of the study area (see Exhibit 3.4).

* General Telephone Company

Overhead and underground distribution cables are located along local roads throughout the study area. Major buried facilities are located along U.S. 41, Sunset Lane, County Line Road and S.R. 54. Located along the west side of U.S. 41 is a major fiber optic cable. An additional fiber optic cable parallel to the existing cable on U.S. 41 is being planned for installation within the next 24 months.

* Tampa Electric Company

Local distribution facilities are found throughout the study area. Primary facilities are located along Dale Mabry Highway, U.S. 41 and Livingston Avenue. Tampa Electric Company operates a 250KV system which is generally outside the study area. Involvement within the study area begins east of Hanna Road.



Cable Television

Local distribution services are provided by Paragon Cable throughout the study area south of the Hillsborough-Pasco county line. North of the county line, service is provided by Florida Satellite Network.

* West Coast Water Supply Authority

The Water Authority is a major supplier of raw water to Pasco, Pinellas and Hillsborough Counties from wellfields outside the study area. Presently being designed is a 72-inch transmission main which will traverse the study area from east to west generally along County Line Road. This facility will be located in a 50-foot-wide private easement. The Water Authority plans to begin construction within two years.

* Residential Water and Sanitary Services

A majority of residential areas south of County Line Road are provided water and sanitary services by Hillsborough County through a system of gravity and force mains. In the lesser populated areas, wells and septic tanks are predominant. Between County Line Road and S.R. 54, the Turtle Lakes subdivision is served by an on-site wastewater treatment plant.

Design of the project within the study area will impact one or more of the above described facilities. Each major utility affected will be afforded design consideration.

3.1.13 Structural and Operational Conditions

Pavement Condition Survey spreadsheets for all applicable state roads in the study area were obtained from the Department's Operations Office and are included in Appendix E. These roads include Dale Mabry Highway (S.R. 597) from Van Dyke Road to U.S. 41, S.R. 54 from U.S. 41 to Interstate 75, and U.S. 41 (S.R. 45) from Dale Mabry Highway to S.R. 54. The pavement ratings are based on a system described in the Flexible Pavement Design Manual for New Construction and Pavement Rehabilitation, January 1, 1990, published by FDOT. According to this rating system,

roadway pavements are given a defect rating ranging from 0 to 100, with high numbers representing good pavement conditions. A rating of 60 or less represents a level of cracking, rutting, and/or patching which warrants the immediate inclusion of such roadway in the rehabilitation program.

The defect ratings calculated for Dale Mabry Highway and U.S. 41 were 90 and 95, respectively, which indicates good pavement conditions. The defect rating for S.R. 54 is 73 throughout most of the section from U.S. 41 to I-75, indicative of fair conditions. Given the relatively good pavement conditions of the above referenced roadways, attempts should be made in the design phase of the project to maximize the use of the existing pavement.

3.2 EXISTING BRIDGES

Three bridges are located on the four existing east-west roadway systems in the study area: one on S.R. 54 crossing Cypress Creek (Bridge Number 140012) and two on County Line Road crossing over the I-75/I-275 interchange (see Exhibit 3.1). The crossing of I-75/I-275 by County Line Road is on two bridges: the western structure (Bridge Number 100492) and the eastern structure (Bridge Number 100493). The bridges are connected by roadway on fill material located in the median of the Interstate.

The structural condition listed for each bridge is based on a scale of "0-9," where 9 indicates the best structural condition. This number is based partially on the condition of the deck, superstructure, and exposed substructure, plus the load carrying capacity. The inventory rating, or the load carrying capacity, is the load level which

the bridge can carry for an indefinite period of time. The structural condition, as well as the operating and inventory ratings, is based on the "Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges," published by the Federal Highway Administration. Copies of the most recent Structural Inventory and Appraisal reports are contained in Appendix F.

3.2.1 Type of Structure

The S.R. 54 bridge over Cypress Creek is a concrete slab structure on piling. County Line Road bridges are AASHTO concrete beams with concrete decks.

3.2.2 Condition and Year of Construction

The S.R. 54 bridge has a sufficiency rating of 60.1, a structural rating of six, an operating rating of 246 HS 20T and an inventory rating of 228 HS 20T. It was constructed in 1963.

The County Line Road bridges each have a sufficiency rating of 94.4, and a structural rating of eight. The western bridge has an operating rating of 257 HS 20T and an inventory rating 246 HS 20T. The eastern bridge has an operating rating of 255 HS 20T, and an inventory rating of 240 HS 20T. Each was constructed in 1986.

3.2.3 Horizontal and Vertical Alignment

The S.R. 54 structure is located on a three degree curve to the left. The vertical alignment is relatively flat.

County Line Road horizontal alignment is tangent. The vertical alignment provides for vertical clearances of 16 feet 8 inches and 17 feet 9 inches over the Interstate.

3.2.4 Span Arrangement - Number and Length of Spans

S.R. 54 length of bridge over Cypress Creek is 120 feet. There are six spans, each 20 feet in length.

The County Line Road westernmost bridge is 469 feet long with six spans, ranging in length from 88 feet to 103 feet. The length of the easternmost bridge is 158 feet with three spans, ranging in length from 35 feet to 88 feet.

3.2.5 Channel Data

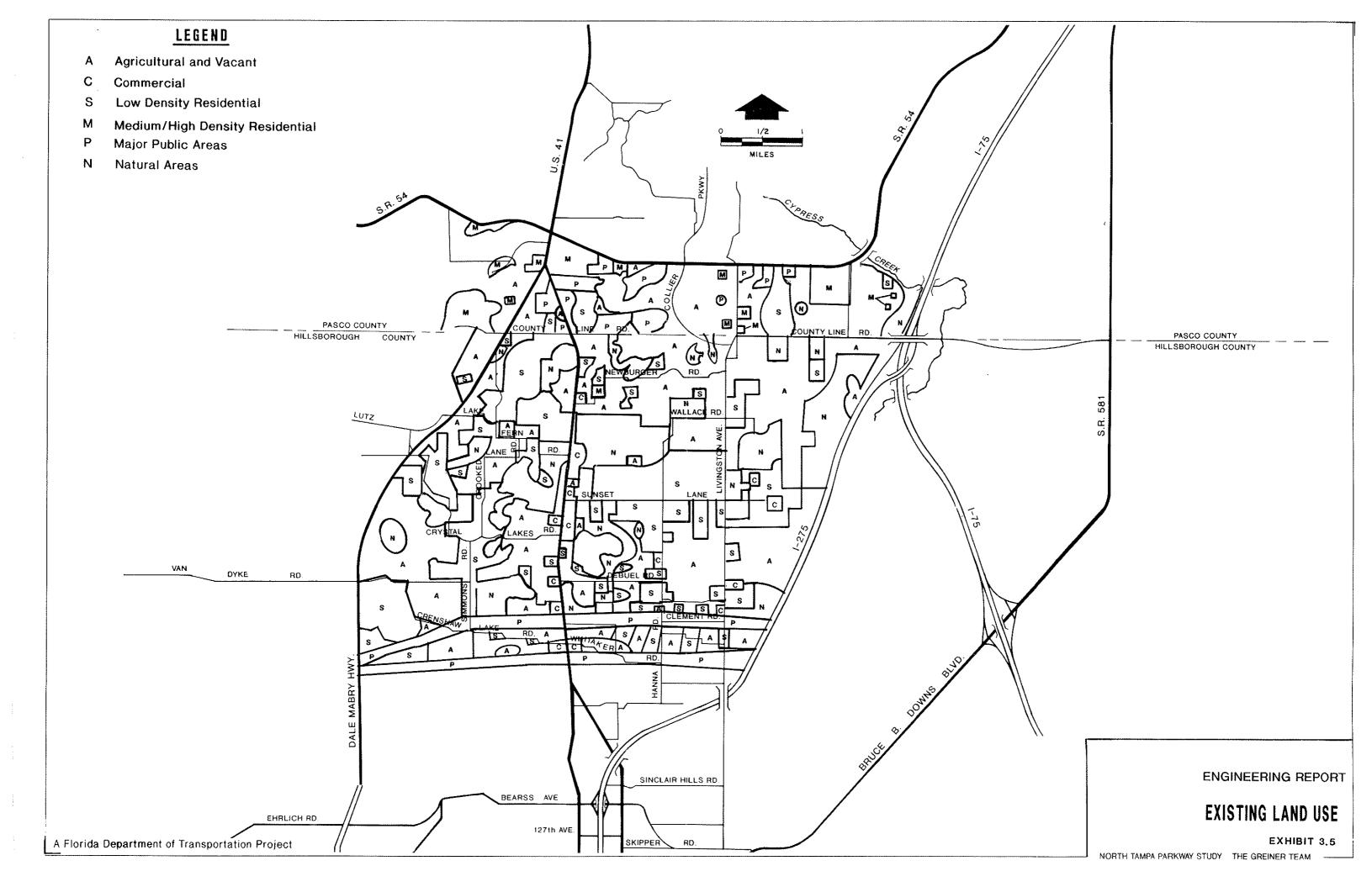
The elevation of the water in Cypress Creek at the crossing during low flows is approximately 50.9 feet (N.G.V.D.). The depth of the water in Cypress Creek at the crossing during low flows is approximately 1.5 feet. The County Line Road bridges span the Interstate where there is no water crossing.

3.3 EXISTING ENVIRONMENTAL CHARACTERISTICS

3.3.1 Land Use Data

The existing land use patterns within the study area can be generally grouped into four different types: commercial, residential, agricultural and open space. See Exhibit 3.5 for an overview of existing land use within the area. Commercial development is concentrated along the primary highway corridors such as U.S. 41, Dale Mabry Highway and S.R. 54. There is very little commercial activity beyond these principal travel corridors. The largest concentration of highway commercial use is located along U.S. 41 throughout the study area. The intersection of U.S. 41 and S.R. 54 forms the commercial core of the area; this retail concentration is primarily community-level retail. Another developing commercial node is the intersection of S.R. 54 and Collier Parkway. This area is part of a planned development and several commercial establishments are under development at this time.

Residential development has evolved over the past 30 to 40 years from individual homesteads (primarily related to farming) to development of housing units with lot densities of 1 to 5 acres, primarily by individual owners. During the past 10 to 20 years, individual developments on the neighborhood scale have been developed, the larger of these have been primarily in the Pasco County portion of the study area. Examples of this individual neighborhood development pattern are Carpenters Run (S.R. 54 and Cypress Creek Road) and Turtle Lakes (S.R. 54 west of Carpenters Run). The most recent trend (within 5 to 10 years) in the area is a reduction in lot size and the introduction of planned unit developments and residential planned developments.



These developments have densities of 0.5 acres or less and provide some minimal community services such as utilities and minor recreational opportunities. Some neighborhood and community retail commercial is occasionally provided. The Willow Bend subdivision, located along Collier Parkway south of S.R. 54, is an example of the latest development trend, with higher densities and a wider range of community services and retail opportunities within one development.

Agricultural land use in the study area is rapidly dwindling due to development pressures and a series of severe winter freezes damaging the few remaining citrus production areas. General farming is also in decline due to development pressures. The substantial amount of floodplain area and wetland habitat, combined with tighter federal, state and local laws governing wetland and floodplain encroachment, has added significantly to the pressure to develop the few viable upland parcels typically identified with farmlands.

There are basically two types of open space: long-term and short-term. "Long-term" open space is principally associated with sensitive habitat, floodplain and wetland areas. The "short-term" open spaces currently identified in the study area generally have been previously identified as development sites or are being marketed as development sites.

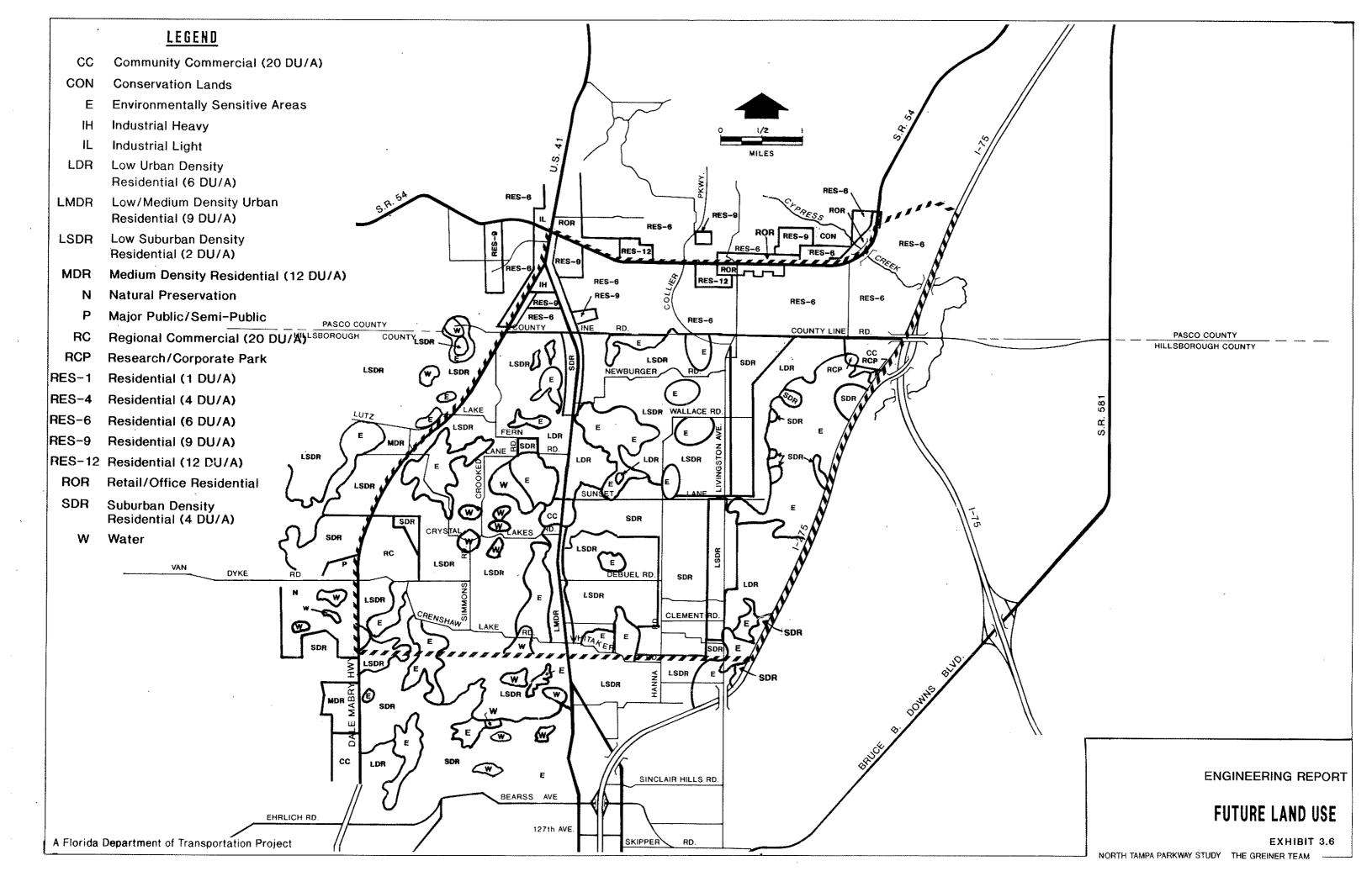
There is a minor amount of public land in the study area. Similarly, there are minor holdings for utilities, such as the CSX Railroad, West Coast Regional Water Supply Authority, Florida Power Corporation and Tampa Electric Company.

Exhibit 3.6 provides an overview of future land use for the study area. Review of the exhibit shows the infilling of current undeveloped parcels and preservation of key environmentally sensitive areas. Densities are characteristically low (4 or 6 dwelling units/acre) for a rural/semi-rural area. Commercial nodes are emphasized as are the primary north-south and east-west highway corridors.

3.3.1.1 Land Uses Which Modify the Alignment

Several land uses influenced the selected parkway corridors. On S.R. 54 just east of U.S. 41 is a strip mall with commercial pads near the existing alignment. This mall is located on the north side of S.R. 54. One block east of the mall and on the south side of S.R. 54 is the Pasco County Sheriff's Office and Rescue Station. Just east of the Rescue Station, on the south side of S.R. 54, is the Charter Hospital of Pasco. Adjustments were made so there would be little or no impact to these properties. East of Collier Parkway, the alignments were adjusted northward to avoid impacting two newly developed commercial properties and residential areas. The sensitive wetlands near Cypress Creek were impacted less by moving the alignment to the northwest.

Impacts to wetlands were minimized by the relocation of Alternatives E1A, E2A, B1A and B5A. Alternative F1A was designed to avoid two major subdivisions near Foggy Ridge Parkway.



3.3.2 <u>Cultural Features and Community Services</u>

3.3.2.1 Archaeological and Historic Site Field Surveys

Preliminary evaluations of known historic and archaeological resources have been completed for the study area; these resources are shown on Exhibit 3.7. Site field surveys have been completed for S.R. 54 through the study area, and limited survey work has been completed for U.S. 41 through the study area. Due to the need to maintain security for these known cultural resources, the information provided in this document is restricted to the mapping provided in Exhibit 3.7. Table 3.4 describes the sites as either archaeological sites or historic resources. The latter category includes both historic structures and potential historic homestead areas which may or may not contain standing structures. The first group of numbers represent sites already listed on the Florida Master Site File, while the second group of "working numbers" represent potential site areas identified from local citizens and historic documents. Except for those sites located along S.R. 54, these data have not been field verified, nor is the significance of these sites known.

The background and review task included a review of the Florida Master Site File (FMSF); archaeological and historical literature; reports, maps and other documents; and environmental data pertinent to the study area. This task also involved data collection from the interested public. This was accomplished through interviews in the field and at the public workshops. These combined data resulted in a map of known or suspected resources within the study area that was used during the study process.

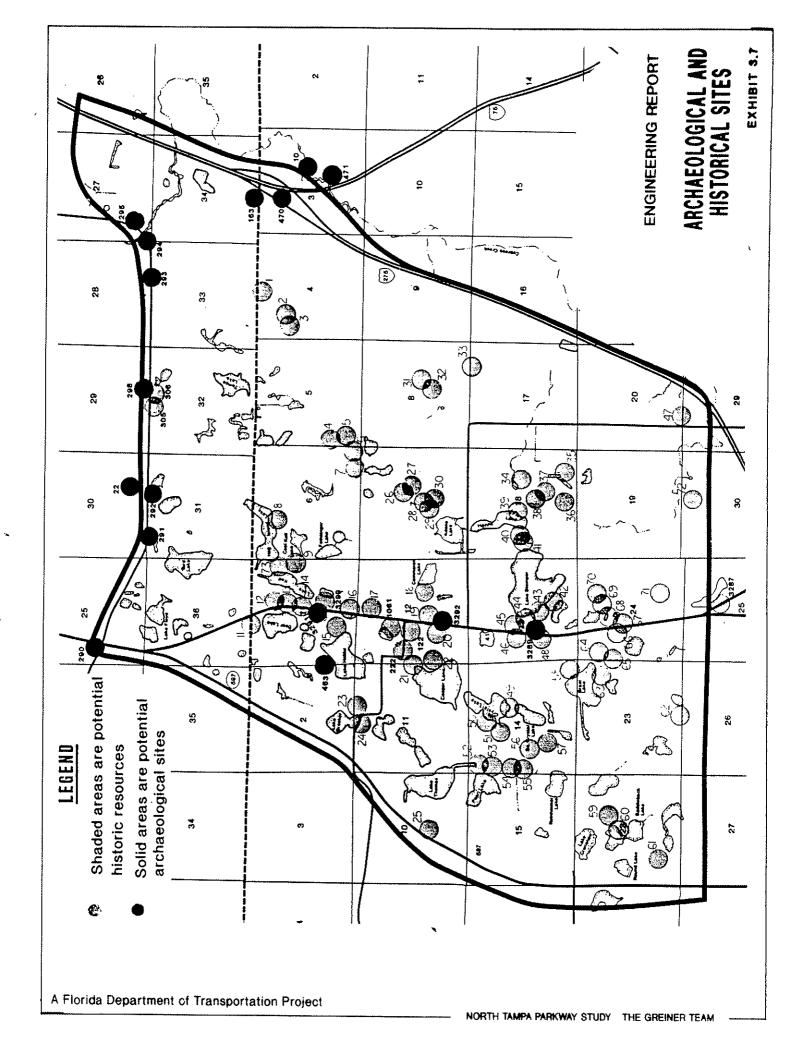


TABLE 3.4

ARCHAEOLOGICAL AND HISTORIC SITES

North Tampa Parkway

Florida Master Site File Number	Local Name	Type Site
8Hi10	Branch Mound	(A)*
8Hi122	Dixie Service Station	(H)
8Hi222	Free House	(H)
8Hi463	Smith Beach Site	(A)
8Hi470	I-75 Intersection	(A)
8Hi471	Cypress Creek	(A)
8Hi1061	108 1st Avenue, NW (Lutz)	(H)
8Hi1062	Old Lutz Elementary School	(H)
8Hi3287	The Wedge Site	(A)
8Hi3289	The Short Site	(A)
8Hi3290	The Storey Site	(A)
8Hi3291	The Knaus Site	(A)
8Hi3292	The General Store Site	(A)
8Pa22	The Woods Site	(A)
8Pa163	Pumpkin Cow Site	(A)
8Pa290	Denham Church Site	(A)
8Pa291	Broken Arrow Head Site	(A)
8Pa292	Indian Head Camp Site	(A)
8Pa293	Old Sarg's Place Site	(A)
8Pa294	Big Cypress Swamp Site	(A)
8Pa295	Redbrook Grove Site	(A)
8Pa298	Myrtle Lake Site	(H)
8Pa305	Livingstone Avenue Residence	(H)
8Pa306	Twin Lakes Residence	(H)

See Exhibit 3.7 for locations of sites.

Source: Piper Archaeology, Incorporated, 1990.

^{*} Previously recorded archaeological sites (A) and historic resources (H).

3.3.2.2 Evacuation Routes and Emergency Service

There are three evacuation zones in the study area. Zones 51 and 52 are located in Hillsborough County. Zone 26 is in Pasco County. Major roads in the study area are considered regional evacuation routes; state roads are designated with evacuation route signs. In the event of a hurricane, only the mobile homes in the study area would be ordered to evacuate.

The Tampa Bay Regional Planning Council (TBRPC) considers Dale Mabry Highway, I-75/I-275, S.R. 54 and U.S. 41 as "critical links." As such, a reliever facility or improvement to these roads is necessary to handle the evacuation traffic from the surrounding region. Approximately 81 percent of the study area is in the 100-year floodplain. Heavy rains cause freshwater flooding of streets in the area, which in turn isolates homes and affects services.

The Lutz Volunteer Fire Department (Hillsborough County Fire Station 240), located at 128 Lutz Lake Fern Road, provides service on Dale Mabry to Van Dyke Road on U.S. 41 to the Livingston/U.S. 41 apex, and the north side of Vandervort Road. The south side of Vandervort is serviced by Hillsborough County Fire Department 140. South of Van Dyke is serviced by Carrollwood Fire Station 340. Currently, the northern boundary of the service area is S.R. 54 in Pasco County. The Pasco County Fire Service covers the area south of S.R. 52 to the county line.

Advance life support (ALS) services are available in the Lutz portion of the study area. The ALS is located directly east of the Lutz Volunteer Fire Department. Within the Land O'Lakes portion of the study area, emergency medical services (EMS) are provided by the Pasco County Sheriff's Office and Rescue Station 23 located east of U.S. 41 on S.R. 54.

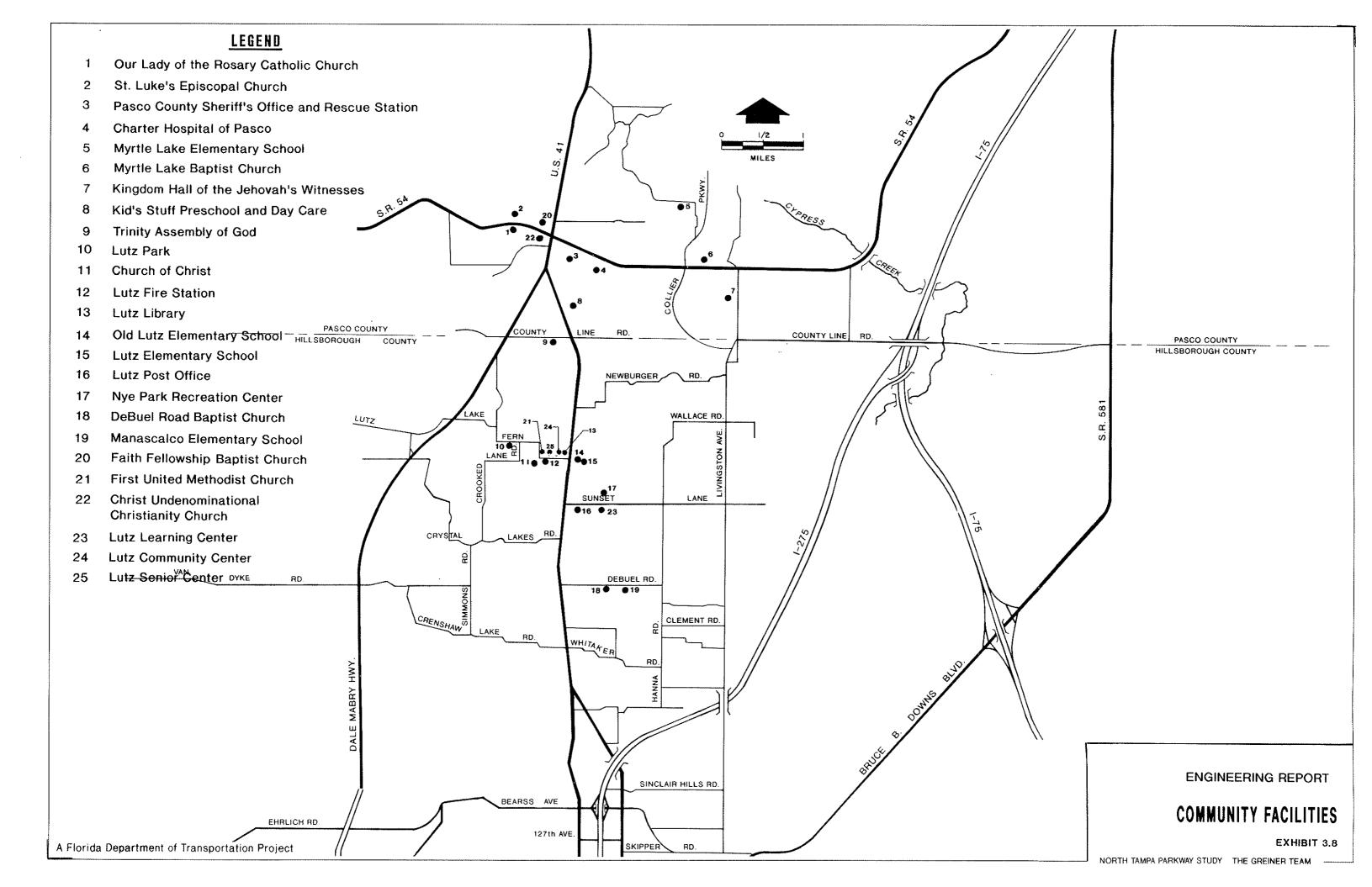
3.3.2.3 Parks and Recreation

Two parks are located within the study area: Nye Park Recreation Center, located on Sunset Boulevard, and Lutz Park, located on Lutz Lake Fern Road. Both of these parks are owned and maintained by the Hillsborough County Parks and Recreation Department. The Hillsborough County Parks and Recreation Department and the Pasco County Parks Department indicated that they have no plans to develop parks within the study area at this time.

3.3.2.4 Educational or Religious Institutions

Two public schools, two preschools and one private school are located in the study area. These are Lutz Elementary School, 5th Avenue South; Mary Maniscalco Elementary School, 939 Debuel Road; Kid's Stuff Preschool and Day Care, 21360 Lake Floyd Drive, and Montessori Academy Lake Fern, 19021 Second Street N.W./Lutz Lake Fern Road, and the Lutz Learning Center, 621 Sunset Lane. The Lake Myrtle Elementary School is located just north of the study area at 2775 Collier Parkway (see Exhibit 3.8).

Based upon the 1988 survey, the Hillsborough County School Board currently does not have any new schools planned within the North Tampa Parkway study area. They do have three schools planned close to the study area. These are located between Lake Carlton Arms and Ramblewood, on the Plantation Development site and in the Hunter's Green subdivision. These areas are south of the North Tampa Parkway study area. The Pasco County School Board plans to build a new elementary school within the study area and have it operating within the next five years. Currently, no sites have been selected for the new school, but two areas are being considered. One area



being investigated is located south of the Turtle Lakes subdivision; the other area is located east of the Carpenters Run subdivision.

There are a number of local churches within the study area (see Exhibit 3.8). The following is a listing of churches within the vicinity of the study area:

- * Christ Undenominational Christianity Church
- * Church of Christ
- * Debuel Road Baptist Church
- * Faith Fellowship Baptist Church
- * First United Methodist Church
- * Kingdom Hall of Jehovah's Witnesses
- * Myrtle Lake Baptist Church
- * Our Lady of the Rosary Catholic Church
- * St. Lukes Episcopal Church
- * Trinity Assembly of God

3.3.2.5 Non-Profit Organizations

There is one non-profit organization within the study area. This organization is the Lutz Senior Center. The Center is located at 112 1st Avenue N.W. and provides day care for the elderly living in the Lutz community. Hillsborough County owns and maintains this day care center.

3.3.3 <u>Natural and Biological Features</u>

The study area encompasses rural portions of southern Pasco County and northern Hillsborough County. Although agriculture remains a primary land use, the area is experiencing a significant increase in single-family residential development. These land uses have impacted existing natural resources in the area. The following discussions summarize the natural and biological features of the study area, including biotic communities, wetlands, endangered species, soils, and prime and unique farmland.

3.3.3.1 Biotic Communities

The study area comprises various upland and wetland biotic communities which provide habitat for a diversity of flora and fauna. Existing biotic communities include palmetto prairie, pine flatwood, upland hardwood forest, mixed hardwood wetland, cypress swamp, freshwater marsh, and wet prairie. Table 3.5 lists representative floral species observed during on-site field reviews on May 14 and October 23 and 29, 1990 and are typical of those species present in each biotic community type. Due to the diversity of biotic communities, many faunal species can be found throughout the study area. Table 3.6 lists faunal species observed during onsite field reviews on May 14 and October 23 and 29, 1990, and representative faunal species expected to occur within the study area.

Wetland biotic communities are of particular importance, not only due to their ecological significance, but also because they are regulated by various federal, state and local agencies.

3.3.3.2 Wetlands

Wetlands within the study area have been identified through the interpretation of 1"=400' and 1"=200' scale blueline aerial photography, 1"=400' infrared photography, the Hillsborough and Pasco County Soil Surveys and review of the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory Map-Lutz quadrangle (draft, January 1987).

REPRESENTATIVE FLORAL SPECIES¹ North Tampa Parkway

Scientific Name	Common Name

Palmetto Prairie

Aristida strictawiregrassBefaria racemosatarflowerIlex glabragallberryLyonia sp.fetterbushPanicum sp.low panicumSerenoa repenssaw palmetto

Pine Flatwood

Andropogon capillipeschalky bluestemIlex glabragallberryMyrica ceriferawax myrtlePinus elliottiislash pinePinus palustrislongleaf pineQuercus virginianaVirginia live oak

Upland Hardwood Forest

Pinus palustrislongleaf pineQuercus virginianaVirginia live oakSchizachyrium stoloniferumcreeping bluestemSerenoa repenssaw palmetto

Mixed Hardwood Wetland

Acer rubrum red maple Blechnum serrulatum swamp fern Colocasia esculentum wild taro Hex cassine dahoon holly Liquidambar styraciflua sweetgum Magnolia virginiana sweet bay Sambucus canadensis elderberry Taxodium distichum bald cypress

REPRESENTATIVE FLORAL SPECIES¹ North Tampa Parkway (Continued)

Scientific Name	Common Name

Cypress Swamp

Acer rubrumred mapleBlechnum serrulatumswamp fernOsmunda cinnamomeacinnamon fernSalix carolinianaCarolina willowTaxodium distichumbald cypress

Freshwater Marsh

Bacopa sp.water-hyssopsJuncus effusussoft rushLemna sp.duckweedLudwigia peruvianaprimrose willowSagittaria lancifoliaarrowheadTypha sp.cattailPontederia cordatapickerel weed

Wet Prairie

Cyperus sp.flat sedgeEleocharis sp.spikerushHydrocotyle umbellatawater pennywortHypericum sp.St. John's-wortPanicum repenstorpedo grassPanicum hemitomonmaidencane

¹ Species observed by Greiner, Inc. biologists on May 14 and October 23 and 29, 1990.

REPRESENTATIVE FAUNAL SPECIES North Tampa Parkway

Scientific Name

Common Name

Birds

Agelaius phoeniceus
Anhinga anhinga
Ardea herodias
Bubulcus ibis
Charadrius vociferus
Corvus ossifragus
Casmerodius albus
Dryocopus pileatus
Eudocimus albus
Mimus polyglottos
Passer domesticus
Zenaida macroura
Quiscalus major

red-winged blackbird
American anhinga
great blue heron*
cattle egret*
killdeer
fish crow*
great egret*
pileated woodpecker
white ibis*
northern mockingbird
house sparrow
mourning dove*
boat-tailed grackle*

Reptiles and Amphibians

Agkistroden piscivorus conanti Bufo terrestris Coluber constrictor priapus Crotalus adamanteus

Heterodon platyrhinos
Hyla cinerea
Natrix fasciata pictivertis
Rana uitrcularia
Scincella lateralis
Sternotherus odoratus
Terrapene carolina bauri
Thamnophis sirtalis
Trionyx ferox

Florida cottonmouth southern toad southern black racer eastern diamond back rattlesnake eastern hognose snake green treefrog*
Florida water snake southern leopard frog ground skink stinkpot box turtle eastern garter snake Florida softshell

Mammals

Blarina brevicauda
Dasypus novemcinctus
Didelphis marsupialis
Oryzomys palustris
Peromyscus gossypinus
Procyon lotor

shorttail shrew armadillo opossum rice rat cotton mouse raccoon

REPRESENTATIVE FAUNAL SPECIES North Tampa Parkway (Continued)

Scientific Name

Common Name

Mammals (Cont'd)

Reithrodontomys humulis
Sciurus carolinensis
Sylvilagus floridanus
Sylvilagus palustris

eastern harvest mouse eastern gray squirrel eastern cottontail marsh rabbit

^{*} Species encountered by Greiner, Inc. biologists during on-site field reviews on May 14 and October 23 and 29, 1990.

Several wetlands sites occur throughout the entire study area. These wetlands are associated with the numerous lakes in the area or Cypress Creek, or they occur within extensive floodplain areas of isolated topographic depressions. The primary wetland types present in the study area include mixed hardwood swamp, cypress swamp, freshwater marsh and wet prairie. Mixed hardwood swamp and cypress swamp are the dominant wetland types. Field verification of study area wetlands was done during on-site reviews on May 14 and October 23 and 29, 1990. Section 3.3.3.1, Biotic Communities, discusses dominant vegetation within each wetland type. More extensive discussions of existing wetlands are provided within the Environmental Summary Report published for this project.

3.3.3.3 Threatened or Endangered Species

Literature searches, agency contact, and habitat reviews were conducted to identify state and federally listed threatened or endangered species which may inhabit the study area. Available literature included the FDOT computer list of threatened or endangered species for Hillsborough and Pasco Counties, review of the Rare and Endangered Biota of Florida series, and consultation with the USFWS and the Florida Game and Freshwater Fish Commission (FGFWFC). Additionally, USFWS records were searched to determine if any designated "critical habitat" exists within the study area.

From the research conducted, it was determined that threatened and endangered species occur within the study area. During field reviews, Florida sandhili cranes (Grus canadensis pratensis) were observed within the area of the southern alternatives (i.e., B1A, B5A, E1A, and E2A) and wood storks (Mycteria americana) are known to

utilize wetlands within the study area. However, no nesting sites for these species were found in or adjacent to the proposed corridors nor does any USFWS designated critical habitat exist within or adjacent to corridor areas. Because of this, it is believed that these species utilize the study area for feeding but not for nesting or breeding.

Table 3.7 lists state and federally listed threatened, endangered, or species of special concern which may inhabit or are known to inhabit the study area. Detailed information about each species and their occurrence within the study area will be provided in the Environmental Summary Report.

3.3.3.4 Soils

A data search for available geotechnical information relative to the study area within northern Hillsborough and southern Pasco County was performed. Among the sources utilized were county soil survey reports, state and U.S. geological survey publications, SWFWMD mapping, infrared photography, FDOT and private data for adjacent projects and personal contact with people knowledgeable of subsurface conditions in the area.

The high density of lakes and depressional features in the study area indicate historic sinkhole activity. However, no evidence was found which would indicate significant on-going sinkhole activity, nor do the features indicate significantly greater potential for future sinkhole development along any particular corridor.

THREATENED AND ENDANGERED SPECIES North Tampa Parkway

Avian		ed Status ¹ FGFWFC ³
Egretta thula (snowy egret) Grus canadensis pratensis (Florida sandhill crane)* Haliaeetus leucocephalus (bald eagle) Mycteria americana (wood stork)*	E E	SSC T T E
Amphibians and Reptiles		
Alligator mississipiensis (American alligator) Drymarchon corias couperi (Eastern indigo snake) Gopherus polyphemus (gopher tortoise) Pituophis melanoleueus mugitus (Florida pine snake) Rana arcolata aesopus (Florida gopher frog)	T(S/A) T T	SSC T SSC SSC SSC
<u>Flora</u>	<u>USFWS</u> ²	FDA ⁴
Asclepias viridula (southern milkweed) Chrysopsis floridana (Florida golden aster)	<u></u> Е	T E

Species encountered by Greiner, Inc. biologists during on-site field reviews on May 14 and October 23 and 29, 1990.

U.S. Fish and Wildlife Service; Endangered and Threatened Wildlife and Plants, April 15, 1990. (50 CFR 17.11 and 17.12)

E = Endangered

T = Threatened

T/SA = Threatened Due to Similarity of Appearance

SSC = Species of Special Concern

¹ Florida Game and Freshwater Fish commission; Official List of Endangered Fauna and Florida, August 1, 1990.

² USFWS - United States Fish and Wildlife Service

³ FGFWFC - Florida Game and Freshwater Fish Commission

⁴ FDA - Florida Department of Agriculture

3.3.3.5 Prime and Unique Farmland

The U.S. Department of Agriculture (USDA) defines prime farmland as land that is best suited to producing food, feed, forage, fiber, and oilseed crops. Land classified as "prime farmland" may currently be utilized for some other land use, with the exception of urban land or water areas. According to the Pasco County Soil Survey, less than one half percent of the county's acreage meets the soil requirements for prime farmlands. The Micanopy fine sand, 2 to 5 percent slopes soil phase, is classified as prime farmland. The Hillsborough Soil Survey does not discuss the occurrence of prime or unique farmland in the county.

The study area does not contain any prime or unique farmland in Pasco County. The USDA Soil Conservation Service for both Hillsborough and Pasco Counties was contacted and they stated that there are no prime or unique farmlands in Hillsborough nor Pasco Counties within the project study limits. Unique farmlands in these two counties are defined as functioning citrus groves. Citrus groves along S.R. 54 and Dale Mabry Highway were field-verified and found to be non-functioning.

3.3.3.6 Floodplains and Floodways

The study area is characterized by low-lying areas in which the 100-year floodplain is associated with lakes and large wetland areas as well as a creek system in the eastern portion of the project area.

From the FEMA Flood Insurance Rate Maps (FIRM), FEMA Floodway Maps (see Exhibit 3.9), and Flood Insurance Studies for Pasco and Hillsborough Counties, flood



NORTH TAMPA PARKWAY STUDY THE GREINER TEAM

zone boundaries and designations were determined along each alternative alignment.

An explanation of the flood zone designations is presented in Table 3.8.

There are no designated floodways within the study area. Cypress Creek has a designated floodway within Hillsborough County which is east of the study area. Within Pasco County, Cypress Creek is designated as a Zone A area.

Cypress Creek, the main tributary of the Hillsborough River, has a drainage area of approximately 164 square miles. It originates in south-central Pasco County and flows southerly through numerous swamps to join the Hillsborough River approximately one mile below the lower Hillsborough Flood Detention Area in Hillsborough County.

It is anticipated that, if constructed, the proposed North Tampa Parkway will include a bridge over Cypress Creek. At Cypress Creek and S.R. 54, the base flood (100-year) elevation was determined to be elevation 57 feet.

The majority of the floodplain areas within the study area are located within FEMA 100-year Flood Zone "A," associated with lakes and wetland areas with minimal or restricted outfalls. The study area is considered outside of tidal storm surge.

FEMA FLOOD ZONE DESIGNATIONS North Tampa Parkway

Designations	<u>Description</u>
"A	Areas of 100-year flood, base flood elevations and flood hazard factors not determined.
"A9"	Area of 100-year flood; based flood elevation and flood hazard factors determined.
"B"	Area between limits of the 100-year and 500-year flood; or certain area subject to 100-year flooding with average depths less than one (1) foot.
"C"	Areas of Minimal flooding.

Source: FEMA Flood Insurance Rate Maps and Flood Insurance Study for Hillsborough and Pasco Counties.

3.3.4 Physical Features

3.3.4.1 Air Quality

Monitoring is the most reliable means of determining ambient air quality conditions. Unfortunately, there are no historical or existing air monitoring stations adjacent to the North Tampa Parkway study area in either Hillsborough or Pasco counties. However, the Hillsborough County Environmental Protection Commission (EPC), under the supervision of the Florida Department of Environmental Regulation (FDER), operates air monitoring stations near the study area from which a general profile of existing air quality conditions in the vicinity of the project can be derived.

A synopsis of the most recent air monitoring data obtainable is presented in Table 3.9. This information is summarized in terms of monitoring station location, distance and direction from the study area, pollutant(s) measured, and maximum recorded concentrations. Comparison of these data with the National Ambient Air Quality Standards (NAAQS) is also made. As shown, levels of carbon monoxide (CO) and inhalable particulate (PM-10) are well within the NAAQS for these pollutants.

b

According to the Clean Air Act Amendments of 1977, all areas within the state are designated with respect to the NAAQS as either attainment, non-attainment, or unclassifiable. Areas that meet the NAAQS are designated as attainment. Conversely, areas that violate the NAAQS are designated as non-attainment. Finally, areas where data are insufficient for classification as either attainment or non-attainment are designated as unclassifiable. In areas designated as non-attainment, a State Implementation Plan (SIP) is developed to bring the area into compliance with the NAAQS. The attainment, non-attainment and unclassifiable designations for Hillsborough and Pasco Counties are shown in Table 3.10.

TABLE 3.9

AIR MONITORING DATA IN THE VICINITY OF THE NORTH TAMPA PARKWAY STUDY AREA North Tampa Parkway

Exceeds Standard	<u> </u>	0 0 2 X	o o
Duration	1-hour average 8-hour average	24-hour max Arithmetic mean	1-hour average 8-hour average
Air Quality <u>Standard</u> c	35 ppm	150 ug/m³ 50 ug/m³	35 ppm 9 ppm
Maximum Recorded <u>Concentration^b</u>	12 ppm	. 67 ug/m ³	mod 6
Poliutant(s) <u>Measured</u>	Carbon monoxide	Inhalable particulates	Carbon monoxide
Distance and Direction from the Study Area	9.1 miles, S.	8.0 miles, S.W.	
Monitoring Station <u>Location</u> a	нсс	Seminole School	
Station <u>Number</u>	-	2	

Annitoring Station address: 1. N. Dale Mabry Hwy./Tampa Bay St. 2. 6201 Central Ave.

Florida Department of Environmental Regulation, ALLSUM Report, 1989 Ω

c National Air Quality Standards established by the EPA.

ppm = parts per million ug/m³ = micrograms per cubic meter

TABLE 3.10

CURRENT ATTAINMENT/NON-ATTAINMENT DESIGNATIONS^a North Tampa Parkway

Designations	
<u>Hillsborough</u>	<u>Pasco</u>
Attainment	Attainment
Attainment	Attainment
Unclassifiable	Attainment
Non-attainment ^b Unclassifiable	Attainment Attainment
Non-attainment	Attainment
Attainment	Attainment
	Hillsborough Attainment Attainment Unclassifiable Non-attainmentb Unclassifiable Non-attainment

a Source: Section 17-2, (410), (420), and (430) of the Florida Administrative Code.

Designations: Attainment: areas within which the AAQS have not been violated.

Non-attainment: areas within which the AAQS have been violated.

Unclassifiable: areas which cannot be classified as attainment or non-attainment.

b Restricted to a portion of Hillsborough County not included in the North Tampa Parkway study area.

As shown in Table 3.10, the U.S. Environmental Protection Agency (EPA) has designated all of Hillsborough County as a non-attainment area for ozone (O₃) and a portion of the county, located 11 miles south of the study area, as a non-attainment area for total suspended particulate (TSP). As a result of these designations, Hillsborough County is currently subject to the guidelines of a SIP. Essentially, the SIP calls for the reduction and control of TSP and the precursors to hydrocarbons (HC) and nitrogen dioxide (NO₂).

3.3.4.2 Hazardous Materials

The following summarizes the data collection phase of the Hazardous Material Survey conducted for the North Tampa Parkway.

- * Consulted the following publications by the FDER and the Tampa Bay Regional Planning Council (TBRPC) for locations of potential environmental contamination:
 - Stationary Tank Inventory System (FDER),
 - Contamination Detail Report (FDER),
 - Groundwater Management System Hazardous Waste Quick Look (FDER).
 - The Sites List, Summary Status Report (FDER), and
 - County Government Hazardous Waste Management Assessment for Hillsborough County (TBRPC);
- * Evaluated historical aerial photography of the Tampa Interstate Study corridor taken in 1966, 1979, and 1985.
- * Conducted field investigations in October 1990 within the study area in order to verify known hazardous material sites and to identify and investigate any previously unrecorded sites focusing on underground storage tanks and hazardous material use; and
- * Documented with photographs the current condition of each investigated site.

Based on the results of this survey, 11 (eleven) potential hazardous material sites were identified within the North Tampa Parkway study area. Most of the identified sites

are businesses which maintain underground storage tanks containing petroleum products. Other sites include a dry cleaners and an electric substation. Three of the sites with underground contamination have reported petroleum contamination of the soil or groundwater to FDER. All of these sites are eligible for Early Detection Incentive (EDI) state cleanup. The survey did not reveal any toxic waste disposal areas, surface impoundments, landfills, or any other discharges of hazardous, or potentially hazardous, materials or wastes.

None of the sources identified a "Superfund" site, a DER contamination site, nor an active or abandoned landfill within the North Tampa Parkway study area.

4.0 NEED FOR IMPROVEMENT

4.1 CAPACITY AND STRUCTURAL DEFICIENCIES

The following key factors occur within the general study area that suggest the overall need for improvements in the transportation system:

- * The magnitude of the growth in residential and commercial land uses anticipated between 1990 and 2010.
- * The level of traffic congestion in the study area under the current twolane conditions that exists on all of the arterial and collector roadways within the study area.

Substantial residential growth is anticipated by the Hillsborough County Metropolitan Planning Organization (MPO) and the Pasco County MPO within the general study area. Similarly, substantial growth is forecast within the area in terms of service employment in support of the significant growth in residential population. With more than a doubling in population between 1988 and 2010 in these two categories, it is reasonable to anticipate that existing traffic volumes will experience considerable growth over the same period.

To determine existing traffic conditions in the study area, recent traffic count data (1988-1989) was compiled and supplemented by additional traffic counts conducted between January and March, 1990. The 1990 daily traffic volumes are illustrated on Exhibit 4.1. Using these daily traffic volumes and the 1988 FDOT "Generalized Daily Level of Service Maximum Volumes for Florida's Urban/Urbanized Areas," daily levels of service were determined and are summarized in Table 4.1. As indicated in the table, all eight of the roadway segments on U.S. 41 and three of the six segments on Dale Mabry Highway are currently operating at Level of Service F. In addition,

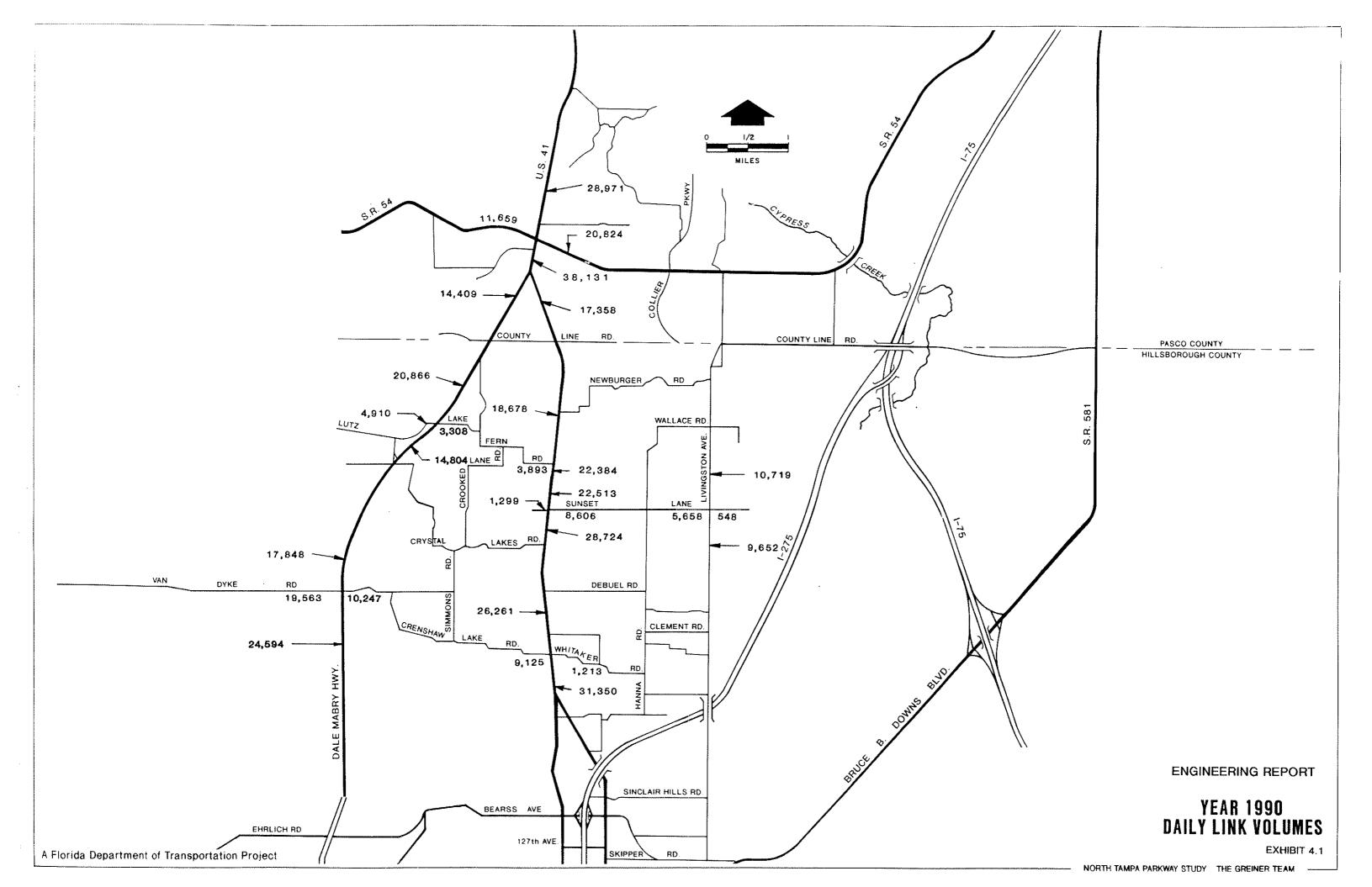


TABLE 4.1

YEAR 1990 DAILY LINK CAPACITY ANALYSES
North Tampa Parkway

	Approach Level of Service			
Intersection	North	South	East	West
Dale Mabry Highway/U.S. 41	F	E	N/A	В
Dale Mabry Highway/Van Dyke Road	F	Α	Α	F
Dale Mabry Highway/Lutz Lake Fern Road	F	В	C^1	C^1
U.S. 41/Lutz Lake Fern Road	F	F	N/A	C ¹
U.S. 41/Sunset Lane	F	F	D	C^1
U.S. 41/Crenshaw Lake Road	F	F	C^1	D
U.S. 41/S.R. 54	F	F	F	Α
Livingston Avenue/Sunset Lane	D	D	C^{1}	C^{1}

N/A = Not Applicable

¹ Maximum possible level of service based on type of facility (collector road).

the segment of Van Dyke Road immediately west of Dale Mabry Highway and the segment of S.R. 54 immediately east of U.S. 41 are also currently operating at Level of Service F. Five other roadway segments are currently operating at Level of Service D or E.

The previous evaluations substantiate that roadway improvements will be needed within the North Tampa Parkway study area to accommodate 2010 travel conditions. With the exception of Dale Mabry Highway south of Van Dyke Road, all major arterial and collector street routes within the study area presently exist as two-lane, two-way facilities. While most major street intersections on these routes have been widened to provide for exclusive left-turn or right-turn lanes as appropriate, key intersections also exhibit severe operational deficiencies.

Previous studies conducted for the entire study area within Pasco and Hillsborough Counties (see Section 4.3) as well as for specific routes within the North Tampa Parkway study area have recommended substantial improvements to the major arterial and collector roadway system. As documented in Section 7.0, an evaluation of the "No-Build" alternative was undertaken as part of this study effort to define 2010 traffic operating conditions on the previously recommended roadway improvements. While the complete evaluation of this potential alternative is described in detail in Section 7.1 (see Table 7.1), these previously recommended improvements are now considered to be insufficient to accommodate the revised growth forecasts for the area as prepared by the respective counties. The key intersections along Dale Mabry Highway at the proposed Northwest Expressway, at Lutz Lake Fern Road, at County Line Road, and at U.S. 41 will all experience Level of Service F operating conditions

during at least one peak hour of the day. Similar Level of Service F conditions are also anticipated for 2010 at the U.S. 41 intersections with S.R. 54 and with Crenshaw Lake Road. Thus, examination of other improvement options within the North Tampa Parkway study area is essential, if acceptable levels of future traffic service are to be provided.

4.2. SAFETY

The relationship between levels of congestion on the roadway system and the frequency of vehicular accidents is well established nationally. At the corridor planning study level, the primary consideration related to safety is represented by the level of service conditions considered acceptable in defining future improvement requirements. Level of Service C was selected as the desirable operating condition on any North Tampa Parkway improvement alternatives. This level of service is typically defined for signalized intersection operations as permitting vehicles approaching the intersection to clear the intersection on the first available green indication (i.e., vehicles should not have to wait for more than one green signal indication to pass through the intersection).

For all non-parkway routes within the study area, the typical Level of Service D standard was considered reasonable and acceptable for defining any future laneage improvement needs. In general terms, this traffic operating condition at signalized intersections may cause some vehicles approaching the intersection to wait for a second green indication before being able to clear the intersection. By applying these level of service standards in the assessment of improvement needs within any study alternative, a reasonable level of vehicular safety is incorporated into the resulting improvement determinations.

Also within the context of a Project Development and Environmental (PD&E) study effort, a second general feature related to vehicular and pedestrian safety involves the roadway cross section details used in defining the magnitude of any specific improvements. This consists of incorporating the latest safety features pertinent to roadway design into the typical cross sections for any proposed roadway improvements, including pedestrian amenity and safety features such as sidewalks along those major streets anticipated to serve areas of pedestrian activity, and providing for non-motorized (bicycle) travel in an appropriate manner consistent with Florida statutes and design policies.

As previously stated in Section 3.1.9, three routes in the study area (Lutz Lake Fern Road, Van Dyke Road, and County Line Road) have above average accident rates.

The proposed improvements are expected to reduce the accident potential for these and other study area roadways. The improvement to increase the roadway capacity should alleviate rear-end and sideswipe accidents. Limiting the potential for conflicts at driveways and median openings (by limiting median openings) should reduce left-turn and angle collisions. The provision of sidewalks and bicycle routes is expected to provide increased safety for pedestrians and cyclists. During the design phase of the project, other safety issues such as drainage structure and treatments, signing, striping, signal design, roadside obstacles, etc. will be addressed.

4.3 CONSISTENCY WITH TRANSPORTATION PLAN

The study is in compliance with the Hillsborough County MPO Year 2010 Long Range Transportation Plan. The MPO plan identifies the study corridor as a scenic corridor; the proposed North Tampa Parkway is consistent with the MPO plan designation. Pasco County and the FDOT have previously identified the need for some form of multi-lane improvements to the S.R. 54 corridor within the North Tampa Parkway study area. Pasco and Hillsborough Counties have identified multi-lane improvements necessary for County Line Road within the study area. The proposed North Tampa Parkway is consistent with the Pasco County actions for S.R. 54 and County Line Road. There is no MPO within the Pasco County portion of the study area.

The proposed action is consistent with the state Transportation Improvement Plan (TIP). The proposed Parkway would provide an east-west link between Dale Mabry Highway and Interstates 75/275. The Parkway would follow the S.R. 54 PD&E Study approved alignment for adding a four-lane divided extension to S.R. 54 linking it to I-75. An interchange is proposed at the S.R. 54/I-75 crossing.

The proposed action is consistent with the Growth Management Act and concurrency provisions of the Act because the new multi-lane improvement would provide an acceptable level of travel service for the study area and will relieve the associated facilities of travel demand. The facility is planned as an access-controlled highway; therefore, growth associated with access will be confined to previously identified nodes by the Counties' comprehensive plans.

4.4 SOCIAL/ECONOMIC DEMAND

Proposed growth for Pasco and Hillsborough Counties along with land use data provided by each of the local county governments was used in developing estimates of travel demand and need for the proposed action. This land use and socioeconomic data base for the year 2010 indicates a significant increase in both demand for travel opportunities and general trip making. The magnitude of these travel demand forecasts is discussed in Section 6 of this report.

To adequately provide for the travel demands of the two-county study area, the existing transportation facilities need to be reconstructed and new alternative travel corridors developed before the year 2010. If these facilities are not provided, the study area will not be in compliance with the adopted comprehensive plans and the provisions of the Growth Management Act and its concurrency provisions. Additionally, the use of a controlled access facility to provide for these increasing travel demands in the region will reduce pressure for continuous and uncontrolled "strip development" along the highway by focusing development at the few access opportunities provided. This focusing of growth in nodes will facilitate the need for community services and will allow government to more efficiently serve them.

5.0 CORRIDOR ANALYSIS

5.1 EVALUATION OF ALTERNATIVE CORRIDORS

5.1.1 Purpose and Criteria Used for Corridor Identification

The underlying purpose of developing a new corridor through the study area is to provide improved traffic service between Dale Mabry Highway/U.S. 41 and I-75/I-275 in northern Hillsborough County and southern Pasco County. The need for the project is documented in Section 4 of this report.

The study area was initially examined for opportunities to locate corridors that would accomplish the following goals:

- * avoid and/or minimize disruption to residential neighborhoods,
- * minimize adverse impacts on established commercial areas,
- * avoid lakes, wetlands, and floodplains and known environmentally sensitive areas where possible,
- * connect with the I-75/I-275 in conformance with Federal Highway Administration (FHWA) and FDOT design criteria as related to the spacing between interchanges, and
- * provide, where possible, continuity with roadways extending beyond the study area.

Typical sections were developed for all the corridors based on a parkway featuring landscaping and linear parks. The integrity of the roadways will be maintained by fencing along the limited access portions of the parkway and the adjacent park areas and properties.

Exhibits 5.1 through 5.6 show the proposed parkway typical sections. Typical sections were developed for the more densely populated areas (wide and narrow median urban sections) and also for the rural areas, both restricted and unrestricted.

With these criteria as guidelines, a number of corridors were plotted for study and comparative evaluation leading to the identification of alternatives with the least socioeconomic and environmental impacts.

In addition to the alternative corridors analyzed, two additional alternative scenarios were developed which recommended improvements to the existing roadway network without building a new east-west roadway.

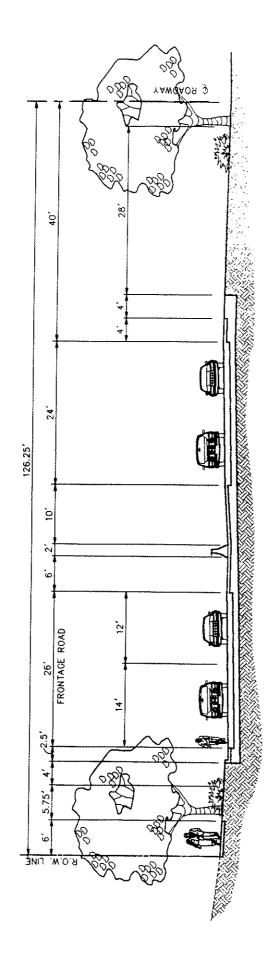
The "No-Build" Alternative would use the existing Pasco and Hillsborough County Comprehensive Plans. After the traffic analyses were completed, it was determined that the No-Build Alternative would not provide an acceptable level of service for these county areas. The "No-Parkway" option was developed on the premise of using the adopted County Plans but enhancing them, where needed, so as to provide an acceptable level of service. Section 7.1 discusses the No-Build and No-Parkway options in detail.

5.1.2 <u>Alternative Corridors</u>

Four basic alternative corridors were identified for analysis. Each of these corridors was in turn further refined to provide alternatives for each corridor. In all, 31 alternatives within the four corridors were evaluated to determine those with the least impacts (see Exhibit 5.7). The four basic corridors are described as follows:

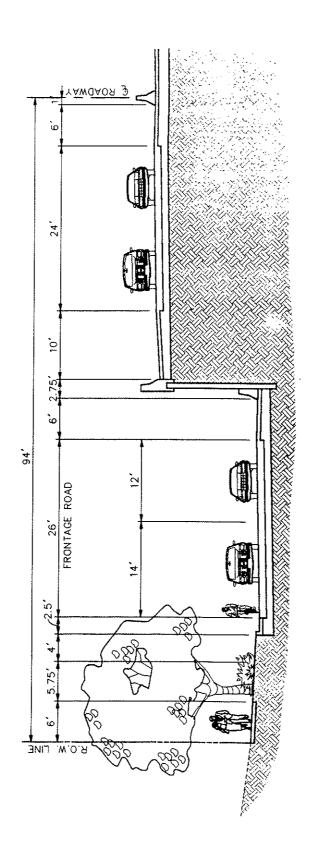
ENGINEERING REPORT

TYPICAL URBAN SECTION WIDE MEDIAN



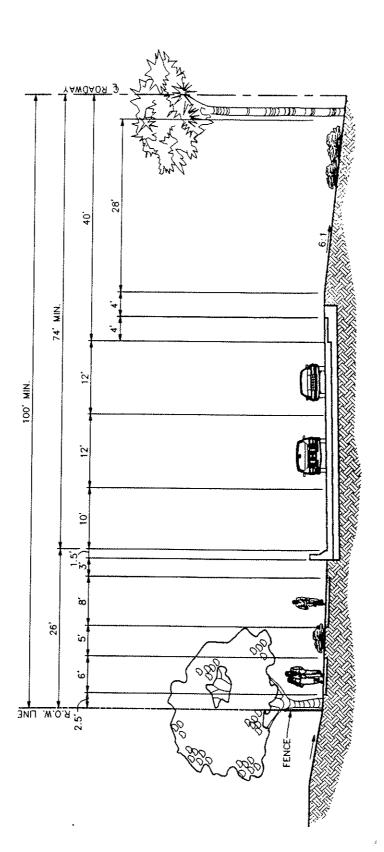
URBAN SECTION WITH FRONTAGE ROAD WDE WEDIAN

TYPICAL URBAN SECTION NARROW MEDIAN ENGINEERING REPORT



URBAN SECTION WITH FRONTAGE ROAD
NARROW MEDIAN

ENGINEERING REPORT

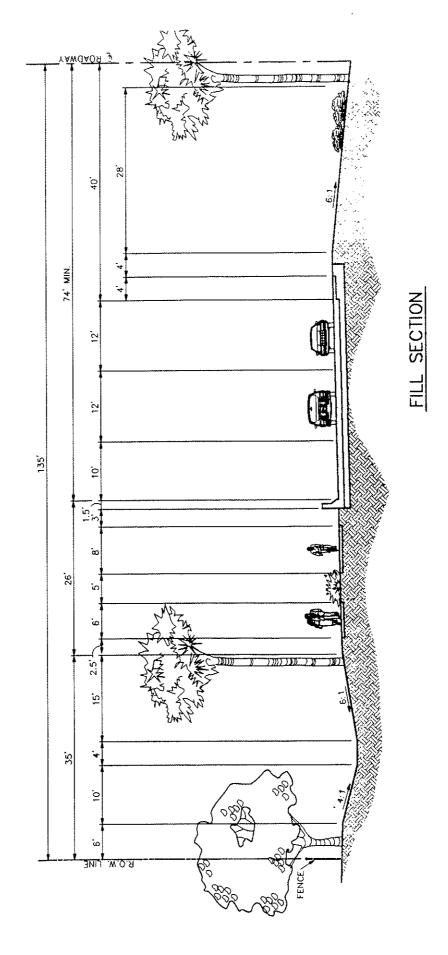


A Florida Department of Transportation Project

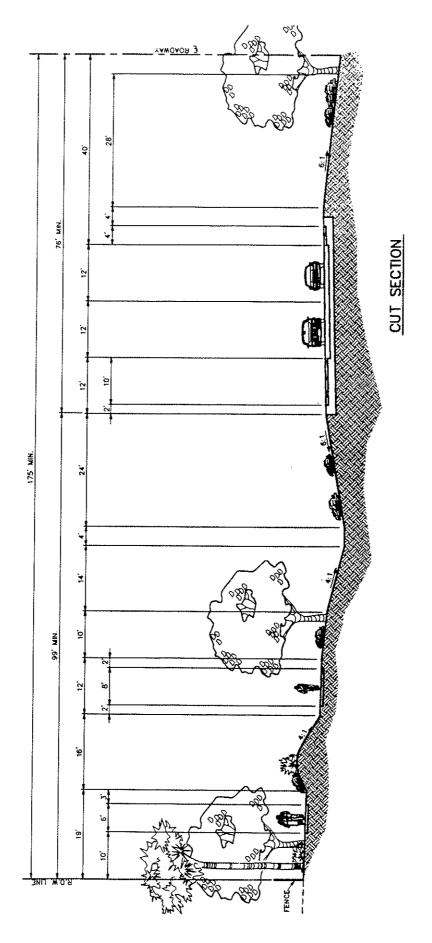
NORTH TAMPA PARKWAY STUDY THE GREINER TEAM

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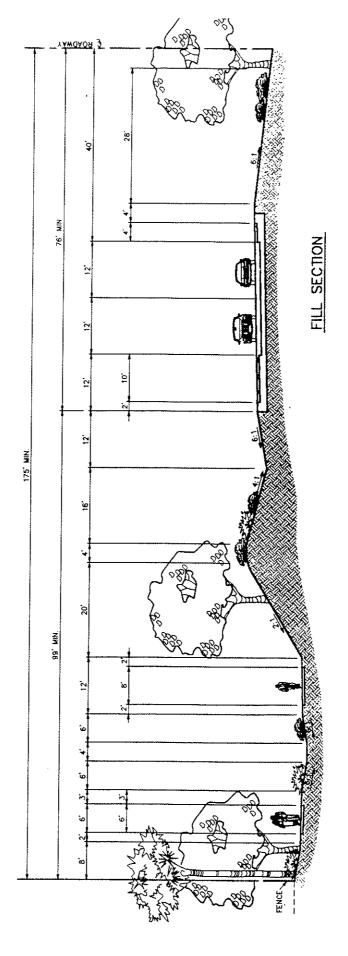


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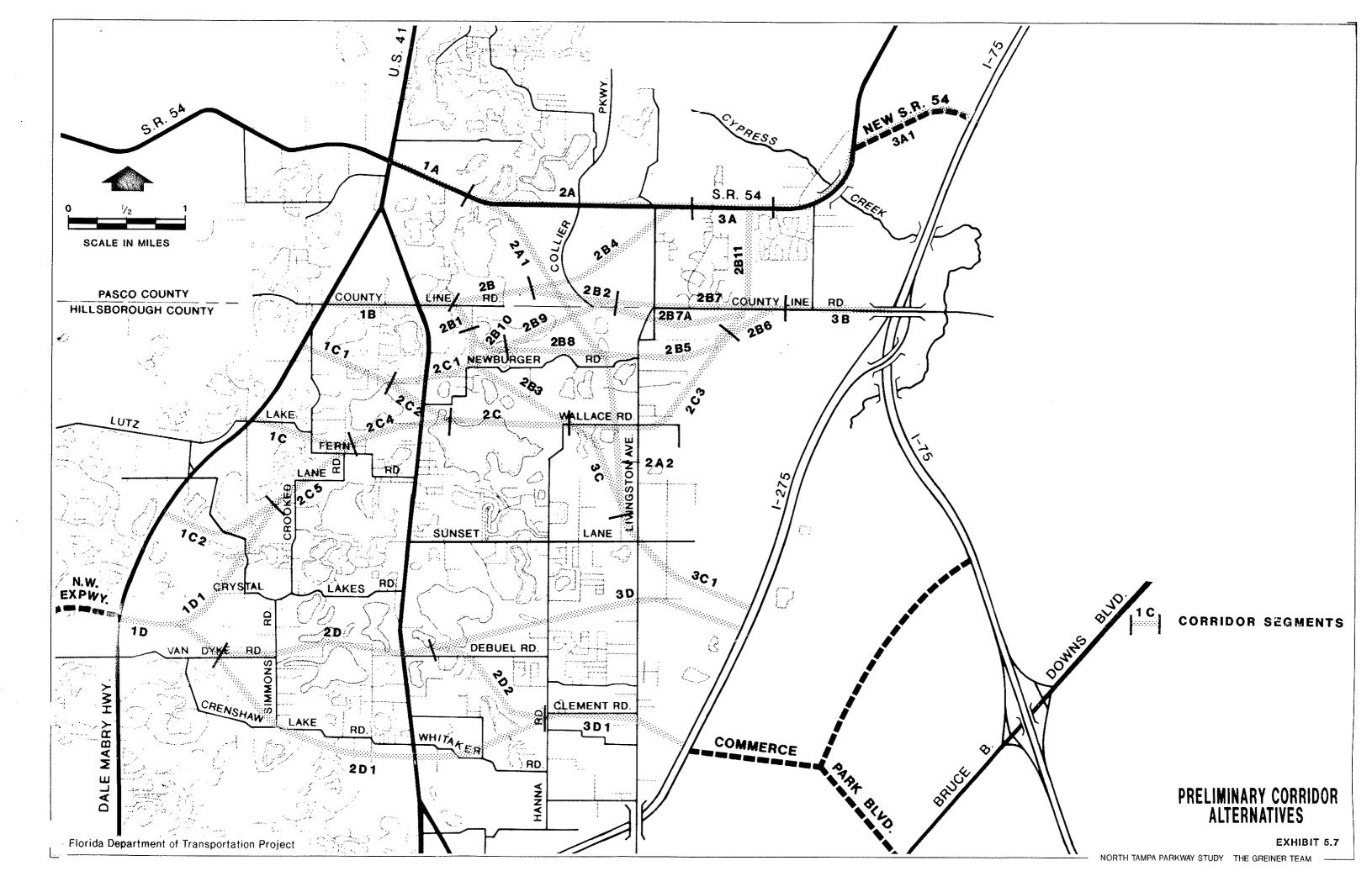


A Florida Department of Transportation Project

ENGINEERING REPORT



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5.1.2.1 Corridor A and Alternatives

Corridor A basically utilizes the S.R. 54 alignment from U.S. 41 to I-75 (see Exhibit 5.8). Alternative A1 would involve a new interchange on I-75 approximately one mile north of Cypress Creek connected to the existing S.R. 54 by a new extension of S.R. 54.

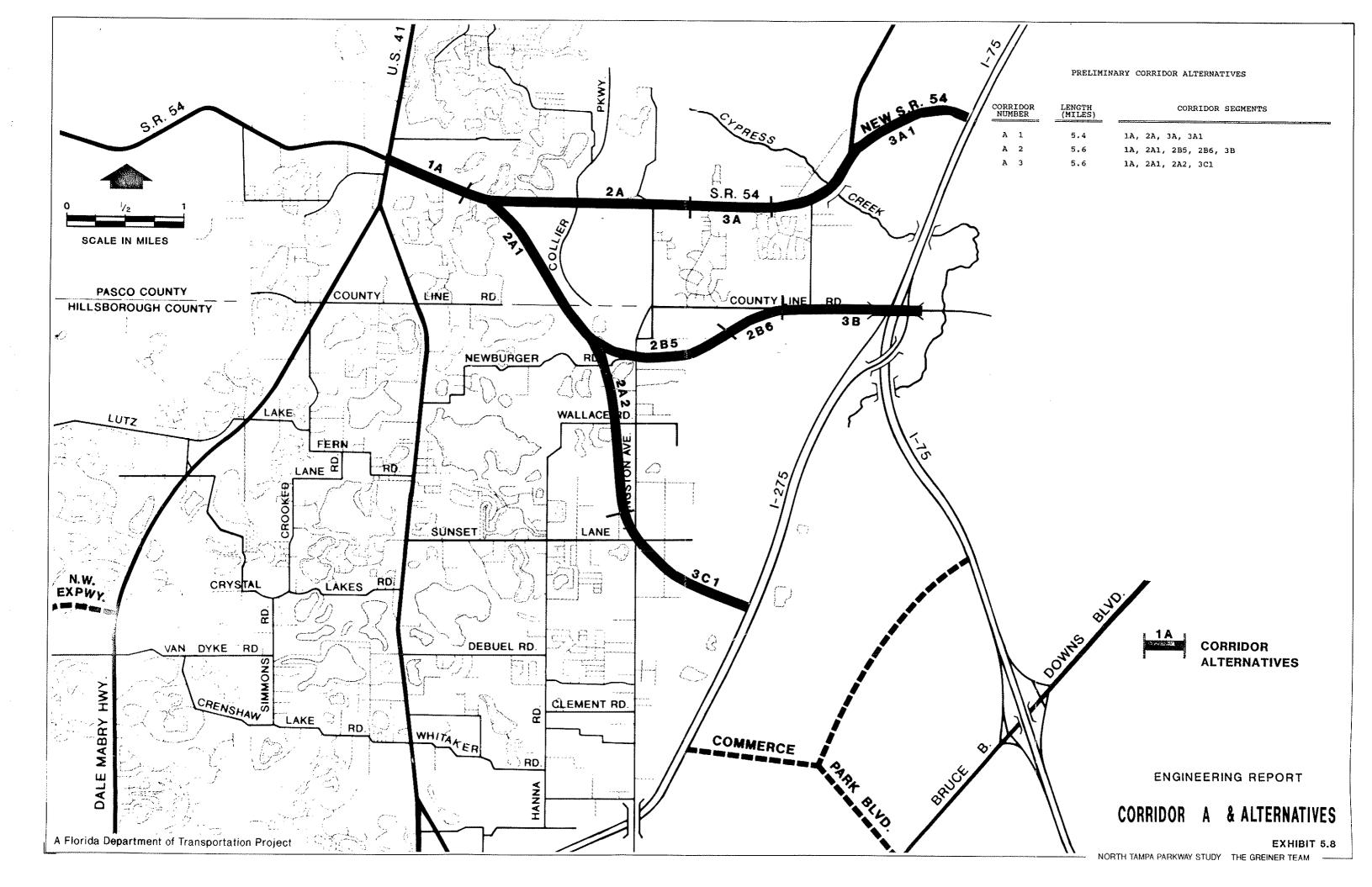
Additional alternatives for Corridor A (A2 and A3) are also shown on Exhibit 5.8. These alternatives have connections to I-75/I-275 at County Line Road and at a new I-275 interchange location approximately two miles north of the Livingston Avenue overpass of I-275.

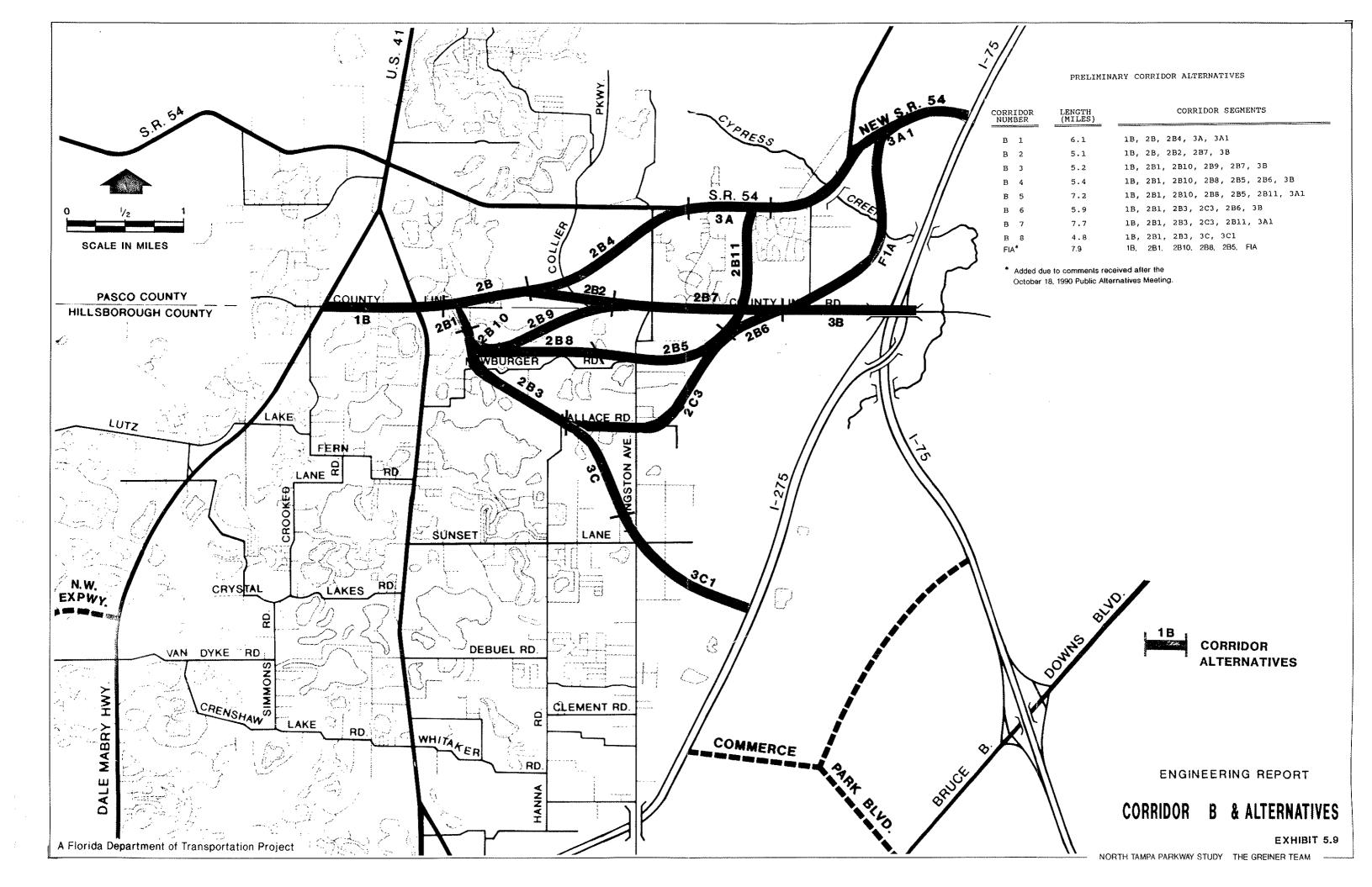
5.1.2.2 Corridor B and Alternatives

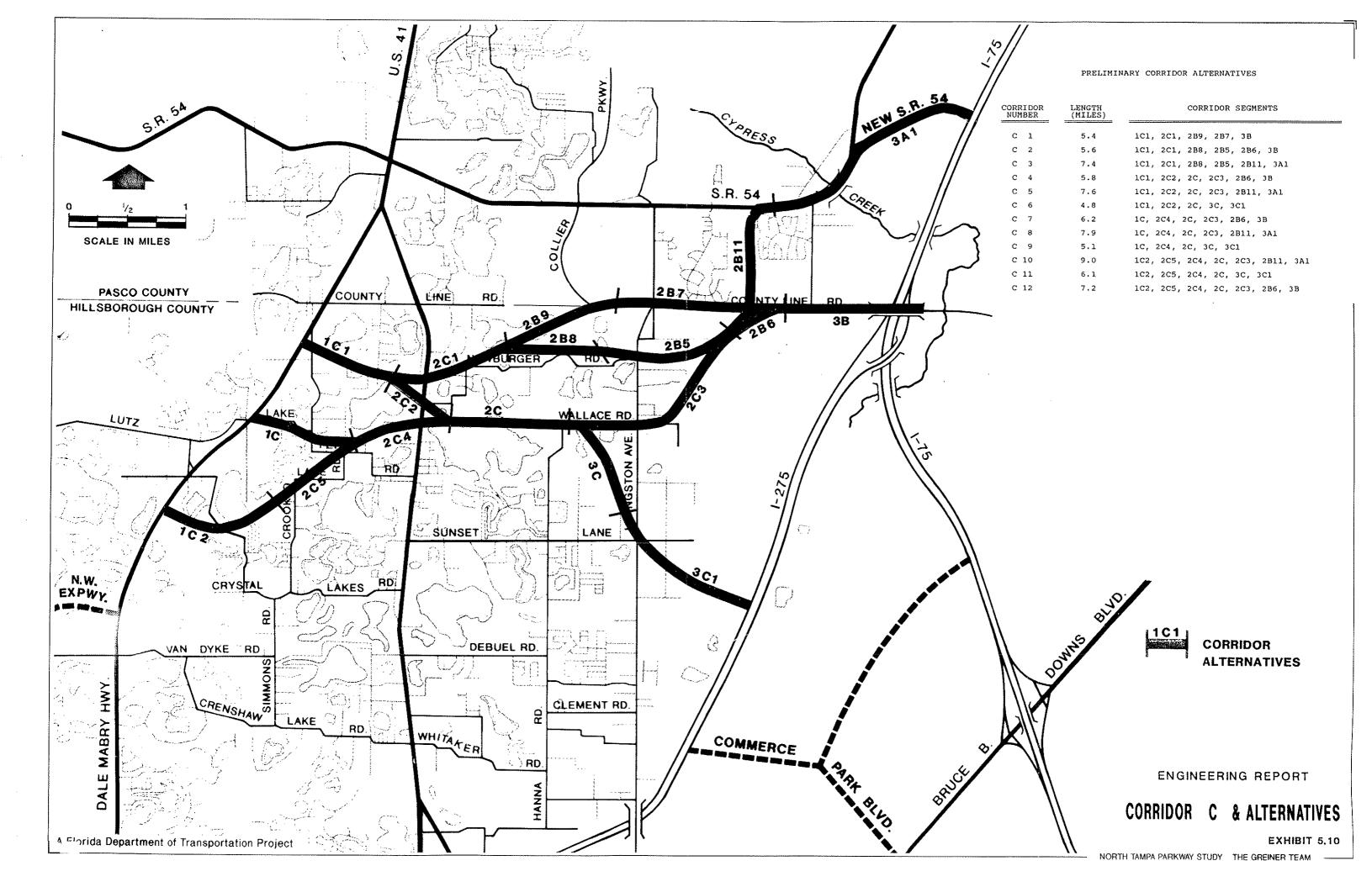
County Line Road would form the basic Corridor B alternative connecting Dale Mabry Highway to the proposed interchange with I-75/I-275 (see Exhibit 5.9). Alternatives for Corridor B, also shown on Exhibit 5.9, indicate possible connections to S.R. 54 extended to I-75/I-275 via County Line Road and a southerly connection to I-275 approximately two miles north of the Livingston Avenue overpass. After the October 1990 Alternatives Public Meeting, an alignment F1A was developed. This was a variation of Corridor B.

5.1.2.3 Corridor C and Alternatives

Three alternatives terminating at Dale Mabry Highway north of the proposed Northwest Expressway comprise the basis for Corridor C (see Exhibit 5.10). The termini for these alternatives are located on Dale Mabry Highway as follows:







- * One-half mile south of County Line Road
- * Lutz Lake Fern Road
- * One and one-quarter miles north of Van Dyke Road

Each of these alternatives connects by alternatives with the three termini on I-75 and I-275 previously identified for Corridors A and B. In effect, Corridors A, B, and C form combinations.

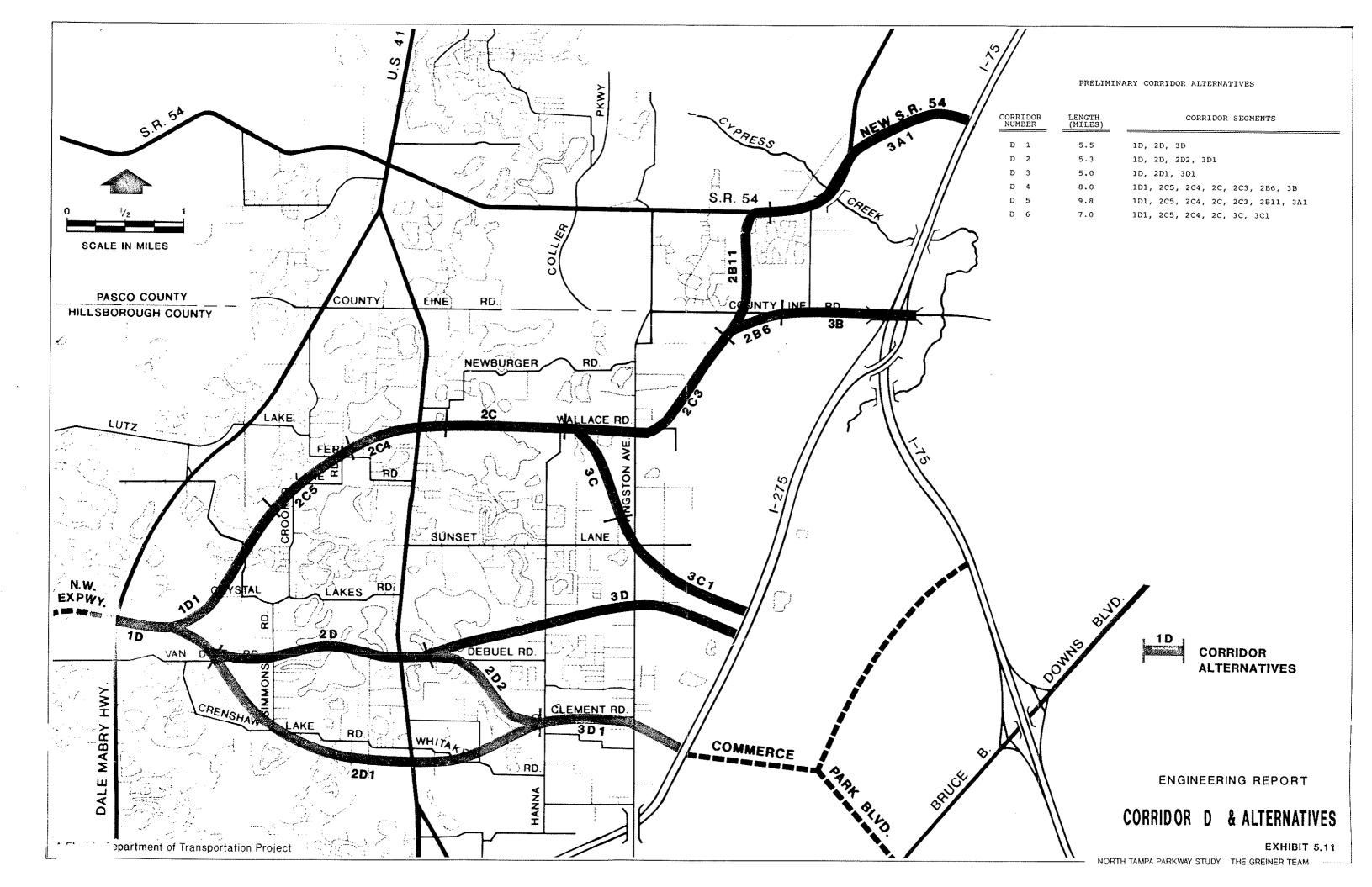
5.1.2.4 Corridor D and Alternatives

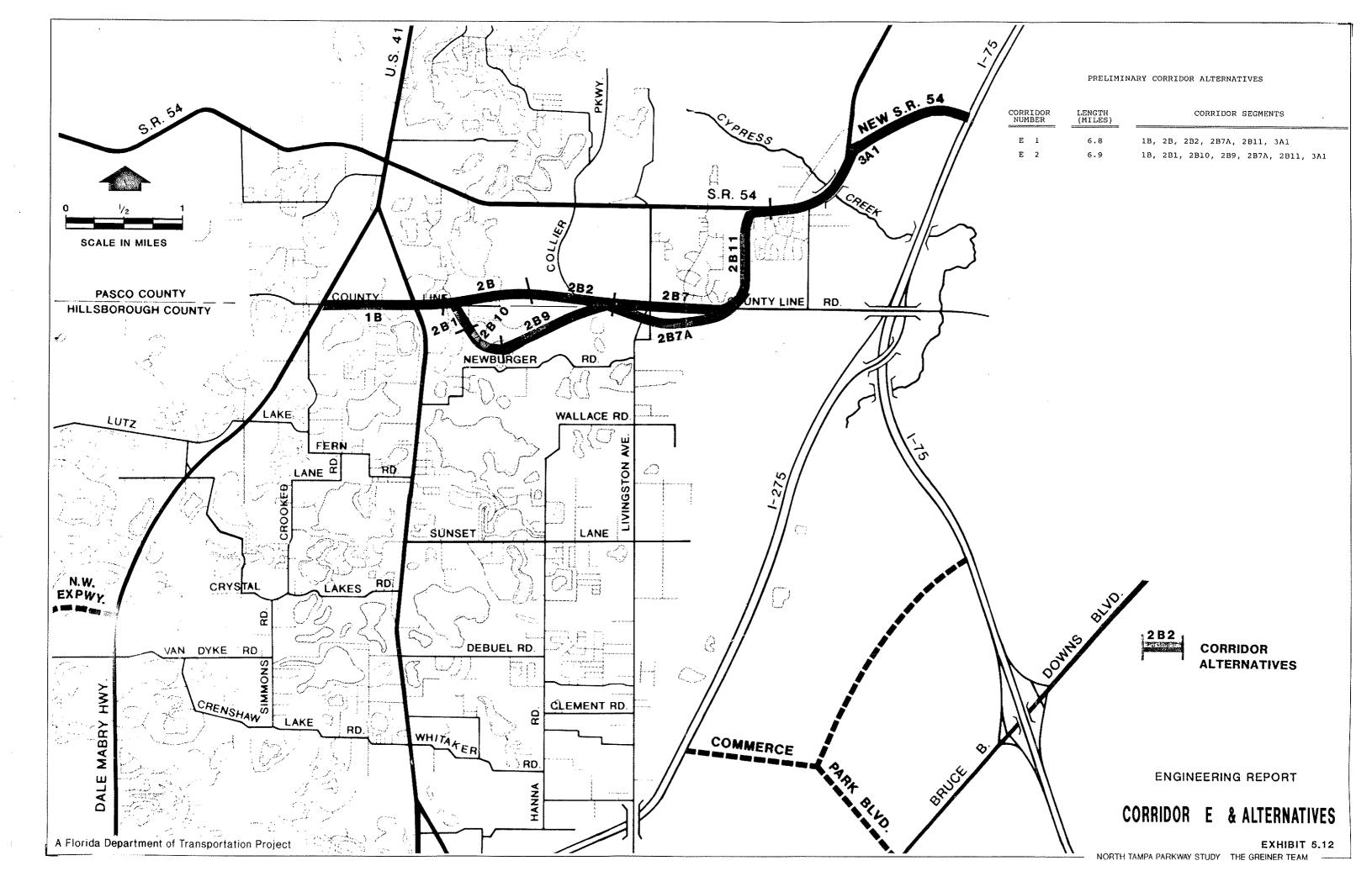
The basic Corridor D alternative terminates at Dale Mabry Highway at the terminus of the planned Northwest Expressway. Corridor D and alternatives are shown in Exhibit 5.11.

These termini with I-75 and I-275 vary from those of Corridors A, B, and C in that two additional termini are identified: one at Commerce Park Boulevard and another on I-275 about a quarter mile south of the previous southernmost termini shown for Corridors A, B, and C.

5.1.2.5 Corridor E and Alternatives

As a result of the public meeting held on June 5, 1990, another corridor alternative, Corridor E, was developed. This corridor, shown on Exhibit 5.12, is the same as Corridor B with a slight variation at County Line Road as the corridor moves northward toward S.R. 54.





5.1.3 Evaluation of Alternative Corridors

Each of the alternative corridors comprising 31 alternatives was analyzed as to environmental, socioeconomic, and cost factors. The following factors were considered:

O Environmental Factors

Four basic environmental factors were quantified for each alternative. These factors were: the number of noise sensitive sites adversely affected, acres of wetlands taken, acres of floodplain encroached upon and the number of acres of mitigation required to offset environmentally sensitive lands taken.

O Socioeconomic Factors

The following socioeconomic factors were quantified for each corridor alternative: relocations of residences required, relocation of commercial businesses required, historical/archaeological sites potentially impacted, and acres of right-of-way required.

O Cost Factors

Each of the corridor alternatives was evaluated as to costs for right-ofway, roadway construction, structures construction and total costs.

The quantities identified for each factor were then summarized by alternative as shown in the Preliminary Corridor Alternatives Impact Matrix (see Table 5.1). As the study progressed, refinements were made to several factors in the matrix. These refinements were due to site visits, public input, and re-evaluation on how right-of-way costs were calculated. These refinements and the updated re-evaluation are discussed in Section 7.3.1.

TABLE 5.1

PRELIMINARY CORRIDOR ALTERNATIVES IMPACT MATRIX NORTH TAMPA PARKWAY

American de la constante de la	1	TOTAL (3)	85.7	108.1	109.3	76.4	75.9	77.5	6.62	68.5	78.9	7.79	60.1	79.1	81.5	70.0	81.5	70.0	62.7	9.66	88.2	77.2	108.3	101.0	119.8	56.1	57.1	53.0	117.3	105.9	98.6	71.3	
COST FACTORS		STRUCTURES		28.1	31.6	22.8	27.7	29.6	31.3	14.1	27.8	10.6	16.9	28.6	30.3	13.1	32.7	15.5	21.8	33.6	16.4	22.7	31.6	37.9	48.8	8,2	5.3	5.7	41.5	24.3	30.6	19.5	
٥		ROADWAY (2) STRUCTURES TOTAL (3) (\$ 000.000) (\$ 000.000) (\$ 000.00	23.2	25.4	21.1	21.1	21.8	22.0	21.3	22.0	22.4	23.1	15.0	21.7	21.0	21.7	21.3	21.9	13.9	22.6	23.3	11.6	25.4	17.3	24.7	15.6	15.2	14.5	26.3	27.0	18.9	22.3	
		R.O.W. ROA		24.6	56.6	32.5	26.4	25.9	27.3	32.4	28.7	33.7	28.2	28.8	30.2	35.2	27.5	32.6	27.0	43.4	48.5	45.9	51.3	45.8	46.3	32.3	36.6	32.8	46.5	24.6	46.1	29.5	
	TIONS	COMMERCIAL (NIMBER) (39	39	∞	₩	m	М	Ø	M	∞	M	0	0	4	0	7	0	14	18	14	19	15	15	∞	Ø	9	13	17	13	Ø	
- 1	RELOCATIONS	RESIDENTIAL (NIMBER)	33	9	19	25	28	56	33	12	37	55	5 7	20	54	75	56	77	33	57	75	75	29	51	77	37	75	36	53	71	09	95	
SOCIOECONOMIC FACTORS		REQUIRED R	280.5	318.5	287.2	322.7	296.0	305.1	339.4	389.7	339.9	398.0	307.8	341.3	371.6	429.7	340.1	398.2	308.0	350.7	408.8	318.6	463.1	372.9	405.0	314.4	380.4	291.3	437.2	495.2	405.1	385.0	
SUCIO	HISTORICAL/	ARCHAEOLOGICAL RESOVIRCES	3 / 7	3 / 2	3 / 1	2 / 4	2 / 1	1 / 7	5 / 1	4 / 3	8 / 1	7 / 3	2 / 0	4 / 2	2 / 2	7 / 7	5 / 5	7 / 7	2 / 1	9 / 1	8 / 3	0 / 9	4 / 3	2 / 0	5 / 1	2 / 1	0 / 1	0 / 0	5 / 1	4 / 3	2 / 0	3 / 2	
	MITIGATION	REQUIRED (ACRES)	61.0	145.9	162.3	108.6	130.6	122.1	94.2	84.3	114.9	105.0	104.4	116.5	88.5	78.6	112.8	102.9	102.3	129.5	119.6	119.0	174.3	173.7	184.2	103.8	82.6	90.08	152.6	142.7	142.1	123.8	
1		FLOODPLAINS (ACRES)	89.6	132.2	112.5	125.2	158.1	143.2	98.7	89.5	87.8	78.6	73.8	127.7	83.2	74.0	68.3	59.0	54.2	4.69	60.2	55.4	79.0	74.2	88.2	0.96	6.62	97.6	95.0	85.8	81.0	152.0	
ENVIRUNMENTAL FACTORS		WETLANDS !	13.5	7.09	9.69	38.1	47.1	42.1	32.3	29.5	8.95	45.4	38.3	43.3	33.5	30.7	8.94	0.44	39.9	55.1	47.0	48.2	73.9	8.69	7.97	38.3	28.0	30.9	64.4	61.6	43.9	46.5	
- 1	NOISE (1)	SENSITIVE	67	36	50	27	95	36	12	21	16	23	\$	34	œ	17	13	21	11	19	32	21	75	31	33	22	53	22	37	94	27	36	
CORKIDOR		CMILES	6.4	9.9	9.9	6.1	5.1	5.2	5.4	7.2	5.9	7.7	8.4	5.4	5.6	7.4	5.8	2.6	4.8	6.2	7.9	5.1	9.0	6.1	7.2	5.5	5.3	5.0	8.0	9.8	7.0	6.8	
<u></u>		ALTERNATIVE NIMBER	A1A	AZA	A3A	B1A	B2A	B3A	84A	85A	86A	87A	88A	C1A	CZA	53	C4A	53	93	C7A	80	63	C10	1,1	C12A	01	D2	D3	D4A	05	90	E1A	

³⁶⁹

Includes those sites within 65 dBA category B noise contour. Includes utility and drainage costs. Does nto include sructures. Does not include engineering design, maintenance of traffic, construction management or contingencies.

5.1.4 <u>Identification of Corridors with the Least Impacts</u>

The next step in the evaluation process was to refine and compare the alternatives as to their relative impact based on the following criteria:

- * traffic (that is, the relative ability of the corridor alternative to provide traffic service through the area),
- * environmental (noise, wetlands, floodplain, mitigation),
- * socioeconomic (historical/archaeological, residential relocations commercial relocations),
- * community cohesion (the relative disruption to existing neighborhoods and communities),
- * public input (the relative degree of public support or objections as evidenced through comments received as a result of Citizen Advisory Committee (CAC) input, citizen contact and public meetings), and
- * project cost (right-of-way, roadway, structures and total).

These criteria were evaluated and compared. The results are shown in the Preliminary Corridor Alternatives Evaluation Matrix (see Table 5.2). These results were then weighted to give relative importance to each of the major criteria. The weights assigned to the criteria are as follows:

Traffic	15%
Environmental	20%
Socioeconomic	20%
Community Cohesion	10%
Public Input	15%
Project Cost	<u>20%</u>
Total	100%

The results of this weighted comparison are shown in the Preliminary Corridor alternatives Weighted Evaluation Matrix - 1 (see Table 5.3). This matrix quantified the numerical values given for each weighted criteria for each corridor alternative

TABLE 5.2

PRELIMINARY CORRIDOR ALTERNATIVES EVALUATION MATRIX

A	1A	TRAFFIC 3	ENVIRONMENTAL	Noise 5	Wetlands	Floodplain 3	Mitigation 1	SOCIOECONOMIC	Historical/Archaeological 5	Residential Relocation 2	Commercial Relocation 5	COMMUNITY COHESION 1	PUBLIC INPUT	PROJECT COST (ROW and Roadway) 3
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NOTE: Low Score (1) Represents Least Adverse Impact. High Score (5) Represents Greater Adverse Impact.

TABLE 5.3

PRELIMINARY CORRIDOR ALTERNATIVES WEIGHTED EVALUATION MATRIX – I

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TRAFFIC 15%												_																				
	15%	0.45	0.75	15% 0.45 0.75 0.60 0.30 0.60 0.60 0.75 0.45	0.30	າ 09.c) 09.c	3.75 6		0.75 0.45	45 0.75	09'0 52	50 0.75	5 0.45	0.75		0.60 0.75 0.75 0.60	0.75		0.75	09.0	0.75 0.75		0.75 0	0.75 0.	0.75 0.	0.75 0.60		0.75 0.	0.30 0.30		0.45
ENVIRONMENTAL 20%																																
Noise	5%	0.25	0.20	0.25	0.15 0.25		0.20	0.05	0.10 0.	0.05 0.	0.10 0.10	0.20	0.05	5 0.10	0.05	0.10	0.05	0.10	0.15	0.10	0.20	0.15 0	0.15 0	0.10	0.10 0.	0.10	0.20 0.	0.25 0.	0.15 0.	0.20 0.15		0.15
Wetlands	5%	0.05	0.25	0.25 0	0.15 0.20 0.20	5.20 c		0 51.0	0.10 0.	0.20 0.	0.15 0.15	0	20 0.15	5 0.10	0.20	0.15	0.15	0.25	0.15	0.15	0.25	0.25 0	0.25 0	0.15 0	0.10	0.10	0.25 0.	.25 0.	0.15 0.	0.15 0.15		0.05
Floodplain	5%	0.15	0.25	0.25	0.25 0.25 0.25	0.25 €	3.25 (0.25	0.15 0.	0.20 0.	0.10 0.10	0	25 0.20	0 0.10	0.15	0.05	0.05	0.15	0.05	0.05	0.10	0.10	0.20	0.20	0.10 0.	0.20 0.	0.20 0.	0.15 0.	0.10 0.	0.25 0.25		0.10
Mitigation	5%	0.05	0.25	0.25	0.15 0.25 0.20	3.25 c		0.15	0.10 0.	0.20 0.	0.15 0.15	0	20 0.15	5 0.05	0.20	0.10	01.0	0.25	0.15	0.15	0.25	0.25 0	0.25 0	0.15 0	0.10	0.10	0.25 0.	0.20 0.	0.20 0.	0.15 0.10		0.05
SOCIOECONOMIC 20%																																
Historical/Archaeological	5%	5% 0.25 0.15	1	0.10 0.15 0.10 0.15 0.15 0.15	0.15	2.10 c	3.15 6	3.15 0		0.20 0.	0.25 0.15	15 0.15	5 0.10	0 0.20	0.15	0.20	0.10	0.25	0.25	0.15	0.15	0.05 0	0.15 0	0.10	0.05 0	0.05 0.	0.15 0.	0.15 0.	0.05 0.	0.15 0.15		0.15
Residential Relocation	10%	10% 0.20 0.10	i	0.10 0.30 0.20 0.20 0.30 0.30	0.30 c	5.20 c	3.20 c	05.0		0.20 0.	0.40 0.30	30 0.10	0.20	0 0.30	0.20	0.30	0.20	0.40	0.50	0.40	0.40	0.30	0.30	0.20	0.30 0.	0.20	0.40 0.	0.50 0.	0.40 0.	0.30 0.40		0.20
Commercial Relocation	288	5% 0.25 0.25		0.25	0.10 0.05 0.05 0.05 0.10	2.05 c) so.c	0.05		0.05 0.	0.10 0.05	35 0.05	5 0.05	5 0.05	0.05	0.05	0.05	0.15	0.20	0.15	0.20	0.15	0.15 0	0.10	0.10	0.10	0.15 0.	0.20 0.	0.15 0.	0.10 0.10		0.10
COMMUNITY																																
COHESION 10%	10%	10% 0.10 0.20		0.40 0.20 0.20 0.20 0.30 0.30	o.20 €	5.20 c).20 c	30 05.		0.40 0.4	0.40 0.40	40 0.40	0.40	0 0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.50	0.50 C	0.40	0.50	0.50 0.	0.50 0.	0.50 0.	0.50 0.	0.50 0.	0.20 0.20		0.10
PUBLIC INPUT 15%																																
	5%	5% 0.15 0.15		0.75 0.15 0.15 0.45 0.45 0.45	51.c	0.15 C).45 ().45 0		0.75 0.	0.75 0.75	25 0.75	57.0 27	5 0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75 C	0.75 0	0.75	0.75 0	0.75 0.	0.75 0.	0.75 0.	0.75 0.	0.15 0.15		0.15
PROJECT COST 20%																																
(ROW and Roadway)	20%	0.60 1.00		1.00 0.60 0.60 0.60 0.60 0.40	09.0) 09°C) 09.0	0 09.0	-	0.60	0.40 0.20	09.0 02	09.0	0 0.40	0.60	0.40	0.20	8.	0.80	09.0	8:	1.00	0.00	0.20	0.20	0.20	1.00	1.00 1.	0.0	0.40 0.40		0.40
				7						***************************************		-						Ì			ľ	ŀ	-						_			_
TOTAL	100%	2.50 3.55		4.20 2.50 2.85	2.50	2.85	3.10 3.20		2.60 3.	3.60 3.	3.25 3.10	3.50	3.40	0 2.90	3.50		3.10 2.80 4.45		8.4	3.65	04	4.25	4.35	3.20	3.05 3.	3.05 4	4.60 4.	4.55 4.	4.20 2.	2.35 2.35		1.90

allowing a numerical comparison. The lower the total numerical value for each alternative, the less the adverse impacts.

The Preliminary Corridor Alternatives Weighted Evaluation Matrix - 2 (see Table 5.4) shows the alternatives having the least impacts.

5.2 CORRIDOR SELECTION

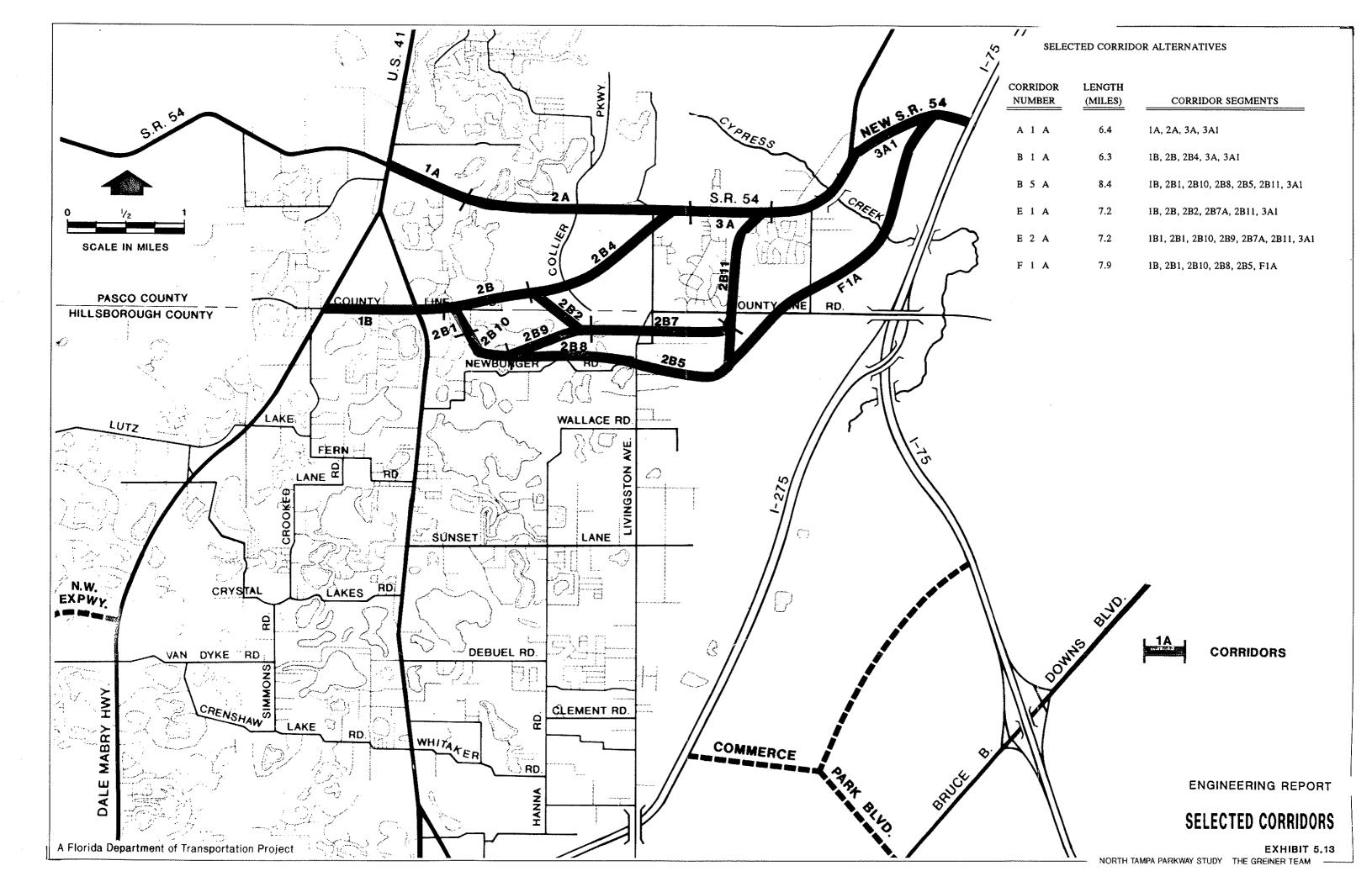
Corridors with the least overall impacts and the most positive aspects are depicted graphically on Exhibit 5.13. These corridors which were selected for further study as alignment alternatives are as follows: Alternatives A1A, B1A, B5A, E1A and E2A.

After showing these proposed alternatives at the Public Meeting held on October 18, 1990, and due to community input, a sixth "build" alternative was developed. This decision was based largely on the perception of the Pasco citizens that their "community cohesion" and "public input" had not been weighted properly in the matrix evaluation. These citizens believed their "community cohesion" for Alternative A1A should have been higher as they would have to cross a major highway for community functions. They further believed the "public input" factor for the selected alternatives was low due to many of the Pasco citizens not being on the original mailing list. Pasco citizens were notified by an advertisement in two of their local papers. After the October 18, 1990 Alternatives Public Meeting, it was determined that Pasco residents living east of Collier Parkway had been omitted from the mailing list. The tax records for this area were pulled immediately and the property owners' names of record were added to the mailing list. To further mitigate this oversight,

TABLE 5.4

PRELIMINARY CORRIDOR ALTERNATIVES WEIGHTED EVALUATION MATRIX - 2

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tr)	2A	8.8	8,0	8,0	80.0	8.6	8	8	80.0	80.0	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	3.54
ш	IA.	0.0	0.00	0.0	8	0.0	8	8	8	8,0	2.35	2.35	2.35	2.35	2,35	2.35	2.35	2.35	2.35	3.25
Ω	9	0.0	0.0	0.0	8.8	800	8	8	8.0	8.0	00.0	8	8	8	0.00	8	80	8	0.00	5 4
Ω	S	8.	0.00	8.0	8	0.00	8	8.0	8.0	8.0	8.	8.0	8	8.	8.0	8	8	8	8.	4 55
Ω	44	8.0	0.00	8.	8.0	0.00	8.0		0.0	8.0	+-	+			0.00	8.0	8	8	8	4.60
Ω	m	8.0	0.00	8.0	8.8	0.00	0.00	+-	8.0	8.0	8.0	+	0.00	0.00	0.00	8	+	8		3.05
Ω	2	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	8	0.0	0.0	00.0	90.00	8.0	0.00	3.05
Ω	-	0.00	0.00	0.00	0.00	0.00	8.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	8:0	0.00	8.0	0.00	0.00	3.20
၁	12A	8.	8.6	8.0	8.9	0.0	0.00	8.0	0.0	8	0.0	0.00	0.00	0.0	0.00	8.0	9.0	0.00	0.0	4.35
C	=	8.0	8,0	8:0	8.0	8.9	0.0	8.	0.0	0.0	8.0	0.0	0.0	8.6	8.0	0.00	0.00	0.00	0.00	\$2.2
ပ	2	0.00	0.00	0.0	0.0	0.00	0.00	8.0	8.0	0.0	0.0	8.9	0.0	8.8	0.00	0.00	8.0	8,0	0.00	4,40
၁	0	9.0	0.0	8.0	8.0	0.0	0.0	8.0	0.0	0,0	8.	9.0	0.0	0.0	0.00	8.0	9.0	0.0	8.0	3,65
O	∞	0.00	0.00	0.0	9.0	0.0	0.0	0.8	0.00	0.0	8.	8.9	0.0	8.0	8.0	0.00	8.	0.0	0.0	4,00
υ	7.4	9.0	0.0	8.0	8.	0.0	8.0	8.8	0.00	0.00	8.0	0.00	8.0	8.0	8.8	0.0	8.	8.9	0.00	4.45 4.00
C	9	0.0	0.0	8.0	9.0	0.00	0.00	8.	0.0	8.0	8,	0.0	0.0	8.0	0.0	0.00	8.0	8.	8.0	2.80
O	'n	9.0	0.0	9.0	8.	9.0	0.0	8.8	0.0	0.00	8,0	8.0	0.0	8.0	8.0	0.00	8.0	8.	9.0	3.10
Ç	44	9.0	0.0	0.00	9.0	8.	0.00	8.	9.0	0.00	8.0	8.0	9.0	8.8	9.0	0.0	8	8.8	0.0	2.90 3.50
C	Э	0.00	0.00	0.00	0.0	8.8	9.0	8.	8.	9.0	0.0	9.0	0.00	8.0	0.00	0.00	0.00	0.0	9.0	
ပ	2A	0.0	9.0	0.0	0.00	0.0	0.00	8.	0.00	9.0	8.0	8.0	0.0	9.0	8.8	8.0	0.00	0.00	0.00	3.40
U	14	0.00	0.00	8.	8.0	0.0	0.00	0.0	0.00	0.00	8.0	9.0	0.00	90.0	0.0	0.00	8.0	9.0	0.00	3.50
В	8A	0.0	0.00	0.00	9.8	8.0	0.0	0.0	0.00	0.00	0.0	9.0	9.0	0.0	8.8	0.00	0.0	8.0	0.00	3.10
В	7A	0.08	8.0	0.0	0.0	0.0	8	0.0	9.8	0.00	0.00	0.00	0.00	8.0	8.0	0.0	0.00	8.0	0.0	3.25
В	6A	0.0	0.00	0.0	0.0	0.00	0.00	8.0	0.0	8.8	8.0	0.00	0.00	8.0	8.0	0.00	0.0	8.0	0.00	3.60 3.25
В	SA	0.00	000	0.00	8.0	8.0	0.00	8.	0.0	0.00 0.00 0.00 0.00 0.00 0.00	8.0	0.0	0.0	0.0	9.00	2.60	2.60	2.60	2.60	8
В	44	0.00 0.00 0.00 0.00 0.00	0.00	0.00	8.0	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00	0.00	0.00 0.00 0.00 0.00	0.00	0.00	0.0	0.00	0.0	0.0	0.0	0.00 2.50 0.00 0.00 0.00 2.	0.00 0.00 2.	0.00	4.20 2.50 2.85 3.10 3.20 2.4
В	3A	0.00	0.00	0.0	0.0	0.0	0.0	0.00 0.00	8.	8.0	8.0	0.00	8	8.0	0.00 00.0	0.00 0.00	0.00	0.0	0.00	3.10
В	2A	0,00	0.00	0.00 0.00 0.00	0.0	8.	0.00	-	0.00	0.00	8,0	0.00 0.00	0.00	8.0	0.00	9.0	0.00	8	2.50 0.00	2.85
В	3A 1A 2A 3A	0.00	8.0		0.00 0.00 0.00 0.00	8.0	0.00 0.00	0.00 0.00	80.0	0.00	0.00 0.00 0.00	80,0	0.00 0.00 0.00 0.00	0.00 2.50 0.00 0.00	2,50	2.50	2.50	0.00 2.50 0.00	2.50	2.50
¥			0.00	0.00		_		0.00				8.8	0.0	9.0	00'0	00.0	0.00	0.0	0.00	
٧	2A	0.00	0.00	0.00	0.00 0.00	0.00	00.0	0.00	0.00 00.00	00.00	0.00	0.00	0.00 0.00	0.00	2.50 0.00	0.00	0.00	8.0	2.50 0.00	2.50 3.55
4	IA	0.00	00.00	00.00	8.0	0.00	0.00	0.00	0.00	00.0	0.00	0.00	00.0	2.50	2.50	2.50	2.50	2.50	2.50	2.50
MATRIX-1	RESULTS	1.90	1.95	2.00	2.05	2.10	2.15	2.20	2.25	2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	CORRIDOR TOTAL



the Pasco comments were considered and a new alignment, F1A, was developed. An additional alternatives public meeting was held on January 10, 1991. Newsletters were mailed to all citizens on the updated mailing list and notices were submitted to the local newspapers. The evaluation matrix was adjusted to reflect the input from the Pasco citizens and to add the new alignment as a preferred alternative.

Many of the statements received from the public questioned why the proposed alternatives no longer included an extension to County Line Road and a new interchange with County Line Road and I-75/I-275, as previously studied. The study team reviewed the previous studies of late 1987 and 1988, which were done for the FDOT and FHWA as part of the Tier I analysis for the Tampa Interstate Study. The team used the previous concept for this area and further refined it for environmental, stormwater, and floodplain mitigation areas. The mitigation areas and proposed right-of-way acquisitions were then evaluated to determine costs. Only one alternative was considered, Alternative C2. The other alternatives were eliminated due mainly to environmental factors. Alternative C2 was then evaluated and found to cost \$22.4 million more with the interchange than without the interchange. Total environmental acres affected would increase as would right-of-way costs. The use of a full interchange at County Line Road was an unacceptable solution based on both costs and impacts.

6.0 TRAFFIC

6.1 EXISTING CONDITIONS

Parkway study area, morning and evening peak hour conditions were evaluated. With a number of the roadway segments along Dale Mabry Highway and along U.S. 41 operating at poor existing levels of service (Level of Service E or F) as noted in Subsection 4.1, peak hour congestion problems were also anticipated. Table 6.1 summarizes these detailed capacity evaluations and clearly highlights four intersections that have severe deficiencies during morning and/or evening peak conditions. The intersection of Dale Mabry Highway and U.S. 41 exhibits travel congestion (Level of Service E or F) during both peak periods while Dale Mabry Highway at Van Dyke Road, U.S. 41 at Crenshaw Lake Road, and U.S. 41 at S.R. 54 exhibit morning peak period operating problems. Thus, the existing routes of Dale Mabry Highway and U.S. 41 through the study area have extensive current traffic operations problems. Without additional roadway improvements, future increases in travel resulting from the land use and socioeconomic increases within the area will only further compound these existing problems.

Of the eleven intersections within the study area specifically designated for evaluation, six are signalized and five are unsignalized. For the five unsignalized locations, three are intersections along U.S. 41, one is located on Dale Mabry Highway, and one is located on Livingston Avenue. Table 6.2 presents the capacity evaluation for 1990 conditions at these intersection locations for both morning and evening peak hour operations. As shown, all of the eastbound and westbound approaches at these unsignalized intersections operate at Level of Service E or F in both peak hours as a

TABLE 6.1

1990 SIGNALIZED INTERSECTION CAPACITY ANALYSES
North Tampa Parkway

<u>Intersection</u>	_ <u>A</u>	M Peak			M Peak	_
	<u>Delay</u>	$\frac{\mathbf{v}/\mathbf{c}}{}$	<u>LOS</u>	<u>Delay</u>	<u>v/c</u>	<u>LOS</u>
Dale Mabry @ U.S. 41	*	1.217	*	*	1.221	*
Dale Mabry @ Van Dyke	67.0	1.181	F	22.7	0.827	C
Dale Mabry @ Lutz Lake Fern	7.3	0.650	В	7.5	0.647	В
U.S. 41 @ Sunset	14.4	0.837	В	16.3	0.879	C
U.S. 41 @ Crenshaw Lake	57.8	1.138	E	17.4	0.919	C
U.S. 41 @ S.R. 54	41.4	0.997	E	36.4	0.959	D

Note: Delay is measured in terms of seconds per vehicle.

^{*} Delay and LOS not meaningful when any v/c is greater than 1.2.

TABLE 6.2

1990 UNSIGNALIZED INTERSECTION CAPACITY ANALYSES
North Tampa Parkway

AM LOS

Intersection	NB	<u>SB</u>	EB	WB
U.S. 41 @ Lutz Lake Fern	С	NA	F	NA
Livingston @ Sunset	В	Α	F	E
U.S. 41 @ County Line Road	C	В	F	F
Dale Mabry @ Sun Lake	C	NA	F	NA
U.S. 41 @ Crystal Lake	D	NA	F	NA

PM LOS

Intersection	NB	<u>SB</u>	<u>EB</u>	<u>WB</u>
U.S. 41 @ Lutz Lake Fern	D	NA	F	NA
Livingston @ Sunset	D	Α	F	E
U.S. 41 @ County Line Road	E	C	F	E
Dale Mabry @ Sun Lake	C	NA	E	NA
U.S. 41 @ Crystal Lake	E	NA	F	NA

result of the heavy traffic volumes using the north-south streets. These heavy north-south volumes also cause the northbound left-turn movements to operate at Level of Service E on U.S. 41 at both the County Line Road intersection and at the Crystal Lakes Road intersection during the evening peak hour. Thus, existing traffic operating conditions throughout the study area are substantially less than desirable.

6.2 MULTIMODAL TRANSPORTATION SYSTEM CONSIDERATIONS

Factors such as auto occupancy rates, high occupancy vehicle lanes, bus transit, and various forms of fixed guideway transit typically represent the types of transportation planning considerations incorporated into this aspect of the corridor planning (PD&E) process. For the North Tampa Parkway PD&E Study, these considerations were included in a two-step process in order to determine the impact of such alternatives on the overall improvement requirements within the study area. This process consisted specifically of the following evaluations:

- (1) Application of the travel forecast demand model developed for the Tampa Interstate Study (TIS) to the North Tampa Parkway study area. All travel forecasts included the bus transit routes proposed by Hillsborough Area Regional Transit (HART) for the area as contained in the long-range transportation plan for Hillsborough County, the park-and-ride facilities recommended in TIS for the I-275 corridor area, and the carpool forecasts incorporated into the high occupancy vehicle (HOV) routings of all travel assigned to the Interstate system.
- (2) Calculation of all laneage demands and improvement needs based on the HOV and bus transit assignments resulting from the forecast model application.

Because all transit plans for the study area consist of the use of buses and van/carpools, these vehicles will operate on the roadway system within the study area and experience the same level of congestion as all other motorists. As a result, the

improvement demands defined and discussed in Subsection 6.5 of this document incorporate the most reasonable assessment of multi-modal vehicle usage that can presently be made for the study area. If the bus routes included in the Long-Range Transportation Plan are not implemented (as has been suggested by current funding shortfalls being experienced by the transit system), the automobile usage forecasts prepared in the study process could be even higher.

As a contrasting point, it should be noted that transit and van/carpool usage in the 2010 travel forecasts are relatively low. Development densities anticipated by the MPOs and Counties are such that fixed guideway transit was not included within the study area. The resulting laneage and improvement needs within each study alternative are not diminished by the magnitude of the transit/carpool person trip forecasts. For example, the No-Build Alternative (which has the highest level of roadway congestion of any alternative evaluated, and therefore the highest forecast of transit/carpool usage) contains a transit usage forecast of less than one percent of the daily study area person trips. Similarly, van/carpool usage within the study area for the No-Build Alternative is less than 5 percent of the total daily vehicle trips within the area. Thus, study area laneage improvement requirements included multi-modal considerations, and special evaluations associated with examining more than the currently adopted plan improvements were not warranted.

6.3 TRAFFIC ANALYSIS

The analysis of existing conditions presented previously in Sections 4.1 and 6.1 highlights current traffic operations problems along the existing major arterials of Dale Mabry Highway and U.S. 41. The only remaining north-south major street is Livingston Avenue, which presently serves a daily volume of approximately 10,000

vehicles and a two-way peak hour volume of almost 1,900 vehicles on the existing two-lane roadway in both the morning and evening peak hours. Thus, under existing travel conditions within the study area, all current roadways serving north-south travel require improvement to achieve the desirable Level of Service C or D standards established by the FDOT for the study effort.

To determine the most appropriate parameters for use in developing design hour volumes, an analysis of the existing traffic characteristics was conducted. The proportion of the daily traffic volume that occurs during the peak hour (K-factor) was determined along with the proportion of the peak hour traffic that occurs in the peak direction (D-factor). All detailed calculations for K and D are presented in the Final Traffic Memorandum. The results of the analysis indicate that the proportion of the daily traffic that occurs during the morning peak hour ranges from 3 to 11 percent, with an average value of 7 percent. The proportion of the daily traffic that occurs during the evening peak hour ranges from 5 to 14 percent, with an average value of 8 percent. The relatively low average proportion of daily traffic that occurs during the peak hours is indicative of the current capacity-constrained conditions that exist on a majority of the roadways in the study area due to the large number of two-lane roadways present in the study area.

The proportion of the morning peak hour traffic that occurs in the peak direction ranges from 51 to 85 percent, with an average value of 67 percent. The proportion of the evening peak hour traffic that occurs in the peak direction ranges from 51 to 77 percent, with an average value of 64 percent. Traffic traveling on the north-south roadways is strongly oriented southbound in the morning peak period and northbound in the evening peak period. Traffic traveling on the east-west roadways in the vicinity of I-75/I-275 is generally oriented eastbound in the morning peak period and

westbound in the evening peak period. Traffic traveling on the east-west roadways in the vicinity of U.S. 41 and Dale Mabry Highway is generally oriented westbound in the morning peak period and eastbound in the evening peak period. The relatively high proportion of peak hour traffic traveling in the peak direction is primarily due to the residential nature of the study area and the location of major employment opportunities to the south of the study area.

Although current traffic characteristics would suggest the use of a K-factor of 8.0 percent and a D-factor of 65.0 percent, the large amount of employment predicted to occur in the northern Hillsborough County/southern Pasco County area by the year 2010 and the roadway improvements (widening of U.S. 41, Dale Mabry Highway, Livingston Avenue, S.R. 54 and County Line Road) planned over the next 20 years will tend to reduce the directionality of traffic and also increase the proportion of daily traffic that occurs during the peak hours. Therefore, a K-factor of 9.0 percent and a D-factor of 60.0 percent was used to develop future design hour traffic volumes.

In addition, a review of several recent PD&E studies (U.S. 41 and S.R. 54) indicated that the design hour truck percentage used for years 2000 and 2010 ranged between 6.0 and 6.5 percent. Based on this, a value of 6.0 percent was used for future year capacity analyses.

6.4 TRAFFIC VOLUME PROJECTIONS

Prior to developing the alternative roadway networks for computer simulation, a review of the current MPO Long Range Transportation Plan Update Study zonal configuration and roadway network in the North Tampa Parkway study area was conducted. Based on this review, the following conclusions were reached:

- (1) The traffic analysis zones (TAZ's) contained in the study area were too large for use in a sub-area analysis and should be disaggregated.
- (2) Several collector roadways were not included in the highway network and should be added to more accurately reflect localized circulation travel in the study area.
- (3) Several network coding anomalies existed that should be corrected.

In summary, the traffic analysis zone (TAZ) adjustments involved subdividing the six TAZs that comprise the North Tampa Parkway study area in the MPO zonal configuration into 14 zones. The adjustments were made such that groupings of the subdivided zones combined to retain the original zone configuration. The split TAZs and the resulting subdivisions of 2010 land use and socioeconomic data were reviewed with and accepted by the MPO staff for use in this study effort. The TAZ zone reconfiguration is included in Appendix G. For additional information, all details of the TAZ split are presented in the Final Traffic Memorandum.

Based on comments received at the April 1990 CAC meeting, the following collector roadways were also added to the study area highway network to provide a more reasonable distribution of traffic volumes in the corridor area:

- * Hanna Road
- * Newburger Road
- * Wallace Road
- Crystal Lakes Road
- * Simmons Road

To verify that the zonal reconfiguration and network coding changes had no significant effect on the distribution of traffic volumes throughout the study area,

two network simulations were run using the validated Florida Standard Urban Transportation Model Structure (FSUTMS) supplied by FDOT and refined as part of TIS. The first network simulation (Network Simulation 1) included the original six TAZ's in northern Hillsborough County and, hence, represented the network used during Phase I of TIS, while the second network simulation (Network Simulation 2) incorporated the zonal splits and collector street revisions discussed previously.

Six screenline locations were established (three north-south and three east-west screenlines) and the total daily traffic volume crossing each screenline for both network simulations was tabulated. The results of these tabulations are contained in Table 6.3. This table indicates that although the total north-south travel demand projected for Network Simulation 2 is lower than that projected for Network Simulation 1, the difference is less than 5 percent. Similarly, the total east-west travel demand estimated for Network Simulation 2 is within 8 percent of the total projected for Network Simulation 1. Therefore, it can be concluded that the zonal reconfiguration and network changes do not significantly impact the distribution of travel volumes in the study area.

6.4.1 <u>Initial Network Simulation Alternatives</u>

Five network alternatives were developed by the study team for computer simulation and submitted to the FDOT for review and concurrence. As agreed upon with the FDOT, the following roadway improvements were assumed to be included in the 2010 highway network and are common to all five alternatives:

* U.S. 41 as a six-lane facility from the Nebraska Avenue/Florida Avenue apex to north of S.R. 54,

TABLE 6.3

SCREENLINE VOLUME COMPARISON
North Tampa Parkway

	Daily Tra	ffic Volume		
	Network Simulation 1	Network Simulation 2	Net <u>Difference</u>	Percent <u>Difference</u>
North-South Screenline				
Between County Line Roa and Lutz Lake Fern Road	•	183,373	+316	+0.17
Between Lutz Lake Fern Road and Sunset Lane/ Crystal Lakes Road	213,178	202,675	-10,503	-4.93
South of Sunset Lane/ Crystal Lakes Road	201,984	198,038	-3,946	-1.95
East-West Screenline				
Between I-275 and Livingston Avenue	78,769	72,320	-6,449	-8.19
Between Livingston Avenue and U.S. 41 (West of Hanna Road)	55,100	54,722	-378	-0.69
Between U.S. 41 and Dale Mabry Highway	105,894	101,268	-4,626	-4.37

Note: Simulation 1 with Original MPO TAZ Configuration. Simulation 2 with Modified TAZ Configuration.

- * Dale Mabry Highway as a six-lane facility (to represent the capacity potential of the six-lane section and the four-lane plus frontage roads section, both having at-grade intersections),
- * Livingston Avenue as a four-lane facility,
- Collier Parkway as a four-lane facility,
- * S.R. 54 as a six-lane facility from I-75 to S.R. 581 and a four-lane facility west of U.S. 41,
- * I-75 as a six-lane facility south of the I-75/I-275 apex, a ten-lane facility from the I-75/I-275 apex to New S.R. 54 and an eight-lane facility north of New S.R. 54,
- * I-275 as a six-lane facility south of the I-75/I-275 apex,
- * The Northwest Expressway as a four-lane facility, and
- * Commerce Park Boulevard as a four-lane facility from I-75 to I-275.

The following describes the general corridor locations for the North Tampa Parkway and other unique roadway improvements added to the previous facilities.

6.4.2 Initial Network Simulation A

In this network alternative, the North Tampa Parkway is included as a six-lane limited access facility located along the proposed New S.R. 54 alignment with termini at I-75 and U.S. 41. This location and initial cross section for the Parkway Corridor were selected jointly with the FDOT to test the maximum, reasonable capacity potential at the northernmost location in the study area. Interchanges are located at I-75, existing S.R. 54, Collier Parkway/Livingston Avenue and U.S. 41. County Line Road is included as a four-lane arterial facility from S.R. 581 westward to Dale Mabry Highway.

6.4.3 Initial Network Simulation B

For the purposes of this alternative network simulation test, the North Tampa Parkway is included as a four-lane limited access facility located along the County Line Road alignment with termini at the I-75/I-275 apex and Dale Mabry Highway. This location and initial test cross section for the Parkway Corridor were selected jointly with the FDOT to assess the travel demand requirements for a general County Line Road alignment. Interchanges are located at I-75/I-275 (ramps to and from the south only for both I-75 and I-275), Collier Parkway/Livingston Avenue, U.S. 41 and Dale Mabry Highway. S.R. 54 is included in this test network as a four-lane arterial facility from I-75 to U.S. 41 to provide a parallel assumption for testing purposes to that used in Simulation A for County Line Road.

6.4.4 Initial Network Simulation C

The North Tampa Parkway is included in this network simulation as a four-lane limited access facility located along the Hillsborough County MPO (Amendment 88-3) alignment with termini at I-275 and Dale Mabry Highway/Northwest Expressway. Interchanges are located at Livingston Avenue, U.S. 41 and Dale Mabry Highway/Northwest Expressway. S.R. 54 is included as a six-lane arterial facility from I-75 to U.S. 41, and County Line Road is included as a four-lane arterial facility from S.R. 581 to Dale Mabry Highway to test the concept of a maximum arterial cross section in the northern portion of the study area simultaneously with the Parkway corridor in the southern portion of the corridor.

6.4.5 Initial Network Simulation D

This network simulation is identical to Network C except that the Livingston Avenue interchange on the North Tampa Parkway is removed.

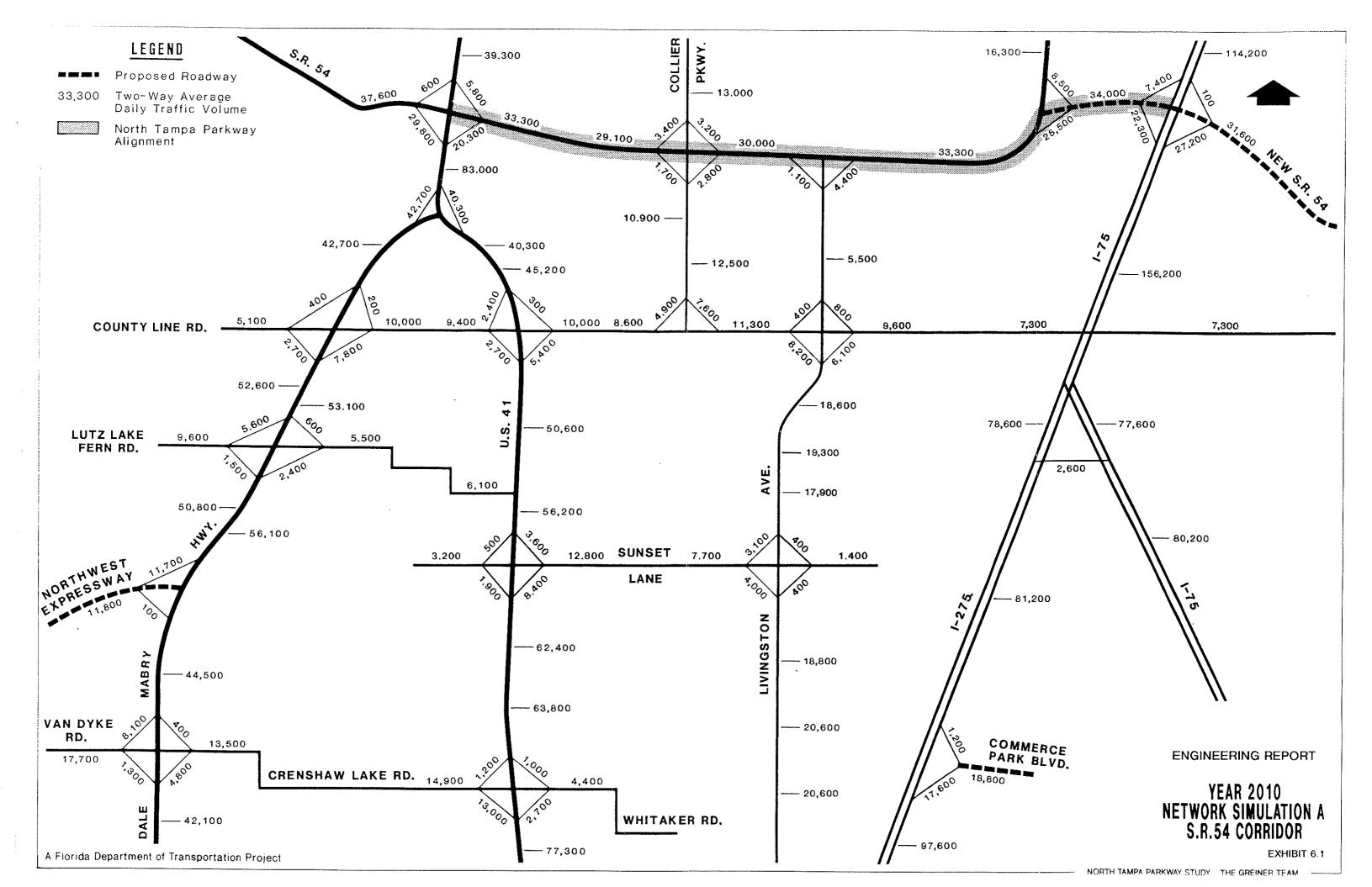
6.4.6 Initial Network Simulation E

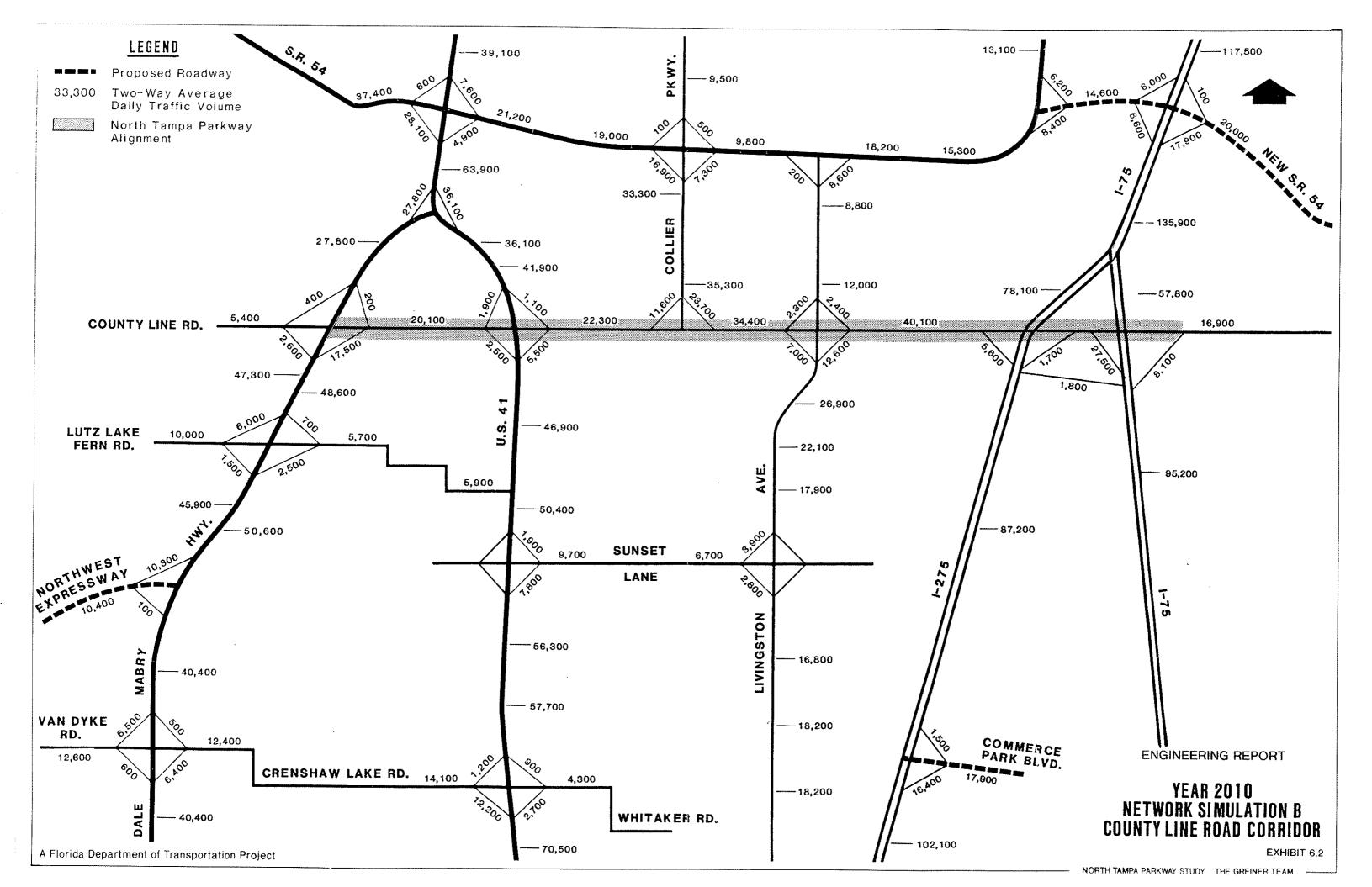
The North Tampa Parkway is not present in this network simulation. Commerce Park Boulevard is extended west from I-275 to Livingston Avenue as a four-lane arterial. S.R. 54 is included as a six-lane arterial from I-75 to U.S. 41, and County Line Road is included as a four-lane arterial from S.R. 581 to Dale Mabry Highway.

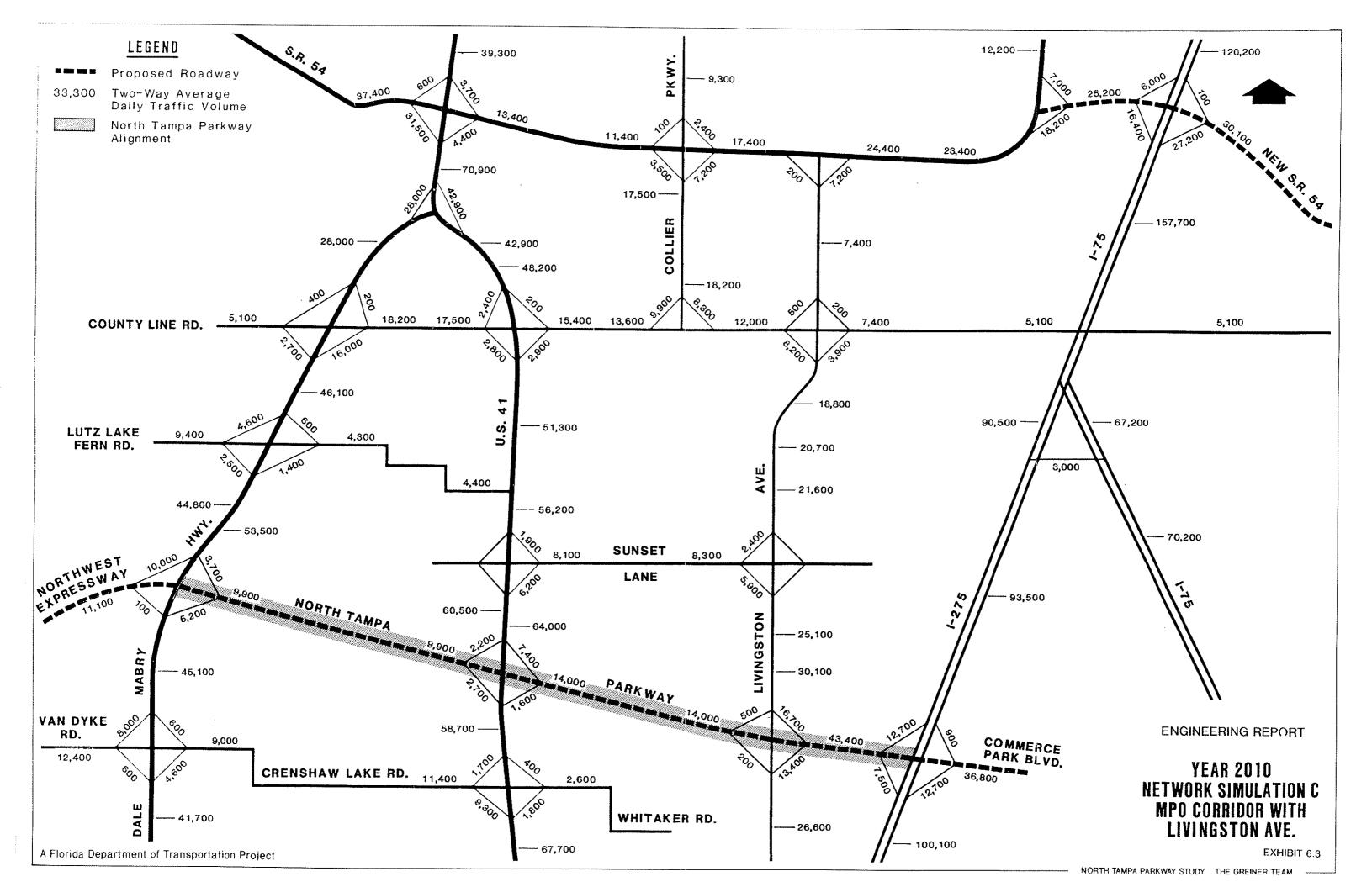
6.4.7 <u>Initial Network Simulation Results</u>

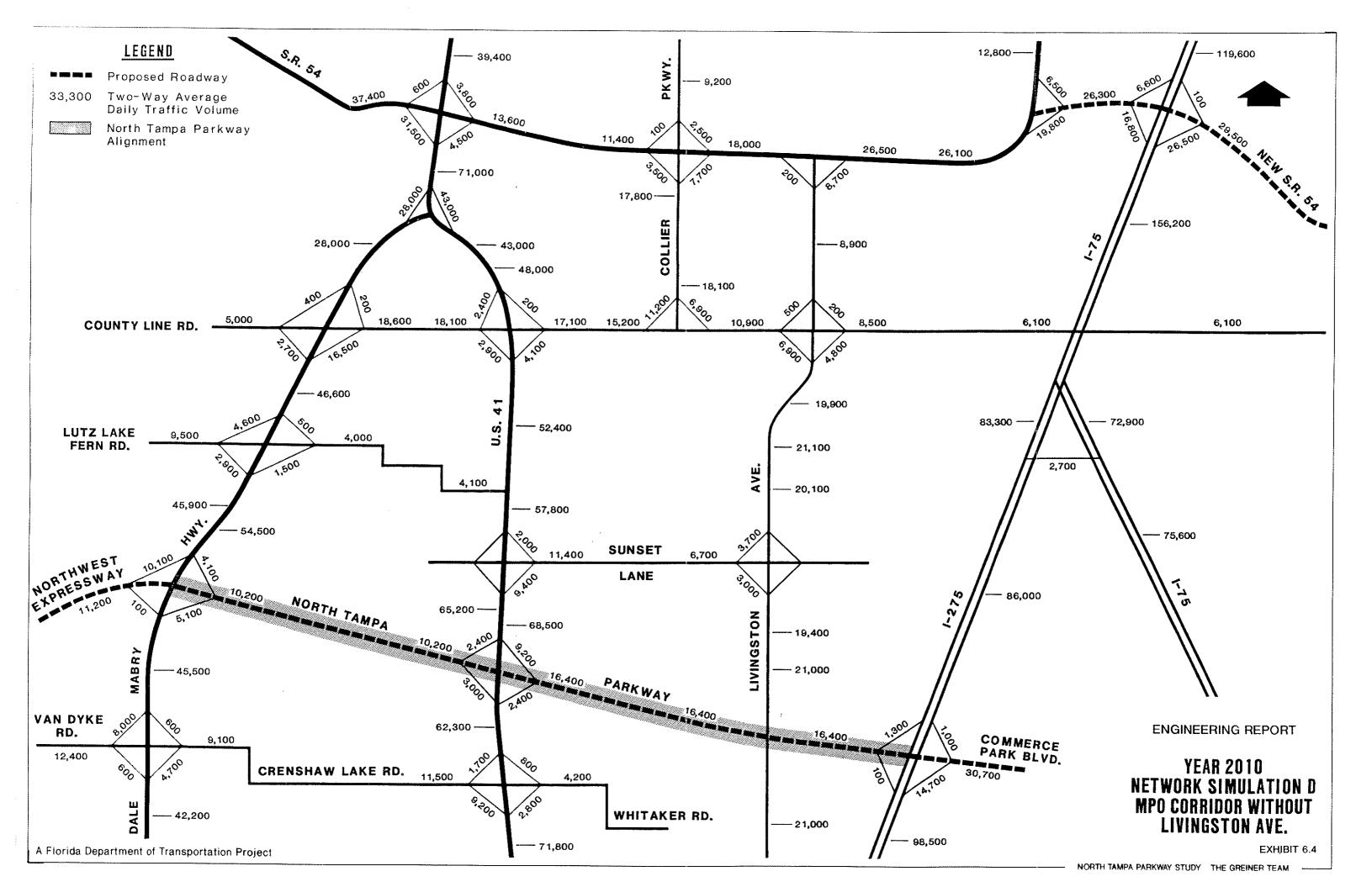
The network alternatives were simulated using the TIS travel demand model and the most recent 2010 land use and socioeconomic forecasts (April 1990) prepared by the MPO. The resulting 2010 average daily (two-way) traffic volumes are illustrated on Exhibits 6.1 through 6.5. An examination of these exhibits reveals the following:

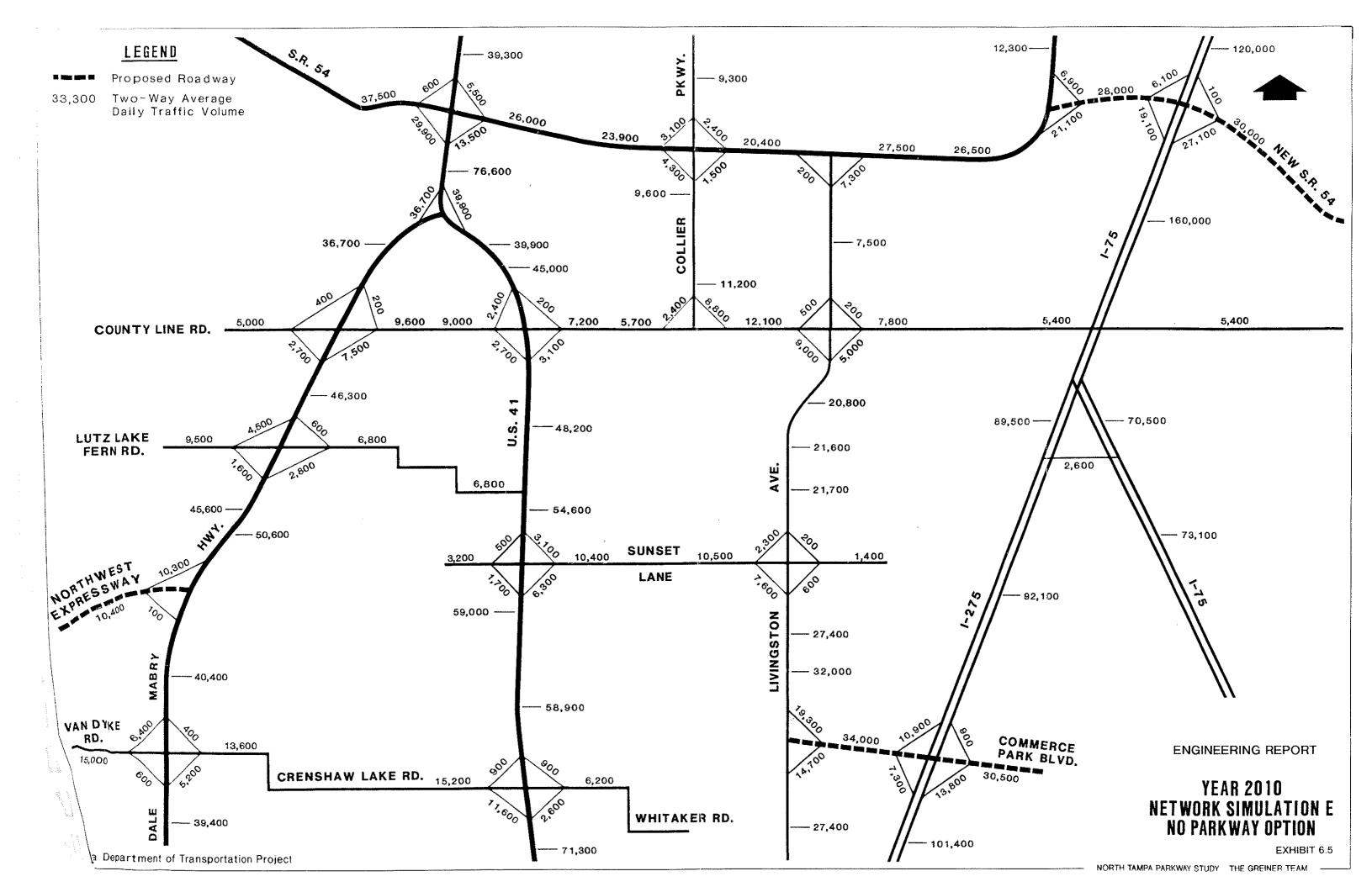
- * Travel demand in the North Tampa Parkway study area is strongly north-south oriented.
- * Traffic volumes on the North Tampa Parkway are considerably higher with the two northern alignments (S.R. 54 and County Line Road) than with the southern MPO (Amendment 88-3) alignment.
- * There exists a high demand for access between I-275 and Livingston Avenue.











6.5 EXPANDED ALTERNATIVE ALIGNMENT ANALYSIS

Prior to FDOT approval of the daily travel forecasts presented in the preceding section of this report and prior to preparation of the detailed design travel forecasts, a number of comparisons were made with information from the Hillsborough County MPO's update of the 2010 Long Range Transportation Plan. Joint review of this comparison information during a series of discussions among the MPO staff, FDOT staff, and the consultant teams conducting both studies concluded the following:

- (1) Both travel forecast models were performing correctly.
- (2) The most recent 2010 land use and socioeconomic data forecasts being used in MPO evaluations represented minor refinements and changes from data provided initially to the North Tampa Parkway study team by the MPO. These refinements plus the inclusion of Pasco County data in the North Tampa Parkway study effort produced basic differences in the direct comparisons of assignment results.

As a result of this joint review, FDOT concluded that the results of the two assignment processes were sufficiently similar in technical content to preclude the need for further comparisons or revisions.

Following the FDOT's approval of the 2010 daily travel demand forecasts for the initial network simulation alternatives, refinements in the daily travel forecasts were needed based on the modifications to several of the concepts. In addition, the MPO Plan Update process had produced an updated 2010 forecast of socioeconomic and land use information (received by the North Tampa Parkway study team in August 1990) that involved adjustments in the data within selected traffic analysis zones. This combination of factors necessitated the re-evaluation of the 2010 traffic assignments for those alignment alternatives selected for further study.

6.5.1 <u>Description of the Remaining Study Alternatives</u>

In general, the remaining study alignment alternatives focused on corridor locations that were either exclusively along existing S.R. 54 (similar to Network Simulation Alternative A) or involved combinations of the S.R. 54 and County Line Road corridors (combinations of Network Simulation Alternatives A and B) where the primary traffic operations difference involved the location of the Collier Parkway/Livingston Avenue access interchange. See Section 7.0 for alternative alignment analysis. In addition, the detailed traffic engineering evaluations also included a No-Parkway Alternative (Network Simulation Alternative E) and a No-Build Alternative. Both of these alternatives assumed that those improvements recommended previously in the S.R. 54, U.S. 41 and North Dale Mabry Highway PD&E Studies and in the adopted 2010 Transportation Plan were constructed. The primary difference between the No-Parkway Alternative and the No-Build Alternative is the implementation of a full access interchange at I-275 and Commerce Park Boulevard/Livingston Avenue is included in the No-Parkway Alternative only.

Additional applications of the travel forecast model were undertaken for the purposes of assessing 2010 travel demands for the remaining study alignment alternatives. The subsequent paragraphs describe the results of these additional assignments for each of the alignment alternatives.

6.5.2 <u>Alternative A1A</u>

This refined alignment alternative for the North Tampa Parkway generally follows the existing S.R. 54 alignment by using the existing two-lane roadway as the future westbound S.R. 54 frontage road along the northern side of the proposed North Tampa

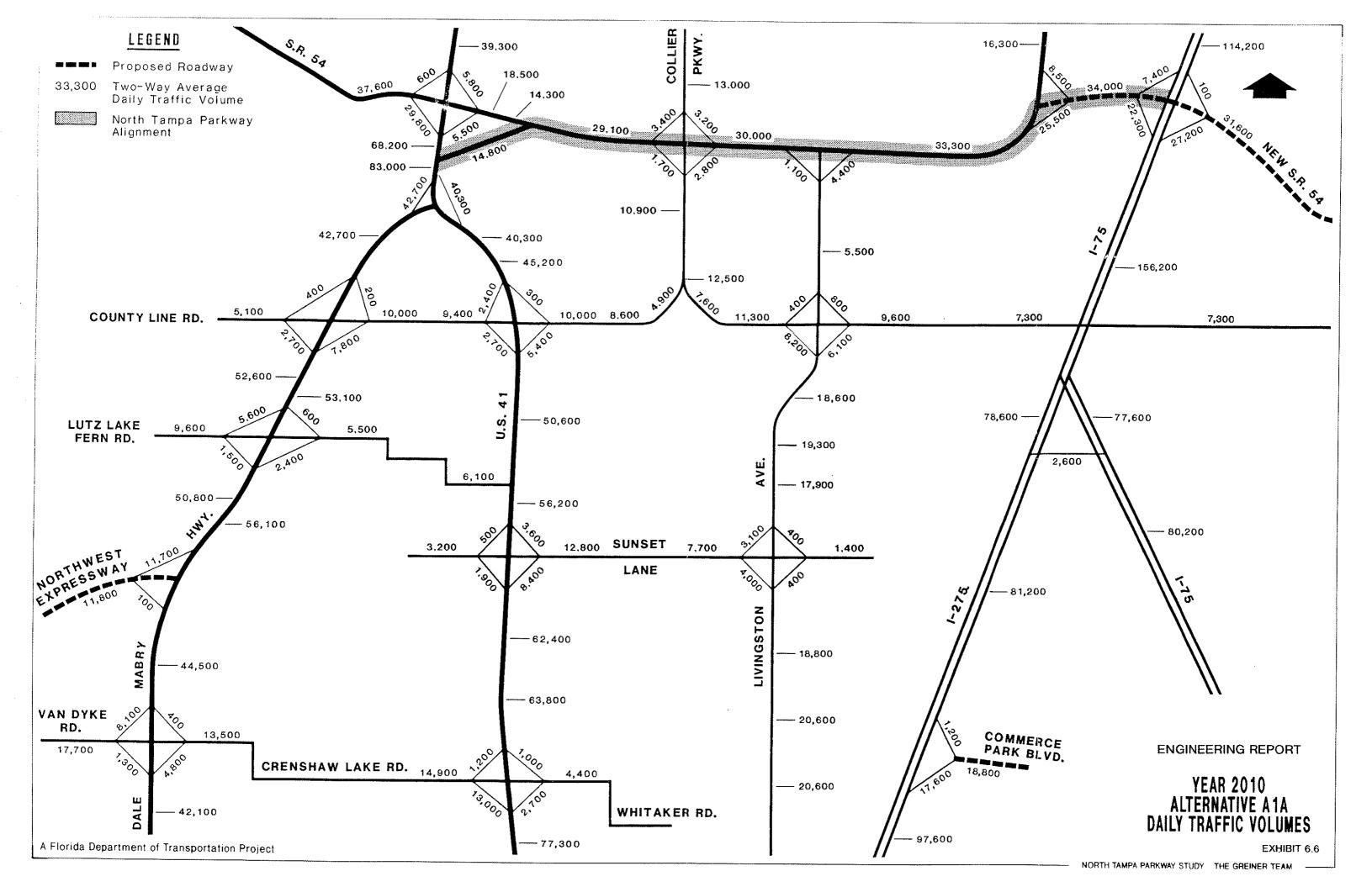
Parkway. For analysis purposes, the proposed North Tampa Parkway consists of a four-lane divided, controlled-access roadway with access points along Dale Mabry Highway at the Northwest Expressway, Lutz-Lake Fern Road, County Line Road and U.S. 41. North of U.S. 41, the alignment extends northeasterly to S.R. 54 where it turns east and accommodates access points at S.R. 54, Collier Parkway, Old S.R. 54 and I-75. The 2010 daily traffic volumes for Alternative A1A are illustrated on Exhibit 6.6.

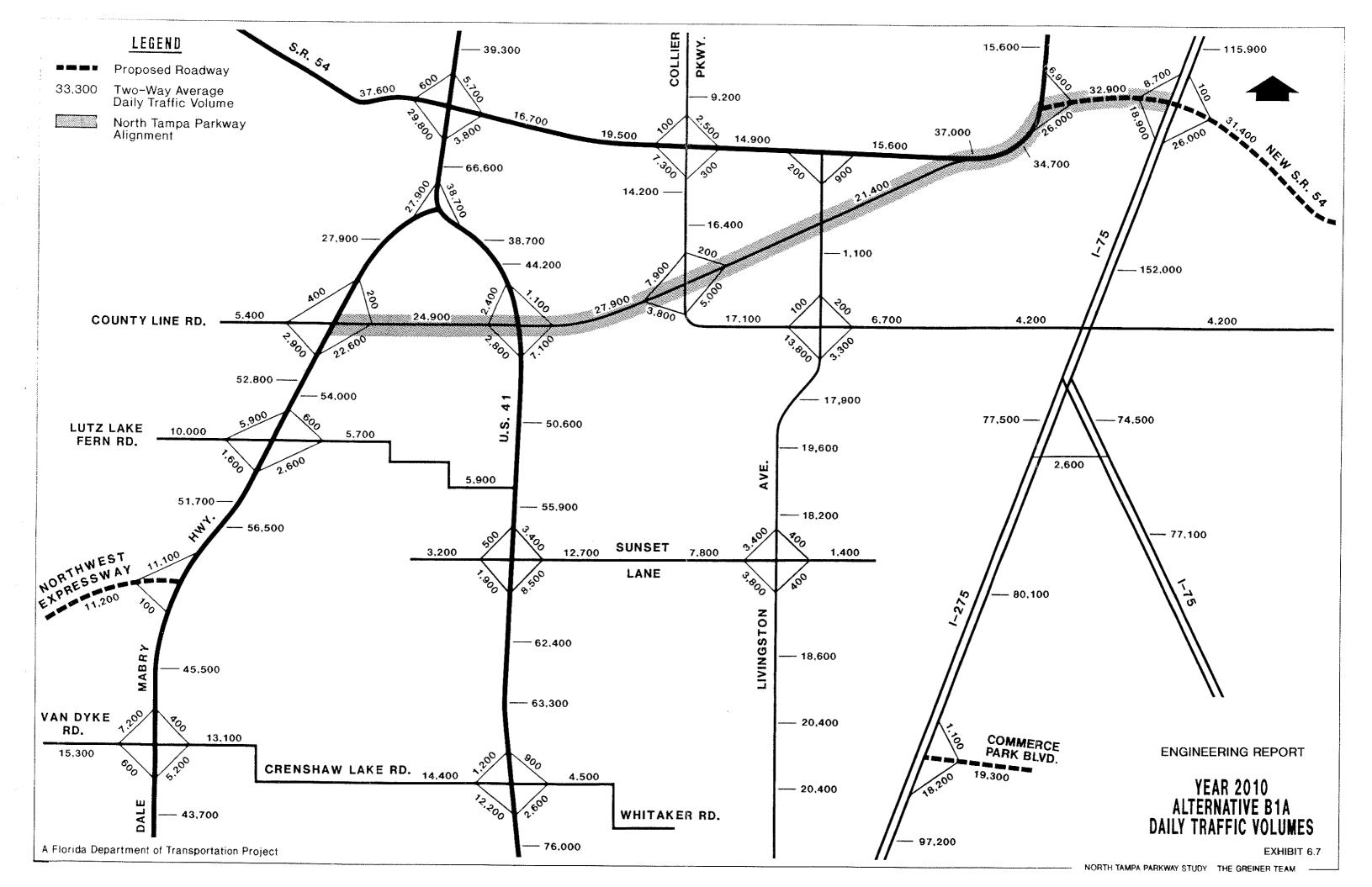
6.5.3 <u>Alternative B1A</u>

This alignment alternative generally follows the existing County Line Road alignment from Dale Mabry Highway to east of U.S. 41. From this point, this alignment follows a northeasterly orientation across Collier Parkway over to the existing S.R. 54 alignment (east of Livingston Avenue). Between this location and I-75, the proposed alignment is exactly the same as Alternative AlA. This alternative also involves the upgrading of Dale Mabry Highway from the Northwest Expressway northward to County Line Road. Access to the combined Dale Mabry Highway/North Tampa Parkway route is provided via interchanges at the following six locations:

- * Northwest Expressway
- * Lutz Lake Fern Road
- * U.S. 41
- Collier Parkway
- * Old S.R. 54
- * I-75

Because this alternative involves a shift in regional access to I-75, a revised 2010 daily traffic assignment was developed. Exhibit 6.7 illustrates the daily traffic volumes associated with Alternative BIA.





6.5.4 Alternatives B5A, E1A, and E2A

These three alignment alternatives vary slightly from Alternative B1A in regard to the location of the transition between County Line Road and S.R. 54. In Alternative B1A, the transition occurs north of County Line Road and the interchange access to the corridor is provided at Collier Parkway. In these three alternatives, the alignment is located south of County Line Road at the access to Livingston Avenue before turning northward to access the S.R. 54 corridor. The access interchange at this point in the alignment is provided at Livingston Avenue to the south of County Line Road. All other interchange access locations are the same as listed previously for Alternative B1A. As a result of this difference in the access to/from the proposed North Tampa Parkway, manual adjustments were made to the Alternative B1A daily traffic assignment based on a review of the specific network loading conditions for traffic analysis zone centroids influenced by this alignment shift. The 2010 daily traffic volumes for Alternatives B5A, E1A and E2A are illustrated on Exhibit 6.8.

6.5.5 No-Parkway Alternative

As presented previously on Exhibit 6.5, this alternative relies on expansion of the planned major street system within the North Tampa Parkway study area to accommodate the year 2010 travel demand. The only exception to this condition is the provision of a new interchange at I-275 and Commerce Park Boulevard/Livingston Avenue. This interchange accommodates the conclusions of previous studies and of analyses documented herein. Previous analyses support access between the Livingston Avenue corridor and I-275 as beneficial to overall traffic service within the study area. Table 6.4 displays the roadway network associated with the No-Parkway Alternative.

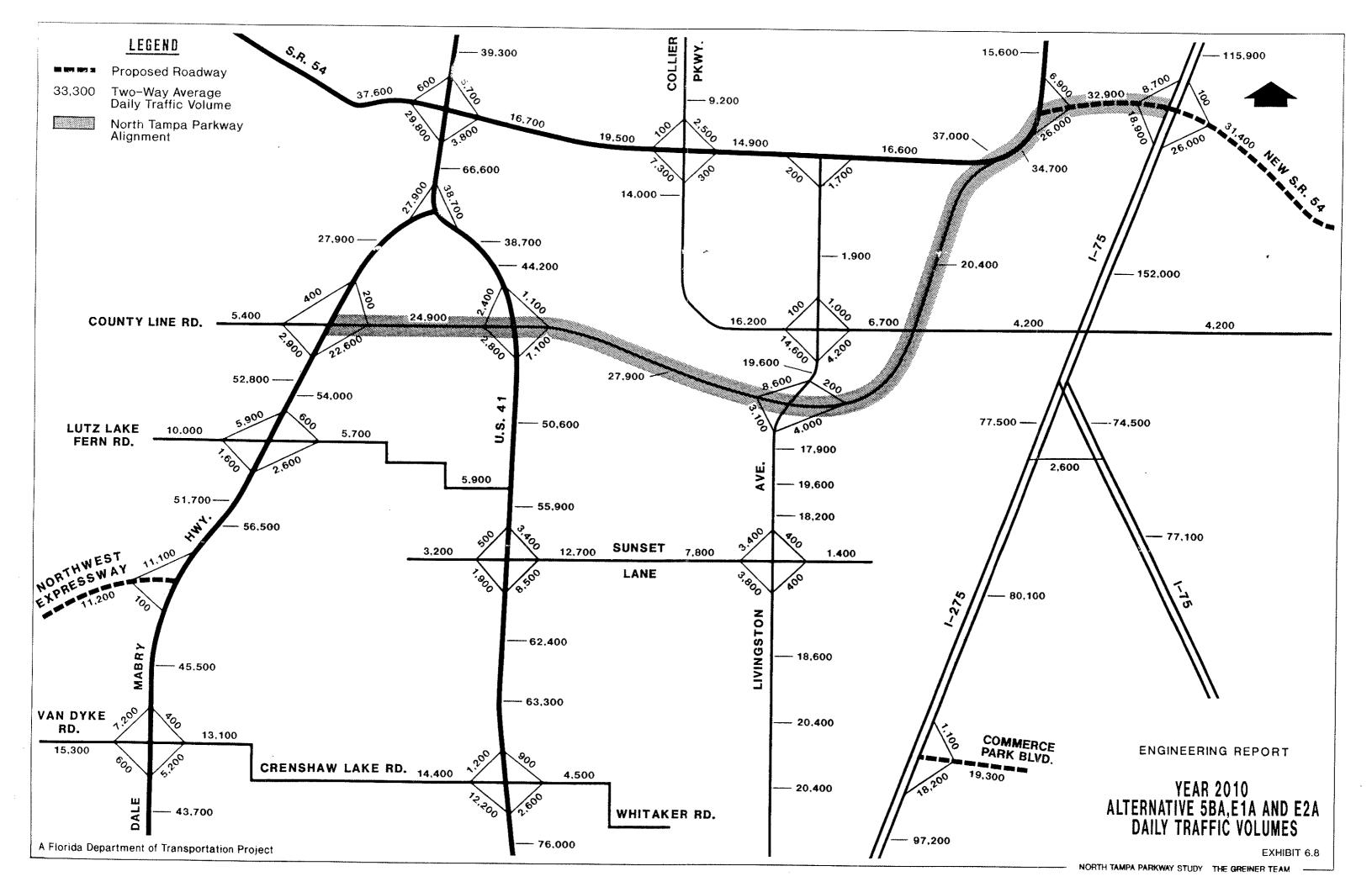


TABLE 6.4

NO-PARKWAY ALTERNATIVE TRANSPORTATION NETWORK North Tampa Parkway

East/West Facilities

- * S.R. 54/U.S. 41 Intersection Grade separated interchange with 6-lane U.S. 41 overpass
- * S.R. 54
 From U.S. 41 to I-75
 4-lane divided (same as FDOT PD&E study)
- * County Line Road
 From Dale Mabry Highway to I-75/275
 4-lane divided
- * Sunset Lane
 From U.S. 41 to Livingston Avenue
 2-lane undivided
- * Lutz Lake Fern Road
 From Dale Mabry Highway to U.S. 41
 2-lane undivided
- * Van Dyke/Simmons/Crenshaw Lake From Dale Mabry Highway to U.S. 41 3-lane undivided
- * Commerce Park Boulevard From Livingston Avenue to I-275 6-lane divided
- * Whitaker Road/Vandervort Road From U.S. 41 to Livingston Avenue 2-lane undivided

North/South Facilities

- * Dale Mabry Highway
 From U.S. 41 to Northwest Expressway
 6-lane expressway (partial access control
 with parallel frontage roads)
- * Dale Mabry Highway
 From Northwest Expressway
 to Van Dyke Road
 6-lane divided
- * U.S. 41/Dale Mabry Highway Intersection Grade separated interchange with 6-lane U.S. 41 overpass
- * U.S. 41
 From S.R. 54 to Dale Mabry Highway
 6-lane expressway (partial access control
 with parallel frontage roads)
- * U.S. 41
 From Dale Mabry Highway to Crenshaw Lake
 Road
 6-lane divided
- * U.S. 41/Crenshaw Lake Road Intersection Grade separated interchange with U.S. 41 overpass
- * Collier Parkway
 From S.R. 54 to County Line Road
 4-lane divided
- Livingston Avenue
 From S.R. 54 to County Line Road
 2-lane undivided
- * Livingston Avenue
 From County Line Road to I-75
 4-lane divided
- * Interstate 75
 From Existing S.R. 54 to New S.R. 54
 8-lane freeway
- * Interstate 75
 From New S.R. 54 to I-275
 10-lane freeway
- * Interstate 275
 From I-75 to Commerce Park Boulevard
 6-lane freeway with new interchange
 at Commerce Park Boulevard
- * Interstate 275
 From Commerce Park Boulevard to
 Bearss Avenue
 6-lane freeway with High Occupancy
 Vehicle (HOV) lanes

6.5.6 No-Build Alternative

This alternative also involves improvements to the major arterial street system within the North Tampa Parkway study area. All improvements contained in the 2010 Long Range Transportation Plan for Hillsborough County are included in the No-Build Alternative. Specifically, this includes improvements to Dale Mabry Highway, U.S. 41, Livingston Avenue, County Line Road and I-75/I-275. In addition, this alternative includes improvements to existing S.R. 54 as well as the proposed New S.R. 54 connection to I-75 in Pasco County. The No-Build Alternative does not, however, include the proposed Commerce Park Boulevard/Livingston Avenue interchange at I-275. The average daily traffic volumes previously illustrated on Exhibit 6.9 represent the 2010 travel forecast for the No-Build Alternative and were used as the basis for the detailed evaluations. Table 6.5 illustrates the roadway network associated with this alternative scenario.

6.5.7 Comparison of 2010 Daily Travel Demand

A summary of the daily traffic assignments for the seven alternatives is presented in Table 6.6 along with the number of lanes on each of the roadways in the North Tampa Parkway study area. The specific laneage included in Table 6.6 resulted from one of the following three conditions:

- * The laneage is recommended as part of the 2010 Transportation Plan for Hillsborough County.
- * The laneage is required to provide an acceptable level of service based on the daily travel demand. Level of Service C was considered acceptable for the North Tampa Parkway, while Level of Service D was considered acceptable for all other roadways.
- * The laneage is required to maintain local access/circulation and at the same time provide uninterrupted flow for long distance trips.

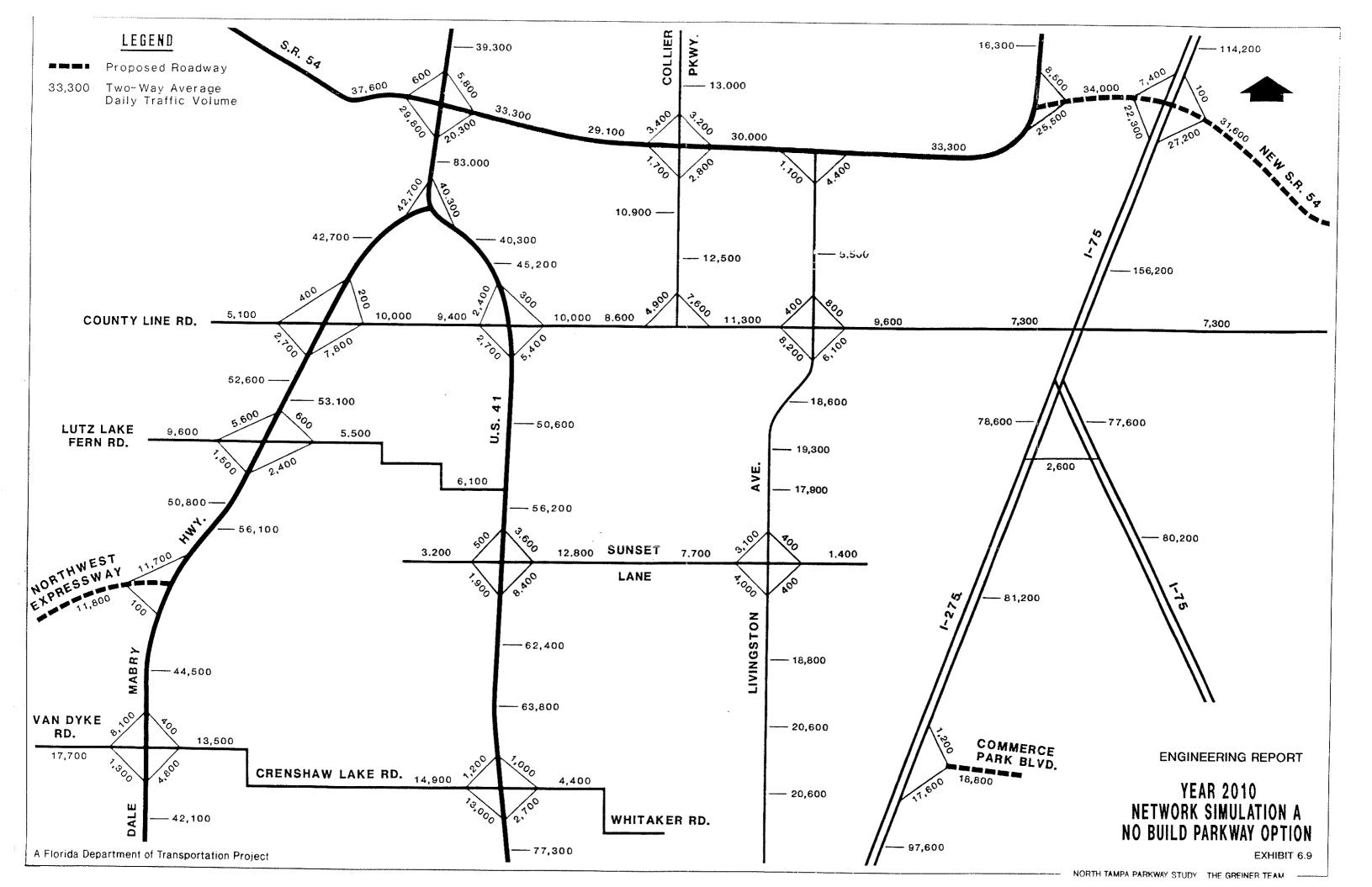


TABLE 6.5

NO-BUILD ALTERNATIVE TRANSPORTATION NETWORK North Tampa Parkway

East/West Facilities

- * S.R. 54/U.S. 41 Intersection At-grade intersection (severe congestion/ unacceptable traffic service)
- * S.R. 54
 From U.S. 41 to Collier Parkway
 4-lane divided
- * S.R. 54
 From Collier Parkway to I-75
 6-lane divided
- * County Line Road From Dale Mabry Highway to Collier Parkway 4-lane divided
- * County Line Road
 From Livingston Avenue to I-75/275
 4-lane divided
- * Sunset Lane
 From U.S. 41 to Livingston Avenue
 2-lane undivided
- * Lutz Lake Fern Road
 From Dale Mabry Highway to U.S. 41
 2-lane undivided
- Van Dyke/Simmons/Crenshaw Lake From Dale Mabry Highway to U.S. 41
 2-lane undivided
- * Commerce Park Boulevard From Livingston Avenue to I-275 Not Applicable
- Whitaker Road/Vandervort Road From U.S. 41 to Livingston Avenue 2-lane undivided

Note: Certain improvements included in the No-Build Alternative will <u>not</u> operate at an acceptable level of service and will result in significant congestion and delay.

North/South Facilities

- * Dale Mabry Highway
 From U.S. 41 to Northwest Expressway
 4-lane expressway (partial access control
 with parallel frontage roads severe
 congestion/unacceptable traffic service)
- * Dale Mabry Highway
 From Northwest Expressway
 to Van Dyke Road
 6-lane divided
- * U.S. 41/Dale Mabry Highway Intersection At-grade signalized intersection (severe congestion/unacceptable traffic service)
- * U.S. 41
 From S.R. 54 to Dale Mabry Highway
 6-lane divided (severe congestion/
 unacceptable traffic (service)
- * U.S. 41
 From Dale Mabry Highway
 to Crenshaw Lake Road
 6-lane divided
- * U.S. 41/Crenshaw Lake Road Intersection At-grade intersection (severe congestion/ unacceptable traffic service)
- * Collier Parkway
 From S.R. 54 to County Line Road
 4-lane divided
- * Collier Parkway
 From County Line Road to
 Livingston Avenue
 2-lane undivided (congestion/unacceptable
 traffic service)
- * Livingston Avenue
 From S.R. 54 to County Line Road
 2-lane undivided
- * Livingston Avenue
 From County Line Road to I-75
 4-lane divided
- * Interstate 75
 From Existing S.R. 54 to New S.R. 54
 8-lane freeway
- * Interstate 75
 From New S.R. 54 to I-275
 10-lane freeway
- * Interstate 275
 From I-75 to Commerce Park Boulevard
 6-lane freeway with new interchange at
 Commerce Park Boulevard
- * Interstate 275
 From Commerce Park Boulevard to
 Bearss Avenue
 6-lane freeway with High Occupancy
 Vehicle (HOV) lanes

TABLE 6.6

YEAR 2010 AVERAGE DAILY TRAFFIC VOLUMES AND NUMBER OF LANES NORTH TAMPA PARKWAY

								ý.		•	
						ALTERNATIVES BSA.	TVES BSA.	NO PARKWAY	KWAY	NO.	NO-BUILD
		ALTERNA	LTERNATIVE A1A	ALTERNATIVE BIA	TVE BIA	EIA & EZA	*	ALTERNATIVE	ATTVE	ALTER	ALTERNATIVE
		AVERAGE	Z.	AVERAGE	NUMBER	AVERAGE	4	AVERAGE	NUMBER	AVERAGE	NUMBER
PACILITY	LOCATION	VOLUME	LANES	VOLUME	LANES	VOLUME	LANES	VOLUME	LANES	VOLUME	OF LANES
NEW S.R. 54	BTWN, 1-75 &	34,000	6 (5)	33,000	6 (5)	33,000	6 (5)	28,000	4 (5)	34,000	4 (5)
	S. K. 34 (EXISTING) BTWN. S.R. 54 (EXISTING) & COLLIER PARKWAY	33,000	4/4 (3.5)	16,000	4 (S)	17.000	4 (5)	28,000	4 (5)	33.000	(\$)
	BTWN, COLLIER PKWY & U.S. 41	19,000	4 (5)	20,000	4 (5)	20,000	4 (5)	26.000	4 (5)	33.000	₹
	WEST OF U.S. 41	38.000	4 (6)	38,000	4 (6)	38,000	4 (6)	38,000	4 (6)	38.000	4 (6
COUNTY LINE ROAD	BTWN. I-275 &	10,000	4 (5)	7.000	4 (S)	7,000	4 (5)	8,000	4 (5)	10,000	\$
	LIVINGSTON AVENUE BTWN. LIVINGSTON AVENUE &	11,000	4 (5)	17.000	4 (S)	16,000	6 (S)	12.000	4 (5)	11,000	\$) +
	COLLIER PARKWAY BTWN. COLLIER PARKWAY &	10,000	4 (5)	28,000	4 (S)	28,000	4 (5)	7,000	4 (5)	10.000	4 (5
	U.S. 41 BTWN. U.S. 41 & DALE MABRY HIGHWAY	10,000	4 (5)	25.000	4/4 (5)	25,000	4/4 (5)	000'01	4 (5)	10.000	4 (5
SUNSET LANE	BTWN. LIVINGSTON AVENUE & HANNA ROAD	8,000	2 (6)	8,000	2 (6)	8.000	2 (6)	10.000	2 (6)	8°.30	2 (6
	BTWN. HANNA ROAD & U.S. 41	13,000	3 (6)	13.000	3 (6)	13,000	3 (6)	10,000	2 (6)	13,000	3 (6
LUTZ LAKB FERN ROAD	BTWN. U.S. 41 & CROOKED LANE ROAD	6,000	2 (5)	9000	2 (5)	900,9	2 (5)	7.000	2 (5)	6.000	2 (:
	BTWN, CROOKED LANE ROAD & DATE MARBY HIGHWAY	000'9	2 (5)	000'9	2 (5)	9000	2 (5)	7.000	2 (5)	6.000	2 (;
	WEST OP DALE MABRY HIGHWAY	10,000	2 (6)	10,000	2 (6)	000'01	2 (6)	10,000	2 (6)	10,000	2 (′
CRYSTAL LAKES ROAD	BTWN, U.S. 41 & CROOKED LANE RD./SIMMONS RD.	6,000	2 (5)	5.000	2 (5)	\$.000	2 (5)	6.000	2 (5)	9.000	2 (

TABLE 6.6

YEAR 2010 AVERAGE DAILY TRAFFIC VOLUMES AND NUMBER OF LANES NORTH TAMPA PARKWAY

(continued)

		ALTERNAT	IIVE AIA	ALTERNATIVE BIA	IVE B1A	ALTERNATIVES B5A, E1A & E2A	TVES BSA,	NO PARKWAY ALTERNATIVE	KWAY	NO-E	NO-BUILD ALTERNATIVE
		AVERAGE NUMBER DAILY OF	NUMBER OF	AVERAGE DAILY	NUMBER	AVERAGE	NUMBER	AVERAGE	NUMBER	AVERAGE	NUMBEF
FACILITY	LOCATION	VOLUME	LANES	VOLUME	LANES	VOLUME	LANES	VOLUME	LANES	VOLUME	LANES
WHITAKER ROAD	BTWN. HANNA ROAD & U.S. 41	4,000	2 (5)	5.000	2 (5)	5.000	2 (5)	9	2 (5)	4.000	2 (
CRENSHAW LAKE ROAD	BTWN. U.S. 41 & SIMMONS ROAD	15,000	3 (5)	14,000	3 (5)	14,000	3 (5)	15,000	3 (5)	15.000	2 (
	BTWN. SIMMONS ROAD & DALE MABRY HIGHWAY	14,000	3 (5)	13.000	3 (5)	13,000	3 (5)	14,000	3 (5)	14,000	2 (
a sou make the second				:							
VAN DYKE ROAD	WEST OF DALE MABRY HIGHWAY	18,000	4 (5)	15,000	4 (5)	15.000	4 (S)	15.000	4 (5)	18,000	4
WALLACE ROAD	BTWN. LIVINGSTON AVENUE & HANNA ROAD	1,000	2 (5)	3,000	2 (5)	3,000	2 (5)	2,000	2 (5)	1.00	2 (
NEWBURGER ROAD	BTWN. LIVINGSTON AVENUE & U.S. 41	3,000	2 (5)	2,000	2 (5)	2.000	2 (5)	3.000	2 (5)	3,000	2 (
DALE MABRY HIGHWAY	BTWN, U.S. 41 & COUNTY LINE ROAD (1)	43,000	4/4 (3.5)	28.000	4 (3,5)	28.000	4 (3,5)	37,000	6/4 (3.5)	43,000	4/4 (3
	BTWN. COUNTY LINE ROAD &	53,000	4/4 (3.6)	54,000	4/4 (3,6)	54,000	4/4 (3.6)	46,000	6/4 (3.5)	53,000	4/4 (;
	BTWN. LUTZ LAKE FERN ROAD &	26,000	4/4 (3.6)	57,000	4/4 (3,6)	57,000	4/4 (3.6)	51,000	6/4 (3.5)	26,000	4/4 (
	NORTHWEST EXPRESSWAY (1)	77	4	98		000					
	VAN DYKE ROAD	3	2	3,000	(c) o	43,000	(S)	90,000	(S) 9	4 000	νς.
	SOUTH OF VAN DYKE ROAD	42,000	6 (5)	44,000	6 (5)	44,000	6 (5)	39,000	6 (5)	42,000	9
U.S. 41	NORTH OF S.R. 54	39,000	6 (5)	39,000		39,000		39,000	6 (5)	39,000	9
	biwn. S.K. 34 & DALE MABRY HIGHWAY	900.	6/4 (3,6)	000'/9	6/4 (3.6)	67.000	6/4 (3,6)	000,77	8/4 (3,6)	83.000	\$

TABLE 6.6

YEAR 2010 AVERAGE DAILY TRAFFIC VOLUMES AND NUMBER OF LANES NORTH TAMPA PARKWAY

(continued)

		ALTERNATIVE AIA	IIVEAIA	ALTERNATIVE BIA	IVEBIA	ALTERNATIVES BSA. E1A & F2A	TVES BSA.	NO PARKWAY	NO PARKWAY ALTERNATIVE	NO-B	NO-BUILD
		AVERAGE	NUMBER	AVERAGE	NUMBER	AVERAGE	NUMBER	AVERAGE	NUMBER	AVERAGE	NUMBER
		DAILY	OF	DAILY	OF	DAILY	OF	DAILY	OF	DAILY	OF
PACILITY	LOCATION	VOLUME	LANES	VOLUME	LANES	VOLUME	LANES	VOLUME	LANES	VOLUME	LANES
U.S. 41	BTWN. DALE MABRY HIGHWAY &	45,000	6 (5)	44.000	6 (5)	44,000	6 (5)	45,000	6 (5)	45,000	4 (4.
	COUNTY LINE ROAD										•
	BTWN. COUNTY LINE ROAD &	51,000	(9) 9	51,000	(9) 9	51,000	9	48,000	6 (5)	51,000	9)
	LUTZ LAKE FERN ROAD										
	BTWN. LUTZ LAKE FERN ROAD &	\$6,000	(9) 9	\$6,000	(9) 9	26,000	(9)	55,000	(9) 9	56.000	9) 9
	SUNSEI LANE										
	BTWN. SUNSET LANE &	62,000	6 (4)	62.000	(4)	62.000	6 (4)	29,000	(9)	62.000	6 (4
	CRYSTAL LAKES ROAD										
	BTWN. CRYSTAL LAKES ROAD &	64,000	6 (4)	63,000	6 (4)	63,000	6 (4)	29.000	(9)	\$6.00	6 (4
	CRENSHAW LAKE ROAD										
	BTWN. CRENSHAW LAKE ROAD &	77,000	6/4 (3.6)	76.000	6/4 (3.6)	76,000	6/4 (3.6)	71.000	6/4 (3,6)	77,000	6
	NEBRASKA AVE./FLORIDA AVE.										
1-75/1-275	NORTH OF NEW S.R. 54	114,000	8 (5)	116.000	8 (5)	116,000	8 (5)	120,000	8	114,000	6 (4)
	BTUN NEW CD 54 8.	156 000	10, 01	153 000	95	200	9	000			
	I-275/I-75 APEX	000'001		132,000		22,00	(c) 21	190,000	9	156,000	ð (<u>4</u>)
	BTWN 1-775/1-75 APFX &	M1 000	9	000 08	9	000 08	4	000	4	6	
	COMMERCE PARK BLVD. (1-275)							75.000	(C)	XX.10	φ' -
	SOUTH OF COMMERCE PARK BLVD.	000.86	9	97,000	9	97 000	6 (6)	101	3	000 80	3
	(1-275)							2001		20,000	
NORTH TAMPA PARKWAY	BTWN. 1-75 & S.R. 54 (EXISTING)	34,000	6 (5)	33.000	(5)	33,000	6 (5)	Y/Z	V /Z	Y.	Y/X
	BTWN. S.R. 54 (EXISTING) &	33,000	4/4 (3.5)	21,000	4 (5)	20,000	4 (5)	N/A	Y/X	X/X	٧/٧ ۲
	COLLIER PARKWAY (2)										
	BTWN. COLLIER PARKWAY &	15,000	4 (5)	28,000	4 (5)	28.000	4 (5)	X/A	K/X	N/A	N/A
	0.5. 41 (2)										
	BTWN U.S. 41 & DALE MABRY HIGHWAY	V/N	K/X	25,000	4/4 (3.5)	25.000	4/4 (3.5)	N/A	N/A	∀ /ℤ	N/A
NORTHWEST EXPRESSWAY	WEST OF DALE MABRY HIGHWAY	12,000	4 &	11,000	4 (5)	11,000	4 (S)	10,000	4 (5)	12,000	4
COLLIER PARKWAY	NORTH OF S.R. 54	13,000	4 (5)	9.000	4 (5)	000'6	4 (5)	9.000	4 (5)	13,000	4
	BTWN. S.R. 54 & COUNTY LINE ROAD	13,000	4 (5)	14,000	4 (5)	14,000	4 (3)	11,000	4 (5	13,000	4

TABLE 6.6

YEAR 2010 AVERAGE DAILY TRAFFIC VOLUMES AND NUMBER OF LANES NORTH TAMPA PARKWAY

(continued)

NO-BUILD

NO PARKWAY

ALTERNATIVES BSA.

		* 4 TAGGET 4 4	*************								ALL O
		ALIERNATIVE AIA	IVEAIA	ALICKNAI	IVEBIA	EIA & EZA	ν,	ALTERNATIVE	ATIVE	ALTER	ALTERNATIVE
		AVERAGE	NUMBER	AVERAGE NUMB	NUMBER	AVERAGE	NUMBER	AVERAGE	NUMBER	AVERAGE	NUMBER
		DAILY	OF	DAILY	OF	DAILY	OF	DAILY	OF	DAILY	HO.
PACILITY	LOCATION	VOLUME	LANES	VOLUME	LANES	VOLUME	LANES	VOLUME	LANES	VOLUME	LANES
S.R. 54 (EXISTING)	NORTH OF S.R. 54 (NEW)	000'91	4 (5)	16,000	4 (5)	16,000	4 (5)	12,000	4 (5)	16,000	4 (5)
LIVINGSTON AVENUE	BTWN. S.R. 54 &	9.000	2 (5)	1,000	2 (5)	2,000	2 (5)	8.000	2 (5)	9'000'9	2 (5)
	COUNTY LINE ROAD										
	BTWN. COUNTY LINE ROAD &	19,000	4 (5)	18,000	4 (5)	18,000	4 (5)	21,000	4 (5)	19,000	4 (5)
	NEWBURGER ROAD										
	BTWN. NEWBURGER ROAD &	19,000	4 (5)	20,000	4 (5)	20,000	4 (5)	22,000	4 (5)	19,000	4
	WALLACE ROAD										ļ
ϵ	BTWN, WALLACE ROAD &	18,000	4 (5)	18,000	4 (5)	18,000	4 (5)	22,000	4 (5)	18,000	4
ố-2	SUNSET LANE										
24	BTWN. SUNSET LANE &	21.000	4 (5)	20,000	4 (5)	20,000	4 (5)	32,000	4	21,000	4
	COMMERCE PARK BLVD. (WEST)									• • •	
	BTWN. COMM. PK. BLVD. (WEST) &	21.000	4 (5)	20,000	4 (5)	20 000	4 (5)	27,000	4 (5)	21 000	4
	SINCLAIR HILLS ROAD								}		
CAOS ANNAH	STAN WALL ACE BOAD &	\$	6	\$		9	ć	i	;		
	SUNSET LANE	200,00		33.	(c) 7	3	(c) 7	3.000	(S) 7	2,000	2 (5)
	BTWN. SUNSET LANE &	2.000	2 (5)	3,000	2 (5)	3,000	2 (5)	2,000	2 (5)	2.000	2 (5)
	WHITAKER ROAD										
	SOUTH OF WHITAKER ROAD	3,000	2 (5)	4,000	2 (5)	4,000	2 (5)	4,000	2 (5)	3.000	2 (5)
SIMMONS RD/	BTWN. LUTZ LAKE FERN ROAD &	100	2 (5)	82	2 (5)	<u>0</u>	2 (5)	85	2 (5)	00	2 (5)
CROOKED LANE ROAD	CRYSTAL LAKES ROAD										
	BTWN. CRYSTAL LAKES ROAD & CRENSHAW LAKE ROAD	5,000	2 (5)	2,000	2 (5)	9,000	2 (5)	5.000	2 (5)	9.000	2 (5

⁽¹⁾ WITH ALTERNATIVES AIA, BIA, BSA, EIA AND E2A THIS FACILITY INCLUDES INTERCHANGES. WITH THE NO PARKWAY AND NO-BUILD ALTERNATIVES THIS FACILITY INCLUDES ONLY AT-GRADE INTERSECTIONS.

⁽²⁾ WITH ALTERNATIVES B5A, E1A AND E2A, "COLLIER PARKWAY" IS REPLACED WITH "LIVINGSTON AVENUE".

(3) MAINLINE LANES/FRONTAGE ROAD LANES

(4) PROPOSED IMPROVEMENTS DO NOT PROVIDE THE DESIRED LEVEL OF SERVICE.

⁽⁵⁾ LEVEL OF SERVICE 'C' OR BETTER.
(6) LEVEL OF SERVICE 'D'.
(7) PD&E STUDY RECOMMENDED SIX (6) LANES.

An examination of Table 6.6 reveals the following:

- * There is a significant decrease (between 24 and 35 percent) in the daily traffic volume projected to travel on Dale Mabry Highway between County Line Road and U.S. 41 with Alternatives BlA, B5A, E1A and E2A when compared with Alternative A1A, the No-Build Alternative and the No-Parkway Alternative. This decrease is the direct result of the diversion of travel from this segment of Dale Mabry Highway to the North Tampa Parkway alignments along County Line Road as embodied in these alternatives.
- * There is a significant decrease (between 15 and 24 percent) in the daily traffic volume projected to travel on U.S. 41 between Dale Mabry Highway and S.R. 54 with Alternatives A1A, B1A, B5A, E1A and E2A when compared with the No-Build and No-Parkway Alternatives. This decrease results from the diversion of travel to the various North Tampa Parkway alignments embodied in these alternatives.
- * The daily traffic volume on Livingston Avenue between Sunset Lane and Commerce Park Boulevard and between Commerce Park Boulevard and Sinclair Hills Road is projected to increase by 35 and 60 percent, respectively, with the implementation of a full access interchange at I-275 and Commerce Park Boulevard/Livingston Avenue (i.e., the No-Parkway Alternative).
- * The projected traffic volumes on the east-west collector roadways such as Crenshaw Lake Road are relatively insensitive to the presence or absence of the North Tampa Parkway.

7.0 ALTERNATIVE ALIGNMENT ANALYSIS

The five alignment alternatives, along with the No-Parkway and No-Build Alternatives, were analyzed to determine the future levels of service and laneage requirements. The specific evaluation of each alternative consisted of the following steps:

- (1) Converting the 2010 daily traffic volumes to design hour volumes using the design hour parameters discussed previously.
- (2) Balancing the design hour volumes at each interchange ramp terminal intersection and at each major street intersection.
- (3) Conducting morning and evening peak hour capacity analyses at all major street intersections and interchange ramp terminals, and for all merge, diverge, and weaving areas on limited access roadways using the latest version of the 1985 Highway Capacity Manual software.
- (4) Summarizing the results of the capacity analyses for each alternative to establish the basis for the laneage requirements along each route within the North Tampa Parkway study area.
- (5) Balancing the laneage demands along each study area route to provide lane continuity for the functional design of each alignment alternative. Frequently, this step becomes an iterative process as design parameters are examined in sufficient detail to suggest alternative laneage configurations. In such instances, additional capacity evaluations were required to ensure that the operational level of service standards were accomplished in accordance with FDOT standards.

The following sections present the results of this process.

7.1 NO-PROJECT ALTERNATIVES

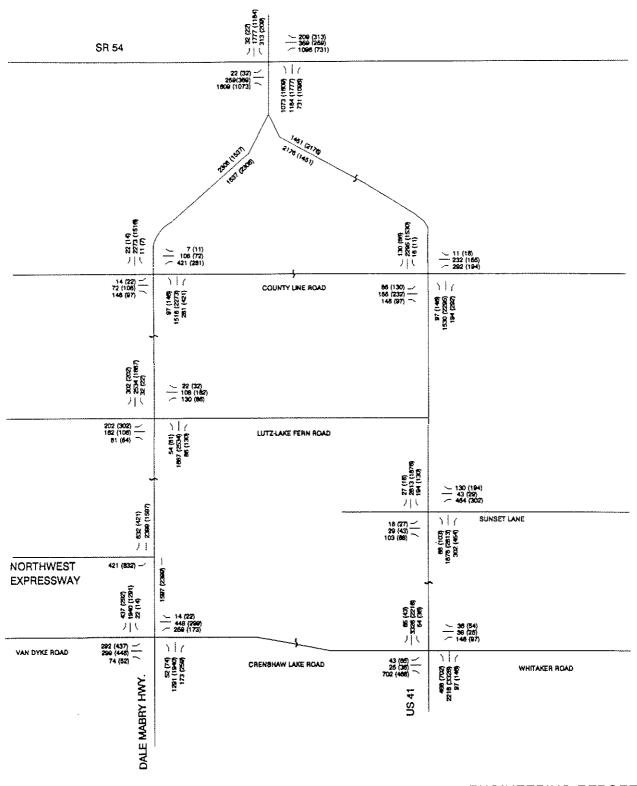
The two "no project" alternatives consist of the No-Build Alternative (see Section 6.5.6) and the No-Parkway Alternative (see Section 6.5.5). These alternatives contain improvements to the major street system within the North Tampa Parkway study area, but do not contain an alternative for the North Tampa Parkway. Both include the

improvements recommended in the Hillsborough Urban Area Transportation Plan plus those recommended in the various PD&E studies performed for Dale Mabry Highway, U.S. 41, and S.R. 54. In addition, the No-Parkway Alternative incorporates additional access to I-275 via an interchange at Livingston Avenue/Commerce Park Boulevard. The following subsections present the results of the detailed design hour traffic evaluations of these two alternatives.

7.1.1 No-Build Alternative

To identify the impacts of not providing the North Tampa Parkway, a No-Build Alternative was evaluated for the year 2010. This alternative assumes that both the North Tampa Parkway and the Commerce Park Boulevard extension to Livingston Avenue are not implemented, however, all roadway improvements contained in the 2010 Long Range Transportation Plan for Hillsborough and Pasco Counties are included. As stated previously, the average daily traffic volumes illustrated on Exhibit 6.1 were used for the No-Build Alternative. Peak hour turning movements were derived for the No-Build Alternative using the same factors (9.0 percent K and 60.0 percent D) that were used for the other alternatives and are illustrated on Exhibits 7.1A and 7.1B. The signalized intersection capacity analyses for the No-Build Alternative were conducted using the lane geometry illustrated on Exhibits 7.2A and 7.2B.

Results of the morning and evening peak hour signalized intersection analyses are summarized in Table 7.1. The initial analyses of Dale Mabry Highway between the Northwest Expressway and the U.S. 41/Dale Mabry Highway apex were based on the current conceptual plan for Dale Mabry Highway. This concept includes a 4-lane divided Dale Mabry Highway with at-grade intersections and two-way frontage roads (one lane each direction) on both sides. As indicated in Table 7.1, unacceptable



LEGEND

AM Peak Hour Volumes

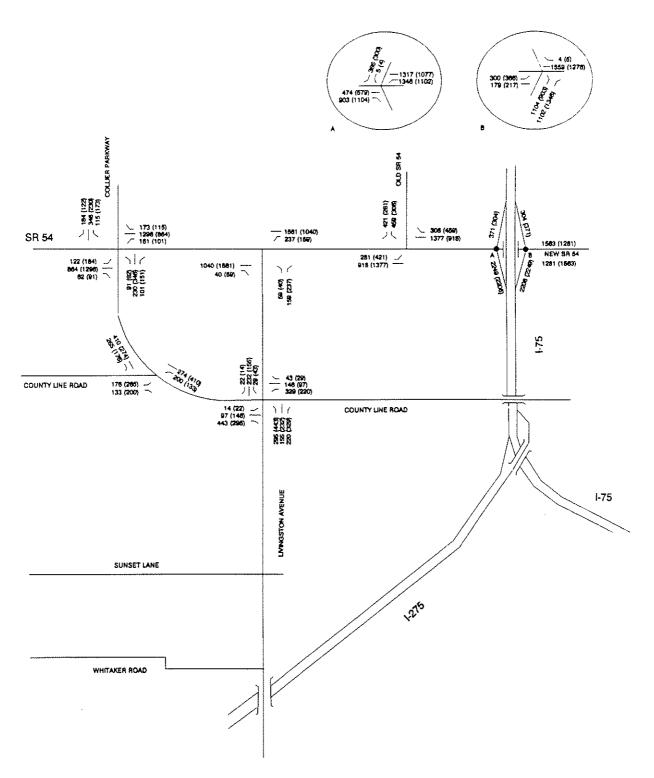
(296) PM Peak Hour Volumes

220

ENGINEERING REPORT

YEAR 2010
PEAK HOUR VOLUMES
NO-BUILD ALTERNATIVE

EXHIBIT 7. 1A



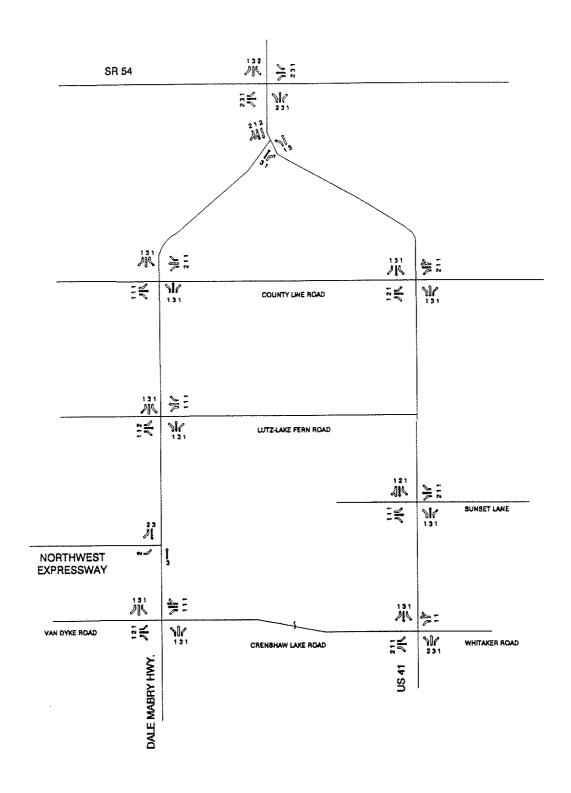
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220 AM Peak Hour Volumes(296) PM Peak Hour Volumes

ENGINEERING REPORT

YEAR 2010 PEAK HOUR VOLUMES NO-BUILD ALTERNATIVE

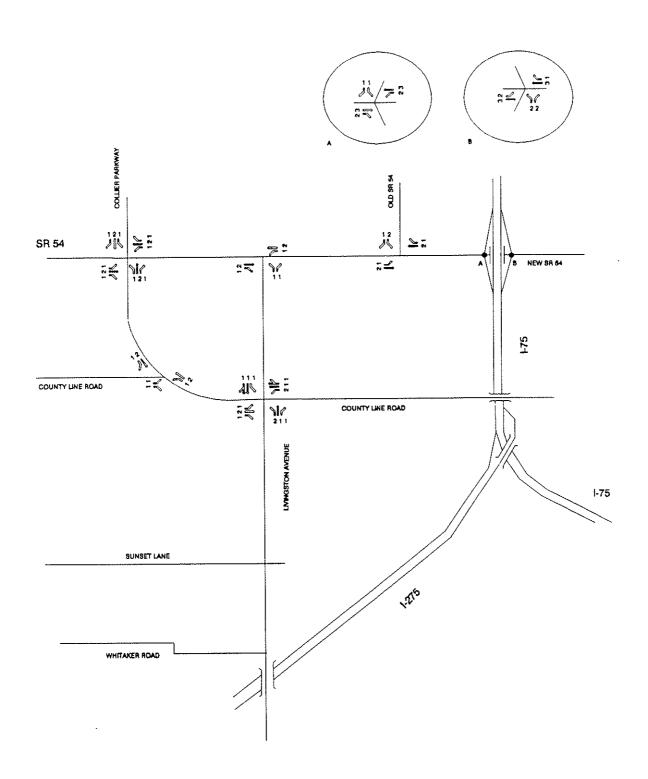
EXHIBIT 7. 1B



ENGINEERING REPORT

YEAR 2010 INTERSECTION LANE GEOMETRY NO-BUILD ALTERNATIVE

EXHIBIT 7. 2A



ENGINEERING REPORT

YEAR 2010 INTERSECTION LANE GEOMETRY NO-BUILD ALTERNATIVE

EXHIBIT 7. 2B

TABLE 7.1

YEAR 2010 SIGNALIZED INTERSECTION OPERATIONS
ANALYSIS SUMMARY - NO-BUILD ALTERNATIVE
North Tampa Parkway

<u>Location</u>	P	Peak H Average Delay ²			<u>Peak I</u> Average <u>Delay</u> 2	,
New S.R. 54 and I-75 (East Side)	1.01	28.2	D	0.87	16.6	С
New S.R. 54 and I-75 (West Side)	0.83	18.2	С	0.68	16.1	С
New S.R. 54 and Old S.R. 54	0.95	22.4	C	0.85	11.6	В
S.R. 54 and Livingston Avenue	0.63	8.7	В	0.82	10.1	В
S.R. 54 and Collier Parkway	0.77	30.9	D	0.81	30.3	D
S.R. 54 and U.S. 41 At-Grade Intersection Urban Interchange	1.31 0.89	* 59.8	F E	1.27 0.99	* 26.3	F D
Dale Mabry Highway and U.S. 41 4-Lane Dale Mabry Highway 6-Lane Dale Mabry Highway	1.19 0.99	84.4 24.5	F C	1.53 1.11	* 55.8	F E
Dale Mabry Highway and County Line Road 4-Lane Dale Mabry Highway 6-Lane Dale Mabry Highway	1.28 0.88	* 28.9	F D	1.14 0.80	* 21.9	F C
Dale Mabry Highway and Lutz Lake Fern Road 4-Lane Dale Mabry Highway 6-Lane Dale Mabry Highway	1.36 0.93	* 27.3	F D	1.47 0.93	* 28.6	F D
Dale Mabry Highway and Northwest Expressway 4-Lane Dale Mabry Highway 6-Lane Dale Mabry Highway	1.10 0.83	37.5 9.1	D B	1.16 0.94	61.4 13.6	F B
Dale Mabry Highway and Van Dyke Road	0.88	22.9	C	0.90	25.9	D
U.S. 41 and County Line Road	0.84	27.8	D	0.79	19.7	C

TABLE 7.1

YEAR 2010 SIGNALIZED INTERSECTION OPERATIONS
ANALYSIS SUMMARY - NO-BUILD ALTERNATIVE
North Tampa Parkway
(Continued)

Location		Peak F Average <u>Delay</u> 2			<u>Peak I</u> Average <u>Delay</u> 2	
U.S. 41 and Sunset Lane	0.96	28.6	D	0.94	25.4	D
U.S. 41 and Crenshaw Lake Road	1.12	*	F	0.95	38.2	D
Collier Parkway and County Line Road	0.48	9.2	В	0.45	8.8	В
County Line Road and Livingston Avenue	0.38	12.7	В	0.39	11.3	В

^{*} Delay and LOS not meaningful when any V/C is greater than 1.2.

¹ V/C = Volume-to-Capacity Ratio

² Average Delay in Seconds Per Vehicle

³ LOS = Level of Service

Expressway, Dale Mabry Highway/Lutz Lake Fern Road, Dale Mabry Highway/County Line Road and Dale Mabry Highway/U.S. 41 intersections during both the morning and evening peak hours. The V/C ratios projected at these locations range from 1.10 to 1.36 in the morning peak hour and from 1.14 to 1.53 in the evening peak hour. When the V/C ratio exceeds 1.00, one or more of the critical movements is oversaturated. As indicated in the 1985 Highway Capacity Manual, it is extremely difficult to accurately estimate vehicle delay when V/C ratios exceed 1.20. Oversaturation is an undesirable condition that should be alleviated. Based on these results, a six-lane divided arterial was assumed for Dale Mabry Highway and the intersections were re-analyzed.

As indicated in Table 7.1, all four intersections are projected to operate at Level of Service D or better in the morning peak hour and two of the four (Dale Mabry Highway/Northwest Expressway and Dale Mabry Highway/U.S. 41) are projected to operate at Level of Service C or better. Although the intersections are projected to operate at Level of Service D or better, the Dale Mabry Highway/Lutz Lake Fern Road and Dale Mabry Highway/U.S. 41 intersections are projected to have V/C ratios of 0.93 and 0.99, respectively. This indicates that these two intersections will operate near capacity. Table 7.1 also indicates that three of the four intersections are projected to operate at Level of Service D or better in the evening peak hour. As in the morning peak hour, two of these intersections are projected to operate near capacity. The Dale Mabry Highway/Lutz Lake Fern Road and the Dale Mabry Highway/Northwest Expressway intersections are projected to have V/C ratios of 0.93 and 0.94, respectively. The Dale Mabry Highway/U.S. 41 intersection is projected to operate at an unacceptable Level of Service E in the evening peak hour with a V/C ratio of 1.11 and an average delay of 55.8 seconds/vehicle.

Table 7.1 also indicates that five of the six intersections on S.R. 54 are projected to operate at Level of Service D or better in the morning and evening peak hours. In the morning peak hour, three of the six intersections are projected to operate at Level of Service C or better, while in the evening peak hour four of the six intersections are projected to operate at Level of Service C or better. The S.R. 54/U.S. 41 at-grade intersection will not operate at an acceptable level of service during the morning and evening peak hours. In the morning peak hour, this at-grade intersection is projected to operate at Level of Service F with a V/C ratio of 1.31, while in the evening peak hour this intersection is projected to operate at Level of Service F with a V/C ratio of 1.27. These unacceptable traffic operations are projected to occur at this location despite maximum at-grade geometry (six lanes) on all four intersection approaches. Based on these results, the S.R. 54/U.S. 41 intersection was re-evaluated with the assumption that an urban interchange would be provided at this location. The results of these analyses are also provided in Table 7.1. As indicated in the table, the S.R. 54/U.S. 41 urban interchange is projected to operate at an unacceptable Level of Service E in the morning peak hour with a V/C ratio of 0.89 and an average delay of 59.8 seconds/vehicle. In the evening peak hour, the urban interchange is projected to operate at Level of Service D, with a V/C ratio of 0.99 and an average delay of 26.3 seconds/vehicle. Although the overall average delay is projected to be 26.3 seconds/vehicle, five of the 10 movements (including all the critical movements) are projected to have average delays greater than or equal to 40.0 seconds/vehicle. This value represents the maximum vehicle delay for Level of Service D. These analyses indicate that loop ramps or flyover ramps for the northbound to westbound and/or westbound to southbound movements will be required to provide Level of Service D during both peak hours with the No-Build Alternative.

Of the remaining six locations listed in Table 7.1, five are projected to operate at Level of Service D or better during both the morning and evening peak hours. Only the U.S. 41/Crenshaw Lake Road intersection is projected to operate at Level of Service F in the morning peak hour with a V/C ratio of 1.12. In the evening peak hour, the U.S. 41/Crenshaw Lake Road intersection is projected to operate at Level of Service D with a V/C ratio of 0.95 and an average delay of 38.2 seconds/vehicle. The operations analysis results listed in Table 7.1 for the U.S. 41/Sunset Lane, U.S. 41/Crenshaw Lake Road and Collier Parkway/County Line Road intersections are the same as those for Alternative A1A. The signalized intersection capacity calculations for the No-Build Alternative are provided in Appendix E in the Final Traffic Memorandum.

In summary, the analysis of the 2010 No-Build Alternative indicates the following:

- (1) The current concept plan for Dale Mabry Highway between the Northwest Expressway and U.S. 41 that provides a four-lane divided facility with two-way frontage roads is projected to operate at an unacceptable level of service.
- (2) Although a six-lane divided Dale Mabry Highway is projected to result in Level of Service D or better during both peak hours for the at-grade intersections at the Northwest Expressway, Lutz Lake Fern Road and County Line Road, the reserve capacity available at these intersections is limited.
- (3) Level of Service E is projected for the Dale Mabry Highway/U.S. 41 atgrade intersection with maximum geometry in the evening peak hour with an average vehicle delay of 55.8 seconds/vehicle.
- (4) Level of Service F is projected for the S.R. 54/U.S. 41 at-grade intersection with maximum geometry during both the morning and evening peak hours. In addition, even with an urban interchange at this location, Level of Service E is projected for this intersection in the morning peak hour with an average vehicle delay of 59.8 seconds/vehicle.

(5) Level of Service F is projected for the U.S. 41/Crenshaw Lake Road intersection with maximum geometry during the morning peak hour with a V/C ratio of 1.12.

7.1.2 <u>No-Parkway Alternative</u>

As stated earlier, the No-Parkway Alternative includes an interchange at Commerce Park Boulevard/Livingston Avenue and I-275. A full access interchange on I-275 with ramps to/from the east and west at Commerce Park Boulevard/Livingston Avenue is provided with this alternative, thus facilitating traffic movements between Livingston Avenue and I-275. The North Tampa Parkway is not included with this alternative.

The morning and evening peak hour volumes for the No-Parkway Alternative are illustrated on Exhibits 7.3A and 7.3B, while the intersection lane geometry required for the No-Parkway Alternative is depicted on Exhibits 7.4A and 7.4B. Table 7.2 lists the morning and evening peak hour signalized intersection operations for this alternative.

As indicated in Table 7.2, of the 17 at-grade intersections analyzed for the No-Parkway Alternative, 15 are projected to operate at Level of Service D or better during both the morning and evening peak hours. As illustrated on Exhibit 7.4A, the intersections on Dale Mabry Highway were analyzed assuming three through lanes for both northbound and southbound Dale Mabry Highway. Table 7.2 indicates that an at-grade intersection at U.S. 41 and S.R. 54 is projected to operate at Level of Service F and E during the morning and evening peak hours, respectively. If an urban interchange was constructed at this location, the intersection would be expected to operate at Level of Service D in the morning peak hour and Level of Service C in the evening peak hour.

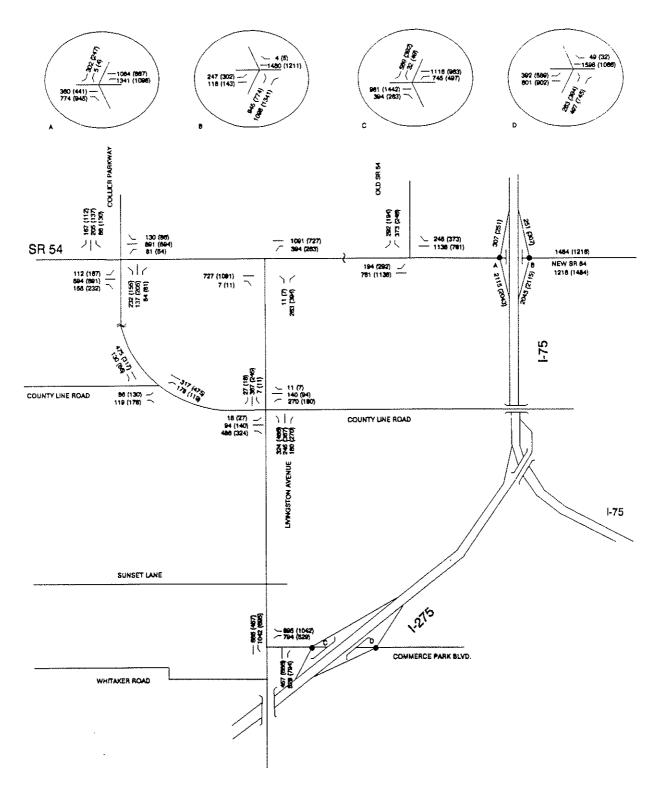


220 AM Peak Hour Volumes (296)PM Peak Hour Volumes SR 54 117 22 (32) <u>~</u> 252 (378) <u>~</u> 1615 (1076) ~ 1076 (1615) 1196 (1723) 486 (723) 7. 22 (14) 1 1940 (1300) 11 (7) 14 (22) <u>~</u> 66 (103) <u>~</u> 146 (97) <u>~</u> 111 111 COUNTY LINE ROAD (204) 72 (200) (1949) (205) 072 97 (148) 1526 (2290) 112 (167) 2225 (180) 2225 (180) 22 (23) ~ 22 (32) — 122 (164) ~ 151 (101) 182 (243) <u>/</u> 184 (122) _____ 86 (68) _____ 11 LUTZ-LAKE FERN ROAD 58 (38) 101 (151) 27.(18) 21.78 (1461) 111 SUNSET LANE 18 (27) <u>~</u> 36 (54) <u>~</u> 92 (81) <u>~</u> 61 (92) 1636 (275-6) 227 (340) 月 **NORTHWEST** 371 (858) -**EXPRESSWAY** ş (25) 00 (25) 00 (25) 00 (25) 00 230 (346) 286 (432) 36 (25) 111 VAN DYKE ROAD 25 (38) 1207 (1808) 187 (281) CRENBHAW LAKE ROAD WHITAKER ROAD DALE MABRY HWY **US 41**

ENGINEERING REPORT

YEAR 2010 PEAK HOUR VOLUMES NO-PARKWAY ALTERNATIVE

EXHIBIT 7. 3A



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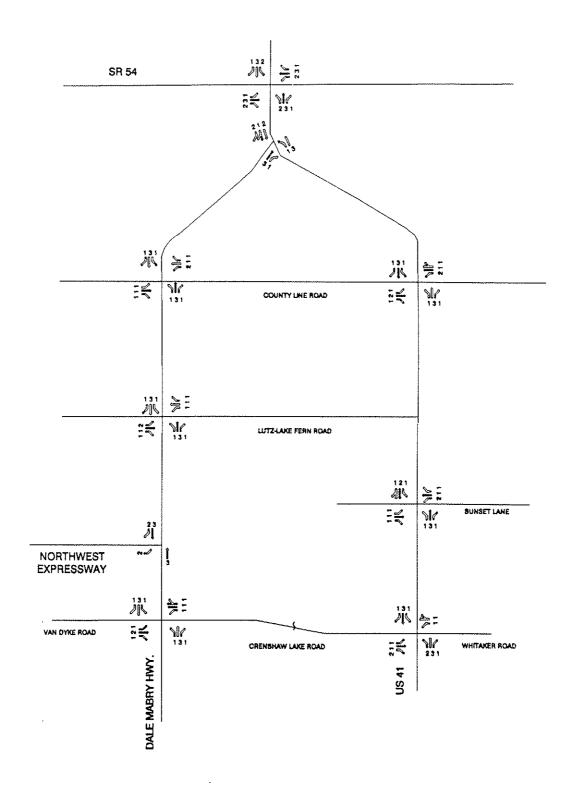
220 AM Peak Hour Volumes

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ENGINEERING REPORT

YEAR 2010 PEAK HOUR VOLUMES NO-PARKWAY ALTERNATIVE

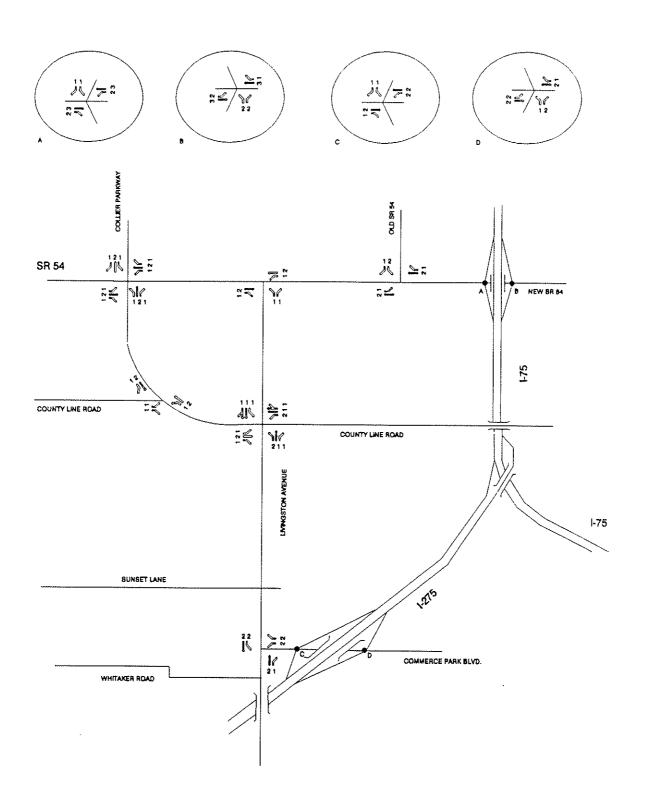
EXHIBIT 7. 3B



ENGINEERING REPORT

YEAR 2010 INTERSECTION LANE GEOMETRY NO-PARKWAY ALTERNATIVE

EXHIBIT 7, 4A



ENGINEERING REPORT

YEAR 2010 INTERSECTION LANE GEOMETRY NO-PARKWAY ALTERNATIVE

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EXHIBIT 7, 4B

TABLE 7.2

YEAR 2010 SIGNALIZED INTERSECTION OPERATIONS
ANALYSIS SUMMARY - NO-PARKWAY ALTERNATIVE
North Tampa Parkway

Location		<u>. Peak I</u> Average <u>Delay</u> 2		-	. Peak I Average <u>Delay</u> 2	;
New S.R. 54 and I-75 (East Side)	0.89	15.7	C	0.77	13.5	В
New S.R. 54 and I-75 (West Side)	0.81	14.4	В	0.67	13.4	В
New S.R. 54 and Old S.R. 54	0.68	15.6	C	0.66	8.4	В
S.R. 54 and Livingston Avenue	0.61	8.6	В	0.78	8.7	В
S.R. 54 and Collier Parkway	0.69	20.9	C	0.57	20.3	C
S.R. 54 and U.S. 41 At-Grade Intersection Urban Interchange	1.11 0.75	* 34.0	F D	1.12 0.90	52.0 23.1	E C
Dale Mabry Highway and U.S. 41	0.84	16.6	C	1.02	29.4	D
Dale Mabry Highway and County Line Road	0.74	22.3	С	0.66	19.6	С
Dale Mabry Highway and Lutz Lake Fern Road	0.88	21.3	C	0.84	20.4	С
Dale Mabry Highway and Northwest Expressway	0.75	7.2	В	0.84	10.0	В
Dale Mabry Highway and Van Dyke Road	0.79	18.6	C	0.80	21.8	С
U.S. 41 and County Line Road	0.81	27.4	D	0.77	20.8	C
U.S. 41 and Crenshaw Lake Road	1.14	*	F	1.00	49.4	E
U.S. 41 and Sunset Lane	0.97	28.7	D	0.96	25.9	D
Collier Parkway and County Line Road	0.40	8.8	В	0.33	7.6	В

TABLE 7.2

YEAR 2010 SIGNALIZED INTERSECTION OPERATIONS ANALYSIS SUMMARY - NO-PARKWAY ALTERNATIVE North Tampa Parkway (Continued)

Location		<u>Peak H</u> Average <u>Delay² I</u>		***************************************	Peak H Average <u>Delay² I</u>	
County Line Road and Livingston Avenue	0.47	14.4	В	0.47	11.9	В
Commerce Park Boulevard and Livingston Avenue	0.96	23.4	С	0.80	20.3	С

^{*} Delay and LOS not meaningful when any V/C is greater than 1.2.

¹ V/C = Volume-to-Capacity Ratio

² Average Delay in Seconds Per Vehicle

³ LOS = Level of Service

The U.S. 41/Crenshaw Lake Road intersection is also projected to operate at unacceptable levels of service in the peak hours. During the morning peak hour, this intersection is anticipated to operate at Level of Service F with a V/C ratio of 1.14. In the evening peak hour, this intersection is anticipated to operate at Level of Service E with a V/C ratio of 1.00. To eliminate the extensive operational conflict between north-south through traffic demand on U.S. 41 and the heavy turn volume to/from Crenshaw Lake Road, a grade-separated interchange is recommended.

The Livingston Avenue/Commerce Park Boulevard intersection is projected to operate at Level of Service C in both the morning and evening peak hours. The signalized intersection capacity calculations for the No-Parkway Alternative are provided in Appendix D of the Final Traffic Memorandum.

7.2 STUDY ALTERNATIVES

The remaining alternatives consist of the five build alignment options. From a traffic perspective, three of these alignment alternatives (B5A, E1A, E2A) for the limited-access North Tampa Parkway have the same access locations and can be analyzed as a single "traffic" alternative.

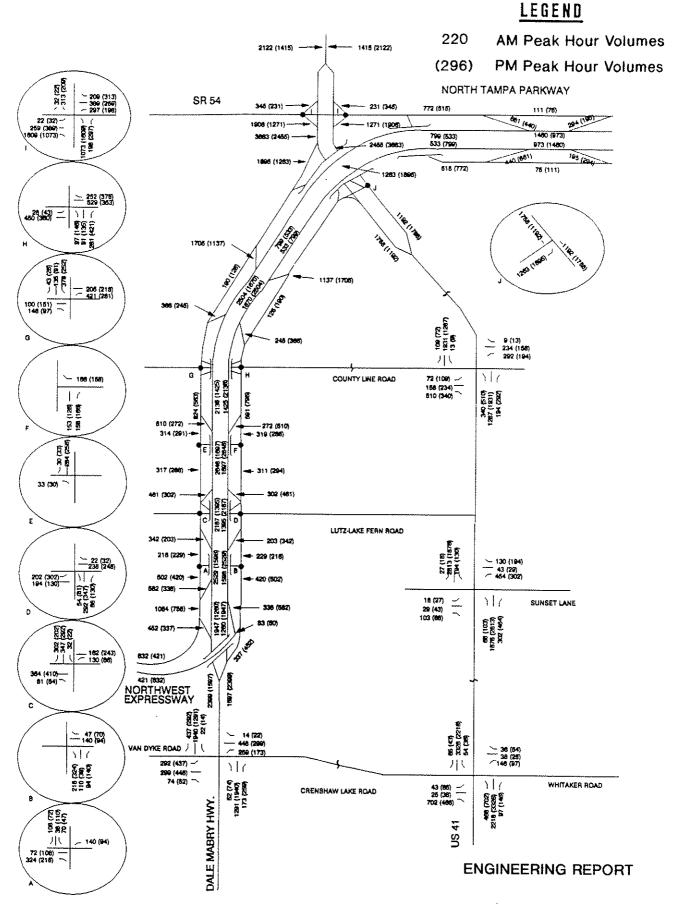
The preceding discussion in subsection 7.1 highlights the need for significant improvements to the major street system within the North Tampa Parkway study area. As such, no detailed evaluations of Transportation System Management (TSM) or Transportation Demand Management (TDM) measures were undertaken. Typical TSM improvements include traffic signal timing optimization and/or coordination, removing on-street parking, restriping existing pavement for additional lanes, and turn

prohibitions at intersections and reversible lanes. TSM improvements generally provide minimal to moderate capacity increases on the system. Typical TDM measures include ridesharing (carpooling and vanpooling), express bus service or other mode shifts, and flexible work hours. These measures require coordinated efforts of local agencies and major employers to accomplish reduction in travel demand. The capacity deficiencies projected for the area street system are extensive. The potential improvements afforded by TSM and TDM measures will not increase the available capacity nor decrease the projected demand sufficiently to accommodate the demand at an acceptable level of service. Significant geometric improvements are required to accommodate the demand at an acceptable level of service.

7.2.1 Alternative A1A

Exhibits 7.5A and 7.5B present the 2010 morning and evening peak hour volumes for the study area with Alternative AlA. With this alignment, frontage roads are virtually continuous along the proposed North Tampa Parkway in order to provide local land access. Periodic slip ramps have been provided to permit access between the frontage road system and the mainline. The peak hour volumes presented on Exhibits 7.5A and 7.5B were derived using the previously defined "K" factor (the percentage of the two-way daily traffic that occurs in the peak hour as previously established at 9.0 percent) and "D" factor (the percentage of peak hour travel that occurs in the primary direction of travel as previously established at 60.0 percent).

Using these peak hour volumes, capacity analyses were conducted for each intersection, ramp terminal, and mainline segment within the alternative for the



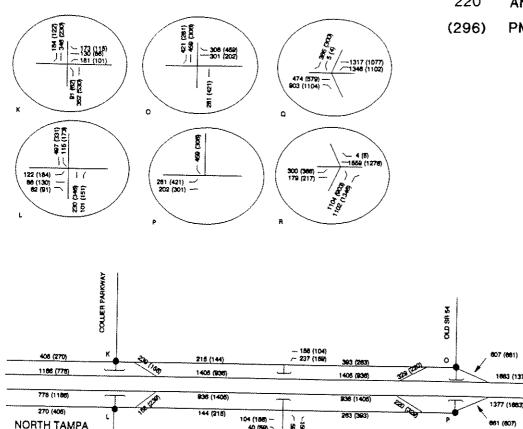
YEAR 2010 PEAK HOUR VOLUMES ALTERNATIVE A1A

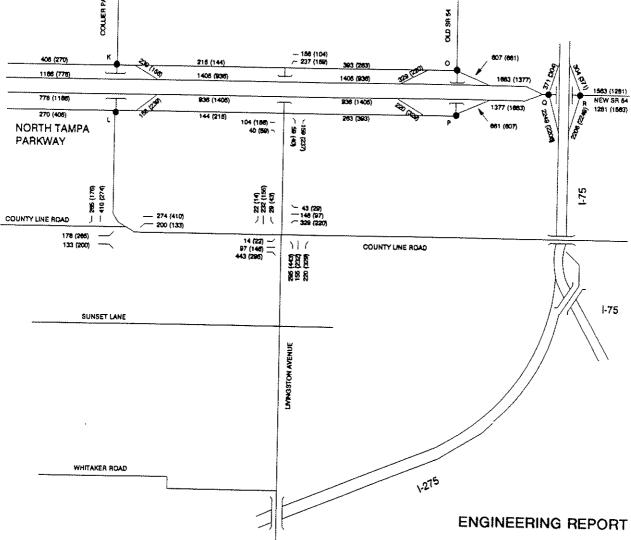
EXHIBIT 7. 5A

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LEGEND

220 AM Peak Hour Volumes(296) PM Peak Hour Volumes

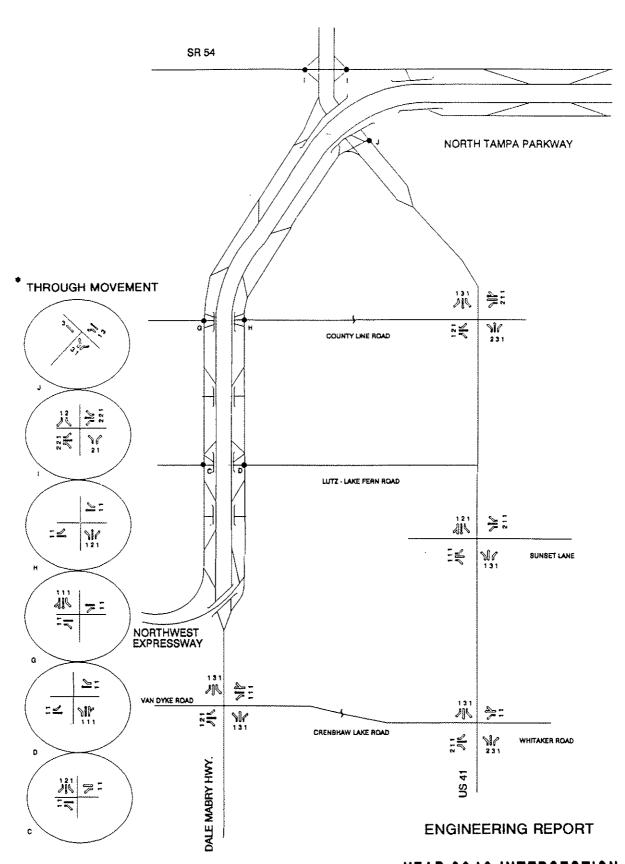




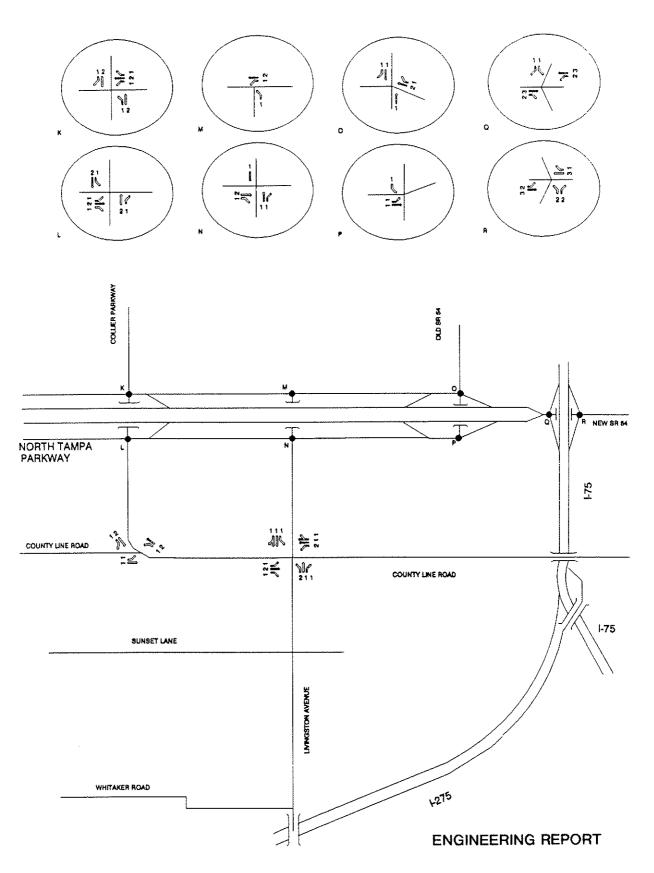
YEAR 2010 PEAK HOUR VOLUMES ALTERNATIVE A1A

purpose of establishing the required laneage configuration. Initially, Level of Service C was established as the desirable operating condition for the mainline and ramp terminals, with Level of Service D being acceptable at other major arterial street intersections. If laneage requirements resulting from this analysis produced cross section improvements for number of through lanes that exceeded the FDOT standards contained in the Florida State Transportation Plan, Level of Service D was accepted. This condition is particularly pertinent to the Dale Mabry Highway corridor between the Northwest Expressway and the North Tampa Parkway in those alternatives where the two facilities combine to provide a continuous route.

Exhibits 7.6A and 7.6B present the laneage needs resulting from the capacity analyses for Alternative AlA at the key intersections within the study area. The detailed intersection and mainline merge, diverge, and weaving analyses for the North Tampa Parkway are presented in Appendix B in the Final Traffic Memorandum. With this alternative, the North Tampa Parkway (including the segment of Dale Mabry Highway northward from the Northwest Expressway) consists of a four-lane cross section (two lanes in each travel direction) except in the mainline weaving area north of Lutz Lake Fern Road (on Exhibit 7.6A) and in the segment between Old S.R. 54 and I-75 (on Exhibit 7.6B). In these two areas, an additional lane (thereby creating a six-lane cross section) is needed in each travel direction to accommodate the merge, diverge and/or weave volumes. In all instances, the parallel, one-way frontage roads are two lanes which may have additional turn lanes added at the cross road intersections and/or for the U-turn roadways at each cross road interchange.



YEAR 2010 INTERSECTION LANE GEOMETRY ALTERNATIVE A1A



YEAR 2010 INTERSECTION LANE GEOMETRY ALTERNATIVE A1A

EXHIBIT 7. 6B

Geometrically, the most complex segment included in this alternative is the segment between the Dale Mabry Highway/North Tampa Parkway junction and the S.R. 54/U.S. 41 intersection. As schematically depicted on Exhibit 7.6A, access between Dale Mabry Highway and U.S. 41 is to and from the Dale Mabry Highway frontage road system via an at-grade intersection at U.S. 41. Drivers who desire to travel northbound on U.S. 41 from northbound Dale Mabry Highway will exit the Dale Mabry Highway mainline onto the northbound frontage road prior to reaching the atgrade intersection with U.S. 41. Drivers who desire to travel southbound on Dale Mabry Highway from southbound U.S. 41 will access the mainline from the south of the at-grade intersection. Northbound U.S. 41 traffic that desires to travel eastbound on the North Tampa Parkway has the following three options available:

- (1) Travel westbound on County Line Road to Dale Mabry Highway and then northbound on the Dale Mabry Highway frontage road to the slip ramp to the North Tampa Parkway.
- (2) Travel northbound on U.S. 41 to S.R. 54 and then eastbound on the North Tampa Parkway frontage road to the slip ramp to the mainline.
- (3) Travel eastbound on County Line Road to Collier Parkway and then northbound on Collier Parkway to the North Tampa Parkway/Collier Parkway interchange.

Compounding the geometric conditions is the need for an urban interchange at the U.S. 41/S.R. 54 intersection to serve the large turning movements. Accommodation of the turning movements at these two closely spaced interchanges is possible based upon the North Tampa Parkway's service to the large two-way travel demand in the southeast quadrant of the combined interchange area (which becomes an east-west through movement on the North Tampa Parkway). The urban interchange at U.S. 41/S.R. 54 adequately serves the large eastbound to southbound right-turn from S.R. 54, the substantial north-south through movement on U.S. 41, and the significant

northbound to westbound left-turn originating in the south on both Dale Mabry Highway and U.S. 41. Thus, the cross section on U.S. 41 between the North Tampa Parkway (Dale Mabry Highway) and S.R. 54 consists of four mainline lanes (two in each direction) and a two-lane, one-way frontage road on each side.

Using Exhibits 7.5A and 7.5B as reference, Tables 7.3 and 7.4 present the operations analysis results for the North Tampa Parkway/Dale Mabry Highway merge/diverge and weaving areas. These tables are organized such that the westbound/southbound traffic operations are presented first followed by the northbound/eastbound traffic operations. Similarly, morning peak hour conditions are presented first (Table 7.3) followed by the evening peak hour conditions (Table 7.4). As the tables indicate, both travel directions on the North Tampa Parkway should operate at Levels of Service A or B during both the morning and evening peak hours. In the morning peak hour, the extension of the North Tampa Parkway along Dale Mabry Highway is projected to operate at Level of Service D or better for the southbound direction and at Level of Service C or better for the northbound direction. In the evening peak hour, this segment is projected to operate at Level of Service C or better in the southbound direction and Level of Service D or better in the northbound direction.

Table 7.5 summarizes the 2010 operating conditions for both the morning and evening peak hour conditions at the signalized intersections within the study area for Alternative AlA. (The reader should reference Exhibits 7.6A and 7.6B for the proposed intersection lane geometry that was used for these operations evaluations). The detailed capacity analysis summary printouts are provided in Appendix B of the Final Traffic Memorandum.

TABLE 7.3

YEAR 2010 A.M. PARKWAY OPERATIONS ANALYSIS SUMMARY - ALTERNATIVE A1A North Tampa Parkway

			Merge Area		٥	Diverge Area				Weaving Area	Area	
Location	Parkway Volume (in vph)	Ramp Volume (in vph)	Merge Volume (in poph)	Merge Level of Service	Ramp Volume (in vph)	Diverge Volume (in poph)	Diverge Level of Service	Type/ Length of Weave	Weaving Speed (in mph)	Weaving Level of Service	Non-Weaving Speed (in mph)	Non-Weaving Level of Service
WB North Tampa Parkway Off- Ramp to Old S.R. 54	1,683				209	703	œ					
WB North Tampa Parkway On- Ramp from Old S.R. 54	1,076	329	941	œ								
WB North Tampa Parkway Off- Ramp to Collier Parkway	1,405				239	905	œ					
4 WB North Tampa Parkway On- Ramp from Collier Parkway	1,166	594	645	æ								
WB North Tampa Parkway Off- Ramp to S.R. 54	1,460				%	096	ω					
SB Dale Mabry Highway Between U.S. 41 On-Ramp and County Line Road Off-Ramp								8/2,000	41	۵	75	a
SB Dale Mabry Highway On- Ramp from County Line Road	2,138	510	1,564	۵								
SB Dale Mabry Highway Off- Ramp to Lutz Lake Fern Road	2,648				461	1,455	ပ					
SB Dale Mabry Highway On- Ramp from Lutz Lake Fern Road	2,187	342	1,413	U								
SB Dale Mabry Highway Off- Ramp to Northwest Expressway	2,529				582	1,567	۵					
SB Dale Mabry Highway Frontage Road Between On-Ramp from Dale Mabry Highway and Off- Ramp to Northwest Expressway								A/1,650	67	ပ	87	ပ

TABLE 7.3

YEAR 2010 A.M. PARKWAY OPERATIONS ANALYSIS SUMMARY - ALTERNATIVE A1A North Tampa Parkway (Continued)

			Merge Area	_	Δ	Diverge Area	.			Veaving Area	Area	
	Parkway	Ramp	Merge	Merge	Ramp	Diverge	Diverge	Type/	Weaving	Weaving	Non-Weaving	Non-Weaving
	Volume	Volume	Volume	Level of	Volume	Volume	Level of	Length	Speed	Level of	Speed	Level of
Location	(in vph)	(in vph)	(in pcph)	Service	(in vph)	(in pcph)	Service	of Weave	(in mph)	Service	(in mph)	Service
NB Dale Mabry Highway On-Ramp from Northwest Expressway	1,260	338	1,027	ပ								
NB Dale Mabry Highway Off- Ramp to Lutz Lake Fern Road	1,598				203	961	ω					
NB Dale Mabry Highway On- Ramp from Lutz Lake Fern Road	1,395	302	1,047	Ų								
.4 NB Dale Mabry Highway Off- I Ramp to County Line Road	1,697				272	914	Ω.					
NB Dale Mabry Highway Between County Line Road On-Ramp and U.S. 41 Off-Ramp								8/2,000	45	ပ	64	U
EB North Tampa Parkway On- Ramp from S.R. 54	533	077	830	œ								
EB North Tampa Parkway Off- Ramp to Collier Parkway	973				195	532	∢					
EB North Tampa Parkway On- Ramp from Collier Parkway	778	158	7779	∞								
EB North Tampa Parkway Off- Ramp to Old S.R. 54	926				220	402	œ					
EB North Tampa Parkway On- Ramp from Old S.R. 54	716	661	765	m								

TABLE 7.4

YEAR 2010 P.M. PARKWAY OPERATIONS ANALYSIS SUMMARY - ALTERNATIVE A1A North Tampa Parkway

			Merge Area		۵	Diverde Area				Weaving Area	Area	•
	Parkway Volume	Ramp Volume	Merge Volume		Ramp Volume	Diverge Volume	Diverge Level of	Type/ Length	Weaving Speed	Weaving Level of Service	Non-Weaving Speed	Non-Weaving Level of Service
Location	(IRA)	Visit visit	Tild bebli	201 4 100	7	71117	מבו אורב	0	1111	301 4 100		222
WB North Tampa Parkway Off- Ramp to Old S.R. 54	1,377				661	765	മ					
WB North Tampa Parkway On- Ramp from Old S.R. 54	716	220	683	ω								
WB North Tampa Parkway Off- Ramp to Collier Parkway	936				158	299	œ					
2 WB North Tampa Parkway On- Ramp from Collier Parkway	778	195	682	ω								
WB North Tampa Parkway Off- Ramp to S.R. 54	973				077	640	∢					
SB Dale Mabry Highway Between U.S. 41 On-Ramp and County Line Road Off-Ramp								8/2,000	45	ပ	67	U
SB Dale Mabry Highway On- Ramp from County Line Road	1,425	272	1,027	ပ								
SB Dale Mabry Highway Off- Ramp to Lutz Lake Fern Road	1,697				302	928	ß					
SB Dale Mabry Highway On- Ramp from Lutz Lake Fern Road	1,395	203	945	ω								
SB Dale Mabry Highway Off. Ramp to Northwest Expressway	1,598				338	1,043	œ					
SB Dale Mabry Highway Frontage Road Between On-Ramp from Dale Mabry Highway and Off- Ramp to Northwest Expressway								A/1,650	53	ω	52	ပ

1ABLE 7.4

YEAR 2010 P.M. PARKWAY OPERATIONS ANALYSIS SUMMARY - ALTERNATIVE A1A North Tampa Parkway (Continued)

			Morgo Aros		_	Diverge Area				Weaving Area	Area	
Location	Parkway Volume (in vph)	Ramp Volume (in vph)	Merge Volume (in pcph)	Merge Level of Service	Ramp Volume (in vph)	Diverge Volume (in poph)	Diverge Level of Service	Type/ Length of Weave	Weaving Speed (in mph)	Weaving Level of <u>Service</u>	Non-Weaving Speed (in mph)	Non-Weaving Level of Service
NB Dale Mabry Highway On-Ramp from Northwest Expressway	1,947	582	1,559	۵								
NB Dale Mabry Highway Off- Ramp to Lutz Lake Fern Road	2,529				342	1,421	ပ					
NB Dale Mabry Highway On- Ramp from Lutz Lake Fern Road	2,187	461	1,535	۵								
NB Date Mabry Highway Off-	2,648				510	1,479	ပ					
NB Dale Mabry Highway Between County Line Road On-Ramp and U.S. 41 Off-Ramp								8/2,000	1,7	۵	75	۵
EB North Tampa Parkway On- Ramp from S.R. 54	8	661	1,166	ပ								
EB North Tampa Parkway Off- Ramp to Collier Parkway	1,460				564	817	œ					
EB North Tampa Parkway On- Ramp from Collier Parkway	1,166	239	888	œ								
EB North Tampa Parkway Off- Ramp to Old S.R. 54	1,405				329	096	œ					
EB North Tampa Parkway On- Ramp from Old S.R. 54	1,076	209	703	ω								

TABLE 7.5

YEAR 2010 SIGNALIZED INTERSECTION OPERATIONS
ANALYSIS SUMMARY - ALTERNATIVE A1A
North Tampa Parkway

Location	1	Peak F Average Delay ²		A	<u>Peak F</u> Average Delay ²	
North Tampa Parkway and I-75 (East Side)	1.01	28.2	D	0.87	16.6	С
North Tampa Parkway and I-75 (West Side)	0.83	18.2	C	0.68	16.1	С
North Tampa Parkway and Old S.R. 54	0.76	11.8	В	0.69	11.2	В
North Tampa Parkway and Livingston Avenue	0.28	7.0	В	0.27	7.1	В
North Tampa Parkway and Collier Parkway	0.33	15.9	C	0.41	16.7	С
Dale Mabry Highway and County Line Road (West Side)	0.75	17.0	C	0.56	11.9	В
Dale Mabry Highway and County Line Road (East Side)	0.51	9.9	В	0.43	11.5	В
Dale Mabry Highway and Lutz Lake Fern Road (West Side)	0.64	12.2	В	0.55	11.1	В
Dale Mabry Highway and Lutz Lake Fern Road (East Side)	0.49	11.1	В	0.62	12.9	В
Dale Mabry Highway and Van Dyke Road	0.83	21.6	C	0.81	21.5	C
S.R. 54 and U.S. 41	0.62	20.7	C	0.83	20.0	C
U.S. 41 and Dale Mabry Highway	0.79	11.1	В	0.96	14.8	В
U.S. 41 and County Line Road	0.79	27.0	D	0.68	18.2	C
U.S. 41 and Sunset Lane	0.96	28.6	D	0.94	25.4	D
U.S. 41 and Crenshaw Lake Road	1.12	*	F	0.95	38.2	D

TABLE 7.5

YEAR 2010 SIGNALIZED INTERSECTION OPERATIONS ANALYSIS SUMMARY - ALTERNATIVE A1A North Tampa Parkway (Continued)

Location		<u>Peak l</u> Average <u>Delay</u> 2			Peak l Average Delay ²	
Collier Parkway and County Line Road	0.48	9.2	В	0.45	8.8	В
Livingston Avenue and County Line Road	0.38	12.6	В	0.39	10.5	В

^{*} Delay and LOS not meaningful when any V/C is greater than 1.2.

¹ V/C = Volume-to-Capacity Ratio

² Average Delay in Seconds Per Vehicle

³ LOS = Level of Service

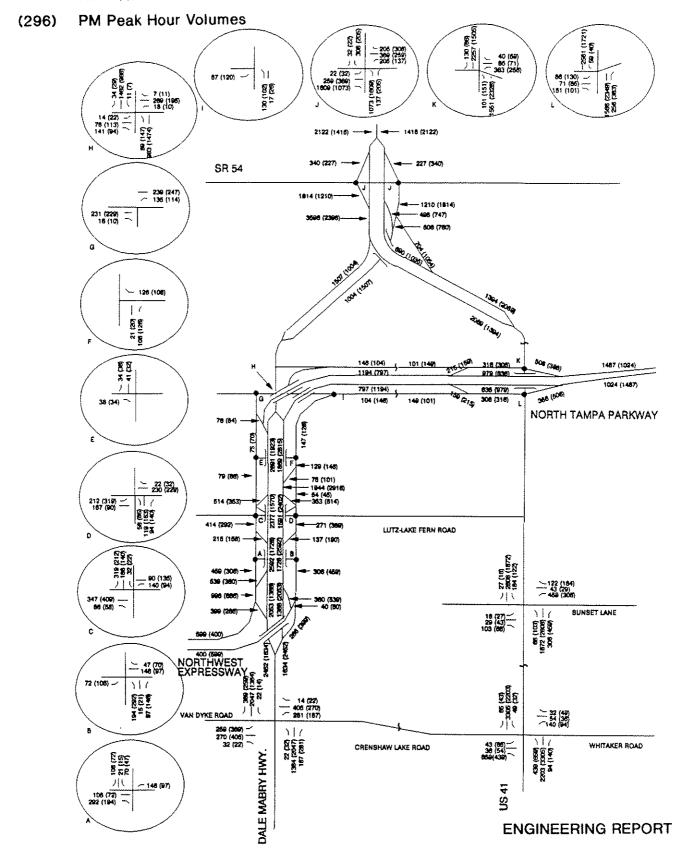
A review of Table 7.5 indicates that all signalized intersections are projected to operate at Level of Service D or better during both morning and evening peak hours except the U.S. 41/Crenshaw Lake Road intersection. This intersection can be anticipated to experience operational problems during the morning peak hour even with a six-lane cross section on U.S. 41 and dual left- and right-turn lanes at the northbound U.S. 41 and eastbound Crenshaw Lake Road approaches, respectively. The combination of large north-south through volumes, as well as large eastbound to southbound and northbound to westbound turn volumes, will require grade separation to provide an acceptable level of service during this peak hour. As will be noted in the discussion of the other alternatives, this condition is projected to occur with all alternatives and is not significantly influenced by the alignment of the North Tampa Parkway.

7.2.2 Alternative B1A

Exhibits 7.7A and 7.7B illustrate the morning and evening peak hour volumes for Alternative B1A. As discussed earlier, the primary difference between Alternative B1A and Alternative A1A is the shift of the western portion of the North Tampa Parkway to the south to reduce volume levels on Dale Mabry Highway and U.S. 41 immediately north of County Line Road and to improve access conditions between the North Tampa Parkway and U.S. 41. Virtually all other features associated with the North Tampa Parkway, the improvement of Dale Mabry Highway southward from County Line Road and the improvement of other major streets within the study area, remain the same as in Alternative A1A. The Dale Mabry Highway/North Tampa Parkway alignment continues to have four mainline lanes with a two-lane, one-way frontage road on both sides of the mainline. The only exception to this cross section

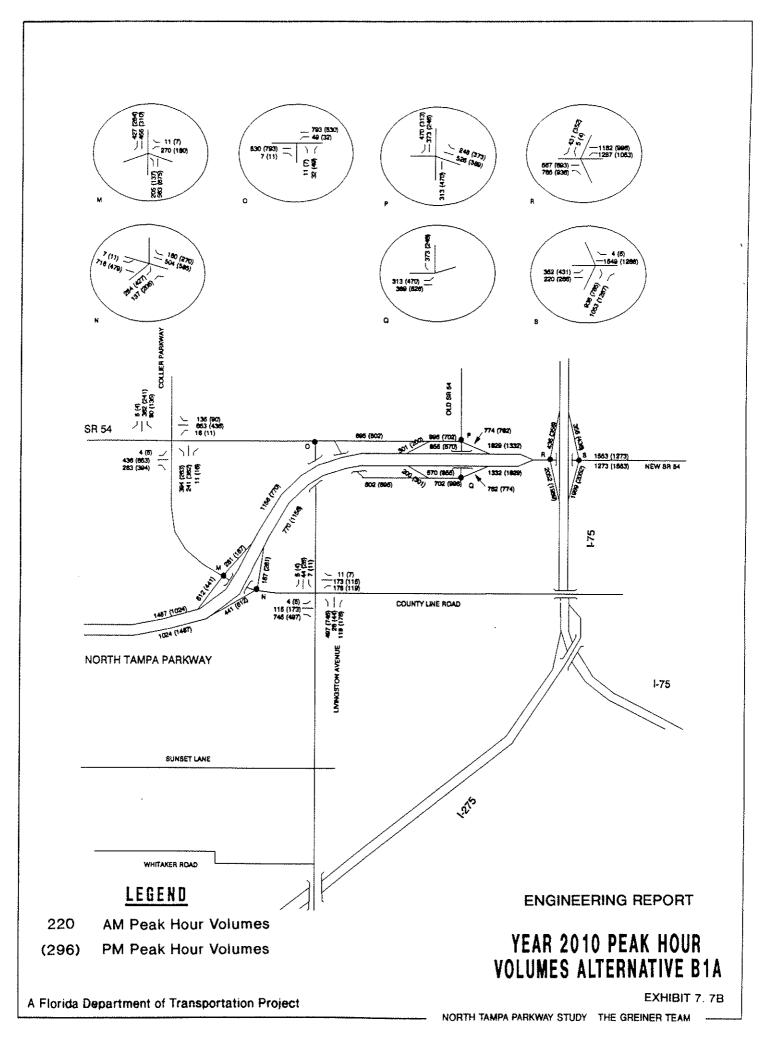
LEGEND

220 AM Peak Hour Volumes



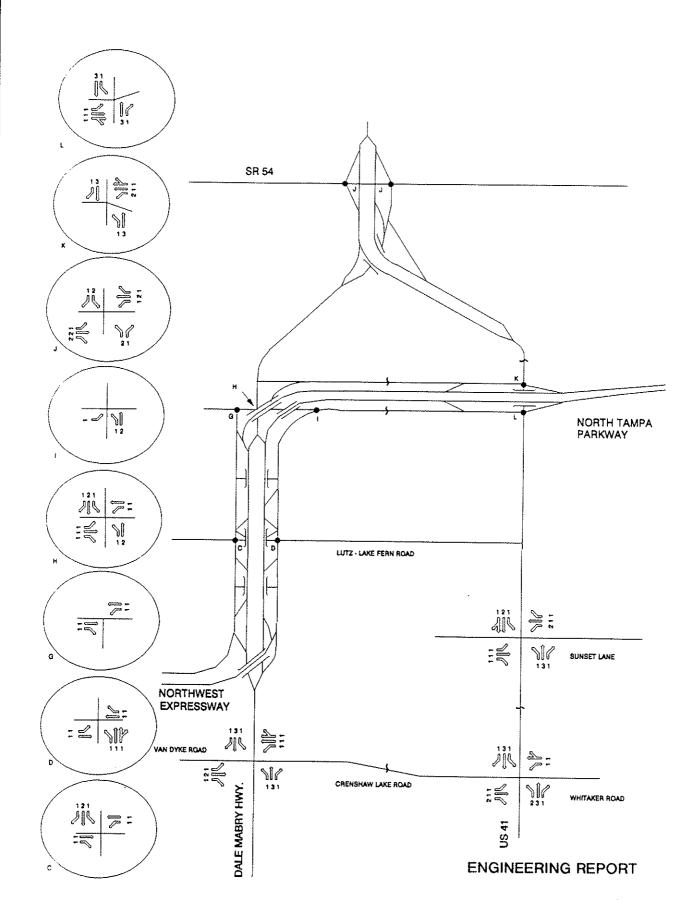
YEAR 2010 PEAK HOUR VOLUMES ALTERNATIVE B1A

EXHIBIT 7.7A



is the segment between U.S. 41 and approximately Livingston Avenue (including the Collier Parkway interchange) where existing development is lacking along Alternative B1A. Because this area is generally zoned for planned unit residential development, a local road circulation system would most likely be constructed at the time the land is developed. Such a local circulation system could use a continuation of the frontage road system or some other local street pattern suited to the specific development plan.

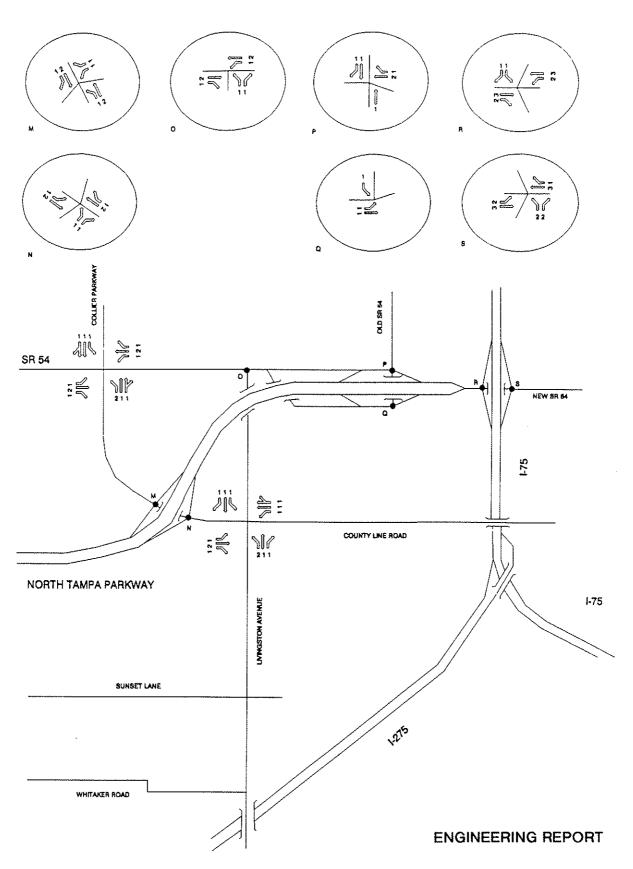
Exhibits 7.8A and 7.8B present the laneage requirements for the key signalized intersections in the study area. Table 7.6 summarizes the capacity analyses results for these intersection improvements (see Appendix C of the Final Traffic Memorandum for the detailed capacity analysis summaries). As indicated in Table 7.6, all intersections except the U.S. 41/Crenshaw Lake Road intersection should operate at Level of Service D or better during the morning and evening peak hours. The Crenshaw Lake Road/U.S. 41 at-grade intersection is projected to experience operational problems in both the morning and evening peak hours. This intersection is projected to operate at Level of Service F with a V/C ratio of 1.18 in the morning peak hour and Level of Service E with a V/C ratio of 0.93 in the evening peak hour. As in the Alternative A1A analysis, maximum approach geometry for the signalized intersection was assumed with a six-lane cross section on U.S. 41, a dual right-turn lane for eastbound Crenshaw Lake Road and a dual left-turn lane for northbound U.S. 41. Provision of Level of Service D or better at this intersection will require implementation of an interchange.



YEAR 2010 INTERSECTION LANE GEOMETRY ALTERNATIVE B1A

A Florida Department of Transportation Project

EXHIBIT 7. 8A



YEAR 2010 INTERSECTION LANE GEOMETRY ALTERNATIVE B1A

TABLE 7.6

YEAR 2010 SIGNALIZED INTERSECTION OPERATIONS
ANALYSIS SUMMARY - ALTERNATIVE B1A
North Tampa Parkway

Location	A	<u>Peak H</u> verage <u>Delay</u> 2]	,	F	Peak H Average Delay ²	
North Tampa Parkway and I-75 (East Side)	0.87	27.6	D	0.76	24.6	С
North Tampa Parkway and I-75 (West Side)	0.99	21.4	С	0.90	20.8	C
North Tampa Parkway and Old S.R. 54	0.73	16.7	С	0.69	15.5	С
North Tampa Parkway and Collier Parkway (North Side)	0.55	13.5	В	0.46	10.9	В
North Tampa Parkway and Collier Parkway (South Side)	0.49	13.5	В	0.58	14.7	В
North Tampa Parkway and U.S. 41 (North Side)	0.85	18.4	C	0.70	13.9	В
North Tampa Parkway and U.S. 41 (South Side)	0.73	15.3	C	0.75	16.2	C
Dale Mabry Highway and County Line Road	0.84	26.8	D	0.54	23.5	C
Dale Mabry Highway and Lutz Lake Fern Road (West Side)	0.65	14.6	В	0.57	13.2	В
Dale Mabry Highway and Lutz Lake Fern Road (East Side)	0.43	11.8	В	0.55	14.1	В
Dale Mabry Highway and Van Dyke Road	0.88	23.8	C	0.91	27.6	D
S.R. 54 and Livingston Avenue	0.30	5.9	В	0.36	9.0	В
S.R. 54 and Collier Parkway	0.62	15.4	С	0.55	15.1	C
S.R. 54 and U.S. 41	0.86	27.6	D	0.85	25.2	D
U.S. 41 and Sunset Lane	0.96	28.3	D	0.94	25.1	D

TABLE 7.6

YEAR 2010 SIGNALIZED INTERSECTION OPERATIONS ANALYSIS SUMMARY - ALTERNATIVE B1A North Tampa Parkway (Continued)

Location		Peak I Average <u>Delay</u> 2	Hour LOS ³		Peak I Average Delay ²	
U.S. 41 and Crenshaw Lake Road	1.18	*	F	0.93	51.5	E
Livingston Avenue and County Line Road	0.46	14.2	В	0.53	15.2	C

^{*} Delay and LOS not meaningful when any V/C is greater than 1.2.

¹ V/C = Volume-to-Capacity Ratio

² Average Delay in Seconds Per Vehicle

³ LOS = Level of Service

Tables 7.7 and 7.8 summarize the ramp merge, diverge and weaving area operations for the combined North Tampa Parkway/Dale Mabry Highway alignment for the morning and evening peak hours, respectively. The detailed capacity analysis summaries are included in Appendix C in the Final Traffic Memorandum. For the sections of the North Tampa Parkway between Dale Mabry Highway and I-75, all merge/diverge and weaving areas should operate at Level of Service C or better for both peak hours under 2010 conditions. For Dale Mabry Highway from the Northwest Expressway to County Line Road, all ramps and weaving areas are projected to operate at Level of Service D or better in both peak hours. Thus, acceptable traffic operations should occur along the entire North Tampa Parkway route from the Northwest Expressway to I-75.

7.2.3 Alternatives B5A, E1A, and E2A

As illustrated on Exhibits 7.9A and 7.9B, the peak hour traffic volumes for these three alignment alternatives are identical at the system level. The primary differences between these alternatives and Alternative B1A are the location of the North Tampa Parkway between U.S. 41 and S.R. 54 and the location of the interchange access point along the Collier Parkway/Livingston Avenue corridor. All other Dale Mabry Highway/North Tampa Parkway laneage features remain the same as in Alternative B1A.

Exhibits 7.10A and 7.10B summarize the intersection geometry requirements associated with these three alternatives at the various ramp terminal and major street intersections within the study area. In conjunction with these exhibits, Table 7.9

TABLE 7.7

YEAR 2010 A.M. PARKWAY OPERATIONS ANALYSIS SUMMARY - ALTERNATIVE B1A North Tampa Parkway

			Merce Area	œ	<u>۵</u>	Diverge Area	æ			Weaving Area	Area	
	Parkway	Ramp	Merge	₩erge	Ramp	Diverge	Diverge	Type/	Weaving		Non-Weaving	Non-Weaving
	Volume	Volume	Volume	Level of	Volume	Volume	Level of	Length	Speed	Level of	Speed	Level of
Location	(in vph)	(in vph)	(in pcph)	Service	(in vph)	(in pcph)	Service	of Weave	(in mph)	Service	(Lu mph)	Service
WB North Tampa Parkway Off- Ramp to Old S.R. 54	1,629				7.24	968	ω					
WB North Tampa Parkway On- Ramp from Old S.R. 54	855	301	821	æ								
WB North Tampa Parkway Off- Ramp to Collier Parkway	1,156				281	830	ω					
L WB North Tampa Parkway On- C Ramp from Collier Parkway	875	612	1,146	ပ								
WB North Tampa Parkway Off- Ramp to U.S. 41 and County Line Road	1,487				508	1,102	ပ					
WB North Tampa Parkway On- Ramp from U.S. 41 and County Line Road	979	215	785	ω								
SB Dale Mabry Highway Between On-Ramp from North Tampa Parkway and Off-Ramp to Lutz Lake Fern Road								A/2,100	77	۵	67	ပ
SB Daie Mabry Highway On- Ramp from Lutz Lake Fern Road	2,377	215	1,361	ပ								
SB Dale Mabry Highway Off- Ramp to Northwest Expressway	2,592				539	1,567	۵					
SB Dale Mabry Highway Frontage Road Between On-Ramp from Dale Mabry Highway and Off- Ramp to Northwest Expressway								A/1,650	20	80	67	ပ

TABLE 7.7

YEAR 2010 A.M. PARKWAY OPERATIONS ANALYSIS SUMMARY - ALTERNATIVE B1A North Tampa Parkway (Continued)

			Morto Orto		ic	Diverge Area				Weaving Area	Area	
	Parkway Volume	Ramp	Merge	Merge Level of	Ramp	Diverge Volume	Diverge Level of	Type/ Length	Weaving Speed	Weaving Level of	Non-Weaving Speed	Non-Weaving Level of
Location	(in vph)	\sim	(in pcph)	Service	Ä	(in pcph)	Service	of Weave	(in mph)	Service	(in mph)	Service
SB U.S. 41 Between On-Ramp from S.R. 54 and Off-Ramp to Dale Mabry Highway								B/1,800	45	ú	48	ပ
NB Dale Mabry Highway On-Ramp from Northwest Expressway	1,368	360	1,094	ပ								
NB Dale Mabry Highway Off- Ramp to Lutz Lake Fern Road	1,728				137	87.8	ω					
L NB Dale Mabry Highway Between C On-Ramp from Lutz Lake Fern Road and Off-Ramp to Dale Mabry Highway Frontage Road								8/1,500	48	ပ	52	ပ
NB Dale Mabry Highway Between Off-Ramp to Dale Mabry Highway Frontage Road and Diverge to North Tampa Parkway								8/1,500	45	υ	64	U
EB North Tampa Parkway Off- Ramp to County Line Road and U.S. 41	197				159	612	∢					
EB North Tampa Parkway On- Ramp from County Line Road and U.S. 41	638	386	820	ω								
EB North Tampa Parkway Off- Ramp to Collier Parkway	1,024				441	998	ω					
EB North Tampa Parkway On- Ramp from Collier Parkway	583	187	594	≪								

TABLE 7.7

YEAR 2010 A.M. PARKWAY OPERATIONS ANALYSIS SUMMARY - ALTERNATIVE B1A North Tampa Parkway (Continued)

			Merge Area	_	Δ	iverge Area	.			Weaving	Area	
	Parkway Volume	Ramp Merge M Volume Volume Lev	Merge Volume	Merge Level of	Ramp Volume	Ramp Diverge Diverge Volume Volume Level of	Diverge Level of	Type/ Length	Weaving Speed	Weaving Level of	Non-Weaving Speed	Type/ Weaving Weaving Non-Weaving Non-Weaving Length Speed Level of Speed Level of Level of Constant Services
Location		(hdy ut)	(In pcph)	Service	rudy ur	(10 pcpn)	service	or weave	712311	2010		301
EB North Tampa Parkway Off- Ramp to Old S.R. 54	770				200	929	⋖					
EB North Tampa Parkway On- Ramp from Old S.R. 54	570	762	882	ω								

TABLE 7.8

YEAR 2010 P.M. PARKWAY OPERATIONS ANALYSIS SUMMARY - ALTERNATIVE B1A North Tampa Parkway

			Mordo Area		£	Diverge Area				Weaving Area	Area	
Location	Parkway Volume (in vph)	Ramp Volume (in vph)	Merge Volume (in pcph)	Merge Level of Service	Ramp Volume (in vph)	Diverge Volume (in poph)	Diverge Level of Service	Type/ Length of Weave	Weaving Waspeed Li	Weaving Nevel of Service	Non-Weaving Speed (in mph)	Non-Weaving Level of <u>Service</u>
WB North Tampa Parkway Off- Ramp to Old S.R. 54	1,332				762	882	ω					
₩8 North Tampa Parkway On- Ramp from Old S.R. 54	570	200	265	∢								
WB North Tampa Parkway Off- Ramp to Collier Parkway	770				187	618	⋖					
UB North Tampa Parkway On- U Ramp from Collier Parkway	583	441	852	ω								
WB North Tampa Parkway Off- Ramp to U.S. 41 and County Line Road	1,024				386	832	Ω					
WB North Tampa Parkway On- Ramp from U.S. 41 and County Line Road	638	159	588	∢								
SB Dale Mabry Highway Between On-Ramp from North Tampa Parkway and Off-Ramp to Lutz Lake Fern Road								A/2,100	84	ပ	53	ပ
SB Dale Mabry Highway On- Ramp from Lutz Lake Fern Road	1,570	158	970	ω								
SB Dale Mabry Highway Off- Ramp to Northwest Expressway	1,728				360	1,109	ပ					
SB Dale Mabry Highway Frontage Road Between On-Ramp from Dale Mabry Highway and Off- Ramp to Northwest Expressway								A/1,650	54	œ	52	ပ

TABLE 7.8

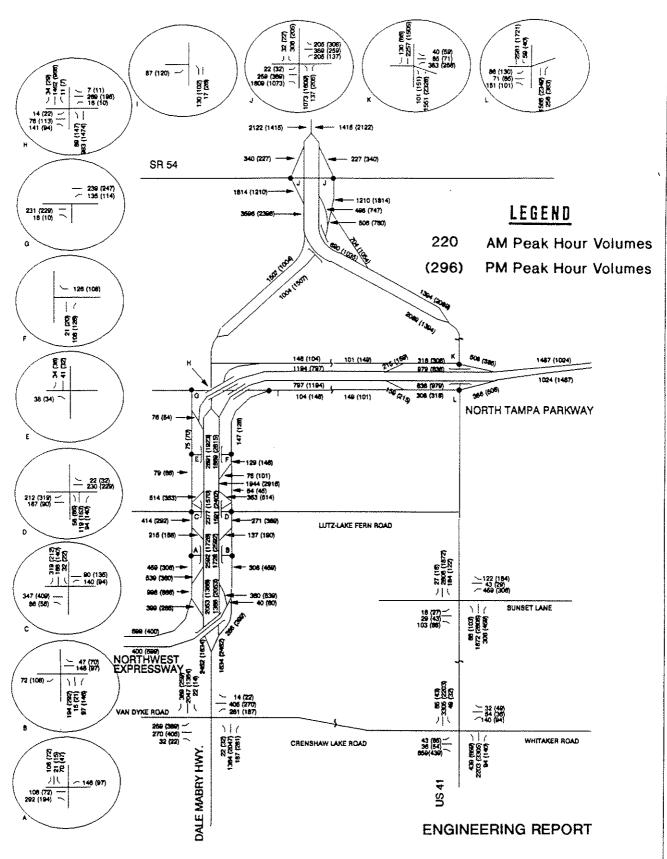
YEAR 2010 P.M. PARKWAY OPERATIONS ANALYSIS SUMMARY - ALTERNATIVE B1A North Tampa Parkway (Continued)

			Merce Area	m	_	Diverge Area	ď			Weaving Area	Area	
	Parkway Volume	Ramp	Merge Volume	Merge Level of	Ramp	Diverge Volume	Diverge Level of	Type/ Length	Weaving Speed		Non-Weaving Speed	Non-Weaving Level of
Location	(in vph)	(in vph)	(in pcph)	Service	(in vph)	(in pcph)	Service	of Weave	(in mph)	Service	(in mph)	Service
SB U.S. 41 Between On-Ramp from S.R. 54 and Off-Ramp to Dale Mabry Highway								B/1,800	87	U	54	ω
NB Dale Mabry Highway On-Ramp from Northwest Expressway	2,053	539	1,558	۵								
NB Dale Mabry Highway Off- Ramp to Lutz Lake Fern Road	2,592				190	1,369	ပ					
UNB Dale Mabry Highway Between On-Ramp from Lutz Lake Fern Road and Off-Ramp to Dale Mabry Highway Frontage Road								8/1,500	77	۵	94	۵
NB Dale Mabry Highway Between Off-Ramp to Dale Mabry Highway Frontage Road and Diverge to North Tampa Parkway								8/1,500	42	۵	27	۵
EB North Tampa Parkway Off- Ramp to County Line Road and U.S. 41	1,194				215	806	œ					
EB North Tampa Parkway On- Ramp from County Line Road and U.S. 41	626	508	1,084	ပ								
EB North Tampa Parkway Off- Ramp to Collier Parkway	1,487				612	1,153	ပ					
EB North Tampa Parkway On- Ramp from Collier Parkway	875	281	810	m								

TABLE 7.8

YEAR 2010 P.M. PARKWAY OPERATIONS ANALYSIS SUMMARY - ALTERNATIVE B1A North Tampa Parkway (Continued)

			Merge Area	•	0	iverge Are	3			Weaving	a Area	
Location	Parkway Volume (in vph)	Ramp Volume (in vph)	Ramp Merge P Volume Volume Le (in vph) (in pcph) So	Merge Level of Service	Ramp Volume (in vph)	Ramp Diverge Diverge Volume Volume Level of (in vph) (in pcph) Service	Diverge Level of <u>Service</u>	Type/ Length of Weave (Weaving Speed (in mph)	Weaving Level of <u>Service</u>	Weaving Weaving Non-Weaving Speed Level of Speed Level of (in mph) Service (in mph) Service	Non-Weaving Level of Service
EB North Tampa Parkway Off- Ramp to Old S.R. 54	1,156				301	842	മ					
EB North Tampa Parkway On- Ramp from Old S.R. 54	855	724	968	æ								

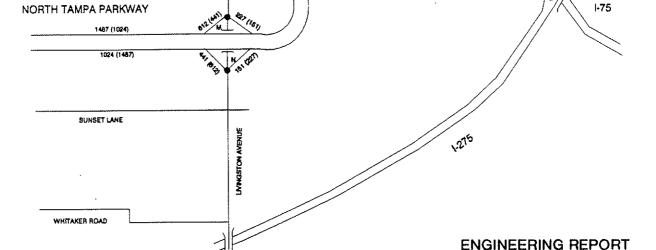


YEAR 2010 PEAK HOUR VOLUMES ALTERNATIVES B5A, E1A, E2A

EXHIBIT 7. 9A



220 AM Peak Hour Volumes PM Peak Hour Volumes (296)373 675 248 (373) 313 (470) 369 (526) COLLER PARKWAY OLD SRI SE 5 (4) 362 (241) 97 (146) 247 (164) 148 (97) 663 (436) 18 (11) 774 (762) 905 (636) 92 (61) SR 54 749 (535) 1829 (1332) 4 (5) 436 (853) 263 (394) 636 (805) 11 111 £2 1332 (1629) 1273 (1553) 1102 (734) 724 (3100) 782 (774) - THE

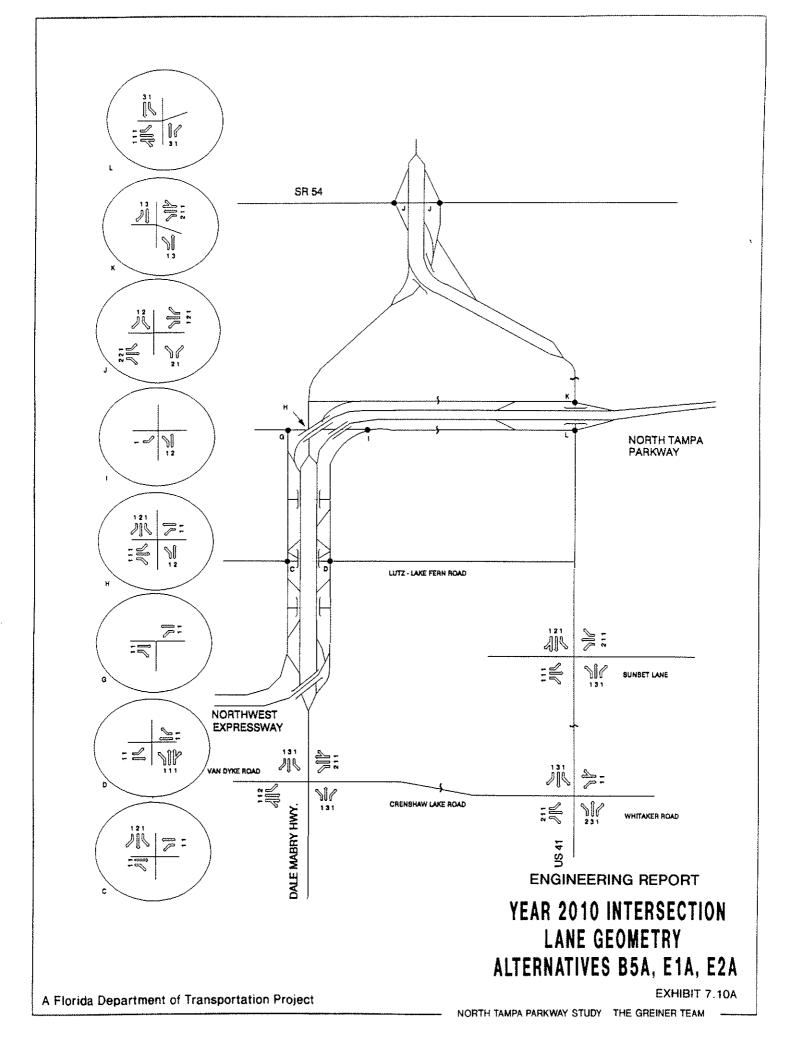


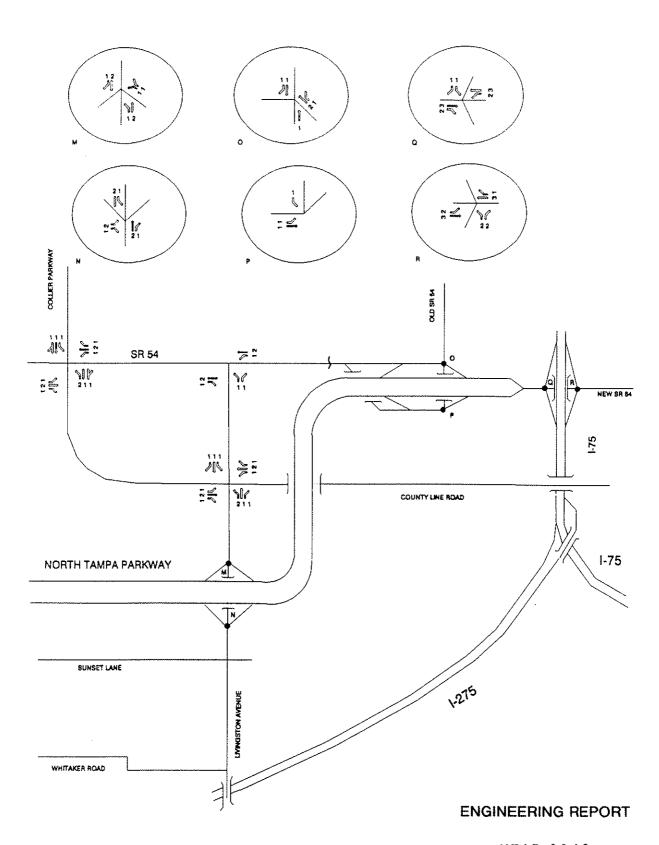
COUNTY LINE ROAD

4 (6) <u></u> 64 (61) 786 (626) \

> YEAR 2010 PEAK HOUR VOLUMES ALTERNATIVES B5A, E1A, E2A

> > EXHIBIT 7.9B





YEAR 2010 INTERSECTION LANE GEOMETRY ALTERNATIVES B5A, E1A, E2A

EXHIBIT 7 10B

TABLE 7.9

YEAR 2010 SIGNALIZED INTERSECTION OPERATIONS
ANALYSIS SUMMARY - ALTERNATIVES B5A, E1A AND E2A
North Tampa Parkway

Location	A	Peak H Average Delay ²	_	F	<u>Peak F</u> Average <u>Delay</u> 2	
North Tampa Parkway and I-75 (East Side)	0.87	27.6	D	0.76	24.6	С
North Tampa Parkway and I-75 (West Side)	0.99	21.4	С	0.90	20.8	С
North Tampa Parkway and Old S.R. 54	0.73	16.7	C	0.69	15.5	C
North Tampa Parkway and Livingston Avenue (North Side)	0.54	13.7	В	0.50	10.5	В
North Tampa Parkway and Livingston Avenue (South Side)	0.46	12.6	В	0.51	14.5	В
North Tampa Parkway and U.S. 41 (North Side)	0.85	18.4	С	0.70	13.9	В
North Tampa Parkway and U.S. 41 (South Side)	0.73	15.3	C	0.75	16.2	С
Dale Mabry Highway and County Line Road	0.84	26.8	D	0.54	23.5	С
Dale Mabry Highway and Lutz Lake Fern Road (West Side)	0.65	14.6	В	0.57	13.2	В
Dale Mabry Highway and Lutz Lake Fern Road (East Side)	0.43	11.8	В	0.55	14.1	В
Dale Mabry Highway and Van Dyke Road	0.83	29.9	D	0.91	27.2	D
S.R. 54 and Livingston Avenue	0.35	6.1	В	0.45	9.1	В
S.R. 54 and Collier Parkway	0.62	15.3	C	0.56	15.1	C
S.R. 54 and U.S. 41	0.86	27.6	D	0.85	25.2	D
U.S. 41 and Sunset Lane	0.96	28.3	D	0.94	25.1	D

TABLE 7.9

YEAR 2010 SIGNALIZED INTERSECTION OPERATIONS ANALYSIS SUMMARY - ALTERNATIVES B5A, E1A AND E2A North Tampa Parkway (Continued)

Location		<u>Peak l</u> Average <u>Delay</u> 2			<u>Peak I</u> Average <u>Delay</u> 2	
U.S. 41 and Crenshaw Lake Road	1.18	*	F	0.93	51.5	E
Livingston Avenue and County Line Road	0.49	14.6	В	0.54	13.6	В

^{*} Delay and LOS not meaningful when any V/C is greater than 1.2.

¹ V/C = Volume-to-Capacity Ratio

² Average Delay in Seconds Per Vehicle

³ LOS = Level of Service

summarizes the 2010 morning and evening peak hour operations for the signalized intersections. The detailed capacity analysis summaries are included in Appendix C in the Final Traffic Memorandum. A comparison between Table 7.9 and Table 7.6 (Alternative BIA) indicates several minor changes in V/C ratio and average delay per vehicle; however, only the Livingston Avenue/County Line Road intersection in the evening peak hour shows a change in the resulting level of service—an improvement from Level of Service C in Alternative BIA to Level of Service B in these alternatives. The operational problem projected to occur during both peak hours at the U.S. 41/Crenshaw Lake Road intersection with Alternative BIA is also projected to occur with these alternatives. Thus, with respect to intersection operations, these alternatives are virtually identical to Alternative BIA.

Tables 7.10 and 7.11 summarize the 2010 ramp operations for the morning and evening peak periods, respectively. Detailed capacity analysis summaries are presented in Appendix C. Similar to the previous two alternatives, Level of Service C or better is projected to occur along the North Tampa Parkway between Dale Mabry Highway and I-75 for all merge, diverge and weaving maneuvers. For the Dale Mabry Highway portion of the route, all ramp merge, diverge and weaving areas are projected to operate at Level of Service D or better. Thus, acceptable operating conditions for the North Tampa Parkway can be achieved with these alignment alternatives.

7.2.4 Traffic Analysis Summary

The preceding discussions suggest several traffic service conclusions relative to the need for improvements to accommodate 2010 travel conditions within the North Tampa Parkway study area. These conclusions include the following:

TABLE 7.10

YEAR 2010 A.M. PARKWAY OPERATIONS ANALYSIS SUMMARY · ALTERNATIVES B5A, E1A AND E2A North Tampa Parkway

			Mordo Gros		_	Diverse Area				Weaving Area	Area	
Location	Parkway Volume (in vph)	Ramp Volume (in vph)	Merge Volume (in pcph)	Merge Level of <u>Service</u>	Ramp Volume (in vph)	Diverge Volume (in poph)	Diverge Level of Service	Type/ Length of Weave	Weaving Speed (in mph)	Weaving Level of Service	Non-Weaving Speed (in mph)	Non-Weaving Level of Service
WB North Tampa Parkway Off- Ramp to Old S.R. 54	1,629				774	896	ω					
WB North Tampa Parkway On- Ramp from Old S.R. 54	855	247	191	æ								
WB North Tampa Parkway Off- Ramp to Livingston Avenue	1,102				277	806	ш					
L WB North Tampa Parkway On- C Ramp from Livingston Avenue	875	612	1,146	U								
WB North Tampa Parkway Off- Ramp to U.S. 41 and County Line Road	1,487				508	1,102	υ					
WB North Tampa Parkway On- Ramp from U.S. 41 and County Line Road	626	215	785	ω								
SB Dale Mabry Highway Between On-Ramp from North Tampa Parkway and Off-Ramp to Lutz Lake Fern Road								A/2,100	77	a	67	U
SB Dale Mabry Highway On- Ramp from Lutz Lake Fern Road	2,377	215	1,361	ပ								
SB Dale Mabry Highway Off- Ramp to Northwest Expressway	2,592				539	1,567	۵					
SB Dale Mabry Highway Frontage Road Between On-Ramp from Dale Mabry Highway and Off- Ramp to Northwest Expressway								A/1,650	20	æ	67	ပ

TABLE 7.10

YEAR 2010 A.M. PARKWAY OPERATIONS ANALYSIS SUMMARY - ALTERNATIVES B5A, E1A AND E2A North Tampa Parkway (Continued)

			Morde Area	a	Ċ	Diverse Area				Weaving Area	Area	
Location	Parkway Volume (in vph)	Ramp Volume (in vph)	Merge Volume (in pcph)	Merge Level of Service	Ramp Volume (in vph)	Diverge Volume (in poph)	Diverge Level of Service	Type/ Length of Weave	Weaving Speed (in mph)	Weaving Level of Service	Non-Weaving Speed (in mph)	Non-Weaving Level of <u>Service</u>
SB U.S. 41 Between On-Ramp from S.R. 54 and Off-Ramp to Dale Mabry Highway								B/1,800	45	U	48	υ
NB Dale Mabry Highway On-Ramp from Northwest Expressway	1,368	360	1,094	ပ								
NB Dale Mabry Highway Off- Ramp to Lutz Lake Fern Road	1,728				137	973	æ					
LANS Dale Mabry Highway Between LON-Ramp from Lutz Lake Fern Road and Off-Ramp to Dale Mabry Highway Frontage Road								B/1,500	87	ပ	52	ပ
NB Dale Mabry Highway Between Off-Ramp to Dale Mabry Highway Frontage Road and Diverge to North Tampa Parkway								B/1,500	45	ပ	67	ပ
EB North Tampa Parkway Off- Ramp to County Line Road and U.S. 41	797				159	612	∢					
EB North Tampa Parkway On- Ramp from County Line Road and U.S. 41	638	386	820	Ω								
EB North Tampa Parkway Off- Ramp to Livingston Avenue	1,024				441	866	αn.					
EB North Tampa Parkway On- Ramp from Livingston Avenue	583	151	553	⋖								

TABLE 7.10 YEAR 2010 A.M. PARKWAY OPERATIONS ANALYSIS SUMMARY - ALTERNATIVES B5A, E1A AND E2A North Tampa Parkway (Continued)

			Merge Area		_	iverge Area				Weavin	g Area	
	Parkway Volume	Ramp	Ramp Merge Merge Volume Volume Level of	Merge Level of	Ramp Volume	Diverge Volume	Diverge Diverge Volume Level of	Type/ Length	Sp. ds	Weaving Level of	Non-Weaving Speed	ving Weaving Non-Weaving Non-Weaving weed Level of Speed Level of
Location	(in vph)	(in vph)	(in pcph)	Service	(in vph)	(in pcph)	Service	f Weave	릔	Service	(in mph)	Service
EB North Tampa Parkway Off- Ramp to Old S.R. 54	734				4	589	∢					
EB North Tampa Parkway On- Ramp from Old S.R. 54	570	762	882	Ω								

TABLE 7.11

YEAR 2010 P.M. PARKWAY OPERATIONS ANALYSIS SUMMARY - ALTERNATIVES B5A, E1A AND E2A North Tampa Parkway (Continued)

			Merge Area	_	۵	Diverge Area	m			Weaving Area	Area	
	Parkway	Ramp	Merge			Diverge	Diverge	Type/	Weaving	1	Non-Weaving	Non-Weaving
Location	(in vph)	(in vph)	Volume (in poph)	Service	volume (in vph)	(in poph)	Service	cengrn of Weave	(in moh)	Service	Speed (in mph)	Service
SB U.S. 41 Between On-Ramp from S.R. 54 and Off-Ramp to Dale Mabry Highway								8/1,800	8+	ပ	24	œ
NB Dale Mabry Highway On-Ramp from Northwest Expressway	2,053	539	1,558	۵								
NB Dale Mabry Highway Off- Ramp to Lutz Lake Fern Road	2,592				190	1,369	υ					
A Namb From Lutz Lake Fern On-Ramp off-Ramp to Dale Mabry Highway Frontage Road								8/1,500	77	۵	97	۵
NB Dale Mabry Highway Between Off-Ramp to Dale Mabry Highway Frontage Road and Diverge to North Tampa Parkway								8/1,500	75	۵	75	۵
EB North Tampa Parkway Off- Ramp to County Line Road and U.S. 41	1,194				215	806	ω					
EB North Tampa Parkway On- Ramp from County Line Road and U.S. 41	626	508	1,084	ပ								
EB North Tampa Parkway Off- Ramp to Livingston Avenue	1,487				612	1, 153	U					
EB North Tampa Parkway On- Ramp from Livingston Avenue	875	227	755	m								

TABLE 7.11

YEAR 2010 P.M. PARKWAY OPERATIONS ANALYSIS SUMMARY - ALTERNATIVES B5A, E1A AND E2A North Tampa Parkway (Continued)

			Merge Area	*		iverge Are	a			Weaving	g Area	
	Parkway	Ramp	Merge	Merge	Ramp	Diverge	Diverge	Type/	Weaving	Weaving	Non-Veaving	Non-Weaving
	Volume	Volume	Volume	Level of	Volume	Volume	Level of	Length	Speed	Level of	Speed	Level of
Location	(in vph)	(in vph)	(in pcph)	(in vph) (in pcph) Service	(in vph)	(in pcph)	ph) (in pcph) Service o	f Weave	(in moh)	Service	(in moh) Service (in moh) Service	Service
EB North Tampa Parkway Off- Ramp to Old S.R. 54	1,102				242	788	ω					
EB North Tampa Parkway On- Ramp from Old S.R. 54	855	774	896	ω								

- (1) Improvements beyond the No-Build Alternative (i.e., implementation of the previous PD&E study recommendations for Dale Mabry Highway, U.S. 41, and S.R. 54 as well as the Hillsborough County Major Street Plan improvements to County Line Road and Livingston Avenue) are needed within the study area.
- (2) Implementation of an interchange at the U.S. 41 intersections with Dale Mabry Highway and with S.R. 54 is needed. The evaluations of both the No-Build Alternative and the No-Parkway Alternative clearly highlight the unacceptable future traffic operations at these two locations with the continuation of at-grade signalized intersections.
- (3) Significant 2010 travel demand will require specific attention in the final roadway design studies of turn lane continuity along the portion of U.S. 41 both north and south of the Florida Avenue/Nebraska Avenue intersection.
- (4) Improvement of the Crenshaw Lake Road/U.S. 41 intersection operations will require an urban interchange to eliminate the extensive operations conflict between the heavy north-south through traffic demand on U.S. 41 and the heavy turn volume demand to/from Crenshaw Lake Road. All alternatives evaluated herein have exhibited an unacceptable level of service at this location for at least the morning peak hour under at-grade, signal controlled intersection conditions. Because this improvement responds to a localized traffic circulation problem not related to the location alternatives for the North Tampa Parkway, the FDOT may recommend a lower level of service for the turning movements at the intersection while maintaining at least Level of Service D for north-south through travel on U.S. 41.

With major roadway system improvements needed in the study area to accommodate 2010 travel conditions at acceptable levels of service, the preceding evaluations of Alternatives A1A, B1A, B5A, E1A, E2A and the No-Parkway Alternative also highlight specific roadway improvements that have significant benefits to travel in the study area. These improvements include the following:

(1) The implementation of a Commerce Park Boulevard/Livingston Avenue/I-275 interchange. This system connection significantly improves access to the Interstate and shifts traffic from Dale Mabry Highway to U.S. 41 and from U.S. 41 to Livingston Avenue to produce more balanced flow conditions between these three north-south arterial corridors.

(2) The six-laning of Dale Mabry Highway from the Northwest Expressway to U.S. 41 within the context of the previously adopted limited access cross section improvement for either the No-Build or No-Parkway Alternatives. This improvement expands the previous access controlled four-lane plus frontage roads cross section to six-lanes plus frontage roads and is required by the magnitude of the 2010 volumes anticipated along this route for these two alternatives only. In Alternatives AlA, BlA, B5A, ElA and E2A (where the North Tampa Parkway extends along Dale Mabry Highway), the access-controlled four-lane plus frontage roads cross section with interchanges at each major cross road yields acceptable levels of service; thus, a savings of two travel lanes from the Northwest Expressway to U.S. 41.

When these various improvements are viewed in a system context in relation to the U.S. 41 interchange improvements at Dale Mabry Highway and at S.R. 54, as well as the extensive improvements planned for both I-75 (based on the I-75 Master Plan) and I-275 (based on the Tampa Interstate Study Master Plan), the need for total reconstruction of the major street system within the North Tampa Parkway study area becomes apparent. Staging considerations become extremely critical if reasonable levels of traffic service are to be maintained while this extensive reconstruction is occurring. The role of the North Tampa Parkway can be key to the effective accommodation of future travel needs during the system improvement process. Implementation of a new route alignment connecting to and providing route continuity between the major traffic service facilities (specifically the Northwest Expressway, U.S. 41, and the Interstate) in the study area offers an important travel link as the system evolves. The accommodation of the heavy travel desire for northeast/southwest movement through the northern Hillsborough County/southern Pasco County area can then be removed from the surface streets while reconstruction is underway to accommodate the heavy existing and future north-south travel demand. The preceding design traffic evaluations clearly highlight these conditions for 2010.

7.3 ALTERNATIVES EVALUATION MATRIX

7.3.1 Alternatives Discussion

The five selected alignments were evaluated based on the same sets of environmental, socioeconomic, and cost factors used for corridor evaluation as identified in Section 5.1.3; however, data used for the alignment evaluation is specifically related to each of the five alternative alignments under study.

The quantities developed for each factor and each of the alignment alternatives were summarized as shown in the Preliminary Alignment Alternatives Impact Analysis Matrix (see Table 7.12).

The number of relocations for each alternative was determined from 1"=200' scale maps. Some of the residential relocations consist of mobile homes. Alternative A1A shows 25 relocations of which 22 are mobile homes. Three of the relocations for B5A are mobile homes. The commercial relocations contain tenants who are renting space mainly in strip malls located along U.S. 41. In A1A, 12 of the 20 relocations are for commercial tenants.

The right-of-way requirements for Alternatives B1A, B5A, E1A, and E2A changed due to the location of wetlands in the area. After further site investigations, stormwater and mitigation requirements were reevaluated for each of the alternatives. Alternative F1A was evaluated as a viable alternative. The right-of-way roadway and structure costs were reevaluated on these new alignments. During this time period, the FDOT had developed a new methodology on right-of-way costs. This new methodology was applied to the six build alternatives. The results of these updated

calculations are shown in Table 7.12.

Table 7.12 denotes the reevaluation of mitigation acreage needed for wetlands, stormwater ponds and relocations. These new figures were calculated using 1"=200' scale maps for each alternative which showed the proposed and existing right-of-ways.

These maps were displayed to the public for their input and to the governing agencies (federal, state, and local) for their input.

7.3.1.1 Drainage

Preliminary stormwater runoff storage requirements were estimated, and drainage ponds were sized and located for a comparative analysis of each of the five alternative alignments.

Hillsborough County's criteria for stormwater management systems was used in this analysis since it is more stringent than criteria established by the Southwest Florida Water Management District (SWFWMD) criteria or Pasco County. Hillsborough County requires attenuation of the stormwater runoff for the 25-year 24-hour storm for post-development conditions, with a peak discharge rate equal to the pre-development discharge rate for a 10-year 24-hour storm event. Some of the lakes and marsh areas to be used as outfalls may be closed basins or volume sensitive areas, which would warrant analysis of the stormwater systems for a 100-year storm to determine attenuation requirements during the final design phase. Stormwater runoff will be treated for water quality in accordance with SWFWMD regulations.

TABLE 7.12

PRELIMINARY ALIGNMENT ALTERNATIVES IMPACT ANALYSIS MATRIX NORTH TAMPA PARKWAY

CORF	CORRIDOR	الغوا	NVIRONMEN	ENVIRONMENTAL FACTORS		SOCIO	SOCIOECONOMIC FACTORS	ACTORS				COST FACTORS	
		NOISE (1)			MITIGATION	HISTORICAL/	R.O.W.	RELOC	RELOCATIONS				
ALTERNATIVE NUMBER	LENGTH (MILES)	SENSITIVE SITES	WETLANDS F (ACRES)	SENSITIVE WETLANDS FLOODPLAINS REQUIRED SITES (ACRES) (ACRES)	REQUIRED (ACRES)	ARCHAEOLOGICAL RESOURCES	REQUIRED (ACRES)	REQUIRED RESIDENTIAL (ACRES) (NUMBER)	ı~ ı	R.O.W.	COMMERCIAL R.O.Y. ROADWAY (2) STRUCTURES TOTAL (3) (NUMBER) (\$ 000,000) (\$ 000,000) (\$ 000,000)	STRUCTURES (\$ 000,000)	TOTAL (3)
A1A	4.9	87	29.8	8.74	93.7	4/10	268.5	36	35	56.0	30.7	11.0	2.79
81A	6.3	34	6.44	43.6	121.3	3/6	382.9	18	7	6.04	33.5	10.8	85.2
B5A	8.4	75	41.3	32.1	107.2	5 // 2	2.094	33	7	8.74	38.9	9.5	96.2
E1A	7.2	39	50.6	54.7	129.8	2/6	470.2	50	۲-	48.1	33.2	13.1	7.76
E2A	7.2	07	9-97	41.5	116.6	9 / 7	399.3	23	~	45.7	35.6	13.8	95.1
FIA	7.9	32	44.3	7.77	115.0	9 / 7	438.0	22	3	45.3	36.7	6.4	4.88

Includes those sites within 65 dBA category B noise contour.
Includes utility and drainage costs. Does not include structures.
Does not include engineering design, maintenance of traffic, construction management or contingencies.
All estimates of impacts are subject to change based on further studies. 6993

The No Build and No Parkway Alternatives are also viable alternatives. NOTE:

The required storage volume was estimated using the preliminary storage volume method in the FDOT Drainage Manual. Soil Conservation Service (SCS) soil types were mapped for each alignment to determine the appropriate hydrologic soil group and corresponding runoff curve numbers for the pre-development and post-development conditions.

Hydrography for the post-development conditions for a 25-year 24-hour storm and predevelopment conditions for a 10-year 24-hour storm were developed for each soil group and proposed typical section for the five alignments. SWFWMD rainfall volumes were used for each design storm, with the SCS Type II Modified rainfall distribution.

Pond sizes were calculated based on the required storage volume and were assumed to be 2.5 feet deep with 1 foot of freeboard and 4:1 horizontal to vertical side slopes. The actual depths of each individual pond will be determined in the final design phase and will depend on the soil properties, the seasonal high water conditions, and the type of pond (wet or dry detention).

Preliminary pond locations for each alignment were determined based on the proposed roadway profile, the SWFWMD aerial contour maps, the existing land use and the preliminary right-of-way plans.

The total right-of-way requirements for drainage ponds (including 20 feet maintenance berms) for each alignment are estimated as follows:

- * Alternative AlA 32.83 Acres
- * Alternative BIA 34.39 Acres
- * Alternative B5A 42.81 Acres
- * Alternative E1A 41.35 Acres
- * Alternative E2A 41.08 Acres

The proposed alignments were established to avoid lakes and swamp areas where possible. However, total avoidance was impossible due to the amount of wetlands in the area. Therefore, each alternative will require considerable demucking and/or undercutting.

7.3.1.2 Special Features

A preliminary noise analysis was conducted for the purpose of comparing the estimated number of noise impacts expected with each of the proposed roadway alternatives under consideration. Estimated noise impacts were based on FHWA noise abatement criteria which establishes guidelines for traffic noise impact assessment with respect to activity category (land use). When traffic noise associated with a roadway project is predicted to approach or exceed the FHWA criteria, noise abatement measures must be considered. FDOT considers the term "approach" to normally mean within 2 dBA of the FHWA criteria. For this analysis, noise impacts were identified for locations predicted to exceed a noise level of 2 dBA less than the FHWA criteria for the appropriate activity category. More extensive discussion of noise abatement is provided within the Environmental Summary Report developed for this project.

For Alternative A1A, an estimated total of 48 noise impacts is expected to occur. For Alternative B1A, an estimated total of 34 units are expected to be impacted by noise. With Alternative B5A, an estimated total of 42 units are expected to be impacted by noise.

For Alternative E1A, noise impacts are estimated to total 39 units, and with Alternative E2A, 40 units are expected to be impacted by noise.

7.3.1.3 Comparative Evaluation

An evaluation matrix was developed using 31 alternatives (see Table 5.1). The original evaluation was done using 1" = 1,000' and 1" = 400' maps and an average 350-foot wide alignment. After the June 1990 Corridor Public Meeting, the matrix was refined to include only the five viable alternatives selected from Table 5.1.

The southern corridors, those below County Line Road, were eliminated after the traffic projection analyses results showed that these corridors would not have the demand to warrant a Parkway in this area. These five alternatives were then refined using 1" = 200' maps with a 188-foot and 254-foot right-of-way; the public input and community cohesion factors were adjusted to reflect the public input from the meeting; alignments were adjusted due to field reviews of the area; and wetlands, floodplains and mitigation areas were re-evaluated, causing some alignments to shift or right-of-way widths to change.

Mitigation acreage required for the shift in alignments was adjusted and the costs recalculated for each of the viable alternatives. Previously, the number of acres required for mitigation for the five alternatives, carried forward from the June 1990 meeting, ranged from 61.0 to 123.8 acres (see Table 5.1) With the changes of the alignments and field verifications for wetlands and floodplains, the necessary acres for mitigation ranged from 93.7 to 129.8 (see Table 7.12). After the October 1990 meeting, Alternative F1A was included in the analysis as a viable alternative. Alternative F1A required 115.0 acres for mitigation. The costs for each alignment were adjusted for the increase in these acreages. Right-of-way cost factors were recalculated for the adjusted alternative alignments using the latest techniques provided by FDOT.

The new alignment, F1A, included as a result of public input, was developed to avoid impacting the Carpenters Run and Turtle Creek subdivisions in the northeast sector of the study area. All of these alternatives were evaluated as a parkway. The No-Parkway Alternative and the No-Build Alternative were always carried through the analyses (see Table 7.12).

Table 7.13 presents a summary comparison of the cost of building a Parkway on the alternative alignments in a 188-foot urban and 254-foot rural right-of-way versus not building a parkway, but making the necessary improvements to existing roadways to make them operate at a desired level of service in the design year.

As seen in Table 7.13, the No-Parkway Alternative is significantly less expensive than all of the Parkway Alternatives. Thus, the No-Parkway Alternative was selected as the Preferred Alternative.

TABLE 7.13

PARKWAY ALTERNATIVES VS. NO PARKWAY ALTERNATIVE (1990 COSTS IN MILLION OF DOLLARS)

Parkway Option	Construction Costs	R-O-W Costs	Total Costs	Other(1) Construction Costs	Other(2) R-O-W Costs	Total Other Costs	Total(3) Improvement Costs
AlA	36.2	36.6	72.8	16.9	41.5	58.4	131.2
BIA	44.3	40.9	85.2	26.7	58.4	85.1	170.3
B5A	48.4	47.8	96.2	28.4	60.9	89.3	185.5
ElA	46.3	48.1	94.4	28.4	60.9	89.3	183.7
E2A	49.4	45.7	95.1	28.4	60.9	89.3	184.4
F1A	43.1	45.3	88.4	36.2	68.5	104.7	193.1
No Parkw	ay 18.2	36.6	54.8	19.9	34.0	53.9	108.7
Difference	e (NP = No	Parkway	Option))			
(NP-A1A)	(18.0)	0.0	(18.0)	3.0	(7.5)	(4.5)	(22.5)
(NP-B1A)	(26.1)	(4.3)	(30.4)	(6.8)	(24.4)	(31.2)	(61.6)
(NP-B5A)	(30.2)	(11.2)	(41.4)	(8.5)	(26.9)	(35.4)	(76.8)
(NP-E1A)	(28.1)	(11.5)	(39.6)	(8.5)	(26.9)	(35.4)	(75.0)
(NP-E2A)	(31.2)	(9.1)	(40.3)	(8.5)	(26.9)	(35.4)	(75.7)
(NP-F1A)	(24.9)	(8.7)	(33.6)	(16.3)	(34.5)	(50.8)	(84.4)

(1) Other construction costs include:

The curvature (flyover) linkage from S.R. 54 to Dale Mabry Highway (for A1A only). The interchange at U.S. 41/S.R. 54 (4L bridge for A1A, 6L bridge for all others). Six-laning of U.S. 41 as called for in FDOT plans.

The other improvements for Dale Mabry Highway (all but A1A) as called for in FDOT plans.

- (2) Other right-of-way costs are the R-O-W costs for those improvements mentioned in (1) above.
- (3) Total parkway improvement costs = Total costs on S.R. 54 + Total other costs.

Note: As the above comparisons show, the No-Parkway Alternative is the least expensive of all the build alternatives.

8.0 PREFERRED ALTERNATIVE

The preceding sections have provided a comprehensive comparative analysis for each corridor and alignment alternative. Variables such as right-of-way costs, construction costs, environmental impacts, relocations, traffic congestion and public involvement were included in this comparative analysis. A careful examination of all the parameters involved indicates that construction of the North Tampa Parkway is not a financially prudent alternative nor an acceptable public project to citizens of the local area. A viable alternative to the construction of a new facility would be to construct roadway improvements to the existing transportation network in the area, as previously described in Section 6.5 under the No-Parkway Alternative. Improvements to the existing facilities needed to produce satisfactory future levels of service are shown in Table 6.4. In addition, the No-Parkway option would result in substantial savings over any Parkway alternative in construction and right-of-way costs.

It is therefore recommended to make the necessary improvements to the approved Hillsborough and Pasco County Long Range Transportation Plans in stages in order to have an acceptable level of service, as suggested in the No-Parkway Alternative. Improvements to Dale Mabry Highway from Van Dyke Road north to U.S. 41, U.S. 41 north through the intersection of U.S. 41 and S.R. 54, and S.R. 54 from U.S. 41 east to I-75 need to be addressed in the first stage. Upgrading of these facilities would allow an acceptable level of service in this area. FDOT conceptual plans have already been approved for portions of U.S. 41 and Dale Mabry Highway (State Project No. 10160-2627) as well as portions of S.R. 54 (State Project No. 14504-1601). These plans have been modified to reflect updated design, planning and environmental data resulting from this North Tampa Parkway PD&E study.

The No Parkway or Preferred Alternative involves improvements on Dale Mabry Highway from Van Dyke Road to U.S. 41, on U.S. 41 from the Dale Mabry Highway merge to S.R. 54, and on S.R. 54 from U.S. 41 to I-75. The preferred alternative is consistent with the previous studies conducted by the Department for both Dale Mabry Highway (State Project No. 10160-2527) and S.R. 54 (State Project No. 14505-1601); see conceptual plans in Appendix I.

The No Parkway Alternative discussed in Sections 6 and 7 of this document was further refined to the preferred alternative. The refinements included 1) updating the traffic projections and operations analyses, 2) adjusting the concept design alignment and associated project costs, 3) reviewing the drainage and stormwater requirements, and 4) updating the environmental impacts including air, noise, wetlands and hazardous materials impacts.

All analyses assumed the four- and six-lane arterial improvements on Dale Mabry Highway (including two-lane two-way frontage roads on each side) and the four-lane arterial improvement on S.R. 54 are in place. The refinements identified the additional improvements required to maintain an acceptable level of service.

The following sections discuss the analyses and refinements of the preferred alternative.

8.1 TRAFFIC PROJECTIONS AND OPERATIONS

The traffic projections and operations for the preferred alternative were updated to reflect those items which changed. The update was conducted for Dale Mabry Highway from Van Dyke Road through Cheval Place, U.S. 41 from Dale Mabry Highway to S.R. 54, and S.R. 54 from U.S. 41 to the intersection of Old S.R. 54 and

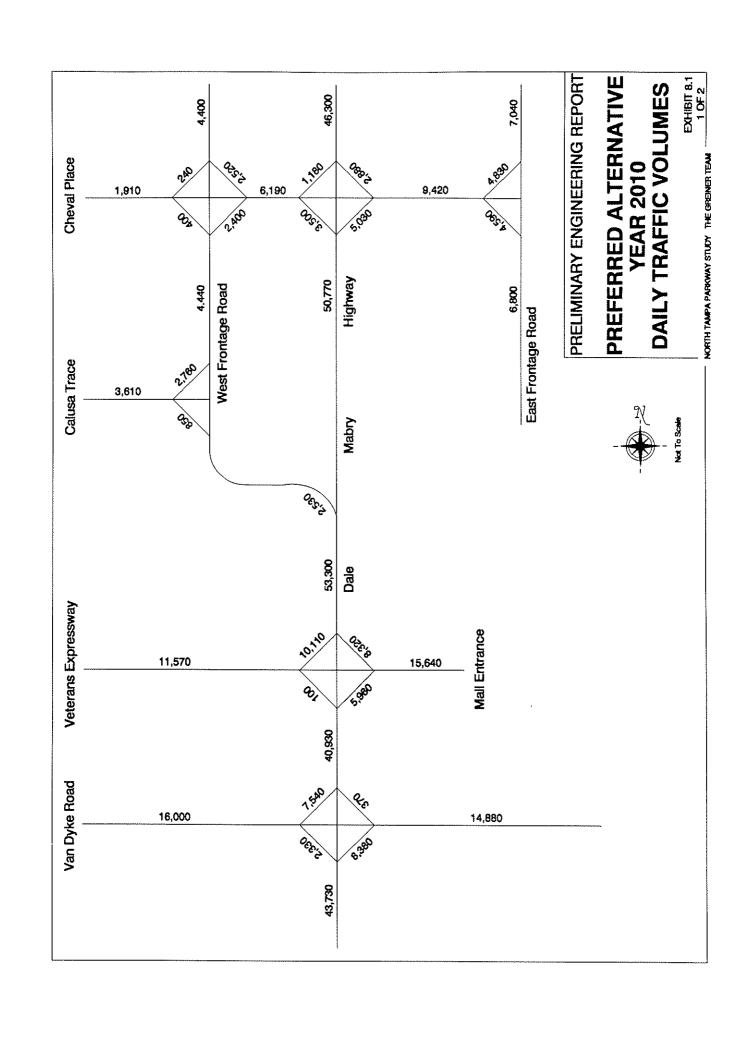
The daily traffic assignments resulting from the updated travel demand model are illustrated on Exhibit 8.1. The design hour volumes were estimated from the daily projections based on a K-factor of 0.09 and a D-factor of 0.60. These are the same traffic characteristics used in the original work effort. The resulting design hour traffic volumes are illustrated on Exhibit 8.2.

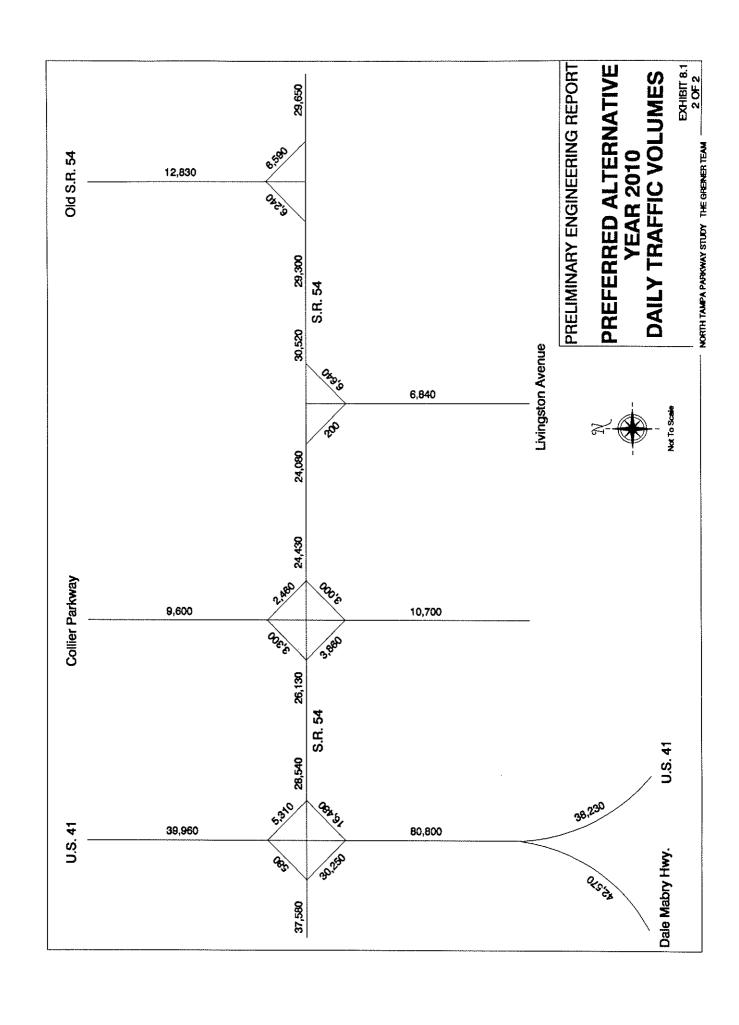
8.1.2 Traffic Operations Analysis

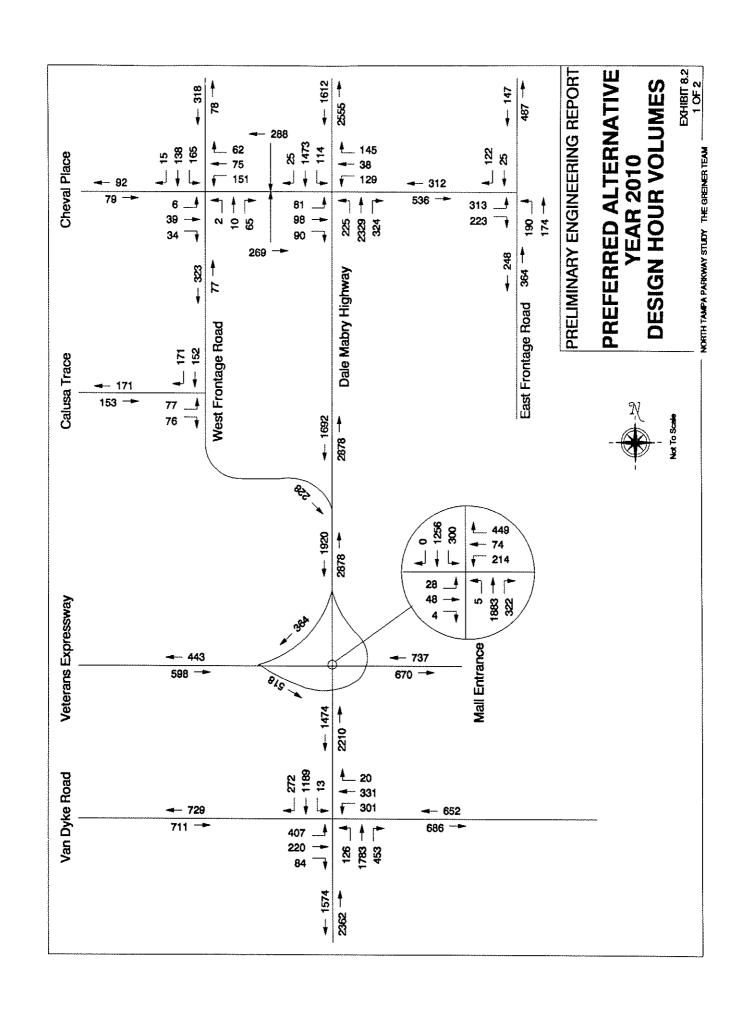
Using the design hour traffic projections illustrated on Exhibit 8.2, capacity calculations were conducted using the methodologies described in Chapter 4 - Weaving Areas and Chapter 10 - Signalized Intersections of the 1985 Highway Capacity Manual. The intersection geometry used for the analyses is illustrated on Exhibit 8.3. Table 8.1 summarizes the results of the signalized intersection capacity analyses for the updated preferred alternative. As seen in the table, all six of the intersections analyzed are projected to operate at acceptable levels of service during the design hour. Of the six intersections analyzed, four are projected to operate at Level of Service C or better, with the remaining two, Dale Mabry Highway at Van Dyke Road and U.S. 41 at S.R. 54, projected to operate at Level of Service D.

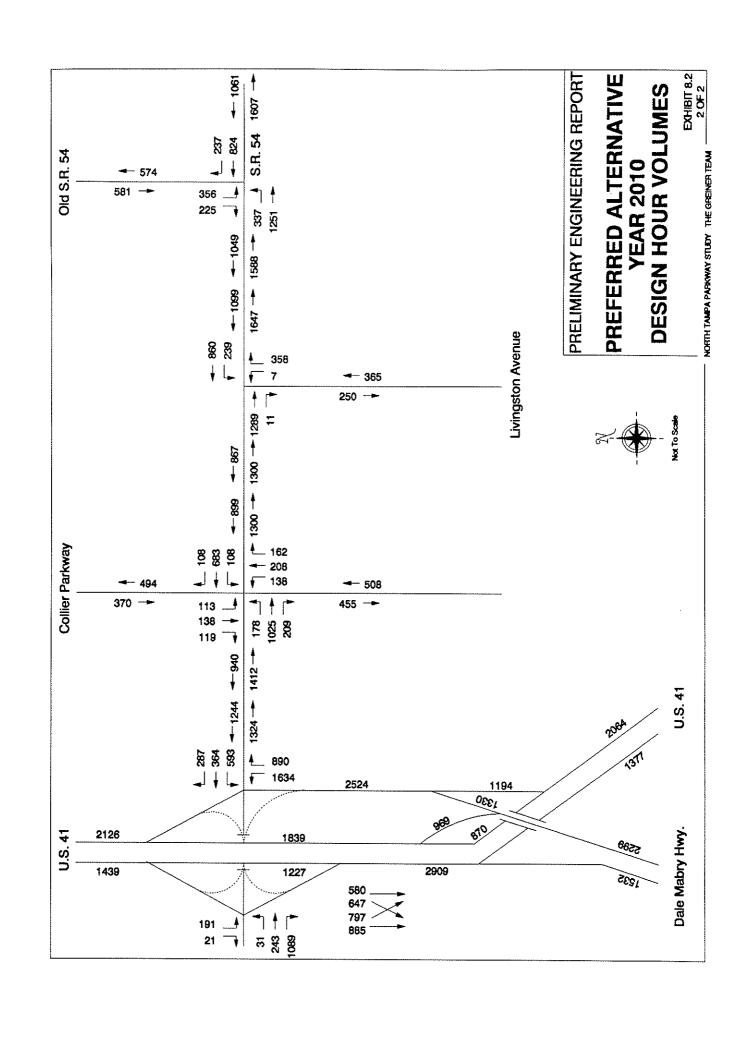
In addition to the intersection capacity analyses, two additional analyses were conducted. The first analysis was a progression analysis for Cheval Place between the two frontage roads. The second analysis was a weaving analysis for southbound U.S. 41 from the S.R. 54 on-ramp to the diverge with Dale Mabry Highway.

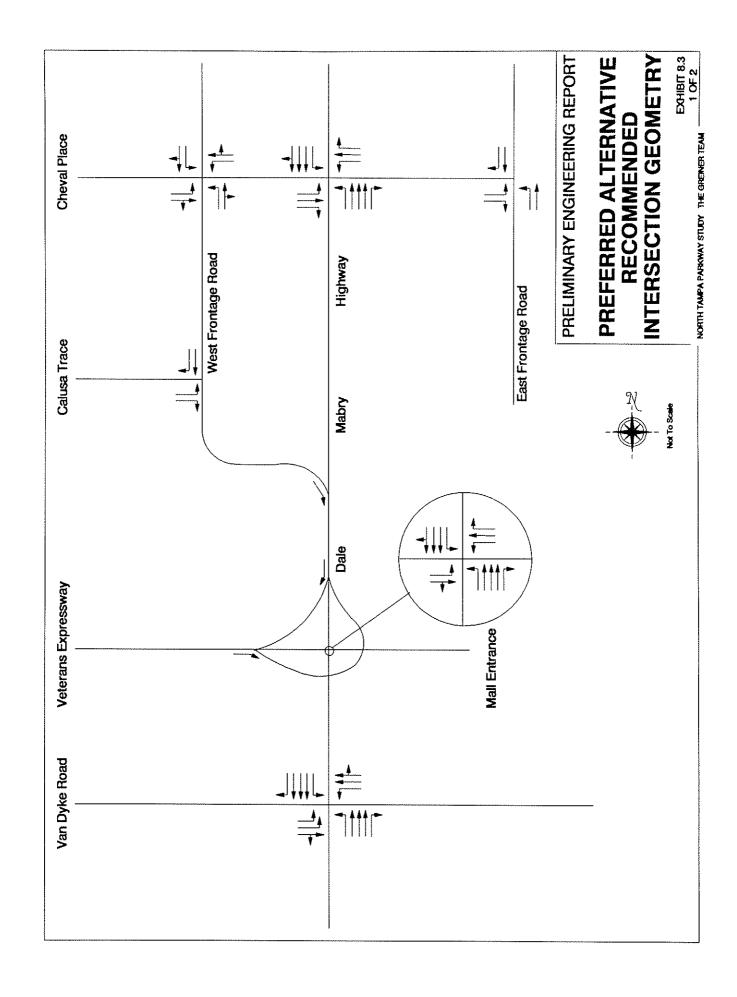
The progression analysis for Cheval Place was conducted using PASSER II-90. The analysis was conducted to ensure that the design concept provides sufficient distance between the frontage road intersections and the intersection with Dale Mabry











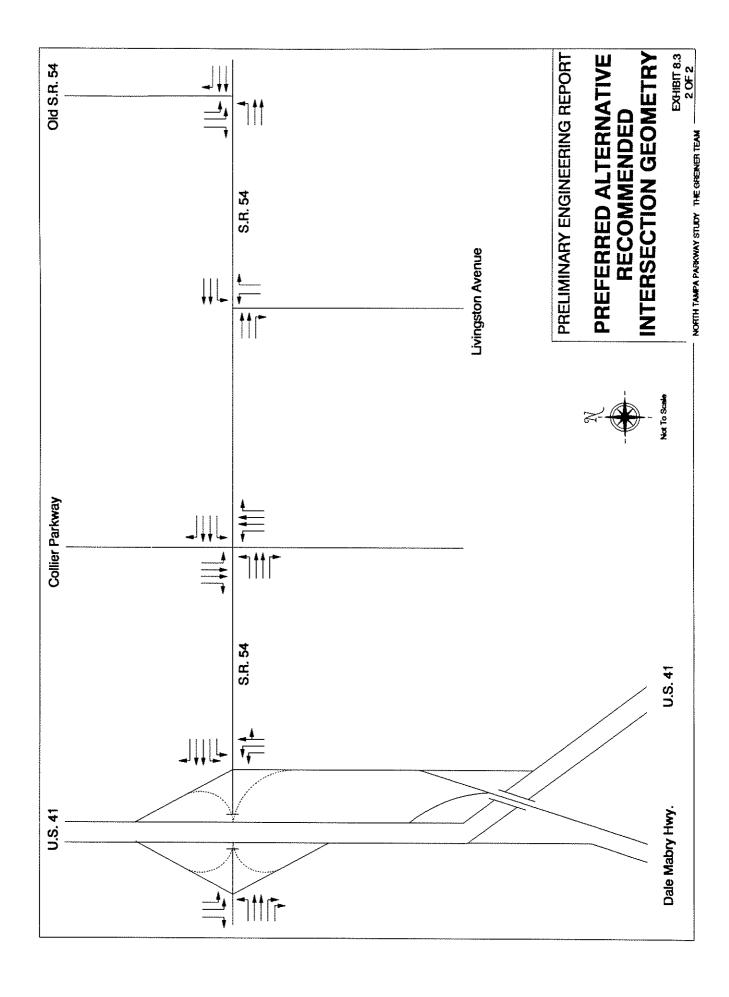


TABLE 8.1 PREFERRED ALTERNATIVE YEAR 2010 DESIGN HOUR SIGNALIZED INTERSECTION OPERATIONS ANALYSIS SUMMARY North Tampa Parkway

Location		1 Hour Ave	
Location	V/C^1	Delay ²	LOS3
Dale Mabry Highway and Van Dyke Road	0.783	26.1	D
Dale Mabry Highway and Veterans Expressway	0.822	24.6	С
U.S. 41 and S.R. 54 (Urban Interchange)	0.933	27.6	D
Collier Parkway and S.R. 54	0.645	21.6	С
Livingston Avenue and S.R. 54	0.822	15.4	C
Old S.R. 54 and New S.R. 54	0.781	10.6	В

 ¹V/C = Volume to Capacity Ratio
 ²Average Delay in Seconds Per Vehicle
 ³LOS = Level of Service

Highway to accommodate the anticipated queues. The results of the progression analysis indicated that fair progression could be achieved in the design hour and that the anticipated queues would not exceed the storage area available.

The weaving analysis on U.S. 41 was conducted for the southbound movement from S.R. 54 to the Dale Mabry Highway southbound diverge. Using the procedures outlined in the 1985 <u>Highway Capacity Manual</u>, the weaving section is projected to operate at Level of Service C with weaving vehicle speeds of 45 mph and non-weaving vehicle speeds of 48 mph.

The signalized intersection, progression and weaving analyses and calculations are included in the Traffic Addendum published separately.

The traffic analyses conducted with the updated traffic projections indicate that, with the improvements identified under the "No Parkway" Alternative, an acceptable level of service can be provided at critical intersections during the design hour. These improvements include:

- * An interchange at the intersection of Dale Mabry Highway and the Veterans Expressway providing a flyover ramp for the eastbound to northbound movement and a direct ramp for the southbound to westbound movement.
- * An interchange at the intersection of U.S. 41 and S.R. 54, including the diverge to Dale Mabry Highway. An urban interchange is proposed at this location, in conjunction with a flyover for the northbound Dale Mabry Highway to northbound U.S. 41 movement. These grade separations will increase the available capacity sufficiently to accommodate the projected traffic volumes at an acceptable level of service during the design year.

The two interchanges are critical elements of the improvement in addition to the sixlaning of Dale Mabry Highway from Van Dyke Road north through Cheval Place and the four-laning of S.R. 54 from U.S. 41 east to 1-75, including the new interchange with 1-75.

8.2 CONCEPT DESIGN ALIGNMENT

Based on the results of the traffic analyses summarized in Section 8.1, the original No Parkway Alternative concept design plans were modified. The resulting concept design alignment plans are included in Appendix I. In addition to the four- and six-laning of Dale Mabry Highway and four-laning of S.R. 54, the critical elements of the preferred alternatives include the following:

- * Constructing two-lane two-way frontage roads on each side of Dale Mabry Highway from Cheval Place north.
- * Constructing a partial interchange on Dale Mabry Highway at the Veterans Expressway, including local access to the proposed regional mall.
- * Construction of a flyover for northbound Dale Mabry Highway at U.S. 41 to eliminate the existing signalized intersection.
- * Construction of an urban interchange at the intersection of U.S. 41 and S.R. 54.

All of these improvements are required to provide an acceptable level of service during the design year.

The typical sections for Dale Mabry Highway, U.S. 41 and S.R. 54 are included with the concept design alignment plans in Appendix I. The typical section and horizontal alignment were developed using current Department design standards for a minimum 60 mph design speed.

8.2.1 <u>Cost Estimates</u>

Construction costs were estimated for the preferred alternative based on the concept design alignment plans, estimated quantities and current unit prices. Maintenance of traffic and mobilization were estimated as percentages and included in the construction costs. Additives to the construction costs include design and construction contingencies. Additives to the construction costs for the total project costs include design fees, CE&I fees and right-of-way acquisition. Right-of-way estimates were provided by the Consultant. It should be noted that the project cost estimates do not include any costs associated with utility relocations. The costs associated with relocating utilities within existing right-of-way are typically born by the individual utilities.

The limits of the cost estimates extend on Dale Mabry Highway from 750 feet south of Van Dyke Road to 2,050 feet north of Cheval Place, including the frontage roads on both side of Dale Mabry and the ramps at the Veterans Expressway interchange; 1,700 feet east and west of Dale Mabry Highway on Van Dyke Road; on U.S. 41 from 650 feet south of Lake Floyd Drive to 550 feet north of Henson Road, including the interchange with S.R. 54 a distance of 1,100 feet west and 1,050 feet east of U.S. 41 on S.R. 54; and S.R. 54 from 1,050 feet east of U.S. 41 to 1,000 east of the intersection of Old S.R. 54, and new S.R. 54 east of Cypress Creek.

Due to the complexity of construction for the various segments, different percentages for maintenance of traffic and mobilization were used. The U.S. 41 interchange segment has the most complex maintenance of traffic and 12 percent of base construction costs was used. For Dale Mabry Highway, 10 percent of base

construction costs were used for maintenance of traffic. On Van Dyke Road and S.R. 54, maintenance of traffic costs were estimated at five and three percent of base construction costs, respectively. For both Dale Mabry Highway and U.S. 41, mobilization costs were estimated at nine percent. For Van Dyke Road and S.R. 54, mobilization costs were estimated at six percent.

Contingency costs for both design and construction were estimated as percentages of the base construction, maintenance of traffic and mobilization. Design contingencies of 15 percent and construction contingencies of five percent were added to estimate the total construction costs.

To estimate total project costs, design fees, CE&I fees and right-of-way acquisition costs were added to the total construction costs. Design fees were estimated at 7.0 percent of total construction costs. CE&I fees were estimated at 10 percent of total construction costs. Right-of-way acquisition costs, as estimated by the Consultant, were also added to the total construction costs.

The estimated costs for the preferred alternative are listed in Table 8.2. As seen in the table, the total cost of the improvements, in 1993 dollars, is \$159,536,790. These costs reflect the construction of an interchange at Veterans Expressway and Dale Mabry Highway. This interchange is required due to land use changes in the area such as the development of the regional mall, and would be required by many of the previously evaluated build alternatives (not selected), increasing their costs accordingly.

TABLE 8.2

PREFERRED ALTERNATIVE ESTIMATED PROJECT COSTS

North Tampa Parkway

Cost Element	Van Dyke <u>Road</u>	Dale Mabry Highway	_U.S. 41_	S.R. 54	_ Total
Base Construction	\$216,150	\$18,870,410	\$15,052,170	\$16,244,700	\$50,383,430
Maintenance of Traffic	10,810	1,872,860	1,806,260	487,340	4,177,270
Mobilization	13,620	1,862,640	1,517,260	1,003,920	4,397,440
Subtotal	\$240,580	\$22,605,910	\$18,375,690	\$17,735,960	\$58,958,140
Design Contingency	\$36, 090	\$3,390,890	\$2,756,350	\$2, 660, 4 00	\$ 8,8 4 3, 7 30
Construction Contingency	<u>13,830</u>	1,299,840	1,056,600	1,019,820	3,390,090
Total Construction	\$290,500	\$27,296,640	\$22,188,640	\$21,416,180	\$7 1,191,960
Design Fees	\$20,330	\$1,910,760	\$1,553,210	\$1,4 99,130	\$ 4,983,430
CE&I Fees	29,050	2,729,660	2,218,860	2,141,620	7,119,190
Right-of-Way	_(1)_	10,177,000	36,313,000	31,532,000	78,022,000
Subtotal - Additives	\$49,38 0	\$14,817,420	\$40,085,070	\$35,172,750	\$90,124,620
Total Project Costs	\$339,880	\$42,114,060	\$62,273,710	\$56,584,930	\$ 161, 3 16,580

⁽¹⁾ Right-of-way costs included in Dale Mabry Highway estimates.

8.3 DRAINAGE CONSIDERATIONS

Preliminary stormwater runoff storage requirements were estimated, and drainage ponds were sized and located for the preferred alternative.

The required storage volume was estimated using the preliminary storage volume method in the FDOT Drainage Manual. Soil Conservation Service (SCS) soil types were mapped for the alignment to determine the appropriate hydrologic soil group and corresponding runoff curve numbers for the pre-development and post-development conditions.

Runoff hydrographs for the post-development conditions for a 25-year 24-hour storm and pre-development conditions for a 10-year 24-hour storm were developed for each soil group and proposed typical section for the alignment. Southwest Florida Water Management District (SWFWMD) rainfall volumes were used for each design storm, with the SCS Type II Modified rainfall distribution. Stormwater runoff will be treated for water quality in accordance with SWFWMD regulations.

Pond sizes were calculated based on the required storage volume and were assumed to be 2.5 feet deep with 1 foot of freeboard and 4:1 horizontal to vertical side slopes. The actual depths of each individual pond will be determined in the final design phase and will depend on the soil properties, the seasonal high water conditions, and the type of pond (wet or dry detention). A 20-foot maintenance berm around the pond perimeter was included in the total pond areas.

Preliminary pond locations for the alignment were determined based on the proposed roadway profile, the SWFWMD aerial contour maps, the existing land use, outfall locations, and the preliminary right-of-way plans. The proposed pond locations are shown on the preferred alternative concept design plans in Appendix I.

The total right-of-way requirements for the drainage ponds (including 20 feet maintenance berms) for the preferred alternative are estimated as follows:

- * Dale Mabry Highway 9.3 acres
- * U.S. 41/S.R. 54 13.1 acres
- * S.R. 54 17.9 acres

8.4 LAND USE/RELOCATIONS IMPACTS

The existing corridor traverses both developed and undeveloped areas. The alignment for the preferred alternative was developed to minimize the number of relocations required. The majority of the relocations result from businesses being located immediately adjacent to the existing two-lane facilities on Dale Mabry Highway, U.S. 41 and S.R. 54.

Table 8.3 summarizes the number of parcels and relocations impacted by the preferred alternative. As seen in the table, a majority of the relocations are business properties which involve multiple relocations (107 relocations for 62 parcels). Similarly, there are multiple relocations on a significant number of the residential properties (31 relocations on 17 parcels).

There are no schools, parks, libraries or public/community services impacted by the preferred alternative. One church, the Rosary Catholic Church, on S.R. 54 west of

TABLE 8.3

PREFERRED ALTERNATIVE ESTIMATED RELOCATIONS
North Tampa Parkway

	Da	le Mabry	U	.S. 41		5.R. 54		Total
<u>Type</u>	<u>Parcels</u>	Relocations	<u>Parcels</u>	Relocations	Parcels	Relocations	<u>Parcels</u>	Relocations
Business	4	3	43	82	15	22	62	107
Residential	0	0	8	17	9	14	17	31
Other	<u>16</u>	0	10	8_	<u>19</u>	_0	<u>45</u>	8
Total	20	3	61	107	43	36	124	146

Source: Florida Department of Transportation right-of-way estimates.

U.S. 41 is impacted. Right-of-way for the U.S. 41/S.R. 54 interchange impacts an existing building and some parking on the church property.

The preferred alternative avoids other public and community service land uses such as the Pasco County Sheriff's substation, Family Care of Land-O-Lakes and Charter Hospital of Pasco.

8.5 ENVIRONMENTAL CONSIDERATIONS

The potential environmental impacts of the preferred alternative were updated to reflect the refined concept design alignment. The following sections summarize the noise, air quality, wetlands and hazardous materials involvement for the preferred alternative.

8.5.1 Noise Impact Analysis

A noise impact analysis was performed for existing conditions, 2010 No Build and 2010 Preferred Alternative. The No Build Alternative assumes the improvements included in the Long Range Transportation Plans for Hillsborough and Pasco Counties are implemented. For the 2010 Preferred Alternative, predicted noise levels at 60 single family residences approach or exceed the FHWA Noise Abatement Criteria of 67 dBA for Activity Category B. Two additional single family residences that do not approach or exceed the criteria are predicted to experience a substantial increase (10 dbA) above existing noise levels for the 2010 Preferred Alternative traffic conditions.

The No-Build Alternative impacts 45 noise sensitive sites compared to 62 impacted noise sensitive sites for the Preferred Alternative.

For the portion of the project corridor extending from Van Dyke Road to just north of Cheval Place, the preferred alternative eliminates noise impacts at nine residential lots that are predicted to approach the FHWA criteria for No-Build conditions. Reduced noise levels are a result of the preferred alternative shifting the Dale Mabry Highway alignment east, further from noise sensitive sites.

For the portion of the project on Dale Mabry Highway and U.S. 41 extending from just north of County Line Road to S.R. 54, noise levels at 36 single-family residences are predicted to approach/exceed the FHWA criteria or experience a substantial increase over existing conditions for the preferred alternative. Ten single-family residences are predicted to approach or exceed the FHWA criteria for the No-Build Alternative. The increase in impacted noise sensitive sites for the preferred alternative is a result of traffic lanes in closer proximity to noise sensitive sites and increased speeds on U.S. 41 with the introduction of the Dale Mabry Highway to U.S. 41 flyover, the U.S. 41/S.R. 54 interchange, and frontage roads/ramps.

For the portion of the project on S.R. 54 extending from U.S. 41 to east of Old Cypress Creek Road, noise levels at 26 single-family residences or residential lots are anticipated to approach or exceed the FHWA criteria for both the preferred and No-Build Alternatives. This is because the preferred and No-Build Alternative both involve four-laning S.R. 54.

Noise abatement measures were evaluated for single family residences predicted to approach or exceed the FHWA Noise Abatement Criteria and for single family residences predicted to experience a substantial increase above existing noise levels. Noise abatement measures examined included traffic management, alignment selection

and noise barriers. The abatement measures were determined to be infeasible or unreasonable for reducing or eliminating noise impacts.

Based on the analysis performed to date, there appears to be no apparent solutions available to mitigate noise impacts at 62 noise sensitive sites. However, development of land use polices that control the location and growth of noise sensitive land users will ensure that undeveloped properties adjacent to the project corridor do not become noise sensitive in the future.

Additional details of the noise impact analysis including modeling parameters, noise sensitive site locations, abatement measure evaluations and approximate distance to the 65 dBA contour line for aid in land use planning are documented in the Environmental Summary Report prepared for this project, published separately.

The construction of the proposed project would result in temporary noise increases within the project area. The noise would be generated primarily from heavy equipment used in hauling materials and building the roadway improvements. Sensitive areas located close to the construction area may temporarily experience increased noise levels. Construction noise will be minimized to the greatest extent practicable through the adherence to controls listed in the latest edition of FDOT's Standard Specification for Road and Bridge Construction.

8.5.2 Air Quality Analyses

The No-Build and Preferred Alternatives were subjected to a graphical Air Quality Screening Test for the opening year (2000) and design year (2010). Two worst-case locations, the U.S. 41 and S.R. 54 intersection/interchange and the Dale Mabry Highway/Cheval Place intersection, were analyzed. Tables 8.4 and 8.5 summarize the results of the screening analyses at U.S. 41/S.R. 54 and Dale Mabry Highway/Cheval Place, respectively. As shown in the Tables, the closest reasonable receptor is always located a significant distance beyond the critical distance determined from the Screening Test. The results indicate that the project will not have a significant impact on air quality. Details regarding the Screening Test, worst-case parameters used in the analysis and descriptions of the nearest reasonable receptors are documented in the Environmental Summary Report prepared for this project, published separately.

Construction activities will cause minor short-term air quality impacts in the form of dust from earthwork and unpaved roads and smoke from open burning. These impacts will be minimized by adherence to all State and local regulations and to the FDOT Standard Specifications for Road and Bridge Construction.

The portion of the project located in Hillsborough County is in an air quality nonattainment area which has transportation control measures in the State Implementation Plan (SIP) approved by the Environmental Protection Agency on June 15, 1981. The Federal Highway Administration has determined that both the transportation plan and the transportation improvement program conform to the SIP. The Federal Highway Administration has determined that this portion of the project is included in the transportation improvement program for Hillsborough County. Therefore, pursuant to 23 CFR 770.9(c)(2), this portion of the project conforms to the SIP.

TABLE 8.4

SCREENING TEST FOR U.S. 41 AND S.R. 54

North Tampa Parkway

<u>Alternative</u>	<u>Year</u>	Average <u>Speed</u> (mph)	Peak-Hour Traffic <u>Volume</u>	Critical <u>Distance</u> (feet)	Closest <u>Receptor</u> (feet)
No-Build	2000	25	5,817	40	65
No-Build	2010	25	7,272	50	65
Build	2000	50	5,817	21	45
Build	2010	36	7,272	31	45

TABLE 8.5

SCREENING TEST FOR DALE MABRY HIGHWAY AND CHEVAL PLACE
North Tampa Parkway

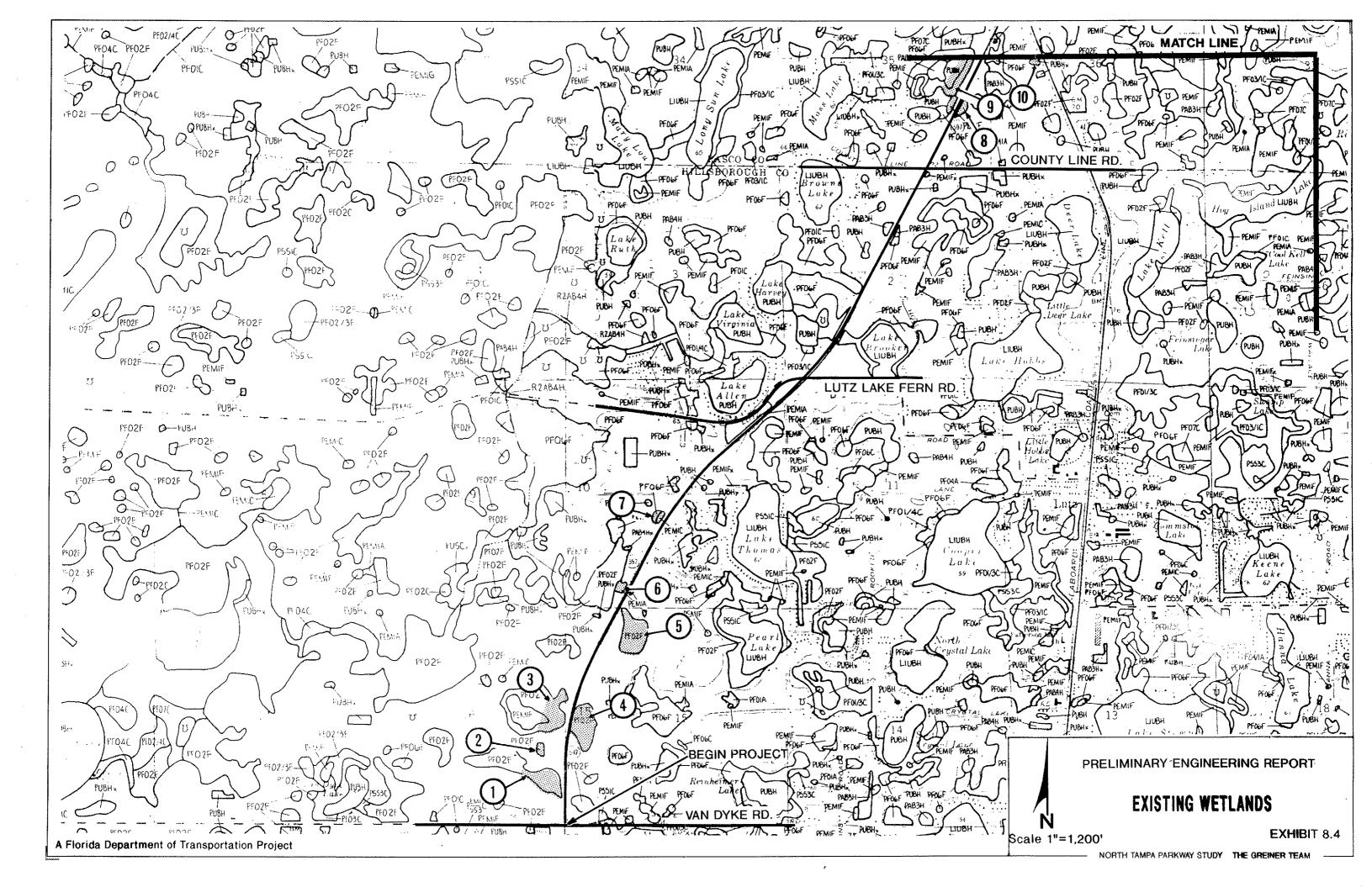
<u>Alternative</u>	<u>Year</u>	Average <u>Speed</u> (mph)	Peak-Hour Traffic <u>Volume</u>	Critical <u>Distance</u> (feet)	Closest Receptor (feet)
No-Build	2000	20	4,223	29	130
No-Build	2010	20	5,728	31	130
Build	2000	40	4,393	10	60
Build	2010	20	5,582	32	60

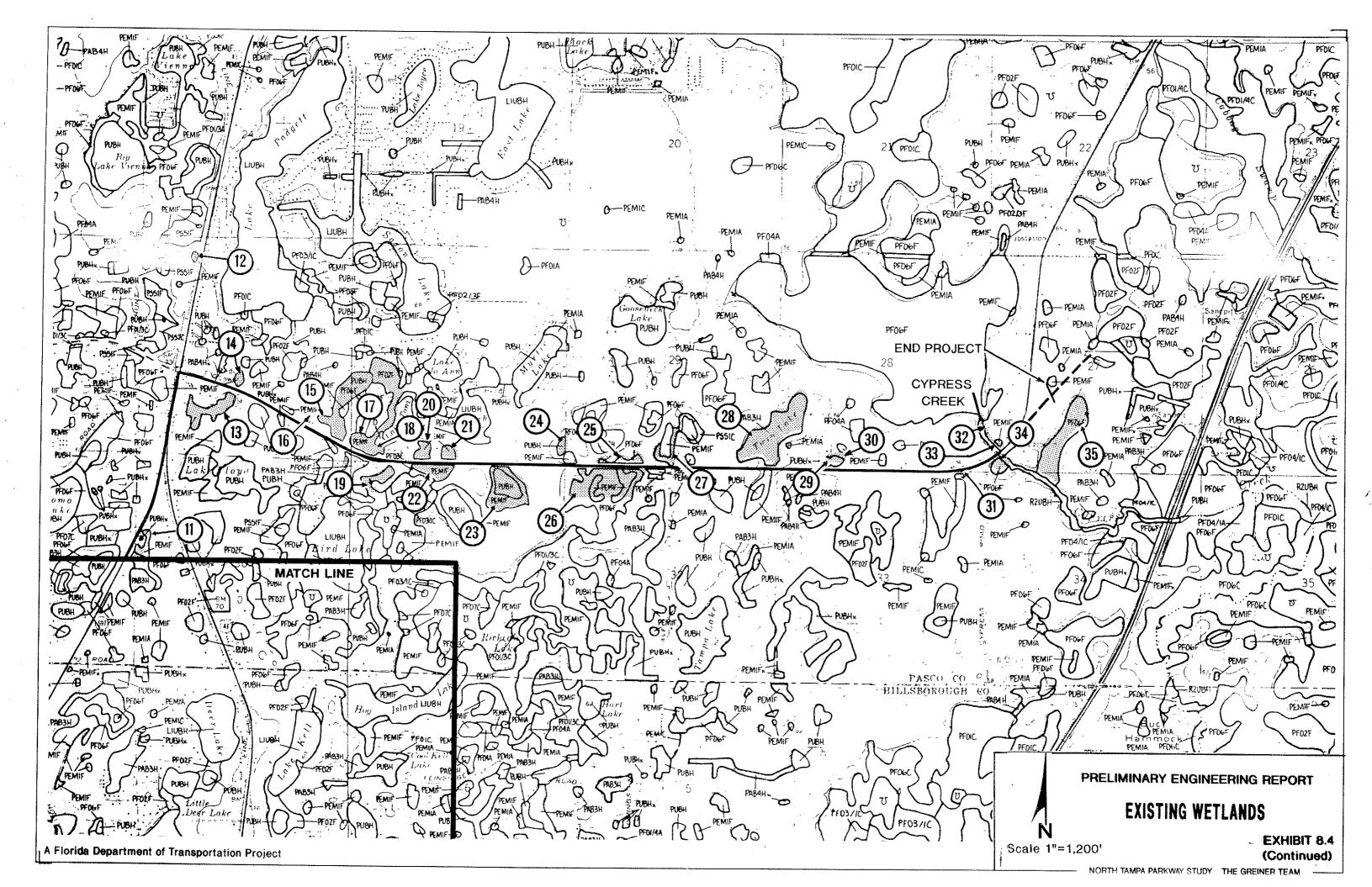
The portion of the project located in Pasco County is in an area where the State Implementation Plan does not contain any transportation control measures. Therefore, the conformity procedures of 23 CFR 770 do not apply to this portion of the project. This portion of the project is in conformance with the State Implementation Plan because it will not cause violations of air quality standards and will not interfere with any transportation control measures.

8.5.3 Wetlands

Wetland areas within or adjacent to the preferred alternative alignment which have the potential to be impacted by the proposed improvements were identified and inventoried. Wetlands were identified through review of 1"=200' scale blueline aerial photography, infra-red photography, the Pasco County Soil Survey, the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Maps (Lutz quadrangle, Draft, January 1987 and Odessa quadrangle, February 1984) and field reviews. Field reviews were conducted in October and November 1990, and August 1991, and updated in January 1993 to evaluate potential impacts of the preferred alternative.

The results of these field reviews led to the identification of 35 wetland sites which have the potential to be impacted by the proposed project. The location and designation of these sites are shown on Exhibit 8.4. The following is a brief summary of wetland communities existing within the project area. The Environmental Summary Report prepared for this project provides a detailed description of each wetland site identified within the project area.





8.5.3.1 Wetland Communities

Various types of wetland systems exist with the project area, including cypress swamp communities, mixed hardwood wetlands, scrub-shrub wetlands, and freshwater marshes.

The cypress swamp communities are dominated by bald cypress (<u>Taxodium distichum</u>). Red maple (<u>Acer rubrum</u>), Carolina willow (<u>Salix caroliniana</u>), wax myrtle (<u>Myrica cerifera</u>), and cinnamon fern (<u>Osmunda cinnamomea</u>) are typical associates, particularly around the edges of the systems.

The mixed hardwood wetland communities are dominated by red maple, sweetbay (Magnolia virginiana), and redbay (Persea borbonia) and have a dense understory typically dominated by wax myrtle, elderberry (Sambucus canadensis), and Carolina willow.

Scrub-shrub wetlands are dominated by Carolina willow and wax myrtle. This type of wetland typically occurs within the project area in previously disturbed areas, including wetlands adjacent to frequently mowed right-of-ways and wetlands subjected to highway surface runoff.

The freshwater marshes are dominated by such emergent species as pickerelweed (Pontederia cordata), arrowhead (Sagittaria lancifolia s. latifolia), cattail (Typha sp.), and water hyacinth (Eichornia crassipes). Freshwater marshes within the study area are either naturally occurring or surround man-made ponds.

The proposed corridor encompasses natural wetlands and man-made ponds. Many of the natural wetlands were impacted by the construction of Dale Mabry Highway and S.R. 54, and recent commercial and residential development. Plant species associated with wetland areas and their surrounding transitional/upland area include wax myrtle (Myrica cerifera), primrose willow (Ludwigia peruviana), and elderberry. Dog fennel (Eupatorium capillifolium) and Brazilian pepper (Schlnus terebinthifolius) are also common in transitional and disturbed areas.

8.5.3.2 Wetland Impacts

The wetland sites identified within the proposed right-of-way have the potential to be impacted by the preferred alternative. The wetlands will be affected primarily by filling activities necessary to widen existing roadways. In some areas modification of drainage systems along the existing corridor will be necessary. The extension of existing drainage structures or placement of new culverts will likely be required. The Cypress Creek crossing requires a new bridge.

Stormwater ponds will be required in conformance with applicable design criteria for the management of surface waters and treatment of stormwater runoff. Proposed ponds were located to avoid impacts to existing wetlands.

The acreage of impact to each identified wetland site was calculated on 1"=200' scale aerial photography and is listed in Table 8.6. A total of 30.9 acres of wetlands will be impacted by the preferred alternative.

All identified wetland sites were originally identified as being impacted during the preliminary corridor and alignment phases of the project. As right-of-way boundaries were refined impacts to a number of wetland sites were eliminated. Table 8.7 presents a detailed analysis of anticipated mitigation areas that may be required to compensate for impacts to wetlands and 100-year floodplain encroachment. Potential mitigation sites were chosen based on proximity to impacted wetlands as mitigation is proposed in the vicinity of and within the same general drainage basin as the impacted wetland sites. In addition, Table 8.7 associates the wetland impacted and mitigation sites with various portions of the proposed project. This data was used to determined anticipated mitigation ratios and calculate the acreage of required mitigation. The ratios utilized to determine anticipated mitigation requirements for each community type are expressed as the acreage of created wetland for each acre of impacted wetland. Federal, state, and regional permitting agencies which will establish permitting requirements and mitigation measures include, but are not limited to the following:

- * U.S. Environmental Protection Agency (EPA)
- * U.S. Army Corps of Engineers (ACOE)
- * Florida Department of Environmental Regulation (FDER)
- * Southwest Florida Water Management District (SWFWMD)

8.5.4 Hazardous Material

The hazardous material survey which was conducted to identify any known or potential hazardous material sites within the North Tampa Parkway study area was updated to reflect the preferred alternative alignment. There is no single comprehensive source of information currently available which identifies all known and potential hazardous material sites within the North Tampa Parkway study area given this constraint, the survey consisted of the following tasks:

TABLE 8.7

ANTICIPATED WETLAND AND 100 YEAR FLOODPLAIN
MITIGATION REQUIREMENTS
North Tampa Parkway

	Potential	Impact	Required 1	Mitigation	Avail Mitigatie	
	Wetland	100-yr.	Wetland		Site No.	Acreage
Dale Mabry Highway:						
Wetland Sites 1 - 7	11.3	20.4	27.9	20.4	M1 M2 M3	7.2 3.7 17.0
Subtotal			27.9			27.9
U.S. Highway 41:						
Wetland Sites 8 - 12	3.8	7.3	9.1	7.3	M4	9.1
Subtotal			9.1			9.1
S.R. 54 - U.S. 41 to Collier Parkway:						
Wetland Sites 13 - 23	7.0	24.3	13.1	24.3	M5 M6 M7	16.0 4.3 <u>3.7</u>
Subtotal				24.3		24.0
S.R. 54 - Collier Parkway to east of Twin Lake:						
Wetland Sites 24 - 30	6.8	9.3	14.9	9.3	M8 M9 M10	5.5 3.3 <u>6.3</u>
Subtotal			14.9			15.1
S.R. 54 - East of Twin Lake to Project Terminus:						
Wetland Sites 31 - 35	2.0	10.2	5.8	10.2	M11	11.0
Subtotal				10.2		11.0
TOTAL	3 0.9	71.5	86.4			87.1

- * Consulting the following publications by the Florida Department of Environmental Regulation (FDER) and Tampa Bay Regional Planning Council (TBRPC) for locations of potential environmental contamination:
 - Stationary Tank Inventory System (FDER),
 - Petroleum Contamination Overview Report (FDER),
 - Groundwater Management System Hazardous Waste Quick Look (FDER).
 - The Sites List (FDER), and
 - County Government Hazardous Waste Management Assessment for Hillsborough County and Pasco County (TBRPC);
- * Reviewing storage tank files at the Pasco County Health Unit and reviewing hazardous waste files at FDER.
- * Reviewing R. L. Polk Company City Directories for Tampa dated 1969 to 1988 to identify previous land uses potentially involving hazardous material significance along the project corridor;
- * Evaluating historical aerial photography of the North Tampa Parkway study area taken in 1960, 1966, 1972, 1979 and 1985; and
- * Conducting field investigations within the study area to verify known hazardous material use.

All of the available information obtained from these tasks was evaluated according to the PD&E Contamination Risk Evaluation Guidelines, Revision 2, developed by the FDOT District 7. Utilizing the FDOT risk evaluation rating system, each investigated site was also assigned a rating of "No," "Low," "Medium," or "High" based upon the information collected during this survey. The risk rating assigned to each site indicates the potential for hazardous material problems which could impact the preferred alternative.

Based on the results of this survey, 30 potential hazardous material sites were identified within the project limits. Exhibit 8.5 illustrates the approximate location of each identified site. Additional information including the site's name, address, site characteristics, and the site's risk rating is provided in Table 8.8.

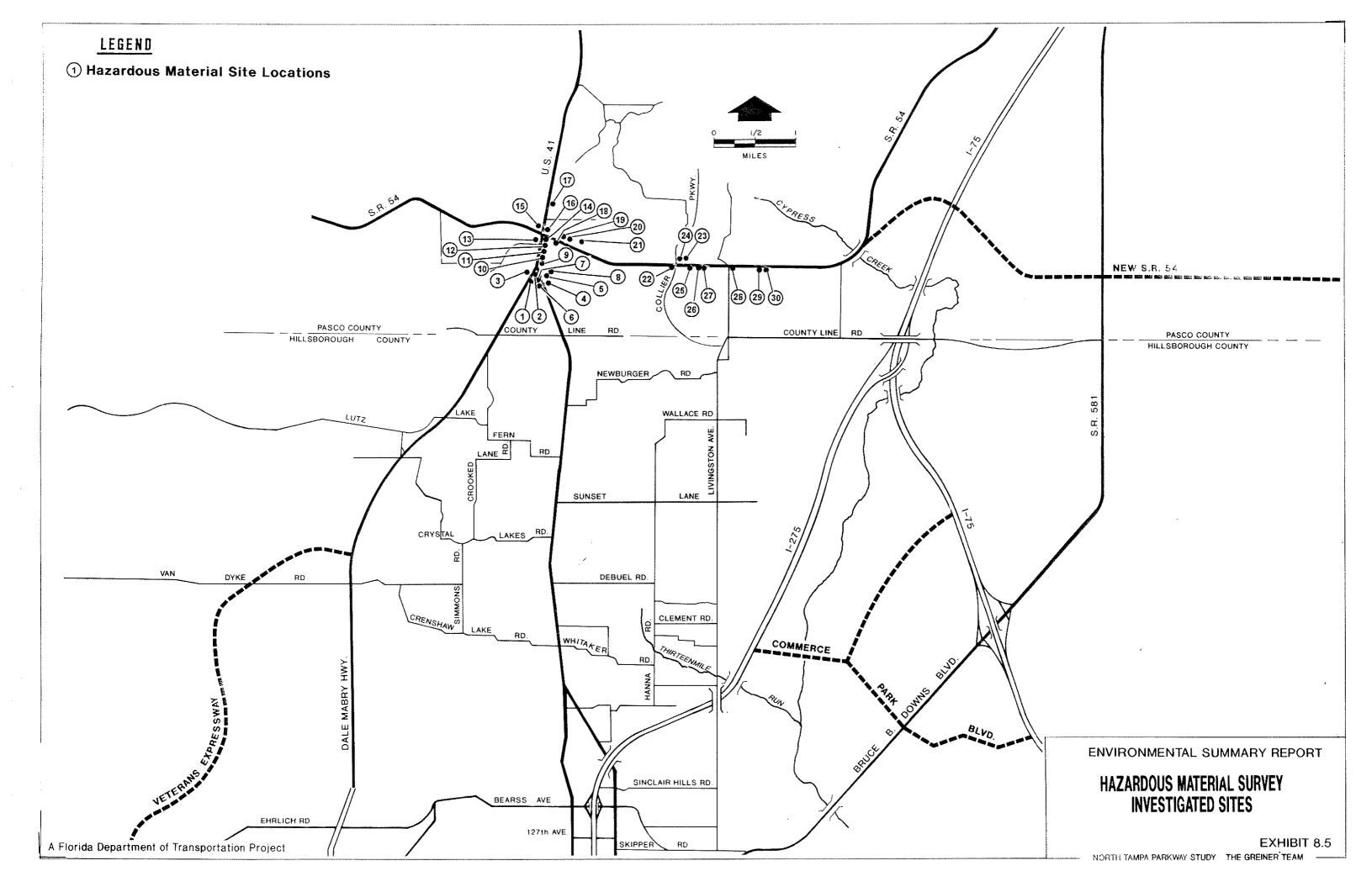


TABLE 8.8

INVESTIGATED HAZARDOUS MATERIALS SITES IN THE VICINITY OF THE PREFERRED ALTERNATIVE North Tampa Parkway Study

Rating	LOW	Medium	Low	LOW	Medium	Lo¥	Low
Risk From R-O-W*	20 Feet	Completely Within	80 feet	80 feet	40 feet	60 feet	180 feet
Approximate Distance Contamination	Groundwater and soil contamination, site remediation completed November 27,1991	Soil and groundwater contamination detected. Site under FDER consent order to upgrade fuel storage facility and conduct a contamination assessment.	No FDER files for the site.	No FDER files for the site.	FDER requested that the process effluent be analyzed for contamination.	No FDER file for the site.	No FDER file for the site.
Regulatory Enforcement/ <u>Tanks</u>	F. > •	о Э	° z	o z	O 22	O#	ON O
Storage <u>Materials</u>	Petroleum	Petroleum	Petroleum	Petroleum	Chrome and chromic acid	Petroleum	Petroleum paints and paint thinners
Potential Hazardous Number	518943105	518736685	None	None	None	None	Non
FDER 1.D. Nature of Site	Gas Station	Cement Batch Plant	Automotive Repair	Boat Engine Repair	Manufacturer Printing Plates	Automotive Repair	Automotive Repair
Site Name & Address	Texaco Station 1616 N. Dale Mabry Hwy. Lutz, Florida	Tarmac, Florida, Inc. U.S. 41 & S.R. 597 Land O'Lakes, Florida	Sun Mark Automotive 1635 N. Dale Mabry Hwy. Lutz, Florida	Master Outboard Marine Ser. 1618 Land O' Lakes Blvd. Land O' Lakes, Florida	S.S. Studios 1720 Land O'Lakes Blvd. Land O'Lakes, Florida	Firestone Land O' Lakes Blvd. Land O' Lakes, Florida	lutz Land O' Lakes Auto Body 1641 Land O' Lakes Bivd. Land O' Lakes
Site	-	N	м	4	ľ	9	2

TABLE 8.8

INVESTIGATED HAZARDOUS MATERIALS SITES
IN THE VICINITY OF THE PREFERRED ALTERNATIVE
North Tampa Parkway Study
(Continued)

Rating	Medium	Medium	Medium	Medium	Medium	Low	Medium	Medium
Risk From R-O-W*	Completely Within	Completely Within	Completely Within	Completely Within	Completely Within	200 feet	Completely Within	100 feet
Approximate Distance Contamination	No FDER file for the site.	No FDER file for the site.	Groundwater contamination detected, no assessments or remediation performed to date.	None Reported	No file for the site.	No file for the site.	Contaminated soil and groundwater discovered. EDI-State Cleanup Site.	Contaminated soil and discovered. EDI-State Cleanup Site.
Regulatory Enforcement/ <u>Tanks</u>	Š	ON.	Three out-of-service	O N	Possible	ON.	Three	TWO
Storage <u>Materials</u>	Petroleum paints and paint thinners	Petroleum	Petroleum	Cleaning Fluids	Petroleum	Waste Oil	Petroleum	Petroleum
Potential Hazardous Number	None	None	518626610	None	None	None	518520049	518519968
FDER 1.D. Nature of Site	Automotive Repair	Automotive Repair	Gas Station	Dry Cleaner	Auto Parts Store and Former Gas Station	Car Washes and Oil Changes	Gas Station	Lumber Yard
Site Name & Address	Dad Lad Auto Body Shop 1704 Land O' Lakes Blvd. Land O' Lakes, Florida	Land O' Lakes Tires 1900 Land O' Lakes Blvd. Land O' Lakes, Florida	Linda's Donuts & More U.S. 41 & S.R. 597 Land O'Lakes, Florida	Liberty Cleaners 2116 U.S. Highway 41 Lard O'Lakes, Florida	Land O' Lakes Discount Auto Parts 2024 Land O' Lakes Blvd. Land O' Lakes, Florida	Tommy's Car Wash Self Service & Auto Lard O' Lakes Blvd. Lard O' Lakes, Florida	Majik Market #39408 U.S. 41 & S.R. 54 Mango, Florida	Cox Lumber 21033 S.R. 54 Mango, Florida
Site Number	∞	٥	10	-	12	13	41	5

TABLE 8.8

INVESTIGATED HAZARDOUS MATERIALS SITES
IN THE VICINITY OF THE PREFERRED ALTERNATIVE
North Tampa Parkway Study
(Continued)

Rating	Medium	Medium	LOK	بر چ	Lok	Medium	Lok
Risk From R-O-W*	Completely Within	Completely Within	Adjacent	60 feet	60 feet	Adjacent	60 feet
Approximate Distance Contamination	No file for the site.	Clean closure requirements met June 22, 1992.	Inspection on January 19, 1993 found no evidence of fuel leaks or spills.	No file for this site.	No file for this site.	Groundwater contamination discovered. EDI State cleanup site.	No file for this site.
Regulatory Enforcement/ <u>Ianks</u>	O 22	Three	Three	o æ	<u>о</u>	Three	N
Storage Materials	Cleaning Fluids	Petroleum	Petroleum	Cleaning fluids	Petroleum	Petroleum	Cleaning Fluids
Potential Hazardous Number	None	518514914	519100736	None	None	518732281	None
FDER I.D. Nature of Site	Dry Cleaner	Former Convenient Food Mart	Gas Station	Dry Cleaner	Automotive Repair	Gas Station	Dry Cleaner
Site Name & Address	Lake Padgett Cleaners 104 Myrtle Lake Village (S.R. 54) Land O' Lakes, Florida	Carpets Plus 100 Myrtle Lake Village (S.R. 54) Land O'Lakes, Florida	Chevron #200268 22432 S.R. 54 Lutz, Florida	Majik Cleaners 23108 S.R. 54 Land O' Lakes, Florida	Consumer Car Care 23124 S.R. 54 Land O' Lakes, Florida	7-Eleven Food Store #27243 23434 S.R. 54 Lutz, Florida	Crystal Cleaners 24036 S.R. 54 Land O' Lakes, Florida
Site Number	ĸ	54	\$2	56	22	88	53

TABLE 8.8

IN THE VICINITY OF THE PREFERRED ALTERNATIVE INVESTIGATED HAZARDOUS MATERIALS SITES North Tampa Parkway Study

(Continued)

Rating	LOW
Risk From R-O-W*	Adjacent
Approximate Distance Contamination	Inspection on February 14, 1992 found no violations and no evidence of fuel leaks or spills.
Regulatory Enforcement/ <u>Ianks</u>	1 ee
Storage Materials	Petroleum
Potential Hazardous Number	518732394
FDER I.D. Nature of Site	Gas Station
Site Name & Address	Cumberland Farms #1060 S.R. 54 at Foggy Ridge Parkway Land O'Lakes, Florida
Site	30

Risk Rating Criteria:

After review of all available information, there is nothing to indicate hazardous material would be a problem. It is possible that hazardous material could have been handled on the parcel; however, all information (FDER reports, monitoring wells, water and soil samples, etc.) indicate problems should not be expected.

The operation has a hazardous waste generator ID number, or deals with hazardous materials; however, based on all available information, there is no reason to believe there would be any involvement with hazardous materials. LOW:

known soil and/or water contamination and that the problem does not need remediation, is being remediated (i.e., air stripping or the After a review of all available information, indications are found (reports, Notice of Violation, consent order, etc.) that identify ground water, etc.), or that continued monitoring is required. Medium:

^{*} Distance from the proposed right-of-way to the potential hazardous material source.

Fifteen of the 30 sites are businesses which maintain or previously maintained underground or above ground storage tanks containing petroleum products. Eight sites are automotive of boat repair facilities. Five sites are dry cleaners. The remaining two sites are a manufacturer and an electric substation.

In accordance with the FDOT risk evaluation system, each site was rated based on the following criteria:

- * Proximity to the right-of-way;
- * Physical land use history;
- * Current on-site conditions;
- * Storage of hazardous materials or generation of hazardous wastes or pollution; and
- * Known contamination or failure to comply with environmental regulations.

Sites rated "No" were not evaluated further. A rating of "Low" was assigned to 15 of the 30 sites because the handling and storage of hazardous materials at these facilities is not expected to impact the preferred alternative. A rating of "Medium" was assigned to 15 of the 30 sites because survey data indicate that these sites pose a potential risk of impacting the project. These 30 sites are described in detail in the Environmental Summary Report, published separately.

In accordance with FDOT guidelines, Level II hazardous material investigations are recommended at all "Medium" rated sites in order to verify the existence of soil or groundwater contamination which could impact the roadway project. These Level II investigations should be conducted prior to roadway right-of-way acquisition and project construction.

Initially, the Level II investigations should consist of an updated review of FDER files to review the current status of any known and/or any new contamination at these sites. Following the regulatory file update, subsurface investigations are recommended. These subsurface investigations should be conducted within the areas designated for right-of-way acquisition or utility relocation.

Specifically, Level II investigations should consist of field collection of soil and groundwater samples from each site and an analysis for the presence of petroleum contamination at locations of underground storage tanks containing petroleum products. At sites were petroleum products are not the expected source of contamination, any sampling and analytical work to be conducted should be determined on a site-specific basis. At sites where contamination is detected, further field investigations should be conducted to determine the extent of the contamination, identify the source, and estimate the cost of remediation.

The findings are based upon preliminary information only and are not intended to replace more detailed studies such as subsurface soil or groundwater investigations. Rather, this information is intended as a guide for identifying potential hazardous material sites along the preferred alternative.

Finally, it should be noted that potential hazardous materials sites may extend beyond those identified in this preliminary survey because of limited historical and regulatory information, illegal dumping practices, and the lack of compliance with the FDER stationary tank registration and hazardous waste generator programs.

APPENDIX A CONSIDERATION AND RESOLUTION OF ENGINEERING ITEMS

APPENDIX A

ALTERNATIVES TO BE CONSIDERED

The alternatives considered in the 35-square-mile study area were dependent upon natural features such as lakes, streams, wetland habitat and physical features such as the existing roadway network and current development patterns, and future conditions expected in the next twenty years (2010). The various alternative corridors were developed in cooperation with ongoing studies being conducted by the Florida Department of Transportation, Hillsborough County, Tampa-Hillsborough County Expressway Authority and Pasco County.

Several elements were common to nearly all alternatives. These include the following:

- Oconstruction of the Northwest Expressway to Dale Mabry Highway. This project has received funding from the Florida's Turnpike through the legislature; it is an element of the adopted Long Range Transportation Plan.
- Occupation of Commerce Park Boulevard from I-75 and S.R. 581 to I-275 and Livingston Avenue; including an interchange with I-275. This project is a development commitment by the Tampa Palms group and the City of Tampa; it is an element of the adopted Long Range Transportation Plan.
- Reconstruction of the S.R. 54 corridor from U.S. 19 to U.S. 301, including a new interchange with I-75 north of the Hillsborough/Pasco County Line. This project is in PD&E by the Florida Department of Transportation, and is part of the Pasco County adopted plan.
- O Widening of I-75 and I-275 according to their adopted master plans.
- Widening of U.S. 41 from Florida Avenue north through the study area to S.R. 52. This project is in various stages of design and right-of-way by the Florida Department of Transportation.
- Widening of Dale Mabry Highway from Van Dyke Road north to U.S. 41 according to the adopted Long Range Transportation Plan.
- Widening of Livingston Avenue from S.R. 54 south to Skipper Road according to the adopted Long Range Transportation Plan.
- Construction and extension of Collier Parkway south of S.R. 54 to County Line Road and Livingston Avenue. This facility is in its final stages of construction and is a Hillsborough County funded project.

System improvements that varied by alternative corridor included the number and location of interchange opportunities. This was due primarily to the existing configuration of the roadway network and the physical separation of the north-south roadways within the study area.

Exhibit 1 provides the general location of the 31 different build alternatives developed for study; the No-Build and No-Parkway Alternatives are also assumed to be viable at this time. Table 1 provides a listing of study segments that have been combined to form alternative corridors for study. Generally, the alternatives can be viewed as belonging to five (5) basic alternatives. The Corridor A alternative (alternatives A1-A3) have a common western termini along the existing S.R. 54 roadway. The Corridor B alternative (alternatives B1-B8) have a common western termini along County Line Road. The Corridor C alternative (alternatives C1-C12) have a common western termini around Lutz Lake Fern Road. The Corridor D (alternatives D1-D6) have a common western termini at the proposed Northwest Hillsborough Expressway. The Corridor E alternative (alternatives E1-E2) have two common termini; both begin on the west at County Line Road and end on the east at the proposed S.R. 54/Interstate 75 interchange. The Corridor E alternatives were added as a result of community comment at the June 5, 1990 Public Meeting.

ALTERNATIVES FOUND FEASIBLE

A comparison of the 31 corridor alternatives was tabulated for environmental, socio-economic and cost factors to create an impact matrix as shown in Table 2. An evaluation of the impacts was then tabulated as shown in Tables 3 and 4. Five (5) alternatives (A1, B1, B5, E1 and E2) were found to have the least impacts and were therefore selected for further study. Design alternatives were prepared for each of these selected corridors. The No-Build and No-Parkway Alternatives are also considered feasible for further consideration during the development of the build design alternatives.

TYPICAL SECTIONS FOR EACH ALTERNATIVE

A typical section was developed for all the corridor alternatives based on a parkwaytype expressway featuring landscaping and linear parks where desirable. The integrity of the roadways will be maintained by fencing along the limited access portions of the expressway and the adjacent properties and park areas.

The basic components of the expressway section include:

- Four (4) lane expressway (two (2) twelve-foot lanes each direction separated by a median).
- Median to provide sufficient width for the required safety clearances without a median barrier (barrier wall or guard rail) except at critical locations where restricted right-of-way may be desirable to reduce environmental and economic impacts. The standard width for the median was set at 80 feet and the reduced width was set at fourteen (14) feet.
- Shoulders eight (8) feet wide with four (4) foot paved in the median and twelve (12) feet wide with ten (10) feet paved on the outside edges of the roadway will provide the necessary emergency lanes for disabled vehicles. The required side clearance to obstructions will be provided minimizing the use of barrier walls and guard rails.

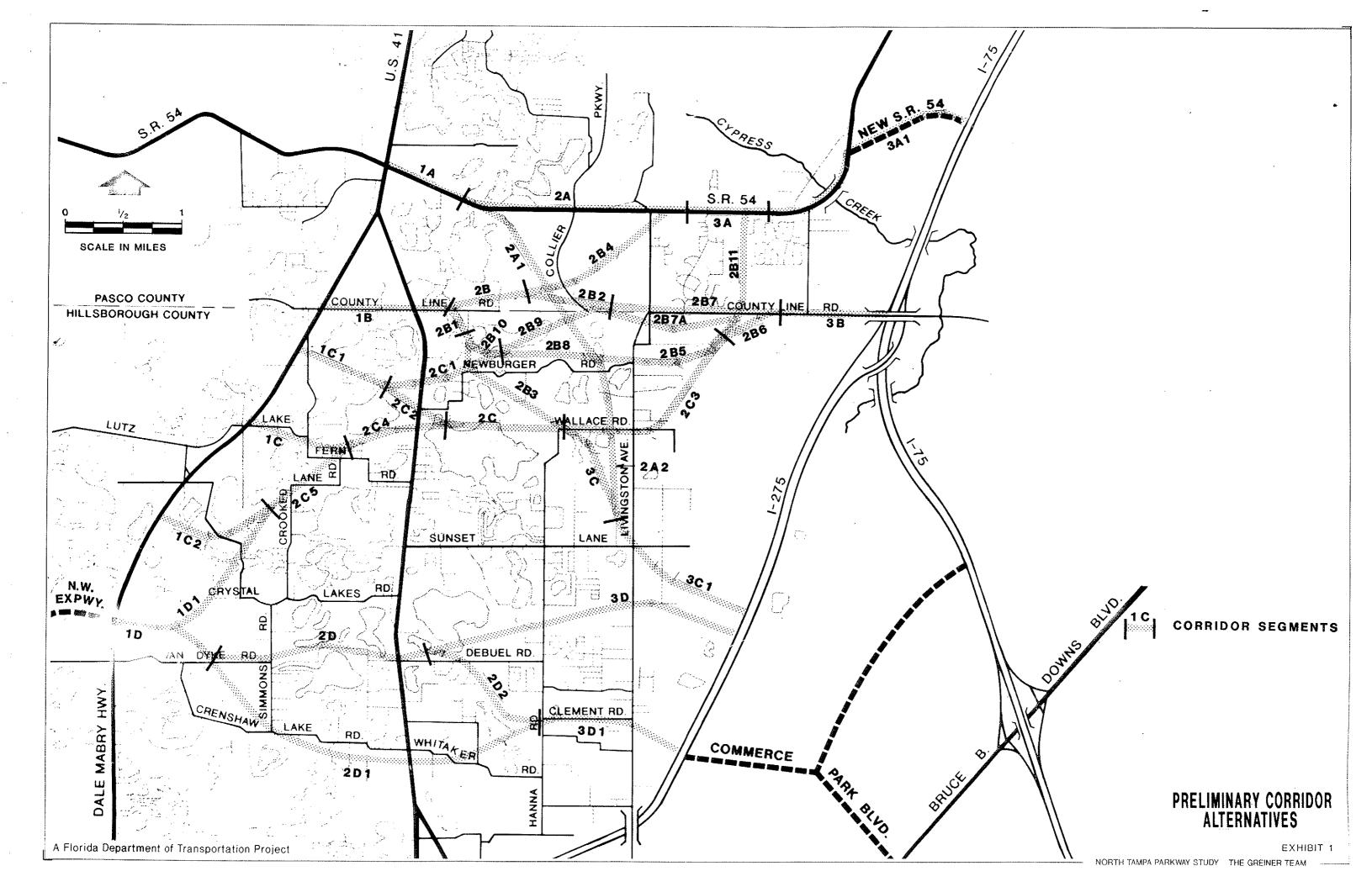


TABLE 1
ALTERNATIVE CORRIDOR COMBINATIONS

Corridor <u>Number</u>	Length (Miles)	Corridor Segments
1. A1	5.4	1A + 2A + 3A + 3A1
2. A2	5.6	1A + 2A1 + 2B5 + 2B6 + 3B
3. A3	5.6	1A + 2A1 + 2A2 + 3C1
4. B1	6.1	1B + 2B + 2B4 + 3A + 3A1
5. B2	5.1	1B + 2B + 2B2 + 2B7 + 3B
6. B3	5.2	1B + 2B1 + 2B10 + 2B9 + 2B7 + 3B
7. B4	5.4	1B + 2B1 + 2B10 + 2B8 + 2B5 + 2B6 + 3B
8. B5	7.2	1B + 2B1 + 2B10 + 2B8 + 2B5 + 2B11 + 3A1
9. B6	5.9	1B + 2B1 + 2B3 + 2C3 + 2B6 + 3B
10. B7	7.7	1B + 2B1 + 2B3 + 2C3 + 2B11 + 3A1
11. B8	4.8	1B + 2B1 + 2B3 + 3C + 3C1
12. C1	5.4	1C1 + 2C1 + 2B9 + 2B7 + 3B
13. C2	5.6	1C1 + 2C1 + 2B8 + 2B5 + 2B6 + 3B
14. C3	7.4	1C1 + 2C2 + 2B8 + 2B5 + 2B11 + 3A1
15. C4	5.8	1C1 + 2C2 + 2C + 2C3 + 2B6 + 3B
16. C5	7.6	1C1 + 2C2 + 2C + 2C3 + 2B11 + 3A1
17. C6	4.8	1C1 + 2C2 + 2C + 3C + 3C1
18. C7	6.2	1C + 2C4 + 2C + 2C3 + 2B6 + 3B
19. C8	7.9	1C + 2C4 + 2C + 2C3 + 2B11 + 3A1
20. C9	5.1	1C + 2C4 + 2C + 3C + 3C1
21. C10	9.0	1C2 + 2C5 + 2C4 + 2C + 2C3 + 2B11 + 3A1
22. C11	6.1	1C2 + 2C5 + 2C4 + 2C + 3C + 3C1
23. C12	7.2	1C2 + 2C5 + 2C4 + 2C + 2C3 + 2B6 + 3B
24. D1	5.5	1D + 2D + 3D
25. D2	5.3	1D + 2D + 2D2 + 3D1
26. D3	5.0	1D + 2D1 + 3D1
27. D4	8.0	1D1 + 2C5 + 2C4 + 2C + 2C3 + 2B6 + 3B
28. D5	9.8	1D1 + 2C5 + 2C4 + 2C + 2C3 + 2B11 + 3A1
29. D6	7.0	1D1 + 2C5 + 2C4 + 2C + 3C + 3C1
30. E1	6.8	1B + 2B + 2B2 + 2B7A + 3A1
31. E2	6.9	1B + 2B1 + 2B10 + 2B9 + 2B7A + 3A1

TABLE 2

PRELIMINARY CORRIDOR ALTERNATIVES IMPACT MATRIX NORTH TAMPA PARKWAY

203	CORRIDOR		ENVIRONMENT	ENVIRONMENTAL FACTORS		01008	SOCIOECONOMIC FACTORS	ACTORS			8	COST FACTORS	
		NOISE (1)			MITIGATION	HISTORICAL/	R.O.W.	RELOC	RELOCATIONS				
ALTERNATIVE		SENSITIVE	WETLANDS	FLOODPLAINS	REQUIRED	ARCHAEOLOGICAL	REQUIRED	RESIDENTIAL	COMMERCIAL	R 0 V	ROADWAY (2)	(2) STRUCTURES	TOTAL (3)
NUMBER	(MILES)	SITES	(ACRES)	(ACRES)	(ACRES)	RESOURCES	(ACRES)	(NUMBER)	(NUMBER)	(\$ 000,000)	6	000	(\$ 000,000)
A1A	4.9	67	13.5	9.68	61.0	3 / 7	280.5	33	43	55.0	23.2	7.5	85.7
A2A	9.9	36	7.09	132.2	145.9	3 / 2	318.5	9	39	54.6	25.4	28.1	108.1
A3A	9.9	50	9.69	112.5	162.3	3 / 1	287.2	1 9	39	56.6	21.1	31.6	109.3
B1A	6.1	27	38.1	125.2	108.6	7 / 2	322.7	27	∞	32.5	21.1	22.8	76.4
BZA	5.1	94	47.1	158.1	130.6	2 / 1	296.0	82	M	56.4	21.8	27.7	9.5
B3A	5.2	36	42.1	143.2	122.1	4 / 1	305.1	62	m	25.9	22.0	29.6	77.5
B4A	5.4	12	32.3	98.7	94.2	5 / 1	339.4	33	м	27.3	21.3	31.3	6.62
B5A	7.2	21	29.5	89.5	84.3	4 / 3	389.7	51	∞	32.4	22.0	14.1	68.5
B6A	5.9	16	8.94	87.8	114.9	8 / 1	339.9	37	۳	28.7	22.4	27.8	78.9
B7A	7.7	52	45.4	78.6	105.0	7 / 3	398.0	55	ဆ	33.7	23.1	10.6	67.4
	8.4	18	38.3	73.8	104.4	5 / 0	307.8	77	m	28.2	15.0	16.9	60.1
	5.4	34	43.3	127.7	116.5	4 / 2	341.3	50	0	28.8	21.7	28.6	79.1
C2A	5.6	60	33.5	83.2	88.5	2 / 2	371.6	54	0	30.2	21.0	30.3	81.5
8	7.4	17	30.7	74.0	78.6	7 / 7	429.7	75	7	35.2	21.7	13.1	70.0
C4A	5.8	13	46.8	68.3	112.8	5 / 5	340.1	92	0	27.5	21.3	32.7	81.5
 53	2.6	21	0.44	59.0	102.9	7 / 7	398.2	77	4	32.6	21.9	15.5	70.0
90	4.8		39.9	54.2	102.3	2 / 1	308.0	33	0	27.0	13.9	21.8	62.7
C7A	6.2	19	55.1	7.69	129.5	9 / 1	350.7	25	14	43.4	22.6	33.6	9.6
83	5.9	32	47.0	50.5	119.6	8 / 3	408.8	К	18	48.5	23.3	16.4	88.2
63	5.1	21	48.2	55.4	119.0	0 / 9	318.6	\$	14	45.9	11.6	22.7	77.2
c10	0.6	42	73.9	0.62	174.3	4 / 3	463.1	62	19	51.3	25.4	31.6	108.3
C11	6.1	31	8.69	74.2	173.7	2 / 0	372.9	51	15	45.8	17.3	37.9	101.0
C12A	7.2	33	7.92	88.2	184.2	5 / 1	405.0	77	15	46.3	24.7	48.8	119.8
10	5.5	22	38.3	0.96	103.8	2 / 1	314.4	37	œ	32.3	15.6	8.2	56.1
02	5.3	83	28.0	6 62	82.6	0 / 1	380.4	75	Ø	36.6	15.2	5.3	57.1
03	5.0	22	30.9	97.6	90.08	0 / 0	291.3	36	9	32.8	14.5	5.7	53.0
D4A	8.0	37	4.49	95.0	152.6	5 / 1	437.2	53	13	5.67	26.3	41.5	117.3
05	9.8	94	61.6	85.8	142.7	4 / 3	495.2	r	17	54.6	27.0	24.3	105.9
90	7.0	22	43.9	81.0	142.1	2 / 0	405.1	09	13	49.1	18.9	30.6	98.6
E1A	6.8	36	46.5	152.0	123.8	3 / 2	385.0	97	∞	29.5	22.3	19.5	71.3
E2A	6.9	31	40.5	137.0	114.8	4 / 2	320.0	47	8	29.3	22.4	12.9	9.49

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Includes those sites within 65 dBA category B noise contour. Includes utility and drainage costs. Does nto include sructures. Does not include engineering design, maintenance of traffic, construction management or contingencies.

TABLE 3

PRELIMINARY CORRIDOR ALTERNATIVES EVALUATION MATRIX

		TRAFFIC	ENVIRONMENTAL	Noise	Wetlands	Floodplain	Mitigation	SOCIOECONOMIC	Historical/Archaeological	Residential Relocation	Commercial Relocation	COMMUNITY COHESION	PUBLIC INPUT	PROJECT COST (ROW and Roadway)
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ပ	Ξ	īV		~	5	2	5		1	€	3	7.	Ŋ	2
ပ	12	70		3	5	7	2		₩.	₩	3	7	2	72
۵	-	2		2	3	4	3		2	2	2	5	2	
۵	2	72		7	2	~	7		-	3	2	ī	īV	
۵	3 ,	2		~	2	4	2		,	2	7	ī.	'n	4
_	4.A	īŪ		4	2	4	2		M	4	3		5	īv
۵	5 6	4 7		5 3	5 3	3 2	7 7		M	5 4	4	īV	īV.	5
w	7	~		7	m	7.	M		3	М	3 2	5 2	5	5 2
п	2A	~		3	3	2	2		3	4	2	2	-	7
9	PKWY	ω		3	***	2	•			2	2	-	•	~

NOTE: Low Score (1) Represents Least Adverse Impact. High Score (5) Represents Greater Adverse Impact.

7

TABLE 4

PRELIMINARY CORRIDOR ALTERNATIVES WEIGHTED EVALUATION MATRIX

		Y	٧	٧	8	æ	œ	æ	m	æ	<u>~</u>	<u> </u>	ٽ ن	ပ ပ	U	υ —	<u></u>	U 	ပ —	U	υ	ပ	Ų	۵	۵	۵	_		Ω	EI EII		NO NO
	₩T.	¥I	4 7	34	¥I	77	3,4	4	₹	Ψ9	7A 8	8A 1	1.4 2	2A 3	44	5	9	٧.	8	6	10	=	124	-	7	3	*	S	٥	1A 24		PKWY
TRAFFIC 15%																																
	15%	0.45 0.75		0.60	0.30	0.60 0.30 0.60 0.60 0.75 0.45	09.0	0.75	$\boldsymbol{\vdash}$	0.75 0	0.45 0.	0.75 0.	0.60 0.	0.75 0.45	15 0.75		0.60 0.75	0.75	09.0	0.75	09.0	0.75	0.75	0.75	0.75 0.75	Ī	0.75 0.60	Н	0.75	0.30 0.30	0	0.45
ENVIRONMENTAL 20%																																
Noise	5,8	0.25 0.20	0.20	0.25	0.15	0.25	0.20	0.05	0.10	0.05	0.10 0.	0.10 0.	23	0.05 0.10	0 0.05	0.10	0.05	0.10	0.15	0.10	0.20	0.15	0.15	0.10	0.10	0.10	0.20	0.25	0.13	0.20 0.15	5	0.15
Wetlands	28	0.05 0.25	0.25	0.25	0.15	0.20	0.20	0.15	0.10	0.20	0.15 0.	0.15 0.	20	0.15 0.10	0 0.20	0.15	\$ 0.15	0.25	0.15	0.15	0.25	0.25	27.0	0.15	0.10	0.10	0.25	0.25	0.15	0.15 0.15	-\$1	0.05
Floodplain	2%	0.15 0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.15	0.20	0.10 0.	0.10 0.	0.25 0.	0.20 0.10	0 0.15	\$ 0.0\$	\$ 0.05	0.15	0.03	0.03	0.10	0.10	0.20	0.20	0.10	0.20	0.20 0.	0.15 0	0.10	0.25 0.25	ກ	0.10
Mitigation	2%	52.0 50.0	L	0.25	0.15	0.25 0.15 0.25 0.20 0.15 0.10	0.20	0.15		0.20	0.15 0.	0.15 0.	20	0.15 0.05	0.20	0.10	0.10	0.25	0.15	0.15	0.25	0.25	0.25	0.15	0.10	0.10	0.25 0.	0.20	0.20	0.15 0.10	0	0.05
SOCIOECONOMIC 20%																													\neg			
Historical/Archaeological	5%	0.25 0.15	0.15	0.10	0.10 0.15	0.10 0.15		0.15	0.15	0.20	0.25 0.	0.15 0.	0.15 0.	0.10 0.20	o	15 0.20	0 0.10	0.25	0.23	0.15	0.15	0.05	0.15	0.10	0.05	0.05	0.15 0.	0.15	0.05	0.15 0.15	5	0.15
Residential Relocation	% 01	0.20 0.10	0.10	0.10	0.10 0.30	0.20	0.20	0.30	0.30	0.20	0.40	8	0.10	0.20 0.3	30 0.20	0.30	0 0.20	0.40	0.50	0.40	0.40	0.30	0.30	0.20	0.30	0.20	0.40	0.50	0.40	0.30 0.40	9	0.20
Commercial Relocation	5%	0.25 0.25	0.25	0.25	0.10	0.25 0.10 0.05 0.05		0.05	0.10	0.05	0.10	0.05 0.	05 0	0.05	\$ 0.05	0.05	\$ 0.05	0.15	0.20	0.15	0.20	0.15	0.13	0.10	0.10	0.10	0.15 0.	0.20	0.15	0.10 0.10	0	0.10
COMMUNITY																																
COHESION 10%	10%	07:0 01:0		0.40	0.20	0.40 0.20 0.20 0.20 0.30 0.30	0.20	0.30		0.40	0.40	0	0	40 0.40	0.40	0.40	0 0.40	0.40	0.40	0.40	0.50	0.50	0.40	0.50	0.50	0.50	0.50	0.50	0.50	0.20 0.20	8	0.10
PUBLIC INPUT 15%																																
	5%	0.15	0.15 0.15	0.75	0.15	0.75 0.15 0.15 0.45 0.45 0.45	0.45	0.45		0.75	0.75 0	0.75 0.	0.75 0.	0.75 0.75	5 0.75	15 0.75	\$ 0.75	5 0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75 0	0.75	0.75	0.15 0.15		0.15
PROJECT COST 20%														ļ								ĺ										
(R-O-W and Roadway)	20%	0.60 1.90	لسسا	8.	09'0	1.00 0.60 0.60 0.60		0.60 0.40		0.60	0.40	22	09	0 00	9.0	0.40	0.20	8	0.80	09.0	8.	8	8	0.20	0.20	0.20	8	8.	00.1	0,40 0,40	<u> </u>	0.40
						ļ		ļ		f	}	\dashv	-		}									ľ			-	-	1		\dashv	
TOTAL	100% 2.50 3.55	2.50		4.20	2.50	4.20 2.50 2.85 3.10 3.20 2.60	3.10	3.20		3.60	3.25	3.10 3.	3.50 3.	40 2.90	3	50 3.10	0 2.80	4.45	8.9	3,65	4.40	4.23	4.35	3.20	3.05	3.05	₹ 08:	\$3	4.20	2.35 2.35	35	8.
			Ī																													

- O The drainage system will include swales and ditches to convey and treat the stormwater runoff from the roadways. Detention facilities and mitigation areas will be designed into the project to enhance the park areas where possible.
- o The right-of-way width is planned for sections from 188 feet wide along segments of the project where there is greater adverse impacts to 350 feet for the standard roadway segments.

GENERAL HORIZONTAL AND VERTICAL ALIGNMENT

A design speed of 60 miles per hour was selected for the alignments south of S.R. 54 and 70 miles per hour for the S.R. 54 alignment. The design criteria for all the alternatives will correspond to the Florida Department of Transportation standards as set forth in their publications Roadway and Traffic Design Standards and Manual of Uniform Standards for Design, Construction, and Maintenance for Streets and Highways. The horizontal and vertical alignment will therefore conform to the normal high standards set for an expressway.

PRELIMINARY RIGHT-OF-WAY AND CONSTRUCTION ESTIMATES

The existing and proposed right-of-way for each of the alternative alignments was shown on the plans for determining the area required. Costs were then computed recognizing land values and improvements (see Table 2 for comparative costs). Preliminary plans for the roadway and bridges were developed and estimate of costs therefore computed (see Table 2).

MAJOR DRAINAGE, INCLUDING OUTFALLS

The major drainage consideration for the project lies in the crossing of Cypress Creek for all the selected alternatives. A bridge is planned to cross the creek providing the required opening for the anticipated flooding normally experienced within the area of the project. All crossings of wetland areas and floodways will be designed to provide flow via box culverts. Detention facilities will be provided to prevent flooding of downstream properties.

BRIDGE LOCATION AND TYPE

Bridges are planned for interchanges and other crossings of local through roadways as well as the crossing of Cypress Creek mentioned above. The bridges will be studied in accordance with the Bridge Development Report requirements before the type is determined. Presently, the cost is based on standard prestressed concrete beam design for all bridges except the anticipated steel beam design for the more complex interchanges at Dale Mabry Highway/County Line Road and S.R. 54/U.S. 41. The other components of the bridges are assumed to be standard concrete piling, piers and decks.

The typical section of the bridge will be compatible with the roadway section as discussed above using the same design speeds and criteria therefore.

PROPOSED INTERCHANGE LAYOUT

Interchanges were planned for each of the major north-south roadways within the study area. Principally they are: Dale Mabry Highway, U.S. 41, Collier Parkway or Livingston Avenue, S.R. 54 and I-75 or I-275. Each of the interchanges for the alternatives was developed at a scale of 1" = 200'. The designs were sufficient to establish desirable geometry, both horizontal and vertical and to set right-of-way requirements. Weaving areas were analyzed for design of the entrance and exit ramp gore locations. All interchanges would be constructable, special attention to maintenance of traffic would be required for the S.R. 54 interchange with U.S. 41.

MAJOR INTERSECTION DESIGN CONCEPTS

Preliminary intersection designs were prepared on the 200 scale plans showing the salient features of curb returns, auxiliary lane requirements and right-of-way. Frontage roads were included for many of the alternatives to provide the necessary local access. At each of the interchanges, the intersections were assumed to warrant signalization and were designed accordingly.

MAJOR UTILITY ADJUSTMENTS

The utility agencies with facilities within the study area were contacted to determine the existing and proposed major utility locations and their effect on the parkway alternatives. Where adjustments were required to accommodate the parkway, costs were included in the estimates.

MAINTENANCE OF TRAFFIC CONCEPTS

The alternatives lying within existing S.R. 54 right-of-way will require special attention to maintenance of traffic. Recognizing the parkway will have frontage roads on both sides, the maintenance of traffic impact will be minimized. All other alternatives will be on essentially new alignment and therefore not require extensive maintenance of traffic.

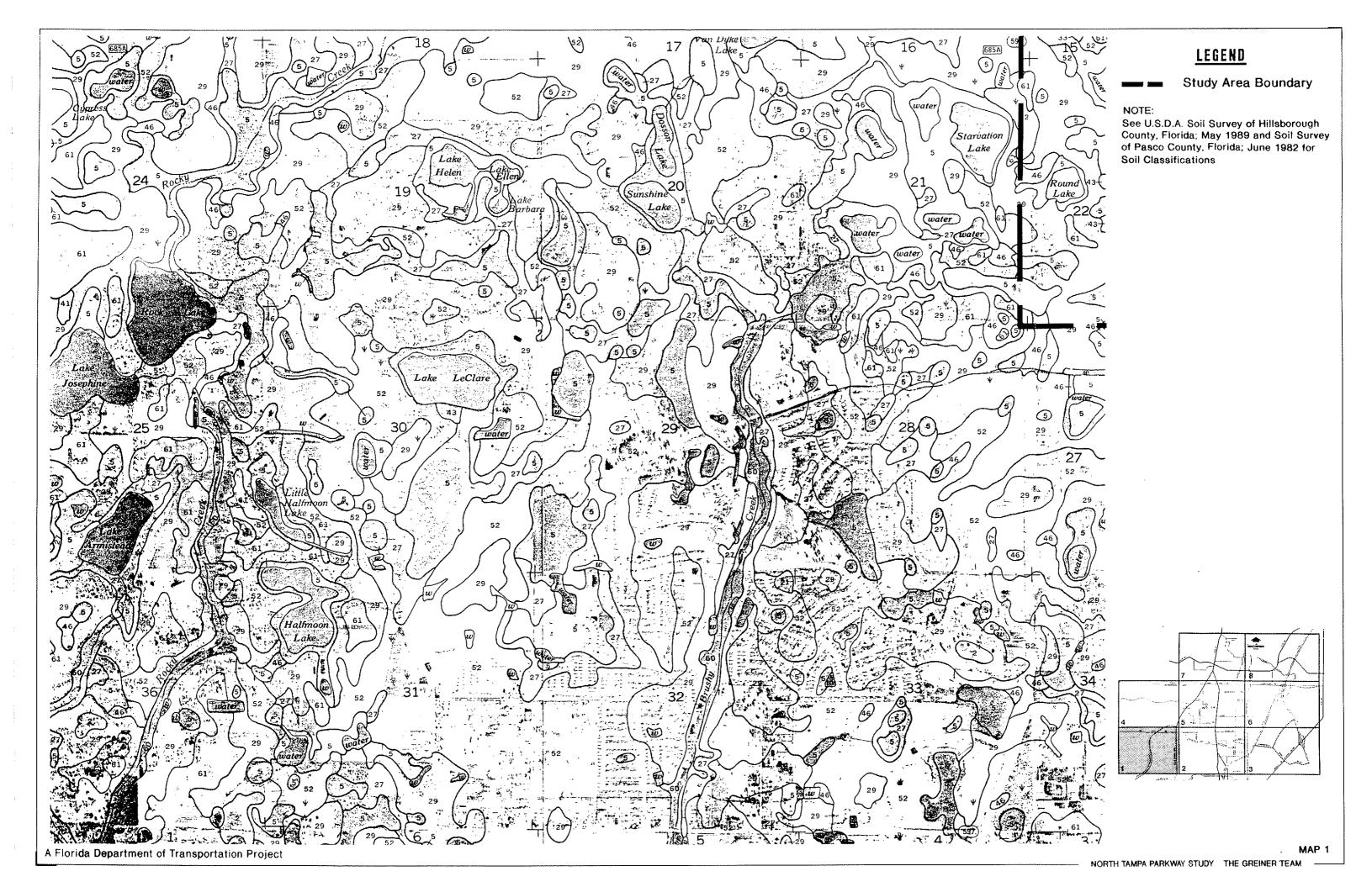
RIGHT-OF-WAY REQUIREMENTS

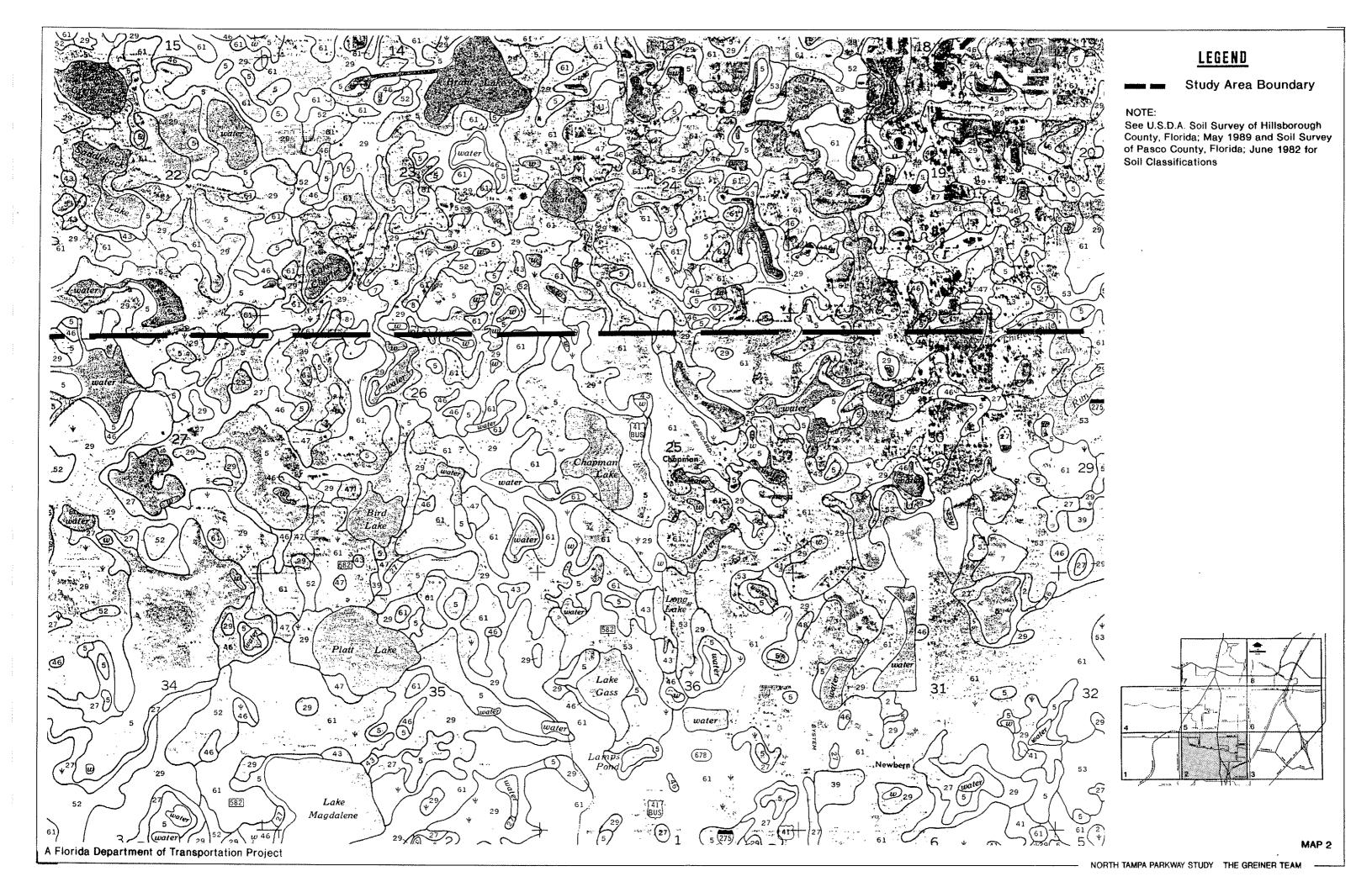
As noted above, the right-of-way was established for each alternative based on the expressway, interchange and frontage road requirements. In addition, right-of-way areas were established for the drainage and mitigation requirements. Cost estimates were then prepared to reflect all the anticipated right-of-way acquisition necessary to construct the particular alternative; included were land, severance, court awards and settlement costs.

BICYCLE ACCOMMODATIONS

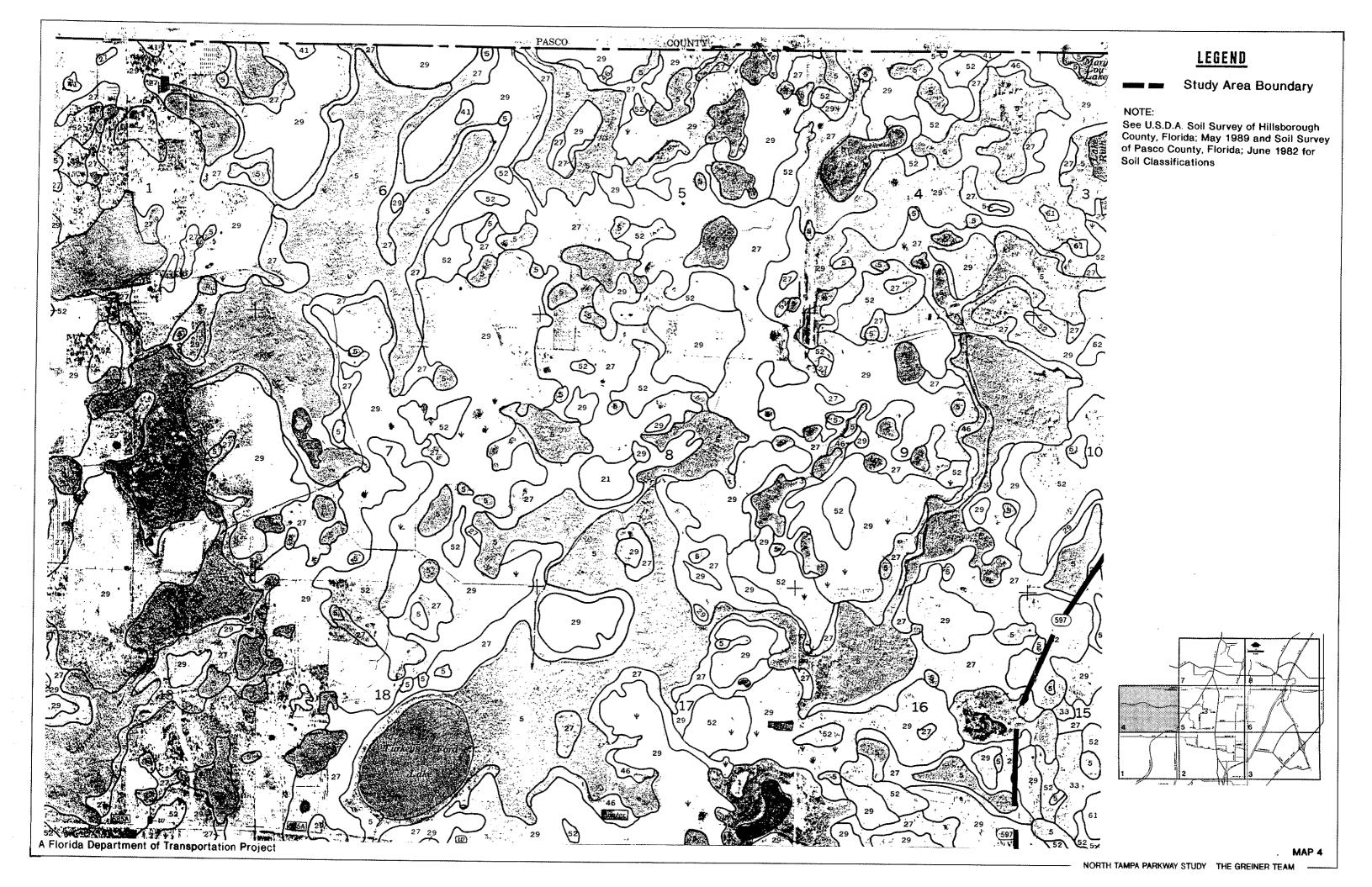
Bicycle paths are planned in the linear park areas along the alignment or within the frontage roads depending on location. Interchange crossroads also have provision for bike paths at the appropriate locations.

APPENDIX B USDA SOIL MAPS

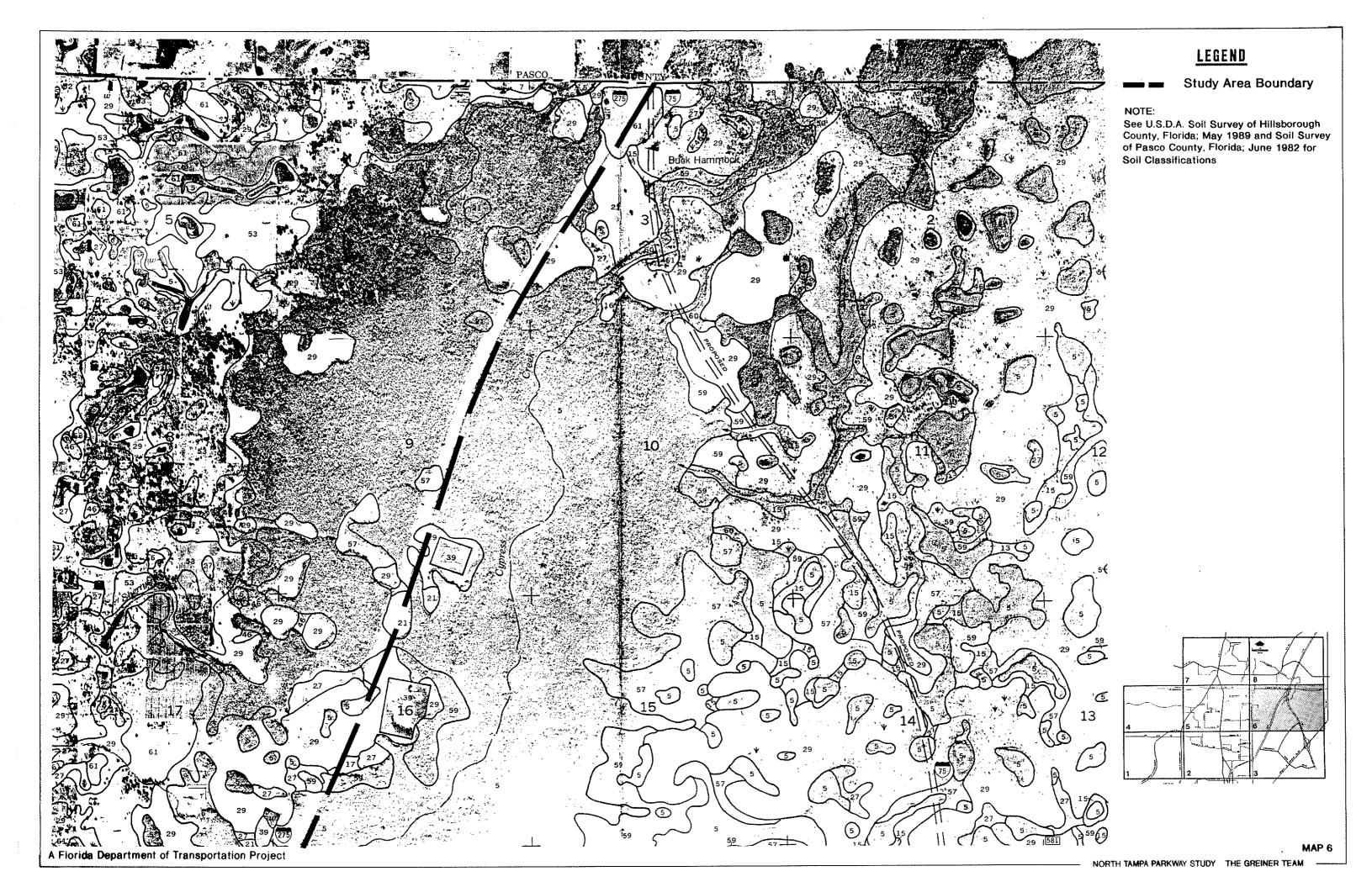




LEGEND Study Area Boundary NOTE: See U.S.D.A. Soil Survey of Hillsborough County, Florida; May 1989 and Soil Survey of Pasco County, Florida; June 1982 for Soil Classifications MAP 3 A Florida Department of Transportation Project



LEGEND PASCO COUNTY Study Area Boundary NOTE: Hog Island Lake See U.S.D.A. Soil Survey of Hillsborough County, Florida; May 1989 and Soil Survey of Pasco County, Florida; June 1982 for 61 Deer Park Soil Classifications 61. 61 Hobbs A Florida Department of Transportation Project MAP 5



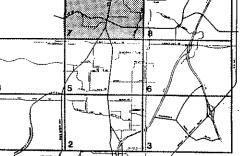
A Florida Department of Transportation Project

LEGEND

Study Area Boundary

NOTE

See U.S.D.A. Soil Survey of Hillsborough County, Florida; May 1989 and Soil Survey of Pasco County, Florida; June 1982 for Soil Classifications



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LEGEND

Study Area Boundary

NOTE:

See U.S.D.A. Soil Survey of Hillsborough County, Florida; May 1989 and Soil Survey of Pasco County, Florida; June 1982 for Soil Classifications



APPENDIX C

Accident Analysis Summary Report

North Tampa Parkway Accident Summary

Location: Dale Mabry, N. Lakeview to Lutz Lake Fern

Key: # = number of accidents

I = number of injuries

F = number of fatalities

Accident	1984		1985			1986			
Туре	ŧ	I	F	•	I	F	ŧ	I	F
Rear End	2			12			7		
Right Angle	5	•		12			13		
Left Turn	5			6			12		
Sideswipe	2			2			4		
Fixed Object	1								
Head On	4			1			2		
Other	7			15			15		
Total:	26	18	0	48	47	3	53	57	0

Accident	1987			1988			1989			
Туре	+	I	F	•	I	F	*	I	F	
Rear End	11		, ,	3			2			
Right Angle	16			8			2			
Left Turn	13			12			5			
Sideswipe							2			
Fixed Object				1			1			
Head On	2			1						
Other	14			8			4			
Total:	56	55	1	33	26	1	16	9	1	

Total Property Damage: 232 Value: \$696,000
Total Injuries: 212 Value: \$2,607,600
Total Fatalities: 6 Value: \$1,560,000

Total Economic Losses: \$ 4,863,600

Date: 22-May-90

Accident Data from: Florida D.O.T.

North Tampa Parkway Accident Summary

Location: Dale Habry, Lutz Lake Fern to County Line

Key: # = number of accidents
 I = number of injuries

F = number of fatalities

Accident	1984			1	985		1986		
Тура		1	F	•	I	F	•	1	F
Rear End				2			2		
Right Angle	8			11			5		
Left Turn	2						4		
Sideswipe	1			3					
Fixed Object									
Head On									
Other	3			2			2		
Total:	14	24	4	18	26	0	13	5	0

Accident	1987			1	988		1989			
Type	•	I	P	*	r	F	*	I	P	
							1			
Rear End	2			1			_			
Right Angle	7			1			1			
Left Turn	3			4						
Sideswipe							1			
Fixed Object										
Head On										
Other	2			2						
Total:	14	16	o	8	10	0	3	3	0	

Total Property Damage: 70 Value: \$210,000
Total Injuries: 84 Value: \$1,033,200
Total Fatalities: 4 Value: \$1,040,000

Total Economic Losses: \$ 2,283,200

Date: 22-May-90

Accident Data from: Florida D.O.T.

North Tampa Parkway Accident Summary

Date: 21-May-90

Location: Dale Mabry, County Line to US 41

Key: # = number of accidents
I = number of injuries
F = number of fatalities

Accident	1	984		15	985		1986		
Туре	•	I	P	+	I	F	+	I	P
Rear End	4			1			1		
Right Angle	1			1			1		
Left Turn									
Sideswipe							1		
Fixed Object									
Head On									
Other	1			3			2		
Total:	6	5	0	5	4	0	5	6	0

Accident	1987			1	988		1989		
Туре	•	1	¥		1	P	ŧ	I	P
Rear End							2		
Right Angle	2			3			1		
Left Turn	1			1					
Sideswipe									
Fixed Object									
Head On	1								
Other	3			3			2		
Total:	7	8	0	7	8	0	5	6	0

Total Property Damage: 35 Value: \$105,000
Total Injuries: 37 Value: \$455,100
Total Patalities: 0 Value: \$0

Total Economic Losses: \$ 560,100

Accident Data from: Florida D.O.T.

North Tampa Parkway Accident Summary

Date: 21-May-90

Location: US 41, Crenshaw Lake to County Line

Key: # = number of accidents
I = number of injuries
F = number of fatalities

Accident	1984			1985			1986			
Туре	•	I	F	•	I	P		1	F	
Rear End	17			21			22			
Right Angle	3			8			5			
Left Turn	5			9			16			
Sideswipe	5			3			7			
Fixed Object	1			1			1			
Head On	1			2			1			
Other	9			17			15			
Total:	41	34	1	61	68	22	67	56	0	

Accident	1987			1	988		1989			
Type	ŧ	I	F	•	I	F	•	ĭ	F	
Rear End	22			18			14			
Right Angle	6			6			1			
Left Turn	14			21			7			
Sideswipe	2			5			1			
Fixed Object	5			4			3			
Head On	٥			0			1			
Other	15			14			6			
Total:	64	58	1	68	66	1	33	16	1	

Total Property Damage: 334 Value: \$1,002,000
Total Injuries: 298 Value: \$3,665,400
Total Fatalities: 26 Value: \$6,760,000

Total Economic Losses: \$ 11,427,400

Accident Data from: Florida D.O.T.

North Tampa Parkway Accident Summary

Date: 21-May-90

Location: US 41, County Line to SR 54

Key: # = number of accidents
 I = number of injuries

F = number of fatalities

Accident	1984			1	1986				
туре	+	1	F	•	I	P		I	F
Rear End	7			3			7		
Right Angle	3			6			1		
Left Turn				3			5		
Sideswipe	2			1			1		
Fixed Object							1		
Head On									
Other	1						4		
Total:	13	13	0	13	24	0	19	24	0

Accident	1987			1	988		1989			
Туре		ĭ	¥		I	P		I	F	
Rear End	6			6			5			
Right Angle	4			5			1			
Left Turn	9			9			2			
Sideswipe							1			
Fixed Object	1			1						
Head On										
Other	1			3						
Total:	21	21	0	24	22	0	9	8	0	

Total Property Damage: 99 Value: \$297,000
Total Injuries: 112 Value: \$1,377,600
Total Fatalities: 0 Value: \$0

Total Economic Losses: \$ 1,674,600

Accident Data from: Florida D.O.T.

Head On Other

th Tampa Parkway Accident Summary

Date: 22-May-90

Location: Crenshaw Lake, from Berger Road to Hanna

Key: # = number of accidents
I = number of injuries
F = number of fatalities
* = data not available

Type # I P # I F # I F

Rear End
.ght Angle
Left Turn
Sideswipe
ced Object

Total: * * *

Accident	1	1987		1	988		1989		
Type	+	I	F	•	ı	F	ŧ	I	F
Rear End	1			1					
ight Angle	7			5					
Left Turn	2			0					
Sideswipe	1			3					
ked Object	3			3					
Head On	2			3					
Other	9			10					
Total:	25	7	0	25	19	0	•		

Total Property Damage 50 Value: \$150,000 Total Injuries: 26 Value: \$319,800 Total Fatalities: 0 Value: \$0

Total Economic Losses: \$469,800

Accident Data from: Hillsborough County

rth Tampa Parkway Accident Summary

Date: 22-May-90

Location: Livingston, from County Line to Sunset Lane

Key: # - number of accidents
I - number of injuries
F - number of fatalities
* - data not available

Accident 1984 1985 1986

Type # I F # I F # I F

Rear End

Rear End light Angle Left Turn Sideswipe ixed Object Head On Other

Total: * *

Accident	1987			1	988		1989			
Туре	*	I	P	•	ı	F	ŧ	I	F	
Rear End	1		·· ·· ·· ·· ·· ··	5						
Right Angle	4			3						
Left Turn	3			2						
Sideswipe	4			0						
ixed Object	3			0						
Head On	2			0						
Other	4			5						
Total:	21	10	0	15	6	0	*			

Total Property Damage 36 Value: \$108,000
Total Injuries: 16 Value: \$196,800
Total Fatalities: 0 Value: \$0

Total Roonomic Losses: \$304,800

Accident Data from: Hillsborough County

Total: *

oth Tampa Parkway Accident Summary

Date: 22-Hay-90

Location: Lutz Lake Fern Road, from US 41 to Dale Mabry

Key: # = number of accidents
I = number of injuries
F = number of fatalities
* = data not available

Accident	:	1987		1	988		;	1989	
Туре	•	I	P	•	I	P	•	I	F
Rear End	1			5			· · · · · · · · · · · · · · · · · · ·	···	
ight Angle	11			5					
Left Turn	5			1					
Sideswipe				1					
xed Object	1			3					
Head On									
Other	7			2					
Total:	25	14	0	17	19	0	•		

Total Property Damage 42 Value: \$126,000
Total Injuries: 33 Value: \$405,900
Total Fatalities: 0 Value: \$0

Total Roonomic Losses: \$531,900

Accident Data from: Hillsborough County

Total: •

North Tampa Parkway Accident Summary

Date: 22-May-90

Location: Sunset Lane, from US 41 to 30th Street

Key: # = number of accidents
I = number of injuries
F = number of fatalities

* = data not available

Accident	:	1984		1	1985		;	1986	
Туре	+	1	P		I	y	+	I	F
Rear End									
Right Angle									
Left Turn									
Sideswipe									
Fixed Object									
Head On									
Other									

Accident		1987		3	988		1	1989	
Туре	*	Y	F	#	I	F	•	I	F
Rear End	3			3					
Right Angle	10			9					
Left Turn	3			2					
Sideswipe				1					
Fixed Object				2					
Head On									
Other	3			4					
Total:	19	10	0	21	16	0	•		

Total Property Damage	40	Value:	\$120,000
Total Injuries:	26	Value:	\$319,800
Total Patalities:	0	Valuer	50

Total Economic Losses: \$439,800

Accident Data from: Hillsborough County

North Tampa Parkway Accident Summary

Location: Van Dyke, from Simmons to Dale Mabry

Key: # = number of accidents

I = number of injuries

P = number of fatalities

* = data not available

Accident		1984		1	985			1986	
Type	•	I	P	*	I	P	*	I	P
Rear End									
Right Angle									
Left Turn									
Sideswipe									
Pixed Object									
Head On									
Other									
Total:	*			*			•		

Accident		1987		1.	988		נ	989	
Type	•	r	P	•	I	P	•	I	F
Rear End	8			3	*** *** *** ***		*****		
Right Angle	12			5					
Left Turn	5			2					
Sideswipe	2			3					
Pixed Object	0			0					
Head On	1			1					
Other	8			8					
Total:	36	24	2	22	9	1	*		

Total Property Damage	58	Value:	\$174,000
Total Injuries:	33	Value:	\$405,900
Total Patalities:	3	Values	\$780,000

Total Economic Losses: \$1,359,900

Date: 22-May-90

Accident Data from: Hillsborough County

North Tampa Parkway Accident Summary

Date: 22-May-90

Location: S.R. 54, from US 41 to Cypress Creek

Key: # = number of accidents

I = number of injuries

F = number of fatalities

* - data not available

Accident	:	1984		1	985		1	986	
Туре	+	I	F	•	I	F	•	I	P
Rear End									
Right Angle									
Left Turn									
Sideswipe									
Fixed Object									
Head On									
Other									
Total:	•			•			•		
Accident	:	1987		1	988		1	.989	
Type		I	F	ŧ	I	F		I	F

Rear End
Right Angle
Left Turn
Sideswipe
Fixed Object
Head On
Other

Total: * 29 17 0 36 24 0

Total Property Damage 65 Value: \$195,000 Total Injuries: 41 Value: \$504,300 Total Fatalities: 0 Value: \$0

Total Economic Losses: \$699,300

Accident Data from: Pasco County

1984

North Tampa Parkway Accident Summary Date: 22-May-90

Location: County Line Road, from Dale Mabry to I-75

Key: # = number of accidents

I = number of injuries

P = number of fatalities

* - data not available

1985 1986 Type # I F # I P # I Rear End Right Angle Left Turn Sideswipe

Fixed Object

Accident

Head On

Other

Total: *

Accident 1987 1988 1989 Type # I P # 1 F # I

Rear End

Right Angle

Left Turn

Sideswipe

Fixed Object

Head On

Other

Total: * 9 3 0

> Total Property Damage: 11 Value: \$33,000 Total Injuries: 3 Value: \$36,900 Total Fatalities: 0 Value: \$0

> > Total Economic Losses: \$69,900

Accident Data from: Pasco County

APPENDIX D DRAINAGE PROBLEM AREAS

DATE: 8-22-88 TIME: 3:00	
PERSON CALLED: Bob Grimsley REPRESENTING: FOOT	ADDRESS:PHONE NUMBER:
NAME OF CALLER: Jim Harper ADDRESS: Greiner - Tampa	
DETAILS OF CONVERSATION: We discussed of along U.S. 41 between the iffills: - Passe The following are the	neen Flatcher 1906
1 - Northing Fletcher lat 142 A. 5-2 - Around - Shipper R.J. (St. 273 5-3 - between (St. 292 and 294) 13.14/5 - Let 2 area (St. 540-1545 REPLIES: S-8 - Beverage Barn (St. 430-4)	J - No Outlet

Tim Haiper
(Name and Title)

Distribution

. "7

DATE: 9-27-88 TIME: 2:00	<u> </u>
	JOB NUMBER
PERSON CALLED: <u>Doug Beam</u>	ADDRESS:
REPRESENTING: Hillsborough Co. Road Mai	int, PHONE NUMBER: 885-6984
NAME OF CALLER: Jim Horpe.	PHONE NUMBER:
ADDRESS: Tanipa	REPRESENTING: Greiner
DETAILS OF CONVERSATION:	
Alsh him about 1	Orainage problems on U.S.41.
he mintioned the Pa	ollowing problems:
problems with rune the parking lot. The Trailer parks No ochlot there	near Lutz school has nott oft of readury flooding at Shipper Rd. has are two dilches on each ad which so nowhere
REPLIES:	
- He gene me + Dept. phone + 1-8	Le Pasie (a Miniore)

Distribution

Jin Ha. pra (Name and Title)

DATE: 1-27-90 TIME: :	<u> </u>
	JOB NUMBER
PERSON CALLED: Rich Ziggler	ADDRESS:
REPRESENTING: Pasco Co. Magnificace	
NAME OF CALLER: Jim Harper	PHONE NUMBER: 286-171/
ADDRESS:	REPRESENTING: Ciani - Tampa
DETAILS OF CONVERSATION: I asked With East-west County roads I also asked him it they main they don't maintain state roads.	between SRSY and Co Line Kd, some state roads, He said
ho main Fost west restes in the	bet area and the (o. (in the)

REPLIES:

(Name and Title)

DATE: 3-29-90 TIME: ::	(2241.25
	JOB NUMBER
PERSON CALLED: Bob Grimsley	ADDRESS:
REPRESENTING: FPOT - Maintance	PHONE NUMBER: 626-5104
NAME OF CALLER: Jim Harper	PHONE NUMBER: 286-17//
ADDRESS:	REPRESENTING: <u>Greiner - Tampa</u>
DETAILS OF CONVERSATION:] asked	
any problems concerning a	·
SR. 54, US-41 and 1201. Mal	Ley between SR-54 and
Fletcher Ave. Bob Replical	that SR-54 was low and
could not recall any specific to. 41.4 has a few problem of the I-275 overpass, he are high and city.	

REPLIES:

(Name and Title)

Distribution

DATE: 1-27-90 TIME: :	<u> </u>
	JOB NUMBER
PERSON CALLED: Harold Flarer	ADDRESS:
REPRESENTING: Hills, Co. Maintage	PHONE NUMBER: 885-6984
NAME OF CALLER: Jim Haiper	PHONE NUMBER: 286-1711
ADDRESS:	REPRESENTING: Gianer - Tampa
DETAILS OF CONVERSATION: I asked problems with County roo tongs partway wy area, re problems win van K Cr sinsel rd Most which flooding problems.	the told me there were bythe, co line Proof, Debut, Rolling South of Bebut Rd

REPLIES:

(Name and Title)

Distribution

APPENDIX E PAVEMENT CONDITIONS SURVEY SPREADSHEET

FLORIDA DEPARTMENT OF TRANSFORTATION MATERIALS OFFICE SKID_RESEARCH_SECTION

DIR TL MC PL DIR TL ML PL UNIT NB 32 SB 33 5 NB 32 SB 33 5 11.17 DATE CO-SEC-SUB SR NO. MF FR. MF TO 05 25 89 02 20 91 740137 093 093 0.000 0.370 14075 740150 1.40.75 0.000 _0..3.70. 07 17 89 07 17\89 07 17 89 711423 14080 700 0.000 0.639 SB 41 084 JDJ 00 OTHER 711424 14090 700 0.339 0.839 0.839 SB 38 084 JĎĴ 00 FC-4 711425 14080 700 1.814 SB 41 084 JĎĴ 00 OTHER 0.000. 7.1.1.7.70. _0.2. _20_91 1.4080. 200. 711771 02 20 71 14080 711772 02 20 71 14080 711773 02 20 71 14080 711774 02 20 71 14080 711775 102 20 71 14090 711776 02 20 71 14090 711777 02 20 71 14090 711778 02 20 71 14090 711777 02 20 71 14090 -0--339 SB-37 -082 JDJ. -55-01HER SE 28 ~~ SB 36 SE 30 700 0.639 0.837 40 082 JDJ 55 FC-4 700 0.837 1.420 55 OTHER 55 FC-4 082 40 JI)J 700 1,420 1.814 985 40 L.C.L. ŪB∵ŽŽŽ® 0.534 0.120 .0...0.0.0.. 080. 40. JI)J. -45_OTHER. WB 237 WB 36 WB 37 WB 34 WB 227 WB 227 WB 257 WB 257 054 054 0.120 1.320 7.640 1.320 7.640 7.880 080 40 ĴĎĴ 45 FC-4 55 FC-4 55 OTHER 40 080J))J 054 Sa. 080 40 JŊJ 7.880 87440 .080. 40. 50_OTHER([[].... 711779 02 20 91 3 4 4 40 90 H x 711780 1 02 20 91 4 1 1 4 0 90 H x 8.440 8.470 8.950 8.670 8.950 8.950 9.380 054 080 40 UUU 50 OTHER 054 080 40 ĴĎĴ 50 OTHER 711781 02 20 91 8 711782 02 20 91 9.950 9.380 9.380 10.911 10.911 13.046 13.046 15.219 15.219 17.577 14090 054 080 40 JDJ 40 OTHER 14090 .054 WR 28/ .4Ö. .080 JDÜ. .55... OTHER 711783 02 20 91 14090 WB 34 054 080 40 JDJ 55 OTHER 02 20 91 711784 14090 054 WB 43 080 40 UCC 55 OTHER 711785 02 20 91 14090 054 WB 28/ 080 JDJ 4050 OTHER 20....91 .7.1.1.7.86_ .02. 14090 17.577 18.220 18.220 18.410 18.410 20.286 .054WB...32. .080. 40.. JDJ. -40... OTHER. 711787 02 20 91 14090 WB 27/ WB 22/ 054 080 40JDJ 40 FC-2 ŏ2 2ŏ 91 711788 14090 054 ĬĎĬ 40 080 35 OTHER 08 26 88 08 26 88 711183 711184 14110 3.263 039 0.000 NB 40 094 00 FC-4 14110 .039 NR.38 .3.. 263. 3.561 -00-OTHER 094 JDJ. 711505 NB 39 NB 29 NB 36 NB 36 NB 28 05 11 90 1.230 14110 0.000 039 084 JDJ. 00 FC-4 711506 711507 711508 05 11 90 14110 039 1,230 Jöj 00 FC-4 00 FC-4 084 05 11 90 14110 039 1.790 3.263 084 ..9.0. 14110. -3.531 1.891 -039 -00--EC--2 084J))J 711426 711427 07 17 89 14120 WB 23~ WB 30 052 0.000 090 ĴĎĴ 45 OTHER 07 17 07 17 39 1.891 2.109 2.850 14120 052 1.871 2.109 2.850 - 2.850 6.462 462 6.750 090 45 OTHER UDJ 711428 711429 14120 14120 89 052 展第 26~ 090 JĎĴ 45 OTHER _0.7__1.7__8.9. WE 23 090 JDJ. .50_0THER 711430 07 17 89 14120 052 JĎJ JĎJ 090 00 OTHER 711431 711432 711433 17 89 17 89 17 89 07 14120 052 6.750 12,700 切り 29ン ŠŠ ŌTHER 090 052 2052 07 12.700 21.398 21.398 31.262 14120 WB 47 090 JDJ 00 FC-4 0.7 14120 WB_31 _55_EC-4_ 55_OTHER 0.20Lat. 711434 711435 07 17 89 31.262 32.228 32.228 33.403 14120 052 WB 27~ WB 34 090 JDJ 14120 07 17:89 052 090 JĎJ 00 OTHER 711799 0.2 21 91 052 0.000 0.189 WE 31 076 JDJ 45 EC-2 711790 .02 14120. .052 .0...1.89... 4..894 WB_28< 0.76 -45-OTHER 40. JDJ. 711791 711792 21 21 21 02 91 2.109 2.613 3.530 5.403 14120 1.891 WB 32 WB 26-052 45 FC-4 45 FC-4 075 40 JDJ 14120 052 052 91 2.109 2.613 40 ĴĎĴ 076 711793 02 91 ₩B 29-WB 27-40 45 OTHER 076 JI)J 02 91 14120 052 JĎĴ 3.,530 40. 5.0.LOTHER 02 02 711795 55 OTHER 55 FC-4 55 EC-4 21 21 14120 052 5,403 12,416 MB 28-076 40 711798 12.416 21.398 21.398 23.277 23.277 23.532 14120 052 052 WB 43 076 40 JDJ 711797 0291 14120 WB 42 076 40 ĴĎĴ 711798 Ç 02 14120 05.2 23..277. WE_3842 .0.7.6. 4.0. JDJ 45_EC-4 21 21 21 21 91 91 91 14120 14120 23.532 26.443 26.443 27.298 27.298 28.019 28.019 29.051 711799 $\Theta 2$ 052 55 FC-4 40 FC-4 WB 39 076 40 JDJ 02 02 02 711800 052 WB 36 076 076 40 UXL 14120 14120 14120 711901 ŏ52 45 FC-4 55 FC-4 WB 40 ŬãŬ LaL 40

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37i	711320 05 25 89	10160	597	2,100 4,270	NB 29_30_33	SR 32 30 32	5	090		Lac	45 FC-4	5
	711327 07 06 89	10130	597	4.314 6.300	NB 37 37 39	SB 37 38 38	5	090		JDJ	00 FC-4	- 5
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42	711654 09 06 90	10130	597	6.300 8.850	<u>NB 40 </u>	<u> </u>	5	094	40	<u>{ID</u> ,	<u> 40 FG-4</u>	j_
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<u>740123 05 25 89 10190 868 31828 88 88</u>	3 WB 36 5 092
740124 05 25 89 10190 093 4.098 6.117 EB 740125 05 25 89 10190 093 6.117 7.544 EB 740126 05 25 89 10190 400 7.544 8.297 EB	29 WE 36 5 072 JDJ 60 FC-4 1 35 072 JDJ 60 FC-7 1 35 072 JDJ 60 FCC 1 35 072 JDJ 60 FC
740126 05 25 89 10190 400 7.544 EB 740127 05 25 89 10190 400 7.544 8.297 EB 740127 05 25 89 10190 400 8.297 14.450 EB 2	35 WB 35 5 092 JDJ 00 PCC 1 2 28 WB 37 5 092 JDJ 55 PCC 1
740127 05 25 89 10190 400 8.297 14.450 EB 2	9
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$\frac{790155}{6}$ 01 31 91 10190 693 5 765 765 ND 7	, , , , SB 37 _ 39 5 070 40 JĎJ 55 FC-2 4 3413 H
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711603 08 16 90 10230 589 2.069 2.463	
711758 01 31 91 10230 569 0.183 1.035 NB 41 711389 07 18 89 10250 676 0.000 0.159 NB 40 -711380 07 18 89 10250 676 0.159 3.189 NB 20	3 41 41 58 28 5 085 JDJ 40 OTHER 1 5 070 40 JDJ 55 FC-4 4 3522
	5 077 JDJ 00 FU-2 1 5 07 HEB
711371 07 18 87 10250 676 3.189 3.400 10250 711372 07 18 87 10250 676 3.189 3.400 10250 676 3.189 4.007 NB 30	2 971 JUJ 00 FC-4 1 1014
711393 07 18 89 10250 676 3.189 4.007 NB 36 -711394 07 18 89 10250 676 4.007 5.643	9 SB 32 5 097 JDJ 00 FC-4 1 5 097 JDJ 45 FC-4 1 5 097 JDJ 45 FC-4 1 5 097 JDJ 45 OTMER
711395 07 18 89 10250 676 5.643 6.470 NB 37 711396 07 18 89 10250 585 6.470 6.845 NB 25 711397 07 18 89 10250 585 7.465 6.425 NB 25	\$B 23 5 097 JDJ 45 OTHER 5 097 JDJ 60 FC-4
711391 07 18 89 10250 676 0.159 3.189 NB 23 711391 07 18 89 10250 676 3.189 3.400 NB 33 711392 07 18 89 10250 676 3.189 4.007 NB 33 711393 07 18 89 10250 676 3.400 4.007 NB 33 711394 07 18 89 10250 676 4.007 5.643 711395 07 18 89 10250 676 5.643 6.470 NB 34 711396 07 18 89 10250 585 6.470 6.845 NB 25 711398 07 18 89 10250 585 7.105 9.627 NB 35 711398 07 18 89 10250 585 7.105 9.627 NB 35 711398 07 18 89 10250 585 0.000 1.264	├─
	SB 45 5 097 JDJ 00 EC-4
(1) 101 01 1 155 3 11 260 60 60 6 77 5 7 6 7 7 7	2 090 JDJ 00 GTHER 1 5 020 JDJ 45 OTHER 1
	5 090 JDJ 45 FC-4 5 090 JDJ 55 OTHER
744404 07 47 66 - 2887X - 2873 - 64977 94V(1- NB 32	5 - 090 JDJ 00 NTHER 1
711405 07 17 89 10260 041 3.655 5.946 NB 36 711407 07 17 89 10290 582 0.000 0.505 EB 34	5 000
711409 07 17 89 10290 582 0.505 2.060 EB 36 711409 07 17 89 10290 582 2.060 3.210 EB 26 711410 07 17 89 10290 582 5.570 7.320 EB 37 711411 07 17 89 10290 582 7.320 7.654	- WB 29 5 088 JDJ 50 OTHER 4
- 711416 67 17 89 10290 582 7.320 7.654 711411 07 17 89 10290 582 7.654 7.904	WE 27 5 088 JDJ 00 OTHER 1
	WB 50 5 088 JDJ 55 OTHER 1

FLORIDA DEPARTMENT OF TRANSPORTATION MATERIALS OFFICE SKID RESEARCH SECTION.

$\frac{1}{2}$ 10 $\frac{7108}{3}$ 7108	DATE CO- 33 06 21 88 1	SEC-SUR SR NO. MF FR. 4010 045 0.000 4010 045 11.165	-72216 NB 40 S	B 38	SPEED RECORDER MFH SURFACE T	YPE JOB NO. 4 3515 4 3517
41 7.1.1.7	35 12 0 0 0 0 0 1 1 1 1 2 0 0 0 0 0 1 1 1 1	4010 0.000 4010 0.932 4010 0.45 1.879	~0.932 ~1.899 (1) \	B 38 5 093 B 41 3 066 B 32 7 3 066 B 39 3 066 B 38 3 066	10 JDJ 40 FC-4 40 JDJ 40 FC-4 40 JDJ 40 FC-4 40 JDJ 45 FC-4	935 <u>1.7</u> 1 1 1
7 7117 8 7117 9 7117 9 7117	39 12 06 90 1 40 12 06 90 1 41 12 06 90 1	4010 045 8.786 1010 045 9.600 1010 045 9.900	9.600 9.900 11.165	B 43 3 066 B 44 3 066 B 42 3 066	40 JDJ 45 EC=4 40 JDJ 55 FCC 40 JDJ 55 FC-4 40 JDJ 55 FCC	1
$\begin{array}{c c} 10 & 7112 \\ \hline 11 & 7112 \\ \hline 12 & 7112 \end{array}$	38 10 19 88 14 39 10 19 88 14 40 10 19 88 14	4030 055 0.000 1030 055 4.218 1030 055 6.263	4.218 NB 33 S 6.263 NB 32 S 13.996 NB 33 S	B 33 3 986 B 32 3 096 B 32 3 096	40 JDJ 55 EC=4 JDJ 00 FC-2 JDJ 00 FC-2 JDJ 00 FC-2	1
13 7112 14 7112 15 7117	42 10 19 88 14 43 10 19 88 14 43 12 06 90 14	4030 575 0.000 4030 575 0.718 1030 055 0.000	0.718 NB 34 0.878 NB 37	3 083 3 083 B 31 3 050	JDJ 55 OTHER JDJ 00 FC-4 JDJ 00 FC-2 40 JDJ 45 FC-2 40 JDJ 45 FC-2	
16 7117 17 7117 18 7117	45 12 06 90 14 46 12 06 90 14 47 12 06 90 14 48 12 06 90 14	1030 055 6.263 1030 055 13.837 1030 055 13.996 1030 595 0.000	13.837 NB 33 S 13.996 S 19.672 NB 27← S		40 JDJ 45 FC-2 40 JDJ 45 FC-2 40 JDJ 55 OTHER 40 JDJ 40 FC-4	
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22 7111 23 7111 24 7111 25 7111	75	1050 041 0.000 1050 041 3.943 1050 041 5.790 1050044	3.943 NB 34 5.790 NB 31 6.341 NE 29 4 S 13.531 NB 33 S	5 686 5 688 5 686 5 686 8 34 5 688	JĎJ 00 FČ-2 JDJ 35 OTHER 1 JDJ 45 FC-4 JDJ 00 FG-2	
25] 7111 26 7111 71111 71111	79 08 24 88 14 80 08 26 88 14 8408-26-8814	1050 035 14.463 1050 035 20.430 105003520.887	20.887 NB 38 22.082NB-32	5 088 B 34 5 089 5 088 5 088 5 088	JDJ 00 FC-4 JDJ 00 FC-4 JDJ 00 FC-4 JDJ	
23 71118 29 7117 30 7117 11 7117	13	1050 035 19.377 1050 041 0.000 10500413.943-	3.943 NB 36 5-790 NB 23	5 088 8 30 35 5 090 5 080 <u>5</u> 080	JDJ 00 FC-4 3 40 JDJ 55 FC-2 5 40 JDJ 55 FC-2 1 -40 JDJ 45 OTHER 1	3538
37 7117 33 7117 34 7117	19	050 035 13.531 050 035 15.687	15:687 NB 34 NB 34	5 080 8 35 5 080 8 39 5 080	40 JDJ 35 FC-4 1 40 JDJ 45 FC-2 1 40 JDJ 45 FC-4 1 -40 JDJ 55 FC-2	
35 7117; 34 7117; 37 7117;	23	050 035 19.430 050 035 19.650 050 035 20.070	20.270 NB 32 20.070 S 20.802 S	B 34 5 080 5 080 B 31 5 080 B 34 5 080	40 JDJ 55 FC-2 1 40 JDJ 55 FC-2 1 40 JDJ 55 FC-2 1 -40 JDJ 35 OTHER 1	·
38 71175 37 71136 40 71136	27. 10 31 90 14 93 05 26 89 14 94 05 26 89 14	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	575 77575 1195 777	5 080 B 24 5 090 B 37 5 090	40 JDJ 55 OTHER 1 40 JDJ 55 FC-4 1 JDJ 55 OTHER 1	
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10 90 3 2 7 10 350 000 0579 0000 1 3 1 0.249	0.499 0.247 30 127 0 0 0 5	95 73 2
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2 91 6 1 7 14 030 000 0055 0019 1 3 1 0.0	8.360 6.404 40 1632 5 0 0 16	6 95 82 3 C L
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· 2 91 6 1 7 14 030 000 0055 0019 1 3 1 5.360	14.005 7.659· 40 1458 <u>0 9 0 10</u>	0 90 85 5
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1219 1118 11117 1410 40 20 00 05 9 7 000 0 1 1 1 1 0 20	1.263 7.015 40 259170270770710	FOR THE PROPERTY OF THE PROPER
2 91 6 1 7 14 050 000 0039 0301 1 1 1 0.0	3.949 3.952 50 1529 5 7 10 15	5 58 77 2 C S
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2 91 6 i 7 14 050 000 0039 030i 1 2 1 5.834	6.341 0.583 30 156 0 0 10	0 90.80 2
<u>2 91 6 1 7 14 050 000 0039 0301 1 3 1 5 834</u>	13.458 7.705 50 899 0 0 0 5	0 95 90 2
1 91 6 1 7 14 050 000 0039 0301 1 2 1 6.341	13.458 7.541 50 851 0 0 0 5	95 90 2
2 91 6 1 7 14 050 000 0033 0098 1 1 13.458	14.649 1.119 30 342 6 0 0 5	<u>8 95 78 2 2 </u>
1 91 6 1 7 14 050 000 0035 0098 1 2 1 14.649	15.770 1.049 40 352 5 0 0 5	0 90 78 3 ₁ C c

APPENDIX F STRUCTURAL INVENTORY AND APPRAISAL REPORTS

ANTIONAL BRIDGE INVENTURY - STRUCTURE INVENTORY - AND APPRAISAL - 05/06 1 (1) STATE NAME - FLORIDA - CODE 104/52 1 (3) STATE NAME - FLORIDA - CODE 104/52 2 (3) STATUS - NO SIGNIFICANT DEFICIENCY 2 (3) INVENTORY ROUTE (ON/UNDER) - 14/1000000 3 (4) STATUS - NO SIGNIFICANT DEFICIENCY 4 (3) INVENTORY ROUTE (ON/UNDER) - 12/15 (AO 1.275 5 (4) FLORITY CARRIED - COUNTY LINE ROAD 6 (4) FLATURY CARRIED - 17/15 (AO 1.275 6 (4) FLATURY CARRIED - COUNTY LINE ROAD 7 (1) FACILITY CARRIED - COUNTY LINE ROAD 8 (11) HAILTHOUGHAN DEFINER HIGHMAY - NOT A DEFENSE HIGHMAY - NOT A DEFENS	!			<u>'</u>
1	/06/93	STRUCTURE_INVENTORY_AND_APPRAISAL05/06/5	NATIONAL BRIDGE INVENTORY	ا سند
(108) WEARING SURFACE / PROTECTIVE SYSTEM: CONC CODE 1 (108) WEARING SURFACE / PROTECTIVE SYSTEM: CODE 1 (108) WEARING SURFACE / PROTECTION SYSTEM: CODE 1 (108) WEARING SURFACE / PROTECTION (108) WEARING SURFACE / CONCRETE CODE 1 (108) WEARING SURFACE / CONCRETE CODE 1 (108) TYPE OF MEMBRANE / NONE CODE 0 (108) TYPE OF MEMBRANE / NONE CODE 0 (108) TYPE OF DECK PROTECTION NONE CODE 0 (108) WEARING SURFACE / NONE CODE 0 (108) WEARING SURFACE / NONE CODE 0 (108) TYPE OF MEMBRANE / NONE CODE 0 (108) WEARING SURFACE / NONE CODE 1 (108) WEARING SURFACE / NONE CODE 0 (10	1)	************************************* SUFFICIENCY RATING = 094.4 STATUS = NO SIGNIFICANT DEFICIENCY	2 ####################################	<i>(</i> ,)
(107) DECK STRUCTURE TYPE - CIP COMPOSITE CONC CODE 1 (108) WEARING SURFACE / PROTECTIVE SYSTEM: (60) SUBSTRUCTURE (60) SUBSTRUCTURE (61) CHANNEL & CHANNEL PROTECTION (61) CHANNEL & CHANNEL PROTECTION (62) CULVERTS (62) CULVERTS (63) SUPERSTRUCTURE (64) SUBSTRUCTURE (64) CHANNEL & CHANNEL PROTECTION (62) CULVERTS (62) CULVERTS (63) CULVERTS (64) OPERATING AND POSTING ************************************	× cope	******* CLASSIFICATION *********** COD	(3) COUNTY CODE 057 (4) PLACE CODE 00000	
(108) WEARING SURFACE / PROTECTIVE SYSTEM: CONC CODE 1 (59) SUPERSTRUCTURE (108) WEARING SURFACE / PROTECTIVE SYSTEM: CODE 1 (60) SUBSTRUCTURE (108) WEARING SURFACE / PROTECTION CODE 1 (61) CHANNEL & CHANNEL PROTECTION (108) WEARING SURFACE / PROTECTION CODE 1 (61) CHANNEL & CHANNEL PROTECTION (108) WEARING SURFACE / PROTECTION CODE 1 (62) CULVERTS (108) WEARING SURFACE / PROTECTION CODE 0 (64) CULVERTS (108) WEARING SURFACE / PROTECTION CODE 0 (64) CULVERTS (108) WEARING SURFACE / PROTECTION CODE 0 (64) CULVERTS (108) WEARING SURFACE / PROTECTION CODE 0 (64) CULVERTS (109) WEARING SURFACE / PROTECTION CODE 0 (64) CULVERTS (109) WEARING SURFACE / PROTECTION CODE 0 (64) CULVERTS (108) WEARING SURFACE / PROTECTION CODE 0 (64) CULVERTS (109) WEARING SURFACE / PROTECTION CO	8 06 0 0	(104) HIGHWAY SYSTEM - NON FEDERAL AID (26) FUNCTIONAL GLASS - RURAL MINOR ARTERIAL O (100) DEFENSE HIGHWAY - NOT A DEFENSE HIGHWAY (101) PARALLEL STRUCTURE - NONE EXISTS	COUNTY LINE ROAD (9) LOCATION - 2.5 MILES WEST OF CR-581 (11) MILEPOINT 001.950 (16) LATIJUDE 28 D 12.9! (17) LONGITUDE 082 D 21.3! (98) BORDER BRIDGE STATE CODE 000 % SHARE 00 %	
(107) DECK STRUCTURE TYPE - CIP COMPOSITE CONC CODE 1 (108) WEARING SURFACE - PROTECTIVE SYSTEM: (60) SUBSTRUCTURE (60) SUBSTRUCTURE (61) CHANNEL & CHANNEL PROTECTION (61) CHANNEL & CHANNEL PROTECTION (62) CULVERTS (62) CULVERTS (63) TYPE OF MEMBRANE - NONE CODE O (62) CULVERTS (63) DESIGN LOAD - UNKNOWN (106) YEAR RECONSTRUCTED - UNKNOWN (106) YEAR RECONSTRUCTED - HISHWAY - CODE 11 (64) INVENTORY RATING - HS-20 TRU (70) BRIDGE POSITING - EQ OR GT LEGAL LOAD NO POSITION - CODE 11 (28) LANES: DN STRUCTURE O2 UNDER STRUCTURE O6 (29) AVERAGE DAILY TRAFFIC - O01000 (109) YEAR OF ADT 1989 (109) TRUCK ADT O0 % (109) BYPASS, DETOUR LENGTH	1 N 14 0 15	(103) TEMPORARY STRUCTURE - NOT APPLICABLE (110) DESIGNATED NATIONAL NETWORK - NOT PART OF N (20) TOLL - ON FREE ROAD	11 (99) BORDER BRIDGE STRUCTURE NO. # 12	
(108) WEARING SURFACE / PROTECTIVE SYSTEM: CONC CODE 1 (59) SUPERSTRUCTURE (108) WEARING SURFACE / PROTECTIVE SYSTEM: CODE 1 (60) SUBSTRUCTURE (108) WEARING SURFACE / PROTECTION CODE 1 (61) CHANNEL & CHANNEL PROTECTION (108) WEARING SURFACE / CONCRETE CODE 1 (61) CHANNEL & CHANNEL PROTECTION (108) WEARING SURFACE / PROTECTION CODE 0 (62) CULVERTS (109) WEARING SURFACE / PROTECTION CODE 0 (62) CULVERTS (109) WEARING SURFACE / PROTECTION CODE 0 (62) CULVERTS (109) WEARING SURFACE / PROTECTION CODE 0 (62) CULVERTS (109) WEARING SURFACE / PROTECTION CODE	01 01 18 5	(21) MAINTAIN - STATE HIGHWAY AGENCY (22) OWNER - STATE HIGHWAY AGENCY 0 (37) HISTORICAL SIGNIFICANCE - NOT ELIGIBLE FOR	TYPE GIRDER & FLOORBEAM SYSTEM CODE 103 [44] STRUCTURE TYPE APPR: MATERIAL - OTHER CODE 000	
(106) YEAR RECONSTRUCTED (107) HS-20 TRU (107) BRIDGE POSTING - EQ. OR. GT. LEGAL LOAD NO. P. (108) LANES: ON STRUCTURE OZ UNDER STRUCTURE OF OCIONO O	: CODE 21 22 22 22 22 22 22 22 22 22 22 22 22	******** CONDITION *************** COD (58) DECK (59) SUPERSTRUCTURE (60) SUBSTRUCTURE	107) DECK STRUCTURE TYPE - CIP COMPOSITE CONC CODE 1 (108) WEARING SURFACE / PROJECTIVE SYSTEM:	1
(106) YEAR RECONSTRUCTED (107) BRIDGE POSTING - EQ. OR. GT. LEGAL LOAD NO. P. CODE 11 (107) BRIDGE POSTING - EQ. OR. GT. LEGAL LOAD NO. P. CODE 11 (108) LANES: ON STRUCTURE OF OR CLOSED -	N 25 N 26 N 27	(61) CHANNEL & CHANNEL PROTECTION (62) CULVERTS	A) TYPE OF WEARING SURFACE CONCRETE CODE 1 20 B) TYPE OF MEMBRANE NONE CODE 0 C) TYPE OF DECK PROTECTION - NONE CODE 0	2
CODE 11 (41) STRUCTURE OR CLOSED - CORD - CODE 12 (28) LANES: ON STRUCTURE OR CLOSED - CODE 14 (41) STRUCTURE OR CLOSED - CORD - CODE 15 (29) AVERAGE DAILY TRAFFIC OR CLOSED - CODE 16 (29) AVERAGE DAILY TRAFFIC OR CLOSED - CODE 17 (30) YEAR OF ADT 1989 (109) TRUCK ADT OR CLOSED - CODE 17 (30) YEAR OF ADT 1989 (109) TRUCK ADT OR CLOSED - CODE 17 (30) YEAR OF ADT 1989 (109) TRUCK ADT OR CLOSED - CODE 17 (30) YEAR OF ADT 1989 (109) TRUCK ADT OR CLOSED - CODE 17 (30) YEAR OF ADT 1989 (109) TRUCK ADT OR CLOSED - CODE 17 (30) YEAR OF ADT 1989 (109) TRUCK ADT OR CLOSED - CODE 17 (30) YEAR OF ADT 1989 (109) TRUCK ADT OR CLOSED - CODE 17 (30) YEAR OF ADT 1989 (109) TRUCK ADT OR CLOSED - CODE 1980 (109) TRUCK ADT OR	72 72 72 72 72 72 72 72 72 72 72 72 72 7	(31) DESIGN LOAD - UNKNOWN (64) OPERATING - HS-20 TRU 25 (66) INVENTORY RATING - HS-20 TRU 24	22	2
(67) STRUCTURAL EVALUATION (68) DECK GEOMETRY (69) UNDERCLEARANCES, VERTICAL E HORIZONTAL (69) UNDERCLEARANCES, VERTICAL E HORIZONTAL (69) UNDERCLEARANCES, VERTICAL E HORIZONTAL (71) WATERWAY, ADEQUACY (72) APPROACH ROADWAY ALIGNMENT (50) CURB OR SIDEWALK: LEFT OO.O FT RIGHT OO.O FT (36) TRAFFIG SAFETY FEATURES (51) BRIDGE ROADWAY WIDTH CURB TO CURB (52) DECK WIDTH OUT TO OUT TO OUT (113) SCOUR CRITICAL BRIDGES (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) (53) APPROACH ROADWAY WIDTH (W/SHOULDERS)	A 10	(41) STRUCTURE OPEN, POSTED OR CLOSED - DESCRIPTION - OPEN, NO RESTRICTION	CODE 11 (28) LANES: ON STRUCTURE 02 UNDER STRUCTURE 06 (29) AVERAGE DAILY TRAFFIC 001000 (30) YEAR OF ADI 1989 (109) TRUCK ADT 00 %	2 2
000469 FT (72) APPROACH ROADWAY ALIGNMENT (50) CURB OR SIDEWALK: LEFT 00.0 FT RIGHT 00.0 FT (36) TRAFFIG SAFETY FEATURES (51) BRIDGE ROADWAY WIDTH CURB TO CURB (52) DECK WIDTH OUT TO OUT (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) (34) APPROACH ROADWAY WIDTH (W/SHOULDERS)	8 7 9	(67) STRUCTURAL EVALUATION (68) DECK GEOMETRY (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL (71) WATERWAY ADEQUACY	08 MÍ 29 *********** GEOMETRIC DATA **********************************	3
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 348 FT ********** OPPONSED TWO OUT HENTE	1111	(72) APPROACH ROADWAY ALIGNMENT (36) TRAFFIC SAFETY FEATURES (113) SCOUR CRITICAL BRIDGES 111	(49) STRUCTURE LENGTH 000469 FT (50) CURB OR SIDEWALK: LEFT 00.0 FT RIGHT 00.0 FT (51) BRIDGE ROADWAY WIDTH CURB TO CURB 040.1 FT (52) DECK WIDTH OUT TO OUT	3 3 3
33) BRIDGE MEDIAN - NO MEDIAN CODE O (75) TYPE OF WORK - NO IMPROVEMENT PLANNED CODE (34) SKEW O6 DEG (35) STRUCTURE FLARED ND (76) LENGTH OF STRUCTURE IMPROVEMENT 000000 (76) LENGTH OF STRUCTURE IMPROVEMENT 000000 (94) BRIDGE IMPROVEMENT COST		******** PROPOSED IMPROVEMENTS ********** (75) TYPE OF WORK - NO IMPROVEMENT PLANNED CODE OO (76) LENGTH OF STRUCTURE IMPROVEMENT 000000 F	(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) Ö48 FT (33) BRIDGE MEDIAN - NO MEDIAN CODE O (34) SKEW 06 DEG (35) STRUCTURE FLARED NO (10) INVENTORY ROUTE MIN VERT CLEAR 99 FT 99 IN	3
10 (53) MIN VERT CLEAR DVER BRIDGE ROWY 99 FT 99 IN (96) TOTAL PROJECT COST 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	,000 ,000 20	00191	1 Con Man Transfer of Control of the Man	3 3 40
13 111) PIER PROTECTION 2 MOT APPLICABLE N CODE N (90) INSPECTION DATE 91/08 (91) FREQUENCY 24	-24-MO	**************************************	-1 = -1.575 NAVISATION FOR ONLY ADDITIONS IN COSE OF	1:

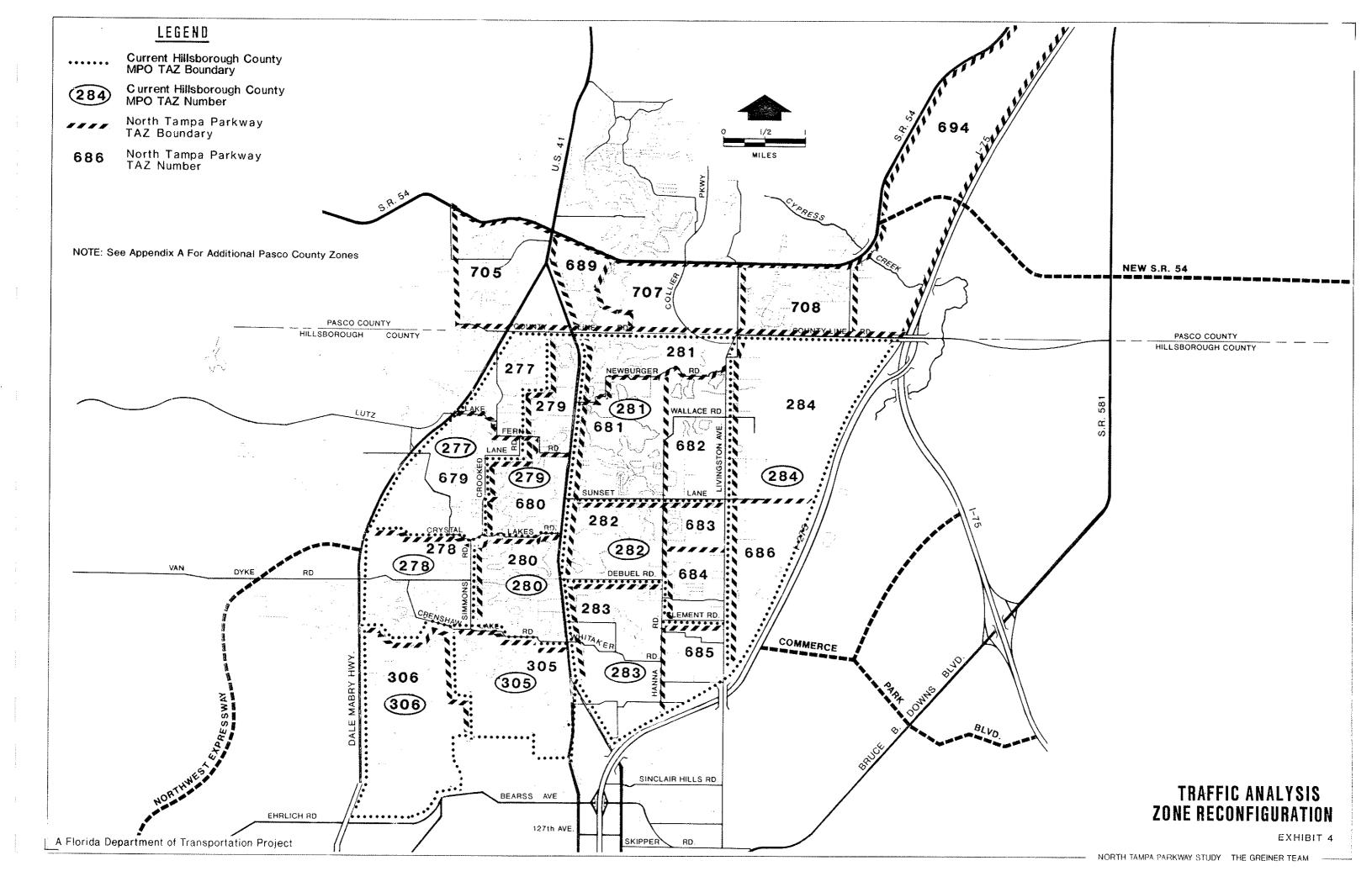
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	NATIONAL BRIDGE INVENTORYSTRUGTURE INVENTORY AND APPRAISAL 05/06/93	
٤.	10	is is
	(2) STATE HIGHWAY DEPARTMENT DISTRICT O7 (3) COUNTY CODE O57 (4) PLACE CODE O0000 ******************************	() and
	7 (7) FACILITY CARRIED + COLLINE RD. (112) NBIS BRIDGE LENGTH NON FEDERAL AID 8	
	9 (11) MILEPOINT 002.080 (100) DEFENSE HIGHWAY - NOT A DEFENSE HIGHWAY 0 10 (98) BORDER BRIDGE STATE CODE 000 % SHARE 00 % (102) DIRECTION OF TRAFFIC - TWO WAY TRAFFIC 2 11 (99) BORDER BRIDGE STRUCTURE NO. # (103) TEMPORARY STRUCTURE - NOT APPLICABLE N	10 10 22
	12	
1	TYPE - GIRDER & FLOORBEAM SYSTEM CODE 103 (21) MAINTAIN - STATE HIGHWAY AGENCY 01 (44) STRUCTURE TYPE APPR: MATERIAL - OTHER (37) HISTORICAL SIGNIFICANCE - NOT ELIGIBLE FOR 5	17 18
11	(45) NUMBER OF SPANS IN MAIN UNIT (46) NUMBER OF APPROACH SPANS (58) DECK (107) DECK STRUCTURE TYPE - CIP COMPOSITE CONC CODE 1 (58) SUPERSTRUCTURE (59) SUPERSTRUCTURE	7e 7: 7: 7: 7: 7: 7: 7: 7: 7: 7: 7: 7: 7:
20	163 LATITUDE OD D DO 001.LITI LONGITUDE OD D DO 0.00 OD D	75
22	******** AGE AND SERVICE ************************************	72 72
25 26 27	CODE 11 (41) STRUCTURE OF LEGAL LOAD NO P 5 (28) LANES: ON STRUCTURE OF LOSED A (29) AVERAGE DAILY TRAFFIC OOLOGO DESCRIPTION - OPEN, NO RESTRICTION	37 1
29	(19) BYPASS, DETOUR LENGTH (10) BYPASS, DETOUR LENGTH (1	136 177 189
31	(48) LENGTH DE MAXIMUM SPAN 0068 FT (71) WATERWAY ADEQUACY (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL 8 (71) WATERWAY ADEQUACY (72) APPROACH ROADWAY ALIGNMENT 8	40
33	(51) BRIDGE ROADWAY WIDTH CURB TO CURB 040.0 FT (113) SCOUR GRITICAL BRIDGES 1111 (52) DECK WIDTH OUT TO COUT (W/SHOULDERS) 042.8 FT ***********************************	43
35	TO A	15 J
37 38 39	CODE O (75) TYPE OF WORK - NO IMPROVEMENT PLANNED CODE OOO (76) LENGTH OF STRUCTURE IMPROVEMENT PLANNED CODE OOO (76) LENGTH OF STRUCTURE IMPROVEMENT OOOOOO FT (94) BRIDGE IMPROVEMENT COST (94) BRIDGE IMPROVEMENT COST (95) ROADWAY IMPROVEMENT COST (95) ROADWAY IMPROVEMENT COST (96) TOTAL PROJECT COST (96) TOTAL PROJECT COST (97) YEAR OF IMPROVEMENT	10 J
40	(114) FUTURE ADT STATE AND STATE OF STA	57
43	- (3S) NAVIGATION CONTROL - NOT APPLICABLE N CODE N SPECTION DATE 91) - FREQUENCY - 24 MO - 111) PIER PROTECTION - NOT APPLICABLE CODE N SPECTION DATE 101 PROTECTION - FREQUENCY - 24 MO - 111) PIER PROTECTION - NOT APPLICABLE CODE N SPECTION - (92) CRITICAL FEBRUARE N SPECTION - (93) CETTON - (9	75 75 70 70
15	**************************************	, el 0

NATIONAL BRICGE INVENTORYSIRUCTURE INVENTORY AND APPRAISAL 2 ***********************************	05/06/93
(8) STRUCTURE NUMBER: 140012 SUFFICIENCY RATING = 060-1 NVENTORY ROUTE (ON/UNDER) - ON = 141000540 STATUS = FUNCTIONALLY ORSOLETE	
6 (3) COUNTY CODE 101 (4) PLACE CODE 00000 *******************************	**** CODE
(104) HIGHWAY SYSTEM — FEDERAL AID SECOND (11) MILEPOINT — APPROX 4 MI E OF US-41 (26) FUNCTIONAL GLASS — RURAL MINOR ARTERI (104) HIGHWAY SYSTEM — FEDERAL AID SECOND (105) LATITUDE OF OUR OF 117) LONGITUDE OF US-41 (106) DEFENSE HIGHWAY — NOT A DEFENSE HIGH	ARY (4 A C C C C C C C C C C C C C C C C C C
(98) BORDER BRIDGE STATE CODE 000 % SHARE 00% (101) PARALLEL STRUCTURE NONE EXISTS (102) DIRECTION OF TRAFFIC - TWO WAY TRAFFIC (103) TEMPORARY STRUCTURE - NOT APPLICABLE	N 12 2 N 13
**************************************	0F N 0 (5)
15 (44) STRUCTURE TYPE APPR: MATERIAL - OTHER CODE DOO (37) HISTORICAL SIGNIFICANCE - NOT ELIGIBLE (45) NUMBER OF SPANS IN MAIN UNIT 006 **********************************	FOR 5
(107) DECK STRUCTURE TYPE - CAST IN PLACE CONC CODE 1 (59) SUPERSTRUCTURE (59) SUPERSTRUCTURE (60) SUBSTRUCTURE	77
B) TYPE OF MEMBRANE NONE CODE O (61) CHANNEL PROTECTION ON TYPE OF DECK PROTECTION - NONE CODE O ON TYPE OF DECK PROTECTION - NONE CODE O	6 N
(1) STATE NAME: FUDRIDA (2) (1) STATE NAME: FUDRIDA (3) (1) STATE NAME: FUDRIDA (4) (2) SUPFICIENCY RATING: CODE 124 (5) IAVENTORY ROUTE (ON/UNDER) - ON = 141000540 (6) STATUS = FUNCTIONALLY OBSOLETE (7) (6) ECATURE CONTRESSED (1) PLACE CODE 00000 (8) ECATURE CONTRESSED (1) PLACE CODE 00000 (9) LOCATION	***** CODE 246
UNDER - WATERWAY (28) LANES: ON STRUCTURE 02 UNDER STRUCTURE 00 (41) STRUCTURE OPEN, POSTED OR CLOSED - 10 DESCRIPTION - OPEN, NO RESTRICTION	NO-P 225 A 122
(30) YEAR OF ADI 1989 (109) TRUCK ADT 00 % ******** APPRAISAL ************************************	***** CODE
******** GEOMETRIC DATA **********************************	2 N 7
19 BYPASS, DETOUR LENGTH 10 MI (67) STRUCTURAL EVALUATION (68) DECK GEOMETRY (68) DECK GEOMETRY (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL (71) WATERWAY ADEQUACY (71) WATERWAY ADEQUACY (72) APPROACH ROADWAY ALIGNMENT (72) APPROACH ROADWAY ALIGNMENT (73) APPROACH ROADWAY WIDTH CURB TO CURB (74) COLOR (75) TYPE OF WORK - NO IMPROVEMENTS (75) TYPE OF WORK - NO IMPROVEMENT PLANNED (75) TYPE O	1110
32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 036 FT ************* PROPOSED IMPROVEMENTS ****** 35) (33) BRIDGE MEDIAN CODE 0 (75) TYPE OF WORK - NO IMPROVEMENT PLANNED 36) (34) SKEW 00 DEG (35) STRUCTURE FLARED NO (76) LENGTH OF STRUCTURE IMPROVEMENT	********** CODE 000 000000 FT
(34) SKEW OO DEG (35) STRUCTURE FLARED NO (76) LENGTH OF STRUCTURE IMPROVEMENT PLANNED (10) INVENTORY ROUTE MIN VERT CLEAR 99 FT 99 IN (94) BRIDGE IMPROVEMENT COST \$ (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 24.2 FT (95) ROADWAY IMPROVEMENT COST \$ (53) MIN VERT CLEAR OVER BRIDGE ROWY 99 FT 99 IN (96) TOTAL PROJECT COST \$ (54) MIN VERT UNDERCLEAR REF. NOT A HI OO FT OO IN (97) YEAR OF MARK OF MARKED STIMATE (56) MIN LAT UNDERCLEAR REF. NOT A HI OO OF T (114) FUTURE ADTIGMENT COST ESTIMATE	**************************************
10 THE THE STOCKE ADT	023951 2011
(38) NAVIGATION CONTROL - BRIDGE HAS NO NA CODE 0 (90) INSPECTION DATE 91/03 (-91) FREQUENCE (111) PIER PROTECTIONS NAVIGATION PROTECTI CODE 1 (92) CRITICAL FEATURE INSPECTION:	********* CY24_MO
(111) PIER PROTECTION - NAVIGATION PROTECTI CODE 1 (92) CRITICAL FEATURE INSPECTION: (93) (93) NAVIGATION VERTICAL CLEARANCE 000 FT A) FRACTURE CRIT DETAIL - NO MO A (116) VERT-LIFT BRIDGE NAV MIN VERT CLEAR 000 FT B) UNDERWATER INSPECTAL INSPECTACION B) UNDERWATER INSPECTACION HORIZONTAL CLEARANCE 0000 FT C) OTHER SPECIAL INSPECTACION C) ·

APPENDIX G TRAFFIC ANALYSIS ZONE RECONFIGURATION



APPENDIX H AGENCY CORRESPONDENCE

Ms. MacFarland May 10, 1990 Page 2

If you have any questions concerning our comments, please do not hesitate to contact us. Your interest in protecting Florida's archaeological and historic resources is appreciated.

Sincerely,

George W. Percy, Director
Division of Historical Resources

Law & Jean

and

State Historic Preservation Officer

GWP/lak

xc: Grover Rivers, Manager



Charles A. Black Chairman, Crystal River Roy G. Harrell, Jr. Vice Chairman, St. Petersburg Anne Bishopna Sager

Secretary, Venice

Joseph S. Casper Treasurer Tampa

Mary Ann Hogan Brooksville

Samuel D. Updike

Lake Wales Gordon D. Hartman

Bradenton David H. Knowiton

> Tampa Abby Misemer

> > Tampa

St. Petersburg

Andrew J. Lubrano

New Port Richev

Sally Thompson

Peter G. Hubbell

Mark D. Farrell

Kent A. Zaiser General Counsel

Executive Director

Assistant Executive Director

Southwest Florida Water Management District

2379 Broad Street (U.S. 41 South) Brooksville, Florida 34609-6899 D) (\$\overline{E}\$ (\$\overline{E}\$)] | \$\overline{E}\$ (\$\overline{E}\$)

November 19, 1990

Mr. Ronald W. Gregory Associate Vice President Greiner, Inc. P.O. Box 31646 7650 West Courtney Campbell Causeway Tampa, Florida 33607-1462

Subject: North Tampa Expressway

Dear Mr. Gregory:

I appreciate the opportunity to attend the November 16, 1 meeting regarding the alignment selection process for the ab referenced project.

Our discussions involved the environmental issues on falignments under consideration (A1, B1, B5, E1 and E2). comments were mainly in favor of alignment A1 as this one foll existing Highway 54 for the most part and therefore wo eliminate a new corridor to the south. The major impacts of to corridor are the Cypress Creek Crossing but since Highway 54 proposed for future widening anyway then from an environment perspective this alignment should be the only one considerate remaining alignments also will have to cross Cypress Creek well as additional areas of wetlands so that the acreage wetland impact will be much greater and not adjacent to existing corridor.

Permitting procedures look at evaluating alternatives to avoid minimize impacts to wetlands as part of a project. In this casince widening Highway 54 is an alternative under considerational and it is clearly the alternative with the least environment impacts it is the only one I can support.

Again I appreciate the opportunity to comment on this project If I can be of any further assistance please do not hesitate contact me at (904) 796-7211 extension 4369.

Sincerely,

John M. Post, Jr.

Environmental Scientist Supervisor Brc Asville Permitting Department Resource Regulation

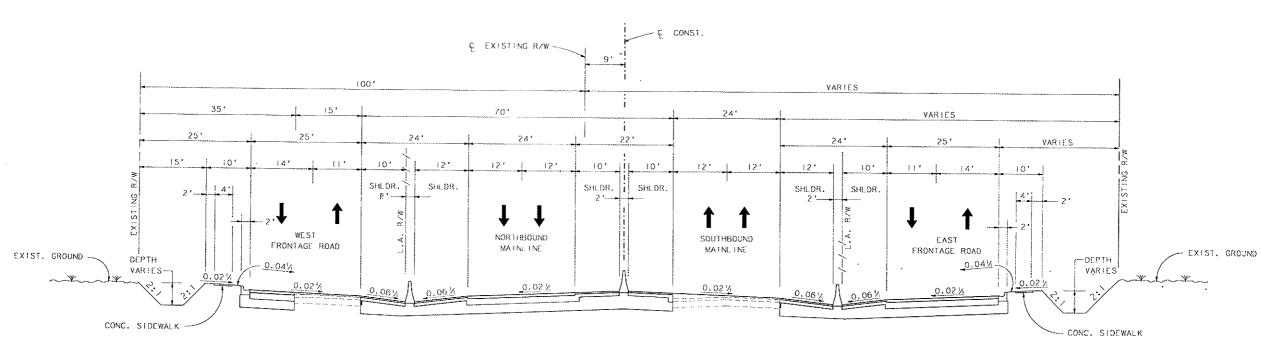
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office meeting to bunty, Florida.

ined in the ng review process a minimized and acts that cannot be eview of all of the ation/avoidance

APPENDIX I REDUCED PLAN SET - PREFERRED ALTERNATIVE



TYPICAL SECTION

DALE MABRY HIGHWAY (S.R. 597)

STATE PROJECT NO. 10160-2527

PROJECT NO.						
PROJECT DATES						
DATES	DESCRIPTION					
2-11-93	DRAFI					
3-29-93	REVISED					
5-19-93	FINAL	_				
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GREINER, INC.

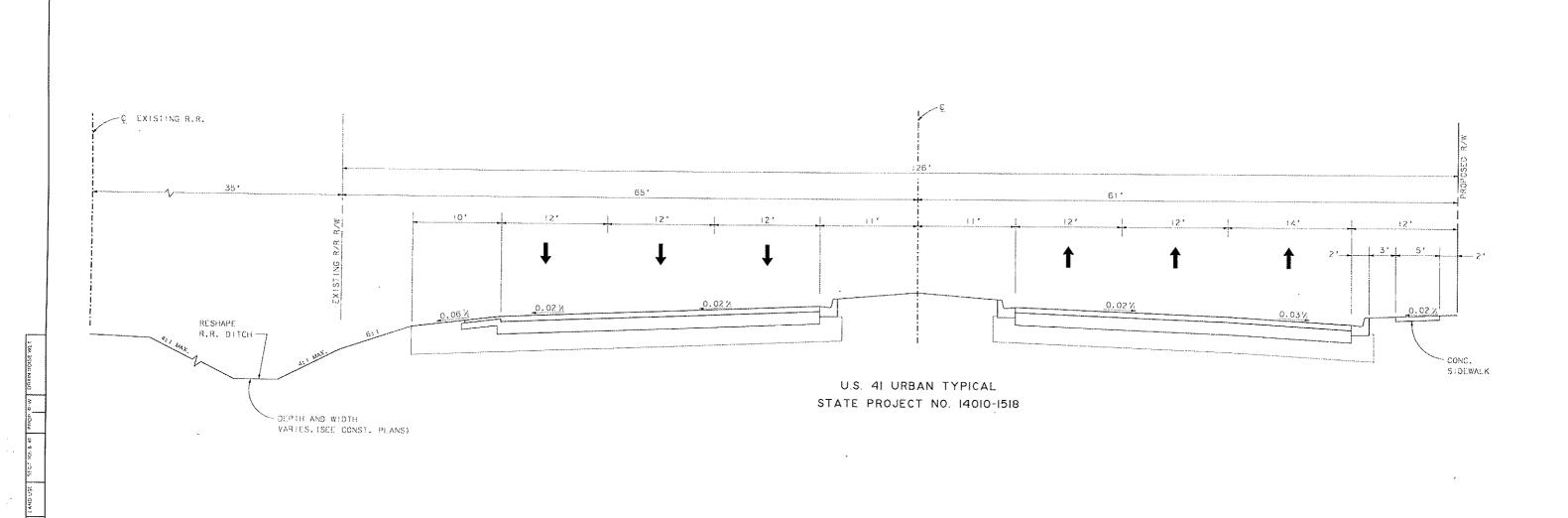
Engineers, Architects, and Planners Tampa, Florida TYPICAL SECTION
DALE MABRY HIGHWAY

NORTH TAMPA PARKWAY STUDY

FLORIDA DEPARTMENT OF TRANSPORTATION

STATE PROJECT NO. 10230-1521

HEET 1 of 16



PROJECT NO.

PROJECT DATES

DATES

0-19-03 FINAL

PROJECT NO.

GREINER, INC.

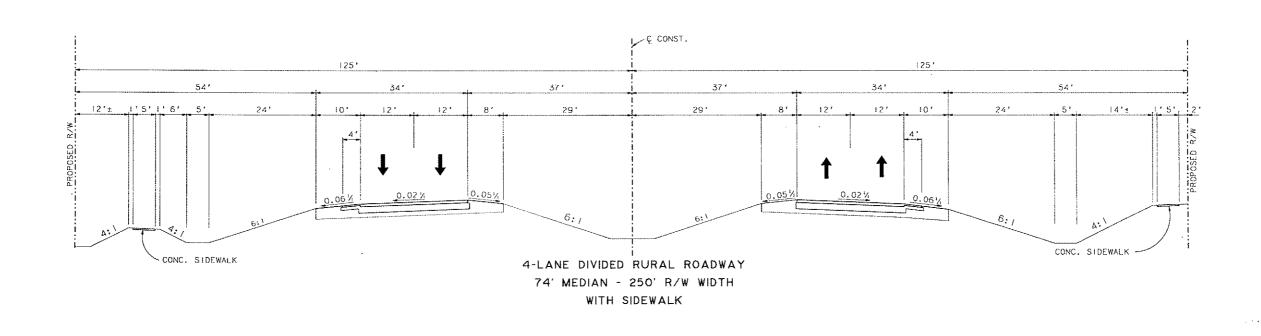
Engineers, Architects, and Planners Tampa, Florida **TYPICAL SECTION U.S. 41**

NORTH TAMPA PARKWAY STUDY

FLORIDA DEPARTMENT OF TRANSPORTATION

STATE PROJECT NO. 10230-1521

SHEET 2 of 16



PROJECT NO.

PROJECT DATES

DATES DESCRIPTION
1-28-93 DRAFT
3-29-93 REVISED

GREINER, INC.

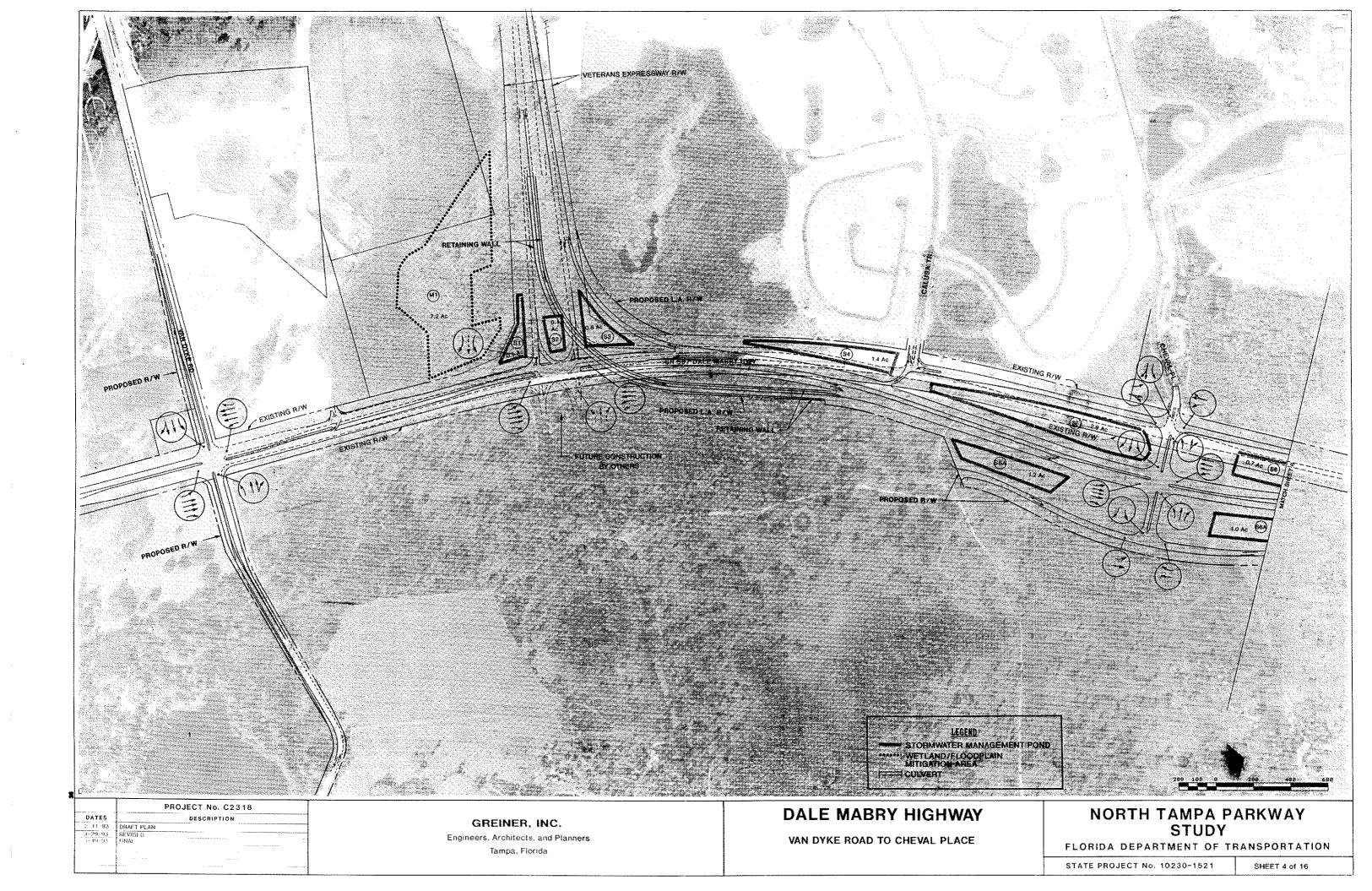
Engineers, Architects, and Planners Tampa, Florida **TYPICAL SECTION S.R. 54**

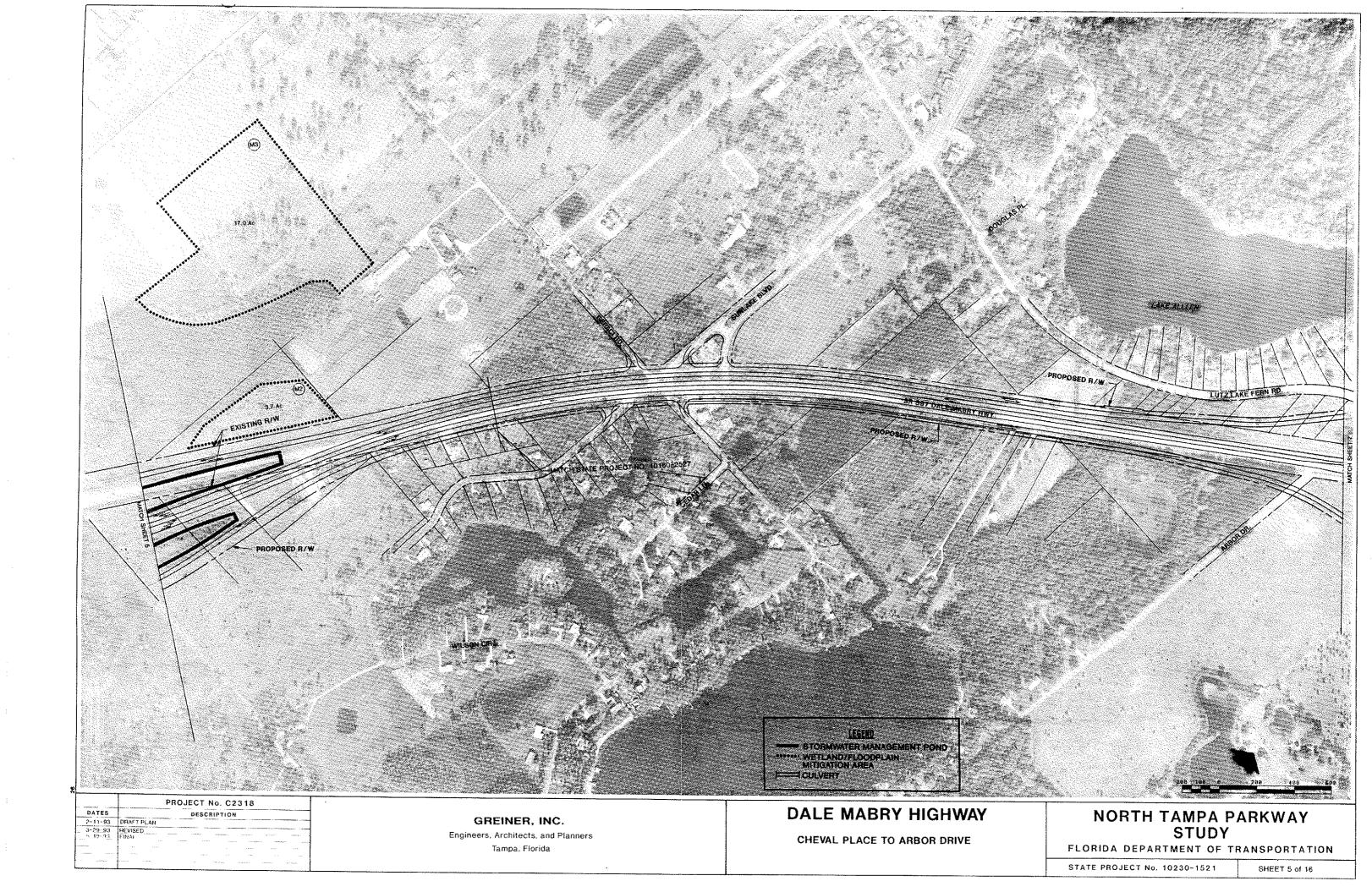
NORTH TAMPA PARKWAY STUDY

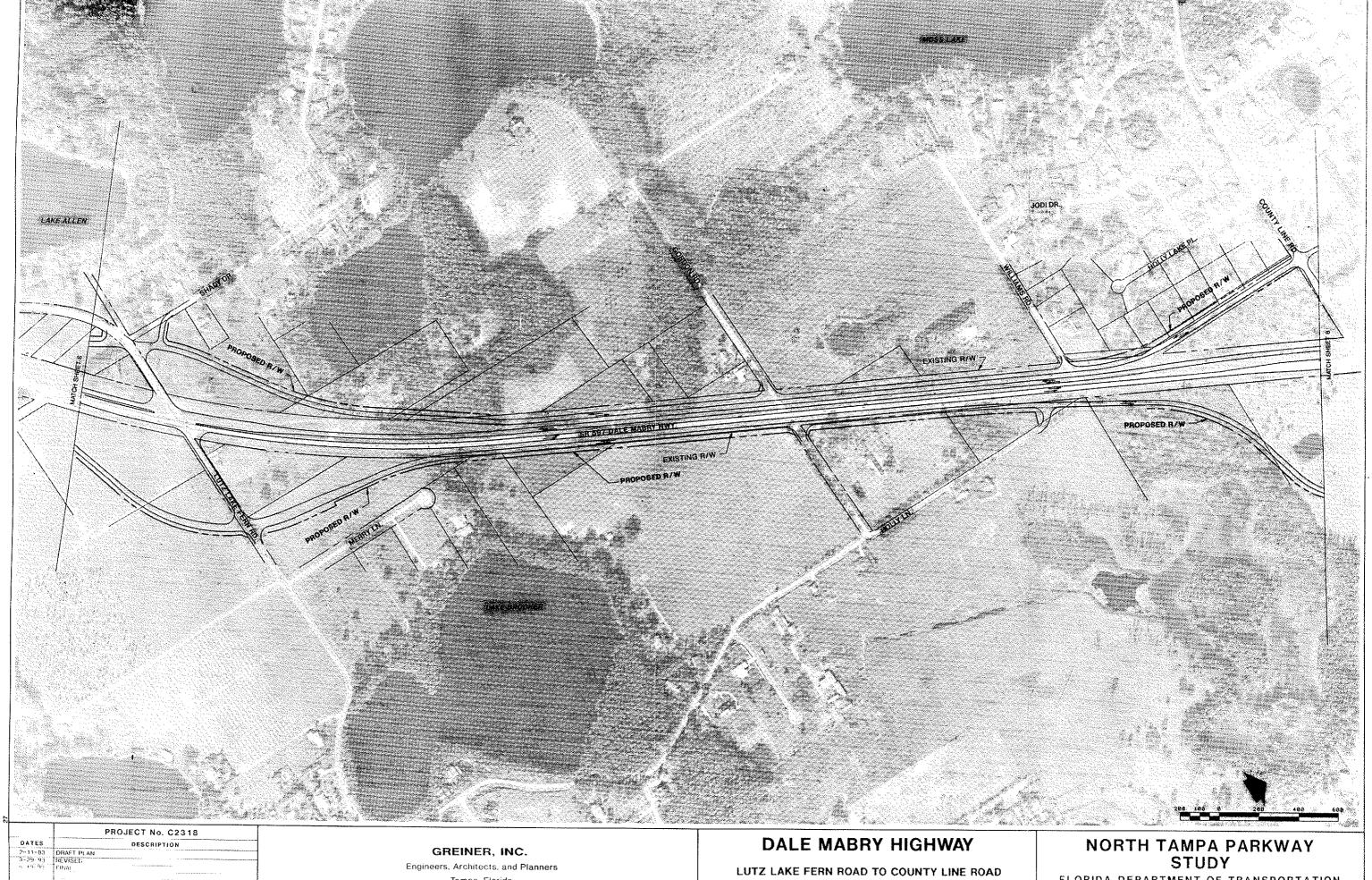
FLORIDA DEPARTMENT OF TRANSPORTATION

STATE PROJECT NO. 10230-1521

SHEET 3 of 16





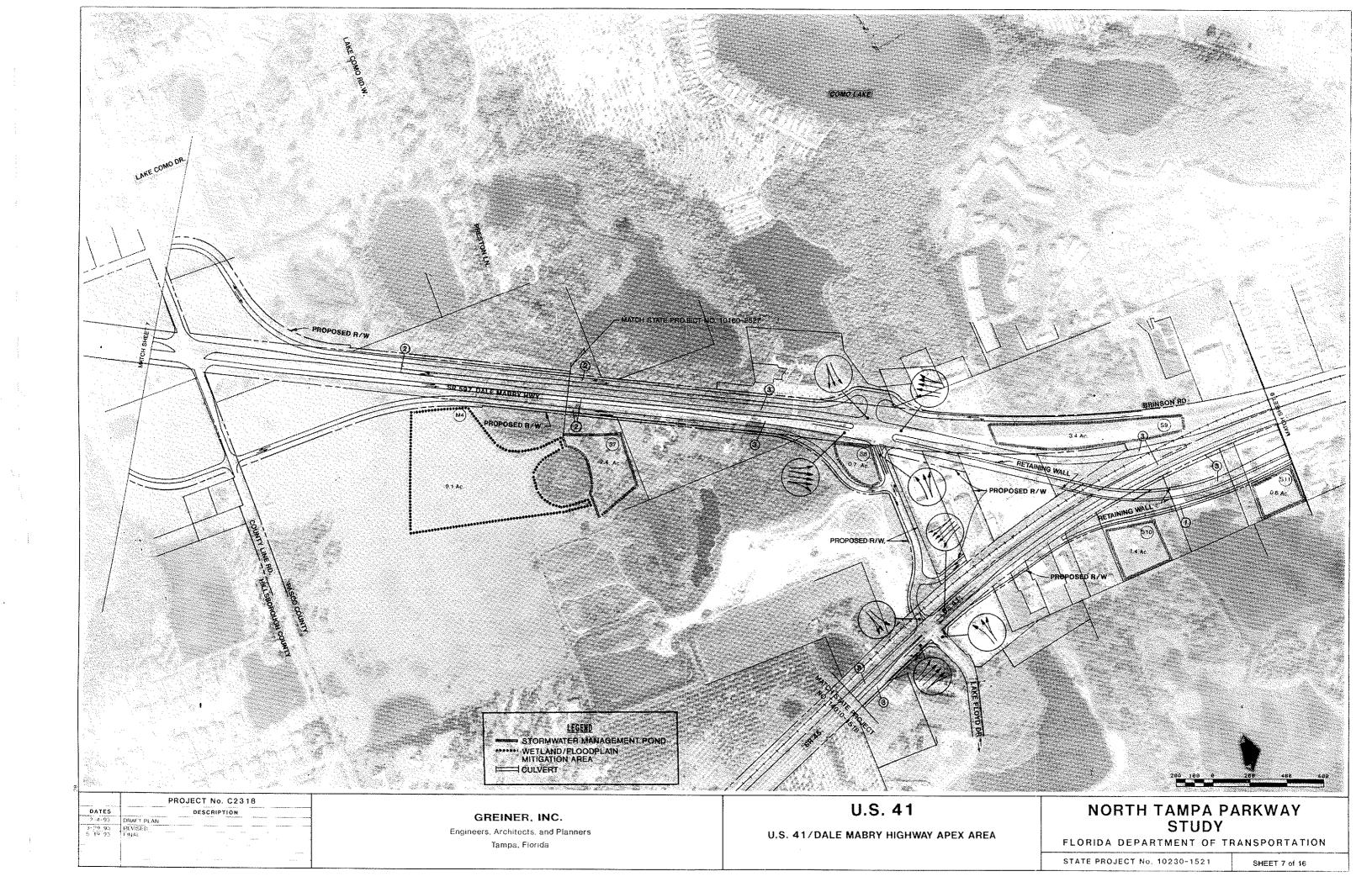


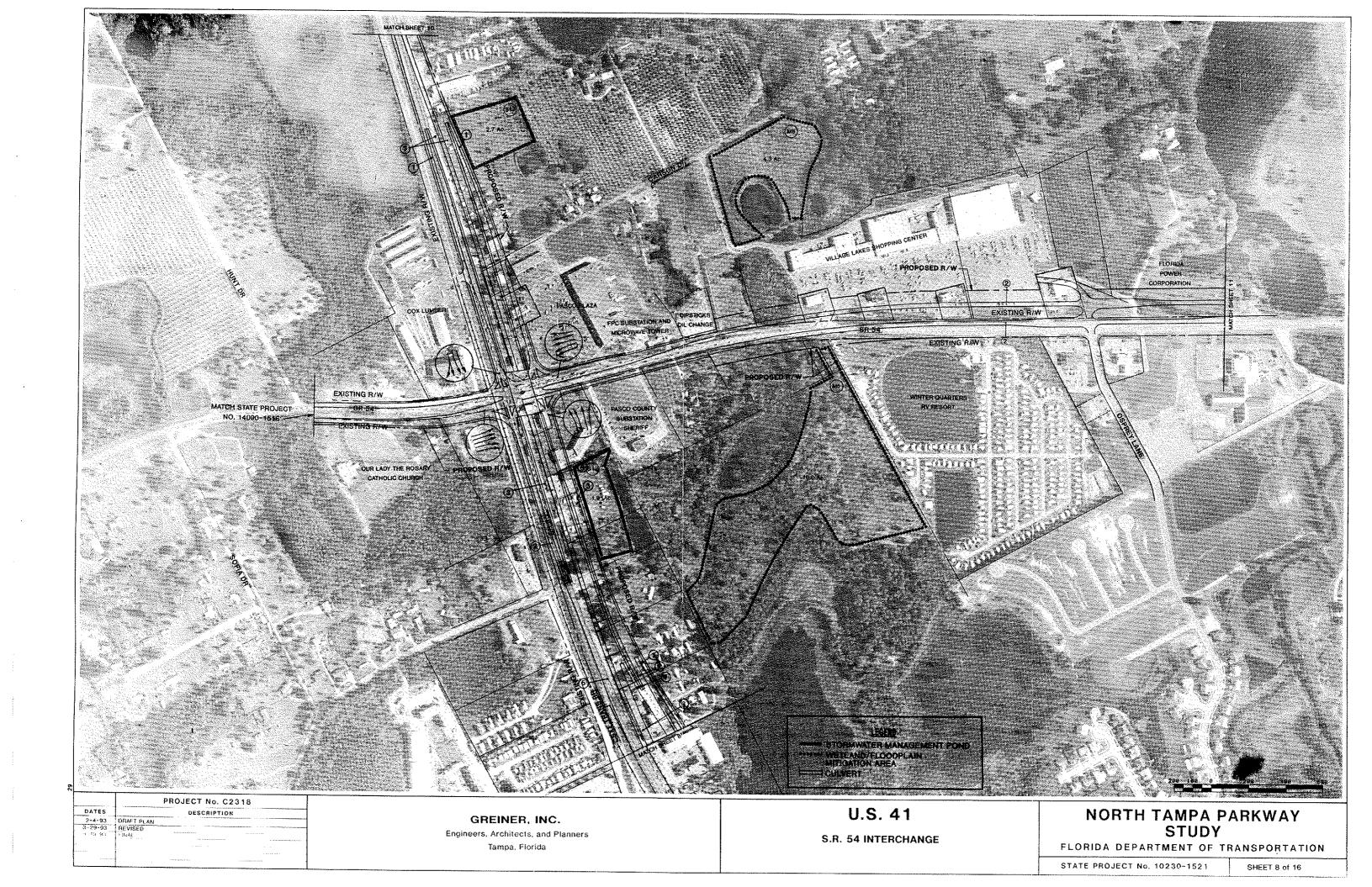
Tampa, Florida

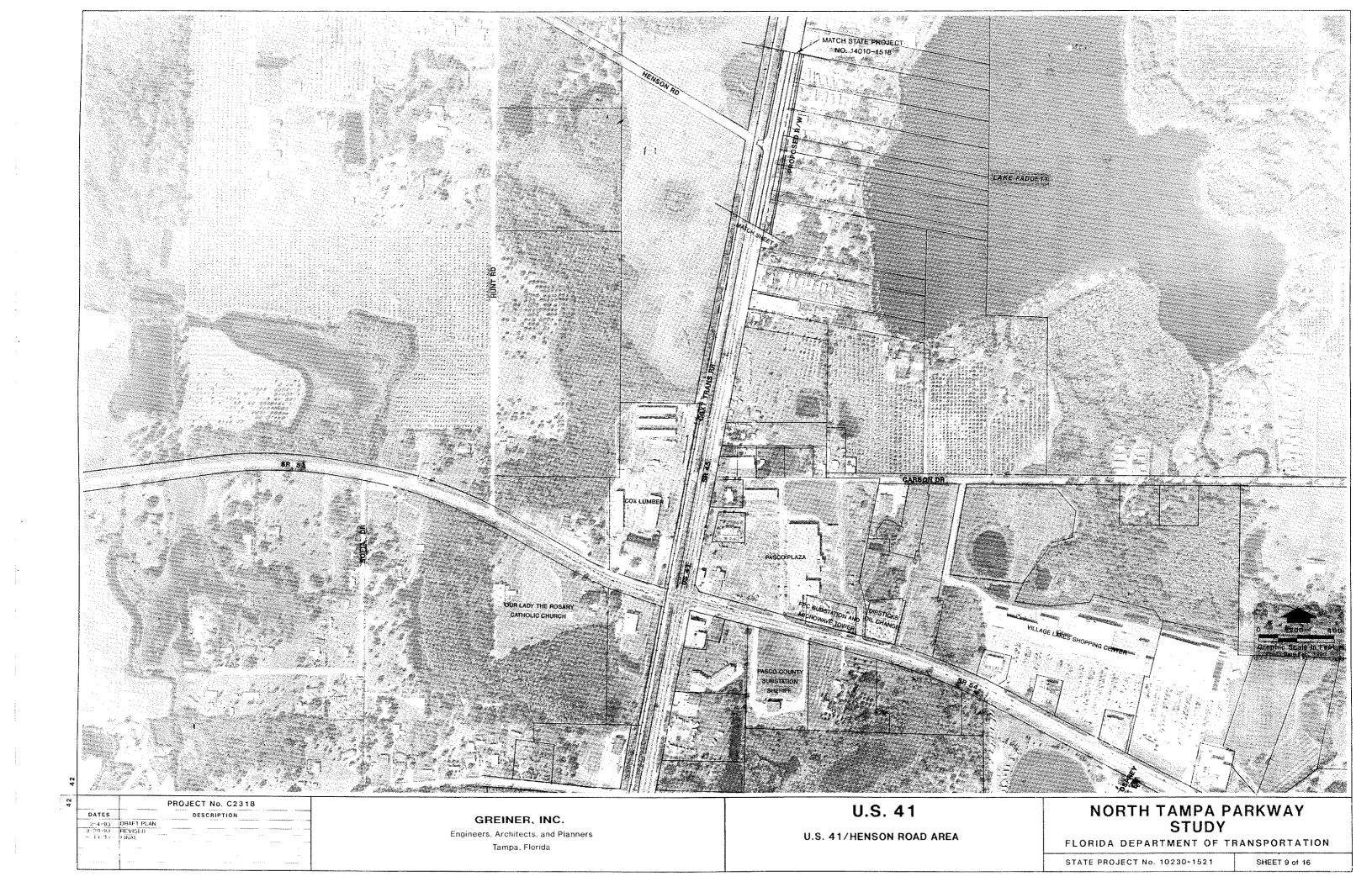
FLORIDA DEPARTMENT OF TRANSPORTATION

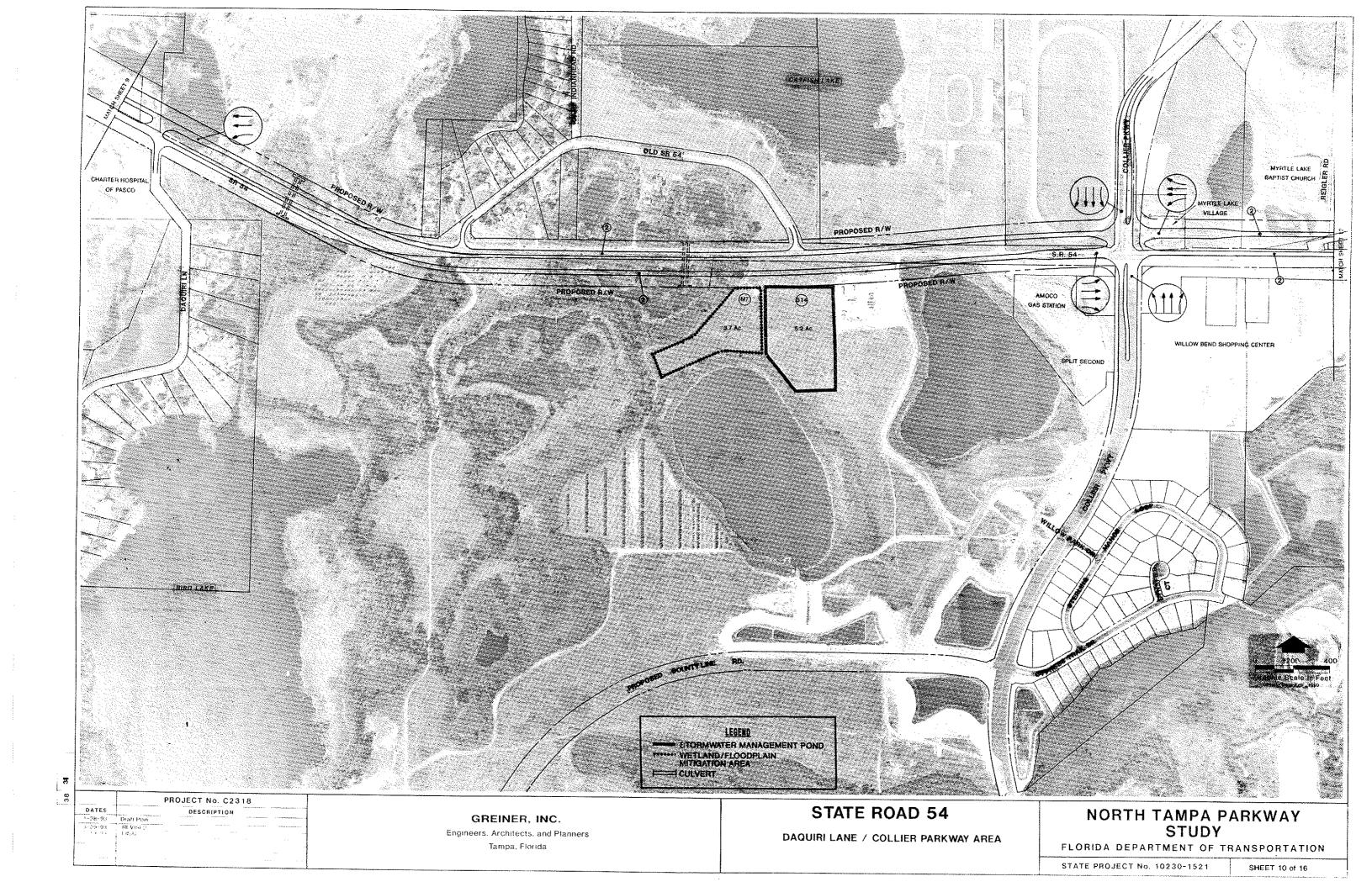
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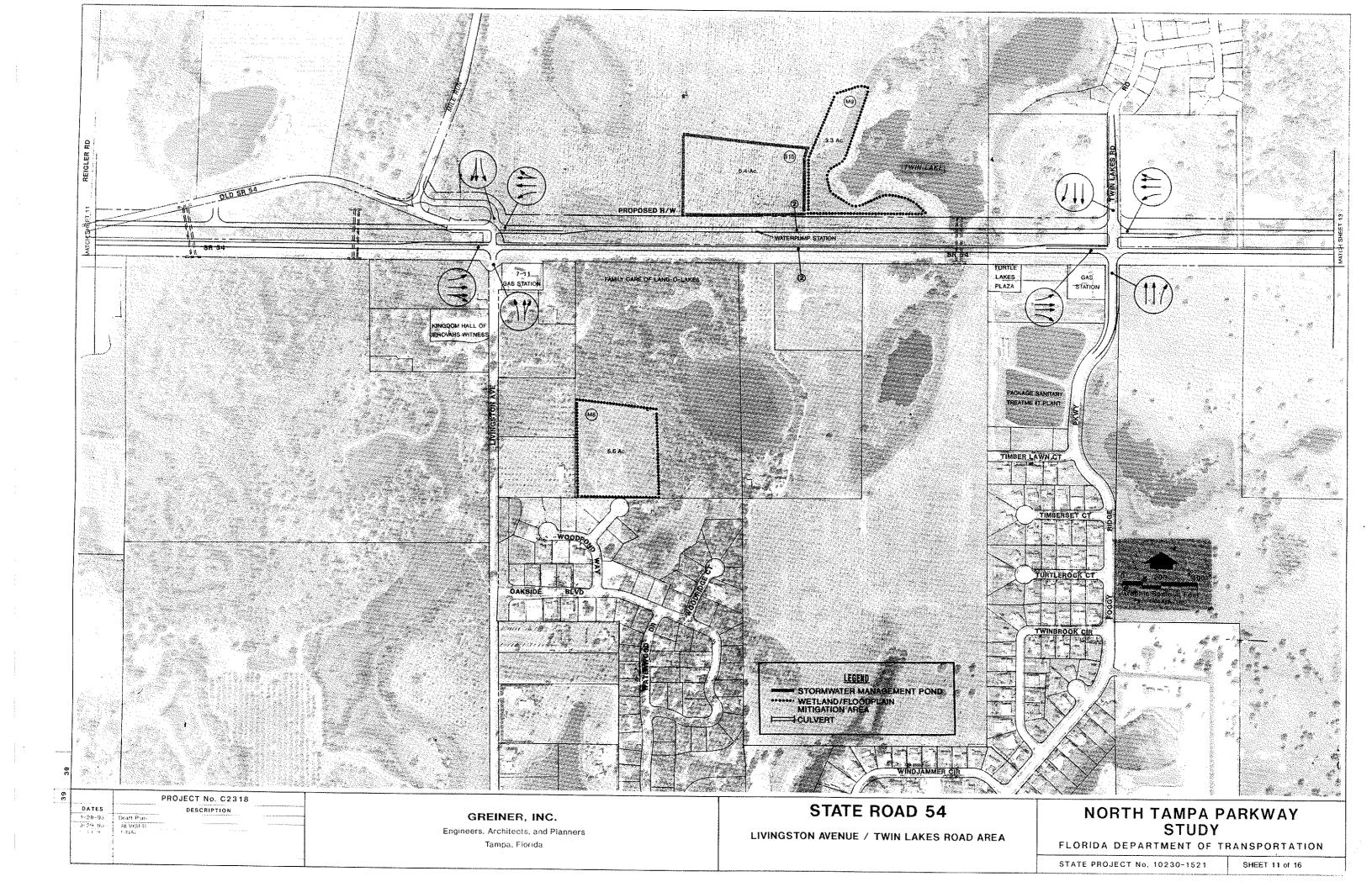
SHEET 6 of 16

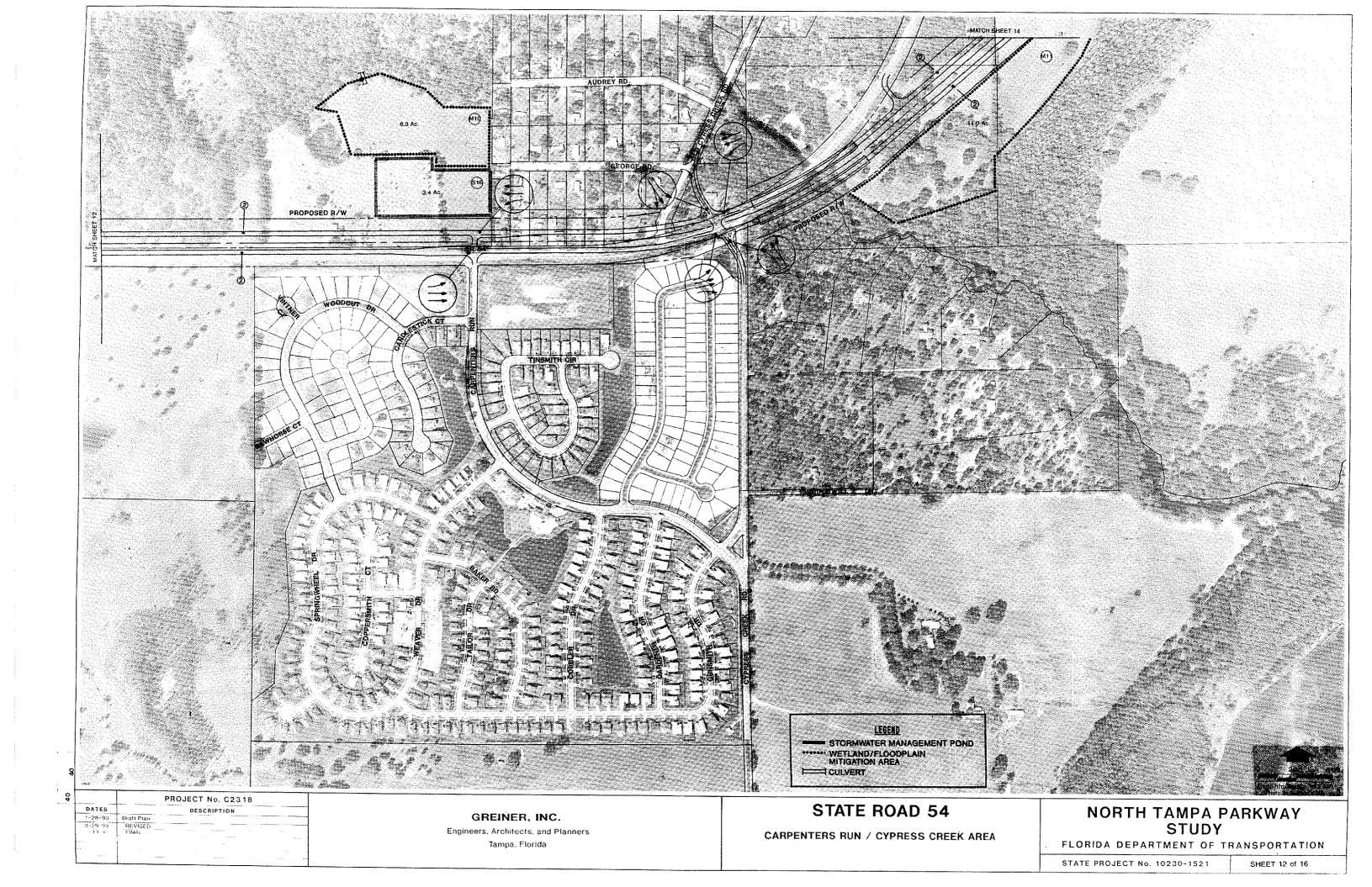




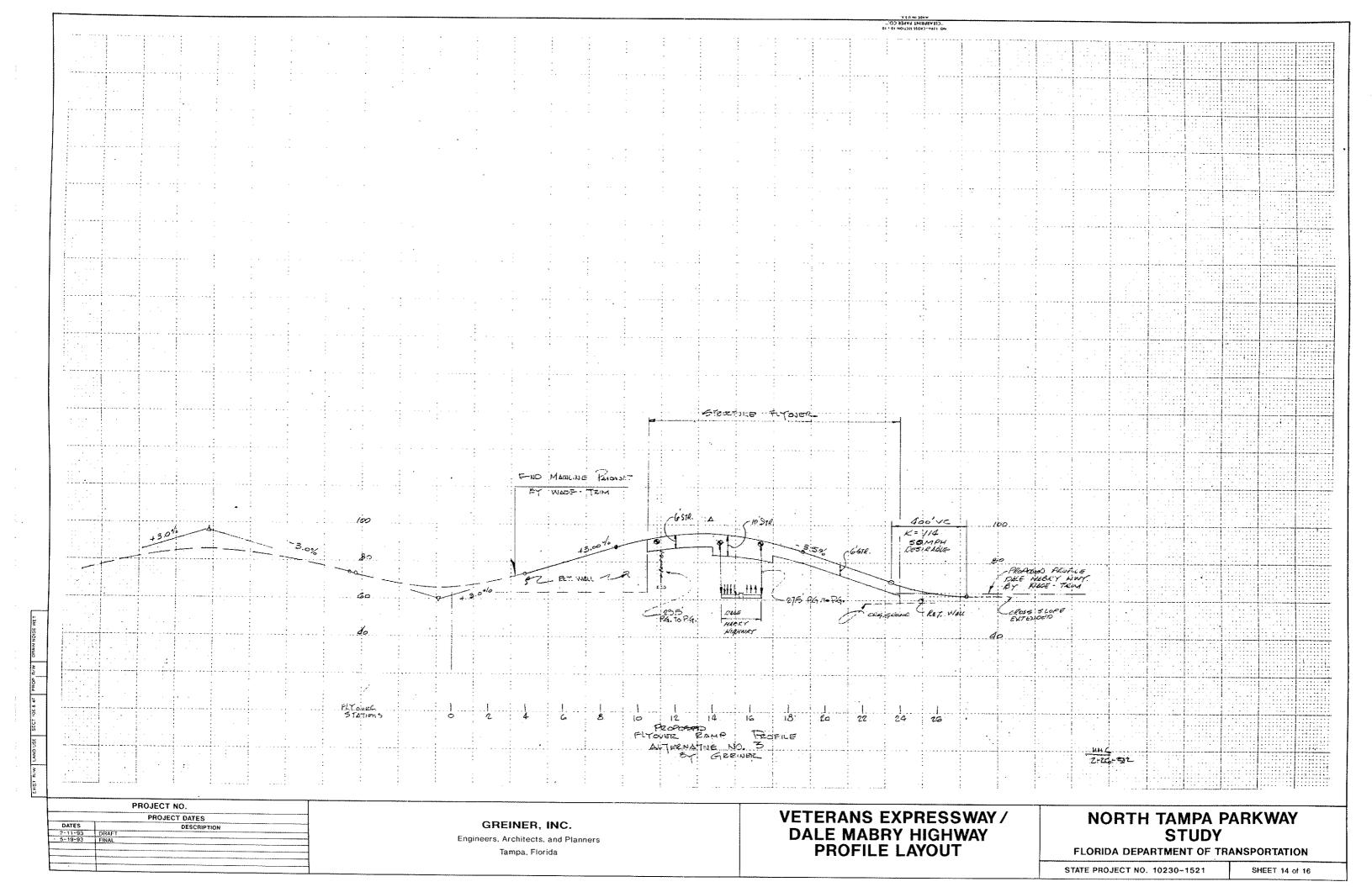


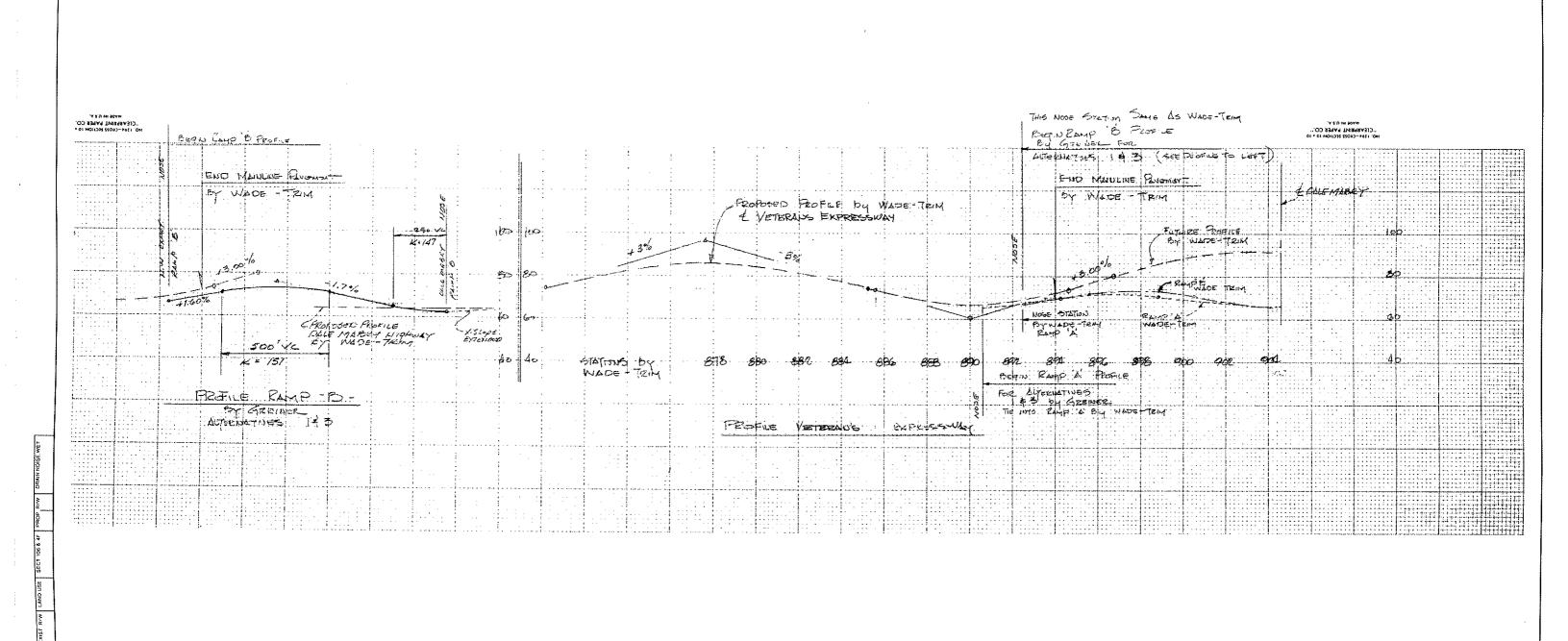












GREINER, INC.

Engineers, Architects, and Planners

Tampa, Florida

VETERANS EXPRESSWAY

PROFILE

NORTH TAMPA PARKWAY

STUDY

FLORIDA DEPARTMENT OF TRANSPORTATION

SHEET 15 of 16

STATE PROJECT NO. 10230-1521

PROJECT NO. C2318

PROJECT DATES

DATES

3-29-93 REVISED 5-19-93 FINAL

