

INTERSECTION ANALYSIS

for

Section 10270, S.R. 60
(Memorial Highway)
at
Kennedy Boulevard
M.P. 1.237

RWG
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Prepared For:

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT VII

Project No. 99007-1521
W.P.A. No. 7110017

Authorization No. 5
Assignment No. 2

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May 1991

EXECUTIVE SUMMARY

This study examines the traffic operation and safety at the S.R. 60 (Memorial Highway)/Kennedy Boulevard intersection.

To improve the present operation of the intersection, we recommend the following:

- i) Alter the lane designation in Sherrill Street to an exclusive right lane and a shared left and through lane. This will reduce the number of times the Sherrill Street signal phase operates.
- ii) Modify existing traffic signal timings (currently implemented by the City of Tampa) to reflect the heavy left-turn movement from the north to the east.
- iii) Modify the eastbound approach lane configuration to one left turn lane, two through lanes and a shared through and right lane, and alter the eastbound left turn signal control to protected/permitted operation. These changes will eliminate the existing eastbound left turn trap lane condition on the eastbound approach without detriment to the operation of the intersection.

These improvements are short-term relating to existing traffic volumes. Future traffic growth (including the construction of the Northwest Expressway) will result in the current geometry of this intersection becoming inadequate.

To ensure adequate operation of this intersection for the next ten years and beyond, we recommend that detailed consideration be given to the re-alignment of the intersection so that Memorial Highway (north) and Kennedy Boulevard (east) form the through legs of the intersection. This proposal is shown on the attached Plan.

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A	Count Data
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SECTION I EXISTING CONDITIONS

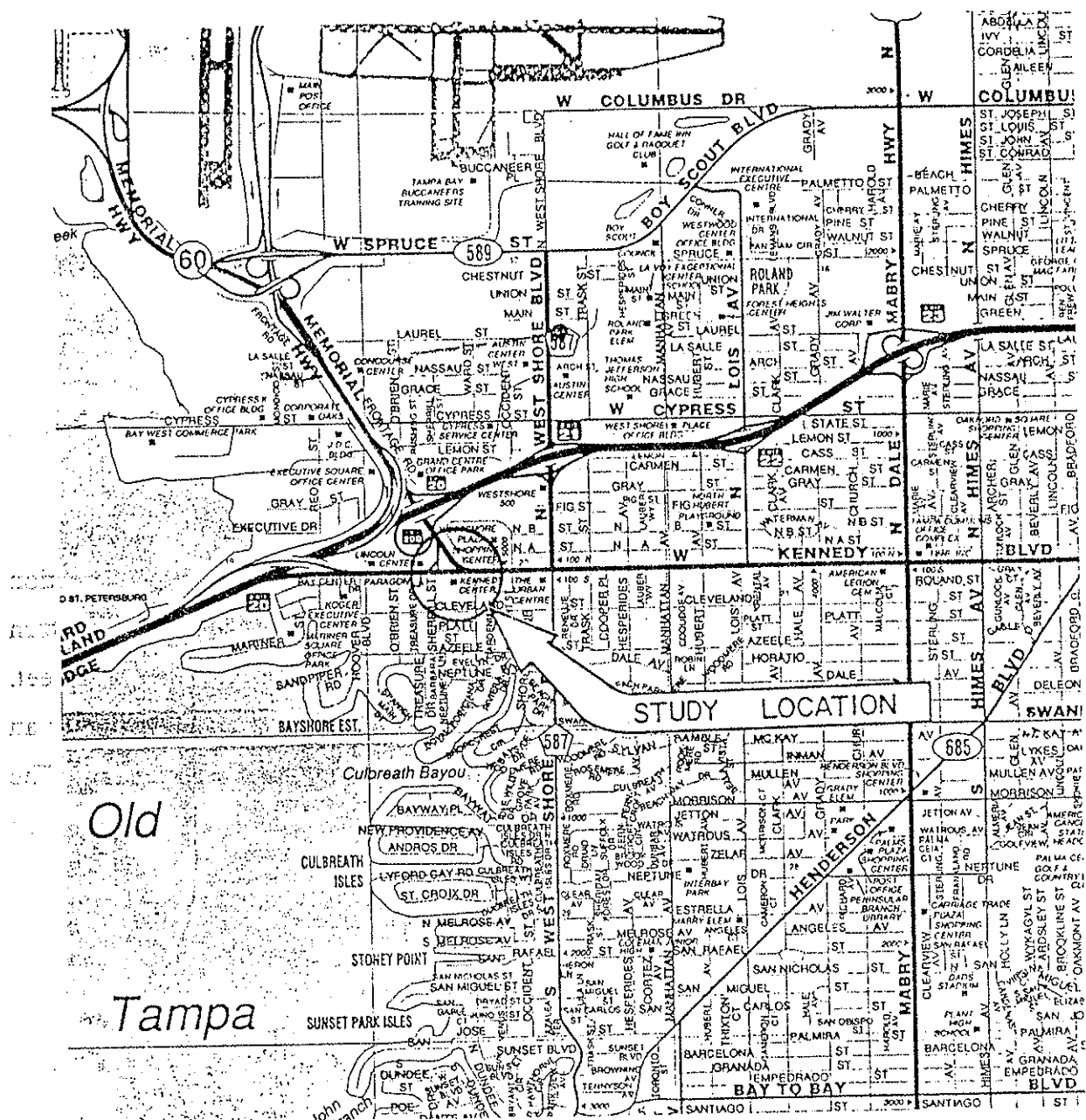
The intersection of S.R. 60 (Memorial Highway) and Kennedy Boulevard is in the City of Tampa. Figure 1 shows the general location of the intersection. Kennedy Boulevard is an east-west arterial through the City of Tampa. S.R. 60 is a major inter-regional route, connecting Pinellas and Hillsborough Counties via the Courtney Campbell Causeway.

INTERSECTION GEOMETRY

The intersection of S.R. 60 (Memorial Highway) and Kennedy Boulevard is presently signalized. The southern leg of the intersection, Sherrill Street, is a local street which also serves as an access point for a parking lot.

The three arterial road approaches to the intersection are divided. At its intersection with S.R. 60, Kennedy Boulevard has two through lanes in each direction, two left-turn lanes eastbound to S.R. 60 and a single westbound left-turn lane into Sherrill Street. The right-turn from Kennedy Boulevard on to Memorial Highway is provided by an exclusive right-turn lane located well in advance (425') of the main intersection. The Memorial Highway approach to the intersection consists of a right-turn lane, a left-turn lane and a shared left and through lane. Photographs of the intersection are included in Figure 2. A Condition Diagram for the intersection is shown in Figure 3.

The intersection is controlled by a traffic signal. The signal heads are suspended from a diagonal span wire supported by concrete strain poles on the northeast and southwest corners of the main intersection. Pedestrian signals operate on the north, west and south legs of the intersection.



SR 60 (MEMORIAL HIGHWAY) @ KENNEDY BLVD.

FIGURE 1 - LOCATION MAP

LOCATION: Section 10270, S.R. 60 (Memorial Highway) at Kennedy Boulevard., M.P. 1.237



PHOTO 1: East Approach of Kennedy Boulevard



PHOTO 2: East Approach of Kennedy Boulevard

FIGURE 2 - PHOTOGRAPHS OF INTERSECTION
(Page 1 of 3)

LOCATION: Section 10270, S.R. 60 (Memorial Highway) at Kennedy Boulevard), M.P. 1.237



PHOTO 3: West Approach of Kennedy Boulevard



PHOTO 4: South Approach of Sherrill Street

FIGURE 2 - PHOTOGRAPHS OF INTERSECTION
(Page 2 of 3)

LOCATION: Section 10270, S.R. 60 (Memorial Highway) at Kennedy Boulevard, M.P. 1.237

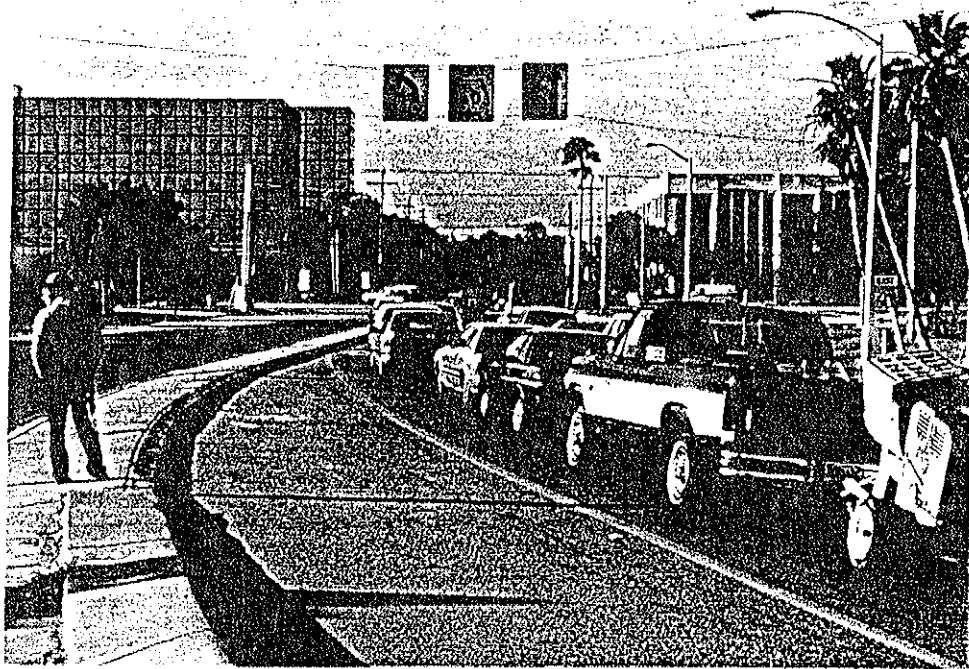


PHOTO 5: North Approach of Memorial Highway

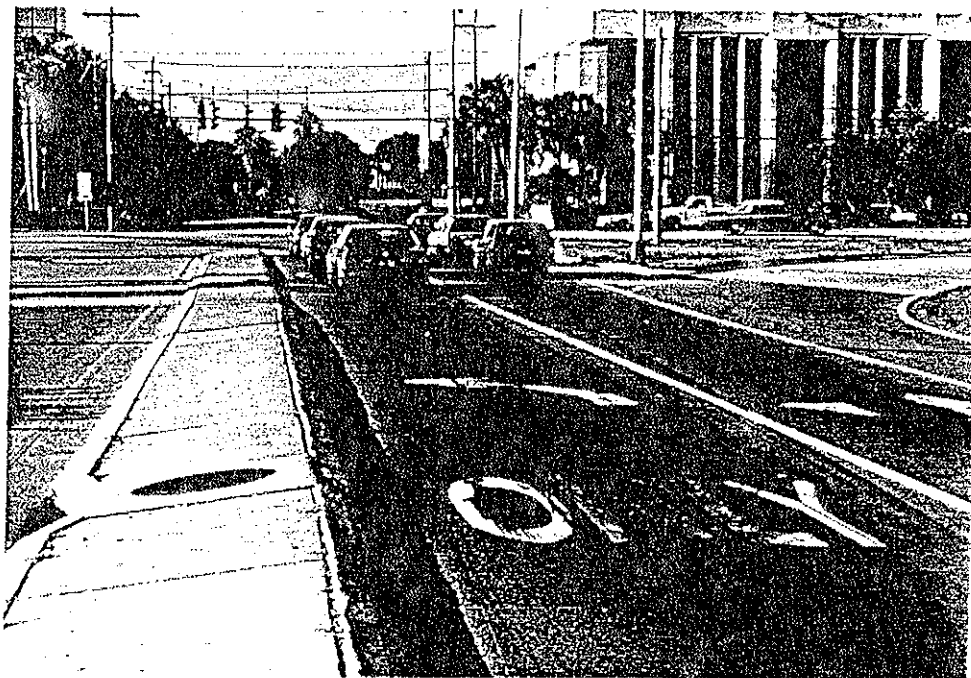


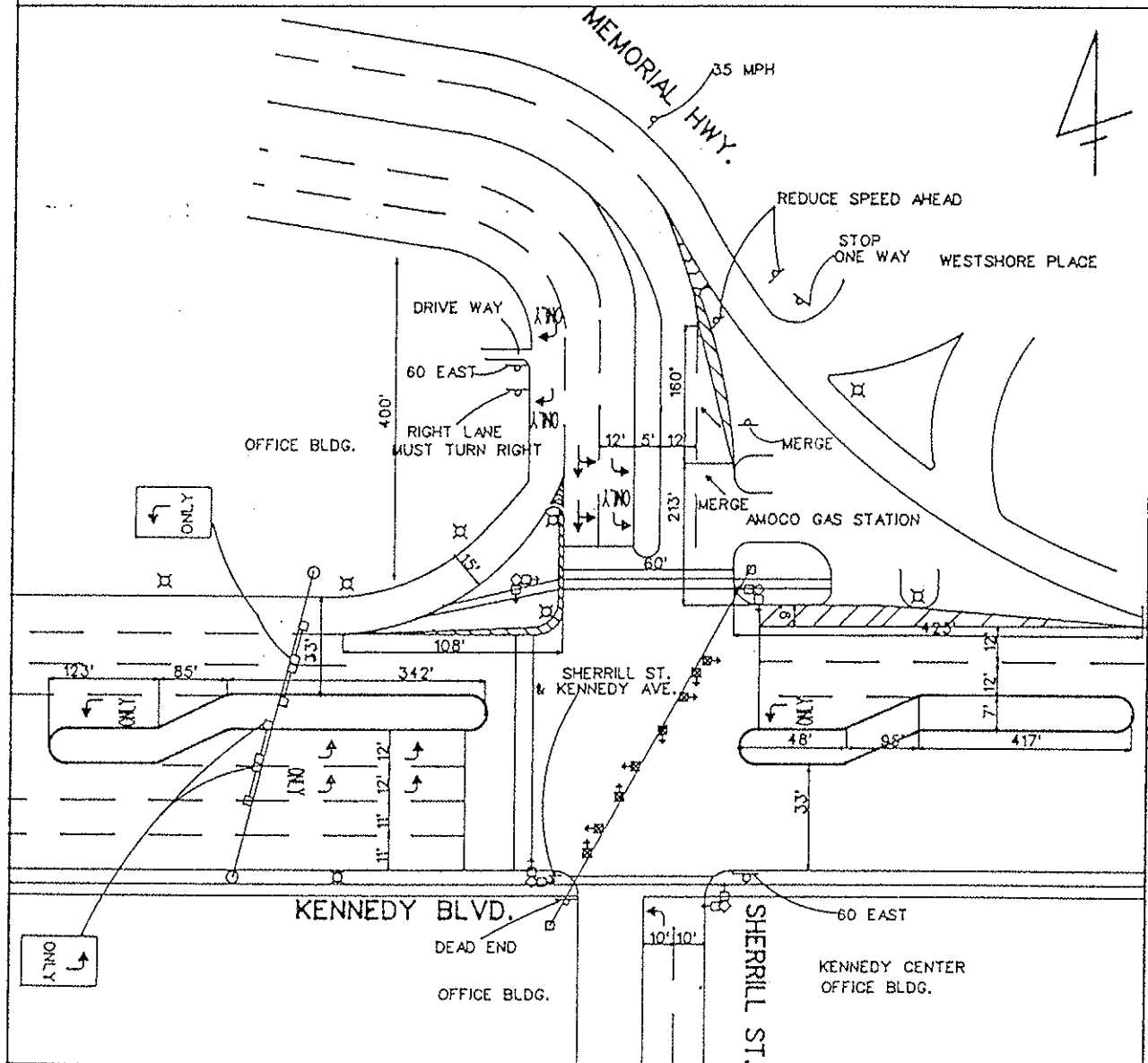
PHOTO 6: North Approach of Memorial Highway

FIGURE 2 - PHOTOGRAPHS OF INTERSECTION
(Page 3 of 3)

FLORIDA DEPARTMENT OF TRANSPORTATION CONDITION DIAGRAM



LOCATION I.D. SECTION 10270, SR 60 (MEMORIAL HWY.) AT KENNEDY BLVD., M.P. 1.237
 COUNTY HILLSBOROUGH CITY TAMPA
 DRAWN BY C.C.C. DATE MAY, 1990



SYMBOLS

TREES	STREET LIGHT	SIGN (1 POST)
SHRUBS	POWER POLE	SIGN (2 POST)
HEDGE	TELEPHONE POLE	OVERHEAD SIGN
BUILDING	COMBINATION POLE	TRAFFIC SIGNAL HEAD
RIGHT OF WAY LINE	TRAFFIC SIGNAL POLE	PEDESTRIAN SIG. HEAD
FENCE	HYDRANT	PED. PUSHBUTTON
GUARDRAIL	CONTROLLER CABINET	RR SIGNAL (W/GATE)
	VEHICLE DETECTOR LOOP	

TRAFFIC VOLUMES

DSA undertook an eight-hour turning movement count at the intersection in March 1990. The turning movement count included truck volumes and pedestrian and bicycle volumes.

Weather was clear and no accidents nor disturbances were noted which would detract from the validity of the data. The count data is included in Appendix A. Table 1 summarizes the eight-hour turning movement count.

ACCIDENT HISTORY

Detailed accident data for the years 1988 and 1989 was obtained from the City of Tampa.

Accident summary data for the years 1987-1988 was supplied by FDOT. Table 2 summarizes the accident data for the years 1987-1989.

TABLE 1



FLORIDA DEPARTMENT OF TRANSPORTATION SUMMARY OF VEHICLE MOVEMENTS

Location: Section 10270, S.R. 60 (Memorial Highway) at Kennedy Boulevard, M.P. 1.237

County: Hillsborough

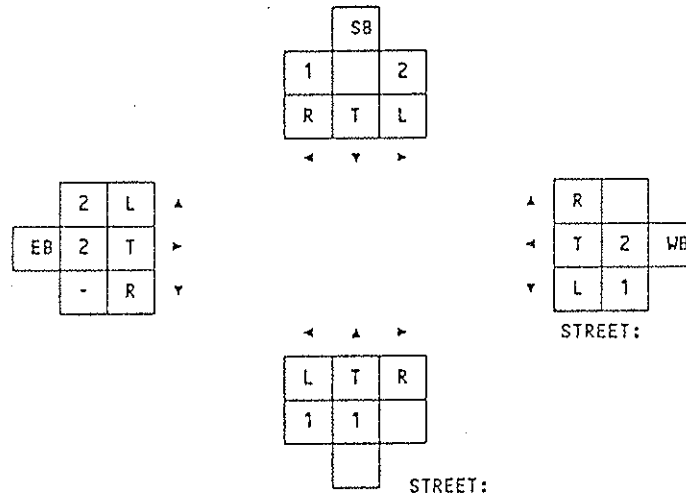
City: Tampa

Date: 03-28-90

Weather: Clear

Road Conditions: Dry

Remarks:



VEHICLE MOVEMENTS

TIME	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND			
BEGIN - END	T	R	T-R	L	T	R	T-R	L	T	R	T-R	L	T	R	T-R	L
7:00 a.m. - 8:00 a.m.	5	2		2	7	160		1,257	308	7		45	573	2		35
8:00 a.m. - 9:00 a.m.	1	5		2	3	193		1,201	389	11		52	809	4		52
9:00 a.m. - 10:00 a.m.	2	7		4	3	92		857	410	7		52	471	2		33
11:00 a.m. - 12:00 p.m.	11	14		10	2	38		994	612	3		114	442	5		46
12:00 p.m. - 1:00 p.m.	14	17		4	2	46		974	696	7		115	646	5		51
3:00 p.m. - 4:00 p.m.	16	10		6	7	24		961	480	9		105	427	7		21
4:00 p.m. - 5:00 p.m.	23	8		2	6	30		1,144	673	3		197	536	9		21
5:00 p.m. - 6:00 p.m.	27	6		9	22	44		1,416	792	1		261	666	16		11
TOTAL	99	69		39	52	627		8,804	4,360	48		941	4,570	50		270
PERCENT OF APPROACH	48	33		19	1	7		92	82	1		17	93	1		6

FLORIDA DEPARTMENT OF TRANSPORTATION
ACCIDENT SUMMARY



SECTION II

INTERSECTION ASSESSMENT

In considering the traffic operation and safety of this intersection a number of different factors were included in the analysis. This analysis includes both current operation and possible future geometric improvements.

QUALITATIVE ASSESSMENT

The intersection was observed during morning and evening peak periods by a qualified Engineer of DSA.

Based upon these inspections, the following comments are relative to the operation of the intersection:

- i) Pavement on each of the approaches is in good condition.
- ii) All signal displays are well located and operate satisfactorily.
- iii) Advance direction signing is well located and in good condition. However, most of the pavement markings at the intersection are worn and faded and require maintenance.
- iv) The current four-phase traffic signal operation is appropriate for the intersection. The four phases are:
 - 1. Eastbound left and through traffic.
 - 2. Eastbound and westbound through traffic.
 - 3. Southbound traffic.
 - 4. Northbound traffic.

The left-turn from Kennedy Boulevard into Memorial Highway (west to north) is controlled by green, yellow and red turn arrows. The left-turn from Kennedy Boulevard into Sherrill Street (east to south) does not have any turn arrows and is a permissive movement during the main street phase.

- vi) S.R. 60 just north of the intersection curves to the west. Traffic queued in S.R. 60, waiting to travel southbound, often extended back some 400' to the curve.
- vii) The green signal display for Sherrill Street (the northbound signal phase) occasionally operated even through there was no traffic waiting to enter the intersection.

Sherrill Street approach lanes are currently designated as an exclusive left-turn lane and a shared through and right lane. The incidence of the northbound phase being needlessly called might be reduced if the lane designation was altered to an exclusive right and a shared left and through. The right turn lane could then operate with a delay detector, thus eliminating right-turn traffic calling the northbound phase unless it has been substantially delayed.

- viii) Kennedy Boulevard traffic cleared every cycle, however, delays were experienced for traffic southbound on Memorial Highway.
- ix) Extra pavement exists on the westbound approach of Kennedy Boulevard such that an additional through lane could be provided. Modification would be required to the S.R. 60 right turn island so that the additional lane could continue through the intersection (see photo 2 of Figure 2). This option is considered further in Section III - Geometric Improvements.

ACCIDENT ANALYSIS

In addition to the Accident Summary Data in Table 2 (Section I, Page I-9) a Collision Diagram has been prepared for the intersection. Figure 4 is the Collision Diagram for the intersection covering the years 1988 and 1989.

Four of the five accidents shown in the Collision Diagram occurred on the eastern approach of Kennedy Boulevard and three of the five were rear-end collisions. Two of the five accidents in the two year period shown in the Collision Diagram involved personal injury. All five of the accidents are of a type commonly found at signalized intersections.

TRAFFIC SIGNAL OPERATION

The current signal operation is four-phase within an interconnected system along Kennedy Boulevard. Cycle length in both the AM peak period and the PM peak period is 136 seconds. The current timings, level of service and average delay per vehicle are shown in Table 3.

TABLE 3 - CURRENT TRAFFIC SIGNAL OPERATION

	PERCENT OF CYCLE (1)					LEVEL OF SERVICE (3)	AVG. DELAY SEC./VEH. (3)
	8.2	32.8	47.8	11.2			
					AM PEAK	D	26.7
PHASE (2)	1	2	3	4			
	18.1	23.9	47.0	11.0	PM PEAK	F	72.1

NOTE: (1) Data provided by City of Tampa.

(2) For phase descriptions see page II-1.

(3) As calculated by Highway Capacity Manual Software (data sheets included in Appendix B).

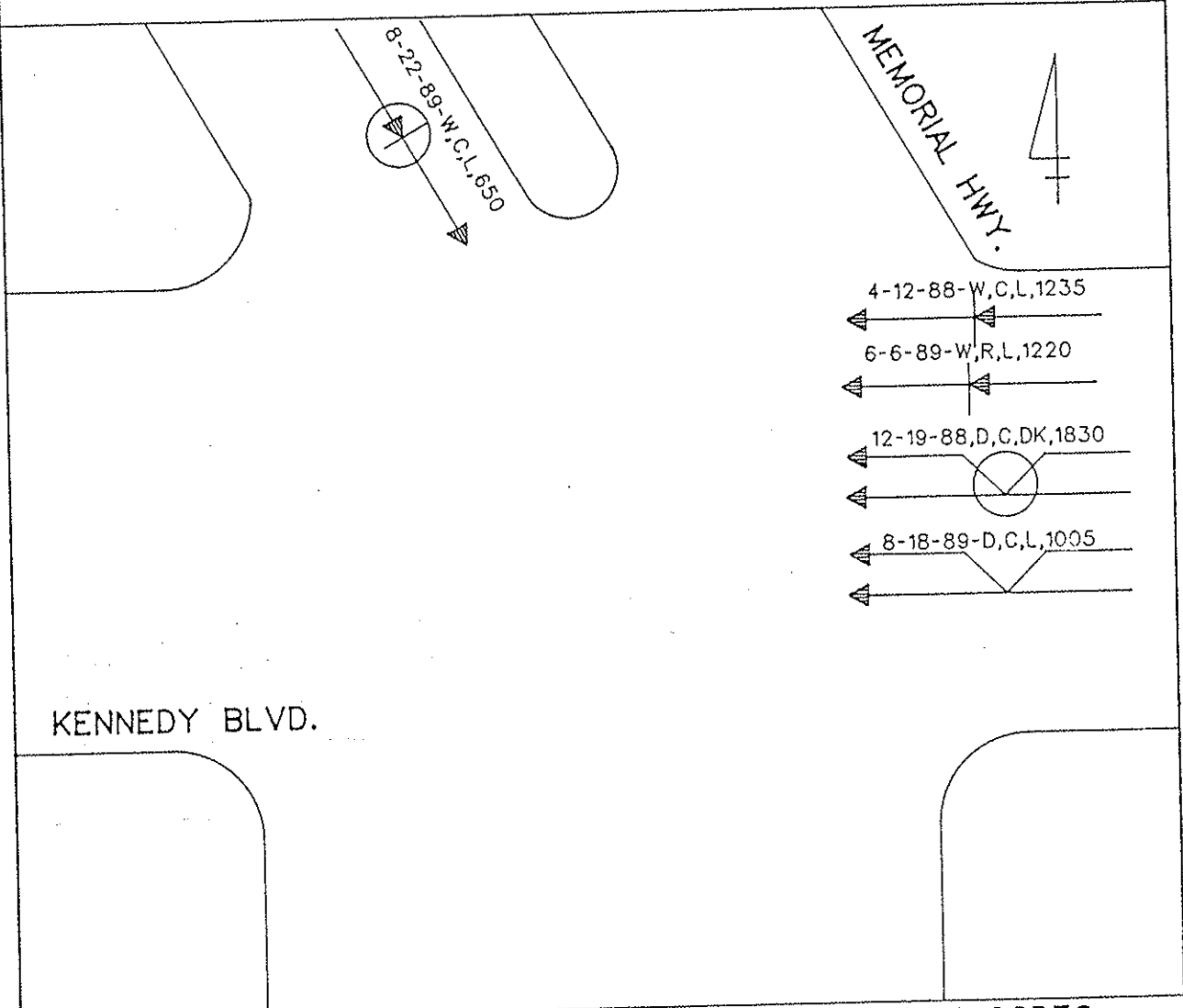
FLORIDA DEPARTMENT OF TRANSPORTATION COLLISION DIAGRAM



LOCATION I.D. SECTION 10270 SR 60 (MEMORIAL HWY.) @ KENNEDY BLVD., M.P. 1.237

COUNTY HILLSBOROUGH CITY TAMPA

PERIOD 01-01-88 TO 12-31-89 PREPARED BY JEFF PAGE



KENNEDY BLVD.

COLLISION SYMBOLS

CONDITION CODES

- VEHICLE PATH
- BACKING VEHICLE
- NON-INVOLVED VEHICLE
- ... PEDESTRIAN PATH
- FIXED OBJECT
- ▢ PARKED VEHICLE
- PERSONAL INJURY
- FATALITY

- REAR-END COLLISION
- HEAD-ON COLLISION
- SIDE SWIPE
- OUT OF CONTROL
- OVERTURNED VEHICLE
- LEFT TURN COLLISION
- RIGHT ANGLE COLLISION

- PAVEMENT CONDITION
- D-DRY W-WET I-ICY
- WEATHER CONDITION
- C-CLEAR R-RAIN F-FOG S-SNOW
- LIGHT CONDITION
- L-DAYLIGHT DK-DARK
- TIME OF DAY (MILITARY)

ACCIDENT SUMMARY

	PROP DAMAGE ONLY	INJURY	FATAL	TOTAL
DAYTIME	3	1		4
NIGHTTIME		1		1
TOTAL	3	2		5

A number of modifications could be made to the present traffic signal operation and these are discussed below.

- a) Phasing: The only possible changes that could be made to the existing phasing are:
 - i) Control the left turn from Kennedy onto Sherrill Street. This would ordinarily be considered for safety reasons, and would reduce the capacity of the intersection. No safety problem has been identified for the turn and consequently this change is not recommended.
 - ii) Operate the north-south legs as leading concurrent left turns followed by concurrent through movements. This would require an additional lane on the northern approach, and designating one of the southern approach lanes an exclusive left lane. Both alterations could be made within existing right-of-way (although at significant cost on the northern approach) but are not likely to improve capacity nor safety and are therefore not recommended.

Based upon existing traffic volumes and accident history, the present four-phase operation at this location is the most appropriate.

- b) Signal Timing: Modification of the existing PM period signal timings would result in substantial improvement to the operation of the intersection. Using the Highway Capacity Manual, a Level of Service D with an average delay of 36.7 seconds per vehicle was achieved. (The appropriate data sheets are included in Appendix B).

The City of Tampa is presently installing revised signal timings at this intersection, and consequently this matter has not been pursued further here.

- c) Lane Designation: The eastbound approach of Kennedy Boulevard currently has two through lanes and two left turn lanes at the Memorial Highway intersection.

These lanes originate from three approach lanes, resulting in an eastbound through lane on the Kennedy Boulevard approach becoming a left turn trap lane at the Memorial Highway intersection. Although this trap lane condition is well signed on the Kennedy Boulevard approach, the left turn volumes and the intersection's accident history suggest that the trap lane condition could be avoided by converting the eastbound approach to three through lanes and one left turn lane, with the left turn operating protected/permitted rather than the current restricted only. Using the Highway Capacity Manual Software, no change to the intersection's Level of Service nor average vehicle delay was found. (The appropriate data sheets are included in Appendix B).

- c) Signal Linking: This site is part of a signal interconnect system along Kennedy Boulevard.

The Memorial Highway approach to the intersection carries as much traffic as both Kennedy Boulevard approaches combined. Special attention to the signal interconnect plans needs to be made to ensure that Memorial Highway traffic is not being disadvantaged to provide "progression" to Kennedy Boulevard.

SECTION III

GEOMETRIC IMPROVEMENTS

Data supplied by the Florida Department of Transportation shows a projected 10 year traffic growth of 55.6% at this intersection. Table 4 shows the projected turning movement volumes for the year 2000. (The proposed Northwest Expressway will terminate at I-275, just north of this intersection.)

To accommodate this proposed traffic growth, alternative geometric improvements were investigated. Two alternatives were considered within the existing right-of-way. A third alternative considered involves realignment of the intersection by acquiring the Amoco gas station on the northeast corner.

NO RIGHT-OF-WAY ACQUISITION

Within the existing right-of-way at this intersection, two alternative geometric improvements could be implemented:

- i) Provide three through lanes in the westbound direction of Kennedy Boulevard.
- ii) Provide three left-turn lanes from Memorial Highway into Kennedy Boulevard (southbound to eastbound).

Because of the constraints imposed by the existing right-of-way, these two improvements are mutually exclusive.

- i) Three Through Lanes Westbound on Kennedy Boulevard

Existing pavement on the westbound approach and westbound departure of Kennedy Boulevard is able to accommodate three through lanes. Lane widths would be 11', which matches the existing widths on the eastbound approach of Kennedy Boulevard.

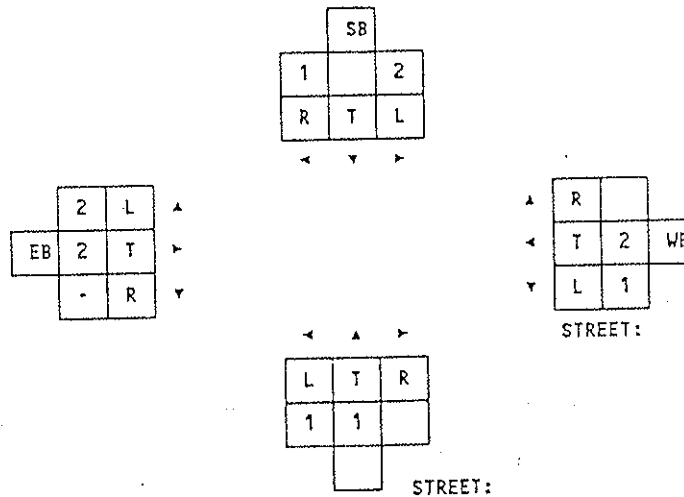
TABLE 4



FLORIDA DEPARTMENT OF TRANSPORTATION

SUMMARY OF VEHICLE MOVEMENTS (YEAR 2000)

Location: Section 10270, S.R. 60 (Memorial Highway) at Kennedy Boulevard, M.P. 1.237
 County: Hillsborough City: Tampa Date: Projected
 Weather: Road Conditions: Yr. 2000 Vols.
 Remarks:



VEHICLE MOVEMENTS

TIME BEGIN - END	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND			
	T	R	T-R	L	T	R	T-R	L	T	R	T-R	L	T	R	T-R	L
7:00 a.m. - 8:00 a.m.	8	3		3	11	249		1,956	479	11		70	892	3		1
8:00 a.m. - 9:00 a.m.	2	8		3	5	300		1,869	605	16		81	1,259	6		81
9:00 a.m. - 10:00 a.m.	3	10		6	5	143		1,333	638	11		81	733	3		51
11:00 a.m. - 12:00 p.m.	16	21		15	3	59		1,547	952	5		177	688	8		72
12:00 p.m. - 1:00 p.m.	21	25		6	3	72		1,516	1,083	11		179	1,005	8		
3:00 p.m. - 4:00 p.m.	24	15		9	11	37		1,495	747	16		163	664	11		27
4:00 p.m. - 5:00 p.m.	35	12		3	9	47		1,780	1,047	5		307	834	14		
5:00 p.m. - 6:00 p.m.	41	9		14	34	68		2,203	1,232	2		406	1,036	25		17
TOTAL	150	118		59	81	975		13,699	6,783	75		1,464		78		420
PERCENT OF APPROACH	48	33		19	1	7		92	82	1		17	93	1		4

Modifications to the existing traffic island on the northwest corner and possibly on the northeast corner would be required.

Figure 5 shows the possible improvement. Photograph 2 of Figure 2 (Page I-3) shows the area of this improvement.

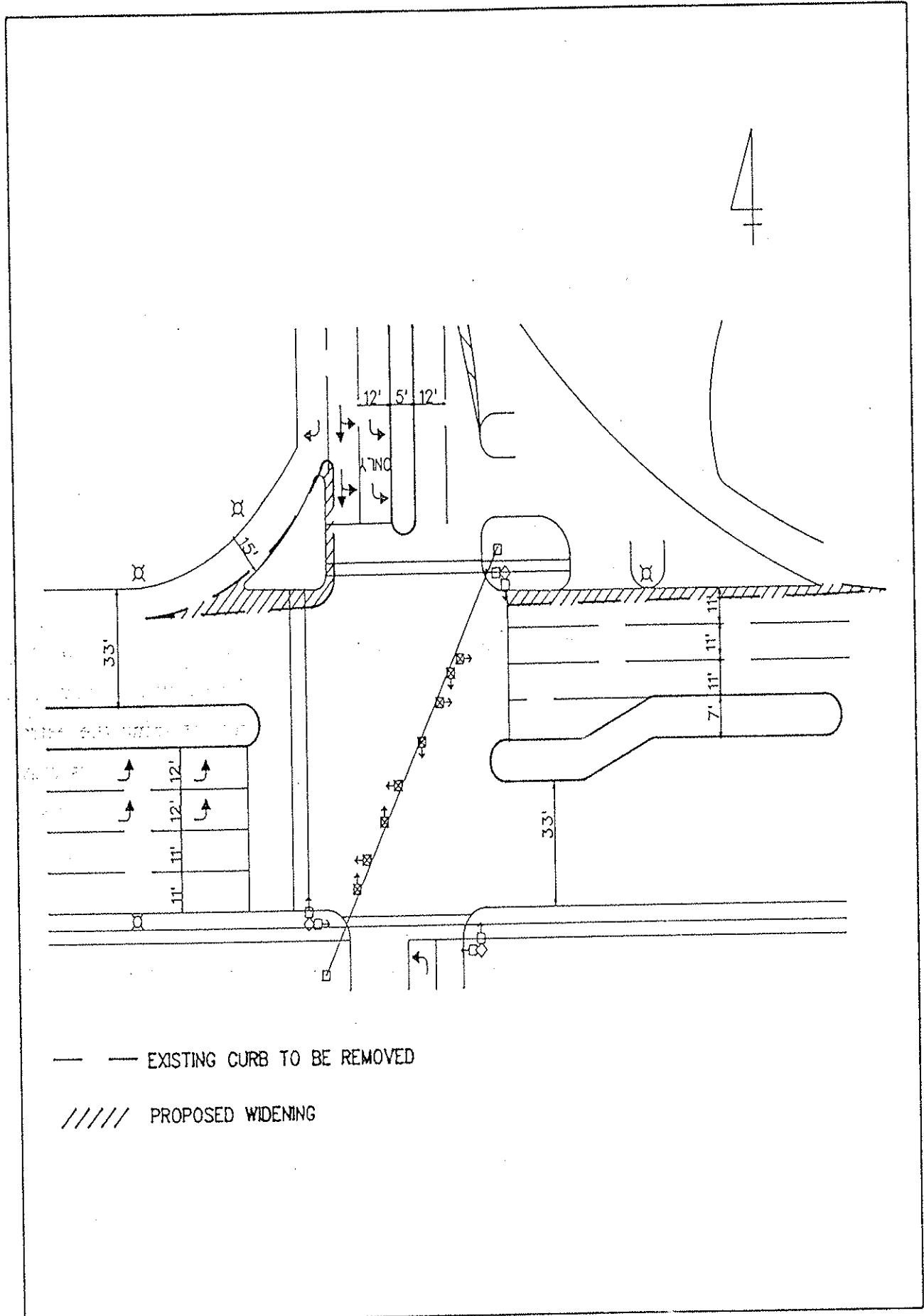
The addition of the third through lane westbound on Kennedy Boulevard would enable modification to signal timings to reduce the time given to Kennedy Boulevard relative to the time given to Memorial Highway.

Other aspects relating to this improvement are:

- * Problems could be experienced with the merge between westbound Kennedy Boulevard traffic and traffic turning right from Memorial Highway into Kennedy Boulevard.
- * Any short-term reductions in delay at the intersection due to the provision of the extra lane would only be achieved by reducing the green time available to Kennedy Boulevard and assigning the extra green time to Memorial Highway. Such timing re-adjustments may have an impact on the signal progression currently operating on Kennedy Boulevard.

S.R. 60 (MEMORIAL HWY.) AT KENNEDY BLVD.
THREE THROUGH LANES WESTBOUND

DSA
GROUP
INC.



ii) Three Left-Turn Lanes - Memorial Highway to Kennedy Boulevard

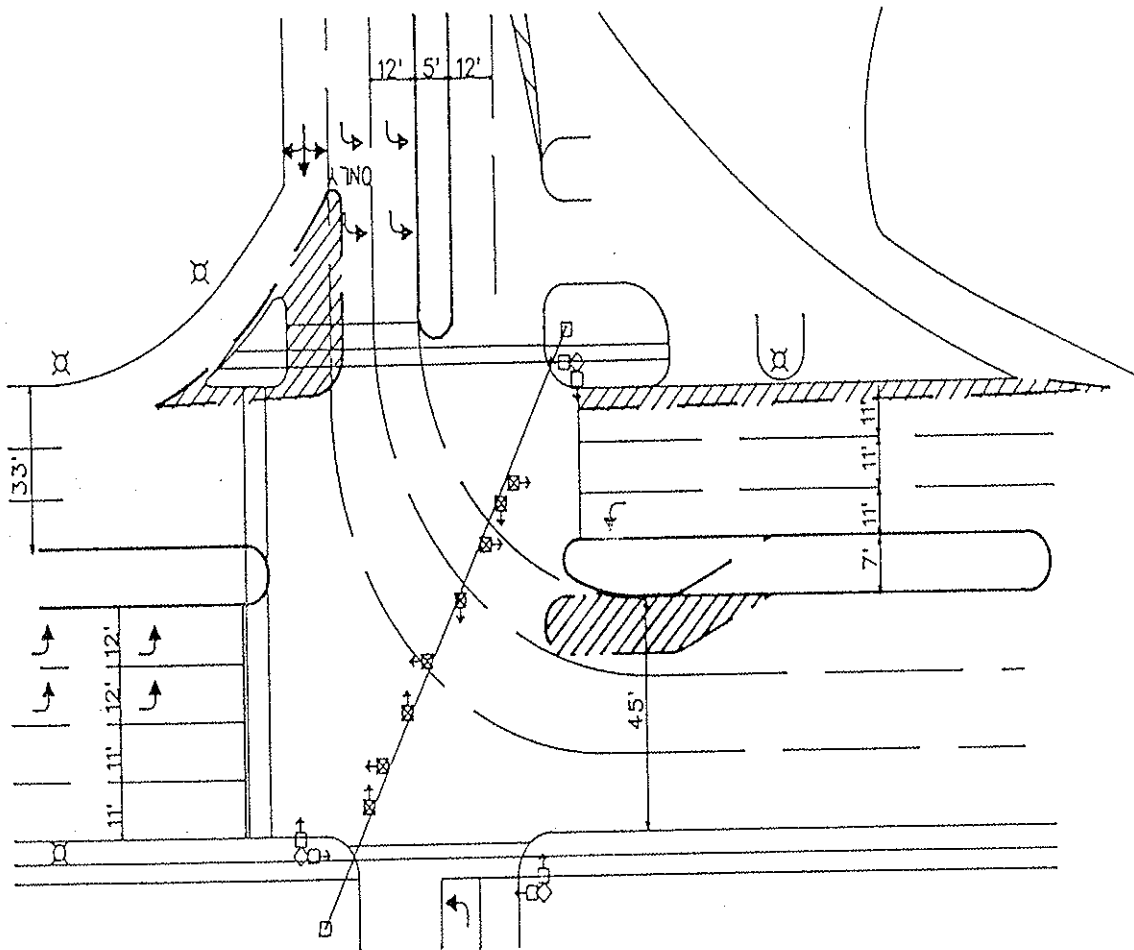
Three left-turn lanes from Memorial Highway into Kennedy Boulevard could be provided by designating the existing right-turn lane as a shared left, through and right lane. This would require modification to the traffic island on the northwest corner of the intersection, and relocation of the median in the eastern leg of Kennedy Boulevard to widen the departure side to accommodate the three left-turn lanes. Figure 6 shows the possible improvement.

Aspects relating to the improvement are:

- * Green time breakdown between Kennedy Boulevard and Memorial Highway would assist signal progression along Kennedy Boulevard.
- * The through movement on Kennedy Boulevard westbound would be offset through the intersection (by one lane width). The impact of this offset is not likely to be significant.
- * The through movement from Memorial Highway to Sherrill Street would require an S-maneuver within the intersection. As this is a low volume maneuver, it is not considered a major problem.
- * The exclusive right-turn lane from Memorial Highway into Kennedy Boulevard would be lost. It could be retained at substantial additional cost, possibly even requiring right-of-way acquisition.
- * Utilization of the third left-turn lane may not be high due to the curve in Memorial Highway some 400' north of the intersection.

S.R. 60 (MEMORIAL HWY.) AT KENNEDY BLVD.
THREE LEFT-TURN LANES

4



— — EXISTING CURB TO BE REMOVED

////// PROPOSED WIDENING

INTERSECTION REALIGNMENT

The acquisition of the Amoco Gas Station on the Northeast corner of the intersection would enable the complete re-alignment of the intersection so that Memorial Highway (north) and Kennedy Boulevard (east) form the through legs of the intersection.

Figure 7 is a layout of the proposed alignment.

This proposal would result in the existing west-bound right turn movement, which currently operates as an unsignalized movement utilizing the right-turn slip lane in advance of the Amoco service station, operating as a through movement under signalized control.

Approach count data for the intersection has been provided by FDOT, and this data is included in Appendix A. The right turn volumes westbound to northbound have been factored up to reflect the estimated year 2000 traffic volumes for this movement.

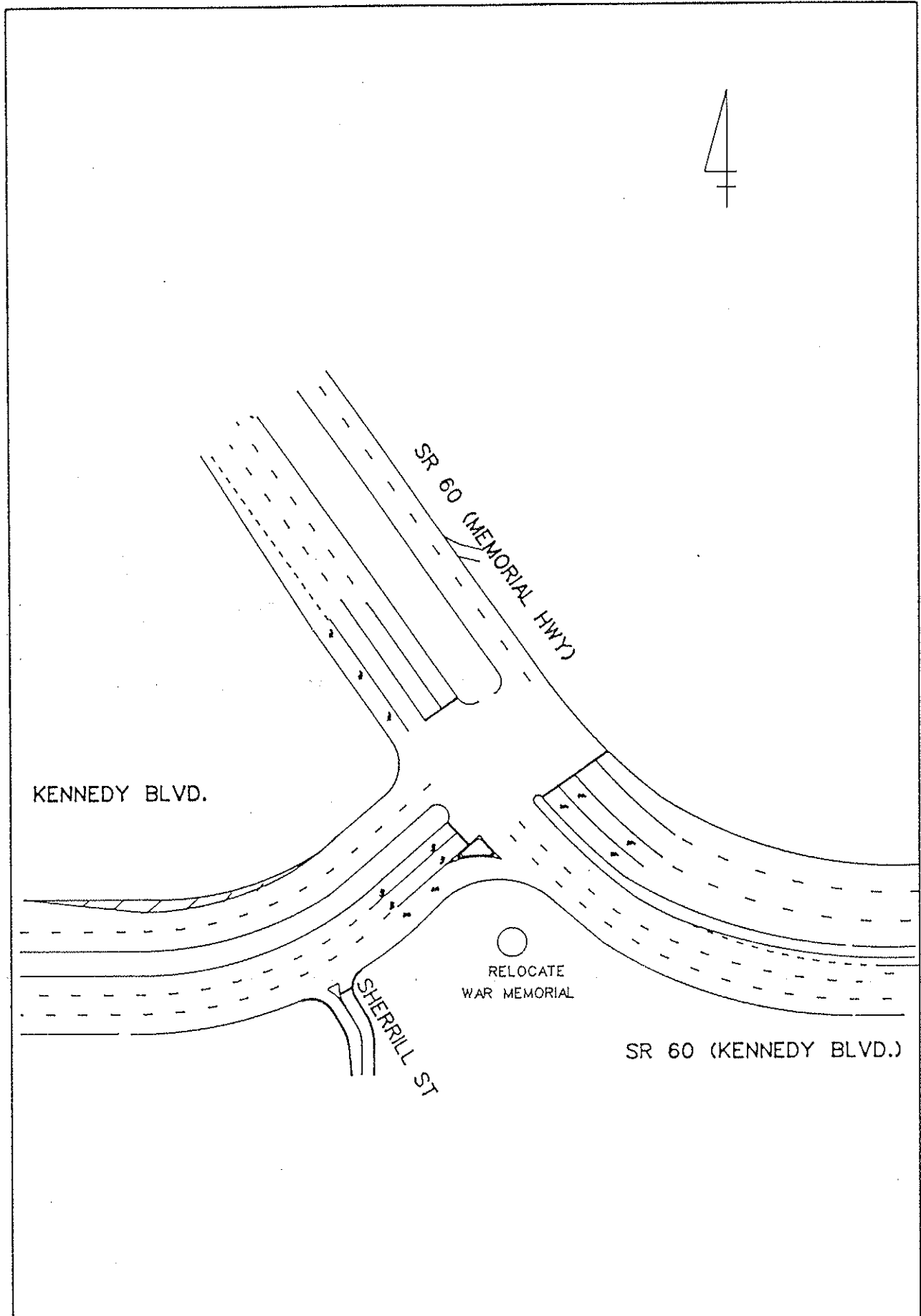
Table 5 shows the adjusted and re-alignment peak hour traffic volumes for the year 2000.

TABLE 5 - YEAR 2000 REALIGNED TRAFFIC VOLUMES

	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
AM PEAK	83	---	613	---	---	---	1,340	1,349	---	---	1,869	313
PM PEAK	448	---	1,241	---	---	---	1,053	1,957	---	---	2,203	102

S.R. 60 (MEMORIAL HWY.) AT KENNEDY BLVD.
INTERSECTION RE-ALIGNMENT

DSA
GROUP
INC.



Aspects relating to this proposal are:

- * It reinforces the main traffic flow direction at the intersection.
- * Substantial intersection beautification would be possible. (The existing War Memorial north of the gas station could be relocated.)
- * Design speed through the intersection would be in the order of 30 mph.
- * The layout is consistent with proposed future widening of Memorial Highway to six lane divided under reconstructed I-275.

RECOMMENDATIONS

Table 6 shows the Levels of Service under year 2000 traffic volumes for the existing geometry, three through lanes westbound on Kennedy, three left turn lanes into Kennedy, and the intersection realignment option, as calculated using the Highway Capacity Manual Software.

TABLE 6 - LEVELS OF SERVICE, YEAR 2000

Projected Year 2000 Traffic	Level of Service	
	AM Peak	PM Peak
Existing Geometry	*	*
Three Lanes Westbound	E	*
Three Left Turn Lanes	E	F
Intersection Realignment	C	D

Note * = Delay cannot be calculated: LOS meaningless.

The appropriate Highway Capacity Manual data sheets are included in Appendix B.

This intersection will experience substantial traffic growth over the next 10 years. Without major construction being undertaken at the intersection, traffic delays will be extreme and safety is likely to be significantly reduced.

We recommend that the intersection realignment as proposed in this report be implemented as the most feasible option to ensure that this intersection operates satisfactorily into the future.

To improve the present operation of the intersection, we recommend the following short term improvements:

- i) Alter the lane designation in Sherrill Street to an exclusive right lane and a shared left and through lane. This will reduce the number of times the Sherrill Street signal phase operates.
- ii) Modify existing traffic signal timings (currently implemented by the City of Tampa) to reflect the heavy left-turn movement from the north to the east.
- iii) Modify the eastbound approach lane configuration to one left turn lane, two through lanes and a shared through and right lane, and alter the eastbound left turn signal control to protected/permitted operation.

APPENDIX A

COUNT DATA

- 8 Hour Turning Movement Count
- 8 Hour Pedestrian and Bicycle Count
- FDOT Traffic Data

DSA GROUP, INC.

REFERENCE: 90026-F1 TMC1

REFERENCE: 90026-F1 TAC1
INTERSECTION OF SEC.10270 SR 60 (MEMORIAL HWY) AND @ KENNEDY BLVD M.P. 1.237

NAME OF COUNTER: DARRIN/SHARON

FILENAME: 60KEN

DATE: 3 / 28 / 90

WEATHER: CLEAR

PERIOD BEGIN	-- NORTH BOUND --				-- SOUTH BOUND --				-- EAST BOUND --				-- WEST BOUND --				VEHICLE TRKS	
	TRKS	LT	THRU	RT	TRKS	LT	THRU	RT	TRKS	LT	THRU	RT	TRKS	LT	THRU	RT	TOTAL	TOTAL
07:00	0	0	0	0	1	279	3	30	1	9	68	0	0	6	71	0	466	2
07:15	0	1	3	0	0	303	1	43	0	11	66	1	1	5	127	0	561	1
07:30	0	1	1	0	0	370	2	49	0	10	78	3	0	10	159	2	685	0
07:45	0	0	1	2	1	305	1	38	0	15	96	3	0	14	216	0	691	1
HR TOTAL	0	2	5	2	2	1257	7	160	1	45	308	7	1	35	573	2	2403	4
08:00	0	0	0	0	2	307	1	54	0	12	91	3	0	13	183	0	664	2
08:15	0	2	0	1	0	257	2	46	0	16	112	3	4	17	236	1	693	4
08:30	0	0	0	3	1	300	0	37	0	14	105	2	2	13	211	2	687	3
08:45	0	0	1	1	0	337	0	56	2	10	81	3	1	9	179	1	678	3
HR TOTAL	0	2	1	5	3	1201	3	193	2	52	389	11	7	52	809	4	2722	12
09:00	0	0	0	2	1	202	0	30	0	10	96	1	0	13	141	0	495	1
09:15	0	3	0	3	3	224	1	33	1	13	110	1	1	8	124	1	521	5
09:30	0	0	1	1	0	216	2	20	3	19	101	2	1	6	93	1	462	4
09:45	0	1	1	1	1	215	0	9	1	10	103	3	1	6	113	0	462	3
HR TOTAL	0	4	2	7	5	857	3	92	5	52	410	7	3	33	471	2	1940	13
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HR TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	2	4	1	210	1	9	3	20	124	1	1	10	97	0	478	5
11:15	0	2	1	5	5	259	1	3	0	28	146	1	1	11	117	4	578	6
11:30	0	7	4	2	2	230	0	10	0	39	178	1	0	9	108	0	588	2
11:45	0	1	4	3	4	295	0	16	1	27	164	0	4	16	120	1	647	9
HR TOTAL	0	10	11	14	12	994	2	38	4	114	612	3	6	46	442	5	2291	27
12:00	0	0	3	3	1	242	0	13	0	37	203	2	2	8	126	3	640	3
12:15	0	2	3	6	2	244	0	8	1	23	146	3	0	11	162	1	609	3
12:30	0	1	5	3	2	235	2	13	1	33	188	2	0	4	187	1	674	3
12:45	0	1	3	5	1	253	0	12	1	22	159	0	3	28	171	0	654	5
HR TOTAL	0	4	14	17	6	974	2	46	3	115	696	7	5	51	646	5	2577	14
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HR TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HR TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DSA GROUP, INC.

REFERENCE: 90026-F1 TMC1

FILENAME: 60KEN

INTERSECTION OF SEC.10270 SR 60 (MEMORIAL HWY) AND E KENNEDY BLVD M.P. 1.237

NAME OF COUNTER: DARRIN/SHARON

WEATHER: CLEAR

DATE: 3 / 28 / 90

PERIOD BEGIN	-- NORTH BOUND --				-- SOUTH BOUND --				-- EAST BOUND --				-- WEST BOUND --				VEHICLE TOTAL	TRKS TOTAL
	TRKS	LT	THRU	RT	TRKS	LT	THRU	RT	TRKS	LT	THRU	RT	TRKS	LT	THRU	RT		
15:00	1	1	4	2	1	180	3	3	3	22	93	2	0	6	94	1	411	5
15:15	0	3	5	2	2	233	1	6	2	19	113	2	0	3	106	1	494	4
15:30	0	1	4	4	1	280	1	6	1	31	126	3	1	5	118	4	583	3
15:45	0	1	3	2	3	268	2	9	1	33	148	2	0	7	109	1	565	4
HR TOTAL	1	6	16	10	7	961	7	24	7	105	480	9	1	21	427	7	2073	16
16:00	0	0	3	3	1	238	2	6	1	45	134	3	0	6	132	1	573	2
16:15	0	0	6	1	1	184	2	6	0	40	172	0	0	10	154	6	581	1
16:30	0	1	10	4	0	354	1	5	1	75	177	0	0	2	137	2	768	1
16:45	0	1	4	0	3	368	1	13	0	37	190	0	1	3	113	0	730	4
HR TOTAL	0	2	23	8	5	1144	6	30	2	197	673	3	1	21	536	9	2652	8
17:00	0	3	11	2	0	399	0	13	0	97	286	0	0	5	121	6	943	0
17:15	0	6	9	0	1	461	1	4	0	68	171	1	0	2	134	7	864	1
17:30	0	0	5	2	0	244	0	18	0	58	183	0	0	1	233	2	746	0
17:45	0	0	2	2	0	312	21	9	0	38	152	0	0	3	178	1	718	0
HR TOTAL	0	9	27	6	1	1416	22	44	0	261	792	1	0	11	666	16	3271	1
DAY TOTAL	1	39	99	69	41	8804	52	627	24	941	4360	48	24	270	4570	50	19929	90

DSA GROUP, INC.

REFERENCE: 90026-F1 TMC1
 INTERSECTION OF SEC.10270 SR 60 (MEMORIAL HWY) AND E KENNEDY BLVD M.P. 1.237
 NAME OF COUNTER: DARRIN/SHARON
 WEATHER: CLEAR

FILENAME: 60KEN

DATE: 3 / 28 / 90

FOR THE PERIOD 07:00 - 10:00 THE PEAK HOUR IS 07:45 - 08:45

DIRECTION	PEAK HR FACTOR	---- VOLUMES ----			--- PERCENTS ---		
		LEFT	THRU	RIGHT	LEFT	THRU	RIGHT
NORTH	0.75	2	1	6	22	11	67
SOUTH	0.86	1169	4	175	87	0	13
EAST	0.90	57	404	11	12	86	2
WEST	0.89	57	846	3	6	93	0

FOR THE PERIOD 11:00 - 13:00 THE PEAK HOUR IS 12:00 - 13:00

DIRECTION	PEAK HR FACTOR	---- VOLUMES ----			--- PERCENTS ---		
		LEFT	THRU	RIGHT	LEFT	THRU	RIGHT
NORTH	0.80	4	14	17	11	40	49
SOUTH	0.96	974	2	46	95	0	5
EAST	0.85	115	696	7	14	85	1
WEST	0.88	51	646	5	7	92	1

FOR THE PERIOD 15:00 - 18:00 THE PEAK HOUR IS 16:30 - 17:30

DIRECTION	PEAK HR FACTOR	---- VOLUMES ----			--- PERCENTS ---		
		LEFT	THRU	RIGHT	LEFT	THRU	RIGHT
NORTH	0.80	11	34	6	22	67	12
SOUTH	0.87	1582	3	35	98	0	2
EAST	0.72	277	824	1	25	75	0
WEST	0.56	12	505	15	2	95	3

PEDESTRIAN AND BICYCLE COUNT

LOCATION: Section 10270, S.R. 60 (Memorial Highway) at Kennedy Boulevard, M.P. 1.237

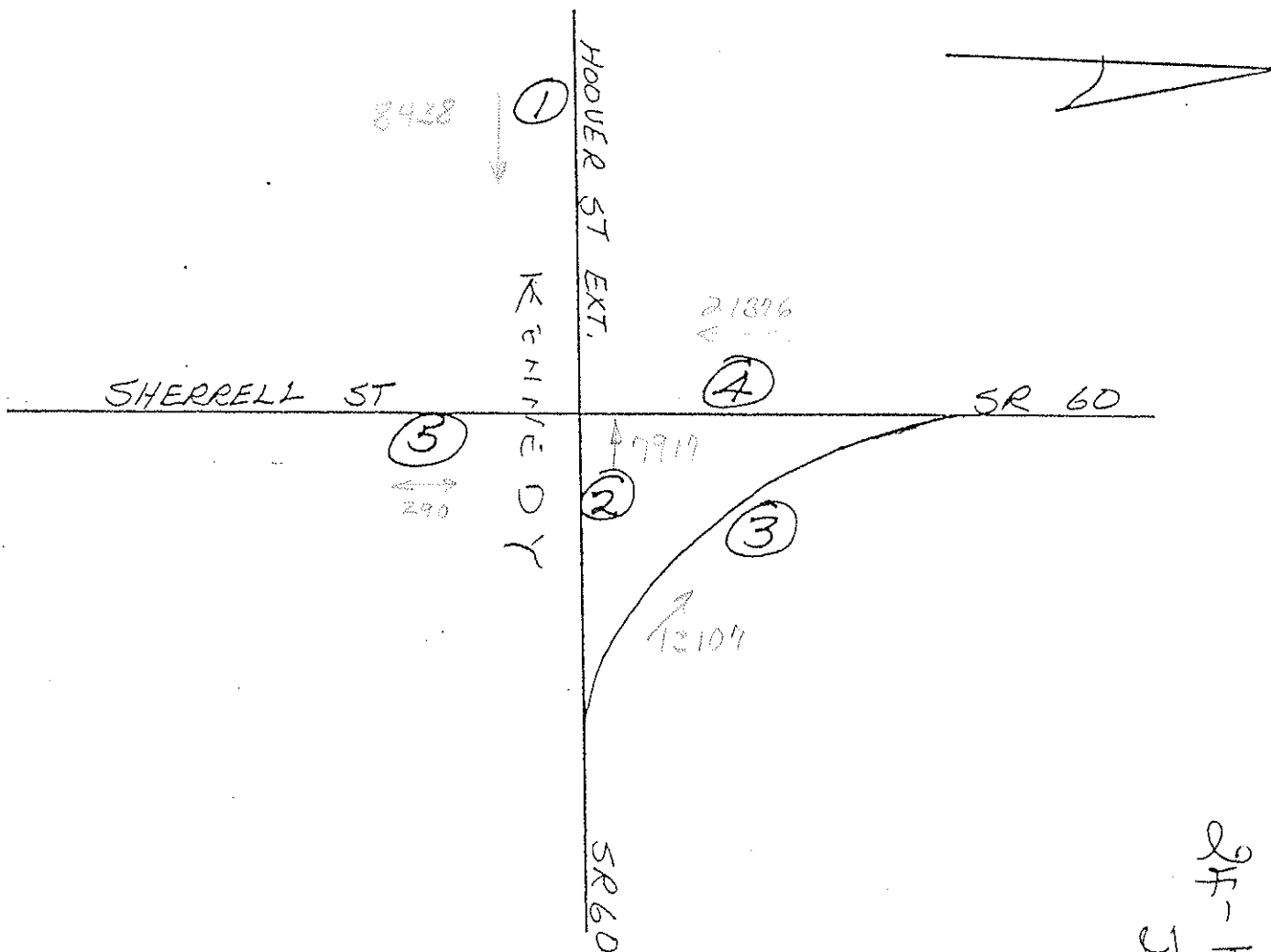
WEATHER:

DATE: March 28, 1990

REMARKS:

TIME	APPROACH CROSSING							
	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND	
	Peds	Bikes	Peds	Bikes	Peds	Bikes	Peds	Bikes
BEGIN - END								
7:00 a.m. - 10:00 a.m.	35	0	15	0	4	0	7	0
11:00 a.m. - 1:00 p.m.	25	0	10	0	0	0	0	0
3:00 p.m. - 6:00 p.m.	3	0	7	0	0	0	0	0

24-Hr Photo Count
July 6, 1990



1. EB60

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Florida Department of Transportation
District Seven - Traffic Operations
Volume by Lane Report

Page 1

Data File : D0705003.FRN
Station : 0000000000004 Count ratio : 2.00
Identification : 0000000000006 Interval : 15 minutes
Start date : Jul 5, 90 Start time : 17:15
Stop date : Jul 6, 90 Stop time : 17:15
City/Town : TAMPA County : HILLS
Location : SR 60 @ SHERRL ST

Lanes 1-2 are Eastbound - Lane 3 is Westbound

Thu - Jul 5, 90

Lane	1	2	3	Total
17:30	134	4	0	138
17:45	191	0	0	191
18:00	138	0	0	138
====	====	====	====	====
Hour Totals	463	4	0	467
18:15	136	0	0	136
18:30	109	0	0	109
18:45	107	0	0	107
19:00	102	0	0	102
====	====	====	====	====
Hour Totals	454	0	0	454
19:15	96	0	0	96
19:30	74	0	0	74
19:45	47	0	0	47
20:00	59	0	0	59
====	====	====	====	====
Hour Totals	276	0	0	276
20:15	73	0	0	73
20:30	45	0	0	45
20:45	53	0	0	53
21:00	51	0	0	51
====	====	====	====	====
Hour Totals	222	0	0	222
21:15	44	0	0	44
21:30	28	0	0	28
21:45	23	0	0	23
22:00	62	0	0	62
====	====	====	====	====
Hour Totals	157	0	0	157
22:15	65	0	0	65
22:30	41	0	0	41
22:45	30	0	0	30
23:00	34	0	0	34
====	====	====	====	====
Hour Totals	170	0	0	170
23:15	29	0	0	29

(1)

Florida Department of Transportation
District Seven - Traffic Operations
Volume by Lane Report

Page

Data File : D0705003.PRN
Station : 000000000004
Identification : 000000000006

Lanes 1-2 are Eastbound - Lane 3 is Westbound

Thu - Jul 5, 90

Lane	1	2	3	Total
-----	-----	-----	-----	-----
23:30	39	0	0	39
23:45	42	0	0	42
24:00	37	0	0	37
=====	=====	=====	=====	=====
Hour Totals	147	0	0	147

Fri - Jul 6, 90

00:15	15	0	0	15
00:30	17	0	0	17
00:45	15	0	0	15
01:00	9	0	0	9
=====	=====	=====	=====	=====
Hour Totals	56	0	0	56

01:15	9	0	0	9
01:30	5	0	0	5
01:45	13	0	0	13
02:00	11	0	0	11
=====	=====	=====	=====	=====
Hour Totals	38	0	0	38

02:15	11	0	0	11
02:30	4	0	0	4
02:45	9	0	0	9
03:00	5	0	0	5
=====	=====	=====	=====	=====
Hour Totals	29	0	0	29

03:15	3	0	0	3
03:30	2	0	0	2
03:45	8	0	0	8
04:00	3	0	0	3
=====	=====	=====	=====	=====
Hour Totals	16	0	0	16

04:15	5	0	0	5
04:30	3	0	0	3
04:45	3	0	0	3
05:00	5	0	0	5
=====	=====	=====	=====	=====
Hour Totals	16	0	0	16

05:15	8	0	0	8
05:30	7	0	0	7
05:45	5	0	0	5

Florida Department of Transportation
District Seven - Traffic Operations
Volume by Lane Report

Page 3

Data File : D0705003.FRN
Station : 000000000004
Identification : 000000000006

Lanes 1-2 are Eastbound - Lane 3 is Westbound

Fri - Jul 6, 90

Lane	1	2	3	Total
06:00	11	0	0	11
Hour Totals	31	0	0	31
06:15	15	0	0	15
06:30	26	0	0	26
06:45	32	0	0	32
07:00	52	0	0	52
Hour Totals	125	0	0	125
07:15	69	0	0	69
07:30	83	0	0	83
07:45	99	0	0	99
08:00	130	0	0	130
Hour Totals	381	0	0	381
08:15	95	0	0	95
08:30	136	0	0	136
08:45	123	0	0	123
09:00	123	0	0	123
Hour Totals	477	0	0	477
09:15	118	0	0	118
09:30	123	0	0	123
09:45	123	0	0	123
10:00	147	0	0	147
Hour Totals	511	0	0	511
10:15	155	0	0	155
10:30	125	0	0	125
10:45	130	0	0	130
11:00	136	0	0	136
Hour Totals	546	0	0	546
11:15	134	0	0	134
11:30	178	0	0	178
11:45	200	0	0	200
12:00	211	0	0	211
Hour Totals	723	0	0	723

Florida Department of Transportation
District Seven - Traffic Operations
Volume by Lane Report

Page

Data File : D0705003.FRN
Station : 0000000000004
Identification : 0000000000006

Lanes 1-2 are Eastbound - Lane 3 is Westbound

Fri - Jul 6, 90

Lane	1	2	3	Total
-----	-----	-----	-----	-----
				208
12:15	208	0	0	183
12:30	183	0	0	202
12:45	202	0	0	187
13:00	187	0	0	=====
=====	=====	=====	=====	780
Hour Totals	780	0	0	
				181
13:15	181	0	0	158
13:30	158	0	0	131
13:45	131	0	0	147
14:00	147	0	0	=====
=====	=====	=====	=====	617
Hour Totals	617	0	0	
				143
14:15	143	0	0	144
14:30	144	0	0	160
14:45	160	0	0	141
15:00	141	0	0	=====
=====	=====	=====	=====	588
Hour Totals	588	0	0	
				125
15:15	125	0	0	139
15:30	139	0	0	167
15:45	167	0	0	175
16:00	175	0	0	=====
=====	=====	=====	=====	606
Hour Totals	606	0	0	
				179
16:15	179	0	0	192
16:30	192	0	0	223
16:45	223	0	0	267
17:00	267	0	0	=====
=====	=====	=====	=====	861
Hour Totals	861	0	0	
				144
17:15	144	0	0	=====
=====	=====	=====	=====	8438
Grand Totals	8434	4	0	
Percentages	100.0	0.0	0.0	

2

1. WB 60

Florida Department of Transportation
District Seven - Traffic Operations
Volume by Lane Report

Page 1

Data File : D0705001.FRN
Station : 0000000000002 Count ratio : 2.00
Identification : 0000000000005 Interval : 15 minutes
Start date : Jul 5, 90 Start time : 17:00
Stop date : Jul 6, 90 Stop time : 17:00
City/Town : TAMPA County : HILLS
Location : SR 60 @ SHERRL ST

Lane 1 is ~~East~~bound - Lane 2 is ~~West~~bound
WEST EAST

Thu - Jul 5, 90

Lane	1	2	Total
17:15	162	0	162
17:30	156	0	156
17:45	123	0	123
18:00	115	0	115
=====	=====	=====	=====
Hour Totals	556	0	556
18:15	104	0	104
18:30	101	0	101
18:45	84	0	84
19:00	67	0	67
=====	=====	=====	=====
Hour Totals	356	0	356
19:15	58	0	58
19:30	83	0	83
19:45	64	0	64
20:00	85	0	85
=====	=====	=====	=====
Hour Totals	290	0	290
20:15	72	0	72
20:30	47	0	47
20:45	57	0	57
21:00	42	0	42
=====	=====	=====	=====
Hour Totals	218	0	218
21:15	94	0	94
21:30	54	0	54
21:45	44	0	44
22:00	37	0	37
=====	=====	=====	=====
Hour Totals	229	0	229
22:15	34	0	34
22:30	29	0	29
22:45	33	0	33
23:00	32	0	32
=====	=====	=====	=====
Hour Totals	128	0	128

Florida Department of Transportation
District Seven - Traffic Operations
Volume by Lane Report

Page

Data File : D0705001.PRN
Station : 000000000002
Identification : 000000000005

Lane 1 is Eastbound - Lane 2 is Westbound

Thu - Jul 5, 90

Lane	1	2	Total
23:15	32	0	32
23:30	29	0	29
23:45	22	0	22
24:00	24	0	24
=====	=====	=====	=====
Hour Totals	107	0	107

Fri - Jul 6, 90

00:15	13	0	13
00:30	16	0	16
00:45	14	0	14
01:00	14	0	14
=====	=====	=====	=====
Hour Totals	57	0	57

01:15	10	0	10
01:30	15	0	15
01:45	4	0	4
02:00	7	0	7
=====	=====	=====	=====
Hour Totals	36	0	36

02:15	6	0	6
02:30	6	0	6
02:45	3	0	3
03:00	3	0	3
=====	=====	=====	=====
Hour Totals	18	0	18

03:15	4	0	4
03:30	3	0	3
03:45	5	0	5
04:00	4	0	4
=====	=====	=====	=====
Hour Totals	16	0	16

04:15	5	0	5
04:30	2	0	2
04:45	7	0	7
05:00	5	0	5
=====	=====	=====	=====
Hour Totals	19	0	19

05:15	4	0	4
05:30	3	0	3

Florida Department of Transportation
District Seven - Traffic Operations
Volume by Lane Report

Page 3

Data File : D0705001.PRN
Station : 0000000000002
Identification : 0000000000005

Lane 1 is Eastbound - Lane 2 is Westbound

Fri - Jul 6, 90

Lane	1	2	Total
-----	-----	-----	-----
05:45	12	0	12
06:00	10	0	10
=====	=====	=====	=====
Hour Totals	29	0	29
06:15	12	0	12
06:30	26	0	26
06:45	38	0	38
07:00	79	0	79
=====	=====	=====	=====
Hour Totals	155	0	155
07:15	81	0	81
07:30	116	0	116
07:45	148	0	148
08:00	171	0	171
=====	=====	=====	=====
Hour Totals	516	0	516
08:15	157	0	157
08:30	247	0	247
08:45	181	0	181
09:00	136	0	136
=====	=====	=====	=====
Hour Totals	721	0	721
09:15	123	0	123
09:30	137	0	137
09:45	126	0	126
10:00	84	0	84
=====	=====	=====	=====
Hour Totals	470	0	470
10:15	111	0	111
10:30	119	0	119
10:45	117	0	117
11:00	93	0	93
=====	=====	=====	=====
Hour Totals	440	0	440
11:15	106	0	106
11:30	109	0	109
11:45	128	0	128
12:00	134	0	134
=====	=====	=====	=====
Hour Totals	477	0	477

Florida Department of Transportation
District Seven - Traffic Operations
Volume by Lane Report

Page

Data File : D0705001.PRN
Station : 000000000002
Identification : 000000000005

Lane 1 is Eastbound - Lane 2 is Westbound

Fri - Jul 6, 90

Lane	1	2	Total
12:15	163	0	163
12:30	177	0	177
12:45	166	0	166
13:00	215	0	215
=====	=====	=====	=====
Hour Totals	721	0	721
13:15	219	0	219
13:30	200	0	200
13:45	172	0	172
14:00	167	0	167
=====	=====	=====	=====
Hour Totals	758	0	758
14:15	134	0	134
14:30	139	0	139
14:45	130	0	130
15:00	141	0	141
=====	=====	=====	=====
Hour Totals	544	0	544
15:15	110	0	110
15:30	117	0	117
15:45	129	0	129
16:00	135	0	135
=====	=====	=====	=====
Hour Totals	491	0	491
16:15	130	0	130
16:30	115	0	115
16:45	186	0	186
17:00	134	0	134
=====	=====	=====	=====
Hour Totals	565	0	565
=====	=====	=====	=====
Grand Totals	7917	0	7917
Percentages	100.0	0.0	

Florida Department of Transportation
District Seven - Traffic Operations
Volume by Lane Report

Page 1

Data File : D0711001.PRN
Station : 0000000000001 Count ratio : 2.00
Identification : 0000000000005 Interval : 15 minutes
Start date : Jul 11, 90 Start time : 16:00
Stop date : Jul 12, 90 Stop time : 16:00
City/Town : TAMPA County : HILLS
Location : KENNEDY @ SR 60 NB

Lanes 1-1 are Westbound

Wed - Jul 11, 90

Lane	1	Total
16:15	271	271
16:30	302	302
16:45	294	294
17:00	280	280
=====	=====	=====
Hour Totals	1147	1147

17:15	356	356
17:30	330	330
17:45	267	267
18:00	305	305
=====	=====	=====
Hour Totals	1258	1258

18:15	258	258
18:30	210	210
18:45	169	169
19:00	193	193
=====	=====	=====
Hour Totals	830	830

19:15	147	147
19:30	148	148
19:45	120	120
20:00	141	141
=====	=====	=====
Hour Totals	556	556

20:15	118	118
20:30	120	120
20:45	119	119
21:00	138	138
=====	=====	=====
Hour Totals	495	495

21:15	146	146
21:30	138	138
21:45	103	103
22:00	91	91
=====	=====	=====
Hour Totals	478	478

Florida Department of Transportation
District Seven - Traffic Operations
Volume by Lane Report

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Page 2

Data File : D0711001.PRN
Station : 000000000001
Identification : 000000000005

Lanes 1-1 are Westbound

Wed - Jul 11, 90

Lane	1	Total
22:15	111	111
22:30	83	83
22:45	100	100
23:00	80	80
=====	=====	=====
Hour Totals	374	374

23:15	77	77
23:30	57	57
23:45	68	68
24:00	76	76
=====	=====	=====
Hour Totals	278	278

Thu - Jul 12, 90

00:15	56	56
00:30	39	39
00:45	30	30
01:00	28	28
=====	=====	=====
Hour Totals	153	153

01:15	16	16
01:30	16	16
01:45	20	20
02:00	23	23
=====	=====	=====
Hour Totals	75	75

02:15	14	14
02:30	11	11
02:45	14	14
03:00	12	12
=====	=====	=====
Hour Totals	51	51

03:15	8	8
03:30	6	6
03:45	5	5
04:00	8	8
=====	=====	=====
Hour Totals	27	27

04:15	7	7
04:30	4	4

Florida Department of Transportation
District Seven - Traffic Operations
Volume by Lane Report

Page 3

Data File : D0711001.PRN
Station : 000000000001
Identification : 000000000005

Lanes 1-1 are Westbound

Thu - Jul 12, 90

Lane	1	Total
-----	-----	-----
04:45	7	7
05:00	19	19
=====	=====	=====
Hour Totals	37	37
05:15	14	14
05:30	23	23
05:45	20	20
06:00	39	39
=====	=====	=====
Hour Totals	96	96
06:15	50	50
06:30	80	80
06:45	92	92
07:00	122	122
=====	=====	=====
Hour Totals	344	344
07:15	133	133
07:30	204	204
07:45	237	237
08:00	293	293
=====	=====	=====
Hour Totals	867	867
08:15	204	204
08:30	227	227
08:45	157	157
09:00	160	160
=====	=====	=====
Hour Totals	748	748
09:15	136	136
09:30	122	122
09:45	114	114
10:00	128	128
=====	=====	=====
Hour Totals	500	500
10:15	119	119
10:30	136	136
10:45	149	149
11:00	187	187
=====	=====	=====
Hour Totals	591	591

Florida Department of Transportation
District Seven - Traffic Operations
Volume by Lane Report

Page 4

Data File : D0711001.PRN
Station : 0000000000001
Identification : 0000000000005

Lanes 1-1 are Westbound

```

-----
Thu - Jul 12, 90
Lane          1          Total
-----
11:15          164          164
11:30          179          179
11:45          184          184
12:00          182          182
=====
Hour Totals    709          709

12:15          211          211
12:30          215          215
12:45          213          213
13:00          235          235
=====
Hour Totals    874          874

13:15          228          228
13:30          228          228
13:45          202          202
14:00          202          202
=====
Hour Totals    860          860

14:15          223          223
14:30          213          213
14:45          235          235
15:00          204          204
=====
Hour Totals    875          875

15:15          210          210
15:30          202          202
15:45          229          229
16:00          243          243
=====
Hour Totals    884          884

=====
Grand Totals   13107        13107
Percentages    100.0
*****

```

Florida Department of Transportation
District Seven - Traffic Operations
Volume by Lane Report

Page 1

Data File : D0705002.PRN
Station : 0000000000003 Count ratio : 2.00
Identification : 0000000000007 Interval : 15 minutes
Start date : Jul 5, 90 Start time : 17:15
Stop date : Jul 6, 90 Stop time : 17:15
City/Town : TAMPA County : HILLS
Location : SR 60 @ SHERRL

Lane 1 is Southbound - Lane 2 is Northbound

Thu - Jul 5, 90

Lane	1	2	Total
17:30	490	0	490
17:45	332	0	332
18:00	359	0	359
Hour Totals	1181	0	1181
18:15	343	0	343
18:30	325	0	325
18:45	293	0	293
19:00	290	0	290
Hour Totals	1251	0	1251
19:15	232	0	232
19:30	215	0	215
19:45	209	0	209
20:00	192	0	192
Hour Totals	848	0	848
20:15	214	0	214
20:30	182	0	182
20:45	194	0	194
21:00	185	0	185
Hour Totals	775	0	775
21:15	174	0	174
21:30	159	0	159
21:45	147	0	147
22:00	146	0	146
Hour Totals	626	0	626
22:15	156	0	156
22:30	133	0	133
22:45	141	0	141
23:00	100	0	100
Hour Totals	530	0	530
23:15	111	0	111

Florida Department of Transportation
District Seven - Traffic Operations
Volume by Lane Report

Page 1

(4)

Data File : D0705002.PRN
Station : 0000000000003
Identification : 000000000007

Lane 1 is Southbound - Lane 2 is Northbound

Thu - Jul 5, 90

Lane	1	2	Total
23:30	81	0	81
23:45	69	0	69
24:00	93	0	93
=====	=====	=====	=====
Hour Totals	354	0	354

Fri - Jul 6, 90

00:15	57	0	57
00:30	47	0	47
00:45	69	0	69
01:00	37	0	37
=====	=====	=====	=====
Hour Totals	210	0	210

01:15	42	0	42
01:30	39	0	39
01:45	34	0	34
02:00	20	0	20
=====	=====	=====	=====
Hour Totals	135	0	135

02:15	5	0	5
02:30	15	0	15
02:45	17	0	17
03:00	11	0	11
=====	=====	=====	=====
Hour Totals	48	0	48

03:15	9	0	9
03:30	9	0	9
03:45	19	0	19
04:00	11	0	11
=====	=====	=====	=====
Hour Totals	48	0	48

04:15	7	0	7
04:30	20	0	20
04:45	18	0	18
05:00	25	0	25
=====	=====	=====	=====
Hour Totals	70	0	70

05:15	16	0	16
05:30	39	0	39
05:45	52	0	52

Florida Department of Transportation
District Seven - Traffic Operations
Volume by Lane Report

Page 3

Data File : D0705002.FRN
Station : 0000000000003
Identification : 0000000000007

Lane 1 is Southbound - Lane 2 is Northbound

Fri - Jul 6, 90

Lane	1	2	Total
06:00	56	0	56
Hour Totals	163	0	163
06:15	114	0	114
06:30	177	0	177
06:45	250	0	250
07:00	326	0	326
Hour Totals	867	0	867
07:15	346	0	346
07:30	427	0	427
07:45	476	0	476
08:00	392	0	392
Hour Totals	1641	0	1641
08:15	371	0	371
08:30	427	0	427
08:45	413	0	413
09:00	432	0	432
Hour Totals	1643	0	1643
09:15	277	0	277
09:30	316	0	316
09:45	354	0	354
10:00	323	0	323
Hour Totals	1270	0	1270
10:15	289	0	289
10:30	312	0	312
10:45	295	0	295
11:00	299	0	299
Hour Totals	1195	0	1195
11:15	291	0	291
11:30	320	0	320
11:45	374	0	374
12:00	339	0	339
Hour Totals	1324	0	1324

(4)

Florida Department of Transportation
District Seven - Traffic Operations
Volume by Lane Report

Page

Data File : D0705002.PRN
Station : 000000000003
Identification : 000000000007

Lane 1 is Southbound - Lane 2 is Northbound

Time - Jul 6, 90	1	2	Total
12:15	383	0	383
12:30	390	0	390
12:45	437	0	437
13:00	341	0	341
=====	=====	=====	=====
Hour Totals	1551	0	1551
13:15	377	0	377
13:30	325	0	325
13:45	311	0	311
14:00	292	0	292
=====	=====	=====	=====
Hour Totals	1305	0	1305
14:15	268	0	268
14:30	331	0	331
14:45	271	0	271
15:00	310	0	310
=====	=====	=====	=====
Hour Totals	1180	0	1180
15:15	297	0	297
15:30	328	0	328
15:45	456	0	456
16:00	324	0	324
=====	=====	=====	=====
Hour Totals	1405	0	1405
16:15	317	0	317
16:30	317	0	317
16:45	358	0	358
17:00	359	0	359
=====	=====	=====	=====
Hour Totals	1351	0	1351
17:15	405	0	405
=====	=====	=====	=====
Grand Totals	21376	0	21376
Percentages	100.0	0.0	

SITE REFERENCE 00000002

ANALYSIS FOR WEEK ENDING

SUN 8 JULY 199

SR 60 @ SHERREL ST

SOUTHLEG

CHANNEL 1

AXLES

INT	PERIOD ENDING	MON 2	TUES 3	WED 4	THURS 5	FRI 6	SAT 7	SUN 8	5/DAY (AV)	7/DAY (AV)
1	1.00	-1	-1	-1	-1	0	1	0	0	0
1	2.00	-1	-1	-1	-1	0	2	1	0	0
1	3.00	-1	-1	-1	-1	0	1	0	0	0
1	4.00	-1	-1	-1	-1	0	0	0	0	0
1	5.00	-1	-1	-1	-1	1	2	0	1	1
1	6.00	-1	-1	-1	-1	0	0	0	0	0
1	7.00	-1	-1	-1	-1	2	1	1	2	2
1	8.00	-1	-1	-1	-1	8	1	-1	8	6
1	9.00	-1	-1	-1	-1	14	4	-1	14	11
1	10.00	-1	-1	-1	-1	10	3	-1	10	8
1	11.00	-1	-1	-1	-1	19	6	-1	19	15
1	12.00	-1	-1	-1	-1	35	8	-1	35	27
1	13.00	-1	-1	-1	-1	26	6	-1	26	20
1	14.00	-1	-1	-1	-1	28	6	-1	28	22
1	15.00	-1	-1	-1	-1	14	6	-1	14	12
1	16.00	-1	-1	-1	-1	22	9	-1	22	18
1	17.00	-1	-1	-1	-1	44	6	-1	44	33
1	18.00	-1	-1	-1	21	43	3	-1	32	24
1	19.00	-1	-1	-1	14	15	2	-1	15	11
1	20.00	-1	-1	-1	8	4	1	-1	6	5
1	21.00	-1	-1	-1	3	1	0	-1	2	1
1	22.00	-1	-1	-1	7	4	1	-1	6	4
1	23.00	-1	-1	-1	4	2	0	-1	3	2
1	24.00	-1	-1	-1	2	3	4	-1	3	3
12	19.00	-1	-1	-1	-1	278	60	-1	278	216
16	22.00	-1	-1	-1	-1	289	63	-1	289	224
18	24.00	-1	-1	-1	-1	294	67	-1	294	229
24	24.00	-1	-1	-1	-1	295	73	-1	295	232
0.15	7.30	-1	-1	-1	-1	3	0	0	3	2
0.15	7.45	-1	-1	-1	-1	1	0	0	1	1
0.15	8.00	-1	-1	-1	-1	2	1	-1	2	2
0.15	8.15	-1	-1	-1	-1	3	2	-1	3	3
0.15	8.30	-1	-1	-1	-1	2	1	-1	2	2
0.15	8.45	-1	-1	-1	-1	3	1	-1	3	2
0.15	9.00	-1	-1	-1	-1	6	0	-1	6	4
0.15	9.15	-1	-1	-1	-1	0	1	-1	0	0
0.15	9.30	-1	-1	-1	-1	5	1	-1	5	4
0.15	16.30	-1	-1	-1	-1	8	4	-1	8	7
0.15	16.45	-1	-1	-1	-1	17	0	-1	17	12
0.15	17.00	-1	-1	-1	-1	14	2	-1	14	11
0.15	17.15	-1	-1	-1	1	19	0	-1	10	7
0.15	17.30	-1	-1	-1	8	9	2	-1	9	7
0.15	17.45	-1	-1	-1	7	12	1	-1	10	7
0.15	18.00	-1	-1	-1	5	3	0	-1	4	3
0.15	18.15	-1	-1	-1	8	10	1	-1	9	7
0.15	18.30	-1	-1	-1	2	1	0	-1	2	1
AM PEAK HR		-1	-1	-1	-1	12.00	11.30	-1		
PEAK FLOW		-1	-1	-1	-1	35	8	-1	35	27
PM PEAK HR		-1	-1	-1	-1	17.30	15.30	-1		
PEAK FLOW		-1	-1	-1	-1	59	11	-1	59	45

KENNEDY AT MEMORIAL

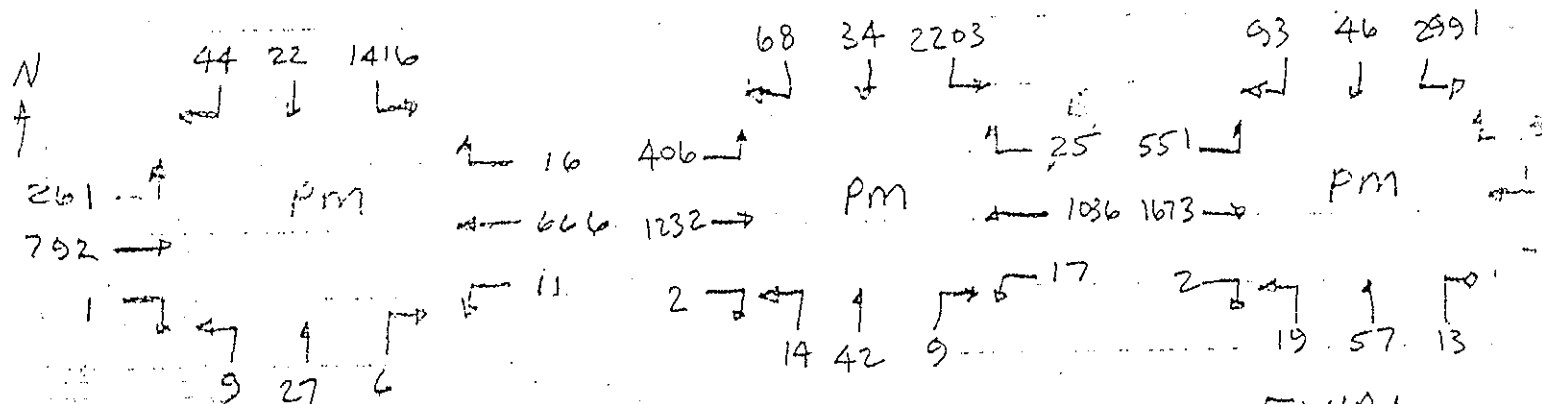
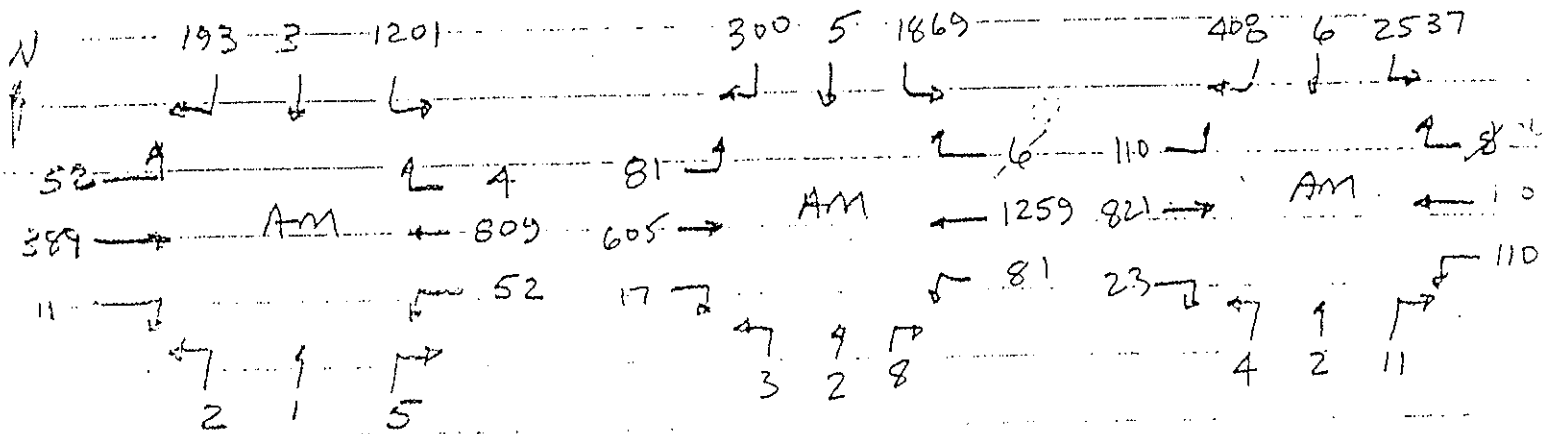
(x 1.556)

(x 2.112)

EXISTING

10-YEAR
VOLS.

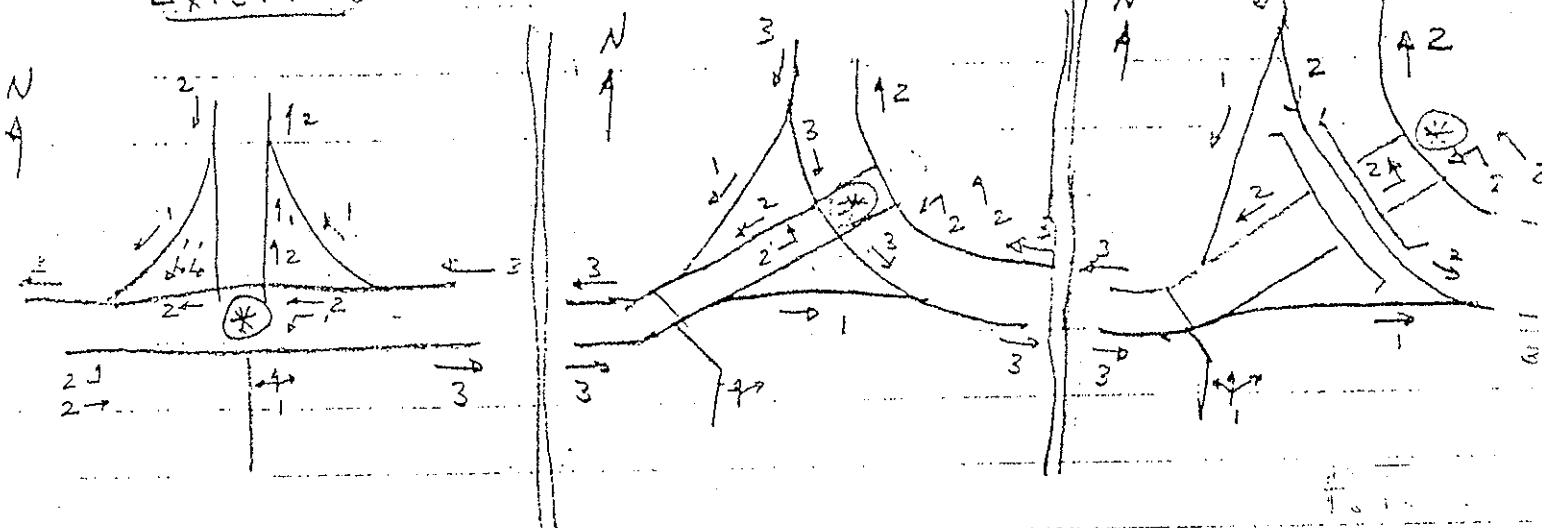
20-YEAR
VOLS.



EXISTING

INTERIM

FINAL



2010 ADT Kennedy Blvd: 107,832 (x 2.112)

1988 ADT " " : 45,383

1990 (Projected) = 51060

2000 (Projected) = 79446 (x 1.556)

APPENDIX B
HIGHWAY CAPACITY MANUAL DATA SHEETS

INTERSECTION ANALYSIS - PRELIMINARY

PRELIMINARY REPORT

INTERSECTION: KENNEDY BOULEVARD, S.E. 40 (MEMORIAL HIGHWAY)

GEOMETRY: OTHER

ANALYST: JMA

DATE: 11/1/77

TIME: 4:00 PM PEAK

COMMENT: EXISTING CONDITIONS

	VOLUMES				GEOMETRY							
	EB	WB	NB	SB	EB	WB	NB	SB	EB	WB	NB	SB
1	57	57	2	1157	L	12.0	L	12.0	L	12.0	L	12.0
2	404	248	1	4	L	12.0	T	12.0	TR	12.0	LT	12.0
3	11	0	6	175	T	12.0	T	12.0	T	12.0	R	12.0
4	2	0	0	75	TR	12.0	TR	12.0	TR	12.0	R	12.0
						12.0		12.0		12.0		12.0
						12.0		12.0		12.0		12.0

ADJUSTMENT FACTORS									
GRADE (%)	HV (%)	ADJ. FLD. V/N	ADJ. FLD. %	BUSES	FLH	FEDC	FED. BUT. V/N	BUT. T	PR. TYPE
1	0.00	2.00	N	0	0	0.90	20	Y	22.6
2	0.00	2.00	N	0	0	0.90	20	Y	22.6
3	0.00	2.00	N	0	0	0.90	20	Y	22.6
4	0.00	2.00	N	0	0	0.90	20	Y	22.6

SIGNAL SETTINGS									
CYCLE LENGTH = 136.0									
	PH-1	PH-2	PH-3	PH-4		PH-1	PH-2	PH-3	PH-4
1	LT	X			NR	LT	X		
	TR	X	X			TR	X		
	RT	X	X			RT	X		
	PD					PD			
2	LT		X		SB	LT	X		
	TR		X			TR	X		
	RT					RT	X	X	
	PD					PD			
GREEN	7.0	39.0	0.0	0.0	GREEN	59.0	9.0	0.0	0.0
YELLOW	4.0	0.0	0.0	0.0	YELLOW	6.0	0.0	0.0	0.0

LEVEL OF SERVICE									
LANE	APP. V/C	APP. DELAY	APP. LOS	APP. DELAY	APP. LOS	APP. DELAY	APP. LOS	APP. DELAY	APP. LOS
1	L	0.345	0.037	47.2	E	17.7	0		
	TR	0.343	0.036	13.3	B				
2	L	0.257	0.037	27.0	D	31.8	0		
	T	0.257	0.036	32.1	D				
3	L	0.015	0.035	43.0	E	33.1	0		
	TR	0.037	0.036	33.7	D				
4	L	0.341	0.484	30.7	D	33.2	0		
	LT	0.015	0.036	24.3	D				
	R	0.377	0.911	0.1	A				

INTERSECTION: Delay = 31.7 (sec/veh) V.C. = 1.169 LOS = E

55 RDM: SIGNALIZED INTERSECTIONS

PRIMARY REPORT

INTERSECTION: KENNEDY BOULEVARD/S.R.60 (MEMORIAL HIGHWAY)

AREA TYPE.....OTHER

ALYET.....DSA

ITE.....

TIME.....PM PEAK

COMMENT.....EXISTING CONDITIONS

VOLUMES					GEOMETRY						
	EB	WB	NB	SB		EB	WB	NB	SB		
T	277	12	11	1582	:	L	12.0	L	12.0	L	12.0
LT	224	505	34	3	:	L	12.0	TR	12.0	LT	12.0
RT	1	0	6	35	:	T	12.0	T	12.0	R	12.0
TR	3	0	2	25	:	TR	12.0		12.0		12.0
					:		12.0		12.0		12.0
					:		12.0		12.0		12.0

ADJUSTMENT FACTORS										
	GRADE	WV	ADJ FKG	EDGE	PHF	PEDS	FED.	BUT.	ARR.	TYPE
	(%)	(%)	Y/N	Nb			Y/N	min T		
EB	0.00	2.00	N	0	0	0.90	20	Y	22.8	4
WB	0.00	2.00	N	0	0	0.90	20	Y	22.8	4
NB	0.00	2.00	N	0	0	0.90	20	Y	28.8	3
SB	0.00	2.00	N	0	0	0.90	20	Y	28.8	3

SIGNAL SETTINGS								CYCLE LENGTH = 136.0			
	PH-1	PH-2	PH-3	PH-4		PH-1	PH-2	PH-3	PH-4		
EB	LT	X			NB	LT	X				
	TH	X	X			TH	X				
	RT	X	X			RT	X				
	PD					PD					
WB	LT		X		SB	LT	X				
	TH		X			TH	X				
	RT					RT	X	X			
	PD					PD					
GREEN	21.0	27.0	0.0	0.0	GREEN	57.0	7.0	0.0	0.0		
YELLOW	6.0	6.0	0.0	0.0	YELLOW	6.0	6.0	0.0	0.0		

LEVEL OF SERVICE							
	LANE	GRP.	V/C	D/D	DELAY	LOS	APP. DELAY
	L		0.609	0.162	41.6	E	24.3
	TR		0.663	0.404	18.4	D	
	L		0.254	0.221	33.9	D	25.8
	T		0.749	0.221	38.7	D	
	L		0.092	0.088	43.3	E	38.9
	TR		0.274	0.088	37.5	D	
	L		1.177	0.441	102.8	F	122.4
	LT		1.178	0.441	113.6	F	
	R		0.008	0.556	0.1	A	

INTERSECTION: Delay = 72.1 (sec/veh) V/C = 1.402 LOS = F

1985 HCM: SIGNALIZED INTERSECTIONS

SUMMARY REPORT

INTERSECTION..KENNEDY BOULEVARD/S.R.60 (MEMORIAL HIGHWAY)

AREA TYPE.....OTHER

ANALYST.....DSA

DATE.....

TIME.....AM PEAK

COMMENT.....EXISTING CONDITIONS-OPTIMUM TIMING

VOLUMES					GEOMETRY						
	EB	WB	NB	SB	:	EB	WB	NB	SB		
LT	57	57	2	1169	:	L 12.0	L 12.0	L 12.0	L 12.0		
TH	404	846	1	4	:	L 12.0	T 12.0	TR 12.0	LT 12.0		
RT	11	0	6	175	:	T 12.0	T 12.0	12.0	R 12.0		
RR	2	0	0	75	:	TR 12.0	12.0	12.0	12.0		
					:	12.0	12.0	12.0	12.0		
					:	12.0	12.0	12.0	12.0		

ADJUSTMENT FACTORS									
	GRADE	HV	ADJ PKG	BUSES	PHF	PEDS	PED.	BUT.	ARR. TYPE
	(%)	(%)	Y/N Nm	Nb			Y/N	min T	
EB	0.00	2.00	N 0	0	0.90	20	Y	22.8	4
WB	0.00	2.00	N 0	0	0.90	20	Y	22.8	4
NB	0.00	2.00	N 0	0	0.90	20	Y	28.8	3
SB	0.00	2.00	N 0	0	0.90	20	Y	28.8	3

SIGNAL SETTINGS					CYCLE LENGTH = 136.0				
	PH-1	PH-2	PH-3	PH-4		PH-1	PH-2	PH-3	PH-4
EB LT	X				NB LT		X		
TH	X	X			TH		X		
RT	X	X			RT		X		
PD					PD				
WB LT		X			SB LT	X			
TH		X			TH	X			
RT					RT	X	X		
PD					PD				
GREEN	6.0	39.0	0.0	0.0	GREEN	65.0	4.0	0.0	0.0
YELLOW	4.0	6.0	0.0	0.0	YELLOW	6.0	6.0	0.0	0.0

LEVEL OF SERVICE							
	LANE GRP.	V/C	G/C	DELAY	LOS	APP. DELAY	APP. LOS
EB	L	0.394	0.051	48.3	E	18.3	C
	TR	0.355	0.382	14.2	B		
WB	L	0.257	0.309	27.0	D	31.8	D
	T	0.897	0.309	32.1	D		
NB	L	0.026	0.051	46.6	E	41.3	E
	TR	0.097	0.051	39.7	D		
SB	L	0.767	0.500	23.9	C	20.5	C
	LT	0.770	0.500	20.5	C		
	R	0.077	0.956	0.1	A		

INTERSECTION: Delay = 24.1 (sec/veh) V/C = 1.169 LOS = C

MEMPHIS SIGNALIZED INTERSECTIONS

ANNUAL REPORT

INTERSECTION: KENNEDY BOULEVARD/S.R. 40 (MEMORIAL HIGHWAY)

TRAFFIC TYPE: OTHER

CONTROL: DSA

DATE: 11/1/77

TIME: 4:00 PM PEAK

COMMENT: EXISTING CONDITIONS-OPTIMUM TIMING

VOLUMES					GEOMETRY				
EB	WB	NB	SB		EB	WB	NB	SB	
277	12	11	1582	L	12.0	12.0	12.0	12.0	L
324	505	34	3	L	12.0	12.0	12.0	12.0	LT
1	0	6	35	T	12.0	12.0	12.0	12.0	R
0	0	2	25	TR	12.0	12.0	12.0	12.0	
					12.0	12.0	12.0	12.0	
					12.0	12.0	12.0	12.0	

ADJUSTMENT FACTORS									
GRADE (%)	HV (%)	ADJ Y/N	PKB Nb	BUDES NE	PHF	PEDS	PED. Y/N	BUT. min T	ARR. TYPE
0.00	2.00	N	0	0	0.90	20	Y	17.5	4
0.00	2.00	N	0	0	0.90	20	Y	17.5	4
0.00	2.00	N	0	0	0.90	20	Y	23.5	3
0.00	2.00	N	0	0	0.90	20	Y	23.5	3

SIGNAL SETTINGS									
CYCLE LENGTH = 136.0									
	PH-1	PH-2	PH-3	PH-4		PH-1	PH-2	PH-3	PH-4
LT	X				NB	LT	X		
TH	X	X			TH		X		
RT	X	X			RT		X		
PD					PD				
LT		X			SB	LT	X		
TH		X			TH		X		
RT					RT	Y	X		
PD					PD				
GRN	11.0	26.0	0.0	0.0	GREEN	75.0	2.0	0.0	0.0
YEL	4.0	4.0	0.0	0.0	YELLOW	6.0	6.0	0.0	0.0

LEVEL OF SERVICE						
LANE GRP.	V/C	G/C	DELAY	LOS	APP. DELAY	APP. LOS
L	1.117	0.038	101.2	F	34.4	E
TR	0.635	0.324	28.3	D		
L	0.254	0.113	34.4	D	29.3	D
T	0.773	0.113	29.7	D		
L	0.196	0.037	45.5	E	52.6	E
TR	0.659	0.037	53.5	E		
L	0.503	0.574	23.0	D	23.5	D
LT	0.706	0.574	23.9	C		
R	0.008	0.755	0.1	A		

INTERSECTION: Delay = 36.7 (sec/veh) V/C = 1.402 LOS = D

1985 HCM: SIGNALIZED INTERSECTIONS
SUMMARY REPORT

INTERSECTION..KENNEDY BOULEVARD/MEMORIAL HIGHWAY

AREA TYPE.....OTHER

ANALYST.....DSA

DATE.....

TIME.....AM Peak

COMMENT.....Existing Traffic - 1 Eastbound Left Turn Lane

VOLUMES					GEOMETRY						
	EB	WB	NB	SB	:	EB	WB	NB	SB		
LT	57	57	2	1169	: L	12.0	L	12.0	L	12.0	L
TH	404	846	1	4	: L	12.0	T	12.0	TR	12.0	LT
RT	11	0	6	175	: T	12.0	T	12.0		12.0	R
RR	2	0	0	75	: TR	12.0		12.0		12.0	
					:	12.0		12.0		12.0	
					:	12.0		12.0		12.0	

ADJUSTMENT FACTORS										ARR. TYPE
	GRADE (%)	HV (%)	ADJ Y/N	PKG Nm	BUSES Nb	PHF	PEDS	PED. Y/N	BUT. min T	
EB	0.00	2.00	N	0	0	0.90	20	Y	17.5	4
WB	0.00	2.00	N	0	0	0.90	20	Y	17.5	4
NB	0.00	2.00	N	0	0	0.90	20	Y	23.5	3
SB	0.00	2.00	N	0	0	0.90	20	Y	23.5	3

SIGNAL SETTINGS										CYCLE LENGTH = 136.0			
		PH-1	PH-2	PH-3	PH-4			PH-1	PH-2	PH-3	PH-4		
EB	LT	X	X			NB	LT		X				
	TH	X	X				TH		X				
	RT	X	X				RT		X				
	PD						PD						
WB	LT		X			SB	LT	X					
	TH		X				TH	X					
	RT						RT	X	X				
	PD						PD						
GREEN		6.0	39.0	0.0	0.0	GREEN		65.0	5.0	0.0	0.0		
YELLOW		4.0	6.0	0.0	0.0	YELLOW		6.0	5.0	0.0	0.0		

LEVEL OF SERVICE							
	LANE GRP.	V/C	G/C	DELAY	LOS	APP. DELAY	APP. LOS
EB	L	0.226	0.382	21.7	C	15.1	C
	TR	0.355	0.382	14.2	B		
WB	L	0.257	0.309	27.0	D	31.8	D
	T	0.897	0.309	32.1	D		
NB	L	0.026	0.051	46.6	E	41.3	E
	TR	0.097	0.051	39.7	D		
SB	L	0.770	0.500	24.0	C	21.0	C
	LT	0.768	0.500	20.4	C		
	R	0.118	0.625	6.7	B		

INTERSECTION: Delay = 23.7 (sec/veh) V/C = 1.138 LOS = C

1985 HCM: SIGNALIZED INTERSECTIONS

SUMMARY REPORT

INTERSECTION..KENNEDY BOULEVARD/MEMORIAL HIGHWAY

AREA TYPE.....OTHER

ANALYST.....DSA

DATE.....

TIME.....PM Peak

COMMENT.....Existing Traffic - 1 Eastbound Left Turn Lane

	VOLUMES					GEOMETRY							
	EB	WB	NB	SB		EB	WB	NB	SB	EB	WB	NB	SB
LT	277	12	11	1582	:	L	12.0	L	12.0	L	12.0	L	12.0
TH	824	505	34	3	:	T	12.0	T	12.0	TR	12.0	LT	12.0
RT	1	0	6	35	:	T	12.0	T	12.0		12.0	R	12.0
RR	0	0	2	25	:	TR	12.0		12.0		12.0		12.0
					:		12.0		12.0		12.0		12.0
					:		12.0		12.0		12.0		12.0

ADJUSTMENT FACTORS										
	GRADE	HV	ADJ	PKG	BUSES	PHF	PEDS	PED.	BUT.	ARR. T
	(%)	(%)	Y/N	Nm	Nb			Y/N	min T	
EB	0.00	2.00	N	0	0	0.90	20	Y	17.5	4
WB	0.00	2.00	N	0	0	0.90	20	Y	17.5	4
NB	0.00	2.00	N	0	0	0.90	20	Y	23.5	3
SB	0.00	2.00	N	0	0	0.90	20	Y	23.5	3

SIGNAL SETTINGS										CYCLE LENGTH = 130.			
		PH-1	PH-2	PH-3	PH-4			PH-1	PH-2	PH-3	PH-4		
EB	LT	X	X			NB	LT		X				
	TH	X	X				TH		X				
	RT	X	X				RT		X				
	PD						PD						
WB	LT		X			SB	LT	X					
	TH		X				TH	X					
	RT						RT	X	X				
	PD						PD						
GREEN		13.0	24.0	0.0	0.0	GREEN		73.0	5.0	0.0			
YELLOW		4.0	6.0	0.0	0.0	YELLOW		6.0	5.0	0.0			

LEVEL OF SERVICE							
	LANE GRP.	V/C	G/C	DELAY	LOS	APP. DELAY	APP. LOS
EB	L	1.163	0.324	155.5	F	50.4	E
	TR	0.583	0.324	18.3	C		
WB	L	0.193	0.199	34.7	D	35.6	D
	T	0.833	0.199	35.6	D		
NB	L	0.140	0.051	46.9	E	43.8	E
	TR	0.471	0.051	42.9	E		
SB	L	0.931	0.559	32.1	D	29.3	D
	LT	0.928	0.559	27.0	D		
	R	0.010	0.735	3.1	A		

INTERSECTION: Delay = 38.0 (sec/veh) V/C = 1.445 LOS = D

1985 HCM: SIGNALIZED INTERSECTIONS

SUMMARY REPORT

INTERSECTION..KENNEDY BOULEVARD/MEMORIAL HIGHWAY

AREA TYPE.....OTHER

ANALYST.....DSA

DATE.....

TIME..... YEAR 2000-AM PEAK

COMMENT.....EXISTING GEOMETRY

	VOLUMES					GEOMETRY					
	EB	WB	NB	SB		EB	WB	NB	SB		
LT	81	81	3	1869	: L	12.0	L	12.0	L	12.0	L
TH	605	1259	2	5	: L	12.0	T	12.0	TR	12.0	LT
RT	17	0	8	300	: T	12.0	T	12.0		12.0	R
RR	0	0	0	150	: TR	12.0		12.0		12.0	
					:	12.0		12.0		12.0	
					:	12.0		12.0		12.0	

ADJUSTMENT FACTORS										
	GRADE (%)	HV (%)	ADJ Y/N	PKG Nm	BUSES Nb	PHF	PEDS	PED. Y/N	BUT. min T	ARR. TYPE
EB	0.00	2.00	N	0	0	0.95	20	Y	17.5	4
WB	0.00	2.00	N	0	0	0.95	20	Y	17.5	4
NB	0.00	2.00	N	0	0	0.95	20	Y	23.5	3
SB	0.00	2.00	N	0	0	0.95	20	Y	23.5	3

SIGNAL SETTINGS								CYCLE LENGTH = 136.0			
		PH-1	PH-2	PH-3	PH-4			PH-1	PH-2	PH-3	PH-4
EB	LT	X				NB	LT		X		
	TH	X	X				TH		X		
	RT	X	X				RT		X		
	PD						PD				
WB	LT		X			SB	LT	X			
	TH		X				TH	X			
	RT						RT	X	X		
	PD						PD				
GREEN		6.0	39.0	0.0	0.0	GREEN		65.0	5.0	0.0	0.0
YELLOW		4.0	6.0	0.0	0.0	YELLOW		6.0	5.0	0.0	0.0

LEVEL OF SERVICE							
	LANE	GRP.	V/C	G/C	DELAY	LOS	APP. DELAY
EB	L		0.530	0.051	50.3	E	19.4
	TR		0.507	0.382	15.3	C	
WB	L		0.511	0.309	31.5	D	*
	T		1.264	0.309	*	*	
NB	L		0.036	0.051	46.6	E	41.4
	TR		0.130	0.051	39.8	D	
SB	L		1.165	0.500	121.8	F	104.2
	LT		1.162	0.500	102.0	F	
	R		0.167	0.625	6.9	B	

INTERSECTION: Delay = * (sec/veh) V/C = 1.734 LOS = *

1985 HCM: SIGNALIZED INTERSECTIONS

SUMMARY REPORT

INTERSECTION..KENNEDY BOULEVARD/MEMORIAL HIGHWAY

AREA TYPE.....OTHER

ANALYST.....DSA

DATE.....

TIME.....YEAR 2000 - PM PEAK

COMMENT.....EXISTING GEOMETRY

VOLUMES					GEOMETRY							
	EB	WB	NB	SB		EB	WB	NB	SB			
LT	406	17	14	2203	: L	12.0	L	12.0	L	12.0	L	12.0
TH	1232	1036	42	34	: L	12.0	T	12.0	TR	12.0	LT	12.0
RT	2	0	9	68	: T	12.0	T	12.0		12.0	R	12.0
RR	0	0	0	34	: TR	12.0		12.0		12.0		12.0
					:	12.0		12.0		12.0		12.0
					:	12.0		12.0		12.0		12.0

ADJUSTMENT FACTORS										
	GRADE (%)	HV (%)	ADJ Y/N	PKG Nm	BUSES Nb	PHF	PEDS	PED. Y/N	BUT. min T	ARR. T
EB	0.00	2.00	N	0	0	0.95	20	Y	17.5	4
WB	0.00	2.00	N	0	0	0.95	20	Y	17.5	4
NB	0.00	2.00	N	0	0	0.95	20	Y	23.5	3
SB	0.00	2.00	N	0	0	0.95	20	Y	23.5	3

SIGNAL SETTINGS										CYCLE LENGTH = 13			
		PH-1	PH-2	PH-3	PH-4			PH-1	PH-2	PH-3	PH-4		
EB	LT	X				NB	LT		X				
	TH	X	X				TH		X				
	RT	X	X				RT		X				
	PD						PD						
WB	LT		X			SB	LT	X					
	TH		X				TH	X					
	RT						RT	X	X				
	PD						PD						
GREEN		12.0	24.0	0.0	0.0	GREEN		74.0	5.0	0.0			
YELLOW		4.0	6.0	0.0	0.0	YELLOW		6.0	5.0	0.0			

LEVEL OF SERVICE							
	LANE GRP.	V/C	G/C	DELAY	LOS	AFF. DELAY	AFF. LOS
EB	L	1.432	0.096	*	*	*	*
	TR	1.210	0.316	*	*	*	*
WB	L	0.341	0.199	37.1	D	*	*
	T	1.618	0.199	*	*		
NB	L	0.169	0.051	47.0	E	47.0	E
	TR	0.601	0.051	47.0	E		
SB	L	1.227	0.566	*	*	*	*
	LT	1.224	0.566	*	*		
	R	0.032	0.735	3.2	A		

INTERSECTION: Delay = * (sec/veh) V/C = 2.025 LOS = *

1985 HCM: SIGNALIZED INTERSECTIONS

SUMMARY REPORT

INTERSECTION..KENNEDY BOULEVARD/MEMORIAL HIGHWAY

AREA TYPE.....OTHER

ANALYST.....DSA

DATE.....

TIME..... YEAR 2000-AM PEAK

COMMENT.....ALTERNATIVE 1:THREE LANES WESTBOUND

VOLUMES					:	GEOMETRY							
	EB	WB	NB	SB	:	EB		WB		NB		SB	
LT	81	81	3	1869	:	L	12.0	L	12.0	L	12.0	L	12.0
TH	605	1259	2	5	:	L	12.0	T	12.0	TR	12.0	LT	12.0
RT	17	0	8	300	:	T	12.0	T	12.0		12.0	R	12.0
RR	0	0	0	150	:	TR	12.0	T	12.0		12.0		12.0
					:		12.0		12.0		12.0		12.0
					:		12.0		12.0		12.0		12.0

ADJUSTMENT FACTORS										
	GRADE (%)	HV (%)	ADJ Y/N	PKG Nm	BUSES Nb	PHF	PEDS	PED. Y/N	BUT. min T	ARR. TYPE
EB	0.00	2.00	N	0	0	0.95	20	Y	22.8	4
WB	0.00	2.00	N	0	0	0.95	20	Y	22.8	4
NB	0.00	2.00	N	0	0	0.95	20	Y	31.8	3
SB	0.00	2.00	N	0	0	0.95	20	Y	31.8	3

SIGNAL SETTINGS								CYCLE LENGTH = 136.0			
		PH-1	PH-2	PH-3	PH-4			PH-1	PH-2	PH-3	PH-4
EB	LT	X				NB	LT		X		
	TH	X	X				TH		X		
	RT	X	X				RT		X		
	PD						PD				
WB	LT		X			SB	LT	X			
	TH		X				TH	X			
	RT						RT	X	X		
	PD						PD				
GREEN		5.0	33.0	0.0	0.0	GREEN		72.0	5.0	0.0	0.0
YELLOW		4.0	6.0	0.0	0.0	YELLOW		6.0	5.0	0.0	0.0

LEVEL OF SERVICE							
	LANE GRP.	V/C	G/C	DELAY	LOS	APP. DELAY	APP. LOS
EB	L	0.619	0.044	53.9	E	22.3	C
	TR	0.585	0.331	18.1	C		
WB	L	0.671	0.265	42.5	E	49.9	E
	T	1.030	0.265	50.3	E		
NB	L	0.036	0.051	46.6	E	41.4	E
	TR	0.130	0.051	39.8	D		
SB	L	1.054	0.551	62.9	F	54.7	E
	LT	1.056	0.551	54.3	E		
	R	0.156	0.669	5.4	B		

INTERSECTION: Delay = 47.3 (sec/veh) V/C = 1.605 LOS = E

1985 HCM: SIGNALIZED INTERSECTIONS

SUMMARY REPORT

INTERSECTION..KENNEDY BOULEVARD/MEMORIAL HIGHWAY

AREA TYPE.....OTHER

ANALYST.....DSA

DATE.....

TIME.....YEAR 2000 - PM PEAK

COMMENT.....ALTERNATIVE 1:THREE LANES WESTBOUND

VOLUMES					GEOMETRY							
	EB	WB	NB	SB	:	EB	WB	NB	SB			
LT	406	17	14	2203	:	L	12.0	L	12.0	L	12.0	L
TH	1232	1036	42	34	:	L	12.0	T	12.0	TR	12.0	LT
RT	2	0	9	68	:	T	12.0	T	12.0		12.0	R
RR	0	0	0	34	:	TR	12.0	T	12.0		12.0	
					:		12.0		12.0		12.0	1
					:		12.0		12.0		12.0	1

ADJUSTMENT FACTORS										
	GRADE	HV	ADJ	PKG	BUSES	PHF	PEDS	PED.	BUT.	ARR. T F
	(%)	(%)	Y/N	Nm	Nb			Y/N	min T	
EB	0.00	2.00	N	0	0	0.95	20	Y	17.5	4
WB	0.00	2.00	N	0	0	0.95	20	Y	17.5	4
NB	0.00	2.00	N	0	0	0.95	20	Y	26.5	3
SB	0.00	2.00	N	0	0	0.95	20	Y	26.5	3

SIGNAL SETTINGS								CYCLE LENGTH = 13.0			
		PH-1	PH-2	PH-3	PH-4			PH-1	PH-2	PH-3	PH-4
EB	LT	X				NB	LT		X		
	TH	X	X				TH		X		
	RT	X	X				RT		X		
	PD						PD				
WB	LT		X			SB	LT	X			
	TH		X				TH	X			
	RT						RT	X	X		
	PD						PD				
GREEN		15.0	19.0	0.0	0.0	GREEN		76.0	5.0	0.0	0.0
YELLOW		4.0	6.0	0.0	0.0	YELLOW		6.0	5.0	0.0	0.0

LEVEL OF SERVICE							
	LANE GRP.	V/C	G/C	DELAY	LOS	APP. DELAY	APP. LOS
EB	L	1.163	0.118	148.9	F	*	*
	TR	1.269	0.301	*	*		
WB	L	0.341	0.162	39.9	D	*	*
	T	1.387	0.162	*	*		
NB	L	0.169	0.051	47.0	E	47.0	E
	TR	0.601	0.051	47.0	E		
SB	L	1.196	0.581	138.0	F	124.9	F
	LT	1.193	0.581	115.6	F		
	R	0.030	0.772	2.3	A		

INTERSECTION: Delay = * (sec/veh) V/C = 1.896 LOS = *

1985 HCM: SIGNALIZED INTERSECTIONS
SUMMARY REPORT

INTERSECTION..KENNEDY BOULEVARD/MEMORIAL HIGHWAY

AREA TYPE.....OTHER

ANALYST.....DSA

DATE.....

TIME..... YEAR 2000-AM PEAK

COMMENT.....ALTERNATIVE 2:THREE LEFT TURN LANES

VOLUMES					:	GEOMETRY							
	EB	WB	NB	SB	:	EB		WB		NB		SB	
LT	81	81	3	1869	:	L	12.0	L	12.0	L	12.0	L	12.0
TH	605	1259	2	5	:	L	12.0	T	12.0	TR	12.0	L	12.0
RT	17	0	8	300	:	T	12.0	T	12.0		12.0	LTR	12.0
RR	0	0	0	150	:	TR	12.0		12.0		12.0		12.0
					:		12.0		12.0		12.0		12.0
					:		12.0		12.0		12.0		12.0

ADJUSTMENT FACTORS										ARR. TYPE	
	GRADE (%)	HV (%)	ADJ Y/N	PKG Nm	BUSES Nb	PHF	PEDS	PED. Y/N	BUT. min T		
EB	0.00	2.00	N	0	0	0.95	20	Y	17.5	4	
WB	0.00	2.00	N	0	0	0.95	20	Y	17.5	4	
NB	0.00	2.00	N	0	0	0.95	20	Y	23.5	3	
SB	0.00	2.00	N	0	0	0.95	20	Y	23.5	3	

SIGNAL SETTINGS								CYCLE LENGTH = 136.0			
		PH-1	PH-2	PH-3	PH-4			PH-1	PH-2	PH-3	PH-4
EB	LT	X				NB	LT		X		
	TH	X	X				TH		X		
	RT	X	X				RT		X		
	PD						PD				
WB	LT		X			SB	LT	X			
	TH		X				TH	X			
	RT						RT	X	X		
	PD						PD				
GREEN		3.0	42.0	0.0	0.0	GREEN		65.0	5.0	0.0	0.0
YELLOW		4.0	6.0	0.0	0.0	YELLOW		6.0	5.0	0.0	0.0

LEVEL OF SERVICE								
	LANE	GRP.	V/C	G/C	DELAY	LOS	APP. DELAY	APP. LOS
EB	L		0.928	0.029	98.8	F	24.9	C
	TR		0.507	0.382	15.3	C		
WB	L		0.456	0.331	28.5	D	100.4	F
	T		1.180	0.331	104.8	F		
NB	L		0.036	0.051	46.6	E	41.4	E
	TR		0.130	0.051	39.8	D		
SB	L		0.842	0.500	25.3	D	30.1	D
	LTR		0.980	0.500	38.4	D		

INTERSECTION: Delay = 52.5 (sec/veh) V/C = 1.458 LOS = E

1985 HCM: SIGNALIZED INTERSECTIONS

SUMMARY REPORT

INTERSECTION..KENNEDY BOULEVARD/MEMORIAL HIGHWAY

AREA TYPE.....OTHER

ANALYST.....DSA

DATE.....

TIME.....YEAR 2000 - PM PEAK

COMMENT.....ALTERNATIVE 2: THREE LEFT TURN LANES

VOLUMES					GEOMETRY							
	EB	WB	NB	SB		EB		WB		NB		SB
LT	406	17	14	2203	: L	12.0	L	12.0	L	12.0	L	12.0
TH	1232	1036	42	34	: L	12.0	T	12.0	TR	12.0	L	12.0
RT	2	0	9	68	: T	12.0	T	12.0		12.0	LTR	12.0
RR	0	0	0	34	: TR	12.0		12.0		12.0		12.0
					:	12.0		12.0		12.0		12.0
					:	12.0		12.0		12.0		12.0

ADJUSTMENT FACTORS										
	GRADE	HV	ADJ	PKG	BUSES	PHF	PEDS	PED.	BUT.	ARR. T
	(%)	(%)	Y/N	Nm	Nb			Y/N	min T	
EB	0.00	2.00	N	0	0	0.95	20	N	17.5	4
WB	0.00	2.00	N	0	0	0.95	20	N	17.5	4
NB	0.00	2.00	N	0	0	0.95	20	N	23.5	3
SB	0.00	2.00	N	0	0	0.95	20	N	23.5	3

SIGNAL SETTINGS								CYCLE LENGTH = 13.0			
		PH-1	PH-2	PH-3	PH-4			PH-1	PH-2	PH-3	PH-4
EB	LT	X				NB	LT		X		
	TH	X	X				TH		X		
	RT	X	X				RT		X		
	PD						PD				
WB	LT		X			SB	LT	X			
	TH		X				TH	X			
	RT						RT	X	X		
	PD						PD				
GREEN		17.0	36.0	0.0	0.0	GREEN		57.0	5.0	0.0	0.0
YELLOW		4.0	6.0	0.0	0.0	YELLOW		6.0	5.0	0.0	0.0

LEVEL OF SERVICE							
	LANE GRP.	V/C	G/C	DELAY	LOS	APP. DELAY	APP. LOS
EB	L	1.034	0.132	88.0	F	39.4	D
	TR	0.867	0.441	23.4	C		
WB	L	0.341	0.287	30.7	D	80.1	F
	T	1.120	0.287	80.9	F		
NB	L	0.169	0.051	47.0	E	47.0	E
	TR	0.601	0.051	47.0	E		
SB	L	1.139	0.441	103.5	F	94.7	F
	LTR	1.100	0.441	77.1	F		

INTERSECTION: Delay = 72.9 (sec/veh) V/C = 1.586 LOS = F

1985 HCM: SIGNALIZED INTERSECTIONS

SUMMARY REPORT

INTERSECTION..KENNEDY BOULEVARD/MEMORIAL HIGHWAY

AREA TYPE.....OTHER

ANALYST.....DSA

DATE.....

TIME..... YEAR 2000-AM PEAK

COMMENT.....ALTERNATIVE 3: INTERSECTION RE-ALIGNMENT

VOLUMES					GEOMETRY						
	EB	WB	NB	SB		EB	WB	NB	SB		
LT	83	0	1340	0	: L	12.0	L	12.0	L	12.0	T
TH	0	0	1349	1869	: L	12.0	T	12.0	L	12.0	T
RT	613	0	0	313	: R	12.0	T	12.0	T	12.0	T
RR	307	0	0	153	: :	12.0	T	12.0	T	12.0	R
					: :	12.0		12.0		12.0	
					: :	12.0		12.0		12.0	

ADJUSTMENT FACTORS										ARR. TYPE
	GRADE (%)	HV (%)	ADJ Y/N	PKG Nm	BUSES Nb	PHF	FEDS	FED. Y/N	BUT. min T	
EB	0.00	2.00	N	0	0	0.95	20	Y	26.5	3
WB	0.00	2.00	N	0	0	0.95	20	Y	26.5	3
NB	0.00	2.00	N	0	0	0.95	20	Y	11.5	3
SB	0.00	2.00	N	0	0	0.95	20	Y	11.5	3

SIGNAL SETTINGS								CYCLE LENGTH = 136.0			
		PH-1	PH-2	PH-3	PH-4			PH-1	PH-2	PH-3	PH-4
EB	LT	X				NB	LT	X			
	TH	X					TH	X	X		
	RT	X					RT				
	PD						PD				
WB	LT					SB	LT				
	TH						TH		X		
	RT						RT		X		
	PD						PD				
GREEN		4.0	0.0	0.0	0.0	GREEN		60.0	56.0	0.0	0.0
YELLOW		6.0	0.0	0.0	0.0	YELLOW		4.0	6.0	0.0	0.0

LEVEL OF SERVICE							
	LANE	GRP.	V/C	G/C	DELAY	LOS	APP. DELAY
EB	L		0.667	0.051	55.9	E	12.5
	R		0.223	0.956	0.1	A	
NB	L		1.007	0.449	48.3	E	24.5
	T		0.463	0.904	0.8	A	
SB	T		0.933	0.434	28.5	D	27.4
	R		0.229	0.485	13.1	B	

INTERSECTION: Delay = 24.8 (sec/veh) V/C = 1.145 LOS = C

1985 HCM: SIGNALIZED INTERSECTIONS

SUMMARY REPORT

INTERSECTION..KENNEDY BOULEVARD/MEMORIAL HIGHWAY

AREA TYPE.....OTHER

ANALYST.....DSA

DATE.....

TIME.....YEAR 2000 - PM PEAK

COMMENT.....ALTERNATIVE 3: INTERSECTION RE-ALIGNMENT

VOLUMES					GEOMETRY						
	EB	WB	NB	SB		EB	WB	NB	SB		
LT	448	0	1053	0	: L	12.0	L	12.0	L	12.0	T
TH	0	0	1957	2203	: L	12.0	T	12.0	L	12.0	T
RT	1241	0	0	102	: R	12.0	T	12.0	T	12.0	T
RR	621	0	0	51	: :	12.0	T	12.0	T	12.0	R
					: :	12.0		12.0		12.0	
					: :	12.0		12.0		12.0	

ADJUSTMENT FACTORS										
	GRADE	HV	ADJ	PKG	BUSES	PHF	FEDS	PED.	BUT.	ARR.
	(%)	(%)	Y/N	Nm	Nb			Y/N	min T	IY
EB	0.00	0.00	N	0	0	0.95	20	Y	26.5	3
WB	0.00	0.00	N	0	0	0.95	20	Y	26.5	3
NB	0.00	0.00	N	0	0	0.95	20	Y	11.5	3
SB	0.00	0.00	N	0	0	0.95	20	Y	11.5	3

SIGNAL SETTINGS					CYCLE LENGTH = 136				
	PH-1	PH-2	PH-3	PH-4		PH-1	PH-2	PH-3	PH-4
EB LT	X				NB LT	X			
TH					TH	X	X		
RT	X				RT				
PD					PD				
WB LT					SB LT				
TH					TH		X		
RT					RT		X		
PD					PD				
GREEN	20.0	0.0	0.0	0.0	GREEN	43.0	60.0	0.0	0.0
YELLOW	5.0	0.0	0.0	0.0	YELLOW	3.0	5.0	0.0	0.0

LEVEL OF SERVICE							
	LANE GRP.	V/C	G/C	DELAY	LOS	APP. DELAY	APP. LOS
EB	L	1.080	0.162	103.3	F	43.5	E
	R	0.446	0.956	0.3	A		
NB	L	1.058	0.316	74.8	F	29.3	D
	T	0.721	0.794	4.9	A		
SB	T	0.989	0.456	33.8	D	33.2	D
	R	0.056	0.618	6.7	B		

INTERSECTION: Delay = 33.1 (sec/veh) V/C = 1.298 LOS = D