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TRAFFIC REPORT
FOR
SR 52 FROM US 19 TO I-75
IN PASCO COUNTY

Project No. 14120-1518
WPA No. 1115879

PREPARED FOR
FLORIDA DEPARTMENT OF TRANSPORTATION
BARTOW, FLORIDA

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SR52 TRAFFIC FORECASTS
METHODOLOGY REPORT

1.0 INTRODUCTION

1.1 PURPOSE

The purpose of this report is to present the procedures, assumptions, and analysis techniques which were used in the development of Traffic Forecasts for SR 52 from US 19 to I-75. This report is formatted by the following areas:

Background
Traffic Forecast Methodology
 General Approach
 Detailed Methodology
Recommendations/Conclusions

1.2 BACKGROUND

The SR 52 corridor being analyzed extends from its intersection with US 19 (SR 55) easterly to its intersection with I-75 (SR 93), a distance of 23+ miles. Since SR 52 is one of only two east-west corridors in Pasco County (SR 54 being the other), it serves primarily as an arterial connector to US 19 and to I-75. Consequently, a large percentage of traffic using SR 52 will have either an origin or destination within the SR 52 corridor (i.e., internal-internal or internal-external traffic).

On the western end of the corridor, the coastal area of Pasco County is rapidly urbanizing which would create traffic impacts on SR 52. This trend is expected to continue, further necessitating improvements to this roadway.

The eastern portion of the corridor has some areas that have poor sight distances and blind intersections. Also, adequate shoulders or passing zones are lacking in some areas. As traffic volumes increase, these conditions will reduce the safe and efficient operation of the corridor.

The Comprehensive Plan developed in 1981 by Pasco County provides a preliminary analysis of existing transportation needs within the County. SR 52 is forecast to carry approximately 32,000 vehicles per day in 1986 east of US 19 according to this plan.

Estimates of future traffic along the SR 52 corridor were developed by the Florida Department of Transportation (FDOT) in April, 1982. Previous estimates were also developed in 1979 and 1981, and were based on historical traffic data from stations in or near the subject facility. Future FDOT estimates are as follows:

On SR 52 from US 19 to Fivay Road

Estimated 2000 ADT 55800
Estimated 2010 ADT 79000

On SR 52 from Fivay Road to Pointe West

Estimated 2000 ADT 39800
Estimated 2010 ADT 56200

On SR 52 from Pointe West to SR 587

Estimated 2000 ADT 24000
Estimated 2010 ADT 34000

On SR 52 from SR 587 to US 41

Estimated 2000 ADT 15200
Estimated 2010 ADT 21400

On SR 52 from US 41 to I-75

Estimated 2000 ADT 11400
Estimated 2010 ADT 16200

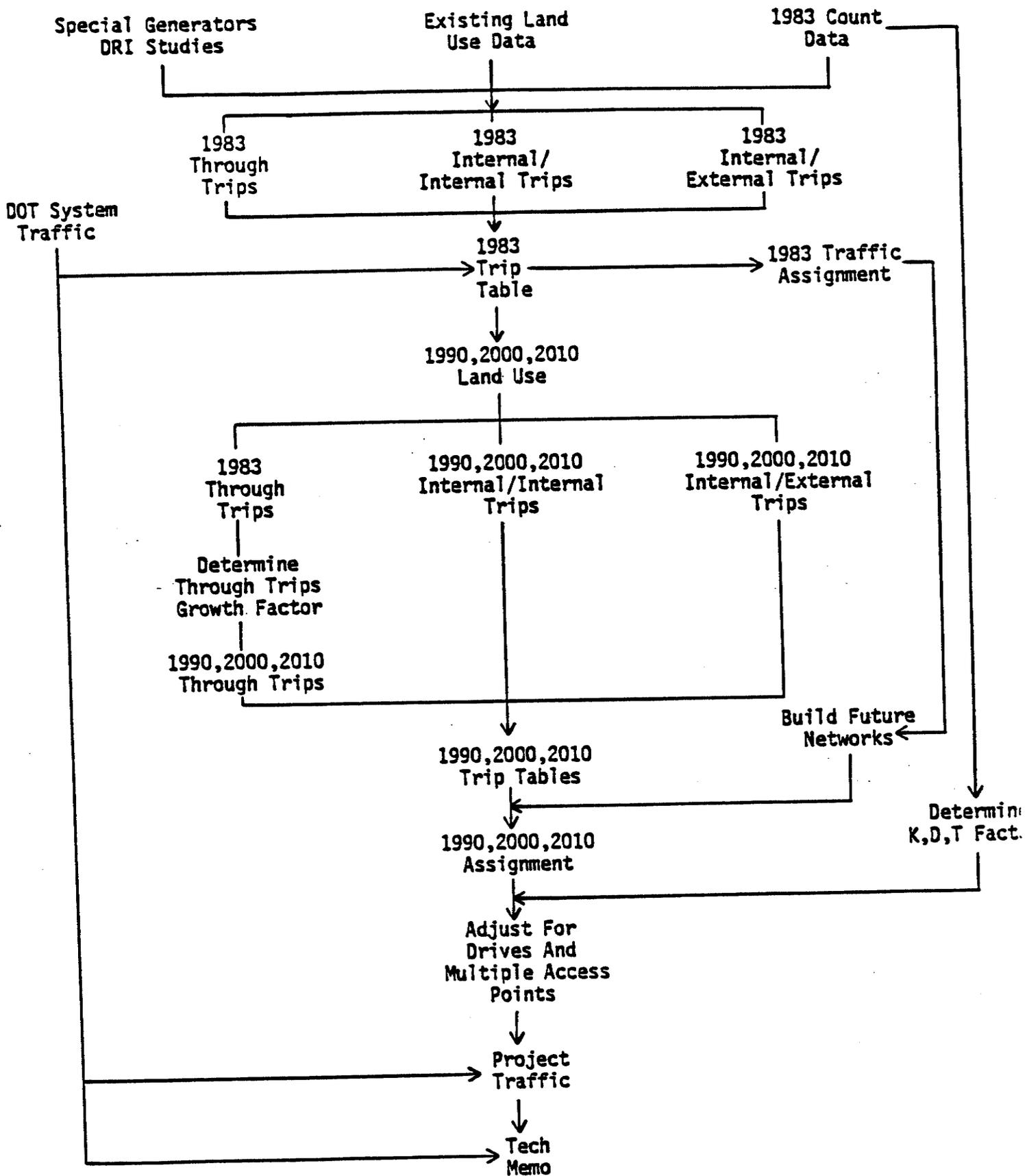
K = 10% 24-Hour T = 9%
D = 58% Design Hour T = 6%

2.0 TRAFFIC FORECASTS METHODOLOGY

2.1 GENERAL APPROACH

Traffic forecasts were developed using a micro-computer process, NCHRP 187 Quick Response Technology and Transferable Parameters Users Guide, and based on field data, existing and projected land uses in and adjacent to the corridor and coordination with previous special studies and plans. This included traffic projections for several DRI's in the corridor which will be discussed in ~~on~~ data collection. Figure 1 illustrates the procedure for developing project traffic.

FIGURE 1. FLOW CHART FOR DEVELOPING PROJECT TRAFFIC
S.R. 52 Pasco County



Projected traffic was then compared to 2000 and 2010 Corridor Systems Traffic and K, D, and T Factors supplied by the FDOT. Generally, projected traffic was lower than FDOT Corridor Systems Traffic in the western portion of the study area (near US 19). Otherwise, projected traffic closely approximated the FDOT Corridor Systems Traffic for 2000 and 2010.

A 1983 trip table was generated based on existing land uses and 1983 traffic counts. Zones used for the trip table summary are compatible with West Pasco County Area Transportation Study (WPCATS) TAZs. However, since the WPCATS study only extends to S.R. 41, additional zones for the corridor east of SR 41 compatible with WPCATS TAZs were created.

Population and land use projections were used to expand the 1983 trip table to 1990, 2000, and 2010 trip tables. Since Pasco County was in the process of updating their Comprehensive Plan, data from that study was available for use in this study. In addition to the Comprehensive Plan, transportation planning activities being conducted by the WPCATS provided useful projections.

The assignment procedure began with building a future network to represent, in conceptual form, the various alternatives that were considered. The assignment procedure utilized corridor analysis methods outlined in NCHRP 187 Quick Response Techniques and Transferable Parameters Users Guide. Zonal entry points to the street network systems (centroid connectors) representing driveways or side streets were tied to the main road based on existing conditions. Growth for through trips was added to SR 52 traffic. Turning movements were developed for major side streets and/or major driveways.

K, D, T Factors were then developed for 1990, 2000 and 2010 (based on historical data), and used to convert average daily traffic (ADT) to peak hour volumes and peak hour turn movements. These traffic volumes will then be used as input into other phases of the study: thru traffic requirements; intersection geometry; noise and air quality analyses.

2.2 DETAILED METHODOLOGY

The following steps describe in detail how the traffic forecasts were developed for 1990, 2000, 2010.

Step 1. Review and Correlate Background Data

A. Developments of Regional Impact (DRI)

Traffic impacts of known DRIs which would affect the project were identified. The traffic data from the DRI's listed below, and others appropriate to the project were correlated with traffic count data. Those DRIs which were included in the analysis are:

<u>Development</u>	<u>Size and Type</u>
Pointe West	1760 DU's
Beacon Woods East	4400 DU's
Beacon Village	2400 DU's
River Ridge	6600 DU's

B. Land Use Data

Because much of the traffic on SR 52 has either an origin or destination within the corridor, adjacent land use was of critical importance in developing project traffic, and evaluating access requirements. Land use and zoning utilities, cultural features, socio-economic information, and the location of emergency and educational services were obtained from field reviews, and from local planning representatives.

Pasco County provided a Comprehensive Plan for use in the project. An updated existing land use map and data were available from this plan. Also, projections of land use to the Year 1995 were available for use in the project.

C. Traffic Count Data

Traffic count data on SR 52 was collected during the period of March 12 through April 10, 1984. (See Appendix for

listing.) This effort included installing traffic counters for 24-hour machine counts and conducting manual vehicle turning movement counts at selected intersections.

The intersections were grouped into three classes. Priority 1 intersections, which were counted first, consisted of major public roadways which intersect SR 52 (see Appendix for listing). At these locations 24-hour machine counts were conducted on each approach, and an 8-hour manual vehicle turning movement count was taken for the time periods 7:00 - 11:00 a.m., and 2:00 - 6:00 p.m.

Priority 2 intersections consisted primarily of roadways serving as entrances to large subdivisions. At these locations 24-hour approach volumes were counted by machine. Turning movement counts were conducted during the period of 7:00 - 9:00 a.m. At the end of each hour, approach volumes for the minor roadway were reviewed. In the urban area, if no minor road approach exceeded 150 vehicle for one hour (either 7:00 - 8:00 a.m. or 8:00 - 9:00 a.m.), then the manual turning movement count ceased. If the threshold volume of 150 vehicles (Transportation and Traffic Engineering Handbook threshold for signal warrant) was exceeded, then a full 8-hour manual turning movement count was conducted.

In the rural area, if no minor road approach exceeded 105 vehicles an hour (either 7:00 - 8:00 a.m. or 8:00 - 9:00 a.m.), then the manual turning movement count ceased at 9:00 a.m. If the threshold volume of 105 vehicles (Transportation and Traffic Engineering Handbook threshold for signal warrant) was exceeded, then a full 8-hour manual turning movement count was conducted.

Priority 3 intersections consisted primarily of roadways serving as entrances to minor subdivisions. The same procedure used to analyze Priority 2 intersections was used in evaluating Priority 3 intersections.

Data was collected at existing traffic signals including type of signal, phasing, and geometry. A general field and data review of the corridor was also undertaken to identify any existing conflict points such as poor driveway access locations, capacity restraints, high accident locations, and geometric constraints. This data will serve as a basis for recommended future improvements, where required, at these intersections.

Step 2. Development of Vehicular Demand Forecasts

A. Traffic Analysis Zones

Traffic analysis zones (see Appendix) were developed to conform to the constraints of the Quick Response System parameters. That is, when using this micro-computer software with the Apple Computer, the maximum number of traffic analysis zones including external stations is thirty.

In order to adequately address the through movements and external-internal movements in the study area, a total of thirteen (13) external stations were created. The locations of these external stations are major roadway segments (such as US 19 and I-75) beyond the internal zonal boundaries. The external station locations are depicted in the Appendix.

The remaining seventeen zones are internal. The internal zones were developed in two ways. Those zones west of US 41 (SR 45) were developed by using existing WPCATS TAZ's. These zones were either kept intact or aggregated by grouping homogeneous zones. Data for these zones were

available directly from Pasco County for 1980 and 1995. Those zones east of US 41 are, for the most part, subdivisions of existing Pasco County TAZ's. Zonal data for these zones were not available from Pasco County. Base year data were determined by a windshield review of this area, as well as by reviewing aerial photographs. Future land use was determined through discussion with Pasco County staff regarding development trends and by incorporating known DRIs in this portion of the study area.

The land use and socio-economic data for the internal zones for the year 1995 are in the Appendix. Trip productions and attractions by zone and trip purpose for 1995 generated by this data are shown in the Appendix.

B. Future Network

The future network was developed using the existing roadway system. Zonal entry points to the street network system (Centroid connectors) representing driveways or sidestreets were tied to the main road based on existing conditions.

C. 1990, 2000, 2010 ASSIGNMENTS

1990

Zonal interchanges, in person trips, were computed using the Trip Distribution function of the Quick Response System for the year 1995. Adjustments for vehicle occupancy were applied to the zonal interchanges to derive auto trips. These 1995 zonal interchanges for auto trips were converted to 1990 by deriving an average annual growth rate by zone and reducing 1995 projections to 1990 by the appropriate factor. In addition, known development not included in the land use data forecasts was added to the appropriate zone(s).

Corridor analysis methods outlined in NCHRP 187 Quick Response Techniques and Transferable Parameters Users Guide for the assignment procedure were used. This procedure is based on observed operating characteristics of the roadway segments in the study area, rather than quantitative factors. From these observed operating characteristics, daily auto trips were loaded on the network via the most logical path. Turn movements on a daily basis were also developed for major side streets and major driveways. Trip Assignment for 1990 is shown in Figure 2.

2000, 2010 Assignments

Using the same methodology described for 1990, 2000 and 2010 daily auto trip assignments were made. These assignments are presented in Figure 2.

D. K, D, T FACTORS

K, D, T Factors were developed for 1990, 2000, 2010 to convert average daily traffic (ADT) to the peak hour volumes and peak hour turn movements. Existing K, D, T Factors derived in the data collection effort were compared to K, D, T Factors supplied by FDOT.

Based on a favorable comparison, the following values were used:

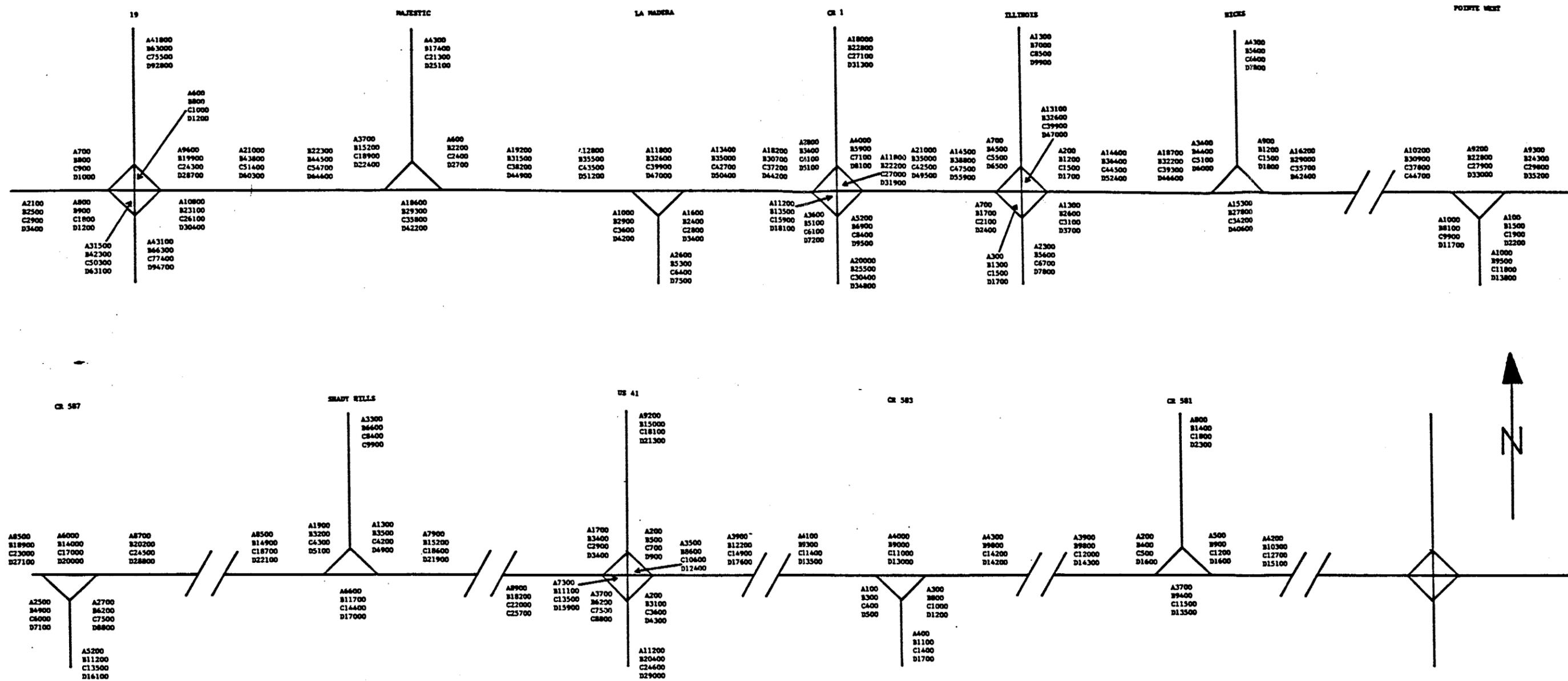
K = 8.5%

D = 55%

T = 6% (Design Hour)

E. Project Traffic

Figure 2 shows the daily two traffic volumes along SR 52. The variations in traffic volumes are shown below:



TWO-WAY AVERAGE DAILY THROUGH AND TURNING TRAFFIC

- LEGEND
 A-1983
 B-1990
 C-2000
 D-2010

STATE ROAD 52
 Figure 2

Source: ESE, Inc. 1984

	<u>East of US 41 19</u>	<u>West of US 41</u>	<u>West of I-75</u>
1990	43800	18200	9600
2000	51400	22000	13000
2010	60300	25700	14600

Step 3. Capacity Analysis

SR 52, from US 19 to I-75, was analyzed for existing (1983) traffic conditions to determine the Level of Service (LOS) at which the roadway was presently operating and forecasted (1990, 2000, 2010) future conditions to determine the laneage requirements to accommodate future traffic volumes. The P.M. Peak Hour was analyzed as the worst case condition.

Traffic service levels range from A to F, Level A representing a condition of free flow and Level F a condition of forced flow at low speeds. Level C is the generally accepted standard for adequate traffic operation conditions with Level D considered acceptable operation in the peak hours for urban areas. The following are descriptions of the service levels described in the text:

- 1) Level A: Highest LOS which represents free flow of traffic with little or no restriction on highway speed or maneuverability. Speeds are high and traffic volume is low.
- 2) Level B: Represents a stable flow of traffic; however, the operating speed is beginning to be restricted by other traffic.
- 3) Level C: Traffic flow is still stable; however, with the increased volume and density of traffic, drivers are becoming restricted in speed as well as in the ability to change lanes or pass. This LOS is generally considered the optimum for urban road design.

- 4) Level D: Traffic flow under this condition approaches unstable flow, with tolerable operating speeds being maintained, although considerably affected by changes in operating conditions. This LOS is generally considered the optimum for urban road design.
- 5) Level E: This condition represents operations at lower operating speeds than Level D, with volumes at or near highway capacity. Flow is unstable, and stoppages may be of momentary duration.
- 6) Level F: This level is characterized by forced flow operations at low speeds where volumes are below capacity. Speeds are reduced substantially and stoppages may occur for short or long periods of time due to congestions.

In an urban environment, the capacity of major and secondary arterial streets are controlled by the capacity of the intersections, both signalized and unsignalized. Failure to provide adequate capacity at urban intersections often substantially reduces the uninterrupted midblock operational efficiency of the adjacent roadway links.

Intersection capacity analyses were conducted for signalized intersections within the primary impact area utilizing a technique known as Critical Movement Analysis (CMA). This technique is considered the most current measure of efficiency for signalized intersections as documented in the Transportation Board Research Circular 212.

The basic principle in this traffic evaluation technique is that a combination of conflicting traffic movements must be satisfactorily accommodated during each signal cycle at the intersection. The degree to which these movements are satisfied determines the LOS at the intersection. Controlling factors include intersection geometry and traffic signal phasing.

Table 1 contains a summary of the LOS for critical signalized intersections for the P.M. Peak Hour utilizing critical movement summations. Table 1 is followed by critical movement summation sheets for existing signalized intersections. SR 52 at US 19 operates at LOS C during the P.M. Peak Hour for the Year 1983. As identified in the table, SR 52 at CR 1 operates at LOS E during the P.M. Peak Hour and SR 52 at US 41 operates at LOS A during the P.M. Peak Hour.

The signalized intersections studied under existing conditions presently operate at an acceptable LOS during the P.M. Peak, with the exception of SR 52/CR 1. These intersections will deteriorate by the Years 1990, 2000, and 2010, and are expected to experience extreme congestion unless certain improvements are made.

3.0 RECOMMENDATIONS/CONCLUSION

Based on the preceding analysis, it was determined that SR 52 should be widened to a four lane facility within the study corridor from US 19 to CR 587 and to a six lane facility within these limits by 2010. In addition, SR 52 should be widened to a four lane facility from CR 587 to I-75 by the Year 2010. Additional geometric improvements will be required at the major intersections along SR 52. Tables 2 through 4 (as follows) summarize the recommended intersection improvements along SR 52 between US 19 and I-75 for the Years 1990, 2000, and 2010. Each table is followed by Critical Movement Analysis (CMA) sheets for the respective intersection.

As can be seen from the analysis, projected future traffic, based on expected land uses, will cause traffic volumes to greatly exceed existing capacity on SR 52 from US 19 to I-75. In fact, the intersection of SR 52/CR 1 presently operates at an unacceptable Level of Service during the P.M. Peak Hour. As the western end of the corridor continues to rapidly urbanize, other critical intersections along SR 52 will realize capacity problems with existing geometry.

Traffic volumes are expected to increase in the eastern portion of the corridor also. Due to some areas that have poor sight distances, blind intersections, and some areas lacking adequate shoulders or passing zones, these increases in traffic volumes will continue to reduce the safe and efficient operation of the corridor.

Based on review of previous studies, existing traffic counts, projected traffic counts, accident data, and historical documentation, along with a review of the analyses contained within this report, the need for upgrading of the SR 52 corridor to meet existing and future traffic demands clearly exists.

Table 1. LOS for Signalized Intersections (Prior to Recommended Improvements)
P.M. Peak Hour 1983 Volumes

Intersection	Number of Phases	Sum of Critical Volumes	Intersection LOS
SR 52/US 19	4+	1123	C
SR 52/CR 1	4+	1724	E
SR 52/US 41	2	643	A

Source: ESE, Inc. 1984.

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SR 52/US 19 (EXISTING)

DATE 08/13/84

LEVEL OF SERVICE C
SATURATION 68
CRITICAL N/S VOL 824
CRITICAL E/W VOL 299
CRITICAL SUM 1123

LANE	LANE GEOMETRY							
	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND	
	MOV	WIDTH	MOV	WIDTH	MOV	WIDTH	MOV	WIDTH
1	R..	12.0	R..	12.0	RT.	12.0	RT.	12.0
2	T..	12.0	T..	12.0	L..	12.0	L..	12.0
3	T..	12.0	T..	12.0	...	....	L..	12.0
4	T..	12.0	T..	12.0	...	....	...	....
5	L..	12.0	L..	12.0	...	....	...	....
6	...	....	L..	12.0	...	....	...	....

	TRAFFIC VOLUMES			
	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	34	278	27	370
THRU	1557	969	5	32
RIGHT	349	8	18	204

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :5. DIRECTION SEPERATION
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	665	413	25	274
LEFT	4	159	0	217

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	34	278	27	370
ADJUSTED VOL	4	303	0	415
CAPACITY	617	0	322	0
MOVEMENT	N/A	N/A	N/A	N/A

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CRITICAL MOVEMENT ANALYSIS

SR 52/CR 1 (EXISTING)

DATE 08/13/84

LEVEL OF SERVICE E
SATURATION 105
CRITICAL N/S VOL 867
CRITICAL E/W VOL 857
CRITICAL SUM 1724

LANE	LANE GEOMETRY							
	NORTHBOUND MOV WIDTH		SOUTHBOUND MOV WIDTH		EASTBOUND MOV WIDTH		WESTBOUND MOV WIDTH	
1	R..	12.0	R..	12.0	R..	12.0	R..	12.0
2	T..	12.0	T..	12.0	T..	12.0	T..	12.0
3	L..	12.0	L..	12.0	L..	12.0	L..	12.0
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

	TRAFFIC VOLUMES			
	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	168	204	161	207
THRU	563	393	551	448
RIGHT	233	74	138	138

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :4. BOTH TURNS PROTECTED (WITH OVERLAP)
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	655	457	641	521
LEFT	168	212	160	216

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	168	204	161	207
ADJUSTED VOL	168	212	160	216
CAPACITY	617	0	322	0
MOVEMENT	N/A	N/A	N/A	N/A

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CRITICAL MOVEMENT ANALYSIS

SR 52/US 41 (EXISTING)

DATE 08/13/84

LEVEL OF SERVICE A
SATURATION 36
CRITICAL N/S VOL 455
CRITICAL E/W VOL 188
CRITICAL SUM 643

LANE	LANE GEOMETRY							
	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND	
	MOV	WIDTH	MOV	WIDTH	MOV	WIDTH	MOV	WIDTH
1	R..	12.0	R..	12.0	R..	12.0	R..	12.0
2	T..	12.0	T..	12.0	LT.	12.0	LT.	12.0
3	L..	12.0	L..	12.0	...	....	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

	TRAFFIC VOLUMES			
	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	224	9	78	14
THRU	391	226	145	153
RIGHT	3	69	94	9

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :1. NEITHER TURN PROTECTED
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	455	263	188	178
LEFT	191	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	224	9	78	14
ADJUSTED VOL	191	0	20	0
CAPACITY	192	0	10	0
MOVEMENT	OK	OK	NO	OK

Table 2. 1990 Improvements

Intersection	Configuration of Approach Lanes SR 52	Configuration of Approach Lanes Side Street	LOS*
SR 52/US 19	EB (R), (T), L** WB (R), (T), L, L, (L)	NB R, T, T, T, L SB R, T, T, T, L, L	D
SR 52/Majestic	EB (T), T, L WB (T), T, R	SB R, L	B
SR 52/CR 1	EB R, T, (T), L WB R, T, (T), L, L	NB R, T, (T), L SB R, T, (T), L, (L)	D
SR 52/Illinois	EB (R), (T), (T), (L) WB (R), (T), (T), (L)	NB (R), (T), (L) SB (R), (T), (L)	D
SR 52/Point West	EB R, T, (T) WB (T), T, L	NB R, L	C
SR 52/CR 587	EB (R), (T), (T) WB (T), T, L, (L)	NB R, L	A
SR 52/ Shady Hills	EB (T), (L) WB (R), (T)	SB R, L	A
SR 52/US 41	EB R, T, L WB R, T, L	NB R, T, L SB R, T, L	D

* After Improvement

** () Denotes Improvement

Source: ESE, Inc. 1984.

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SR 52/US 19 (1990)

DATE 08/14/84

LEVEL OF SERVICE D
SATURATION 84
CRITICAL N/S VOL 950
CRITICAL E/W VOL 433
CRITICAL SUM 1383

LANE GEOMETRY

LANE	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND	
	MOV	WIDTH	MOV	WIDTH	MOV	WIDTH	MOV	WIDTH
1	R..	12.0	R..	12.0	R..	12.0	R..	12.0
2	T..	12.0	T..	12.0	T..	12.0	T..	12.0
3	T..	12.0	T..	12.0	L..	12.0	L..	12.0
4	T..	12.0	T..	12.0	...	....	L..	12.0
5	L..	12.0	L..	12.0	...	....	L..	12.0
6	...	....	L..	12.0	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND	
LEFT		60		380		40		970
THRU		1700		1810		10		120
RIGHT		510		45		25		615

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :5. DIRECTION SEPERATION
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND	
THRU -RIGHT		726		773		11		139
LEFT		36		224		12		421

LEFT TURN CHECK

	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND	
INPUT VOLUME		60		380		40		970
ADJUSTED VOL		36		428		12		1149
CAPACITY		324		0		422		192
MOVEMENT		N/A		N/A		N/A		N/A

ENVIRONMENTAL SCIENCE AND ENGR.
CRITICAL MOVEMENT ANALYSIS

SR 52/MAJESTIC (1990)

DATE 08/14/84

LEVEL OF SERVICE B
SATURATION 65
CRITICAL N/S VOL 152
CRITICAL E/W VOL 917
CRITICAL SUM 1069

LANE	LANE GEOMETRY							
	NORTHBOUND MOV WIDTH		SOUTHBOUND MOV WIDTH		EASTBOUND MOV WIDTH		WESTBOUND MOV WIDTH	
1	R..	12.0	T..	12.0	R..	12.0
2	L..	12.0	T..	12.0	T..	12.0
3	L..	12.0	T..	12.0
4
5
6

	TRAFFIC VOLUMES			
	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	155	165	0
THRU	0	0	1500	985
RIGHT	0	1130	0	30

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :2. HEAVIEST TURN PROTECTED
E/W :2. HEAVIEST TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	0	0	917	602
LEFT	0	152	165	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	155	165	0
ADJUSTED VOL	0	152	165	0
CAPACITY	152	0	315	0
MOVEMENT	OK	N/A	N/A	OK

ENVIRONMENTAL SCIENCE AND ENGR.
CRITICAL MOVEMENT ANALYSIS

SR 52/CR 1 (1990)

DATE 08/14/84

LEVEL OF SERVICE D
SATURATION 82
CRITICAL N/S VOL 569
CRITICAL E/W VOL 782
CRITICAL SUM 1351

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	R.. 12.0	R.. 12.0	R.. 12.0	R.. 12.0
2	T.. 12.0	T.. 12.0	T.. 12.0	T.. 12.0
3	T.. 12.0	T.. 12.0	T.. 12.0	T.. 12.0
4	L.. 12.0	L.. 12.0	L.. 12.0	L.. 12.0
5	... ..	L.. 12.0	... ..	L.. 12.0
6	... ..	... ..	... ..	... ..

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	200	280	190	320
THRU	670	475	920	960
RIGHT	270	100	230	225

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :4. BOTH TURNS PROTECTED (WITH OVERLAP)
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	409	290	562	587
LEFT	207	160	195	185

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	200	280	190	320
ADJUSTED VOL	207	305	195	354
CAPACITY	159	0	392	0
MOVEMENT	N/A	N/A	N/A	N/A

ENVIRONMENTAL SCIENCE AND ENGR.
CRITICAL MOVEMENT ANALYSIS

SR 52/ILLINOIS (1990)

DATE 08/14/84

LEVEL OF SERVICE D
SATURATION 77
CRITICAL N/S VOL 135
CRITICAL E/W VOL 1139
CRITICAL SUM 1274

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	R.. 12.0	R.. 12.0	R.. 12.0	R.. 12.0
2	T.. 12.0	T.. 12.0	T.. 12.0	T.. 12.0
3	L.. 12.0	L.. 12.0	T.. 12.0	T.. 12.0
4	... ..	... ..	L.. 12.0	L.. 12.0
5	... ..	... ..	... ..	... ..
6	... ..	... ..	... ..	... ..

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	65	80	30	100
THRU	30	80	1725	1050
RIGHT	110	350	80	25

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :4. BOTH TURNS PROTECTED (WITH OVERLAP)
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	34	93	1054	642
LEFT	42	61	0	85

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	65	80	30	100
ADJUSTED VOL	42	61	0	85
CAPACITY	159	0	422	192
MOVEMENT	N/A	N/A	N/A	N/A

ENVIRONMENTAL SCIENCE AND ENGR.
CRITICAL MOVEMENT ANALYSIS

SR 52/POINTE WEST (1990)

DATE 08/14/84

LEVEL OF SERVICE C
SATURATION 73
CRITICAL N/S VOL 550
CRITICAL E/W VOL 709
CRITICAL SUM 1259

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	R.. 12.0	...	R.. 12.0	T.. 12.0
2	L.. 12.0	...	T.. 12.0	T.. 12.0
3	...	...	T.. 12.0	L.. 12.0
4	...	...	...	...
5	...	...	...	...
6	...	...	...	...

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	480	0	0	10
THRU	0	0	1160	785
RIGHT	115	0	205	0

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :2. HEAVIEST TURN PROTECTED
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	0	0	709	480
LEFT	550	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	480	0	0	10
ADJUSTED VOL	550	0	0	0
CAPACITY	0	550	229	0
MOVEMENT	N/A	OK	OK	OK

ENVIRONMENTAL SCIENCE AND ENGR.
CRITICAL MOVEMENT ANALYSIS

SR 52/CR 587 (1990)

DATE 08/14/84

LEVEL OF SERVICE A
SATURATION 46
CRITICAL N/S VOL 195
CRITICAL E/W VOL 564
CRITICAL SUM 759

LANE	LANE GEOMETRY							
	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND	
	MOV	WIDTH	MOV	WIDTH	MOV	WIDTH	MOV	WIDTH
1	R..	12.0	...	....	R..	12.0	T..	12.0
2	L..	12.0	...	....	T..	12.0	T..	12.0
3	...	....	...	....	T..	12.0	L..	12.0
4	...	....	...	....	...	....	L..	12.0
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

	TRAFFIC VOLUMES			
	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	190	0	0	310
THRU	0	0	630	560
RIGHT	220	0	230	0

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :2. HEAVIEST TURN PROTECTED
E/W :2. HEAVIEST TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	0	0	385	342
LEFT	195	0	0	179

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	190	0	0	310
ADJUSTED VOL	195	0	0	342
CAPACITY	0	195	222	0
MOVEMENT	N/A	OK	OK	N/A

ENVIRONMENTAL SCIENCE AND ENGR.
 CRITICAL MOVEMENT ANALYSIS

SR 52/SHADY HILLS (1990)

DATE 08/14/84

LEVEL OF SERVICE A
 SATURATION 50
 CRITICAL N/S VOL 36
 CRITICAL E/W VOL 782
 CRITICAL SUM 818

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH		SOUTHBOUND MOV WIDTH		EASTBOUND MOV WIDTH		WESTBOUND MOV WIDTH	
1	R..	12.0	T..	12.0	R..	12.0
2	L..	12.0	L..	12.0	T..	12.0
3
4
5
6

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	60	170	0
THRU	0	0	470	525
RIGHT	0	100	0	235

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :2. HEAVIEST TURN PROTECTED
 E/W :2. HEAVIEST TURN PROTECTED
 PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
 CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	0	0	547	611
LEFT	0	36	171	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	60	170	0
ADJUSTED VOL	0	36	171	0
CAPACITY	36	0	0	235
MOVEMENT	OK	N/A	N/A	OK

ENVIRONMENTAL SCIENCE AND ENGR.
CRITICAL MOVEMENT ANALYSIS

SR 52/US 41 (1990)

DATE 08/14/84

LEVEL OF SERVICE D
SATURATION 79
CRITICAL N/S VOL 757
CRITICAL E/W VOL 657
CRITICAL SUM 1414

LANE	LANE GEOMETRY							
	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND	
	MOV	WIDTH	MOV	WIDTH	MOV	WIDTH	MOV	WIDTH
1	R..	12.0	R..	12.0	R..	12.0	R..	12.0
2	T..	12.0	T..	12.0	LT.	12.0	LT.	12.0
3	L..	12.0	L..	12.0	...	....	...	....
4	...	....	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND	
LEFT		280		15		165		150
THRU		650		290		350		385
RIGHT		110		125		245		30

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :1. NEITHER TURN PROTECTED
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	757	337	651	657
LEFT	512	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	280	15	165	150
ADJUSTED VOL	512	0	244	209
CAPACITY	420	0	0	6
MOVEMENT	NO	OK	NO	NO

Table 3. 2000 Improvements

Intersection	Configuration of Approach Lanes SR 52	Configuration of Approach Lanes Side Street	LOS*
SR 52/US 19	<u>EB</u> R,T,L <u>WB</u> R,T,L,L,L	<u>NB</u> R,T,T,T,(T),L** <u>SB</u> R,T,T,T,L,L	E
SR 52/Majestic	<u>EB</u> (T),T,T,L <u>WB</u> R,(T),T,T	<u>SB</u> R,L	B
SR 52/CR 1	<u>EB</u> R,T,T,(T),L <u>WB</u> R,T,T,(T),L,L	<u>NB</u> R,T,T,(T),L <u>SB</u> R,T,T,(T),L,L	D
SR 52/Illinois	<u>EB</u> R,T,T,(T),L <u>WB</u> R,T,T,(T),L	<u>NB</u> R,T,L <u>SB</u> R,T,L	C
SR 52/Point West	<u>EB</u> R,T,T,(T) <u>WB</u> (T),T,T,L	<u>NB</u> R,L	C
SR 52/587	<u>EB</u> R,T,T,(T) <u>WB</u> T,T,L,L	<u>SB</u> R,L	A
SR 52/Shady Hills	<u>EB</u> T,L <u>WB</u> R,T	<u>SB</u> R,L	B
SR 52/US 41	<u>EB</u> R,(T),(L) <u>WB</u> R,(T),(L)	<u>NB</u> R,T,L,(L) <u>SB</u> R,T,L	D

* LOS After Improvement
** () Denotes Improvement

Source: ESE, Inc. 1984.

ENVIRONMENTAL SCIENCE AND ENGR.
CRITICAL MOVEMENT ANALYSIS

SR 52/US 19 (2000)

DATE 08/14/84

LEVEL OF SERVICE E
SATURATION 92
CRITICAL N/S VOL 991
CRITICAL E/W VOL 528
CRITICAL SUM 1519

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	R.. 12.0	R.. 12.0	R.. 12.0	R.. 12.0
2	T.. 12.0	T.. 12.0	T.. 12.0	T.. 12.0
3	T.. 12.0	T.. 12.0	L.. 12.0	L.. 12.0
4	T.. 12.0	T.. 12.0	... ..	L.. 12.0
5	T.. 12.0	L.. 12.0	... ..	L.. 12.0
6	L.. 12.0	L.. 12.0	... ..	... ..

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	70	465	45	1185
THRU	2100	2210	10	150
RIGHT	620	55	25	750

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :2. HEAVIEST TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	672	943	11	174
LEFT	48	279	0	517

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	70	465	45	1185
ADJUSTED VOL	48	532	0	1412
CAPACITY	324	0	354	163
MOVEMENT	N/A	N/A	OK	N/A

ENVIRONMENTAL SCIENCE AND ENGR.
CRITICAL MOVEMENT ANALYSIS

SR 52/MAJESTIC (2000)

DATE 08/14/84

LEVEL OF SERVICE B
SATURATION 57
CRITICAL N/S VOL 159
CRITICAL E/W VOL 785
CRITICAL SUM 944

LANE	LANE GEOMETRY			
	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	R.. 12.0	T.. 12.0	R.. 12.0
2	L.. 12.0	T.. 12.0	T.. 12.0
3	T.. 12.0	T.. 12.0
4	L.. 12.0	T.. 12.0
5
6

	TRAFFIC VOLUMES			
	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	160	200	0
THRU	0	0	1840	1200
RIGHT	0	1410	0	40

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :2. HEAVIEST TURN PROTECTED
E/W :2. HEAVIEST TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	0	0	785	512
LEFT	0	159	207	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	160	200	0
ADJUSTED VOL	0	159	207	0
CAPACITY	159	0	273	0
MOVEMENT	OK	N/A	N/A	OK

ENVIRONMENTAL SCIENCE AND ENGR.
CRITICAL MOVEMENT ANALYSIS

SR 52/CR 1 (2000)

DATE 08/14/84

LEVEL OF SERVICE D
SATURATION 77
CRITICAL N/S VOL 529
CRITICAL E/W VOL 745
CRITICAL SUM 1274

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	R.. 12.0	R.. 12.0	R.. 12.0	R.. 12.0
2	T.. 12.0	T.. 12.0	T.. 12.0	T.. 12.0
3	T.. 12.0	T.. 12.0	T.. 12.0	T.. 12.0
4	T.. 12.0	T.. 12.0	T.. 12.0	T.. 12.0
5	L.. 12.0	L.. 12.0	L.. 12.0	L.. 12.0
6	... ..	L.. 12.0	... ..	L.. 12.0

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	240	330	230	390
THRU	790	560	1125	1175
RIGHT	320	120	280	275

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :4. BOTH TURNS PROTECTED (WITH OVERLAP)
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	337	239	480	501
LEFT	256	192	244	230

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	240	330	230	390
ADJUSTED VOL	256	366	244	440
CAPACITY	159	0	392	0
MOVEMENT	N/A	N/A	N/A	N/A

ENVIRONMENTAL SCIENCE AND ENGR.
CRITICAL MOVEMENT ANALYSIS

SR 52/ILLINOIS (2000)

DATE 08/14/84

LEVEL OF SERVICE C
SATURATION 72
CRITICAL N/S VOL 171
CRITICAL E/W VOL 1023
CRITICAL SUM 1194

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	R.. 12.0	R.. 12.0	R.. 12.0	R.. 12.0
2	T.. 12.0	T.. 12.0	T.. 12.0	T.. 12.0
3	L.. 12.0	L.. 12.0	T.. 12.0	T.. 12.0
4	... ..	... ..	T.. 12.0	T.. 12.0
5	... ..	... ..	L.. 12.0	L.. 12.0
6	... ..	... ..	... ..	... ..

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	80	95	40	130
THRU	35	95	2110	1280
RIGHT	135	425	95	30

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :4. BOTH TURNS PROTECTED (WITH OVERLAP)
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	40	110	901	546
LEFT	61	79	12	122

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	80	95	40	130
ADJUSTED VOL	61	79	12	122
CAPACITY	159	0	422	192
MOVEMENT	N/A	N/A	N/A	N/A

ENVIRONMENTAL SCIENCE AND ENGR.
CRITICAL MOVEMENT ANALYSIS

SR 52/POINTE WEST (2000)

DATE 08/14/84

LEVEL OF SERVICE C
SATURATION 75
CRITICAL N/S VOL 684
CRITICAL E/W VOL 606
CRITICAL SUM 1290

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	R.. 12.0	... ..	R.. 12.0	T.. 12.0
2	L.. 12.0	... ..	T.. 12.0	T.. 12.0
3	... ..	... ..	T.. 12.0	T.. 12.0
4	... ..	... ..	T.. 12.0	L.. 12.0
5	... ..	... ..	... ..	... ..
6	... ..	... ..	... ..	... ..

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	590	0	0	15
THRU	0	0	1420	960
RIGHT	145	0	250	0

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :2. HEAVIEST TURN PROTECTED
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	0	0	606	410
LEFT	684	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	590	0	0	15
ADJUSTED VOL	684	0	0	0
CAPACITY	0	684	196	0
MOVEMENT	N/A	OK	OK	OK

ENVIRONMENTAL SCIENCE AND ENGR.
CRITICAL MOVEMENT ANALYSIS

SR 52/CR 587 (2000)

DATE 08/14/84

LEVEL OF SERVICE A
SATURATION 48
CRITICAL N/S VOL 244
CRITICAL E/W VOL 547
CRITICAL SUM 791

LANE	LANE GEOMETRY							
	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND	
	MOV	WIDTH	MOV	WIDTH	MOV	WIDTH	MOV	WIDTH
1	R..	12.0	...	....	R..	12.0	T..	12.0
2	L..	12.0	...	....	T..	12.0	T..	12.0
3	...	....	...	....	T..	12.0	L..	12.0
4	...	....	...	....	T..	12.0	L..	12.0
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

	TRAFFIC VOLUMES			
	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	230	0	0	375
THRU	0	0	765	680
RIGHT	265	0	280	0

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :2. HEAVIEST TURN PROTECTED
E/W :2. HEAVIEST TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	0	0	326	415
LEFT	244	0	0	221

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	230	0	0	375
ADJUSTED VOL	244	0	0	421
CAPACITY	0	244	132	89
MOVEMENT	N/A	OK	OK	N/A

ENVIRONMENTAL SCIENCE AND ENGR.
CRITICAL MOVEMENT ANALYSIS

SR 52/SHADY HILLS (2000)

DATE 08/14/84

LEVEL OF SERVICE B
SATURATION 61
CRITICAL N/S VOL 48
CRITICAL E/W VOL 952
CRITICAL SUM 1000

LANE	LANE GEOMETRY							
	NORTHBOUND MOV WIDTH		SOUTHBOUND MOV WIDTH		EASTBOUND MOV WIDTH		WESTBOUND MOV WIDTH	
1	R..	12.0	T..	12.0	R..	12.0
2	L..	12.0	L..	12.0	T..	12.0
3
4
5
6

	TRAFFIC VOLUMES			
	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	70	200	0
THRU	0	0	590	640
RIGHT	0	160	0	285

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :2. HEAVIEST TURN PROTECTED
E/W :2. HEAVIEST TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	0	0	687	745
LEFT	0	48	207	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	70	200	0
ADJUSTED VOL	0	48	207	0
CAPACITY	48	0	0	265
MOVEMENT	OK	N/A	N/A	OK

ENVIRONMENTAL SCIENCE AND ENGR.
CRITICAL MOVEMENT ANALYSIS

SR 52/US 41 (2000)

DATE 08/14/84

LEVEL OF SERVICE D
SATURATION 83
CRITICAL N/S VOL 926
CRITICAL E/W VOL 559
CRITICAL SUM 1485

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH		SOUTHBOUND MOV WIDTH		EASTBOUND MOV WIDTH		WESTBOUND MOV WIDTH	
1	R..	12.0	R..	12.0	R..	12.0	R..	12.0
2	T..	12.0	T..	12.0	T..	12.0	T..	12.0
3	L..	12.0	L..	12.0	L..	12.0	L..	12.0
4	L..	12.0	...	....	...	....	...	....
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	340	20	180	180
THRU	795	350	430	470
RIGHT	130	155	300	40

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :1. NEITHER TURN PROTECTED
E/W :1. NEITHER TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	926	407	500	547
LEFT	342	0	279	559

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	340	20	180	180
ADJUSTED VOL	652	0	279	559
CAPACITY	519	0	0	47
MOVEMENT	NO	OK	NO	NO

Table 4. 2010 Improvements

Intersection	Configuration of Approach Lanes SR 52	Configuration of Approach Lanes Side Street	LOS*
SR 52/US 19	<u>EB</u> R,T,L <u>WB</u> R,T,L,L,L	<u>NB</u> R,T,T,T,T,L <u>SB</u> R,T,T,T,L,L	E
SR 52/Majestic	<u>EB</u> T,T,T,L <u>WB</u> R,T,T,T	<u>SB</u> R,L	C
SR 52/CR 1	<u>EB</u> R,T,T,T,L,(L) <u>WB</u> R,T,T,T,L,L	<u>NB</u> R,T,T,T,L,(L) <u>SB</u> R,T,T,T,L,L	D
SR 52/Illinois	<u>EB</u> R,T,T,T,L <u>WB</u> R,T,T,T,L	<u>NB</u> R,T,L <u>SB</u> R,T,L	D
SR 52/Pointe West	<u>EB</u> R,T,T,T <u>WB</u> T,T,T,L	<u>NB</u> R,L	D
SR 52/CR 587	<u>EB</u> R,T,T,T <u>WB</u> T,T,L,L	<u>NB</u> R,L	B
SR 52/ Shady Hills	<u>EB</u> (T),T,L <u>WB</u> R,T,(T)	<u>SB</u> R,L	A
SR 52/US 41	<u>EB</u> R,T,(T),L <u>WB</u> R,T,(T),L	<u>NB</u> R,T,(T),L,L <u>SB</u> R,T,(T),L	C

* Level of Service After Improvement

** () Denotes Improvement

Source: ESE, Inc. 1984.

ENVIRONMENTAL SCIENCE AND ENGR.
 CRITICAL MOVEMENT ANALYSIS

SR 52/US 19 (2010)

DATE 08/13/84

LEVEL OF SERVICE E
 SATURATION 109
 CRITICAL N/S VOL 1175
 CRITICAL E/W VOL 625
 CRITICAL SUM 1800

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	R.. 12.0	R.. 12.0	R.. 12.0	R.. 12.0
2	T.. 12.0	T.. 12.0	T.. 12.0	T.. 12.0
3	T.. 12.0	T.. 12.0	L.. 12.0	L.. 12.0
4	T.. 12.0	T.. 12.0	...	L.. 12.0
5	T.. 12.0	L.. 12.0	...	L.. 12.0
6	L.. 12.0	L.. 12.0	...	...

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	80	550	50	1400
THRU	2400	2610	10	175
RIGHT	730	65	30	885

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
 E/W :2. HEAVIEST TURN PROTECTED
 PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
 CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	768	1114	11	203
LEFT	61	333	0	614

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	80	550	50	1400
ADJUSTED VOL	61	636	0	1675
CAPACITY	159	0	422	192
MOVEMENT	N/A	N/A	OK	N/A

ENVIRONMENTAL SCIENCE AND ENGR.
CRITICAL MOVEMENT ANALYSIS

SR 52/MAJESTIC(2010)

DATE 08/13/84

LEVEL OF SERVICE C
SATURATION 68
CRITICAL N/S VOL 189
CRITICAL E/W VOL 926
CRITICAL SUM 1115

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	R.. 12.0	T.. 12.0	R.. 12.0
2	L.. 12.0	T.. 12.0	T.. 12.0
3	T.. 12.0	T.. 12.0
4	L.. 12.0	T.. 12.0
5
6

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	185	240	0
THRU	0	0	2170	1415
RIGHT	0	1665	0	45

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :2. HEAVIEST TURN PROTECTED
E/W :2. HEAVIEST TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	0	0	926	604
LEFT	0	189	256	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	185	240	0
ADJUSTED VOL	0	189	256	0
CAPACITY	189	0	322	0
MOVEMENT	OK	N/A	N/A	OK

ENVIRONMENTAL SCIENCE AND ENGR.
CRITICAL MOVEMENT ANALYSIS

SR 52/CR 1 (2010)

DATE 08/13/84

LEVEL OF SERVICE D
SATURATION 87
CRITICAL N/S VOL 595
CRITICAL E/W VOL 843
CRITICAL SUM 1438

LANE	LANE GEOMETRY			
	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	R.. 12.0	R.. 12.0	R.. 12.0	R.. 12.0
2	T.. 12.0	T.. 12.0	T.. 12.0	T.. 12.0
3	T.. 12.0	T.. 12.0	T.. 12.0	T.. 12.0
4	T.. 12.0	T.. 12.0	T.. 12.0	T.. 12.0
5	L.. 12.0	L.. 12.0	L.. 12.0	L.. 12.0
6	L.. 12.0	L.. 12.0	L.. 12.0	L.. 12.0

	TRAFFIC VOLUMES			
	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	280	360	270	460
THRU	900	640	1330	1385
RIGHT	350	160	330	325

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :4. BOTH TURNS PROTECTED (WITH OVERLAP)
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	384	273	568	591
LEFT	160	211	153	275

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	280	360	270	460
ADJUSTED VOL	305	403	293	525
CAPACITY	159	0	392	0
MOVEMENT	N/A	N/A	N/A	N/A

ENVIRONMENTAL SCIENCE AND ENGR.
CRITICAL MOVEMENT ANALYSIS

SR 52/ ILLINOIS (2010)

DATE 08/13/84

LEVEL OF SERVICE D
SATURATION 86
CRITICAL N/S VOL 201
CRITICAL E/W VOL 1215
CRITICAL SUM 1416

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	R.. 12.0	R.. 12.0	R.. 12.0	R.. 12.0
2	T.. 12.0	T.. 12.0	T.. 12.0	T.. 12.0
3	L.. 12.0	L.. 12.0	T.. 12.0	T.. 12.0
4	... ..	... ..	T.. 12.0	T.. 12.0
5	... ..	... ..	L.. 12.0	L.. 12.0
6	... ..	... ..	... ..	... ..

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	90	110	50	155
THRU	40	110	2490	1510
RIGHT	160	500	110	35

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :4. BOTH TURNS PROTECTED (WITH OVERLAP)
E/W :4. BOTH TURNS PROTECTED (WITH OVERLAP)
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	46	128	1063	644
LEFT	73	97	24	152

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	90	110	50	155
ADJUSTED VOL	73	97	24	152
CAPACITY	189	0	322	0
MOVEMENT	N/A	N/A	N/A	N/A

ENVIRONMENTAL SCIENCE AND ENGR.
 CRITICAL MOVEMENT ANALYSIS

SR 52/POINTE WEST (2010)

DATE 08/13/84

LEVEL OF SERVICE D
 SATURATION 89
 CRITICAL N/S VOL 813
 CRITICAL E/W VOL 715
 CRITICAL SUM 1528

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	R.. 12.0	... ..	R.. 12.0	T.. 12.0
2	L.. 12.0	... ..	T.. 12.0	T.. 12.0
3	... ..	... ..	T.. 12.0	T.. 12.0
4	... ..	... ..	T.. 12.0	L.. 12.0
5	... ..	... ..	... ..	... ..
6	... ..	... ..	... ..	... ..

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	695	0	0	20
THRU	0	0	1675	1130
RIGHT	170	0	300	0

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :2. HEAVIEST TURN PROTECTED
 E/W :1. NEITHER TURN PROTECTED
 PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
 CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	0	0	715	482
LEFT	813	0	0	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	695	0	0	20
ADJUSTED VOL	813	0	0	0
CAPACITY	0	813	233	0
MOVEMENT	N/A	OK	OK	OK

ENVIRONMENTAL SCIENCE AND ENGR.
CRITICAL MOVEMENT ANALYSIS

SR 52/CR 587 (2010)

DATE 08/14/84

LEVEL OF SERVICE B
SATURATION 57
CRITICAL N/S VOL 293
CRITICAL E/W VOL 647
CRITICAL SUM 940

LANE	LANE GEOMETRY							
	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND	
	MOV	WIDTH	MOV	WIDTH	MOV	WIDTH	MOV	WIDTH
1	R..	12.0	...	....	R..	12.0	T..	12.0
2	L..	12.0	...	....	T..	12.0	T..	12.0
3	...	....	...	....	T..	12.0	L..	12.0
4	...	....	...	....	T..	12.0	L..	12.0
5	...	....	...	....	...	....	...	....
6	...	....	...	....	...	....	...	....

	TRAFFIC VOLUMES			
	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	270	0	0	440
THRU	0	0	900	800
RIGHT	310	0	330	0

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :2. HEAVIEST TURN PROTECTED
E/W :2. HEAVIEST TURN PROTECTED
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	0	0	384	489
LEFT	293	0	0	263

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	270	0	0	440
ADJUSTED VOL	293	0	0	501
CAPACITY	0	293	158	105
MOVEMENT	N/A	OK	OK	N/A

ENVIRONMENTAL SCIENCE AND ENGR.
 CRITICAL MOVEMENT ANALYSIS

SR 52/SHADY HILLS (2010)

DATE 08/13/84

LEVEL OF SERVICE A
 SATURATION 46
 CRITICAL N/S VOL 61
 CRITICAL E/W VOL 705
 CRITICAL SUM 766

LANE	LANE GEOMETRY							
	NORTHBOUND MOV WIDTH		SOUTHBOUND MOV WIDTH		EASTBOUND MOV WIDTH		WESTBOUND MOV WIDTH	
1	R..	12.0	T..	12.0	R..	12.0
2	L..	12.0	T..	12.0	T..	12.0
3	L..	12.0	T..	12.0
4
5
6

	TRAFFIC VOLUMES			
	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	0	80	230	0
THRU	0	0	690	755
RIGHT	0	200	0	335

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :2. HEAVIEST TURN PROTECTED
 E/W :2. HEAVIEST TURN PROTECTED
 PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
 CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	0	0	421	461
LEFT	0	61	244	0

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	0	80	230	0
ADJUSTED VOL	0	61	244	0
CAPACITY	61	0	0	284
MOVEMENT	OK	N/A	N/A	OK

ENVIRONMENTAL SCIENCE AND ENGR.
CRITICAL MOVEMENT ANALYSIS

SR 52/US 41 (2010)

DATE 08/13/84

LEVEL OF SERVICE C
SATURATION 68
CRITICAL N/S VOL 574
CRITICAL E/W VOL 540
CRITICAL SUM 1114

LANE GEOMETRY

LANE	NORTHBOUND MOV WIDTH	SOUTHBOUND MOV WIDTH	EASTBOUND MOV WIDTH	WESTBOUND MOV WIDTH
1	R.. 12.0	R.. 12.0	R.. 12.0	R.. 12.0
2	T.. 12.0	T.. 12.0	T.. 12.0	T.. 12.0
3	T.. 12.0	T.. 12.0	T.. 12.0	T.. 12.0
4	L.. 12.0	L.. 12.0	L.. 12.0	L.. 12.0
5	L.. 12.0	... ..	... ..	... ..
6	... ..	... ..	... ..	... ..

TRAFFIC VOLUMES

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
LEFT	400	25	195	215
THRU	940	410	505	555
RIGHT	150	190	350	50

	TRUCKS (%)	LOCAL BUSES (#/HR)	PEAK HOUR FACTOR
NORTHBOUND	6	0	.91
SOUTHBOUND	6	0	.91
EASTBOUND	6	0	.91
WESTBOUND	6	0	.91

PHASING N/S :2. HEAVIEST TURN PROTECTED
E/W :4. BOTH TURNS PROTECTED (WITH OVERLAP)
PEDESTRIAN ACTIVITY : 1. 0 - 99 (#PEDS/HR)
CYCLE LENGTH : 120 SECONDS

CRITICAL LANE VOLUMES BY MOVEMENT

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
THRU -RIGHT	574	250	308	339
LEFT	237	0	201	226

LEFT TURN CHECK

	NORTHBOUND	SOUTHBOUND	EASTBOUND	WESTBOUND
INPUT VOLUME	400	25	195	215
ADJUSTED VOL	452	0	201	226
CAPACITY	324	0	0	0
MOVEMENT	N/A	OK	N/A	N/A

APPENDIX

LIST OF INTERSECTIONS
SR 52 CORRIDOR STUDY

PRIORITY 1 COUNTS

- 1) SR 52/SR 55 (US 19)
- 2) SR 52/Majestic Boulevard
- 3) SR 52/CR 1 (Little Road)
- 4) SR 52/CR 587 (Moon Lake Road)
- 5) SR 52/CR 45 (US 41)
- 6) SR 52 (US 19 to Little Road)
- 7) SR 52 (CR 587 to US 41)
- 8) SR 52 (US 41 to I-75)

PRIORITY 2 COUNTS

- 9) SR 52/Illinoise Avenue
- 10) SR 52/Hicks Road
- 11) SR 52/Colony Road
- 12) SR 52/Hays Road
- 13) SR 52/Shady Hills Road
- 14) SR 52/Coonhide Road
- 15) SR 52/CR 583
- 16) SR 52/CR 581 (North)
- 17) SR 52/Pasco Road

PRIORITY 3 COUNTS

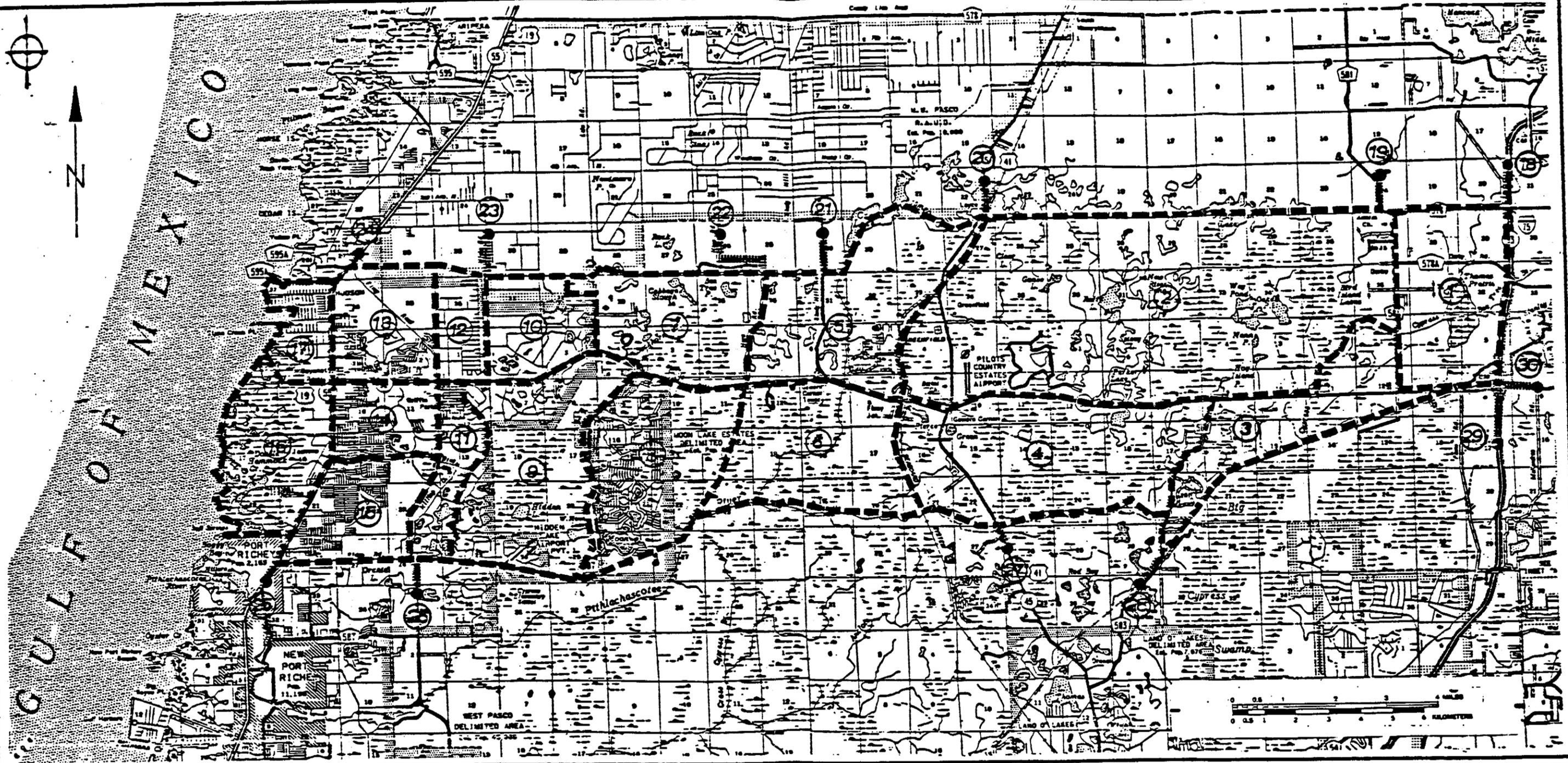
- 18) SR 52/Ponderosa Drive (Ponderosa Subd.)
- 19) SR 52/Alpine Parkway (Gulf Highlands Subd.)
- 20) SR 52/Meadow Drive (Gulf Highlands Subd.)
- 21) SR 52/La Madera Boulevard (Timber Oaks Subd.)
- 22) SR 52/Schrader (Bear Creek Subd.)
- 23) SR 52/Bear Creek Drive (Bear Creek Est. Subd.)
- 24) SR 52/Pointe West (Summer Tree) (Bayonet Lang)
- 25) SR 52/Shadow Ridge (Shadow Ridge Subd.)
- 26) SR 52/Sugar Creek Boulevard (Shadow Ridge Subd.)
- 27) SR 52/Pasco Trails (Pasco Trails Subd.)

1995 ZONAL DATA

<u>Zone</u>	<u>Auto/D.U.</u>	<u>Retail Em.</u>	<u>Non Retail Em.</u>	<u>DU's</u>
1	1.2	9	20	41
2	1.2	9	26	51
3	1.2	2	25	386
4	1.2	9	7	92
5	1.2	4	50	771
6	1.2	2	2	159
7	1.2	11	38	1816
8	1.2	34	31	2864
9	1.3	45	423	3120
10	1.7	62	128	1006
11	1.4	54	79	1501
12	1.7	303	425	1574
13	1.4	1658	2206	8368
14	1.2	937	1414	7365
15	1.2	1154	1826	11605
16	1.0	2005	2758	2012
17	1.1	105	249	2670
<u>SUMMARY</u>				
1980		2946	3571	25557
1995		6402	9707	45401

1995 PRODUCTIONS AND ATTRACTIONS

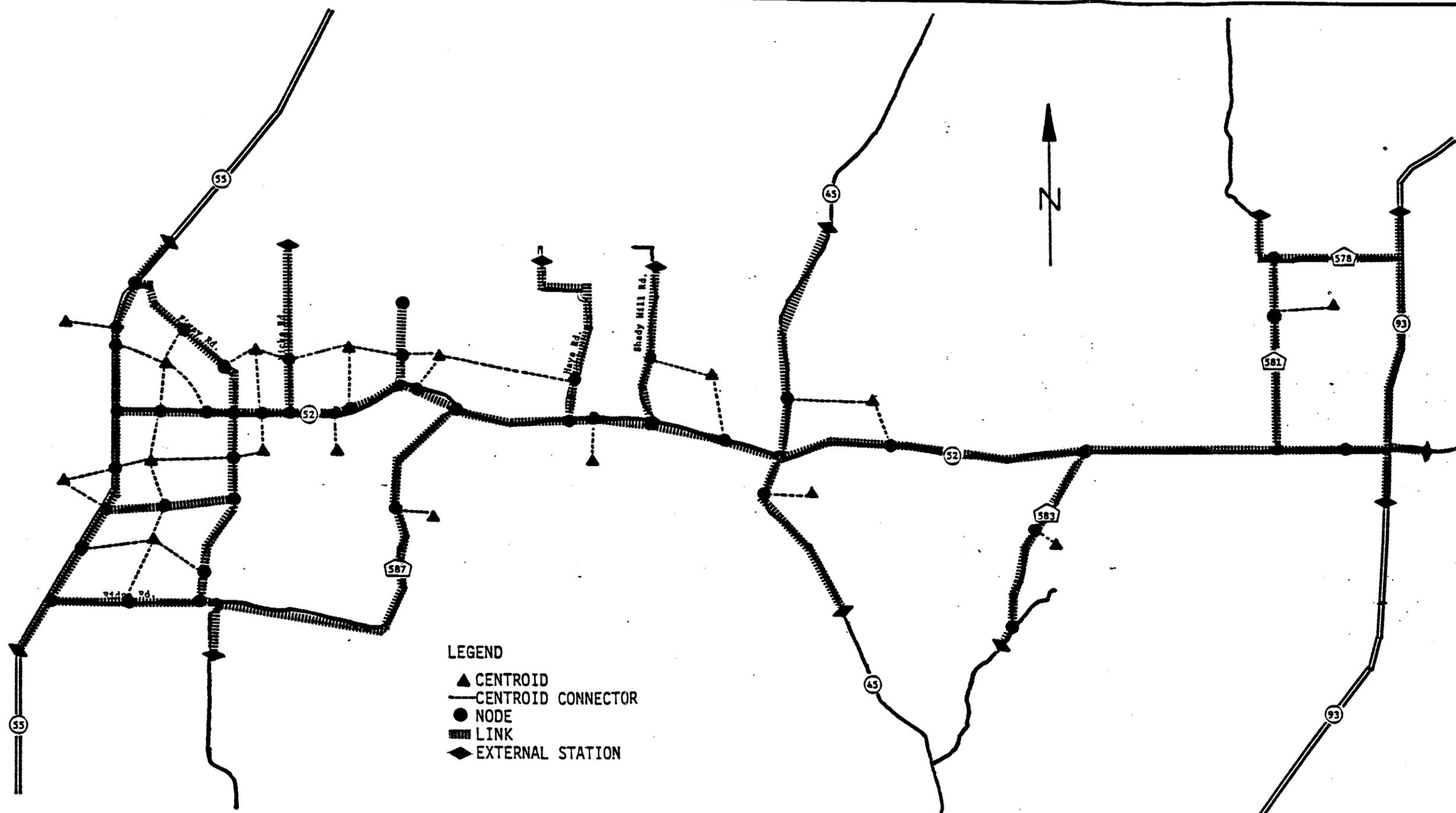
ZONE	<1>	<2>	<3>	<4>	<5>	<6>
	H B W P	A	H B N W P	A	P	N H B A
1>	66.0	133.0	187.0	265.0	130.0	130.0
2>	92.0	160.0	233.0	290.0	161.0	161.0
3>	618.0	124.0	1760.0	789.0	383.0	383.0
4>	147.0	73.0	420.0	348.0	120.0	120.0
5>	1234.0	249.0	3516.0	1573.0	767.0	767.0
6>	254.0	19.0	725.0	339.0	130.0	130.0
7>	2906.0	225.0	8281.0	3660.0	1515.0	1515.0
8>	4582.0	298.0	13060.0	6060.0	2332.0	2332.0
9>	5429.0	2154.0	15472.0	7116.0	4004.0	4004.0
10>	1883.0	874.0	5859.0	3181.0	1400.0	1400.0
11>	2624.0	612.0	7871.0	3915.0	1561.0	1561.0
12>	2947.0	3345.0	9167.0	9047.0	3627.0	3627.0
13>	14627.0	17776.0	43882.0	49028.0	19242.0	19242.0
14>	11784.0	10816.0	33584.0	32826.0	13441.0	13441.0
15>	18568.0	13708.0	52919.0	45277.0	18739.0	18739.0
16>	2535.0	21910.0	7352.0	44116.0	17610.0	17610.0
17>	3818.0	1629.0	10977.0	7236.0	3204.0	3204.0
18>	3195.0	3195.0	9105.0	9105.0	3674.0	3674.0
19>	38.0	38.0	107.0	107.0	43.0	43.0
20>	1263.0	1263.0	3600.0	3600.0	1452.0	1452.0
21>	260.0	260.0	741.0	741.0	299.0	299.0
22>	260.0	260.0	741.0	741.0	299.0	299.0
23>	400.0	400.0	1140.0	1140.0	460.0	460.0
24>	6470.0	6470.0	18440.0	18440.0	7441.0	7441.0
25>	7880.0	7880.0	22258.0	22458.0	9062.0	9062.0
26>	2190.0	2190.0	6242.0	6242.0	2519.0	2519.0
27>	2000.0	2000.0	5700.0	5700.0	2300.0	2300.0
28>	56.0	56.0	160.0	160.0	64.0	64.0
29>	3279.0	3279.0	9345.0	9345.0	3766.0	3766.0
30>	545.0	545.0	1553.0	1553.0	627.0	627.0
TOTAL	101940.	101939.	294397.	294396.	120376.	120372.



TRAFFIC ANALYSIS ZONES

STATE ROAD 52

Source: ESE, Inc. 1984



LINK NODE MAP

STATE ROAD 52

Source: ESE, Inc. 1984