Northern Crossing
Warehouse Development
IH-35W and Loop 820

TRAFFIC IMPACT ANALYSIS

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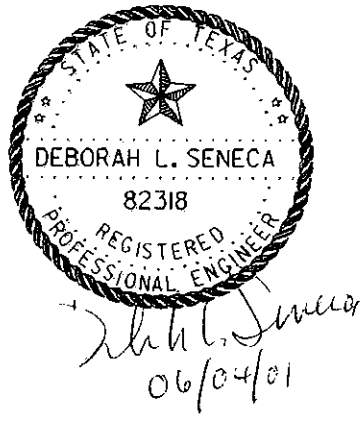

June 4, 2001

Submitted to:

City of Fort Worth
Public Works Department

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1.0 Executive Summary

A traffic impact study was prepared for a proposed warehouse development in the southeast quadrant of IH-35W and Loop 820 in the City of Fort Worth, Texas. The study was conducted to determine the required improvements, intersection geometry, and turn bay lengths. The site location is shown in **Figure E1**.

The methodology included data collection, trip generation, trip distribution, and capacity analyses. The key findings and recommendations of the study are summarized below.

1.1 Key Findings

- The warehouse development is expected to generate approximately 8,338 new daily trips to the surrounding roadways, with approximately 1,000 occurring during the morning peak hour and 920 occurring during the afternoon peak hour.
- The intersections of IH-35W northbound frontage road & Melody Hills Drive, Loop 820 eastbound frontage road & Riverside Drive, and Riverside Drive & Northern Cross Boulevard currently operate adequately and will continue to operate adequately with the warehouse development.
- The proposed new intersections at IH-35W northbound frontage road & Northern Cross Boulevard and Loop 820 eastbound frontage road & the internal street are expected to operate adequately with the warehouse development.
- The traffic volumes on Northern Cross Boulevard at Riverside Drive are expected to be significantly higher than the volumes on Riverside Drive.

1.2 Recommendations

- Remove the stop signs from the Northern Cross Boulevard approaches to Riverside Drive, and install stop signs on the Riverside Drive approaches.
- Install stop signs on the Northern Cross Boulevard approach to IH-35W northbound frontage road, the internal street northbound approach to Loop 820 eastbound frontage road, and the internal street southbound approach to Northern Cross Boulevard.

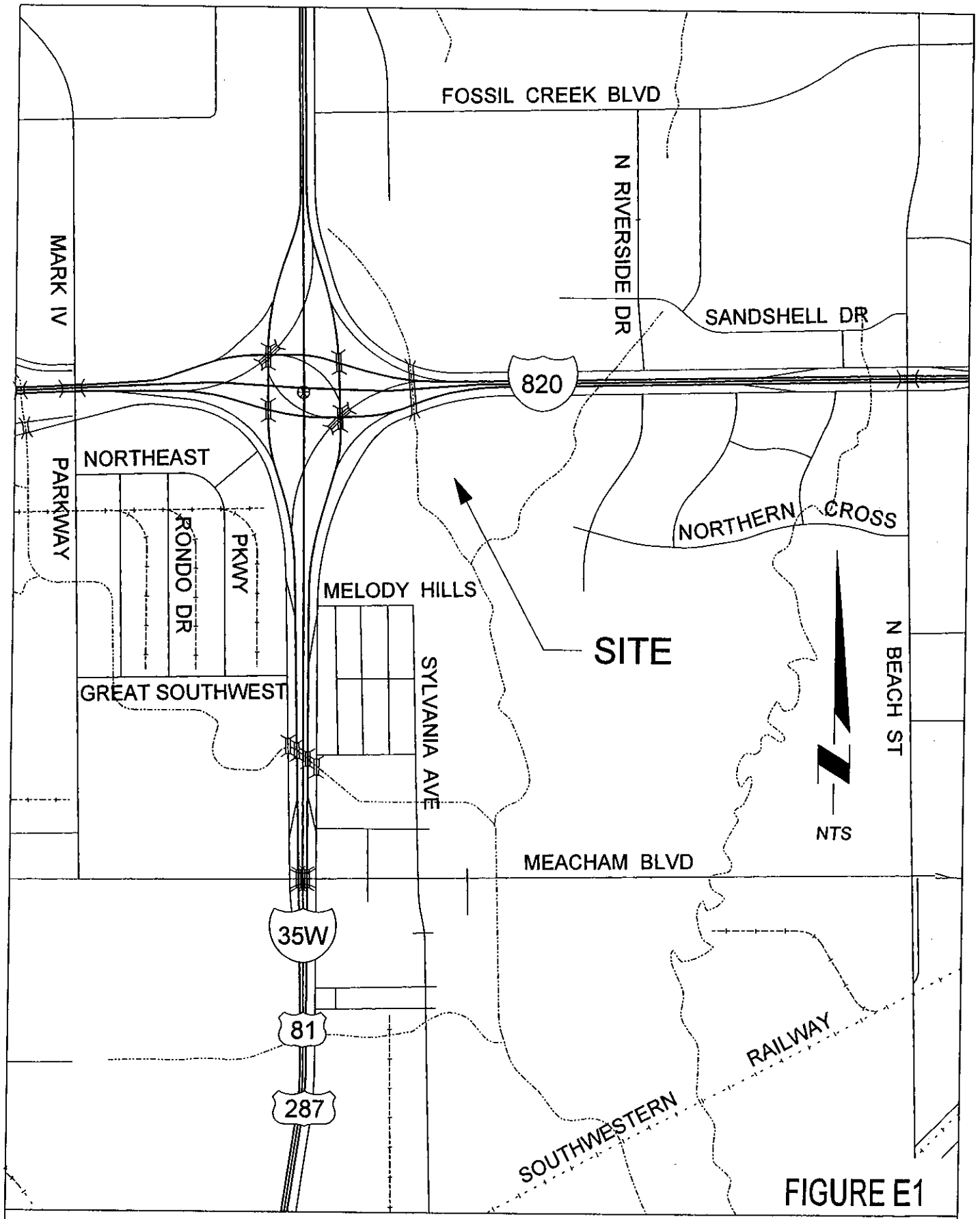

FIGURE E1

SITE LOCATION

NORTHERN CROSSING TIA

Carter :: Burgess

2.0 Introduction

Dollar Flowers Realty Partners proposes to construct a warehouse development on a site in the City of Fort Worth, in the southeast quadrant of IH-35W and Loop 820. **Figure 1** shows the site location. The warehouse development is expected to be complete and in operation by 2006.

The purpose of this study is to determine the impact the proposed warehouse development will have on the surrounding area; and to determine the required intersection geometry, intersection control, and turn bay lengths for the intersections in the study.

The study methodology consists of identifying existing conditions, determining the amount of traffic generated by the site, analyzing and evaluating future conditions without and with the development, and identifying required improvements.

Figure 2 shows the development site plan. The study focuses on the following intersections and driveways, as agreed on by the City:

IH-35W & Melody Hills Drive
IH-35W & Northern Cross Boulevard
Loop 820 & an Internal Roadway
Loop 820 & Riverside Drive
Riverside Drive & Northern Cross Boulevard

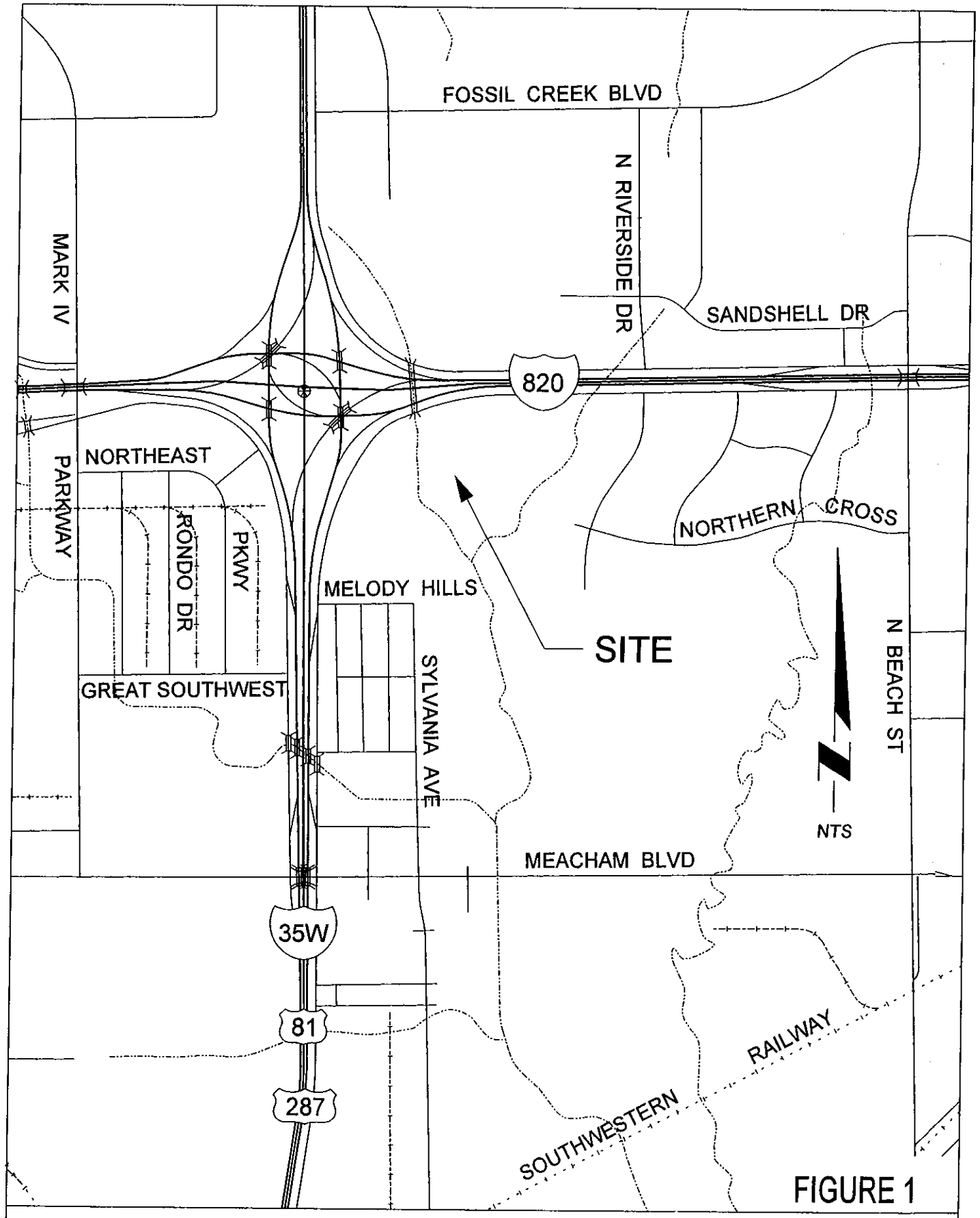

FIGURE 1

SITE LOCATION

NORTHERN CROSSING TIA

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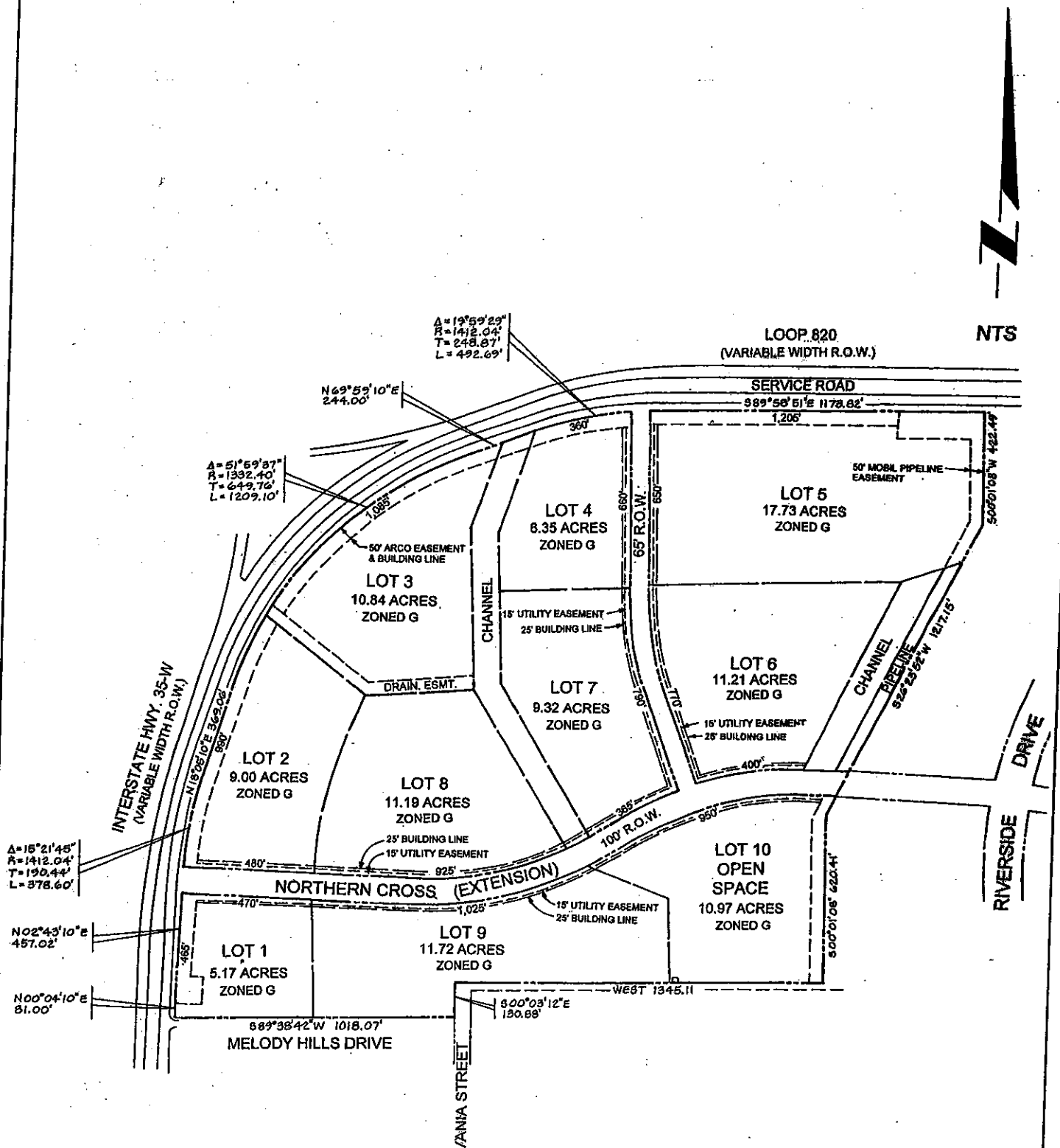

FIGURE 2

SITE PLAN

NORTHERN CROSSING TIA

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3.0 Area Conditions

3.1 Roadway System

A site visit was conducted to become familiar with the site and the surrounding roadways. Characteristics of the adjacent roadways are described below. Intersection photographs are provided in **Appendix A**.

Melody Hills Drive is a two-lane roadway running east-west, and intersecting the IH-35W northbound frontage road. The roadway provides access to a residential area, and the posted speed limit is 30 mph. The proposed warehouse development will not have access to Melody Hills Drive.

IH-35W Northbound Frontage Road is a two-lane, one-way roadway running northbound, west of the site. Paved shoulders are provided and the pavement is in good condition. The development will have access onto the frontage road via Northern Cross Boulevard.

Loop 820 is a two-lane, one-way roadway running eastbound, north of the site. Paved shoulders are provided and the pavement is in good condition. The development will have access onto the frontage road via the internal roadway and Riverside Drive.

Riverside Drive is a four-lane divided roadway running north-south, east of the site. The proposed warehouse development will not have access onto Riverside Drive. Riverside Drive intersects Northern Cross Boulevard to form a four-leg intersection with stop control on the Northern Cross Boulevard approaches.

Northern Cross Boulevard is a four-lane divided street running east-west, south of the site. The Northern Cross Boulevard Extension will be the primary access for the proposed warehouse development. The pavement is in good condition.

The City was contacted regarding future roadway projects that might impact the warehouse development. The proposed redesign of the IH-35W and Loop 820 interchange will affect access to the development. This was accounted for in the trip assignment. Riverside Drive may be extended south to Meacham as development in the area continues.

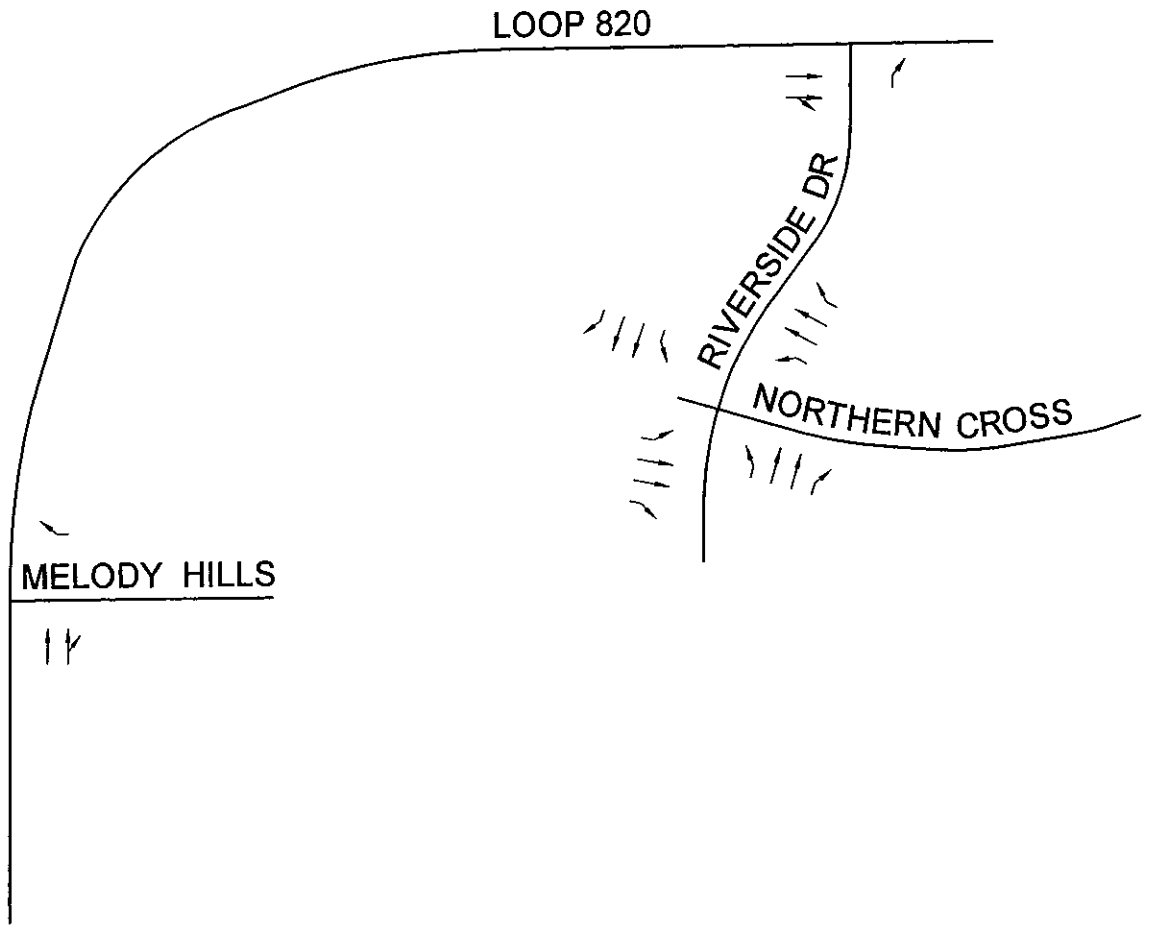
Figure 3 illustrates the existing geometry at the study intersections.

3.2 Traffic Volumes

Peak period turning movement counts were collected at the intersection of Riverside Drive & Northern Cross Boulevard on Thursday April 12, 2001. The counts included classification of heavy vehicles.

Twenty-four hour counts were conducted on Thursday April 12, 2001 on the following roadways: IH-35W northbound frontage road, Loop 820 eastbound frontage road, Melody Hills Drive (west of IH-35W), Riverside Drive (south of Loop 820), and Northern Cross Boulevard (east of Riverside Drive). The peak hour traffic counts are shown in **Figure 4**.

The turning movement counts and twenty-four hour counts are included in **Appendix B**.



NTS

FIGURE 3

EXISTING INTERSECTION GEOMETRY

NORTHERN CROSSING TIA

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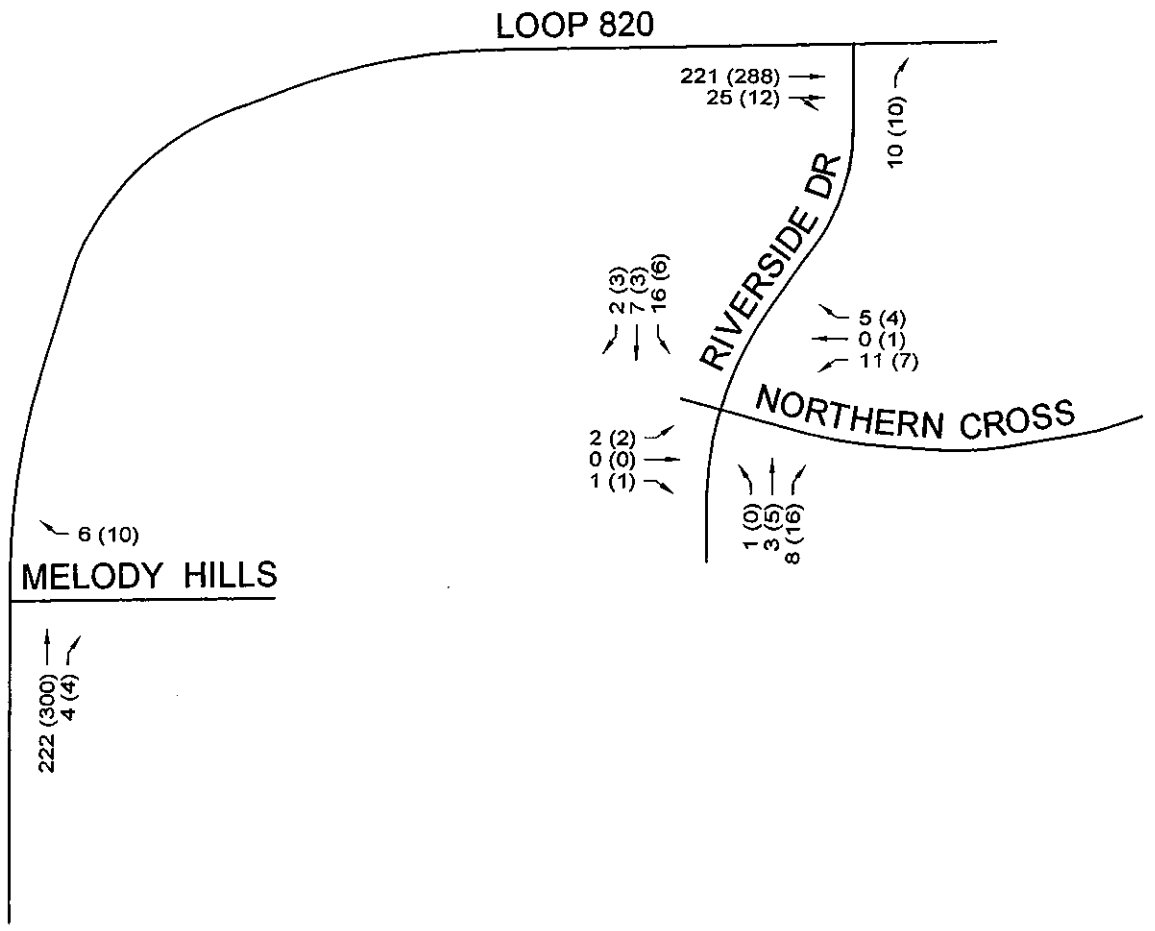

LEGEND

XX AM PEAK HOUR VOLUME
(XX) PM PEAK HOUR VOLUME

FIGURE 4

EXISTING PEAK HOUR COUNTS

NORTHERN CROSSING TIA

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3.3 Adjacent Land Uses

Land uses along Melody Hills Drive are residential and undeveloped. Land uses along IH-35W frontage road, Loop 820 frontage road, Riverside Drive, and Northern Cross Boulevard are office, warehouse, and undeveloped. A land use sketch is shown in **Figure 5**.

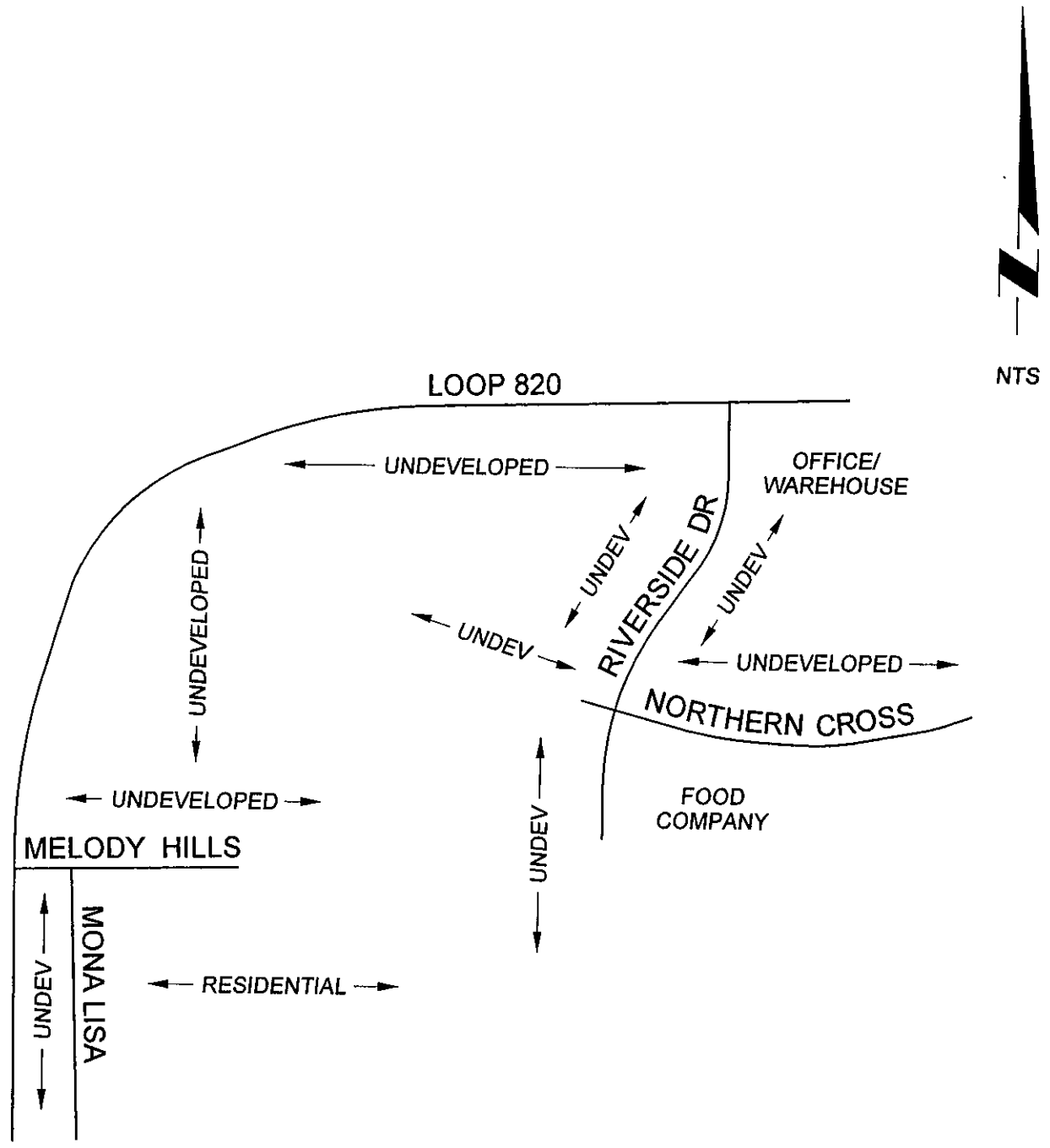

FIGURE 5

ADJACENT LAND USES

NORTHERN CROSSING TIA

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4.0 Projected Traffic

4.1 Trip Generation

The project consists of nine warehouse lots for a total of 1,410,712 square feet of warehouse space.

The number of trips generated by the proposed warehouse development was estimated using information from the Institute of Transportation Engineers (ITE) Trip Generation, 1997 (Sixth Edition) manual. The ITE Land Use Code 150 – Warehouse was used. Warehouses are primarily devoted to the storage of materials; they may also include office and maintenance areas. The results of the trip generation analysis are shown in **Table 1**.

Table 1 – Trip Generation

Land Use	Size (Acres)	Average Weekday Trips	AM Total	AM Enter	AM Exit	PM Total	PM Enter	PM Exit
Warehouse Lot 1	5.17	640	69	35	35	61	15	47
Warehouse Lot 2	9.00	855	102	51	51	93	22	71
Warehouse Lot 3	10.84	958	117	58	58	107	26	82
Warehouse Lot 4	6.35	706	80	40	40	72	17	55
Warehouse Lot 5	17.73	1,344	165	83	83	156	37	118
Warehouse Lot 6	11.21	979	119	60	60	110	26	84
Warehouse Lot 7	9.32	873	105	52	52	96	23	73
Warehouse Lot 8	11.19	977	119	60	60	110	26	84
Warehouse Lot 9	11.72	1,007	123	62	62	114	27	87
Total	**92.53**	**8,338**	**1,000**	**500**	**500**	**920**	**221**	**699**

4.2 Trip Distribution

The trip distribution was based on the area roadway network, and the location of trip generators and residential areas. The directional distribution used in this study is shown below in **Table 2** and graphically in **Figure 6**.

Table 2 – Trip Distribution

Direction	Percentage
North on IH-35	15%
South on IH-35	40%
East on Loop 820	40%
West on Loop 820	5%
Total	**100%**

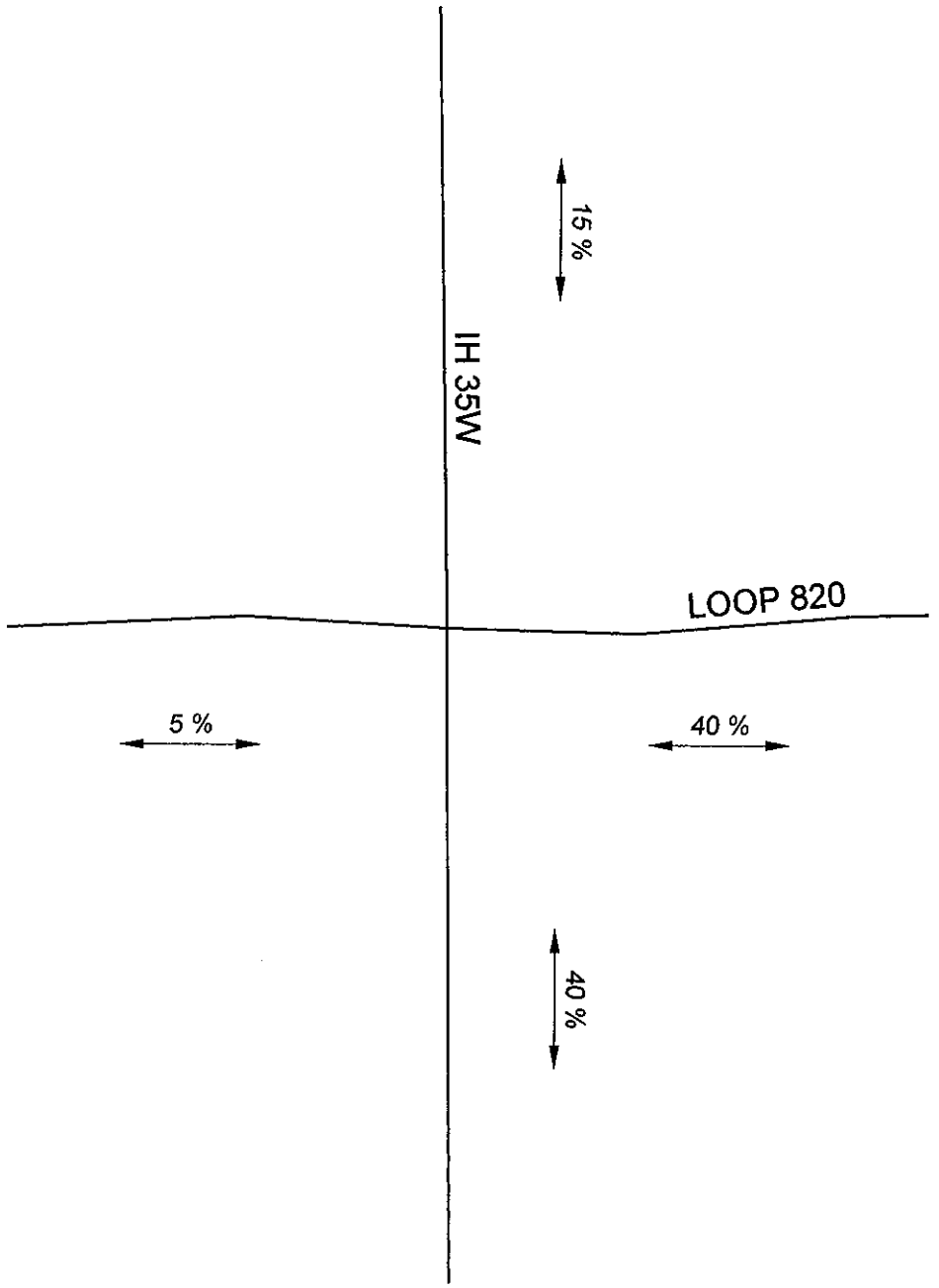

FIGURE 6

DIRECTIONAL DISTRIBUTION
FOR GENERATED TRIPS

NORTHERN CROSSING TIA

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4.3 Internal Trip and Pass-by Reductions

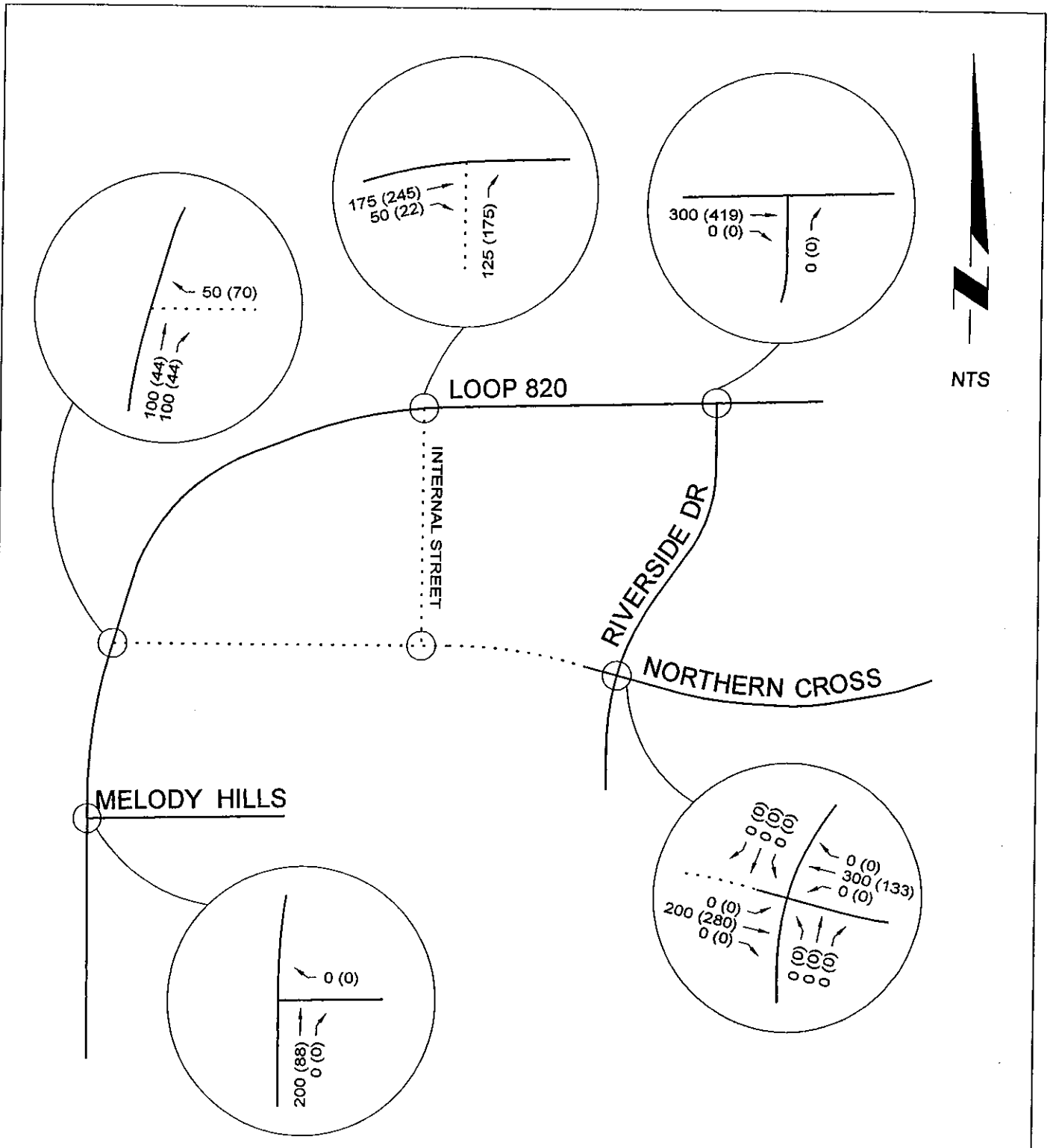
An internal trip occurs when more than one stop is made inside a development. For example, in a multi-use development, a resident on their way home from work may stop at a convenience store. Warehouse developments generally do not generate internal trips.

Pass-by traffic represents patrons to any given facility, who are already on the road when they decide to enter the development. This component varies dramatically from site to site. In the case of Pass-by Reductions, the number of trips applied to the study intersections would be reduced, and some access points would experience a shift of one movement to another. For example, a driver on his regular route to work may stop at a restaurant along his route for breakfast. Warehouse developments generally do not generate pass-by trips. There were no reductions applied to the trip generation due to internal trips and pass-by trips.

The site-generated trips were distributed to the surrounding roadways and intersections. The generated morning and afternoon peak hour assignments are shown in **Figure 7**.

4.4 Historical Traffic Growth Rate

The existing traffic volumes were increased to account for background traffic other than the site development. The City generally uses 3.5% per year as a typical growth rate; however a 5% per year annual growth rate was used to project the 2001 traffic counts to 2006 to provide conservative analyses. The morning and afternoon peak hour background traffic volumes without the warehouse development are shown in **Figure 8**.



LEGEND

XX AM PEAK HOUR VOLUME
(XX) PM PEAK HOUR VOLUME

FIGURE 7

SITE GENERATED TRIPS

NORTHERN CROSSING TIA

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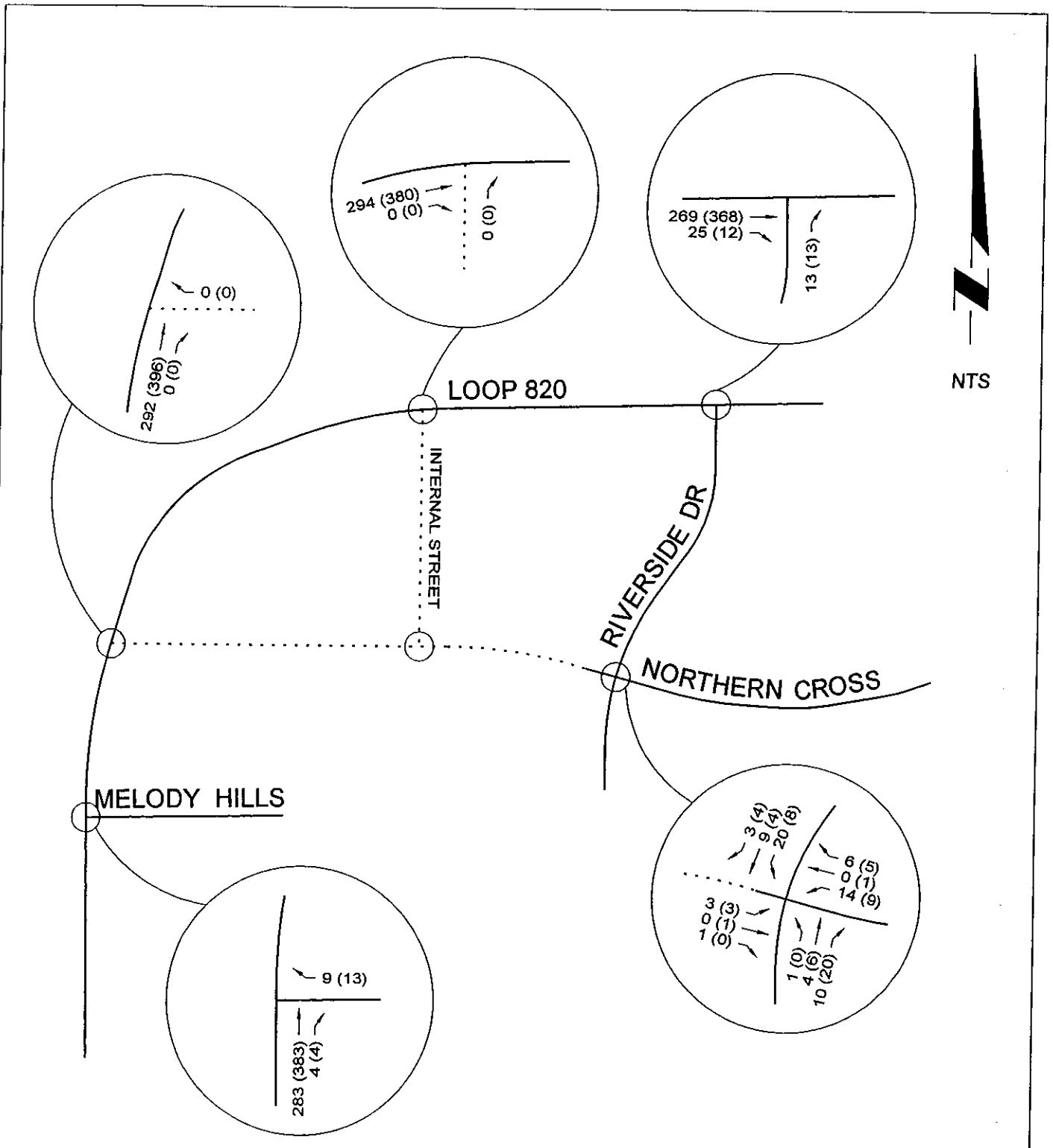


LEGEND

XX AM PEAK HOUR VOLUME
(XX) PM PEAK HOUR VOLUME

FIGURE 8

2006 PROJECTED TRAFFIC VOLUMES
WITHOUT THE DEVELOPMENT

NORTHERN CROSSING TIA

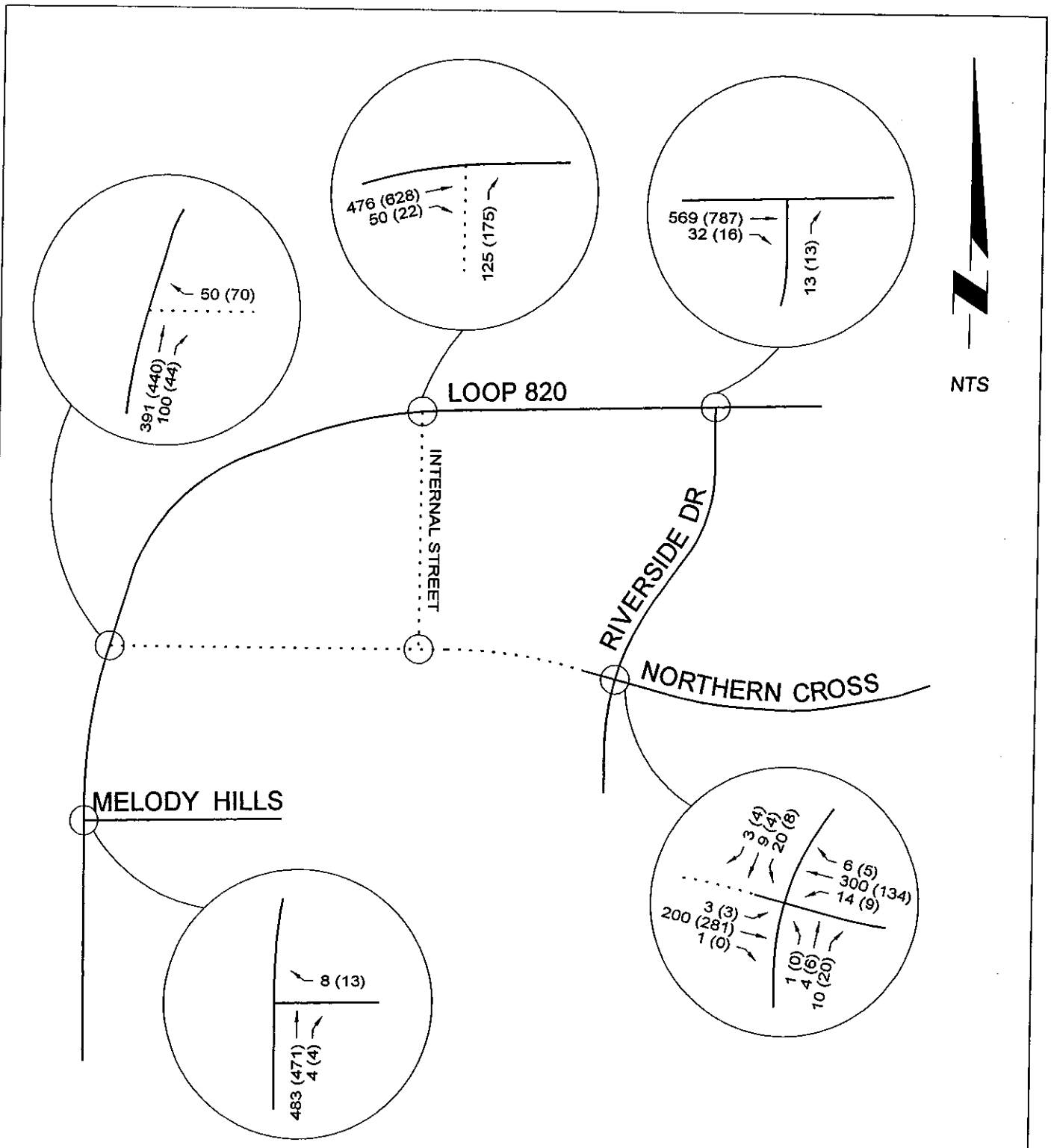
Carter :: Burgess

4.5 Traffic for Other Area Developments

The City was contacted regarding other development in the area that may impact the study area and should be included in this traffic analysis. The City reported there is no other significant development in the area at this time that might impact the site. Any development prior to build out of the warehouse site will be taken into account implicitly in the traffic growth rate.

4.6 Total Future Traffic

The future background peak hour traffic volumes shown in **Figure 8** were combined with the trips that will be generated by the site development, shown in **Figure 7**, to form the anticipated future volumes with the development shown in **Figure 9**.



LEGEND

XX *AM PEAK HOUR VOLUME*
(XX) *PM PEAK HOUR VOLUME*

FIGURE 9

2006 PROJECTED TRAFFIC VOLUMES
WITH THE DEVELOPMENT

NORTHERN CROSSING TIA

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5.0 Traffic Analysis

5.1 Capacity and Level of Service Analysis

Level of service (LOS) is a qualitative measure of the operating conditions experienced at an intersection or along an arterial roadway when it is subject to varying traffic volumes. There are six levels of service, LOS A through F, which describe the traffic operating conditions from best to worst, respectively. LOS E is considered the capacity of the intersection.

For signalized and unsignalized intersections, LOS can be calculated using the methodology from the *Highway Capacity Manual*, Special Report 209, Transportation Research Board, 1998. Each LOS corresponds to a range of delay. LOS worsens as delay increases. Corresponding LOS and ranges of delay for unsignalized and signalized intersections are shown in **Tables 3** and **4**.

Table 3 – Level of Service Criteria for Unsignalized Intersections

Level-of-Service	Control Delay Range (sec.)
A	≤ 10.0
B	>10.0 and ≤ 15.0
C	>15.0 and ≤ 25.0
D	>25.0 and ≤ 35.0
E	>35.0 and ≤ 50.0
F	>50.0

Source: Highway Capacity Manual, Special Report 209, Third Edition, Updated 1998, Transportation Research Board.

Table 4 – Level of Service Criteria for Signalized Intersections

Level-of-Service	Control Delay Per Vehicle (sec.)
A	≤ 10.0
B	>10.0 and ≤ 20.0
C	>20.0 and ≤ 35.0
D	>35.0 and ≤ 55.0
E	>55.0 and ≤ 80.0
F	>80

Source: Highway Capacity Manual, Special Report 209, Third Edition, Updated 1998, Transportation Research Board.

A level of service analysis was conducted for the intersections of: IH-35W northbound frontage road & Melody Hills Drive, IH-35W northbound frontage road & Northern Cross Boulevard, Loop 820 eastbound frontage road & the site internal roadway, Loop 820 eastbound frontage road & Riverside Drive, and Riverside Drive & Northern Cross Boulevard. Analyses included existing

2001 conditions and projected 2006 conditions without and with the development for the weekday morning and afternoon peak hours.

Table 5 presents the results of the capacity analysis. The results shown represent the 2006 projected volumes with the development, and the other analyses results are included in **Appendix E**.

IH-35W Northbound Frontage Road & Melody Hills Drive is currently unsignalized and operating well with the minor street approach at LOS A during the peak periods. The intersection is expected to operate well with the minor street approach at LOS A in 2006 both without and with the warehouse development.

IH-35W Northbound Frontage Road & Northern Cross Boulevard is expected to operate at well with the minor street approach at LOS B as an unsignalized intersection during the peak periods in 2006 with the warehouse development.

Loop 820 & the Internal Street is expected to operate well with the minor street approach at LOS B as an unsignalized intersection during the peak periods in 2006 with the warehouse development.

Loop 820 & Riverside Drive is currently unsignalized and operating well at LOS A. The minor street approach is expected to operate at LOS B during the peak periods in 2006 both without and with the warehouse development

Riverside Drive & Northern Cross Boulevard is currently unsignalized with stop control on Northern Cross Boulevard. The minor street approaches operate at LOS A during the peak periods. The intersection is expected to operate well with the minor street approaches at LOS B in 2006 with the warehouse development.

Table 5 – Capacity Analysis Results

Intersection[1]	2001 Existing		2006 without Development		2006 with Development	
	AM	PM	AM	PM	AM	PM
IH-35W NB FR & Melody Hills	A	A	A	A	A	A
IH-35W NB FR & Northern Cross	A	A	A	A	B	B
Loop 820 EB FR & Internal Street	A	A	A	A	B	B
Loop 820 EB FR & Riverside Drive	A	A	A	A	B	B
Riverside Drive & Northern Cross	A	A	A	A	B	B

[1]Unsignalized Level of Service shown is for the minor street approach(es)

5.2 Identification of Required Improvements

No improvements will be required at the intersections of IH-35W northbound frontage road with Melody Hills Drive.

No improvements will be required at the intersection of Loop 820 eastbound frontage road & Riverside Drive.

A stop sign should be installed on the Northern Cross Boulevard approach to the IH-35W northbound frontage road. The approach can operate adequately with one lane for westbound right turns.

A stop sign should be installed on the internal street northbound approach to Loop 820 eastbound frontage road and the southbound approach to Northern Cross Boulevard. The northbound approach to Loop 820 can operate adequately with one lane for northbound right turns.

The warehouse development will have access to the proposed internal street, and that street will carry the majority of north-south site traffic. Northern Cross Boulevard will then carry the traffic east and west, so very little traffic is expected to use Riverside Drive to travel north-south and most of the site traffic will travel east-west on Northern Cross Boulevard. The intersection of Riverside Drive & Northern Cross Boulevard currently has stop signs posted for the Northern Cross Boulevard approaches. The capacity analyses were conducted assuming the stop signs remain on the Northern Cross Boulevard approaches, and the analyses show the Northern Cross Boulevard approaches can operate adequately. However, because the volumes on Northern Cross Boulevard are expected to be significantly higher than the volumes on Riverside Drive, consideration should be given to removing the stop signs from the Northern Cross Boulevard approaches and installing them on the Riverside Drive approaches.

6.0 Conclusions and Recommendations

6.1 Key Findings

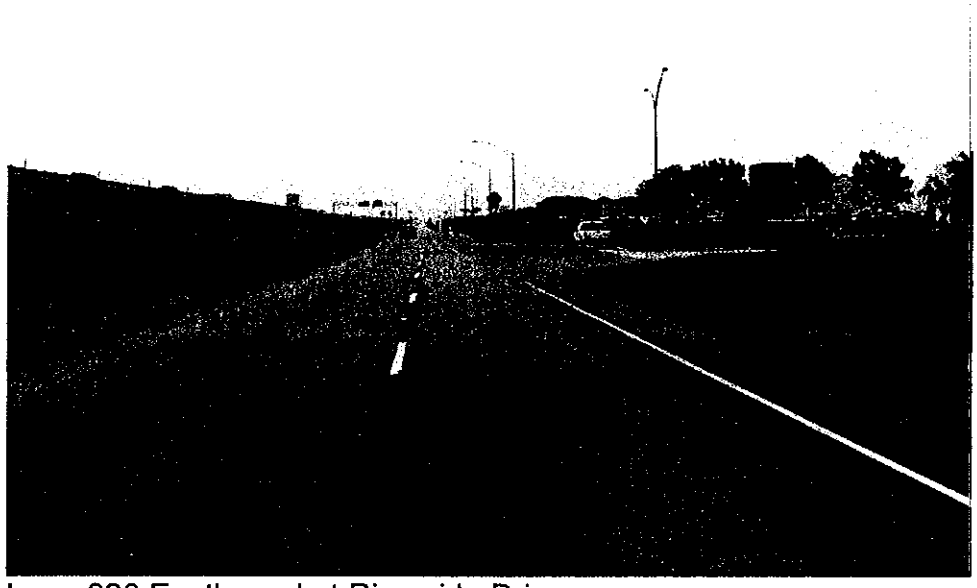
- The warehouse development is expected to generate approximately 8,338 new daily trips to the surrounding roadways, with approximately 1,000 occurring during the morning peak hour and 920 occurring during the afternoon peak hour.
- The intersections of IH-35W northbound frontage road & Melody Hills Drive, Loop 820 eastbound frontage road & Riverside Drive, and Riverside Drive & Northern Cross Boulevard currently operate adequately and will continue to operate adequately with the warehouse development.
- The proposed new intersections at IH-35W northbound frontage road & Northern Cross Boulevard and Loop 820 eastbound frontage road & the internal street are expected to operate adequately with the warehouse development.
- The traffic volumes on Northern Cross Boulevard at Riverside Drive are expected to be significantly higher than the volumes on Riverside Drive.

6.2 Recommendations

- Remove the stop signs from the Northern Cross Boulevard approaches to Riverside Drive, and install stop signs on the Riverside Drive approaches.
- Install stop signs on the Northern Cross Boulevard approach to IH-35W northbound frontage road, the internal street northbound approach to Loop 820 eastbound frontage road, and the internal street southbound approach to Northern Cross Boulevard.

Appendix A

Intersection Photographs



Loop 820 Eastbound at Riverside Drive

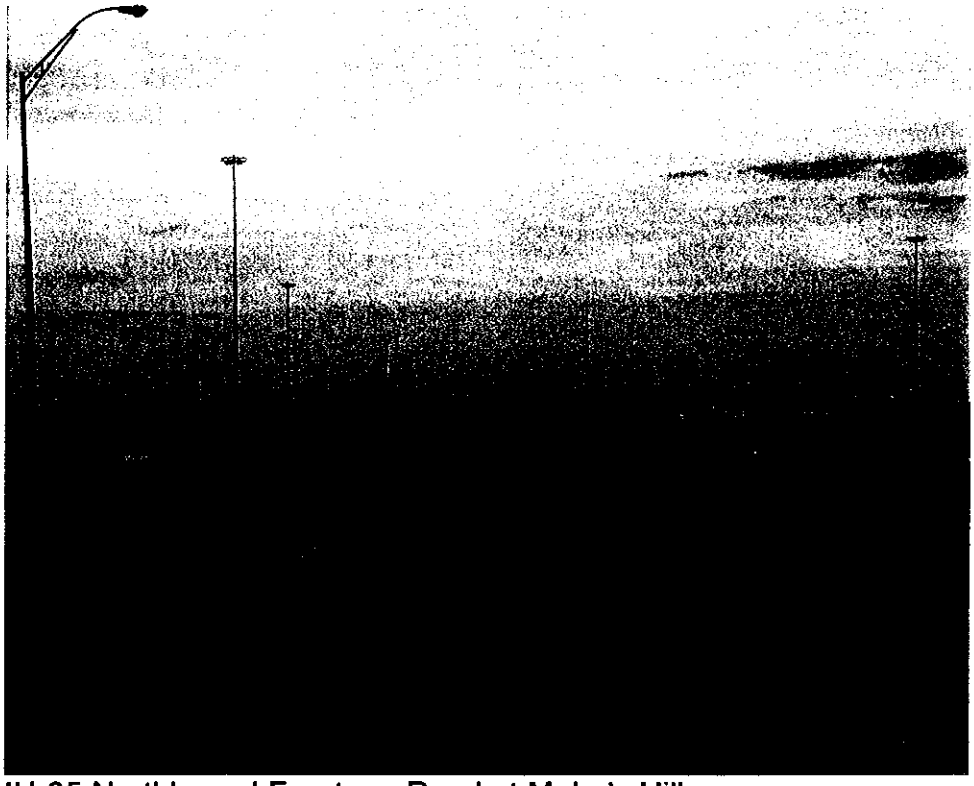
Northbound Riverside Drive at Loop 820

Eastbound Northern Cross Boulevard at Riverside Drive

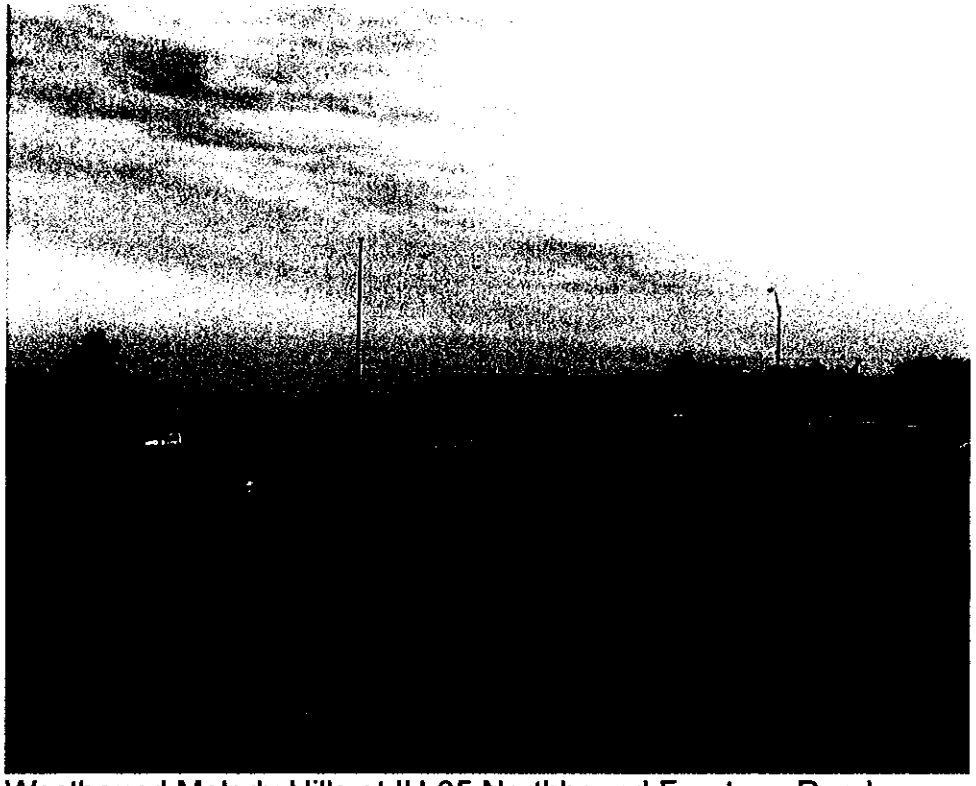
Westbound Northern Cross Boulevard at Riverside Drive

Northbound Riverside Drive at Northern Cross Boulevard

Southbound Riverside Drive at Northern Cross Boulevard



IH-35 Northbound Frontage Road at Melody Hills



Westbound Melody Hills at IH-35 Northbound Frontage Road

Appendix B

Turning Movement Counts

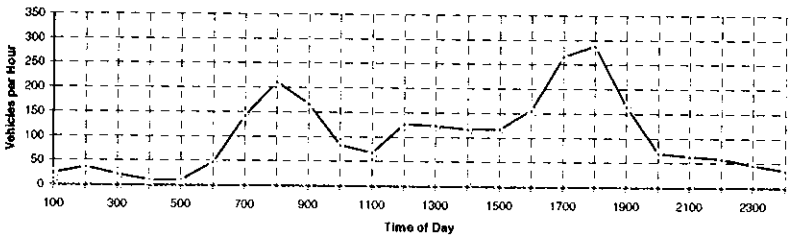
City:	Fort Worth	Intersection:	Riverside & Northern Cross
County:	Tarrant	Date:	Thursday April 12, 2001

Location:	Riverside & Northern Cross											
Approach:	**Northbound**			**Southbound**			**Eastbound**			**Westbound**		
Street:	Riverside			Riverside			Northern Cross			Northern Cross		
Direction:	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Designation:	1	2	3	4	5	6	7	8	9	10	11	12
Time Starts												
7:00 AM	0	0	0	3	2	2	0	0	0	0	0	1
7:15 AM	0	0	2	6	1	0	1	0	0	3	0	0
7:30 AM	1	1	2	2	1	0	0	0	0	4	0	3
7:45 AM	0	2	4	5	3	0	1	0	1	4	0	1
8:00 AM	0	3	0	5	1	2	0	0	1	2	0	0
8:15 AM	0	3	6	2	3	0	1	0	1	3	0	1
8:30 AM	0	3	3	0	3	0	0	0	0	2	0	5
8:45 AM	0	2	2	0	2	0	0	0	0	2	0	2
A.M. Peak Hour (7:45-8:45)	0	11	13	12	10	2	2	0	3	11	0	7
PHF	#####	0.92	0.54	0.60	0.83	0.25	0.50	#####	0.75	0.69	#####	0.35
Trucks	0	3	1	1	1	0	0	0	0	1	0	1
% Trucks	#####	27%	8%	8%	10%	0%	0%	#####	0%	9%	#####	14%
Time Starts												
4:00 PM	0	1	9	0	1	0	0	1	0	6	0	4
4:15 PM	0	0	6	0	0	0	0	0	0	1	0	2
4:30 PM	0	1	1	2	0	1	1	0	0	1	0	1
4:45 PM	0	0	4	0	0	0	0	0	0	2	0	0
5:00 PM	0	1	4	2	0	1	1	0	0	0	0	2
5:15 PM	0	1	7	3	0	0	0	0	0	3	0	0
5:30 PM	0	1	3	1	2	2	0	0	0	4	1	1
5:45 PM	0	2	2	0	1	0	1	1	0	0	0	1
P.M. Peak Hour (5:00-6:00)	0	5	16	6	3	3	2	1	0	7	1	4
PHF	#####	0.63	0.57	0.50	0.38	0.38	0.50	0.25	#####	0.44	0.25	0.50
Trucks	0	0	0	0	0	1	0	0	0	0	1	0
% Trucks	#####	0%	0%	0%	0%	33%	0%	0%	#####	0%	100%	0%

Automated Traffic Counts — Carter & Burgess, Inc.

Location Number:
Street: **Loop 820 EB FR**
Location: **West of Riverside**

City/State: **Fort Worth, TX**
Project #:
Date: **4/12/2001**
Day of Week: **Thursday**
Data Source: **Quality Counts**



24-Hour Volume: **2,445**

Time	Peak	Eastbound		Westbound
2400				
15		10		
30		7		
45		6		
100		1	24	0
115		5		
130		3		
145		4		
200		24	36	0
215		7		
230		2		
245		4		
300		9	22	0
315		3		
330		6		
345		0		
400		1	10	0
415		4		
430		0		
445		2		
500		4	10	0
515		3		
530		5		
545		11		
600		27	46	0
615		21		
630		32		
645		38		
700		51	142	0
715		45		
730		48		
745		44		
800		74	211	0
815		65		
830		38		
845		37		
900		27	167	0
915		31		
930		18		
945		15		
1000		19	83	0
1015		10		
1030		15		
1045		17		
1100		25	67	0
1115		33		
1130		36		
1145		26		
1200		31	126	0

Time	Peak	Eastbound		Westbound
1200				
1215		30		
1230		26		
1245		36		
1300		31	123	0
1315		28		
1330		33		
1345		30		
1400		25	116	0
1415		26		
1430		22		
1445		27		
1500		42	117	0
1515		27		
1530		37		
1545		49		
1600		43	156	0
1615		50		
1630		76		
1645		63		
1700		77	266	0
1715		48		
1730		72		
1745		83		
1800		85	288	0
1815		64		
1830		51		
1845		30		
1900		20	165	0
1915		14		
1930		24		
1945		18		
2000		13	69	0
2015		19		
2030		15		
2045		12		
2100		17	63	0
2115		13		
2130		12		
2145		16		
2200		17	58	0
2215		10		
2230		9		
2245		11		
2300		15	45	0
2315		15		
2330		13		
2345		3		
2400		4	35	0
Directional Volumes			2,445	0
			24-Hour Volume	2,445

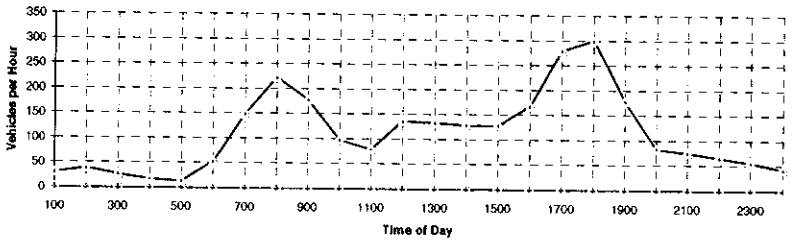
Equipment ID#:

Automated Traffic Counts

Carter & Burgess, Inc.

Location Number:
Street: **IH-35W NB FR**
Location: **South of Melody Hill**

City/State: **Fort Worth, TX**
Project #:
Date: **4/12/2001**
Day of Week: **Thursday**
Data Source: **Quality Counts**



24-Hour Volume: **2,667**

Time	Peak	Northbound		Southbound
2400				
15		12		
30		8		
45		7		
100		3	30	0
115		6		
130		4		
145		5		
200		24	39	0
215		8		
230		3		
245		5		
300		10	26	0
315		4		
330		7		
345		2		
400		3	16	0
415		5		
430		1		
445		3		
500		4	13	0
515		5		
530		6		
545		12		
600		29	52	0
615		23		
630		34		
645		39		
700		52	148	0
715		47		
730		51		
745		47		
800		77	222	0
815		68		
830		41		
845		39		
900		29	177	0
915		33		
930		22		
945		19		
1000		23	97	0
1015		12		
1030		18		
1045		21		
1100		28	79	0
1115		36		
1130		39		
1145		28		
1200		33	136	0

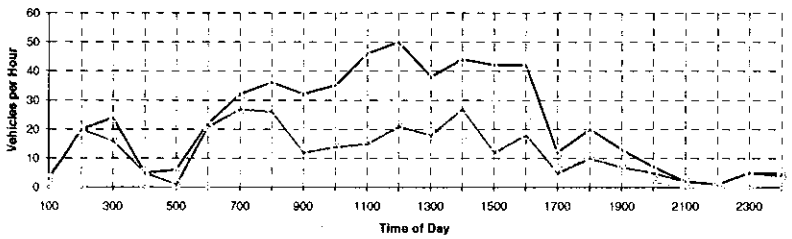
Time	Peak	Northbound		Southbound
1200				
1215		31		
1230		29		
1245		38		
1300		35	133	0
1315		31		
1330		37		
1345		32		
1400		28	128	0
1415		29		
1430		25		
1445		30		
1500		44	128	0
1515		29		
1530		41		
1545		52		
1600		45	167	0
1615		53		
1630		79		
1645		66		
1700		81	279	0
1715		51		
1730		75		
1745		85		
1800		89	300	0
1815		67		
1830		54		
1845		33		
1900		24	178	0
1915		17		
1930		27		
1945		22		
2000		16	82	0
2015		22		
2030		18		
2045		15		
2100		20	75	0
2115		16		
2130		14		
2145		17		
2200		18	65	0
2215		12		
2230		11		
2245		14		
2300		18	55	0
2315		16		
2330		15		
2345		5		
2400		6	42	0
Directional Volumes			2,667	0
			24-Hour Volume	2,667

Equipment ID#:

Automated Traffic Counts — Carter & Burgess, Inc.

Location Number:
Street: **Riverside**
Location: **South of Loop 820**

City/State: **Fort Worth, TX**
Project #:
Date: **4/12/2001**
Day of Week: **Thursday**
Data Source: **Quality Counts**



24-Hour Volume: **542**

Time	Peak	Northbound		Southbound	
2400					
15		0		0	
30		0		3	
45		0		0	
100		0	0	0	3
115		0		0	
130		0		0	
145		0		2	
200		0	0	18	20
215		0		8	
230		5		1	
245		3		2	
300		0	8	5	16
315		0		1	
330		0		3	
345		0		0	
400		0	0	1	5
415		0		0	
430		3		0	
445		2		0	
500		0	5	1	1
515		0		2	
530		0		2	
545		0		5	
600		1	1	12	21
615		0		2	
630		4		7	
645		0		11	
700		1	5	7	27
715		0		7	
730		4		3	
745		3		8	
800		3	10	8	26
815		4		5	
830		8		3	
845		4		2	
900		4	20	2	12
915		10		4	
930		7		2	
945		0		3	
1000		4	21	5	14
1015		9		4	
1030		4		6	
1045		4		3	
1100		14	31	2	15
1115		3		5	
1130		7		9	
1145		9		3	
1200		10	29	4	21

Time	Peak	Northbound		Southbound	
1200					
1215		6		2	
1230		4		4	
1245		2		7	
1300		8	20	5	18
1315		6		2	
1330		2		4	
1345		1		12	
1400		8	17	9	27
1415		3		3	
1430		14		3	
1445		8		1	
1500		5	30	5	12
1515		7		8	
1530		11		8	
1545		1		1	
1600		5	24	1	18
1615		2		0	
1630		2		2	
1645		0		0	
1700		3	7	3	5
1715		1		3	
1730		2		5	
1745		3		1	
1800		4	10	1	10
1815		1		0	
1830		1		4	
1845		2		0	
1900		2	6	3	7
1915		0		1	
1930		0		0	
1945		2		4	
2000		0	2	0	5
2015		0		0	
2030		0		1	
2045		0		1	
2100		0	0	0	2
2115		0		0	
2130		0		1	
2145		0		0	
2200		0	0	0	1
2215		0		0	
2230		0		2	
2245		0		1	
2300		0	0	2	5
2315		1		1	
2330		0		3	
2345		0		0	
2400		0	1	0	4
Directional Volumes			247		295
24-Hour Volume					542

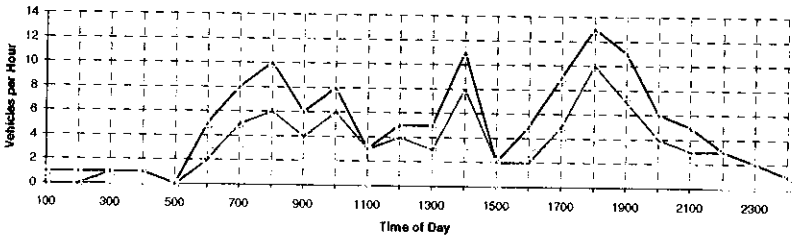
Equipment ID#:

Automated Traffic Counts

Carter & Burgess, Inc.

Location Number:
Street: **Melody Hills**
Location: **West of Mobile**

City/State: **Fort Worth, TX**
Project #:
Date: **4/12/2001**
Day of Week: **Thursday**
Data Source: **Quality Counts**



24-Hour Volume: 122

Time	Peak	Eastbound	Westbound
2400			
15		0	0
30		0	0
45		1	0
100		0 1	0 0
115		0	0
130		0	0
145		0	0
200		1 1	0 0
215		0	1
230		0	0
245		0	0
300		0 0	0 1
315		0	0
330		0	1
345		0	0
400		0 0	0 1
415		0	0
430		0	0
445		0	0
500		0 0	0 0
515		2	0
530		0	2
545		0	0
600		1 3	0 2
615		3	2
630		0	0
645		0	0
700		0 3	3 5
715		1	2
730		3	1
745		0	1
800		0 4	2 6
815		1	1
830		0	0
845		0	1
900		1 2	2 4
915		1	2
930		1	2
945		0	1
1000		0 2	1 6
1015		0	0
1030		0	1
1045		0	0
1100		0 0	2 3
1115		1	1
1130		0	0
1145		0	2
1200		0 1	1 4

Time	Peak	Eastbound	Westbound
1200			
1215		1	0
1230		0	1
1245		1	1
1300		0 2	1 3
1315		0	0
1330		1	1
1345		1	4
1400		1 3	3 8
1415		0	1
1430		0	0
1445		0	1
1500		0 0	0 2
1515		0	0
1530		0	1
1545		2	1
1600		1 3	0 2
1615		3	3
1630		0	0
1645		1	0
1700		0 4	2 5
1715		1	2
1730		1	4
1745		1	3
1800		0 3	1 10
1815		0	0
1830		2	4
1845		1	2
1900		1 4	1 7
1915		1	2
1930		0	0
1945		0	2
2000		1 2	0 4
2015		1	0
2030		0	0
2045		1	2
2100		0 2	1 3
2115		0	1
2130		0	1
2145		0	1
2200		0 0	0 3
2215		0	0
2230		0	1
2245		0	0
2300		0 0	1 2
2315		0	0
2330		0	0
2345		0	1
2400		0 0	0 1
Directional Volumes		40	82
24-Hour Volume			122

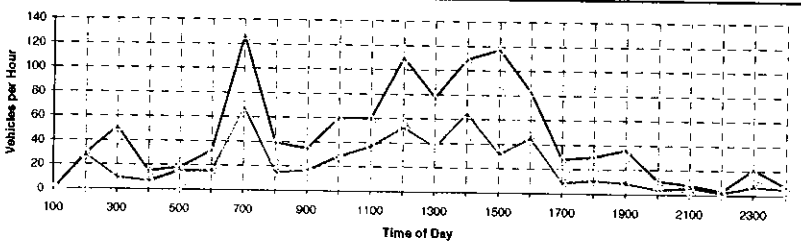
Equipment ID#:

Automated Traffic Counts

Carter & Burgess, Inc.

Location Number:
Street: **Northern Cross**
Location: **East of Riverside**

City/State: **Fort Worth, TX**
Project #:
Date: **4/12/2001**
Day of Week: **Thursday**
Data Source: **Quality Counts**



24-Hour Volume: **1,106**

Time	Peak	Eastbound		Westbound	
2400					
15		0		0	
30		0		0	
45		0		0	
100		0	0	0	0
115		0		0	
130		0		0	
145		0		8	
200		1	1	20	28
215		5		6	
230		29		0	
245		5		2	
300		2	41	2	10
315		3		2	
330		4		5	
345		1		0	
400		0	8	0	7
415		0		0	
430		0		4	
445		0		6	
500		2	2	6	16
515		0		7	
530		2		0	
545		5		7	
600		9	16	2	16
615		6		2	
630		3		6	
645		21		21	
700		29	59	39	68
715		3		1	
730		8		3	
745		4		7	
800		9	24	4	15
815		5		2	
830		8		4	
845		3		7	
900		2	18	4	17
915		7		16	
930		0		7	
945		9		2	
1000		15	31	4	29
1015		3		11	
1030		9		9	
1045		6		7	
1100		5	23	10	37
1115		14		8	
1130		32		25	
1145		2		11	
1200		9	57	9	53

Time	Peak	Eastbound		Westbound	
1200					
1215		14		4	
1230		8		11	
1245		9		9	
1300		9	40	13	37
1315		19		7	
1330		6		11	
1345		7		21	
1400		12	44	26	65
1415		10		12	
1430		47		5	
1445		16		3	
1500		12	85	12	32
1515		8		7	
1530		11		10	
1545		10		18	
1600		9	38	10	45
1615		6		3	
1630		3		2	
1645		4		2	
1700		6	19	2	9
1715		10		3	
1730		4		6	
1745		2		1	
1800		3	19	1	11
1815		7		1	
1830		12		8	
1845		5		0	
1900		3	27	0	9
1915		2		2	
1930		0		1	
1945		5		1	
2000		0	7	0	4
2015		0		0	
2030		1		5	
2045		0		0	
2100		1	2	1	6
2115		0		0	
2130		1		0	
2145		0		2	
2200		0	1	0	2
2215		3		2	
2230		3		3	
2245		3		0	
2300		5	14	2	7
2315		1		1	
2330		0		0	
2345		1		0	
2400		0	2	4	5
Directional Volumes			578		528
24-Hour Volume					1,106

Equipment ID#:

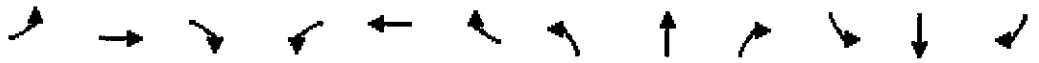
Appendix C

Capacity Analysis Results

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱					↱
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	221	25	0	0	0	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	233	26	0	0	0	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			259		246	129
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	99
cM capacity (veh/h)			1281		713	887

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	155	104	11
Volume Left	0	0	0
Volume Right	0	26	11
cSH	1700	1700	887
Volume to Capacity	0.09	0.06	0.01
Queue Length (ft)	0	0	1
Control Delay (s)	0.0	0.0	9.1
Lane LOS			A
Approach Delay (s)	0.0		9.1
Approach LOS			A

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	17.3%	ICU Level of Service	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	1	11	0	5	1	3	8	16	7	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	2	0	1	12	0	5	1	3	8	17	7	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	45	46	4	43	46	2	7			3		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.6	4.0	3.4	2.2			2.2		
p0 queue free %	100	100	100	99	100	100	100			99		
cM capacity (veh/h)	931	829	1069	937	829	1072	1590			1596		

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2	NB 3	NB 4
Volume Total	2	0	0	1	12	0	0	5	1	2	2	8
Volume Left	2	0	0	0	12	0	0	0	1	0	0	0
Volume Right	0	0	0	1	0	0	0	5	0	0	0	8
cSH	931	1700	1700	1069	937	1700	1700	1072	1590	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length (ft)	0	0	0	0	1	0	0	0	0	0	0	0
Control Delay (s)	8.9	0.0	0.0	8.4	8.9	0.0	0.0	8.4	7.3	0.0	0.0	0.0
Lane LOS	A	A	A	A	A	A	A	A	A			
Approach Delay (s)	8.7				8.7				0.6			
Approach LOS	A				A							

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	20.0%	ICU Level of Service	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	222	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	0	0	234	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
vC, conflicting volume	234	117			234	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	725	904			1309	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	0	156	78
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.00	0.09	0.05
Queue Length (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	
Approach LOS	A		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	9.8%	ICU Level of Service	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	6	222	4	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	0	6	234	4	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
vC, conflicting volume	236	119			238	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	723	901			1305	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	6	156	82
Volume Left	0	0	0
Volume Right	6	0	4
cSH	901	1700	1700
Volume to Capacity	0.01	0.09	0.05
Queue Length (ft)	1	0	0
Control Delay (s)	9.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.0	0.0	
Approach LOS	A		

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	16.6%	ICU Level of Service	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	211	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	222	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			222		222	111
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	100
cM capacity (veh/h)			1322		738	911

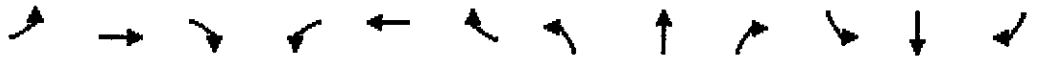
Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	148	74	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.09	0.04	0.00
Queue Length (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0		0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	9.5%	ICU Level of Service	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↱
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	288	12	0	0	0	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	303	13	0	0	0	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			316		309	158
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	99
cM capacity (veh/h)			1220		650	850

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	202	114	11
Volume Left	0	0	0
Volume Right	0	13	11
cSH	1700	1700	850
Volume to Capacity	0.12	0.07	0.01
Queue Length (ft)	0	0	1
Control Delay (s)	0.0	0.0	9.3
Lane LOS			A
Approach Delay (s)	0.0		9.3
Approach LOS			A

Intersection Summary				
Average Delay		0.3		
Intersection Capacity Utilization		18.8%	ICU Level of Service	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	1	7	1	4	0	5	16	6	3	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	2	0	1	7	1	4	0	5	17	6	3	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	19	21	2	19	21	3	3			5		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.6	4.0	3.4	2.2			2.2		
p0 queue free %	100	100	100	99	100	100	100			100		
cM capacity (veh/h)	976	862	1072	979	862	1070	1596			1593		

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2	NB 3	NB 4
Volume Total	2	0	0	1	7	1	1	4	0	3	3	17
Volume Left	2	0	0	0	7	0	0	0	0	0	0	0
Volume Right	0	0	0	1	0	0	0	4	0	0	0	17
cSH	976	1700	1700	1072	979	862	862	1070	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Queue Length (ft)	0	0	0	0	1	0	0	0	0	0	0	0
Control Delay (s)	8.7	0.0	0.0	8.4	8.7	9.2	9.2	8.4	0.0	0.0	0.0	0.0
Lane LOS	A	A	A	A	A	A	A	A				
Approach Delay (s)	8.6				8.6				0.0			
Approach LOS	A				A							

Intersection Summary				
Average Delay	3.6			
Intersection Capacity Utilization	20.0%	ICU Level of Service	A	

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	300	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	0	0	316	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
vC, conflicting volume	316	158			316	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	644	850			1220	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	0	211	105
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.00	0.12	0.06
Queue Length (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	
Approach LOS	A		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	12.1%	ICU Level of Service	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	10	300	4	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	0	11	316	4	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
vC, conflicting volume	318	160			320	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	642	847			1215	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	11	211	109
Volume Left	0	0	0
Volume Right	11	0	4
cSH	847	1700	1700
Volume to Capacity	0.01	0.12	0.06
Queue Length (ft)	1	0	0
Control Delay (s)	9.3	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.3	0.0	
Approach LOS	A		

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	18.9%	ICU Level of Service	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑					↱
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	288	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	303	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			303		303	152
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	100
cM capacity (veh/h)			1233		656	858

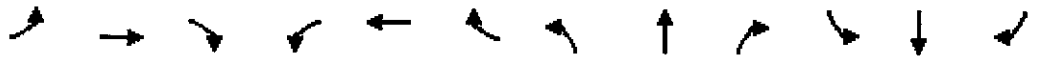
Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	202	101	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.12	0.06	0.00
Queue Length (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0		0.0
Approach LOS			A

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		11.7%	ICU Level of Service	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱					↱
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	269	25	0	0	0	13
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	283	26	0	0	0	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			309		296	155
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	98
cM capacity (veh/h)			1226		663	854

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	189	121	14
Volume Left	0	0	0
Volume Right	0	26	14
cSH	1700	1700	854
Volume to Capacity	0.11	0.07	0.02
Queue Length (ft)	0	0	1
Control Delay (s)	0.0	0.0	9.3
Lane LOS			A
Approach Delay (s)	0.0		9.3
Approach LOS			A

Intersection Summary			
Average Delay		0.4	
Intersection Capacity Utilization	18.7%	ICU Level of Service	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	0	1	14	0	6	1	4	10	20	9	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	3	0	1	15	0	6	1	4	11	21	9	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	56	58	5	53	58	2	9			4		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.6	4.0	3.4	2.2			2.2		
p0 queue free %	100	100	100	98	100	99	100			99		
cM capacity (veh/h)	911	814	1067	920	814	1071	1587			1594		

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2	NB 3	NB 4
Volume Total	3	0	0	1	15	0	0	6	1	2	2	11
Volume Left	3	0	0	0	15	0	0	0	1	0	0	0
Volume Right	0	0	0	1	0	0	0	6	0	0	0	11
cSH	911	1700	1700	1067	920	1700	1700	1071	1587	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.01
Queue Length (ft)	0	0	0	0	1	0	0	0	0	0	0	0
Control Delay (s)	9.0	0.0	0.0	8.4	9.0	0.0	0.0	8.4	7.3	0.0	0.0	0.0
Lane LOS	A	A	A	A	A	A	A	A	A			
Approach Delay (s)	8.8				8.8				0.5			
Approach LOS	A				A							

Intersection Summary				
Average Delay	5.1			
Intersection Capacity Utilization	20.0%	ICU Level of Service		A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	292	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	0	0	307	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
vC, conflicting volume	307	154			307	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	652	855			1229	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	0	205	102
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.00	0.12	0.06
Queue Length (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	
Approach LOS	A		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	11.8%	ICU Level of Service	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	9	283	4	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	0	9	298	4	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
vC, conflicting volume	300	151			302	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	659	859			1234	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	9	199	104
Volume Left	0	0	0
Volume Right	9	0	4
cSH	859	1700	1700
Volume to Capacity	0.01	0.12	0.06
Queue Length (ft)	1	0	0
Control Delay (s)	9.2	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.2	0.0	
Approach LOS	A		

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	18.4%	ICU Level of Service	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑					↱
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	294	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	309	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			309		309	155
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	100
cM capacity (veh/h)			1226		650	854

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	206	103	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.12	0.06	0.00
Queue Length (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0		0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	11.9%	ICU Level of Service	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱					↱
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	368	12	0	0	0	13
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	387	13	0	0	0	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			400		394	200
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	98
cM capacity (veh/h)			1134		575	798

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	258	142	14
Volume Left	0	0	0
Volume Right	0	13	14
cSH	1700	1700	798
Volume to Capacity	0.15	0.08	0.02
Queue Length (ft)	0	0	1
Control Delay (s)	0.0	0.0	9.6
Lane LOS			A
Approach Delay (s)	0.0		9.6
Approach LOS			A

Intersection Summary			
Average Delay		0.3	
Intersection Capacity Utilization	21.1%	ICU Level of Service	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	1	0	9	1	5	0	6	20	8	4	4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	3	1	0	9	1	5	0	6	21	8	4	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	25	27	2	26	27	3	4			6		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.6	4.0	3.4	2.2			2.2		
p0 queue free %	100	100	100	99	100	100	100			99		
cM capacity (veh/h)	965	854	1071	968	854	1070	1594			1591		

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2	NB 3	NB 4
Volume Total	3	1	1	0	9	1	1	5	0	3	3	21
Volume Left	3	0	0	0	9	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0	5	0	0	0	21
cSH	965	854	854	1700	968	854	854	1070	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Queue Length (ft)	0	0	0	0	1	0	0	0	0	0	0	0
Control Delay (s)	8.7	9.2	9.2	0.0	8.8	9.2	9.2	8.4	0.0	0.0	0.0	0.0
Lane LOS	A	A	A	A	A	A	A	A				
Approach Delay (s)	8.9				8.7				0.0			
Approach LOS	A				A							

Intersection Summary				
Average Delay	3.7			
Intersection Capacity Utilization	20.0%	ICU Level of Service	A	

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	396	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	0	0	417	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
vC, conflicting volume	417	208			417	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	556	788			1118	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	0	278	139
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.00	0.16	0.08
Queue Length (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	
Approach LOS	A		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	14.9%	ICU Level of Service	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	13	383	4	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	0	14	403	4	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
vC, conflicting volume	405	204			407	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	566	794			1127	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	14	269	139
Volume Left	0	0	0
Volume Right	14	0	4
cSH	794	1700	1700
Volume to Capacity	0.02	0.16	0.08
Queue Length (ft)	1	0	0
Control Delay (s)	9.6	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.6	0.0	
Approach LOS	A		

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	21.3%	ICU Level of Service	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↳					↱
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	380	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	400	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			400		400	200
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	100
cM capacity (veh/h)			1134		570	798

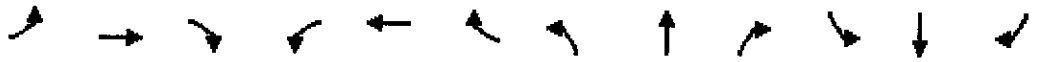
Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	267	133	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.16	0.08	0.00
Queue Length (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0		0.0
Approach LOS			A

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		14.4%	ICU Level of Service A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑					↱
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	569	32	0	0	0	13
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	599	34	0	0	0	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			633		616	316
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	98
cM capacity (veh/h)			926		416	671

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	399	233	14
Volume Left	0	0	0
Volume Right	0	34	14
cSH	1700	1700	671
Volume to Capacity	0.23	0.14	0.02
Queue Length (ft)	0	0	2
Control Delay (s)	0.0	0.0	10.5
Lane LOS			B
Approach Delay (s)	0.0		10.5
Approach LOS			B

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		27.6%	ICU Level of Service A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	200	1	14	300	6	1	4	10	20	9	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	3	211	1	15	316	6	1	4	11	21	9	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	214	58	5	158	58	2	9			4		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.6	4.0	3.4	2.2			2.2		
p0 queue free %	99	74	100	98	61	99	100			99		
cM capacity (veh/h)	492	814	1067	621	814	1071	1587			1594		

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2	NB 3	NB 4
Volume Total	3	105	105	1	15	158	158	6	1	2	2	11
Volume Left	3	0	0	0	15	0	0	0	1	0	0	0
Volume Right	0	0	0	1	0	0	0	6	0	0	0	11
cSH	492	814	814	1067	621	814	814	1071	1587	1700	1700	1700
Volume to Capacity	0.01	0.13	0.13	0.00	0.02	0.19	0.19	0.01	0.00	0.00	0.00	0.01
Queue Length (ft)	0	11	11	0	2	18	18	0	0	0	0	0
Control Delay (s)	12.4	10.1	10.1	8.4	10.9	10.5	10.5	8.4	7.3	0.0	0.0	0.0
Lane LOS	B	B	B	A	B	B	B	A	A			
Approach Delay (s)	10.1				10.5				0.5			
Approach LOS	B				B							

Intersection Summary			
Average Delay	9.7		
Intersection Capacity Utilization	25.4%	ICU Level of Service	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	50	391	100	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	0	53	412	105	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
vC, conflicting volume	464	258			517	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.2	
p0 queue free %	100	93			100	
cM capacity (veh/h)	519	731			1024	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	53	274	242
Volume Left	0	0	0
Volume Right	53	0	105
cSH	731	1700	1700
Volume to Capacity	0.07	0.16	0.14
Queue Length (ft)	6	0	0
Control Delay (s)	10.3	0.0	0.0
Lane LOS	B		
Approach Delay (s)	10.3	0.0	
Approach LOS	B		

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	24.7%	ICU Level of Service	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	8	483	4	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	0	8	508	4	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
vC, conflicting volume	511	256			513	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	485	734			1028	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	8	339	174
Volume Left	0	0	0
Volume Right	8	0	4
cSH	734	1700	1700
Volume to Capacity	0.01	0.20	0.10
Queue Length (ft)	1	0	0
Control Delay (s)	10.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	10.0	0.0	
Approach LOS	A		

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	24.2%	ICU Level of Service	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑					↱
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	476	50	0	0	0	125
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	501	53	0	0	0	132
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			554		527	277
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	82
cM capacity (veh/h)			992		473	712

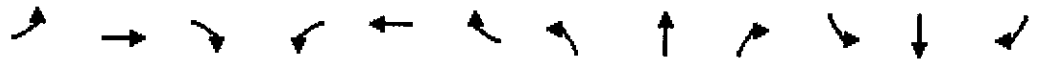
Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	334	220	132
Volume Left	0	0	0
Volume Right	0	53	132
cSH	1700	1700	712
Volume to Capacity	0.20	0.13	0.18
Queue Length (ft)	0	0	17
Control Delay (s)	0.0	0.0	11.2
Lane LOS			B
Approach Delay (s)	0.0		11.2
Approach LOS			B

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	30.3%	ICU Level of Service	A

Movement	EBL	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	787	0	0	0	0	13
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	828	0	0	0	0	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			828		828	414
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	98
cM capacity (veh/h)			780		303	579

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	552	276	14
Volume Left	0	0	0
Volume Right	0	0	14
cSH	1700	1700	579
Volume to Capacity	0.32	0.16	0.02
Queue Length (ft)	0	0	2
Control Delay (s)	0.0	0.0	11.4
Lane LOS			B
Approach Delay (s)	0.0		11.4
Approach LOS			B

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	32.9%	ICU Level of Service	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	281	0	9	134	5	0	6	20	8	4	4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	3	296	0	9	141	5	0	6	21	8	4	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	95	27	2	173	27	3	4			6		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.6	4.0	3.4	2.2			2.2		
p0 queue free %	100	65	100	98	83	100	100			99		
cM capacity (veh/h)	753	854	1071	557	854	1070	1594			1591		

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2	NB 3	NB 4
Volume Total	3	148	148	0	9	71	71	5	0	3	3	21
Volume Left	3	0	0	0	9	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0	5	0	0	0	21
cSH	753	854	854	1700	557	854	854	1070	1700	1700	1700	1700
Volume to Capacity	0.00	0.17	0.17	0.00	0.02	0.08	0.08	0.00	0.00	0.00	0.00	0.01
Queue Length (ft)	0	16	16	0	1	7	7	0	0	0	0	0
Control Delay (s)	9.8	10.1	10.1	0.0	11.6	9.6	9.6	8.4	0.0	0.0	0.0	0.0
Lane LOS	A	B	B	A	B	A	A	A				
Approach Delay (s)	10.1				9.7				0.0			
Approach LOS	B				A							

Intersection Summary				
Average Delay	9.2			
Intersection Capacity Utilization	24.8%	ICU Level of Service		A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	70	440	44	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	0	74	463	46	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
vC, conflicting volume	486	255			509	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.2	
p0 queue free %	100	90			100	
cM capacity (veh/h)	503	736			1031	

Direction, Lane #	WB 1	NB 1	NB 2			
Volume Total	74	309	201			
Volume Left	0	0	0			
Volume Right	74	0	46			
cSH	736	1700	1700			
Volume to Capacity	0.10	0.18	0.12			
Queue Length (ft)	8	0	0			
Control Delay (s)	10.4	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	10.4	0.0				
Approach LOS	B					

Intersection Summary				
Average Delay	1.3			
Intersection Capacity Utilization	25.5%	ICU Level of Service		A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	13	471	4	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	0	14	496	4	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
vC, conflicting volume	498	250			500	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	494	741			1040	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	14	331	169
Volume Left	0	0	0
Volume Right	14	0	4
cSH	741	1700	1700
Volume to Capacity	0.02	0.19	0.10
Queue Length (ft)	1	0	0
Control Delay (s)	10.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	10.0	0.0	
Approach LOS	A		

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	23.8%	ICU Level of Service	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↱
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	613	22	0	0	0	175
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (veh/h)	645	23	0	0	0	184
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			668		657	334
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	72
cM capacity (veh/h)			897		391	653

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	430	238	184
Volume Left	0	0	0
Volume Right	0	23	184
cSH	1700	1700	653
Volume to Capacity	0.25	0.14	0.28
Queue Length (ft)	0	0	29
Control Delay (s)	0.0	0.0	12.7
Lane LOS			B
Approach Delay (s)	0.0		12.7
Approach LOS			B

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	36.6%	ICU Level of Service	A