Traffic Study

Harps Food Store Development

prepared for:

Harps Food Stores

Highland Drive (Hwy 18)
and
Harrisburg Road (Hwy 1B/163)

Jonesboro, Arkansas

STATE OF ARKANSAS
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INTRODUCTION

Peters & Associates Engineers, Inc., has conducted a traffic engineering study relating to a proposed Harps Food Store and gas station to be located on the west side of Harrisburg Road (Highway 1B/163), and on the south side of Highland Drive (Highway 18) in Jonesboro, Arkansas. The primary focus of this report is to identify mitigative measures necessary to provide acceptable operation for traffic conditions for the proposed Harps Food Store development. The commercial site is proposed to consist of a supermarket and a gas station with eight gas pumps as indicated on the project site plan (a reduced copy of the site plan is included in the Appendix for reference).

This is a report of methodology and findings relating to a traffic engineering study undertaken to:

- Evaluate existing traffic conditions at the intersection of Harrisburg Road and Highland Drive and other vicinity access drive intersections.

- Determine projected traffic volumes entering and exiting the proposed development at the study intersections and the access drive intersections proposed to serve the site.

- Identify the effects on traffic operations for existing traffic in combination with site-generated traffic associated with the Harps Food Store development as proposed. Additionally, traffic volumes were adjusted for projected conditions to assume that a different land use will occupy the existing Harps Food Store in the vicinity.

- Evaluate traffic operations for the study intersections and the access drive intersections proposed to serve the site and make recommendations for mitigative improvements which may be necessary and appropriate for acceptable traffic operations.

In the following sections of this traffic study report are traffic data, study methods, findings and recommendations. The study is technical in nature. Analysis techniques employed are those most commonly used in the traffic engineering profession for traffic impact analysis. Certain data and calculations relative to traffic operational analysis are referenced in the report. Complete calculations and data are included in the Appendix of the report.

THE SITE

The location of the development is within the city limits of Jonesboro in Craighead County, Arkansas. The Harps Food Store and gas station is proposed to be located on the south-west quadrant of Harrisburg Road and Highland Drive. The proposed development site location and vicinity are shown on Figures 1 and 2, which follow.

The site is currently an undeveloped tract. Development of the proposed Harps Food Store site, as shown on the attached site plan, calls for the construction of a supermarket and a gas station with eight gas pumps, access drives and parking.

Access to the Harps Food Store site, as shown on the site plan, is proposed from three access drives. One of the drives (Drive 1) is proposed to intersect Harrisburg Road along the east edge of the site. Drive 1 is proposed as a fully-directional access drive located approximately 350 feet south of Highland Drive. Two of the access drives (Drives 2 and 3) are proposed to intersect Highland Drive along the north edge of the site. Drive 2 is proposed as a fully-directional access drive located approximately 240 feet west of Harrisburg Road. Drive 3 is proposed as a fully directional located approximately 230 feet west of Drive 2.

There are no sight distance limitations at any of the proposed street and driveway intersections.

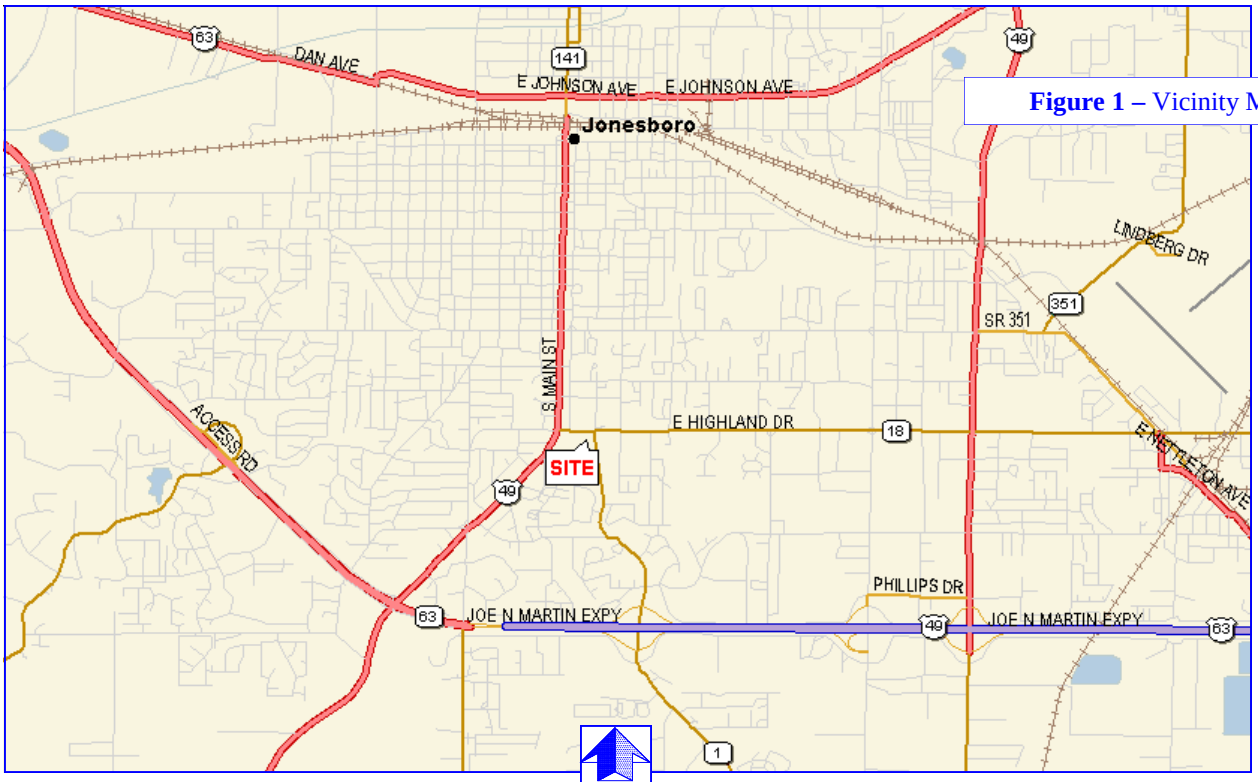


Figure 1 – Vicinity Map

Figure 2 – Site Location Map

STREET SYSTEM

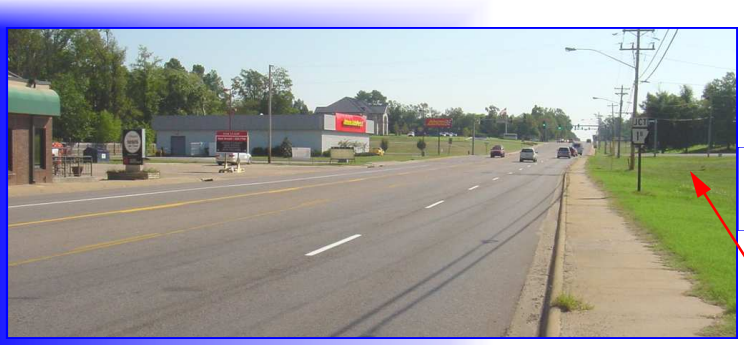
Harrisburg Road, also Highway 1B/163, at the site, south of Highland Drive, is a two-lane roadway consisting of a northbound lane and a southbound lane. At the northbound approach to Highland Drive, Harrisburg Road widens to accommodate the addition of a raised concrete diversion island to separate the northbound right-turn vehicle movements form the thru / left-turn vehicle movements. This asphalt roadway is constructed with shoulders and drainage ditches and there are no sidewalks in the vicinity. Harrisburg Road is classified as a collector street in the Jonesboro Master Street Plan (MSP). The north leg of the Harrisburg Road and Highland Drive intersection is an access drive that serves Advanced Auto Parts and consists of a southbound left-turn lane, a southbound thru / right-turn lane and a northbound receiving lane.

Highland Drive, also Highway 18, in the vicinity of the study area is a five-lane roadway consisting of two eastbound lanes, two westbound lanes and bi-directional center left-turn lane. Highland Drive is asphalt and is constructed with curbs and gutters in the vicinity of the study area. There are sidewalks along the both sides of the roadway. Highland Drive is classified as a principal arterial in the Jonesboro MSP.

There is one existing traffic signal in the immediate vicinity of the study area. The intersection of Harrisburg Road and Highland Drive is currently traffic signal controlled and operates as a six-phase (with north / south split-phase) traffic signal operation. Signal heads are mounted on mast arms. The controller is located on the southwest quadrant of the intersection.

There are no City or AHTD planned roadway improvements in the immediate vicinity of the site.

The following photos show the general layout of Harrisburg Road and Highland Drive in the vicinity of the study area. Photos were taken at locations as indicated on the captions.

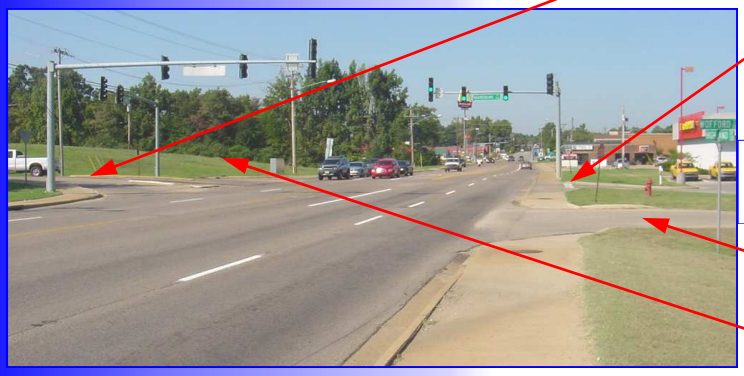


Looking east on Highland Drive
at the Site.

The Site

Looking east on Highland Drive
toward Harrisburg Road.

Harrisburg Drive

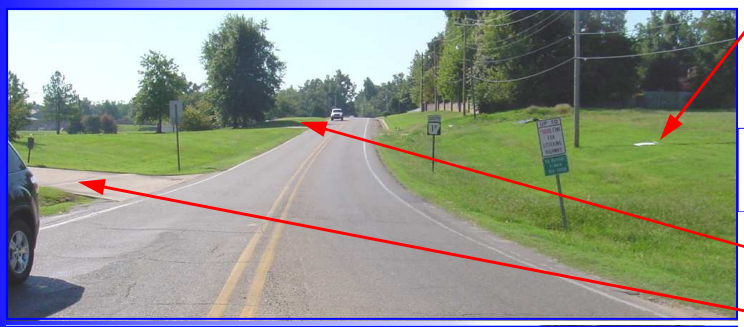


Advanced Auto Parts East Access Drive

Looking west on Highland Drive
toward Harrisburg Road.

Wofford Street

The Site



Looking south on Harrisburg Road
at the Site.

Church South Access Drive

Church North Access Drive

Looking north on Harrisburg Road
toward Highland Drive.

The Site

EXISTING TRAFFIC CONDITIONS

Traffic count data collected as a part of this study include AM, noon and PM peak hours vehicle turning movement counts at the intersection of Harrisburg Road and Highland Drive.

The peak hours vehicle turning movement count data at the intersection of Harrisburg Road and Highland Drive are summarized in the following peak hour turning movement Charts1, 2 and 3 and are presented in more detail in the Appendix of this report.

Peak hours vehicle turning movement counts made as a part of this study are shown on Figure 3, "Existing Traffic Volumes - AM and PM Peak Hours," and Figure 3A, "Existing Traffic Volumes - Noon Peak Hour." Turning movement counts shown on Figure 3 also include peak hour counts at several minor intersections which include the following:

- Highland Drive and Advanced Auto Parts west access drive.
- Highland Drive and Wofford Street.
- Harrisburg Road and the north church access drive.
- Harrisburg Road and the north church access drive.

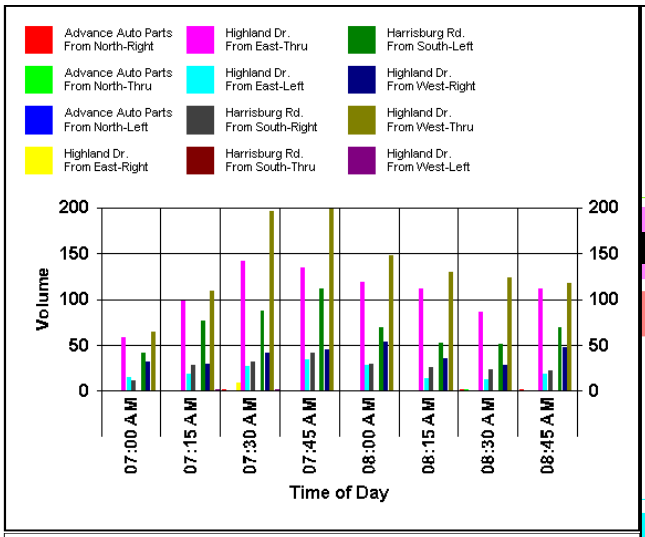


Chart 1
AM Peak Hours Turning Movement Count Data
Harrisburg Road and Highland Drive

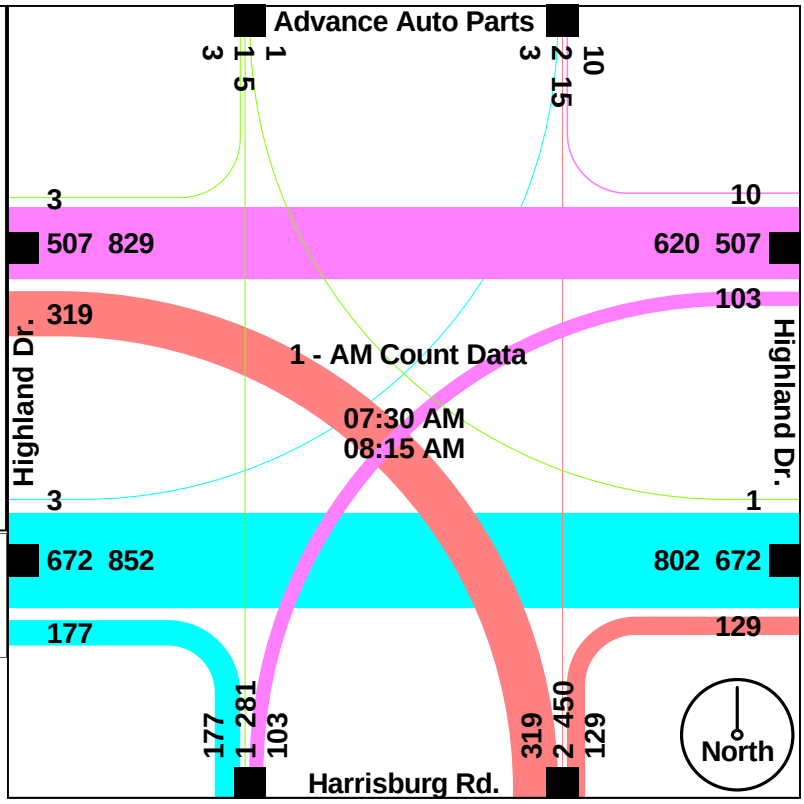
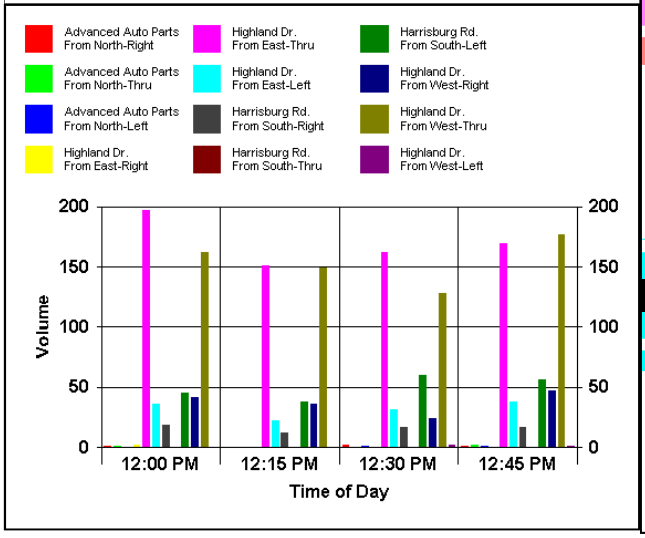
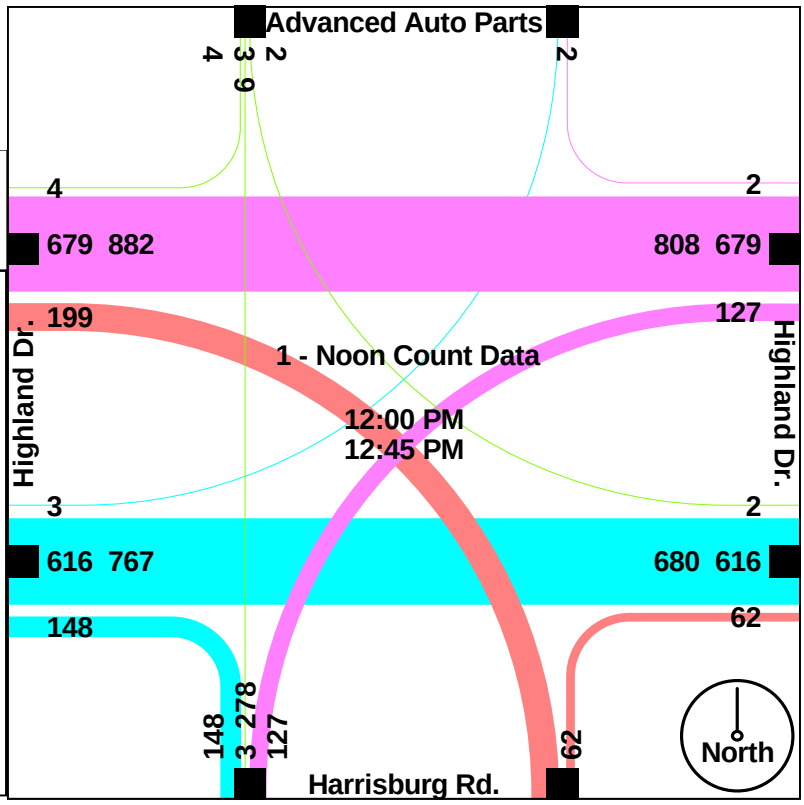
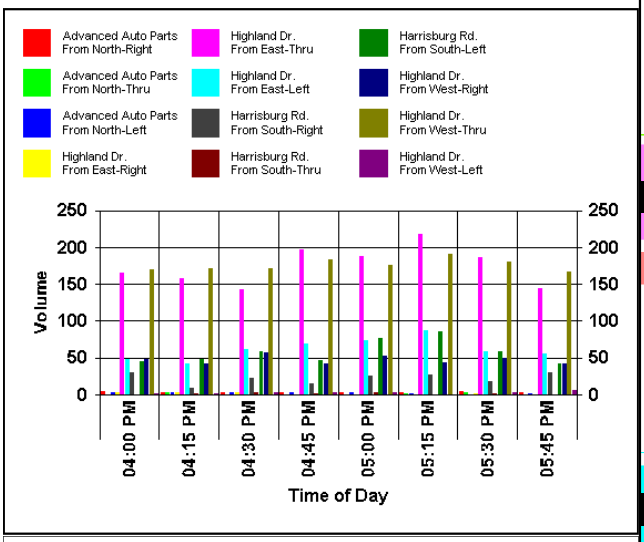


Chart 2
Noon Peak Hours Turning Movement Count Data
Harrisburg Road and Highland Drive







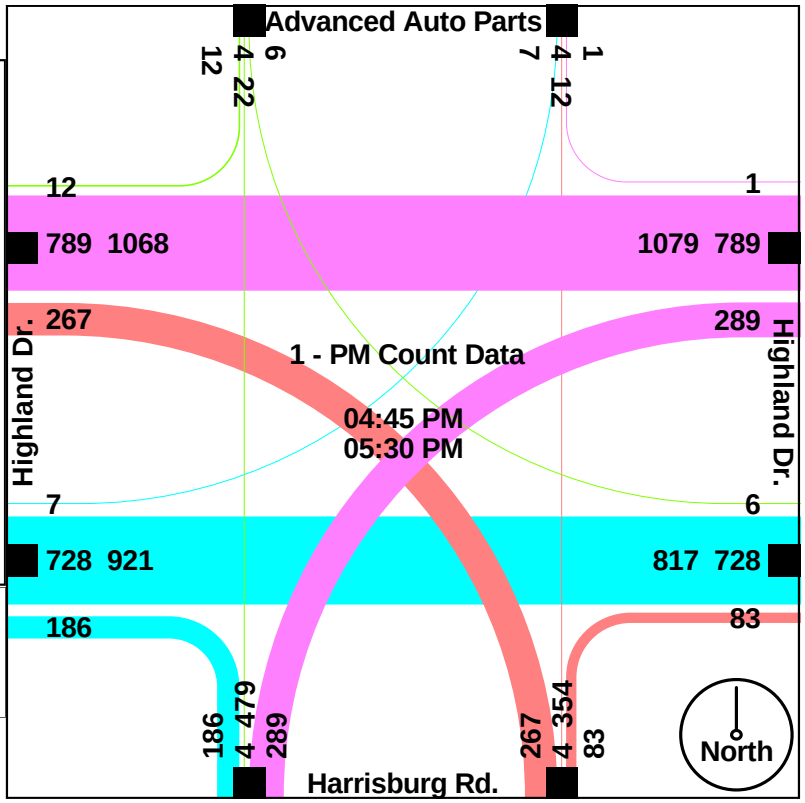


Chart 3
PM Peak Hours Turning Movement Count Data
Harrisburg Road and Highland Drive

TRIP GENERATION and SITE TRAFFIC PROJECTIONS

The Trip Generation, an Informational Report (8th Edition), 2008, published by the Institute of Transportation Engineers (ITE) and The Trip Generation Software (Version 6 by Microtrans), were utilized in calculating the magnitude of traffic volumes expected to be generated by the proposed land-use of the Harps Food Store and gas station development. These are reliable sources for this information and are commonly used in the traffic engineering profession.

Using the selected trip generation rates, calculations were made as a part of this study to provide a reliable estimate of traffic volumes that can be expected to be associated with the development as proposed. Applying the appropriate trip-generation rates to the land use proposed for this development makes these calculations. Results of this calculation are summarized on Table 1, "Summary of Trip-Generation - ITE Calculations."

ITE CALCULATIONS			24-HOUR TWO-WAY WEEKDAY VOLUME	AM PEAK HOUR VOLUME		PM PEAK HOUR VOLUME	
PROPOSED LAND USE	APPROXIMATE SIZE	ITE CODE		ENTER	EXIT	ENTER	EXIT
Supermarket	31,514 Sq. Ft.	850	3,222	69	44	169	162
Gas Station*	8 Positions	944	1,078	40	38	45	45
		TOTALS:	**4,300**	**109**	**82**	**214**	**207**
		TOTAL ENTERING + EXITING		**191**		**421**	

**These volumes adjusted to reflect 20% internal capture.*

Table 1 – Summary of Trip-Generation - ITE Calculations

For the development as proposed, these calculations indicate that approximately 4,300 vehicle trips (combined in and out) per average weekday are projected to be generated by the proposed land-uses on this site. Of this total, approximately 191 vehicle trips are estimated during the traffic conditions of the AM peak hour and approximately 421 vehicle trips are estimated during the traffic conditions of the PM peak hour.

Consistent with applicable rates found in the Trip-Generation software, data for the gas station use has been adjusted for "internal trip capture" (i.e. multi-purpose trips within the site as opposed to new

trips for each land use). Also, consistent with applicable rates found in the Trip-Generation software, these data for these retail uses have been adjusted for "pass-by" trips (i.e. that portion of the site-destined traffic that could come from the existing adjacent street traffic stream).

Retail commercial traffic, as will be associated with Harps Food Store and gas station site, ordinarily contributes to the adjacent street traffic conditions during the on-street AM peak traffic period and the PM peak traffic hour. Accordingly, both the AM and the PM peak traffic periods of the adjacent streets are the traffic operating conditions which have warranted primary traffic analysis as a part of this study. In comparing existing turning movement count data at the intersection of Highland Drive and Harrisburg Road it was determined that noon peak traffic volumes were lower than either the AM peak hour or the PM peak hour. The noon peak period was also included in the analysis however.

Harps Food Store has an existing site in Benton, Arkansas consisting of the same store size and the same gas operation as proposed for the Jonesboro site. In order to compare actual similar store trip characteristics to estimates of trip generation using ITE data, existing site-generated trips were counted at all three site access drives on a typical weekday (24-hour, hourly counts) in September, 2010 at the existing Harps Food Store and eight fueling position gas station in Benton, Arkansas. The actual site-generated trips from the Benton, Arkansas site were compared to the ITE Trip Generation calculated trips and the results are summarized as follows:

	24-Hour (Two-Way)
Existing Benton Site	4269
ITE Trip Generation	4300

The ITE Trip-Generation calculations and the actual count data, as compared above, are very similar. The 24-hour (two-way) counts are less than one percent different.

TRAFFIC VOLUME ASSIGNMENTS

Once projected traffic was estimated for the site, directional distributions were made to reflect the percent of anticipated left and right-turns at the study intersections. Directional distribution percentages used in this study are shown on Figure 4, "Directional Distribution - Site Traffic." The directional distribution percentages for site traffic have been equated to percentage turns for each movement at the study intersections. These values are shown on:

- Figure 5, "Entering Traffic Percentage Turns"
- Figure 6, "Exiting Traffic Percentage Turns."

The projected traffic volumes shown on Figure 7, "Site-Generated Traffic Volumes - AM and PM Peak Hours," and Figure 7A, "Site-Generated Traffic Volumes - Noon Peak Hour," result from applying the projected entering and exiting percentages shown on Figures 5 and 6 to the corresponding projected site-generated traffic volumes summarized on Table 1, "Summary of Trip-Generation - ITE Count Data."

The site-generated traffic volumes shown on Figures 7 and 7A and existing background traffic volumes shown on Figures 3 and 3A have been combined and the results are depicted on Figure 8, "Projected Traffic Volumes - AM and PM Peak Hours," and Figure 8A, "Projected Traffic Volumes - Noon Peak Hour." Additionally, traffic volumes shown on Figures 8 and 8A were adjusted for projected conditions to assume that a different land use will occupy the existing Harps Food Store in the vicinity.

Traffic volumes shown on Figures 8 and 8A are the values used in capacity and level of service calculations conducted as a part of this study. The effect of existing background traffic (i.e. the adjacent street non-site traffic which exists) and projected traffic associated with the site development have thus been accounted for in this analysis.

CAPACITY and LEVEL OF SERVICE

Generally, the "capacity" of a street is a measure of its ability to accommodate a certain magnitude of moving vehicles. It is a rate as opposed to a quantity, measured in terms of vehicles per hour. More specifically, street capacity refers to the maximum number of vehicles that a street element (e.g. an intersection) can be expected to accommodate in a given time period under the prevailing roadway and traffic conditions.

The measure of operation of intersections is the average length of time an approaching vehicle is delayed before it can proceed through an intersection when compared to free flowing conditions. The delay is measured in seconds per vehicle. Intersection Level of Service (LOS) is represented by the letter grades A (best) through F (worst). The LOS at an intersection as defined in the Highway Capacity Manual is shown in the following table.

Level of Service Criteria

Level of Service	Signalized Intersections Average Control Delay (seconds/vehicle)	Unsignalized Intersections Average Control Delay (seconds/vehicle)
A	0 to 10	0 to 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

Traffic operational calculations were performed as a part of this study for traffic operating conditions of existing traffic with existing lane geometry and for projected traffic volumes with proposed traffic operating conditions. This analysis was performed using Synchro Version 6, 2003. This computer program has been proven to be reliable when used to analyze capacity and levels of traffic service under various operating conditions. Detailed capacity calculations are included in the Appendix. The adjacent street AM, noon and PM peak traffic period for each study intersection was used for these calculations. Factors included in the analysis are as follows:

- Existing traffic volumes and patterns.
- Directional distribution of projected traffic volumes.
- Existing and proposed intersection geometry (including elements such as turn lanes, curb radii, etc.).
- Existing background traffic volumes and projected site-generated volumes for projected traffic conditions.
- Existing or proposed traffic control.

CAPACITY ANALYSIS

Level of Service Analysis Results

Existing Traffic Conditions

Capacity and level of service analysis was performed for existing traffic volumes, lane geometry and traffic control for the AM, noon and PM peak hours for the following intersections:

- Harrisburg Road and Highland Drive.
- Highland Drive and Advanced Auto Parts west access drive.
- Highland Drive and Wofford Street.
- Harrisburg Road and the north church access drive.
- Harrisburg Road and the north church access drive.

EXISTING TRAFFIC CONDITIONS		Traffic Control	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT	Overall Intersection
INTERSECTION	PEAK HR		PEAK HOUR - LEVEL OF SERVICE												
Harrisburg Road and Highland Drive	AM	SIGNAL	B	C		C	B		D		C	C	C		**C**
	Noon		B	C		C	B		D		C	C	C		**C**
	PM		B	C		D	B		F		C	C	C		**D**
Highland Drive and Advanced Auto Parts West Access Drive	AM	"STOP" SIGN	A	A			A					B		B	**n/a**
	Noon		B	A			A					D		D	**n/a**
	PM		A	A			A					B		B	**n/a**
Highland Drive and Wofford Street	AM	"STOP" SIGN	A	A			A					B		B	**n/a**
	Noon		A	A			A					C		C	**n/a**
	PM		B	A			A					D		D	**n/a**
Harrisburg Road and North Church Access Drive	AM	"STOP" SIGN				B		B		A		A			**n/a**
	Noon					B		B		A		A			**n/a**
	PM					B		B		A		A			**n/a**
Harrisburg Road and South Church Access Drive	AM	"STOP" SIGN				B		B		A		A			**n/a**
	Noon					B		B		A		A			**n/a**
	PM					B		B		A		A			**n/a**

Table 2 - Level of Service Summary - Existing Traffic Conditions

As indicated in Table 2, "Level of Service Summary – Existing Traffic Conditions," all vehicle movements for existing traffic conditions at the study intersections presently operate at what calculates as an acceptable LOS "D" or better for the AM, noon and PM peak hours except for the northbound thru / left-turn vehicle movement on Harrisburg Road at Highland Drive with the existing signal control during the PM peak hour (LOS "F").

Projected Traffic Conditions

Capacity and LOS analysis was performed for projected traffic conditions for the AM, noon and PM peak hours for the following intersections:

- Harrisburg Road and Highland Drive.
- Highland Drive and Drive 2 / Advanced Auto Parts west access drive.
- Highland Drive and Wofford Street.
- Harrisburg Road and the north church access drive.
- Harrisburg Road and the north church access drive.
- Harrisburg Road and Drive 1.
- Highland Drive and Drive 3.

Traffic volumes used for these projected traffic conditions are shown on Figure 8, "Projected Traffic Volumes - AM and PM Peak Hours," and Figure 8A, "Projected Traffic Volumes - Noon Peak Hour." The operating conditions projected to exist at the study intersections are summarized in Table 3, "Level of Service Summary - Projected Traffic Conditions with No Changes to Existing Lane Geometry," and Table 4, "Level of Service Summary - Projected Traffic Conditions with Proposed Lane Geometry,"

As indicated in Tables 3 and 4, all vehicle movements for the projected traffic conditions at the study intersections are expected to operate at what calculates as an acceptable LOS "D" or better for the AM, noon and PM peak hours except for the following:

PROJECTED TRAFFIC CONDITIONS EXISTING LANE GEOMETRY		Traffic Control	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT	Overall Intersection
INTERSECTION	PEAK HR		PEAK HOUR - LEVEL OF SERVICE												
Harrisburg Road and Highland Drive	AM	SIGNAL	C	C		C	C		D		C	C	C		**C**
	Noon		B	C		C	B		D		C	C	C		**C**
	PM		B	C		C	B		F		C	C	C		**D**
Highland Drive and Drive 2 / Advanced Auto Parts West Access Drive	AM	"STOP" SIGN	A	A		B	A		C			B			n/a
	Noon		B	A		A	A		C			E			n/a
	PM		A	A		B	A		D			B			n/a
Highland Drive and Wofford Street	AM	"STOP" SIGN	A	A			A					B		B	n/a
	Noon		A	A			A					C		C	n/a
	PM		B	A			A					D		D	n/a
Harrisburg Road and North Church Access Drive	AM	"STOP" SIGN				B		B		A		A			n/a
	Noon					B		B		A		A			n/a
	PM					C		C		A		A			n/a
Harrisburg Road and South Church Access Drive	AM	"STOP" SIGN				B		B		A		A			n/a
	Noon					B		B		A		A			n/a
	PM					B		B		A		A			n/a
Harrisburg Road and Drive 1	AM	SIGNAL	B		B				A				A		n/a
	Noon		B		B				A				A		n/a
	PM		C		C				A				A		n/a
Highland Drive and Drive 3	AM	SIGNAL		A		B	A		C		C				n/a
	Noon			A		A	A		C		C				n/a
	PM			A		B	A		E		E				n/a

Table 3 - Level of Service Summary - Projected Traffic Conditions with No Changes to Existing Lane Geometry

PROJECTED TRAFFIC CONDITIONS PROPOSED LANE GEOMETRY		Traffic Control	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT	Overall Intersection
INTERSECTION	PEAK HR		PEAK HOUR - LEVEL OF SERVICE												
Harrisburg Road and Highland Drive	AM	SIGNAL	B	C		B	B		D	D	D	C	C		**C**
	Noon		B	C		B	B		C	C	C	C	C		**C**
	PM		B	C		C	B		D	D	D	C	C		**C**
Highland Drive and Advanced Auto Parts West Access Drive	AM	"STOP" SIGN	A	A		B	A		C			B			n/a
	Noon		B	A		A	A		C			E			n/a
	PM		A	A		B	A		D			B			n/a
Highland Drive and Wofford Street	AM	"STOP" SIGN	A	A			A					B		B	n/a
	Noon		A	A			A					C		C	n/a
	PM		B	A			A					C		C	n/a
Harrisburg Road and North Church Access Drive	AM	"STOP" SIGN				B		B		A		A			n/a
	Noon					B		B		A		A			n/a
	PM					B		B		A		A			n/a
Harrisburg Road and South Church Access Drive	AM	"STOP" SIGN				B		B		A		A			n/a
	Noon					B		B		A		A			n/a
	PM					B		B		A		A			n/a
Harrisburg Road and Drive 1	AM	SIGNAL	B		B				A				A		n/a
	Noon		B		B				A				A		n/a
	PM		C		C				A				A		n/a
Highland Drive and Drive 3	AM	SIGNAL		A		B	A		C		C				n/a
	Noon			A		A	A		C		C				n/a
	PM			A		B	A		E		E				n/a

Table 4 - Level of Service Summary - Projected Traffic Conditions with Proposed Lane Geometry

- The northbound thru / left-turn vehicle movement on Harrisburg Road at Highland Drive with the existing lane geometry during the PM peak hour (LOS "F"). Capacity calculations indicate these vehicle movements are expected to improve to an acceptable LOS "D" during the PM peak hour with the proposed lane geometry at this intersection.
- The northbound site exiting vehicle movements on Drive 3 at Highland Drive during the PM peak hour (LOS "E"). These volumes are low (only 34 vehicles in the during the PM peak hour) and the delay is caused by the much higher volumes on Highland Drive.

For projected traffic conditions, analysis was conducted with the each of the three site access drives consisting of an inbound lane and an outbound lane. For projected traffic conditions, with the proposed lane geometry to include the addition of a northbound left-turn lane on Harrisburg Road and Highland Drive (approximately 200 feet) was assumed.

Analysis results comparison indicates there can be expected to be significant reduction in vehicle delay at the intersection of Highland Drive and Harrisburg Road with the addition of a northbound left-turn lane for the projected traffic conditions. Some examples of estimates of reduced vehicle delay during the worst-case PM peak hour for the projected traffic conditions are as follows:

- The overall intersection average control delay is expected to reduce from 36.1 seconds per vehicle to 28.7 seconds per vehicle (a 21 percent improvement).
- The northbound thru / left-turn average control delay is expected to reduce from 104.9 seconds per vehicle to 40.0 seconds per vehicle (a 62 percent improvement).

OTHER ISSUES

Vehicle queuing observations during the AM and PM peak hours were made at the intersection of Highland Drive and Harrisburg Road. During these peak traffic times, the following was noted:

AM Peak Hour

- From approximately 7:40 to 7:55 AM, was the maximum vehicle queue observed for northbound vehicles during the AM peak hour. At approximately 7:50 AM, the maximum queue observed for northbound vehicles during the AM peak hour was approximately 20 vehicles. It was observed, that almost all of the queued vehicles would clear the intersection during the northbound green time on the traffic signal.
- It was found that during the AM peak hour, there were no eastbound or westbound approaches where the queued vehicles exceeded the available vehicle storage lane lengths. It was observed that a maximum of approximately 200 feet was used for queuing for eastbound vehicles and the westbound vehicles did not queue to the site from Main Street, to the west during the AM peak hour.

PM Peak Hour

- During the PM peak hour, it was observed that a normal queue of northbound vehicles is approximately five to ten vehicles. At approximately 5:10 PM, the maximum queue observed for northbound vehicles during the PM peak hour was 22 vehicles. It was observed, that almost all of the queued vehicles would clear the intersection during the northbound green time on the traffic signal.
- It was found that there were times during the PM peak hour that the eastbound approach to the intersection would queue slightly past the existing Advanced Auto Parts west access drive (approximately 350 feet). However, it was observed that almost all of the queued vehicles would clear the intersection during the eastbound green time on the traffic signal.

FINDINGS and RECOMMENDATIONS

Findings of this study are summarized as follows:

- For the development of the Harps Food Store and gas station site as proposed, approximately 4,300 vehicle trips (combined in and out) per average weekday are projected to be generated. Of this total, approximately 191 vehicle trips are estimated during the traffic conditions of the AM peak hour, approximately 225 vehicle trips are estimated during the traffic conditions of the noon peak hour and approximately 421 vehicle trips are estimated during the traffic conditions of the PM peak hour.

- Capacity and level of service analysis was performed for existing traffic conditions for the AM, noon and PM peak hours for the study intersections. All vehicle movements for existing traffic conditions at the study intersections presently operate at what calculates as an acceptable LOS "D" or better for the AM, noon and PM peak hours except for the northbound thru / left-turn vehicle movement on Harrisburg Road at Highland Drive with the existing signal control during the PM peak hour (LOS "F").

- Capacity and LOS analysis was performed for projected traffic conditions to include the proposed Harps Food Store and gas station development as proposed for the AM, noon and PM peak hours for the study intersections. For these projected traffic conditions, all vehicle movements for the projected traffic conditions at the study intersections are expected to operate at what calculates as an acceptable LOS "D" or better for the AM, noon and PM peak hours except for the following:

    - The northbound thru / left-turn vehicle movement on Harrisburg Road at Highland Drive with the existing lane geometry during the PM peak hour (LOS "F"). Capacity calculations indicate these vehicle movements are expected to improve to an acceptable LOS "D" during the PM peak hour with the proposed lane geometry at this intersection.

- The northbound site exiting vehicle movements on Drive 3 at Highland Drive during the PM peak hour (LOS "E"). These volumes are low (only 34 vehicles in the during the PM peak hour) and the delay is caused by the much higher volumes on Highland Drive.

- Analysis results comparison indicates there can be expected to be significant reduction in vehicle delay at the intersection of Highland Drive and Harrisburg Road with the addition of a northbound left-turn lane for the projected traffic conditions. The overall intersection average control delay is expected to reduce from 36.1 seconds per vehicle to 28.7 seconds per vehicle (a 21 percent improvement). The northbound thru / left-turn average control delay is expected to reduce from 104.9 seconds per vehicle to 40.0 seconds per vehicle (a 62 percent improvement).

Recommendations of this study are summarized as follows:

- It is recommended that Harrisburg Road be widened at the northbound approach to Highland Drive to accommodate the addition of an approximate 200-foot plus taper northbound left-turn lane coincident with the site development.

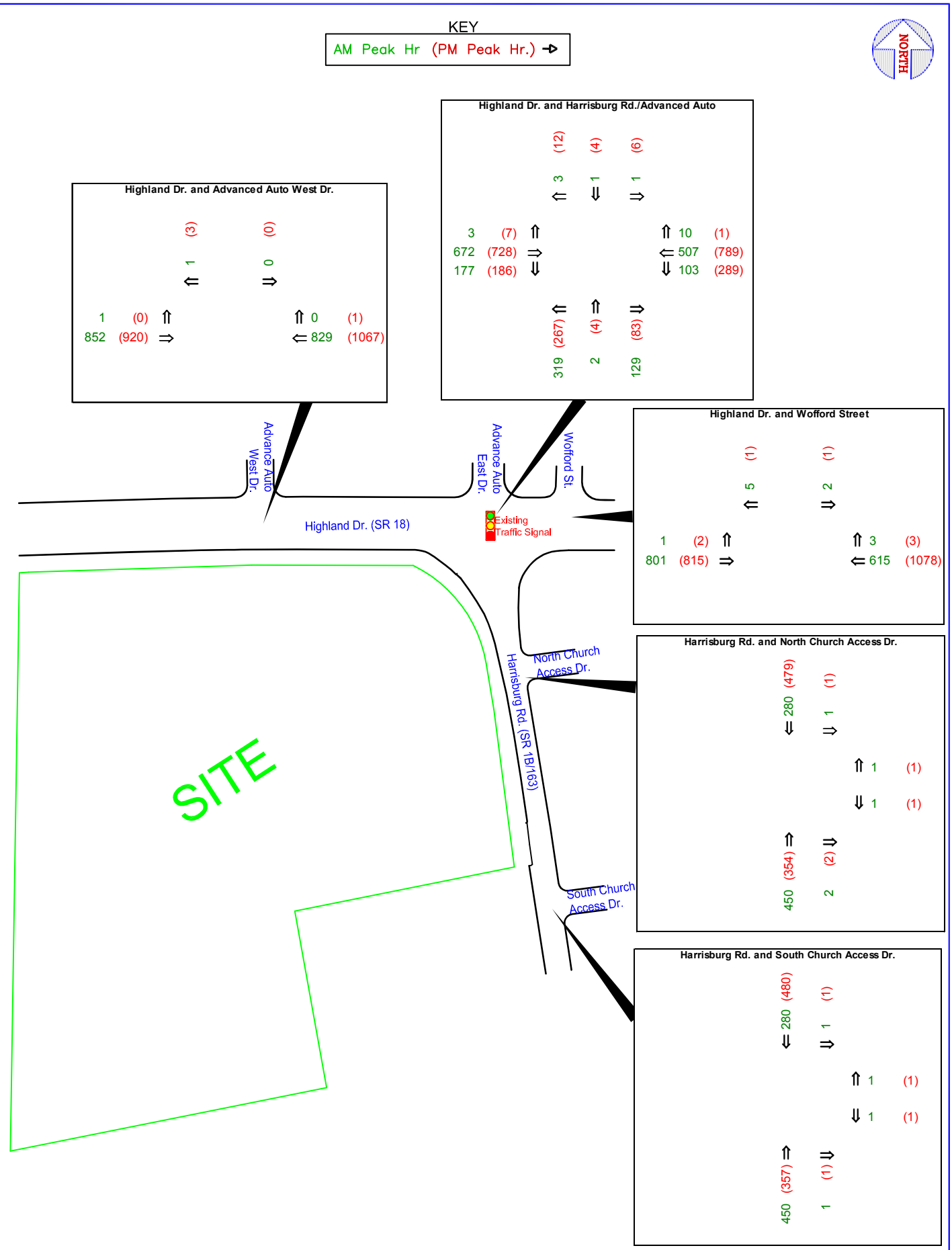
- It is recommended that the existing traffic signal at Highland Drive and Harrisburg Road be modified to allow for the recommended additional northbound left-turn lane.

- The new access drive intersections along Harrisburg Road and Highland Drive must conform to AHTD and City of Jonesboro design standards and will require approval by AHTD and the City.

- Modifications to the intersection of Harrisburg Road and Highland Drive must conform to AHTD and City of Jonesboro design standards and will require approval by AHTD and the City.

PETERS & ASSOCIATES
ENGINEERS, INC.

FIGURES



PROJECT No. P1484
DATE: 10-19-2010

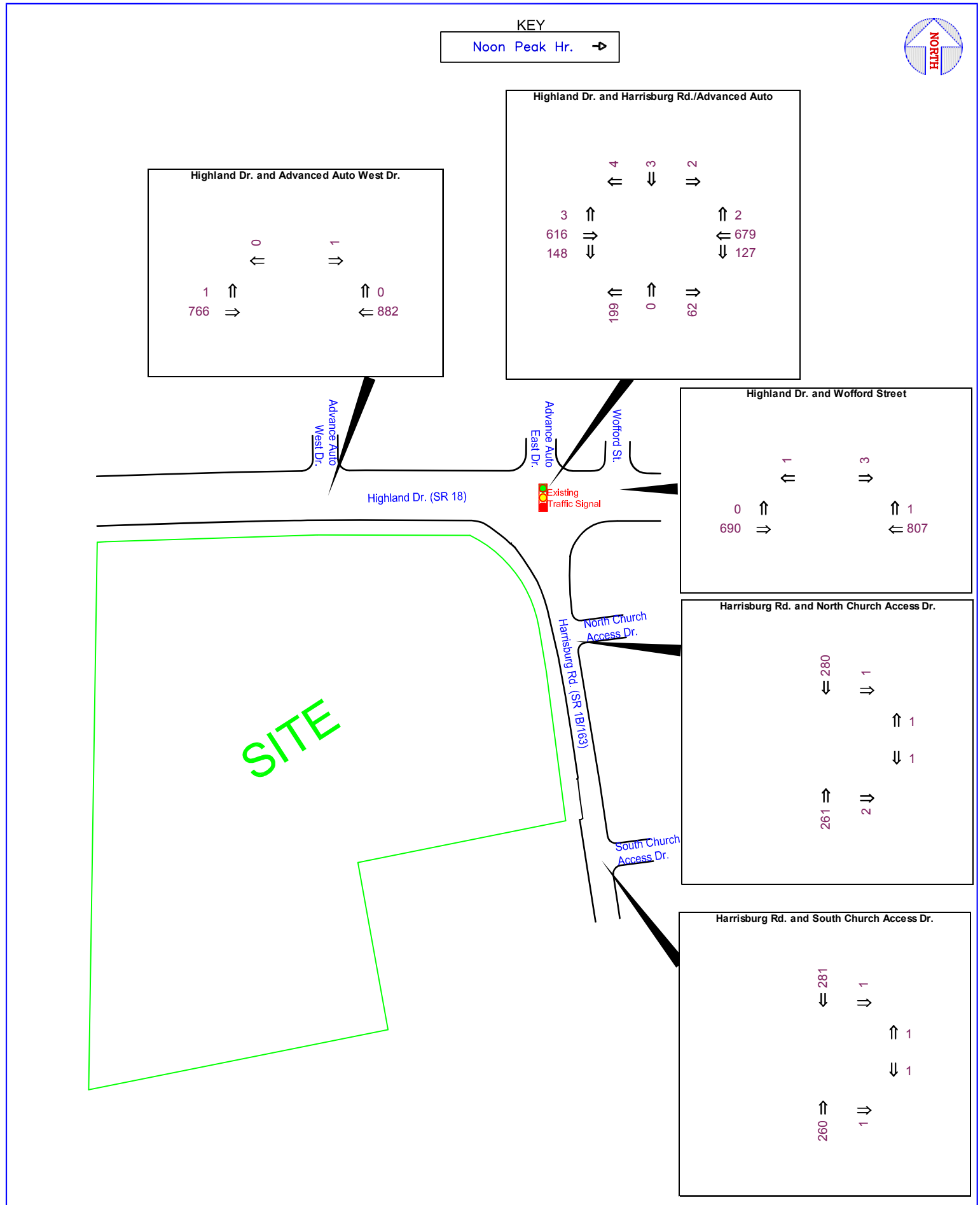
PETERS & ASSOCIATES
ENGINEERS, INC.

HARPS FOOD STORE

HIGHLAND DRIVE AND HARRISBURG ROAD
JONESBORO, ARKANSAS

EXISTING
TRAFFIC VOLUMES
AM AND PM PEAK HOURS

FIGURE No.
3



PROJECT No. P1484
DATE: 10-19-2010

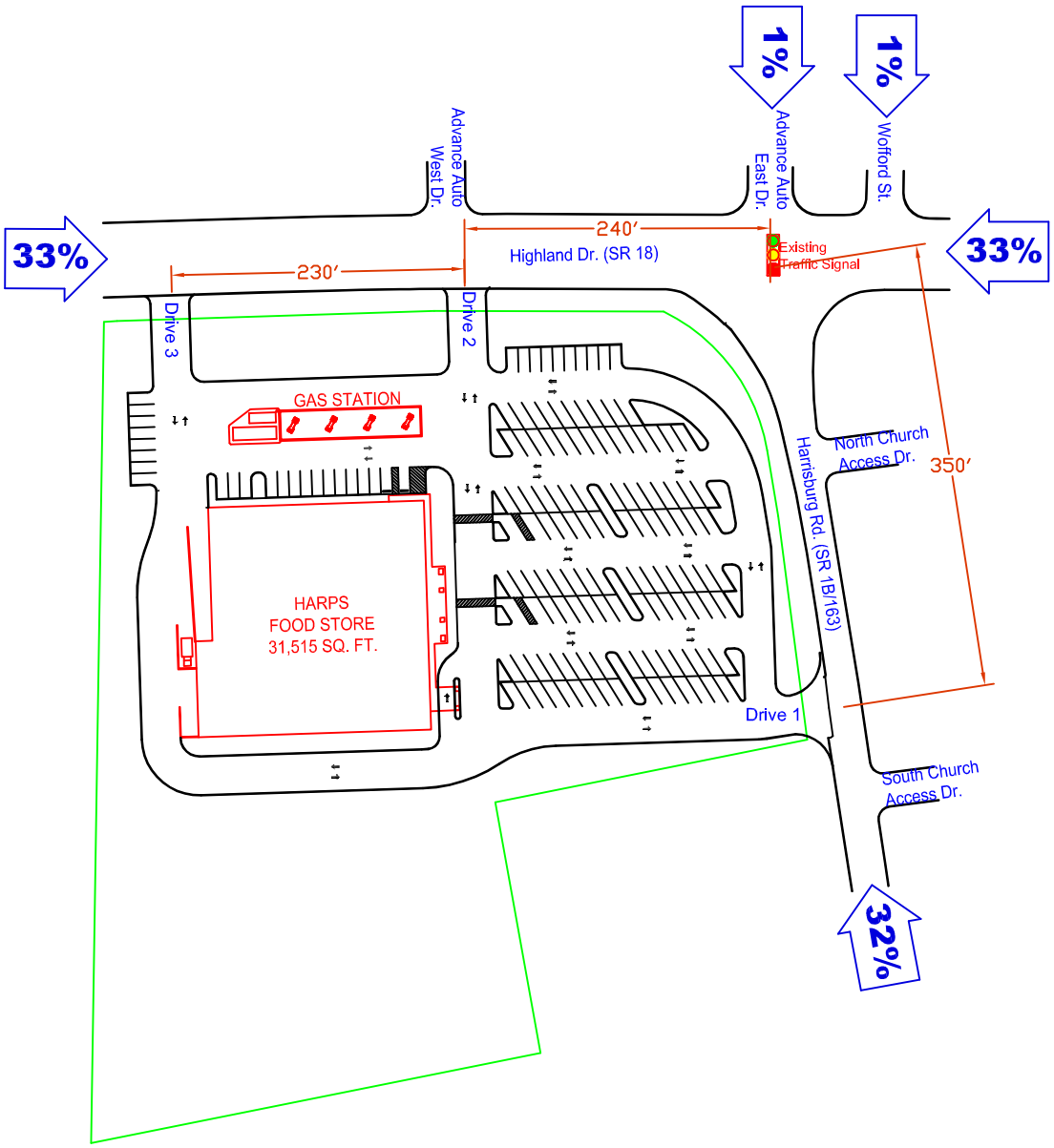
PETERS & ASSOCIATES
ENGINEERS, INC.

HARPS FOOD STORE

HIGHLAND DRIVE AND HARRISBURG ROAD
JONESBORO, ARKANSAS

EXISTING
TRAFFIC VOLUMES
NOON PEAK HOUR

FIGURE No.
3A



PROJECT No. P1484
DATE: 10-19-2010

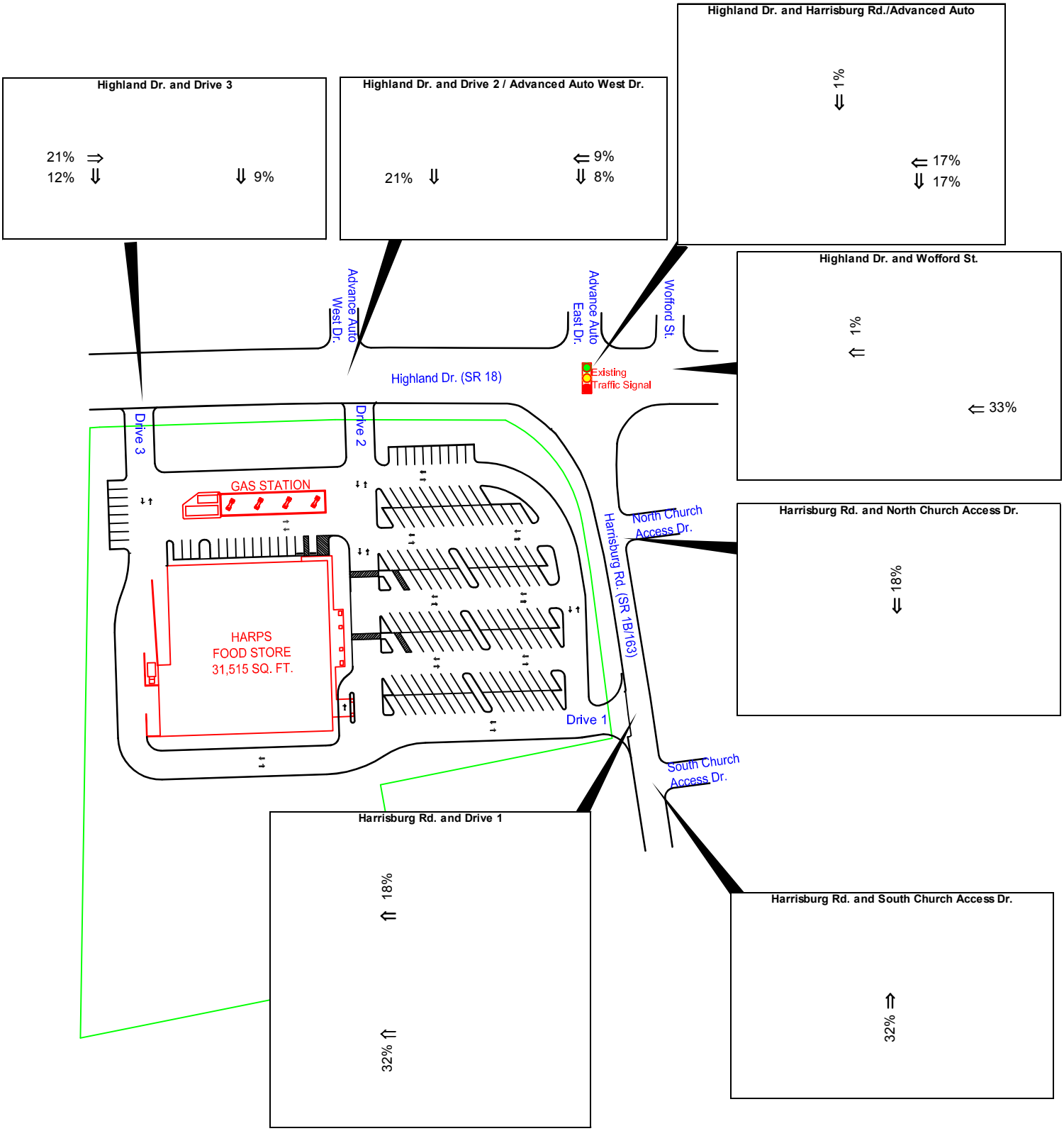
PETERS & ASSOCIATES
ENGINEERS, INC.

HARPS FOOD STORE

HIGHLAND DRIVE AND HARRISBURG ROAD
JONESBORO, ARKANSAS

DIRECTIONAL DISTRIBUTION
SITE TRAFFIC

FIGURE No.
4



PROJECT No. P1484
DATE: 10-19-2010

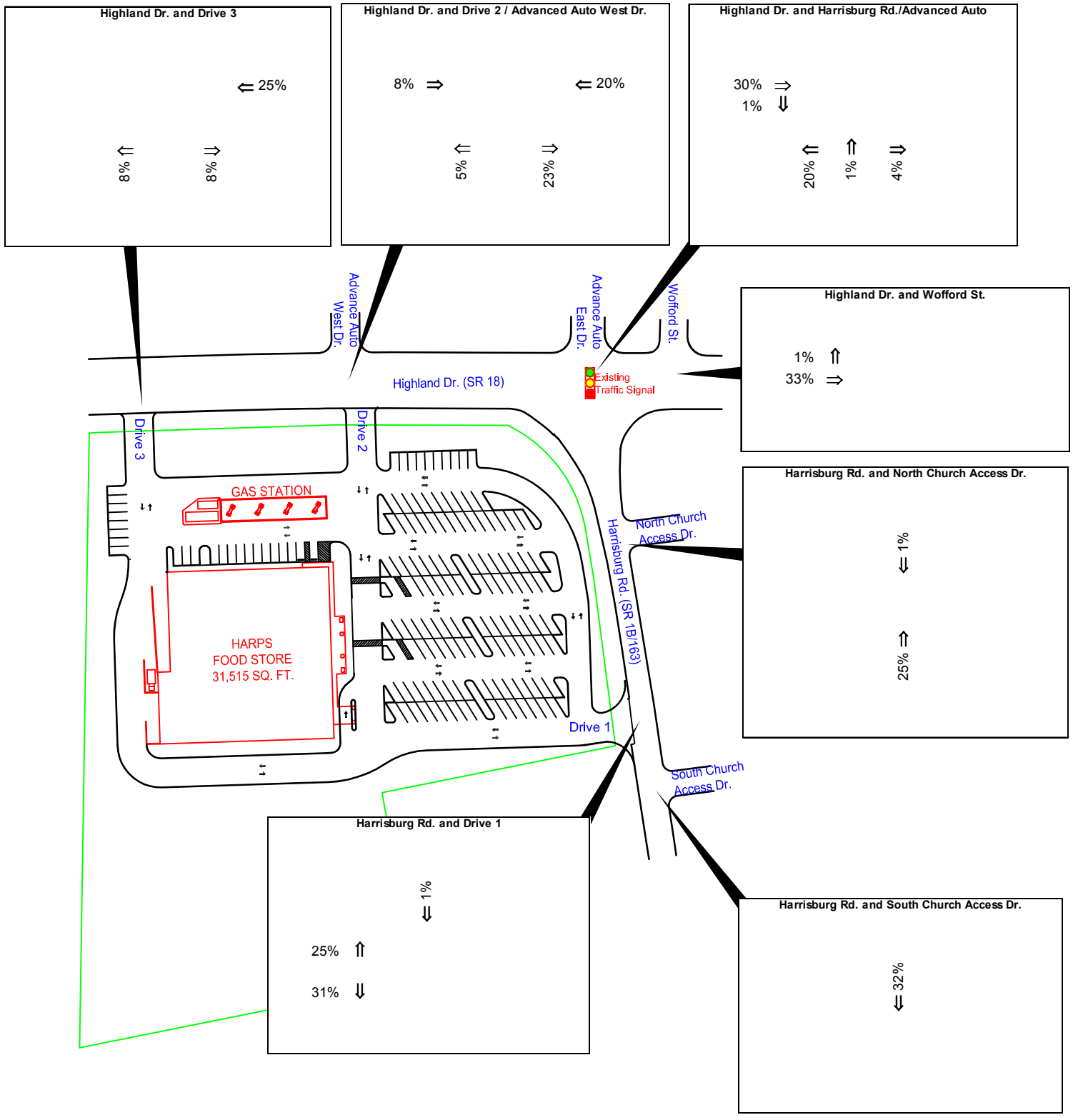
PETERS & ASSOCIATES
ENGINEERS, INC.

HARPS FOOD STORE

HIGHLAND DRIVE AND HARRISBURG ROAD
JONESBORO, ARKANSAS

ENTERING TRAFFIC
PERCENT TURNS

FIGURE No.
5



PROJECT No. P1484
DATE: 10-19-2010

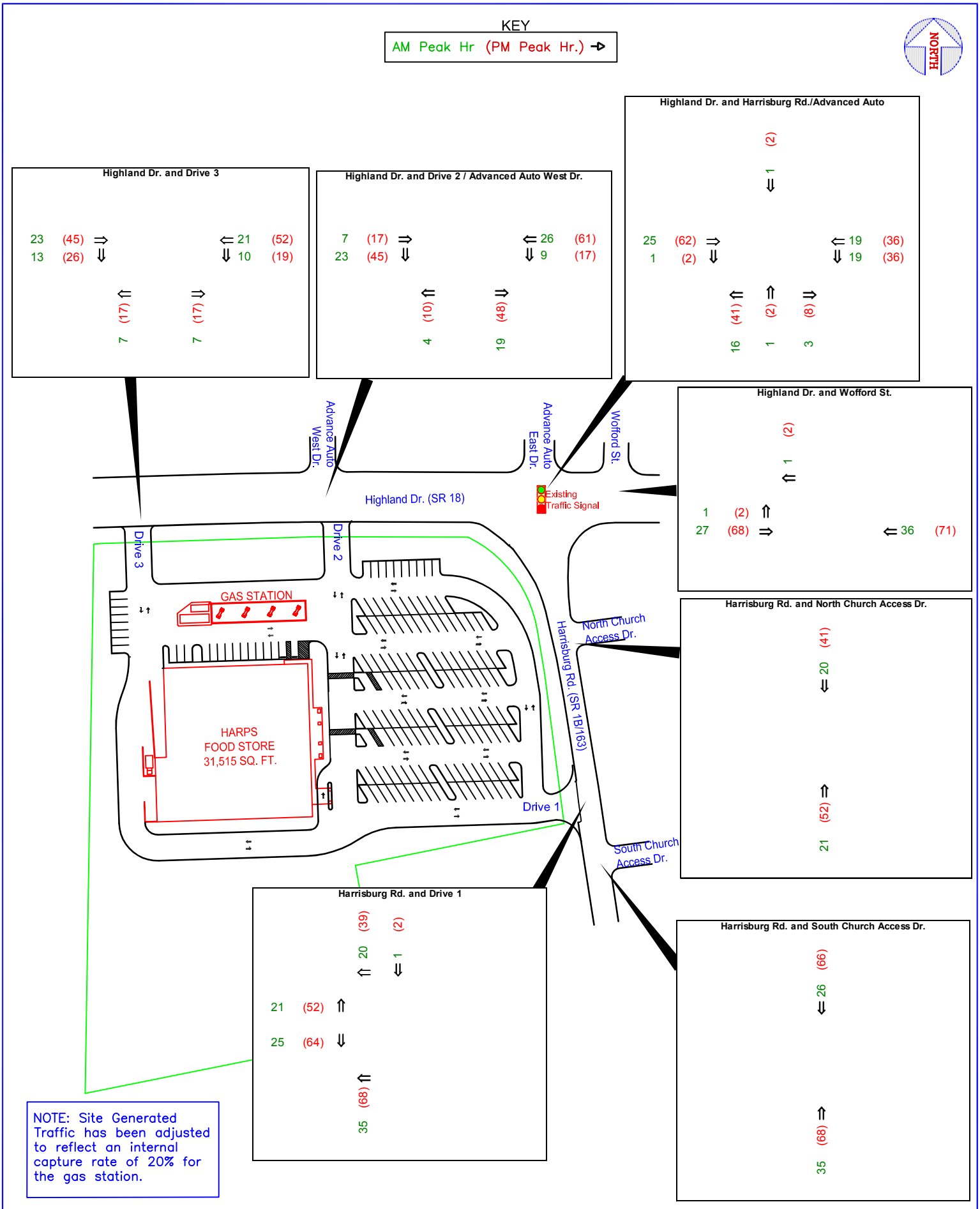
PETERS & ASSOCIATES
ENGINEERS, INC.

HARPS FOOD STORE

HIGHLAND DRIVE AND HARRISBURG ROAD
JONESBORO, ARKANSAS

EXITING TRAFFIC
PERCENT TURNS

FIGURE No.
6



PROJECT No. P1484
DATE: 10-19-2010

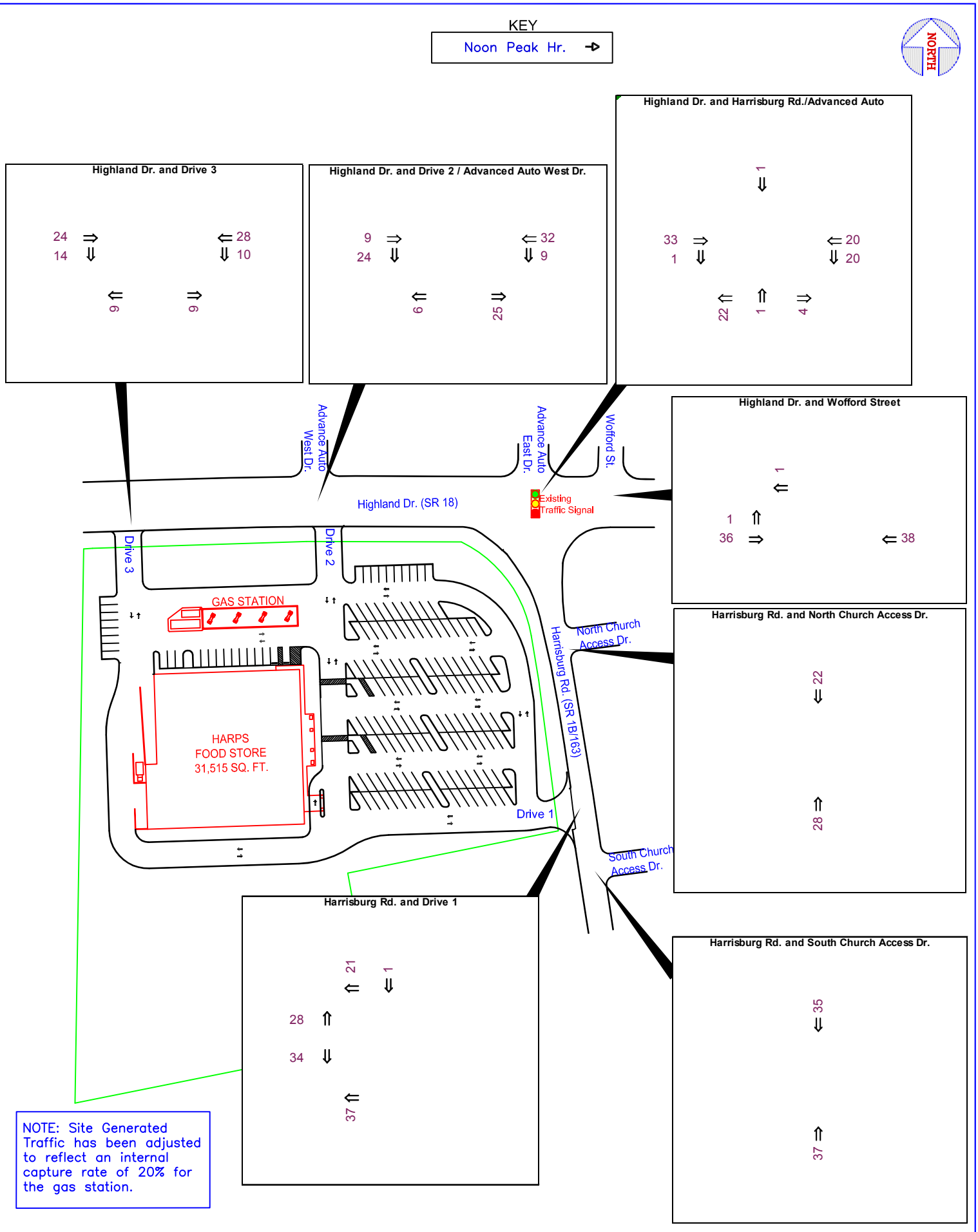
PETERS & ASSOCIATES
ENGINEERS, INC.

HARPS FOOD STORE

HIGHLAND DRIVE AND HARRISBURG ROAD
JONESBORO, ARKANSAS

SITE-GENERATED
TRAFFIC VOLUMES
AM AND PM PEAK HOURS

FIGURE No.
7



PROJECT No. P1484
DATE: 10-19-2010

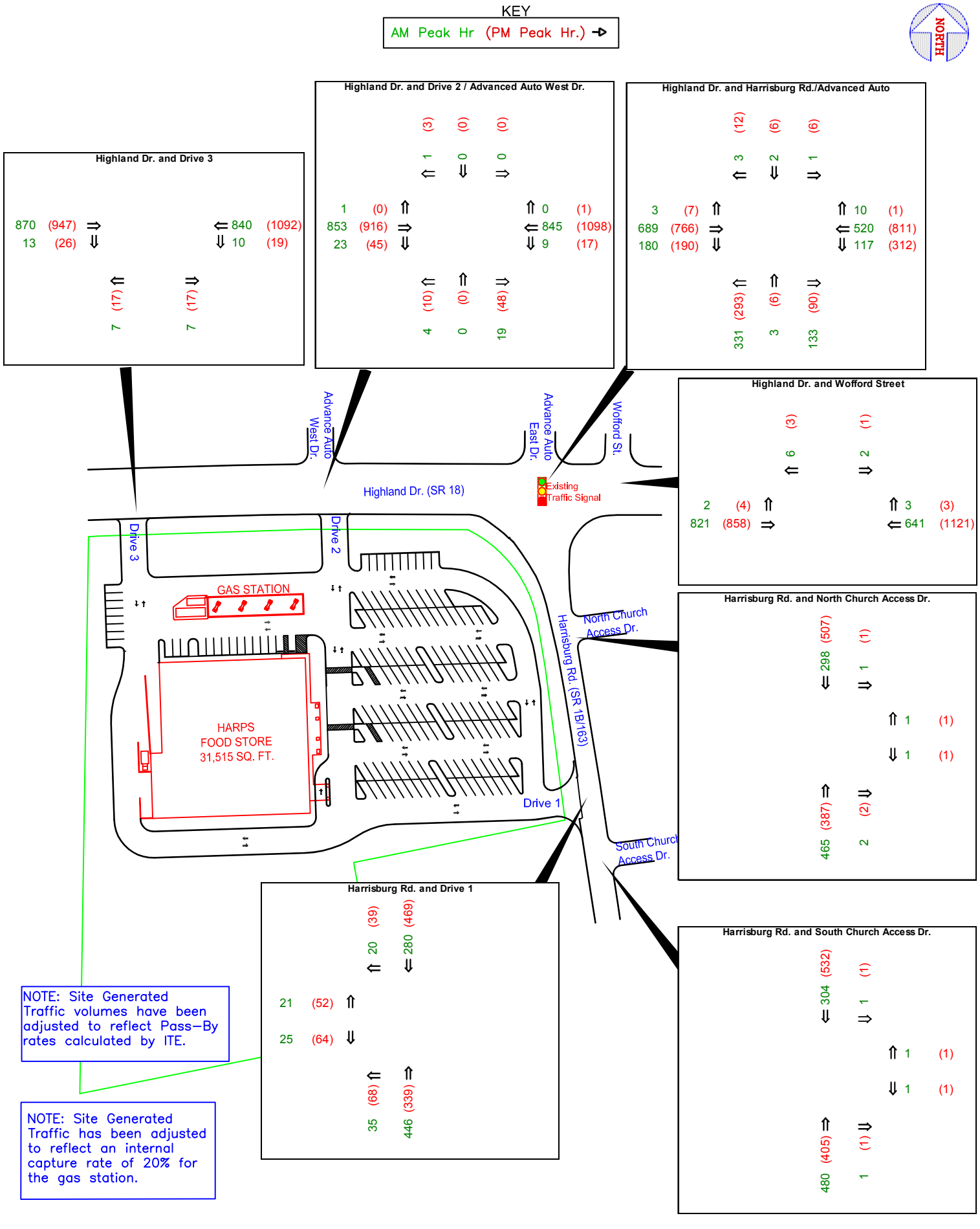
PETERS & ASSOCIATES
ENGINEERS, INC.

HARPS FOOD STORE

HIGHLAND DRIVE AND HARRISBURG ROAD
JONESBORO, ARKANSAS

SITE GENERATED
TRAFFIC VOLUMES
NOON PEAK HOUR

FIGURE No.
7A



PROJECT No. P1484
DATE: 10-19-2010

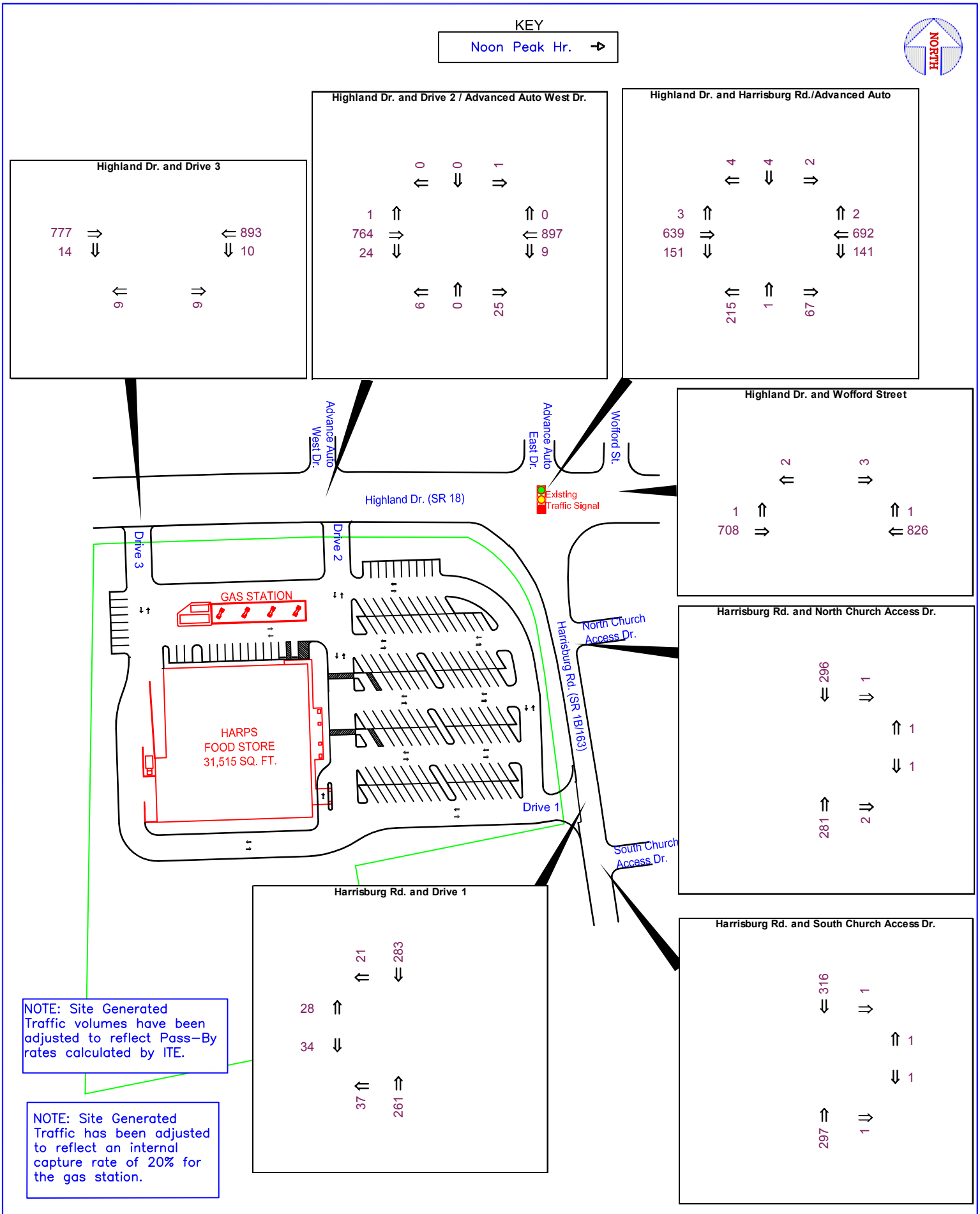
PETERS & ASSOCIATES
ENGINEERS, INC.

HARPS FOOD STORE

HIGHLAND DRIVE AND HARRISBURG ROAD
JONESBORO, ARKANSAS

PROJECTED
TRAFFIC VOLUMES
AM AND PM PEAK HOURS

FIGURE No.
8



PROJECT No. P1484
DATE: 10-19-2010

PETERS & ASSOCIATES
ENGINEERS, INC.

HARPS FOOD STORE

HIGHLAND DRIVE AND HARRISBURG ROAD
JONESBORO, ARKANSAS

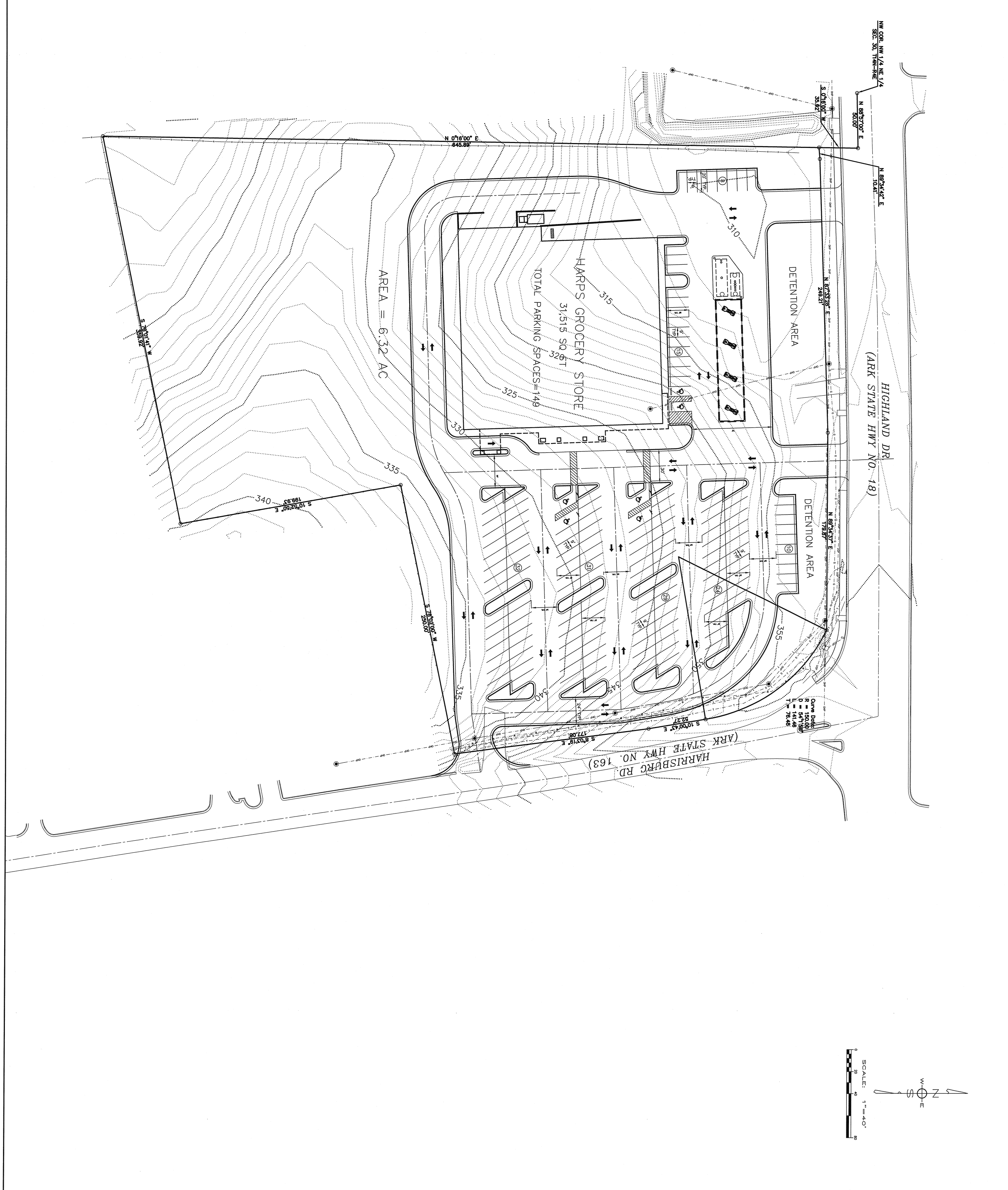
PROJECTED
TRAFFIC VOLUMES
NOON PEAK HOUR

FIGURE No.
8A

PETERS & ASSOCIATES
ENGINEERS, INC.

APPENDIX

Site Plan



REVISION	DATE	DESCRIPTION

SCALE: 1"= 40'
DATE: JUNE 2010
ENGINEER: —
DRAWN BY: BJM
W.O. #: XXXXX

1

PRELIMINARY SITE PLAN
HARPS FOOD STORES INC.
JONESBORO, ARKANSAS

ENGINEERING SERVICES INCORPORATED
CONSULTING ENGINEERS AND SURVEYORS
1207 SOUTH OLD MISSOURI RD.
SPRINGDALE, ARKANSAS 72764

PETERS & ASSOCIATES
ENGINEERS, INC.

Trip-Generation Data

Jonesboro, Arkansas

P1484

ITE CALCULATIONS			24-HOUR TWO-WAY WEEKDAY VOLUME	AM PEAK HOUR VOLUME		PM PEAK HOUR VOLUME	
PROPOSED LAND USE	APPROXIMATE SIZE	ITE CODE		ENTER	EXIT	ENTER	EXIT
Supermarket	31,514 Sq. Ft.	850	3,222	69	44	169	162
Gas Station*	8 Positions	944	1,078	40	38	45	45
		TOTALS:	**4,300**	**109**	**82**	**214**	**207**
		TOTAL ENTERING + EXITING		**191**		**421**	

**These volumes adjusted to reflect 20% internal capture.*

Summary of Multi-Use Trip Generation
Average Weekday Driveway Volumes
September 15, 2010

Land Use	Size	24 Hour Two-Way Volume	AM Pk Hour Enter	AM Pk Hour Exit	PM Pk Hour Enter	PM Pk Hour Exit
Supermarket	31.515 Th.Sq.Ft. GFA	3222	69	44	169	162
Gasoline Service Station	8 Vehicle Fueling Positions	1348	50	48	56	56
Total Driveway Volume		4570	119	92	225	218
Total Peak Hour Pass-By Trips			29	28	85	82
Total Peak Hour Vol. Added to Adjacent Streets			90	64	140	136

Note: A zero indicates no data available.

TRIP GENERATION BY MICROTRANS

PETERS & ASSOCIATES
ENGINEERS, INC.

Vehicle Turning Movement Count Data

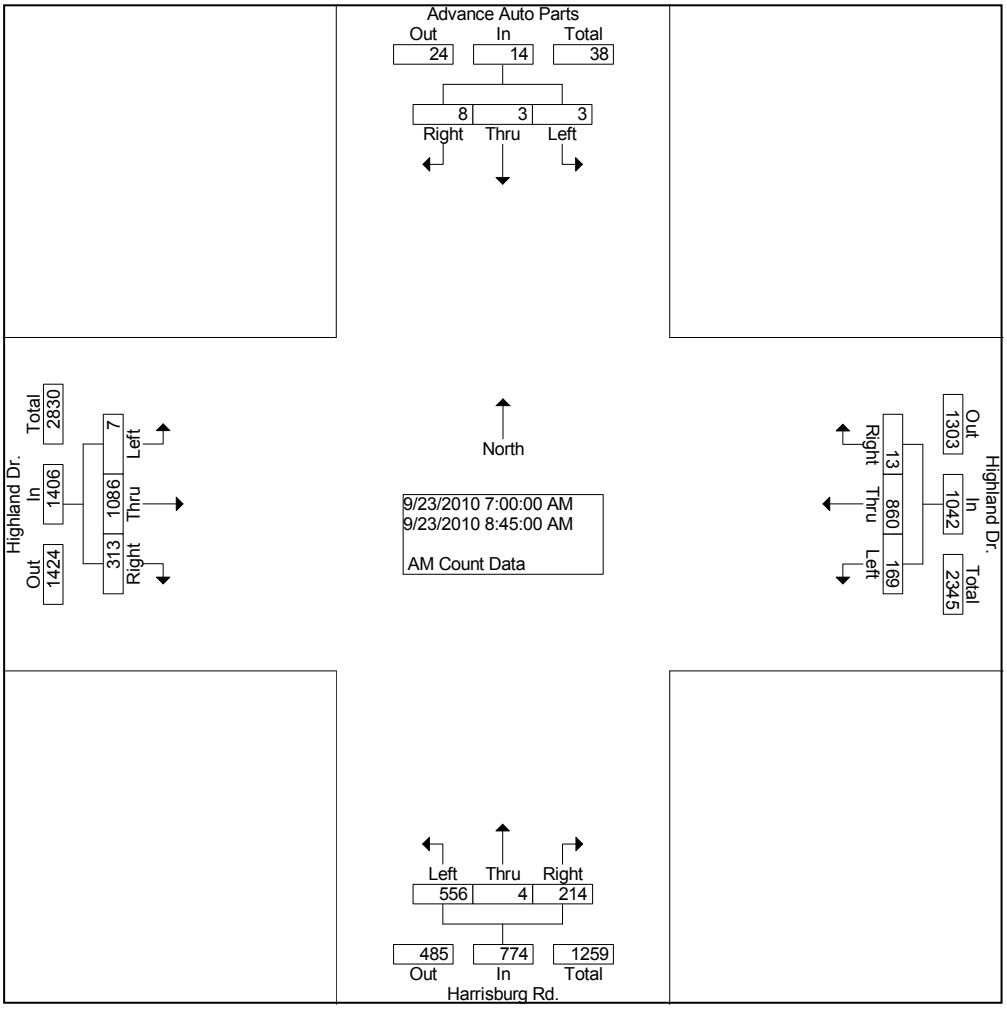
Peters & Associates Engineers, Inc.
Peak Hours Turning Movement Count Data

AM Hour Turning Movement Count Data
Highland Drive and Harrisburg Road
Jonesboro, AR
P-1484

File Name : AM-H-H
Site Code : 00000000
Start Date : 09/23/2010
Page No : 1

Groups Printed- AM Count Data

	Advance Auto Parts From North				Highland Dr. From East				Harrisburg Rd. From South				Highland Dr. From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
07:00 AM	0	0	1	1	0	58	15	73	11	0	41	52	32	65	1	98	224
07:15 AM	1	0	0	1	1	98	19	118	28	0	76	104	29	109	2	140	363
07:30 AM	2	0	0	2	9	142	27	178	32	1	87	120	42	196	2	240	540
07:45 AM	0	0	1	1	0	134	34	168	42	1	111	154	45	198	0	243	566
Total	3	0	2	5	10	432	95	537	113	2	315	430	148	568	5	721	1693
08:00 AM	1	0	0	1	1	119	28	148	29	0	69	98	54	148	0	202	449
08:15 AM	0	1	0	1	0	112	14	126	26	0	52	78	36	130	1	167	372
08:30 AM	2	2	0	4	1	86	13	100	24	1	51	76	28	123	0	151	331
08:45 AM	2	0	1	3	1	111	19	131	22	1	69	92	47	117	1	165	391
Total	5	3	1	9	3	428	74	505	101	2	241	344	165	518	2	685	1543
Grand Total	8	3	3	14	13	860	169	1042	214	4	556	774	313	1086	7	1406	3236
Apprch %	57.1	21.4	21.4		1.2	82.5	16.2		27.6	0.5	71.8		22.3	77.2	0.5		
Total %	0.2	0.1	0.1	0.4	0.4	26.6	5.2	32.2	6.6	0.1	17.2	23.9	9.7	33.6	0.2	43.4	

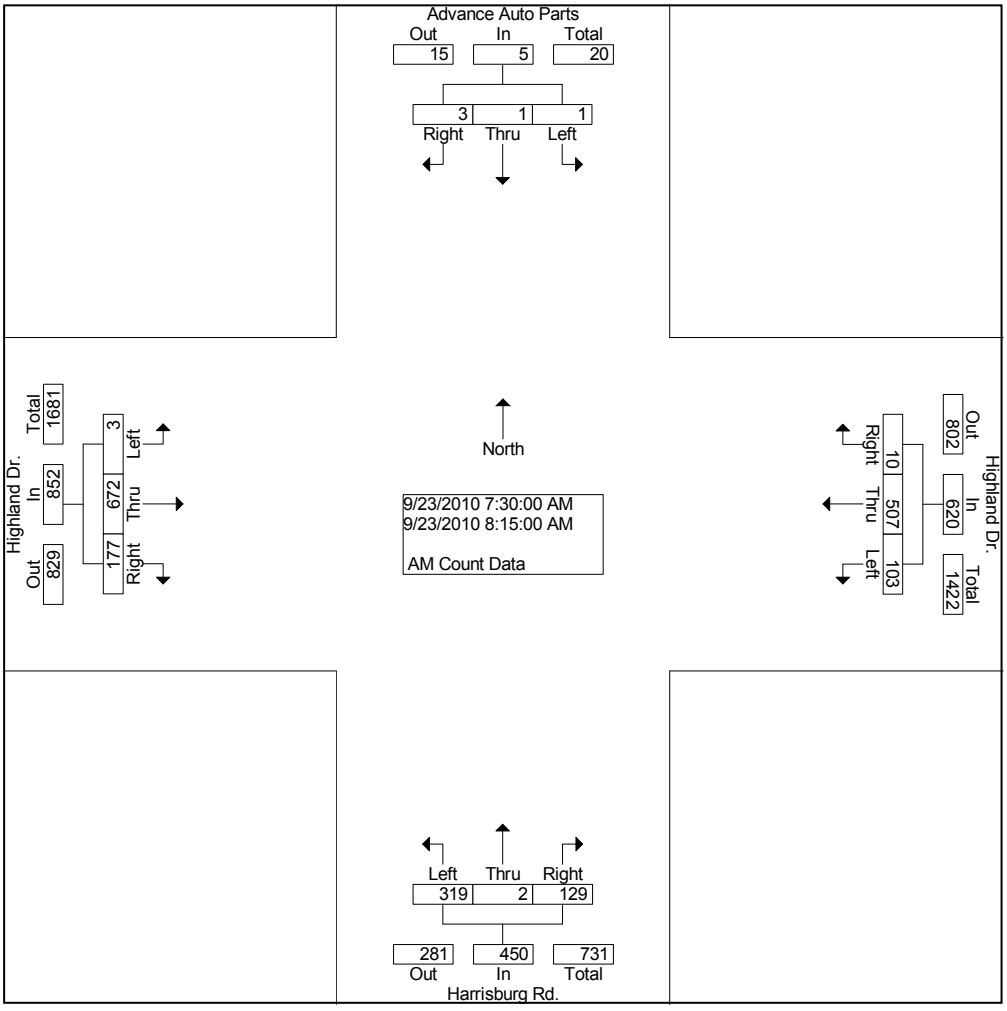


Peters & Associates Engineers, Inc.
Peak Hours Turning Movement Count Data

AM Hour Turning Movement Count Data
Highland Drive and Harrisburg Road
Jonesboro, AR
P-1484

File Name : AM-H-H
Site Code : 00000000
Start Date : 09/23/2010
Page No : 2

	Advance Auto Parts From North				Highland Dr. From East				Harrisburg Rd. From South				Highland Dr. From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Intersection	07:30 AM																
Volume	3	1	1	5	10	507	103	620	129	2	319	450	177	672	3	852	1927
Percent	60.0	20.0	20.0		1.6	81.8	16.6		28.7	0.4	70.9		20.8	78.9	0.4		
07:45 Volume	0	0	1	1	0	134	34	168	42	1	111	154	45	198	0	243	566
Peak Factor																	0.851
High Int.	07:30 AM				07:30 AM				07:45 AM				07:45 AM				
Volume	2	0	0	2	9	142	27	178	42	1	111	154	45	198	0	243	
Peak Factor				0.625				0.871				0.731				0.877	



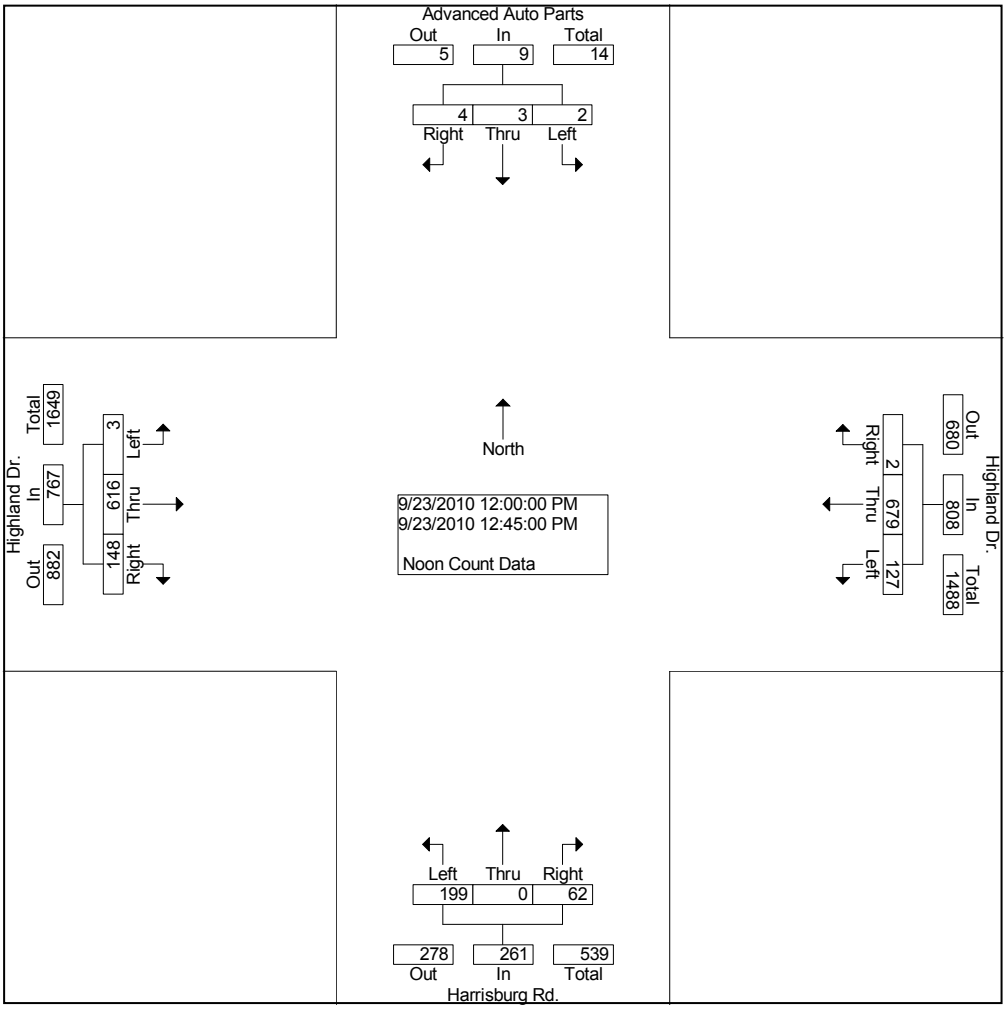
Peters & Associates Engineers, Inc.
Peak Hours Turning Movement Count Data

Noon Hour Turning Movement Count Data
Highland Drive and Harrisburg Road
Jonesboro, AR
P-1484

File Name : NOON-H-H
Site Code : 00000000
Start Date : 09/23/2010
Page No : 1

Groups Printed- Noon Count Data

	Advanced Auto Parts From North				Highland Dr. From East				Harrisburg Rd. From South				Highland Dr. From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
12:00 PM	1	1	0	2	2	197	36	235	18	0	45	63	41	162	0	203	503
12:15 PM	0	0	0	0	0	151	22	173	12	0	38	50	36	149	0	185	408
12:30 PM	2	0	1	3	0	162	31	193	16	0	60	76	24	128	2	154	426
12:45 PM	1	2	1	4	0	169	38	207	16	0	56	72	47	177	1	225	508
Total	4	3	2	9	2	679	127	808	62	0	199	261	148	616	3	767	1845
Grand Total	4	3	2	9	2	679	127	808	62	0	199	261	148	616	3	767	1845
Apprch %	44.4	33.3	22.2		0.2	84.0	15.7		23.8	0.0	76.2		19.3	80.3	0.4		
Total %	0.2	0.2	0.1	0.5	0.1	36.8	6.9	43.8	3.4	0.0	10.8	14.1	8.0	33.4	0.2	41.6	

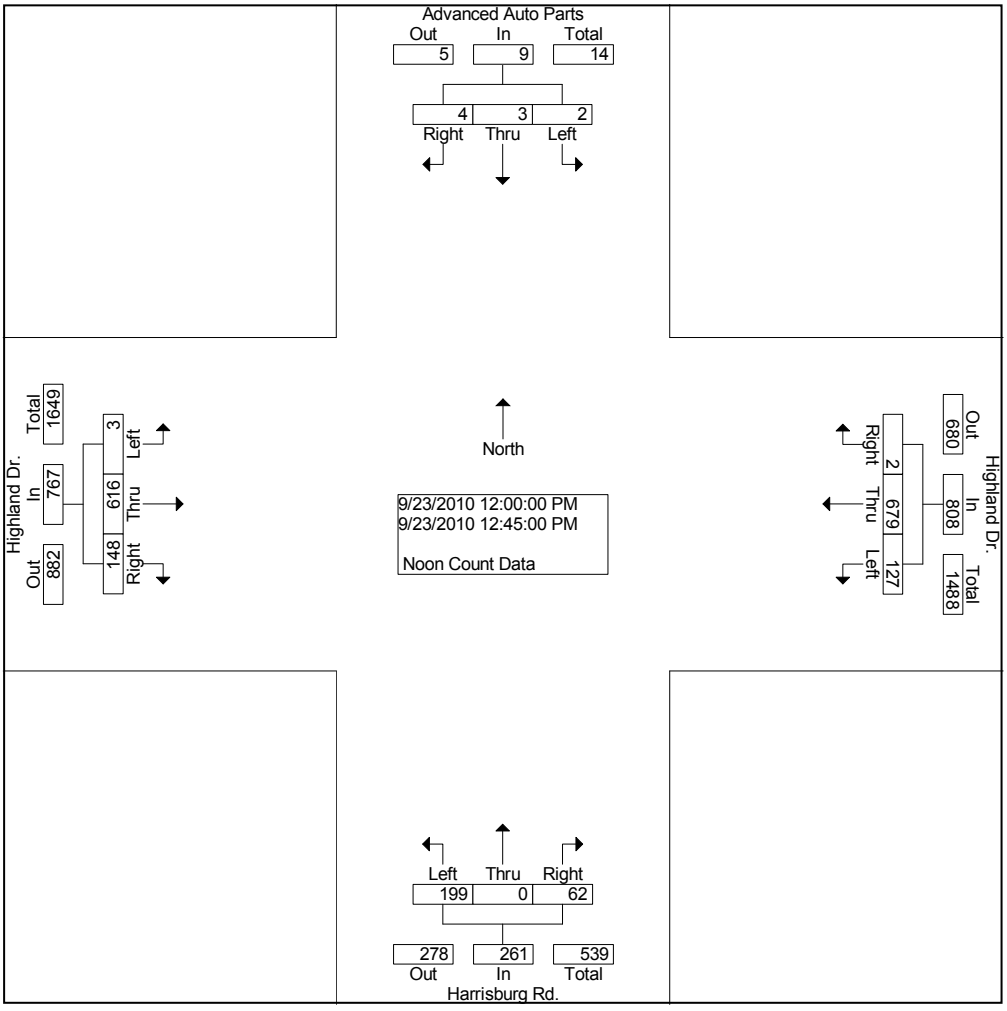


Peters & Associates Engineers, Inc.
Peak Hours Turning Movement Count Data

Noon Hour Turning Movement Count Data
Highland Drive and Harrisburg Road
Jonesboro, AR
P-1484

File Name : NOON-H-H
Site Code : 00000000
Start Date : 09/23/2010
Page No : 2

	Advanced Auto Parts From North				Highland Dr. From East				Harrisburg Rd. From South				Highland Dr. From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Intersection 12:00 PM																	
Volume	4	3	2	9	2	679	127	808	62	0	199	261	148	616	3	767	1845
Percent	44.4	33.3	22.2		0.2	84.0	15.7		23.8	0.0	76.2		19.3	80.3	0.4		
12:45 Volume	1	2	1	4	0	169	38	207	16	0	56	72	47	177	1	225	508
Peak Factor																	0.908
High Int.	12:45 PM				12:00 PM				12:30 PM				12:45 PM				
Volume	1	2	1	4	2	197	36	235	16	0	60	76	47	177	1	225	
Peak Factor				0.563				0.860				0.859				0.852	



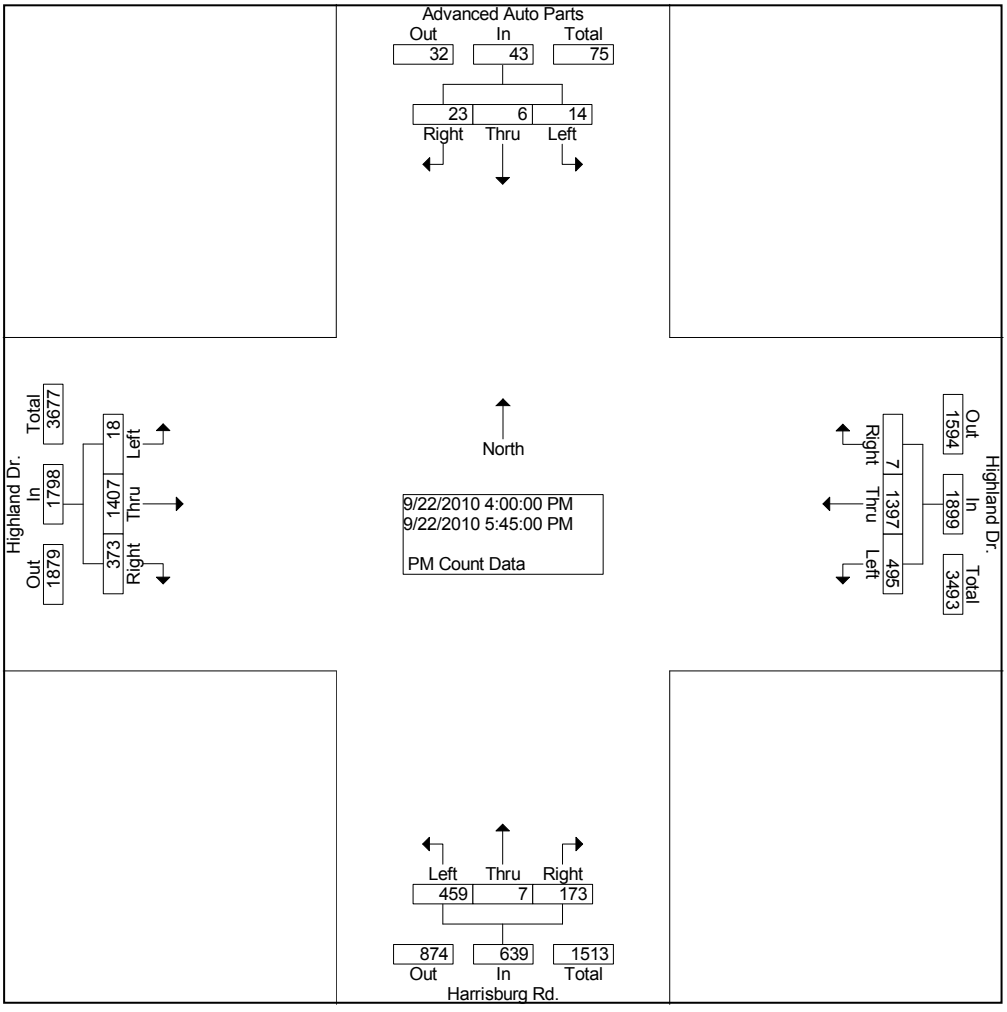
Peters & Associates Engineers, Inc.
Peak Hours Turning Movement Count Data

PM Hour Turning Movement Count Data
Highland Drive and Harrisburg Road
Jonesboro, AR
P-1484

File Name : PM-H-H
Site Code : 00000000
Start Date : 09/22/2010
Page No : 1

Groups Printed- PM Count Data

	Advanced Auto Parts From North				Highland Dr. From East				Harrisburg Rd. From South				Highland Dr. From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
04:00 PM	4	0	3	7	2	165	48	215	30	0	44	74	48	170	1	219	515
04:15 PM	3	2	2	7	2	157	41	200	8	1	48	57	41	171	1	213	477
04:30 PM	2	0	2	4	2	142	62	206	22	2	59	83	57	171	3	231	524
04:45 PM	3	0	2	5	0	197	69	266	14	1	46	61	41	183	3	227	559
Total	12	2	9	23	6	661	220	887	74	4	197	275	187	695	8	890	2075
05:00 PM	3	0	3	6	0	188	74	262	25	2	77	104	53	175	2	230	602
05:15 PM	2	1	1	4	0	218	87	305	26	0	85	111	43	190	0	233	653
05:30 PM	4	3	0	7	1	186	59	246	18	1	59	78	49	180	2	231	562
05:45 PM	2	0	1	3	0	144	55	199	30	0	41	71	41	167	6	214	487
Total	11	4	5	20	1	736	275	1012	99	3	262	364	186	712	10	908	2304
Grand Total	23	6	14	43	7	1397	495	1899	173	7	459	639	373	1407	18	1798	4379
Apprch %	53.5	14.0	32.6		0.4	73.6	26.1		27.1	1.1	71.8		20.7	78.3	1.0		
Total %	0.5	0.1	0.3	1.0	0.2	31.9	11.3	43.4	4.0	0.2	10.5	14.6	8.5	32.1	0.4	41.1	

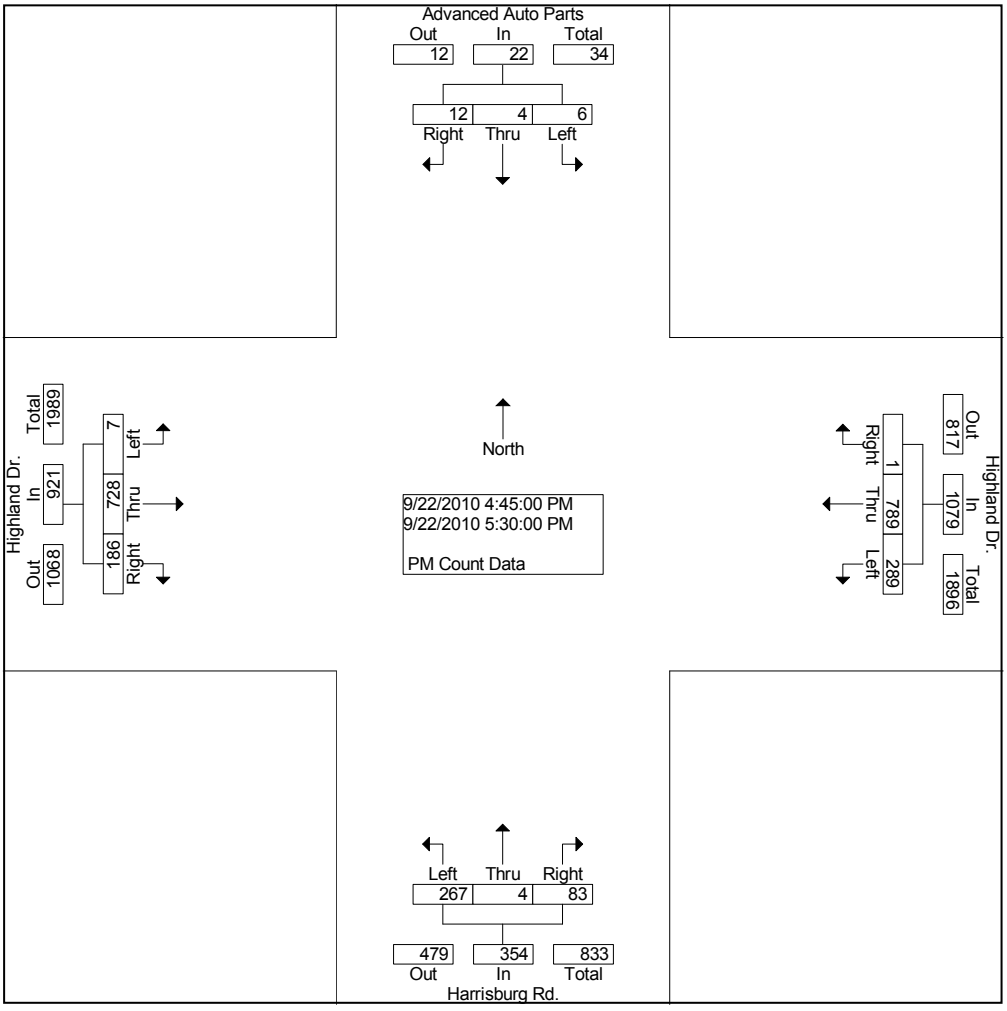


Peters & Associates Engineers, Inc.
Peak Hours Turning Movement Count Data

PM Hour Turning Movement Count Data
Highland Drive and Harrisburg Road
Jonesboro, AR
P-1484

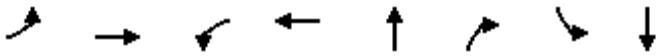
File Name : PM-H-H
Site Code : 00000000
Start Date : 09/22/2010
Page No : 2

	Advanced Auto Parts From North				Highland Dr. From East				Harrisburg Rd. From South				Highland Dr. From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:45 PM																
Volume	12	4	6	22	1	789	289	1079	83	4	267	354	186	728	7	921	2376
Percent	54.5	18.2	27.3		0.1	73.1	26.8		23.4	1.1	75.4		20.2	79.0	0.8		
05:15 Volume	2	1	1	4	0	218	87	305	26	0	85	111	43	190	0	233	653
Peak Factor																	0.910
High Int.	05:30 PM				05:15 PM				05:15 PM				05:15 PM				
Volume	4	3	0	7	0	218	87	305	26	0	85	111	43	190	0	233	
Peak Factor				0.786				0.884				0.797				0.988	



PETERS & ASSOCIATES
ENGINEERS, INC.

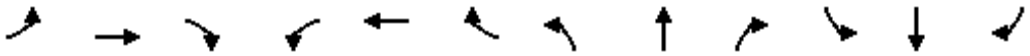
Capacity & Level of Service Calculations



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	3	922	112	562	349	140	1	4
v/c Ratio	0.01	0.93	0.56	0.46	0.75	0.29	0.00	0.01
Control Delay	14.3	42.3	28.3	20.8	39.0	10.3	23.0	17.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	42.3	28.3	20.8	39.0	10.3	23.0	17.8
Queue Length 50th (ft)	1	209	33	97	154	14	0	0
Queue Length 95th (ft)	6	#328	#75	165	#289	57	4	8
Internal Link Dist (ft)		1230		360	597			694
Turn Bay Length (ft)						75		
Base Capacity (vph)	246	993	201	1217	463	488	378	355
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.93	0.56	0.46	0.75	0.29	0.00	0.01

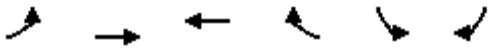
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00			1.00	0.85	1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3429		1770	3529			1775	1583	1770	1653	
Flt Permitted	0.38	1.00		0.16	1.00			0.95	1.00	0.95	1.00	
Satd. Flow (perm)	707	3429		289	3529			1775	1583	1770	1653	
Volume (vph)	3	672	177	103	507	10	319	2	129	1	1	3
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	730	192	112	551	11	347	2	140	1	1	3
RTOR Reduction (vph)	0	30	0	0	2	0	0	0	79	0	2	0
Lane Group Flow (vph)	3	892	0	112	560	0	0	349	61	1	2	0
Turn Type	pm+pt			pm+pt			Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases	4			8					2			
Actuated Green, G (s)	24.2	23.4		29.0	25.8			16.4	16.4	16.0	16.0	
Effective Green, g (s)	24.2	23.4		29.0	25.8			16.4	16.4	16.0	16.0	
Actuated g/C Ratio	0.32	0.31		0.39	0.34			0.22	0.22	0.21	0.21	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	239	1070		175	1214			388	346	378	353	
v/s Ratio Prot	0.00	c0.26		c0.03	0.16			c0.20		0.00	c0.00	
v/s Ratio Perm	0.00			0.22					0.04			
v/c Ratio	0.01	0.83		0.64	0.46			0.90	0.18	0.00	0.00	
Uniform Delay, d1	17.3	24.0		17.4	19.2			28.5	23.8	23.2	23.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	5.7		7.7	0.3			26.3	1.1	0.0	0.0	
Delay (s)	17.3	29.7		25.1	19.5			54.8	24.9	23.2	23.3	
Level of Service	B	C		C	B			D	C	C	C	
Approach Delay (s)		29.6			20.4			46.2			23.2	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM Average Control Delay	30.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	852	828	0	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	926	900	0	0	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			1310			
pX, platoon unblocked	0.99				0.99	0.99
vC, conflicting volume	900				1365	450
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	891				1360	437
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	750				138	562

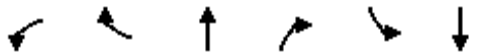
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	1	463	463	600	300	1
Volume Left	1	0	0	0	0	0
Volume Right	0	0	0	0	0	1
cSH	750	1700	1700	1700	1700	562
Volume to Capacity	0.00	0.27	0.27	0.35	0.18	0.00
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	9.8	0.0	0.0	0.0	0.0	11.4
Lane LOS	A					B
Approach Delay (s)	0.0			0.0		11.4
Approach LOS						B

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	33.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	450	1	1	280
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	489	1	1	304
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	796	490			490	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	796	490			490	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	356	579			1073	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	490	305
Volume Left	1	0	1
Volume Right	1	1	0
cSH	440	1700	1073
Volume to Capacity	0.00	0.29	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	13.2	0.0	0.0
Lane LOS	B		A
Approach Delay (s)	13.2	0.0	0.0
Approach LOS	B		

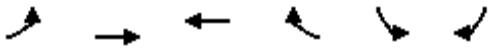
Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		33.7%	ICU Level of Service
Analysis Period (min)		15	



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	450	2	1	280
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	489	2	1	304
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						677
pX, platoon unblocked						
vC, conflicting volume	797	490			491	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	797	490			491	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	355	578			1072	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	491	305
Volume Left	1	0	1
Volume Right	1	2	0
cSH	440	1700	1072
Volume to Capacity	0.00	0.29	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	13.2	0.0	0.0
Lane LOS	B		A
Approach Delay (s)	13.2	0.0	0.0
Approach LOS	B		

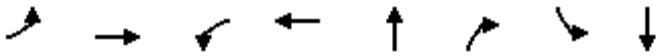
Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		33.8%	ICU Level of Service
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	801	615	3	2	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	871	668	3	2	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		440				
pX, platoon unblocked					0.79	
vC, conflicting volume	672				1108	336
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	672				874	336
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	99
cM capacity (veh/h)	915				229	660

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	1	435	435	446	226	8
Volume Left	1	0	0	0	0	2
Volume Right	0	0	0	0	3	5
cSH	915	1700	1700	1700	1700	429
Volume to Capacity	0.00	0.26	0.26	0.26	0.13	0.02
Queue Length 95th (ft)	0	0	0	0	0	1
Control Delay (s)	8.9	0.0	0.0	0.0	0.0	13.5
Lane LOS	A					B
Approach Delay (s)	0.0			0.0		13.5
Approach LOS						B

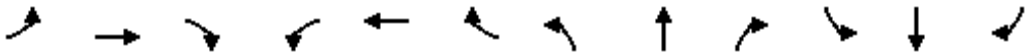
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	32.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	3	831	138	740	216	67	2	5
v/c Ratio	0.01	0.92	0.61	0.60	0.53	0.16	0.00	0.01
Control Delay	14.0	41.3	30.6	22.6	29.1	7.5	21.0	18.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	41.3	30.6	22.6	29.1	7.5	21.0	18.2
Queue Length 50th (ft)	1	174	40	130	82	0	1	1
Queue Length 95th (ft)	6	#282	#97	#241	146	29	6	9
Internal Link Dist (ft)		1230		360	597			694
Turn Bay Length (ft)						75		
Base Capacity (vph)	207	914	225	1224	409	418	405	402
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.91	0.61	0.60	0.53	0.16	0.00	0.01

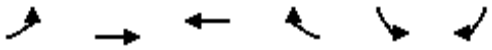
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00			1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3436		1770	3538			1770	1583	1770	1751	
Flt Permitted	0.27	1.00		0.17	1.00			0.95	1.00	0.95	1.00	
Satd. Flow (perm)	511	3436		308	3538			1770	1583	1770	1751	
Volume (vph)	3	616	148	127	679	2	199	0	62	2	3	2
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	670	161	138	738	2	216	0	67	2	3	2
RTOR Reduction (vph)	0	28	0	0	0	0	0	0	55	0	2	0
Lane Group Flow (vph)	3	803	0	138	740	0	0	216	12	2	3	0
Turn Type	pm+pt			pm+pt			Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases	4			8					2			
Actuated Green, G (s)	21.8	21.0		28.2	24.2			13.0	13.0	16.0	16.0	
Effective Green, g (s)	21.8	21.0		28.2	24.2			13.0	13.0	16.0	16.0	
Actuated g/C Ratio	0.31	0.30		0.40	0.35			0.19	0.19	0.23	0.23	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	174	1031		208	1223			329	294	405	400	
v/s Ratio Prot	0.00	c0.23		c0.04	0.21			c0.12		0.00	c0.00	
v/s Ratio Perm	0.01			0.23					0.01			
v/c Ratio	0.02	0.78		0.66	0.61			0.66	0.04	0.00	0.01	
Uniform Delay, d1	16.8	22.4		15.5	18.9			26.4	23.4	20.9	20.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	3.8		7.7	0.9			9.8	0.3	0.0	0.0	
Delay (s)	16.9	26.2		23.2	19.8			36.3	23.7	20.9	20.9	
Level of Service	B	C		C	B			D	C	C	C	
Approach Delay (s)		26.1			20.3			33.3			20.9	
Approach LOS		C			C			C			C	

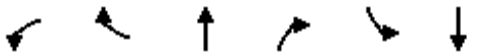
Intersection Summary			
HCM Average Control Delay	24.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	766	882	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	833	959	0	1	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			1310			
pX, platoon unblocked	0.91				0.91	0.91
vC, conflicting volume	959				1377	479
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	854				1314	326
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	710				136	608

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	1	416	416	639	320	1
Volume Left	1	0	0	0	0	1
Volume Right	0	0	0	0	0	0
cSH	710	1700	1700	1700	1700	136
Volume to Capacity	0.00	0.24	0.24	0.38	0.19	0.01
Queue Length 95th (ft)	0	0	0	0	0	1
Control Delay (s)	10.1	0.0	0.0	0.0	0.0	31.8
Lane LOS	B					D
Approach Delay (s)	0.0			0.0		31.8
Approach LOS						D

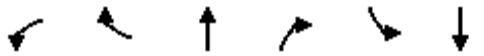
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	262	1	1	281
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	285	1	1	305
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	593	285			286	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	593	285			286	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	468	754			1276	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	286	307
Volume Left	1	0	1
Volume Right	1	1	0
cSH	577	1700	1276
Volume to Capacity	0.00	0.17	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	11.3	0.0	0.0
Lane LOS	B		A
Approach Delay (s)	11.3	0.0	0.0
Approach LOS	B		

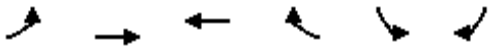
Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		25.6%	ICU Level of Service A
Analysis Period (min)		15	



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	261	2	1	280
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	284	2	1	304
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						677
pX, platoon unblocked						
vC, conflicting volume	591	285			286	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	591	285			286	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	469	754			1276	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	286	305
Volume Left	1	0	1
Volume Right	1	2	0
cSH	578	1700	1276
Volume to Capacity	0.00	0.17	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	11.2	0.0	0.0
Lane LOS	B		A
Approach Delay (s)	11.2	0.0	0.0
Approach LOS	B		

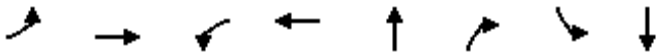
Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		25.5%	ICU Level of Service
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	690	807	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	750	877	1	3	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		440				
pX, platoon unblocked					0.82	
vC, conflicting volume	878				1253	439
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	878				1092	439
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				98	100
cM capacity (veh/h)	765				172	566

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	0	375	375	585	293	4
Volume Left	0	0	0	0	0	3
Volume Right	0	0	0	0	1	1
cSH	1700	1700	1700	1700	1700	208
Volume to Capacity	0.00	0.22	0.22	0.34	0.17	0.02
Queue Length 95th (ft)	0	0	0	0	0	2
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	22.7
Lane LOS						C
Approach Delay (s)	0.0			0.0		22.7
Approach LOS						C

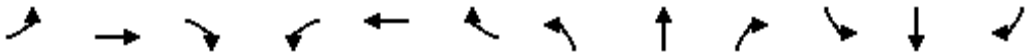
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	32.3%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	8	993	314	859	294	90	7	17
v/c Ratio	0.03	0.95	0.89	0.51	0.86	0.25	0.02	0.06
Control Delay	12.9	48.2	49.4	17.9	60.4	15.5	30.8	18.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.9	48.2	49.4	17.9	60.4	15.5	30.8	18.4
Queue Length 50th (ft)	2	279	123	162	164	14	3	2
Queue Length 95th (ft)	9	#410	#272	255	#308	55	15	20
Internal Link Dist (ft)		1230		360	597			694
Turn Bay Length (ft)						75		
Base Capacity (vph)	236	1054	357	1692	343	354	315	304
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.94	0.88	0.51	0.86	0.25	0.02	0.06

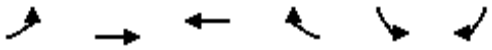
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00			1.00	0.85	1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3431		1770	3539			1775	1583	1770	1649	
Flt Permitted	0.33	1.00		0.12	1.00			0.95	1.00	0.95	1.00	
Satd. Flow (perm)	614	3431		219	3539			1775	1583	1770	1649	
Volume (vph)	7	728	186	289	789	1	267	4	83	6	4	12
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	791	202	314	858	1	290	4	90	7	4	13
RTOR Reduction (vph)	0	24	0	0	0	0	0	0	51	0	11	0
Lane Group Flow (vph)	8	969	0	314	859	0	0	294	39	7	6	0
Turn Type	pm+pt			pm+pt			Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases	4			8					2			
Actuated Green, G (s)	30.9	30.1		47.8	43.0			14.2	14.2	16.0	16.0	
Effective Green, g (s)	30.9	30.1		47.8	43.0			14.2	14.2	16.0	16.0	
Actuated g/C Ratio	0.34	0.33		0.53	0.48			0.16	0.16	0.18	0.18	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	221	1147		352	1691			280	250	315	293	
v/s Ratio Prot	0.00	0.28		c0.14	0.24			c0.17		c0.00	0.00	
v/s Ratio Perm	0.01			c0.34					0.02			
v/c Ratio	0.04	0.84		0.89	0.51			1.05	0.16	0.02	0.02	
Uniform Delay, d1	19.5	27.8		23.3	16.2			37.9	32.7	30.5	30.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	5.9		23.5	0.2			67.5	1.3	0.1	0.1	
Delay (s)	19.6	33.6		46.7	16.4			105.4	34.1	30.7	30.7	
Level of Service	B	C		D	B			F	C	C	C	
Approach Delay (s)		33.5			24.6			88.7			30.7	
Approach LOS		C			C			F			C	

Intersection Summary			
HCM Average Control Delay	37.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	920	1067	1	0	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1000	1160	1	0	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			1310			
pX, platoon unblocked	0.87				0.87	0.87
vC, conflicting volume	1161				1660	580
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1040				1611	375
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	581				83	544

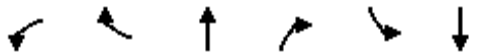
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	0	500	500	773	388	3
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	1	3
cSH	1700	1700	1700	1700	1700	544
Volume to Capacity	0.00	0.29	0.29	0.45	0.23	0.01
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.7
Lane LOS						B
Approach Delay (s)	0.0			0.0		11.7
Approach LOS						B

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	39.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	357	1	1	480
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	388	1	1	522
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	912	389			389	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	912	389			389	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	304	660			1169	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	389	523
Volume Left	1	0	1
Volume Right	1	1	0
cSH	416	1700	1169
Volume to Capacity	0.01	0.23	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	13.7	0.0	0.0
Lane LOS	B		A
Approach Delay (s)	13.7	0.0	0.0
Approach LOS	B		

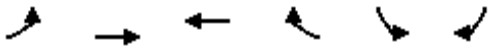
Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		36.1%	ICU Level of Service A
Analysis Period (min)		15	



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	354	2	1	479
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	385	2	1	521
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						677
pX, platoon unblocked	0.91					
vC, conflicting volume	909	386			387	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	900	386			387	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	281	662			1172	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	387	522
Volume Left	1	0	1
Volume Right	1	2	0
cSH	394	1700	1172
Volume to Capacity	0.01	0.23	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	14.2	0.0	0.0
Lane LOS	B		A
Approach Delay (s)	14.2	0.0	0.0
Approach LOS	B		

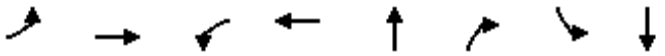
Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		36.0%	ICU Level of Service
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	2	815	1078	3	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	886	1172	3	1	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		440				
pX, platoon unblocked					0.76	
vC, conflicting volume	1175				1621	588
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1175				1504	588
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	590				85	453

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	2	443	443	781	394	2
Volume Left	2	0	0	0	0	1
Volume Right	0	0	0	0	3	1
cSH	590	1700	1700	1700	1700	144
Volume to Capacity	0.00	0.26	0.26	0.46	0.23	0.02
Queue Length 95th (ft)	0	0	0	0	0	1
Control Delay (s)	11.1	0.0	0.0	0.0	0.0	30.4
Lane LOS	B					D
Approach Delay (s)	0.0			0.0		30.4
Approach LOS						D

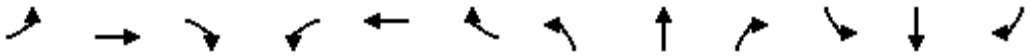
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	39.9%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	3	945	127	576	363	145	1	5
v/c Ratio	0.01	0.89	0.62	0.41	0.76	0.30	0.00	0.02
Control Delay	16.7	40.1	31.4	20.8	41.9	13.5	31.0	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.7	40.1	31.4	20.8	41.9	13.5	31.0	23.8
Queue Length 50th (ft)	1	255	44	115	190	25	1	1
Queue Length 95th (ft)	6	#364	#91	185	#321	72	5	11
Internal Link Dist (ft)		1230		360	597			694
Turn Bay Length (ft)						75		
Base Capacity (vph)	253	1093	205	1402	479	491	319	308
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.86	0.62	0.41	0.76	0.30	0.00	0.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00			1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3429		1770	3529			1775	1583	1770	1695	
Flt Permitted	0.40	1.00		0.12	1.00			0.95	1.00	0.95	1.00	
Satd. Flow (perm)	749	3429		219	3529			1775	1583	1770	1695	
Volume (vph)	3	689	180	117	520	10	331	3	133	1	2	3
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	749	196	127	565	11	360	3	145	1	2	3
RTOR Reduction (vph)	0	26	0	0	1	0	0	0	64	0	2	0
Lane Group Flow (vph)	3	919	0	127	575	0	0	363	81	1	3	0
Turn Type	pm+pt			pm+pt			Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases	4			8					2			
Actuated Green, G (s)	30.9	30.1		40.1	35.3			24.0	24.0	16.0	16.0	
Effective Green, g (s)	30.9	30.1		40.1	35.3			24.0	24.0	16.0	16.0	
Actuated g/C Ratio	0.34	0.33		0.44	0.38			0.26	0.26	0.17	0.17	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	260	1121		196	1353			463	413	307	294	
v/s Ratio Prot	0.00	c0.27		c0.04	0.16			c0.20		0.00	c0.00	
v/s Ratio Perm	0.00			0.24					0.05			
v/c Ratio	0.01	0.82		0.65	0.42			0.78	0.20	0.00	0.01	
Uniform Delay, d1	20.4	28.5		19.5	20.9			31.6	26.5	31.5	31.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	4.9		7.2	0.2			12.5	1.1	0.0	0.1	
Delay (s)	20.4	33.4		26.7	21.1			44.1	27.6	31.5	31.5	
Level of Service	C	C		C	C			D	C	C	C	
Approach Delay (s)		33.4			22.1			39.4			31.5	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM Average Control Delay	31.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	92.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	1	853	23	9	845	0	4	0	19	0	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	927	25	10	918	0	4	0	21	0	0	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					1310							
pX, platoon unblocked	0.96						0.96	0.96		0.96	0.96	0.96
vC, conflicting volume	918			952			1422	1880	476	1424	1892	459
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	875			952			1399	1875	476	1401	1888	398
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			95	100	96	100	100	100
cM capacity (veh/h)	737			717			95	67	535	91	66	579

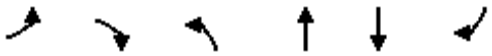
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	1	618	334	10	612	306	25	1
Volume Left	1	0	0	10	0	0	4	0
Volume Right	0	0	25	0	0	0	21	1
cSH	737	1700	1700	717	1700	1700	297	579
Volume to Capacity	0.00	0.36	0.20	0.01	0.36	0.18	0.08	0.00
Queue Length 95th (ft)	0	0	0	1	0	0	7	0
Control Delay (s)	9.9	0.0	0.0	10.1	0.0	0.0	18.3	11.2
Lane LOS	A			B			C	B
Approach Delay (s)	0.0			0.1			18.3	11.2
Approach LOS							C	B

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	36.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	870	13	10	840	7	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	946	14	11	913	8	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			960		1431	480
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			960		1431	480
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		94	99
cM capacity (veh/h)			713		123	532

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	630	329	11	457	457	15
Volume Left	0	0	11	0	0	8
Volume Right	0	14	0	0	0	8
cSH	1700	1700	713	1700	1700	200
Volume to Capacity	0.37	0.19	0.02	0.27	0.27	0.08
Queue Length 95th (ft)	0	0	1	0	0	6
Control Delay (s)	0.0	0.0	10.1	0.0	0.0	24.4
Lane LOS			B			C
Approach Delay (s)	0.0		0.1			24.4
Approach LOS						C

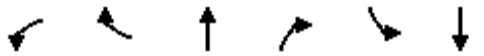
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	21	25	35	446	180	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	23	27	38	485	196	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	767	207	217			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	767	207	217			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	97	97			
cM capacity (veh/h)	360	834	1352			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	50	523	217
Volume Left	23	38	0
Volume Right	27	0	22
cSH	521	1352	1700
Volume to Capacity	0.10	0.03	0.13
Queue Length 95th (ft)	8	2	0
Control Delay (s)	12.6	0.8	0.0
Lane LOS	B	A	
Approach Delay (s)	12.6	0.8	0.0
Approach LOS	B		

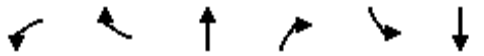
Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	480	1	1	304
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	522	1	1	330
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	855	522			523	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	855	522			523	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	328	554			1044	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	523	332
Volume Left	1	0	1
Volume Right	1	1	0
cSH	412	1700	1044
Volume to Capacity	0.01	0.31	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	13.8	0.0	0.0
Lane LOS	B		A
Approach Delay (s)	13.8	0.0	0.0
Approach LOS	B		

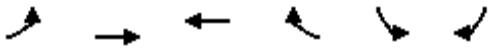
Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		35.3%	ICU Level of Service
Analysis Period (min)		15	



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	465	2	1	298
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	505	2	1	324
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						677
pX, platoon unblocked						
vC, conflicting volume	833	507			508	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	833	507			508	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	338	566			1057	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	508	325
Volume Left	1	0	1
Volume Right	1	2	0
cSH	424	1700	1057
Volume to Capacity	0.01	0.30	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	13.5	0.0	0.0
Lane LOS	B		A
Approach Delay (s)	13.5	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		34.6%	ICU Level of Service
Analysis Period (min)		15	



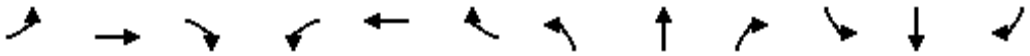
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	2	821	641	3	2	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	892	697	3	2	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		440				
pX, platoon unblocked					0.78	
vC, conflicting volume	700				1149	350
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	700				910	350
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	99
cM capacity (veh/h)	893				213	646

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	2	446	446	464	236	9
Volume Left	2	0	0	0	0	2
Volume Right	0	0	0	0	3	7
cSH	893	1700	1700	1700	1700	429
Volume to Capacity	0.00	0.26	0.26	0.27	0.14	0.02
Queue Length 95th (ft)	0	0	0	0	0	2
Control Delay (s)	9.0	0.0	0.0	0.0	0.0	13.6
Lane LOS	A					B
Approach Delay (s)	0.0			0.0		13.6
Approach LOS						B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	32.7%	ICU Level of Service	A
Analysis Period (min)	15		

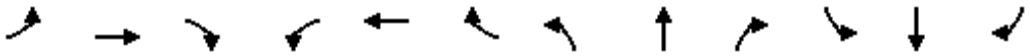
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	3	945	127	576	180	183	145	1	5
v/c Ratio	0.01	0.84	0.52	0.37	0.51	0.52	0.52	0.00	0.02
Control Delay	13.7	33.8	20.9	16.8	37.1	37.2	14.9	31.0	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.7	33.8	20.9	16.8	37.1	37.2	14.9	31.0	23.8
Queue Length 50th (ft)	1	240	38	100	95	97	2	0	1
Queue Length 95th (ft)	5	317	72	164	167	170	57	5	11
Internal Link Dist (ft)		1230		360		597			694
Turn Bay Length (ft)					200		75		
Base Capacity (vph)	304	1218	259	1599	354	355	291	332	320
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.78	0.49	0.36	0.51	0.52	0.50	0.00	0.02

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3429		1770	3529		1681	1687	1583	1770	1695	
Flt Permitted	0.44	1.00		0.12	1.00		0.95	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	811	3429		215	3529		1681	1687	1583	1770	1695	
Volume (vph)	3	689	180	117	520	10	331	3	133	1	2	3
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	749	196	127	565	11	360	3	145	1	2	3
RTOR Reduction (vph)	0	26	0	0	2	0	0	0	128	0	2	0
Lane Group Flow (vph)	3	919	0	127	574	0	180	183	17	1	3	0
Turn Type	pm+pt			pm+pt			Split		Over	Split		
Protected Phases	7	4		3	8		2	2	3	6	6	
Permitted Phases	4			8								
Actuated Green, G (s)	31.5	30.7		42.9	38.1		18.1	18.1	8.2	16.1	16.1	
Effective Green, g (s)	31.5	30.7		42.9	38.1		18.1	18.1	8.2	16.1	16.1	
Actuated g/C Ratio	0.35	0.34		0.48	0.43		0.20	0.20	0.09	0.18	0.18	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	295	1181		247	1509		341	343	146	320	306	
v/s Ratio Prot	0.00	c0.27		c0.05	0.16		0.11	c0.11	0.01	0.00	c0.00	
v/s Ratio Perm	0.00			0.20								
v/c Ratio	0.01	0.78		0.51	0.38		0.53	0.53	0.12	0.00	0.01	
Uniform Delay, d1	18.6	26.1		16.4	17.4		31.7	31.7	37.1	29.9	29.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	3.3		1.8	0.2		5.7	5.8	0.4	0.0	0.0	
Delay (s)	18.7	29.4		18.2	17.6		37.4	37.6	37.5	29.9	30.0	
Level of Service	B	C		B	B		D	D	D	C	C	
Approach Delay (s)		29.4			17.7			37.5			30.0	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM Average Control Delay	27.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	89.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	1	853	23	9	845	0	4	0	19	0	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	927	25	10	918	0	4	0	21	0	0	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					1310							
pX, platoon unblocked	0.98						0.98	0.98		0.98	0.98	0.98
vC, conflicting volume	918			952			1422	1880	476	1424	1892	459
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	899			952			1412	1878	476	1414	1891	432
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			95	100	96	100	100	100
cM capacity (veh/h)	738			717			95	68	535	91	67	562

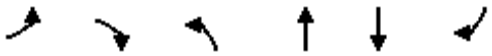
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	1	618	334	10	612	306	25	1
Volume Left	1	0	0	10	0	0	4	0
Volume Right	0	0	25	0	0	0	21	1
cSH	738	1700	1700	717	1700	1700	296	562
Volume to Capacity	0.00	0.36	0.20	0.01	0.36	0.18	0.08	0.00
Queue Length 95th (ft)	0	0	0	1	0	0	7	0
Control Delay (s)	9.9	0.0	0.0	10.1	0.0	0.0	18.3	11.4
Lane LOS	A			B			C	B
Approach Delay (s)	0.0			0.1			18.3	11.4
Approach LOS							C	B

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	36.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	870	13	10	840	7	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	946	14	11	913	8	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			960		1431	480
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			960		1431	480
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		94	99
cM capacity (veh/h)			713		123	532

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	630	329	11	457	457	15
Volume Left	0	0	11	0	0	8
Volume Right	0	14	0	0	0	8
cSH	1700	1700	713	1700	1700	200
Volume to Capacity	0.37	0.19	0.02	0.27	0.27	0.08
Queue Length 95th (ft)	0	0	1	0	0	6
Control Delay (s)	0.0	0.0	10.1	0.0	0.0	24.4
Lane LOS			B			C
Approach Delay (s)	0.0		0.1			24.4
Approach LOS						C

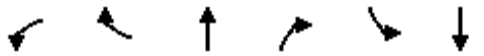
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	21	25	35	446	180	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	23	27	38	485	196	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	767	207	217			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	767	207	217			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	97	97			
cM capacity (veh/h)	360	834	1352			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	50	523	217
Volume Left	23	38	0
Volume Right	27	0	22
cSH	521	1352	1700
Volume to Capacity	0.10	0.03	0.13
Queue Length 95th (ft)	8	2	0
Control Delay (s)	12.6	0.8	0.0
Lane LOS	B	A	
Approach Delay (s)	12.6	0.8	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	480	1	1	304
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	522	1	1	330
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	855	522			523	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	855	522			523	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	328	554			1044	

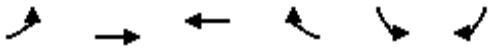
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	523	332
Volume Left	1	0	1
Volume Right	1	1	0
cSH	412	1700	1044
Volume to Capacity	0.01	0.31	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	13.8	0.0	0.0
Lane LOS	B		A
Approach Delay (s)	13.8	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		35.3%	ICU Level of Service A
Analysis Period (min)		15	

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	465	2	1	298
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	505	2	1	324
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						677
pX, platoon unblocked						
vC, conflicting volume	833	507			508	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	833	507			508	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	338	566			1057	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	508	325
Volume Left	1	0	1
Volume Right	1	2	0
cSH	424	1700	1057
Volume to Capacity	0.01	0.30	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	13.5	0.0	0.0
Lane LOS	B		A
Approach Delay (s)	13.5	0.0	0.0
Approach LOS	B		

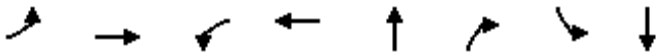
Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		34.6%	ICU Level of Service
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	2	821	641	3	2	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	892	697	3	2	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		440				
pX, platoon unblocked					0.79	
vC, conflicting volume	700				1149	350
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	700				921	350
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	99
cM capacity (veh/h)	893				212	646

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	2	446	446	464	236	9
Volume Left	2	0	0	0	0	2
Volume Right	0	0	0	0	3	7
cSH	893	1700	1700	1700	1700	427
Volume to Capacity	0.00	0.26	0.26	0.27	0.14	0.02
Queue Length 95th (ft)	0	0	0	0	0	2
Control Delay (s)	9.0	0.0	0.0	0.0	0.0	13.6
Lane LOS	A					B
Approach Delay (s)	0.0			0.0		13.6
Approach LOS						B

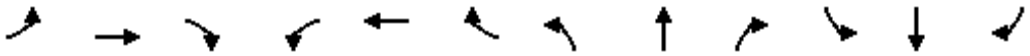
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	32.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	3	859	153	754	235	73	2	8
v/c Ratio	0.01	0.85	0.61	0.53	0.61	0.18	0.01	0.02
Control Delay	14.7	35.0	25.9	19.7	35.9	8.7	26.0	20.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.7	35.0	25.9	19.7	35.9	8.7	26.0	20.7
Queue Length 50th (ft)	1	198	45	136	107	1	1	2
Queue Length 95th (ft)	5	#273	#92	223	181	33	7	13
Internal Link Dist (ft)		1230		360	597			694
Turn Bay Length (ft)						75		
Base Capacity (vph)	204	1058	250	1431	386	399	362	356
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.81	0.61	0.53	0.61	0.18	0.01	0.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00			1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3438		1770	3538			1774	1583	1770	1723	
Flt Permitted	0.31	1.00		0.14	1.00			0.95	1.00	0.95	1.00	
Satd. Flow (perm)	575	3438		252	3538			1774	1583	1770	1723	
Volume (vph)	3	639	151	141	692	2	215	1	67	2	4	4
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	695	164	153	752	2	234	1	73	2	4	4
RTOR Reduction (vph)	0	25	0	0	0	0	0	0	56	0	3	0
Lane Group Flow (vph)	3	834	0	153	754	0	0	235	17	2	5	0
Turn Type	pm+pt			pm+pt			Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases	4			8					2			
Actuated Green, G (s)	26.4	25.6		36.5	31.7			17.0	17.0	16.0	16.0	
Effective Green, g (s)	26.4	25.6		36.5	31.7			17.0	17.0	16.0	16.0	
Actuated g/C Ratio	0.32	0.31		0.45	0.39			0.21	0.21	0.20	0.20	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	198	1080		241	1376			370	330	347	338	
v/s Ratio Prot	0.00	c0.24		c0.05	0.21			c0.13		0.00	c0.00	
v/s Ratio Perm	0.00			0.23					0.01			
v/c Ratio	0.02	0.77		0.63	0.55			0.64	0.05	0.01	0.01	
Uniform Delay, d1	18.8	25.3		16.4	19.3			29.4	25.8	26.4	26.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	3.5		5.4	0.4			8.1	0.3	0.0	0.1	
Delay (s)	18.8	28.8		21.8	19.8			37.5	26.1	26.4	26.5	
Level of Service	B	C		C	B			D	C	C	C	
Approach Delay (s)		28.8			20.1			34.8			26.5	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	81.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	1	764	24	9	897	0	6	0	25	1	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	830	26	10	975	0	7	0	27	1	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					1310							
pX, platoon unblocked	0.90						0.90	0.90		0.90	0.90	0.90
vC, conflicting volume	975			857			1353	1840	428	1439	1853	488
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	861			857			1281	1822	428	1377	1837	319
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			94	100	95	99	100	100
cM capacity (veh/h)	699			780			109	68	575	88	66	609

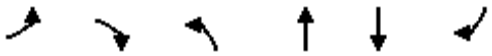
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	1	554	303	10	650	325	34	1
Volume Left	1	0	0	10	0	0	7	1
Volume Right	0	0	26	0	0	0	27	0
cSH	699	1700	1700	780	1700	1700	315	88
Volume to Capacity	0.00	0.33	0.18	0.01	0.38	0.19	0.11	0.01
Queue Length 95th (ft)	0	0	0	1	0	0	9	1
Control Delay (s)	10.2	0.0	0.0	9.7	0.0	0.0	17.8	46.3
Lane LOS	B			A			C	E
Approach Delay (s)	0.0			0.1			17.8	46.3
Approach LOS							C	E

Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	34.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	777	14	10	893	9	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	845	15	11	971	10	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			860		1359	430
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			860		1359	430
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		93	98
cM capacity (veh/h)			777		138	573

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	563	297	11	485	485	20
Volume Left	0	0	11	0	0	10
Volume Right	0	15	0	0	0	10
cSH	1700	1700	777	1700	1700	222
Volume to Capacity	0.33	0.17	0.01	0.29	0.29	0.09
Queue Length 95th (ft)	0	0	1	0	0	7
Control Delay (s)	0.0	0.0	9.7	0.0	0.0	22.8
Lane LOS			A			C
Approach Delay (s)	0.0		0.1			22.8
Approach LOS						C

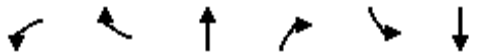
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	34.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	28	34	37	261	283	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	30	37	40	284	308	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	683	319	330			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	683	319	330			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	95	97			
cM capacity (veh/h)	401	722	1229			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	67	324	330
Volume Left	30	40	0
Volume Right	37	0	23
cSH	530	1229	1700
Volume to Capacity	0.13	0.03	0.19
Queue Length 95th (ft)	11	3	0
Control Delay (s)	12.8	1.3	0.0
Lane LOS	B	A	
Approach Delay (s)	12.8	1.3	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	45.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	297	1	1	316
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	323	1	1	343
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	669	323			324	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	669	323			324	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	422	718			1236	

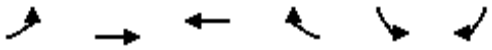
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	324	345
Volume Left	1	0	1
Volume Right	1	1	0
cSH	532	1700	1236
Volume to Capacity	0.00	0.19	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	11.8	0.0	0.0
Lane LOS	B		A
Approach Delay (s)	11.8	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		27.4%	ICU Level of Service
Analysis Period (min)		15	

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	281	2	1	296
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	305	2	1	322
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						677
pX, platoon unblocked						
vC, conflicting volume	630	307			308	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	630	307			308	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	445	733			1253	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	308	323
Volume Left	1	0	1
Volume Right	1	2	0
cSH	554	1700	1253
Volume to Capacity	0.00	0.18	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	11.5	0.0	0.0
Lane LOS	B		A
Approach Delay (s)	11.5	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		26.4%	ICU Level of Service
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	708	826	1	3	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	770	898	1	3	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		440				
pX, platoon unblocked					0.81	
vC, conflicting volume	899				1285	449
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	899				1117	449
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				98	100
cM capacity (veh/h)	751				163	557

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	1	385	385	599	300	5
Volume Left	1	0	0	0	0	3
Volume Right	0	0	0	0	1	2
cSH	751	1700	1700	1700	1700	227
Volume to Capacity	0.00	0.23	0.23	0.35	0.18	0.02
Queue Length 95th (ft)	0	0	0	0	0	2
Control Delay (s)	9.8	0.0	0.0	0.0	0.0	21.3
Lane LOS	A					C
Approach Delay (s)	0.0			0.0		21.3
Approach LOS						C

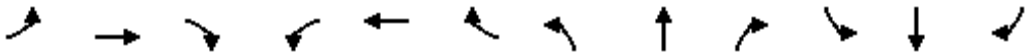
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	32.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	3	859	153	754	117	118	73	2	8
v/c Ratio	0.01	0.81	0.53	0.48	0.36	0.36	0.30	0.01	0.02
Control Delay	13.0	32.5	19.5	17.4	34.6	34.6	12.7	30.0	24.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.0	32.5	19.5	17.4	34.6	34.6	12.7	30.0	24.0
Queue Length 50th (ft)	1	206	44	133	56	57	0	1	2
Queue Length 95th (ft)	5	286	79	214	117	117	38	7	14
Internal Link Dist (ft)		1230		360		597			694
Turn Bay Length (ft)					200		75		
Base Capacity (vph)	253	1202	328	1651	328	329	287	346	340
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.71	0.47	0.46	0.36	0.36	0.25	0.01	0.02

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3438		1770	3538		1681	1686	1583	1770	1723	
Flt Permitted	0.35	1.00		0.13	1.00		0.95	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	654	3438		244	3538		1681	1686	1583	1770	1723	
Volume (vph)	3	639	151	141	692	2	215	1	67	2	4	4
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	695	164	153	752	2	234	1	73	2	4	4
RTOR Reduction (vph)	0	23	0	0	0	0	0	0	65	0	3	0
Lane Group Flow (vph)	3	836	0	153	754	0	117	118	8	2	5	0
Turn Type	pm+pt			pm+pt			Split		Over	Split		
Protected Phases	7	4		3	8		2	2	3	6	6	
Permitted Phases	4			8								
Actuated Green, G (s)	28.8	28.1		41.5	36.8		16.1	16.1	9.4	16.1	16.1	
Effective Green, g (s)	28.8	28.1		41.5	36.8		16.1	16.1	9.4	16.1	16.1	
Actuated g/C Ratio	0.34	0.33		0.48	0.43		0.19	0.19	0.11	0.19	0.19	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	229	1127		286	1519		316	317	174	333	324	
v/s Ratio Prot	0.00	c0.24		c0.06	0.21		0.07	c0.07	0.01	0.00	c0.00	
v/s Ratio Perm	0.00			0.20								
v/c Ratio	0.01	0.74		0.53	0.50		0.37	0.37	0.05	0.01	0.01	
Uniform Delay, d1	18.9	25.6		15.4	17.7		30.4	30.4	34.1	28.3	28.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	2.7		1.9	0.3		3.3	3.3	0.1	0.0	0.1	
Delay (s)	19.0	28.3		17.3	18.0		33.7	33.7	34.2	28.3	28.4	
Level of Service	B	C		B	B		C	C	C	C	C	
Approach Delay (s)		28.2			17.9			33.8			28.4	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	24.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	85.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	1	764	24	9	897	0	6	0	25	1	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	830	26	10	975	0	7	0	27	1	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					1310							
pX, platoon unblocked	0.91						0.91	0.91		0.91	0.91	0.91
vC, conflicting volume	975			857			1353	1840	428	1439	1853	488
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	872			857			1288	1824	428	1383	1839	336
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			94	100	95	99	100	100
cM capacity (veh/h)	699			780			109	68	575	88	67	600

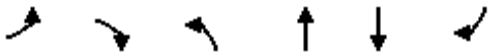
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	1	554	303	10	650	325	34	1
Volume Left	1	0	0	10	0	0	7	1
Volume Right	0	0	26	0	0	0	27	0
cSH	699	1700	1700	780	1700	1700	315	88
Volume to Capacity	0.00	0.33	0.18	0.01	0.38	0.19	0.11	0.01
Queue Length 95th (ft)	0	0	0	1	0	0	9	1
Control Delay (s)	10.2	0.0	0.0	9.7	0.0	0.0	17.8	46.3
Lane LOS	B			A			C	E
Approach Delay (s)	0.0			0.1			17.8	46.3
Approach LOS							C	E

Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	34.8%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	777	14	10	893	9	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	845	15	11	971	10	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			860		1359	430
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			860		1359	430
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		93	98
cM capacity (veh/h)			777		138	573

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	563	297	11	485	485	20
Volume Left	0	0	11	0	0	10
Volume Right	0	15	0	0	0	10
cSH	1700	1700	777	1700	1700	222
Volume to Capacity	0.33	0.17	0.01	0.29	0.29	0.09
Queue Length 95th (ft)	0	0	1	0	0	7
Control Delay (s)	0.0	0.0	9.7	0.0	0.0	22.8
Lane LOS			A			C
Approach Delay (s)	0.0		0.1			22.8
Approach LOS						C

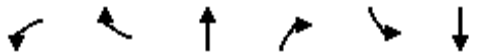
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	34.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	28	34	37	261	283	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	30	37	40	284	308	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	683	319	330			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	683	319	330			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	95	97			
cM capacity (veh/h)	401	722	1229			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	67	324	330
Volume Left	30	40	0
Volume Right	37	0	23
cSH	530	1229	1700
Volume to Capacity	0.13	0.03	0.19
Queue Length 95th (ft)	11	3	0
Control Delay (s)	12.8	1.3	0.0
Lane LOS	B	A	
Approach Delay (s)	12.8	1.3	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	45.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	297	1	1	316
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	323	1	1	343
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	669	323			324	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	669	323			324	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	422	718			1236	

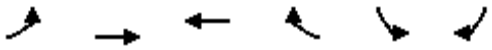
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	324	345
Volume Left	1	0	1
Volume Right	1	1	0
cSH	532	1700	1236
Volume to Capacity	0.00	0.19	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	11.8	0.0	0.0
Lane LOS	B		A
Approach Delay (s)	11.8	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	281	2	1	296
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	305	2	1	322
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						677
pX, platoon unblocked						
vC, conflicting volume	630	307			308	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	630	307			308	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	445	733			1253	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	308	323
Volume Left	1	0	1
Volume Right	1	2	0
cSH	554	1700	1253
Volume to Capacity	0.00	0.18	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	11.5	0.0	0.0
Lane LOS	B		A
Approach Delay (s)	11.5	0.0	0.0
Approach LOS	B		

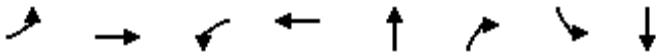
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	26.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	708	826	1	3	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	770	898	1	3	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		440				
pX, platoon unblocked					0.81	
vC, conflicting volume	899				1285	449
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	899				1120	449
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				98	100
cM capacity (veh/h)	751				163	557

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	1	385	385	599	300	5
Volume Left	1	0	0	0	0	3
Volume Right	0	0	0	0	1	2
cSH	751	1700	1700	1700	1700	227
Volume to Capacity	0.00	0.23	0.23	0.35	0.18	0.02
Queue Length 95th (ft)	0	0	0	0	0	2
Control Delay (s)	9.8	0.0	0.0	0.0	0.0	21.3
Lane LOS	A					C
Approach Delay (s)	0.0			0.0		21.3
Approach LOS						C

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	32.9%	ICU Level of Service	A
Analysis Period (min)	15		

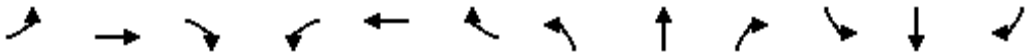


Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	8	1040	232	883	325	98	7	20
v/c Ratio	0.04	0.88	0.78	0.51	1.02	0.30	0.02	0.06
Control Delay	13.0	36.5	38.1	17.1	95.9	19.5	32.3	20.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.0	36.5	38.1	17.1	95.9	19.5	32.3	20.6
Queue Length 50th (ft)	2	282	80	163	~213	21	3	4
Queue Length 95th (ft)	9	367	#190	256	#379	66	16	23
Internal Link Dist (ft)		1230		360	597			694
Turn Bay Length (ft)	120		250			75		
Base Capacity (vph)	228	1253	309	1758	318	330	317	312
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.83	0.75	0.50	1.02	0.30	0.02	0.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00			1.00	0.85	1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3434		1770	3539			1776	1583	1770	1681	
Flt Permitted	0.30	1.00		0.11	1.00			0.95	1.00	0.95	1.00	
Satd. Flow (perm)	550	3434		198	3539			1776	1583	1770	1681	
Volume (vph)	7	766	190	213	811	1	293	6	90	6	6	12
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	833	207	232	882	1	318	7	98	7	7	13
RTOR Reduction (vph)	0	24	0	0	0	0	0	0	46	0	11	0
Lane Group Flow (vph)	8	1016	0	232	883	0	0	325	52	7	9	0
Turn Type	pm+pt			pm+pt			Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases	4			8					2			
Actuated Green, G (s)	34.4	33.6		48.7	43.9			16.1	16.1	16.1	16.1	
Effective Green, g (s)	34.4	33.6		48.7	43.9			16.1	16.1	16.1	16.1	
Actuated g/C Ratio	0.37	0.36		0.52	0.47			0.17	0.17	0.17	0.17	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	214	1242		292	1672			308	274	307	291	
v/s Ratio Prot	0.00	0.30		c0.10	0.25			c0.18		0.00	c0.01	
v/s Ratio Perm	0.01			c0.32					0.03			
v/c Ratio	0.04	0.82		0.79	0.53			1.06	0.19	0.02	0.03	
Uniform Delay, d1	18.5	26.9		20.7	17.2			38.4	32.8	31.9	31.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	4.3		13.8	0.3			66.5	1.5	0.1	0.2	
Delay (s)	18.6	31.2		34.5	17.5			104.9	34.3	32.0	32.1	
Level of Service	B	C		C	B			F	C	C	C	
Approach Delay (s)		31.1			21.1			88.6			32.1	
Approach LOS		C			C			F			C	

Intersection Summary			
HCM Average Control Delay	36.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	92.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	916	45	17	1098	1	10	0	48	0	0	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	996	49	18	1193	1	11	0	52	0	0	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					1310							
pX, platoon unblocked	0.86						0.86	0.86		0.86	0.86	0.86
vC, conflicting volume	1195			1045			1657	2252	522	1781	2276	597
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1067			1045			1603	2291	522	1746	2319	376
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			97			82	100	90	100	100	99
cM capacity (veh/h)	560			662			59	32	499	42	31	537

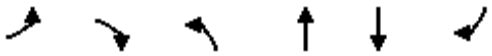
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	0	664	381	18	796	399	63	3
Volume Left	0	0	0	18	0	0	11	0
Volume Right	0	0	49	0	0	1	52	3
cSH	1700	1700	1700	662	1700	1700	219	537
Volume to Capacity	0.00	0.39	0.22	0.03	0.47	0.23	0.29	0.01
Queue Length 95th (ft)	0	0	0	2	0	0	29	0
Control Delay (s)	0.0	0.0	0.0	10.6	0.0	0.0	28.0	11.7
Lane LOS				B			D	B
Approach Delay (s)	0.0			0.2			28.0	11.7
Approach LOS							D	B

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	947	26	19	1092	17	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1029	28	21	1187	18	18
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1058		1678	529
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1058		1678	529
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		78	96
cM capacity (veh/h)			654		83	494

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	686	371	21	593	593	37
Volume Left	0	0	21	0	0	18
Volume Right	0	28	0	0	0	18
cSH	1700	1700	654	1700	1700	142
Volume to Capacity	0.40	0.22	0.03	0.35	0.35	0.26
Queue Length 95th (ft)	0	0	2	0	0	24
Control Delay (s)	0.0	0.0	10.7	0.0	0.0	39.0
Lane LOS			B			E
Approach Delay (s)	0.0		0.2			39.0
Approach LOS						E

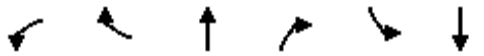
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	40.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	52	64	68	339	469	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	57	70	74	368	510	42
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1047	531	552			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1047	531	552			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	76	87	93			
cM capacity (veh/h)	234	548	1018			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	126	442	552
Volume Left	57	74	0
Volume Right	70	0	42
cSH	342	1018	1700
Volume to Capacity	0.37	0.07	0.32
Queue Length 95th (ft)	41	6	0
Control Delay (s)	21.5	2.2	0.0
Lane LOS	C	A	
Approach Delay (s)	21.5	2.2	0.0
Approach LOS	C		

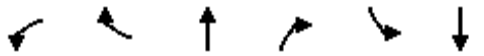
Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	405	1	1	532
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	440	1	1	578
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1021	441			441	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1021	441			441	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	262	616			1119	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	441	579
Volume Left	1	0	1
Volume Right	1	1	0
cSH	367	1700	1119
Volume to Capacity	0.01	0.26	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	14.9	0.0	0.0
Lane LOS	B		A
Approach Delay (s)	14.9	0.0	0.0
Approach LOS	B		

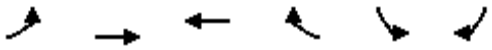
Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		38.8%	ICU Level of Service A
Analysis Period (min)		15	



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	387	2	1	507
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	421	2	1	551
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						677
pX, platoon unblocked	0.96					
vC, conflicting volume	975	422			423	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	974	422			423	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	267	632			1136	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	423	552
Volume Left	1	0	1
Volume Right	1	2	0
cSH	375	1700	1136
Volume to Capacity	0.01	0.25	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	14.7	0.0	0.0
Lane LOS	B		A
Approach Delay (s)	14.7	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		37.5%	ICU Level of Service
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	4	858	1121	3	1	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	933	1218	3	1	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		440				
pX, platoon unblocked					0.76	
vC, conflicting volume	1222				1695	611
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1222				1597	611
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	566				73	437

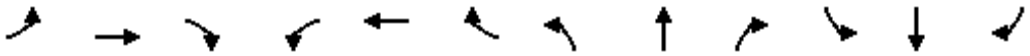
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	4	466	466	812	409	4
Volume Left	4	0	0	0	0	1
Volume Right	0	0	0	0	3	3
cSH	566	1700	1700	1700	1700	194
Volume to Capacity	0.01	0.27	0.27	0.48	0.24	0.02
Queue Length 95th (ft)	1	0	0	0	0	2
Control Delay (s)	11.4	0.0	0.0	0.0	0.0	23.9
Lane LOS	B					C
Approach Delay (s)	0.1			0.0		23.9
Approach LOS						C

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	8	1040	232	883	159	166	98	7	20
v/c Ratio	0.04	0.91	0.76	0.52	0.52	0.54	0.34	0.02	0.06
Control Delay	13.4	40.0	34.5	17.5	40.1	40.7	11.5	30.8	19.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.4	40.0	34.5	17.5	40.1	40.7	11.5	30.8	19.6
Queue Length 50th (ft)	2	282	74	163	87	91	0	3	3
Queue Length 95th (ft)	9	#404	#178	258	153	160	44	15	23
Internal Link Dist (ft)		1230		360		597			694
Turn Bay Length (ft)			250		200		75		
Base Capacity (vph)	221	1180	318	1708	307	308	299	323	317
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.88	0.73	0.52	0.52	0.54	0.33	0.02	0.06

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85	1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3434		1770	3539		1681	1689	1583	1770	1681	
Flt Permitted	0.29	1.00		0.11	1.00		0.95	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	549	3434		208	3539		1681	1689	1583	1770	1681	
Volume (vph)	7	766	190	213	811	1	293	6	90	6	6	12
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	833	207	232	882	1	318	7	98	7	7	13
RTOR Reduction (vph)	0	24	0	0	0	0	0	0	86	0	11	0
Lane Group Flow (vph)	8	1016	0	232	883	0	159	166	12	7	9	0
Turn Type	pm+pt			pm+pt			Split		Over	Split		
Protected Phases	7	4		3	8		2	2	3	6	6	
Permitted Phases	4			8								
Actuated Green, G (s)	32.7	31.9		47.0	42.2		16.0	16.0	11.1	16.0	16.0	
Effective Green, g (s)	32.7	31.9		47.0	42.2		16.0	16.0	11.1	16.0	16.0	
Actuated g/C Ratio	0.36	0.35		0.52	0.46		0.18	0.18	0.12	0.18	0.18	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	208	1204		298	1641		296	297	193	311	296	
v/s Ratio Prot	0.00	c0.30		c0.09	0.25		0.09	c0.10	0.01	0.00	c0.01	
v/s Ratio Perm	0.01			0.31								
v/c Ratio	0.04	0.84		0.78	0.54		0.54	0.56	0.06	0.02	0.03	
Uniform Delay, d1	18.8	27.3		19.7	17.4		34.1	34.3	35.3	31.0	31.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	5.6		12.1	0.3		6.8	7.4	0.1	0.1	0.2	
Delay (s)	18.9	32.8		31.7	17.8		41.0	41.7	35.5	31.2	31.3	
Level of Service	B	C		C	B		D	D	D	C	C	
Approach Delay (s)		32.7			20.7			40.0			31.2	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM Average Control Delay	28.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	91.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	64.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	916	45	17	1098	1	10	0	48	0	0	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	996	49	18	1193	1	11	0	52	0	0	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					1310							
pX, platoon unblocked	0.86						0.86	0.86		0.86	0.86	0.86
vC, conflicting volume	1195			1045			1657	2252	522	1781	2276	597
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1065			1045			1602	2292	522	1746	2320	372
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			97			82	100	90	100	100	99
cM capacity (veh/h)	560			662			59	32	499	42	31	539

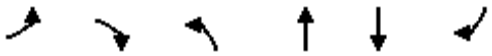
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	0	664	381	18	796	399	63	3
Volume Left	0	0	0	18	0	0	11	0
Volume Right	0	0	49	0	0	1	52	3
cSH	1700	1700	1700	662	1700	1700	219	539
Volume to Capacity	0.00	0.39	0.22	0.03	0.47	0.23	0.29	0.01
Queue Length 95th (ft)	0	0	0	2	0	0	29	0
Control Delay (s)	0.0	0.0	0.0	10.6	0.0	0.0	28.0	11.7
Lane LOS				B			D	B
Approach Delay (s)	0.0			0.2			28.0	11.7
Approach LOS							D	B

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	947	26	19	1092	17	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1029	28	21	1187	18	18
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1058		1678	529
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1058		1678	529
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		78	96
cM capacity (veh/h)			654		83	494

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	686	371	21	593	593	37
Volume Left	0	0	21	0	0	18
Volume Right	0	28	0	0	0	18
cSH	1700	1700	654	1700	1700	142
Volume to Capacity	0.40	0.22	0.03	0.35	0.35	0.26
Queue Length 95th (ft)	0	0	2	0	0	24
Control Delay (s)	0.0	0.0	10.7	0.0	0.0	39.0
Lane LOS			B			E
Approach Delay (s)	0.0		0.2			39.0
Approach LOS						E

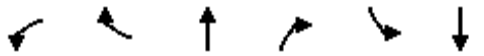
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	40.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	52	64	68	339	469	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	57	70	74	368	510	42
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1047	531	552			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1047	531	552			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	76	87	93			
cM capacity (veh/h)	234	548	1018			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	126	442	552
Volume Left	57	74	0
Volume Right	70	0	42
cSH	342	1018	1700
Volume to Capacity	0.37	0.07	0.32
Queue Length 95th (ft)	41	6	0
Control Delay (s)	21.5	2.2	0.0
Lane LOS	C	A	
Approach Delay (s)	21.5	2.2	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	405	1	1	532
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	440	1	1	578
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1021	441			441	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1021	441			441	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	262	616			1119	

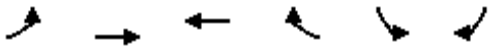
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	441	579
Volume Left	1	0	1
Volume Right	1	1	0
cSH	367	1700	1119
Volume to Capacity	0.01	0.26	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	14.9	0.0	0.0
Lane LOS	B		A
Approach Delay (s)	14.9	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		38.8%	ICU Level of Service A
Analysis Period (min)		15	

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	387	2	1	507
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	421	2	1	551
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						677
pX, platoon unblocked	0.95					
vC, conflicting volume	975	422			423	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	974	422			423	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	266	632			1136	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	423	552
Volume Left	1	0	1
Volume Right	1	2	0
cSH	375	1700	1136
Volume to Capacity	0.01	0.25	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	14.7	0.0	0.0
Lane LOS	B		A
Approach Delay (s)	14.7	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		37.5%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	4	858	1121	3	1	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	933	1218	3	1	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		440				
pX, platoon unblocked					0.75	
vC, conflicting volume	1222				1695	611
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1222				1595	611
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	566				73	437

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	4	466	466	812	409	4
Volume Left	4	0	0	0	0	1
Volume Right	0	0	0	0	3	3
cSH	566	1700	1700	1700	1700	194
Volume to Capacity	0.01	0.27	0.27	0.48	0.24	0.02
Queue Length 95th (ft)	1	0	0	0	0	2
Control Delay (s)	11.4	0.0	0.0	0.0	0.0	24.0
Lane LOS	B					C
Approach Delay (s)	0.1			0.0		24.0
Approach LOS						C

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		

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