TRAFFIC IMPACT STUDY
FOR
FELLOWSHIP CHRISTIAN SCHOOL
ROSWELL, GEORGIA

Prepared for:

Fellowship Christian School,
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City of Roswell,
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EXECUTIVE SUMMARY

The purpose of this study is to evaluate the traffic impact from the expansion of the Fellowship Christian School located to north of the intersection of Woodstock Rd / Jones Rd in Roswell, Georgia. The school currently consists of 670 students, and proposes to consist of 1,000 students after the expansion. The traffic analysis evaluated the following scenarios:

- Existing conditions
- Year 2012 without traffic generated by the site
- Year 2017 without traffic generated by the site
- Year 2022 without traffic generated by the site
- Year 2012 including the traffic generated by the redevelopment
- Year 2017 including the traffic generated by the redevelopment
- Year 2022 including the traffic generated by the redevelopment

Existing Conditions

- The existing conditions analysis indicates that the intersection of Woodstock Rd / W. Crossville Rd / King Rd is operating at LOS E during both AM & PM peak hours, respectively. It is recommended that an auxiliary shared through/right turn lane be added to the northbound movement. This would require the free flowing westbound right turning movement be restriped as a yield condition.
- The intersection of Woodstock Rd / Fellowship Christian School South Drwy 1 has delays for traffic turning from the side streets. The addition of the proposed Fellowship School Driveway at the intersection of Jones Road / Woodstock Road will help alleviate the congestion at this intersection in the future condition.
- The intersection of Woodstock Rd / Devereux Chase has delays for traffic turning from the side streets. Devereux Chase is a small subdivision with one other connection to Woodstock Road. It is not uncommon for small stop-controlled side streets to experience peak hour delays on facilities such as Woodstock Road.

Base 2012 Conditions

- In order to evaluate future traffic operations in the area, a projection was made of future base year traffic volumes. A growth factor of 1% per year was used. This growth factor was applied to the existing traffic volumes on the roadways to estimate the future traffic volumes prior to the addition of site-generated volumes.
- The analysis indicates that the intersection of Woodstock Rd / W. Crossville Rd / King Rd will have a low level of service, as it did in the existing conditions. It is recommended that an additional northbound shared through/right turn lane be constructed at the intersection. This would require the free flowing westbound right turning movement be restriped as a yield condition. It is also recommended that an additional eastbound left turn lane be added by removing the existing median and reducing the left turn lane widths.
- The recommendations for the intersections of Woodstock Rd / Fellowship Christian School South Drwy 1 and Woodstock Rd / Devereux Chase remain the same as those in the existing conditions.

Base 2017 Conditions

- A growth factor of 1% was used per year. This growth factor was applied to the existing traffic volumes on the roadways to estimate future year 2017 traffic volumes prior to the addition of the site-generated volumes.

Woodstock Road / W. Crossville Road / King Road

In order to have the intersection function at an acceptable LOS of D or better, the following improvements are recommended:

- Install auxiliary shared northbound through/right turn lane on Woodstock Road.
- Install auxiliary shared southbound through/right turn lane on King Road.
- Install additional (second) dedicated eastbound left turn lane on W. Crossville Road.
- Install additional (second) receiving lane on Woodstock Road.

Woodstock Road / Devereux Chase

At the intersection of Woodstock Rd / Devereux Chase, the eastbound approach is operating at LOS F during both AM & PM peak hours. Devereux Chase is a small subdivision with one other connection to Woodstock Road. It is not uncommon for small stop-controlled side streets to experience peak hour delays on facilities such as Woodstock Road.

Base 2022 Conditions

- A growth factor of 1% was used per year. This growth factor was applied to the existing traffic volumes on the roadways to estimate future year 2022 traffic volumes prior to the addition of the site-generated volumes.

Woodstock Road / W. Crossville Road / King Road

In order to have the intersection function at an acceptable LOS of D or better, the following improvements are recommended:

- Install auxiliary shared northbound through/right turn lane on Woodstock Road.
- Install auxiliary shared southbound through/right turn lane on King Road.
- Install additional (second) dedicated eastbound left turn lane on W. Crossville Road.
- Install additional (second) receiving lane on Woodstock Road.

Woodstock Road / Jones Road

In order to have the intersection function at an acceptable LOS of D or better, the following improvements are recommended:

- Install a dedicated southbound right turn lane on Woodstock Road. This will help alleviate vehicles in the southbound through lane from having to wait for vehicles to make right turns.

Woodstock Road / Devereux Chase

At the intersection of Woodstock Rd / Devereux Chase, the eastbound approach is operating at LOS F during both AM & PM peak hours. Devereux Chase is a small subdivision with one other connection to Woodstock Road. It is not uncommon for small stop-controlled side streets to experience peak hour delays on facilities such as Woodstock Road.

Future 2012 Conditions

- There are no additional recommendations from the Base 2012 improvements for the study intersections after the inclusion of the additional site generated traffic.
- For the new driveway connection at the intersection of Jones Road / Woodstock Road, it is recommended that separate left and shared through/right lanes be provided for exiting traffic.

It is also recommended that a northbound right turn lane be installed and the center lane on Woodstock Road be restriped to include a dedicated southbound left turn lane.

Future 2017 Conditions

- There are no additional recommendations from the Base 2017 improvements for the study intersections after the inclusion of the additional site generated traffic.
- For the new driveway connection at the intersection of Jones Road / Woodstock Road, it is recommended that separate left and shared through/right lanes be provided for exiting traffic. It is also recommended that a northbound right turn lane be installed and the center lane on Woodstock Road be restriped to include a dedicated southbound left turn lane.

Future 2022 Conditions

- There are no additional recommendations from the Base 2022 improvements for the study intersections after the inclusion of the additional site generated traffic.
- For the new driveway connection at the intersection of Jones Road / Woodstock Road, it is recommended that separate left and shared through/right lanes be provided for exiting traffic. It is also recommended that a northbound right turn lane be installed and the center lane on Woodstock Road be restriped to include a dedicated southbound left turn lane.

Athletic Events

As part of the campus expansion, a football field and track are proposed. The peak generation for this facility would be during high school football games on Friday nights (approximately 7:30 pm – 9:30 pm depending on the game) from mid-August to early December. Other stadiums in the area are located at Blessed Trinity Catholic High School (11320 Woodstock Road) and Roswell High School (11595 King Road), which are located within one-mile of Fellowship Christian Schools.

Ticket sales from previous Fellowship Christian School games show that approximately 542 fans were present at the football games. With the anticipated increase in the student body, a proportional increase of the football game attendees will result in 809 fans at future games. Based on previous studies and discussions with the City of Roswell, it is anticipated that each vehicle will carry 2.75 fans to the game on average. This will total 295 vehicles for each football game in the future.

The Fellowship Christian School is proposing a 1,500 seat stadium with 500 additional temporary seats. Though this is above the projected attendance, the additional capacity is to meet the Georgia High School Association's seating requirements for Class A football. This additional seating is not likely to be filled for regular season games.

The vehicle for Roswell High School and Blessed Trinity High School are based on the estimated amount of available seating and the average vehicle capacity rate of 2.75 persons per vehicle. Because no data is available for the number of fans normally in attendance at either of these school's games, it is assumed that their stadiums will be occupied at full capacity. This will develop a very conservative estimation of the traffic on the roadway for either of these schools.

It is calculated that Roswell High School will draw 996 vehicles and Blessed Trinity High School will draw 856 vehicles for their football games.

From the 2011 football schedule, included in the appendix, it is apparent that the Fellowship Christian School Paladins will have a home game five times in an average year. In 2011, only one of those home games is scheduled during a home game for either Blessed Trinity High School or Roswell High School. Both Blessed Trinity and Fellowship Christian School have a coinciding football game on September 30th; however, for the remainder of the season, Fellowship Christian School is not scheduled to have any coinciding games. It is unlikely that all three high schools will have coinciding home games on the same night.

Because the football traffic is varied in this area, due the three high schools within close vicinity of each other and the game schedule for that year the football traffic has been evaluated in two scenarios for the future condition:

Scenario 1

This scenario assumes that Fellowship Christian School will have regular attendance (295 vehicles) for their football games. This scenario also includes traffic for a coinciding football game at Roswell High school, which include an additional 996 vehicles. This scenario models the once a year event in which Fellowship Christian School has a home game on the same night as a nearby school. In 2011, this conflict is with a Blessed Trinity game. In order to obtain conservative results, Scenario 1 evaluates a conflicting game with Roswell High School (which will attract more traffic), with the Roswell High school stadium at full capacity.

Scenario 2

This scenario assumes that Fellowship Christian School will operate at full capacity, attracting 728 vehicles for a football game. This scenario models an event where Fellowship Christian School would be hosting a large game, like a state championship at home. It is unlikely that a similar home game would be happening at either Blessed Trinity or Roswell High School on the same night. This is a worst-case scenario for the Fellowship Christian School football traffic.

In both scenarios, the Future 2012 Friday night football traffic will have less impact on the local road network than the Base 2012 AM or PM peak hours (without the projected traffic from the site). This is due to the lower amount of traffic on the roadways at the time of the football games (around 7:30 PM to 9:30 PM). All intersections will operate at an acceptable LOS after the recommended improvements from the Base 2012 conditions are implemented.

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INTRODUCTION

The purpose of this study is to evaluate the traffic impact from the expansion of the Fellowship Christian School located to north of the intersection of Woodstock Rd / Jones Rd in Roswell, Georgia. The school currently consists of 670 students, and proposes to consist of 1,000 students after the expansion. The location of the development and the surrounding roadway network is shown in Figure 1.

The site proposes an additional full access driveway at the signalized intersection of Woodstock Road / Jones Rd. The existing layout of the school has a full access driveway along Woodstock Road and one Right-In / Right-Out driveway along W. Crossville Road. In this study, the AM and PM peak hours have been analyzed. This study evaluated the traffic operations at the following intersections:

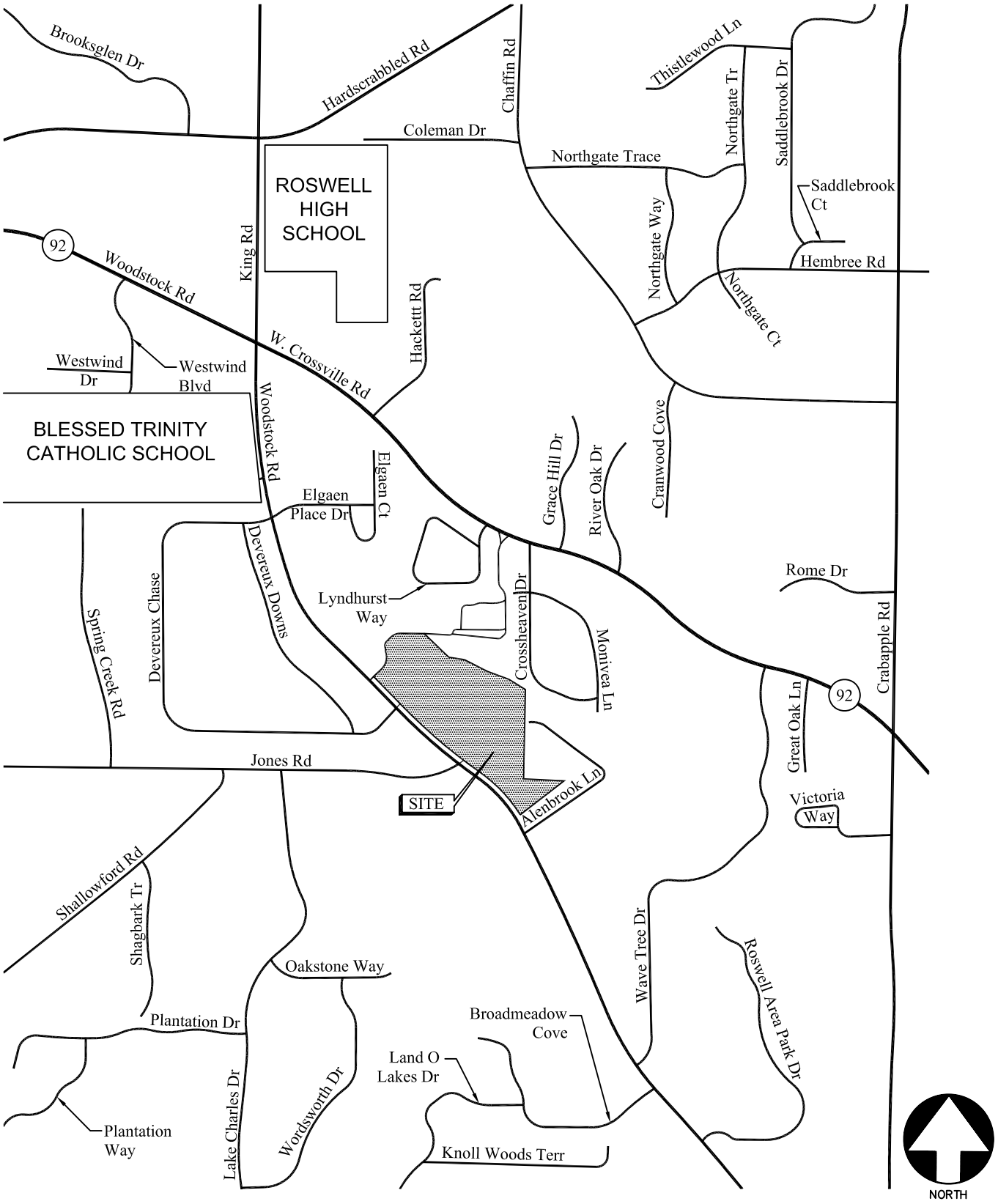
- Woodstock Rd (SR 92) / W. Crossville Rd (SR 92) / King Rd
- Woodstock Rd / Devereux Chase
- Woodstock Rd / Jones Road

In addition, the site driveways along Woodstock Rd and W. Crossville Rd have been evaluated for the future condition. The project is expected to be completed in 2012. The traffic analysis evaluated the following scenarios:

Existing conditions

- Year 2012 without traffic generated by the site.
- Year 2022 without traffic generated by the site.
- Year 2012 including the traffic generated by the redevelopment.
- Year 2022 including the traffic generated by the redevelopment.

In addition, the roadway improvements at the intersection of Woodstock Rd / Jones Rd as approved by the Georgia DOT and the Roswell DOT have been incorporated into the base and future conditions analysis. Recommendations to improve traffic operations have been identified where appropriate.



LOCATION MAP

FIGURE 1

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EXISTING FACILITIES

An inventory was performed of the major roadways in the area surrounding the site. The following is a brief description of each of these facilities.

Woodstock Road (SR 92)

Woodstock Road is a two-lane undivided roadway with a posted speed limit of 40 mph in the vicinity of the site.

W. Crossville Road (SR 92)

W. Crossville Road (SR 2) is an east–west four-lane divided roadway with a posted speed limit of 45 mph in the vicinity of the site.

Devereux Chase

Devereux Chase is an east-west two-lane roadway with a posted speed limit of 25 mph in the vicinity of the site.

Jones Road

Jones Road is an east-west two-lane undivided roadway with a posted speed limit of 35 mph. It runs between Woodstock Road and Garrards Crossing.

STUDY METHODOLOGY

In this study, the methodology used for evaluating traffic operations at each of the subject intersections is based on the criteria set forth in the Transportation Research Board's Highway Capacity Manual, 2000 edition (HCM 2000). Synchro software, which utilizes the HCM 2000 methodology, was used for the analysis. The following is a description of the methodology employed for the analysis of unsignalized and signalized intersections.

Unsignalized Intersections

For unsignalized intersections at which the side street or minor street is controlled by a stop sign, the criteria for evaluating traffic operations are the level of service (LOS) for the turning movements at the intersection and the level of service for the overall intersection. Level of service is based on the average controlled delay incurred at the intersection. Controlled delay for unsignalized intersections includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Several factors affect the controlled delay for unsignalized intersections, such as the availability and distribution of gaps in the conflicting traffic stream, critical gaps, and follow-up time for a vehicle in the queue.

Level of service is assigned a letter designation from A through F. Level of service A indicates excellent operations with little delay to motorists, while level of service F exists when there are insufficient gaps of acceptable size to allow vehicles on the side street to cross safely, resulting in extremely long total delays and long queues. The level of service criteria for two-way stop-controlled and all-way stop-controlled (unsignalized) intersections is given in Table 1.

TABLE 1
LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

Level of Service	Average Controlled Delay (sec/veh)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Source: 2000 Highway Capacity Manual

Signalized Intersections

For signalized intersections, it is necessary to evaluate both capacity and level of service in order to evaluate the overall operation of the intersection. The capacity analysis of an intersection is performed by comparing the volume of traffic using the various lane groups at the intersection to the capacity of those lane groups. This results in a volume/capacity (v/c) ratio for each lane group. A v/c ratio greater than 1.0 indicates that the volume of traffic has exceeded the capacity available, resulting in a temporary excess of demand. Although the capacity of the entire intersection is not defined, a composite v/c ratio for the sum of the critical lane groups within the intersection is computed. This composite v/c ratio is an indication of the overall intersection sufficiency.

Level of service for a signalized intersection is defined in terms of average controlled delay per vehicle, which is composed of initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The levels of service criteria for signalized intersections, based on average controlled delay, are shown in Table 2. Level of service A indicates operations with very low controlled delay, while level of service F describes operations with extremely high average controlled delay. Level of service E is typically considered to be the limit of acceptable delay, and level of service F is considered unacceptable by most drivers.

TABLE 2
LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

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

Source: 2000 Highway Capacity Manual

EXISTING TRAFFIC OPERATIONS

Existing peak hour traffic counts and intersection geometric data were collected at all study intersections during the AM and PM peak hours. Turning movement counts were collected on Tuesday, May 4, 2010. All turning movement counts were recorded during the AM and PM peak hours between 7:00 a.m. and 9:00 a.m. and between 3:00 p.m. and 6:00 p.m., respectively. The four consecutive 15-minute interval volumes that summed to produce the highest volume at the intersections were then determined. These volumes make up the peak hour traffic volumes for the intersections counted and are shown in Figure 2 for morning and evening peak hours.

Existing traffic operations were analyzed at the study intersections in accordance with the HCM methodology. The results of the analysis are shown in Table 3.

TABLE 3
EXISTING INTERSECTION OPERATIONS

Intersection	Traffic Control	A.M. Peak Hour		P.M Peak Hour	
		LOS (Delay)	v/c ratio	LOS (Delay)	v/c ratio
Woodstock Rd / W. Crossville Rd / King Rd	Signalized	E (63.2)	1.01	E (56.9)	0.98
Woodstock Rd / Fellowship Christian School South Drwy 1 -Westbound Approach -Northbound Approach -Southbound Left	Stop Controlled on Fellowship Christian School Drwy	 F (408.1) A (0.0) B (12.1)	 2.89 0.52 0.34	 D (32.0) A (0.0) A (10.0)	 0.30 0.52 0.06
Woodstock Rd / Devereux Chase -Eastbound Approach -Northbound Left -Southbound Approach	Stop Controlled on Devereux Chase	 F (74.6) A (9.2) A (0.0)	 0.42 0.03 0.42	 E (46.1) A (9.1) A (0..0)	 0.41 0.02 0.40
Woodstock Rd / Jones Rd	Signalized	D (45.9)	0.90	B (15.8)	0.66

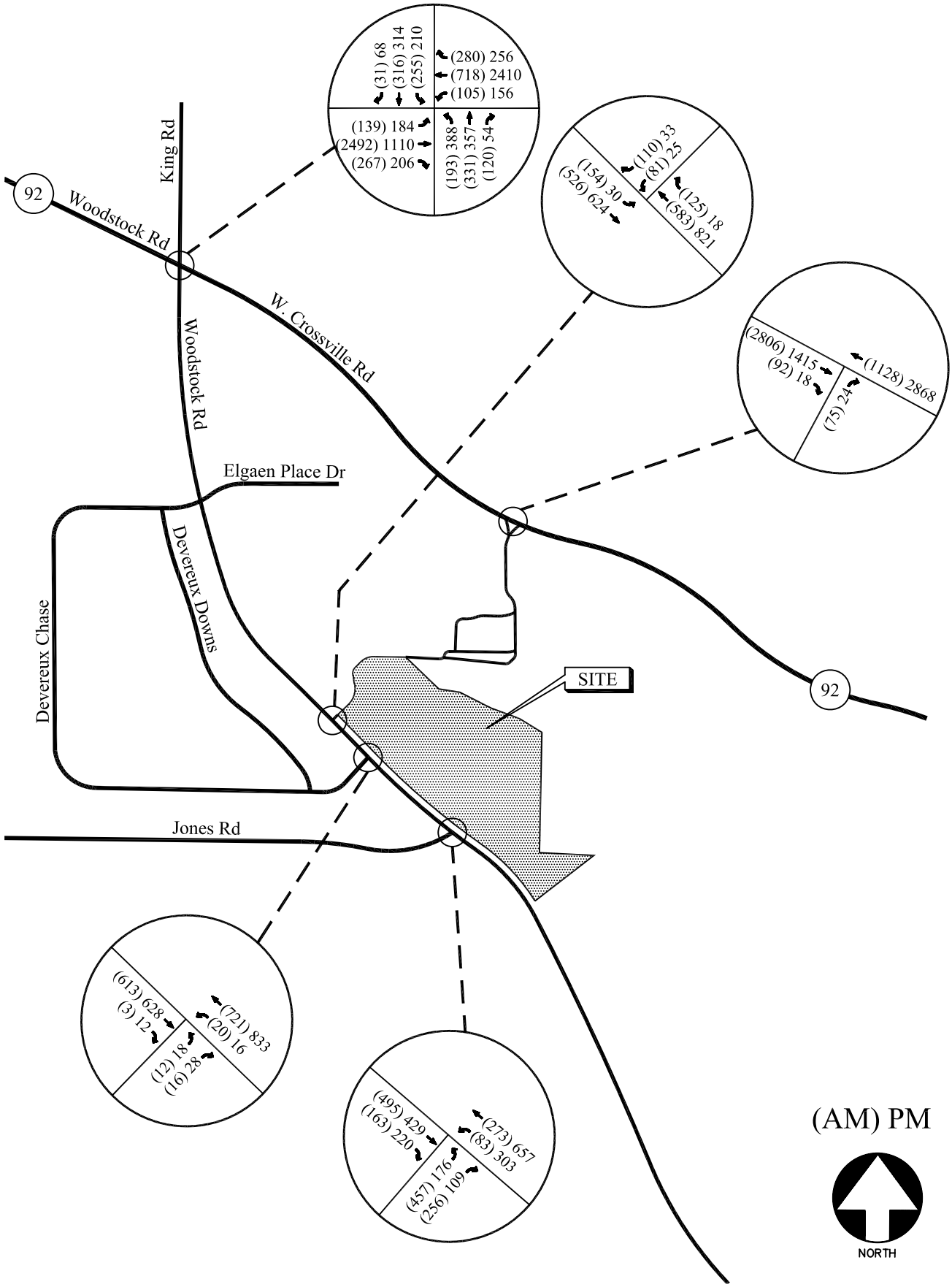
The existing conditions analysis indicates that the intersection of Woodstock Rd / W. Crossville Rd / King Rd is operating at LOS E during both AM & PM peak hours, respectively. In order to maintain an acceptable level of service of D at the intersection, it is recommended that an additional ~200' northbound shared through/right-turn lane be constructed at the intersection. This would require the free flowing westbound right turning movement be restriped as a yield condition. An analysis of the intersection after the recommended improvements are installed is shown, below, in Table 4.

TABLE 4 EXISTING INTERSECTION OPERATIONS – IMPROVED					
Intersection	Traffic Control	A.M. Peak Hour		P.M Peak Hour	
		LOS (Delay)	v/c ratio	LOS (Delay)	v/c ratio
Woodstock Rd / W. Crossville Rd / King Rd	Signalized	D (39.5)	0.87	D (47.8)	1.05

At the intersection of Woodstock Rd / Fellowship Christian School South Driveway 1, the westbound approach is operating at LOS F during AM peak hour. It is not uncommon for side streets to experience peak hour delays on facilities such as Woodstock Road. The addition of the proposed Fellowship School Driveway at the intersection of Jones Road / Woodstock Road will help alleviate the congestion at this intersection in the future condition.

At the intersection of Woodstock Rd / Devereux Chase, the eastbound approach is operating at LOS F & LOS E during both AM & PM peak hours, respectively. Devereux Chase is a small subdivision with one other connection to Woodstock Road. It is not uncommon for small stop-controlled side streets to experience peak hour delays on facilities such as Woodstock Road.

The recommended traffic improvements for the existing condition are shown in Figure 3.



EXISTING PEAK-HOUR VOLUMES FIGURE 2

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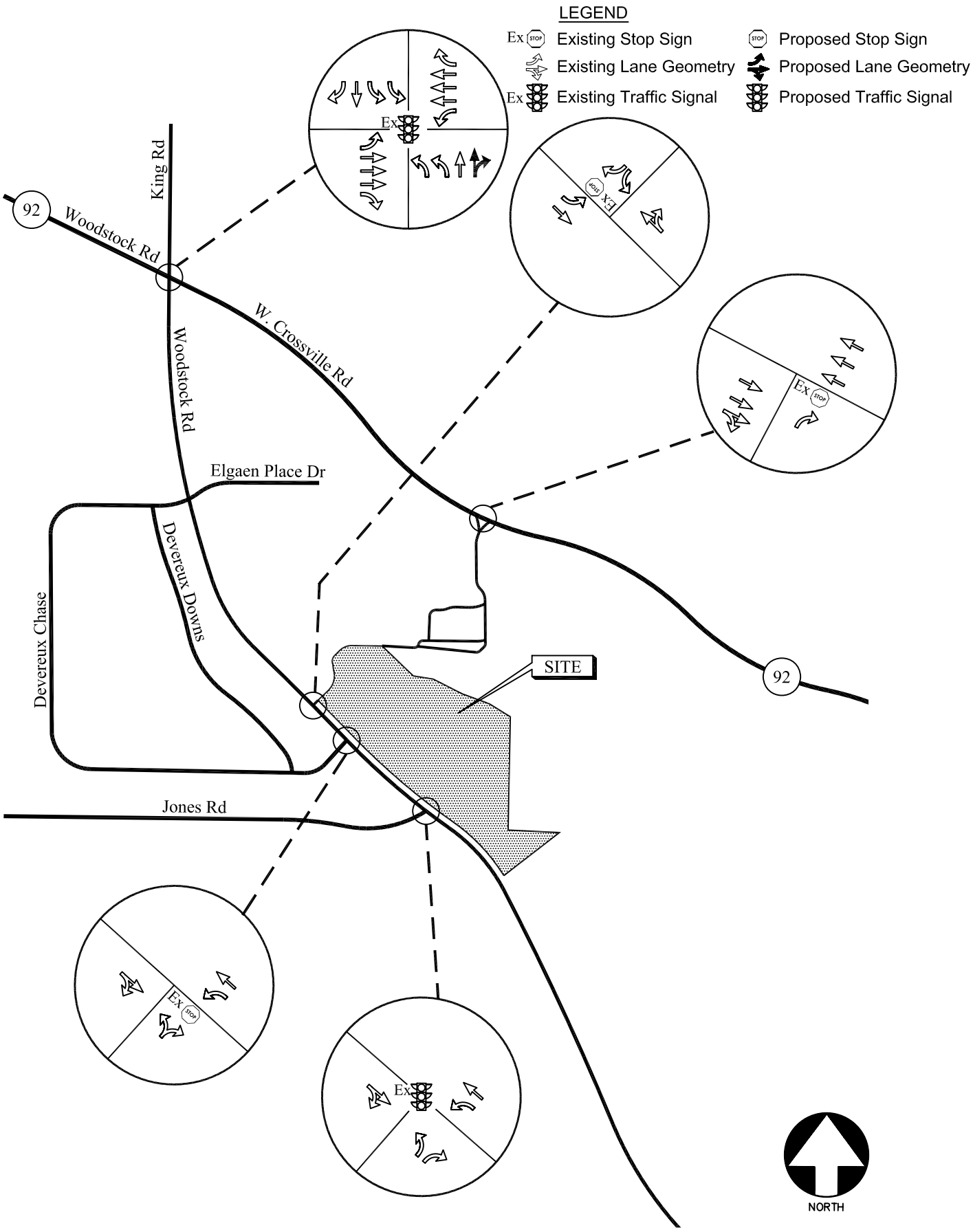

EXISTING TRAFFIC CONTROL AND LANE GEOMETRY
(WITH RECOMMENDED IMPROVEMENTS)

FIGURE 3
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BASE 2012 TRAFFIC OPERATIONS

In order to evaluate future traffic operations in the area a projection was made of future base year traffic volumes. The base traffic volumes are made up of the existing traffic volumes and expected growth in the area. The Georgia Department of Transportation recorded average daily traffic volumes at several locations in the vicinity of the site. A linear regression analysis over the last several years revealed an annual growth rate of approximately 1% per year from 1997 to 2009 in the area. This growth factor was applied to the existing traffic volumes on the roadways to estimate the future year 2012 traffic volumes prior to the addition of site-generated volumes. The future year (base) traffic volumes for 2012 at all the study intersections are shown in Figure 4.

A traffic operations analysis was evaluated for the Base Year 2012 traffic with existing traffic control and lane geometry prior to the addition of traffic from the proposed development. The results of the analysis are shown in Table 5.

TABLE 5
BASE 2012 INTERSECTION OPERATIONS

Intersection	Traffic Control	A.M. Peak Hour		P.M Peak Hour	
		LOS (Delay)	v/c ratio	LOS (Delay)	v/c ratio
Woodstock Rd / W. Crossville Rd / King Rd	Signalized	E (60.9)	1.07	E (60.5)	1.00
Woodstock Rd / Fellowship Christian School South Drwy 1 -Westbound Approach -Southbound Left	Stop Controlled on Fellowship Christian School Drwy	F (3864.0) B (12.3)		D (33.4) B (10.1)	
Woodstock Rd / Devereux Chase -Eastbound Approach -Northbound Left	Stop Controlled on Devereux Chase	F (84.3) A (9.3)		F (51.4) A (9.1)	
Woodstock Rd / Jones Rd	Signalized	D (45.0)	0.92	B (16.3)	0.69

As shown in Table 5, the Base 2012 traffic operations analysis indicate that the intersection of Woodstock Rd / W. Crossville Rd / King Rd is operating at LOS E during both AM & PM peak hours. As with the existing operations, in order to maintain an acceptable level of service of D at the intersection it is recommended that an additional ~200' northbound shared through/right-turn lane be constructed at the intersection. This would require the free flowing westbound right turning movement be restriped as a yield condition. This improvement alone would not bring the intersection to LOS D; therefore, it is also recommended that an additional eastbound left turn lane be added by removing the existing median and reducing the left turn lane widths. The result of the Base 2012 traffic operations after implementing the above listed improvements is shown in Table 6.

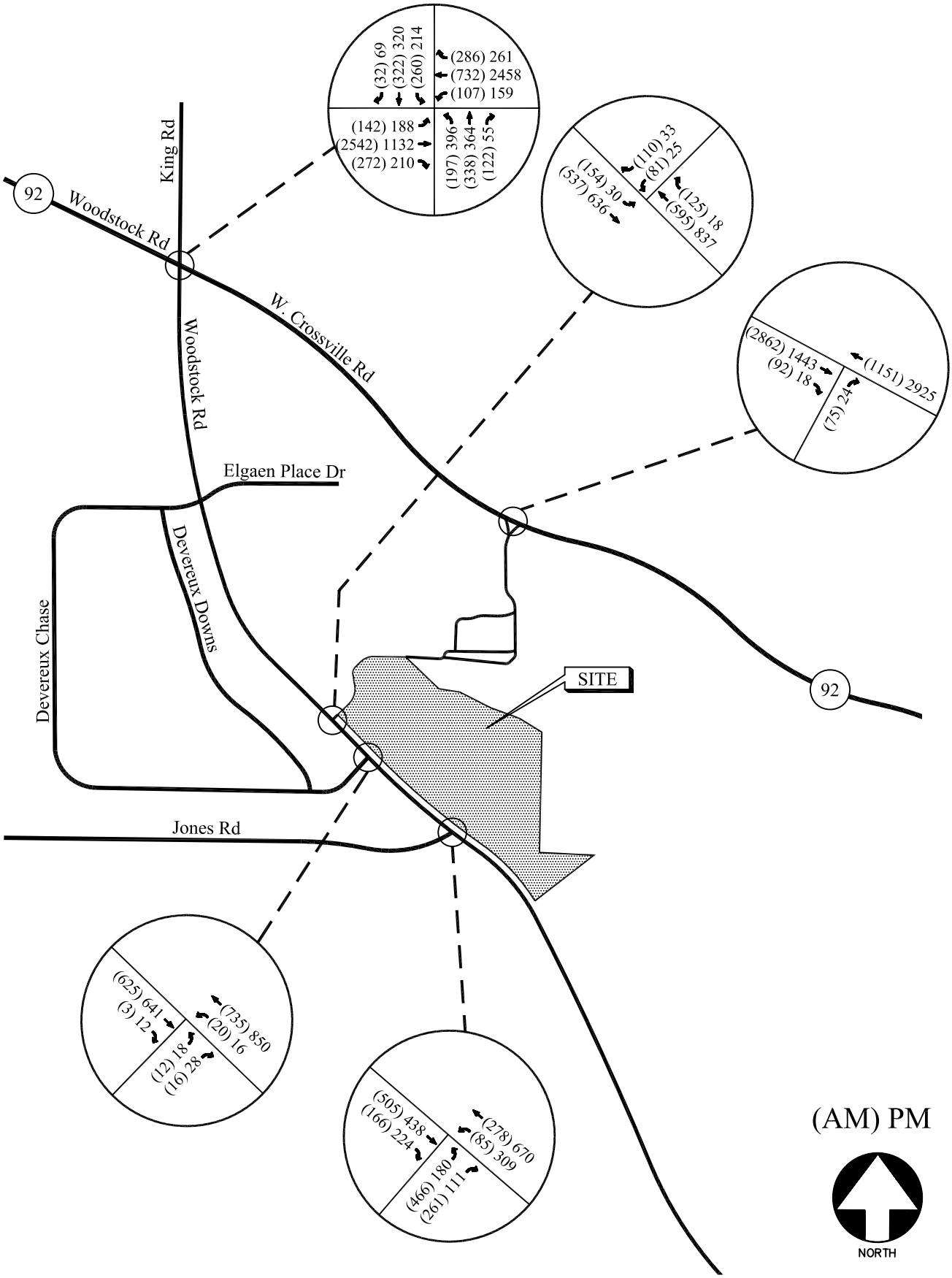
TABLE 6
BASE 2012 INTERSECTION OPERATIONS – IMPROVED

Intersection	Traffic Control	A.M. Peak Hour		P.M Peak Hour	
		LOS (Delay)	v/c ratio	LOS (Delay)	v/c ratio
Woodstock Rd / W. Crossville Rd / King Rd	Signalized	D (36.9)	0.95	D (46.1)	1.00

At the intersection of Woodstock Rd / Fellowship Christian School South Driveway 1, the westbound approach is operating at LOS F & LOS E during both AM & PM peak hours, respectively. It is not uncommon for side streets to experience peak hour delays on facilities such as Woodstock Road. The addition of the proposed Fellowship School Driveway at the intersection of Jones Road / Woodstock Road will help alleviate the congestion at this intersection in the future condition.

At the intersection of Woodstock Rd / Devereux Chase, the eastbound approach is operating at LOS F during both AM & PM peak hours. Devereux Chase is a small subdivision with one other connection to Woodstock Road. It is not uncommon for small stop-controlled side streets to experience peak hour delays on facilities such as Woodstock Road.

The recommended base 2010 intersections traffic control and lane geometry are shown in Figure 5.



BASE 2012 PEAK HOUR VOLUMES FIGURE 4

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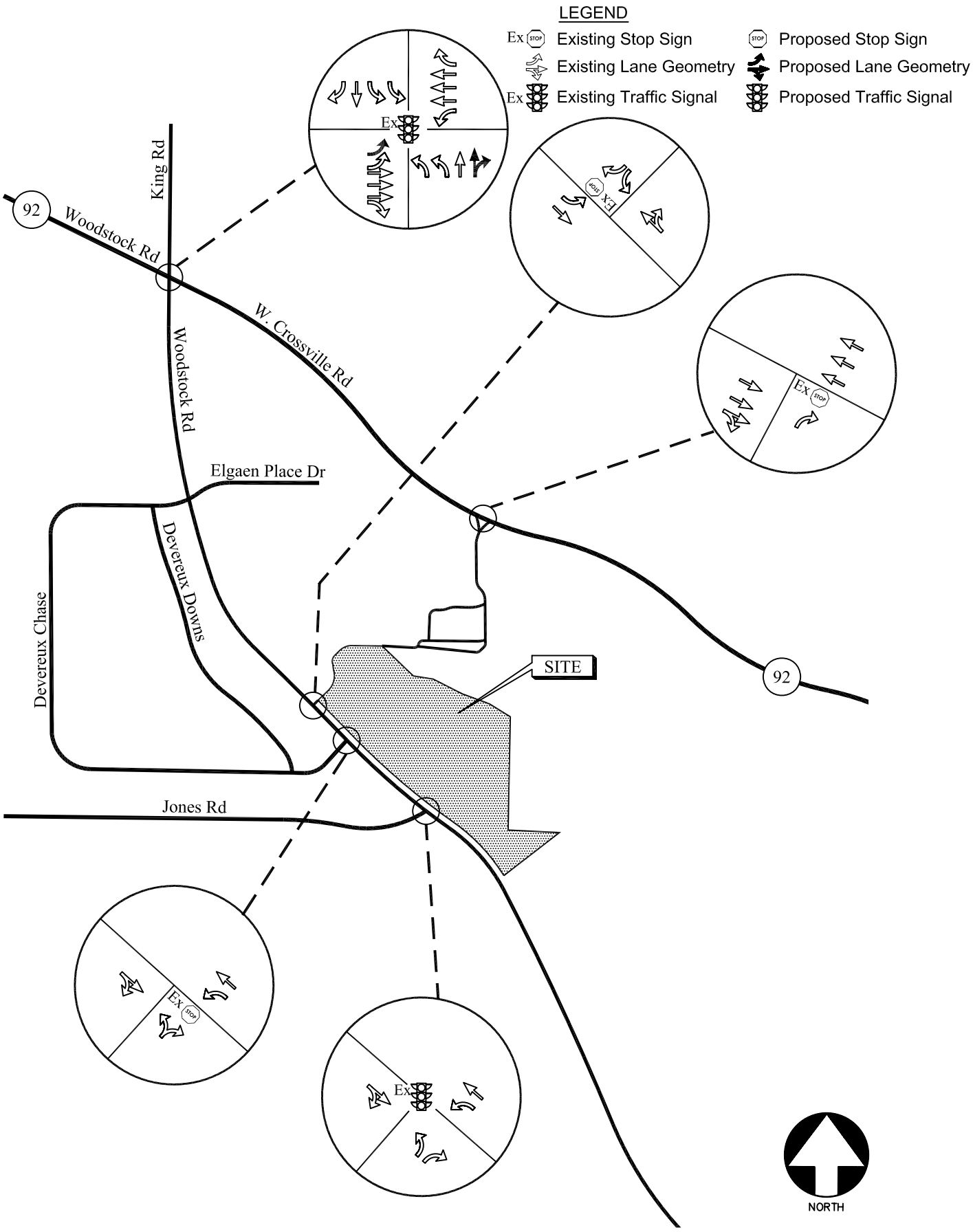

BASE 2012 TRAFFIC CONTROL AND LANE GEOMETRY FIGURE 5

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BASE 2017 [HORIZON YEAR] TRAFFIC OPERATIONS

In addition to the base 2017 (opening year), the base 2017 (Horizon Year) traffic operations were also analyzed at the study intersections. The base traffic volumes are made up of the existing traffic volumes and expected growth in the area. The Georgia Department of Transportation recorded average daily traffic volumes at several locations in the vicinity of the site. A linear regression analysis over the last several years revealed an annual growth rate of approximately 1% per year from 1997 to 2009 in the area. This growth factor was applied to the existing traffic volumes on the roadways to estimate future year 2017 traffic volumes prior to the addition of the site-generated volumes. The future year (base) traffic volumes for 2017 at all the study intersections are shown in Figure 6.

A traffic operations analysis was evaluated for the Base Year 2017 traffic with existing traffic control and lane geometry prior to the addition of traffic from the proposed development. The results of the analysis are shown in Table 7.

TABLE 7
BASE 2017 INTERSECTION OPERATIONS

Intersection	Traffic Control	A.M. Peak Hour		P.M Peak Hour	
		LOS (Delay)	v/c ratio	LOS (Delay)	v/c ratio
Woodstock Rd / W. Crossville Rd / King Rd	Signalized	E (73.2)	1.12	E (78.2)	1.18
Woodstock Rd / Fellowship Christian School South Drwy 1 -Westbound Approach -Southbound Left	Stop Controlled on Fellowship Christian School Drwy	 F (3865.6) B (12.6)		 F (55.2) B (10.8)	
Woodstock Rd / Devereux Chase -Eastbound Approach -Northbound Left	Stop Controlled on Devereux Chase	 F (120.6) A (9.4)		 F (202.6) A (9.5)	
Woodstock Rd / Jones Rd	Signalized	D (52.8)	0.97	C (30.0)	0.89

Woodstock Road / W. Crossville Road / King Road

As shown in Table 7, the Base 2017 traffic operations analysis indicate that the intersection of Woodstock Rd / W. Crossville Rd / King Rd is operating at LOS F during both AM & PM peak hours. The following improvements are recommended at this intersection from the Base 2012 conditions to bring the level of service up to D or better:

- It is recommended that an additional ~200' northbound shared through/right-turn lane be constructed at the intersection. This would require the free flowing westbound right turning movement be restriped as yield condition. (Also in Base 2012 recommendations)
- It is also recommended that an additional eastbound left turn lane be added by removing the existing median and reducing the left turn lane widths. (Also in Base 2012

recommendations)

- It is recommended that an additional southbound shared through/right turn lane be installed on King Road. This will require an additional receiving lane to be installed on Woodstock Road.

Woodstock Road / Fellowship Christian School South Driveway 1

At the intersection of Woodstock Rd / Fellowship Christian School South Driveway 1, the westbound approach is operating at LOS F during both AM & PM peak hours. It is not uncommon for side streets to experience peak hour delays on facilities such as Woodstock Road. The addition of the proposed Fellowship School Driveway at the intersection of Jones Road / Woodstock Road will help alleviate the congestion at this intersection in the future condition.

Woodstock Road / Devereux Chase

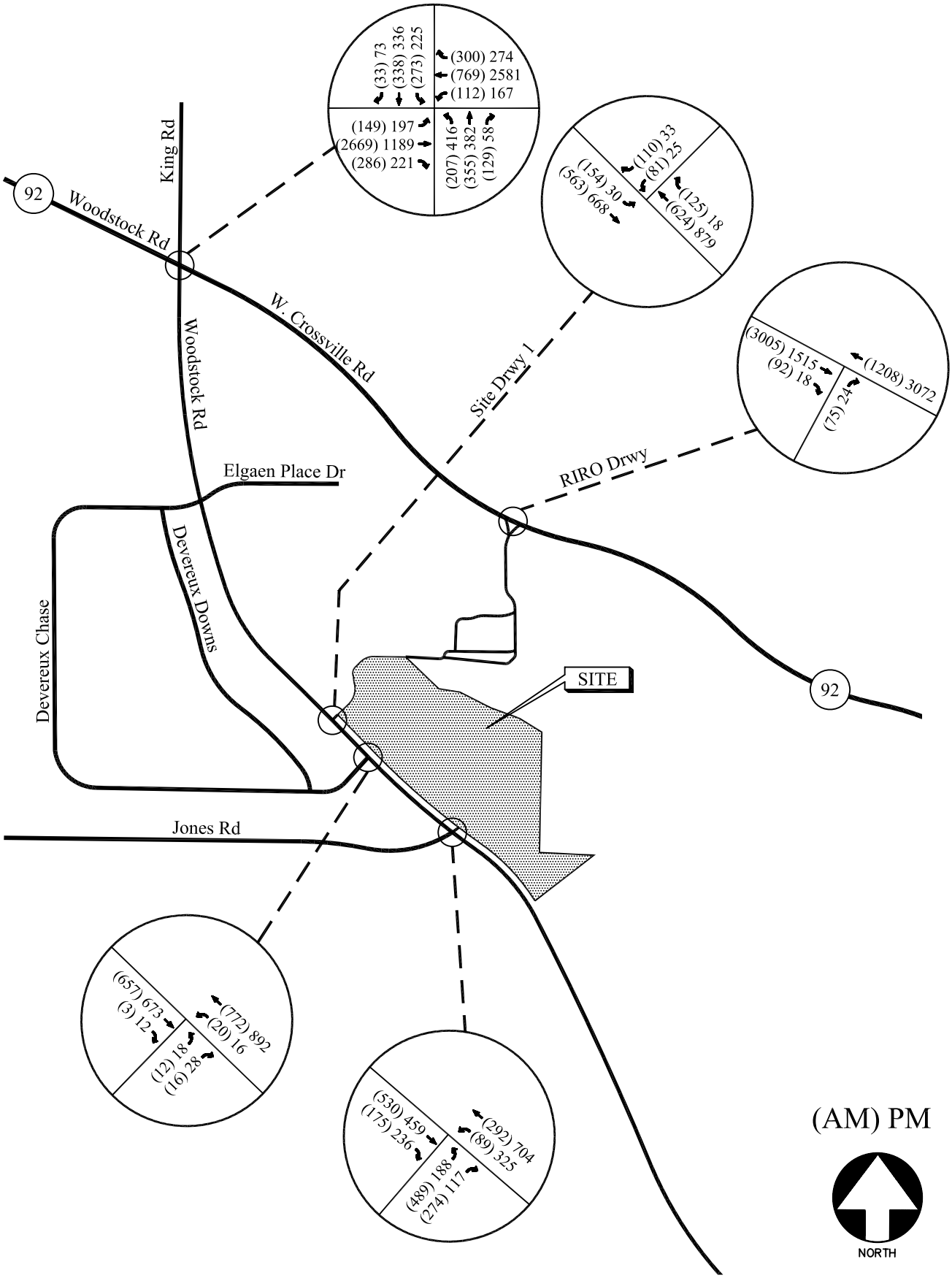
At the intersection of Woodstock Rd / Devereux Chase, the eastbound approach is operating at LOS F during both AM & PM peak hours. Devereux Chase is a small subdivision with one other connection to Woodstock Road. It is not uncommon for small stop-controlled side streets to experience peak hour delays on facilities such as Woodstock Road.

The result of the base 2017 traffic operations after implementing the above listed improvements is shown in Table 8.

TABLE 8
BASE 2017 INTERSECTION OPERATIONS

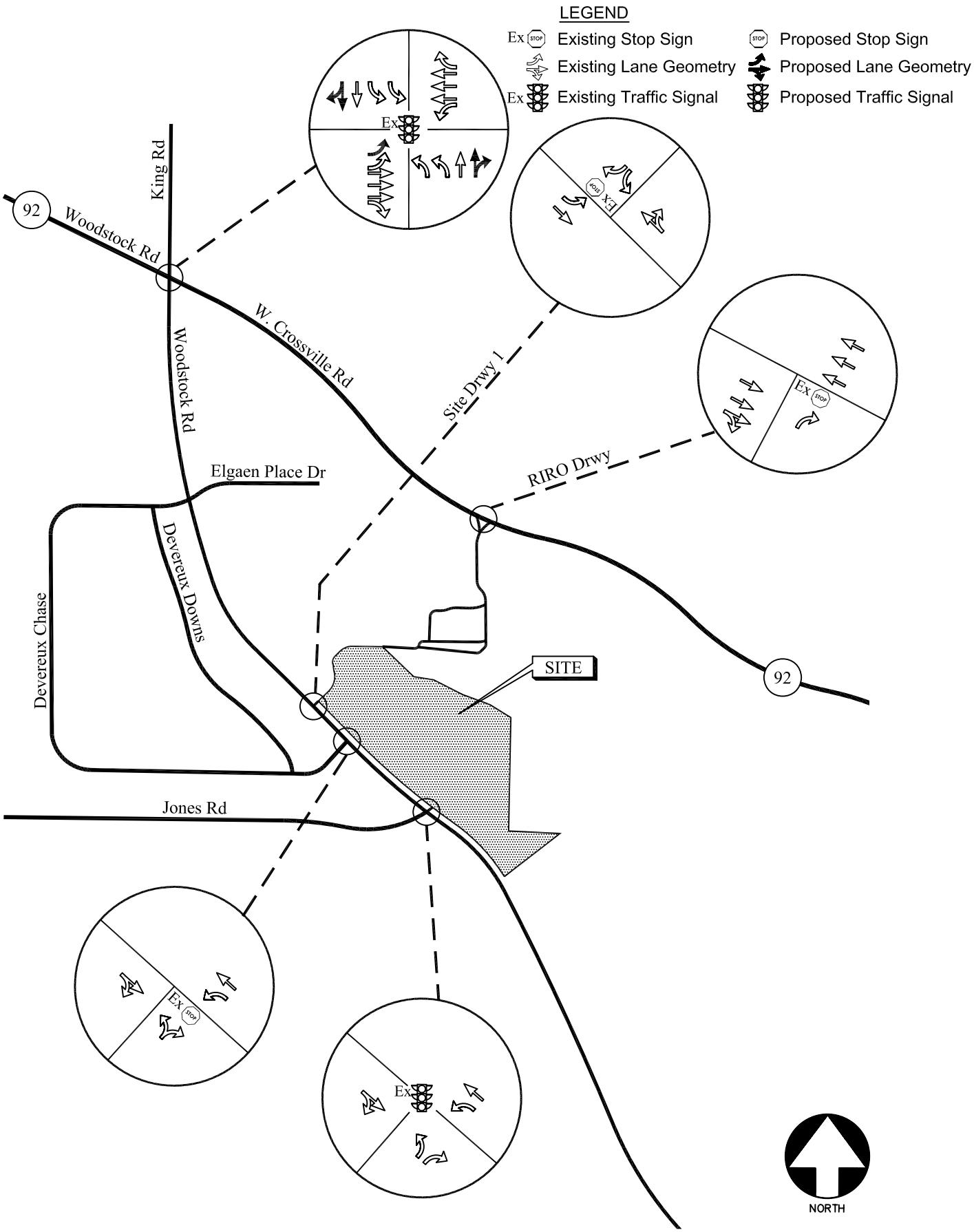
Intersection	Traffic Control	A.M. Peak Hour		P.M Peak Hour	
		LOS (Delay)	v/c ratio	LOS (Delay)	v/c ratio
Woodstock Rd / W. Crossville Rd / King Rd	Signalized	D (38.1)	0.95	D (45.7)	0.96

The recommended base 2017 intersections traffic control and lane geometry are shown in Figure 7.



BASE 2017 PEAK HOUR VOLUMES FIGURE 6

A&R Engineering Inc.



BASE 2017 TRAFFIC CONTROL AND LANE GEOMETRY FIGURE 7

A&R Engineering Inc.

BASE 2022 [HORIZON YEAR] TRAFFIC OPERATIONS

In addition to the Base 2012 (opening year), the Base 2022 (Horizon Year) traffic operations were also analyzed at the study intersections. The base traffic volumes are made up of the existing traffic volumes and expected growth in the area. The Georgia Department of Transportation recorded average daily traffic volumes at several locations in the vicinity of the site. A linear regression analysis over the last several years revealed an annual growth rate of approximately 1% per year from 1997 to 2009 in the area. This growth factor was applied to the existing traffic volumes on the roadways to estimate future year 2022 traffic volumes prior to the addition of the site-generated volumes. The future year (base) traffic volumes for 2022 at all the study intersections are shown in Figure 8.

A traffic operations analysis was evaluated for the Base Year 2022 traffic with existing traffic control and lane geometry prior to the addition of traffic from the proposed development. The results of the analysis are shown in Table 9.

TABLE 9
BASE 2022 INTERSECTION OPERATIONS

Intersection	Traffic Control	A.M. Peak Hour		P.M Peak Hour	
		LOS (Delay)	v/c ratio	LOS (Delay)	v/c ratio
Woodstock Rd / W. Crossville Rd / King Rd	Signalized	F (84.6)	1.17	F (88.0)	1.14
Woodstock Rd / Fellowship Christian School south Drwy 1 -Westbound Approach -Southbound Left	Stop Controlled on Fellowship Christian School Drwy	 F (3867.6) B (12.9)		 E (42.7) B (10.5)	
Woodstock Rd / Devereux Chase -Eastbound Approach -Northbound Left	Stop Controlled on Devereux Chase	 F (177.4) A (9.5)		 F (101.2) A (9.4)	
Woodstock Rd / Jones Rd	Signalized	E (62.7)	1.02	C (21.0)	0.78

Woodstock Road / W. Crossville Road / King Road

As shown in Table 9, the Base 2022 traffic operations analysis indicate that the intersection of Woodstock Rd / W. Crossville Rd / King Rd is operating at LOS F during both AM & PM peak hours. The following improvements are recommended at this intersection (same as the Base 2017 conditions) to bring the level of service up to D or better:

- It is recommended that an additional ~200' northbound shared through/right-turn lane be constructed at the intersection. This would require the free flowing westbound right turning movement be restriped as yield condition. (Also in Base 2012 recommendations)
- It is also recommended that an additional eastbound left turn lane be added by removing the existing median and reducing the left turn lane widths. (Also in Base 2012

recommendations)

- It is recommended that an additional southbound shared through/right turn lane be installed on King Road. This will require an additional receiving lane to be installed on Woodstock Road. (Also in Base 2017 recommendations)

Woodstock Road / Devereux Chase

At the intersection of Woodstock Rd / Devereux Chase, the eastbound approach is operating at LOS F during both AM & PM peak hours. Devereux Chase is a small subdivision with one other connection to Woodstock Road. It is not uncommon for small stop-controlled side streets to experience peak hour delays on facilities such as Woodstock Road.

Woodstock Road / Fellowship Christian School South Driveway 1

At the intersection of Woodstock Rd / Fellowship Christian School South Driveway 1, the westbound approach is operating at LOS F during both AM & PM peak hours. It is not uncommon for side streets to experience peak hour delays on facilities such as Woodstock Road. The addition of the proposed Fellowship School Driveway at the intersection of Jones Road / Woodstock Road will help alleviate the congestion at this intersection in the future condition.

Woodstock Road / Jones Road

There are heavy southbound through and eastbound left movements at this intersection. The Base 2022 recommended improvement is enough to raise the level-of-service of this intersection to LOS D or better:

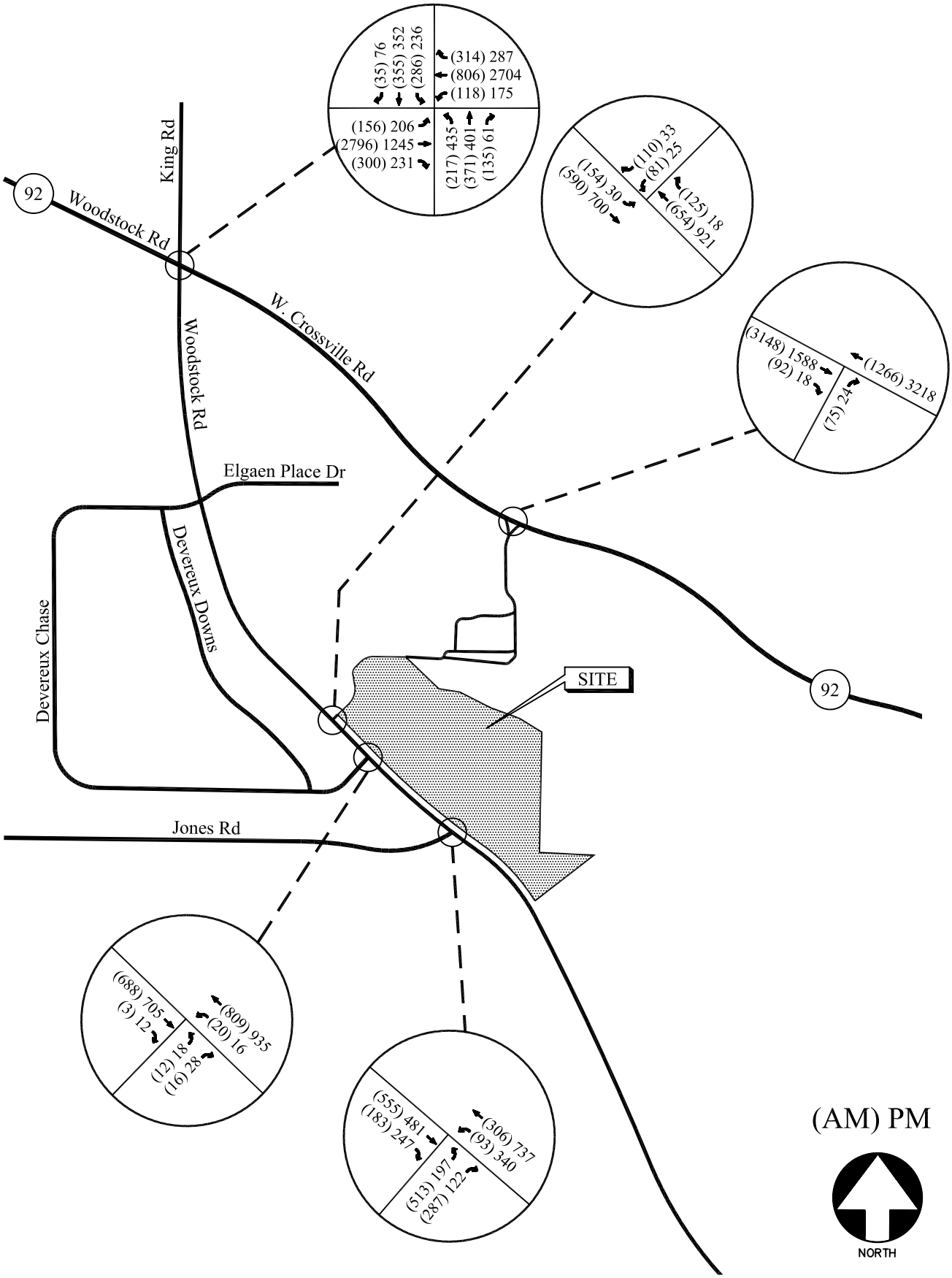
- Install a dedicated southbound right turn lane on Woodstock Road. This will help alleviate vehicles in the southbound through lane from having to wait for vehicles to make right turns.

The results of the base 2022 traffic operations after implementing the above listed improvements are shown in Table 10.

TABLE 10
BASE 2022 INTERSECTION OPERATIONS – IMPROVED

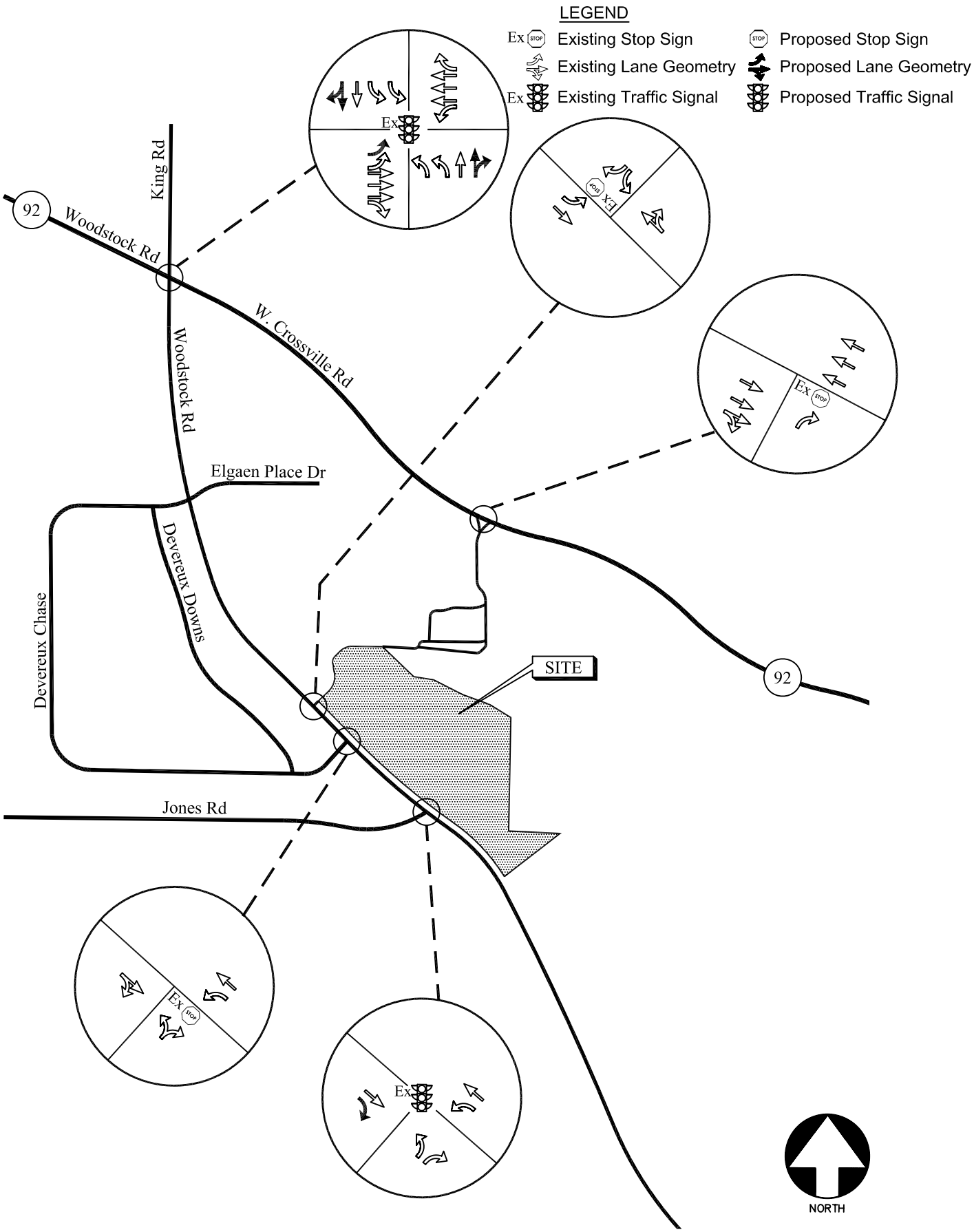
Intersection	Traffic Control	A.M. Peak Hour		P.M Peak Hour	
		LOS (Delay)	v/c ratio	LOS (Delay)	v/c ratio
Woodstock Rd / W. Crossville Rd / King Rd	Signalized	D (44.6)	0.99	D (53.6)	1.01
Woodstock Rd / Jones Rd	Signalized	C (32.9)	0.95	B (16.5)	0.72

The recommended base 2022 intersections traffic control and lane geometry are shown in Figure 9.



BASE 2022 PEAK HOUR VOLUMES FIGURE 8

A&R Engineering Inc.



BASE 2022 TRAFFIC CONTROL AND LANE GEOMETRY FIGURE 9

A&R Engineering Inc.

PROPOSED DEVELOPMENT

The Fellowship Christian School currently consists of 670 students, and proposes to consist of 1,000 students after the expansion is completed. The site proposes an additional full access driveway at the signalized intersection of Woodstock Road / Jones Rd. The existing layout of the school has a full access driveway along Woodstock Road and one Right-In / Right-Out driveway along W. Crossville Road. A site plan is shown in Figure 10.

Trip Generation

Currently, there are 670 students enrolled at the school. A high school building exists on site and elementary and middle school classes are currently in operation in the existing Church buildings on site. After the expansion project is complete, Fellowship Christian Schools will have 1,000 students in grades kindergarten through 12th grade. Trip generation estimates for the expansion of Fellowship Christian Schools were based on the rates gathered from the existing count data. The calculated trip generation for the proposed development with reductions is shown in Table 11.

TABLE 11
TRIP GENERATION – FELLOWSHIP CHRISTIAN SCHOOL

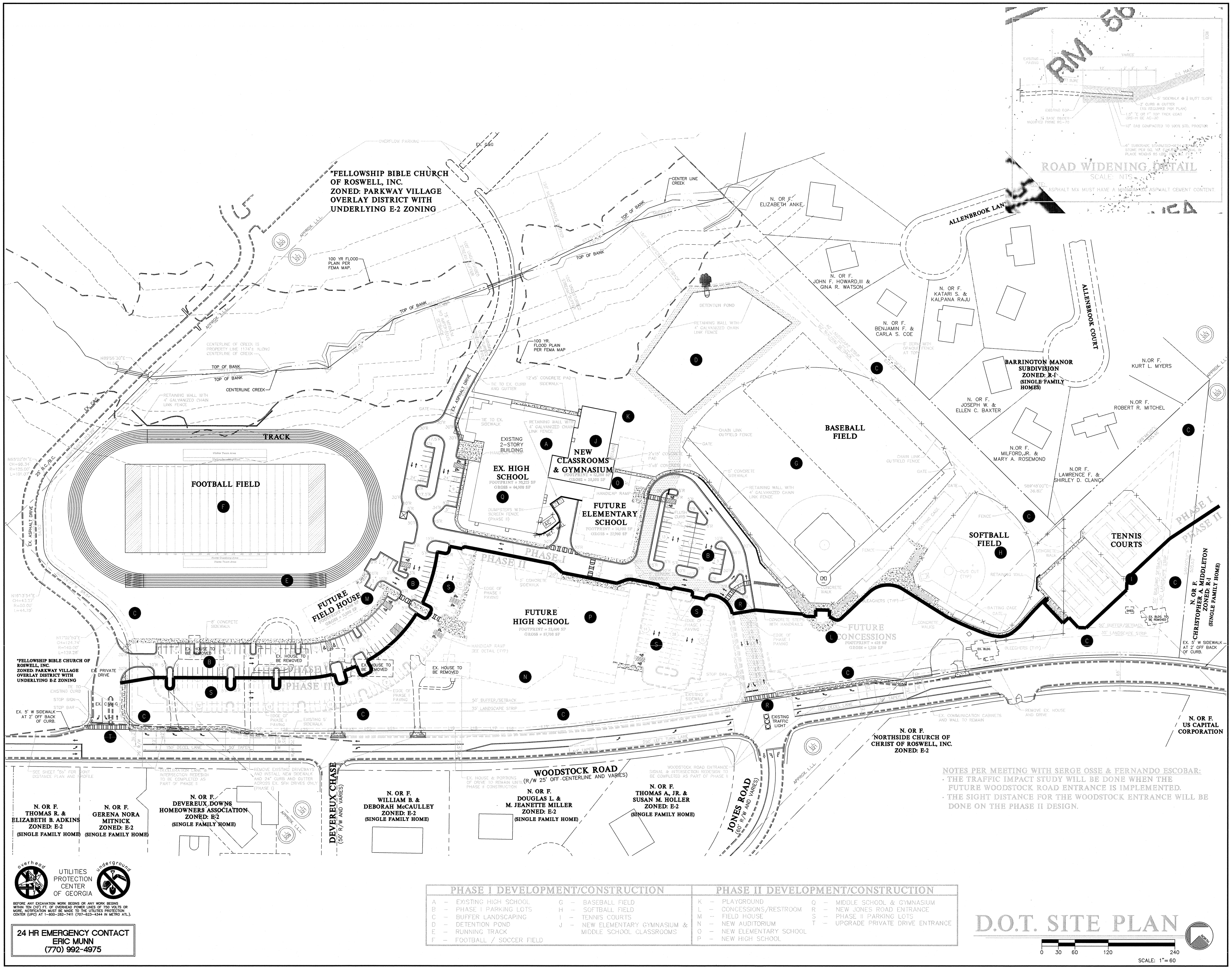
Land Use	Size	A.M. Peak Hour			P.M Peak Hour			24-Hour
		Enter	Exit	Total	Enter	Exit	Total	2-way
Existing Conditions	670 Students	371	226	597	66	82	148	1,662
Future Condition	1,000 Students	554	337	891	99	122	221	2,481
Net Trip Generation	330 Students	183	111	294	33	40	73	819

Trip Distribution

The trip distribution describes how traffic arrives and departs from the site. An overall trip distribution was developed based on a review of the existing travel patterns in the area, the locations of major roadways, highways, residential concentrations and employment centers that will serve the development. This distribution is shown in Figure 11. The site-generated traffic volumes shown in Table 11 were assigned to the study area intersections and the proposed site driveways based on this distribution. The AM and PM peak hour traffic generated by the site is shown in Figure 12.

On-site Circulation

The on-site vehicular circulation and parking layouts appear to facilitate efficient ingress and egress. Additionally, the on-site sidewalks and crosswalks provided also appear to facilitate safe and efficient on-site pedestrian circulation.



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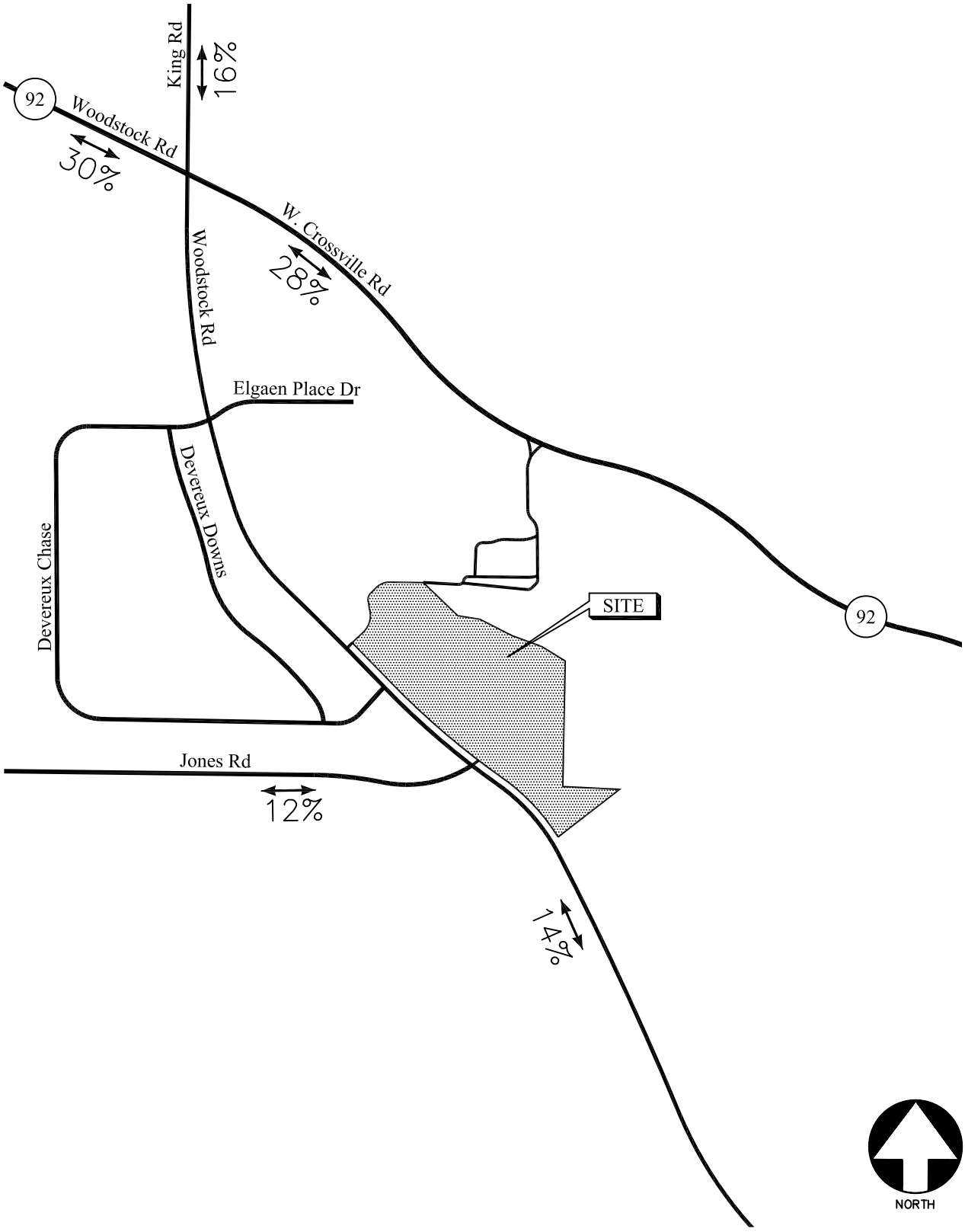
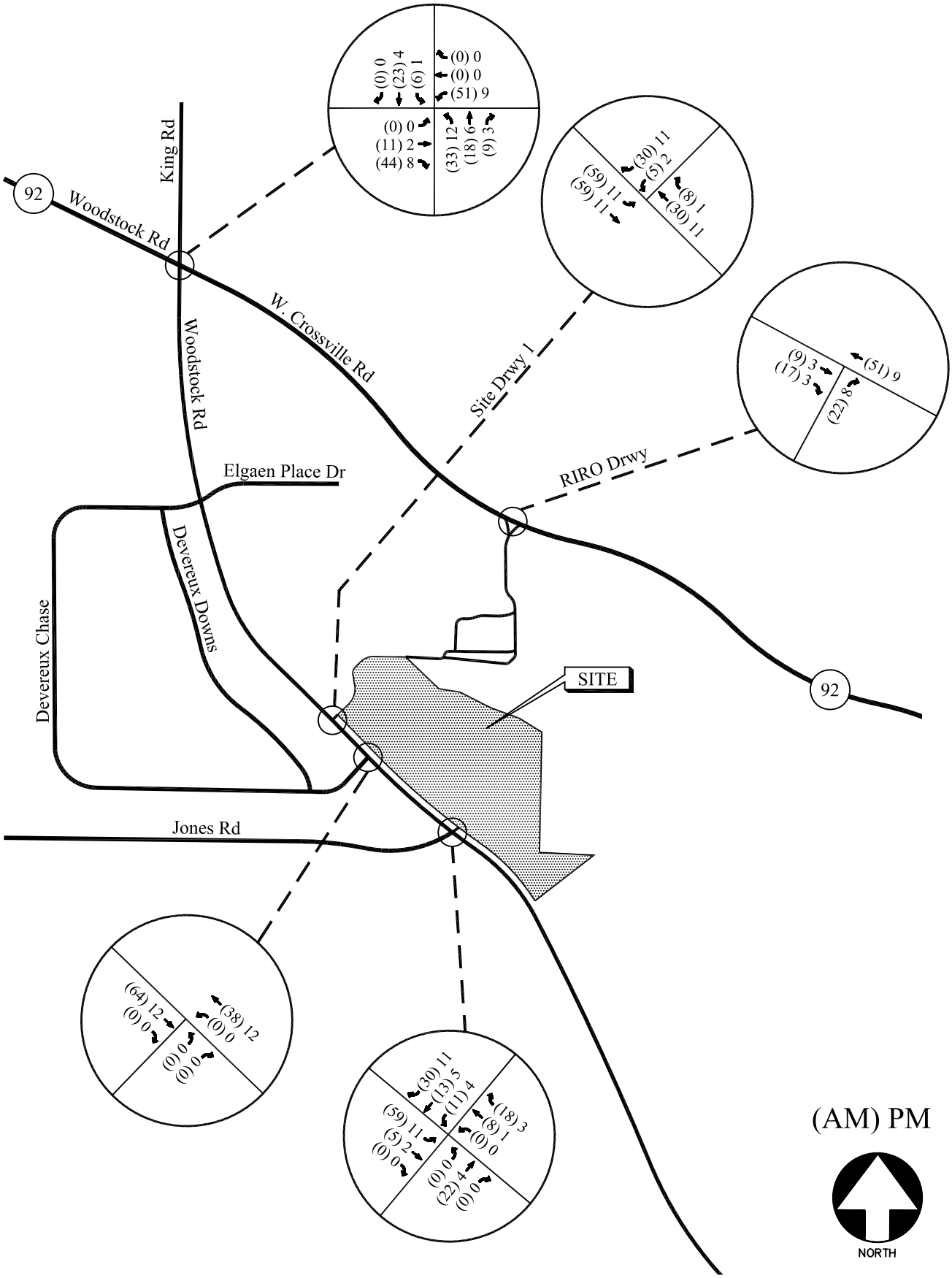
REVISIONS

2005598C.dwg 09.27.07
D.O.T. SITE PLAN
DOT.1



TRIP DISTRIBUTION FIGURE 11

A&R Engineering Inc.



ADDITIONAL SITE-GENERATED PEAK-HOUR VOLUMES FIGURE 12

A&R Engineering Inc.

TOTAL FUTURE 2012 TRAFFIC OPERATIONS

The traffic volumes that will be generated by the proposed development, shown in Figure 12, were added to the future base year 2012 traffic volumes (Figure 4) in order to determine the traffic volumes that will be on the roadway network after completion of the project.

The resulting total future peak hour volumes are shown in Figure 13. These volumes were used to analyze future traffic operations at all study intersections including the proposed driveway on Woodstock Rd. The results of the future traffic operation analysis are shown in Table 12.

TABLE 12
FUTURE 2012 INTERSECTION OPERATIONS

Intersection	Traffic Control	A.M. Peak Hour		P.M Peak Hour	
		LOS (Delay)	v/c ratio	LOS (Delay)	v/c ratio
Woodstock Rd / W. Crossville Rd / King Rd	Signalized	E (73.8)	1.14	E (66.5)	1.26
Woodstock Rd / Fellowship Christian School south Drwy 1 -Westbound Approach -Southbound Left	Stop Controlled on Fellowship Christian School Drwy	 F (66.4) B (11.3)		 C (23.6) B (10.0)	
Woodstock Rd / Devereux Chase -Eastbound Approach -Northbound Left	Stop Controlled on Devereux Chase	 F (104.2) A (9.7)		 F (54.5) A (9.1)	
Woodstock Rd / Jones Rd	Signalized	D (42.7)	0.93	C (22.3)	0.69

As shown in Table 12, the Future 2012 traffic operations analysis indicate that the intersection of Woodstock Rd / W. Crossville Rd / King Rd is operating at LOS E during the AM and PM peak hours, respectively. All of the following improvements were recommended in the Base 2012 condition before additional traffic was added from the school site:

- Installation of an additional ~200' northbound shared through/right-turn lane. This would require the free flowing westbound right turning movement be restriped as a yield condition.
- Installation of an additional eastbound left turn lane by removing the existing median and reducing the left turn lane widths.

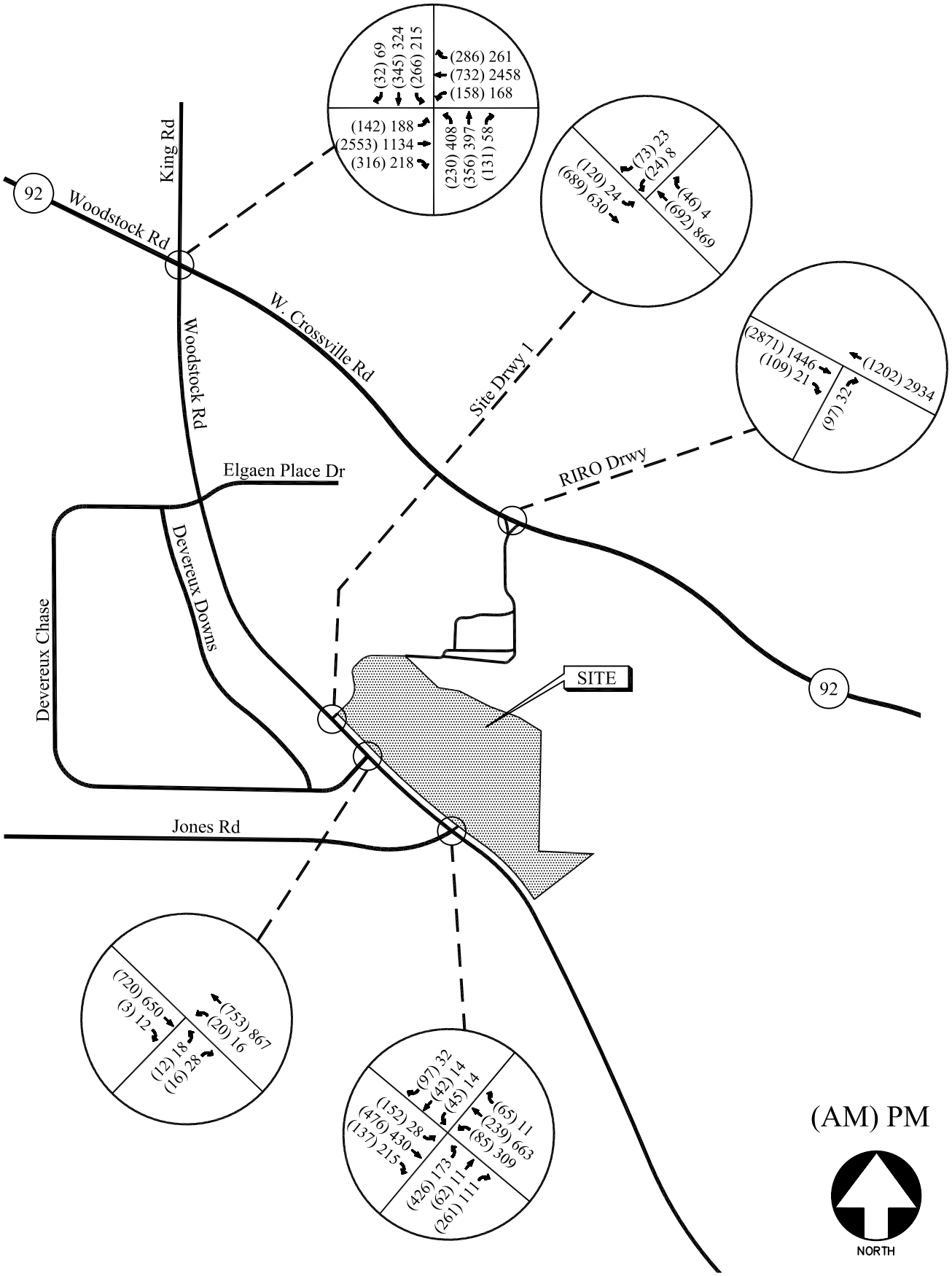
The results of the base 2012 traffic operations after implementing the above listed improvements are shown in Table 13.

TABLE 13 FUTURE 2012 INTERSECTION OPERATIONS – IMPROVED					
Intersection	Traffic Control	A.M. Peak Hour		P.M Peak Hour	
		LOS (Delay)	v/c ratio	LOS (Delay)	v/c ratio
Woodstock Rd / W. Crossville Rd / King Rd	Signalized	D (48.0)	0.99	C (34.0)	0.96

At the intersection of Woodstock Rd / Fellowship Christian School South Driveway 1, the westbound approach is operating at LOS F during the AM peak hour. It is not uncommon for side streets to experience peak hour delays on facilities such as Woodstock Road.

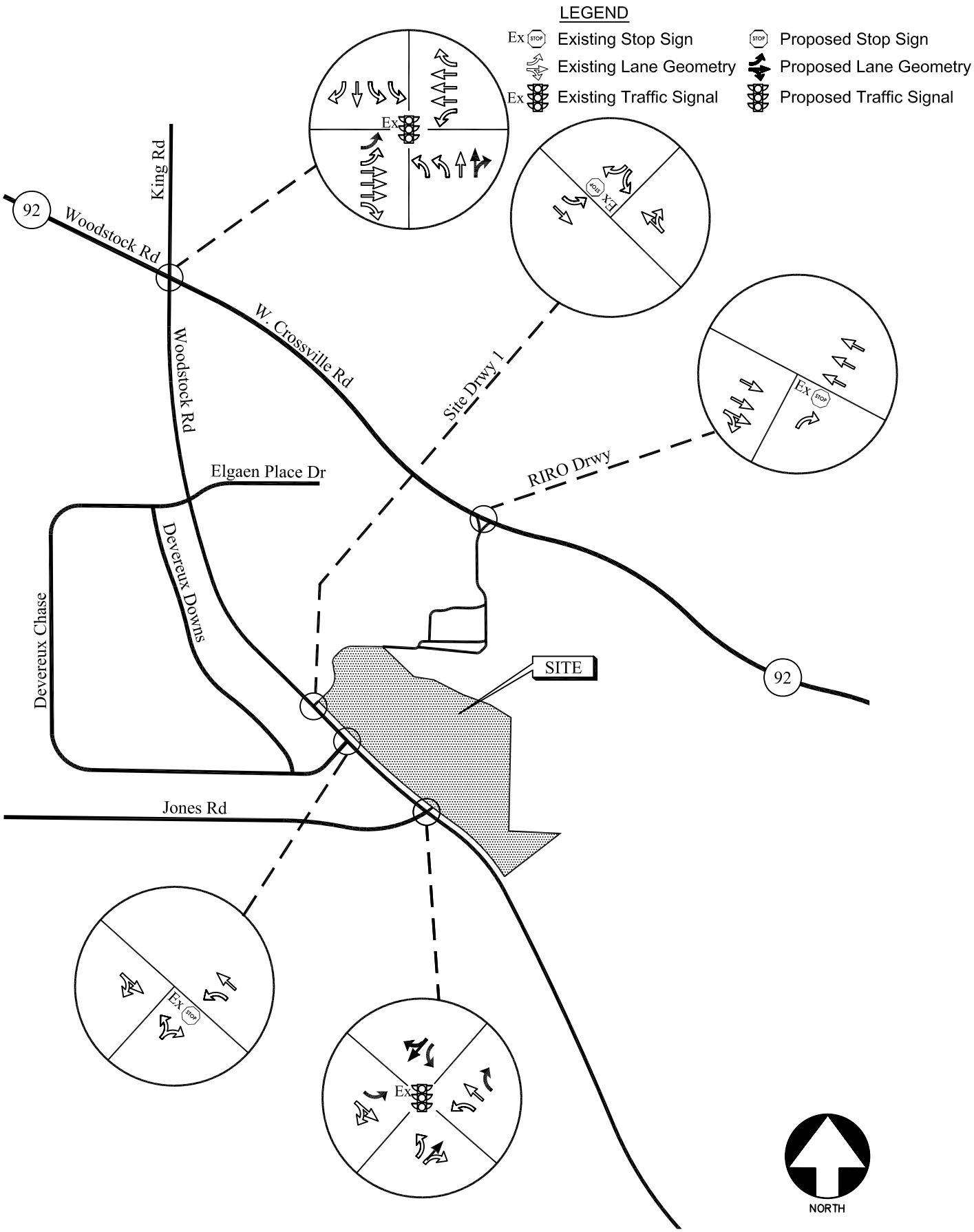
At the intersection of Woodstock Rd / Devereux Chase, the eastbound approach is operating at LOS F during both AM & PM peak hours. Devereux Chase is a small subdivision with one other connection to Woodstock Road. It is not uncommon for small stop-controlled side streets to experience peak hour delays on facilities such as Woodstock Road.

The recommended base 2012 intersections traffic control and lane geometry are shown in Figure 14. The results of the analysis are discussed in further detail in the Conclusions and Recommendations section of the report.



FUTURE 2012 PEAK HOUR VOLUMES FIGURE 13

A&R Engineering Inc.



FUTURE 2012 TRAFFIC CONTROL AND LANE GEOMETRY FIGURE 14

A&R Engineering Inc.

TOTAL FUTURE 2017 TRAFFIC OPERATIONS

The traffic volumes that will be generated by the proposed development, shown in Figure 12, were added to the future base year 2017 traffic volumes (Figure 6) in order to determine the traffic volumes that will be on the roadway network after completion of the project.

The resulting total future peak hour volumes are shown in Figure 15. These volumes were used to analyze future traffic operations at all study intersections including the proposed driveway on Woodstock Rd. The results of the future traffic operation analysis are shown in Table 14.

TABLE 14
FUTURE 2017 INTERSECTION OPERATIONS

Intersection	Traffic Control	A.M. Peak Hour		P.M Peak Hour	
		LOS (Delay)	v/c ratio	LOS (Delay)	v/c ratio
Woodstock Rd / W. Crossville Rd / King Rd	Signalized	F (87.7)	1.24	F (84.9)	1.17
Woodstock Rd / Fellowship Christian School south Drwy 1 -Westbound Approach -Southbound Left	Stop Controlled on Fellowship Christian School Drwy	 F (77.2) B (11.5)		 D (29.9) B (10.7)	
Woodstock Rd / Devereux Chase -Eastbound Approach -Northbound Left	Stop Controlled on Devereux Chase	F (172.5) A (9.8)		F (195.9) A (9.6)	
Woodstock Rd / Jones Rd	Signalized	D (50.7)	0.99	D (48.8)	0.96

As shown in Table 14, the Future 2017 traffic operations analysis indicate that the intersection of Woodstock Rd / W. Crossville Rd / King Rd are operating at LOS F during both AM & PM peak hours, and the intersection of Woodstock Rd / Jones Rd will operate at LOS F during the PM peak hour. All of the following improvements were recommended in the Base 2017 condition before additional traffic was added from the school site:

Woodstock Road / W. Crossville Road / King Road

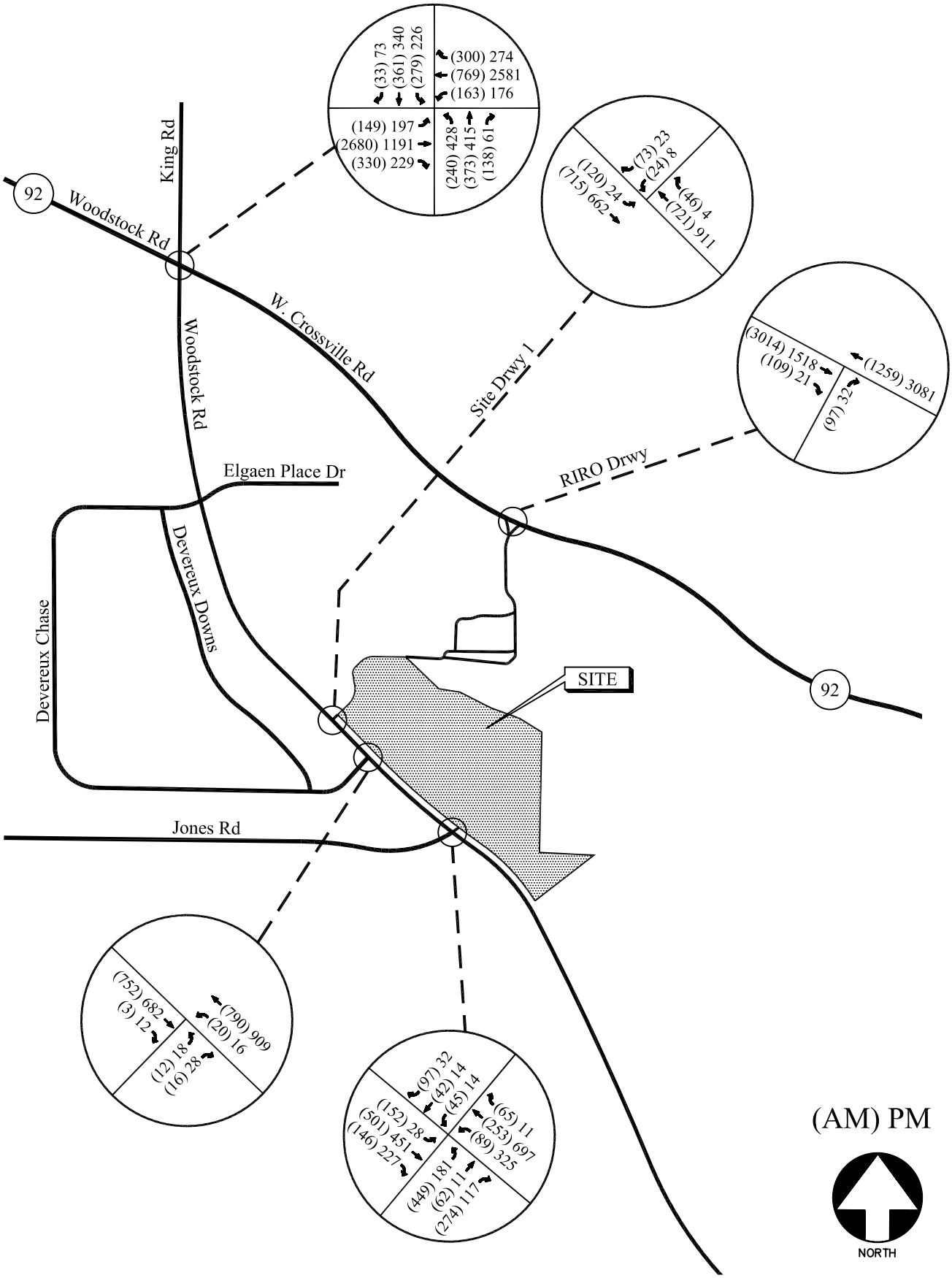
- It is recommended that an additional ~200' northbound shared through/right-turn lane be constructed at the intersection. This would require the free flowing westbound right turning movement be restriped as a yield condition, as in the Base 2012 recommendations.
- It is also recommended that an additional eastbound left turn lane be added by removing the existing median and reducing the left turn lane widths, as in the Base 2012 operations.
- It is recommended that an additional southbound shared through/right turn lane be installed on King Road. Just like the previous improvement, the additional through movement will require that Woodstock Road have two receiving lanes for traffic. (Recommended in Base 2017 improvements)

The results of the Future 2017 traffic operations after implementing the above listed improvements are shown in Table 15.

TABLE 15
FUTURE 2017 INTERSECTION OPERATIONS – IMPROVED

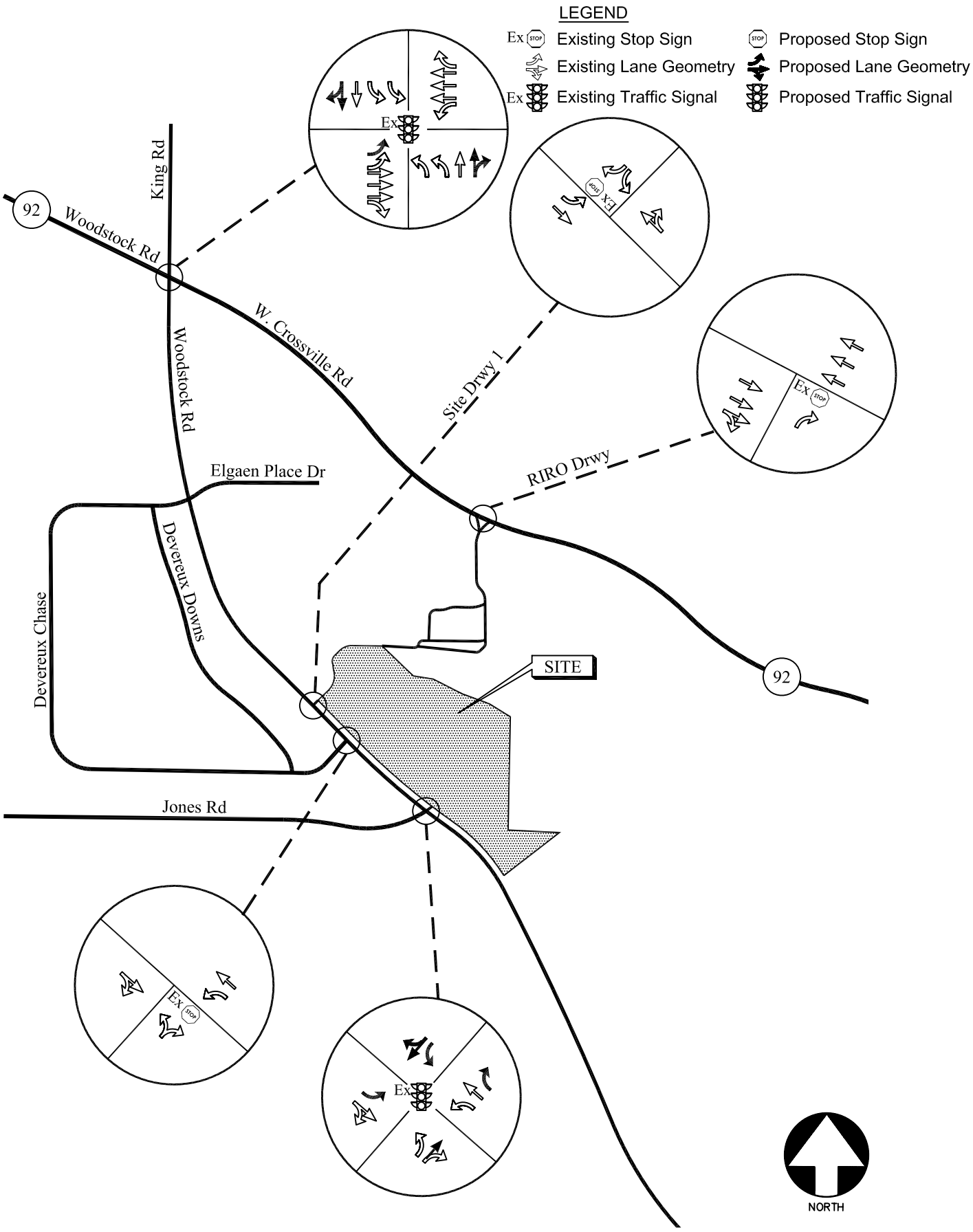
Intersection	Traffic Control	A.M. Peak Hour		P.M Peak Hour	
		LOS (Delay)	v/c ratio	LOS (Delay)	v/c ratio
Woodstock Rd / W. Crossville Rd / King Rd	Signalized	D (54.9)	1.03	D (49.5)	0.97

The recommended Future 2017 intersections traffic control and lane geometry are shown in Figure 16. The results of the analysis are discussed further in the Conclusions and Recommendations section of the report.



FUTURE 2017 VOLUMES FIGURE 15

A&R Engineering Inc.



FUTURE 2017 TRAFFIC CONTROL AND LANE GEOMETRY FIGURE 16

A&R Engineering Inc.

TOTAL FUTURE 2022 TRAFFIC OPERATIONS

The traffic volumes that will be generated by the proposed development, shown in Figure 12, were added to the future base year 2022 traffic volumes (Figure 8) in order to determine the traffic volumes that will be on the roadway network after completion of the project. The resulting total future peak hour volumes are shown in Figure 17. These volumes were used to analyze future traffic operations at all study intersections including the proposed driveway on Woodstock Rd. The results of the future traffic operation analysis are shown in Table 16.

TABLE 16
FUTURE 2022 INTERSECTION OPERATIONS

Intersection	Traffic Control	A.M. Peak Hour		P.M Peak Hour	
		LOS (Delay)	v/c ratio	LOS (Delay)	v/c ratio
Woodstock Rd / W. Crossville Rd / King Rd	Signalized	F (102.5)	1.23	F (100.9)	1.19
Woodstock Rd / Fellowship Christian School south Drwy 1 -Westbound Approach -Southbound Left	Stop Controlled on Fellowship Christian School Drwy	 F (90.2) B (11.8)		 D (33.0) B (11.0)	
Woodstock Rd / Devereux Chase -Eastbound Approach -Northbound Left	Stop Controlled on Devereux Chase	 F (314.4) B (10.0)		 F (342.1) A (9.7)	
Woodstock Rd / Jones Rd	Signalized	E (59.7)	1.04	D (51.4)	0.96

As shown in Table 16, the Future 2022 traffic operations analysis indicate that the intersection of Woodstock Rd / W. Crossville Rd / King Rd are operating at LOS F during both AM & PM peak hours, and the intersection of Woodstock Rd / Jones Rd will operate at LOS E during the AM peak hour. All of the following improvements were recommended in the Base 2022 condition before additional traffic was added from the school site:

Woodstock Road / W. Crossville Road / King Road

- It is recommended that an additional ~200' northbound shared through/right-turn lane be constructed at the intersection. This would require the free flowing westbound right turning movement be restriped as a yield condition, as in the Base 2012 recommendations.
- It is also recommended that an additional eastbound left turn lane be added by removing the existing median and reducing the left turn lane widths, as in the Base 2012 operations.
- It is recommended that an additional southbound shared through/right turn lane be installed on King Road. Just like the previous improvement, the additional through movement will require that Woodstock Road have two receiving lanes for traffic. (Recommended in Base 2017 improvements)

Woodstock Road / Jones Road

As in the Base 2022 condition, there are heavy southbound through and eastbound left movements at this intersection. The Base 2022 recommended improvement is enough to raise the level-of-service of this intersection to LOS D or better:

- Install a dedicated southbound right turn lane on Woodstock Road. This will help alleviate vehicles in the southbound through lane from having to wait for vehicles to make right turns. (Recommended in Base 2022 improvements)

Woodstock Road / Devereux Chase

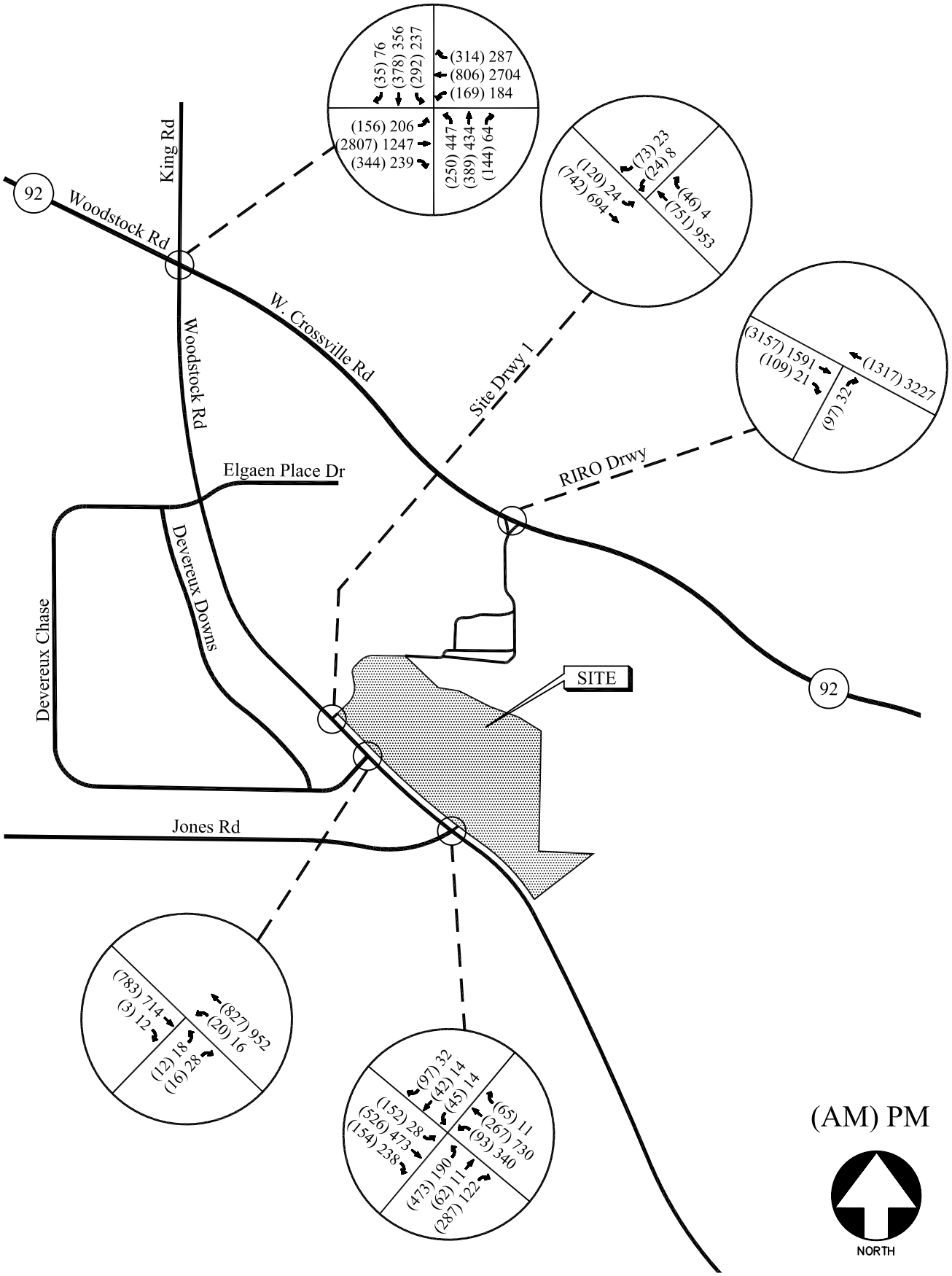
At the intersection of Woodstock Rd / Devereux Chase, the eastbound approach is operating at LOS F during both AM & PM peak hours. Devereux Chase is a small subdivision with one other connection to Woodstock Road. It is not uncommon for small stop-controlled side streets to experience peak hour delays on facilities such as Woodstock Road.

The result of the Future 2022 traffic operations after implementing the above listed improvements is shown in Table 17.

TABLE 17
FUTURE 2022 INTERSECTION OPERATIONS - IMPROVED

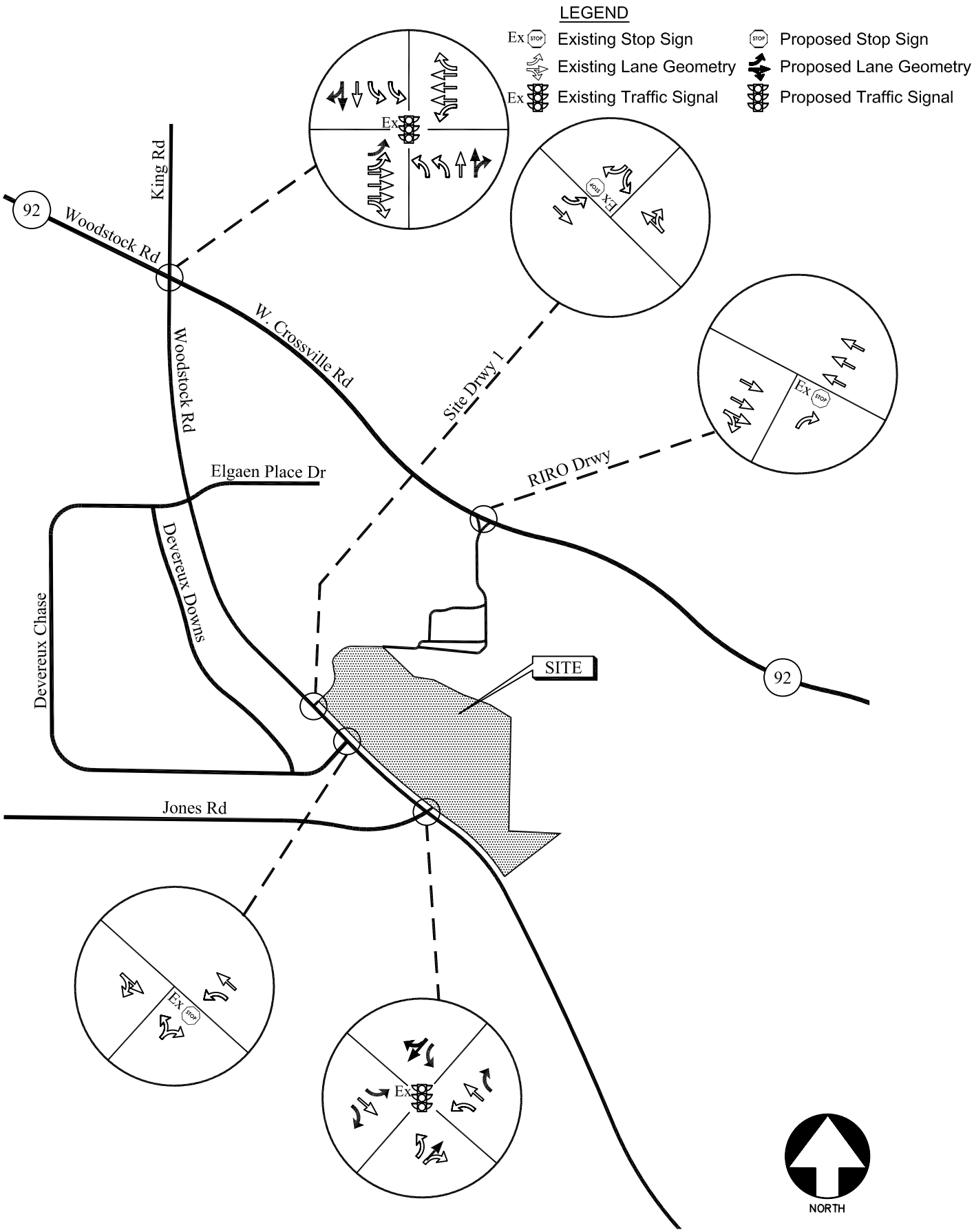
Intersection	Traffic Control	A.M. Peak Hour		P.M Peak Hour	
		LOS (Delay)	v/c ratio	LOS (Delay)	v/c ratio
Woodstock Rd / W. Crossville Rd / King Rd	Signalized	D (53.0)	1.00	D (53.6)	1.00
Woodstock Rd / Jones Rd	Signalized	D (36.3)	0.88	C (20.8)	0.74

The recommended base 2022 intersections traffic control and lane geometry are shown in Figure 18. The results of the analysis are discussed in further detail in the Conclusions and Recommendations section of the report.



FUTURE 2022 PEAK HOUR VOLUMES FIGURE 17

A&R Engineering Inc.



FUTURE 2022 TRAFFIC CONTROL AND LANE GEOMETRY FIGURE 18

A&R Engineering Inc.

ATHLETIC EVENTS

As part of the campus expansion, a football field and track are proposed. The football games are currently being played at Old Milton High School. The peak generation for this facility would be during high school football games on Friday nights (approximately 7:30 pm – 9:30 pm depending on the game) from mid-August to early December. Other stadiums in the area are located at Blessed Trinity Catholic High School (11320 Woodstock Road) and Roswell High School (11595 King Road), which are located within one-mile of Fellowship Christian Schools.

Traffic counts were collected at the study intersections from 7-8 PM and 9-10 PM in order to evaluate the existing traffic at the beginning and end of a football game. A linear regression analysis over the last several years revealed an annual growth rate of approximately 1% per year from 1997 to 2009 in the area. This growth factor was applied to the existing traffic volumes on the roadways to estimate the future year 2012 traffic volumes prior to the addition of football traffic. These volumes are shown in Figure 19.

Ticket sales from previous Fellowship Christian School games show that approximately 542 fans were present at the football games. With the anticipated increase in the student body, a proportional increase of the football game attendees will result in 809 fans at future games. Based on previous studies and discussions with the City of Roswell, it is anticipated that each vehicle will carry 2.75 fans to the game on average. This will total 295 vehicles for each football game in the future.

The Fellowship Christian School is proposing a 1,500 seat stadium with 500 additional temporary seats. Though this is above the projected attendance, the additional capacity is to meet the Georgia High School Association's seating requirements for Class A football. This additional seating is not likely to be filled for regular season games.

The vehicle trips for Roswell High School and Blessed Trinity High School are based on the estimated amount of available seating and the average vehicle capacity rate of 2.75 persons per vehicle. Because no data is available for the number of fans normally in attendance at either of these school's games, it is assumed that their stadiums will be occupied at full capacity. This will develop a very conservative estimation of the traffic on the roadway for either of these schools. It is calculated that Roswell High School will draw 996 vehicles and Blessed Trinity High School will draw 856 vehicles for their football games.

From the 2011 football schedule, included in the appendix, it is apparent that the Fellowship Christian School Paladins will have a home game five times in an average year. In 2011, only one of those home games is scheduled during a home game for either Blessed Trinity High School or Roswell High School. Both Blessed Trinity and Fellowship Christian School have a coinciding football game on September 30th; however, for the remainder of the season, Fellowship Christian School is not scheduled to have any coinciding games. It is highly unlikely that all three high schools will have coinciding home games on the same night.

Because the football traffic is varied in this area, due to the close vicinity of each other and the game schedule for that year, the football traffic has been evaluated in two scenarios for the future condition:

Scenario 1

This scenario assumes that Fellowship Christian School will have regular attendance (295 vehicles) for their football games. This scenario also includes traffic for a coinciding football game at Roswell High school, which include an additional 996 vehicles. This scenario models the once a year event in which Fellowship Christian School has a home game on the same night as a nearby school. In 2011, this conflict is with a Blessed Trinity game. In order to obtain conservative results, Scenario 1 evaluates a conflicting game with Roswell High School (which will attract more traffic), with the Roswell High school stadium at full capacity. The trip generation for this scenario is shown in Figure 20.

The future volumes on the roadway were calculated by adding the projected football traffic (shown in Figure 20) to the existing 2012 traffic on the roadway (Figure 19). The resulting Future 2012 volumes for the entering and exiting peak hours are shown in Figure 21 for Scenario 1. A capacity analysis was performed for these future projected traffic volumes. The results of this analysis are shown in Table 18, below.

TABLE 18
SCENARIO 1 - 2012 FOOTBALL OPERATIONS WITH NO IMPROVEMENTS

Intersection	Traffic Control	Entering Peak Hour		Exiting Peak Hour	
		LOS (Delay)	v/c ratio	LOS (Delay)	v/c ratio
Woodstock Rd / W. Crossville Rd / King Rd	Signalized	E (58.8)	1.06	D (36.7)	0.60
Woodstock Rd / Fellowship Christian School south Drwy 1 -Westbound Approach -Southbound Left	Stop Controlled on Fellowship Christian School Drwy	 A (0.0) B (10.6)		 B (13.1) A (0.0)	
Woodstock Rd / Devereux Chase -Eastbound Approach -Northbound Left	Stop Controlled on Devereux Chase	 D (28.4) A (8.8)		 B (14.3) A (8.8)	
Woodstock Rd / Jones Rd / Fellowship Christian School Drwy	Signalized	C (24.7)	0.56	B (15.3)	0.50

When compared to the results of the Base 2012 AM and PM peak hour volumes (Table 5), it is seen that the future football traffic for Scenario 1 will be no worse than the Base 2012 AM and PM peak hour volumes (without any additional traffic from the proposed development).

For the Base 2012 operations (before the addition of the site traffic) there were recommendations made to improve the level-of-service to acceptable levels. These same improvements would be in place for the future Friday night football games. The improved level-of-service for the Scenario 1 – Friday Night analysis after these improvements are implemented is shown in Table 19.

TABLE 19 SCENARIO 1 - 2012 FOOTBALL OPERATIONS WITH BASE 2012 IMPROVEMENTS					
Intersection	Traffic Control	Entering Peak Hour		Exiting Peak Hour	
		LOS (Delay)	v/c ratio	LOS (Delay)	v/c ratio
Woodstock Rd / W. Crossville Rd / King Rd	Signalized	C (30.0)	0.80	D (35.6)	0.57

When compared to the results of the improved Base 2012 AM and PM peak hour volumes (Table 6), it is still shown that the future football traffic for Scenario 1 will be no worse than the Base 2012 AM and PM peak hour volumes (without any additional traffic from the proposed development).

Scenario 2

This scenario assumes that Fellowship Christian School will operate at full capacity, attracting 728 vehicles for a football game. This scenario models an event where Fellowship Christian School would be hosting a large game, like a state championship at home. It is unlikely that a similar home game would be happening at either Blessed Trinity or Roswell High School on the same night. This is a worst-case scenario for the Fellowship Christian School football traffic. The trip generation for this scenario is shown in Figure 22.

The future volumes on the roadway were calculated by adding the projected football traffic (shown in Figure 22) to the existing 2012 traffic on the roadway (Figure 19). The resulting Future 2012 volumes for the entering and exiting peak hours are shown in Figure 23 for Scenario 2. A capacity analysis was performed for these future projected traffic volumes. The results of this analysis are shown in Table 20, below.

TABLE 20 SCENARIO 2 - 2012 FOOTBALL OPERATIONS WITH NO IMPROVEMENTS					
Intersection	Traffic Control	A.M. Peak Hour		P.M Peak Hour	
		LOS (Delay)	v/c ratio	LOS (Delay)	v/c ratio
Woodstock Rd / W. Crossville Rd / King Rd	Signalized	C (32.1)	0.73	C (32.2)	0.56
Woodstock Rd / Fellowship Christian School south Drwy 1 -Westbound Approach -Southbound Left	Stop Controlled on Fellowship Christian School Drwy	 A (0.0) B (11.0)		 C (29.7) A (0.0)	
Woodstock Rd / Devereux Chase -Eastbound Approach -Northbound Left	Stop Controlled on Devereux Chase	 C (21.0) A (9.3)		 B (11.9) A (8.0)	
Woodstock Rd / Jones Rd / Fellowship Christian School Drwy	Signalized	B (16.7)	0.45	C (27.9)	0.44

When compared to the results of the Base 2012 AM and PM peak hour volumes (Table 5), it is seen that the future football traffic for Scenario 2 will be no worse than the Base 2012 AM and PM peak hour volumes (without any additional traffic from the proposed development).

For the Base 2012 operations (before the addition of the site traffic) there were recommendations made to improve the level-of-service to acceptable levels. These same improvements would be in place for the future Friday night football games. The improved level-of-service for the Scenario 1 – Friday Night analysis after these improvements are implemented is shown in Table 21.

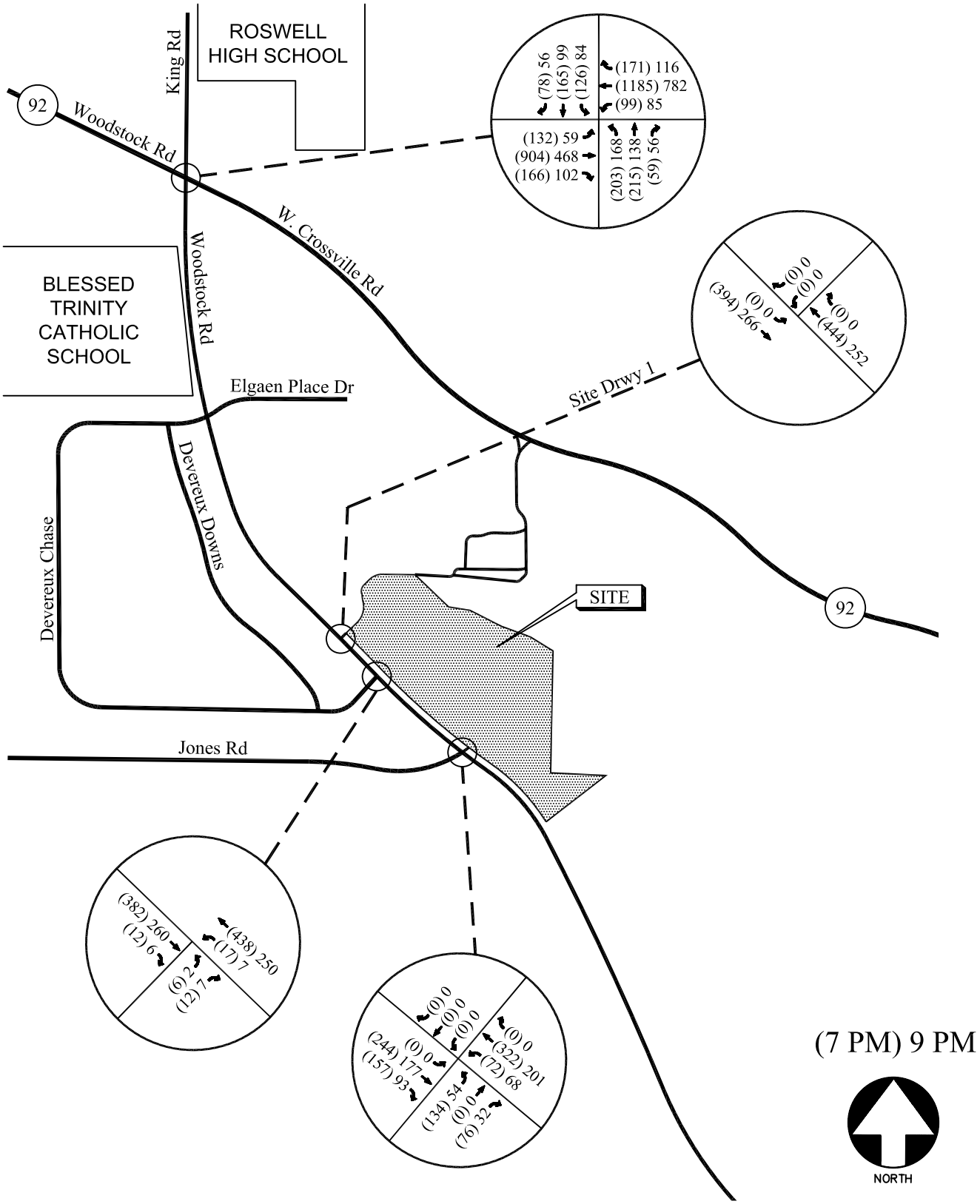
TABLE 21
SCENARIO 2 - 2012 FOOTBALL OPERATIONS WITH BASE 2012 IMPROVEMENTS

Intersection	Traffic Control	Entering Peak Hour		Exiting Peak Hour	
		LOS (Delay)	v/c ratio	LOS (Delay)	v/c ratio
Woodstock Rd / W. Crossville Rd / King Rd	Signalized	C (29.7)	0.75	C (27.9)	0.41

When compared to the results of the improved Base 2012 AM and PM peak hour volumes (Table 6), it is still shown that the future football traffic for Scenario 2 will be no worse than the Base 2012 AM and PM peak hour volumes (without any additional traffic from the proposed development).

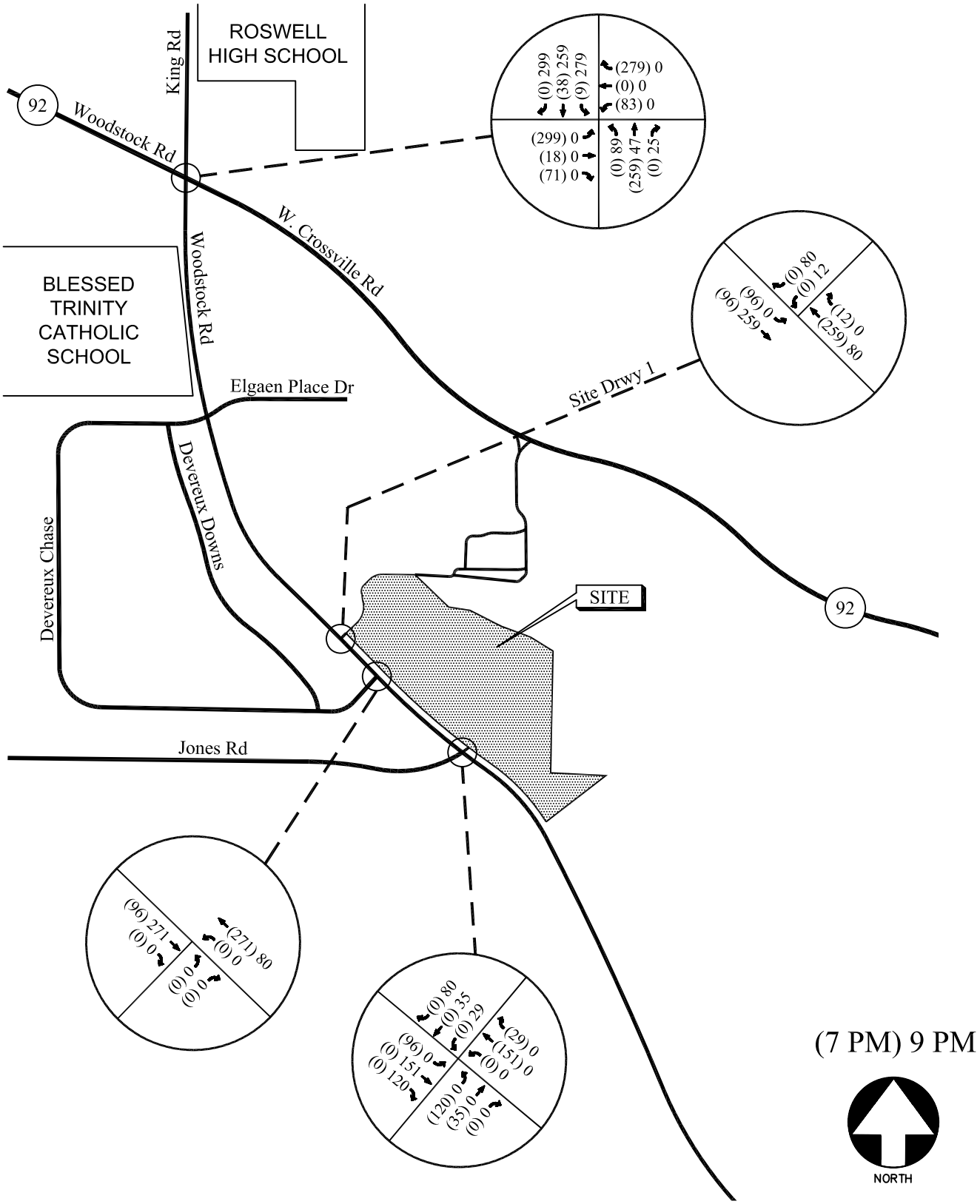
The Base 2012 recommendations include the following improvements at the intersection of Woodstock Rd / W Crossville Rd / King Rd:

- Installation of an additional northbound shared through/right turn lane to be constructed at the intersection of Woodstock Rd / W Crossville Rd / King Rd. This would require the free flowing westbound right turning movement be restriped as a yield condition.
- Installation an additional eastbound left turn lane to be added by removing the existing median and reducing the left turn lane widths.



EXISTING FRIDAY VOLUMES FIGURE 19

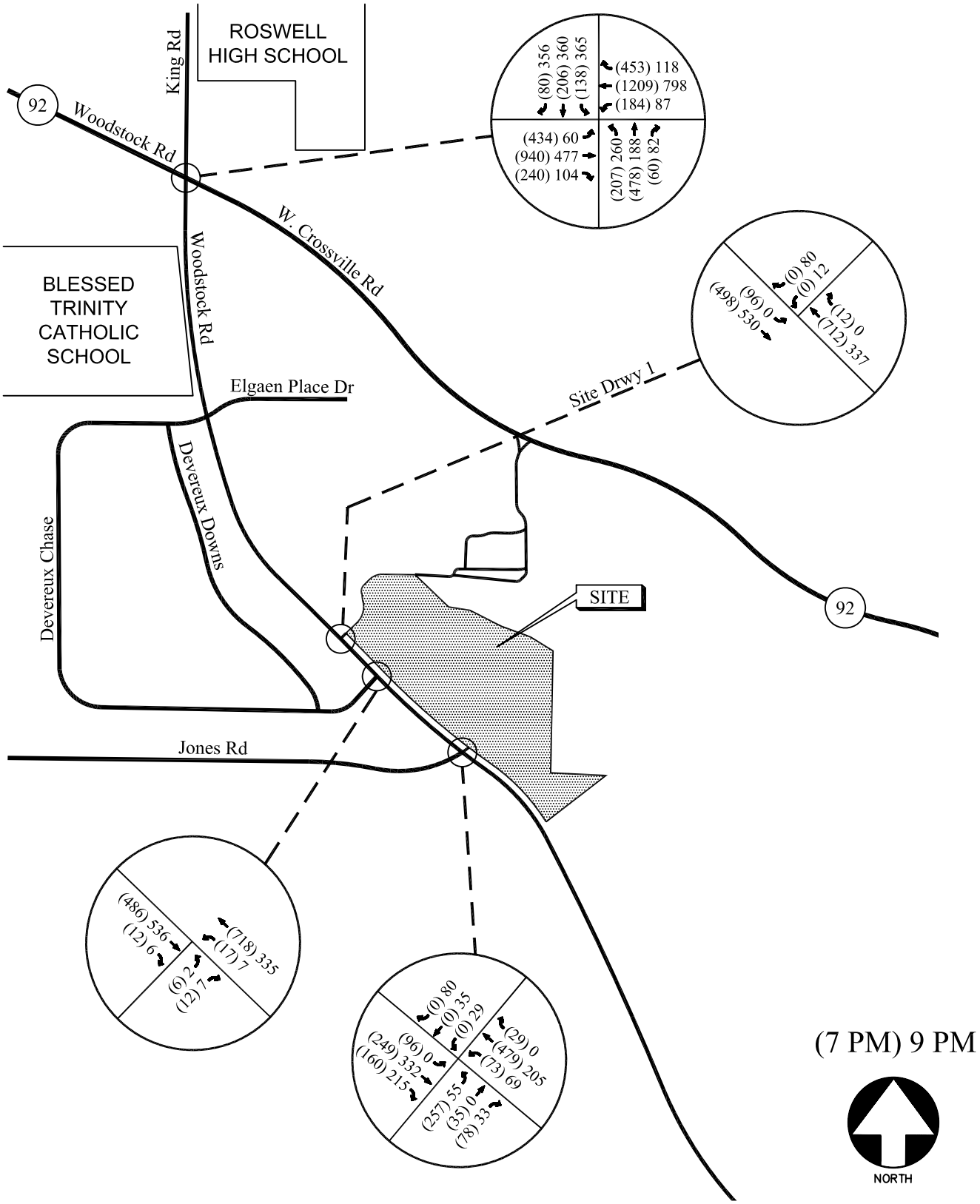
A&R Engineering Inc.



SCENARIO 1 - FRIDAY NIGHT FELLOWSHIP CHRISTIAN SCHOOL AND ROSWELL HIGH SCHOOL TRIPS

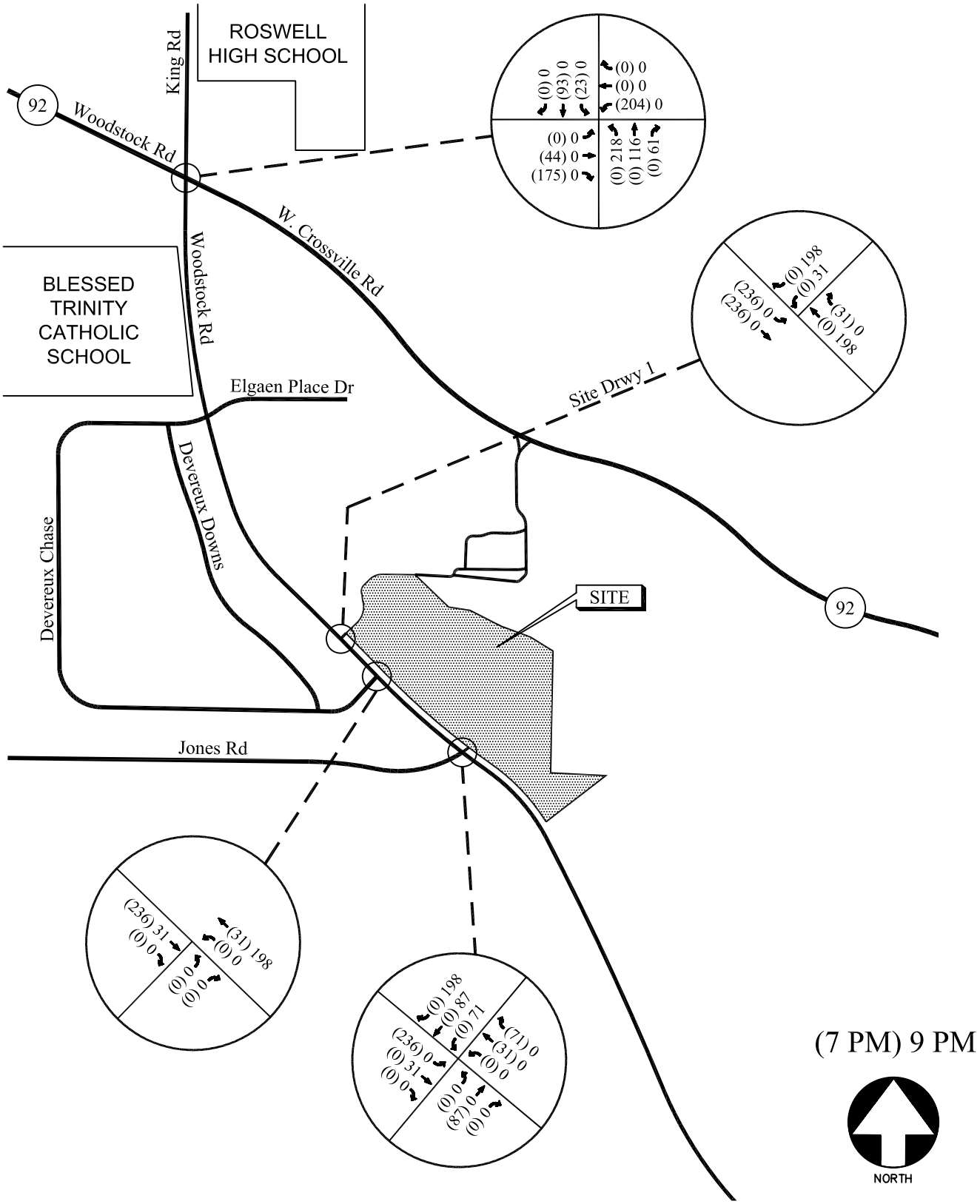
FIGURE 20

A&R Engineering Inc.



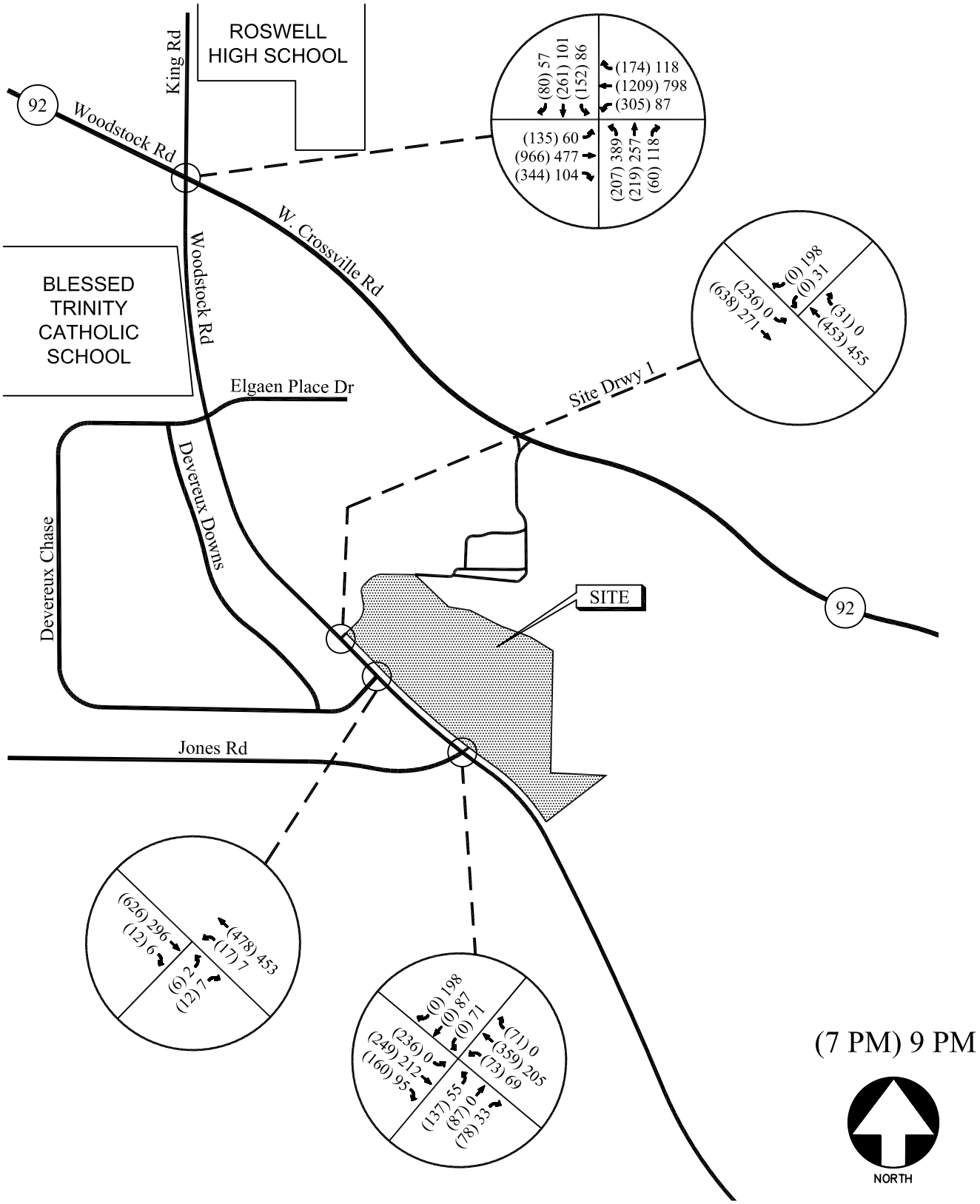
SCENARIO 1 - FUTURE 2012 FRIDAY NIGHT VOLUMES FIGURE 21

A&R Engineering Inc.



SCENARIO 2 - FRIDAY NIGHT SITE GENERATED TRIPS FIGURE 22

FELLOWSHIP CHRISTIAN SCHOOL AT CAPACITY **A&R Engineering Inc.**



SCENARIO 2 - FUTURE 2012 FRIDAY NIGHT VOLUMES FIGURE 23

A&R Engineering Inc.

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study is to evaluate the traffic impact from the expansion of the Fellowship Christian School located to north of the intersection of Woodstock Rd / Jones Rd in Roswell, Georgia. The school currently consists of 670 students, and proposes to consist of 1,000 students after the expansion. The traffic analysis evaluated the following scenarios:

- Existing conditions
- Year 2012 without traffic generated by the site
- Year 2017 without traffic generated by the site
- Year 2022 without traffic generated by the site
- Year 2012 including the traffic generated by the redevelopment
- Year 2017 including the traffic generated by the redevelopment
- Year 2022 including the traffic generated by the redevelopment

Traffic operations were analyzed for the weekday AM and PM peak hours. The effect of additional traffic from the proposed expansion was projected at five intersections in the vicinity of the church, including the unsignalized site driveways along S.R. 92 and Woodstock Road. The results of existing, base, future, and horizon year conditions are discussed in the following sections.

Existing Conditions

- The existing conditions analysis indicates that the intersection of Woodstock Rd / W. Crossville Rd / King Rd is operating at LOS E during both AM & PM peak hours, respectively. It is recommended that an auxiliary shared through/right turn lane be added to the northbound movement. This would require the free flowing westbound right turning movement be restriped as a yield condition.
- The intersection of Woodstock Rd / Fellowship Christian School South Drwy 1 has delays for traffic turning from the side streets. The addition of the proposed Fellowship School Driveway at the intersection of Jones Road / Woodstock Road will help alleviate the congestion at this intersection in the future condition.
- The intersection of Woodstock Rd / Devereux Chase has delays for traffic turning from the side streets. Devereux Chase is a small subdivision with one other connection to Woodstock Road. It is not uncommon for small stop-controlled side streets to experience peak hour delays on facilities such as Woodstock Road.

Base 2012 Conditions

- In order to evaluate future traffic operations in the area, a projection was made of future base year traffic volumes. A growth factor of 1% per year was used. This growth factor was applied to the existing traffic volumes on the roadways to estimate the future traffic volumes prior to the addition of site-generated volumes.
- The analysis indicates that the intersection of Woodstock Rd / W. Crossville Rd / King Rd will have a low level of service, as it did in the existing conditions. It is recommended that an additional northbound shared through/right turn lane be constructed at the intersection. This would require the free flowing westbound right

turning movement be restriped as a yield condition. It is also recommended that an additional eastbound left turn lane be added by removing the existing median and reducing the left turn lane widths.

- The recommendations for the intersections of Woodstock Rd / Fellowship Christian School South Drwy 1 and Woodstock Rd / Devereux Chase remain the same as those in the existing conditions.

Base 2017 Conditions

- A growth factor of 1% was used per year. This growth factor was applied to the existing traffic volumes on the roadways to estimate future year 2017 traffic volumes prior to the addition of the site-generated volumes.

Woodstock Road / W. Crossville Road / King Road

In order to have the intersection function at an acceptable LOS of D or better, the following improvements are recommended:

- Install auxiliary shared northbound through/right turn lane on Woodstock Road.
- Install auxiliary shared southbound through/right turn lane on King Road.
- Install additional (second) dedicated eastbound left turn lane on W. Crossville Road.
- Install additional (second) receiving lane on Woodstock Road.

Woodstock Road / Devereux Chase

At the intersection of Woodstock Rd / Devereux Chase, the eastbound approach is operating at LOS F during both AM & PM peak hours. Devereux Chase is a small subdivision with one other connection to Woodstock Road. It is not uncommon for small stop-controlled side streets to experience peak hour delays on facilities such as Woodstock Road.

Base 2022 Conditions

- A growth factor of 1% was used per year. This growth factor was applied to the existing traffic volumes on the roadways to estimate future year 2022 traffic volumes prior to the addition of the site-generated volumes.

Woodstock Road / W. Crossville Road / King Road

In order to have the intersection function at an acceptable LOS of D or better, the following improvements are recommended:

- Install auxiliary shared northbound through/right turn lane on Woodstock Road.
- Install auxiliary shared southbound through/right turn lane on King Road.
- Install additional (second) dedicated eastbound left turn lane on W. Crossville Road.
- Install additional (second) receiving lane on Woodstock Road.

Woodstock Road / Jones Road

In order to have the intersection function at an acceptable LOS of D or better, the following improvements are recommended:

- Install a dedicated southbound right turn lane on Woodstock Road. This will help alleviate vehicles in the southbound through lane from having to wait for vehicles to make right turns.

Woodstock Road / Devereux Chase

At the intersection of Woodstock Rd / Devereux Chase, the eastbound approach is operating at LOS F during both AM & PM peak hours. Devereux Chase is a small subdivision with one

other connection to Woodstock Road. It is not uncommon for small stop-controlled side streets to experience peak hour delays on facilities such as Woodstock Road.

Future 2012 Conditions

- There are no additional recommendations from the Base 2012 improvements for the study intersections after the inclusion of the additional site generated traffic.
- For the new driveway connection at the intersection of Jones Road / Woodstock Road, it is recommended that separate left and shared through/right lanes be provided for exiting traffic. It is also recommended that a northbound right turn lane be installed and the center lane on Woodstock Road be restriped to include a dedicated southbound left turn lane.

Future 2017 Conditions

- There are no additional recommendations from the Base 2017 improvements for the study intersections after the inclusion of the additional site generated traffic.
- For the new driveway connection at the intersection of Jones Road / Woodstock Road, it is recommended that separate left and shared through/right lanes be provided for exiting traffic. It is also recommended that a northbound right turn lane be installed and the center lane on Woodstock Road be restriped to include a dedicated southbound left turn lane.

Future 2022 Conditions

- There are no additional recommendations from the Base 2022 improvements for the study intersections after the inclusion of the additional site generated traffic.
- For the new driveway connection at the intersection of Jones Road / Woodstock Road, it is recommended that separate left and shared through/right lanes be provided for exiting traffic. It is also recommended that a northbound right turn lane be installed and the center lane on Woodstock Road be restriped to include a dedicated southbound left turn lane.

Athletic Events

As part of the campus expansion, a football field and track are proposed. The peak generation for this facility would be during high school football games on Friday nights (approximately 7:30 pm – 9:30 pm depending on the game) from mid-August to early December. Other stadiums in the area are located at Blessed Trinity Catholic High School (11320 Woodstock Road) and Roswell High School (11595 King Road), which are located within one-mile of Fellowship Christian Schools.

Ticket sales from previous Fellowship Christian School games show that approximately 542 fans were present at the football games. With the anticipated increase in the student body, a proportional increase of the football game attendees will result in 809 fans at future games. Based on previous studies and discussions with the City of Roswell, it is anticipated that each vehicle will carry 2.75 fans to the game on average. This will total 295 vehicles for each football game in the future.

The Fellowship Christian School is proposing a 1,500 seat stadium with 500 additional temporary seats. Though this is above the projected attendance, the additional capacity is to meet

the Georgia High School Association's seating requirements for Class A football. This additional seating is not likely to be filled for regular season games.

The vehicle for Roswell High School and Blessed Trinity High School are based on the estimated amount of available seating and the average vehicle capacity rate of 2.75 persons per vehicle. Because no data is available for the number of fans normally in attendance at either of these school's games, it is assumed that their stadiums will be occupied at full capacity. This will develop a very conservative estimation of the traffic on the roadway for either of these schools. It is calculated that Roswell High School will draw 996 vehicles and Blessed Trinity High School will draw 856 vehicles for their football games.

From the 2011 football schedule, included in the appendix, it is apparent that the Fellowship Christian School Paladins will have a home game five times in an average year. In 2011, only one of those home games is scheduled during a home game for either Blessed Trinity High School or Roswell High School. Both Blessed Trinity and Fellowship Christian School have a coinciding football game on September 30th; however, for the remainder of the season, Fellowship Christian School is not scheduled to have any coinciding games. It is unlikely that all three high schools will have coinciding home games on the same night.

Because the football traffic is varied in this area, due the three high schools within close vicinity of each other and the game schedule for that year the football traffic has been evaluated in two scenarios for the future condition:

Scenario 1

This scenario assumes that Fellowship Christian School will have regular attendance (295 vehicles) for their football games. This scenario also includes traffic for a coinciding football game at Roswell High school, which include an additional 996 vehicles. This scenario models the once a year event in which Fellowship Christian School has a home game on the same night as a nearby school. In 2011, this conflict is with a Blessed Trinity game. In order to obtain conservative results, Scenario 1 evaluates a conflicting game with Roswell High School (which will attract more traffic), with the Roswell High school stadium at full capacity.

Scenario 2

This scenario assumes that Fellowship Christian School will operate at full capacity, attracting 728 vehicles for a football game. This scenario models an event where Fellowship Christian School would be hosting a large game, like a state championship at home. It is unlikely that a similar home game would be happening at either Blessed Trinity or Roswell High School on the same night. This is a worst-case scenario for the Fellowship Christian School football traffic.

In both scenarios, the Future 2012 Friday night football traffic will have less impact on the local road network than the Base 2012 AM or PM peak hours (without the projected traffic from the site). This is due to the lower amount of traffic on the roadways at the time of the football games (around 7:30 PM to 9:30 PM). All intersections will operate at an acceptable LOS after the recommended improvements from the Base 2012 conditions are implemented.

Appendix

Existing Intersection Traffic Counts

Reliable Traffic Data Services, LLC
Tel: (770) 578-8158 Fax: (770) 578-8159
Email: reliabletraffic@msn.com

File Name : 28920001
Site Code : 28920001
Start Date : 5/4/2010
Page No : 1

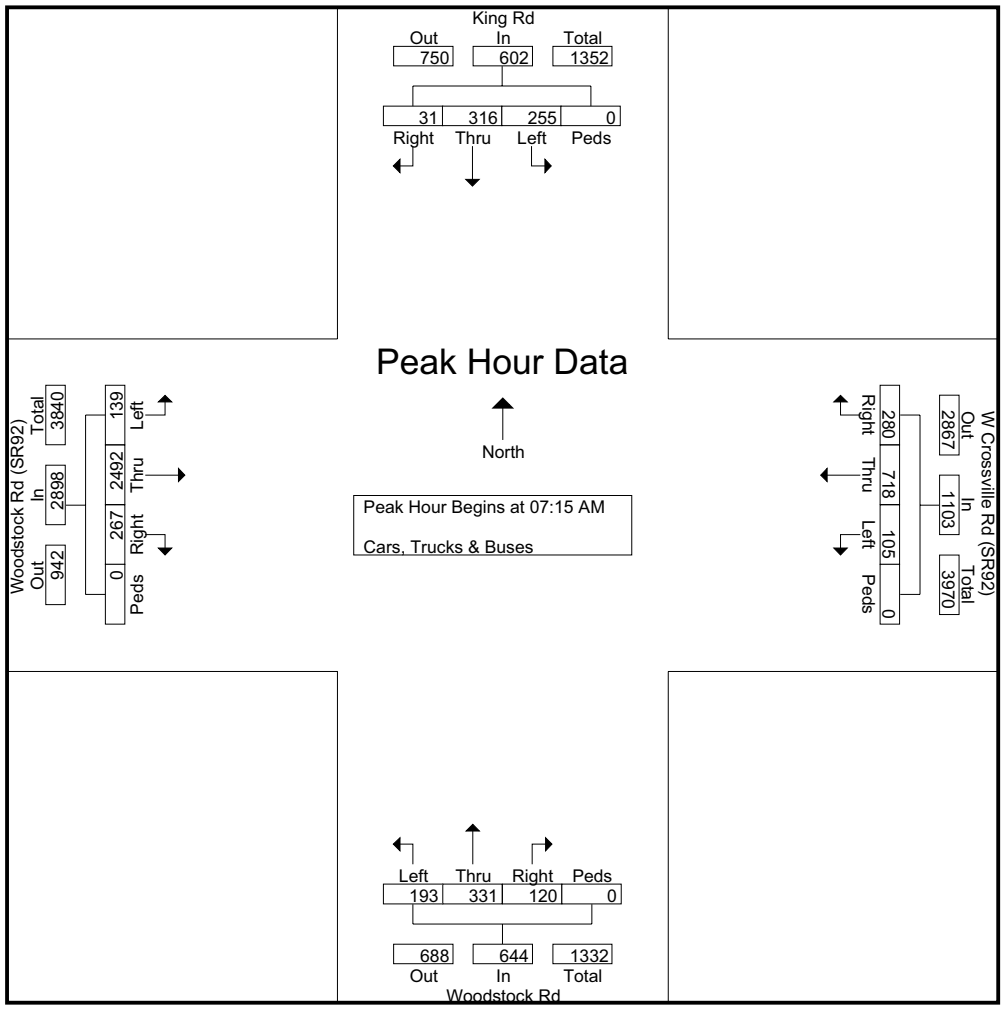
Groups Printed- Cars, Trucks & Buses

	Woodstock Rd Northbound					King Rd Southbound					Woodstock Rd (SR92) Eastbound					W Crossville Rd (SR92) Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	41	63	28	0	132	53	70	7	0	130	16	618	73	0	707	20	156	42	0	218	1187
07:15 AM	47	78	37	0	162	69	96	6	0	171	28	621	78	0	727	26	172	51	0	249	1309
07:30 AM	52	97	33	0	182	65	79	9	0	153	37	629	71	0	737	30	179	68	0	277	1349
07:45 AM	49	89	29	0	167	62	74	7	0	143	41	623	67	0	731	26	185	79	0	290	1331
Total	189	327	127	0	643	249	319	29	0	597	122	2491	289	0	2902	102	692	240	0	1034	5176
08:00 AM	45	67	21	0	133	59	67	9	0	135	33	619	51	0	703	23	182	82	0	287	1258
08:15 AM	42	52	24	0	118	55	72	15	0	142	36	605	55	0	696	22	189	69	0	280	1236
08:30 AM	37	48	21	0	106	52	68	11	0	131	39	578	58	0	675	25	183	63	0	271	1183
08:45 AM	34	42	18	0	94	47	65	8	0	120	36	563	52	0	651	22	176	57	0	255	1120
Total	158	209	84	0	451	213	272	43	0	528	144	2365	216	0	2725	92	730	271	0	1093	4797
*** BREAK ***																					
03:00 PM	85	72	13	0	170	47	59	19	0	125	37	273	66	0	376	37	438	61	0	536	1207
03:15 PM	89	75	16	0	180	52	62	22	0	136	33	263	68	0	364	34	451	56	0	541	1221
03:30 PM	85	71	18	0	174	59	66	25	0	150	28	247	63	0	338	38	448	42	0	528	1190
03:45 PM	82	68	21	0	171	69	75	38	0	182	31	254	60	0	345	47	435	48	0	530	1228
Total	341	286	68	0	695	227	262	104	0	593	129	1037	257	0	1423	156	1772	207	0	2135	4846
04:00 PM	88	72	17	0	177	63	71	35	0	169	41	261	54	0	356	45	497	51	0	593	1295
04:15 PM	93	75	14	0	182	57	77	33	0	167	48	268	51	0	367	39	547	55	0	641	1357
04:30 PM	93	76	10	0	179	54	79	28	0	161	59	273	47	0	379	34	579	61	0	674	1393
04:45 PM	97	73	13	0	183	58	75	23	0	156	54	275	52	0	381	37	593	64	0	694	1414
Total	371	296	54	0	721	232	302	119	0	653	202	1077	204	0	1483	155	2216	231	0	2602	5459
05:00 PM	102	87	15	0	204	53	76	18	0	147	47	279	51	0	377	38	611	67	0	716	1444
05:15 PM	97	95	12	0	204	50	79	15	0	144	43	281	54	0	378	42	619	64	0	725	1451
05:30 PM	92	102	14	0	208	49	84	12	0	145	40	275	49	0	364	39	587	61	0	687	1404
05:45 PM	87	97	10	0	194	46	80	10	0	136	37	272	47	0	356	36	572	58	0	666	1352
Total	378	381	51	0	810	198	319	55	0	572	167	1107	201	0	1475	155	2389	250	0	2794	5651
Grand Total	1437	1499	384	0	3320	1119	1474	350	0	2943	764	8077	1167	0	10008	660	7799	1199	0	9658	25929
Apprch %	43.3	45.2	11.6	0		38	50.1	11.9	0		7.6	80.7	11.7	0		6.8	80.8	12.4	0		
Total %	5.5	5.8	1.5	0	12.8	4.3	5.7	1.3	0	11.4	2.9	31.2	4.5	0	38.6	2.5	30.1	4.6	0	37.2	

Reliable Traffic Data Services, LLC
Tel: (770) 578-8158 Fax: (770) 578-8159
Email: reliabletraffic@msn.com

File Name : 28920001
Site Code : 28920001
Start Date : 5/4/2010
Page No : 2

	Woodstock Rd Northbound					King Rd Southbound					Woodstock Rd (SR92) Eastbound					W Crossville Rd (SR92) Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	47	78	37	0	162	69	96	6	0	171	28	621	78	0	727	26	172	51	0	249	1309
07:30 AM	52	97	33	0	182	65	79	9	0	153	37	629	71	0	737	30	179	68	0	277	1349
07:45 AM	49	89	29	0	167	62	74	7	0	143	41	623	67	0	731	26	185	79	0	290	1331
08:00 AM	45	67	21	0	133	59	67	9	0	135	33	619	51	0	703	23	182	82	0	287	1258
Total Volume	193	331	120	0	644	255	316	31	0	602	139	2492	267	0	2898	105	718	280	0	1103	5247
% App. Total	30	51.4	18.6	0		42.4	52.5	5.1	0		4.8	86	9.2	0		9.5	65.1	25.4	0		
PHF	.928	.853	.811	.000	.885	.924	.823	.861	.000	.880	.848	.990	.856	.000	.983	.875	.970	.854	.000	.951	.972



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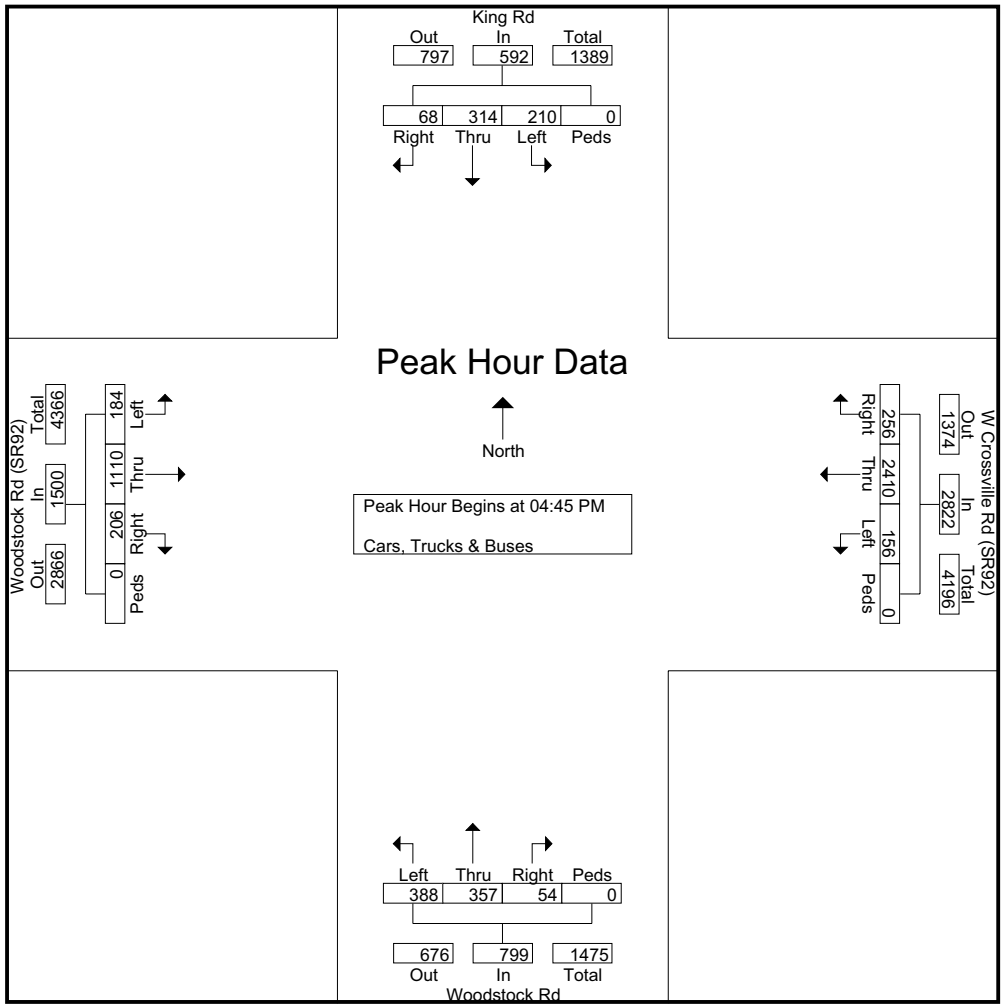
File Name : 28920001
Site Code : 28920001
Start Date : 5/4/2010
Page No : 3

	Woodstock Rd Northbound					King Rd Southbound					Woodstock Rd (SR92) Eastbound					W Crossville Rd (SR92) Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	97	73	13	0	183	58	75	23	0	156	54	275	52	0	381	37	593	64	0	694	1414
05:00 PM	102	87	15	0	204	53	76	18	0	147	47	279	51	0	377	38	611	67	0	716	1444
05:15 PM	97	95	12	0	204	50	79	15	0	144	43	281	54	0	378	42	619	64	0	725	1451
05:30 PM	92	102	14	0	208	49	84	12	0	145	40	275	49	0	364	39	587	61	0	687	1404
Total Volume	388	357	54	0	799	210	314	68	0	592	184	1110	206	0	1500	156	2410	256	0	2822	5713
% App. Total	48.6	44.7	6.8	0		35.5	53	11.5	0		12.3	74	13.7	0		5.5	85.4	9.1	0		
PHF	.951	.875	.900	.000	.960	.905	.935	.739	.000	.949	.852	.988	.954	.000	.984	.929	.973	.955	.000	.973	.984



Reliable Traffic Data Services, LLC
Tel: (770) 578-8158 Fax: (770) 578-8159
Email: reliabletraffic@msn.com

TMC Data
W Crossville Rd (SR92) @ Fellowship
Bible School Drwy (N)
7-9am 3-6pm

File Name : 28920002
Site Code : 28920002
Start Date : 5/4/2010

Groups Printed- Cars, Trucks & Buses

	Fellowship Bible School Drwy (N) Northbound					Southbound					W Crossville Rd (SR92) Eastbound					W Crossville Rd (SR92) Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	7	0	7	0	0	0	0	0	0	685	15	0	700	0	227	0	0	227	934
07:15 AM	0	0	12	0	12	0	0	0	0	0	0	723	19	0	742	0	263	0	0	263	1017
07:30 AM	0	0	29	0	29	0	0	0	0	0	0	719	23	0	742	0	281	0	0	281	1052
07:45 AM	0	0	23	0	23	0	0	0	0	0	0	675	39	0	714	0	288	0	0	288	1025
Total	0	0	71	0	71	0	0	0	0	0	0	2802	96	0	2898	0	1059	0	0	1059	4028
08:00 AM	0	0	11	0	11	0	0	0	0	0	0	689	11	0	700	0	296	0	0	296	1007
08:15 AM	0	0	8	0	8	0	0	0	0	0	0	653	16	0	669	0	287	0	0	287	964
08:30 AM	0	0	5	0	5	0	0	0	0	0	0	661	13	0	674	0	284	0	0	284	963
08:45 AM	0	0	4	0	4	0	0	0	0	0	0	647	10	0	657	0	278	0	0	278	939
Total	0	0	28	0	28	0	0	0	0	0	0	2650	50	0	2700	0	1145	0	0	1145	3873
*** BREAK ***																					
03:00 PM	0	0	17	0	17	0	0	0	0	0	0	316	3	0	319	0	523	0	0	523	859
03:15 PM	0	0	39	0	39	0	0	0	0	0	0	332	5	0	337	0	518	0	0	518	894
03:30 PM	0	0	28	0	28	0	0	0	0	0	0	348	6	0	354	0	537	0	0	537	919
03:45 PM	0	0	10	0	10	0	0	0	0	0	0	357	7	0	364	0	546	0	0	546	920
Total	0	0	94	0	94	0	0	0	0	0	0	1353	21	0	1374	0	2124	0	0	2124	3592
04:00 PM	0	0	9	0	9	0	0	0	0	0	0	335	7	0	342	0	567	0	0	567	918
04:15 PM	0	0	18	0	18	0	0	0	0	0	0	347	5	0	352	0	651	0	0	651	1021
04:30 PM	0	0	10	0	10	0	0	0	0	0	0	354	4	0	358	0	708	0	0	708	1076
04:45 PM	0	0	7	0	7	0	0	0	0	0	0	363	3	0	366	0	719	0	0	719	1092
Total	0	0	44	0	44	0	0	0	0	0	0	1399	19	0	1418	0	2645	0	0	2645	4107
05:00 PM	0	0	4	0	4	0	0	0	0	0	0	357	5	0	362	0	716	0	0	716	1082
05:15 PM	0	0	3	0	3	0	0	0	0	0	0	341	6	0	347	0	725	0	0	725	1075
05:30 PM	0	0	1	0	1	0	0	0	0	0	0	337	7	0	344	0	711	0	0	711	1056
05:45 PM	0	0	2	0	2	0	0	0	0	0	0	345	3	0	348	0	694	0	0	694	1044
Total	0	0	10	0	10	0	0	0	0	0	0	1380	21	0	1401	0	2846	0	0	2846	4257
Grand Total	0	0	247	0	247	0	0	0	0	0	0	9584	207	0	9791	0	9819	0	0	9819	19857
Apprch %	0	0	100	0		0	0	0	0		0	97.9	2.1	0		0	100	0	0		
Total %	0	0	1.2	0	1.2	0	0	0	0	0	0	48.3	1	0	49.3	0	49.4	0	0	49.4	

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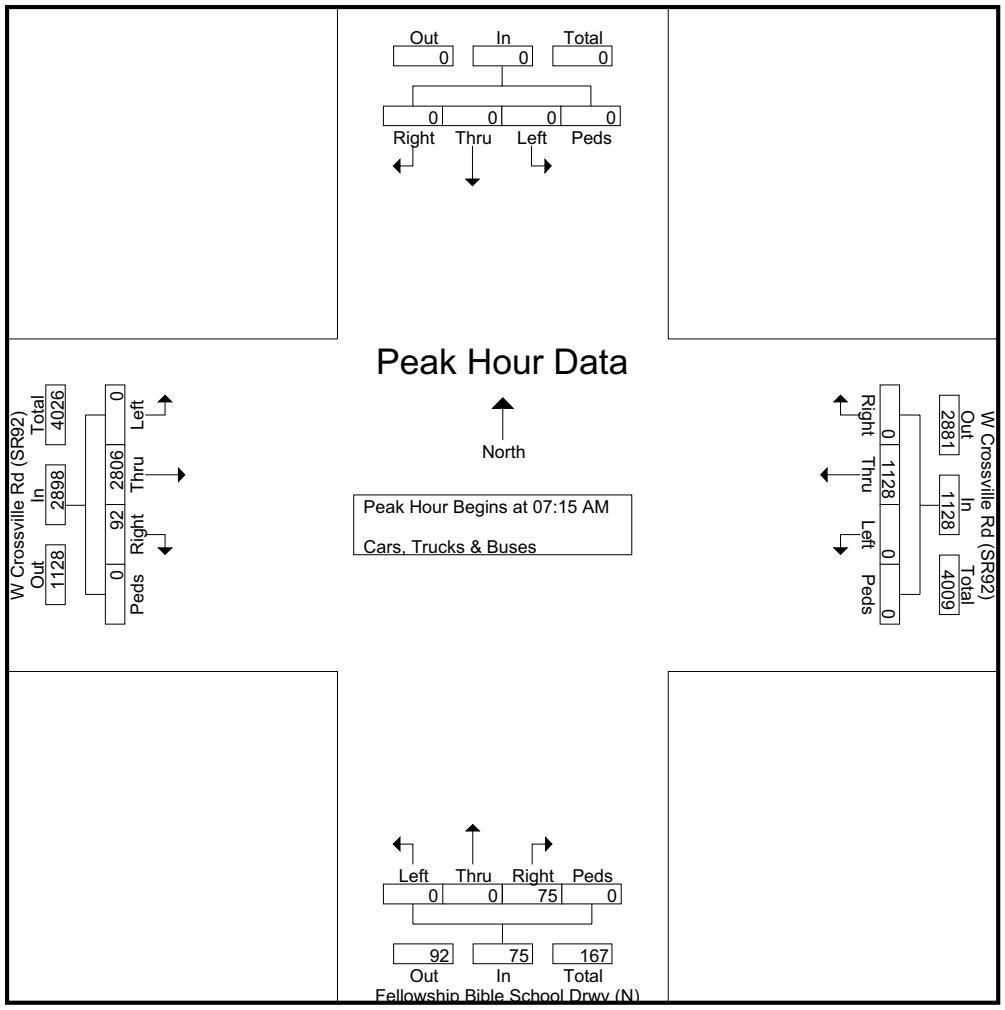
TMC Data
W Crossville Rd (SR92) @ Fellowship Bible School Drwy (N)
7-9am 3-6pm

File Name : 28920002
Site Code : 28920002
Start Date : 5/4/2010
Page No : 2

	Fellowship Bible School Drwy (N) Northbound					Southbound					W Crossville Rd (SR92) Eastbound					W Crossville Rd (SR92) Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	12	0	12	0	0	0	0	0	0	723	19	0	742	0	263	0	0	263	1017
07:30 AM	0	0	29	0	29	0	0	0	0	0	0	719	23	0	742	0	281	0	0	281	1052
07:45 AM	0	0	23	0	23	0	0	0	0	0	0	675	39	0	714	0	288	0	0	288	1025
08:00 AM	0	0	11	0	11	0	0	0	0	0	0	689	11	0	700	0	296	0	0	296	1007
Total Volume	0	0	75	0	75	0	0	0	0	0	0	2806	92	0	2898	0	1128	0	0	1128	4101
% App. Total	0	0	100	0		0	0	0	0		0	96.8	3.2	0		0	100	0	0		
PHF	.000	.000	.647	.000	.647	.000	.000	.000	.000	.000	.000	.970	.590	.000	.976	.000	.953	.000	.000	.953	.975



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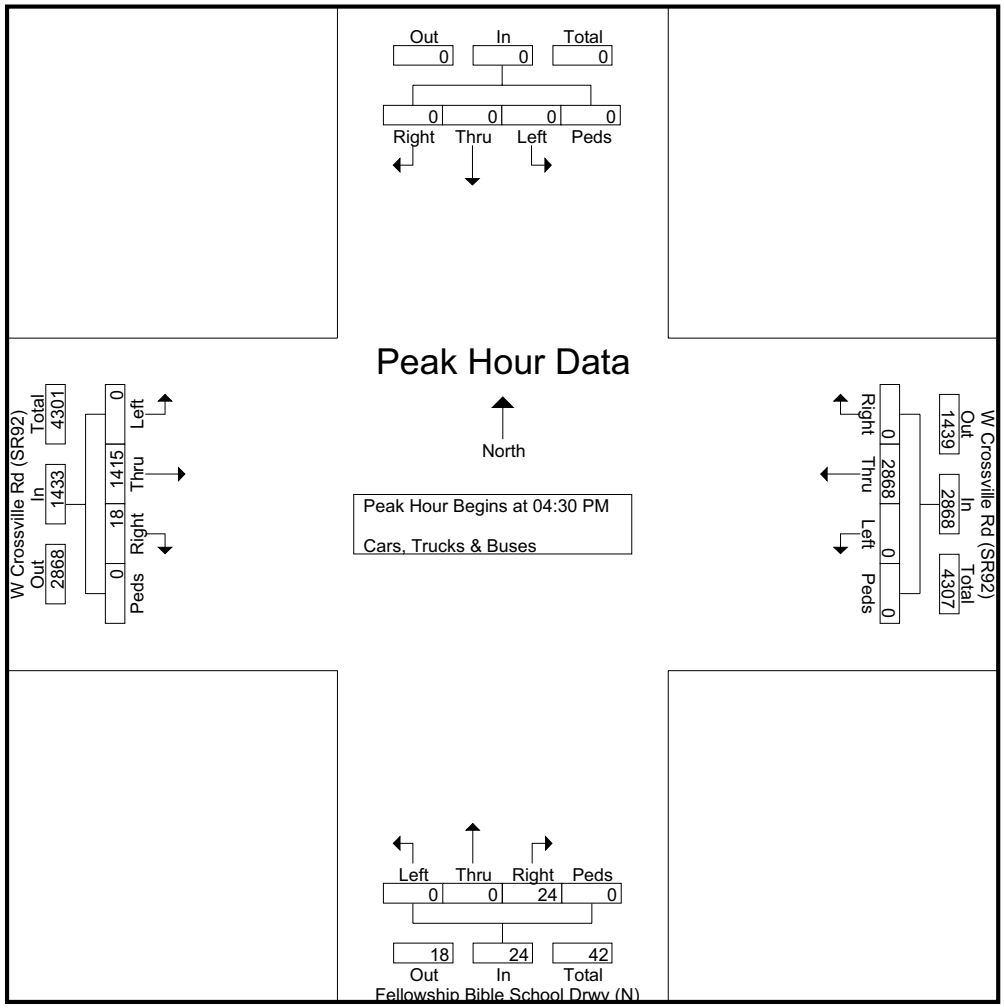
TMC Data
W Crossville Rd (SR92) @ Fellowship Bible School Drwy (N)
7-9am 3-6pm

File Name : 28920002
Site Code : 28920002
Start Date : 5/4/2010
Page No : 3

	Fellowship Bible School Drwy (N) Northbound					Southbound					W Crossville Rd (SR92) Eastbound					W Crossville Rd (SR92) Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	10	0	10	0	0	0	0	0	0	354	4	0	358	0	708	0	0	708	1076
04:45 PM	0	0	7	0	7	0	0	0	0	0	0	363	3	0	366	0	719	0	0	719	1092
05:00 PM	0	0	4	0	4	0	0	0	0	0	0	357	5	0	362	0	716	0	0	716	1082
05:15 PM	0	0	3	0	3	0	0	0	0	0	0	341	6	0	347	0	725	0	0	725	1075
Total Volume	0	0	24	0	24	0	0	0	0	0	0	1415	18	0	1433	0	2868	0	0	2868	4325
% App. Total	0	0	100	0		0	0	0	0		0	98.7	1.3	0		0	100	0	0		
PHF	.000	.000	.600	.000	.600	.000	.000	.000	.000	.000	.000	.975	.750	.000	.979	.000	.989	.000	.000	.989	.990



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TMC Data
Woodstock Rd @ Fellowship Bible
School Drwy (S)
7-9am 3-6pm

File Name : 28920003
Site Code : 28920003
Start Date : 5/4/2010
Page No : 1

Groups Printed- Cars, Trucks & Buses

	Woodstock Rd Northbound					Woodstock Rd Southbound					Eastbound					Fellowship Bible School Drwy (S) Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	133	13	0	146	17	115	0	0	132	0	0	0	0	0	10	0	9	0	19	297
07:15 AM	0	139	19	0	158	28	121	0	0	149	0	0	0	0	0	16	0	12	0	28	335
07:30 AM	0	145	56	0	201	65	128	0	0	193	0	0	0	0	0	22	0	23	0	45	439
07:45 AM	0	165	43	0	208	54	142	0	0	196	0	0	0	0	0	38	0	61	0	99	503
Total	0	582	131	0	713	164	506	0	0	670	0	0	0	0	0	86	0	105	0	191	1574
08:00 AM	0	134	7	0	141	7	135	0	0	142	0	0	0	0	0	5	0	14	0	19	302
08:15 AM	0	118	5	0	123	8	139	0	0	147	0	0	0	0	0	2	0	4	0	6	276
08:30 AM	0	103	4	0	107	10	131	0	0	141	0	0	0	0	0	2	0	3	0	5	253
08:45 AM	0	87	3	0	90	6	126	0	0	132	0	0	0	0	0	1	0	2	0	3	225
Total	0	442	19	0	461	31	531	0	0	562	0	0	0	0	0	10	0	23	0	33	1056
*** BREAK ***																					
03:00 PM	0	128	10	0	138	15	139	0	0	154	0	0	0	0	0	13	0	17	0	30	322
03:15 PM	0	131	23	0	154	24	143	0	0	167	0	0	0	0	0	47	0	64	0	111	432
03:30 PM	0	136	7	0	143	16	147	0	0	163	0	0	0	0	0	12	0	32	0	44	350
03:45 PM	0	141	8	0	149	14	152	0	0	166	0	0	0	0	0	16	0	27	0	43	358
Total	0	536	48	0	584	69	581	0	0	650	0	0	0	0	0	88	0	140	0	228	1462
04:00 PM	0	157	6	0	163	12	157	0	0	169	0	0	0	0	0	18	0	25	0	43	375
04:15 PM	0	165	9	0	174	7	154	0	0	161	0	0	0	0	0	10	0	28	0	38	373
04:30 PM	0	173	2	0	175	4	165	0	0	169	0	0	0	0	0	4	0	14	0	18	362
04:45 PM	0	182	0	0	182	6	161	0	0	167	0	0	0	0	0	5	0	10	0	15	364
Total	0	677	17	0	694	29	637	0	0	666	0	0	0	0	0	37	0	77	0	114	1474
05:00 PM	0	199	2	0	201	5	164	0	0	169	0	0	0	0	0	6	0	6	0	12	382
05:15 PM	0	203	9	0	212	11	159	0	0	170	0	0	0	0	0	6	0	9	0	15	397
05:30 PM	0	208	4	0	212	8	153	0	0	161	0	0	0	0	0	8	0	10	0	18	391
05:45 PM	0	211	3	0	214	6	148	0	0	154	0	0	0	0	0	5	0	8	0	13	381
Total	0	821	18	0	839	30	624	0	0	654	0	0	0	0	0	25	0	33	0	58	1551
Grand Total	0	3058	233	0	3291	323	2879	0	0	3202	0	0	0	0	0	246	0	378	0	624	7117
Apprch %	0	92.9	7.1	0		10.1	89.9	0	0		0	0	0	0		39.4	0	60.6	0		
Total %	0	43	3.3	0	46.2	4.5	40.5	0	0	45	0	0	0	0	0	3.5	0	5.3	0	8.8	

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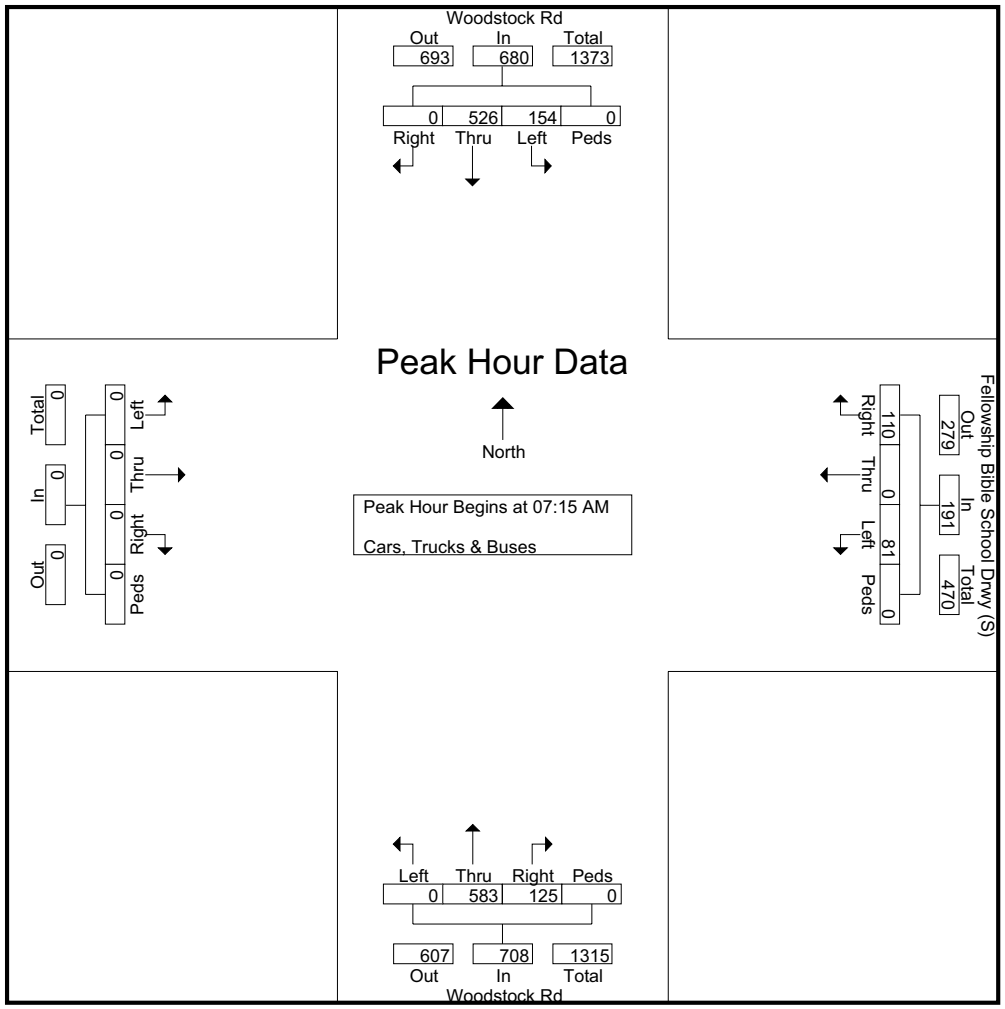
TMC Data
Woodstock Rd @ Fellowship Bible
School Drwy (S)
7-9am 3-6pm

File Name : 28920003
Site Code : 28920003
Start Date : 5/4/2010
Page No : 2

	Woodstock Rd Northbound					Woodstock Rd Southbound					Eastbound					Fellowship Bible School Drwy (S) Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	139	19	0	158	28	121	0	0	149	0	0	0	0	0	16	0	12	0	28	335
07:30 AM	0	145	56	0	201	65	128	0	0	193	0	0	0	0	0	22	0	23	0	45	439
07:45 AM	0	165	43	0	208	54	142	0	0	196	0	0	0	0	0	38	0	61	0	99	503
08:00 AM	0	134	7	0	141	7	135	0	0	142	0	0	0	0	0	5	0	14	0	19	302
Total Volume	0	583	125	0	708	154	526	0	0	680	0	0	0	0	0	81	0	110	0	191	1579
% App. Total	0	82.3	17.7	0		22.6	77.4	0	0		0	0	0	0		42.4	0	57.6	0		
PHF	.000	.883	.558	.000	.851	.592	.926	.000	.000	.867	.000	.000	.000	.000	.000	.533	.000	.451	.000	.482	.785



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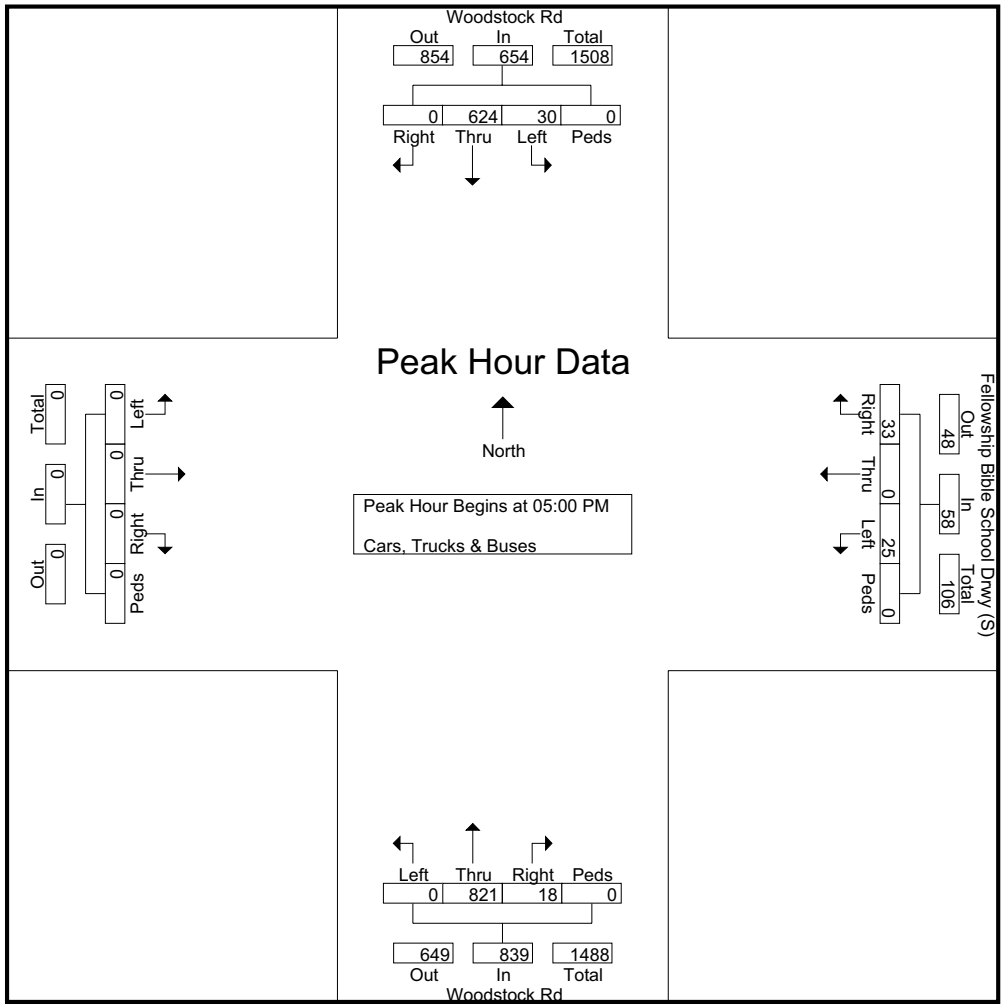
TMC Data
Woodstock Rd @ Fellowship Bible
School Drwy (S)
7-9am 3-6pm

File Name : 28920003
Site Code : 28920003
Start Date : 5/4/2010
Page No : 3

	Woodstock Rd Northbound					Woodstock Rd Southbound					Eastbound					Fellowship Bible School Drwy (S) Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	199	2	0	201	5	164	0	0	169	0	0	0	0	0	6	0	6	0	12	382
05:15 PM	0	203	9	0	212	11	159	0	0	170	0	0	0	0	0	6	0	9	0	15	397
05:30 PM	0	208	4	0	212	8	153	0	0	161	0	0	0	0	0	8	0	10	0	18	391
05:45 PM	0	211	3	0	214	6	148	0	0	154	0	0	0	0	0	5	0	8	0	13	381
Total Volume	0	821	18	0	839	30	624	0	0	654	0	0	0	0	0	25	0	33	0	58	1551
% App. Total	0	97.9	2.1	0		4.6	95.4	0	0		0	0	0	0		43.1	0	56.9	0		
PHF	.000	.973	.500	.000	.980	.682	.951	.000	.000	.962	.000	.000	.000	.000	.000	.781	.000	.825	.000	.806	.977



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TMC Data
Woodstock Rd @ Devereux Chase

7-9am 3-6pm

File Name : 28920004
Site Code : 28920004
Start Date : 5/4/2010
Page No : 1

Groups Printed- Cars, Trucks & Buses

	Woodstock Rd Northbound					Woodstock Rd Southbound					Devereux Chase Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	3	135	0	0	138	0	127	1	0	128	2	0	2	0	4	0	0	0	0	0	270
07:15 AM	4	167	0	0	171	0	135	0	0	135	4	0	4	0	8	0	0	0	0	0	314
07:30 AM	6	204	0	0	210	0	153	1	0	154	2	0	3	0	5	0	0	0	0	0	369
07:45 AM	6	207	0	0	213	0	178	2	0	180	4	0	5	0	9	0	0	0	0	0	402
Total	19	713	0	0	732	0	593	4	0	597	12	0	14	0	26	0	0	0	0	0	1355
08:00 AM	4	143	0	0	147	0	147	0	0	147	2	0	4	0	6	0	0	0	0	0	300
08:15 AM	5	121	0	0	126	0	142	2	0	144	3	0	5	0	8	0	0	0	0	0	278
08:30 AM	4	105	0	0	109	0	132	3	0	135	4	0	4	0	8	0	0	0	0	0	252
08:45 AM	3	97	0	0	100	0	126	2	0	128	2	0	3	0	5	0	0	0	0	0	233
Total	16	466	0	0	482	0	547	7	0	554	11	0	16	0	27	0	0	0	0	0	1063
*** BREAK ***																					
03:00 PM	2	133	0	0	135	0	151	6	0	157	1	0	3	0	4	0	0	0	0	0	296
03:15 PM	4	138	0	0	142	0	155	5	0	160	2	0	5	0	7	0	0	0	0	0	309
03:30 PM	4	142	0	0	146	0	159	7	0	166	2	0	4	0	6	0	0	0	0	0	318
03:45 PM	5	147	0	0	152	0	164	9	0	173	0	0	7	0	7	0	0	0	0	0	332
Total	15	560	0	0	575	0	629	27	0	656	5	0	19	0	24	0	0	0	0	0	1255
04:00 PM	6	156	0	0	162	0	159	6	0	165	2	0	5	0	7	0	0	0	0	0	334
04:15 PM	4	163	0	0	167	0	156	3	0	159	2	0	4	0	6	0	0	0	0	0	332
04:30 PM	5	172	0	0	177	0	162	7	0	169	1	0	6	0	7	0	0	0	0	0	353
04:45 PM	4	179	0	0	183	0	165	7	0	172	2	0	11	0	13	0	0	0	0	0	368
Total	19	670	0	0	689	0	642	23	0	665	7	0	26	0	33	0	0	0	0	0	1387
05:00 PM	5	197	0	0	202	0	167	2	0	169	5	0	7	0	12	0	0	0	0	0	383
05:15 PM	4	209	0	0	213	0	161	3	0	164	4	0	9	0	13	0	0	0	0	0	390
05:30 PM	4	215	0	0	219	0	151	5	0	156	6	0	7	0	13	0	0	0	0	0	388
05:45 PM	3	212	0	0	215	0	149	2	0	151	3	0	5	0	8	0	0	0	0	0	374
Total	16	833	0	0	849	0	628	12	0	640	18	0	28	0	46	0	0	0	0	0	1535
Grand Total	85	3242	0	0	3327	0	3039	73	0	3112	53	0	103	0	156	0	0	0	0	0	6595
Apprch %	2.6	97.4	0	0		0	97.7	2.3	0		34	0	66	0		0	0	0	0		
Total %	1.3	49.2	0	0	50.4	0	46.1	1.1	0	47.2	0.8	0	1.6	0	2.4	0	0	0	0	0	

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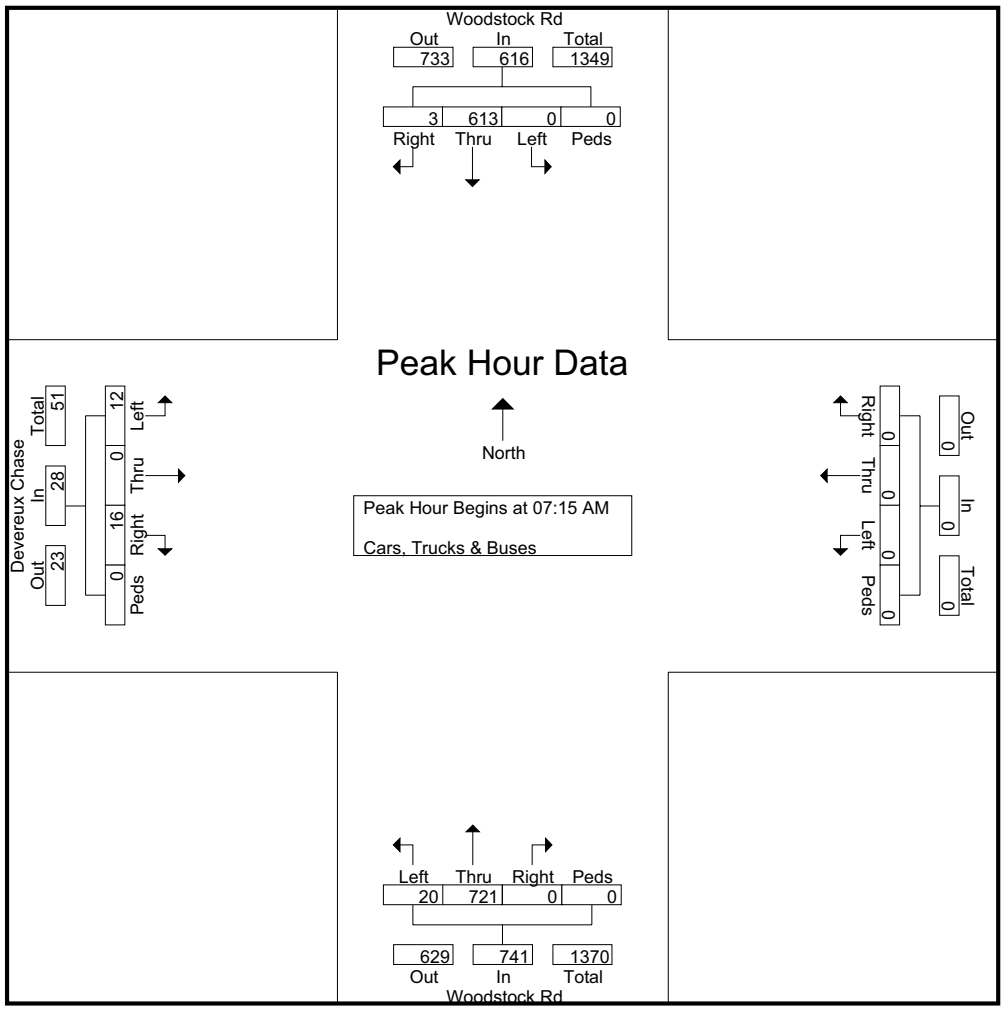
TMC Data
Woodstock Rd @ Devereux Chase

7-9am 3-6pm

File Name : 28920004
Site Code : 28920004
Start Date : 5/4/2010
Page No : 2

	Woodstock Rd Northbound					Woodstock Rd Southbound					Devereux Chase Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	4	167	0	0	171	0	135	0	0	135	4	0	4	0	8	0	0	0	0	0	314
07:30 AM	6	204	0	0	210	0	153	1	0	154	2	0	3	0	5	0	0	0	0	0	369
07:45 AM	6	207	0	0	213	0	178	2	0	180	4	0	5	0	9	0	0	0	0	0	402
08:00 AM	4	143	0	0	147	0	147	0	0	147	2	0	4	0	6	0	0	0	0	0	300
Total Volume	20	721	0	0	741	0	613	3	0	616	12	0	16	0	28	0	0	0	0	0	1385
% App. Total	2.7	97.3	0	0		0	99.5	0.5	0		42.9	0	57.1	0		0	0	0	0		
PHF	.833	.871	.000	.000	.870	.000	.861	.375	.000	.856	.750	.000	.800	.000	.778	.000	.000	.000	.000	.000	.861



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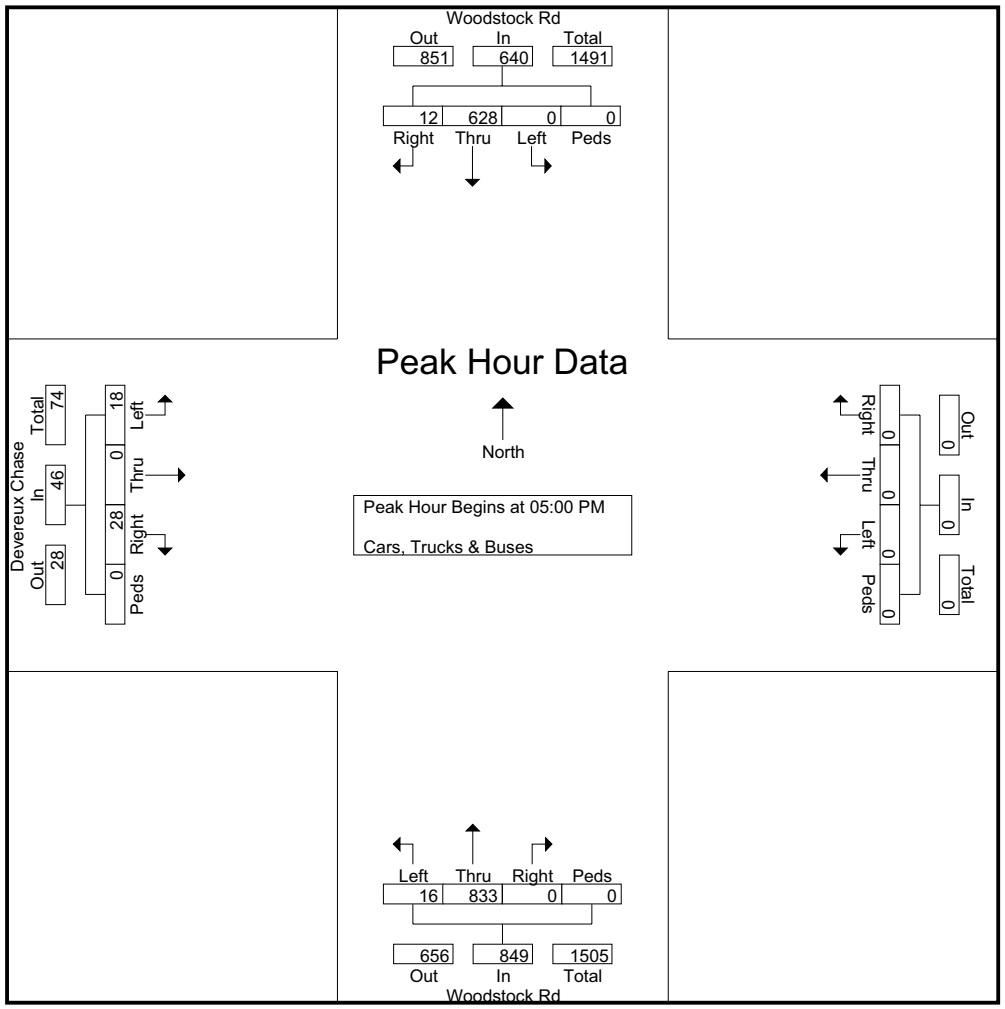
TMC Data
Woodstock Rd @ Devereux Chase

7-9am 3-6pm

File Name : 28920004
Site Code : 28920004
Start Date : 5/4/2010
Page No : 3

	Woodstock Rd Northbound					Woodstock Rd Southbound					Devereux Chase Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	5	197	0	0	202	0	167	2	0	169	5	0	7	0	12	0	0	0	0	0	383
05:15 PM	4	209	0	0	213	0	161	3	0	164	4	0	9	0	13	0	0	0	0	0	390
05:30 PM	4	215	0	0	219	0	151	5	0	156	6	0	7	0	13	0	0	0	0	0	388
05:45 PM	3	212	0	0	215	0	149	2	0	151	3	0	5	0	8	0	0	0	0	0	374
Total Volume	16	833	0	0	849	0	628	12	0	640	18	0	28	0	46	0	0	0	0	0	1535
% App. Total	1.9	98.1	0	0		0	98.1	1.9	0		39.1	0	60.9	0		0	0	0	0		
PHF	.800	.969	.000	.000	.969	.000	.940	.600	.000	.947	.750	.000	.778	.000	.885	.000	.000	.000	.000	.000	.984



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TMC Data
Woodstock Rd @ Jones Rd

7-9am 3-6pm

File Name : 28920005
Site Code : 28920005
Start Date : 5/4/2010
Page No : 1

Groups Printed- Cars, Trucks & Buses

	Woodstock Rd Northbound					Woodstock Rd Southbound					Jones Rd Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	10	51	0	0	61	0	109	21	0	130	107	0	53	0	160	0	0	0	0	0	351
07:15 AM	13	56	0	0	69	0	118	29	0	147	118	0	59	0	177	0	0	0	0	0	393
07:30 AM	19	63	0	0	82	0	113	43	0	156	154	0	64	0	218	0	0	0	0	0	456
07:45 AM	28	79	0	0	107	0	135	57	0	192	118	0	68	0	186	0	0	0	0	0	485
Total	70	249	0	0	319	0	475	150	0	625	497	0	244	0	741	0	0	0	0	0	1685
08:00 AM	23	75	0	0	98	0	129	34	0	163	67	0	65	0	132	0	0	0	0	0	393
08:15 AM	18	65	0	0	83	0	123	25	0	148	60	0	61	0	121	0	0	0	0	0	352
08:30 AM	15	58	0	0	73	0	118	21	0	139	63	0	54	0	117	0	0	0	0	0	329
08:45 AM	13	53	0	0	66	0	107	22	0	129	57	0	52	0	109	0	0	0	0	0	304
Total	69	251	0	0	320	0	477	102	0	579	247	0	232	0	479	0	0	0	0	0	1378
*** BREAK ***																					
03:00 PM	28	103	0	0	131	0	93	69	0	162	33	0	24	0	57	0	0	0	0	0	350
03:15 PM	30	101	0	0	131	0	98	73	0	171	37	0	21	0	58	0	0	0	0	0	360
03:30 PM	33	107	0	0	140	0	95	65	0	160	30	0	23	0	53	0	0	0	0	0	353
03:45 PM	35	116	0	0	151	0	92	46	0	138	32	0	20	0	52	0	0	0	0	0	341
Total	126	427	0	0	553	0	378	253	0	631	132	0	88	0	220	0	0	0	0	0	1404
04:00 PM	39	121	0	0	160	0	106	59	0	165	35	0	22	0	57	0	0	0	0	0	382
04:15 PM	44	143	0	0	187	0	109	61	0	170	43	0	21	0	64	0	0	0	0	0	421
04:30 PM	47	133	0	0	180	0	113	55	0	168	37	0	25	0	62	0	0	0	0	0	410
04:45 PM	53	125	0	0	178	0	118	53	0	171	33	0	30	0	63	0	0	0	0	0	412
Total	183	522	0	0	705	0	446	228	0	674	148	0	98	0	246	0	0	0	0	0	1625
05:00 PM	88	167	0	0	255	0	115	57	0	172	36	0	34	0	70	0	0	0	0	0	497
05:15 PM	85	158	0	0	243	0	105	54	0	159	49	0	27	0	76	0	0	0	0	0	478
05:30 PM	67	169	0	0	236	0	102	50	0	152	43	0	23	0	66	0	0	0	0	0	454
05:45 PM	63	163	0	0	226	0	107	59	0	166	48	0	25	0	73	0	0	0	0	0	465
Total	303	657	0	0	960	0	429	220	0	649	176	0	109	0	285	0	0	0	0	0	1894
Grand Total	751	2106	0	0	2857	0	2205	953	0	3158	1200	0	771	0	1971	0	0	0	0	0	7986
Apprch %	26.3	73.7	0	0		0	69.8	30.2	0		60.9	0	39.1	0		0	0	0	0		
Total %	9.4	26.4	0	0	35.8	0	27.6	11.9	0	39.5	15	0	9.7	0	24.7	0	0	0	0	0	

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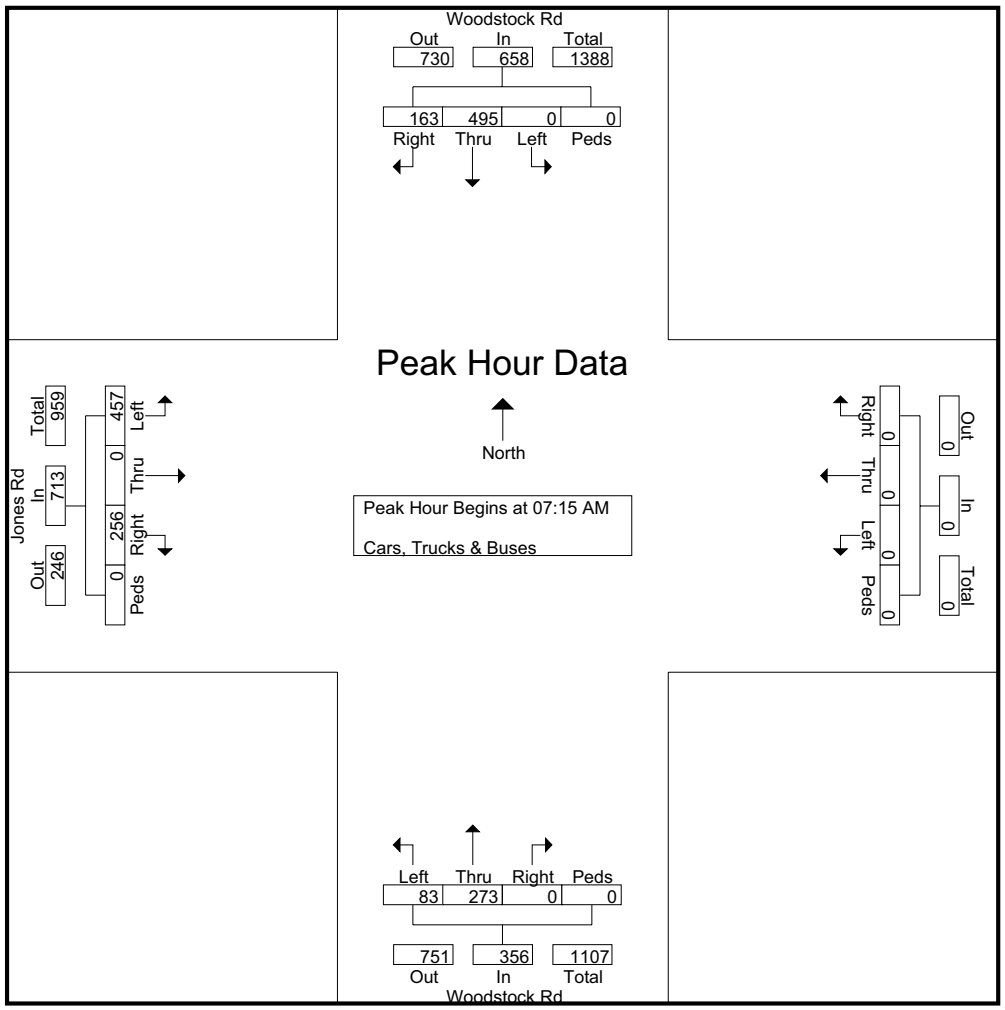
TMC Data
Woodstock Rd @ Jones Rd

7-9am 3-6pm

File Name : 28920005
Site Code : 28920005
Start Date : 5/4/2010
Page No : 2

	Woodstock Rd Northbound					Woodstock Rd Southbound					Jones Rd Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	13	56	0	0	69	0	118	29	0	147	118	0	59	0	177	0	0	0	0	0	393
07:30 AM	19	63	0	0	82	0	113	43	0	156	154	0	64	0	218	0	0	0	0	0	456
07:45 AM	28	79	0	0	107	0	135	57	0	192	118	0	68	0	186	0	0	0	0	0	485
08:00 AM	23	75	0	0	98	0	129	34	0	163	67	0	65	0	132	0	0	0	0	0	393
Total Volume	83	273	0	0	356	0	495	163	0	658	457	0	256	0	713	0	0	0	0	0	1727
% App. Total	23.3	76.7	0	0		0	75.2	24.8	0		64.1	0	35.9	0		0	0	0	0		
PHF	.741	.864	.000	.000	.832	.000	.917	.715	.000	.857	.742	.000	.941	.000	.818	.000	.000	.000	.000	.000	.890



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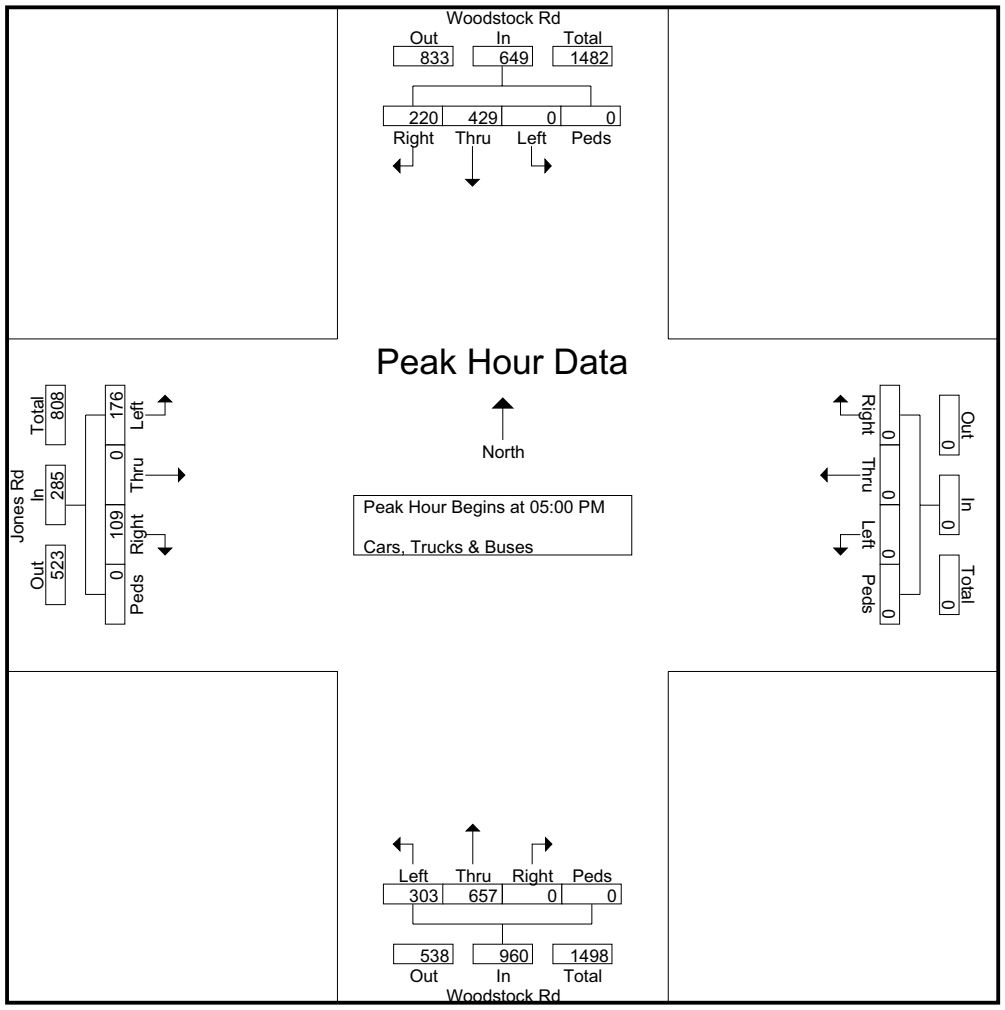
TMC Data
Woodstock Rd @ Jones Rd

7-9am 3-6pm

File Name : 28920005
Site Code : 28920005
Start Date : 5/4/2010
Page No : 3

	Woodstock Rd Northbound					Woodstock Rd Southbound					Jones Rd Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	88	167	0	0	255	0	115	57	0	172	36	0	34	0	70	0	0	0	0	0	497
05:15 PM	85	158	0	0	243	0	105	54	0	159	49	0	27	0	76	0	0	0	0	0	478
05:30 PM	67	169	0	0	236	0	102	50	0	152	43	0	23	0	66	0	0	0	0	0	454
05:45 PM	63	163	0	0	226	0	107	59	0	166	48	0	25	0	73	0	0	0	0	0	465
Total Volume	303	657	0	0	960	0	429	220	0	649	176	0	109	0	285	0	0	0	0	0	1894
% App. Total	31.6	68.4	0	0		0	66.1	33.9	0		61.8	0	38.2	0		0	0	0	0		
PHF	.861	.972	.000	.000	.941	.000	.933	.932	.000	.943	.898	.000	.801	.000	.938	.000	.000	.000	.000	.000	.953



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TMC Data
W Crossville Rd (SR92) @ Woodstock Rd

7-8pm 9-10pm

File Name : 29130001
Site Code : 29130001
Start Date : 6/11/2010
Page No : 1

Groups Printed- Cars, Trucks & Buses

	Woodstock Rd Northbound					King Rd Southbound					Woodstock Rd (SR92) Eastbound					W Crossville Rd (SR92) Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 PM	45	63	16	0	124	35	45	21	0	101	36	241	45	0	322	25	354	52	0	431	978
07:15 PM	48	65	18	0	131	33	43	19	0	95	34	238	39	0	311	23	330	49	0	402	939
07:30 PM	64	42	13	0	119	31	35	20	0	86	33	247	44	0	324	22	275	31	0	328	857
07:45 PM	46	45	12	0	103	27	42	18	0	87	29	178	38	0	245	29	226	39	0	294	729
Total	203	215	59	0	477	126	165	78	0	369	132	904	166	0	1202	99	1185	171	0	1455	3503
*** BREAK ***																					
09:00 PM	49	36	14	0	99	21	23	14	0	58	19	104	28	0	151	28	228	29	0	285	593
09:15 PM	42	30	17	0	89	26	32	19	0	77	12	106	26	0	144	20	224	24	0	268	578
09:30 PM	40	37	15	0	92	23	25	13	0	61	18	131	27	0	176	22	167	26	0	215	544
09:45 PM	37	35	10	0	82	14	19	10	0	43	10	127	21	0	158	15	163	37	0	215	498
Total	168	138	56	0	362	84	99	56	0	239	59	468	102	0	629	85	782	116	0	983	2213
Grand Total	371	353	115	0	839	210	264	134	0	608	191	1372	268	0	1831	184	1967	287	0	2438	5716
Apprch %	44.2	42.1	13.7	0		34.5	43.4	22	0		10.4	74.9	14.6	0		7.5	80.7	11.8	0		
Total %	6.5	6.2	2	0	14.7	3.7	4.6	2.3	0	10.6	3.3	24	4.7	0	32	3.2	34.4	5	0	42.7	

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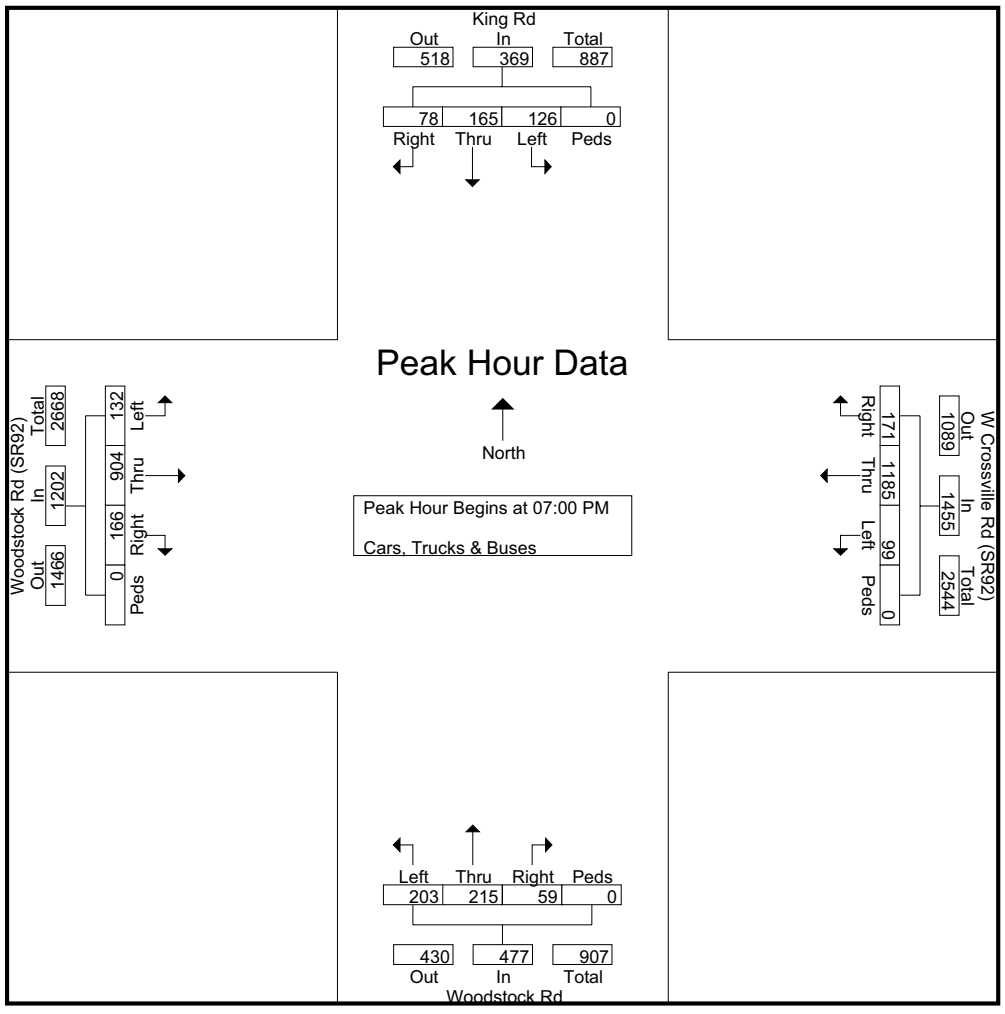
TMC Data
W Crossville Rd (SR92) @ Woodstock Rd

7-8pm 9-10pm

File Name : 29130001
Site Code : 29130001
Start Date : 6/11/2010
Page No : 2

	Woodstock Rd Northbound					King Rd Southbound					Woodstock Rd (SR92) Eastbound					W Crossville Rd (SR92) Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 PM to 09:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 PM																					
07:00 PM	45	63	16	0	124	35	45	21	0	101	36	241	45	0	322	25	354	52	0	431	978
07:15 PM	48	65	18	0	131	33	43	19	0	95	34	238	39	0	311	23	330	49	0	402	939
07:30 PM	64	42	13	0	119	31	35	20	0	86	33	247	44	0	324	22	275	31	0	328	857
07:45 PM	46	45	12	0	103	27	42	18	0	87	29	178	38	0	245	29	226	39	0	294	729
Total Volume	203	215	59	0	477	126	165	78	0	369	132	904	166	0	1202	99	1185	171	0	1455	3503
% App. Total	42.6	45.1	12.4	0		34.1	44.7	21.1	0		11	75.2	13.8	0		6.8	81.4	11.8	0		
PHF	.793	.827	.819	.000	.910	.900	.917	.929	.000	.913	.917	.915	.922	.000	.927	.853	.837	.822	.000	.844	.895



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TMC Data
Woodstock Rd @ Devereux Chase

7-8pm 9-10pm

File Name : 29130002
Site Code : 29130002
Start Date : 6/11/2010
Page No : 1

Groups Printed- Cars, Trucks & Buses

	Woodstock Rd Northbound					Woodstock Rd Southbound					Devereux Chase Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 PM	3	116	0	0	119	0	103	3	0	106	1	0	3	0	4	0	0	0	0	0	229
07:15 PM	5	113	0	0	118	0	98	2	0	100	2	0	4	0	6	0	0	0	0	0	224
07:30 PM	4	107	0	0	111	0	89	5	0	94	1	0	3	0	4	0	0	0	0	0	209
07:45 PM	5	102	0	0	107	0	92	2	0	94	2	0	2	0	4	0	0	0	0	0	205
Total	17	438	0	0	455	0	382	12	0	394	6	0	12	0	18	0	0	0	0	0	867
*** BREAK ***																					
09:00 PM	1	69	0	0	70	0	75	1	0	76	0	0	2	0	2	0	0	0	0	0	148
09:15 PM	2	65	0	0	67	0	72	2	0	74	1	0	1	0	2	0	0	0	0	0	143
09:30 PM	3	62	0	0	65	0	55	2	0	57	0	0	3	0	3	0	0	0	0	0	125
09:45 PM	1	54	0	0	55	0	58	1	0	59	1	0	1	0	2	0	0	0	0	0	116
Total	7	250	0	0	257	0	260	6	0	266	2	0	7	0	9	0	0	0	0	0	532
Grand Total	24	688	0	0	712	0	642	18	0	660	8	0	19	0	27	0	0	0	0	0	1399
Apprch %	3.4	96.6	0	0		0	97.3	2.7	0		29.6	0	70.4	0		0	0	0	0		
Total %	1.7	49.2	0	0	50.9	0	45.9	1.3	0	47.2	0.6	0	1.4	0	1.9	0	0	0	0	0	

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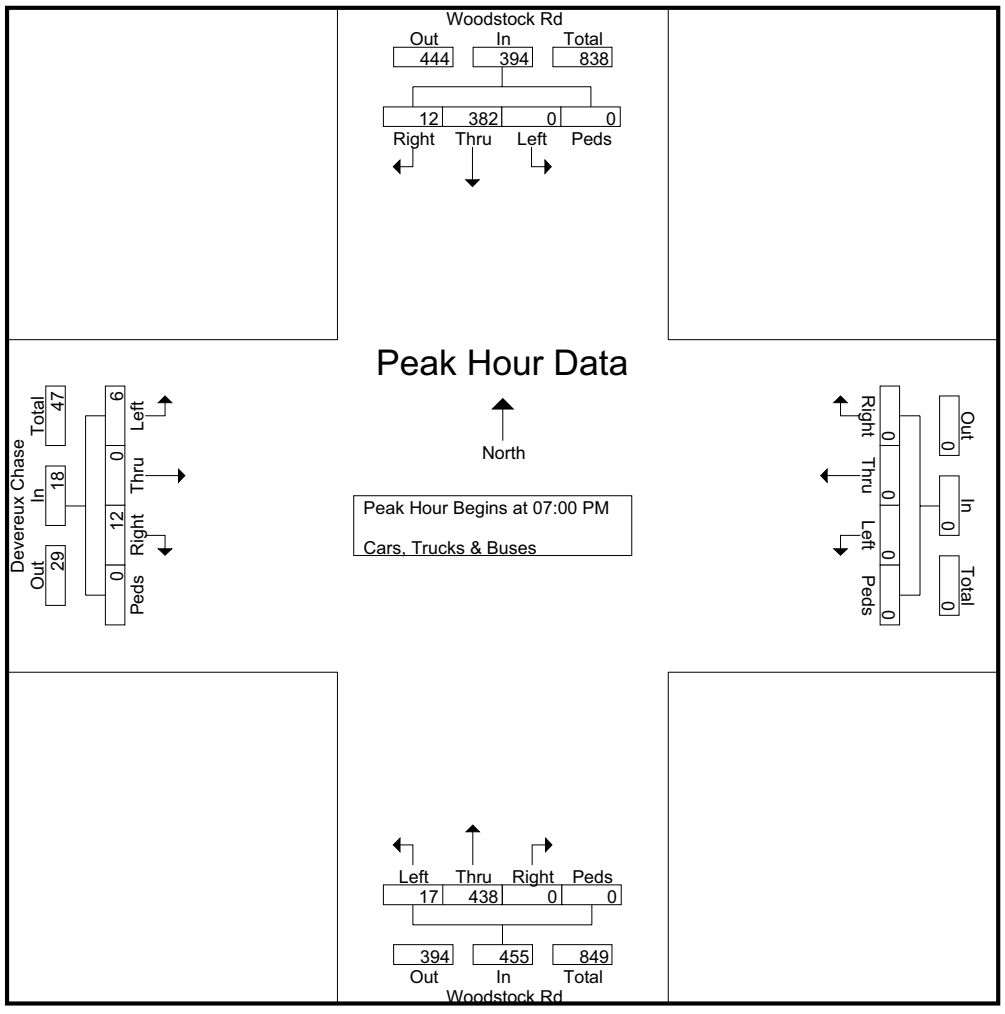
TMC Data
Woodstock Rd @ Devereux Chase

7-8pm 9-10pm

File Name : 29130002
Site Code : 29130002
Start Date : 6/11/2010

	Woodstock Rd Northbound					Woodstock Rd Southbound					Devereux Chase Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 PM to 09:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 PM																					
07:00 PM	3	116	0	0	119	0	103	3	0	106	1	0	3	0	4	0	0	0	0	0	229
07:15 PM	5	113	0	0	118	0	98	2	0	100	2	0	4	0	6	0	0	0	0	0	224
07:30 PM	4	107	0	0	111	0	89	5	0	94	1	0	3	0	4	0	0	0	0	0	209
07:45 PM	5	102	0	0	107	0	92	2	0	94	2	0	2	0	4	0	0	0	0	0	205
Total Volume	17	438	0	0	455	0	382	12	0	394	6	0	12	0	18	0	0	0	0	0	867
% App. Total	3.7	96.3	0	0		0	97	3	0		33.3	0	66.7	0		0	0	0	0		
PHF	.850	.944	.000	.000	.956	.000	.927	.600	.000	.929	.750	.000	.750	.000	.750	.000	.000	.000	.000	.000	.947



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TMC Data
Woodstock Rd @ Jones Rd

7-8pm 9-10pm

File Name : 29130003
Site Code : 29130003
Start Date : 6/11/2010
Page No : 1

Groups Printed- Cars, Trucks & Buses

	Woodstock Rd Northbound					Woodstock Rd Southbound					Jones Rd Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 PM	16	86	0	0	102	0	69	45	0	114	40	0	21	0	61	0	0	0	0	0	277
07:15 PM	19	83	0	0	102	0	65	41	0	106	37	0	18	0	55	0	0	0	0	0	263
07:30 PM	22	80	0	0	102	0	56	39	0	95	32	0	22	0	54	0	0	0	0	0	251
07:45 PM	15	73	0	0	88	0	54	32	0	86	25	0	15	0	40	0	0	0	0	0	214
Total	72	322	0	0	394	0	244	157	0	401	134	0	76	0	210	0	0	0	0	0	1005
*** BREAK ***																					
09:00 PM	19	48	0	0	67	0	59	25	0	84	14	0	10	0	24	0	0	0	0	0	175
09:15 PM	16	51	0	0	67	0	43	27	0	70	15	0	7	0	22	0	0	0	0	0	159
09:30 PM	21	55	0	0	76	0	41	23	0	64	13	0	8	0	21	0	0	0	0	0	161
09:45 PM	12	47	0	0	59	0	34	18	0	52	12	0	7	0	19	0	0	0	0	0	130
Total	68	201	0	0	269	0	177	93	0	270	54	0	32	0	86	0	0	0	0	0	625
Grand Total	140	523	0	0	663	0	421	250	0	671	188	0	108	0	296	0	0	0	0	0	1630
Apprch %	21.1	78.9	0	0		0	62.7	37.3	0		63.5	0	36.5	0		0	0	0	0		
Total %	8.6	32.1	0	0	40.7	0	25.8	15.3	0	41.2	11.5	0	6.6	0	18.2	0	0	0	0	0	

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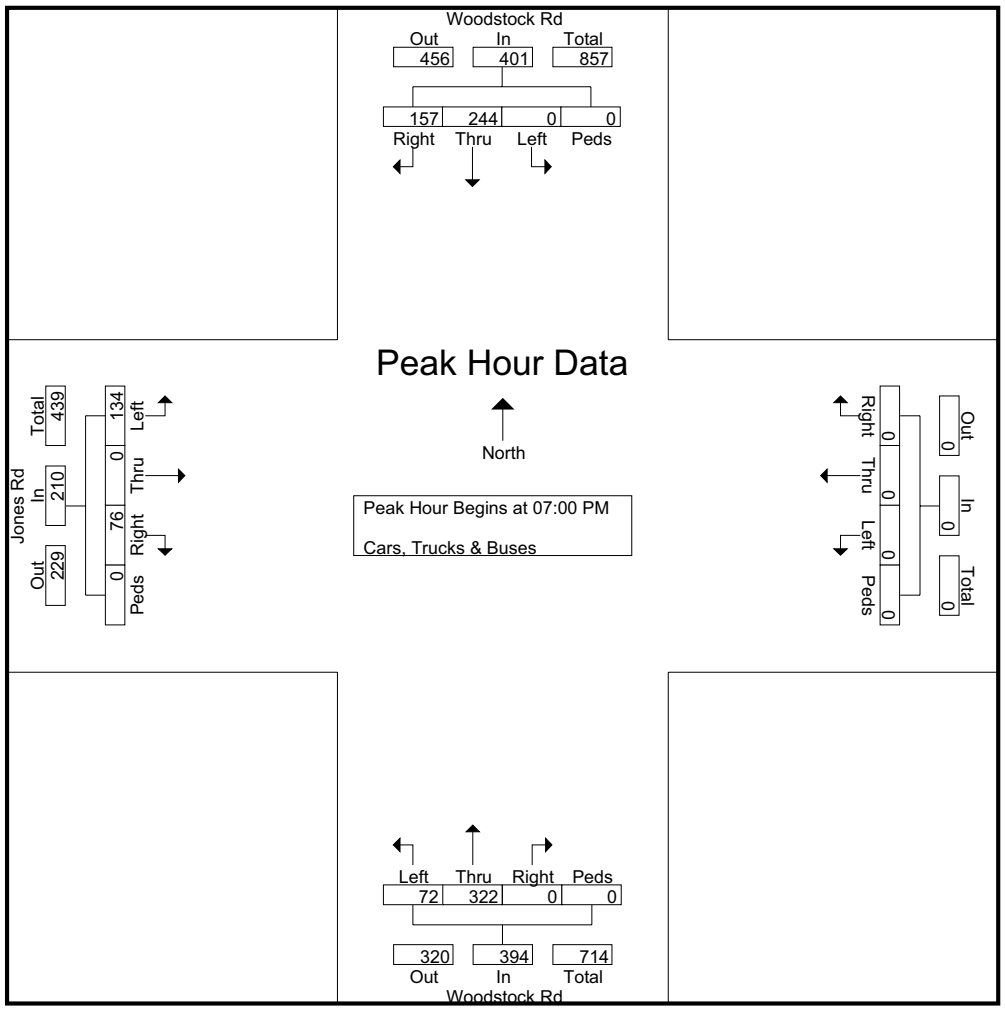
TMC Data
Woodstock Rd @ Jones Rd

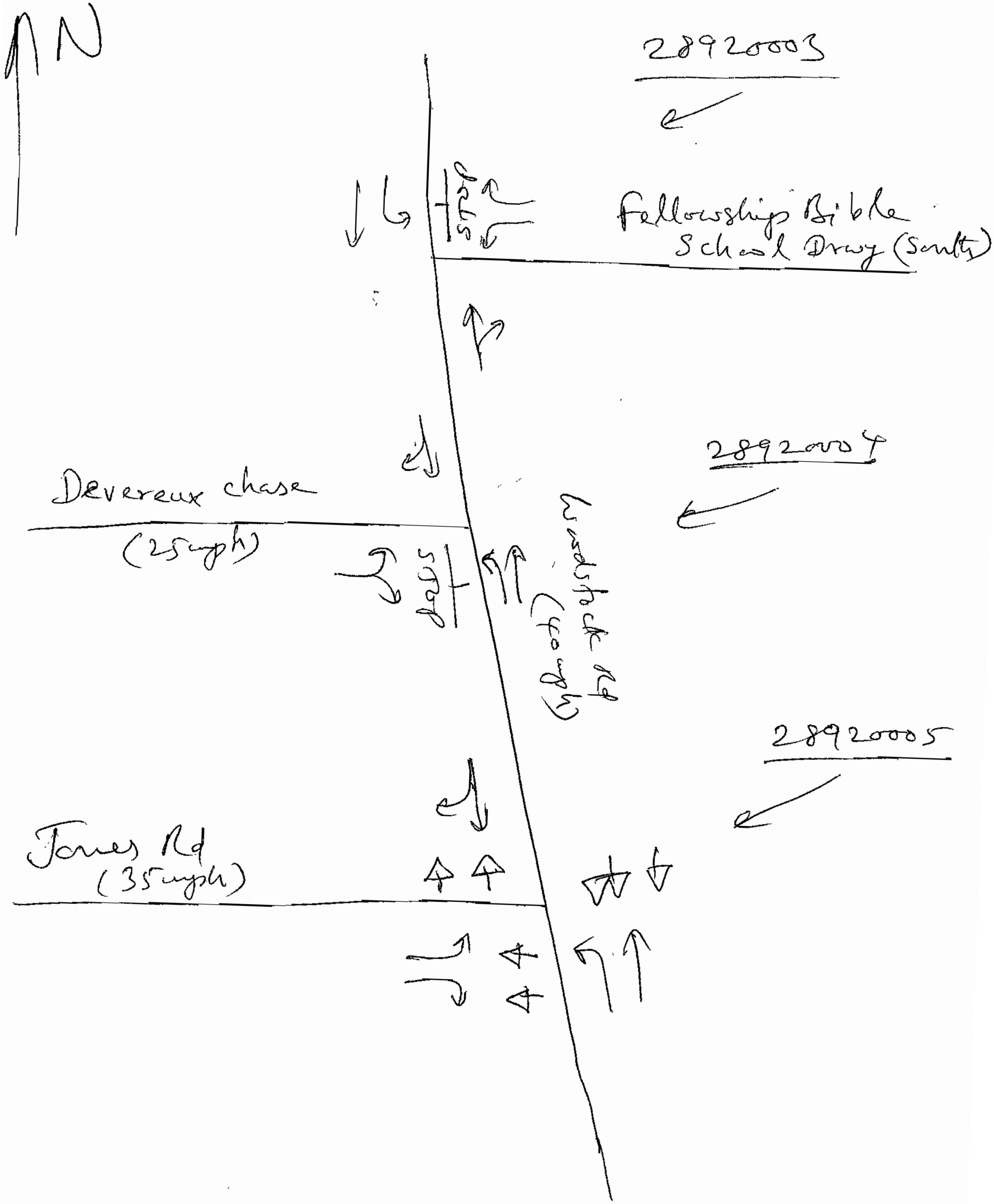
7-8pm 9-10pm

File Name : 29130003
Site Code : 29130003
Start Date : 6/11/2010
Page No : 2

	Woodstock Rd Northbound					Woodstock Rd Southbound					Jones Rd Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 PM to 09:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 PM																					
07:00 PM	16	86	0	0	102	0	69	45	0	114	40	0	21	0	61	0	0	0	0	0	277
07:15 PM	19	83	0	0	102	0	65	41	0	106	37	0	18	0	55	0	0	0	0	0	263
07:30 PM	22	80	0	0	102	0	56	39	0	95	32	0	22	0	54	0	0	0	0	0	251
07:45 PM	15	73	0	0	88	0	54	32	0	86	25	0	15	0	40	0	0	0	0	0	214
Total Volume	72	322	0	0	394	0	244	157	0	401	134	0	76	0	210	0	0	0	0	0	1005
% App. Total	18.3	81.7	0	0		0	60.8	39.2	0		63.8	0	36.2	0		0	0	0	0		
PHF	.818	.936	.000	.000	.966	.000	.884	.872	.000	.879	.838	.000	.864	.000	.861	.000	.000	.000	.000	.000	.907



Woodstock Rd (45 mph)
(45 mph)
Woodstock Rd.
(40 mph)
King Rd
(35 mph)
W. Crossville Rd (45 mph)
2892001
2892001
Fellowship Bible School Drwy (North)
RT only
stop


N
28920003
Fellowship Bible School Drwy (South)
STOP
28920004
Devereux chase
(25mph)
STOP
Woodstock Rd
(40mph)
28920005
Jones Rd
(35mph)

Existing Intersection Analysis

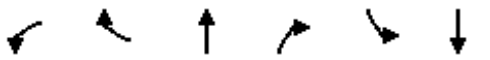
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	1786		3433	1863	1583
Flt Permitted	0.28	1.00	1.00	0.08	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	530	5085	1583	140	5085	1583	3433	1786		3433	1863	1583
Volume (vph)	139	2492	267	105	718	280	193	331	120	255	316	31
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	164	2517	310	119	740	329	208	389	148	277	385	36
RTOR Reduction (vph)	0	0	99	0	0	183	0	12	0	0	0	26
Lane Group Flow (vph)	164	2517	211	119	740	146	208	525	0	277	385	10
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	66.0	58.0	58.0	57.2	53.2	53.2	9.0	33.0		9.0	33.0	33.0
Effective Green, g (s)	66.0	58.0	58.0	57.2	53.2	53.2	9.0	33.0		9.0	33.0	33.0
Actuated g/C Ratio	0.55	0.48	0.48	0.48	0.44	0.44	0.08	0.28		0.08	0.28	0.28
Clearance Time (s)	4.0	4.0	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	3.0	3.0
Lane Grp Cap (vph)	382	2458	765	121	2254	702	257	491		257	512	435
v/s Ratio Prot	0.03	c0.49		c0.03	0.15		0.06	c0.29		c0.08	0.21	
v/s Ratio Perm	0.20		0.13	0.44		0.09						0.01
v/c Ratio	0.43	1.02	0.28	0.98	0.33	0.21	0.81	1.07		1.08	0.75	0.02
Uniform Delay, d1	14.2	31.0	18.5	60.1	21.8	20.5	54.7	43.5		55.5	39.8	31.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.72		1.00	1.00	1.00
Incremental Delay, d2	0.8	24.5	0.9	76.2	0.4	0.7	14.8	57.8		78.4	6.2	0.0
Delay (s)	14.9	55.5	19.4	136.3	22.1	21.2	69.5	89.1		133.9	45.9	31.8
Level of Service	B	E	B	F	C	C	E	F		F	D	C
Approach Delay (s)		49.6			33.3			83.6			80.1	
Approach LOS		D			C			F			F	

Intersection Summary			
HCM Average Control Delay	54.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	99.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	2806	92	0	1128	0	75
Peak Hour Factor	0.97	0.59	0.92	0.95	0.92	0.65
Hourly flow rate (vph)	2893	156	0	1187	0	115
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage veh)					0	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			3049		3367	1042
vC1, stage 1 conf vol					2971	
vC2, stage 2 conf vol					396	
vCu, unblocked vol			3049		3367	1042
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	49
cM capacity (veh/h)			108		17	226

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	1157	1157	734	396	396	396	115
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	156	0	0	0	115
cSH	1700	1700	1700	1700	1700	1700	226
Volume to Capacity	0.68	0.68	0.43	0.23	0.23	0.23	0.51
Queue Length 95th (ft)	0	0	0	0	0	0	66
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	36.4
Lane LOS							E
Approach Delay (s)	0.0			0.0			36.4
Approach LOS							E

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	67.6%	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)	81	110	583	125	154	526
Peak Hour Factor	0.53	0.45	0.88	0.56	0.59	0.93
Hourly flow rate (vph)	153	244	662	223	261	566
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	1862	774			886	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1862	774			886	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	39			66	
cM capacity (veh/h)	53	398			764	

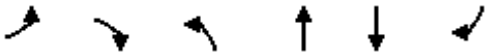
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	153	244	886	261	566
Volume Left	153	0	0	261	0
Volume Right	0	244	223	0	0
cSH	53	398	1700	764	1700
Volume to Capacity	2.89	0.61	0.52	0.34	0.33
Queue Length 95th (ft)	402	99	0	38	0
Control Delay (s)	1017.1	27.4	0.0	12.1	0.0
Lane LOS	F	D		B	
Approach Delay (s)	408.1		0.0	3.8	
Approach LOS	F				

Intersection Summary			
Average Delay	78.4		
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
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)	12	16	20	721	613	3
Peak Hour Factor	0.75	0.80	0.83	0.87	0.86	0.38
Hourly flow rate (vph)	16	20	24	829	713	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked	0.62					
vC, conflicting volume	1594	717	721			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1952	717	721			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	63	95	97			
cM capacity (veh/h)	43	430	881			

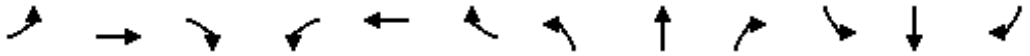
Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	36	24	829	721
Volume Left	16	24	0	0
Volume Right	20	0	0	8
cSH	86	881	1700	1700
Volume to Capacity	0.42	0.03	0.49	0.42
Queue Length 95th (ft)	43	2	0	0
Control Delay (s)	74.6	9.2	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	74.6	0.3		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.96	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1787	
Flt Permitted	0.95	1.00	0.09	1.00	1.00	
Satd. Flow (perm)	1770	1583	175	1863	1787	
Volume (vph)	457	256	83	273	495	163
Peak-hour factor, PHF	0.74	0.94	0.74	0.86	0.92	0.71
Adj. Flow (vph)	618	272	112	317	538	230
RTOR Reduction (vph)	0	145	0	0	11	0
Lane Group Flow (vph)	618	127	112	317	757	0
Turn Type		custom	pm+pt			
Protected Phases			1	6	2	
Permitted Phases	4	4	6			
Actuated Green, G (s)	41.0	41.0	71.0	71.0	57.8	
Effective Green, g (s)	41.0	41.0	71.0	71.0	57.8	
Actuated g/C Ratio	0.34	0.34	0.59	0.59	0.48	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	605	541	226	1102	861	
v/s Ratio Prot			c0.04	0.17	c0.42	
v/s Ratio Perm	c0.35	0.08	0.26			
v/c Ratio	1.02	0.23	0.50	0.29	0.88	
Uniform Delay, d1	39.5	28.3	21.3	12.1	28.0	
Progression Factor	1.00	1.00	1.00	1.00	0.70	
Incremental Delay, d2	42.1	0.2	1.7	0.7	11.4	
Delay (s)	81.6	28.5	23.0	12.7	31.0	
Level of Service	F	C	C	B	C	
Approach Delay (s)	65.4			15.4	31.0	
Approach LOS	E			B	C	

Intersection Summary			
HCM Average Control Delay	42.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



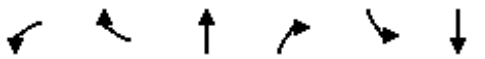
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	1827		3433	1863	1583
Flt Permitted	0.07	1.00	1.00	0.20	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	131	5085	1583	373	5085	1583	3433	1827		3433	1863	1583
Volume (vph)	184	1110	206	156	2410	256	388	357	54	210	314	68
Peak-hour factor, PHF	0.85	0.99	0.95	0.93	0.97	0.95	0.95	0.88	0.90	0.91	0.94	0.74
Adj. Flow (vph)	216	1121	217	168	2485	269	408	406	60	231	334	92
RTOR Reduction (vph)	0	0	112	0	0	133	0	4	0	0	0	60
Lane Group Flow (vph)	216	1121	105	168	2485	136	408	462	0	231	334	32
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	67.1	58.2	58.2	57.9	53.0	53.0	9.0	31.9		9.0	31.9	31.9
Effective Green, g (s)	67.1	58.2	58.2	57.9	53.0	53.0	9.0	31.9		9.0	31.9	31.9
Actuated g/C Ratio	0.56	0.49	0.49	0.48	0.44	0.44	0.08	0.27		0.08	0.27	0.27
Clearance Time (s)	4.0	4.0	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	3.0	3.0
Lane Grp Cap (vph)	211	2466	768	237	2246	699	257	486		257	495	421
v/s Ratio Prot	c0.09	0.22		0.03	c0.49		c0.12	c0.25		0.07	0.18	
v/s Ratio Perm	0.49		0.07	0.31		0.09						0.02
v/c Ratio	1.02	0.45	0.14	0.71	1.11	0.19	1.59	0.95		0.90	0.67	0.08
Uniform Delay, d1	37.9	20.4	17.0	20.6	33.5	20.5	55.5	43.3		55.0	39.4	33.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.01	0.88		1.00	1.00	1.00
Incremental Delay, d2	68.2	0.6	0.4	9.3	55.1	0.6	280.2	26.1		30.6	3.6	0.1
Delay (s)	106.1	21.0	17.4	30.0	88.6	21.1	336.4	64.1		85.7	43.0	33.1
Level of Service	F	C	B	C	F	C	F	E		F	D	C
Approach Delay (s)		32.3			79.0			191.2			56.6	
Approach LOS		C			E			F			E	

Intersection Summary			
HCM Average Control Delay	80.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	98.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1415	18	0	2868	0	24
Peak Hour Factor	0.97	0.59	0.92	0.95	0.92	0.65
Hourly flow rate (vph)	1459	31	0	3019	0	37
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage veh)					0	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1489		2480	502
vC1, stage 1 conf vol					1474	
vC2, stage 2 conf vol					1006	
vCu, unblocked vol			1489		2480	502
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	93
cM capacity (veh/h)			447		84	515

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	584	584	322	1006	1006	1006	37
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	31	0	0	0	37
cSH	1700	1700	1700	1700	1700	1700	515
Volume to Capacity	0.34	0.34	0.19	0.59	0.59	0.59	0.07
Queue Length 95th (ft)	0	0	0	0	0	0	6
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	12.5
Lane LOS							B
Approach Delay (s)	0.0			0.0			12.5
Approach LOS							B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
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)	25	33	821	18	30	624
Peak Hour Factor	0.78	0.82	0.97	0.50	0.68	0.95
Hourly flow rate (vph)	32	40	846	36	44	657
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	1609	864			882	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1609	864			882	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	70	89			94	
cM capacity (veh/h)	108	353			766	

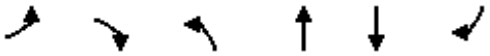
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	32	40	882	44	657
Volume Left	32	0	0	44	0
Volume Right	0	40	36	0	0
cSH	108	353	1700	766	1700
Volume to Capacity	0.30	0.11	0.52	0.06	0.39
Queue Length 95th (ft)	28	10	0	5	0
Control Delay (s)	51.5	16.5	0.0	10.0	0.0
Lane LOS	F	C		A	
Approach Delay (s)	32.0		0.0	0.6	
Approach LOS	D				

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	54.3%	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)	18	28	16	833	628	12
Peak Hour Factor	0.75	0.78	0.80	0.97	0.94	0.60
Hourly flow rate (vph)	24	36	20	859	668	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked	0.78					
vC, conflicting volume	1577	678	688			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1744	678	688			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	67	92	98			
cM capacity (veh/h)	72	452	906			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	60	20	859	688
Volume Left	24	20	0	0
Volume Right	36	0	0	20
cSH	145	906	1700	1700
Volume to Capacity	0.41	0.02	0.51	0.40
Queue Length 95th (ft)	45	2	0	0
Control Delay (s)	46.1	9.1	0.0	0.0
Lane LOS	E	A		
Approach Delay (s)	46.1	0.2		0.0
Approach LOS	E			

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1777	
Flt Permitted	0.95	1.00	0.14	1.00	1.00	
Satd. Flow (perm)	1770	1583	254	1863	1777	
Volume (vph)	176	109	303	657	429	220
Peak-hour factor, PHF	0.90	0.80	0.86	0.97	0.93	0.93
Adj. Flow (vph)	196	136	352	677	461	237
RTOR Reduction (vph)	0	116	0	0	14	0
Lane Group Flow (vph)	196	20	352	677	684	0
Turn Type		custom	pm+pt			
Protected Phases			1	6	2	
Permitted Phases	4	4	6			
Actuated Green, G (s)	17.3	17.3	94.7	94.7	56.8	
Effective Green, g (s)	17.3	17.3	94.7	94.7	56.8	
Actuated g/C Ratio	0.14	0.14	0.79	0.79	0.47	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	255	228	629	1470	841	
v/s Ratio Prot			c0.16	0.36	c0.38	
v/s Ratio Perm	c0.11	0.01	0.28			
v/c Ratio	0.77	0.09	0.56	0.46	0.81	
Uniform Delay, d1	49.4	44.5	19.7	4.2	27.1	
Progression Factor	1.00	1.00	1.00	1.00	0.72	
Incremental Delay, d2	13.0	0.2	1.1	1.0	7.5	
Delay (s)	62.4	44.7	20.8	5.2	27.1	
Level of Service	E	D	C	A	C	
Approach Delay (s)	55.2			10.5	27.1	
Approach LOS	E			B	C	

Intersection Summary			
HCM Average Control Delay	23.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Existing (Improved) Intersection Analysis

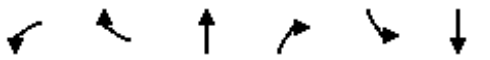
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	3393		3433	1863	1583
Flt Permitted	0.32	1.00	1.00	0.06	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	602	5085	1583	114	5085	1583	3433	3393		3433	1863	1583
Volume (vph)	139	2492	267	105	718	280	193	331	120	255	316	31
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	164	2517	310	119	740	329	208	389	148	277	385	36
RTOR Reduction (vph)	0	0	95	0	0	156	0	32	0	0	0	28
Lane Group Flow (vph)	164	2517	215	119	740	173	208	505	0	277	385	8
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	73.3	65.4	65.4	73.1	65.3	65.3	8.0	22.1		12.7	26.8	26.8
Effective Green, g (s)	73.3	65.4	65.4	73.1	65.3	65.3	8.0	22.1		12.7	26.8	26.8
Actuated g/C Ratio	0.59	0.53	0.53	0.59	0.53	0.53	0.06	0.18		0.10	0.22	0.22
Clearance Time (s)	4.0	4.0	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	3.0	3.0
Lane Grp Cap (vph)	430	2682	835	171	2678	834	221	605		352	403	342
v/s Ratio Prot	0.02	c0.49		c0.04	0.15		c0.06	0.15		c0.08	c0.21	
v/s Ratio Perm	0.20		0.14	0.37		0.11						0.00
v/c Ratio	0.38	0.94	0.26	0.70	0.28	0.21	0.94	0.83		0.79	0.96	0.02
Uniform Delay, d1	11.6	27.4	16.0	27.6	16.3	15.6	57.8	49.2		54.3	48.0	38.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.6	8.0	0.7	11.6	0.3	0.6	44.2	9.7		11.0	33.2	0.0
Delay (s)	12.2	35.4	16.8	39.2	16.5	16.2	101.9	58.9		65.4	81.2	38.3
Level of Service	B	D	B	D	B	B	F	E		E	F	D
Approach Delay (s)		32.2			18.7			70.9			72.7	
Approach LOS		C			B			E			E	

Intersection Summary			
HCM Average Control Delay	39.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	124.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	2806	92	0	1128	0	75
Peak Hour Factor	0.97	0.59	0.92	0.95	0.92	0.65
Hourly flow rate (vph)	2893	156	0	1187	0	115
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage veh)					0	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			3049		3367	1042
vC1, stage 1 conf vol					2971	
vC2, stage 2 conf vol					396	
vCu, unblocked vol			3049		3367	1042
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	49
cM capacity (veh/h)			108		17	226

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	1157	1157	734	396	396	396	115
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	156	0	0	0	115
cSH	1700	1700	1700	1700	1700	1700	226
Volume to Capacity	0.68	0.68	0.43	0.23	0.23	0.23	0.51
Queue Length 95th (ft)	0	0	0	0	0	0	66
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	36.4
Lane LOS							E
Approach Delay (s)	0.0			0.0			36.4
Approach LOS							E

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	67.6%	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)	81	110	583	125	154	526
Peak Hour Factor	0.53	0.45	0.88	0.56	0.59	0.93
Hourly flow rate (vph)	153	244	662	223	261	566
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	1862	774			886	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1862	774			886	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	39			66	
cM capacity (veh/h)	53	398			764	

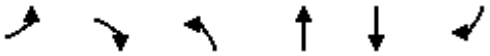
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	153	244	886	261	566
Volume Left	153	0	0	261	0
Volume Right	0	244	223	0	0
cSH	53	398	1700	764	1700
Volume to Capacity	2.89	0.61	0.52	0.34	0.33
Queue Length 95th (ft)	402	99	0	38	0
Control Delay (s)	1017.1	27.4	0.0	12.1	0.0
Lane LOS	F	D		B	
Approach Delay (s)	408.1		0.0	3.8	
Approach LOS	F				

Intersection Summary			
Average Delay	78.4		
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
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)	12	16	20	721	613	3
Peak Hour Factor	0.75	0.80	0.83	0.87	0.86	0.38
Hourly flow rate (vph)	16	20	24	829	713	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked	0.62					
vC, conflicting volume	1594	717	721			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1952	717	721			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	63	95	97			
cM capacity (veh/h)	43	430	881			

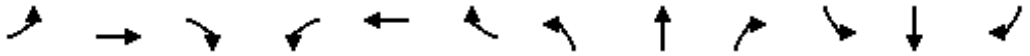
Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	36	24	829	721
Volume Left	16	24	0	0
Volume Right	20	0	0	8
cSH	86	881	1700	1700
Volume to Capacity	0.42	0.03	0.49	0.42
Queue Length 95th (ft)	43	2	0	0
Control Delay (s)	74.6	9.2	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	74.6	0.3		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.96	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1787	
Flt Permitted	0.95	1.00	0.09	1.00	1.00	
Satd. Flow (perm)	1770	1583	175	1863	1787	
Volume (vph)	457	256	83	273	495	163
Peak-hour factor, PHF	0.74	0.94	0.74	0.86	0.92	0.71
Adj. Flow (vph)	618	272	112	317	538	230
RTOR Reduction (vph)	0	145	0	0	11	0
Lane Group Flow (vph)	618	127	112	317	757	0
Turn Type		custom	pm+pt			
Protected Phases			1	6	2	
Permitted Phases	4	4	6			
Actuated Green, G (s)	41.0	41.0	71.0	71.0	57.8	
Effective Green, g (s)	41.0	41.0	71.0	71.0	57.8	
Actuated g/C Ratio	0.34	0.34	0.59	0.59	0.48	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	605	541	226	1102	861	
v/s Ratio Prot			c0.04	0.17	c0.42	
v/s Ratio Perm	c0.35	0.08	0.26			
v/c Ratio	1.02	0.23	0.50	0.29	0.88	
Uniform Delay, d1	39.5	28.3	21.3	12.1	28.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	42.1	0.2	1.7	0.7	12.4	
Delay (s)	81.6	28.5	23.0	12.7	40.3	
Level of Service	F	C	C	B	D	
Approach Delay (s)	65.4			15.4	40.3	
Approach LOS	E			B	D	

Intersection Summary			
HCM Average Control Delay	45.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



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	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	3471		3433	1863	1583
Flt Permitted	0.07	1.00	1.00	0.18	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	127	5085	1583	341	5085	1583	3433	3471		3433	1863	1583
Volume (vph)	184	1110	206	156	2410	256	388	357	54	210	314	68
Peak-hour factor, PHF	0.85	0.99	0.95	0.93	0.97	0.95	0.95	0.88	0.90	0.91	0.94	0.74
Adj. Flow (vph)	216	1121	217	168	2485	269	408	406	60	231	334	92
RTOR Reduction (vph)	0	0	111	0	0	133	0	10	0	0	0	76
Lane Group Flow (vph)	216	1121	106	168	2485	136	408	457	0	231	334	16
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	68.8	58.8	58.8	69.2	59.0	59.0	14.0	25.0		10.0	21.0	21.0
Effective Green, g (s)	68.8	58.8	58.8	69.2	59.0	59.0	14.0	25.0		10.0	21.0	21.0
Actuated g/C Ratio	0.57	0.49	0.49	0.58	0.49	0.49	0.12	0.21		0.08	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	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	3.0	3.0
Lane Grp Cap (vph)	210	2492	776	318	2500	778	401	723		286	326	277
v/s Ratio Prot	c0.09	0.22		0.04	0.49		c0.12	c0.13		0.07	c0.18	
v/s Ratio Perm	c0.51		0.07	0.26		0.09						0.01
v/c Ratio	1.03	0.45	0.14	0.53	0.99	0.17	1.02	0.63		0.81	1.02	0.06
Uniform Delay, d1	38.3	20.0	16.7	13.2	30.3	17.0	53.0	43.3		54.1	49.5	41.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.87		1.00	1.00	1.00
Incremental Delay, d2	69.7	0.6	0.4	1.6	16.6	0.5	46.8	1.6		15.3	56.3	0.1
Delay (s)	108.0	20.6	17.1	14.8	47.0	17.4	96.8	39.1		69.3	105.8	41.3
Level of Service	F	C	B	B	D	B	F	D		E	F	D
Approach Delay (s)		32.3			42.4			66.0			83.9	
Approach LOS		C			D			E			F	

Intersection Summary			
HCM Average Control Delay	47.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	97.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1415	18	0	2868	0	24
Peak Hour Factor	0.97	0.59	0.92	0.95	0.92	0.65
Hourly flow rate (vph)	1459	31	0	3019	0	37
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage veh)					0	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1489		2480	502
vC1, stage 1 conf vol					1474	
vC2, stage 2 conf vol					1006	
vCu, unblocked vol			1489		2480	502
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	93
cM capacity (veh/h)			447		84	515

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	584	584	322	1006	1006	1006	37
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	31	0	0	0	37
cSH	1700	1700	1700	1700	1700	1700	515
Volume to Capacity	0.34	0.34	0.19	0.59	0.59	0.59	0.07
Queue Length 95th (ft)	0	0	0	0	0	0	6
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	12.5
Lane LOS							B
Approach Delay (s)	0.0			0.0			12.5
Approach LOS							B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
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)	25	33	821	18	30	624
Peak Hour Factor	0.78	0.82	0.97	0.50	0.68	0.95
Hourly flow rate (vph)	32	40	846	36	44	657
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	1609	864			882	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1609	864			882	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	70	89			94	
cM capacity (veh/h)	108	353			766	

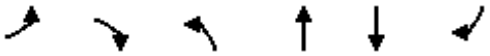
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	32	40	882	44	657
Volume Left	32	0	0	44	0
Volume Right	0	40	36	0	0
cSH	108	353	1700	766	1700
Volume to Capacity	0.30	0.11	0.52	0.06	0.39
Queue Length 95th (ft)	28	10	0	5	0
Control Delay (s)	51.5	16.5	0.0	10.0	0.0
Lane LOS	F	C		A	
Approach Delay (s)	32.0		0.0	0.6	
Approach LOS	D				

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	54.3%	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)	18	28	16	833	628	12
Peak Hour Factor	0.75	0.78	0.80	0.97	0.94	0.60
Hourly flow rate (vph)	24	36	20	859	668	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked	0.78					
vC, conflicting volume	1577	678	688			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1744	678	688			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	67	92	98			
cM capacity (veh/h)	72	452	906			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	60	20	859	688
Volume Left	24	20	0	0
Volume Right	36	0	0	20
cSH	145	906	1700	1700
Volume to Capacity	0.41	0.02	0.51	0.40
Queue Length 95th (ft)	45	2	0	0
Control Delay (s)	46.1	9.1	0.0	0.0
Lane LOS	E	A		
Approach Delay (s)	46.1	0.2		0.0
Approach LOS	E			

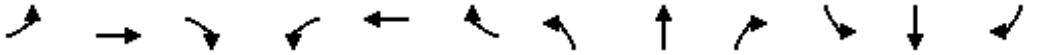
Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1777	
Flt Permitted	0.95	1.00	0.14	1.00	1.00	
Satd. Flow (perm)	1770	1583	254	1863	1777	
Volume (vph)	176	109	303	657	429	220
Peak-hour factor, PHF	0.90	0.80	0.86	0.97	0.93	0.93
Adj. Flow (vph)	196	136	352	677	461	237
RTOR Reduction (vph)	0	116	0	0	14	0
Lane Group Flow (vph)	196	20	352	677	684	0
Turn Type		custom	pm+pt			
Protected Phases			1	6	2	
Permitted Phases	4	4	6			
Actuated Green, G (s)	17.3	17.3	94.7	94.7	56.8	
Effective Green, g (s)	17.3	17.3	94.7	94.7	56.8	
Actuated g/C Ratio	0.14	0.14	0.79	0.79	0.47	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	255	228	629	1470	841	
v/s Ratio Prot			c0.16	0.36	c0.38	
v/s Ratio Perm	c0.11	0.01	0.28			
v/c Ratio	0.77	0.09	0.56	0.46	0.81	
Uniform Delay, d1	49.4	44.5	19.7	4.2	27.1	
Progression Factor	1.00	1.00	1.00	1.00	0.54	
Incremental Delay, d2	13.0	0.2	1.1	1.0	6.8	
Delay (s)	62.4	44.7	20.8	5.2	21.5	
Level of Service	E	D	C	A	C	
Approach Delay (s)	55.2			10.5	21.5	
Approach LOS	E			B	C	

Intersection Summary			
HCM Average Control Delay	21.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Base 2012 Intersection Analysis



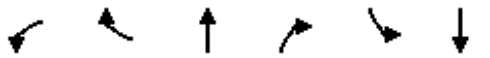
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	1786		3433	1863	1583
Flt Permitted	0.28	1.00	1.00	0.08	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	521	5085	1583	140	5085	1583	3433	1786		3433	1863	1583
Volume (vph)	142	2542	272	107	732	286	197	338	122	260	322	32
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	167	2568	316	122	755	336	212	398	151	283	393	37
RTOR Reduction (vph)	0	0	99	0	0	187	0	12	0	0	0	27
Lane Group Flow (vph)	167	2568	217	122	755	149	212	537	0	283	393	10
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	65.8	57.0	57.0	58.2	53.2	53.2	9.9	33.0		9.0	32.1	32.1
Effective Green, g (s)	65.8	57.0	57.0	58.2	53.2	53.2	9.9	33.0		9.0	32.1	32.1
Actuated g/C Ratio	0.55	0.48	0.48	0.49	0.44	0.44	0.08	0.28		0.08	0.27	0.27
Clearance Time (s)	4.0	4.0	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	3.0	3.0
Lane Grp Cap (vph)	377	2415	752	136	2254	702	283	491		257	498	423
v/s Ratio Prot	0.03	c0.50		c0.04	0.15		0.06	c0.30		c0.08	0.21	
v/s Ratio Perm	0.21		0.14	0.40		0.09						0.01
v/c Ratio	0.44	1.06	0.29	0.90	0.33	0.21	0.75	1.09		1.10	0.79	0.02
Uniform Delay, d1	14.3	31.5	19.2	59.2	21.8	20.5	53.8	43.5		55.5	40.8	32.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.74		1.00	1.00	1.00
Incremental Delay, d2	0.8	37.9	1.0	47.1	0.4	0.7	8.9	65.8		85.9	8.1	0.0
Delay (s)	15.1	69.4	20.1	106.3	22.2	21.2	53.6	97.9		141.4	48.9	32.4
Level of Service	B	E	C	F	C	C	D	F		F	D	C
Approach Delay (s)		61.3			30.4			85.5			84.8	
Approach LOS		E			C			F			F	

Intersection Summary			
HCM Average Control Delay	60.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	2862	92	0	1151	0	75
Peak Hour Factor	0.97	0.59	0.92	0.95	0.92	0.65
Hourly flow rate (vph)	2951	156	0	1212	0	115
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage veh)					0	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			3106		3432	1061
vC1, stage 1 conf vol					3028	
vC2, stage 2 conf vol					404	
vCu, unblocked vol			3106		3432	1061
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	47
cM capacity (veh/h)			102		16	220

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	1180	1180	746	404	404	404	115
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	156	0	0	0	115
cSH	1700	1700	1700	1700	1700	1700	220
Volume to Capacity	0.69	0.69	0.44	0.24	0.24	0.24	0.53
Queue Length 95th (ft)	0	0	0	0	0	0	69
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	38.2
Lane LOS							E
Approach Delay (s)	0.0			0.0			38.2
Approach LOS							E

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	68.7%	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)	81	110	595	125	154	537
Peak Hour Factor	0.53	0.45	0.88	0.56	0.59	0.93
Hourly flow rate (vph)	153	244	676	223	261	577
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	1887	788			899	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1887	788			899	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	38			65	
cM capacity (veh/h)	51	391			755	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	153	244	899	261	577
Volume Left	153	0	0	261	0
Volume Right	0	244	223	0	0
cSH	51	391	1700	755	1700
Volume to Capacity	3.02	0.62	0.53	0.35	0.34
Queue Length 95th (ft)	Err	102	0	39	0
Control Delay (s)	Err	28.3	0.0	12.3	0.0
Lane LOS	F	D		B	
Approach Delay (s)	3864.0		0.0	3.8	
Approach LOS	F				

Intersection Summary			
Average Delay	720.5		
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		

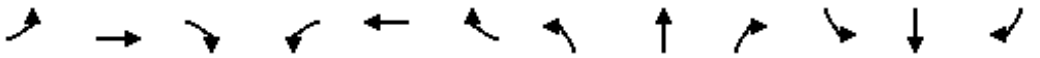
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	12	16	20	735	625	3
Peak Hour Factor	0.75	0.80	0.83	0.87	0.86	0.38
Hourly flow rate (vph)	16	20	24	845	727	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked	0.62					
vC, conflicting volume	1624	731	735			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2008	731	735			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	59	95	97			
cM capacity (veh/h)	39	422	871			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	36	24	845	735
Volume Left	16	24	0	0
Volume Right	20	0	0	8
cSH	79	871	1700	1700
Volume to Capacity	0.46	0.03	0.50	0.43
Queue Length 95th (ft)	47	2	0	0
Control Delay (s)	84.3	9.3	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	84.3	0.3		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.96	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1788	
Flt Permitted	0.95	1.00	0.08	1.00	1.00	
Satd. Flow (perm)	1770	1583	151	1863	1788	
Volume (vph)	466	261	85	278	505	166
Peak-hour factor, PHF	0.74	0.94	0.74	0.86	0.92	0.71
Adj. Flow (vph)	630	278	115	323	549	234
RTOR Reduction (vph)	0	145	0	0	11	0
Lane Group Flow (vph)	630	133	115	323	772	0
Turn Type		custom	pm+pt			
Protected Phases			1	6	2	
Permitted Phases	4	4	6			
Actuated Green, G (s)	41.0	41.0	71.0	71.0	57.6	
Effective Green, g (s)	41.0	41.0	71.0	71.0	57.6	
Actuated g/C Ratio	0.34	0.34	0.59	0.59	0.48	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	605	541	216	1102	858	
v/s Ratio Prot			c0.04	0.17	c0.43	
v/s Ratio Perm	c0.36	0.08	0.27			
v/c Ratio	1.04	0.24	0.53	0.29	0.90	
Uniform Delay, d1	39.5	28.4	22.2	12.1	28.5	
Progression Factor	1.00	1.00	1.00	1.00	0.70	
Incremental Delay, d2	47.8	0.2	2.5	0.7	13.1	
Delay (s)	87.3	28.6	24.8	12.8	33.1	
Level of Service	F	C	C	B	C	
Approach Delay (s)	69.3			15.9	33.1	
Approach LOS	E			B	C	

Intersection Summary			
HCM Average Control Delay	45.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



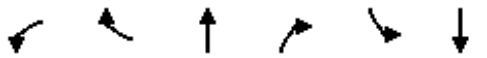
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	1827		3433	1863	1583
Flt Permitted	0.07	1.00	1.00	0.17	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	132	5085	1583	320	5085	1583	3433	1827		3433	1863	1583
Volume (vph)	188	1132	210	159	2458	261	396	364	55	214	320	69
Peak-hour factor, PHF	0.85	0.99	0.95	0.93	0.97	0.95	0.95	0.88	0.90	0.91	0.94	0.74
Adj. Flow (vph)	221	1143	221	171	2534	275	417	414	61	235	340	93
RTOR Reduction (vph)	0	0	117	0	0	133	0	5	0	0	0	76
Lane Group Flow (vph)	221	1143	104	171	2534	142	417	470	0	235	340	17
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	66.6	56.6	56.6	67.4	57.0	57.0	15.0	29.0		8.0	22.0	22.0
Effective Green, g (s)	66.6	56.6	56.6	67.4	57.0	57.0	15.0	29.0		8.0	22.0	22.0
Actuated g/C Ratio	0.55	0.47	0.47	0.56	0.48	0.48	0.12	0.24		0.07	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	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	3.0	3.0
Lane Grp Cap (vph)	210	2398	747	305	2415	752	429	442		229	342	290
v/s Ratio Prot	c0.09	0.22		0.05	c0.50		0.12	c0.26		0.07	c0.18	
v/s Ratio Perm	0.50		0.07	0.27		0.09						0.01
v/c Ratio	1.05	0.48	0.14	0.56	1.05	0.19	0.97	1.06		1.03	0.99	0.06
Uniform Delay, d1	37.7	21.6	17.9	14.4	31.5	18.2	52.3	45.5		56.0	48.9	40.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.89	0.85		1.00	1.00	1.00
Incremental Delay, d2	76.6	0.7	0.4	2.4	32.9	0.6	33.4	58.4		66.4	46.8	0.1
Delay (s)	114.3	22.3	18.3	16.8	64.4	18.7	80.2	97.1		122.4	95.8	40.5
Level of Service	F	C	B	B	E	B	F	F		F	F	D
Approach Delay (s)		34.6			57.4			89.2			97.5	
Approach LOS		C			E			F			F	

Intersection Summary			
HCM Average Control Delay	60.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1443	18	0	2925	0	24
Peak Hour Factor	0.97	0.59	0.92	0.95	0.92	0.65
Hourly flow rate (vph)	1488	31	0	3079	0	37
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage veh)					0	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1518		2529	511
vC1, stage 1 conf vol					1503	
vC2, stage 2 conf vol					1026	
vCu, unblocked vol			1518		2529	511
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	93
cM capacity (veh/h)			436		81	508

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	595	595	328	1026	1026	1026	37
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	31	0	0	0	37
cSH	1700	1700	1700	1700	1700	1700	508
Volume to Capacity	0.35	0.35	0.19	0.60	0.60	0.60	0.07
Queue Length 95th (ft)	0	0	0	0	0	0	6
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	12.6
Lane LOS							B
Approach Delay (s)	0.0			0.0			12.6
Approach LOS							B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
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)	25	33	837	18	30	636
Peak Hour Factor	0.78	0.82	0.97	0.50	0.68	0.95
Hourly flow rate (vph)	32	40	863	36	44	669
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	1639	881			899	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1639	881			899	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	69	88			94	
cM capacity (veh/h)	104	346			756	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	32	40	899	44	669
Volume Left	32	0	0	44	0
Volume Right	0	40	36	0	0
cSH	104	346	1700	756	1700
Volume to Capacity	0.31	0.12	0.53	0.06	0.39
Queue Length 95th (ft)	30	10	0	5	0
Control Delay (s)	54.3	16.8	0.0	10.1	0.0
Lane LOS	F	C		B	
Approach Delay (s)	33.4		0.0	0.6	
Approach LOS	D				

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
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)	18	28	16	850	641	12
Peak Hour Factor	0.75	0.78	0.80	0.97	0.94	0.60
Hourly flow rate (vph)	24	36	20	876	682	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked	0.77					
vC, conflicting volume	1608	692	702			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1795	692	702			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	64	92	98			
cM capacity (veh/h)	66	444	895			

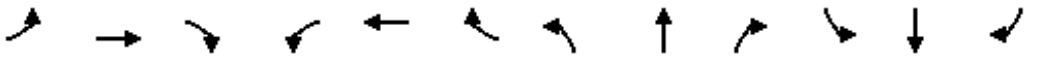
Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	60	20	876	702
Volume Left	24	20	0	0
Volume Right	36	0	0	20
cSH	135	895	1700	1700
Volume to Capacity	0.44	0.02	0.52	0.41
Queue Length 95th (ft)	49	2	0	0
Control Delay (s)	51.4	9.1	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	51.4	0.2		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	54.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1778	
Flt Permitted	0.95	1.00	0.25	1.00	1.00	
Satd. Flow (perm)	1770	1583	464	1863	1778	
Volume (vph)	180	111	309	670	438	224
Peak-hour factor, PHF	0.90	0.80	0.86	0.97	0.93	0.93
Adj. Flow (vph)	200	139	359	691	471	241
RTOR Reduction (vph)	0	119	0	0	12	0
Lane Group Flow (vph)	200	20	359	691	700	0
Turn Type		custom	pm+pt			
Protected Phases			1	6	2	
Permitted Phases	4	4	6			
Actuated Green, G (s)	17.6	17.6	94.4	94.4	75.3	
Effective Green, g (s)	17.6	17.6	94.4	94.4	75.3	
Actuated g/C Ratio	0.15	0.15	0.79	0.79	0.63	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	260	232	529	1466	1116	
v/s Ratio Prot			c0.09	0.37	0.39	
v/s Ratio Perm	c0.11	0.01	c0.45			
v/c Ratio	0.77	0.09	0.68	0.47	0.63	
Uniform Delay, d1	49.2	44.3	10.4	4.3	13.7	
Progression Factor	1.00	1.00	1.00	1.00	0.56	
Incremental Delay, d2	12.8	0.2	3.5	1.1	2.1	
Delay (s)	62.1	44.4	13.8	5.4	9.8	
Level of Service	E	D	B	A	A	
Approach Delay (s)	54.8			8.3	9.8	
Approach LOS	D			A	A	

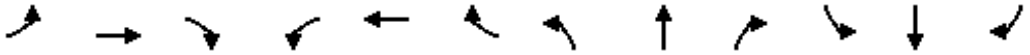
Intersection Summary			
HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Base 2012 (Improved) Intersection Analysis



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	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	3433	3393		3433	1863	1583
Flt Permitted	0.33	1.00	1.00	0.06	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1178	5085	1583	115	5085	1583	3433	3393		3433	1863	1583
Volume (vph)	142	2542	272	107	732	286	197	338	122	260	322	32
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	167	2568	316	122	755	336	212	398	151	283	393	37
RTOR Reduction (vph)	0	0	99	0	0	154	0	34	0	0	0	29
Lane Group Flow (vph)	167	2568	217	122	755	182	212	515	0	283	393	8
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	68.4	64.0	64.0	70.4	65.0	65.0	8.0	21.9		12.7	26.6	26.6
Effective Green, g (s)	68.4	64.0	64.0	70.4	65.0	65.0	8.0	21.9		12.7	26.6	26.6
Actuated g/C Ratio	0.57	0.53	0.53	0.59	0.54	0.54	0.07	0.18		0.11	0.22	0.22
Clearance Time (s)	4.0	4.0	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	3.0	3.0
Lane Grp Cap (vph)	754	2712	844	142	2754	857	229	619		363	413	351
v/s Ratio Prot	0.01	c0.50		c0.04	0.15		0.06	c0.15		0.08	c0.21	
v/s Ratio Perm	0.12		0.14	0.47		0.11						0.01
v/c Ratio	0.22	0.95	0.26	0.86	0.27	0.21	0.93	0.83		0.78	0.95	0.02
Uniform Delay, d1	11.8	26.4	15.1	28.7	14.8	14.2	55.7	47.3		52.3	46.1	36.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.72		1.00	1.00	1.00
Incremental Delay, d2	0.1	8.7	0.7	37.1	0.2	0.6	35.3	8.1		10.2	31.9	0.0
Delay (s)	11.9	35.1	15.9	65.7	15.0	14.8	83.0	42.0		62.4	78.0	36.6
Level of Service	B	D	B	E	B	B	F	D		E	E	D
Approach Delay (s)		31.8			20.1			53.4			69.7	
Approach LOS		C			C			D			E	

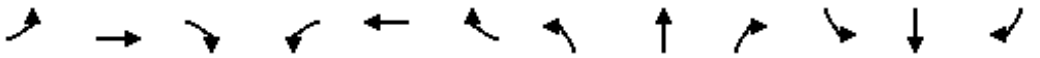
Intersection Summary			
HCM Average Control Delay	36.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



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	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	3433	3471		3433	1863	1583
Flt Permitted	0.95	1.00	1.00	0.17	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	319	5085	1583	3433	3471		3433	1863	1583
Volume (vph)	188	1132	210	159	2458	261	396	364	55	214	320	69
Peak-hour factor, PHF	0.85	0.99	0.95	0.93	0.97	0.95	0.95	0.88	0.90	0.91	0.94	0.74
Adj. Flow (vph)	221	1143	221	171	2534	275	417	414	61	235	340	93
RTOR Reduction (vph)	0	0	113	0	0	133	0	10	0	0	0	77
Lane Group Flow (vph)	221	1143	108	171	2534	142	417	465	0	235	340	16
Turn Type	Prot		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6						4
Actuated Green, G (s)	8.0	58.8	58.8	71.2	61.0	61.0	14.0	20.6		14.4	21.0	21.0
Effective Green, g (s)	8.0	58.8	58.8	71.2	61.0	61.0	14.0	20.6		14.4	21.0	21.0
Actuated g/C Ratio	0.07	0.49	0.49	0.59	0.51	0.51	0.12	0.17		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	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	3.0	3.0
Lane Grp Cap (vph)	229	2492	776	313	2585	805	401	596		412	326	277
v/s Ratio Prot	c0.06	0.22		c0.05	c0.50		c0.12	0.13		0.07	c0.18	
v/s Ratio Perm			0.07	0.28		0.09						0.01
v/c Ratio	0.97	0.46	0.14	0.55	0.98	0.18	1.04	0.78		0.57	1.04	0.06
Uniform Delay, d1	55.9	20.1	16.8	12.9	28.9	15.9	53.0	47.5		49.9	49.5	41.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.84		1.00	1.00	1.00
Incremental Delay, d2	49.2	0.6	0.4	1.9	13.6	0.5	52.9	5.8		1.9	61.5	0.1
Delay (s)	105.1	20.7	17.1	14.8	42.6	16.4	99.7	45.6		51.8	111.0	41.4
Level of Service	F	C	B	B	D	B	F	D		D	F	D
Approach Delay (s)		32.0			38.5			70.9			80.5	
Approach LOS		C			D			E			F	

Intersection Summary			
HCM Average Control Delay	46.1	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	94.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Base 2017 Intersection Analysis



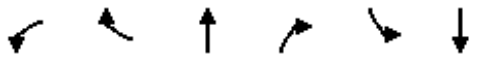
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	1786		3433	1863	1583
Flt Permitted	0.26	1.00	1.00	0.08	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	482	5085	1583	145	5085	1583	3433	1786		3433	1863	1583
Volume (vph)	149	2669	286	112	769	300	207	355	129	273	338	33
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	175	2696	333	127	793	353	223	418	159	297	412	38
RTOR Reduction (vph)	0	0	99	0	0	202	0	11	0	0	0	28
Lane Group Flow (vph)	175	2696	234	127	793	151	223	566	0	297	412	10
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	65.0	57.0	57.0	55.4	51.4	51.4	10.0	34.0		9.0	33.0	33.0
Effective Green, g (s)	65.0	57.0	57.0	55.4	51.4	51.4	10.0	34.0		9.0	33.0	33.0
Actuated g/C Ratio	0.54	0.48	0.48	0.46	0.43	0.43	0.08	0.28		0.08	0.28	0.28
Clearance Time (s)	4.0	4.0	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	3.0	3.0
Lane Grp Cap (vph)	364	2415	752	121	2178	678	286	506		257	512	435
v/s Ratio Prot	0.04	c0.53		c0.03	0.16		0.06	c0.32		c0.09	0.22	
v/s Ratio Perm	0.22		0.15	0.45		0.10						0.01
v/c Ratio	0.48	1.12	0.31	1.05	0.36	0.22	0.78	1.12		1.16	0.80	0.02
Uniform Delay, d1	15.0	31.5	19.4	60.2	23.2	21.7	53.9	43.0		55.5	40.5	31.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.74		1.00	1.00	1.00
Incremental Delay, d2	1.0	58.7	1.1	95.7	0.5	0.8	10.5	72.9		104.8	8.9	0.0
Delay (s)	16.0	90.2	20.5	155.9	23.7	22.4	55.0	104.6		160.3	49.4	31.8
Level of Service	B	F	C	F	C	C	D	F		F	D	C
Approach Delay (s)		78.9			36.5			90.8			92.6	
Approach LOS		E			D			F			F	

Intersection Summary			
HCM Average Control Delay	73.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	105.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	3005	92	0	1208	0	75
Peak Hour Factor	0.97	0.59	0.92	0.95	0.92	0.65
Hourly flow rate (vph)	3098	156	0	1272	0	115
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage veh)					0	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			3254		3600	1111
vC1, stage 1 conf vol					3176	
vC2, stage 2 conf vol					424	
vCu, unblocked vol			3254		3600	1111
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	43
cM capacity (veh/h)			89		13	204

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	1239	1239	776	424	424	424	115
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	156	0	0	0	115
cSH	1700	1700	1700	1700	1700	1700	204
Volume to Capacity	0.73	0.73	0.46	0.25	0.25	0.25	0.57
Queue Length 95th (ft)	0	0	0	0	0	0	77
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	43.5
Lane LOS							E
Approach Delay (s)	0.0			0.0			43.5
Approach LOS							E

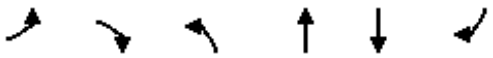
Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	81	110	624	125	154	563
Peak Hour Factor	0.53	0.45	0.88	0.56	0.59	0.93
Hourly flow rate (vph)	153	244	709	223	261	605
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	1948	821			932	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1948	821			932	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	35			64	
cM capacity (veh/h)	46	375			734	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	153	244	932	261	605
Volume Left	153	0	0	261	0
Volume Right	0	244	223	0	0
cSH	46	375	1700	734	1700
Volume to Capacity	3.34	0.65	0.55	0.36	0.36
Queue Length 95th (ft)	Err	111	0	40	0
Control Delay (s)	Err	31.0	0.0	12.6	0.0
Lane LOS	F	D		B	
Approach Delay (s)	3865.6		0.0	3.8	
Approach LOS	F				

Intersection Summary			
Average Delay	700.8		
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
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)	12	16	20	772	657	3
Peak Hour Factor	0.75	0.80	0.83	0.87	0.86	0.38
Hourly flow rate (vph)	16	20	24	887	764	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked	0.61					
vC, conflicting volume	1703	768	772			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2161	768	772			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	48	95	97			
cM capacity (veh/h)	31	402	843			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	36	24	887	772
Volume Left	16	24	0	0
Volume Right	20	0	0	8
cSH	63	843	1700	1700
Volume to Capacity	0.57	0.03	0.52	0.45
Queue Length 95th (ft)	59	2	0	0
Control Delay (s)	120.6	9.4	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	120.6	0.2		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.96	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1787	
Flt Permitted	0.95	1.00	0.07	1.00	1.00	
Satd. Flow (perm)	1770	1583	121	1863	1787	
Volume (vph)	489	274	89	292	530	175
Peak-hour factor, PHF	0.74	0.94	0.74	0.86	0.92	0.71
Adj. Flow (vph)	661	291	120	340	576	246
RTOR Reduction (vph)	0	145	0	0	11	0
Lane Group Flow (vph)	661	146	120	340	811	0
Turn Type		custom	pm+pt			
Protected Phases			1	6	2	
Permitted Phases	4	4	6			
Actuated Green, G (s)	41.0	41.0	71.0	71.0	57.4	
Effective Green, g (s)	41.0	41.0	71.0	71.0	57.4	
Actuated g/C Ratio	0.34	0.34	0.59	0.59	0.48	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	605	541	204	1102	855	
v/s Ratio Prot			c0.05	0.18	c0.45	
v/s Ratio Perm	c0.37	0.09	0.30			
v/c Ratio	1.09	0.27	0.59	0.31	0.95	
Uniform Delay, d1	39.5	28.6	24.2	12.2	29.9	
Progression Factor	1.00	1.00	1.00	1.00	0.72	
Incremental Delay, d2	64.4	0.3	4.3	0.7	18.8	
Delay (s)	103.9	28.9	28.5	13.0	40.1	
Level of Service	F	C	C	B	D	
Approach Delay (s)	81.0			17.0	40.1	
Approach LOS	F			B	D	

Intersection Summary			
HCM Average Control Delay	52.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

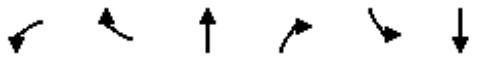
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	1824		3433	1863	1583
Flt Permitted	0.07	1.00	1.00	0.15	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	134	5085	1583	276	5085	1583	3433	1824		3433	1863	1583
Volume (vph)	197	1189	221	167	2581	274	416	382	58	225	336	73
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	232	1201	257	190	2661	322	447	449	72	245	410	85
RTOR Reduction (vph)	0	0	138	0	0	133	0	5	0	0	0	69
Lane Group Flow (vph)	232	1201	119	190	2661	189	447	517	0	245	410	16
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	64.5	55.5	55.5	69.5	58.0	58.0	14.0	30.0		7.0	23.0	23.0
Effective Green, g (s)	64.5	55.5	55.5	69.5	58.0	58.0	14.0	30.0		7.0	23.0	23.0
Actuated g/C Ratio	0.54	0.46	0.46	0.58	0.48	0.48	0.12	0.25		0.06	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	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	3.0	3.0
Lane Grp Cap (vph)	195	2352	732	303	2458	765	401	456		200	357	303
v/s Ratio Prot	c0.09	0.24		c0.06	0.52		0.13	c0.28		0.07	c0.22	
v/s Ratio Perm	c0.55		0.08	0.30		0.12						0.01
v/c Ratio	1.19	0.51	0.16	0.63	1.08	0.25	1.11	1.13		1.23	1.15	0.05
Uniform Delay, d1	57.7	22.7	18.7	14.8	31.0	18.2	53.0	45.0		56.5	48.5	39.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.86		1.00	1.00	1.00
Incremental Delay, d2	124.9	0.8	0.5	4.0	45.1	0.8	75.7	80.0		137.4	94.4	0.1
Delay (s)	182.6	23.5	19.2	18.8	76.1	19.0	122.3	118.9		193.9	142.9	39.7
Level of Service	F	C	B	B	E	B	F	F		F	F	D
Approach Delay (s)		44.7			66.9			120.5			147.9	
Approach LOS		D			E			F			F	

Intersection Summary			
HCM Average Control Delay	78.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1515	18	0	3072	0	24
Peak Hour Factor	0.97	0.59	0.92	0.95	0.92	0.65
Hourly flow rate (vph)	1562	31	0	3234	0	37
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage veh)					0	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1592		2655	536
vC1, stage 1 conf vol					1577	
vC2, stage 2 conf vol					1078	
vCu, unblocked vol			1592		2655	536
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	92
cM capacity (veh/h)			408		74	489

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	625	625	343	1078	1078	1078	37
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	31	0	0	0	37
cSH	1700	1700	1700	1700	1700	1700	489
Volume to Capacity	0.37	0.37	0.20	0.63	0.63	0.63	0.08
Queue Length 95th (ft)	0	0	0	0	0	0	6
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	13.0
Lane LOS							B
Approach Delay (s)	0.0			0.0			13.0
Approach LOS							B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
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)	25	33	879	18	30	668
Peak Hour Factor	0.53	0.45	0.88	0.56	0.59	0.93
Hourly flow rate (vph)	47	73	999	32	51	718
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	1835	1015			1031	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1835	1015			1031	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	39	75			92	
cM capacity (veh/h)	77	289			674	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	47	73	1031	51	718
Volume Left	47	0	0	51	0
Volume Right	0	73	32	0	0
cSH	77	289	1700	674	1700
Volume to Capacity	0.61	0.25	0.61	0.08	0.42
Queue Length 95th (ft)	68	25	0	6	0
Control Delay (s)	107.3	21.6	0.0	10.8	0.0
Lane LOS	F	C		B	
Approach Delay (s)	55.2		0.0	0.7	
Approach LOS	F				

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
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)	18	28	16	892	673	12
Peak Hour Factor	0.75	0.80	0.83	0.87	0.86	0.38
Hourly flow rate (vph)	24	35	19	1025	783	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked	0.67					
vC, conflicting volume	1862	798	814			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2285	798	814			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	16	91	98			
cM capacity (veh/h)	28	386	813			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	59	19	1025	814
Volume Left	24	19	0	0
Volume Right	35	0	0	32
cSH	63	813	1700	1700
Volume to Capacity	0.93	0.02	0.60	0.48
Queue Length 95th (ft)	111	2	0	0
Control Delay (s)	202.6	9.5	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	202.6	0.2		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	6.3		
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1762	
Flt Permitted	0.95	1.00	0.10	1.00	1.00	
Satd. Flow (perm)	1770	1583	178	1863	1762	
Volume (vph)	188	117	325	704	459	236
Peak-hour factor, PHF	0.74	0.94	0.74	0.86	0.92	0.71
Adj. Flow (vph)	254	124	439	819	499	332
RTOR Reduction (vph)	0	105	0	0	19	0
Lane Group Flow (vph)	254	19	439	819	812	0
Turn Type		custom	pm+pt			
Protected Phases			1	6	2	
Permitted Phases	4	4	6			
Actuated Green, G (s)	18.7	18.7	93.3	93.3	63.0	
Effective Green, g (s)	18.7	18.7	93.3	93.3	63.0	
Actuated g/C Ratio	0.16	0.16	0.78	0.78	0.52	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	276	247	487	1448	925	
v/s Ratio Prot			c0.20	0.44	0.46	
v/s Ratio Perm	c0.14	0.01	c0.50			
v/c Ratio	0.92	0.08	0.90	0.57	0.88	
Uniform Delay, d1	49.9	43.3	34.6	5.3	25.1	
Progression Factor	1.00	1.00	1.00	1.00	0.50	
Incremental Delay, d2	33.8	0.1	19.7	1.6	9.0	
Delay (s)	83.7	43.4	54.3	6.9	21.5	
Level of Service	F	D	D	A	C	
Approach Delay (s)	70.5			23.4	21.5	
Approach LOS	E			C	C	

Intersection Summary			
HCM Average Control Delay	30.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Base 2017 (Improved) Intersection Analysis

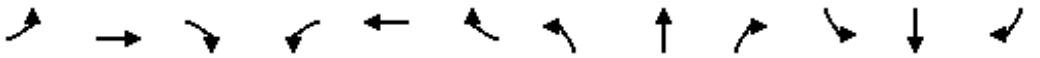
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	3433	3393		3433	3494	
Flt Permitted	0.95	1.00	1.00	0.06	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	5085	1583	119	5085	1583	3433	3393		3433	3494	
Volume (vph)	149	2669	286	112	769	300	207	355	129	273	338	33
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	175	2696	333	127	793	353	223	418	159	297	412	38
RTOR Reduction (vph)	0	0	99	0	0	158	0	33	0	0	6	0
Lane Group Flow (vph)	175	2696	234	127	793	195	223	545	0	297	444	0
Turn Type	Prot		Perm	pm+pt		Perm	Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6						
Actuated Green, G (s)	10.3	67.0	67.0	68.7	62.7	62.7	10.0	20.0		11.0	21.0	
Effective Green, g (s)	10.3	67.0	67.0	68.7	62.7	62.7	10.0	20.0		11.0	21.0	
Actuated g/C Ratio	0.09	0.56	0.56	0.57	0.52	0.52	0.08	0.17		0.09	0.18	
Clearance Time (s)	4.0	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	3.0	
Lane Grp Cap (vph)	295	2839	884	151	2657	827	286	566		315	611	
v/s Ratio Prot	0.05	c0.53		c0.04	0.16		0.06	c0.16		c0.09	0.13	
v/s Ratio Perm			0.15	0.44		0.12						
v/c Ratio	0.59	0.95	0.26	0.84	0.30	0.24	0.78	0.96		0.94	0.73	
Uniform Delay, d1	52.8	24.9	13.7	28.4	16.2	15.6	53.9	49.6		54.2	46.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.75		1.00	1.00	
Incremental Delay, d2	3.2	8.7	0.7	32.3	0.3	0.7	10.5	25.0		35.7	4.3	
Delay (s)	56.0	33.6	14.5	60.8	16.5	16.3	56.2	62.2		89.9	51.1	
Level of Service	E	C	B	E	B	B	E	E		F	D	
Approach Delay (s)		32.8			20.9			60.5			66.5	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM Average Control Delay	38.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	92.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

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	4.0	
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	3433	3466		3433	3448	
Flt Permitted	0.95	1.00	1.00	0.16	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	5085	1583	303	5085	1583	3433	3466		3433	3448	
Volume (vph)	197	1189	221	167	2581	274	416	382	58	225	336	73
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	232	1201	257	190	2661	322	447	449	72	245	410	85
RTOR Reduction (vph)	0	0	124	0	0	139	0	11	0	0	15	0
Lane Group Flow (vph)	232	1201	133	190	2661	183	447	510	0	245	480	0
Turn Type	Prot		Perm	pm+pt		Perm	Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6						
Actuated Green, G (s)	8.0	62.2	62.2	75.8	65.0	65.0	15.0	20.8		10.2	16.0	
Effective Green, g (s)	8.0	62.2	62.2	75.8	65.0	65.0	15.0	20.8		10.2	16.0	
Actuated g/C Ratio	0.07	0.52	0.52	0.63	0.54	0.54	0.12	0.17		0.08	0.13	
Clearance Time (s)	4.0	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	3.0	
Lane Grp Cap (vph)	229	2636	821	323	2754	857	429	601		292	460	
v/s Ratio Prot	c0.07	0.24		c0.05	c0.52		c0.13	c0.15		0.07	c0.14	
v/s Ratio Perm			0.08	0.32		0.12						
v/c Ratio	1.01	0.46	0.16	0.59	0.97	0.21	1.04	0.85		0.84	1.04	
Uniform Delay, d1	56.0	18.2	15.2	11.5	26.4	14.3	52.5	48.1		54.1	52.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.87	0.85		1.00	1.00	
Incremental Delay, d2	62.9	0.6	0.4	2.7	10.9	0.6	50.4	9.0		18.6	53.9	
Delay (s)	118.9	18.8	15.6	14.2	37.3	14.8	96.1	49.7		72.7	105.9	
Level of Service	F	B	B	B	D	B	F	D		E	F	
Approach Delay (s)		32.1			33.7			71.1			94.9	
Approach LOS		C			C			E			F	

Intersection Summary			
HCM Average Control Delay	45.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Base 2022 Intersection Analysis



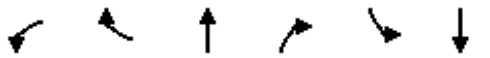
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	1785		3433	1863	1583
Flt Permitted	0.24	1.00	1.00	0.08	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	454	5085	1583	146	5085	1583	3433	1785		3433	1863	1583
Volume (vph)	156	2796	300	118	806	314	217	371	135	286	355	35
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	184	2824	349	134	831	369	233	436	167	311	433	41
RTOR Reduction (vph)	0	0	99	0	0	207	0	12	0	0	0	30
Lane Group Flow (vph)	184	2824	250	134	831	162	233	591	0	311	433	11
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	66.0	58.0	58.0	55.1	51.1	51.1	9.0	33.0		9.0	33.0	33.0
Effective Green, g (s)	66.0	58.0	58.0	55.1	51.1	51.1	9.0	33.0		9.0	33.0	33.0
Actuated g/C Ratio	0.55	0.48	0.48	0.46	0.43	0.43	0.08	0.28		0.08	0.28	0.28
Clearance Time (s)	4.0	4.0	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	3.0	3.0
Lane Grp Cap (vph)	369	2458	765	121	2165	674	257	491		257	512	435
v/s Ratio Prot	0.05	c0.56		c0.04	0.16		0.07	c0.33		c0.09	0.23	
v/s Ratio Perm	0.23		0.16	0.47		0.10						0.01
v/c Ratio	0.50	1.15	0.33	1.11	0.38	0.24	0.91	1.20		1.21	0.85	0.03
Uniform Delay, d1	14.7	31.0	19.0	60.2	23.6	22.0	55.1	43.5		55.5	41.1	31.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.73		1.00	1.00	1.00
Incremental Delay, d2	1.1	72.2	1.1	113.6	0.5	0.8	27.0	106.5		125.1	12.2	0.0
Delay (s)	15.8	103.2	20.2	173.8	24.2	22.9	72.6	138.3		180.6	53.3	31.8
Level of Service	B	F	C	F	C	C	E	F		F	D	C
Approach Delay (s)		89.8			38.8			120.0			102.6	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM Average Control Delay	84.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	109.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	3148	92	0	1266	0	75
Peak Hour Factor	0.97	0.59	0.92	0.95	0.92	0.65
Hourly flow rate (vph)	3245	156	0	1333	0	115
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage veh)					0	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			3401		3768	1160
vC1, stage 1 conf vol					3323	
vC2, stage 2 conf vol					444	
vCu, unblocked vol			3401		3768	1160
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	39
cM capacity (veh/h)			78		11	189

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	1298	1298	805	444	444	444	115
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	156	0	0	0	115
cSH	1700	1700	1700	1700	1700	1700	189
Volume to Capacity	0.76	0.76	0.47	0.26	0.26	0.26	0.61
Queue Length 95th (ft)	0	0	0	0	0	0	86
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	50.2
Lane LOS							F
Approach Delay (s)	0.0			0.0			50.2
Approach LOS							F

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
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)	81	110	654	125	154	590
Peak Hour Factor	0.53	0.45	0.88	0.56	0.59	0.93
Hourly flow rate (vph)	153	244	743	223	261	634
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	2011	855			966	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2011	855			966	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	32			63	
cM capacity (veh/h)	41	358			713	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	153	244	966	261	634
Volume Left	153	0	0	261	0
Volume Right	0	244	223	0	0
cSH	41	358	1700	713	1700
Volume to Capacity	3.72	0.68	0.57	0.37	0.37
Queue Length 95th (ft)	Err	120	0	42	0
Control Delay (s)	Err	34.1	0.0	12.9	0.0
Lane LOS	F	D		B	
Approach Delay (s)	3867.6		0.0	3.8	
Approach LOS	F				

Intersection Summary			
Average Delay	681.6		
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
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)	12	16	20	809	688	3
Peak Hour Factor	0.75	0.80	0.83	0.87	0.86	0.38
Hourly flow rate (vph)	16	20	24	930	800	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked	0.60					
vC, conflicting volume	1782	804	808			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2313	804	808			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	34	95	97			
cM capacity (veh/h)	24	383	817			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	36	24	930	808
Volume Left	16	24	0	0
Volume Right	20	0	0	8
cSH	50	817	1700	1700
Volume to Capacity	0.72	0.03	0.55	0.48
Queue Length 95th (ft)	72	2	0	0
Control Delay (s)	177.4	9.5	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	177.4	0.2		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.96	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1787	
Flt Permitted	0.95	1.00	0.07	1.00	1.00	
Satd. Flow (perm)	1770	1583	122	1863	1787	
Volume (vph)	513	287	93	306	555	183
Peak-hour factor, PHF	0.74	0.94	0.74	0.86	0.92	0.71
Adj. Flow (vph)	693	305	126	356	603	258
RTOR Reduction (vph)	0	145	0	0	12	0
Lane Group Flow (vph)	693	160	126	356	849	0
Turn Type		custom	pm+pt			
Protected Phases			1	6	2	
Permitted Phases	4	4	6			
Actuated Green, G (s)	41.0	41.0	71.0	71.0	57.1	
Effective Green, g (s)	41.0	41.0	71.0	71.0	57.1	
Actuated g/C Ratio	0.34	0.34	0.59	0.59	0.48	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	605	541	208	1102	850	
v/s Ratio Prot			c0.05	0.19	c0.48	
v/s Ratio Perm	c0.39	0.10	0.31			
v/c Ratio	1.15	0.29	0.61	0.32	1.00	
Uniform Delay, d1	39.5	28.9	26.3	12.4	31.4	
Progression Factor	1.00	1.00	1.00	1.00	0.71	
Incremental Delay, d2	83.8	0.3	4.9	0.8	28.6	
Delay (s)	123.3	29.2	31.3	13.1	51.0	
Level of Service	F	C	C	B	D	
Approach Delay (s)	94.5			17.9	51.0	
Approach LOS	F			B	D	

Intersection Summary			
HCM Average Control Delay	62.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

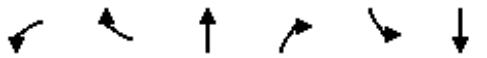
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	1826		3433	1863	1583
Flt Permitted	0.07	1.00	1.00	0.14	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	135	5085	1583	253	5085	1583	3433	1826		3433	1863	1583
Volume (vph)	206	1245	231	175	2704	287	435	401	61	236	352	76
Peak-hour factor, PHF	0.85	0.99	0.95	0.93	0.97	0.95	0.95	0.88	0.90	0.91	0.94	0.74
Adj. Flow (vph)	242	1258	243	188	2788	302	458	456	68	259	374	103
RTOR Reduction (vph)	0	0	131	0	0	133	0	5	0	0	0	84
Lane Group Flow (vph)	242	1258	112	188	2788	169	458	519	0	259	374	19
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	65.3	55.3	55.3	68.7	57.0	57.0	15.0	29.0		8.0	22.0	22.0
Effective Green, g (s)	65.3	55.3	55.3	68.7	57.0	57.0	15.0	29.0		8.0	22.0	22.0
Actuated g/C Ratio	0.54	0.46	0.46	0.57	0.48	0.48	0.12	0.24		0.07	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	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	3.0	3.0
Lane Grp Cap (vph)	210	2343	729	293	2415	752	429	441		229	342	290
v/s Ratio Prot	c0.10	0.25		c0.06	c0.55		0.13	c0.28		0.08	c0.20	
v/s Ratio Perm	0.53		0.07	0.30		0.11						0.01
v/c Ratio	1.15	0.54	0.15	0.64	1.15	0.22	1.07	1.18		1.13	1.09	0.07
Uniform Delay, d1	57.2	23.2	18.8	15.5	31.5	18.5	52.5	45.5		56.0	49.0	40.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.85		1.00	1.00	1.00
Incremental Delay, d2	109.3	0.9	0.4	4.7	74.7	0.7	59.2	98.6		99.3	76.1	0.1
Delay (s)	166.5	24.1	19.2	20.2	106.2	19.2	106.7	137.3		155.3	125.1	40.6
Level of Service	F	C	B	C	F	B	F	F		F	F	D
Approach Delay (s)		43.2			93.2			123.0			123.9	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM Average Control Delay	88.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	108.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1588	18	0	3218	0	24
Peak Hour Factor	0.97	0.59	0.92	0.95	0.92	0.65
Hourly flow rate (vph)	1637	31	0	3387	0	37
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage veh)					0	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1668		2781	561
vC1, stage 1 conf vol					1652	
vC2, stage 2 conf vol					1129	
vCu, unblocked vol			1668		2781	561
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	92
cM capacity (veh/h)			381		68	471

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	655	655	358	1129	1129	1129	37
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	31	0	0	0	37
cSH	1700	1700	1700	1700	1700	1700	471
Volume to Capacity	0.39	0.39	0.21	0.66	0.66	0.66	0.08
Queue Length 95th (ft)	0	0	0	0	0	0	6
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	13.3
Lane LOS							B
Approach Delay (s)	0.0			0.0			13.3
Approach LOS							B

Intersection Summary			
Average Delay	0.1		
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)	25	33	921	18	30	700
Peak Hour Factor	0.78	0.82	0.97	0.50	0.68	0.95
Hourly flow rate (vph)	32	40	949	36	44	737
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	1793	967			985	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1793	967			985	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	61	87			94	
cM capacity (veh/h)	83	308			701	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	32	40	985	44	737
Volume Left	32	0	0	44	0
Volume Right	0	40	36	0	0
cSH	83	308	1700	701	1700
Volume to Capacity	0.39	0.13	0.58	0.06	0.43
Queue Length 95th (ft)	38	11	0	5	0
Control Delay (s)	73.3	18.4	0.0	10.5	0.0
Lane LOS	F	C		B	
Approach Delay (s)	42.7		0.0	0.6	
Approach LOS	E				

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
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)	18	28	16	935	705	12
Peak Hour Factor	0.75	0.78	0.80	0.97	0.94	0.60
Hourly flow rate (vph)	24	36	20	964	750	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked	0.72					
vC, conflicting volume	1764	760	770			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2065	760	770			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	43	91	98			
cM capacity (veh/h)	42	406	844			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	60	20	964	770
Volume Left	24	20	0	0
Volume Right	36	0	0	20
cSH	91	844	1700	1700
Volume to Capacity	0.66	0.02	0.57	0.45
Queue Length 95th (ft)	80	2	0	0
Control Delay (s)	101.2	9.4	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	101.2	0.2		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1777	
Flt Permitted	0.95	1.00	0.17	1.00	1.00	
Satd. Flow (perm)	1770	1583	319	1863	1777	
Volume (vph)	197	122	340	737	481	247
Peak-hour factor, PHF	0.90	0.80	0.86	0.97	0.93	0.93
Adj. Flow (vph)	219	152	395	760	517	266
RTOR Reduction (vph)	0	129	0	0	14	0
Lane Group Flow (vph)	219	23	395	760	769	0
Turn Type		custom	pm+pt			
Protected Phases			1	6	2	
Permitted Phases	4	4	6			
Actuated Green, G (s)	18.1	18.1	93.9	93.9	69.1	
Effective Green, g (s)	18.1	18.1	93.9	93.9	69.1	
Actuated g/C Ratio	0.15	0.15	0.78	0.78	0.58	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	267	239	501	1458	1023	
v/s Ratio Prot			c0.14	0.41	0.43	
v/s Ratio Perm	c0.12	0.01	c0.48			
v/c Ratio	0.82	0.10	0.79	0.52	0.75	
Uniform Delay, d1	49.4	43.9	21.7	4.8	19.0	
Progression Factor	1.00	1.00	1.00	1.00	0.52	
Incremental Delay, d2	17.9	0.2	8.0	1.3	3.7	
Delay (s)	67.3	44.1	29.8	6.1	13.6	
Level of Service	E	D	C	A	B	
Approach Delay (s)	57.8			14.2	13.6	
Approach LOS	E			B	B	

Intersection Summary			
HCM Average Control Delay	21.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Base 2022 (Improved) Intersection Analysis

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	4.0	
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	3433	3392		3433	3493	
Flt Permitted	0.95	1.00	1.00	0.06	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	5085	1583	119	5085	1583	3433	3392		3433	3493	
Volume (vph)	156	2796	300	118	806	314	217	371	135	286	355	35
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	184	2824	349	134	831	369	233	436	167	311	433	41
RTOR Reduction (vph)	0	0	99	0	0	156	0	33	0	0	6	0
Lane Group Flow (vph)	184	2824	250	134	831	213	233	570	0	311	468	0
Turn Type	Prot		Perm	pm+pt		Perm	Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6						
Actuated Green, G (s)	10.4	67.0	67.0	68.6	62.6	62.6	10.0	20.0		11.0	21.0	
Effective Green, g (s)	10.4	67.0	67.0	68.6	62.6	62.6	10.0	20.0		11.0	21.0	
Actuated g/C Ratio	0.09	0.56	0.56	0.57	0.52	0.52	0.08	0.17		0.09	0.18	
Clearance Time (s)	4.0	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	3.0	
Lane Grp Cap (vph)	298	2839	884	151	2653	826	286	565		315	611	
v/s Ratio Prot	0.05	c0.56		c0.04	0.16		0.07	c0.17		c0.09	0.13	
v/s Ratio Perm			0.16	0.46		0.13						
v/c Ratio	0.62	0.99	0.28	0.89	0.31	0.26	0.81	1.01		0.99	0.77	
Uniform Delay, d1	52.9	26.3	13.9	31.5	16.4	15.9	54.1	50.0		54.4	47.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.87	0.82		1.00	1.00	
Incremental Delay, d2	3.8	15.7	0.8	41.7	0.3	0.8	13.9	36.8		46.8	5.7	
Delay (s)	56.7	42.0	14.7	73.2	16.7	16.6	60.8	77.6		101.2	52.9	
Level of Service	E	D	B	E	B	B	E	E		F	D	
Approach Delay (s)		40.0			22.4			73.0			72.0	
Approach LOS		D			C			E			E	

Intersection Summary			
HCM Average Control Delay	44.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.95	1.00	0.14	1.00	1.00	1.00
Satd. Flow (perm)	1770	1583	266	1863	1863	1583
Volume (vph)	513	287	93	306	555	183
Peak-hour factor, PHF	0.74	0.94	0.74	0.86	0.92	0.71
Adj. Flow (vph)	693	305	126	356	603	258
RTOR Reduction (vph)	0	148	0	0	0	128
Lane Group Flow (vph)	693	157	126	356	603	130
Turn Type		custom	pm+pt			Perm
Protected Phases			1	6	2	
Permitted Phases	4	4	6			2
Actuated Green, G (s)	48.7	48.7	63.3	63.3	49.1	49.1
Effective Green, g (s)	48.7	48.7	63.3	63.3	49.1	49.1
Actuated g/C Ratio	0.41	0.41	0.53	0.53	0.41	0.41
Clearance Time (s)	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
Lane Grp Cap (vph)	718	642	268	983	762	648
v/s Ratio Prot			c0.04	0.19	c0.32	
v/s Ratio Perm	c0.39	0.10	0.21			0.08
v/c Ratio	0.97	0.24	0.47	0.36	0.79	0.20
Uniform Delay, d1	34.8	23.5	20.7	16.6	31.0	22.8
Progression Factor	1.00	1.00	1.00	1.00	0.67	0.36
Incremental Delay, d2	25.0	0.2	1.3	1.0	7.5	0.6
Delay (s)	59.9	23.7	22.0	17.6	28.2	8.9
Level of Service	E	C	C	B	C	A
Approach Delay (s)	48.8			18.8	22.4	
Approach LOS	D			B	C	

Intersection Summary			
HCM Average Control Delay	32.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.8%	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												
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	4.0	
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	3433	3466		3433	3449	
Flt Permitted	0.95	1.00	1.00	0.15	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	5085	1583	275	5085	1583	3433	3466		3433	3449	
Volume (vph)	206	1245	231	175	2704	287	435	401	61	236	352	76
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	242	1258	269	199	2788	338	468	472	75	257	429	88
RTOR Reduction (vph)	0	0	130	0	0	149	0	11	0	0	15	0
Lane Group Flow (vph)	242	1258	139	199	2788	189	468	536	0	257	502	0
Turn Type	Prot		Perm	pm+pt		Perm	Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6						
Actuated Green, G (s)	8.0	61.8	61.8	76.2	65.0	65.0	15.0	20.6		10.4	16.0	
Effective Green, g (s)	8.0	61.8	61.8	76.2	65.0	65.0	15.0	20.6		10.4	16.0	
Actuated g/C Ratio	0.07	0.51	0.51	0.64	0.54	0.54	0.12	0.17		0.09	0.13	
Clearance Time (s)	4.0	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	3.0	
Lane Grp Cap (vph)	229	2619	815	314	2754	857	429	595		298	460	
v/s Ratio Prot	c0.07	0.25		c0.06	c0.55		c0.14	c0.15		0.07	c0.15	
v/s Ratio Perm			0.09	0.34		0.12						
v/c Ratio	1.06	0.48	0.17	0.63	1.01	0.22	1.09	0.90		0.86	1.09	
Uniform Delay, d1	56.0	18.8	15.5	12.2	27.5	14.3	52.5	48.7		54.1	52.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.90		1.00	1.00	
Incremental Delay, d2	75.2	0.6	0.5	4.1	20.3	0.6	65.9	14.1		21.7	69.2	
Delay (s)	131.2	19.4	15.9	16.3	47.8	14.9	113.8	57.9		75.8	121.2	
Level of Service	F	B	B	B	D	B	F	E		E	F	
Approach Delay (s)		34.2			42.5			83.7			106.1	
Approach LOS		C			D			F			F	

Intersection Summary			
HCM Average Control Delay	53.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	96.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.95	1.00	0.31	1.00	1.00	1.00
Satd. Flow (perm)	1770	1583	578	1863	1863	1583
Volume (vph)	197	122	340	737	481	247
Peak-hour factor, PHF	0.74	0.94	0.74	0.86	0.92	0.71
Adj. Flow (vph)	266	130	459	857	523	348
RTOR Reduction (vph)	0	106	0	0	0	163
Lane Group Flow (vph)	266	24	459	857	523	185
Turn Type		custom	pm+pt			Perm
Protected Phases			1	6	2	
Permitted Phases	4	4	6			2
Actuated Green, G (s)	22.0	22.0	90.0	90.0	63.8	63.8
Effective Green, g (s)	22.0	22.0	90.0	90.0	63.8	63.8
Actuated g/C Ratio	0.18	0.18	0.75	0.75	0.53	0.53
Clearance Time (s)	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
Lane Grp Cap (vph)	325	290	654	1397	990	842
v/s Ratio Prot			c0.13	0.46	0.28	
v/s Ratio Perm	c0.15	0.02	c0.40			0.12
v/c Ratio	0.82	0.08	0.70	0.61	0.53	0.22
Uniform Delay, d1	47.1	40.6	9.7	6.9	18.3	14.9
Progression Factor	1.00	1.00	1.00	1.00	0.59	0.12
Incremental Delay, d2	14.7	0.1	3.4	2.0	1.6	0.5
Delay (s)	61.8	40.8	13.1	9.0	12.4	2.2
Level of Service	E	D	B	A	B	A
Approach Delay (s)	54.9			10.4	8.3	
Approach LOS	D			B	A	

Intersection Summary			
HCM Average Control Delay	16.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Future 2012 Intersection Analysis

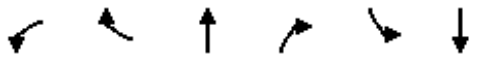
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	1785		3433	1863	1583
Flt Permitted	0.28	1.00	1.00	0.08	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	525	5085	1583	143	5085	1583	3433	1785		3433	1863	1583
Volume (vph)	142	2553	316	158	732	286	230	356	131	266	345	32
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	167	2579	367	180	755	336	247	419	162	289	421	37
RTOR Reduction (vph)	0	0	114	0	0	190	0	11	0	0	0	27
Lane Group Flow (vph)	167	2579	253	180	755	146	247	570	0	289	421	10
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	63.8	55.0	55.0	58.2	52.2	52.2	10.9	34.0		9.0	32.1	32.1
Effective Green, g (s)	63.8	55.0	55.0	58.2	52.2	52.2	10.9	34.0		9.0	32.1	32.1
Actuated g/C Ratio	0.53	0.46	0.46	0.49	0.44	0.44	0.09	0.28		0.08	0.27	0.27
Clearance Time (s)	4.0	4.0	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	3.0	3.0
Lane Grp Cap (vph)	370	2331	726	151	2212	689	312	506		257	498	423
v/s Ratio Prot	c0.03	0.51		c0.06	0.15		0.07	c0.32		c0.08	0.23	
v/s Ratio Perm	0.21		0.16	c0.52		0.09						0.01
v/c Ratio	0.45	1.11	0.35	1.19	0.34	0.21	0.79	1.13		1.12	0.85	0.02
Uniform Delay, d1	15.2	32.5	20.9	59.2	22.5	21.1	53.4	43.0		55.5	41.6	32.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.75		1.00	1.00	1.00
Incremental Delay, d2	0.9	54.9	1.3	134.1	0.4	0.7	10.3	75.2		93.8	12.5	0.0
Delay (s)	16.1	87.4	22.3	193.3	22.9	21.8	60.4	107.3		149.3	54.1	32.4
Level of Service	B	F	C	F	C	C	E	F		F	D	C
Approach Delay (s)		75.9			46.8			93.3			89.8	
Approach LOS		E			D			F			F	

Intersection Summary			
HCM Average Control Delay	73.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	105.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	2871	109	0	1202	0	97
Peak Hour Factor	0.97	0.59	0.92	0.95	0.92	0.65
Hourly flow rate (vph)	2960	185	0	1265	0	149
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			3145		3474	1079
vC1, stage 1 conf vol			0			
vC2, stage 2 conf vol			0			
vCu, unblocked vol			3145		3474	1079
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)			3.1			
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	30
cM capacity (veh/h)			585		5	214

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	1184	1184	777	422	422	422	149
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	185	0	0	0	149
cSH	1700	1700	1700	1700	1700	1700	214
Volume to Capacity	0.70	0.70	0.46	0.25	0.25	0.25	0.70
Queue Length 95th (ft)	0	0	0	0	0	0	112
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	53.4
Lane LOS							F
Approach Delay (s)	0.0			0.0			53.4
Approach LOS							F

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	70.6%	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)	24	73	692	46	120	689
Peak Hour Factor	0.53	0.45	0.88	0.56	0.59	0.93
Hourly flow rate (vph)	45	162	786	82	203	741
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	1975	827			869	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1975	827			869	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	10	56			74	
cM capacity (veh/h)	50	371			776	

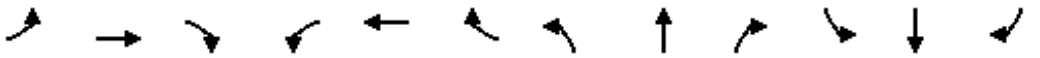
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	45	162	869	203	741
Volume Left	45	0	0	203	0
Volume Right	0	162	82	0	0
cSH	50	371	1700	776	1700
Volume to Capacity	0.90	0.44	0.51	0.26	0.44
Queue Length 95th (ft)	95	54	0	26	0
Control Delay (s)	225.5	22.0	0.0	11.3	0.0
Lane LOS	F	C		B	
Approach Delay (s)	66.4		0.0	2.4	
Approach LOS	F				

Intersection Summary			
Average Delay	8.0		
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
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)	12	16	20	753	720	3
Peak Hour Factor	0.75	0.80	0.83	0.87	0.86	0.38
Hourly flow rate (vph)	16	20	24	866	837	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked	0.66					
vC, conflicting volume	1755	841	845			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2143	841	845			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	53	95	97			
cM capacity (veh/h)	34	365	792			

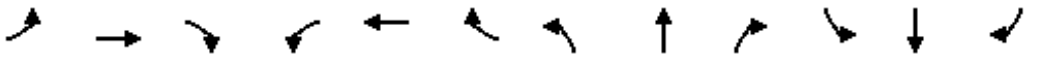
Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	36	24	866	845
Volume Left	16	24	0	0
Volume Right	20	0	0	8
cSH	69	792	1700	1700
Volume to Capacity	0.52	0.03	0.51	0.50
Queue Length 95th (ft)	54	2	0	0
Control Delay (s)	104.1	9.7	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	104.1	0.3		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		



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	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.88		1.00	0.90		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1638		1770	1668		1770	1863	1583	1770	1787	
Flt Permitted	0.27	1.00		0.55	1.00		0.08	1.00	1.00	0.59	1.00	
Satd. Flow (perm)	503	1638		1031	1668		154	1863	1583	1097	1787	
Volume (vph)	426	62	261	45	42	97	85	239	65	152	476	137
Peak-hour factor, PHF	0.74	0.92	0.94	0.92	0.92	0.92	0.74	0.86	0.92	0.92	0.92	0.71
Adj. Flow (vph)	576	67	278	49	46	105	115	278	71	165	517	193
RTOR Reduction (vph)	0	134	0	0	72	0	0	0	33	0	11	0
Lane Group Flow (vph)	576	211	0	49	79	0	115	278	38	165	699	0
Turn Type	pm+pt			Perm			pm+pt		Perm	Perm		
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	47.8	47.8		10.8	10.8		64.2	64.2	64.2	52.0	52.0	
Effective Green, g (s)	47.8	47.8		10.8	10.8		64.2	64.2	64.2	52.0	52.0	
Actuated g/C Ratio	0.40	0.40		0.09	0.09		0.54	0.54	0.54	0.43	0.43	
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)	549	652		93	150		193	997	847	475	774	
v/s Ratio Prot	c0.29	0.13			0.05		c0.04	0.15			c0.39	
v/s Ratio Perm	c0.13			0.05			0.28		0.02	0.15		
v/c Ratio	1.05	0.32		0.53	0.53		0.60	0.28	0.04	0.35	0.90	
Uniform Delay, d1	33.2	24.9		52.2	52.2		23.6	15.2	13.3	22.7	31.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.66	0.69	
Incremental Delay, d2	51.9	0.3		5.3	3.3		4.9	0.7	0.1	1.5	12.9	
Delay (s)	85.1	25.2		57.5	55.5		28.4	15.9	13.4	16.5	34.7	
Level of Service	F	C		E	E		C	B	B	B	C	
Approach Delay (s)		62.7			56.0			18.7			31.2	
Approach LOS		E			E			B			C	

Intersection Summary			
HCM Average Control Delay	42.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



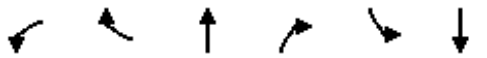
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	1828		3433	1863	1583
Flt Permitted	0.06	1.00	1.00	0.19	1.00	1.00	0.30	1.00		0.11	1.00	1.00
Satd. Flow (perm)	119	5085	1583	348	5085	1583	1077	1828		413	1863	1583
Volume (vph)	188	1134	218	168	2458	261	408	397	58	215	324	69
Peak-hour factor, PHF	0.85	0.99	0.95	0.93	0.97	0.95	0.95	0.88	0.90	0.91	0.94	0.74
Adj. Flow (vph)	221	1145	229	181	2534	275	429	451	64	236	345	93
RTOR Reduction (vph)	0	0	110	0	0	65	0	4	0	0	0	66
Lane Group Flow (vph)	221	1145	119	181	2534	210	429	511	0	236	345	27
Turn Type	pm+pt		Perm	pm+pt		Perm	Perm			Perm		Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2		2	6		6	8			4		4
Actuated Green, G (s)	73.6	62.6	62.6	72.4	62.0	62.0	35.0	35.0		35.0	35.0	35.0
Effective Green, g (s)	73.6	62.6	62.6	72.4	62.0	62.0	35.0	35.0		35.0	35.0	35.0
Actuated g/C Ratio	0.61	0.52	0.52	0.60	0.52	0.52	0.29	0.29		0.29	0.29	0.29
Clearance Time (s)	4.0	4.0	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	3.0	3.0
Lane Grp Cap (vph)	224	2653	826	333	2627	818	314	533		120	543	462
v/s Ratio Prot	c0.09	0.23		0.05	0.50			0.28			0.19	
v/s Ratio Perm	c0.51		0.08	0.28		0.13	0.40			c0.57		0.02
v/c Ratio	0.99	0.43	0.14	0.54	0.96	0.26	1.37	0.96		1.97	0.64	0.06
Uniform Delay, d1	39.2	17.7	14.8	11.7	27.9	16.2	42.5	41.8		42.5	37.0	30.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.87	0.86		1.00	1.00	1.00
Incremental Delay, d2	55.8	0.5	0.4	1.8	11.0	0.8	181.7	26.1		463.6	2.4	0.1
Delay (s)	95.1	18.2	15.2	13.5	39.0	16.9	218.6	61.8		506.1	39.4	30.7
Level of Service	F	B	B	B	D	B	F	E		F	D	C
Approach Delay (s)		28.4			35.4			133.1			201.6	
Approach LOS		C			D			F			F	

Intersection Summary			
HCM Average Control Delay	66.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	101.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1446	21	0	2934	0	32
Peak Hour Factor	0.97	0.59	0.92	0.95	0.92	0.65
Hourly flow rate (vph)	1491	36	0	3088	0	49
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			1526		2538	515
vC1, stage 1 conf vol			0			
vC2, stage 2 conf vol			0			
vCu, unblocked vol			1526		2538	515
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)			3.1			
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	90
cM capacity (veh/h)			698		22	505

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	596	596	334	1029	1029	1029	49
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	36	0	0	0	49
cSH	1700	1700	1700	1700	1700	1700	505
Volume to Capacity	0.35	0.35	0.20	0.61	0.61	0.61	0.10
Queue Length 95th (ft)	0	0	0	0	0	0	8
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	12.9
Lane LOS							B
Approach Delay (s)	0.0			0.0			12.9
Approach LOS							B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
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)	8	23	869	4	24	630
Peak Hour Factor	0.78	0.82	0.97	0.50	0.68	0.95
Hourly flow rate (vph)	10	28	896	8	35	663
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	1634	900			904	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1634	900			904	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	90	92			95	
cM capacity (veh/h)	106	337			752	

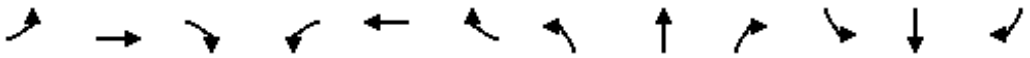
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	10	28	904	35	663
Volume Left	10	0	0	35	0
Volume Right	0	28	8	0	0
cSH	106	337	1700	752	1700
Volume to Capacity	0.10	0.08	0.53	0.05	0.39
Queue Length 95th (ft)	8	7	0	4	0
Control Delay (s)	42.6	16.6	0.0	10.0	0.0
Lane LOS	E	C		B	
Approach Delay (s)	23.6		0.0	0.5	
Approach LOS	C				

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
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)	18	28	16	867	650	12
Peak Hour Factor	0.75	0.78	0.80	0.97	0.94	0.60
Hourly flow rate (vph)	24	36	20	894	691	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked	0.77					
vC, conflicting volume	1635	701	711			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1828	701	711			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	62	92	98			
cM capacity (veh/h)	63	438	888			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	60	20	894	711
Volume Left	24	20	0	0
Volume Right	36	0	0	20
cSH	130	888	1700	1700
Volume to Capacity	0.46	0.02	0.53	0.42
Queue Length 95th (ft)	52	2	0	0
Control Delay (s)	54.5	9.1	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	54.5	0.2		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		



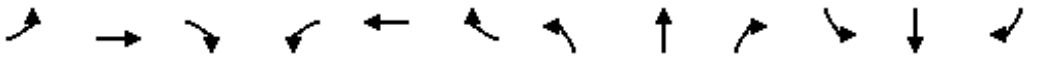
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.86		1.00	0.90		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1606		1770	1667		1770	1863	1583	1770	1770	
Flt Permitted	0.44	1.00		0.66	1.00		0.23	1.00	1.00	0.40	1.00	
Satd. Flow (perm)	815	1606		1231	1667		426	1863	1583	754	1770	
Volume (vph)	173	11	111	14	14	32	309	663	11	28	430	215
Peak-hour factor, PHF	0.90	0.92	0.80	0.92	0.92	0.92	0.86	0.97	0.92	0.92	0.93	0.93
Adj. Flow (vph)	192	12	139	15	15	35	359	684	12	30	462	231
RTOR Reduction (vph)	0	117	0	0	33	0	0	0	3	0	12	0
Lane Group Flow (vph)	192	34	0	15	17	0	359	684	9	30	681	0
Turn Type	pm+pt			Perm			pm+pt		Perm	Perm		
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	19.1	19.1		6.1	6.1		92.9	92.9	92.9	69.5	69.5	
Effective Green, g (s)	19.1	19.1		6.1	6.1		92.9	92.9	92.9	69.5	69.5	
Actuated g/C Ratio	0.16	0.16		0.05	0.05		0.77	0.77	0.77	0.58	0.58	
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)	201	256		63	85		547	1442	1226	437	1025	
v/s Ratio Prot	c0.07	0.02			0.01		c0.11	0.37			0.38	
v/s Ratio Perm	c0.08			0.01			c0.40		0.01	0.04		
v/c Ratio	0.96	0.13		0.24	0.20		0.66	0.47	0.01	0.07	0.66	
Uniform Delay, d1	48.8	43.3		54.7	54.6		11.8	4.8	3.1	11.1	17.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.59	0.65	
Incremental Delay, d2	50.3	0.2		2.0	1.1		2.8	1.1	0.0	0.3	3.1	
Delay (s)	99.1	43.6		56.7	55.7		14.7	6.0	3.1	6.8	14.4	
Level of Service	F	D		E	E		B	A	A	A	B	
Approach Delay (s)		74.7			56.0			8.9			14.1	
Approach LOS		E			E			A			B	

Intersection Summary			
HCM Average Control Delay	22.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Future 2012 (Improved) Intersection Analysis

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	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	3433	3391		3433	1863	1583
Flt Permitted	0.34	1.00	1.00	0.06	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1231	5085	1583	116	5085	1583	3433	3391		3433	1863	1583
Volume (vph)	142	2553	316	158	732	286	230	356	131	266	345	32
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	167	2579	367	180	755	336	247	419	162	289	421	37
RTOR Reduction (vph)	0	0	114	0	0	157	0	34	0	0	0	29
Lane Group Flow (vph)	167	2579	253	180	755	179	247	547	0	289	421	8
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	64.0	60.0	60.0	72.0	64.0	64.0	9.0	23.3		12.7	27.0	27.0
Effective Green, g (s)	64.0	60.0	60.0	72.0	64.0	64.0	9.0	23.3		12.7	27.0	27.0
Actuated g/C Ratio	0.53	0.50	0.50	0.60	0.53	0.53	0.08	0.19		0.11	0.22	0.22
Clearance Time (s)	4.0	4.0	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	3.0	3.0
Lane Grp Cap (vph)	730	2543	792	180	2712	844	257	658		363	419	356
v/s Ratio Prot	0.01	0.51		c0.07	0.15		c0.07	0.16		0.08	c0.23	
v/s Ratio Perm	0.11		0.16	c0.53		0.11						0.01
v/c Ratio	0.23	1.01	0.32	1.00	0.28	0.21	0.96	0.83		0.80	1.00	0.02
Uniform Delay, d1	13.8	30.0	17.9	58.2	15.3	14.7	55.3	46.5		52.4	46.5	36.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.76		1.00	1.00	1.00
Incremental Delay, d2	0.2	21.4	1.1	67.1	0.3	0.6	39.1	7.0		11.5	45.2	0.0
Delay (s)	13.9	51.4	18.9	125.3	15.6	15.3	87.9	42.5		63.9	91.7	36.3
Level of Service	B	D	B	F	B	B	F	D		E	F	D
Approach Delay (s)		45.6			31.1			56.0			78.2	
Approach LOS		D			C			E			E	

Intersection Summary			
HCM Average Control Delay	48.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	96.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



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	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	3433	3473		3433	1863	1583
Flt Permitted	0.07	1.00	1.00	0.16	1.00	1.00	0.35	1.00		0.35	1.00	1.00
Satd. Flow (perm)	259	5085	1583	296	5085	1583	1282	3473		1262	1863	1583
Volume (vph)	188	1134	218	168	2458	261	408	397	58	215	324	69
Peak-hour factor, PHF	0.85	0.99	0.95	0.93	0.97	0.95	0.95	0.88	0.90	0.91	0.94	0.74
Adj. Flow (vph)	221	1145	229	181	2534	275	429	451	64	236	345	93
RTOR Reduction (vph)	0	0	122	0	0	85	0	9	0	0	0	58
Lane Group Flow (vph)	221	1145	107	181	2534	190	429	506	0	236	345	35
Turn Type	pm+pt		Perm	pm+pt		Perm	Perm			Perm		Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2		2	6		6	8			4		4
Actuated Green, G (s)	60.9	55.9	55.9	71.0	62.0	62.0	41.0	41.0		41.0	41.0	41.0
Effective Green, g (s)	60.9	55.9	55.9	71.0	62.0	62.0	41.0	41.0		41.0	41.0	41.0
Actuated g/C Ratio	0.51	0.47	0.47	0.59	0.52	0.52	0.34	0.34		0.34	0.34	0.34
Clearance Time (s)	4.0	4.0	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	3.0	3.0
Lane Grp Cap (vph)	264	2369	737	311	2627	818	438	1187		431	637	541
v/s Ratio Prot	c0.03	0.23		0.05	c0.50			0.15			0.19	
v/s Ratio Perm	0.39		0.07	0.29		0.12	c0.33			0.19		0.02
v/c Ratio	0.84	0.48	0.14	0.58	0.96	0.23	0.98	0.43		0.55	0.54	0.06
Uniform Delay, d1	27.4	22.1	18.4	13.8	27.9	15.9	39.1	30.4		32.0	31.9	26.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.81		1.00	1.00	1.00
Incremental Delay, d2	20.0	0.7	0.4	2.8	11.0	0.7	34.4	0.2		1.4	0.9	0.1
Delay (s)	47.5	22.8	18.8	16.6	39.0	16.6	67.5	24.8		33.4	32.9	26.6
Level of Service	D	C	B	B	D	B	E	C		C	C	C
Approach Delay (s)		25.6			35.6			44.2			32.2	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM Average Control Delay	34.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	94.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Future 2017 Intersection Analysis

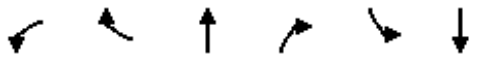
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	1785		3433	1863	1583
Flt Permitted	0.26	1.00	1.00	0.08	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	486	5085	1583	145	5085	1583	3433	1785		3433	1863	1583
Volume (vph)	149	2680	330	163	769	300	240	373	138	279	361	33
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	175	2707	384	185	793	353	258	439	170	303	440	38
RTOR Reduction (vph)	0	0	114	0	0	202	0	11	0	0	0	28
Lane Group Flow (vph)	175	2707	270	185	793	151	258	598	0	303	440	10
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	64.6	55.0	55.0	57.4	51.4	51.4	10.0	34.0		9.0	33.0	33.0
Effective Green, g (s)	64.6	55.0	55.0	57.4	51.4	51.4	10.0	34.0		9.0	33.0	33.0
Actuated g/C Ratio	0.54	0.46	0.46	0.48	0.43	0.43	0.08	0.28		0.08	0.28	0.28
Clearance Time (s)	4.0	4.0	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	3.0	3.0
Lane Grp Cap (vph)	364	2331	726	151	2178	678	286	506		257	512	435
v/s Ratio Prot	0.04	c0.53		c0.06	0.16		0.08	c0.33		c0.09	0.24	
v/s Ratio Perm	0.22		0.17	c0.53		0.10						0.01
v/c Ratio	0.48	1.16	0.37	1.23	0.36	0.22	0.90	1.18		1.18	0.86	0.02
Uniform Delay, d1	15.1	32.5	21.2	59.2	23.2	21.7	54.5	43.0		55.5	41.3	31.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.87	0.75		1.00	1.00	1.00
Incremental Delay, d2	1.0	77.8	1.5	146.3	0.5	0.8	23.6	96.1		113.3	13.5	0.0
Delay (s)	16.1	110.3	22.7	205.5	23.7	22.4	71.3	128.3		168.8	54.8	31.8
Level of Service	B	F	C	F	C	C	E	F		F	D	C
Approach Delay (s)		94.9			48.6			111.4			97.9	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM Average Control Delay	87.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	110.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	3014	109	0	1259	0	97
Peak Hour Factor	0.97	0.59	0.92	0.95	0.92	0.65
Hourly flow rate (vph)	3107	185	0	1325	0	149
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			3292		3641	1128
vC1, stage 1 conf vol			0			
vC2, stage 2 conf vol			0			
vCu, unblocked vol			3292		3641	1128
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)			3.1			
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	25
cM capacity (veh/h)			581		4	198

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	1243	1243	806	442	442	442	149
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	185	0	0	0	149
cSH	1700	1700	1700	1700	1700	1700	198
Volume to Capacity	0.73	0.73	0.47	0.26	0.26	0.26	0.75
Queue Length 95th (ft)	0	0	0	0	0	0	126
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	63.7
Lane LOS							F
Approach Delay (s)	0.0			0.0			63.7
Approach LOS							F

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
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)	24	73	721	46	120	715
Peak Hour Factor	0.53	0.45	0.88	0.56	0.59	0.93
Hourly flow rate (vph)	45	162	819	82	203	769
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	2036	860			901	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2036	860			901	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	1	54			73	
cM capacity (veh/h)	46	355			754	

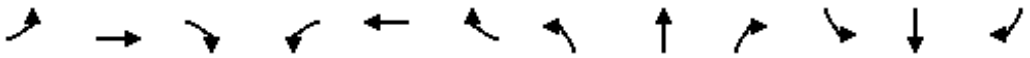
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	45	162	901	203	769
Volume Left	45	0	0	203	0
Volume Right	0	162	82	0	0
cSH	46	355	1700	754	1700
Volume to Capacity	0.99	0.46	0.53	0.27	0.45
Queue Length 95th (ft)	102	58	0	27	0
Control Delay (s)	269.9	23.4	0.0	11.5	0.0
Lane LOS	F	C		B	
Approach Delay (s)	77.2		0.0	2.4	
Approach LOS	F				

Intersection Summary			
Average Delay	8.8		
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
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)	12	16	20	790	752	3
Peak Hour Factor	0.75	0.80	0.83	0.87	0.86	0.38
Hourly flow rate (vph)	16	20	24	908	874	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked	0.63					
vC, conflicting volume	1835	878	882			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2330	878	882			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	35	94	97			
cM capacity (veh/h)	25	347	767			

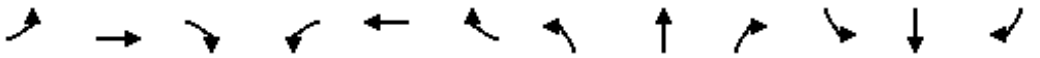
Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	36	24	908	882
Volume Left	16	24	0	0
Volume Right	20	0	0	8
cSH	51	767	1700	1700
Volume to Capacity	0.70	0.03	0.53	0.52
Queue Length 95th (ft)	71	2	0	0
Control Delay (s)	172.5	9.8	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	172.5	0.3		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		



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	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85		1.00	0.90		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1583		1770	1668		1770	1863	1583	1770	1786	
Flt Permitted	0.27	1.00		0.58	1.00		0.07	1.00	1.00	0.58	1.00	
Satd. Flow (perm)	507	1583		1084	1668		134	1863	1583	1081	1786	
Volume (vph)	449	0	274	45	42	97	89	253	65	152	501	146
Peak-hour factor, PHF	0.74	0.92	0.94	0.92	0.92	0.92	0.74	0.86	0.92	0.92	0.92	0.71
Adj. Flow (vph)	607	0	291	49	46	105	120	294	71	165	545	206
RTOR Reduction (vph)	0	167	0	0	72	0	0	0	33	0	11	0
Lane Group Flow (vph)	607	124	0	49	79	0	120	294	38	165	740	0
Turn Type	pm+pt			Perm			pm+pt		Perm	Perm		
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	47.7	47.7		10.7	10.7		64.3	64.3	64.3	51.8	51.8	
Effective Green, g (s)	47.7	47.7		10.7	10.7		64.3	64.3	64.3	51.8	51.8	
Actuated g/C Ratio	0.40	0.40		0.09	0.09		0.54	0.54	0.54	0.43	0.43	
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)	549	629		97	149		188	998	848	467	771	
v/s Ratio Prot	c0.30	0.08			0.05		c0.05	0.16			c0.41	
v/s Ratio Perm	c0.14			0.05			0.30		0.02	0.15		
v/c Ratio	1.11	0.20		0.51	0.53		0.64	0.29	0.04	0.35	0.96	
Uniform Delay, d1	33.2	23.6		52.1	52.2		25.1	15.4	13.2	22.9	33.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.76	0.72	
Incremental Delay, d2	70.6	0.2		4.1	3.6		6.9	0.8	0.1	1.6	20.1	
Delay (s)	103.8	23.8		56.2	55.8		32.0	16.1	13.3	18.9	43.9	
Level of Service	F	C		E	E		C	B	B	B	D	
Approach Delay (s)		77.9			55.9			19.6			39.4	
Approach LOS		E			E			B			D	

Intersection Summary			
HCM Average Control Delay	50.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



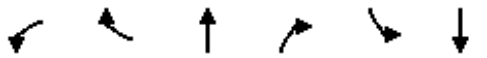
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	1826		3433	1863	1583
Flt Permitted	0.08	1.00	1.00	0.14	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	142	5085	1583	256	5085	1583	3433	1826		3433	1863	1583
Volume (vph)	197	1191	229	176	2581	274	428	415	61	226	340	73
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	232	1203	266	200	2661	322	460	488	75	246	415	85
RTOR Reduction (vph)	0	0	149	0	0	132	0	4	0	0	0	67
Lane Group Flow (vph)	232	1203	117	200	2661	190	460	559	0	246	415	18
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	61.6	52.6	52.6	68.4	56.0	56.0	14.0	32.0		7.0	25.0	25.0
Effective Green, g (s)	61.6	52.6	52.6	68.4	56.0	56.0	14.0	32.0		7.0	25.0	25.0
Actuated g/C Ratio	0.51	0.44	0.44	0.57	0.47	0.47	0.12	0.27		0.06	0.21	0.21
Clearance Time (s)	4.0	4.0	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	3.0	3.0
Lane Grp Cap (vph)	195	2229	694	302	2373	739	401	487		200	388	330
v/s Ratio Prot	c0.09	0.24		c0.07	0.52		0.13	c0.31		0.07	c0.22	
v/s Ratio Perm	c0.52		0.07	0.31		0.12						0.01
v/c Ratio	1.19	0.54	0.17	0.66	1.12	0.26	1.15	1.15		1.23	1.07	0.05
Uniform Delay, d1	57.7	24.8	20.4	16.2	32.0	19.4	53.0	44.0		56.5	47.5	38.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.89	0.88		1.00	1.00	1.00
Incremental Delay, d2	124.9	0.9	0.5	5.4	60.9	0.8	86.2	83.2		139.3	65.4	0.1
Delay (s)	182.6	25.7	21.0	21.5	92.9	20.2	133.1	122.0		195.8	112.9	38.1
Level of Service	F	C	C	C	F	C	F	F		F	F	D
Approach Delay (s)		46.4			81.1			127.0			131.7	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM Average Control Delay	84.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	106.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1518	21	0	3081	0	32
Peak Hour Factor	0.97	0.59	0.92	0.95	0.92	0.65
Hourly flow rate (vph)	1565	36	0	3243	0	49
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			1601		2664	539
vC1, stage 1 conf vol			0			
vC2, stage 2 conf vol			0			
vCu, unblocked vol			1601		2664	539
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)			3.1			
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	90
cM capacity (veh/h)			689		18	487

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	626	626	349	1081	1081	1081	49
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	36	0	0	0	49
cSH	1700	1700	1700	1700	1700	1700	487
Volume to Capacity	0.37	0.37	0.21	0.64	0.64	0.64	0.10
Queue Length 95th (ft)	0	0	0	0	0	0	8
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	13.2
Lane LOS							B
Approach Delay (s)	0.0			0.0			13.2
Approach LOS							B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
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)	8	23	911	4	24	662
Peak Hour Factor	0.53	0.45	0.88	0.56	0.59	0.93
Hourly flow rate (vph)	15	51	1035	7	41	712
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	1832	1039			1042	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1832	1039			1042	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	81	82			94	
cM capacity (veh/h)	79	280			667	

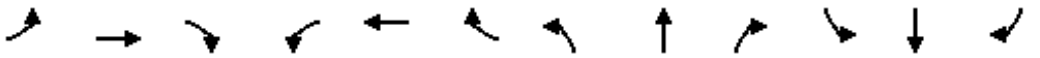
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	15	51	1042	41	712
Volume Left	15	0	0	41	0
Volume Right	0	51	7	0	0
cSH	79	280	1700	667	1700
Volume to Capacity	0.19	0.18	0.61	0.06	0.42
Queue Length 95th (ft)	16	16	0	5	0
Control Delay (s)	61.3	20.7	0.0	10.7	0.0
Lane LOS	F	C		B	
Approach Delay (s)	29.9		0.0	0.6	
Approach LOS	D				

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
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)	18	28	16	909	682	12
Peak Hour Factor	0.75	0.80	0.83	0.87	0.86	0.38
Hourly flow rate (vph)	24	35	19	1045	793	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked	0.69					
vC, conflicting volume	1892	809	825			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2292	809	825			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	17	91	98			
cM capacity (veh/h)	29	381	806			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	59	19	1045	825
Volume Left	24	19	0	0
Volume Right	35	0	0	32
cSH	64	806	1700	1700
Volume to Capacity	0.92	0.02	0.61	0.49
Queue Length 95th (ft)	110	2	0	0
Control Delay (s)	195.9	9.6	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	195.9	0.2		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	6.0		
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		



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	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.86		1.00	0.90		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1608		1770	1667		1770	1863	1583	1770	1752	
Flt Permitted	0.44	1.00		0.67	1.00		0.07	1.00	1.00	0.36	1.00	
Satd. Flow (perm)	815	1608		1248	1667		132	1863	1583	671	1752	
Volume (vph)	181	11	117	14	14	32	325	697	11	28	451	227
Peak-hour factor, PHF	0.74	0.92	0.94	0.92	0.92	0.92	0.74	0.86	0.92	0.92	0.92	0.71
Adj. Flow (vph)	245	12	124	15	15	35	439	810	12	30	490	320
RTOR Reduction (vph)	0	106	0	0	33	0	0	0	3	0	18	0
Lane Group Flow (vph)	245	30	0	15	17	0	439	810	9	30	792	0
Turn Type	pm+pt			Perm			pm+pt		Perm	Perm		
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	17.1	17.1		6.1	6.1		94.9	94.9	94.9	58.6	58.6	
Effective Green, g (s)	17.1	17.1		6.1	6.1		94.9	94.9	94.9	58.6	58.6	
Actuated g/C Ratio	0.14	0.14		0.05	0.05		0.79	0.79	0.79	0.49	0.49	
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)	172	229		63	85		545	1473	1252	328	856	
v/s Ratio Prot	c0.08	0.02			0.01		c0.22	0.43			c0.45	
v/s Ratio Perm	c0.12			0.01			0.42		0.01	0.04		
v/c Ratio	1.42	0.13		0.24	0.20		0.81	0.55	0.01	0.09	0.92	
Uniform Delay, d1	50.6	44.9		54.7	54.6		33.6	4.6	2.6	16.4	28.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.69	0.54	
Incremental Delay, d2	221.3	0.3		2.0	1.1		8.5	1.5	0.0	0.4	14.3	
Delay (s)	271.9	45.2		56.7	55.7		42.1	6.1	2.7	11.7	29.7	
Level of Service	F	D		E	E		D	A	A	B	C	
Approach Delay (s)		191.0			56.0			18.6			29.0	
Approach LOS		F			E			B			C	

Intersection Summary			
HCM Average Control Delay	48.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Future 2017 (Improved) Intersection Analysis

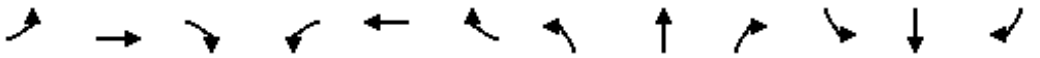
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	3433	3391		3433	3497	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	5085	1583	1770	5085	1583	3433	3391		3433	3497	
Volume (vph)	149	2680	330	163	769	300	240	373	138	279	361	33
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	175	2707	384	185	793	353	258	439	170	303	440	38
RTOR Reduction (vph)	0	0	114	0	0	154	0	34	0	0	5	0
Lane Group Flow (vph)	175	2707	270	185	793	199	258	575	0	303	473	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Actuated Green, G (s)	10.3	61.0	61.0	12.0	62.7	62.7	11.0	20.0		11.0	20.0	
Effective Green, g (s)	10.3	61.0	61.0	12.0	62.7	62.7	11.0	20.0		11.0	20.0	
Actuated g/C Ratio	0.09	0.51	0.51	0.10	0.52	0.52	0.09	0.17		0.09	0.17	
Clearance Time (s)	4.0	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	3.0	
Lane Grp Cap (vph)	295	2585	805	177	2657	827	315	565		315	583	
v/s Ratio Prot	0.05	c0.53		c0.10	0.16		0.08	c0.17		c0.09	0.14	
v/s Ratio Perm			0.17			0.13						
v/c Ratio	0.59	1.05	0.34	1.05	0.30	0.24	0.82	1.02		0.96	0.81	
Uniform Delay, d1	52.8	29.5	17.5	54.0	16.2	15.6	53.5	50.0		54.3	48.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.84	0.79		1.00	1.00	
Incremental Delay, d2	3.2	31.6	1.1	80.1	0.3	0.7	11.7	37.1		40.3	8.4	
Delay (s)	56.0	61.1	18.6	134.1	16.5	16.3	56.5	76.7		94.6	56.6	
Level of Service	E	E	B	F	B	B	E	E		F	E	
Approach Delay (s)		55.8			32.8			70.7			71.3	
Approach LOS		E			C			E			E	

Intersection Summary			
HCM Average Control Delay	54.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	96.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

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	4.0	
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	3433	3468		3433	3449	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	5085	1583	1770	5085	1583	3433	3468		3433	3449	
Volume (vph)	197	1191	229	176	2581	274	428	415	61	226	340	73
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	232	1203	266	200	2661	322	460	488	75	246	415	85
RTOR Reduction (vph)	0	0	149	0	0	149	0	10	0	0	15	0
Lane Group Flow (vph)	232	1203	117	200	2661	173	460	553	0	246	485	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Actuated Green, G (s)	8.0	53.0	53.0	18.0	63.0	63.0	16.0	21.4		11.6	17.0	
Effective Green, g (s)	8.0	53.0	53.0	18.0	63.0	63.0	16.0	21.4		11.6	17.0	
Actuated g/C Ratio	0.07	0.44	0.44	0.15	0.52	0.52	0.13	0.18		0.10	0.14	
Clearance Time (s)	4.0	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	3.0	
Lane Grp Cap (vph)	229	2246	699	266	2670	831	458	618		332	489	
v/s Ratio Prot	c0.07	0.24		0.11	c0.52		c0.13	c0.16		0.07	c0.14	
v/s Ratio Perm			0.07			0.11						
v/c Ratio	1.01	0.54	0.17	0.75	1.00	0.21	1.00	0.90		0.74	0.99	
Uniform Delay, d1	56.0	24.5	20.2	48.9	28.4	15.2	52.0	48.2		52.7	51.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.89	0.86		1.00	1.00	
Incremental Delay, d2	62.9	0.9	0.5	11.4	16.6	0.6	37.3	12.1		8.6	38.6	
Delay (s)	118.9	25.4	20.7	60.2	45.0	15.8	83.5	53.8		61.3	90.0	
Level of Service	F	C	C	E	D	B	F	D		E	F	
Approach Delay (s)		37.4			43.0			67.2			80.6	
Approach LOS		D			D			E			F	

Intersection Summary			
HCM Average Control Delay	49.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Future 2022 Intersection Analysis



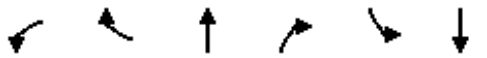
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	1785		3433	1863	1583
Flt Permitted	0.24	1.00	1.00	0.08	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	449	5085	1583	149	5085	1583	3433	1785		3433	1863	1583
Volume (vph)	156	2807	344	169	806	314	250	389	144	292	378	35
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	184	2835	400	192	831	369	269	458	178	317	461	41
RTOR Reduction (vph)	0	0	113	0	0	204	0	11	0	0	0	29
Lane Group Flow (vph)	184	2835	287	192	831	165	269	625	0	317	461	12
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	65.0	55.0	55.0	56.1	50.1	50.1	10.0	34.0		9.0	33.0	33.0
Effective Green, g (s)	65.0	55.0	55.0	56.1	50.1	50.1	10.0	34.0		9.0	33.0	33.0
Actuated g/C Ratio	0.54	0.46	0.46	0.47	0.42	0.42	0.08	0.28		0.08	0.28	0.28
Clearance Time (s)	4.0	4.0	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	3.0	3.0
Lane Grp Cap (vph)	363	2331	726	151	2123	661	286	506		257	512	435
v/s Ratio Prot	0.05	c0.56		c0.06	0.16		0.08	c0.35		c0.09	0.25	
v/s Ratio Perm	0.23		0.18	0.53		0.10						0.01
v/c Ratio	0.51	1.22	0.40	1.27	0.39	0.25	0.94	1.23		1.23	0.90	0.03
Uniform Delay, d1	15.3	32.5	21.5	59.2	24.3	22.7	54.7	43.0		55.5	41.9	31.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.87	0.76		1.00	1.00	1.00
Incremental Delay, d2	1.1	101.5	1.6	163.8	0.5	0.9	30.0	117.3		134.1	18.8	0.0
Delay (s)	16.4	134.0	23.1	223.0	24.9	23.6	77.7	149.8		189.6	60.7	31.8
Level of Service	B	F	C	F	C	C	E	F		F	E	C
Approach Delay (s)		114.7			51.9			128.4			109.1	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM Average Control Delay	102.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	114.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	3157	109	0	1317	0	97
Peak Hour Factor	0.97	0.59	0.92	0.95	0.92	0.65
Hourly flow rate (vph)	3255	185	0	1386	0	149
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			3439		3809	1177
vC1, stage 1 conf vol			0			
vC2, stage 2 conf vol			0			
vCu, unblocked vol			3439		3809	1177
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)			3.1			
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	19
cM capacity (veh/h)			577		3	184

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	1302	1302	836	462	462	462	149
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	185	0	0	0	149
cSH	1700	1700	1700	1700	1700	1700	184
Volume to Capacity	0.77	0.77	0.49	0.27	0.27	0.27	0.81
Queue Length 95th (ft)	0	0	0	0	0	0	141
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	76.9
Lane LOS							F
Approach Delay (s)	0.0			0.0			76.9
Approach LOS							F

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	76.1%	ICU Level of Service	D
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)	24	73	751	46	120	742
Peak Hour Factor	0.53	0.45	0.88	0.56	0.59	0.93
Hourly flow rate (vph)	45	162	853	82	203	798
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	2099	894			936	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2099	894			936	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	52			72	
cM capacity (veh/h)	41	340			732	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	45	162	936	203	798
Volume Left	45	0	0	203	0
Volume Right	0	162	82	0	0
cSH	41	340	1700	732	1700
Volume to Capacity	1.10	0.48	0.55	0.28	0.47
Queue Length 95th (ft)	110	62	0	28	0
Control Delay (s)	324.0	24.9	0.0	11.8	0.0
Lane LOS	F	C		B	
Approach Delay (s)	90.2		0.0	2.4	
Approach LOS	F				

Intersection Summary			
Average Delay	9.8		
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		

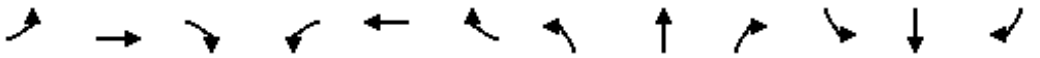
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	12	16	20	827	783	3
Peak Hour Factor	0.75	0.80	0.83	0.87	0.86	0.38
Hourly flow rate (vph)	16	20	24	951	910	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked	0.59					
vC, conflicting volume	1913	914	918			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2540	914	918			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	7	94	97			
cM capacity (veh/h)	17	331	743			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	36	24	951	918
Volume Left	16	24	0	0
Volume Right	20	0	0	8
cSH	36	743	1700	1700
Volume to Capacity	0.99	0.03	0.56	0.54
Queue Length 95th (ft)	91	3	0	0
Control Delay (s)	313.6	10.0	0.0	0.0
Lane LOS	F	B		
Approach Delay (s)	313.6	0.2		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	6.0		
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		

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	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.88		1.00	0.90		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1634		1770	1668		1770	1863	1583	1770	1786	
Flt Permitted	0.27	1.00		0.54	1.00		0.07	1.00	1.00	0.57	1.00	
Satd. Flow (perm)	500	1634		1006	1668		134	1863	1583	1065	1786	
Volume (vph)	473	62	287	45	42	97	93	267	65	152	526	154
Peak-hour factor, PHF	0.74	0.92	0.94	0.92	0.92	0.92	0.74	0.86	0.92	0.92	0.92	0.71
Adj. Flow (vph)	639	67	305	49	46	105	126	310	71	165	572	217
RTOR Reduction (vph)	0	147	0	0	72	0	0	0	33	0	11	0
Lane Group Flow (vph)	639	225	0	49	79	0	126	310	38	165	778	0
Turn Type	pm+pt			Perm			pm+pt		Perm	Perm		
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	47.9	47.9		10.9	10.9		64.1	64.1	64.1	51.4	51.4	
Effective Green, g (s)	47.9	47.9		10.9	10.9		64.1	64.1	64.1	51.4	51.4	
Actuated g/C Ratio	0.40	0.40		0.09	0.09		0.53	0.53	0.53	0.43	0.43	
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)	549	652		91	152		190	995	846	456	765	
v/s Ratio Prot	c0.32	0.14			0.05		c0.05	0.17			c0.44	
v/s Ratio Perm	c0.14			0.05			0.30		0.02	0.15		
v/c Ratio	1.16	0.34		0.54	0.52		0.66	0.31	0.04	0.36	1.02	
Uniform Delay, d1	33.2	25.1		52.1	52.1		26.3	15.6	13.3	23.2	34.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.76	0.73	
Incremental Delay, d2	92.4	0.3		6.0	3.2		8.4	0.8	0.1	1.6	32.1	
Delay (s)	125.6	25.4		58.2	55.3		34.8	16.4	13.4	19.3	57.0	
Level of Service	F	C		E	E		C	B	B	B	E	
Approach Delay (s)		88.7			56.0			20.6			50.5	
Approach LOS		F			E			C			D	

Intersection Summary			
HCM Average Control Delay	59.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



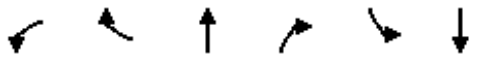
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	1825		3433	1863	1583
Flt Permitted	0.08	1.00	1.00	0.12	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	148	5085	1583	217	5085	1583	3433	1825		3433	1863	1583
Volume (vph)	206	1247	239	184	2704	287	447	434	64	237	356	76
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	242	1260	278	209	2788	338	481	511	79	258	434	88
RTOR Reduction (vph)	0	0	161	0	0	140	0	4	0	0	0	67
Lane Group Flow (vph)	242	1260	117	209	2788	198	481	586	0	258	434	21
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	59.3	50.3	50.3	68.0	55.0	55.0	14.0	32.0		8.0	26.0	26.0
Effective Green, g (s)	59.3	50.3	50.3	68.0	55.0	55.0	14.0	32.0		8.0	26.0	26.0
Actuated g/C Ratio	0.49	0.42	0.42	0.57	0.46	0.46	0.12	0.27		0.07	0.22	0.22
Clearance Time (s)	4.0	4.0	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	3.0	3.0
Lane Grp Cap (vph)	195	2131	664	300	2331	726	401	487		229	404	343
v/s Ratio Prot	c0.09	0.25		0.08	c0.55		c0.14	c0.32		0.08	0.23	
v/s Ratio Perm	0.52		0.07	0.31		0.12						0.01
v/c Ratio	1.24	0.59	0.18	0.70	1.20	0.27	1.20	1.20		1.13	1.07	0.06
Uniform Delay, d1	57.7	26.9	21.8	18.0	32.5	20.1	53.0	44.0		56.0	47.0	37.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.88		1.00	1.00	1.00
Incremental Delay, d2	144.2	1.2	0.6	6.9	92.7	0.9	105.9	104.6		97.8	66.0	0.1
Delay (s)	201.9	28.1	22.4	24.8	125.2	21.0	155.4	143.1		153.8	113.0	37.4
Level of Service	F	C	C	C	F	C	F	F		F	F	D
Approach Delay (s)		50.9			108.4			148.6			118.0	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM Average Control Delay	100.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	110.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1591	21	0	3227	0	32
Peak Hour Factor	0.97	0.59	0.92	0.95	0.92	0.65
Hourly flow rate (vph)	1640	36	0	3397	0	49
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			1676		2790	565
vC1, stage 1 conf vol			0			
vC2, stage 2 conf vol			0			
vCu, unblocked vol			1676		2790	565
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)			3.1			
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	89
cM capacity (veh/h)			680		15	468

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	656	656	364	1132	1132	1132	49
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	36	0	0	0	49
cSH	1700	1700	1700	1700	1700	1700	468
Volume to Capacity	0.39	0.39	0.21	0.67	0.67	0.67	0.11
Queue Length 95th (ft)	0	0	0	0	0	0	9
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	13.6
Lane LOS							B
Approach Delay (s)	0.0			0.0			13.6
Approach LOS							B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	65.7%	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)	8	23	953	4	24	694
Peak Hour Factor	0.53	0.45	0.88	0.56	0.59	0.93
Hourly flow rate (vph)	15	51	1083	7	41	746
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	1914	1087			1090	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1914	1087			1090	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	78	81			94	
cM capacity (veh/h)	70	263			640	

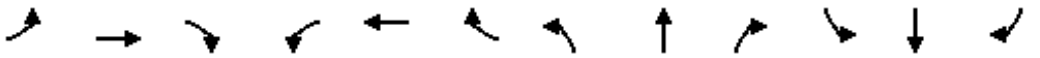
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	15	51	1090	41	746
Volume Left	15	0	0	41	0
Volume Right	0	51	7	0	0
cSH	70	263	1700	640	1700
Volume to Capacity	0.22	0.19	0.64	0.06	0.44
Queue Length 95th (ft)	19	18	0	5	0
Control Delay (s)	70.3	22.0	0.0	11.0	0.0
Lane LOS	F	C		B	
Approach Delay (s)	33.0		0.0	0.6	
Approach LOS	D				

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
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)	18	28	16	952	714	12
Peak Hour Factor	0.75	0.80	0.83	0.87	0.86	0.38
Hourly flow rate (vph)	24	35	19	1094	830	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked	0.66					
vC, conflicting volume	1979	846	862			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2478	846	862			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	90	98			
cM capacity (veh/h)	21	362	780			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	59	19	1094	862
Volume Left	24	19	0	0
Volume Right	35	0	0	32
cSH	48	780	1700	1700
Volume to Capacity	1.23	0.02	0.64	0.51
Queue Length 95th (ft)	136	2	0	0
Control Delay (s)	342.1	9.7	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	342.1	0.2		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	10.0		
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		



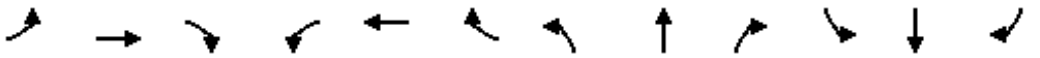
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.86		1.00	0.90		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1607		1770	1667		1770	1863	1583	1770	1752	
Flt Permitted	0.44	1.00		0.67	1.00		0.12	1.00	1.00	0.25	1.00	
Satd. Flow (perm)	815	1607		1241	1667		222	1863	1583	463	1752	
Volume (vph)	190	11	122	14	14	32	340	730	11	28	473	238
Peak-hour factor, PHF	0.74	0.92	0.94	0.92	0.92	0.92	0.74	0.86	0.92	0.92	0.92	0.71
Adj. Flow (vph)	257	12	130	15	15	35	459	849	12	30	514	335
RTOR Reduction (vph)	0	111	0	0	33	0	0	0	3	0	17	0
Lane Group Flow (vph)	257	31	0	15	17	0	459	849	9	30	832	0
Turn Type	pm+pt			Perm			pm+pt		Perm	Perm		
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	17.1	17.1		6.1	6.1		94.9	94.9	94.9	64.9	64.9	
Effective Green, g (s)	17.1	17.1		6.1	6.1		94.9	94.9	94.9	64.9	64.9	
Actuated g/C Ratio	0.14	0.14		0.05	0.05		0.79	0.79	0.79	0.54	0.54	
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)	172	229		63	85		511	1473	1252	250	948	
v/s Ratio Prot	c0.09	0.02			0.01		c0.19	0.46			0.48	
v/s Ratio Perm	c0.13			0.01			c0.51		0.01	0.06		
v/c Ratio	1.49	0.13		0.24	0.20		0.90	0.58	0.01	0.12	0.88	
Uniform Delay, d1	50.6	45.0		54.7	54.6		33.0	4.8	2.6	13.5	24.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.71	0.61	
Incremental Delay, d2	250.5	0.3		2.0	1.1		18.3	1.6	0.0	0.8	9.1	
Delay (s)	301.1	45.2		56.7	55.7		51.3	6.5	2.7	10.4	23.8	
Level of Service	F	D		E	E		D	A	A	B	C	
Approach Delay (s)		210.0			56.0			22.0			23.3	
Approach LOS		F			E			C			C	

Intersection Summary			
HCM Average Control Delay	51.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	85.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Future 2022 (Improved) Intersection Analysis

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	4.0	
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	3433	3391		3433	3496	
Flt Permitted	0.95	1.00	1.00	0.06	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	5085	1583	119	5085	1583	3433	3391		3433	3496	
Volume (vph)	156	2807	344	169	806	314	250	389	144	292	378	35
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	184	2835	400	192	831	369	269	458	178	317	461	41
RTOR Reduction (vph)	0	0	113	0	0	177	0	34	0	0	6	0
Lane Group Flow (vph)	184	2835	287	192	831	192	269	602	0	317	496	0
Turn Type	Prot		Perm	pm+pt		Perm	Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6						
Actuated Green, G (s)	10.4	65.0	65.0	70.6	62.6	62.6	11.0	20.0		11.0	20.0	
Effective Green, g (s)	10.4	65.0	65.0	70.6	62.6	62.6	11.0	20.0		11.0	20.0	
Actuated g/C Ratio	0.09	0.54	0.54	0.59	0.52	0.52	0.09	0.17		0.09	0.17	
Clearance Time (s)	4.0	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	3.0	
Lane Grp Cap (vph)	298	2754	857	180	2653	826	315	565		315	583	
v/s Ratio Prot	0.05	c0.56		c0.07	0.16		0.08	c0.18		c0.09	0.14	
v/s Ratio Perm			0.18	0.56		0.12						
v/c Ratio	0.62	1.03	0.33	1.07	0.31	0.23	0.85	1.07		1.01	0.85	
Uniform Delay, d1	52.9	27.5	15.4	37.6	16.4	15.6	53.7	50.0		54.5	48.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.83		1.00	1.00	
Incremental Delay, d2	3.8	25.2	1.1	85.9	0.3	0.7	16.0	52.2		52.3	11.5	
Delay (s)	56.7	52.7	16.4	123.5	16.7	16.3	61.7	93.6		106.8	60.0	
Level of Service	E	D	B	F	B	B	E	F		F	E	
Approach Delay (s)		48.7			31.3			84.1			78.1	
Approach LOS		D			C			F			E	

Intersection Summary			
HCM Average Control Delay	53.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



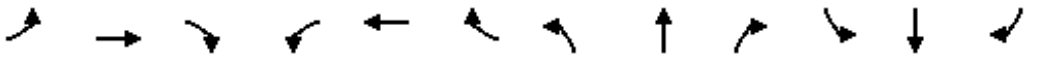
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.88		1.00	0.90		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1634		1770	1668		1770	1863	1583	1770	1863	1583
Flt Permitted	0.27	1.00		0.54	1.00		0.12	1.00	1.00	0.57	1.00	1.00
Satd. Flow (perm)	500	1634		1006	1668		232	1863	1583	1065	1863	1583
Volume (vph)	473	62	287	45	42	97	93	267	65	152	526	154
Peak-hour factor, PHF	0.74	0.92	0.94	0.92	0.92	0.92	0.74	0.86	0.92	0.92	0.92	0.71
Adj. Flow (vph)	639	67	305	49	46	105	126	310	71	165	572	217
RTOR Reduction (vph)	0	135	0	0	72	0	0	0	37	0	0	121
Lane Group Flow (vph)	639	237	0	49	79	0	126	310	34	165	572	96
Turn Type	pm+pt			Perm			pm+pt		Perm	Perm		Perm
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	54.6	54.6		10.9	10.9		57.4	57.4	57.4	44.6	44.6	44.6
Effective Green, g (s)	54.6	54.6		10.9	10.9		57.4	57.4	57.4	44.6	44.6	44.6
Actuated g/C Ratio	0.46	0.46		0.09	0.09		0.48	0.48	0.48	0.37	0.37	0.37
Clearance Time (s)	4.0	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	3.0
Lane Grp Cap (vph)	648	743		91	152		224	891	757	396	692	588
v/s Ratio Prot	c0.33	0.15			0.05		c0.04	0.17			c0.31	
v/s Ratio Perm	c0.12			0.05			0.23		0.02	0.15		0.06
v/c Ratio	0.99	0.32		0.54	0.52		0.56	0.35	0.04	0.42	0.83	0.16
Uniform Delay, d1	31.4	20.9		52.1	52.1		23.6	19.6	16.7	28.0	34.2	25.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.77	0.80	0.37
Incremental Delay, d2	31.6	0.3		6.0	3.2		3.2	1.1	0.1	2.6	8.9	0.5
Delay (s)	62.9	21.1		58.2	55.3		26.8	20.7	16.8	24.2	36.1	9.9
Level of Service	E	C		E	E		C	C	B	C	D	A
Approach Delay (s)		47.5			56.0			21.7			28.1	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM Average Control Delay	36.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

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	4.0	
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3467	5136	1599	1787	5136	1599	3467	3502		3467	3484	
Flt Permitted	0.95	1.00	1.00	0.16	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3467	5136	1599	299	5136	1599	3467	3502		3467	3484	
Volume (vph)	206	1247	239	184	2704	287	447	434	64	237	356	76
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	242	1260	278	209	2788	338	481	511	79	258	434	88
RTOR Reduction (vph)	0	0	130	0	0	148	0	11	0	0	14	0
Lane Group Flow (vph)	242	1260	148	209	2788	190	481	579	0	258	508	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Prot		Perm	pm+pt		Perm	Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6						
Actuated Green, G (s)	8.0	64.0	64.0	72.0	64.0	64.0	16.0	21.7		10.3	16.0	
Effective Green, g (s)	8.0	64.0	64.0	72.0	64.0	64.0	16.0	21.7		10.3	16.0	
Actuated g/C Ratio	0.07	0.53	0.53	0.60	0.53	0.53	0.13	0.18		0.09	0.13	
Clearance Time (s)	4.0	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	3.0	
Lane Grp Cap (vph)	231	2739	853	279	2739	853	462	633		298	465	
v/s Ratio Prot	c0.07	0.25		0.05	c0.54		c0.14	c0.17		0.07	c0.15	
v/s Ratio Perm			0.09	0.40		0.12						
v/c Ratio	1.05	0.46	0.17	0.75	1.02	0.22	1.04	0.92		0.87	1.09	
Uniform Delay, d1	56.0	17.3	14.4	13.0	28.0	14.8	52.0	48.2		54.2	52.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.89		1.00	1.00	
Incremental Delay, d2	72.3	0.6	0.4	10.5	21.8	0.6	48.1	14.8		22.1	69.2	
Delay (s)	128.3	17.9	14.8	23.5	49.8	15.4	94.7	57.9		76.3	121.2	
Level of Service	F	B	B	C	D	B	F	E		E	F	
Approach Delay (s)		32.4			44.7			74.4			106.4	
Approach LOS		C			D			E			F	

Intersection Summary			
HCM Average Control Delay	53.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



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	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.86		1.00	0.90		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1607		1770	1667		1770	1863	1583	1770	1863	1583
Flt Permitted	0.44	1.00		0.67	1.00		0.29	1.00	1.00	0.35	1.00	1.00
Satd. Flow (perm)	815	1607		1241	1667		536	1863	1583	647	1863	1583
Volume (vph)	190	11	122	14	14	32	340	730	11	28	473	238
Peak-hour factor, PHF	0.74	0.92	0.94	0.92	0.92	0.92	0.74	0.86	0.92	0.92	0.92	0.71
Adj. Flow (vph)	257	12	130	15	15	35	459	849	12	30	514	335
RTOR Reduction (vph)	0	104	0	0	33	0	0	0	3	0	0	170
Lane Group Flow (vph)	257	38	0	15	17	0	459	849	9	30	514	165
Turn Type	pm+pt			Perm			pm+pt		Perm	Perm		Perm
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	24.1	24.1		6.1	6.1		87.9	87.9	87.9	58.5	58.5	58.5
Effective Green, g (s)	24.1	24.1		6.1	6.1		87.9	87.9	87.9	58.5	58.5	58.5
Actuated g/C Ratio	0.20	0.20		0.05	0.05		0.73	0.73	0.73	0.49	0.49	0.49
Clearance Time (s)	4.0	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	3.0
Lane Grp Cap (vph)	275	323		63	85		654	1365	1160	315	908	772
v/s Ratio Prot	c0.11	0.02			0.01		c0.15	0.46			0.28	
v/s Ratio Perm	c0.08			0.01			c0.37		0.01	0.05		0.10
v/c Ratio	0.93	0.12		0.24	0.20		0.70	0.62	0.01	0.10	0.57	0.21
Uniform Delay, d1	45.5	39.3		54.7	54.6		11.0	7.9	4.3	16.5	21.8	17.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.83	0.77	0.54
Incremental Delay, d2	36.9	0.2		2.0	1.1		3.4	2.1	0.0	0.5	2.0	0.5
Delay (s)	82.4	39.4		56.7	55.7		14.5	10.0	4.3	14.1	18.7	9.9
Level of Service	F	D		E	E		B	B	A	B	B	A
Approach Delay (s)		67.1			56.0			11.5			15.2	
Approach LOS		E			E			B			B	

Intersection Summary			
HCM Average Control Delay	22.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Scenario 1 - 2012 Football Intersection Analysis

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	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	1830		3433	1863	1583
Flt Permitted	0.11	1.00	1.00	0.29	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	207	5085	1583	539	5085	1583	3433	1830		3433	1863	1583
Volume (vph)	434	940	240	184	1209	453	207	478	60	138	206	80
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	511	949	279	209	1246	533	223	562	74	150	251	93
RTOR Reduction (vph)	0	0	169	0	0	131	0	4	0	0	0	77
Lane Group Flow (vph)	511	949	110	209	1246	402	223	632	0	150	251	16
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	64.0	47.2	47.2	44.8	32.0	32.0	23.4	39.0		5.0	20.6	20.6
Effective Green, g (s)	64.0	47.2	47.2	44.8	32.0	32.0	23.4	39.0		5.0	20.6	20.6
Actuated g/C Ratio	0.53	0.39	0.39	0.37	0.27	0.27	0.19	0.32		0.04	0.17	0.17
Clearance Time (s)	4.0	4.0	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	3.0	3.0
Lane Grp Cap (vph)	475	2000	623	333	1356	422	669	595		143	320	272
v/s Ratio Prot	c0.25	0.19		0.07	0.25		0.06	c0.35		c0.04	0.13	
v/s Ratio Perm	c0.32		0.07	0.17		0.25						0.01
v/c Ratio	1.08	0.47	0.18	0.63	0.92	0.95	0.33	1.06		1.05	0.78	0.06
Uniform Delay, d1	36.5	27.1	23.7	26.7	42.7	43.3	41.6	40.5		57.5	47.6	41.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.82	0.73		1.00	1.00	1.00
Incremental Delay, d2	63.2	0.8	0.6	3.7	11.4	33.6	0.2	51.2		88.9	11.9	0.1
Delay (s)	99.6	28.0	24.3	30.4	54.2	76.9	34.1	80.9		146.4	59.5	41.7
Level of Service	F	C	C	C	D	E	C	F		F	E	D
Approach Delay (s)		48.4			57.8			68.8			82.5	
Approach LOS		D			E			E			F	

Intersection Summary			
HCM Average Control Delay	58.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	712	12	96	498
Peak Hour Factor	0.53	0.45	0.88	0.56	0.59	0.93
Hourly flow rate (vph)	0	0	809	21	163	535
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	1681	820			831	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1681	820			831	
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			80	
cM capacity (veh/h)	83	375			802	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	0	0	831	163	535
Volume Left	0	0	0	163	0
Volume Right	0	0	21	0	0
cSH	1700	1700	1700	802	1700
Volume to Capacity	0.00	0.00	0.49	0.20	0.31
Queue Length 95th (ft)	0	0	0	19	0
Control Delay (s)	0.0	0.0	0.0	10.6	0.0
Lane LOS	A	A		B	
Approach Delay (s)	0.0		0.0	2.5	
Approach LOS	A				

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	50.2%	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)	6	12	17	718	486	12
Peak Hour Factor	0.75	0.80	0.83	0.87	0.86	0.38
Hourly flow rate (vph)	8	15	20	825	565	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked	0.72					
vC, conflicting volume	1447	581	597			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1624	581	597			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	97	98			
cM capacity (veh/h)	79	514	980			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	23	20	825	597
Volume Left	8	20	0	0
Volume Right	15	0	0	32
cSH	177	980	1700	1700
Volume to Capacity	0.13	0.02	0.49	0.35
Queue Length 95th (ft)	11	2	0	0
Control Delay (s)	28.4	8.8	0.0	0.0
Lane LOS	D	A		
Approach Delay (s)	28.4	0.2		0.0
Approach LOS	D			

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

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	
Lane Util. Factor	1.00	1.00					1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.90					1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00					0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1671					1770	1863	1583	1770	1736	
Flt Permitted	0.95	1.00					0.38	1.00	1.00	0.46	1.00	
Satd. Flow (perm)	1770	1671					707	1863	1583	849	1736	
Volume (vph)	257	35	78	0	0	0	73	479	29	96	249	160
Peak-hour factor, PHF	0.74	0.92	0.94	0.92	0.92	0.92	0.74	0.86	0.92	0.92	0.92	0.71
Adj. Flow (vph)	347	38	83	0	0	0	99	557	32	104	271	225
RTOR Reduction (vph)	0	66	0	0	0	0	0	0	9	0	16	0
Lane Group Flow (vph)	347	55	0	0	0	0	99	557	23	104	480	0
Turn Type	pm+pt			Perm			pm+pt		Perm	Perm		
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	24.9	24.9					87.1	87.1	87.1	75.6	75.6	
Effective Green, g (s)	24.9	24.9					87.1	87.1	87.1	75.6	75.6	
Actuated g/C Ratio	0.21	0.21					0.73	0.73	0.73	0.63	0.63	
Clearance Time (s)	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	
Lane Grp Cap (vph)	367	347					580	1352	1149	535	1094	
v/s Ratio Prot	c0.20	0.03					0.01	c0.30			c0.28	
v/s Ratio Perm							0.11		0.01	0.12		
v/c Ratio	0.95	0.16					0.17	0.41	0.02	0.19	0.44	
Uniform Delay, d1	46.9	39.0					6.1	6.4	4.6	9.4	11.4	
Progression Factor	1.00	1.00					1.00	1.00	1.00	0.80	0.82	
Incremental Delay, d2	32.9	0.2					0.1	0.9	0.0	0.7	1.1	
Delay (s)	79.8	39.2					6.3	7.4	4.6	8.2	10.5	
Level of Service	E	D					A	A	A	A	B	
Approach Delay (s)		69.3			0.0			7.1			10.1	
Approach LOS		E			A			A			B	

Intersection Summary			
HCM Average Control Delay	24.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	54.8%	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												
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	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	1775		3433	1863	1583
Flt Permitted	0.27	1.00	1.00	0.41	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	510	5085	1583	766	5085	1583	3433	1775		3433	1863	1583
Volume (vph)	60	477	104	87	798	118	260	188	82	365	360	356
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	71	482	121	99	823	139	280	221	101	397	439	414
RTOR Reduction (vph)	0	0	73	0	0	81	0	16	0	0	0	182
Lane Group Flow (vph)	71	482	48	99	823	58	280	306	0	397	439	232
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	54.6	47.6	47.6	58.8	49.7	49.7	14.1	23.7		23.6	33.2	33.2
Effective Green, g (s)	54.6	47.6	47.6	58.8	49.7	49.7	14.1	23.7		23.6	33.2	33.2
Actuated g/C Ratio	0.46	0.40	0.40	0.49	0.41	0.41	0.12	0.20		0.20	0.28	0.28
Clearance Time (s)	4.0	4.0	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	3.0	3.0
Lane Grp Cap (vph)	306	2017	628	451	2106	656	403	351		675	515	438
v/s Ratio Prot	0.01	0.09		c0.02	c0.16		0.08	c0.17		0.12	c0.24	
v/s Ratio Perm	0.09		0.03	0.09		0.04						0.15
v/c Ratio	0.23	0.24	0.08	0.22	0.39	0.09	0.69	0.87		0.59	0.85	0.53
Uniform Delay, d1	18.9	24.1	22.5	16.7	24.6	21.4	50.9	46.7		43.8	41.1	36.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.87		1.00	1.00	1.00
Incremental Delay, d2	0.4	0.3	0.2	0.2	0.5	0.3	5.1	20.2		1.3	12.9	1.2
Delay (s)	19.3	24.4	22.8	16.9	25.1	21.6	48.9	60.9		45.1	53.9	37.9
Level of Service	B	C	C	B	C	C	D	E		D	D	D
Approach Delay (s)		23.6			23.9			55.3			45.8	
Approach LOS		C			C			E			D	

Intersection Summary			
HCM Average Control Delay	36.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	12	80	337	0	0	530
Peak Hour Factor	0.53	0.45	0.88	0.56	0.59	0.93
Hourly flow rate (vph)	23	178	383	0	0	570
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	953	383			383	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	953	383			383	
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	73			100	
cM capacity (veh/h)	288	664			1176	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	23	178	383	0	570
Volume Left	23	0	0	0	0
Volume Right	0	178	0	0	0
cSH	288	664	1700	1700	1700
Volume to Capacity	0.08	0.27	0.23	0.00	0.34
Queue Length 95th (ft)	6	27	0	0	0
Control Delay (s)	18.6	12.4	0.0	0.0	0.0
Lane LOS	C	B			
Approach Delay (s)	13.1		0.0	0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	37.9%	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)	2	7	7	335	536	6
Peak Hour Factor	0.75	0.80	0.83	0.87	0.86	0.38
Hourly flow rate (vph)	3	9	8	385	623	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked						
vC, conflicting volume	1033	631	639			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1033	631	639			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	98	99			
cM capacity (veh/h)	255	481	945			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	11	8	385	639
Volume Left	3	8	0	0
Volume Right	9	0	0	16
cSH	399	945	1700	1700
Volume to Capacity	0.03	0.01	0.23	0.38
Queue Length 95th (ft)	2	1	0	0
Control Delay (s)	14.3	8.8	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	14.3	0.2		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	38.6%	ICU Level of Service	A
Analysis Period (min)	15		

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	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.85		1.00	0.90		1.00	1.00			0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1770	1583		1770	1668		1770	1863			1735	
Flt Permitted	0.31	1.00		0.73	1.00		0.30	1.00			1.00	
Satd. Flow (perm)	569	1583		1368	1668		555	1863			1735	
Volume (vph)	55	0	33	29	35	80	69	205	0	0	332	215
Peak-hour factor, PHF	0.74	0.92	0.94	0.92	0.92	0.92	0.74	0.86	0.92	0.92	0.92	0.71
Adj. Flow (vph)	74	0	35	32	38	87	93	238	0	0	361	303
RTOR Reduction (vph)	0	29	0	0	76	0	0	0	0	0	18	0
Lane Group Flow (vph)	74	6	0	32	49	0	93	238	0	0	646	0
Turn Type	pm+pt			Perm			pm+pt		Perm	Perm		
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	20.8	20.8		9.1	9.1		91.2	91.2			80.0	
Effective Green, g (s)	20.8	20.8		9.1	9.1		91.2	91.2			80.0	
Actuated g/C Ratio	0.17	0.17		0.08	0.08		0.76	0.76			0.67	
Clearance Time (s)	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	
Lane Grp Cap (vph)	176	274		104	126		495	1416			1157	
v/s Ratio Prot	c0.03	0.00			0.03		0.01	c0.13			c0.37	
v/s Ratio Perm	c0.05			0.02			0.13					
v/c Ratio	0.42	0.02		0.31	0.39		0.19	0.17			0.56	
Uniform Delay, d1	43.1	41.2		52.5	52.8		6.2	4.0			10.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			0.46	
Incremental Delay, d2	1.6	0.0		1.7	2.0		0.2	0.3			1.7	
Delay (s)	44.7	41.2		54.2	54.8		6.4	4.2			6.6	
Level of Service	D	D		D	D		A	A			A	
Approach Delay (s)		43.6			54.7			4.8			6.6	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM Average Control Delay	15.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Scenario 1 - 2012 (Improved) Football Intersection Analysis

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	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	3433	3477		3433	1863	1583
Flt Permitted	0.13	1.00	1.00	0.25	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	468	5085	1583	462	5085	1583	3433	3477		3433	1863	1583
Volume (vph)	434	940	240	184	1209	453	207	478	60	138	206	80
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	511	949	279	209	1246	533	223	562	74	150	251	93
RTOR Reduction (vph)	0	0	147	0	0	122	0	9	0	0	0	77
Lane Group Flow (vph)	511	949	132	209	1246	411	223	627	0	150	251	16
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	72.3	56.9	56.9	65.3	53.4	53.4	14.9	25.6		9.6	20.3	20.3
Effective Green, g (s)	72.3	56.9	56.9	65.3	53.4	53.4	14.9	25.6		9.6	20.3	20.3
Actuated g/C Ratio	0.60	0.47	0.47	0.54	0.44	0.44	0.12	0.21		0.08	0.17	0.17
Clearance Time (s)	4.0	4.0	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	3.0	3.0
Lane Grp Cap (vph)	662	2411	751	381	2263	704	426	742		275	315	268
v/s Ratio Prot	c0.10	0.19		0.05	0.25		0.06	c0.18		0.04	c0.13	
v/s Ratio Perm	c0.37		0.08	0.24		0.26						0.01
v/c Ratio	0.77	0.39	0.18	0.55	0.55	0.58	0.52	0.85		0.55	0.80	0.06
Uniform Delay, d1	19.3	20.4	18.1	14.5	24.5	25.0	49.2	45.3		53.1	47.9	41.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.82	0.80		1.00	1.00	1.00
Incremental Delay, d2	5.6	0.5	0.5	1.6	1.0	3.5	1.0	7.5		2.2	13.1	0.1
Delay (s)	24.9	20.9	18.6	16.1	25.4	28.5	41.3	43.6		55.3	60.9	41.9
Level of Service	C	C	B	B	C	C	D	D		E	E	D
Approach Delay (s)		21.7			25.3			43.0			55.6	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM Average Control Delay	30.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	712	12	96	498
Peak Hour Factor	0.53	0.45	0.88	0.56	0.59	0.93
Hourly flow rate (vph)	0	0	809	21	163	535
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	1681	820			831	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1681	820			831	
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			80	
cM capacity (veh/h)	83	375			802	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	0	0	831	163	535
Volume Left	0	0	0	163	0
Volume Right	0	0	21	0	0
cSH	1700	1700	1700	802	1700
Volume to Capacity	0.00	0.00	0.49	0.20	0.31
Queue Length 95th (ft)	0	0	0	19	0
Control Delay (s)	0.0	0.0	0.0	10.6	0.0
Lane LOS	A	A		B	
Approach Delay (s)	0.0		0.0	2.5	
Approach LOS	A				

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	50.2%	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)	6	12	17	718	486	12
Peak Hour Factor	0.75	0.80	0.83	0.87	0.86	0.38
Hourly flow rate (vph)	8	15	20	825	565	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked	0.71					
vC, conflicting volume	1447	581	597			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1632	581	597			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	97	98			
cM capacity (veh/h)	77	514	980			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	23	20	825	597
Volume Left	8	20	0	0
Volume Right	15	0	0	32
cSH	173	980	1700	1700
Volume to Capacity	0.13	0.02	0.49	0.35
Queue Length 95th (ft)	11	2	0	0
Control Delay (s)	29.0	8.8	0.0	0.0
Lane LOS	D	A		
Approach Delay (s)	29.0	0.2		0.0
Approach LOS	D			

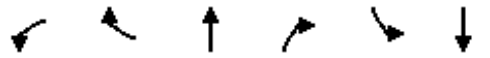
Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.94	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1749	
Flt Permitted	0.95	1.00	0.37	1.00	1.00	
Satd. Flow (perm)	1770	1583	686	1863	1749	
Volume (vph)	257	78	73	479	249	160
Peak-hour factor, PHF	0.74	0.94	0.74	0.86	0.92	0.71
Adj. Flow (vph)	347	83	99	557	271	225
RTOR Reduction (vph)	0	64	0	0	17	0
Lane Group Flow (vph)	347	19	99	557	479	0
Turn Type		custom	pm+pt			
Protected Phases			1	6	2	
Permitted Phases	4	4	6			
Actuated Green, G (s)	27.7	27.7	84.3	84.3	72.5	
Effective Green, g (s)	27.7	27.7	84.3	84.3	72.5	
Actuated g/C Ratio	0.23	0.23	0.70	0.70	0.60	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	409	365	552	1309	1057	
v/s Ratio Prot			0.01	c0.30	c0.27	
v/s Ratio Perm	c0.20	0.01	0.11			
v/c Ratio	0.85	0.05	0.18	0.43	0.45	
Uniform Delay, d1	44.1	35.9	7.2	7.6	12.9	
Progression Factor	1.00	1.00	1.00	1.00	0.74	
Incremental Delay, d2	15.0	0.1	0.2	1.0	1.3	
Delay (s)	59.2	36.0	7.3	8.6	10.9	
Level of Service	E	D	A	A	B	
Approach Delay (s)	54.7			8.4	10.9	
Approach LOS	D			A	B	

Intersection Summary			
HCM Average Control Delay	21.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	51.2%	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												
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	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	3433	3373		3433	1863	1583
Flt Permitted	0.29	1.00	1.00	0.40	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1032	5085	1583	742	5085	1583	3433	3373		3433	1863	1583
Volume (vph)	60	477	104	87	798	118	260	188	82	365	360	356
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	71	482	121	99	823	139	280	221	101	397	439	414
RTOR Reduction (vph)	0	0	73	0	0	80	0	52	0	0	0	167
Lane Group Flow (vph)	71	482	48	99	823	59	280	270	0	397	439	247
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	53.0	47.3	47.3	60.2	50.9	50.9	14.4	28.7		18.7	33.0	33.0
Effective Green, g (s)	53.0	47.3	47.3	60.2	50.9	50.9	14.4	28.7		18.7	33.0	33.0
Actuated g/C Ratio	0.44	0.39	0.39	0.50	0.42	0.42	0.12	0.24		0.16	0.28	0.28
Clearance Time (s)	4.0	4.0	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	3.0	3.0
Lane Grp Cap (vph)	570	2004	624	452	2157	671	412	807		535	512	435
v/s Ratio Prot	0.01	0.09		c0.02	c0.16		0.08	0.08		c0.12	c0.24	
v/s Ratio Perm	0.05		0.03	0.09		0.04						0.16
v/c Ratio	0.12	0.24	0.08	0.22	0.38	0.09	0.68	0.33		0.74	0.86	0.57
Uniform Delay, d1	19.3	24.3	22.7	16.0	23.7	20.7	50.6	37.8		48.3	41.3	37.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.94		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.3	0.2	0.2	0.5	0.3	4.4	0.2		5.5	13.3	1.7
Delay (s)	19.4	24.6	22.9	16.3	24.3	20.9	50.7	35.9		53.9	54.6	39.1
Level of Service	B	C	C	B	C	C	D	D		D	D	D
Approach Delay (s)		23.8			23.1			42.8			49.2	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM Average Control Delay	35.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	12	80	337	0	0	530
Peak Hour Factor	0.53	0.45	0.88	0.56	0.59	0.93
Hourly flow rate (vph)	23	178	383	0	0	570
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	953	383			383	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	953	383			383	
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	73			100	
cM capacity (veh/h)	288	664			1176	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	23	178	383	0	570
Volume Left	23	0	0	0	0
Volume Right	0	178	0	0	0
cSH	288	664	1700	1700	1700
Volume to Capacity	0.08	0.27	0.23	0.00	0.34
Queue Length 95th (ft)	6	27	0	0	0
Control Delay (s)	18.6	12.4	0.0	0.0	0.0
Lane LOS	C	B			
Approach Delay (s)	13.1		0.0	0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	37.9%	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)	2	7	7	335	536	6
Peak Hour Factor	0.75	0.80	0.83	0.87	0.86	0.38
Hourly flow rate (vph)	3	9	8	385	623	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked						
vC, conflicting volume	1033	631	639			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1033	631	639			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	98	99			
cM capacity (veh/h)	255	481	945			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	11	8	385	639
Volume Left	3	8	0	0
Volume Right	9	0	0	16
cSH	399	945	1700	1700
Volume to Capacity	0.03	0.01	0.23	0.38
Queue Length 95th (ft)	2	1	0	0
Control Delay (s)	14.3	8.8	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	14.3	0.2		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	38.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.94	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1748	
Flt Permitted	0.95	1.00	0.34	1.00	1.00	
Satd. Flow (perm)	1770	1583	633	1863	1748	
Volume (vph)	55	33	69	205	332	215
Peak-hour factor, PHF	0.74	0.94	0.74	0.86	0.92	0.71
Adj. Flow (vph)	74	35	93	238	361	303
RTOR Reduction (vph)	0	32	0	0	13	0
Lane Group Flow (vph)	74	3	93	238	651	0
Turn Type		custom	pm+pt			
Protected Phases			1	6	2	
Permitted Phases	4	4	6			
Actuated Green, G (s)	10.1	10.1	101.9	101.9	91.3	
Effective Green, g (s)	10.1	10.1	101.9	101.9	91.3	
Actuated g/C Ratio	0.08	0.08	0.85	0.85	0.76	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	149	133	600	1582	1330	
v/s Ratio Prot			0.01	c0.13	c0.37	
v/s Ratio Perm	c0.04	0.00	0.12			
v/c Ratio	0.50	0.02	0.15	0.15	0.49	
Uniform Delay, d1	52.5	50.4	2.8	1.6	5.5	
Progression Factor	1.00	1.00	1.00	1.00	0.36	
Incremental Delay, d2	2.6	0.1	0.1	0.2	1.1	
Delay (s)	55.1	50.5	2.9	1.8	3.1	
Level of Service	E	D	A	A	A	
Approach Delay (s)	53.6			2.1	3.1	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	7.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Scenario 2 - 2012 Football Intersection Analysis

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	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	1800		3433	1863	1583
Flt Permitted	0.18	1.00	1.00	0.17	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	343	5085	1583	322	5085	1583	3433	1800		3433	1863	1583
Volume (vph)	135	966	344	305	1209	174	207	219	60	152	261	80
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	159	976	400	347	1246	205	223	258	74	165	318	93
RTOR Reduction (vph)	0	0	213	0	0	109	0	9	0	0	0	74
Lane Group Flow (vph)	159	976	187	347	1246	96	223	323	0	165	318	19
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	55.2	44.5	44.5	71.0	56.3	56.3	12.6	26.3		10.7	24.4	24.4
Effective Green, g (s)	55.2	44.5	44.5	71.0	56.3	56.3	12.6	26.3		10.7	24.4	24.4
Actuated g/C Ratio	0.46	0.37	0.37	0.59	0.47	0.47	0.10	0.22		0.09	0.20	0.20
Clearance Time (s)	4.0	4.0	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	3.0	3.0
Lane Grp Cap (vph)	285	1886	587	462	2386	743	360	395		306	379	322
v/s Ratio Prot	0.05	0.19		c0.14	0.25		c0.06	c0.18		0.05	0.17	
v/s Ratio Perm	0.21		0.12	c0.30		0.06						0.01
v/c Ratio	0.56	0.52	0.32	0.75	0.52	0.13	0.62	0.82		0.54	0.84	0.06
Uniform Delay, d1	19.5	29.4	26.9	18.5	22.4	18.0	51.4	44.6		52.3	45.9	38.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.76		1.00	1.00	1.00
Incremental Delay, d2	2.4	1.0	1.4	6.8	0.8	0.4	3.0	11.6		1.8	14.9	0.1
Delay (s)	21.8	30.4	28.4	25.2	23.2	18.4	46.8	45.5		54.1	60.9	38.6
Level of Service	C	C	C	C	C	B	D	D		D	E	D
Approach Delay (s)		29.0			23.1			46.0			55.3	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM Average Control Delay	32.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	453	31	236	638
Peak Hour Factor	0.53	0.45	0.88	0.56	0.59	0.93
Hourly flow rate (vph)	0	0	515	55	400	686
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	2028	542			570	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2028	542			570	
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			60	
cM capacity (veh/h)	38	540			1002	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	0	0	570	400	686
Volume Left	0	0	0	400	0
Volume Right	0	0	55	0	0
cSH	1700	1700	1700	1002	1700
Volume to Capacity	0.00	0.00	0.34	0.40	0.40
Queue Length 95th (ft)	0	0	0	49	0
Control Delay (s)	0.0	0.0	0.0	11.0	0.0
Lane LOS	A	A		B	
Approach Delay (s)	0.0		0.0	4.0	
Approach LOS	A				

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	45.5%	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)	6	12	17	478	626	12
Peak Hour Factor	0.75	0.80	0.83	0.87	0.86	0.38
Hourly flow rate (vph)	8	15	20	549	728	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked	0.90					
vC, conflicting volume	1334	744	759			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1372	744	759			
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	96	98			
cM capacity (veh/h)	141	415	852			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	23	20	549	759
Volume Left	8	20	0	0
Volume Right	15	0	0	32
cSH	247	852	1700	1700
Volume to Capacity	0.09	0.02	0.32	0.45
Queue Length 95th (ft)	8	2	0	0
Control Delay (s)	21.0	9.3	0.0	0.0
Lane LOS	C	A		
Approach Delay (s)	21.0	0.3		0.0
Approach LOS	C			

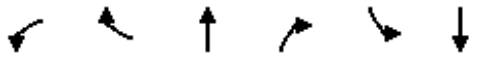
Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		

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	
Lane Util. Factor	1.00	1.00					1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.93					1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00					0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1732					1770	1863	1583	1770	1736	
Flt Permitted	0.95	1.00					0.41	1.00	1.00	0.52	1.00	
Satd. Flow (perm)	1770	1732					763	1863	1583	965	1736	
Volume (vph)	137	87	78	0	0	0	73	359	71	236	249	160
Peak-hour factor, PHF	0.74	0.92	0.94	0.92	0.92	0.92	0.74	0.86	0.92	0.92	0.92	0.71
Adj. Flow (vph)	185	95	83	0	0	0	99	417	77	257	271	225
RTOR Reduction (vph)	0	35	0	0	0	0	0	0	15	0	13	0
Lane Group Flow (vph)	185	143	0	0	0	0	99	417	62	257	483	0
Turn Type	pm+pt			Perm			pm+pt		Perm	Perm		
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	16.0	16.0					96.0	96.0	96.0	85.0	85.0	
Effective Green, g (s)	16.0	16.0					96.0	96.0	96.0	85.0	85.0	
Actuated g/C Ratio	0.13	0.13					0.80	0.80	0.80	0.71	0.71	
Clearance Time (s)	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	
Lane Grp Cap (vph)	236	231					669	1490	1266	684	1230	
v/s Ratio Prot	c0.10	0.08					0.01	c0.22			c0.28	
v/s Ratio Perm							0.11		0.04	0.27		
v/c Ratio	0.78	0.62					0.15	0.28	0.05	0.38	0.39	
Uniform Delay, d1	50.3	49.1					3.4	3.1	2.5	7.0	7.1	
Progression Factor	1.00	1.00					1.00	1.00	1.00	0.76	0.73	
Incremental Delay, d2	15.6	5.1					0.1	0.5	0.1	1.3	0.8	
Delay (s)	65.9	54.2					3.5	3.6	2.6	6.6	5.9	
Level of Service	E	D					A	A	A	A	A	
Approach Delay (s)		60.2			0.0			3.4			6.1	
Approach LOS		E			A			A			A	

Intersection Summary			
HCM Average Control Delay	16.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	51.3%	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												
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	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	1772		3433	1863	1583
Flt Permitted	0.29	1.00	1.00	0.42	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	535	5085	1583	787	5085	1583	3433	1772		3433	1863	1583
Volume (vph)	60	477	104	87	798	118	389	257	118	86	101	57
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	71	482	121	99	823	139	418	302	146	93	123	66
RTOR Reduction (vph)	0	0	67	0	0	75	0	17	0	0	0	54
Lane Group Flow (vph)	71	482	54	99	823	64	418	431	0	93	123	12
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	60.3	53.5	53.5	64.5	55.6	55.6	18.9	33.0		8.6	22.7	22.7
Effective Green, g (s)	60.3	53.5	53.5	64.5	55.6	55.6	18.9	33.0		8.6	22.7	22.7
Actuated g/C Ratio	0.50	0.45	0.45	0.54	0.46	0.46	0.16	0.28		0.07	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	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	3.0	3.0
Lane Grp Cap (vph)	339	2267	706	496	2356	733	541	487		246	352	299
v/s Ratio Prot	0.01	0.09		c0.01	c0.16		c0.12	c0.24		0.03	0.07	
v/s Ratio Perm	0.09		0.03	0.09		0.04						0.01
v/c Ratio	0.21	0.21	0.08	0.20	0.35	0.09	0.77	0.88		0.38	0.35	0.04
Uniform Delay, d1	15.7	20.4	19.1	13.7	20.6	18.0	48.5	41.7		53.1	42.2	39.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.98	0.82		1.00	1.00	1.00
Incremental Delay, d2	0.3	0.2	0.2	0.2	0.4	0.2	6.6	16.9		1.0	0.6	0.1
Delay (s)	16.0	20.6	19.3	13.9	21.0	18.3	54.0	51.0		54.1	42.8	39.8
Level of Service	B	C	B	B	C	B	D	D		D	D	D
Approach Delay (s)		19.9			20.0			52.4			45.9	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	32.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	31	198	455	0	0	271
Peak Hour Factor	0.53	0.45	0.88	0.56	0.59	0.93
Hourly flow rate (vph)	58	440	517	0	0	291
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	808	517			517	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	808	517			517	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	83	21			100	
cM capacity (veh/h)	350	558			1049	

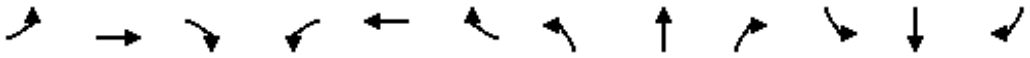
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	58	440	517	0	291
Volume Left	58	0	0	0	0
Volume Right	0	440	0	0	0
cSH	350	558	1700	1700	1700
Volume to Capacity	0.17	0.79	0.30	0.00	0.17
Queue Length 95th (ft)	15	186	0	0	0
Control Delay (s)	17.3	31.3	0.0	0.0	0.0
Lane LOS	C	D			
Approach Delay (s)	29.7		0.0	0.0	
Approach LOS	D				

Intersection Summary			
Average Delay	11.3		
Intersection Capacity Utilization	42.9%	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)	2	7	7	453	296	6
Peak Hour Factor	0.75	0.80	0.83	0.87	0.86	0.38
Hourly flow rate (vph)	3	9	8	521	344	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked	0.98					
vC, conflicting volume	890	352	360			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	887	352	360			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	99			
cM capacity (veh/h)	305	692	1199			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	11	8	521	360
Volume Left	3	8	0	0
Volume Right	9	0	0	16
cSH	534	1199	1700	1700
Volume to Capacity	0.02	0.01	0.31	0.21
Queue Length 95th (ft)	2	1	0	0
Control Delay (s)	11.9	8.0	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	11.9	0.1		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		



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	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.85		1.00	0.90		1.00	1.00			0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1770	1583		1770	1669		1770	1863			1760	
Flt Permitted	0.16	1.00		0.73	1.00		0.44	1.00			1.00	
Satd. Flow (perm)	302	1583		1368	1669		819	1863			1760	
Volume (vph)	55	0	33	71	87	198	69	205	0	0	212	95
Peak-hour factor, PHF	0.74	0.92	0.94	0.92	0.92	0.92	0.74	0.86	0.92	0.92	0.92	0.71
Adj. Flow (vph)	74	0	35	77	95	215	93	238	0	0	230	134
RTOR Reduction (vph)	0	25	0	0	80	0	0	0	0	0	12	0
Lane Group Flow (vph)	74	10	0	77	230	0	93	238	0	0	352	0
Turn Type	pm+pt			Perm			pm+pt		Perm	Perm		
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	33.3	33.3		20.7	20.7		78.7	78.7			66.6	
Effective Green, g (s)	33.3	33.3		20.7	20.7		78.7	78.7			66.6	
Actuated g/C Ratio	0.28	0.28		0.17	0.17		0.66	0.66			0.55	
Clearance Time (s)	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	
Lane Grp Cap (vph)	189	439		236	288		601	1222			977	
v/s Ratio Prot	c0.03	0.01			c0.14		0.01	c0.13			c0.20	
v/s Ratio Perm	0.08			0.06			0.09					
v/c Ratio	0.39	0.02		0.33	0.80		0.15	0.19			0.36	
Uniform Delay, d1	34.5	31.5		43.5	47.6		8.3	8.1			14.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			0.69	
Incremental Delay, d2	1.3	0.0		0.8	14.2		0.1	0.4			1.0	
Delay (s)	35.9	31.5		44.3	61.8		8.5	8.5			11.3	
Level of Service	D	C		D	E		A	A			B	
Approach Delay (s)		34.5			58.4			8.5			11.3	
Approach LOS		C			E			A			B	

Intersection Summary			
HCM Average Control Delay	27.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Scenario 2 - 2012 (Improved) Football Intersection Analysis

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	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	3433	3421		3433	1863	1583
Flt Permitted	0.21	1.00	1.00	0.18	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	759	5085	1583	335	5085	1583	3433	3421		3433	1863	1583
Volume (vph)	135	966	344	305	1209	174	207	219	60	152	261	80
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	159	976	400	347	1246	205	223	258	74	165	318	93
RTOR Reduction (vph)	0	0	214	0	0	99	0	24	0	0	0	74
Lane Group Flow (vph)	159	976	186	347	1246	106	223	309	0	165	318	19
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	53.1	46.5	46.5	72.4	61.8	61.8	11.2	26.0		9.6	24.4	24.4
Effective Green, g (s)	53.1	46.5	46.5	72.4	61.8	61.8	11.2	26.0		9.6	24.4	24.4
Actuated g/C Ratio	0.44	0.39	0.39	0.60	0.51	0.51	0.09	0.22		0.08	0.20	0.20
Clearance Time (s)	4.0	4.0	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	3.0	3.0
Lane Grp Cap (vph)	483	1970	613	464	2619	815	320	741		275	379	322
v/s Ratio Prot	0.02	0.19		c0.14	0.25		c0.06	0.09		0.05	c0.17	
v/s Ratio Perm	0.13		0.12	c0.31		0.07						0.01
v/c Ratio	0.33	0.50	0.30	0.75	0.48	0.13	0.70	0.42		0.60	0.84	0.06
Uniform Delay, d1	19.6	27.9	25.5	16.7	18.7	15.1	52.8	40.5		53.3	45.9	38.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.74		1.00	1.00	1.00
Incremental Delay, d2	0.4	0.9	1.3	6.5	0.6	0.3	6.1	0.4		3.5	14.9	0.1
Delay (s)	20.0	28.8	26.8	23.2	19.3	15.5	57.4	30.2		56.9	60.9	38.6
Level of Service	B	C	C	C	B	B	E	C		E	E	D
Approach Delay (s)		27.3			19.6			41.2			56.1	
Approach LOS		C			B			D			E	

Intersection Summary			
HCM Average Control Delay	29.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	453	31	236	638
Peak Hour Factor	0.53	0.45	0.88	0.56	0.59	0.93
Hourly flow rate (vph)	0	0	515	55	400	686
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	2028	542			570	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2028	542			570	
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			60	
cM capacity (veh/h)	38	540			1002	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	0	0	570	400	686
Volume Left	0	0	0	400	0
Volume Right	0	0	55	0	0
cSH	1700	1700	1700	1002	1700
Volume to Capacity	0.00	0.00	0.34	0.40	0.40
Queue Length 95th (ft)	0	0	0	49	0
Control Delay (s)	0.0	0.0	0.0	11.0	0.0
Lane LOS	A	A		B	
Approach Delay (s)	0.0		0.0	4.0	
Approach LOS	A				

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	45.5%	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)	6	12	17	478	626	12
Peak Hour Factor	0.75	0.80	0.83	0.87	0.86	0.38
Hourly flow rate (vph)	8	15	20	549	728	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked	0.89					
vC, conflicting volume	1334	744	759			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1374	744	759			
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	96	98			
cM capacity (veh/h)	140	415	852			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	23	20	549	759
Volume Left	8	20	0	0
Volume Right	15	0	0	32
cSH	247	852	1700	1700
Volume to Capacity	0.09	0.02	0.32	0.45
Queue Length 95th (ft)	8	2	0	0
Control Delay (s)	21.1	9.3	0.0	0.0
Lane LOS	C	A		
Approach Delay (s)	21.1	0.3		0.0
Approach LOS	C			

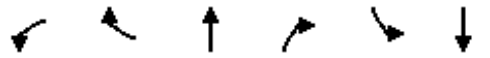
Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.94	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1749	
Flt Permitted	0.95	1.00	0.41	1.00	1.00	
Satd. Flow (perm)	1770	1583	756	1863	1749	
Volume (vph)	137	78	73	359	249	160
Peak-hour factor, PHF	0.74	0.94	0.74	0.86	0.92	0.71
Adj. Flow (vph)	185	83	99	417	271	225
RTOR Reduction (vph)	0	71	0	0	14	0
Lane Group Flow (vph)	185	12	99	417	482	0
Turn Type		custom	pm+pt			
Protected Phases			1	6	2	
Permitted Phases	4	4	6			
Actuated Green, G (s)	17.2	17.2	94.8	94.8	83.7	
Effective Green, g (s)	17.2	17.2	94.8	94.8	83.7	
Actuated g/C Ratio	0.14	0.14	0.79	0.79	0.70	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	254	227	657	1472	1220	
v/s Ratio Prot			0.01	c0.22	c0.28	
v/s Ratio Perm	c0.10	0.01	0.11			
v/c Ratio	0.73	0.05	0.15	0.28	0.40	
Uniform Delay, d1	49.2	44.4	3.7	3.4	7.6	
Progression Factor	1.00	1.00	1.00	1.00	0.63	
Incremental Delay, d2	10.0	0.1	0.1	0.5	0.8	
Delay (s)	59.1	44.5	3.8	3.9	5.6	
Level of Service	E	D	A	A	A	
Approach Delay (s)	54.6			3.9	5.6	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	15.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	44.5%	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												
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	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	3433	3366		3433	1863	1583
Flt Permitted	0.31	1.00	1.00	0.43	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1121	5085	1583	806	5085	1583	3433	3366		3433	1863	1583
Volume (vph)	60	477	104	87	798	118	389	257	118	86	101	57
Peak-hour factor, PHF	0.85	0.99	0.86	0.88	0.97	0.85	0.93	0.85	0.81	0.92	0.82	0.86
Adj. Flow (vph)	71	482	121	99	823	139	418	302	146	93	123	66
RTOR Reduction (vph)	0	0	56	0	0	61	0	58	0	0	0	59
Lane Group Flow (vph)	71	482	65	99	823	78	418	390	0	93	123	7
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						4
Actuated Green, G (s)	69.6	64.2	64.2	75.4	67.1	67.1	18.7	23.0		8.5	12.8	12.8
Effective Green, g (s)	69.6	64.2	64.2	75.4	67.1	67.1	18.7	23.0		8.5	12.8	12.8
Actuated g/C Ratio	0.58	0.54	0.54	0.63	0.56	0.56	0.16	0.19		0.07	0.11	0.11
Clearance Time (s)	4.0	4.0	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	3.0	3.0
Lane Grp Cap (vph)	754	2720	847	573	2843	885	535	645		243	199	169
v/s Ratio Prot	0.00	0.09		c0.01	c0.16		c0.12	c0.12		0.03	0.07	
v/s Ratio Perm	0.05		0.04	0.10		0.05						0.00
v/c Ratio	0.09	0.18	0.08	0.17	0.29	0.09	0.78	0.60		0.38	0.62	0.04
Uniform Delay, d1	10.9	14.3	13.5	8.9	13.9	12.3	48.7	44.3		53.2	51.3	48.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.94		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.1	0.2	0.1	0.3	0.2	7.3	1.6		1.0	5.6	0.1
Delay (s)	10.9	14.5	13.7	9.0	14.2	12.5	52.9	43.2		54.3	56.9	48.2
Level of Service	B	B	B	A	B	B	D	D		D	E	D
Approach Delay (s)		14.0			13.5			47.9			54.0	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	27.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	31	198	455	0	0	271
Peak Hour Factor	0.53	0.45	0.88	0.56	0.59	0.93
Hourly flow rate (vph)	58	440	517	0	0	291
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	808	517			517	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	808	517			517	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	83	21			100	
cM capacity (veh/h)	350	558			1049	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	58	440	517	0	291
Volume Left	58	0	0	0	0
Volume Right	0	440	0	0	0
cSH	350	558	1700	1700	1700
Volume to Capacity	0.17	0.79	0.30	0.00	0.17
Queue Length 95th (ft)	15	186	0	0	0
Control Delay (s)	17.3	31.3	0.0	0.0	0.0
Lane LOS	C	D			
Approach Delay (s)	29.7		0.0	0.0	
Approach LOS	D				

Intersection Summary			
Average Delay	11.3		
Intersection Capacity Utilization	42.9%	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)	2	7	7	453	296	6
Peak Hour Factor	0.75	0.80	0.83	0.87	0.86	0.38
Hourly flow rate (vph)	3	9	8	521	344	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				871		
pX, platoon unblocked						
vC, conflicting volume	890	352	360			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	890	352	360			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	99			
cM capacity (veh/h)	311	692	1199			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	11	8	521	360
Volume Left	3	8	0	0
Volume Right	9	0	0	16
cSH	538	1199	1700	1700
Volume to Capacity	0.02	0.01	0.31	0.21
Queue Length 95th (ft)	2	1	0	0
Control Delay (s)	11.8	8.0	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	11.8	0.1		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1770	
Flt Permitted	0.95	1.00	0.50	1.00	1.00	
Satd. Flow (perm)	1770	1583	937	1863	1770	
Volume (vph)	55	33	69	205	212	95
Peak-hour factor, PHF	0.74	0.94	0.74	0.86	0.92	0.71
Adj. Flow (vph)	74	35	93	238	230	134
RTOR Reduction (vph)	0	32	0	0	7	0
Lane Group Flow (vph)	74	3	93	238	357	0
Turn Type		custom	pm+pt			
Protected Phases			1	6	2	
Permitted Phases	4	4	6			
Actuated Green, G (s)	10.0	10.0	102.0	102.0	91.5	
Effective Green, g (s)	10.0	10.0	102.0	102.0	91.5	
Actuated g/C Ratio	0.08	0.08	0.85	0.85	0.76	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	148	132	842	1584	1350	
v/s Ratio Prot			0.01	c0.13	c0.20	
v/s Ratio Perm	c0.04	0.00	0.09			
v/c Ratio	0.50	0.02	0.11	0.15	0.26	
Uniform Delay, d1	52.6	50.5	1.7	1.5	4.2	
Progression Factor	1.00	1.00	1.00	1.00	0.66	
Incremental Delay, d2	2.6	0.1	0.1	0.2	0.5	
Delay (s)	55.3	50.6	1.7	1.7	3.3	
Level of Service	E	D	A	A	A	
Approach Delay (s)	53.8			1.7	3.3	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	9.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	34.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

2011 Football Schedule

Date	Fellowship Christian School	Roswell High School	Blessed Trinity
12-Aug	-	AWAY	AWAY
19-Aug	-	-	HOME
26-Aug	AWAY	HOME	HOME
2-Sep	-	HOME	AWAY
9-Sep	HOME	AWAY	AWAY
16-Sep	HOME	AWAY	-
23-Sep	AWAY	AWAY	AWAY
30-Sep	**HOME**	**-**	**HOME**
7-Oct	AWAY	HOME	AWAY
14-Oct	HOME	AWAY	AWAY
21-Oct	HOME	AWAY	AWAY
28-Oct	AWAY	HOME	HOME

Traffic Volume Worksheets

10-028 Fellowship Christian School

Traffic Volumes
Future Conditions

A&R Engineering
August-10

Woodstock Road / W. Crossville Road (SR 92) / Kings Road

A.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	193	331	120	644	255	316	31	602	139	2492	267	2898	105	718	280	1103
Growth Factor (%): (2010-2012)	1	1	1		1	1	1		1	1	1		1	1	1	
Growth Factor (%): (2012-2022)	1	1	1		1	1	1		1	1	1		1	1	1	
Base Condition (2012):	197	338	122	657	260	322	32	614	142	2542	272	2956	107	732	286	1125
Base Condition (2017):	207	355	129	690	273	338	33	645	149	2669	286	3104	112	769	300	1181
Base Condition (2022):	217	371	135	723	286	355	35	675	156	2796	300	3252	118	806	314	1238
New Trips	33	18	9	60	6	23	0	29	0	11	44	55	51	0	0	51
Diverted Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total New Trips	33	18	9	60	6	23	0	29	0	11	44	55	51	0	0	51
Future Traffic Volumes (2012):	230	356	131	717	266	345	32	643	142	2553	316	3011	158	732	286	1176
Future Traffic Volumes (2017):	240	373	138	750	279	361	33	674	149	2680	330	3159	163	769	300	1232
Future Traffic Volumes (2022):	250	389	144	783	292	378	35	704	156	2807	344	3307	169	806	314	1289

P.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	388	357	54	799	210	314	68	592	184	1110	206	1500	156	2410	256	2822
Growth Factor (%): (2010-2012)	1	1	1		1	1	1		1	1	1		1	1	1	
Growth Factor (%): (2012-2022)	1	1	1		1	1	1		1	1	1		1	1	1	
Base Condition (2012):	396	364	55	815	214	320	69	604	188	1132	210	1530	159	2458	261	2878
Base Condition (2017):	416	382	58	856	225	336	73	634	197	1189	221	1607	167	2581	274	3022
Base Condition (2022):	435	401	61	896	236	352	76	664	206	1245	231	1683	175	2704	287	3166
New Trips	12	6	3	21	1	4	0	5	0	2	8	10	9	0	0	9
Diverted Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total New Trips	12	33	3	48	1	4	0	5	0	2	8	10	9	0	0	9
Future Traffic Volumes (2012):	408	397	58	863	215	324	69	609	188	1134	218	1540	168	2458	261	2887
Future Traffic Volumes (2017):	428	415	61	904	226	340	73	639	197	1191	229	1617	176	2581	274	3031
Future Traffic Volumes (2022):	447	434	64	944	237	356	76	669	206	1247	239	1693	184	2704	287	3175

10-028 Fellowship Christian School

Traffic Volumes
Future Conditions

A&R Engineering
August-10

W. Crossville Road (SR 92) / Fellowship Bible School Right - in / Right - out Driveway

A.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	0	75	75	0	0	0	0	0	2806	92	2898	0	1128	0	1128
Growth Factor (%): (2010-2012)	0	0	0		1	1	1		1	1	0		0	1	1	
Growth Factor (%): (2012-2022)	0	0	0		1	1	1		1	1	0		0	1	1	
Base Condition (2012):	0	0	75	75	0	0	0	0	0	2862	92	2954	0	1151	0	1151
Base Condition (2017):	0	0	75	75	0	0	0	0	0	3005	92	3097	0	1208	0	1208
Base Condition (2022):	0	0	75	75	0	0	0	0	0	3148	92	3240	0	1266	0	1266
New Trips	0	0	22	22	0	0	0	0	0	9	17	26	0	51	0	51
Diverted Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total New Trips	0	0	22	22	0	0	0	0	0	9	17	26	0	51	0	51
Future Traffic Volumes (2012):	0	0	97	97	0	0	0	0	0	2871	109	2980	0	1202	0	1202
Future Traffic Volumes (2017):	0	0	97	97	0	0	0	0	0	3014	109	3123	0	1259	0	1259
Future Traffic Volumes (2022):	0	0	97	97	0	0	0	0	0	3157	109	3266	0	1317	0	1317

P.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	0	24	24	0	0	0	0	0	1415	18	1433	0	2868	0	2868
Growth Factor (%): (2010-2012)	0	0	0		1	1	1		1	1	0		0	1	1	
Growth Factor (%): (2012-2022)	0	0	0		1	1	1		1	1	0		0	1	1	
Base Condition (2012):	0	0	24	24	0	0	0	0	0	1443	18	1461	0	2925	0	2925
Base Condition (2017):	0	0	24	24	0	0	0	0	0	1515	18	1533	0	3072	0	3072
Base Condition (2022):	0	0	24	24	0	0	0	0	0	1588	18	1606	0	3218	0	3218
New Trips	0	0	8	8	0	0	0	0	0	3	3	6	0	9	0	9
Diverted Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total New Trips	0	0	8	8	0	0	0	0	0	3	3	6	0	9	0	9
Future Traffic Volumes (2012):	0	0	32	32	0	0	0	0	0	1446	21	1467	0	2934	0	2934
Future Traffic Volumes (2017):	0	0	32	32	0	0	0	0	0	1518	21	1539	0	3081	0	3081
Future Traffic Volumes (2022):	0	0	32	32	0	0	0	0	0	1591	21	1612	0	3227	0	3227

10-028 Fellowship Christian School

Traffic Volumes
Future Conditions

A&R Engineering
August-10

Woodstock Road / Fellowship Bible School Driveway 1

A.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	583	125	708	154	526	0	680	0	0	0	0	81	0	110	191
Growth Factor (%): (2010-2012)	1	1	0		0	1	1		1	1	1		0	0	0	
Growth Factor (%): (2012-2022)	1	1	0		0	1	1		1	1	1		0	0	0	
Base Condition (2012):	0	595	125	720	154	537	0	691	0	0	0	0	81	0	110	191
Base Condition (2017):	0	624	125	749	154	563	0	717	0	0	0	0	81	0	110	191
Base Condition (2022):	0	654	125	779	154	590	0	744	0	0	0	0	81	0	110	191
New Trips	0	30	8	38	59	59	0	118	0	0	0	0	5	0	30	35
Diverted Trips	0	67	-87	-20	-93	93	0	0	0	0	0	0	-62	0	-67	-129
Total New Trips	0	97	-79	18	-34	152	0	118	0	0	0	0	-57	0	-37	-94
Future Traffic Volumes (2012):	0	692	46	738	120	689	0	809	0	0	0	0	24	0	73	97
Future Traffic Volumes (2017):	0	721	46	767	120	715	0	835	0	0	0	0	24	0	73	97
Future Traffic Volumes (2022):	0	751	46	797	120	742	0	862	0	0	0	0	24	0	73	97

P.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	821	18	839	30	624	0	654	0	0	0	0	25	0	33	58
Growth Factor (%): (2010-2012)	1	1	0		0	1	1		1	1	1		0	0	0	
Growth Factor (%): (2012-2022)	1	1	0		0	1	1		1	1	1		0	0	0	
Base Condition (2012):	0	837	18	855	30	636	0	666	0	0	0	0	25	0	33	58
Base Condition (2017):	0	879	18	897	30	668	0	698	0	0	0	0	25	0	33	58
Base Condition (2022):	0	921	18	939	30	700	0	730	0	0	0	0	25	0	33	58
New Trips	0	11	1	12	11	11	0	22	0	0	0	0	2	0	11	13
Diverted Trips	0	21	-15	6	-17	-17	0	-34	0	0	0	0	-19	0	-21	-40
Total New Trips	0	32	-14	18	-6	-6	0	-12	0	0	0	0	-17	0	-10	-27
Future Traffic Volumes (2012):	0	869	4	873	24	630	0	654	0	0	0	0	8	0	23	31
Future Traffic Volumes (2017):	0	911	4	915	24	662	0	686	0	0	0	0	8	0	23	31
Future Traffic Volumes (2022):	0	953	4	957	24	694	0	718	0	0	0	0	8	0	23	31

10-028 Fellowship Christian School

Traffic Volumes
Future Conditions

A&R Engineering
August-10

Woodstock Road / Devereux Chase

A.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	20	721	0	741	0	613	3	616	12	0	16	28	0	0	0	0
Growth Factor (%): (2010-2012)	0	1	1		1	1	0		0	0	0		1	1	1	
Growth Factor (%): (2012-2022)	0	1	1		1	1	0		0	0	0		1	1	1	
Base Condition (2012):	20	735	0	755	0	625	3	628	12	0	16	28	0	0	0	0
Base Condition (2017):	20	772	0	792	0	657	3	660	12	0	16	28	0	0	0	0
Base Condition (2022):	20	809	0	829	0	688	3	691	12	0	16	28	0	0	0	0
New Trips	0	38	0	38	0	64	0	64	0	0	0	0	0	0	0	0
Diverted Trips	0	-20	0	-20	0	31	0	31	0	0	0	0	0	0	0	0
Total New Trips	0	18	0	18	0	95	0	95	0	0	0	0	0	0	0	0
Future Traffic Volumes (2012):	20	753	0	773	0	720	3	723	12	0	16	28	0	0	0	0
Future Traffic Volumes (2017):	20	790	0	810	0	752	3	755	12	0	16	28	0	0	0	0
Future Traffic Volumes (2022):	20	827	0	847	0	783	3	786	12	0	16	28	0	0	0	0

P.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	16	833	0	849	0	628	12	640	18	0	28	46	0	0	0	0
Growth Factor (%): (2010-2012)	0	1	1		1	1	0		0	0	0		1	1	1	
Growth Factor (%): (2012-2022)	0	1	1		1	1	0		0	0	0		1	1	1	
Base Condition (2012):	16	850	0	866	0	641	12	653	18	0	28	46	0	0	0	0
Base Condition (2017):	16	892	0	908	0	673	12	685	18	0	28	46	0	0	0	0
Base Condition (2022):	16	935	0	951	0	705	12	717	18	0	28	46	0	0	0	0
New Trips	0	12	0	12	0	12	0	12	0	0	0	0	0	0	0	0
Diverted Trips	0	5	0	5	0	-3	0	-3	0	0	0	0	0	0	0	0
Total New Trips	0	17	0	17	0	9	0	9	0	0	0	0	0	0	0	0
Future Traffic Volumes (2012):	16	867	0	883	0	650	12	662	18	0	28	46	0	0	0	0
Future Traffic Volumes (2017):	16	909	0	925	0	682	12	694	18	0	28	46	0	0	0	0
Future Traffic Volumes (2022):	16	952	0	968	0	714	12	726	18	0	28	46	0	0	0	0

10-028 Fellowship Christian School

Traffic Volumes
Future Conditions

A&R Engineering
August-10

Woodstock Road / Jones Road / Fellwoship Bible School Driveway 2

A.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	83	273	0	356	0	495	163	658	457	0	256	713	0	0	0	0
Growth Factor (%): (2010-2012)	1	1	1		1	1	1		1	1	1		0	0	0	
Growth Factor (%): (2012-2022)	1	1	1		1	1	1		1	1	1		0	0	0	
Base Condition (2012):	85	278	0	363	0	505	166	671	466	0	261	727	0	0	0	0
Base Condition (2017):	89	292	0	381	0	530	175	705	489	0	274	764	0	0	0	0
Base Condition (2022):	93	306	0	399	0	555	183	738	513	0	287	800	0	0	0	0
New Trips	0	8	18	26	59	5	0	64	0	22	0	22	11	13	30	54
Diverted Trips	0	-47	47	0	93	-34	-29	30	-40	40	0	0	34	29	67	130
Total New Trips	0	-39	65	26	152	-29	-29	94	-40	62	0	22	45	42	97	184
Future Traffic Volumes (2012):	85	239	65	389	152	476	137	765	426	62	261	749	45	42	97	184
Future Traffic Volumes (2017):	89	253	65	407	152	501	146	799	449	62	274	786	45	42	97	184
Future Traffic Volumes (2022):	93	267	65	425	152	526	154	832	473	62	287	822	45	42	97	184

P.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	303	657	0	960	0	429	220	649	176	0	109	285	0	0	0	0
Growth Factor (%): (2010-2012)	1	1	1		1	1	1		1	1	1		0	0	0	
Growth Factor (%): (2012-2022)	1	1	1		1	1	1		1	1	1		0	0	0	
Base Condition (2012):	309	670	0	979	0	438	224	662	180	0	111	291	0	0	0	0
Base Condition (2017):	325	704	0	1028	0	459	236	695	188	0	117	305	0	0	0	0
Base Condition (2022):	340	737	0	1077	0	481	247	728	197	0	122	320	0	0	0	0
New Trips	0	1	3	4	11	2	0	13	0	4	0	4	4	5	11	20
Diverted Trips	0	-8	8	0	17	-10	-9	-2	-7	7	0	0	10	9	21	40
Total New Trips	0	-7	11	4	28	-8	-9	11	-7	11	0	4	14	14	32	60
Future Traffic Volumes (2012):	309	663	11	983	28	430	215	673	173	11	111	295	14	14	32	60
Future Traffic Volumes (2017):	325	697	11	1032	28	451	227	706	181	11	117	309	14	14	32	60
Future Traffic Volumes (2022):	340	730	11	1081	28	473	238	739	190	11	122	324	14	14	32	60