APPENDIX M

TRAFFIC IMPACT ANALYSIS (ROUTE 611/ROUTE 940/ROUTE 196)

TRAFFIC PLANNING AND DESIGN, INC.
2500 East High St., Suite 650 • Office: 610-326-3100 • E-mail: TPD@TrafficPD.com
Pottstown, PA 19464 • Fax: 610-326-9410 • www.TrafficPD.com

August 3, 2006

Mr. Albert J. Magnotta, P.E., P.L.S
CECO Associates
507 Linden Street
Suite 200
Scranton, PA 18501

Re: Mount Airy #1, LLC
Route 611/Route 940/Route 196 (5-Points)
Traffic Impact Analysis
Mount Pocono Borough, Monroe County, PA
TPD# CECO.B.00008

Dear Al:

As requested, Traffic Planning & Design, Inc. (TPD) has prepared this Traffic Impact Analysis to determine the incremental impact on the 5-point intersection in Mount Pocono Borough as a result of the development of the Mount Airy Lodge. The proposed development will consist of a 3,000 machine slot parlor including food and beverage support services and a 200-room hotel. This study serves as an expansion of the Traffic Impact Study prepared by TPD for the Mount Airy Lodge (April 26, 2006). The body and figures from the full Traffic Impact Study are attached for reference.

EXISTING ROAD NETWORK

A survey of the existing roadway system in the study area is provided below. The existing lane configurations and intersection controls are depicted in Figure M-1. Photographs of the study area intersection are included in Appendix A.

The intersection of Route 611 and Route 940 westbound/Burger King access driveway is a 4-way, signalized intersection. Both the northbound and southbound approaches of Route 611 consist of one 11-foot wide shared left/through lane and one 11-foot wide shared through/right lane. The eastbound approach of the access drive consists of one 15-foot wide lane to accommodate all movements. The westbound approach of Route 940 consists of one 22-foot wide shared left/through lane and one 20-foot wide channelized right turn lane. The pavement is in good condition for all approaches. The lane markings are in poor condition for all approaches. The posted speed limits on both Route 611 and Route 940 are 35 mph, and there is no posted speed limit on the access drive.

The intersection of Route 611 and Route 940 eastbound/Route 196 is a 4-way, signalized intersection. The northbound approach of Route 611 consists of one 11-foot wide shared left/through lane and one 11-foot wide shared through/right lane. The southbound approach of Route 611 consists of one 11-foot wide through lane and one 11-foot wide shared through/right lane. The eastbound approach of Route 940 consists of one 12-foot wide shared left/through lane and one 12-foot wide exclusive right turn lane. The westbound approach of Route 196 consists of one 12-foot wide lane to accommodate all movements with a channelized right turn lane. The pavement is in good condition for all approaches. The lane markings are in fair condition for all approaches. The posted speed limit on Route 940 is 25 mph, and the posted speed limit on Route 196 is 35 mph.

PLANNED ROADWAY IMPROVEMENTS

Non Site-Related Improvements

Based on a review of the PennDOT 12-Year Plan, there are programmed roadway improvements scheduled in the vicinity of the proposed site. Descriptions and improvements relating to the intersections of Route 611 & Route 940 eastbound/Route 196 and Route 611 & Route 940 westbound/Burger King access driveway are outlined below. A schematic drawing of the future lane configurations is shown in figure M-2.

Furthermore, it is TPD's understanding that these improvements will include resurfacing Route 611 from Fairview Avenue in Mount Pocono Borough to Woodland Road in Paradise Township. These improvements are currently scheduled during the first four-year period (October 2004 – September 2008) of the PennDOT 12-Year Plan. It is TPD's understanding that the improvements in Mount Pocono Borough were completed in 2005, and the improvements in Paradise Township will be completed by the end of 2006.

At the intersection of Route 611/Route 940/Route 196, the planned improvements are as follows:

Route 611 and Route 940 eastbound/Route 196

The northbound approach of Route 611 will consist of one 10-foot wide exclusive left turn lane, one 11-foot wide through lane and one 13-foot wide exclusive right turn lane. The southbound approach of Route 611 will consist of one 11-foot wide exclusive left-turn lane, one 11-foot wide through lane and one 13-foot wide exclusive right turn lane. The eastbound approach of Route 940 will provide one 11-foot wide exclusive left-turn lane, one 11-foot wide through lane and one 13-foot wide exclusive right turn lane. The westbound approach of Route 196 will consist of one 11-foot wide shared left/through lane and a 13-foot wide exclusive right turn lane.

Route 611 and Route 940 westbound/Burger King access driveway

The northbound approach of Route 611 will consist of one 10-foot wide exclusive left turn lane, one 11-foot wide through lane and one 11-foot wide shared through/right lane. The southbound approach of Route 611 will consist of one 11-foot wide exclusive left-turn lane and one 11-foot wide shared through/right lane. The eastbound approach of the existing access drive will remain as one 15-foot wide lane to accommodate all movements. The westbound approach of Route 940 will consist of a 20-foot wide shared left/through lane and dual 11-foot wide right turn lanes.

EXISTING TRAFFIC VOLUMES

Manual traffic counts were conducted during the weekday evening (4:00-6:00 P.M.) and Saturday (11:00 A.M.-1:00 P.M.) peak hours of adjacent street traffic at the following intersections:

- Route 611 & Route 940 westbound/Burger King access driveway;
- Route 611 & Route 940 eastbound/Route 196.

The counts were taken at fifteen-minute intervals on the following days:

- Friday, January 27, 2006;
- Saturday, January 28, 2006.

A seasonal adjustment factor of 1.2 (20%) was applied to the existing volumes. This factor was obtained from PennDOT's 2004 Pennsylvania Traffic Data. In addition, traffic volumes were balanced between the intersections of Route 611 & Route 940 eastbound/Route 196 and Route 611 & Route 940 westbound/Burger King access driveway. The adjusted existing condition traffic volumes for the Friday P.M. and Saturday midday peak hours are shown in Figures M-3 and M-4, respectively. The manual traffic count printouts are included in Appendix B.

Base Conditions

Annual Background Growth

A background growth factor for the roadways in the study area was developed based on information supplied by the PennDOT Bureau of Planning and Research (BPR). According to the BPR, growth values were determined utilizing an average of the last 9 years of growth information and comparing it to an average calculated from 9 years of historical growth. Based on the calculations, the PennDOT BPR recommends utilizing a background growth trend factor of 1.025 (2.5% per year) in Monroe County for Functional Class Groups (FCG) 3 and 5, pertaining to urban minor arterials and urban collectors, respectively. However, a growth rate of 1.030 (3.0% per year) was utilized to account for increases in traffic volumes to account for any additional "pass through" traffic associated with growth attributed to other nearby developments in neighboring townships not included in the following list.

Nearby Proposed Developments

Base (future no-build) traffic conditions may also include traffic volumes from proposed developments which, although not operating at this time, may be operating in the near future. Based on discussions with officials from the Borough of Mount Pocono, as well as Coolbaugh Township, Paradise Township, Tobyhanna Township and Pocono Township, it was determined the following developments may impact traffic conditions at the study locations for the 2007 and 2017 design years:

Lowe's Home Improvement Store & Hirshland Development, located in Mount Pocono Borough along Route 940 in the vicinity of Industrial Park Drive, was included in the Base Condition projections. The Lowe's development will consist of a 161,659 square foot Lowe's Home Improvement Store, three high turnover sit-down restaurants consisting of 6,750, 6,800 and 7,100 square feet, respectively and 8,800 square feet of retail space. The Hirshland development will consist of 39,200 square feet of retail space, a 5,884 square foot convenience store with gas pumps, a 4,200 square foot high turnover sit-down restaurant and a 4,658 square foot high turnover sit down restaurant. The traffic generated by this development and the distribution of site-generated trips were obtained from the TIS performed by TPD, dated March 20, 2003, revised February 8, 2006.

Rite Aid Pharmacy, located in Mount Pocono Borough on the western side of Route 611 between Route 940 and the existing access drive, was included in the Base condition projections. The development will consist of a 14,564 square foot pharmacy with two drive-thru lanes. The traffic generated by this development and the distribution of site-generated trips were obtained from the TIS performed by TPD, dated April 6, 2006, revised June 13, 2006.

Green Springs Age-Qualified Residential Community, located in Mount Pocono Borough on the western side of Route 611, opposite Grange Road, will consist of 436 age-qualified dwelling units and was included in the Base Condition projections. The traffic generated by this development was calculated based on the equations contained in the ITE *Trip Generation* manual for senior adult housing - detached (ITE Land Use Code #251). The site-generated trips were distributed throughout the study area based on existing traffic patterns.

Pocono Mountain School District Elementary School, located in Paradise Township, consisting of an elementary school which will accommodate up to 1,000 students, was included in the Base Condition projections. The traffic generated by this development was calculated based on the equations contained in the ITE *Trip Generation* manual for elementary school (ITE Land Use Code #520). The site-generated trips were distributed throughout the study area based on existing traffic patterns.

Tall Oaks Residential Development, located in Paradise Township, will consist of 26 single-family dwelling units and was included in the Base Condition projections. The traffic generated by this development was calculated based on the equations contained in the ITE *Trip Generation* manual for single-family detached housing (ITE Land Use Code #210). The site-generated trips were distributed throughout the study area based on existing traffic patterns.

Grange Road/Route 940 Residential Development, located in Paradise Township, consisting of 20 townhouse units, was included in the Base Condition projections. The traffic generated by this development was calculated based on the equations contained in the ITE *Trip Generation* manual for residential condominium/townhouse (ITE Land Use Code #230). The site-generated trips were distributed throughout the study area based on existing traffic patterns.

Great Wolf Lodge, located in Pocono Township on the western side of Route 611, north of the I-80 Interchange, was included in the Base Condition projections. The development will consist of a 400 room lodge. The traffic generated by this development and the distribution of site-generated trips for the P.M. and Saturday midday peak hours were obtained from the TIS performed by Borton-Lawson Engineering.

Crossroads Mall of the Poconos, located in Stroud Township along Route 611, opposite the Route 33 Interchange, was included in the Base Condition projections. The development will consist of 300,000 square feet of retail space, an 8,000 square foot high turnover sit-down restaurant, and a convenience store with 8 gas pumps (16 fueling positions). The traffic generated by this development and the distribution of site-generated trips for the P.M. and Saturday midday peak hours were obtained from the TIS performed by Benchmark Civil Engineering Services, Inc., dated March 14, 2003, revised December 15, 2004.

DEPG Stroud Associates, located in the vicinity of the proposed Crossroads Mall of the Poconos, was included in the Base Condition projections. The development will consist of a 5,615 square foot high turnover sit-down restaurant, a convenience store with 8 gas pumps (16 fueling positions), a hotel containing 105 rooms, and a 14,560 square foot pharmacy with drive-thru. The traffic generated by this development and the distribution of site-generated trips for the P.M. and Saturday midday peak hours were obtained from the TIS performed by Benchmark Civil Engineering Services, Inc. for the Crossroads Mall of the Poconos, dated March 14, 2003, revised December 15, 2004.

Darlak Properties (Phase I), located in the vicinity of the proposed Crossroads Mall of the Poconos, was included in the Base Condition projections. The development will consist of 22,000 square feet of general office space and a hotel containing 144 rooms. The traffic generated by this development and the distribution of site-generated trips for the P.M. and Saturday midday peak hours were obtained from the TIS performed by Benchmark Civil

Engineering Services, Inc. for the Crossroads Mall of the Poconos, dated March 14, 2003, revised December 15, 2004.

Stroudsburg School District Middle School, located in the vicinity of the proposed Crossroads Mall of the Poconos, will consist of a middle school which will accommodate up to 1,200 students and was included in the Base Condition projections. The traffic generated by this development and the distribution of site-generated trips for the P.M. peak hour were obtained from the TIS performed by Benchmark Civil Engineering Services, Inc. for the Crossroads Mall of the Poconos, dated March 14, 2003, revised December 15, 2004.

Paradigm Development, located in the vicinity of the proposed Crossroads Mall of the Poconos, consisting of 138,310 square feet of retail space, was included in the Base Condition projections. The traffic generated by this development and the distribution of site-generated trips for the P.M. and Saturday midday peak hours were obtained from the TIS performed by Benchmark Civil Engineering Services, Inc. for the Crossroads Mall of the Poconos, dated March 14, 2003, revised December 15, 2004.

The *Pocono Country Place*, residential subdivision located in Coolbaugh Township to the north of the site along Route 611, is approved for an additional 1,200 single family residential units which are expected to be built out over the next 10 years. Therefore, trips associated with this development were included in the Base Condition projections. Trips for the development were developed utilizing the ITE *Trip Generation* manual pertaining to Land Use 210 – Single Family Residential Units.

The *Geisinger Clinic*, located in Coolbaugh Township to the east of the site along Commerce Drive, consisting of approximately 16,800 SF of floor space was included in the Base Condition projections. Trips for the development were developed utilizing the ITE *Trip Generation* manual pertaining to Land Use 630 – Clinic.

An *Industrial Site*, located in Coolbaugh Township to the east of the site along Commerce Drive, consisting of approximately 70-acres was included in the Base Condition projections. Trips for the development were developed utilizing the ITE *Trip Generation* manual pertaining to Land Use 130 – Industrial Park.

The *Pocono Mountain Industrial Park*, located in Coolbaugh Township to the north of the site is not currently built-out. Based on discussions with representatives from the Industrial Park it is anticipated that 52 of the 104 vacant acres will be developed over the next ten years. Therefore, trips associated with this development were included in the Base Condition projections. Trips for the development were developed utilizing the ITE *Trip Generation* manual pertaining to Land Use 130 – Industrial Park.

The additional traffic volumes due to background growth, as well as the other developments listed above were added to the adjusted existing traffic volumes to produce 2007 and 2017 Base Condition traffic volumes for the Friday P.M. and Saturday midday peak hours. The 2007 Base Condition traffic volumes are shown in figures M-5 and M-6, and the 2017 Base Conditions traffic volumes are shown in figures M-7 and M-8. The trip generation/distribution worksheets for the nearby planned developments are contained in Appendix C.

TRIP GENERATION

Due to the lack of available data in the ITE Trip Generation Manual regarding this type of development, a Trip Generation Study for an existing similar facility was conducted to develop trip generation rates for the proposed facility. The similar existing facility studied, Dover Downs in Dover, Delaware, currently consists of a 2,500 machine slot parlor including food and beverage support services, and a 232 room hotel.

Existing Trip Generation

TPD conducted manual traffic counts at the existing site access driveways at the Dover Downs facility in Dover, Delaware. The counts were taken at 15-minute intervals from 4:00 P.M.-9:00 P.M. on Friday, April 29, 2005 and 11:00 A.M.-9:00 P.M. on Saturday, April 30, 2005. The purpose of the counts was to determine the existing trip generation of the facility, determine the peak traffic time periods of the facility, and develop trip generation rates for the P.M. peak hour of adjacent street traffic (one hour between 4:00-6:00 P.M. on a Friday) and on a peak generator hour basis for the existing facility for a typical Saturday. Table 1 shows the existing trip generation of the Dover Downs facility for the Friday and Saturday peak hours.

TABLE 1
DOVER DOWNS - TRIP GENERATION

Time Period	*TOTAL*	*ENTER*	*EXIT*
Friday P.M. Peak Hour of Adjacent Street Traffic (5:15-6:15 P.M.)	851	496	355
Saturday Peak Hour of the Generator (5:15-6:15 P.M.)	941	523	418

Trip Generation Rate Calculation

Based on the information collected at the Dover Downs facility, as presented in Table 1, a trip generation rate was calculated to relate the number of trips generated during the peak hour time periods analyzed, to the number of slot machines at the existing facility (2,500). The directional distribution of traffic (enter/exit) was also calculated for each of the peak times. Table 2 shows the results of these calculations.

TABLE 2
DOVER DOWNS - TRIP GENERATION RATES

Time Period	Trip Generation Rate	Directional Distribution	
		Enter	Exit
Friday P.M. Peak Hour of Adjacent Street Traffic	T = 0.34(X)	58%	42%
Saturday Peak Hour of the Generator	T = 0.38(X)	56%	44%

T = Total trips generated, X = # of Slot Machines

Mount Airy Lodge Proposed Trip Generation

The proposed Mount Airy Lodge facility will consist of a 3,000 machine slot parlor including food and beverage support services. It will also include a hotel with approximately 200 rooms. Therefore, since the proposed facility will have approximately the same number of slot machines, and approximately the same number of hotel rooms, the trip generation rates calculated from the counts performed at Dover Downs were utilized to develop the trip generation for the proposed Mount Airy Lodge. The proposed trip generation for the Mount Airy Lodge facility during the Friday and Saturday peak time periods is shown in Table 3.

TABLE 3
PROPOSED TRIP GENERATION – MOUNT AIRY LODGE FACILITY

Time Period	*X*	*R*	*TOTAL*	*ENTER*	*EXIT*
Friday P.M. Peak Hour of Adjacent Street Traffic	3,000	0.34	1,020	592	428
Saturday Peak Hour of the Generator	3,000	0.38	1,140	638	502

X = # of Slot Machines, R = Trip Generation Rate

To represent worst-case (highest volume) conditions at the 5-Points intersection, the Saturday peak hour trip generation for the Mount Airy Lodge was applied to the Saturday midday peak hour traffic volumes at the 5-Points intersection.

TRIP DISTRIBUTION

The distribution of trips generated by the proposed Mount Airy Lodge was based on the local roadway network, the existing traffic patterns, the proposed use of the site, and a marketing study prepared for the Mount Airy Lodge. Based on the methodologies contained in the April 26, 2006 Traffic Impact Study, the following percentages were developed to distribute the traffic generated by the Mount Airy Lodge through the 5-Points intersection.

TABLE 4
TRIP DISTRIBUTION PERCENTAGES

Direction – To/From	Distribution %
North via 611	10%
West via Route 940	10%
East via Route 196	1%

The assignment of site-generated trips for the proposed development during the Friday P.M. and Saturday midday peak hours is shown in Figures M-10 and M-11, respectively.

PROJECTED CONDITION TRAFFIC VOLUMES

The site-generated trips were added to the 2007 and 2017 Base Condition traffic volumes to develop the 2007 and 2017 Projected Condition traffic volumes for the Friday P.M and Saturday midday peak hours. The 2007 Projected Condition traffic volumes for the Friday P.M and Saturday midday peak hours are shown in Figures M-12 and M-13, respectively. The 2017 Projected Condition traffic volumes for the Friday P.M. and Saturday midday peak hours are shown in Figures M-14 and M-15, respectively. These volumes include existing traffic, traffic due to planned nearby developments, future "background" traffic growth, and all traffic due to the redevelopment of the Mount Airy Lodge facility.

LEVELS OF SERVICE (LOS) FOR AN INTERSECTION

For analysis of intersections, level of service is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. Level of service criteria is stated in terms of control delay per vehicle for a one-hour analysis period. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The criteria are shown in Table 5. Delay, as it relates to level of service, is a complex measure and is dependent upon a number of variables. For signalized intersections, these variables include the quality of vehicle progression, the cycle length, the green time ratio, and the volume/capacity ratio for the lane group in question. For unsignalized intersections, delay is related to the availability of gaps in the flow of traffic on the major street and the driver's discretion in selecting an appropriate gap for a particular movement from the minor street (straight across, left or right turn).

TABLE 5
LEVEL OF SERVICE CRITERIA*

	Control Delay Per Vehicle (Seconds)	
Level of Service	**Signalized**	**Unsignalized**
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

* Obtained from the Transportation Research Board's Highway Capacity Manual, 2000 Edition.

CAPACITY ANALYSIS METHODOLOGY

Capacity analyses were conducted for the Friday P.M. and Saturday midday peak hours at the intersections of Route 611 & Route 940 eastbound/Route 196 and Route 611 & Route 940 westbound/Burger King access driveway. These analyses were conducted according to the methodologies contained in the 2000 Highway Capacity Manual (HCM) for the following conditions:

- Existing Conditions;
- 2007 Base Conditions (Future opening year without development);
- 2007 Projected Conditions (Future opening year with development);
- 2017 Base Conditions (Future year without development);
- 2017 Projected Conditions (Future year with development).

The capacity analysis worksheets are included in Appendix D.

LEVELS OF SERVICE IN THE STUDY AREA

The levels of service for all scenarios analyzed are summarized in Table 6. Additionally, the levels of service are presented in figures M-16 through M-21.

Existing Conditions

Existing Condition levels of service at the intersections of Route 611 & Route 940 eastbound/Route 196 and Route 611 & Route 940 westbound/Burger King access driveway, for the Friday P.M. and Saturday midday peak hours, are shown in Figures M-16 and M-17, respectively.

2007 Base Conditions (Future Year Without Development)

The 2007 Base Condition traffic volumes were developed assuming a background growth factor of 1.03 (3.0% per year increase compounded for one year) and no development of the proposed site (the no-build scenario). The 2007 Base Condition levels of service at the intersections of Route 611 & Route 940 eastbound/Route 196 and Route 611 & Route 940 westbound/Burger King access driveway, for the Friday P.M. and Saturday midday peak hours, are shown in Figures M-18 and M-19, respectively.

2007 Projected Conditions (Future Year With Development)

The 2007 Projected Condition traffic volumes were developed assuming development of the proposed site (the build scenario). The 2007 Projected Condition levels of service at the intersections of Route 611 & Route 940 eastbound/Route 196 and Route 611 & Route 940 westbound/Burger King access driveway, for the Friday P.M. and Saturday midday peak hours, are shown in Figures M-20 and M-21, respectively.

2017 Base Conditions (Future Year Without Development)

The 2017 Base Condition traffic volumes were developed assuming a background growth factor of 1.384 (3.0% per year increase compounded for eleven years) and no development of the proposed site (the no-build scenario). The 2017 Base Condition levels of service at the intersections of Route 611 & Route 940 eastbound/Route 196 and Route 611 & Route 940 westbound/Burger King access driveway for the Friday P.M. and Saturday midday peak hours, are shown in Figures M-22 and M-23, respectively.

2017 Projected Conditions (Future Year With Development)

The 2017 Projected Condition traffic volumes were developed assuming development of the proposed site (the build scenario). The 2017 Projected Condition levels of service at the intersections of Route 611 & Route 940 eastbound/Route 196 and Route 611 & Route 940 westbound/Burger King access driveway for the Friday P.M. and Saturday midday peak hours, are shown are shown in Figures M-24 and M-25, respectively.

Level of service matrices for the study area intersections are shown in Tables 6 and 7 for the Friday P.M. and Saturday midday peak hours, respectively.

TABLE 6
LEVEL OF SERVICE (DELAY) SUMMARY
FRIDAY P.M. PEAK HOUR

Intersection	Approach/ Movement		2006 Existing	2007 Base	2007 Projected	2017 Base	2017 Projected
Route 611 & Route 940/Route 196	EB	L	F	F(2627.3)	F(2627.3)	F(3131.9)	F(3131.9)
	EB	T		F(269.0)	F(269.0)	F(418.4)	F(418.4)
	EB	R	E	F(147.3)	F(181.5)	F(244.2)	F(279.9)
	WB	L/T	F	F(1305.3)	F(1313.0)	F(1956.2)	F(1979.3)
	WB	R		D	D	D	D
	NB	L	F	E	F(109.7)	F(176.9)	F(208.1)
	NB	T		B	B	B	C
	NB	R		B	B	C	C
	SB	L	F	D	D	D	D
	SB	T		F(766.7)	F(867.5)	F(1052.2)	F(1153.2)
	SB	R	B	D	D	F(86.4)	F(86.4)
	ILOS		**F**	**F(493.3)**	**F(511.0)**	**F(672.0)**	**F(691.5)**
Route 611 & Route 940/Access Driveway	EB	L/T/R	F	F(1934.0)	F(1934.0)	F(1934.0)	F(1934.0)
	WB	L/T	D	F(94.3)	F(94.3)	F(181.3)	F(181.3)
	WB	R	F	D	D	F(123.7)	F(137.6)
	NB	L	A	D	D	D	D
	NB	T/R		F(265.2)	F(301.2)	F(459.4)	F(495.8)
	SB	L	A	F(119.1)	F(143.5)	F(259.5)	F(284.9)
	SB	T/R		F(182.3)	F(223.9)	F(300.9)	F(342.7)
	ILOS		**F**	**F(295.2)**	**F(316.9)**	**F(398.2)**	**F(424.3)**

TABLE 7
LEVEL OF SERVICE (DELAY) SUMMARY
SATURDAY MIDDAY PEAK HOUR

Intersection	Approach/ Movement		2006 Existing	2007 Base	2007 Projected	2017 Base	2017 Projected
Route 611 & Route 940/Route 196	EB	L	F	F(2717.1)	F(2717.1)	F(3304.8)	F(3304.8)
	EB	T		F(181.0)	F(181.0)	F(299.9)	F(299.9)
	EB	R	E	F(82.2)	F(114.8)	F(173.1)	F(209.7)
	WB	L/T	F	F(1257.4)	F(1273.7)	F(1834.3)	F(1842.1)
	WB	R		D	D	D	D
	NB	L	E	F(142.8)	F(180.3)	F(242.5)	F(280.2)
	NB	T		B	B	B	B
	NB	R		A	A	A	A
	SB	L	F	D	D	D	D
	SB	T		F(732.1)	F(840.1)	F(1062.3)	F(1170.6)
	SB	R	B	E	E	F(143.7)	F(143.7)
	ILOS		**F**	**F(515.4)**	**F(533.1)**	**F(715.0)**	**F(732.7)**
Route 611 & Route 940/Access Driveway	EB	L/T/R	F	F(2020.9)	F(2020.9)	F(2020.9)	F(2020.9)
	WB	L/T	F	F(149.6)	F(149.6)	F(284.0)	F(284.0)
	WB	R	F	D	D	F(129.1)	F(145.2)
	NB	L	A	D	D	D	D
	NB	T/R		F(169.6)	F(210.6)	F(302.9)	F(345.9)
	SB	L	A	E	F(87.7)	F(202.7)	F(229.5)
	SB	T/R		F(153.2)	F(197.7)	F(282.2)	F(327.3)
	ILOS		**F**	**F(251.3)**	**F(273.5)**	**F(340.1)**	**F(368.2)**

As shown in Tables 6 and 7, under 2007 Projected Conditions, all approaches and turning movements at the two intersections will operate at **the same LOS as 2007 Base Conditions** during the Friday P.M. and Saturday midday peak hours except for the following:

Route 611 and Route 940/Route 196

- The northbound Route 611 left-turn movement at Route 940, which will degrade from **LOS E to LOS F** during the Friday P.M. peak hour.
- The overall intersection delay will **increase 17.7 seconds** during the Friday P.M. and Saturday midday peak hours.

Route 611 and Route 940/Burger King access driveway

- The southbound Route 611 left-turn movement at Route 940, which will degrade from **LOS E to LOS F** during the Saturday midday peak hour
- The overall intersection delay will **increase 21.7 seconds** during the Friday P.M. peak hour and **increase 22.2 seconds** during the Saturday midday peak hour.

Furthermore, under 2017 Projected Conditions, all approaches and turning movements at the two intersections will operate at **the same LOS as 2017 Base Conditions** during the Friday P.M. and Saturday midday peak hours except for the following:

Route 611 and Route 940/Route 196

- The northbound Route 611 through movement, which will degrade from **LOS B to LOS C** during the Friday P.M. peak hour.
- The overall intersection delay will **increase 19.5 seconds** during the Friday P.M. peak hour and **increase 17.7 seconds** during the Saturday midday peak hour

Route 611 and Route 940/Burger King access driveway

- The overall intersection delay will **increase 26.1 seconds** during the Friday P.M. peak hour and **increase 28.1 seconds** during the Saturday midday peak hour.

QUEUE LENGTH ANALYSIS

Queue lengths at the study area intersections were analyzed to determine the 95th percentile queue lengths. The 95th percentile queue length is the queue exceeded at some point during 5% of the signal cycles. The results of 95th percentile queue length analysis are shown in Tables 8 and 9 for the Friday P.M. and Saturday midday peak hours, respectively.

TABLE 8
QUEUE LENGTH SUMMARY
FRIDAY P.M. PEAK HOUR

Intersection	Approach/ Movement		2006 Existing	2007 Base	2007 Projected	2017 Base	2017 Projected
Route 611 & Route 940/Route 196	EB	L	#621'	#730'	#730'	#847'	#847'
	EB	T		#572'	#572'	#727'	#727'
	EB	R	#389'	#1175'	#1277'	#1461'	#1562'
	WB	L/T	#743'	#1056'	#1060'	#1353'	#1358'
	WB	R		25'	25'	25'	25'
	NB	L	m#474'	m307'	m315'	m282'	m291'
	NB	T		m129'	m133'	m135'	m138'
	NB	R		m68'	m66'	m71'	m69'
	SB	L	#696'	25'	25'	25'	25'
	SB	T		#1135'	#1240'	#1428'	#1531'
	SB	R	214'	430'	430'	#661'	#661'
Route 611 & Route 940/Access Driveway	EB	L/T/R	#400'	#603'	#603'	#603'	#603'
	WB	L/T	126'	#219'	#219'	#285'	#285'
	WB	R	#878	#277'	#302'	#492'	#516'
	NB	L	103'	42'	42'	42'	42'
	NB	T/R		#750'	#805'	#1041'	#1094'
	SB	L	m66'	m217'	m214'	m277'	m224'
	SB	T/R		m434'	m439'	m422'	m427'

# = 95th Percentile volume exceeds capacity; queue may be longer
m = Volume for 95th percentile queue is metered by upstream signal

TABLE 9
QUEUE LENGTH SUMMARY
SATURDAY MIDDAY PEAK HOUR

Intersection	Approach/ Movement		2006 Existing	2007 Base	2007 Projected	2017 Base	2017 Projected
Route 611 & Route 940/Route 196	EB	L	#602'	#751'	#751'	#886'	#886'
	EB	T		#474'	#474'	#605'	#605'
	EB	R	#394'	#963'	#1073'	#1251'	#1361'
	WB	L/T	#700'	#1083'	#1088'	#1361'	#1365'
	WB	R		25'	25'	25'	25'
	NB	L	m196'	m#495'	m#505'	m#442'	m#452'
	NB	T		m139'	m144'	m148'	m152'
	NB	R		m46'	m44'	m47'	m46'
	SB	L	#884'	45'	45'	#64'	#64'
	SB	T		#1098'	#1210'	#1438'	#1549'
	SB	R	223'	#593'	#593'	#806'	#806'
Route 611 & Route 940/Access Driveway	EB	L/T/R	#368'	#551'	#551'	#551'	#551'
	WB	L/T	#226'	#280'	#280'	#361'	#361'
	WB	R	#857'	#302'	#330'	#501'	#528'
	NB	L	73'	43'	43'	43'	43'
	NB	T/R		#601'	#666'	#806'	#871'
	SB	L	m46'	m203'	m202'	m216'	m213'
	SB	*T/R*		m446'	m453'	m437'	m441'

# = 95th Percentile volume exceeds capacity; queue may be longer
m = Volume for 95th percentile queue is metered by upstream signal

TRAFFIC GROWTH DUE TO SITE GENERATED TRAFFIC

The 2007 Projected Condition traffic volumes at the study area intersections were analyzed to determine the percentage of traffic attributable to the proposed Mount Airy Lodge redevelopment. The results of these analyses are shown in Table 10.

TABLE 10
SITE-GENERATED TRAFFIC AS A PERCENTAGE OF PROJECTED CONDITIONS

Time Period		Existing Volume	2007 Base Growth	Site – Generated Traffic	2007 Projected Volume (Total)
Route 611 & Route 940/Route 196					
Friday P.M. Peak Hour	Traffic Volume	3,786	1,661	215	5,662
	Percent of Total	66.9%	29.3%	3.8%	100%
Saturday Midday Peak Hour	Traffic Volume	3,531	1,612	239	5,382
	Percent of Total	65.6%	30.0%	4.4%	100%
Route 611 & Access Driveway/Route 940					
Friday P.M. Peak Hour	Traffic Volume	3,056	1,216	215	4,487
	Percent of Total	68.1%	27.1%	4.8%	100%
Saturday Midday Peak Hour	Traffic Volume	2,894	1,086	239	4,219
	Percent of Total	68.6%	25.7%	5.7%	100%

CONCLUSIONS

Based on the results of the traffic study, TPD offers the following conclusions:

- ***Under 2007 Projected Conditions, all approaches and turning movements at the intersection of Route 611 & Route 940/Route 196 will operate at the same LOS as 2007 Base Conditions during the Friday P.M. and Saturday midday peak hours except for the following: The northbound Route 611 left-turn movement at Route 940, which will degrade from LOS E to LOS F during the Friday P.M. peak hour. The overall intersection delay will increase 17.7 seconds during the Friday P.M. and Saturday midday peak hours. At the intersection of Route 611 & Route 940/Burger King access driveway, all approaches and turning movements will operate at the same LOS as 2007 Base Conditions during the Friday P.M. and Saturday midday peak hours except for the following: The southbound Route 611 left-turn movement at Route 940, which will degrade from LOS E to LOS F during the Saturday midday peak hour. The overall intersection delay will increase 21.7 seconds during the Friday P.M. peak hour and increase 22.2 seconds during the Saturday midday peak hour.***

- ***Furthermore, under 2017 Projected Conditions, all approaches and turning movements at intersection of Route 611 & Route 940/Route 196 will operate at the same LOS as 2017 Base Conditions during the Friday P.M. and Saturday midday except for the following: The northbound Route 611 through movement, which will degrade from LOS B to LOS C during the Friday P.M. peak hour. The overall intersection delay will increase 19.5 seconds during the Friday P.M. peak hour and increase 17.7 seconds during the Saturday midday peak hour. At the intersection of Route 611 & Route 940/Burger King access driveway, all approaches and turning movements will operate at the same LOS as 2017 Base Conditions during the Friday P.M. and Saturday midday peak hours except for the following: The overall intersection delay will increase 26.1 seconds during the Friday P.M. peak hour and increase 28.1 seconds during the Saturday midday peak hour.***

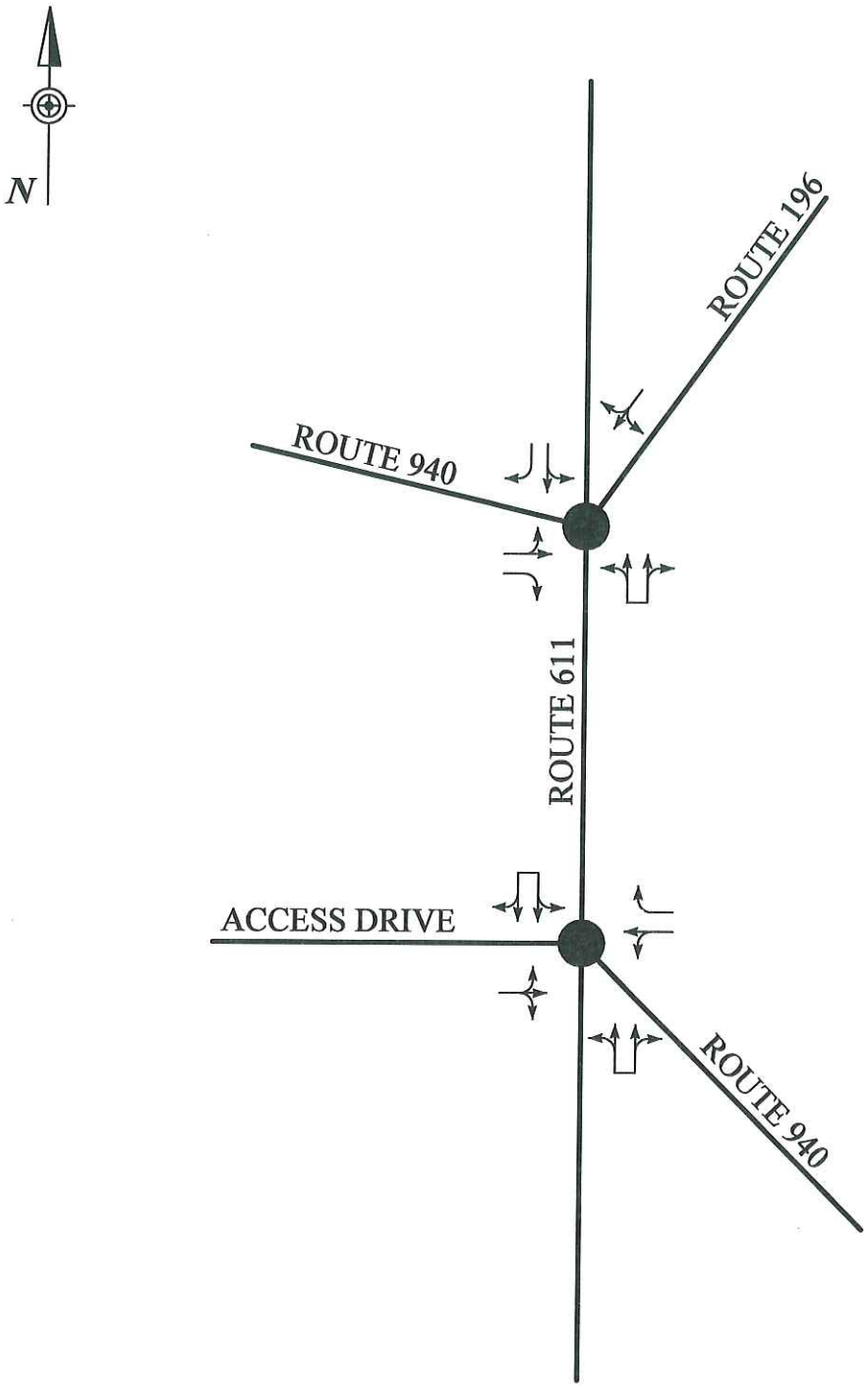
- ***Site-generated traffic from the proposed development will account for, at most, 5.7% of 2007 Projected Condition traffic volumes at the study area intersections during the weekday P.M., and Saturday midday peak hours.***

If any of you have any questions or concerns, please do not hesitate to contact us.

Sincerely,
TRAFFIC PLANNING & DESIGN, INC.

John M. Pyne, P.E.
Principal

Enclosures



● = EXISTING TRAFFIC SIGNAL

SCHEMATIC DRAWING: NOT TO SCALE

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SANATOGA COMMONS, 2500 EAST HIGH STREET, SUITE 650
POTTSTOWN, PENNSYLVANIA 19464
OFFICE (610)326-3100 FAX (610)326-9410
4647 SAUCON CREEK ROAD
CENTER VALLEY, PA 18034
OFFICE (610)625-4242 FAX (610)625-4250
1820 LINGLESTOWN ROAD
HARRISBURG, PA 17110
OFFICE (717)234-1430 FAX (717)234-4490
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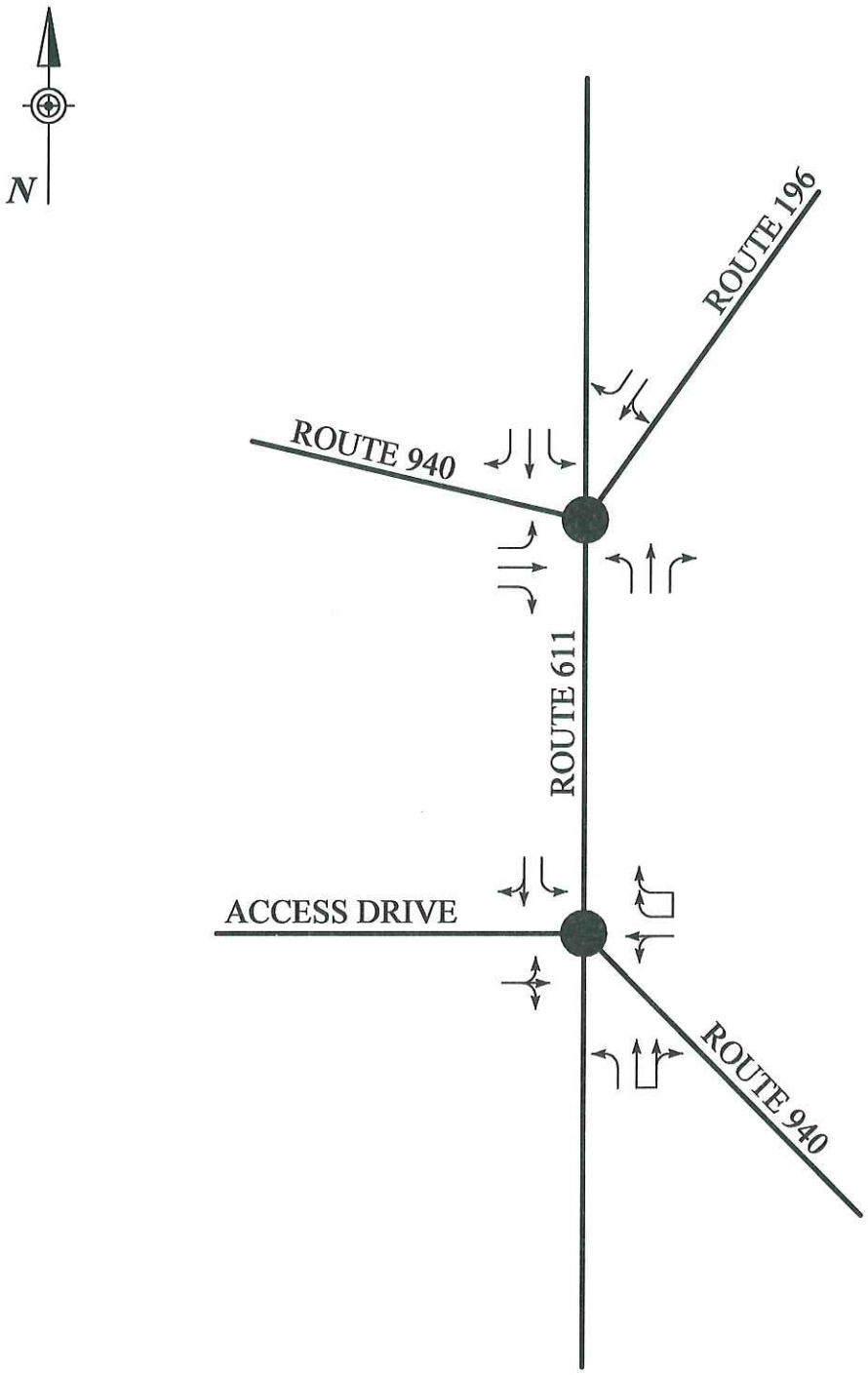
FIGURE M-1

FIVE POINTS - EXISTING LANE CONFIGURATIONS AND INTERSECTION CONTROLS



● = EXISTING TRAFFIC SIGNAL

SCHEMATIC DRAWING: NOT TO SCALE

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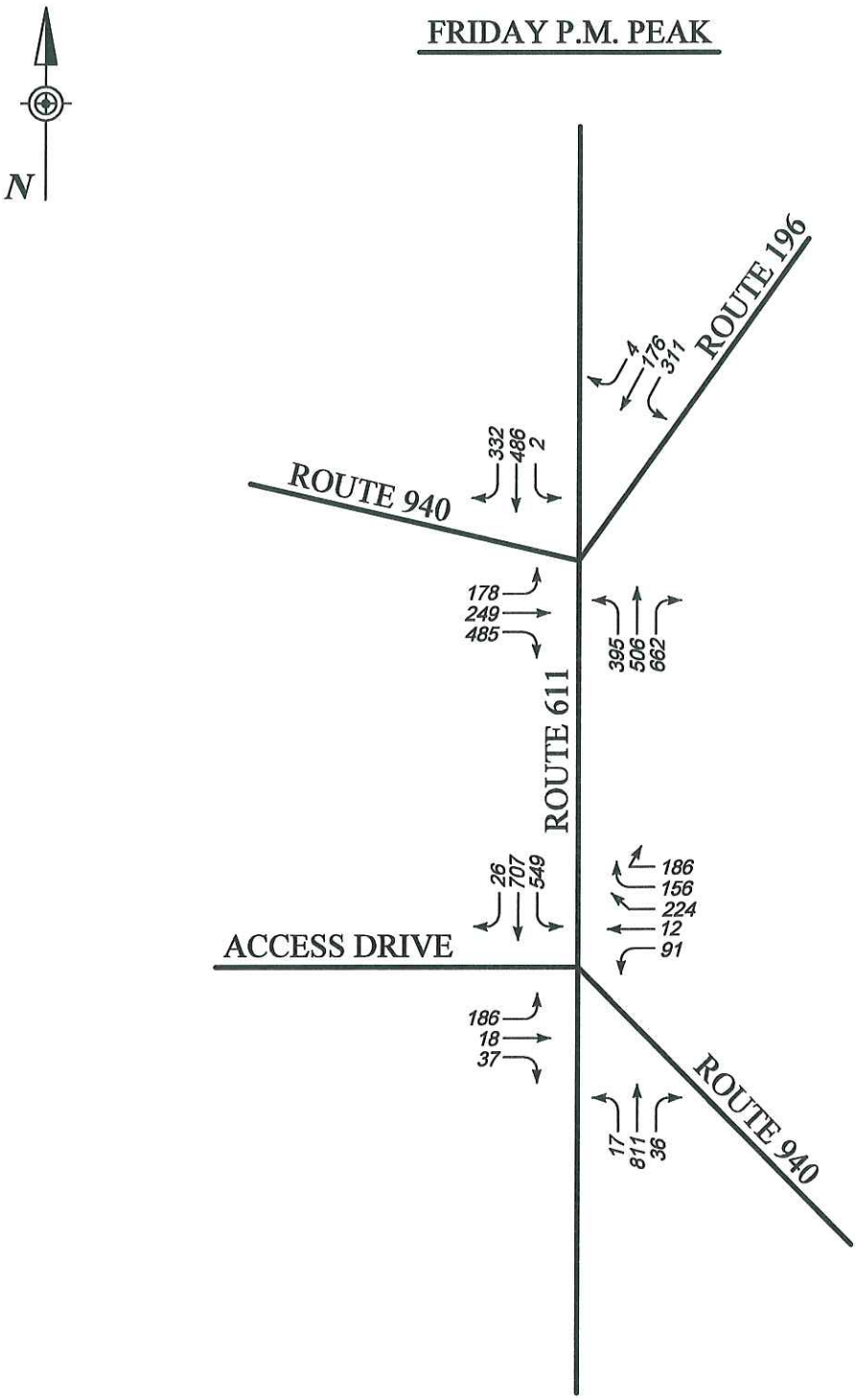
FIGURE M-2

FIVE POINTS - FUTURE LANE CONFIGURATIONS AND INTERSECTION CONTROLS

FRIDAY P.M. PEAK



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OFFICE (610)326-3100 FAX (610)326-9410

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CENTER VALLEY, PA 18034
OFFICE (610)625-4242 FAX (610)625-4250

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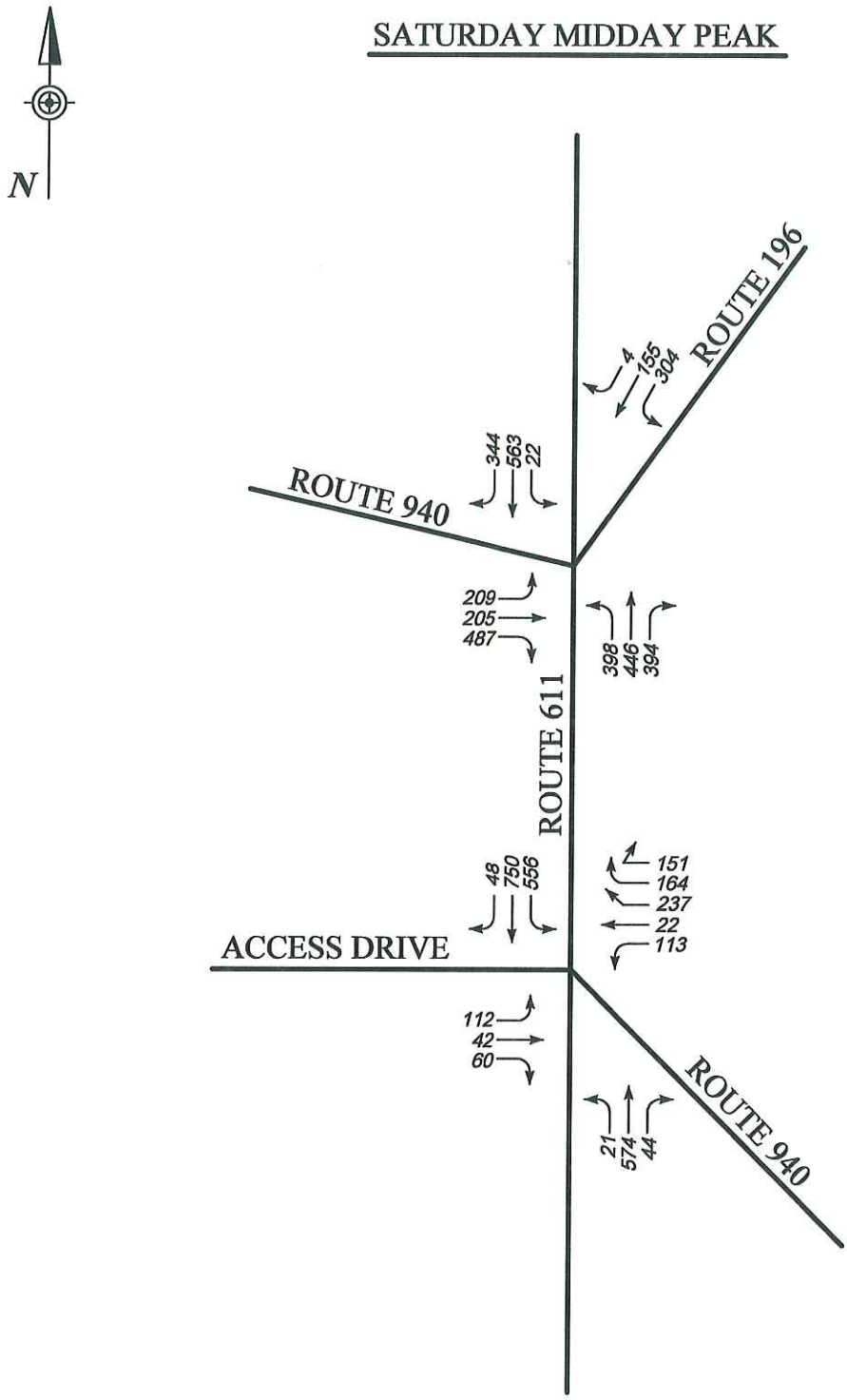
FIGURE M-3

2006 EXISTING CONDITIONS
FIVE POINTS - FRIDAY P.M. PEAK HOUR
TRAFFIC VOLUMES

SCHEMATIC DRAWING: NOT TO SCALE

SATURDAY MIDDAY PEAK



SCHEMATIC DRAWING: NOT TO SCALE

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OFFICE (610)625-4242 FAX (610)625-4250
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FIGURE M-4

2006 EXISTING CONDITIONS
FIVE POINTS - SATURDAY MIDDAY PEAK HOUR
TRAFFIC VOLUMES

FRIDAY P.M. PEAK

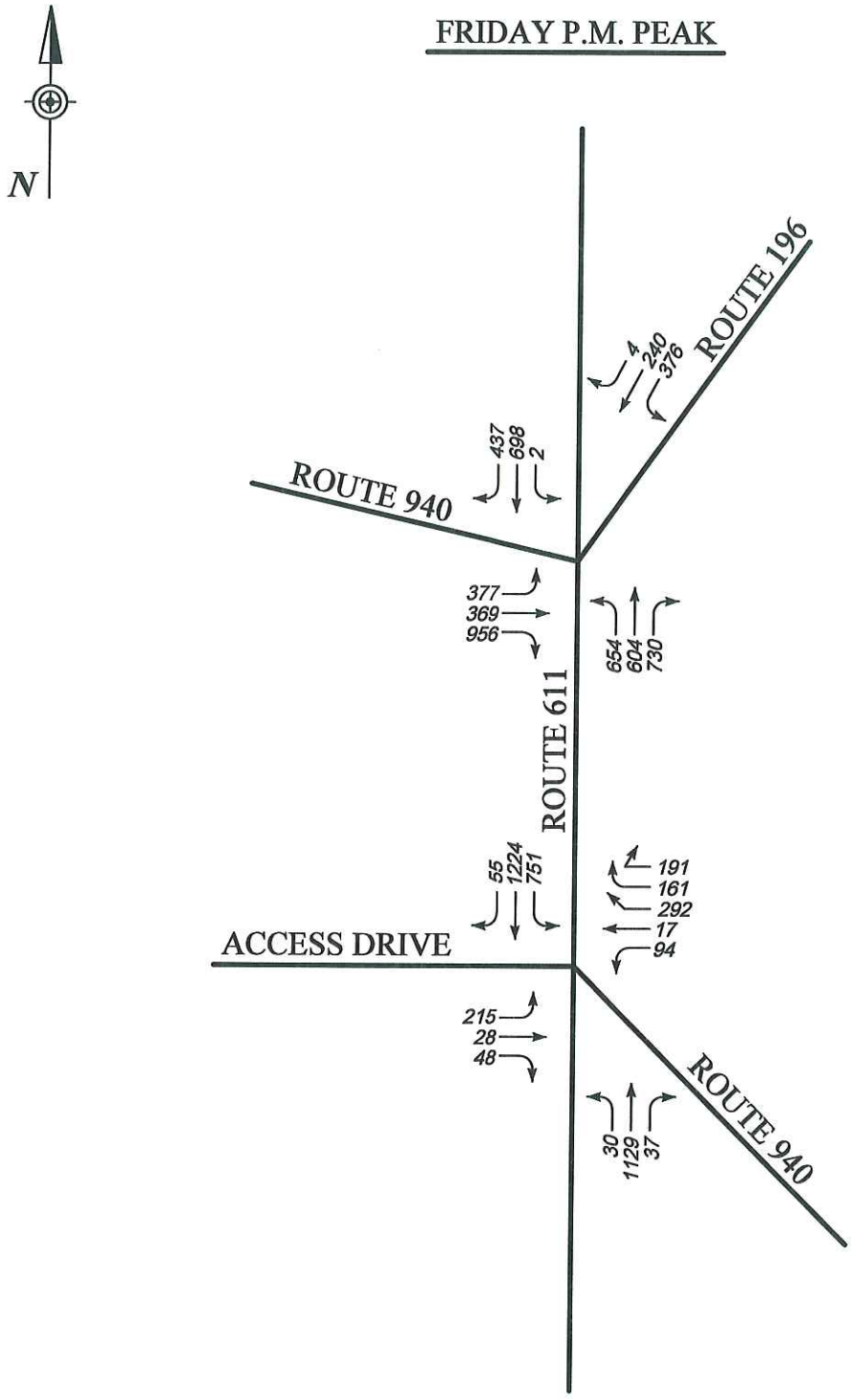

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FIGURE M-5

2007 BASE CONDITIONS
FIVE POINTS - FRIDAY P.M. PEAK HOUR
TRAFFIC VOLUMES

SCHEMATIC DRAWING: NOT TO SCALE

SATURDAY MIDDAY PEAK

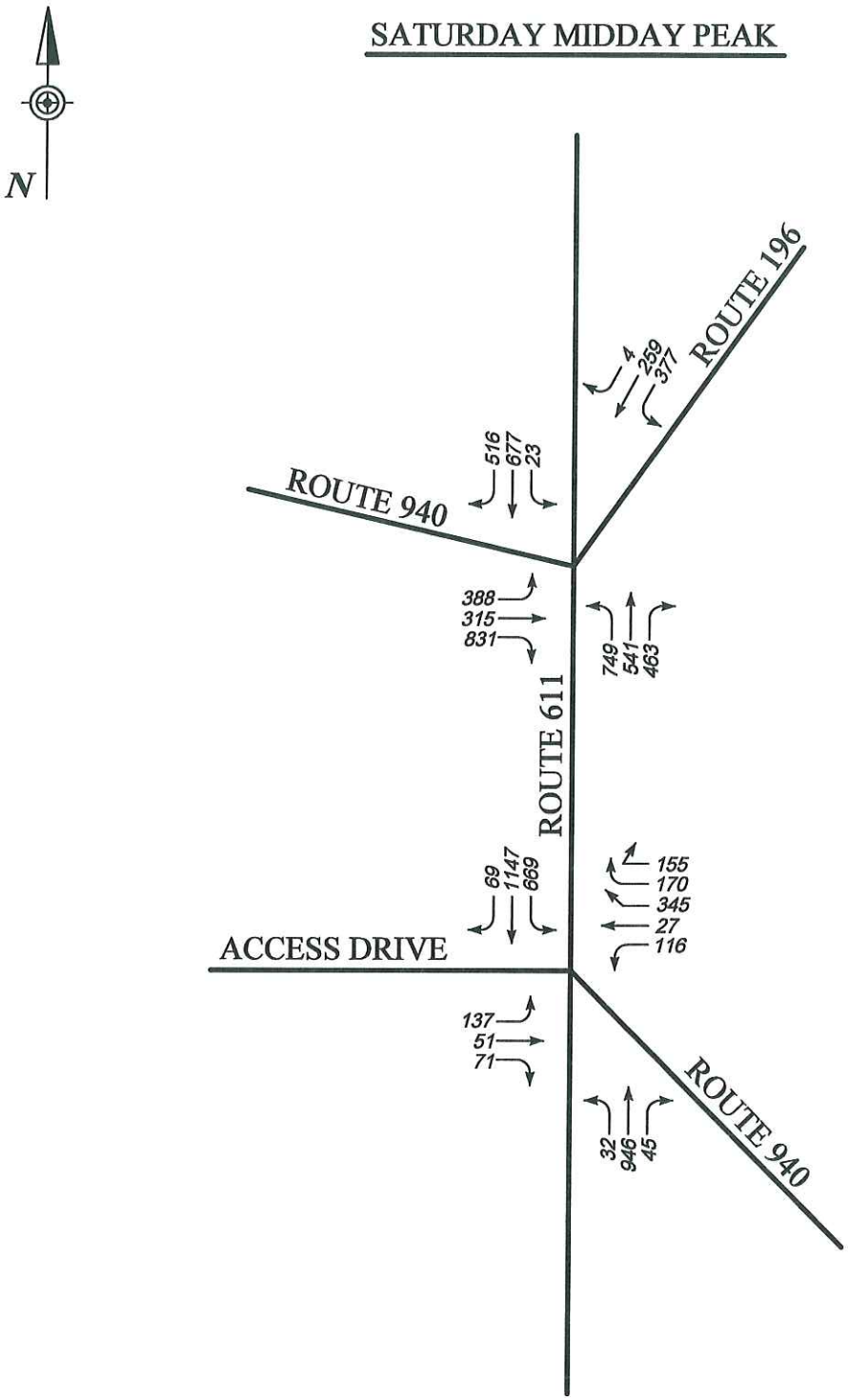

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FIGURE M-6

2007 BASE CONDITIONS
FIVE POINTS - SATURDAY MIDDAY PEAK HOUR
TRAFFIC VOLUMES

SCHEMATIC DRAWING: NOT TO SCALE

FRIDAY P.M. PEAK

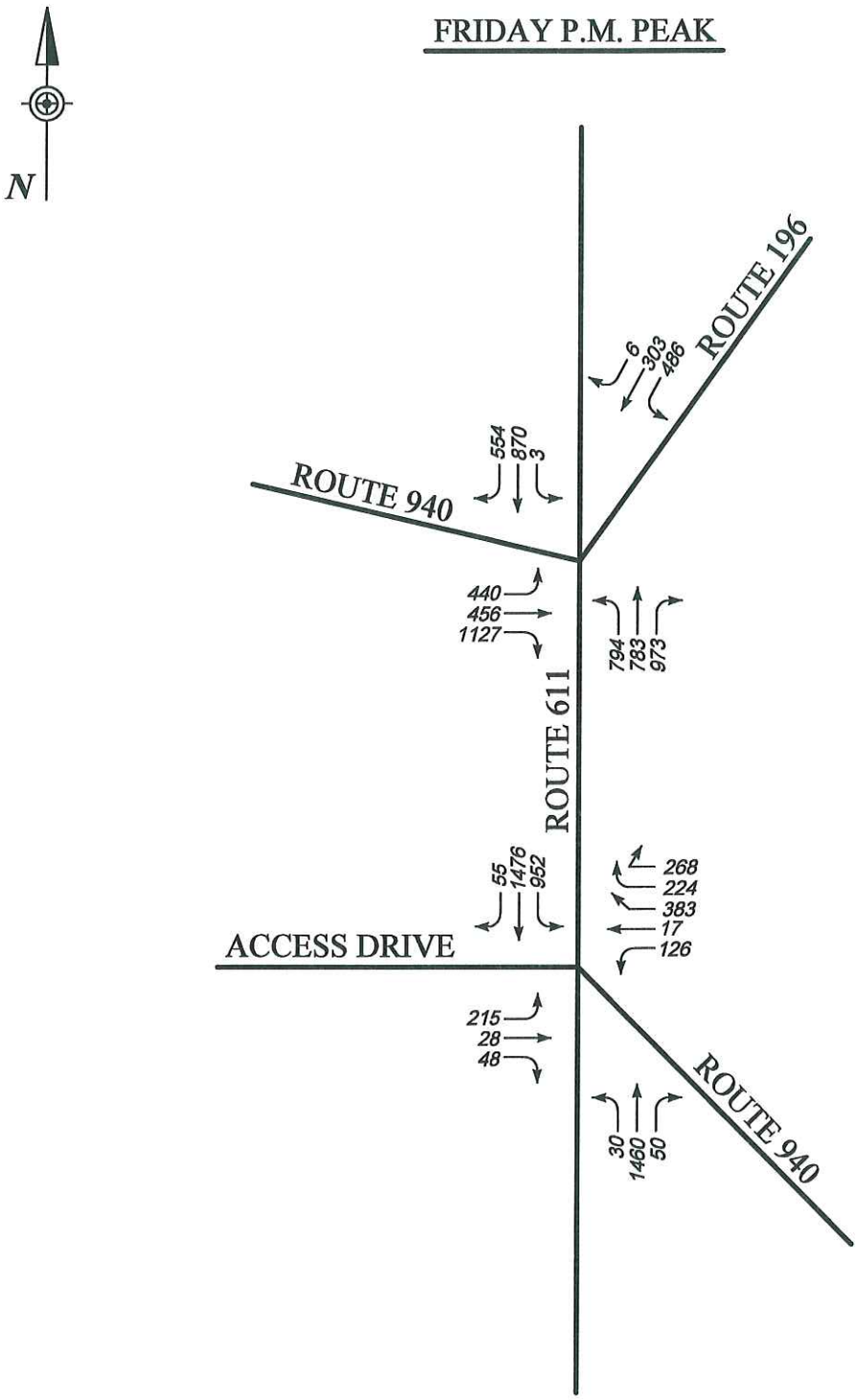

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FIGURE M-7

2017 BASE CONDITIONS
FIVE POINTS - FRIDAY P.M. PEAK HOUR
TRAFFIC VOLUMES

SATURDAY MIDDAY PEAK

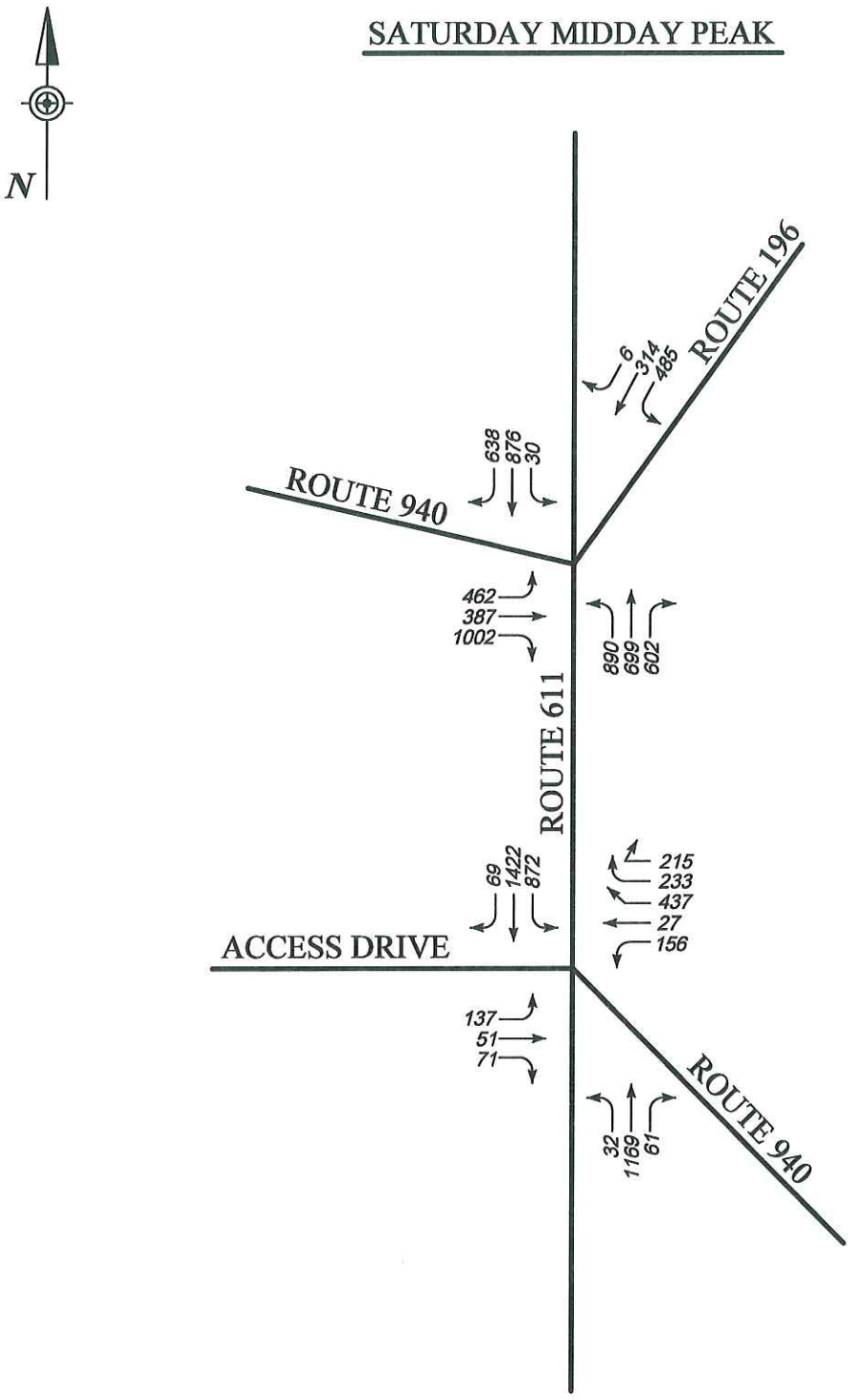

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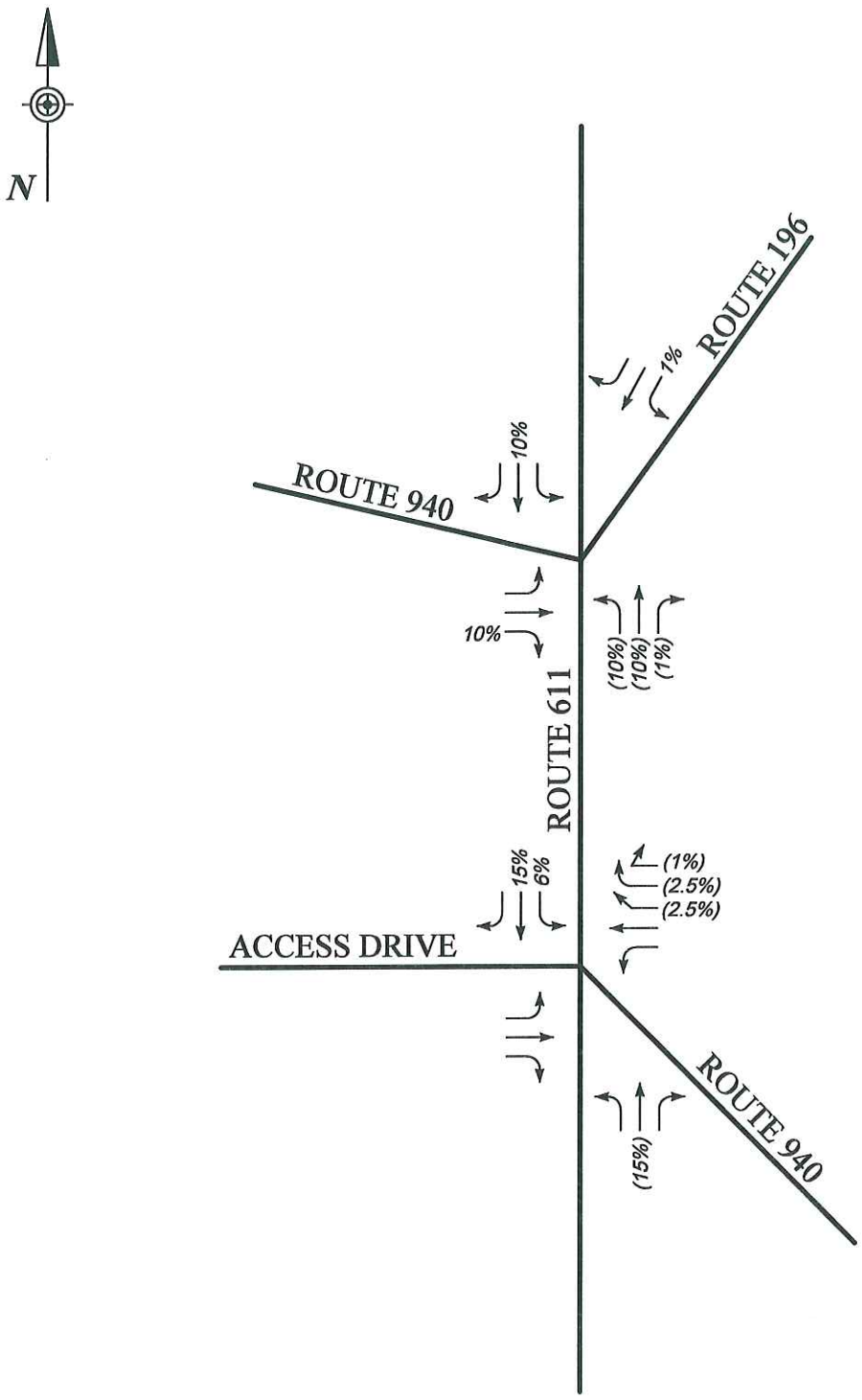
FIGURE M-8

2017 BASE CONDITIONS
FIVE POINTS - SATURDAY MIDDAY PEAK HOUR
TRAFFIC VOLUMES



LEGEND:
ENTERING PERCENTAGE (EXITING PERCENTAGE)
SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE M-9

TRIP DISTRIBUTION PERCENTAGES

FRIDAY P.M. PEAK

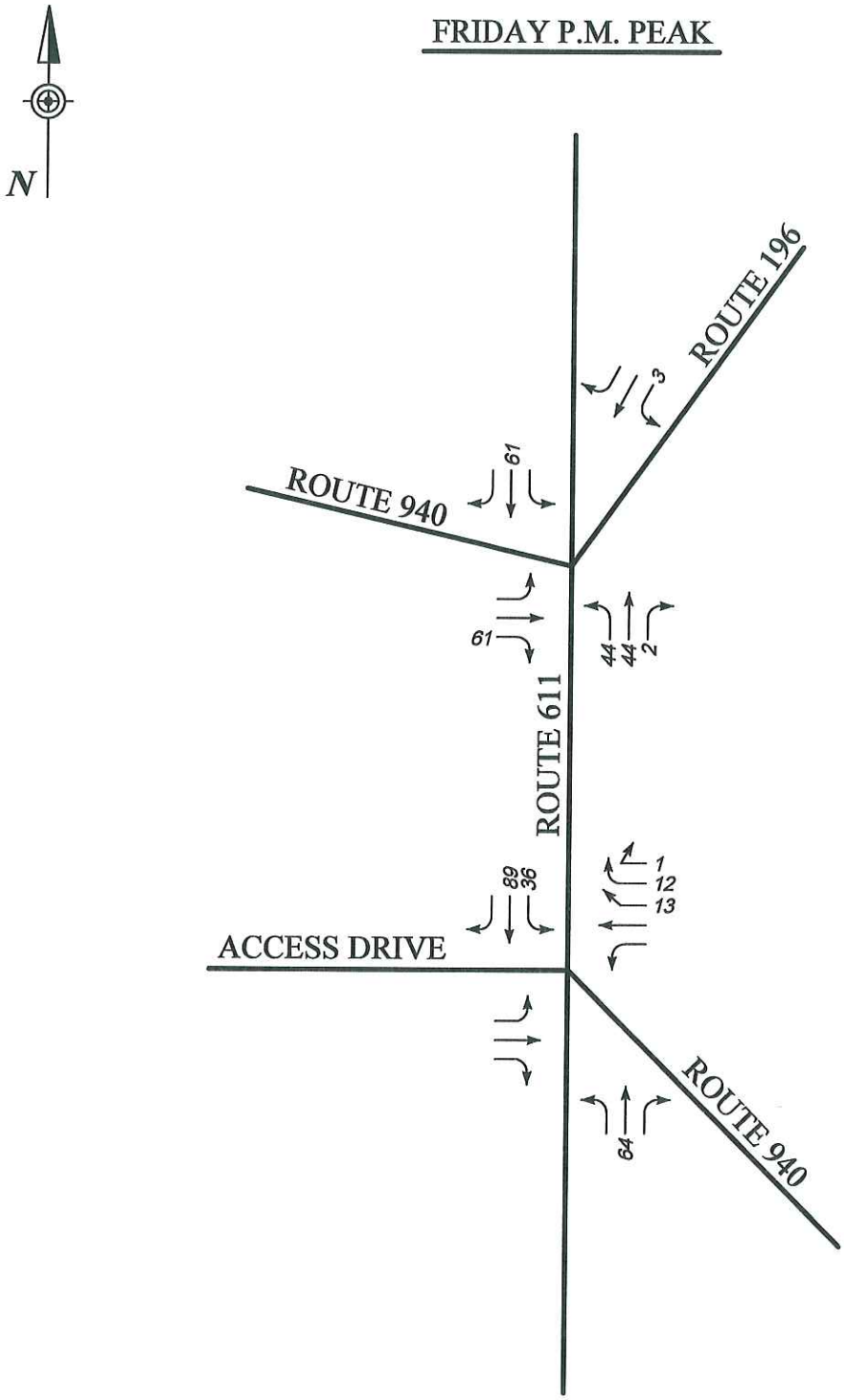

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FIGURE M-10

TRIP DISTRIBUTION
FRIDAY P.M. PEAK HOUR

SATURDAY MIDDAY PEAK

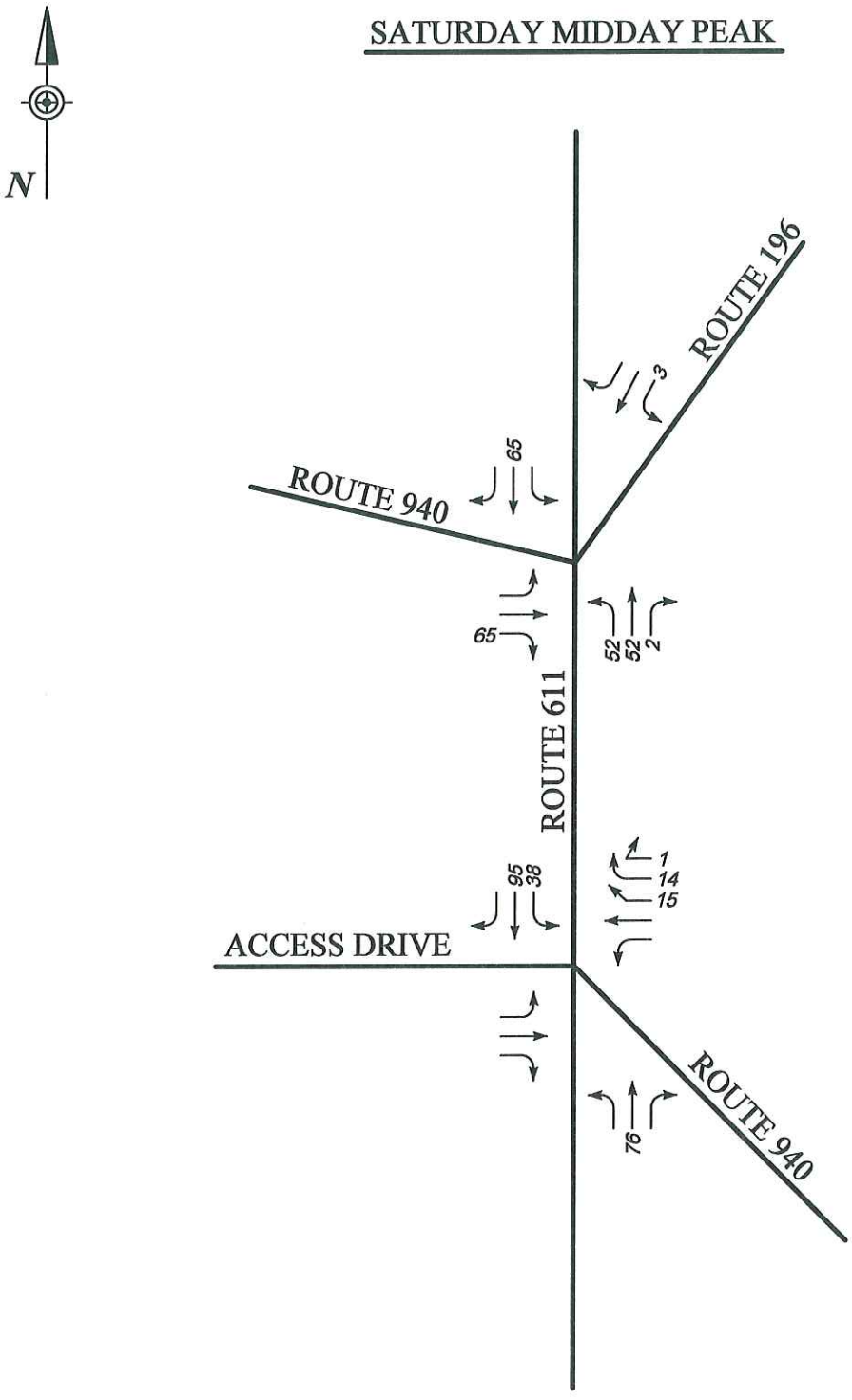

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FIGURE M-11

TRIP DISTRIBUTION
SATURDAY MIDDAY PEAK HOUR

FRIDAY P.M. PEAK

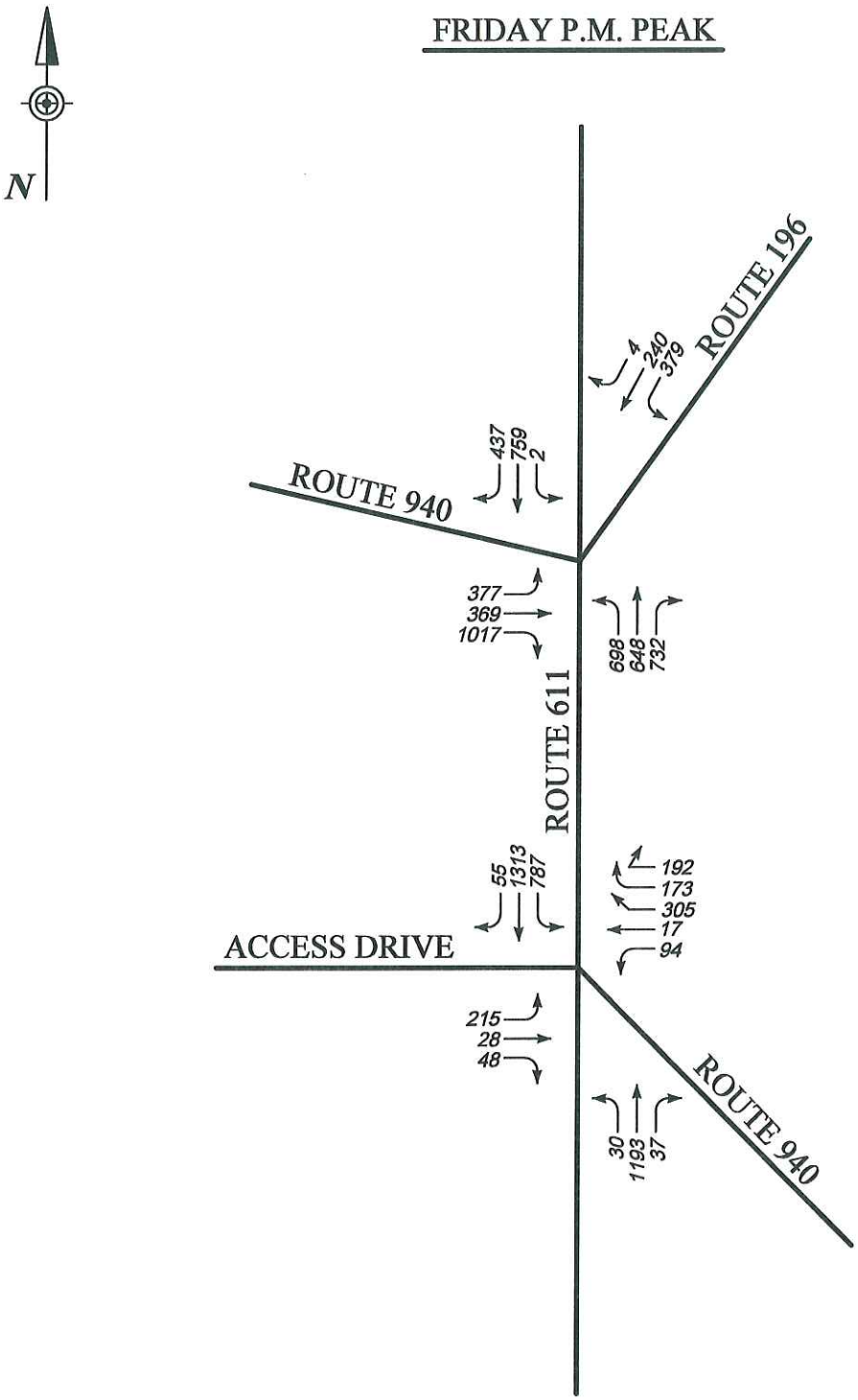

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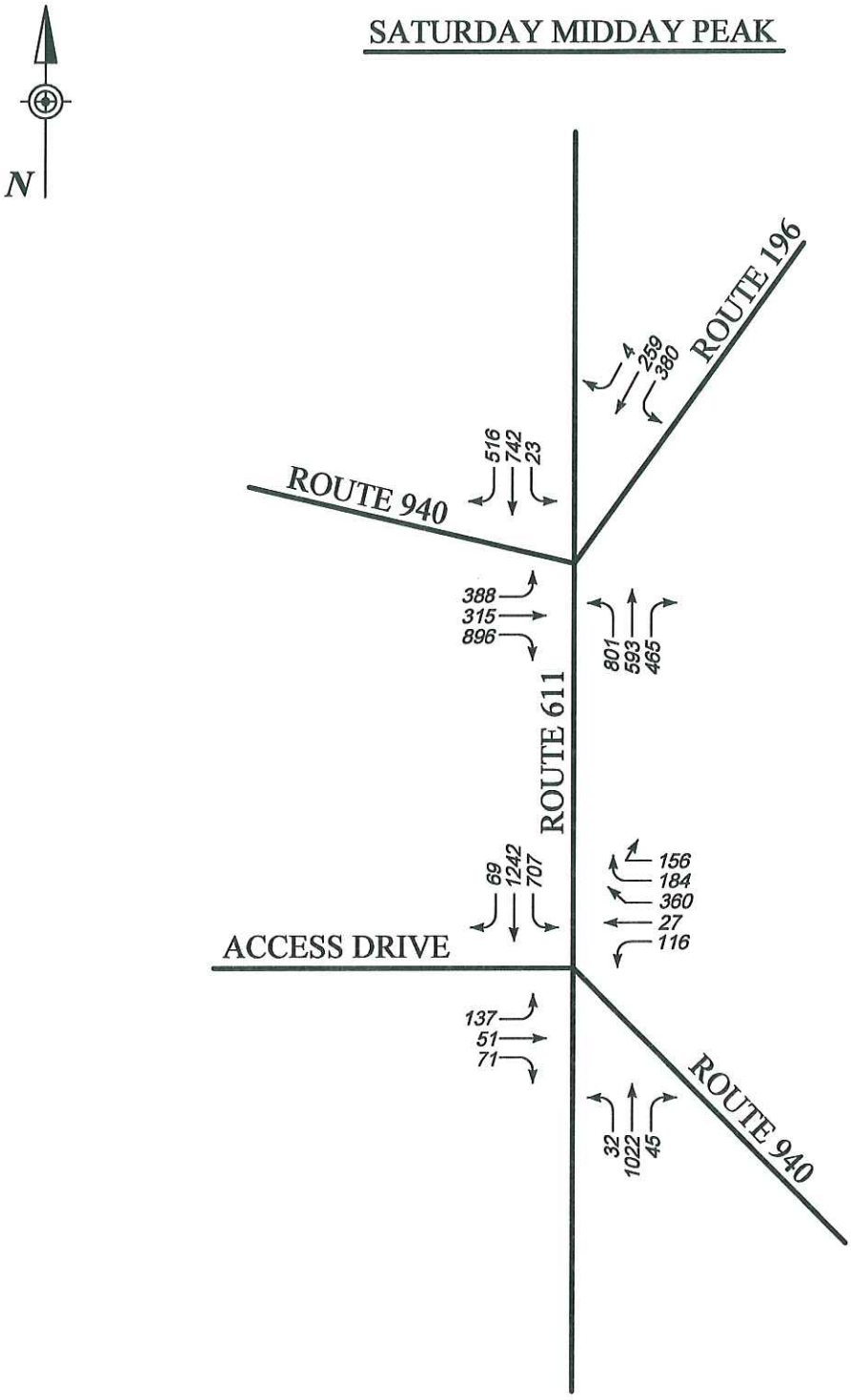
FIGURE M-12

2007 PROJECTED CONDITIONS
FIVE POINTS - FRIDAY P.M. PEAK HOUR
TRAFFIC VOLUMES

SCHEMATIC DRAWING: NOT TO SCALE

SATURDAY MIDDAY PEAK



SCHEMATIC DRAWING: NOT TO SCALE

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CENTER VALLEY, PA 18034
OFFICE (610)625-4242 FAX (610)625-4250

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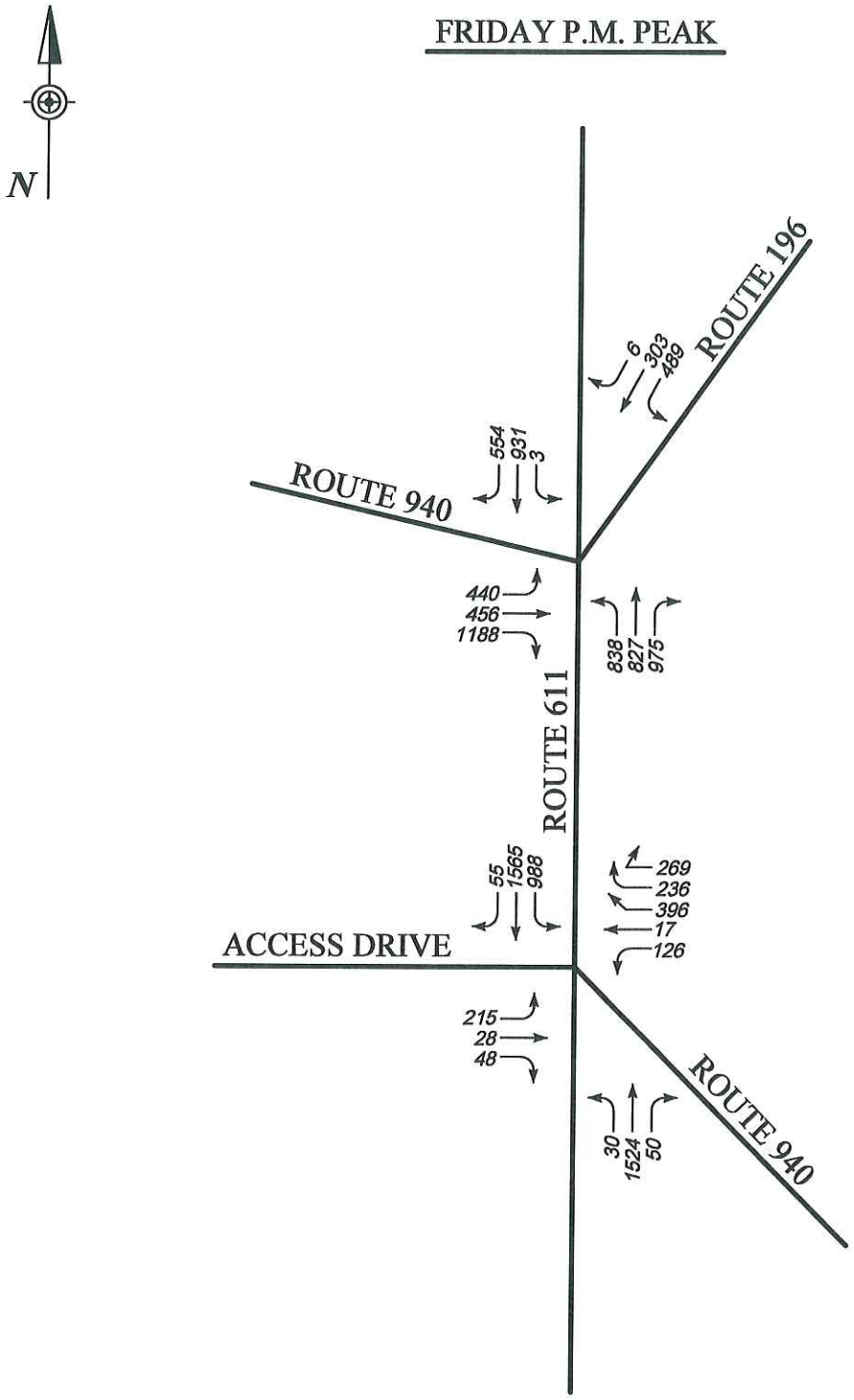
FIGURE M-13

2007 PROJECTED CONDITIONS
FIVE POINTS - SATURDAY MIDDAY PEAK HOUR
TRAFFIC VOLUMES

FRIDAY P.M. PEAK



SCHEMATIC DRAWING: NOT TO SCALE

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4647 SAUCON CREEK ROAD
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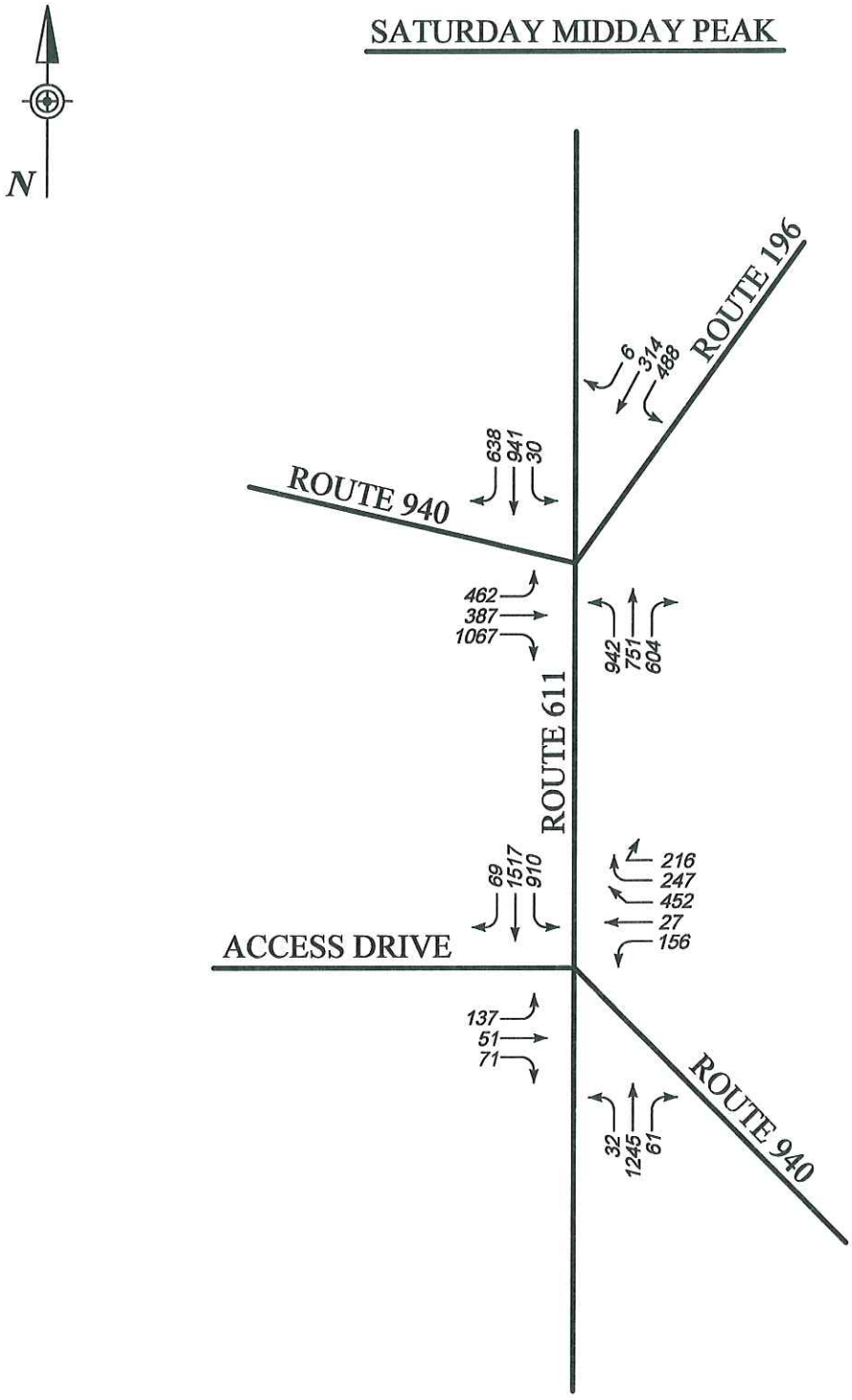
FIGURE M-14

2017 PROJECTED CONDITIONS
FIVE POINTS - FRIDAY P.M. PEAK HOUR
TRAFFIC VOLUMES

SATURDAY MIDDAY PEAK



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4647 SAUCON CREEK ROAD
CENTER VALLEY, PA 18034
OFFICE (610)625-4242 FAX (610)625-4250

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HARRISBURG, PA 17110
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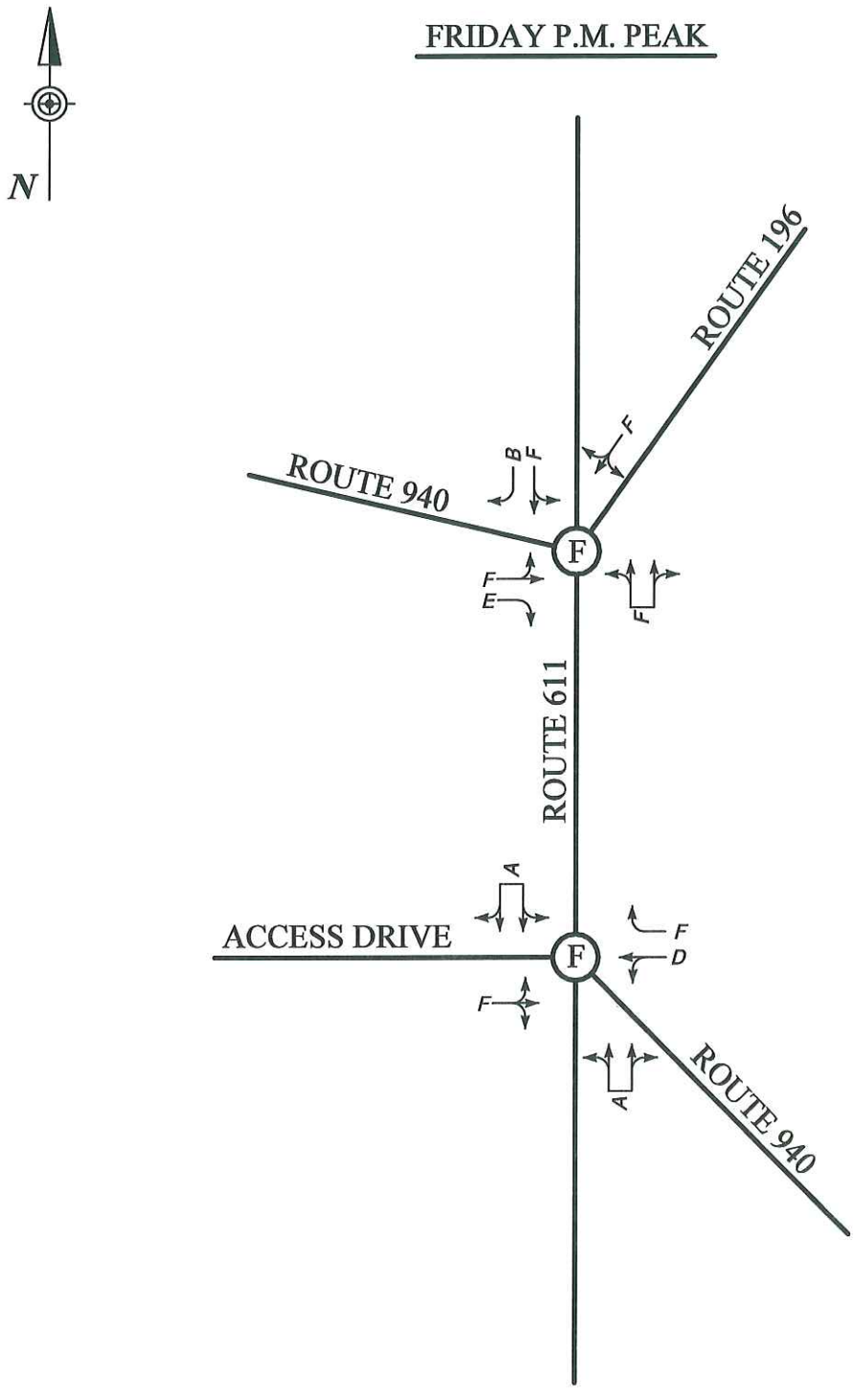
FIGURE M-15

2017 PROJECTED CONDITIONS
FIVE POINTS - SATURDAY MIDDAY PEAK HOUR
TRAFFIC VOLUMES

FRIDAY P.M. PEAK



---- = PROPOSED DRIVEWAY

● = EXISTING TRAFFIC SIGNAL

SCHEMATIC DRAWING: NOT TO SCALE

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CENTER VALLEY, PA 18034
OFFICE (610)625-4242 FAX (610)625-4250

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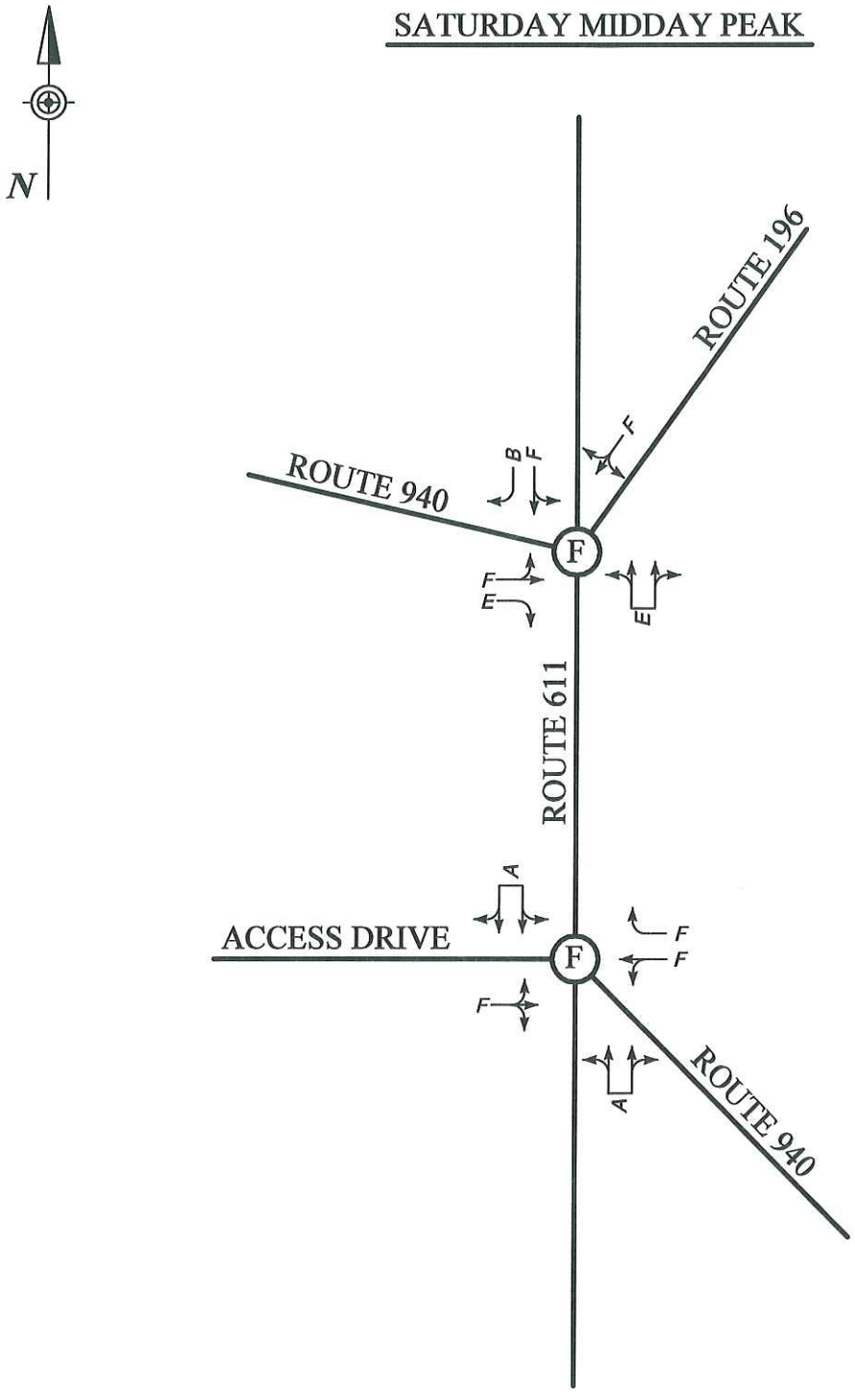
FIGURE M-16

2005 EXISTING CONDITIONS
FIVE POINTS - FRIDAY P.M. PEAK HOUR
LEVELS OF SERVICE

SATURDAY MIDDAY PEAK



---- = PROPOSED DRIVEWAY

● = EXISTING TRAFFIC SIGNAL

SCHEMATIC DRAWING: NOT TO SCALE

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CENTER VALLEY, PA 18034
OFFICE (610)625-4242 FAX (610)625-4250

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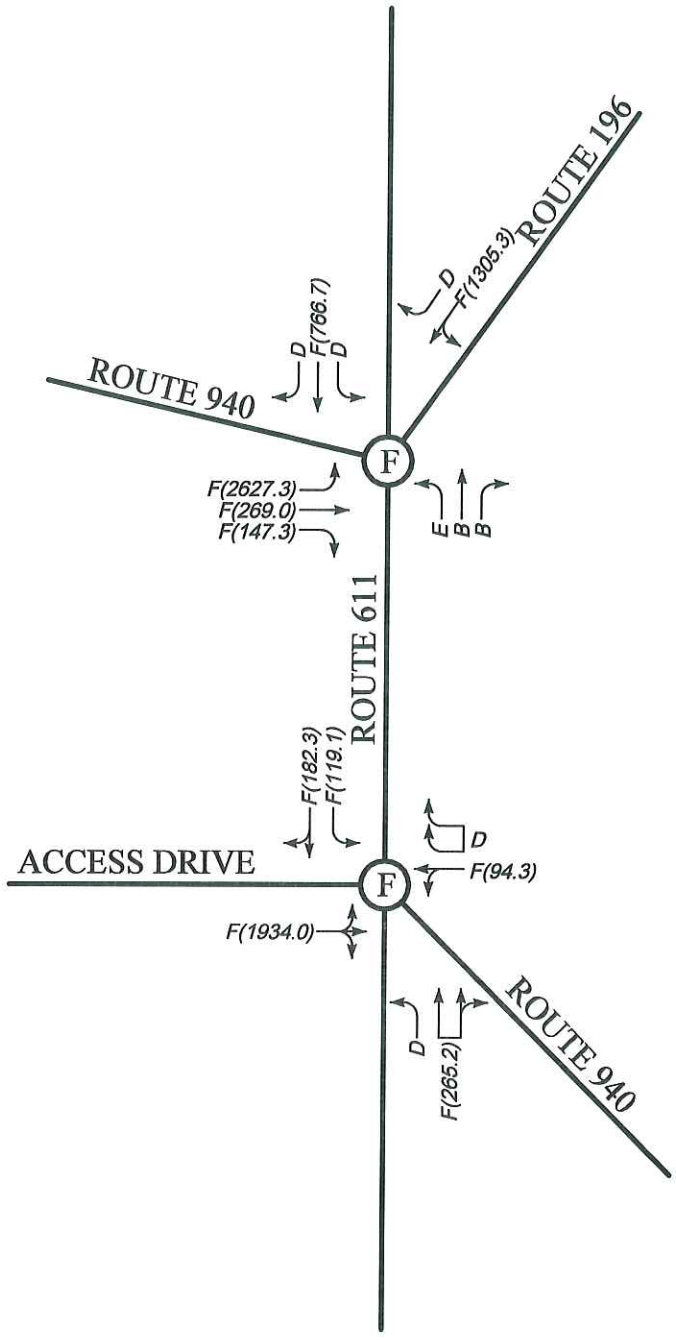
FIGURE M-17

2005 EXISTING CONDITIONS
FIVE POINTS - SATURDAY MIDDAY PEAK HOUR
LEVELS OF SERVICE

FRIDAY P.M. PEAK



---- = PROPOSED DRIVEWAY

● = EXISTING TRAFFIC SIGNAL

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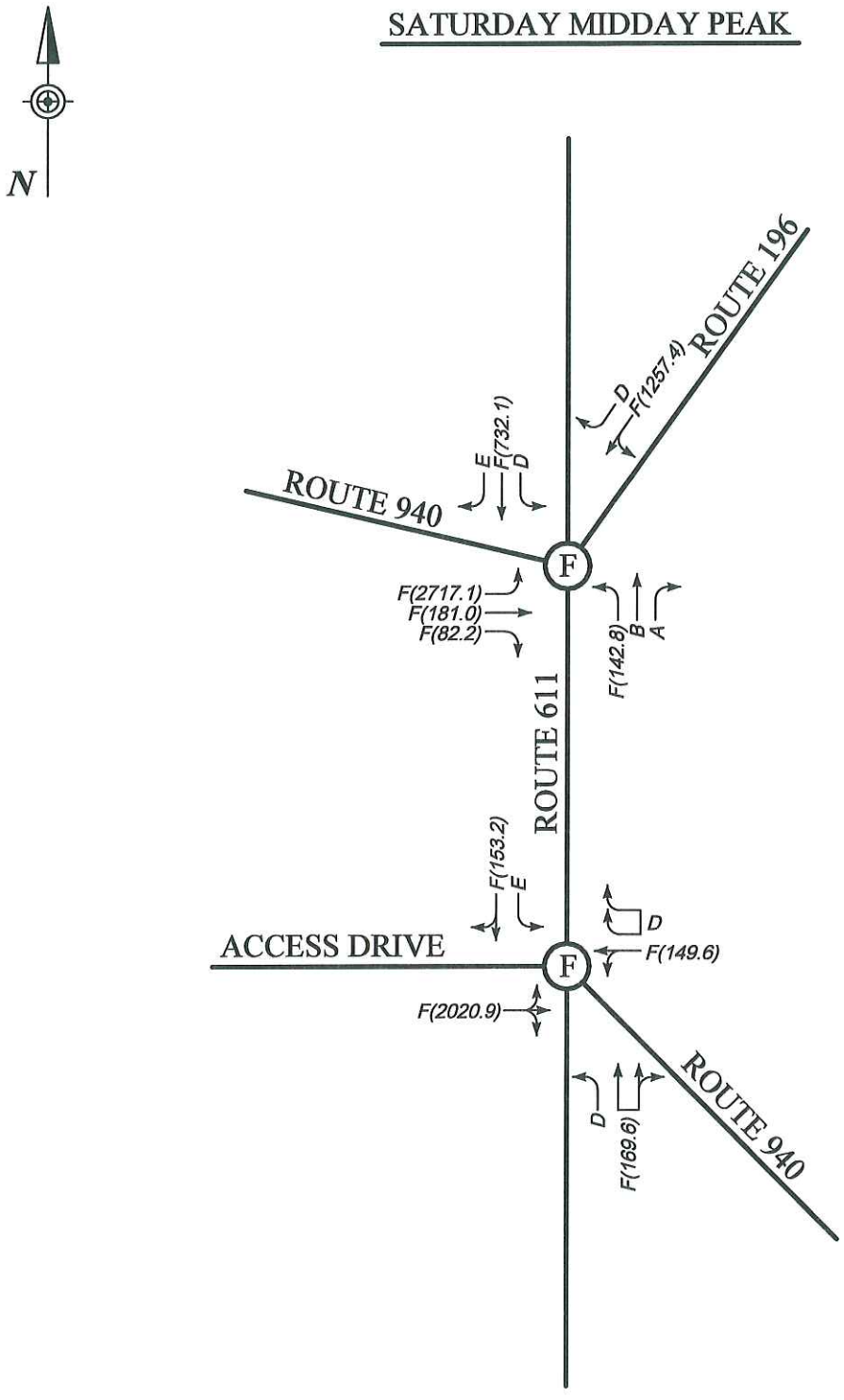
POTTSTOWN, PENNSYLVANIA 19464
OFFICE (610)326-3100 FAX (610)326-9410
4647 SAUCON CREEK ROAD
CENTER VALLEY, PA 18034
OFFICE (610)625-4242 FAX (610)625-4250
1820 LINGLESTOWN ROAD
HARRISBURG, PA 17110
OFFICE (717)234-1430 FAX (717)234-4490
E-MAIL TPD@TRAFFICPD.COM

FIGURE M-18

2007 BASE CONDITIONS
FIVE POINTS - FRIDAY P.M. PEAK HOUR
LEVELS OF SERVICE

SATURDAY MIDDAY PEAK



---- = PROPOSED DRIVEWAY

● = EXISTING TRAFFIC SIGNAL

SCHEMATIC DRAWING: NOT TO SCALE

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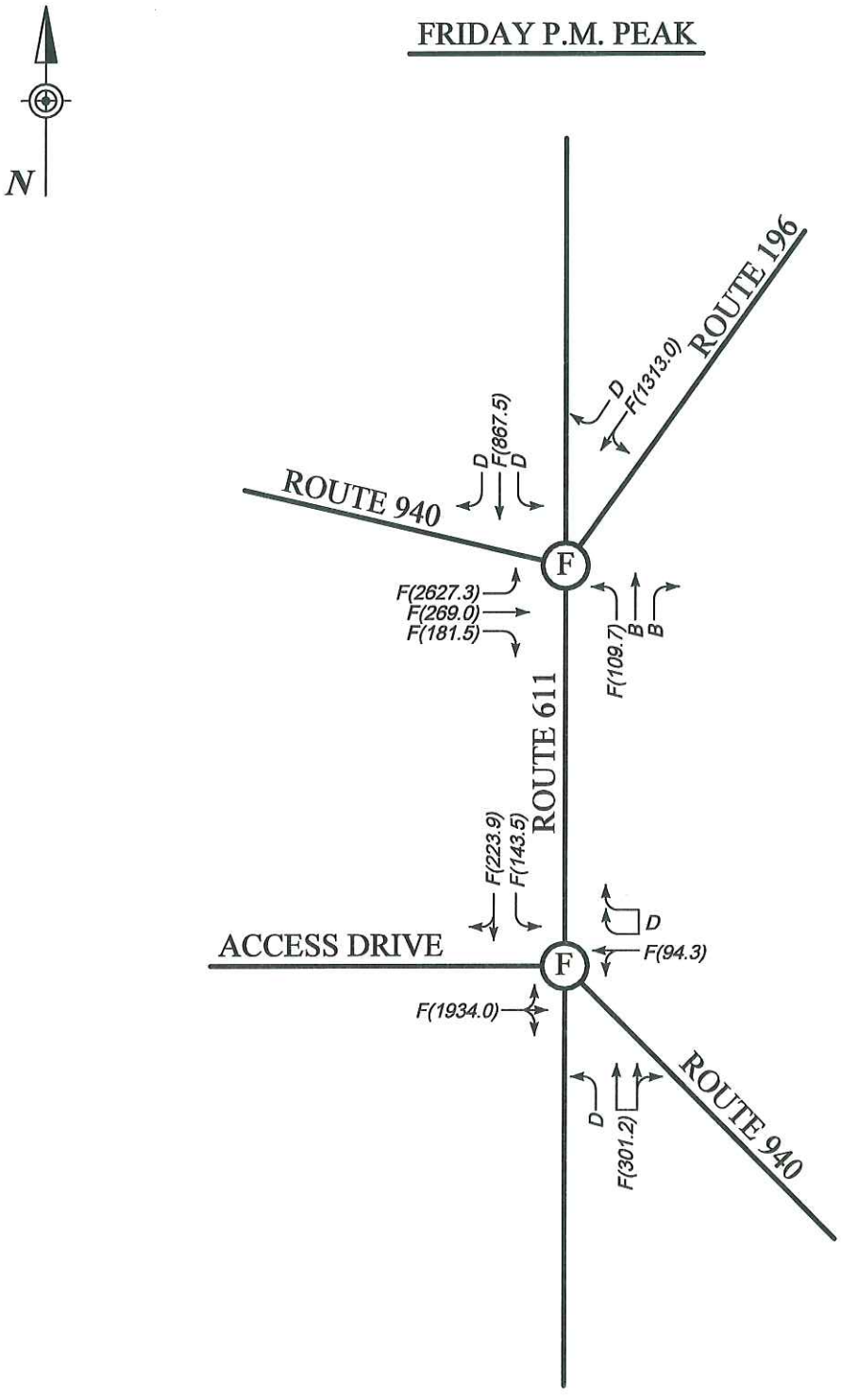
FIGURE M-19

2007 BASE CONDITIONS
FIVE POINTS - SATURDAY MIDDAY PEAK HOUR
LEVELS OF SERVICE

FRIDAY P.M. PEAK



---- = PROPOSED DRIVEWAY

● = EXISTING TRAFFIC SIGNAL

SCHEMATIC DRAWING: NOT TO SCALE

TRAFFIC PLANNING & DESIGN, INC.

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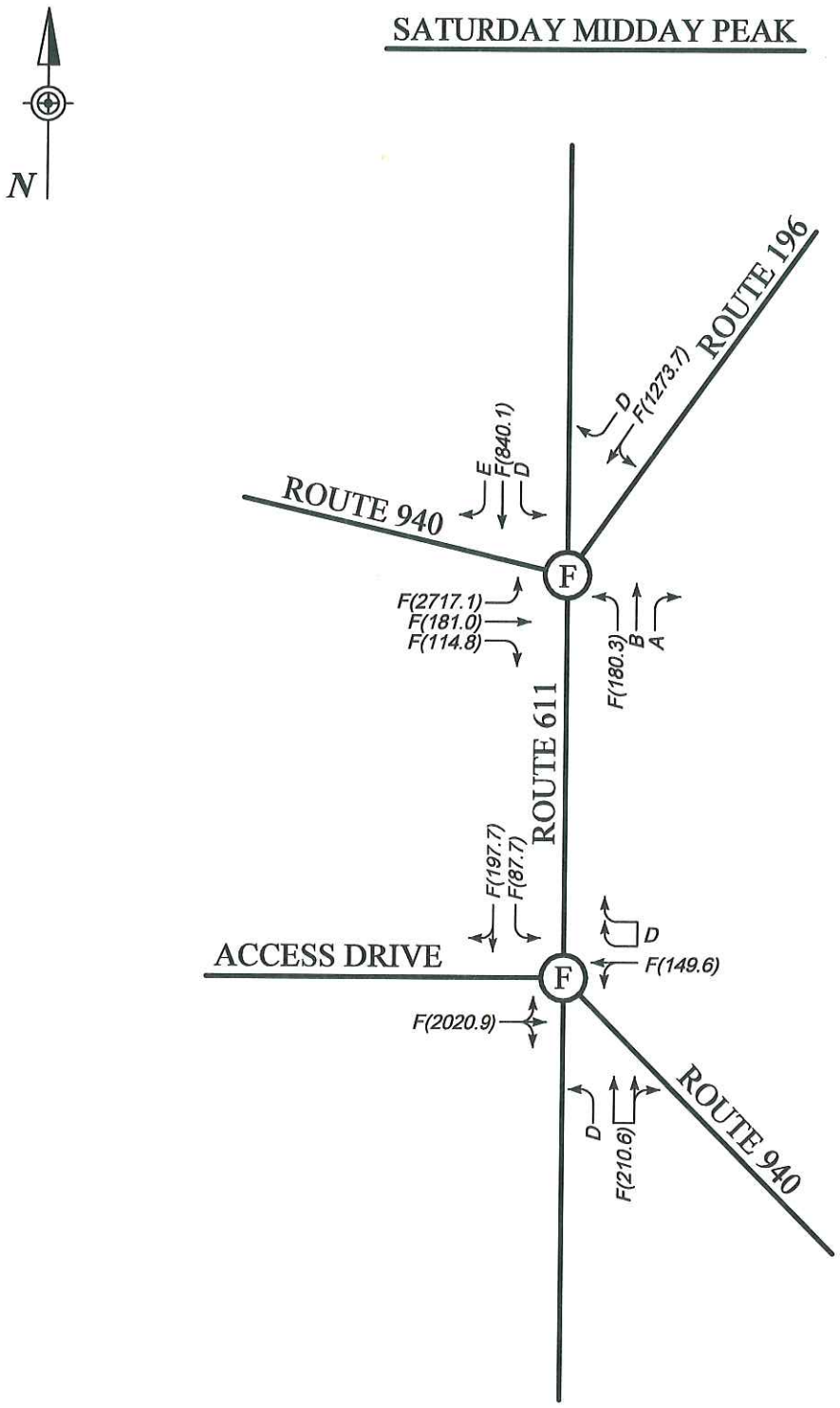
FIGURE M-20

2007 PROJECTED CONDITIONS
FIVE POINTS - FRIDAY P.M. PEAK HOUR
LEVELS OF SERVICE

SATURDAY MIDDAY PEAK



---- = PROPOSED DRIVEWAY

● = EXISTING TRAFFIC SIGNAL

SCHEMATIC DRAWING: NOT TO SCALE

TRAFFIC PLANNING & DESIGN, INC.

SANATOGA COMMONS, 2500 EAST HIGH STREET, SUITE 650
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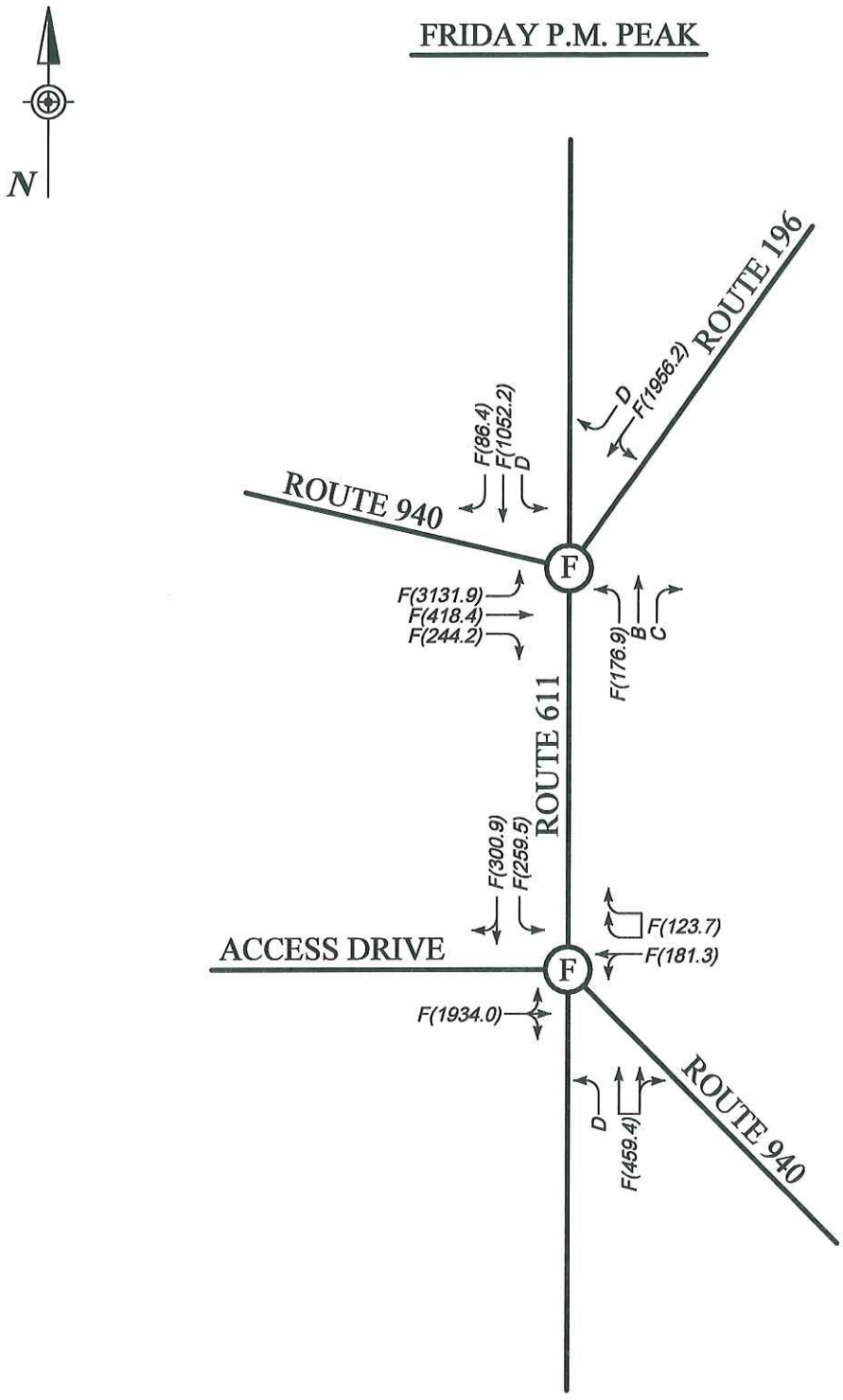
FIGURE M-21

2007 PROJECTED CONDITIONS
FIVE POINTS - SATURDAY MIDDAY PEAK HOUR
LEVELS OF SERVICE

FRIDAY P.M. PEAK



---- = PROPOSED DRIVEWAY

● = EXISTING TRAFFIC SIGNAL

SCHEMATIC DRAWING: NOT TO SCALE

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SANATOGA COMMONS, 2500 EAST HIGH STREET, SUITE 650
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CENTER VALLEY, PA 18034
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HARRISBURG, PA 17110
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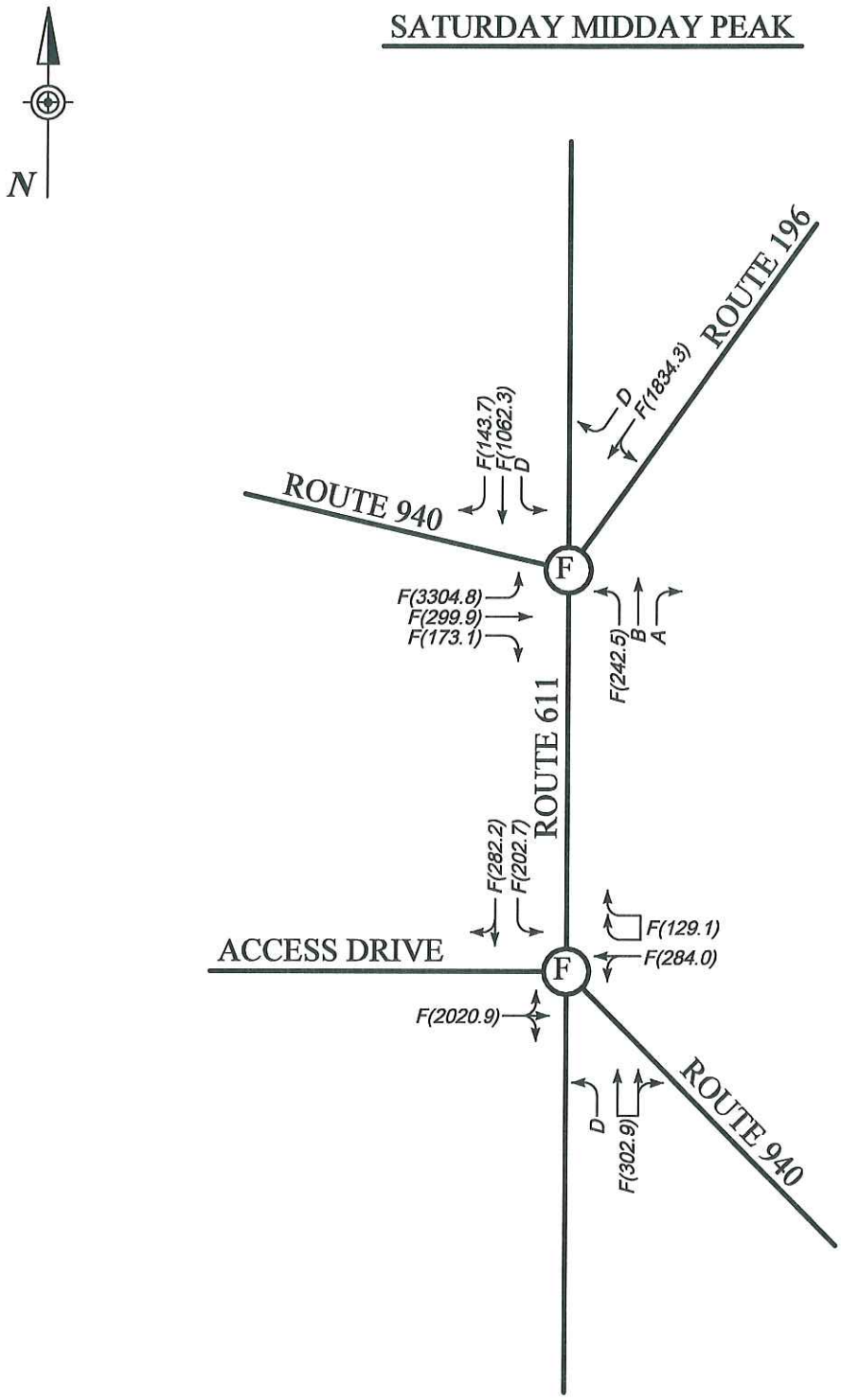
FIGURE M-22

2017 BASE CONDITIONS
FIVE POINTS - FRIDAY P.M. PEAK HOUR
LEVELS OF SERVICE

SATURDAY MIDDAY PEAK



---- = PROPOSED DRIVEWAY

● = EXISTING TRAFFIC SIGNAL

SCHEMATIC DRAWING: NOT TO SCALE

TRAFFIC PLANNING & DESIGN, INC.

SANATOGA COMMONS, 2500 EAST HIGH STREET, SUITE 650
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OFFICE (610)326-3100 FAX (610)326-9410

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HARRISBURG, PA 17110
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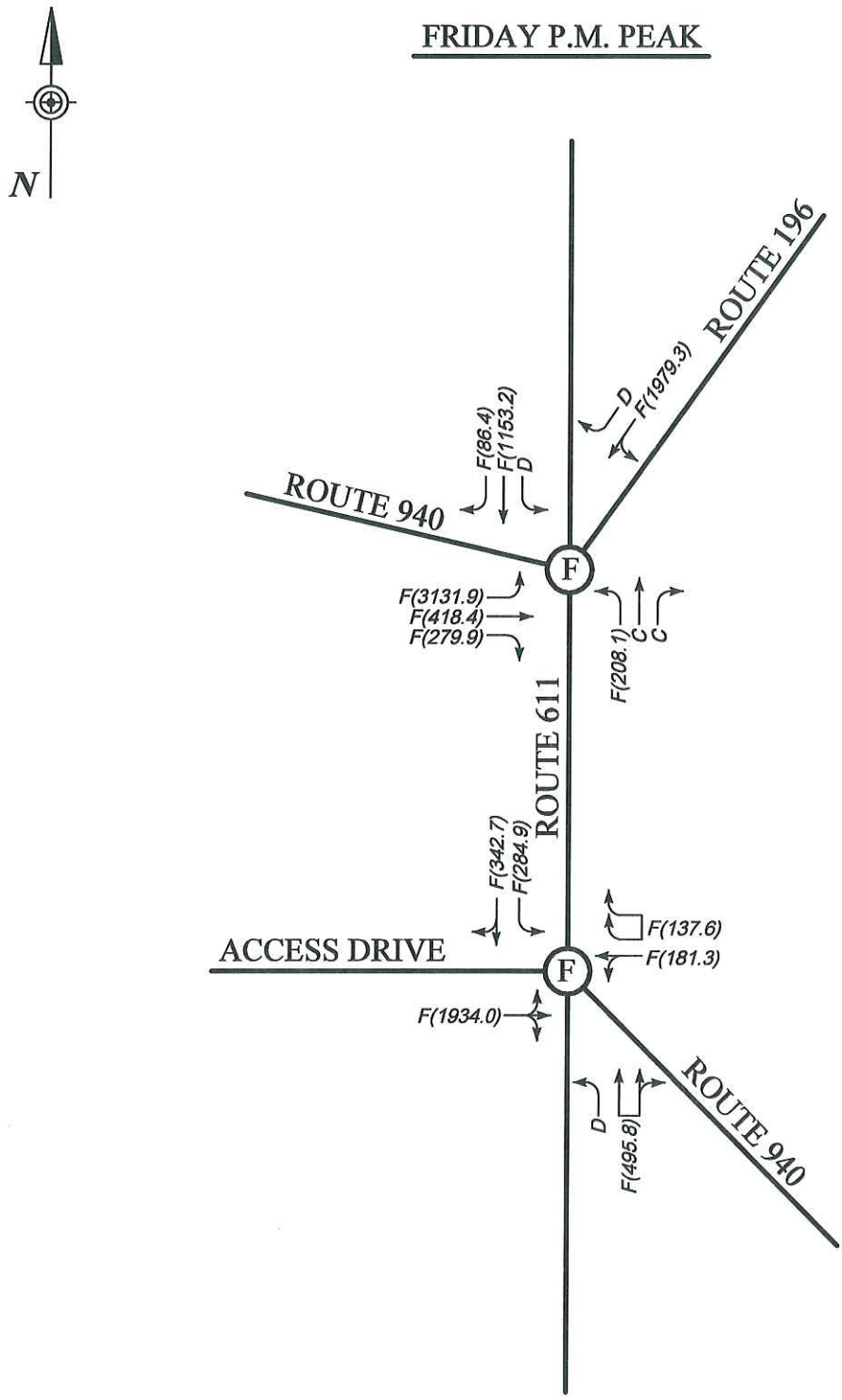
FIGURE M-23

2017 BASE CONDITIONS
FIVE POINTS - SATURDAY MIDDAY PEAK HOUR
LEVELS OF SERVICE

FRIDAY P.M. PEAK



---- = PROPOSED DRIVEWAY

● = EXISTING TRAFFIC SIGNAL

SCHEMATIC DRAWING: NOT TO SCALE

TRAFFIC PLANNING & DESIGN, INC.

SANATOGA COMMONS, 2500 EAST HIGH STREET, SUITE 650
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CENTER VALLEY, PA 18034
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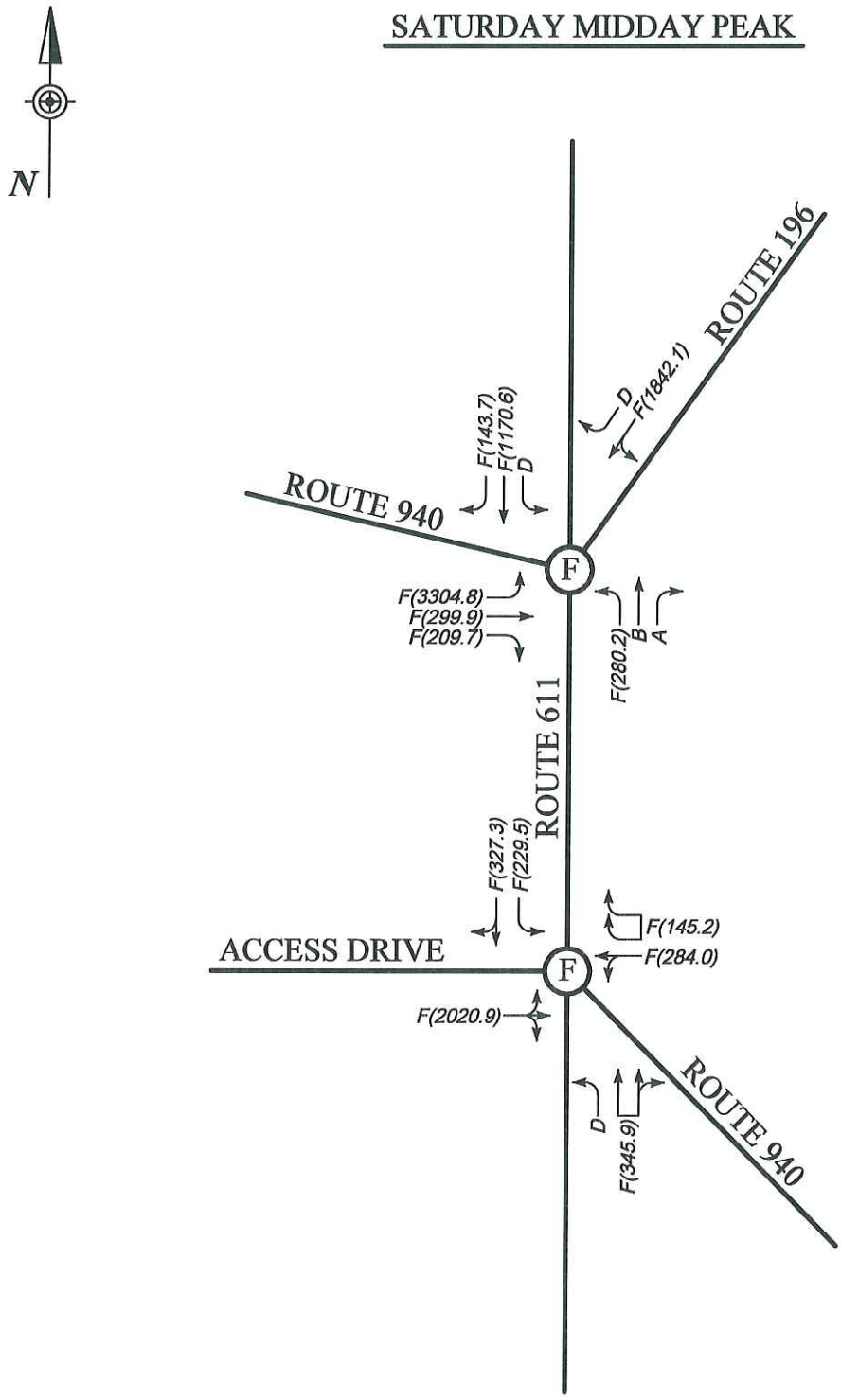
HARRISBURG, PA 17110
OFFICE (717)234-1430 FAX (717)234-4490

E-MAIL TPD@TRAFFICPD.COM

FIGURE M-24

2017 PROJECTED CONDITIONS
FIVE POINTS - FRIDAY P.M. PEAK HOUR
LEVELS OF SERVICE

SATURDAY MIDDAY PEAK



---- = PROPOSED DRIVEWAY

● = EXISTING TRAFFIC SIGNAL

SCHEMATIC DRAWING: NOT TO SCALE

TRAFFIC PLANNING & DESIGN, INC.

SANATOGA COMMONS, 2500 EAST HIGH STREET, SUITE 650
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HARRISBURG, PA 17110
OFFICE (717)234-1430 FAX (717)234-4490

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FIGURE M-25

2017 PROJECTED CONDITIONS
FIVE POINTS - SATURDAY MIDDAY PEAK HOUR
LEVELS OF SERVICE

APPENDIX A
STUDY AREA PHOTOGRAPHS

Direction / Road: Northbound
Approach / Departure: Route 611 at its intersection with Route 940 Westbound/Access Drive
Distance:

Direction / Road: Southbound
Approach / Departure: Route 611 at its intersection with Route 940 Westbound/Access Drive
Distance:

Direction / Road: **Westbound**
Approach / Departure: **Route 940 at its intersection with Route 611/Access Drive**
Distance:

Direction / Road: **Westbound**
Approach / Departure: **Route 940 left/through approach at its intersection with Route 611/Access Drive**
Distance:

Direction / Road: **Eastbound**
Approach / Departure Distance: **Access Drive at its intersection with Route 611/Route 940 Westbound**

Direction / Road: Northbound
Approach / Departure: Route 611 at its intersection with Route 940 Eastbound/Route 196
Distance:

Direction / Road: Southbound
Approach / Departure: Route 611 at its intersection with Route 940 Eastbound/Route 196
Distance:

Direction / Road: Eastbound
Approach / Departure: Route 940 at its intersection with Route 611/Route 196
Distance:

Direction / Road: Westbound/Southbound
Approach / Departure: Route 196 at its intersection with Route 611/Route 940 Eastbound
Distance:

APPENDIX B

MANUAL TRAFFIC COUNT PRINTOUTS

Traffic Planning & Design, Inc.

4647 Saucon Creek Road
Center Valley,
Route 611 & Route 940/Route 196

File Name : pm611_940_196
Site Code : 46464646
Start Date : 1/27/2006
Page No : 1

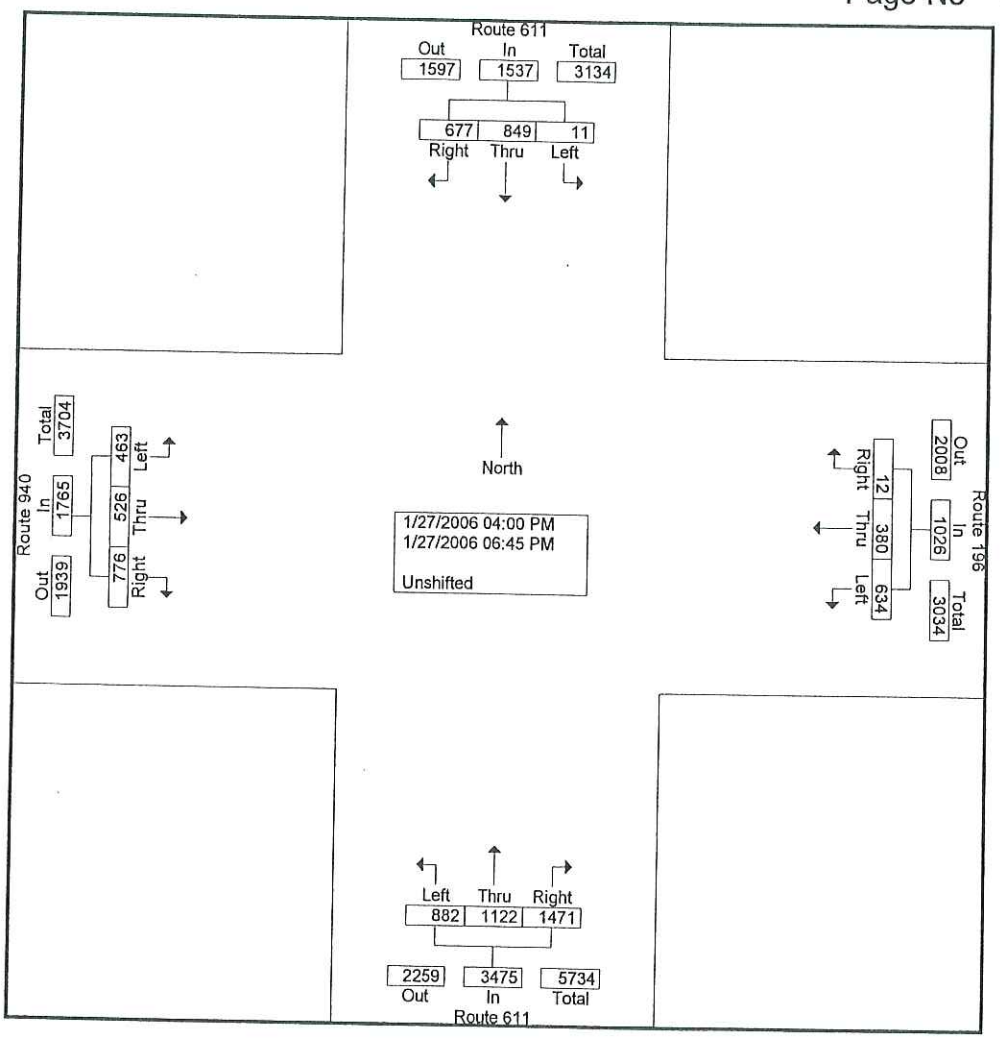
Groups Printed- Unshifted

	Route 611 Southbound					Route 196 Westbound					Route 611 Northbound					Route 940 Eastbound							
Start Time	Left	Thru	Right	Trucks	App. Total	Left	Thru	Right	Trucks	App. Total	Left	Thru	Right	Trucks	App. Total	Left	Thru	Right	Trucks	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	95	61	5	156	54	27	1	5	82	66	111	87	5	264	43	25	58	6	126	21	628	649
04:15 PM	1	72	53	6	126	33	33	4	11	70	52	106	124	7	282	57	33	48	1	138	25	616	641
04:30 PM	0	97	83	5	180	55	30	0	2	85	73	108	119	9	300	35	34	53	3	122	19	687	706
04:45 PM	0	104	74	1	178	57	43	0	0	100	86	116	140	6	342	36	54	88	4	178	11	798	809
Total	1	368	271	17	640	199	133	5	18	337	277	441	470	27	1188	171	146	247	14	564	76	2729	2805
05:00 PM	1	81	65	1	147	58	37	1	3	96	82	90	163	4	335	39	56	97	1	192	9	770	779
05:15 PM	1	68	55	0	124	54	37	2	3	93	84	103	123	5	310	30	51	91	5	172	13	699	712
05:30 PM	0	52	42	6	94	54	30	3	3	87	86	105	102	4	293	32	41	66	3	139	16	613	629
05:45 PM	1	44	44	1	89	52	27	1	1	80	64	121	139	0	324	41	45	55	3	141	5	634	639
Total	3	245	206	8	454	218	131	7	10	356	316	419	527	13	1262	142	193	309	12	644	43	2716	2759
06:00 PM	2	69	42	0	113	55	30	0	6	85	56	72	149	7	277	39	45	61	1	145	14	620	634
06:15 PM	2	66	52	1	120	52	35	0	2	87	83	75	127	7	285	38	48	60	1	146	11	638	649
06:30 PM	1	49	41	1	91	47	32	0	0	79	75	60	111	2	246	30	52	38	1	120	4	536	540
06:45 PM	2	52	65	0	119	63	19	0	1	82	75	55	87	1	217	43	42	61	3	146	5	564	569
Total	7	236	200	2	443	217	116	0	9	333	289	262	474	17	1025	150	187	220	6	557	34	2358	2392
Grand Total	11	849	677	27	1537	634	380	12	37	1026	882	1122	1471	57	3475	463	526	776	32	1765	153	7803	7956
Apprch %	0.7	55.2	44			61.8	37	1.2			25.4	32.3	42.3			26.2	29.8	44					
Total %	0.1	10.9	8.7		19.7	8.1	4.9	0.2		13.1	11.3	14.4	18.9		44.5	5.9	6.7	9.9		22.6	1.9	98.1	

Traffic Planning & Design, Inc.

4647 Saucon Creek Road
Center Valley,
Route 611 & Route 940/Route 196

File Name : pm611_940_196
Site Code : 46464646
Start Date : 1/27/2006
Page No : 2

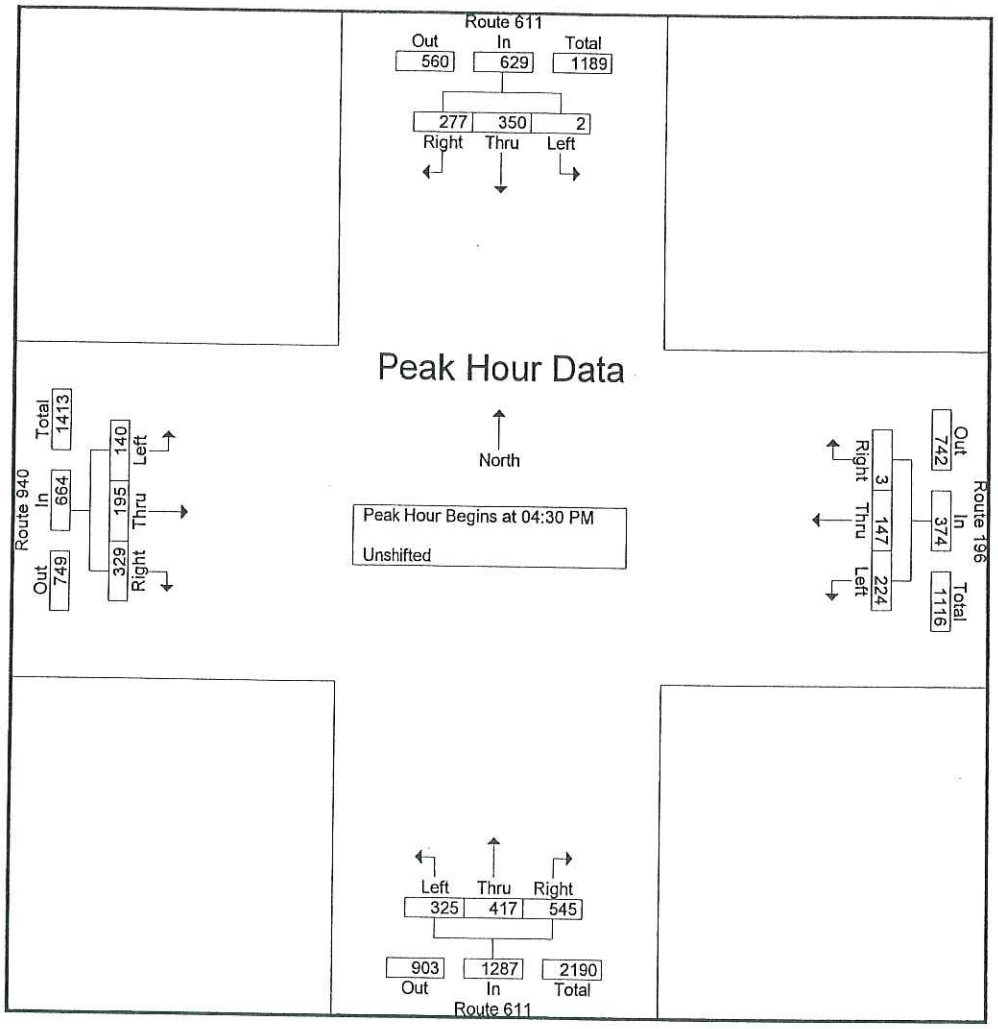


Traffic Planning & Design, Inc.

4647 Saucon Creek Road
Center Valley,
Route 611 & Route 940/Route 196

File Name : pm611_940_196
Site Code : 46464646
Start Date : 1/27/2006
Page No : 3

	Route 611 Southbound				Route 196 Westbound				Route 611 Northbound				Route 940 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	97	**83**	**180**	55	30	0	85	73	108	119	300	35	34	53	122	687
04:45 PM	0	**104**	74	178	57	**43**	0	**100**	**86**	**116**	140	**342**	36	54	88	178	798
05:00 PM	**1**	81	65	147	**58**	37	1	96	82	90	**163**	335	**39**	**56**	**97**	**192**	770
05:15 PM	1	68	55	124	54	37	**2**	93	84	103	123	310	30	51	91	172	699
Total Volume	2	350	277	629	224	147	3	374	325	417	545	1287	140	195	329	664	2954
% App. Total	0.3	55.6	44		59.9	39.3	0.8		25.3	32.4	42.3		21.1	29.4	49.5		
PHF	.500	.841	.834	.874	.966	.855	.375	.935	.945	.899	.836	.941	.897	.871	.848	.865	.925



Traffic Planning and Design, Inc.
4647 Saucon Creek Road, Suite 201
Center Valley, PA 18034

Counter: 14
Counted by: K. Voigt
Weather: Clear
Saved as: PM611_940WB

Route 611 & Route 940 Westbound/Access Driveway

File Name : PM611_940WB
Site Code : 00127062
Start Date : 1/27/2006
Page No : 1

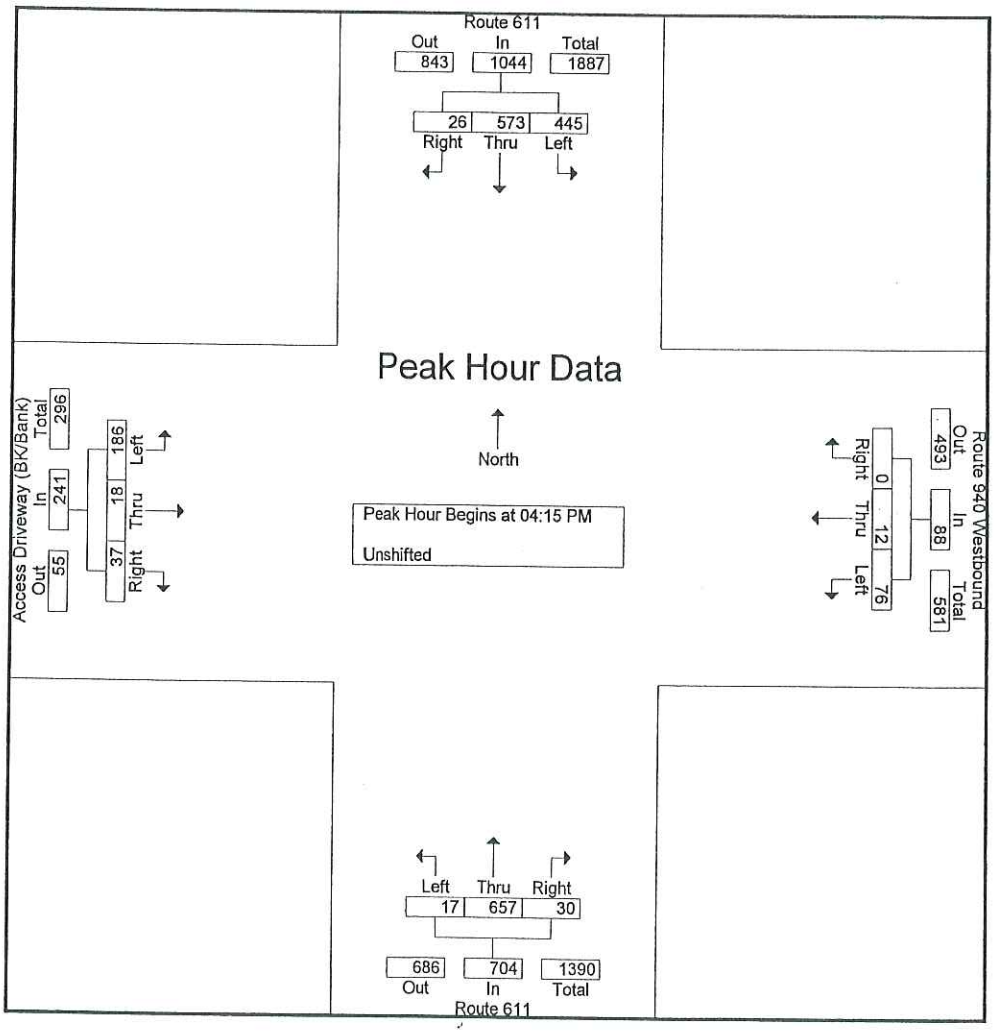
Groups Printed- Unshifted

	Route 611 Southbound					Route 940 Westbound Westbound					Route 611 Northbound					Access Driveway (BK/Bank) Eastbound							
Start Time	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	12	132	111	13	255	0	6	11	0	17	12	149	4	5	165	10	4	33	1	47	19	484	503
04:15 PM	4	142	110	8	256	0	3	12	0	15	8	167	4	3	179	10	4	39	1	53	12	503	515
04:30 PM	5	155	116	9	276	0	3	19	0	22	11	148	5	6	164	10	3	39	0	52	15	514	529
04:45 PM	9	138	114	2	261	0	3	23	0	26	8	160	4	2	172	7	4	57	1	68	5	527	532
Total	30	567	451	32	1048	0	15	65	0	80	39	624	17	16	680	37	15	168	3	220	51	2028	2079
05:00 PM	8	138	105	6	251	0	3	22	0	25	3	182	4	7	189	10	7	51	1	68	14	533	547
05:15 PM	7	102	121	4	230	0	2	21	0	23	7	169	6	3	182	7	9	30	0	46	7	481	488
05:30 PM	7	102	100	8	209	0	3	23	0	26	13	161	2	4	176	7	5	38	0	50	12	461	473
05:45 PM	4	86	75	1	165	0	3	12	0	15	6	142	2	0	150	5	4	54	0	63	1	393	394
Total	26	428	401	19	855	0	11	78	0	89	29	654	14	14	697	29	25	173	1	227	34	1868	1902
06:00 PM	5	97	86	3	188	0	3	15	0	18	4	124	8	2	136	1	8	47	0	56	5	398	403
06:15 PM	8	112	85	4	205	0	6	14	0	20	6	141	2	7	149	11	3	45	0	59	11	433	444
06:30 PM	7	69	61	2	137	0	0	9	0	9	5	142	3	3	150	6	4	19	0	29	5	325	330
06:45 PM	8	102	85	2	195	0	2	13	0	15	6	134	1	0	141	4	6	18	0	28	2	379	381
Total	28	380	317	11	725	0	11	51	0	62	21	541	14	12	576	22	21	129	0	172	23	1535	1558
Grand Total	84	1375	1169	62	2628	0	37	194	0	231	89		45	42	1953	88	61	470	4	619	108	5431	5539
Apprch %	3.2					0	16	84			4.6		2.3				9.9						
Total %	1.5				48.4	0	0.7	3.6		4.3	1.6		0.8		36	1.6	1.1	8.7		11.4	1.9	98.1	

Traffic Planning and Design, Inc.
4647 Saucon Creek Road, Suite 201
Center Valley, PA 18034
Route 611 & Route 940 Westbound/Access Driveway

File Name : PM611_940WI
Site Code : 00127062
Start Date : 1/27/2006
Page No : 2

	Route 611 Southbound				Route 940 Westbound Westbound				Route 611 Northbound				Access Driveway (BK/Bank) Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	4	142	110	256	0	**3**	12	15	8	167	4	179	**10**	4	39	53	503
04:30 PM	5	**155**	**116**	**276**	0	3	19	22	**11**	148	**5**	164	10	3	39	52	514
04:45 PM	**9**	138	114	261	0	3	**23**	**26**	8	160	4	172	7	4	**57**	**68**	527
05:00 PM	8	138	105	251	0	3	22	25	3	**182**	4	**189**	10	**7**	51	68	**533**
Total Volume	26	573	445	1044	0	12	76	88	30	657	17	704	37	18	186	241	2077
% App. Total	2.5	54.9	42.6		0	13.6	86.4		4.3	93.3	2.4		15.4	7.5	77.2		
PHF	.722	.924	.959	.946	.000	1.000	.826	.846	.682	.902	.850	.931	.925	.643	.816	.886	.974



Traffic Planning & Design, Inc.

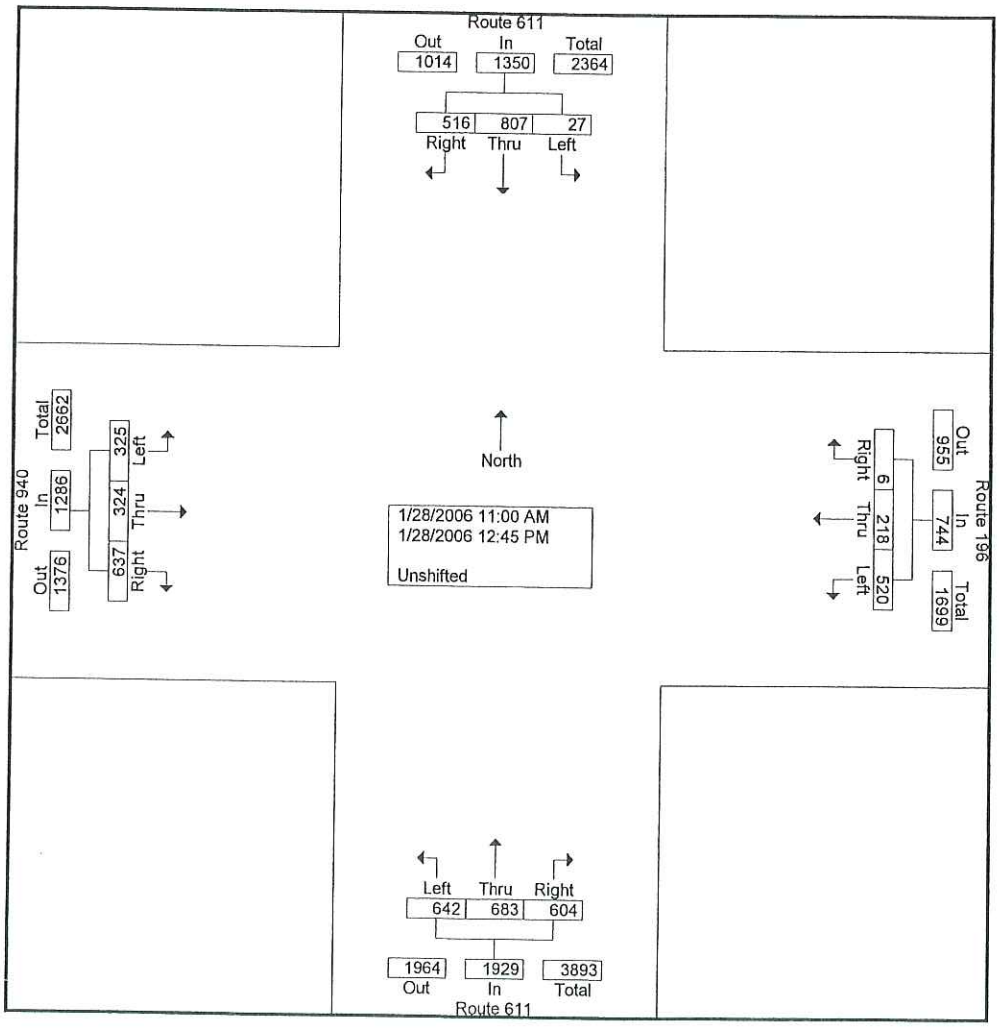
4647 Saucon Creek Road
Center Valley,

Route 611 & Route 940/Route 196

File Name : SAT_611_940_196
Site Code : 00000111
Start Date : 1/28/2006
Page No : 1

Groups Printed- Unshifted

	Route 611 Southbound					Route 196 Westbound					Route 611 Northbound					Route 940 Eastbound							
Start Time	Left	Thru	Right	Trucks	App. Total	Left	Thru	Right	Trucks	App. Total	Left	Thru	Right	Trucks	App. Total	Left	Thru	Right	Trucks	App. Total	Exclu. Total	Indu. Total	Int. Total
11:00 AM	3	94	60	2	157	68	26	0	4	94	97	81	61	3	239	39	42	81	4	162	13	652	665
11:15 AM	3	93	50	1	146	69	18	3	1	90	80	79	71	0	230	52	34	69	3	155	5	621	626
11:30 AM	9	110	65	1	184	54	29	1	1	84	77	71	71	2	219	50	28	93	1	171	5	658	663
11:45 AM	3	108	73	2	184	58	31	2	5	91	80	85	72	1	237	38	45	80	3	163	11	675	686
Total	18	405	248	6	671	249	104	6	11	359	334	316	275	6	925	179	149	323	11	651	34	2606	2640
12:00 PM	3	119	90	0	212	67	30	0	2	97	74	91	74	5	239	43	46	91	5	180	12	728	740
12:15 PM	3	98	59	0	160	56	39	0	2	95	75	96	85	5	256	36	45	97	2	178	9	689	698
12:30 PM	2	77	59	1	138	70	21	0	1	91	71	108	88	2	267	34	45	74	0	153	4	649	653
12:45 PM	1	108	60	0	169	78	24	0	3	102	88	72	82	2	242	33	39	52	2	124	7	637	644
Total	9	402	268	1	679	271	114	0	8	385	308	367	329	14	1004	146	175	314	9	635	32	2703	2735
Grand Total	27	807	516	7	1350	520	218	6	19	744	642	683	604	20	1929	325	324	637	20	1286	66	5309	5375
Apprch %	2	59.8	38.2			69.9	29.3	0.8			33.3	35.4	31.3			25.3	25.2	49.5					
Total %	0.5	15.2	9.7		25.4	9.8	4.1	0.1		14	12.1	12.9	11.4		36.3	6.1	6.1	12		24.2	1.2	98.8	



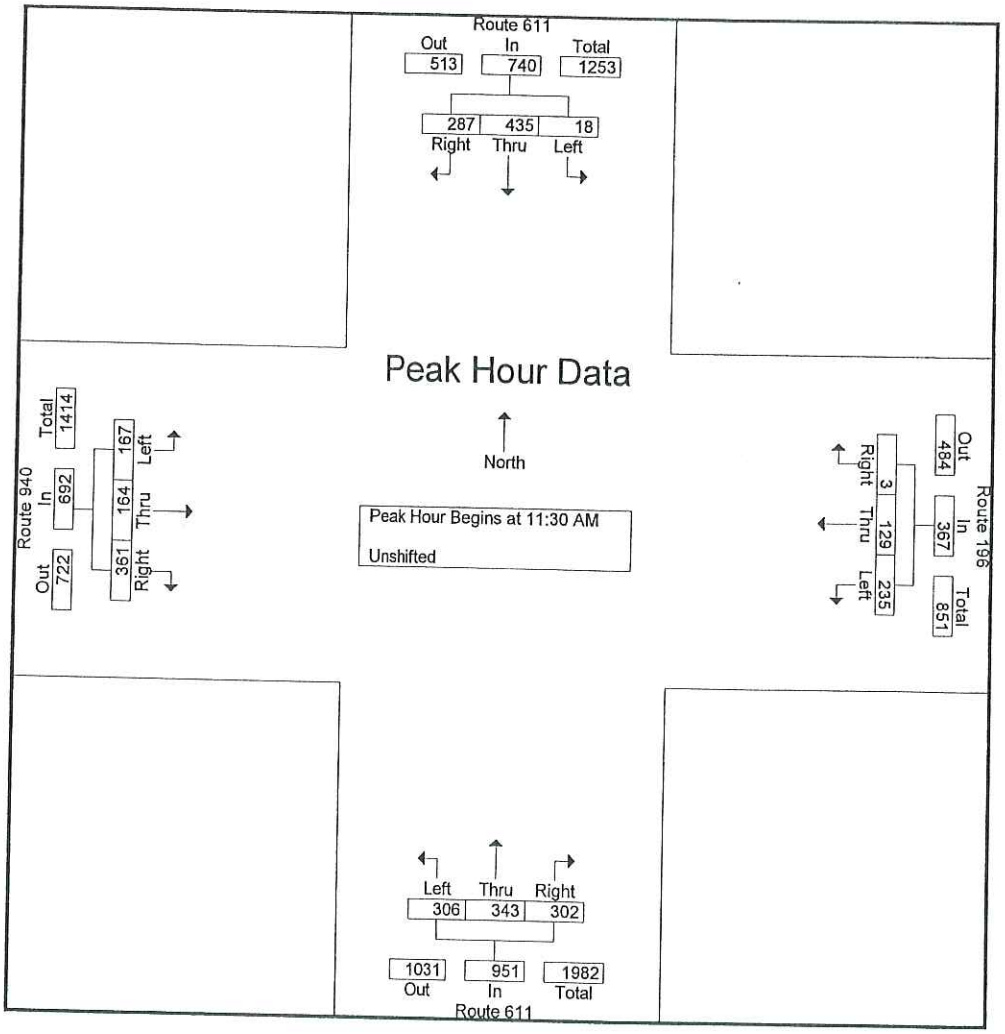
Traffic Planning & Design, Inc.

4647 Saucon Creek Road
Center Valley,

Route 611 & Route 940/Route 196

File Name : SAT_611_940_196
Site Code : 00000111
Start Date : 1/28/2006
Page No : 2

	Route 611 Southbound				Route 196 Westbound				Route 611 Northbound				Route 940 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:30 AM																	
11:30 AM	**9**	110	65	184	54	29	1	84	77	71	71	219	**50**	28	93	171	658
11:45 AM	3	108	73	184	58	31	**2**	91	**80**	85	72	237	38	45	80	163	675
12:00 PM	3	**119**	**90**	**212**	**67**	30	0	**97**	74	91	74	239	43	**46**	91	**180**	**728**
12:15 PM	3	98	59	160	56	**39**	0	95	75	**96**	**85**	**256**	36	45	**97**	178	689
Total Volume	18	435	287	740	235	129	3	367	306	343	302	951	167	164	361	692	2750
% App. Total	2.4	58.8	38.8		64	35.1	0.8		32.2	36.1	31.8		24.1	23.7	52.2		
PHF	.500	.914	.797	.873	.877	.827	.375	.946	.956	.893	.888	.929	.835	.891	.930	.961	.944



Traffic Planning and Design, Inc.
4647 Saucon Creek Road, Suite 201
Center Valley, PA 18034

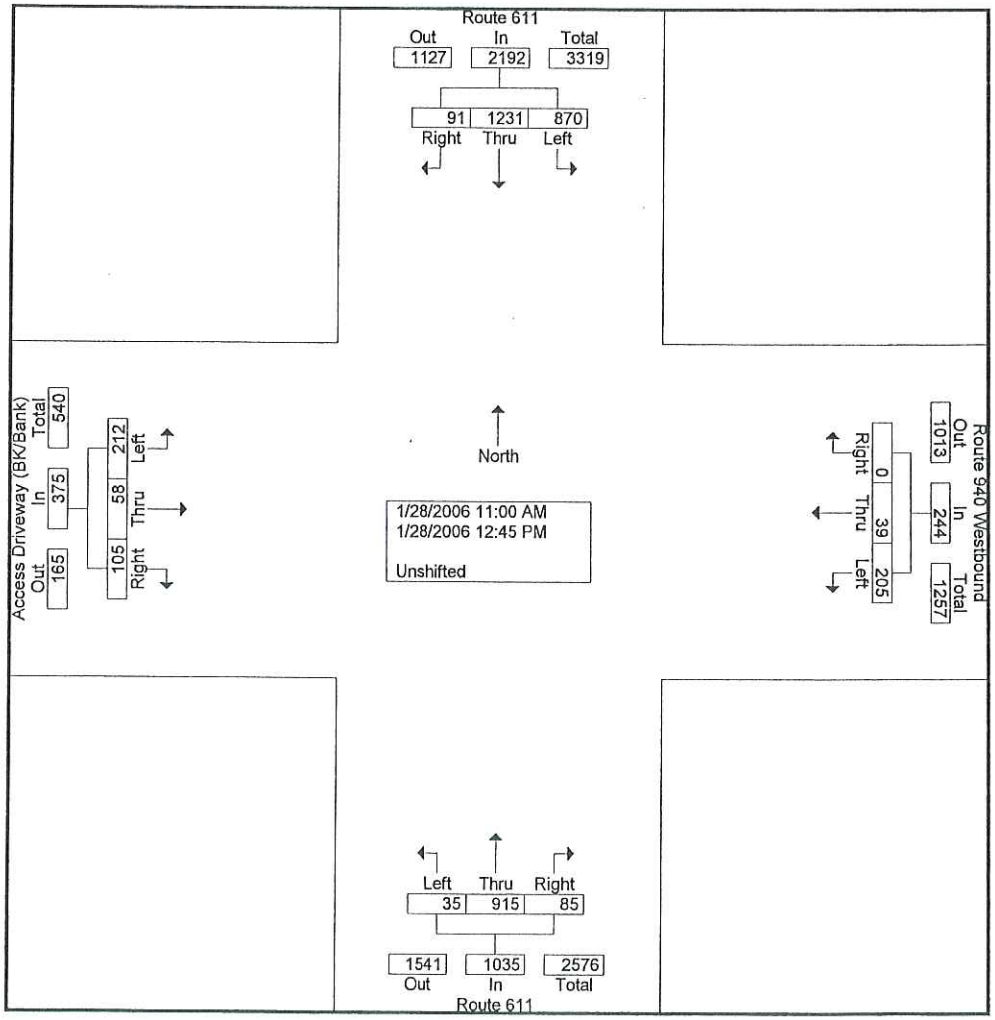
Route 611 & Route 940 Westbound/Access Driveway

Counter: 14
Counted by: K. Voigt
Weather: Sunny
Saved as: SAT611_940WB

File Name : SAT611_940WI
Site Code : 00012806
Start Date : 1/28/2006
Page No : 1

Groups Printed- Unshifted

	Route 611 Southbound					Route 940 Westbound Westbound					Route 611 Northbound					Access Driveway (BK/Bank) Eastbound							
Start Time	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Exclu. Total	Inclu. Total	Int. Total
11:00 AM	8	154	96	5	258	0	4	30	0	34	11	126	4	3	141	10	2	21	0	33	8	466	474
11:15 AM	13	162	101	4	276	0	3	27	0	30	17	116	1	0	134	10	5	24	0	39	4	479	483
11:30 AM	7	172	112	6	291	0	6	32	0	38	10	86	5	3	101	11	4	27	0	42	9	472	481
11:45 AM	11	163	104	6	278	0	6	17	0	23	11	121	6	2	138	14	14	24	0	52	8	491	499
Total	39	651	413	21	1103	0	19	106	0	125	49	449	16	8	514	45	25	96	0	166	29	1908	1937
12:00 PM	15	145	119	2	279	0	3	18	0	21	10	102	2	5	114	14	13	27	0	54	7	468	475
12:15 PM	14	160	120	2	294	0	6	30	0	36	6	119	6	1	131	25	5	32	1	62	4	523	527
12:30 PM	8	143	109	7	260	0	7	29	1	36	10	127	7	1	144	7	10	29	0	46	9	486	495
12:45 PM	15	132	109	9	256	0	4	22	0	26	10	118	4	4	132	14	5	28	0	47	13	461	474
Total	52	580	457	20	1089	0	20	99	1	119	36	466	19	11	521	60	33	116	1	209	33	1938	1971
Grand Total	91	1231	870	41	2192	0	39	205	1	244	85	915	35	19	1035	105	58	212	1	375	62	3846	3908
Apprch %	4.2	56.2	39.7			0	16	84			8.2	88.4	3.4			28	15.5	56.5					
Total %	2.4	32	22.6		57	0	1	5.3		6.3	2.2	23.8	0.9		26.9	2.7	1.5	5.5		9.8	1.6	98.4	

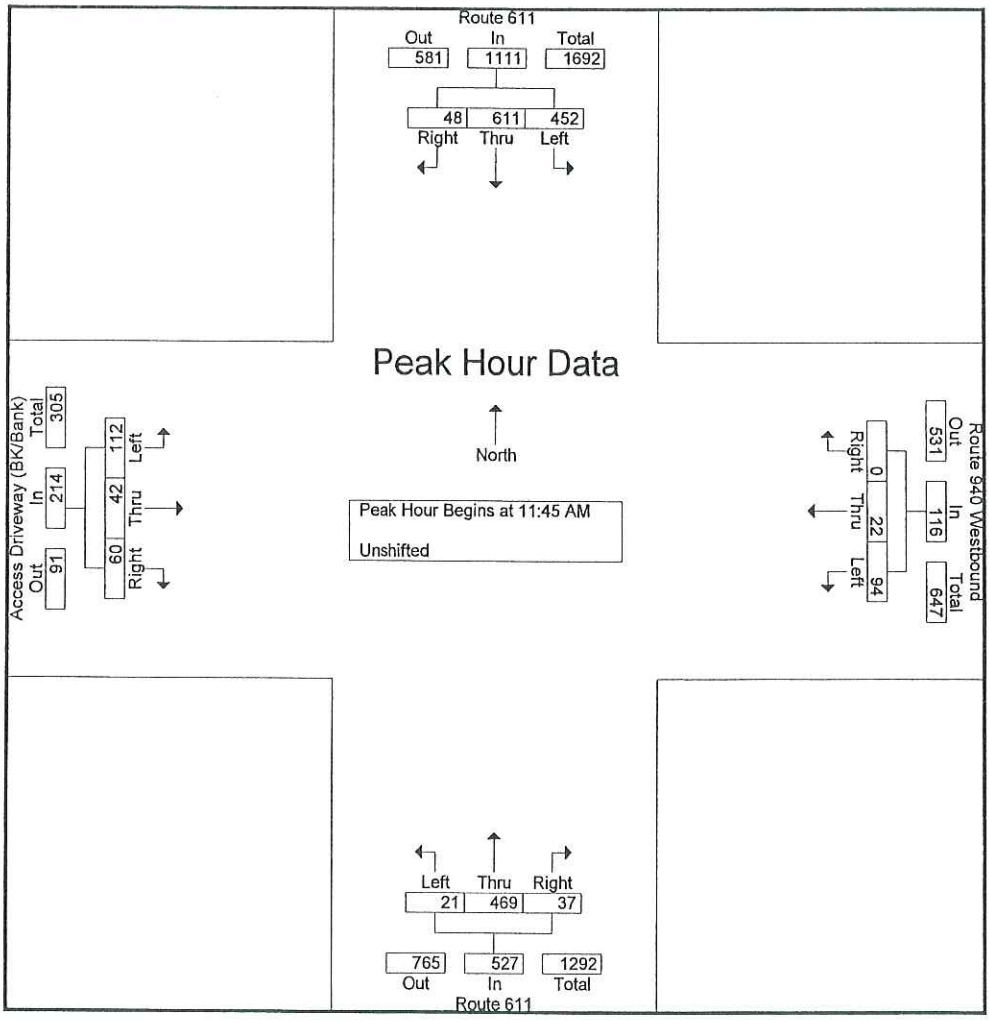


Traffic Planning and Design, Inc.
4647 Saucon Creek Road, Suite 201
Center Valley, PA 18034

Route 611 & Route 940 Westbound/Access Driveway

File Name : SAT611_940WI
Site Code : 00012806
Start Date : 1/28/2006
Page No : 2

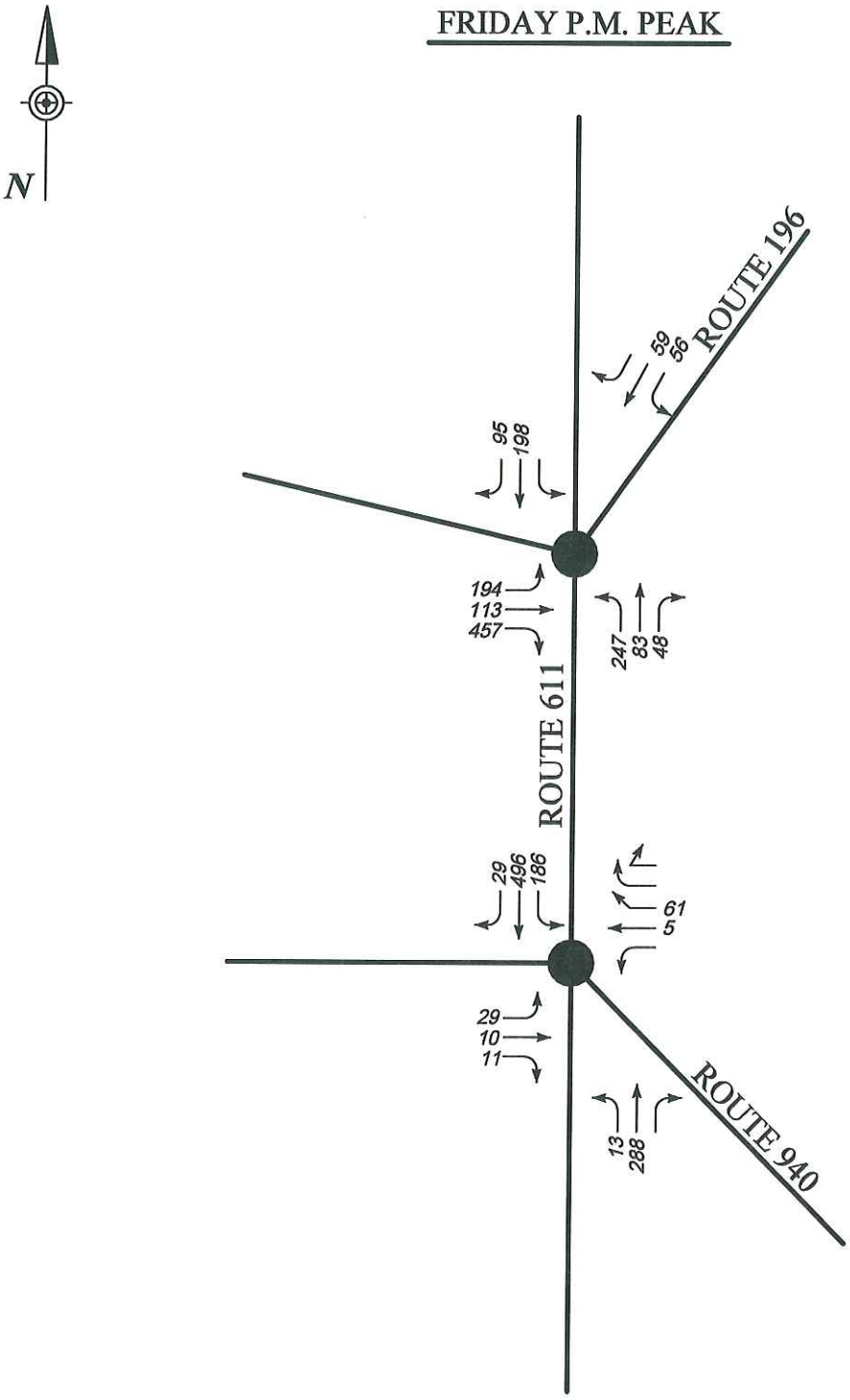
	Route 611 Southbound				Route 940 Westbound Westbound				Route 611 Northbound				Access Driveway (BK/Bank) Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:45 AM																	
11:45 AM	11	**163**	104	278	0	6	17	23	**11**	121	6	138	14	**14**	24	52	491
12:00 PM	**15**	145	119	279	0	3	18	21	10	102	2	114	14	13	27	54	468
12:15 PM	14	160	**120**	**294**	0	6	**30**	**36**	6	119	6	131	**25**	5	**32**	**62**	**523**
12:30 PM	8	143	109	260	0	7	29	36	10	**127**	7	**144**	7	10	29	46	486
Total Volume	48	611	452	1111	0	22	94	116	37	469	21	527	60	42	112	214	1968
% App. Total	4.3	55	40.7		0	19	81		7	89	4		28	19.6	52.3		
PHF	.800	.937	.942	.945	.000	.786	.783	.806	.841	.923	.750	.915	.600	.750	.875	.863	.941



APPENDIX C

TRIP DISTRIBUTIONS: NEARBY PLANNED DEVELOPMENT

FRIDAY P.M. PEAK



● = EXISTING TRAFFIC SIGNAL

SCHEMATIC DRAWING: NOT TO SCALE

TRAFFIC PLANNING & DESIGN, INC.

SANATOGA COMMONS, 2500 EAST HIGH STREET, SUITE 650
POTTSTOWN, PENNSYLVANIA 19464
OFFICE (610)326-3100 FAX (610)326-9410

4647 SAUCON CREEK ROAD
CENTER VALLEY, PA 18034
OFFICE (610)625-4242 FAX (610)625-4250

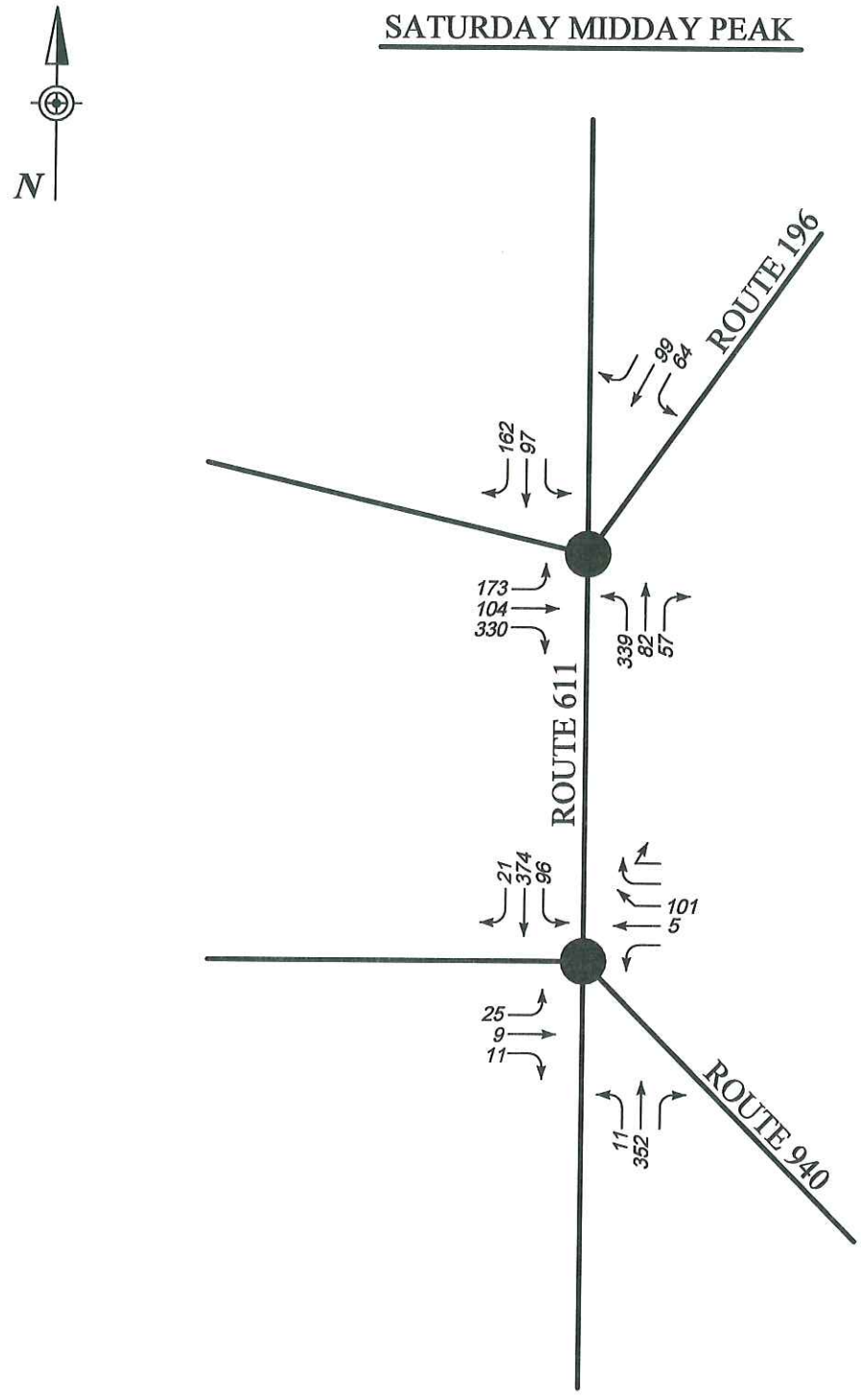
1820 LINGLESTOWN ROAD
HARRISBURG, PA 17110
OFFICE (717)234-1430 FAX (717)234-4490

E-MAIL TPD@TRAFFICPD.COM

FIGURE C-1

TOTAL NEARBY DEVELOPMENT TRIPS
PM PEAK HOUR
TRAFFIC VOLUMES

SATURDAY MIDDAY PEAK



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SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE C-2

TOTAL NEARBY DEVELOPMENT TRIPS
SATURDAY MIDDAY PEAK HOUR
TRAFFIC VOLUMES

APPENDIX D

CAPACITY ANALYSIS WORKSHEETS

EXISTING CONDITIONS

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
Lane Width	12	15	12	11	11	12	11	11	11	11	11	11
Grade (%)		-6%			2%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		0.98			1.00	0.85		0.99			1.00	
Flt Protected		0.96			0.96	1.00		1.00			0.98	
Satd. Flow (prot)		1990			1707	1567		3363			3339	
Flt Permitted		0.59			0.79	1.00		0.91			0.46	
Satd. Flow (perm)		1214			1412	1567		3067			1552	
Volume (vph)	186	18	37	91	12	566	17	811	36	549	707	26
Peak-hour factor, PHF	0.89	0.89	0.89	0.85	0.85	0.93	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	209	20	42	107	14	609	18	872	39	578	744	27
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	271	0	0	121	609	0	929	0	0	1349	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm		Perm	Perm			pm+pt		
Protected Phases		3			3			1		2	1	
Permitted Phases	3			3		3	1			1	2	
Actuated Green, G (s)		11.8			11.8	11.8		75.8			75.8	
Effective Green, g (s)		14.0			14.0	14.0		78.0			78.0	
Actuated g/C Ratio		0.14			0.14	0.14		0.78			0.78	
Clearance Time (s)		6.2			6.2	6.2		6.2			6.2	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		170			198	219		2392			2604	
v/s Ratio Prot											c0.40	
v/s Ratio Perm		0.22			0.09	c0.39		0.30				
v/c Ratio		1.59			0.61	2.78		0.39			0.52	
Uniform Delay, d1		43.0			40.4	43.0		3.5			4.1	
Progression Factor		1.00			1.00	1.00		1.00			0.82	
Incremental Delay, d2		293.3			5.5	814.0		0.1			0.0	
Delay (s)		336.3			45.9	857.0		3.6			3.3	
Level of Service		F			D	F		A			A	
Approach Delay (s)		336.3			722.6			3.6			3.3	
Approach LOS		F			F			A			A	

Intersection Summary			
HCM Average Control Delay	191.0	HCM Level of Service	F
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	ø7
Lane Configurations	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	7
Permitted Phases	
Detector Phases	
Minimum Initial (s)	3.0
Minimum Split (s)	9.2
Total Split (s)	32.0
Total Split (%)	32%
Yellow Time (s)	4.0
All-Red Time (s)	2.2
Lead/Lag	Lead
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø4	ø5	ø6
Lane Configurations												
Volume (vph)	186	18	91	12	566	17	811	549	707			
Lane Group Flow (vph)	0	271	0	121	609	0	929	0	1349			
Turn Type	Perm		Perm		Perm	Perm		pm+pt				
Protected Phases		3		3			1	2	1	4	5	6
Permitted Phases	3		3		3	1		1	2			
Detector Phases	3	3	3	3	3	1	1	2	1			
Minimum Initial (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Split (s)	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
Total Split (s)	18.0	18.0	18.0	18.0	18.0	32.0	32.0	50.0	32.0	26.0	18.0	24.0
Total Split (%)	18.0%	18.0%	18.0%	18.0%	18.0%	32.0%	32.0%	50.0%	32.0%	26%	18%	24%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Lead/Lag						Lead	Lead	Lag	Lead			Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
v/c Ratio		1.59		0.61	2.77		0.41		0.52			
Control Delay		324.3		54.8	827.7		4.1		3.5			
Queue Delay		399.4		0.0	0.0		0.0		39.2			
Total Delay		723.7		54.8	827.7		4.2		42.6			
Queue Length 50th (ft)		~248		74	~666		79		117			
Queue Length 95th (ft)		#400		126	#878		103		m66			
Internal Link Dist (ft)		2366		3170			1888		270			
Turn Bay Length (ft)					175							
Base Capacity (vph)		170		198	220		2293		2604			
Starvation Cap Reductn		0		0	0		0		1350			
Spillback Cap Reductn		64		0	82		189		0			
Storage Cap Reductn		0		0	0		0		0			
Reduced v/c Ratio		2.56		0.61	4.41		0.44		1.08			

Intersection Summary

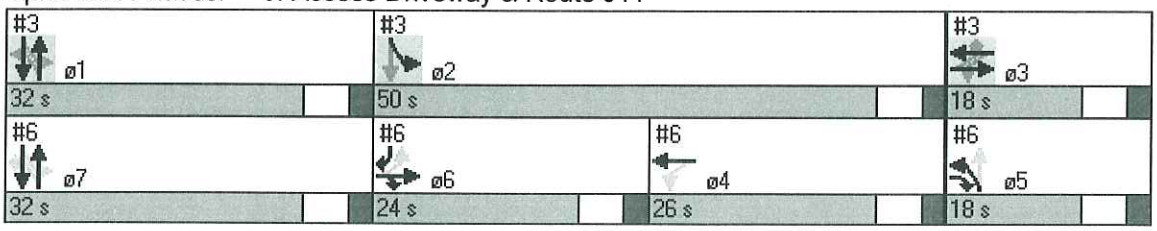
Cycle Length: 100
Actuated Cycle Length: 100
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Access Driveway & Route 611



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
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Grade (%)		-3%			-5%			3%			-5%	
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			0.95			1.00	1.00
Frt		1.00	0.85		1.00			0.94			1.00	0.85
Flt Protected		0.98	1.00		0.97			0.99			1.00	1.00
Satd. Flow (prot)		1852	1607		1849			3116			1845	1569
Flt Permitted		0.81	1.00		0.55			0.72			0.66	1.00
Satd. Flow (perm)		1524	1607		1053			2277			1215	1569
Volume (vph)	178	249	485	311	176	4	395	506	662	2	486	332
Peak-hour factor, PHF	0.87	0.87	0.87	0.94	0.94	0.94	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	205	286	557	331	187	4	420	538	704	2	559	382
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	491	557	0	522	0	0	1662	0	0	561	382
Turn Type	Perm		pt+ov	Perm			pm+pt			Perm		custom
Protected Phases		6	5 6		4		5	7			7	6
Permitted Phases	6			4			7	5		7		7
Actuated Green, G (s)		17.8	29.6		19.8			37.6			25.8	43.6
Effective Green, g (s)		20.0	34.0		22.0			42.0			28.0	48.0
Actuated g/C Ratio		0.20	0.34		0.22			0.42			0.28	0.48
Clearance Time (s)		6.2			6.2			6.2			6.2	6.2
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		305	546		232			1191			340	816
v/s Ratio Prot			0.35					0.39				0.09
v/s Ratio Perm		c0.32			c0.50			c0.20			c0.46	0.15
v/c Ratio		1.61	1.02		2.25			1.40			1.65	0.47
Uniform Delay, d1		40.0	33.0		39.0			29.0			36.0	17.4
Progression Factor		1.00	1.00		1.00			0.63			1.00	1.00
Incremental Delay, d2		289.2	43.7		576.1			178.4			305.4	0.4
Delay (s)		329.2	76.7		615.1			196.6			341.4	17.9
Level of Service		F	E		F			F			F	B
Approach Delay (s)		195.0			615.1			196.6			210.3	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	251.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	135.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	ø3
Lane Configurations	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phases	
Minimum Initial (s)	3.0
Minimum Split (s)	9.2
Total Split (s)	18.0
Total Split (%)	18%
Yellow Time (s)	4.0
All-Red Time (s)	2.2
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR	ø1	ø2
Lane Configurations												
Volume (vph)	178	249	485	311	176	395	506	2	486	332		
Lane Group Flow (vph)	0	491	557	0	522	0	1662	0	561	382		
Turn Type	Perm		pt+ov	Perm		pm+pt		Perm		custom		
Protected Phases		6	5 6		4	5	7		7	6	1	2
Permitted Phases	6			4		7	5	7		7		
Detector Phases	6	6	5 6	4	4	5	7	7	7	6		
Minimum Initial (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Split (s)	9.2	9.2		9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
Total Split (s)	24.0	24.0	42.0	26.0	26.0	18.0	32.0	32.0	32.0	24.0	32.0	50.0
Total Split (%)	24.0%	24.0%	42.0%	26.0%	26.0%	18.0%	32.0%	32.0%	32.0%	24.0%	32%	50%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.2	2.2		2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Lead/Lag	Lag	Lag					Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None	None	None	None	None	None	None	None
v/c Ratio		1.61	1.02		2.25		1.40		1.65	0.47		
Control Delay		318.8	64.8		598.7		200.0		332.9	17.6		
Queue Delay		0.0	0.0		0.0		25.7		0.0	0.0		
Total Delay		318.8	64.8		598.7		225.7		332.9	17.6		
Queue Length 50th (ft)		~452	~206		~542		~766		~521	147		
Queue Length 95th (ft)		#621	#389		#743		m#474		#696	214		
Internal Link Dist (ft)		2380			4004		270		1226			
Turn Bay Length (ft)												
Base Capacity (vph)		305	546		232		1191		340	816		
Starvation Cap Reductn		0	0		0		47		0	0		
Spillback Cap Reductn		0	0		0		0		0	0		
Storage Cap Reductn		0	0		0		0		0	0		
Reduced v/c Ratio		1.61	1.02		2.25		1.45		1.65	0.47		

Intersection Summary

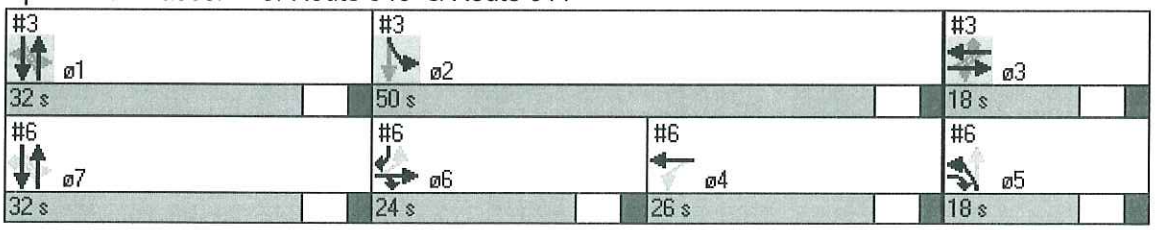
Cycle Length: 100
Actuated Cycle Length: 100
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Route 940 & Route 611



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
Lane Width	12	15	12	11	11	12	11	11	11	11	11	11
Grade (%)		-6%			2%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		0.96			1.00	0.85		0.99			0.99	
Flt Protected		0.97			0.96	1.00		1.00			0.98	
Satd. Flow (prot)		1979			1711	1567		3348			3334	
Flt Permitted		0.52			0.57	1.00		0.87			0.46	
Satd. Flow (perm)		1055			1021	1567		2925			1548	
Volume (vph)	112	42	60	113	22	552	21	574	44	556	750	48
Peak-hour factor, PHF	0.89	0.89	0.89	0.85	0.85	0.93	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	126	47	67	133	26	594	23	617	47	585	789	51
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	240	0	0	159	594	0	687	0	0	1425	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm		Perm	Perm			pm+pt		
Protected Phases		3			3			1		2	1	
Permitted Phases	3			3		3	1			1	2	
Actuated Green, G (s)		11.8			11.8	11.8		75.8			75.8	
Effective Green, g (s)		14.0			14.0	14.0		78.0			78.0	
Actuated g/C Ratio		0.14			0.14	0.14		0.78			0.78	
Clearance Time (s)		6.2			6.2	6.2		6.2			6.2	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		148			143	219		2282			2601	
v/s Ratio Prot											c0.43	
v/s Ratio Perm		0.23			0.16	c0.38		0.23				
v/c Ratio		1.62			1.11	2.71		0.30			0.55	
Uniform Delay, d1		43.0			43.0	43.0		3.2			4.2	
Progression Factor		1.00			1.00	1.00		1.00			0.74	
Incremental Delay, d2		308.5			108.4	783.4		0.1			0.0	
Delay (s)		351.5			151.4	826.4		3.2			3.2	
Level of Service		F			F	F		A			A	
Approach Delay (s)		351.5			683.8			3.2			3.2	
Approach LOS		F			F			A			A	

Intersection Summary			
HCM Average Control Delay	195.2	HCM Level of Service	F
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	ø7
Lane Configurations	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	7
Permitted Phases	
Detector Phases	
Minimum Initial (s)	3.0
Minimum Split (s)	9.2
Total Split (s)	32.0
Total Split (%)	32%
Yellow Time (s)	4.0
All-Red Time (s)	2.2
Lead/Lag	Lead
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø4	ø5	ø6
Lane Configurations												
Volume (vph)	112	42	113	22	552	21	574	556	750			
Lane Group Flow (vph)	0	240	0	159	594	0	687	0	1425			
Turn Type	Perm		Perm		Perm	Perm		pm+pt				
Protected Phases		3		3			1	2	1	4	5	6
Permitted Phases	3		3		3	1		1	2			
Detector Phases	3	3	3	3	3	1	1	2	1			
Minimum Initial (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Split (s)	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
Total Split (s)	18.0	18.0	18.0	18.0	18.0	32.0	32.0	50.0	32.0	26.0	18.0	24.0
Total Split (%)	18.0%	18.0%	18.0%	18.0%	18.0%	32.0%	32.0%	50.0%	32.0%	26%	18%	24%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Lead/Lag						Lead	Lead	Lag	Lead			Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
v/c Ratio		1.62		1.11	2.70		0.33		0.55			
Control Delay		339.2		150.3	797.7		3.8		3.3			
Queue Delay		58.3		0.0	0.0		0.0		99.4			
Total Delay		397.5		150.3	797.7		3.8		102.7			
Queue Length 50th (ft)		~222		~117	~646		54		116			
Queue Length 95th (ft)		#368		#226	#857		73		m46			
Internal Link Dist (ft)		2366		3170			1888		270			
Turn Bay Length (ft)					175							
Base Capacity (vph)		148		143	220		2069		2602			
Starvation Cap Reductn		0		0	0		0		1430			
Spillback Cap Reductn		11		0	16		38		0			
Storage Cap Reductn		0		0	0		0		0			
Reduced v/c Ratio		1.75		1.11	2.91		0.34		1.22			

Intersection Summary

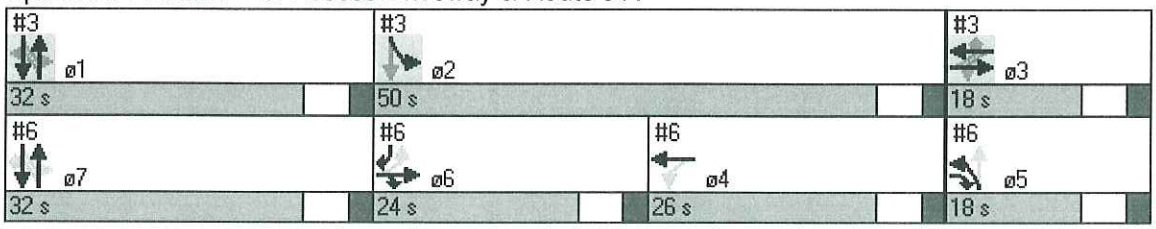
Cycle Length: 100
Actuated Cycle Length: 100
Natural Cycle: 140
Control Type: Actuated-Uncoordinated

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Access Driveway & Route 611



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
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Grade (%)		-3%			-5%			3%			-5%	
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			0.95			1.00	1.00
Frt		1.00	0.85		1.00			0.95			1.00	0.85
Flt Protected		0.98	1.00		0.97			0.98			1.00	1.00
Satd. Flow (prot)		1844	1607		1847			3158			1842	1569
Flt Permitted		0.79	1.00		0.55			0.67			0.32	1.00
Satd. Flow (perm)		1496	1607		1049			2134			595	1569
Volume (vph)	209	205	487	304	155	4	398	446	394	22	563	344
Peak-hour factor, PHF	0.87	0.87	0.87	0.94	0.94	0.94	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	240	236	560	323	165	4	423	474	419	25	647	395
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	476	560	0	492	0	0	1316	0	0	672	395
Turn Type	Perm		pt+ov	Perm			pm+pt			Perm		custom
Protected Phases		6	5 6		4		5	7			7	6
Permitted Phases	6			4			7	5		7		7
Actuated Green, G (s)		17.8	29.6		19.8			37.6			25.8	43.6
Effective Green, g (s)		20.0	34.0		22.0			42.0			28.0	48.0
Actuated g/C Ratio		0.20	0.34		0.22			0.42			0.28	0.48
Clearance Time (s)		6.2			6.2			6.2			6.2	6.2
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		299	546		231			1183			167	816
v/s Ratio Prot			0.35					0.31				0.10
v/s Ratio Perm		c0.32			c0.47			c0.16			c1.13	0.15
v/c Ratio		1.59	1.03		2.13			1.11			4.02	0.48
Uniform Delay, d1		40.0	33.0		39.0			29.0			36.0	17.6
Progression Factor		1.00	1.00		1.00			0.60			1.00	1.00
Incremental Delay, d2		281.7	45.2		522.7			51.9			1375.0	0.5
Delay (s)		321.7	78.2		561.7			69.3			1411.0	18.1
Level of Service		F	E		F			E			F	B
Approach Delay (s)		190.1			561.7			69.3			895.3	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM Average Control Delay	388.6	HCM Level of Service	F
HCM Volume to Capacity ratio	2.47		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	128.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	ø3
Lane Configurations	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phases	
Minimum Initial (s)	3.0
Minimum Split (s)	9.2
Total Split (s)	18.0
Total Split (%)	18%
Yellow Time (s)	4.0
All-Red Time (s)	2.2
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR	ø1	ø2
Lane Configurations												
Volume (vph)	209	205	487	304	155	398	446	22	563	344		
Lane Group Flow (vph)	0	476	560	0	492	0	1316	0	672	395		
Turn Type	Perm		pt+ov	Perm		pm+pt		Perm		custom		
Protected Phases		6	5 6		4	5	7		7	6	1	2
Permitted Phases	6			4		7	5	7		7		
Detector Phases	6	6	5 6	4	4	5	7	7	7	6		
Minimum Initial (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Split (s)	9.2	9.2		9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
Total Split (s)	24.0	24.0	42.0	26.0	26.0	18.0	32.0	32.0	32.0	24.0	32.0	50.0
Total Split (%)	24.0%	24.0%	42.0%	26.0%	26.0%	18.0%	32.0%	32.0%	32.0%	24.0%	32%	50%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.2	2.2		2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Lead/Lag	Lag	Lag					Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None	None	None	None	None	None	None	None
v/c Ratio		1.59	1.03		2.13		1.11		4.05	0.48		
Control Delay		311.5	66.3		546.3		72.4		1399.3	17.9		
Queue Delay		0.0	0.0		0.0		37.0		0.0	0.0		
Total Delay		311.5	66.3		546.3		109.4		1399.3	17.9		
Queue Length 50th (ft)		~435	~225		~502		~511		~700	154		
Queue Length 95th (ft)		#602	#394		#700		m196		#884	223		
Internal Link Dist (ft)		2380			4004		270		1226			
Turn Bay Length (ft)												
Base Capacity (vph)		299	546		231		1183		166	816		
Starvation Cap Reductn		0	0		0		84		0	0		
Spillback Cap Reductn		0	0		0		0		1	0		
Storage Cap Reductn		0	0		0		0		0	0		
Reduced v/c Ratio		1.59	1.03		2.13		1.20		4.07	0.48		

Intersection Summary

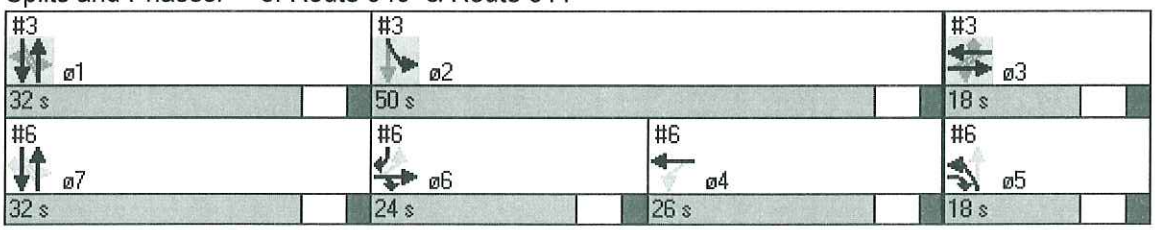
Cycle Length: 100
Actuated Cycle Length: 100
Natural Cycle: 140
Control Type: Actuated-Uncoordinated

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Route 940 & Route 611



2007 BASE CONDITIONS:

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
Lane Width	12	15	12	11	11	11	10	11	11	11	11	12
Grade (%)		-6%			2%			0%			0%	
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	0.88	1.00	0.95		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.96			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1990			1710	2667	1636	3372		1711	1789	
Flt Permitted		0.29			0.56	1.00	0.21	1.00		0.21	1.00	
Satd. Flow (perm)		598			995	2667	362	3372		379	1789	
Volume (vph)	215	28	48	94	17	644	30	1129	37	751	1224	55
Peak-hour factor, PHF	0.89	0.89	0.89	0.85	0.85	0.93	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	242	31	54	111	20	692	32	1214	40	791	1288	58
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	327	0	0	131	692	32	1254	0	791	1346	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm		custom	pm+pt			custom		
Protected Phases		4			5	3	6	1		2 3	1	
Permitted Phases	4			5		5	1	6		1 2 3	2 3	
Actuated Green, G (s)		9.0			13.4	28.4	18.4	18.4		53.0	53.0	
Effective Green, g (s)		12.0			16.4	34.4	24.4	24.4		59.0	59.0	
Actuated g/C Ratio		0.11			0.15	0.30	0.22	0.22		0.52	0.52	
Clearance Time (s)		7.0			7.0	7.0	7.0	7.0			7.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		64			145	813	139	849		671	999	
v/s Ratio Prot						0.14	0.01	c0.25		0.42	c0.23	
v/s Ratio Perm		c0.55			c0.13	0.12	0.04	0.12		0.20	0.53	
v/c Ratio		5.11			0.90	0.85	0.23	1.48		1.18	1.35	
Uniform Delay, d1		50.4			47.4	36.8	52.1	44.2		38.7	26.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.96	0.94	
Incremental Delay, d2		1883.6			46.9	8.5	0.8	221.0		82.0	156.9	
Delay (s)		1934.0			94.3	45.3	53.0	265.2		119.1	182.3	
Level of Service		F			F	D	D	F		F	F	
Approach Delay (s)		1934.0			53.1			260.0			158.9	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM Average Control Delay	295.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.74		
Actuated Cycle Length (s)	112.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	107.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	ø9	ø10
Lane Configurations		
Volume (vph)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	9	10
Permitted Phases		
Detector Phases		
Minimum Initial (s)	7.0	10.0
Minimum Split (s)	14.0	17.0
Total Split (s)	22.0	23.0
Total Split (%)	20%	21%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	3.0	3.0
Lead/Lag	Lag	Lead
Lead-Lag Optimize?		
Recall Mode	Max	None
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø2	ø7	ø8
Lane Configurations												
Volume (vph)	215	28	94	17	644	30	1129	751	1224			
Lane Group Flow (vph)	0	327	0	131	692	32	1254	791	1346			
Turn Type	Perm		Perm		custom	pm+pt		custom				
Protected Phases		4		5	3	6	1	2 3	1	2	7	8
Permitted Phases	4		5		5	1	6	1 2 3	2 3			
Detector Phases	4	4	5	5	3	6	1	2 3	1			
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	3.0	10.0		10.0	10.0	7.0	7.0
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0	10.0	17.0		17.0	17.0	14.0	14.0
Total Split (s)	16.0	16.0	16.0	16.0	22.0	11.0	23.0	44.0	23.0	22.0	22.0	43.0
Total Split (%)	14.5%	14.5%	14.5%	14.5%	20.0%	10.0%	20.9%	40.0%	20.9%	20%	20%	39%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lead	Lag	Lag			Lead		Lead	Lag		
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None		None	Max	None	None
v/c Ratio		5.03		0.88	0.83	0.19	1.60	1.15	1.31			
Control Delay		1859.3		97.2	35.2	32.7	305.9	99.2	165.3			
Queue Delay		0.0		0.0	0.7	0.0	23.7	0.0	440.4			
Total Delay		1859.3		97.2	35.8	32.7	329.6	99.2	605.7			
Queue Length 50th (ft)		~434		~113	199	17	~615	~613	~1232			
Queue Length 95th (ft)		#603		#219	#277	42	#750	m217	m434			
Internal Link Dist (ft)		2366		3170			1888		270			
Turn Bay Length (ft)					225	325						
Base Capacity (vph)		65		149	834	167	784	688	1025			
Starvation Cap Reductn		0		0	0	0	0	0	438			
Spillback Cap Reductn		4		0	24	0	25	0	0			
Storage Cap Reductn		0		0	0	0	0	0	0			
Reduced v/c Ratio		5.36		0.88	0.85	0.19	1.65	1.15	2.29			

Intersection Summary

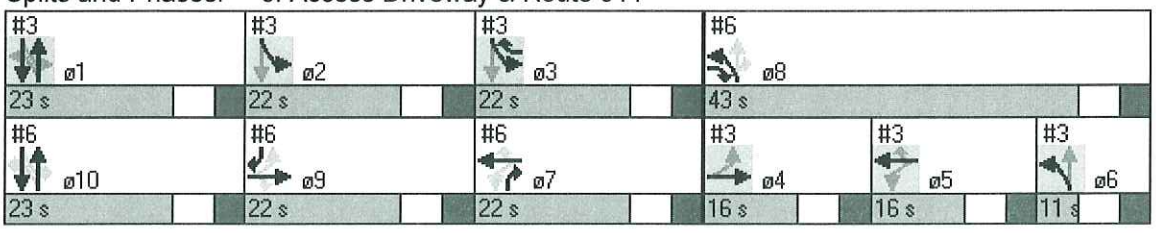
Cycle Length: 110
Actuated Cycle Length: 110
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Access Driveway & Route 611



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
Lane Width	11	11	13	11	11	13	10	11	11	11	11	13
Grade (%)		-3%			-5%			3%			-5%	
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	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1736	1828	1661		1791	1677	1627	1774	1508	1753	1846	1677
Flt Permitted	0.22	1.00	1.00		0.59	1.00	0.21	1.00	1.00	0.21	1.00	1.00
Satd. Flow (perm)	406	1828	1661		1091	1677	361	1774	1508	389	1846	1677
Volume (vph)	377	369	956	376	240	4	654	604	730	2	698	437
Peak-hour factor, PHF	0.87	0.87	0.87	0.94	0.94	0.94	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	433	424	1099	400	255	4	696	643	777	2	802	502
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	433	424	1099	0	655	4	696	643	777	2	802	502
Turn Type	Perm		pm+ov	Perm		Perm	pm+pt		custom	Perm		custom
Protected Phases		9	8		7		8	10	7		10	9
Permitted Phases	9		9	7		7	10	8	8 10	10		10
Actuated Green, G (s)	15.0	15.0	53.8		15.0	15.0	54.8	54.8	76.8	16.0	16.0	31.0
Effective Green, g (s)	18.0	18.0	59.8		18.0	18.0	60.8	60.8	82.8	19.0	19.0	37.0
Actuated g/C Ratio	0.16	0.16	0.53		0.16	0.16	0.54	0.54	0.73	0.17	0.17	0.33
Clearance Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
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)	65	292	881		174	268	664	1019	1160	66	311	610
v/s Ratio Prot		0.23	c0.46				0.39	0.11	0.11		c0.43	0.13
v/s Ratio Perm	c1.07		0.20		c0.60	0.00	0.18	0.26	0.41	0.01		0.17
v/c Ratio	6.66	1.45	1.25		3.76	0.01	1.05	0.63	0.67	0.03	2.58	0.82
Uniform Delay, d1	47.4	47.4	26.5		47.4	39.9	37.8	18.2	7.8	39.2	46.9	34.9
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.42	0.73	1.38	1.00	1.00	1.00
Incremental Delay, d2	2579.9	221.6	120.8		1257.9	0.0	26.1	0.1	0.1	0.2	719.8	8.8
Delay (s)	2627.3	269.0	147.3		1305.3	40.0	79.9	13.3	10.9	39.4	766.7	43.7
Level of Service	F	F	F		F	D	E	B	B	D	F	D
Approach Delay (s)		722.7			1297.6			34.3			487.7	
Approach LOS		F			F			C			F	

Intersection Summary			
HCM Average Control Delay	493.3	HCM Level of Service	F
HCM Volume to Capacity ratio	2.99		
Actuated Cycle Length (s)	112.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	140.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	ø1	ø2	ø3	ø4	ø5	ø6
Lane Configurations						
Volume (vph)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	3	4	5	6
Permitted Phases						
Detector Phases						
Minimum Initial (s)	10.0	10.0	7.0	7.0	7.0	3.0
Minimum Split (s)	17.0	17.0	14.0	14.0	14.0	10.0
Total Split (s)	23.0	22.0	22.0	16.0	16.0	11.0
Total Split (%)	21%	20%	20%	15%	15%	10%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?						
Recall Mode	None	Max	None	None	None	None
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	377	369	956	376	240	4	654	604	730	2	698	437
Lane Group Flow (vph)	433	424	1099	0	655	4	696	643	777	2	802	502
Turn Type	Perm		pm+ov	Perm		Perm	pm+pt		custom	Perm		custom
Protected Phases		9	8		7		8	10	7		10	9
Permitted Phases	9		9	7		7	10	8	8 10	10		10
Detector Phases	9	9	8	7	7	7	8	10	7	10	10	9
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0	7.0	10.0	10.0	7.0
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	17.0	14.0	17.0	17.0	14.0
Total Split (s)	22.0	22.0	43.0	22.0	22.0	22.0	43.0	23.0	22.0	23.0	23.0	22.0
Total Split (%)	20.0%	20.0%	39.1%	20.0%	20.0%	20.0%	39.1%	20.9%	20.0%	20.9%	20.9%	20.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lag	Lag						Lead		Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	Max	Max	None	None	None	None	None	None	None	None	None	Max
v/c Ratio	6.56	1.42	1.28		3.66	0.01	1.09	0.64	0.67	0.03	2.51	0.80
Control Delay	2542.9	242.1	154.8		1225.7	39.0	80.7	12.6	9.7	39.5	712.2	42.4
Queue Delay	0.0	0.0	174.1		0.0	0.0	53.9	32.6	50.2	0.0	0.0	0.0
Total Delay	2542.9	242.1	328.9		1225.7	39.0	134.6	45.3	59.9	39.5	712.2	42.4
Queue Length 50th (ft)	~559	~404	~985		~833	2	~526	174	105	1	~946	314
Queue Length 95th (ft)	#730	#572	#1175		#1056	13	m307	m129	m68	8	#1135	430
Internal Link Dist (ft)		2380			4004			270			1226	
Turn Bay Length (ft)			290			80						100
Base Capacity (vph)	66	299	861		179	274	639	1000	1152	67	319	625
Starvation Cap Reductn	0	0	0		0	0	67	386	444	0	0	0
Spillback Cap Reductn	0	0	201		0	0	0	0	0	0	100	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	6.56	1.42	1.67		3.66	0.01	1.22	1.05	1.10	0.03	3.66	0.80

Intersection Summary

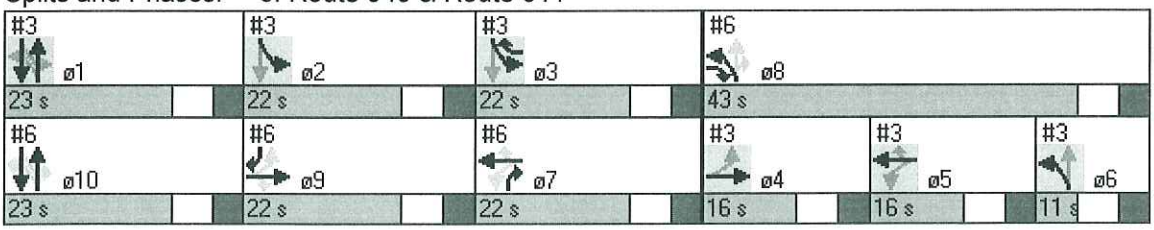
Cycle Length: 110
Actuated Cycle Length: 110
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Route 940 & Route 611



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
Lane Width	12	15	12	11	11	11	10	11	11	11	11	12
Grade (%)		-6%			2%			0%			0%	
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	0.88	1.00	0.95		1.00	1.00	
Frt		0.96			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.97			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1980			1713	2667	1636	3365		1711	1785	
Flt Permitted		0.25			0.59	1.00	0.21	1.00		0.21	1.00	
Satd. Flow (perm)		518			1049	2667	362	3365		379	1785	
Volume (vph)	137	51	71	116	27	670	32	946	45	669	1147	69
Peak-hour factor, PHF	0.89	0.89	0.89	0.85	0.85	0.93	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	154	57	80	136	32	720	34	1017	48	704	1207	73
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	291	0	0	168	720	34	1065	0	704	1280	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm		custom	pm+pt			custom		
Protected Phases		4			5	3	6	1		2 3	1	
Permitted Phases	4			5		5	1	6		1 2 3	2 3	
Actuated Green, G (s)		9.0			13.4	28.4	18.4	18.4		53.0	53.0	
Effective Green, g (s)		12.0			16.4	34.4	24.4	24.4		59.0	59.0	
Actuated g/C Ratio		0.11			0.15	0.30	0.22	0.22		0.52	0.52	
Clearance Time (s)		7.0			7.0	7.0	7.0	7.0			7.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		55			153	813	139	847		671	997	
v/s Ratio Prot						0.14	0.01	c0.21		0.37	c0.22	
v/s Ratio Perm		c0.56			c0.16	0.13	0.04	0.10		0.18	0.50	
v/c Ratio		5.29			1.10	0.89	0.24	1.26		1.05	1.28	
Uniform Delay, d1		50.4			48.2	37.3	52.2	44.2		38.7	26.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.94	0.92	
Incremental Delay, d2		1970.5			101.4	11.3	0.9	125.4		26.4	128.5	
Delay (s)		2020.9			149.6	48.7	53.1	169.6		62.8	153.2	
Level of Service		F			F	D	D	F		E	F	
Approach Delay (s)		2020.9			67.8			166.0			121.1	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM Average Control Delay	251.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.70		
Actuated Cycle Length (s)	112.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	99.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	ø9	ø10
Lane Configurations		
Volume (vph)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	9	10
Permitted Phases		
Detector Phases		
Minimum Initial (s)	7.0	10.0
Minimum Split (s)	14.0	17.0
Total Split (s)	22.0	23.0
Total Split (%)	20%	21%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	3.0	3.0
Lead/Lag	Lag	Lead
Lead-Lag Optimize?		
Recall Mode	Max	None
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø2	ø7	ø8
Lane Configurations												
Volume (vph)	137	51	116	27	670	32	946	669	1147			
Lane Group Flow (vph)	0	291	0	168	720	34	1065	704	1280			
Turn Type	Perm		Perm		custom	pm+pt		custom				
Protected Phases		4		5	3	6	1	2 3	1	2	7	8
Permitted Phases	4		5		5	1	6	1 2 3	2 3			
Detector Phases	4	4	5	5	3	6	1	2 3	1			
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	3.0	10.0		10.0	10.0	7.0	7.0
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0	10.0	17.0		17.0	17.0	14.0	14.0
Total Split (s)	16.0	16.0	16.0	16.0	22.0	11.0	23.0	44.0	23.0	22.0	22.0	43.0
Total Split (%)	14.5%	14.5%	14.5%	14.5%	20.0%	10.0%	20.9%	40.0%	20.9%	20%	20%	39%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lead	Lag	Lag			Lead		Lead	Lag		
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None		None	Max	None	None
v/c Ratio		5.11		1.08	0.86	0.20	1.36	1.02	1.25			
Control Delay		1897.2		140.8	38.0	32.9	204.8	47.8	137.8			
Queue Delay		0.0		0.0	0.0	0.0	39.8	0.0	405.2			
Total Delay		1897.2		140.8	38.0	32.9	244.5	47.8	543.0			
Queue Length 50th (ft)		~387		~163	210	18	~470	~478	~1135			
Queue Length 95th (ft)		#551		#280	#302	43	#601	m203	m446			
Internal Link Dist (ft)		2366		3170			1888		270			
Turn Bay Length (ft)					225	325						
Base Capacity (vph)		57		156	834	167	783	688	1022			
Starvation Cap Reductn		0		0	0	0	0	0	428			
Spillback Cap Reductn		1		0	0	0	48	0	0			
Storage Cap Reductn		0		0	0	0	0	0	0			
Reduced v/c Ratio		5.20		1.08	0.86	0.20	1.45	1.02	2.15			

Intersection Summary

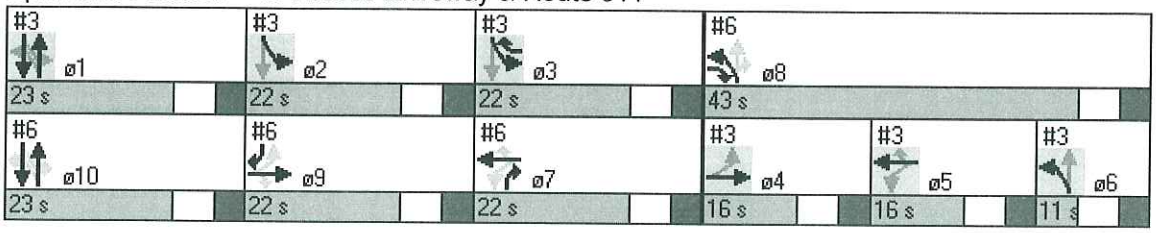
Cycle Length: 110
Actuated Cycle Length: 110
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Access Driveway & Route 611



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
Lane Width	11	11	13	11	11	13	10	11	11	11	11	13
Grade (%)		-3%			-5%			3%			-5%	
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	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1736	1828	1661		1793	1677	1627	1774	1508	1753	1846	1677
Flt Permitted	0.22	1.00	1.00		0.63	1.00	0.21	1.00	1.00	0.21	1.00	1.00
Satd. Flow (perm)	406	1828	1661		1158	1677	361	1774	1508	389	1846	1677
Volume (vph)	388	315	831	377	259	4	749	541	463	23	677	516
Peak-hour factor, PHF	0.87	0.87	0.87	0.94	0.94	0.94	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	446	362	955	401	276	4	797	576	493	26	778	593
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	446	362	955	0	677	4	797	576	493	26	778	593
Turn Type	Perm		pm+ov	Perm		Perm	pm+pt		custom	Perm		custom
Protected Phases		9	8		7		8	10	7		10	9
Permitted Phases	9		9	7		7	10	8	8 10	10		10
Actuated Green, G (s)	15.0	15.0	53.8		15.0	15.0	54.8	54.8	76.8	16.0	16.0	31.0
Effective Green, g (s)	18.0	18.0	59.8		18.0	18.0	60.8	60.8	82.8	19.0	19.0	37.0
Actuated g/C Ratio	0.16	0.16	0.53		0.16	0.16	0.54	0.54	0.73	0.17	0.17	0.33
Clearance Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
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)	65	292	881		185	268	664	1019	1160	66	311	610
v/s Ratio Prot		0.20	0.40				c0.45	0.10	0.07		c0.42	0.16
v/s Ratio Perm	c1.10		0.17		c0.58	0.00	0.20	0.23	0.26	0.07		0.20
v/c Ratio	6.86	1.24	1.08		3.66	0.01	1.20	0.57	0.42	0.39	2.50	0.97
Uniform Delay, d1	47.4	47.4	26.5		47.4	39.9	37.8	17.2	5.8	41.8	46.9	37.4
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.36	0.74	0.89	1.00	1.00	1.00
Incremental Delay, d2	2669.7	133.6	55.7		1210.0	0.0	91.6	0.1	0.0	3.8	685.2	29.3
Delay (s)	2717.1	181.0	82.2		1257.4	40.0	142.8	12.8	5.2	45.6	732.1	66.7
Level of Service	F	F	F		F	D	F	B	A	D	F	E
Approach Delay (s)		769.1			1250.2			66.3			436.9	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM Average Control Delay	515.4	HCM Level of Service	F
HCM Volume to Capacity ratio	2.97		
Actuated Cycle Length (s)	112.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	146.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	ø1	ø2	ø3	ø4	ø5	ø6
Lane Configurations						
Volume (vph)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	3	4	5	6
Permitted Phases						
Detector Phases						
Minimum Initial (s)	10.0	10.0	7.0	7.0	7.0	3.0
Minimum Split (s)	17.0	17.0	14.0	14.0	14.0	10.0
Total Split (s)	23.0	22.0	22.0	16.0	16.0	11.0
Total Split (%)	21%	20%	20%	15%	15%	10%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?						
Recall Mode	None	Max	None	None	None	None
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	388	315	831	377	259	4	749	541	463	23	677	516
Lane Group Flow (vph)	446	362	955	0	677	4	797	576	493	26	778	593
Turn Type	Perm		pm+ov	Perm		Perm	pm+pt		custom	Perm		custom
Protected Phases		9	8		7		8	10	7		10	9
Permitted Phases	9		9	7		7	10	8	8 10	10		10
Detector Phases	9	9	8	7	7	7	8	10	7	10	10	9
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0	7.0	10.0	10.0	7.0
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	17.0	14.0	17.0	17.0	14.0
Total Split (s)	22.0	22.0	43.0	22.0	22.0	22.0	43.0	23.0	22.0	23.0	23.0	22.0
Total Split (%)	20.0%	20.0%	39.1%	20.0%	20.0%	20.0%	39.1%	20.9%	20.0%	20.9%	20.9%	20.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lag	Lag						Lead		Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	Max	Max	None	None	None	None	None	None	None	None	None	Max
v/c Ratio	6.76	1.21	1.11		3.58	0.01	1.25	0.58	0.43	0.39	2.44	0.95
Control Delay	2631.1	162.0	85.7		1190.6	39.0	146.3	12.0	4.3	58.8	679.1	59.9
Queue Delay	0.0	0.0	127.1		0.0	0.0	56.3	8.8	3.7	0.0	24.7	0.0
Total Delay	2631.1	162.0	212.8		1190.6	39.0	202.7	20.8	8.0	58.8	703.7	59.9
Queue Length 50th (ft)	~579	~313	~558		~858	2	~676	164	54	16	~911	402
Queue Length 95th (ft)	#751	#474	#963		#1083	13	m#495	m139	m46	45	#1098	#593
Internal Link Dist (ft)		2380			4004			270			1226	
Turn Bay Length (ft)			290			80						100
Base Capacity (vph)	66	299	861		189	274	639	1000	1152	67	319	625
Starvation Cap Reductn	0	0	0		0	0	59	384	554	0	0	0
Spillback Cap Reductn	0	0	178		0	0	0	0	0	0	81	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	6.76	1.21	1.40		3.58	0.01	1.37	0.94	0.82	0.39	3.27	0.95

Intersection Summary

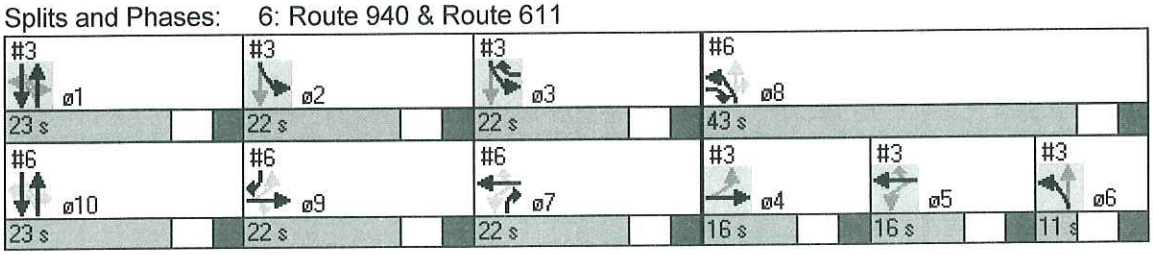
Cycle Length: 110
Actuated Cycle Length: 110
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Route 940 & Route 611



2007 PROJECTED CONDITIONS:

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
Lane Width	12	15	12	11	11	11	10	11	11	11	11	12
Grade (%)		-6%			2%			0%			0%	
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	0.88	1.00	0.95		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.96			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1990			1710	2667	1636	3373		1711	1790	
Flt Permitted		0.29			0.56	1.00	0.21	1.00		0.21	1.00	
Satd. Flow (perm)		598			995	2667	362	3373		379	1790	
Volume (vph)	215	28	48	94	17	670	30	1193	37	787	1313	55
Peak-hour factor, PHF	0.89	0.89	0.89	0.85	0.85	0.93	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	242	31	54	111	20	720	32	1283	40	828	1382	58
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	327	0	0	131	720	32	1323	0	828	1440	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm		custom	pm+pt			custom		
Protected Phases		4			5	3	6	1		2 3	1	
Permitted Phases	4			5		5	1	6		1 2 3	2 3	
Actuated Green, G (s)		9.0			13.4	28.4	18.4	18.4		53.0	53.0	
Effective Green, g (s)		12.0			16.4	34.4	24.4	24.4		59.0	59.0	
Actuated g/C Ratio		0.11			0.15	0.30	0.22	0.22		0.52	0.52	
Clearance Time (s)		7.0			7.0	7.0	7.0	7.0			7.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		64			145	813	139	849		671	1000	
v/s Ratio Prot						0.14	0.01	c0.26		0.44	c0.24	
v/s Ratio Perm		c0.55			c0.13	0.13	0.04	0.13		0.21	0.56	
v/c Ratio		5.11			0.90	0.89	0.23	1.56		1.23	1.44	
Uniform Delay, d1		50.4			47.4	37.3	52.1	44.2		38.7	26.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.96	0.94	
Incremental Delay, d2		1883.6			46.9	11.3	0.8	257.0		106.5	198.5	
Delay (s)		1934.0			94.3	48.7	53.0	301.2		143.5	223.9	
Level of Service		F			F	D	D	F		F	F	
Approach Delay (s)		1934.0			55.7			295.4			194.5	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM Average Control Delay	316.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.81		
Actuated Cycle Length (s)	112.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	110.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	ø9	ø10
Lane Configurations		
Volume (vph)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	9	10
Permitted Phases		
Detector Phases		
Minimum Initial (s)	7.0	10.0
Minimum Split (s)	14.0	17.0
Total Split (s)	22.0	23.0
Total Split (%)	20%	21%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	3.0	3.0
Lead/Lag	Lag	Lead
Lead-Lag Optimize?		
Recall Mode	Max	None
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø2	ø7	ø8
Lane Configurations												
Volume (vph)	215	28	94	17	670	30	1193	787	1313			
Lane Group Flow (vph)	0	327	0	131	720	32	1323	828	1440			
Turn Type	Perm		Perm		custom	pm+pt		custom				
Protected Phases		4		5	3	6	1	2 3	1	2	7	8
Permitted Phases	4		5		5	1	6	1 2 3	2 3			
Detector Phases	4	4	5	5	3	6	1	2 3	1			
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	3.0	10.0		10.0	10.0	7.0	7.0
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0	10.0	17.0		17.0	17.0	14.0	14.0
Total Split (s)	16.0	16.0	16.0	16.0	22.0	11.0	23.0	44.0	23.0	22.0	22.0	43.0
Total Split (%)	14.5%	14.5%	14.5%	14.5%	20.0%	10.0%	20.9%	40.0%	20.9%	20%	20%	39%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lead	Lag	Lag			Lead		Lead	Lag		
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None		None	Max	None	None
v/c Ratio		5.03		0.88	0.86	0.19	1.69	1.20	1.40			
Control Delay		1859.3		97.2	38.0	32.7	343.8	122.5	206.2			
Queue Delay		0.0		0.0	1.1	0.0	46.2	0.0	467.7			
Total Delay		1859.3		97.2	39.1	32.7	390.0	122.5	674.0			
Queue Length 50th (ft)		~434		~113	210	17	~669	~705	~1376			
Queue Length 95th (ft)		#603		#219	#302	42	#805	m214	m439			
Internal Link Dist (ft)		2366		3170			1888		270			
Turn Bay Length (ft)					225	325						
Base Capacity (vph)		65		149	834	167	784	688	1025			
Starvation Cap Reductn		0		0	0	0	0	0	436			
Spillback Cap Reductn		6		0	26	0	45	0	0			
Storage Cap Reductn		0		0	0	0	0	0	0			
Reduced v/c Ratio		5.54		0.88	0.89	0.19	1.79	1.20	2.44			

Intersection Summary

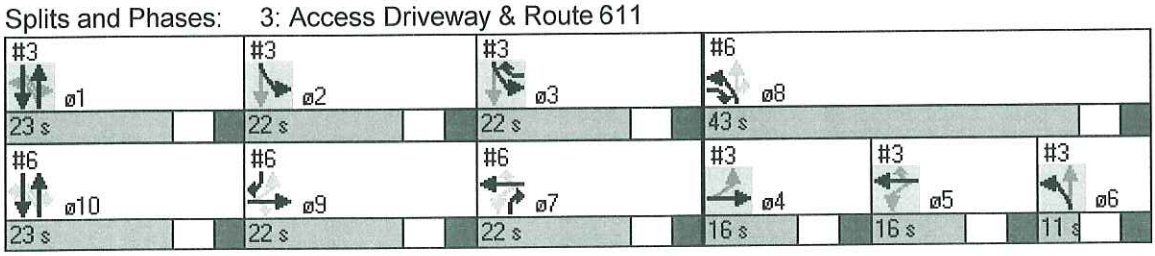
Cycle Length: 110
Actuated Cycle Length: 110
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Access Driveway & Route 611



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
Lane Width	11	11	13	11	11	13	10	11	11	11	11	13
Grade (%)		-3%			-5%			3%			-5%	
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	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1736	1828	1661		1791	1677	1627	1774	1508	1753	1846	1677
Flt Permitted	0.22	1.00	1.00		0.59	1.00	0.21	1.00	1.00	0.21	1.00	1.00
Satd. Flow (perm)	406	1828	1661		1090	1677	361	1774	1508	389	1846	1677
Volume (vph)	377	369	1017	379	240	4	698	648	732	2	759	437
Peak-hour factor, PHF	0.87	0.87	0.87	0.94	0.94	0.94	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	433	424	1169	403	255	4	743	689	779	2	872	502
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	433	424	1169	0	658	4	743	689	779	2	872	502
Turn Type	Perm		pm+ov	Perm		Perm	pm+pt		custom	Perm		custom
Protected Phases		9	8		7		8	10	7		10	9
Permitted Phases	9		9	7		7	10	8	8 10	10		10
Actuated Green, G (s)	15.0	15.0	53.8		15.0	15.0	54.8	54.8	76.8	16.0	16.0	31.0
Effective Green, g (s)	18.0	18.0	59.8		18.0	18.0	60.8	60.8	82.8	19.0	19.0	37.0
Actuated g/C Ratio	0.16	0.16	0.53		0.16	0.16	0.54	0.54	0.73	0.17	0.17	0.33
Clearance Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
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)	65	292	881		174	268	664	1019	1160	66	311	610
v/s Ratio Prot		0.23	c0.49				0.41	0.11	0.11		c0.47	0.13
v/s Ratio Perm	c1.07		0.21		c0.60	0.00	0.19	0.27	0.41	0.01		0.17
v/c Ratio	6.66	1.45	1.33		3.78	0.01	1.12	0.68	0.67	0.03	2.80	0.82
Uniform Delay, d1	47.4	47.4	26.5		47.4	39.9	37.8	18.9	7.9	39.2	46.9	34.9
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.43	0.76	1.43	1.00	1.00	1.00
Incremental Delay, d2	2579.9	221.6	155.0		1265.6	0.0	55.7	0.2	0.1	0.2	820.6	8.8
Delay (s)	2627.3	269.0	181.5		1313.0	40.0	109.7	14.4	11.4	39.4	867.5	43.7
Level of Service	F	F	F		F	D	F	B	B	D	F	D
Approach Delay (s)		722.5			1305.3			45.4			565.8	
Approach LOS		F			F			D			F	

Intersection Summary			
HCM Average Control Delay	511.0	HCM Level of Service	F
HCM Volume to Capacity ratio	3.07		
Actuated Cycle Length (s)	112.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	146.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	ø1	ø2	ø3	ø4	ø5	ø6
Lane Configurations						
Volume (vph)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	3	4	5	6
Permitted Phases						
Detector Phases						
Minimum Initial (s)	10.0	10.0	7.0	7.0	7.0	3.0
Minimum Split (s)	17.0	17.0	14.0	14.0	14.0	10.0
Total Split (s)	23.0	22.0	22.0	16.0	16.0	11.0
Total Split (%)	21%	20%	20%	15%	15%	10%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?						
Recall Mode	None	Max	None	None	None	None
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	377	369	1017	379	240	4	698	648	732	2	759	437
Lane Group Flow (vph)	433	424	1169	0	658	4	743	689	779	2	872	502
Turn Type	Perm		pm+ov	Perm		Perm	pm+pt		custom	Perm		custom
Protected Phases		9	8		7		8	10	7		10	9
Permitted Phases	9		9	7		7	10	8	8 10	10		10
Detector Phases	9	9	8	7	7	7	8	10	7	10	10	9
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0	7.0	10.0	10.0	7.0
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	17.0	14.0	17.0	17.0	14.0
Total Split (s)	22.0	22.0	43.0	22.0	22.0	22.0	43.0	23.0	22.0	23.0	23.0	22.0
Total Split (%)	20.0%	20.0%	39.1%	20.0%	20.0%	20.0%	39.1%	20.9%	20.0%	20.9%	20.9%	20.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lag	Lag						Lead		Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	Max	Max	None	None	None	None	None	None	None	None	None	Max
v/c Ratio	6.56	1.42	1.36		3.68	0.01	1.16	0.69	0.68	0.03	2.73	0.80
Control Delay	2542.9	242.1	190.1		1233.1	39.0	111.6	13.8	10.1	39.5	808.9	42.4
Queue Delay	0.0	0.0	256.6		0.0	0.0	59.7	55.0	61.2	0.0	0.0	0.0
Total Delay	2542.9	242.1	446.7		1233.1	39.0	171.2	68.8	71.3	39.5	808.9	42.4
Queue Length 50th (ft)	~559	~404	~1088		~838	2	~595	189	110	1	~1050	314
Queue Length 95th (ft)	#730	#572	#1277		#1060	13	m315	m133	m66	8	#1240	430
Internal Link Dist (ft)		2380			4004			270			1226	
Turn Bay Length (ft)			290			80						100
Base Capacity (vph)	66	299	861		179	274	639	1000	1152	67	319	625
Starvation Cap Reductn	0	0	0		0	0	67	378	459	0	0	0
Spillback Cap Reductn	0	0	255		0	0	0	0	0	0	105	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	6.56	1.42	1.93		3.68	0.01	1.30	1.11	1.12	0.03	4.07	0.80

Intersection Summary

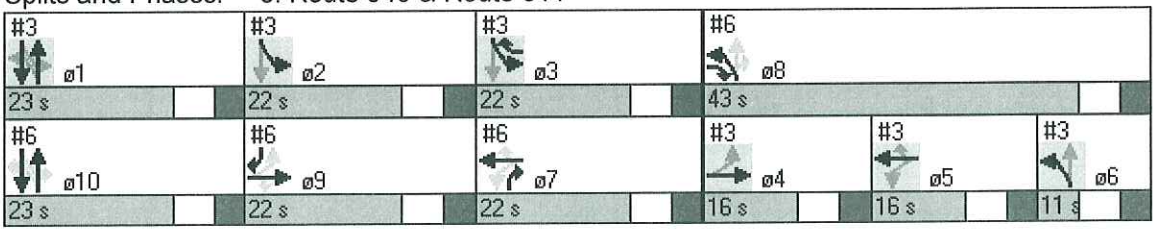
Cycle Length: 110
Actuated Cycle Length: 110
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Route 940 & Route 611



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
Lane Width	12	15	12	11	11	11	10	11	11	11	11	12
Grade (%)		-6%			2%			0%			0%	
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	0.88	1.00	0.95		1.00	1.00	
Frt		0.96			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.97			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1980			1713	2667	1636	3367		1711	1786	
Flt Permitted		0.25			0.59	1.00	0.21	1.00		0.21	1.00	
Satd. Flow (perm)		518			1049	2667	362	3367		379	1786	
Volume (vph)	137	51	71	116	27	700	32	1022	45	707	1242	69
Peak-hour factor, PHF	0.89	0.89	0.89	0.85	0.85	0.93	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	154	57	80	136	32	753	34	1099	48	744	1307	73
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	291	0	0	168	753	34	1147	0	744	1380	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm		custom	pm+pt			custom		
Protected Phases		4			5	3	6	1		2 3	1	
Permitted Phases	4			5		5	1	6		1 2 3	2 3	
Actuated Green, G (s)		9.0			13.4	28.4	18.4	18.4		53.0	53.0	
Effective Green, g (s)		12.0			16.4	34.4	24.4	24.4		59.0	59.0	
Actuated g/C Ratio		0.11			0.15	0.30	0.22	0.22		0.52	0.52	
Clearance Time (s)		7.0			7.0	7.0	7.0	7.0			7.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		55			153	813	139	848		671	998	
v/s Ratio Prot						0.15	0.01	c0.23		0.39	c0.23	
v/s Ratio Perm		c0.56			c0.16	0.13	0.04	0.11		0.19	0.54	
v/c Ratio		5.29			1.10	0.93	0.24	1.35		1.11	1.38	
Uniform Delay, d1		50.4			48.2	38.0	52.2	44.2		38.7	26.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.94	0.92	
Incremental Delay, d2		1970.5			101.4	16.3	0.9	166.4		51.3	172.8	
Delay (s)		2020.9			149.6	54.2	53.1	210.6		87.7	197.7	
Level of Service		F			F	D	D	F		F	F	
Approach Delay (s)		2020.9			71.6			206.1			159.2	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM Average Control Delay	273.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.77		
Actuated Cycle Length (s)	112.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	ø9	ø10
Lane Configurations		
Volume (vph)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	9	10
Permitted Phases		
Detector Phases		
Minimum Initial (s)	7.0	10.0
Minimum Split (s)	14.0	17.0
Total Split (s)	22.0	23.0
Total Split (%)	20%	21%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	3.0	3.0
Lead/Lag	Lag	Lead
Lead-Lag Optimize?		
Recall Mode	Max	None
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø2	ø7	ø8
Lane Configurations												
Volume (vph)	137	51	116	27	700	32	1022	707	1242			
Lane Group Flow (vph)	0	291	0	168	753	34	1147	744	1380			
Turn Type	Perm		Perm		custom	pm+pt		custom				
Protected Phases		4		5	3	6	1	2 3	1	2	7	8
Permitted Phases	4		5		5	1	6	1 2 3	2 3			
Detector Phases	4	4	5	5	3	6	1	2 3	1			
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	3.0	10.0		10.0	10.0	7.0	7.0
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0	10.0	17.0		17.0	17.0	14.0	14.0
Total Split (s)	16.0	16.0	16.0	16.0	22.0	11.0	23.0	44.0	23.0	22.0	22.0	43.0
Total Split (%)	14.5%	14.5%	14.5%	14.5%	20.0%	10.0%	20.9%	40.0%	20.9%	20%	20%	39%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lead	Lag	Lag			Lead		Lead	Lag		
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None		None	Max	None	None
v/c Ratio		5.11		1.08	0.90	0.20	1.46	1.08	1.35			
Control Delay		1897.2		140.8	42.3	32.9	247.6	69.9	181.1			
Queue Delay		0.0		0.0	0.0	0.0	62.4	0.0	436.2			
Total Delay		1897.2		140.8	42.3	32.9	310.0	69.9	617.3			
Queue Length 50th (ft)		~387		~163	~237	18	~533	~538	~1286			
Queue Length 95th (ft)		#551		#280	#330	43	#666	m202	m453			
Internal Link Dist (ft)		2366		3170			1888		270			
Turn Bay Length (ft)					225	325						
Base Capacity (vph)		57		156	834	167	784	688	1023			
Starvation Cap Reductn		0		0	0	0	0	0	428			
Spillback Cap Reductn		3		0	0	0	68	0	0			
Storage Cap Reductn		0		0	0	0	0	0	0			
Reduced v/c Ratio		5.39		1.08	0.90	0.20	1.60	1.08	2.32			

Intersection Summary

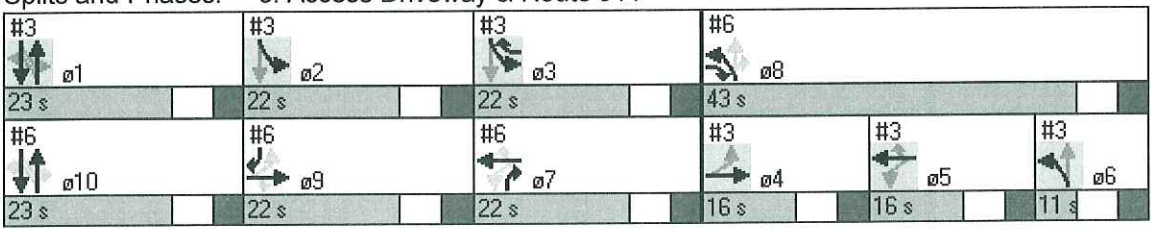
Cycle Length: 110
Actuated Cycle Length: 110
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Access Driveway & Route 611



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
Lane Width	11	11	13	11	11	13	10	11	11	11	11	13
Grade (%)		-3%			-5%			3%			-5%	
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	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1736	1828	1661		1792	1677	1627	1774	1508	1753	1846	1677
Flt Permitted	0.22	1.00	1.00		0.63	1.00	0.21	1.00	1.00	0.21	1.00	1.00
Satd. Flow (perm)	406	1828	1661		1156	1677	361	1774	1508	389	1846	1677
Volume (vph)	388	315	896	380	259	4	801	593	465	23	742	516
Peak-hour factor, PHF	0.87	0.87	0.87	0.94	0.94	0.94	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	446	362	1030	404	276	4	852	631	495	26	853	593
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	446	362	1030	0	680	4	852	631	495	26	853	593
Turn Type	Perm		pm+ov	Perm		Perm	pm+pt		custom	Perm		custom
Protected Phases		9	8		7		8	10	7		10	9
Permitted Phases	9		9	7		7	10	8	8 10	10		10
Actuated Green, G (s)	15.0	15.0	53.8		15.0	15.0	54.8	54.8	76.8	16.0	16.0	31.0
Effective Green, g (s)	18.0	18.0	59.8		18.0	18.0	60.8	60.8	82.8	19.0	19.0	37.0
Actuated g/C Ratio	0.16	0.16	0.53		0.16	0.16	0.54	0.54	0.73	0.17	0.17	0.33
Clearance Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
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)	65	292	881		184	268	664	1019	1160	66	311	610
v/s Ratio Prot		0.20	0.43				c0.48	0.10	0.07		c0.46	0.16
v/s Ratio Perm	c1.10		0.19		c0.59	0.00	0.22	0.25	0.26	0.07		0.20
v/c Ratio	6.86	1.24	1.17		3.70	0.01	1.28	0.62	0.43	0.39	2.74	0.97
Uniform Delay, d1	47.4	47.4	26.5		47.4	39.9	37.8	18.0	5.8	41.8	46.9	37.4
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.37	0.73	0.91	1.00	1.00	1.00
Incremental Delay, d2	2669.7	133.6	88.3		1226.3	0.0	128.5	0.1	0.0	3.8	793.2	29.3
Delay (s)	2717.1	181.0	114.8		1273.7	40.0	180.3	13.3	5.3	45.6	840.1	66.7
Level of Service	F	F	F		F	D	F	B	A	D	F	E
Approach Delay (s)		759.3			1266.5			83.2			514.5	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	533.1	HCM Level of Service	F
HCM Volume to Capacity ratio	3.06		
Actuated Cycle Length (s)	112.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	152.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	ø1	ø2	ø3	ø4	ø5	ø6
Lane Configurations						
Volume (vph)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	3	4	5	6
Permitted Phases						
Detector Phases						
Minimum Initial (s)	10.0	10.0	7.0	7.0	7.0	3.0
Minimum Split (s)	17.0	17.0	14.0	14.0	14.0	10.0
Total Split (s)	23.0	22.0	22.0	16.0	16.0	11.0
Total Split (%)	21%	20%	20%	15%	15%	10%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?						
Recall Mode	None	Max	None	None	None	None
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	388	315	896	380	259	4	801	593	465	23	742	516
Lane Group Flow (vph)	446	362	1030	0	680	4	852	631	495	26	853	593
Turn Type	Perm		pm+ov	Perm		Perm	pm+pt		custom	Perm		custom
Protected Phases		9	8		7		8	10	7		10	9
Permitted Phases	9		9	7		7	10	8	8 10	10		10
Detector Phases	9	9	8	7	7	7	8	10	7	10	10	9
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0	7.0	10.0	10.0	7.0
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	17.0	14.0	17.0	17.0	14.0
Total Split (s)	22.0	22.0	43.0	22.0	22.0	22.0	43.0	23.0	22.0	23.0	23.0	22.0
Total Split (%)	20.0%	20.0%	39.1%	20.0%	20.0%	20.0%	39.1%	20.9%	20.0%	20.9%	20.9%	20.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lag	Lag						Lead		Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	Max	Max	None	None	None	None	None	None	None	None	None	Max
v/c Ratio	6.76	1.21	1.20		3.60	0.01	1.33	0.63	0.43	0.39	2.67	0.95
Control Delay	2631.1	162.0	120.7		1197.7	39.0	183.8	12.6	4.4	58.8	782.6	59.9
Queue Delay	0.0	0.0	206.6		0.0	0.0	60.6	20.3	4.4	0.0	0.0	0.0
Total Delay	2631.1	162.0	327.3		1197.7	39.0	244.4	32.9	8.8	58.8	782.6	59.9
Queue Length 50th (ft)	~579	~313	~666		~862	2	~757	181	55	16	~1022	402
Queue Length 95th (ft)	#751	#474	#1073		#1088	13	m#505	m144	m44	45	#1210	#593
Internal Link Dist (ft)		2380			4004			270			1226	
Turn Bay Length (ft)			290			80						100
Base Capacity (vph)	66	299	861		189	274	639	1000	1152	67	319	625
Starvation Cap Reductn	0	0	0		0	0	59	373	567	0	0	0
Spillback Cap Reductn	0	0	240		0	0	0	0	0	0	88	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	6.76	1.21	1.66		3.60	0.01	1.47	1.01	0.85	0.39	3.69	0.95

Intersection Summary

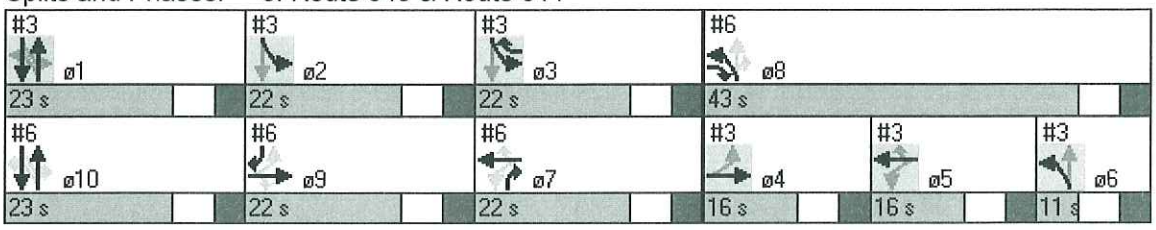
Cycle Length: 110
Actuated Cycle Length: 110
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Route 940 & Route 611



2017 BASE CONDITIONS:

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
Lane Width	12	15	12	11	11	11	10	11	11	11	11	12
Grade (%)		-6%			2%			0%			0%	
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	0.88	1.00	0.95		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.96			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1990			1707	2667	1636	3371		1711	1791	
Flt Permitted		0.29			0.55	1.00	0.21	1.00		0.21	1.00	
Satd. Flow (perm)		598			978	2667	362	3371		379	1791	
Volume (vph)	215	28	48	126	17	875	30	1460	50	952	1476	55
Peak-hour factor, PHF	0.89	0.89	0.89	0.85	0.85	0.93	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	242	31	54	148	20	941	32	1570	54	1002	1554	58
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	327	0	0	168	941	32	1624	0	1002	1612	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm		custom	pm+pt			custom		
Protected Phases		4			5	3	6	1		2 3	1	
Permitted Phases	4			5		5	1	6		1 2 3	2 3	
Actuated Green, G (s)		9.0			13.4	28.4	18.4	18.4		53.0	53.0	
Effective Green, g (s)		12.0			16.4	34.4	24.4	24.4		59.0	59.0	
Actuated g/C Ratio		0.11			0.15	0.30	0.22	0.22		0.52	0.52	
Clearance Time (s)		7.0			7.0	7.0	7.0	7.0			7.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		64			142	813	139	849		671	1000	
v/s Ratio Prot						0.18	0.01	c0.32		0.53	c0.27	
v/s Ratio Perm		c0.55			c0.17	0.17	0.04	0.16		0.25	0.63	
v/c Ratio		5.11			1.18	1.16	0.23	1.91		1.49	1.61	
Uniform Delay, d1		50.4			48.2	39.2	52.1	44.2		38.7	26.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.95	0.93	
Incremental Delay, d2		1883.6			133.1	84.5	0.8	415.2		222.7	275.8	
Delay (s)		1934.0			181.3	123.7	53.0	459.4		259.5	300.9	
Level of Service		F			F	F	D	F		F	F	
Approach Delay (s)		1934.0			132.4			451.5			285.0	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	398.2	HCM Level of Service	F
HCM Volume to Capacity ratio	2.02		
Actuated Cycle Length (s)	112.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	127.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	ø9	ø10
Lane Configurations		
Volume (vph)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	9	10
Permitted Phases		
Detector Phases		
Minimum Initial (s)	7.0	10.0
Minimum Split (s)	14.0	17.0
Total Split (s)	22.0	23.0
Total Split (%)	20%	21%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	3.0	3.0
Lead/Lag	Lag	Lead
Lead-Lag Optimize?		
Recall Mode	Max	None
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø2	ø7	ø8
Lane Configurations												
Volume (vph)	215	28	126	17	875	30	1460	952	1476			
Lane Group Flow (vph)	0	327	0	168	941	32	1624	1002	1612			
Turn Type	Perm		Perm		custom	pm+pt		custom				
Protected Phases		4		5	3	6	1	2 3	1	2	7	8
Permitted Phases	4		5		5	1	6	1 2 3	2 3			
Detector Phases	4	4	5	5	3	6	1	2 3	1			
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	3.0	10.0		10.0	10.0	7.0	7.0
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0	10.0	17.0		17.0	17.0	14.0	14.0
Total Split (s)	16.0	16.0	16.0	16.0	22.0	11.0	23.0	44.0	23.0	22.0	22.0	43.0
Total Split (%)	14.5%	14.5%	14.5%	14.5%	20.0%	10.0%	20.9%	40.0%	20.9%	20%	20%	39%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lead	Lag	Lag			Lead		Lead	Lag		
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None		None	Max	None	None
v/c Ratio		5.03		1.15	1.13	0.19	2.07	1.46	1.57			
Control Delay		1859.3		164.2	101.0	32.7	511.0	233.3	280.2			
Queue Delay		0.0		0.0	75.9	0.0	98.6	0.0	416.5			
Total Delay		1859.3		164.2	176.9	32.7	609.6	233.3	696.7			
Queue Length 50th (ft)		~434		~169	~355	17	~902	~963	~1627			
Queue Length 95th (ft)		#603		#285	#492	42	#1041	m227	m422			
Internal Link Dist (ft)		2366		3170			1888		270			
Turn Bay Length (ft)					225	325						
Base Capacity (vph)		65		146	834	167	784	688	1026			
Starvation Cap Reductn		0		0	0	0	0	0	447			
Spillback Cap Reductn		16		0	111	0	75	0	0			
Storage Cap Reductn		0		0	0	0	0	0	0			
Reduced v/c Ratio		6.67		1.15	1.30	0.19	2.29	1.46	2.78			

Intersection Summary

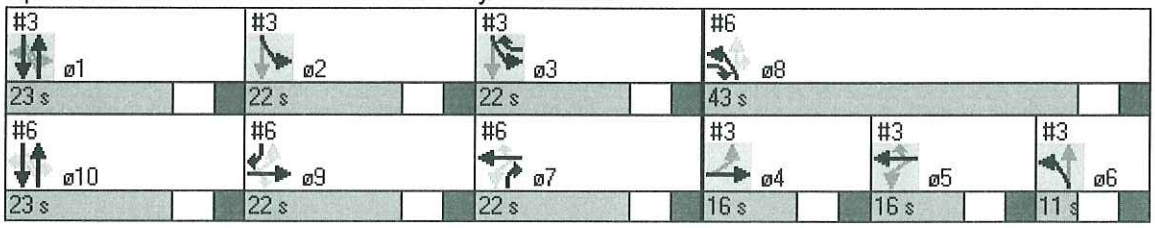
Cycle Length: 110
Actuated Cycle Length: 110
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Access Driveway & Route 611



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
Lane Width	11	11	13	11	11	13	10	11	11	11	11	13
Grade (%)		-3%			-5%			3%			-5%	
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	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1736	1828	1661		1791	1677	1627	1774	1508	1753	1846	1677
Flt Permitted	0.22	1.00	1.00		0.55	1.00	0.21	1.00	1.00	0.21	1.00	1.00
Satd. Flow (perm)	406	1828	1661		1006	1677	361	1774	1508	389	1846	1677
Volume (vph)	440	456	1127	486	303	6	794	783	973	3	870	554
Peak-hour factor, PHF	0.87	0.87	0.87	0.94	0.94	0.94	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	506	524	1295	517	322	6	845	833	1035	3	1000	637
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	506	524	1295	0	839	6	845	833	1035	3	1000	637
Turn Type	Perm		pm+ov	Perm		Perm	pm+pt		custom	Perm		custom
Protected Phases		9	8		7		8	10	7		10	9
Permitted Phases	9		9	7		7	10	8	8 10	10		10
Actuated Green, G (s)	15.0	15.0	53.8		15.0	15.0	54.8	54.8	76.8	16.0	16.0	31.0
Effective Green, g (s)	18.0	18.0	59.8		18.0	18.0	60.8	60.8	82.8	19.0	19.0	37.0
Actuated g/C Ratio	0.16	0.16	0.53		0.16	0.16	0.54	0.54	0.73	0.17	0.17	0.33
Clearance Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
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)	65	292	881		161	268	664	1019	1160	66	311	610
v/s Ratio Prot		0.29	c0.55				0.47	0.14	0.14		c0.54	0.17
v/s Ratio Perm	c1.25		0.23		c0.83	0.00	0.21	0.33	0.54	0.01		0.21
v/c Ratio	7.78	1.79	1.47		5.21	0.02	1.27	0.82	0.89	0.05	3.22	1.04
Uniform Delay, d1	47.4	47.4	26.5		47.4	40.0	37.8	21.4	11.6	39.3	46.9	37.9
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.41	0.86	1.68	1.00	1.00	1.00
Incremental Delay, d2	3084.5	371.0	217.7		1908.8	0.0	123.8	0.5	0.9	0.3	1005.3	48.5
Delay (s)	3131.9	418.4	244.2		1956.2	40.0	176.9	18.9	20.3	39.6	1052.2	86.4
Level of Service	F	F	F		F	D	F	B	C	D	F	F
Approach Delay (s)		911.9			1942.6			68.6			675.2	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM Average Control Delay	672.0	HCM Level of Service	F
HCM Volume to Capacity ratio	3.69		
Actuated Cycle Length (s)	112.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	170.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	ø1	ø2	ø3	ø4	ø5	ø6
Lane Configurations						
Volume (vph)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	3	4	5	6
Permitted Phases						
Detector Phases						
Minimum Initial (s)	10.0	10.0	7.0	7.0	7.0	3.0
Minimum Split (s)	17.0	17.0	14.0	14.0	14.0	10.0
Total Split (s)	23.0	22.0	22.0	16.0	16.0	11.0
Total Split (%)	21%	20%	20%	15%	15%	10%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?						
Recall Mode	None	Max	None	None	None	None
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	440	456	1127	486	303	6	794	783	973	3	870	554
Lane Group Flow (vph)	506	524	1295	0	839	6	845	833	1035	3	1000	637
Turn Type	Perm		pm+ov	Perm		Perm	pm+pt		custom	Perm		custom
Protected Phases		9	8		7		8	10	7		10	9
Permitted Phases	9		9	7		7	10	8	8 10	10		10
Detector Phases	9	9	8	7	7	7	8	10	7	10	10	9
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0	7.0	10.0	10.0	7.0
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	17.0	14.0	17.0	17.0	14.0
Total Split (s)	22.0	22.0	43.0	22.0	22.0	22.0	43.0	23.0	22.0	23.0	23.0	22.0
Total Split (%)	20.0%	20.0%	39.1%	20.0%	20.0%	20.0%	39.1%	20.9%	20.0%	20.9%	20.9%	20.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lag	Lag						Lead		Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	Max	Max	None	None	None	None	None	None	None	None	None	Max
v/c Ratio	7.67	1.75	1.50		5.08	0.02	1.32	0.83	0.90	0.04	3.13	1.02
Control Delay	3038.6	381.8	254.4		1862.9	39.0	179.6	18.8	19.4	40.0	986.5	76.1
Queue Delay	0.0	0.0	199.3		0.0	0.0	70.4	158.2	193.7	0.0	0.0	0.0
Total Delay	3038.6	381.8	453.7		1862.9	39.0	250.0	177.0	213.1	40.0	986.5	76.1
Queue Length 50th (ft)	~669	~552	~1274		~1115	4	~748	260	392	2	~1238	~478
Queue Length 95th (ft)	#847	#727	#1461		#1353	16	m282	m135	m71	11	#1428	#661
Internal Link Dist (ft)		2380			4004			270			1226	
Turn Bay Length (ft)			290			80						100
Base Capacity (vph)	66	299	861		165	274	639	1000	1152	67	319	625
Starvation Cap Reductn	0	0	0		0	0	68	383	430	0	0	0
Spillback Cap Reductn	0	0	196		0	0	0	0	0	0	109	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	7.67	1.75	1.95		5.08	0.02	1.48	1.35	1.43	0.04	4.76	1.02

Intersection Summary

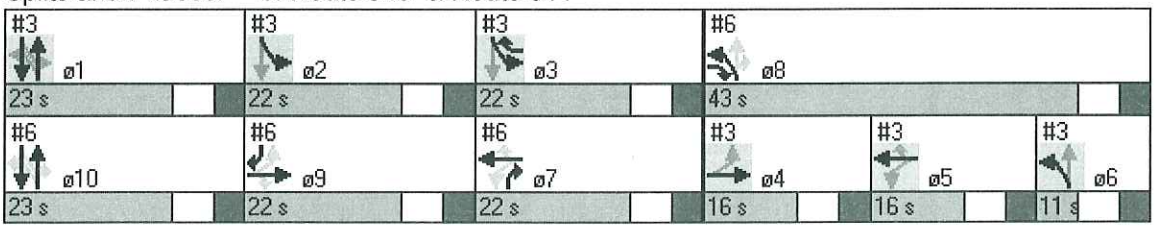
Cycle Length: 110
Actuated Cycle Length: 110
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Route 940 & Route 611



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
Lane Width	12	15	12	11	11	11	10	11	11	11	11	12
Grade (%)		-6%			2%			0%			0%	
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	0.88	1.00	0.95		1.00	1.00	
Frt		0.96			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.97			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1980			1710	2667	1636	3363		1711	1788	
Flt Permitted		0.25			0.58	1.00	0.21	1.00		0.21	1.00	
Satd. Flow (perm)		518			1027	2667	362	3363		379	1788	
Volume (vph)	137	51	71	156	27	885	32	1169	61	872	1422	69
Peak-hour factor, PHF	0.89	0.89	0.89	0.85	0.85	0.93	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	154	57	80	184	32	952	34	1257	66	918	1497	73
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	291	0	0	216	952	34	1323	0	918	1570	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm		custom	pm+pt			custom		
Protected Phases		4			5	3	6	1		2 3	1	
Permitted Phases	4			5		5	1	6		1 2 3	2 3	
Actuated Green, G (s)		9.0			13.4	28.4	18.4	18.4		53.0	53.0	
Effective Green, g (s)		12.0			16.4	34.4	24.4	24.4		59.0	59.0	
Actuated g/C Ratio		0.11			0.15	0.30	0.22	0.22		0.52	0.52	
Clearance Time (s)		7.0			7.0	7.0	7.0	7.0			7.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		55			149	813	139	847		671	999	
v/s Ratio Prot						0.19	0.01	c0.26		0.49	c0.26	
v/s Ratio Perm		c0.56			c0.21	0.17	0.04	0.13		0.23	0.61	
v/c Ratio		5.29			1.45	1.17	0.24	1.56		1.37	1.57	
Uniform Delay, d1		50.4			48.2	39.2	52.2	44.2		38.7	26.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.94	0.91	
Incremental Delay, d2		1970.5			235.8	89.9	0.9	258.7		166.5	257.7	
Delay (s)		2020.9			284.0	129.1	53.1	302.9		202.7	282.2	
Level of Service		F			F	F	D	F		F	F	
Approach Delay (s)		2020.9			157.8			296.6			252.9	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	340.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.97		
Actuated Cycle Length (s)	112.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	113.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	ø9	ø10
Lane Configurations		
Volume (vph)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	9	10
Permitted Phases		
Detector Phases		
Minimum Initial (s)	7.0	10.0
Minimum Split (s)	14.0	17.0
Total Split (s)	22.0	23.0
Total Split (%)	20%	21%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	3.0	3.0
Lead/Lag	Lag	Lead
Lead-Lag Optimize?		
Recall Mode	Max	None
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø2	ø7	ø8
Lane Configurations												
Volume (vph)	137	51	156	27	885	32	1169	872	1422			
Lane Group Flow (vph)	0	291	0	216	952	34	1323	918	1570			
Turn Type	Perm		Perm		custom	pm+pt		custom				
Protected Phases		4		5	3	6	1	2 3	1	2	7	8
Permitted Phases	4		5		5	1	6	1 2 3	2 3			
Detector Phases	4	4	5	5	3	6	1	2 3	1			
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	3.0	10.0		10.0	10.0	7.0	7.0
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0	10.0	17.0		17.0	17.0	14.0	14.0
Total Split (s)	16.0	16.0	16.0	16.0	22.0	11.0	23.0	44.0	23.0	22.0	22.0	43.0
Total Split (%)	14.5%	14.5%	14.5%	14.5%	20.0%	10.0%	20.9%	40.0%	20.9%	20%	20%	39%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lead	Lag	Lag			Lead		Lead	Lag		
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None		None	Max	None	None
v/c Ratio		5.11		1.41	1.14	0.20	1.69	1.33	1.53			
Control Delay		1897.2		255.0	106.0	32.9	345.3	179.4	263.1			
Queue Delay		0.0		0.0	30.3	0.0	92.5	0.0	433.6			
Total Delay		1897.2		255.0	136.3	32.9	437.9	179.4	696.7			
Queue Length 50th (ft)		~387		~236	~364	18	~670	~837	~1565			
Queue Length 95th (ft)		#551		#361	#501	43	#806	m216	m437			
Internal Link Dist (ft)		2366		3170			1888		270			
Turn Bay Length (ft)					225	325						
Base Capacity (vph)		57		153	834	167	783	688	1024			
Starvation Cap Reductn		0		0	0	0	0	0	437			
Spillback Cap Reductn		7		0	48	0	85	0	0			
Storage Cap Reductn		0		0	0	0	0	0	0			
Reduced v/c Ratio		5.82		1.41	1.21	0.20	1.90	1.33	2.67			

Intersection Summary

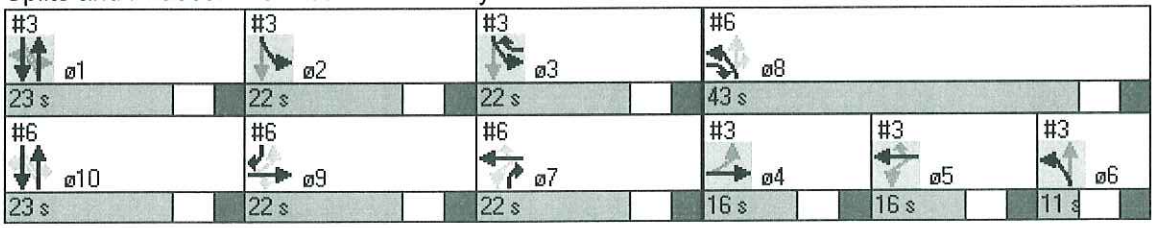
Cycle Length: 110
Actuated Cycle Length: 110
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Access Driveway & Route 611



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
Lane Width	11	11	13	11	11	13	10	11	11	11	11	13
Grade (%)		-3%			-5%			3%			-5%	
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	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1736	1828	1661		1791	1677	1627	1774	1508	1753	1846	1677
Flt Permitted	0.22	1.00	1.00		0.58	1.00	0.21	1.00	1.00	0.21	1.00	1.00
Satd. Flow (perm)	406	1828	1661		1076	1677	361	1774	1508	389	1846	1677
Volume (vph)	462	387	1002	485	314	6	890	699	602	30	876	638
Peak-hour factor, PHF	0.87	0.87	0.87	0.94	0.94	0.94	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	531	445	1152	516	334	6	947	744	640	34	1007	733
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	531	445	1152	0	850	6	947	744	640	34	1007	733
Turn Type	Perm		pm+ov	Perm		Perm	pm+pt		custom	Perm		custom
Protected Phases		9	8		7		8	10	7		10	9
Permitted Phases	9		9	7		7	10	8	8 10	10		10
Actuated Green, G (s)	15.0	15.0	53.8		15.0	15.0	54.8	54.8	76.8	16.0	16.0	31.0
Effective Green, g (s)	18.0	18.0	59.8		18.0	18.0	60.8	60.8	82.8	19.0	19.0	37.0
Actuated g/C Ratio	0.16	0.16	0.53		0.16	0.16	0.54	0.54	0.73	0.17	0.17	0.33
Clearance Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
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)	65	292	881		172	268	664	1019	1160	66	311	610
v/s Ratio Prot		0.24	0.48				c0.53	0.12	0.09		c0.55	0.19
v/s Ratio Perm	c1.31		0.21		c0.79	0.00	0.24	0.30	0.34	0.09		0.25
v/c Ratio	8.17	1.52	1.31		4.94	0.02	1.43	0.73	0.55	0.52	3.24	1.20
Uniform Delay, d1	47.4	47.4	26.5		47.4	40.0	37.8	19.8	6.7	42.7	46.9	37.9
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.32	0.73	0.89	1.00	1.00	1.00
Incremental Delay, d2	3257.4	252.5	146.6		1786.9	0.0	192.6	0.2	0.1	6.6	1015.4	105.8
Delay (s)	3304.8	299.9	173.1		1834.3	40.0	242.5	14.7	6.0	49.3	1062.3	143.7
Level of Service	F	F	F		F	D	F	B	A	D	F	F
Approach Delay (s)		981.1			1821.7			104.9			663.3	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	715.0	HCM Level of Service	F
HCM Volume to Capacity ratio	3.70		
Actuated Cycle Length (s)	112.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	177.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	ø1	ø2	ø3	ø4	ø5	ø6
Lane Configurations						
Volume (vph)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	3	4	5	6
Permitted Phases						
Detector Phases						
Minimum Initial (s)	10.0	10.0	7.0	7.0	7.0	3.0
Minimum Split (s)	17.0	17.0	14.0	14.0	14.0	10.0
Total Split (s)	23.0	22.0	22.0	16.0	16.0	11.0
Total Split (%)	21%	20%	20%	15%	15%	10%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?						
Recall Mode	None	Max	None	None	None	None
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	462	387	1002	485	314	6	890	699	602	30	876	638
Lane Group Flow (vph)	531	445	1152	0	850	6	947	744	640	34	1007	733
Turn Type	Perm		pm+ov	Perm		Perm	pm+pt		custom	Perm		custom
Protected Phases		9	8		7		8	10	7		10	9
Permitted Phases	9		9	7		7	10	8	8 10	10		10
Detector Phases	9	9	8	7	7	7	8	10	7	10	10	9
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0	7.0	10.0	10.0	7.0
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	17.0	14.0	17.0	17.0	14.0
Total Split (s)	22.0	22.0	43.0	22.0	22.0	22.0	43.0	23.0	22.0	23.0	23.0	22.0
Total Split (%)	20.0%	20.0%	39.1%	20.0%	20.0%	20.0%	39.1%	20.9%	20.0%	20.9%	20.9%	20.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lag	Lag						Lead		Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	Max	Max	None	None	None	None	None	None	None	None	None	Max
v/c Ratio	8.05	1.49	1.34		4.83	0.02	1.48	0.74	0.56	0.51	3.16	1.17
Control Delay	3208.5	270.8	181.5		1747.9	39.0	247.7	14.2	5.2	69.2	996.3	126.7
Queue Delay	0.0	0.0	172.3		0.0	0.0	70.2	89.2	34.9	0.0	0.0	0.0
Total Delay	3208.5	270.8	353.8		1747.9	39.0	317.9	103.4	40.1	69.2	996.3	126.7
Queue Length 50th (ft)	~706	~435	~1063		~1122	4	~902	233	69	22	~1248	~619
Queue Length 95th (ft)	#886	#605	#1251		#1361	16	m#442	m148	m47	#64	#1438	#806
Internal Link Dist (ft)		2380			4004			270			1226	
Turn Bay Length (ft)			290			80						100
Base Capacity (vph)	66	299	861		176	274	639	1000	1152	67	319	625
Starvation Cap Reductn	0	0	0		0	0	61	375	544	0	0	0
Spillback Cap Reductn	0	0	192		0	0	0	0	0	0	109	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	8.05	1.49	1.72		4.83	0.02	1.64	1.19	1.05	0.51	4.80	1.17

Intersection Summary

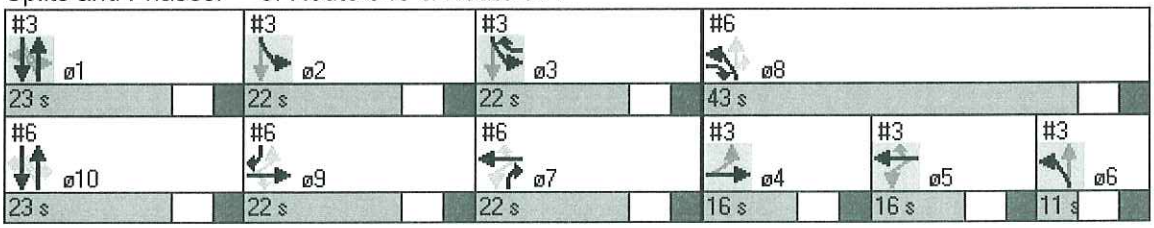
Cycle Length: 110
Actuated Cycle Length: 110
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Route 940 & Route 611



2017 PROJECTED CONDITIONS:

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
Lane Width	12	15	12	11	11	11	10	11	11	11	11	12
Grade (%)		-6%			2%			0%			0%	
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	0.88	1.00	0.95		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.96			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1990			1707	2667	1636	3372		1711	1791	
Flt Permitted		0.29			0.55	1.00	0.21	1.00		0.21	1.00	
Satd. Flow (perm)		598			978	2667	362	3372		379	1791	
Volume (vph)	215	28	48	126	17	901	30	1524	50	988	1565	55
Peak-hour factor, PHF	0.89	0.89	0.89	0.85	0.85	0.93	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	242	31	54	148	20	969	32	1639	54	1040	1647	58
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	327	0	0	168	969	32	1693	0	1040	1705	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm		custom	pm+pt			custom		
Protected Phases		4			5	3	6	1		2 3	1	
Permitted Phases	4			5		5	1	6		1 2 3	2 3	
Actuated Green, G (s)		9.0			13.4	28.4	18.4	18.4		53.0	53.0	
Effective Green, g (s)		12.0			16.4	34.4	24.4	24.4		59.0	59.0	
Actuated g/C Ratio		0.11			0.15	0.30	0.22	0.22		0.52	0.52	
Clearance Time (s)		7.0			7.0	7.0	7.0	7.0			7.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		64			142	813	139	849		671	1000	
v/s Ratio Prot						c0.19	0.01	c0.34		0.55	c0.29	
v/s Ratio Perm		c0.55			0.17	0.17	0.04	0.17		0.26	0.66	
v/c Ratio		5.11			1.18	1.19	0.23	1.99		1.55	1.70	
Uniform Delay, d1		50.4			48.2	39.2	52.1	44.2		38.7	26.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.95	0.93	
Incremental Delay, d2		1883.6			133.1	98.4	0.8	451.6		248.1	317.6	
Delay (s)		1934.0			181.3	137.6	53.0	495.8		284.9	342.7	
Level of Service		F			F	F	D	F		F	F	
Approach Delay (s)		1934.0			144.1			487.5			320.8	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	424.3	HCM Level of Service	F
HCM Volume to Capacity ratio	2.09		
Actuated Cycle Length (s)	112.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	131.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	ø9	ø10
Lane Configurations		
Volume (vph)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	9	10
Permitted Phases		
Detector Phases		
Minimum Initial (s)	7.0	10.0
Minimum Split (s)	14.0	17.0
Total Split (s)	22.0	23.0
Total Split (%)	20%	21%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	3.0	3.0
Lead/Lag	Lag	Lead
Lead-Lag Optimize?		
Recall Mode	Max	None
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø2	ø7	ø8
Lane Configurations												
Volume (vph)	215	28	126	17	901	30	1524	988	1565			
Lane Group Flow (vph)	0	327	0	168	969	32	1693	1040	1705			
Turn Type	Perm		Perm		custom	pm+pt		custom				
Protected Phases		4		5	3	6	1	2 3	1	2	7	8
Permitted Phases	4		5		5	1	6	1 2 3	2 3			
Detector Phases	4	4	5	5	3	6	1	2 3	1			
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	3.0	10.0		10.0	10.0	7.0	7.0
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0	10.0	17.0		17.0	17.0	14.0	14.0
Total Split (s)	16.0	16.0	16.0	16.0	22.0	11.0	23.0	44.0	23.0	22.0	22.0	43.0
Total Split (%)	14.5%	14.5%	14.5%	14.5%	20.0%	10.0%	20.9%	40.0%	20.9%	20%	20%	39%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lead	Lag	Lag			Lead		Lead	Lag		
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None		None	Max	None	None
v/c Ratio		5.03		1.15	1.16	0.19	2.16	1.51	1.66			
Control Delay		1859.3		164.2	113.9	32.7	549.6	257.6	320.5			
Queue Delay		0.0		0.0	80.4	0.0	126.1	0.0	375.9			
Total Delay		1859.3		164.2	194.4	32.7	675.6	257.6	696.4			
Queue Length 50th (ft)		~434		~169	~378	17	~956	~1021	~1769			
Queue Length 95th (ft)		#603		#285	#516	42	#1094	m224	m427			
Internal Link Dist (ft)		2366		3170			1888		270			
Turn Bay Length (ft)					225	325						
Base Capacity (vph)		65		146	834	167	784	688	1026			
Starvation Cap Reductn		0		0	0	0	0	0	445			
Spillback Cap Reductn		22		0	113	0	90	0	0			
Storage Cap Reductn		0		0	0	0	0	0	0			
Reduced v/c Ratio		7.60		1.15	1.34	0.19	2.44	1.51	2.93			

Intersection Summary

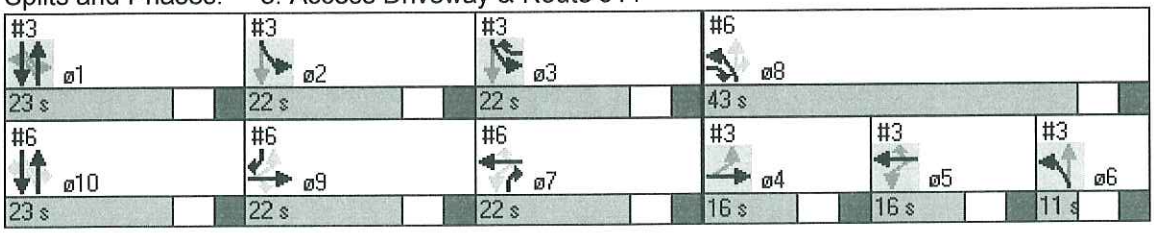
Cycle Length: 110
Actuated Cycle Length: 110
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Access Driveway & Route 611



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
Lane Width	11	11	13	11	11	13	10	11	11	11	11	13
Grade (%)		-3%			-5%			3%			-5%	
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	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1736	1828	1661		1790	1677	1627	1774	1508	1753	1846	1677
Flt Permitted	0.22	1.00	1.00		0.54	1.00	0.21	1.00	1.00	0.21	1.00	1.00
Satd. Flow (perm)	406	1828	1661		1005	1677	361	1774	1508	389	1846	1677
Volume (vph)	440	456	1188	489	303	6	838	827	975	3	931	554
Peak-hour factor, PHF	0.87	0.87	0.87	0.94	0.94	0.94	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	506	524	1366	520	322	6	891	880	1037	3	1070	637
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	506	524	1366	0	842	6	891	880	1037	3	1070	637
Turn Type	Perm		pm+ov	Perm		Perm	pm+pt		custom	Perm		custom
Protected Phases		9	8		7		8	10	7		10	9
Permitted Phases	9		9	7		7	10	8	8 10	10		10
Actuated Green, G (s)	15.0	15.0	53.8		15.0	15.0	54.8	54.8	76.8	16.0	16.0	31.0
Effective Green, g (s)	18.0	18.0	59.8		18.0	18.0	60.8	60.8	82.8	19.0	19.0	37.0
Actuated g/C Ratio	0.16	0.16	0.53		0.16	0.16	0.54	0.54	0.73	0.17	0.17	0.33
Clearance Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
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)	65	292	881		160	268	664	1019	1160	66	311	610
v/s Ratio Prot		0.29	c0.57				0.50	0.15	0.14		c0.58	0.17
v/s Ratio Perm	c1.25		0.25		c0.84	0.00	0.23	0.35	0.55	0.01		0.21
v/c Ratio	7.78	1.79	1.55		5.26	0.02	1.34	0.86	0.89	0.05	3.44	1.04
Uniform Delay, d1	47.4	47.4	26.5		47.4	40.0	37.8	22.4	11.6	39.3	46.9	37.9
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.41	0.91	1.70	1.00	1.00	1.00
Incremental Delay, d2	3084.5	371.0	253.4		1931.9	0.0	154.8	0.8	1.0	0.3	1106.3	48.5
Delay (s)	3131.9	418.4	279.9		1979.3	40.0	208.1	21.3	20.7	39.6	1153.2	86.4
Level of Service	F	F	F		F	D	F	C	C	D	F	F
Approach Delay (s)		912.5			1965.6			80.3			753.9	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	691.5	HCM Level of Service	F
HCM Volume to Capacity ratio	3.77		
Actuated Cycle Length (s)	112.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	176.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	ø1	ø2	ø3	ø4	ø5	ø6
Lane Configurations						
Volume (vph)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	3	4	5	6
Permitted Phases						
Detector Phases						
Minimum Initial (s)	10.0	10.0	7.0	7.0	7.0	3.0
Minimum Split (s)	17.0	17.0	14.0	14.0	14.0	10.0
Total Split (s)	23.0	22.0	22.0	16.0	16.0	11.0
Total Split (%)	21%	20%	20%	15%	15%	10%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?						
Recall Mode	None	Max	None	None	None	None
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	440	456	1188	489	303	6	838	827	975	3	931	554
Lane Group Flow (vph)	506	524	1366	0	842	6	891	880	1037	3	1070	637
Turn Type	Perm		pm+ov	Perm		Perm	pm+pt		custom	Perm		custom
Protected Phases		9	8		7		8	10	7		10	9
Permitted Phases	9		9	7		7	10	8	8 10	10		10
Detector Phases	9	9	8	7	7	7	8	10	7	10	10	9
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0	7.0	10.0	10.0	7.0
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	17.0	14.0	17.0	17.0	14.0
Total Split (s)	22.0	22.0	43.0	22.0	22.0	22.0	43.0	23.0	22.0	23.0	23.0	22.0
Total Split (%)	20.0%	20.0%	39.1%	20.0%	20.0%	20.0%	39.1%	20.9%	20.0%	20.9%	20.9%	20.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lag	Lag						Lead		Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	Max	Max	None	None	None	None	None	None	None	None	None	Max
v/c Ratio	7.67	1.75	1.59		5.10	0.02	1.39	0.88	0.90	0.04	3.35	1.02
Control Delay	3038.6	381.8	290.7		1871.1	39.0	210.8	21.3	19.7	40.0	1084.0	76.1
Queue Delay	0.0	0.0	220.1		0.0	0.0	74.4	184.9	205.7	0.0	0.0	0.0
Total Delay	3038.6	381.8	510.9		1871.1	39.0	285.2	206.2	225.5	40.0	1084.0	76.1
Queue Length 50th (ft)	~669	~552	~1378		~1119	4	~818	304	399	2	~1341	~478
Queue Length 95th (ft)	#847	#727	#1562		#1358	16	m291	m138	m69	11	#1531	#661
Internal Link Dist (ft)		2380			4004			270			1226	
Turn Bay Length (ft)			290			80						100
Base Capacity (vph)	66	299	861		165	274	639	1000	1152	67	319	625
Starvation Cap Reductn	0	0	0		0	0	68	377	442	0	0	0
Spillback Cap Reductn	0	0	203		0	0	0	0	0	0	109	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	7.67	1.75	2.08		5.10	0.02	1.56	1.41	1.46	0.04	5.10	1.02

Intersection Summary

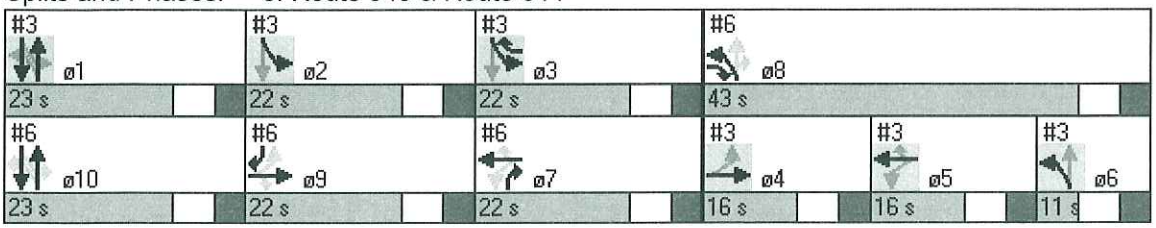
Cycle Length: 110
Actuated Cycle Length: 110
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Route 940 & Route 611



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
Lane Width	12	15	12	11	11	11	10	11	11	11	11	12
Grade (%)		-6%			2%			0%			0%	
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	0.88	1.00	0.95		1.00	1.00	
Frt		0.96			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.97			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1980			1710	2667	1636	3364		1711	1789	
Flt Permitted		0.25			0.58	1.00	0.21	1.00		0.21	1.00	
Satd. Flow (perm)		518			1027	2667	362	3364		379	1789	
Volume (vph)	137	51	71	156	27	915	32	1245	61	910	1517	69
Peak-hour factor, PHF	0.89	0.89	0.89	0.85	0.85	0.93	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	154	57	80	184	32	984	34	1339	66	958	1597	73
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	291	0	0	216	984	34	1405	0	958	1670	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm		custom	pm+pt			custom		
Protected Phases		4			5	3	6	1		2 3	1	
Permitted Phases	4			5		5	1	6		1 2 3	2 3	
Actuated Green, G (s)		9.0			13.4	28.4	18.4	18.4		53.0	53.0	
Effective Green, g (s)		12.0			16.4	34.4	24.4	24.4		59.0	59.0	
Actuated g/C Ratio		0.11			0.15	0.30	0.22	0.22		0.52	0.52	
Clearance Time (s)		7.0			7.0	7.0	7.0	7.0			7.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		55			149	813	139	847		671	999	
v/s Ratio Prot						0.19	0.01	c0.28		0.51	c0.28	
v/s Ratio Perm		c0.56			c0.21	0.18	0.04	0.14		0.24	0.65	
v/c Ratio		5.29			1.45	1.21	0.24	1.66		1.43	1.67	
Uniform Delay, d1		50.4			48.2	39.2	52.2	44.2		38.7	26.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.94	0.91	
Incremental Delay, d2		1970.5			235.8	106.0	0.9	301.7		193.3	302.7	
Delay (s)		2020.9			284.0	145.2	53.1	345.9		229.5	327.3	
Level of Service		F			F	F	D	F		F	F	
Approach Delay (s)		2020.9			170.2			339.0			291.6	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	368.2	HCM Level of Service	F
HCM Volume to Capacity ratio	2.04		
Actuated Cycle Length (s)	112.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	118.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	ø9	ø10
Lane Configurations		
Volume (vph)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	9	10
Permitted Phases		
Detector Phases		
Minimum Initial (s)	7.0	10.0
Minimum Split (s)	14.0	17.0
Total Split (s)	22.0	23.0
Total Split (%)	20%	21%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	3.0	3.0
Lead/Lag	Lag	Lead
Lead-Lag Optimize?		
Recall Mode	Max	None
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø2	ø7	ø8
Lane Configurations												
Volume (vph)	137	51	156	27	915	32	1245	910	1517			
Lane Group Flow (vph)	0	291	0	216	984	34	1405	958	1670			
Turn Type	Perm		Perm		custom	pm+pt		custom				
Protected Phases		4		5	3	6	1	2 3	1	2	7	8
Permitted Phases	4		5		5	1	6	1 2 3	2 3			
Detector Phases	4	4	5	5	3	6	1	2 3	1			
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	3.0	10.0		10.0	10.0	7.0	7.0
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0	10.0	17.0		17.0	17.0	14.0	14.0
Total Split (s)	16.0	16.0	16.0	16.0	22.0	11.0	23.0	44.0	23.0	22.0	22.0	43.0
Total Split (%)	14.5%	14.5%	14.5%	14.5%	20.0%	10.0%	20.9%	40.0%	20.9%	20%	20%	39%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lead	Lag	Lag			Lead		Lead	Lag		
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None		None	Max	None	None
v/c Ratio		5.11		1.41	1.18	0.20	1.79	1.39	1.63			
Control Delay		1897.2		255.0	121.1	32.9	390.7	204.9	306.6			
Queue Delay		0.0		0.0	31.7	0.0	118.2	0.0	389.8			
Total Delay		1897.2		255.0	152.8	32.9	508.9	204.9	696.4			
Queue Length 50th (ft)		~387		~236	~391	18	~733	~898	~1717			
Queue Length 95th (ft)		#551		#361	#528	43	#871	m213	m441			
Internal Link Dist (ft)		2366		3170			1888		270			
Turn Bay Length (ft)					225	325						
Base Capacity (vph)		57		153	834	167	783	688	1024			
Starvation Cap Reductn		0		0	0	0	0	0	435			
Spillback Cap Reductn		13		0	48	0	100	0	0			
Storage Cap Reductn		0		0	0	0	0	0	0			
Reduced v/c Ratio		6.61		1.41	1.25	0.20	2.06	1.39	2.84			

Intersection Summary

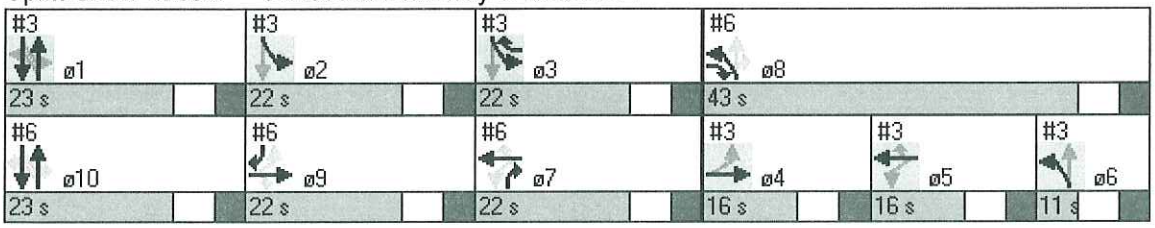
Cycle Length: 110
Actuated Cycle Length: 110
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Access Driveway & Route 611



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
Lane Width	11	11	13	11	11	13	10	11	11	11	11	13
Grade (%)		-3%			-5%			3%			-5%	
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	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1736	1828	1661		1791	1677	1627	1774	1508	1753	1846	1677
Flt Permitted	0.22	1.00	1.00		0.58	1.00	0.21	1.00	1.00	0.21	1.00	1.00
Satd. Flow (perm)	406	1828	1661		1075	1677	361	1774	1508	389	1846	1677
Volume (vph)	462	387	1067	488	314	6	942	751	604	30	941	638
Peak-hour factor, PHF	0.87	0.87	0.87	0.94	0.94	0.94	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	531	445	1226	519	334	6	1002	799	643	34	1082	733
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	531	445	1226	0	853	6	1002	799	643	34	1082	733
Turn Type	Perm		pm+ov	Perm		Perm	pm+pt		custom	Perm		custom
Protected Phases		9	8		7		8	10	7		10	9
Permitted Phases	9		9	7		7	10	8	8 10	10		10
Actuated Green, G (s)	15.0	15.0	53.8		15.0	15.0	54.8	54.8	76.8	16.0	16.0	31.0
Effective Green, g (s)	18.0	18.0	59.8		18.0	18.0	60.8	60.8	82.8	19.0	19.0	37.0
Actuated g/C Ratio	0.16	0.16	0.53		0.16	0.16	0.54	0.54	0.73	0.17	0.17	0.33
Clearance Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
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)	65	292	881		172	268	664	1019	1160	66	311	610
v/s Ratio Prot		0.24	0.52				c0.56	0.13	0.09		c0.59	0.19
v/s Ratio Perm	c1.31		0.22		c0.79	0.00	0.25	0.32	0.34	0.09		0.25
v/c Ratio	8.17	1.52	1.39		4.96	0.02	1.51	0.78	0.55	0.52	3.48	1.20
Uniform Delay, d1	47.4	47.4	26.5		47.4	40.0	37.8	20.8	6.7	42.7	46.9	37.9
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.34	0.77	0.94	1.00	1.00	1.00
Incremental Delay, d2	3257.4	252.5	183.2		1794.7	0.0	229.8	0.4	0.1	6.6	1123.7	105.8
Delay (s)	3304.8	299.9	209.7		1842.1	40.0	280.2	16.4	6.3	49.3	1170.6	143.7
Level of Service	F	F	F		F	D	F	B	A	D	F	F
Approach Delay (s)		974.3			1829.5			121.9			742.9	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	732.7	HCM Level of Service	F
HCM Volume to Capacity ratio	3.78		
Actuated Cycle Length (s)	112.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	184.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	ø1	ø2	ø3	ø4	ø5	ø6
Lane Configurations						
Volume (vph)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	3	4	5	6
Permitted Phases						
Detector Phases						
Minimum Initial (s)	10.0	10.0	7.0	7.0	7.0	3.0
Minimum Split (s)	17.0	17.0	14.0	14.0	14.0	10.0
Total Split (s)	23.0	22.0	22.0	16.0	16.0	11.0
Total Split (%)	21%	20%	20%	15%	15%	10%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?						
Recall Mode	None	Max	None	None	None	None
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	462	387	1067	488	314	6	942	751	604	30	941	638
Lane Group Flow (vph)	531	445	1226	0	853	6	1002	799	643	34	1082	733
Turn Type	Perm		pm+ov	Perm		Perm	pm+pt		custom	Perm		custom
Protected Phases		9	8		7		8	10	7		10	9
Permitted Phases	9		9	7		7	10	8	8 10	10		10
Detector Phases	9	9	8	7	7	7	8	10	7	10	10	9
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0	7.0	10.0	10.0	7.0
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	17.0	14.0	17.0	17.0	14.0
Total Split (s)	22.0	22.0	43.0	22.0	22.0	22.0	43.0	23.0	22.0	23.0	23.0	22.0
Total Split (%)	20.0%	20.0%	39.1%	20.0%	20.0%	20.0%	39.1%	20.9%	20.0%	20.9%	20.9%	20.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lag	Lag						Lead		Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	Max	Max	None	None	None	None	None	None	None	None	None	Max
v/c Ratio	8.05	1.49	1.42		4.85	0.02	1.57	0.80	0.56	0.51	3.39	1.17
Control Delay	3208.5	270.8	219.1		1755.5	39.0	285.4	16.1	5.4	69.2	1100.7	126.7
Queue Delay	0.0	0.0	193.6		0.0	0.0	74.4	119.9	43.9	0.0	0.0	0.0
Total Delay	3208.5	270.8	412.7		1755.5	39.0	359.7	135.9	49.4	69.2	1100.7	126.7
Queue Length 50th (ft)	~706	~435	~1172		~1127	4	~985	254	70	22	~1359	~619
Queue Length 95th (ft)	#886	#605	#1361		#1365	16	m#452	m152	m46	#64	#1549	#806
Internal Link Dist (ft)		2380			4004			270			1226	
Turn Bay Length (ft)			290			80						100
Base Capacity (vph)	66	299	861		176	274	639	1000	1152	67	319	625
Starvation Cap Reductn	0	0	0		0	0	61	367	555	0	0	0
Spillback Cap Reductn	0	0	200		0	0	0	0	0	0	109	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	8.05	1.49	1.85		4.85	0.02	1.73	1.26	1.08	0.51	5.15	1.17

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Route 940 & Route 611