PEC
PROJECT ENGINEERING CONSULTANTS

Powder Mountain Resort

Traffic Impact Analysis

Prepared For: Summit Mountain Holding Group, LLC
Prepared By: Project Engineering Consultants

Submission Date: September 26, 2014

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Executive Summary

Powder Mountain Resort is located in the mountains east of Ogden and is accessed via SR-39 (Ogden Canyon Road) and SR-158. Initially this report provides information of the existing conditions of the surrounding roadways and intersections. Intersection traffic volumes were collected in January 2014 during the week and weekend to establish a traffic baseline. The traffic data was analyzed using Synchro 8 software following the *Highway Capacity Manual* methodology to perform the level of service analysis. The surrounding roadways were evaluated for safety concerns and no crash patterns were identified.

The proposed development will be constructed in two stages with an anticipated completion date of 2019 for Stage 1 and 2025 for Stage 2. The future development proposes resort hotels, corporate retreats, recreational homes, corporate retreats, multi-family and nests (condominiums), offices, retail, restaurant/bar and employee housing. Stage 1 proposed development includes 509 resort hotel units, 90 corporate retreat units, 156 recreational homes, 184 multi-family and nests, 10,000 square feet of office space, 50,000 square feet of retail, and 12,500 square feet of quality restaurant with a bar for a total of 831 dwelling units. Stage 2 will add another 399 resort hotel units, 378 recreational homes, 472 multi-family and nests, 9,000 square feet of office space, 25,000 square feet of retail, and 12,500 square feet of quality restaurant with a bar for a total of 1,177 dwelling units, a combined total of 2,008 dwelling units for both stages. Six new ski lifts will be added over the next five years and one existing lift will be replaced. The proposed development will provide an array of amenities to provide for most of the guest's wants and needs while they remain on the premises. Estimated percentages of capture rates of internal trips were applied to estimate the reduction of the number of external trips. Stage 1 generates an estimated 4,913 weekday and 9,205 Saturday daily trips. Stage 2 will generate an estimated 5,366 weekday and 9,562 Saturday daily trips. Approximately 60 percent of the trips will access the site through Ogden Canyon.

Background traffic is anticipated to grow approximately two percent per year, based upon the historical traffic patterns of the surrounding roadways. The existing study intersections (SR-39/Valley DR.; SR-39/SR-158 and SR-158/Route 3460 [SR-162]) currently operate at a level of service B/C during the week and LOS C/E on Saturdays. In the future when Stage 1 development is completed and the generated trips are added to the surrounding roadway system, the LOS of the study intersections continue to operate at B/C during the week at the two T-intersections (SR-39/Valley DR and SR-39/SR-158) and LOS F at SR-158/Route 3460. In 2025 the LOS declines to LOS D/E/F at the intersections. To bring the LOS back into compliance with LOS C, PEC recommends installing a traffic signal at all three intersections. PEC also recommends installing left-turn median channelization on SR-39 for the left-turning movement from Valley Drive.

The three Powder Mountain parking lots provide approximately 600 parking spaces that are utilized approximately 17 percent during the weekdays and 75 percent on the weekends. The two auxiliary lots provide an additional 135 parking spaces that are typically utilized 30 percent during weekdays and 50 percent during the weekends. Powder Mountain will provide an internal shuttle system and team with Utah Transit Authority (UTA) to help reduce travel demand on the existing roadways.

Powder Mountain will strive to achieve transportation sustainability by providing on-mountain accommodations that allow residents and guests to drive to the resort and stay for multiple days instead of making trips back and forth to Ogden or other surrounding communities every day.

I. Existing Conditions (2014)

A. Roadway System

Major roadways that serve the Powder Mountain Resort area are illustrated in Figure 1: Existing Traffic Conditions. The primary roadways are outlined below:

- SR-39 is a two-lane highway providing access from Ogden City to Eden/Huntsville area and its functional classification is "principal arterial". The speed limit ranges from 30 mph to 45 mph from Valley Drive (MP 8.68) at the mouth of the canyon to Junction SR-158 (MP 13.792) at the west end of Pineview Reservoir. The lanes are 12 feet wide with one-two foot paved shoulders and one-two foot gravel shoulders. The roadway has a gentle grade averaging 1.8 percent from the mouth of Ogden Canyon to Junction SR-158.
- SR-158 is a rural two-lane highway that provides access to Powder Mountain Resort, passing through Eden and its functional classification is a "major collector". From Junction SR-39 (MP 0.0) to Route 3460 (MP 4.337), the speed limit ranges from 40 mph to 50 mph. The grade is relatively flat at 0.2 percent in this section. From Eden to Powder Mountain Resort (MP 4.337 to MP 11.691), the speed limit ranges from 15 mph to 40 mph and the grade averages 8.5 percent. The lanes are 12 feet wide with one foot paved shoulders and one-two foot gravel shoulders.
- Route 3460, commonly known as Highway SR-162, is a two-lane rural highway between Junction SR-158 (MP 0.0) west of Eden and 4100 North (MP 3.028) in Liberty and its functional classification is "major collector". The posted speed limit of is 40 mph and the grade is 1 percent between the two communities. The lanes are 12 feet wide with one-three foot paved shoulders and one-two foot gravel shoulders.
- Route 3464 (SR-158), is a two-lane rural highway that loops through Eden beginning at SR-158 (MP 0.0) via 5500 East and 2200 North back to Junction SR-158 (MP 1.396) west of Eden and its functional classification is "major collector". The posted speed limit of is 40 mph and the grade is 0.5 percent. The lanes are 12 feet wide with one foot paved shoulders and one-two foot gravel shoulders.

B. Traffic Volumes

Daily traffic volumes along SR-39, SR-158, and SR-162 were obtained from UDOT traffic data. The latest annual average daily traffic (AADT) volumes are shown in Table 1: Existing Annual Average Daily Traffic Volumes and Figure 1: Existing Traffic Conditions. All volumes represent moderate traffic levels that are within the capacity of two lane roads.

Table 1: Existing Annual Average Daily Traffic Volumes

Road	Location	2013 Weekday Volume
SR-39	West of SR-158	6,110
	East of SR-158	2,825
SR-158	North of SR-39 (MP 0.0 to 3.778)	6,410
	South of Route 3460 (MP 3.778 to 4.337)	3,520
	North of Route 3460 through Wolf Creek Development (MP 4.337 to 8.181)	2,960
	North of Wolf Creek Development to Summit (MP 8.181 to 11.691)	2,195
Route 3460	West of SR-158	4,590
Route 3464 (SR-158 via 2200 N & 5500 E)	East of SR-158	5,280

*Source: *UDOT 2013 Annual Average Daily Traffic*

Figure 1: Existing Traffic Conditions

2011 NAIP 1-meter Aerial Photography
Powder Mountain Traffic Study

Study Intersections
State Route
Highway
Stop Sign

XX AM Peak
(XX) PM Peak
[XX] Saturday PM Peak

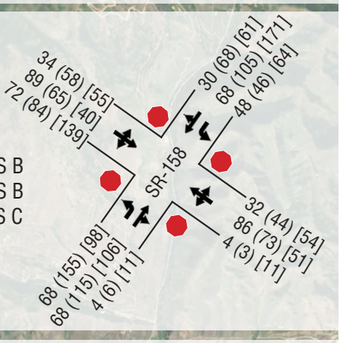
N

0 1.25 2.5
Miles

Powder Mountain
AADT (2195)
158
AADT (2960)
Route 3460
AADT (4400)
Route 3464
AADT (5280)
A
Eden
158
AADT (3520)
AADT (6410)
Pineview Reservoir
AADT (6110)
39
B
39
AADT 2825
166
39
Huntsville
C
167

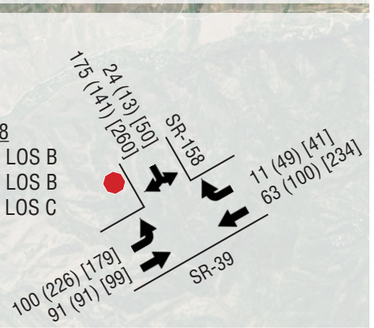
A

SR-158/SR-162
Weekday AM: LOS B
Weekday PM: LOS B
Saturday PM: LOS C



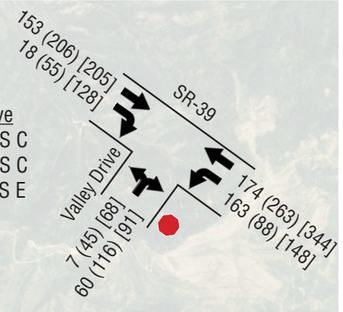
B

SR-39/SR-158
Weekday AM: LOS B
Weekday PM: LOS B
Saturday PM: LOS C



C

SR-39/Valley Drive
Weekday AM: LOS C
Weekday PM: LOS C
Saturday PM: LOS E



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C. Highway and Intersection Operations

Traffic Counts

In order to quantify the impact the proposed development will have on the surrounding roadway network, a traffic survey was performed at each study intersection. Weekday intersection data was collected on January 21, 2014 and Saturday intersection data on January 18, 2014 by L2 Data Collection (see Appendix A – 2014 Traffic Volumes). The average weekday AM/PM peak hours occurred from 8:00 AM to 9:00 AM and 4:30 PM to 5:30 PM. The average weekend AM/PM peak hours on Saturday occurred from 9:00 AM to 10:00 PM and from 4:00 PM to 5:00 PM.

Level of Service (LOS) Analysis Methodology

The *Highway Capacity Manual* (HCM) (Transportation Research Board [TRB], 2010) presents operational, design, and planning capacity analysis techniques for a broad range of transportation facilities, as well as procedures for analyzing streets and highways. In order to quantify the impact that the proposed development will have on the surrounding transportation system, an assessment and analysis was performed for the existing traffic conditions on the highways and at the intersections.

Intersections

Following the HCM methodology, the intersections were given a level of service (LOS) from A through F. The concept of levels of service uses qualitative measures that characterize operational conditions within a traffic stream and perception of these conditions by motorists and passengers.

The descriptions of individual levels of service characterize these conditions in terms of factors such as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. There are six levels of service describing these conditions, ranging from A to F, which have been standardized by the TRB. LOS A represents a free-flowing traffic condition where motorists are affected very little by other motorists; motorists have a high degree of convenience, and freedom to select desired speeds. LOS F is characterized by congested flow conditions and stoppages as the amount of traffic approaching a point exceeds the amount that can pass that point. The various levels of service and associated delay relationships are summarized in Table 2: Two-Way and All-Way Stop-Controlled Intersections.

Table 2: Two-Way and All-Way Stop-Controlled Intersections

LOS by Volume-to-Capacity Ratio v/c≤1.0	Description of Traffic Conditions	Control Delay (s/veh)
A	Free Flow / Insignificant Delay	0 ≤ 10
B	Stable Operations / Minimum Delays	>10 and ≤ 15
C	Stable Operations / Acceptable Delays	>15 and ≤ 25
D	Approaching Unstable Flows / Tolerable Delays	>25 and ≤ 35
E	Unstable Operations / Significant Delays Can Occur	>35 and ≤ 50
F	Forced Flows / Unpredictable Flows / Excessive Delays Occur	>50

Source: *Highway Capacity Manual*
Note:
Two-Way Stop-Controlled intersections - the LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole.
All-Way Stop-Controlled intersections - for approaches and intersection-wide assessment, LOS is defined solely by control delay.

Two-lane Highways

Three measures of effectiveness are incorporated into the methodology to determine automobile LOS. Passing capacity and passing demand have a significant impact on actual operations and driver perceptions of service.

The HCM states:

> At LOS A, motorists experience high operating speeds on Class I highways and little difficulty in passing. Platoons of three or more vehicles are rare. On Class II highways, speed would be controlled primarily by roadway conditions. A small amount of platooning would be expected. On Class III highways, drivers should be able to maintain operating speeds close or equal to the free-flow speed (FFS) of the facility. At LOS E, demand is approaching capacity. Passing on Class I and II highways is virtually impossible, and percent time-spent following (PTSF) is more than 80%. Speeds are seriously curtailed. On Class III highways, speed is less than two-thirds the FFS. The lower limit of this LOS represents capacity. LOS F exists whenever demand flow in one or both directions exceeds the capacity of the segment. Operating conditions are unstable, and heavy congestion exists on all classes of two-lane highway.

The various levels of service and demand associated with average travel speed (ATS), PTSF and percent of free-flow speed (PFFS) are summarized in Table 3: Level of Service for Two-Lane Highways.

Table 3: Level of Service for Two-Lane Highways

LOS	Class I Highways		Class II Highway	Class III Highway
	ATS (mi/h)	PTSF (%)	PTSF (%)	PFFS (%)
A	>55	≤35	≤40	>91.7
B	>50-55	>35-50	>40-55	>83.3-91.7
C	>45-50	>50-65	>55-70	>75.0-83.3
D	>40-45	>65-80	>70-85	>66.7-75.0
E	≤40	>80	>85	≤66.7

Source: *Highway Capacity Manual*

Study Intersections

Existing traffic operations were analyzed at each study intersection using Synchro 8 software which follows the HCM methodology to perform the analysis. Figure 1: Existing Traffic Conditions, shows the turning movement volumes used to analyze the 2014 existing conditions along with the existing LOS for the following intersections: SR-39 / Valley Drive; SR-39 / SR-158 and SR-158 / Route 3460. Corresponding Synchro 8 reports can be found in Appendix B – HCM Analyses.

Table 4: Existing (2014) Level of Service Summary shows the existing LOS at the study intersections for weekday and Saturday peak periods.

Table 4: Existing (2014) Level of Service Summary

Intersection		Minor Street		Overall Intersection
Description/Control	Peak Period	LOS/Control Delay (s)	Movement	Delay (s/veh)
SR-39/Valley Drive NE/Stop	Weekday AM	C/18.7	NELR	3.7
	Weekday PM	C/18.9	NELR	3.6
	Saturday PM	E/46.2	NELR	6.3
SR-39/SR-158 S/Stop	Weekday AM	B/10.4	SLR	6.1
	Weekday PM	B/10.8	SLR	5.4
	Saturday PM	C/19.9	SLR	8.7
				LOS/Delay (s/veh)
SR-158/Route 3460 All-Way Stop	Weekday AM	na	na	B/10.6
	Weekday PM	na	na	B/14.8
	Saturday PM	na	na	C/15.9

NELR = Northeast shared left/right lane; SLR = South shared left/right lane; s = seconds; s/veh = seconds/vehicle

D. Safety Assessment

PEC obtained UDOT crash records from 2008 – 2012 for several state routes in the area, in order to analyze crash patterns and identify potential safety issues. The roads for which crash data were obtain include the following:

- SR-39, milepost (MP) 8.68 to MP 13.792; MP 13.792 to MP 16.56
- SR-158, MP 0.0 to MP 4.337; MP 4.337 to MP 11.69
- Route 3460, MP 0.0 to MP 3.03
- Route 3464, MP 0.0 MP 1.40

The records were then analyzed to determine crash patterns along each corridor in order to determine roadway sections requiring further review for improvements which could help to reduce crash frequency and severity. UDOT classifies each crash type into one of five categories based on the severity of the crash. The severity rates are as follows:

1. Property Damage Only
2. Possible Injury
3. Non-Incapacitating
4. Incapacitating
5. Fatal

Special consideration was given to severe crashes (category four or five) along with the manner of collision of these crash types and locations. The crash analysis for each of these highway segments are summarized in the following sections. Included, is the calculation of the average crash rate, the average severe crash rate and the average severity. The values were determined by following the accepted UDOT crash review standard methodology.

SR-39

Beginning at the mouth of Ogden Canyon (MP 8.68), SR-39 extends eastward through the canyon to Huntsville. This segment of SR-39 provides access to the Powder Mountain Resort from Ogden. From 2008 to 2012 there were 169 crashes with 15 severe crashes on this segment of SR-39 from the mouth of Ogden Canyon (MP 8.68) to SR-158 Junction (MP 13.792). Two of those 15 severe crashes occurred at the SR-158 Junction but were different types of crashes and the other thirteen crashes occurred at different locations, not establishing any crash pattern that could be mitigated for any of the severe crashes. Compared to other "principle arterials" in the state, SR-39 has a higher crash rate, severe crash rate, and severity index than the state average as shown in Table 5: SR-39 Average Crash Rates.

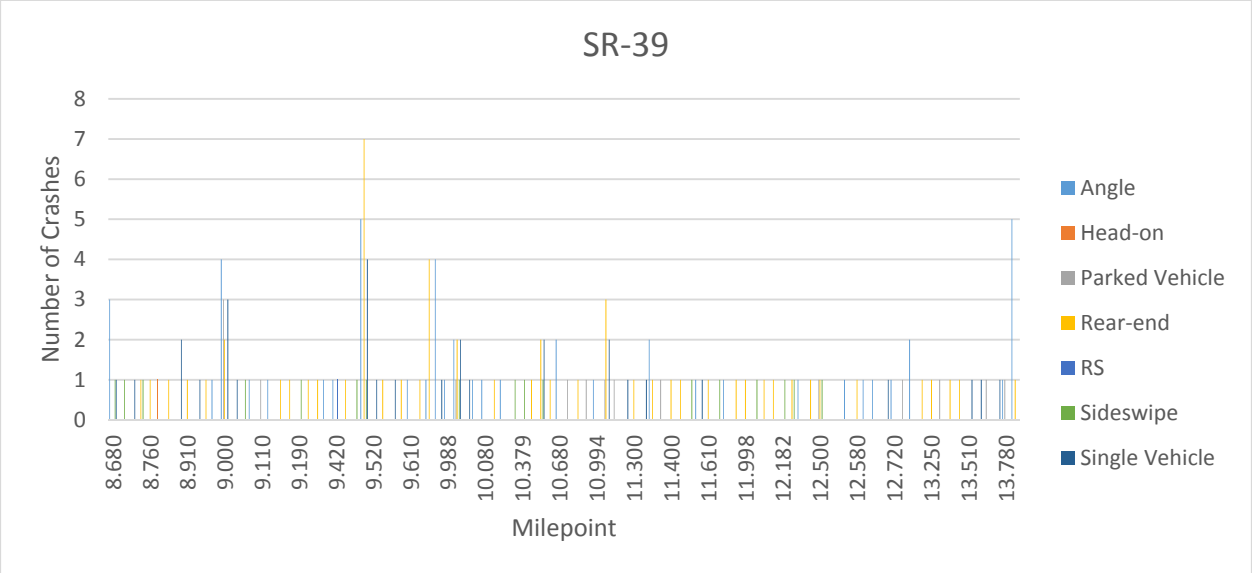
Table 5: SR-39 Average Crash Rates

	SR-39	UDOT Average Crash Rates*	
Average Crash Rate	2.19	1.47	Per million vehicle-miles
Average Severe Crash Rate	19.43	6.3	Per one hundred million vehicle-miles
Average Severity	1.70	1.50	

*Source: *UDOT Average Crash Rates 2007-2011*

Figure 2: SR-39 Crash Location and Type shows the number of crashes by location along SR-39 and the type of crashes recorded.

Figure 2: SR-39 Crash Location and Type

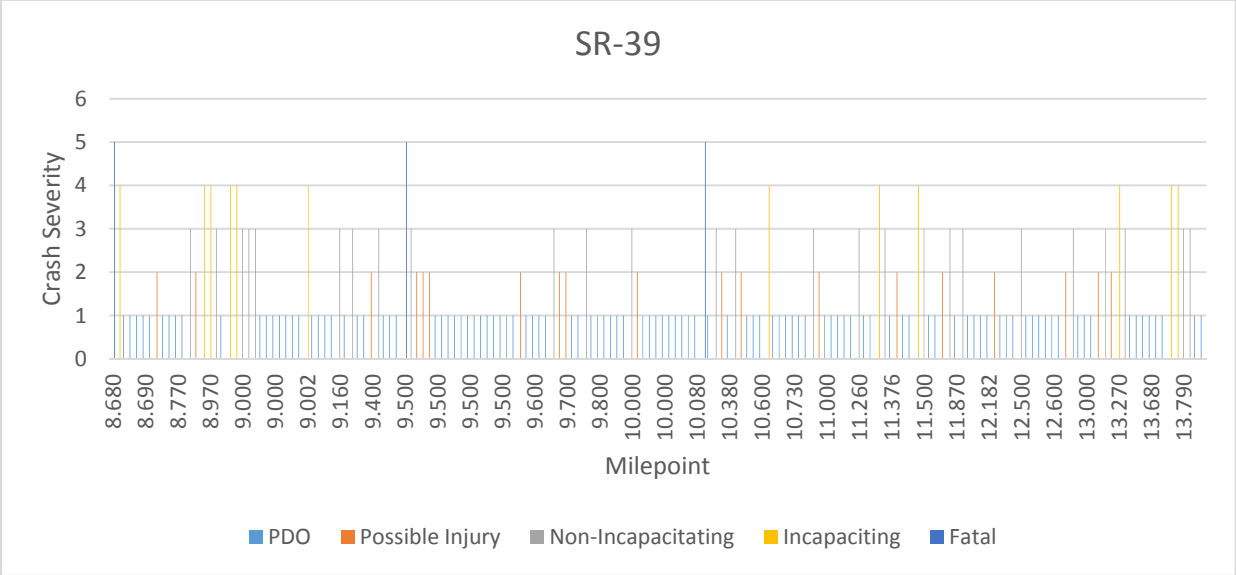


There are several locations where there are groupings of crashes that should be studied further. They are

milepoint (MP) 9.00 (12 crashes), MP 9.50 (17 crashes), MP 9.70 (5 crashes), MP 9.80 (6 crashes), MP 11.00 (6 crashes), and MP 13.79 (6 crashes). The higher frequency of crashes at these locations should justify future safety mitigations. Some safety mitigation measures that potentially could help reduce front-to-rear, angle and parked vehicle crashes might include more warning signs, reducing the speed limit and no parking on roadway shoulders limitations.

Figure 3: SR-39 Crash Severity shows the crash severity by location along SR-39. The graph shows the severe crashes are at various locations throughout the corridor.

Figure 3: SR-39 Crash Severity



SR-158 (MP 0.0 to MP 4.337)

SR-158 begins at the junction with SR-39 near the southwest corner of Pineview Reservoir, heads north to Eden, and continues northward to Powder Mountain Resort. There were 118 crashes on the segment of SR-158 between the SR-39 Junction (MP 0.0) and to the top of the mountain (MP 11.691) with three severe crashes. The severe crashes were single vehicle events in different locations with no discernable crash patterns. Also there were no locations with a high frequency of crashes in this section of highway that might indicate a problem area.

Compared to other "major collector" roadways in the state, the section of SR-158 from SR-39 to Route 3460 has the same severity index and a lower crash rate and severe crash rate than the state average as shown in Table 6: SR-158 Average Crash Rates. The section of SR-158 from the four-way stop up to Powder Mountain has a slightly higher severity index but a lower average crash rate and severe crash rate than the average collector roadway in the state.

Table 6: SR-158 Average Crash Rates

	SR-158	UDOT Average Crash Rates*	
MP 0.0 to MP 4.337			
Average Crash Rate	1.74	1.98	Per million vehicle-miles
Average Severe Crash Rate	0.0	11.5	Per one hundred million vehicle-miles
Average Severity	1.47	1.47	
MP 4.337 to MP 11.691			
Average Crash Rate	1.55	1.98	Per million vehicle-miles
Average Severe Crash Rate	8.97	11.5	Per one hundred million vehicle-miles
Average Severity	1.60	1.47	

*Source: *UDOT Average Crash Rates 2007-2011*

Graphs showing the location, frequency, type and severity of crashes on SR-158 are presented in the two figures below. Figure 4: SR-158 Crash Location and Type presents the number of crashes by location along SR-158 and the types of crashes recorded. Figure 5: SR-158 Crash Severity shows the crash severity by location along SR-158. Future safety mitigations might be considered for front-to-rear (rear-end) crashes.

Figure 4: SR-158 Crash Location and Type

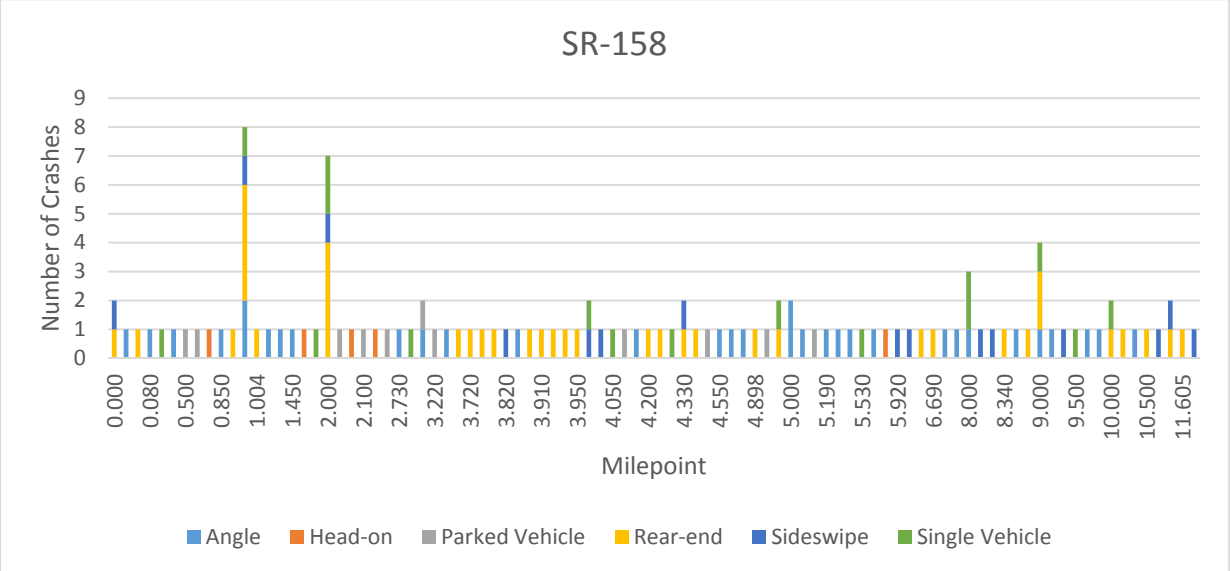
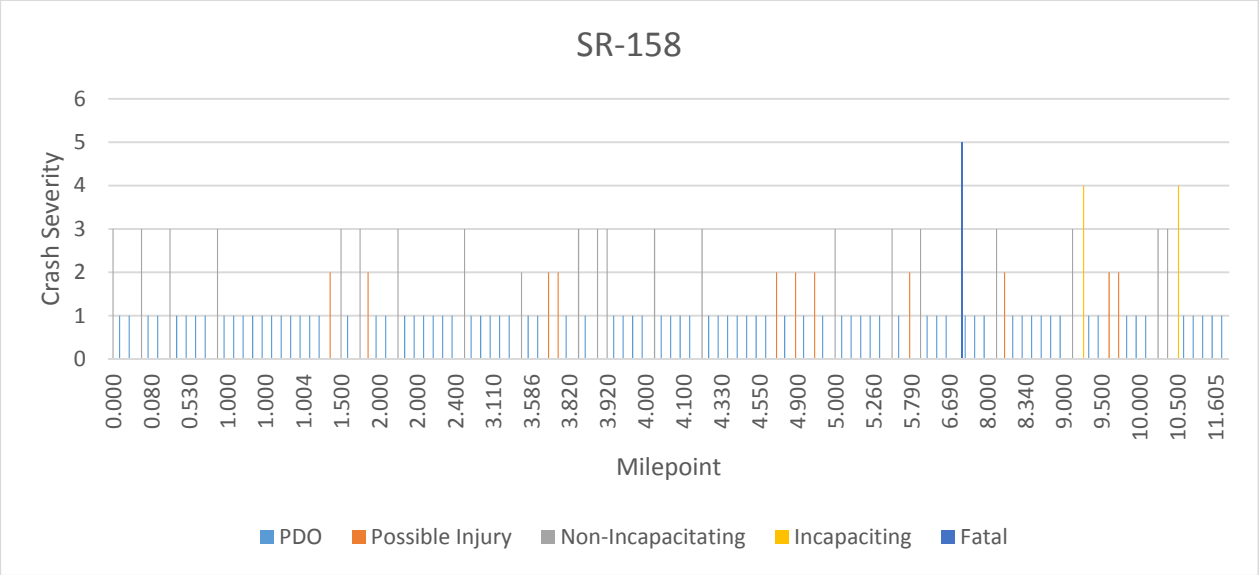


Figure 5: SR-158 Crash Severity



Another safety concern is the steep grades on SR-158 north of Eden as the roadway begins to ascend up the mountain. Figure 2: Grades on SR-158 illustrates the grades between mile points and the overall grade from the top of the mountain down to the SR-158/Route 3460 intersection. *A Policy on Geometric Design of Highways and Streets* (American Association of State Highway and Transportation Officials (AASHTO), 2011) offers the following:

> Where long descending grades exist or where topographic and location controls indicate a need for such grades on new alignment, the design and construction of an emergency escape ramp at an appropriate location is desirable to provide a location for out-of-control vehicles, particularly trucks, to slow and stop away from the main traffic stream. Out-of-control vehicles are generally the result of a driver losing braking ability either through overheating of the brakes due to mechanical failure or failure to downshift at the appropriate time. Determining where an emergency escape ramp is necessary involves several different considerations. Factors that should be considered include topography, length and percent of grade, potential speed, economics, environmental impact, and crash experience.

Because of the anticipated increase of trucks using SR-158 during the construction season coupled with the length and percent of grade, the installation of an emergency escape ramp may be justifies and warrants further in-depth study.

PEC recommends that a more in-depth safety assessment be conducted for SR-158 to specific crash types and locations that can be effectively mitigated

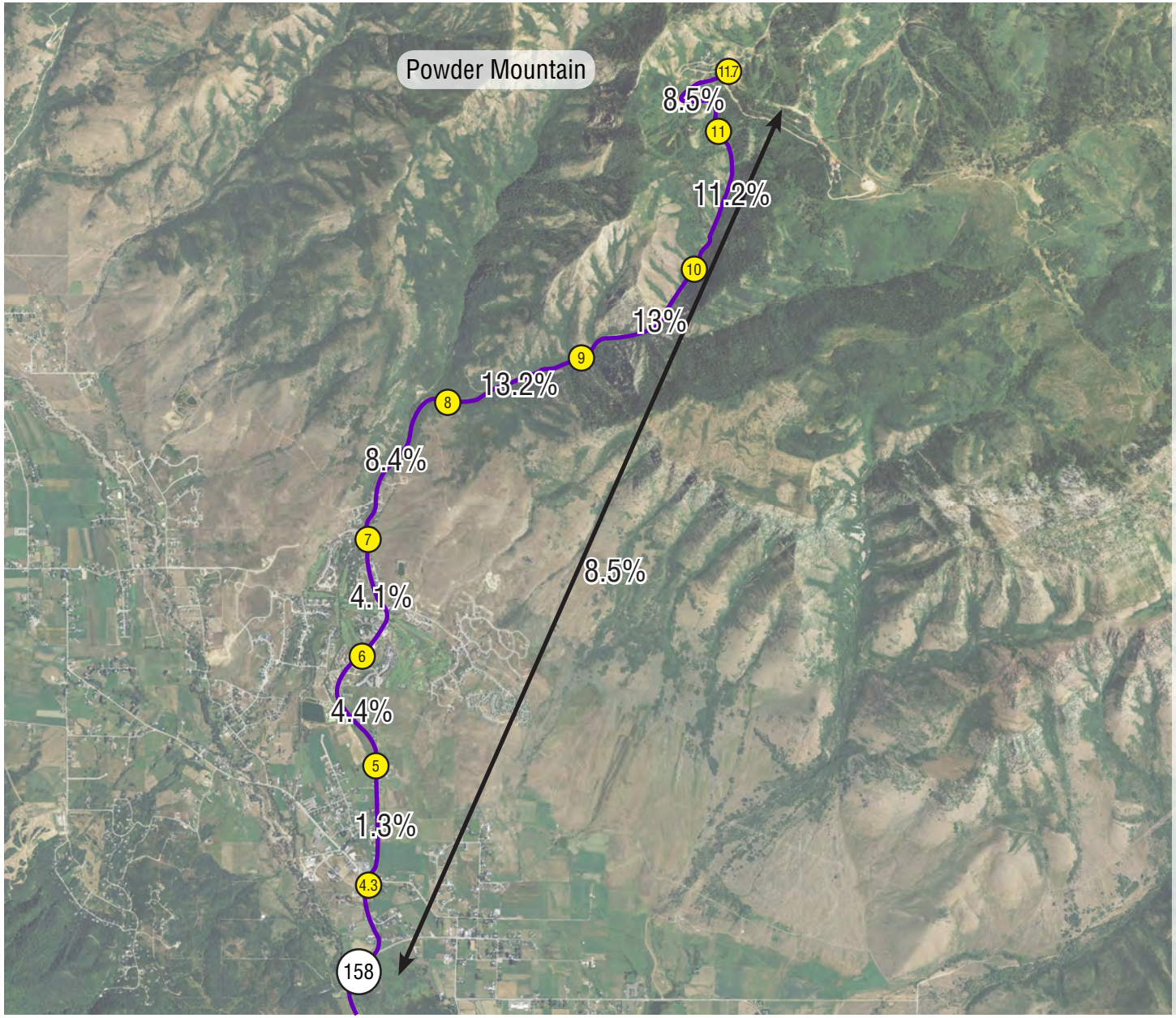


Figure 6: Grades on SR-158

2012 HRO 6-inch Orthophotography

Powder Mountain Traffic Study

State Route

Highway

X% Grade Percentage

X Mile Point Number

0 0.5 1

Miles

N

Route 3460

Route 3460 is the main connection between Eden and Liberty. There were 25 crashes with three individual severe crashes in different locations with no established crash pattern. Compared to other "major collector" roadways in the state, Route 3460 has a lower crash rate and a higher severe crash rate and severity index than the state average as shown in Table 7: Route 3460 Average Crash Rates.

Table 7: Route 3460 Average Crash Rates

	Route 3460	UDOT Average Crash Rates*	
Average Crash Rate	1.03	1.98	Per million vehicle-miles
Average Severe Crash Rate	12.33	11.5	Per one hundred million vehicle-miles
Average Severity	1.52	1.47	

*Source: *UDOT Average Crash Rates 2007-2011*

Graphs showing the location, frequency, type and severity of crashes on Route 3460 are presented in the two graphs below. Figure 7: Route 3460 Crash Location and Type presents the number of crashes by location along Route 3460 and the types of crashes recorded. Figure 8: Route 3460 Crash Severity shows the crash severity by location along Route 3460. Future safety mitigations might be considered for front-to-rear (rear-end) crashes.

Figure 7: Route 3460 Crash Location and Type

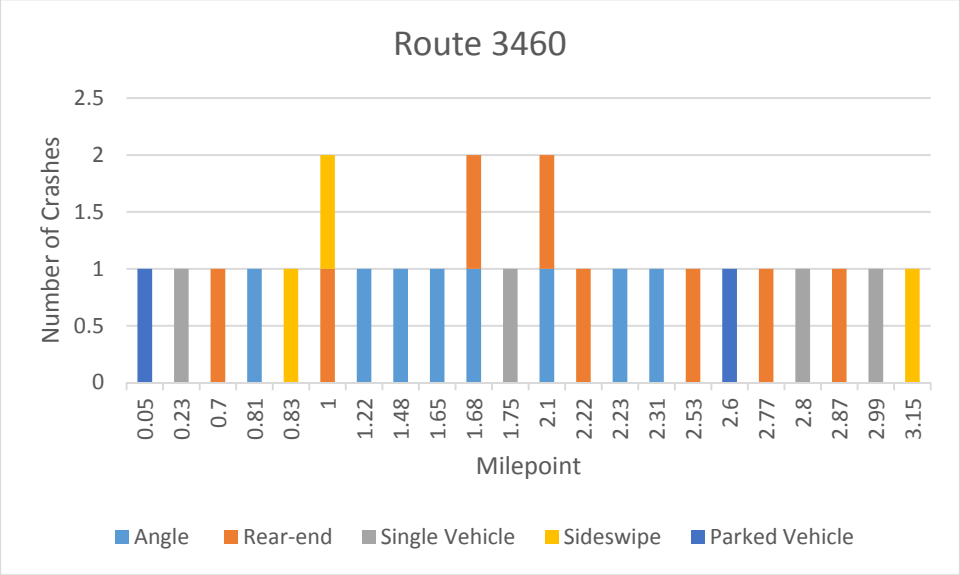
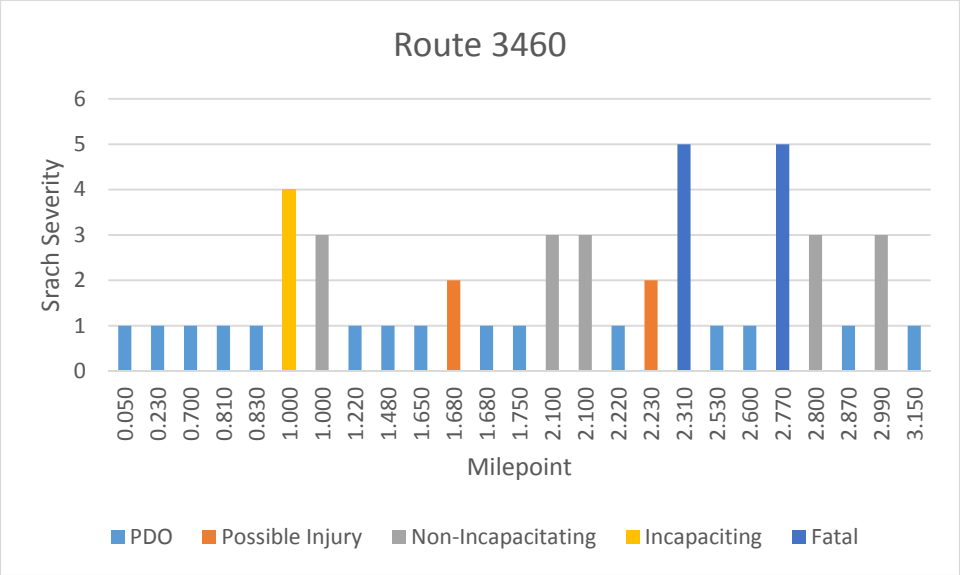


Figure 8: Route 3460 Crash Severity



Route 3464

Route 3464 is the loop connection through Eden. There were 12 crashes with one severe crash and no established crash patterns associated with this crash. Compared to other "major collector" roadways in the state, Route 3464 has a lower crash rate and a higher severe crash rate and severity index than the state average as shown in Table 8: Route 3464 Average Crash Rates.

Table 8: Route 3464 Average Crash Rates

	Route 3464	UDOT Average Crash Rates*	
Average Crash Rate	0.92	1.98	Per million vehicle-miles
Average Severe Crash Rate	7.67	11.5	Per one hundred million vehicle-miles
Average Severity	1.50	1.47	

*Source: *UDOT Average Crash Rates 2007-2011*

Graphs showing the location, frequency, type and severity of crashes on Route 3464 are presented in the two graphs below. Figure 9: Route 3464 Crash Location and Type presents the number of crashes by location along Route 3464 and the types of crashes recorded. Figure 10: Route 3464 Crash Severity shows the crash severity by location along Route 3464. Future safety mitigations might be considered for front-to-rear (rear-end) crashes.

Figure 9: Route 3464 Crash Location and Type

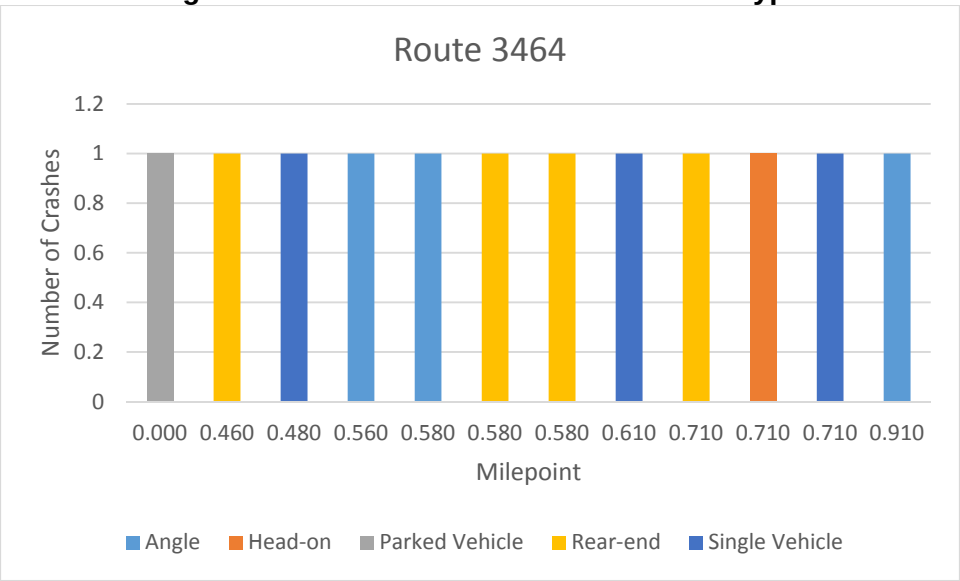
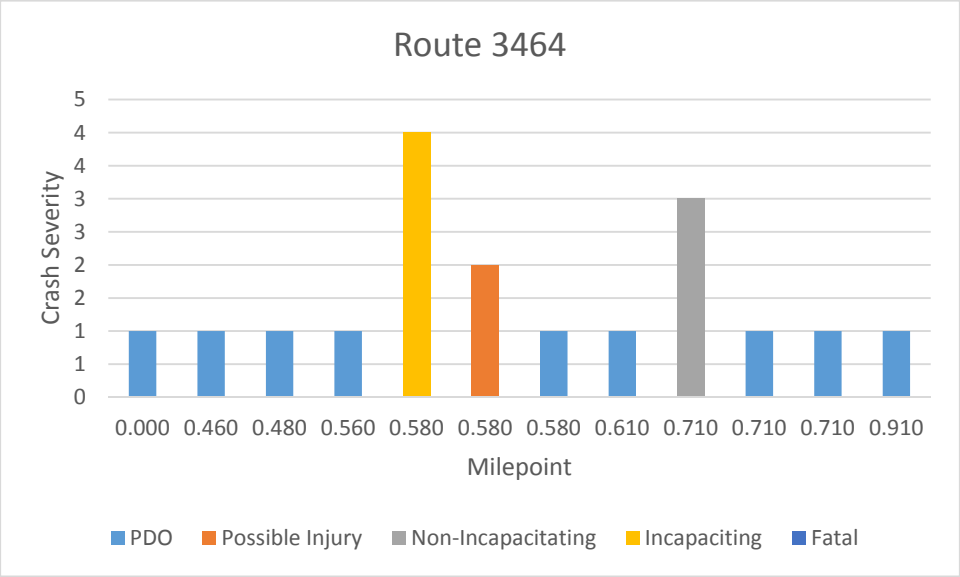


Figure 10: Route 3464 Crash Severity



II. Resort Traffic Projections

This section documents the processes used to develop traffic projections for the Powder Mountain Resort Master Transportation Plan.

This study considered both the summer and winter trip generators. The preliminary analysis indicated the trips generated in the winter are far greater than those generated in the summer (construction related trips). As a result, summer trips were omitted and the most impactful trips (winter) were analyzed in further detail.

A. Background

The Powder Mountain Resort Traffic Impact Study defines future operation improvements anticipated for Powder Mountain ski area. Three key trip-generating assumptions that were used when forecasting resort trips: 1) commercial development functions primarily as a service to day skiers, resort guests and local residents so a portion of commercial trips will remain internal to the resort; 2) as the resort grows, the number of day skiers coming from Ogden, Salt Lake City, and other off-mountain areas will grow approximately one percent a year over the next eleven years; and 3) it is anticipated that approximately 40 percent (average occupancy rate from Table 10) of the resort guests and skiers that come as part of the new development will stay approximately three/four days during the week and approximately 75 percent of the resort quests and skiers staying three/four days will include the weekend as part of their stay. .

B. Resort Trip Generation

The several development proposals define the future development of hotel, housing and condominium units that will generate additional traffic on the surrounding roadway network. The proposed development has been divided into two stages for construction. The anticipated completion of Stage 1 is in 2019 and 2025 for Stage 2. Table 5: Proposed Development Units summarizes the number and type of units anticipated for the full build-out. Approximately 48 percent of the units and square footage will be constructed during the first stage.

Table 9: Proposed Development Units

	Total Units or SF
Mid Mountain	
Multi-Family	80
Commercial	10,000 sf
The Ridge	
Hotel	100
Single Family	33
Nests	42
Commercial	9,000 sf
Conference Center	10,000 sf
Summit Village	
Hotels	580
Multi-Family	150
Single Family	268
Nests	185
Corporate Retreat	90
Commercial	100,000 sf
Work Force Housing	58
Geertsen	
Multi-Family	80
Single Family	121
Nests	32
The Meadow	
Hotels	30
Multi-Family	62
Single Family	112
Nests	25

The land uses identified are not specifically identified in *Trip Generation Manual,* (9th ed.; Institute of Transportation Engineers [ITE], 2012) making it necessary to make adjustments to rates found in *Trip Generation Manual* and obtain estimates for others. Each land use is listed below with a short discussion of how the estimate for that use was obtained. Since Powder Mountain is principally a ski resort and the largest trip generators function in the winter, summer trip generators and construction traffic were not included in the trip estimate for winter peak hour trips.

- **Recreational Homes** – *Trip Generation Manual* identifies recreational homes (ITE Code 260) as "located in a resort containing local services and complete recreational facilities". The recreational homes trip generation rate was chosen over the typical single family detached housing trip generation rate because "a large number of internal trips were made for recreational purposes in resort communities containing recreational homes".
- **Resort Hotel** – *Trip Generation Manual* identifies resort hotels (ITE Code 330) as being "similar to hotels in that they provide sleeping accommodations, restaurants, cocktail lounges, retail shops and guest services. The primary difference is that resort hotels cater to the tourist and vacation industry, often providing a wide variety of recreational facilities/programs. Some properties contained in this land use provide guest transportation services (such as airport shuttles), which may have an impact on the overall trip generation rates."
- **Condominiums** – *Trip Generation Manual* identifies luxury condominiums (ITE Code 233) as "units in buildings with luxury facilities or services".
- Office – *Trip Generation Manual* identifies general office buildings (ITE Code 710 as "a location where affairs of businesses, commercial or industrial organizations, or professional persons or firms are conducted".
- Retail – Trip Generation Manual identifies specialty retail centers (ITE Code 826) as "shopping centers that contain a variety of retail shops and specialize in quality apparel, hard goods and services".
- Restaurant/Bar – Trip Generation Manual identifies a quality restaurant (ITE Code 931) as "a high quality, full –service eating establishments with typical duration of stay of at least one hour. Patrons commonly wait to be seated, are served by a waiter/waitress, order from menus and pay for meals after they eat. Lounge or bar facilities are ancillary to the restaurant".
- **Snow Ski Area** - *Trip Generation Manual* identifies snow ski area (ITE Code 466) with a trip generation based on the number of lifts at the ski area for weekday and Saturday AM/PM peak hours. The *Trip Generation Manual* does not provide a trip generation rate for weekday or Saturday total daily trips. In an effort to provide the most accurate information, PEC also analyzed historical Powder Mountain ticket sale information to establish a "Powder Mountain specific" trip generation. The average ticket sales for three seasons (2010-2012) indicate an average daily trip generation rate per ski lift of 67 trips per weekday and 112 trips on Saturday. These generation rates for ski lifts are higher than those from ITE and were used in the trip generation of traffic for this traffic generator.

While ITE's *Trip Generation Manual* is the most definitive available source for estimating vehicle traffic that different land uses will generate, its information is most useful for auto-oriented, stand-alone suburban sites, from where the vast majority of data were collected. For areas with mixed uses, ITE advises traffic engineers to collect local data, or adjust the ITE average trip generation rate to account for reduced automobile use. The rates used for this study are a combination of the ITE data and engineering judgment.

Internal Trips

The proposed development will provide an array of amenities attempting to provide for most of the guest's wants and needs while remaining on the premises, such as food, drink, lodging, sports, entertainment, recreational activities, and shopping. Providing nearly all of the services guest's might want within close proximity to the lodging, trips among the various land uses can be kept within the resort and these internal trips will not significantly impact the surrounding major street system.

The *Trip Generation Manual* describes internal trips as follows.

> An internal capture rate can generally be defined as a percentage reduction that can be applied to the trip generation estimates for individual land uses to account for trips internal to the site. It is important to note that these reductions are applied externally to the site (i.e., at entrances, at adjacent intersections, and on adjacent roadways).
>
> This capture of trips internal to the site has the net effect of reducing vehicle trip generation between the overall development site and the external street system.

Because data has been collected directly for recreational housing and resort hotels, they are considered in the *Trip Generation Manual* as a single land use, therefore the associated trip generation rates given reflect the recreational/resort nature of the development. Therefore, internal capture rates are not applicable for recreational homes and resort hotels.

Internal capture rate percentages were calculated for both build-out years following the methodology described in the *Trip Generation Manual* (see Appendix C – Multi-Use Development Trip Generation and Internal Capture Summary). Eleven percent and six percent were applied to trips generated of build-out years 2019 and 2025 respectively. The ITE methodology is based on an urban developed environment and renders low internal capture rate percentages which were used because of the lack of more reliable data.

Overnight Guest/Resident Trips

Overnight guests and residents represent those visitors to the resort that are staying within the properties of Powder Mountain for at least two or more days. These overnight visitors would represent a significant number of skiers for the resort, so to determine these skier trip forecasts, the various residential land uses within the resort were broken down by dwelling units or rooms and private or rented. A dwelling unit is a measure of housing equivalent to the living quarters of one household. Rooms provide lodging paid on a short-term basis such as a hotel room.

Weekday and weekend occupancy rates, based on information from the *Snowbasin Resort Master Plan* (Felsburg Holt & Ullevig, 2010), were applied to each property type. Table 10: Residential Occupancy Rates shows the projected occupancy rates for weekday and weekend conditions.

Table 10: Residential Occupancy Rates

Land Use	Occupancy Rate	
	Weekday	Weekend
Recreational Homes (private) (dwelling units)	25 %	50 %
Resort Hotel (rooms)	50 %	90 %
Luxury Condominium (private) (dwelling units)	25 %	50 %
Luxury Condominium (rented) (dwelling units)	50 %	90 %

Local Day Skiers

The existing local day skiers are not included in this analysis as they have already been accounted for in the existing daily traffic volume counts. It is anticipated that the number of local day skiers at Powder Mountain will grow approximately two percent a year, matching the projected traffic growth.

A vehicle occupancy rate of 2.7 skiers per vehicle was assumed for skier trip generation reduction. This occupancy rate comes from the *Final Environmental Impact Statement* for *Breckenridge Ski Resort Peak 6 Project* (USDA Forest Service, 2012) which is based on other studies.

Projected Employee Base

The projected employment base includes all new employees working at Powder Mountain Resort, either for the ski area or for one of the rental, hotel or commercial properties at the resort. The existing ski area employees are not included in this analysis as they have already been accounted for in the existing daily traffic volume counts. The same occupancy rates mentioned in Table 10: Residential Occupancy Rates are applied to the number of employees per projected development. Table 11: Employee Forecasts shows the projected employment summary at full build-out of the resort for both stages of development.

Table 11: Employee Forecasts

Land Use	Stage 1 Rooms or SF	Stage 2 Rooms or SF	Occupancy Rates Weekday	Occupancy Rates Weekend	Generation Rate	Per Room or SF	Employees Stage 1 Weekday	Employees Stage 1 Weekend	Employees Stage 2 Weekday	Employees Stage 2 Weekend	Employees TOTAL
Ski Area Employees							68	96			164
Luxury Condominium (rental)	92	236	50%	90%	0.3	1 Room	10	18	25	46	98
Luxury Condominium (private)	92	236					0	0	0	0	
Recreational Homes	156	378					0	0	0	0	
Resort Hotel	491	327	50%	90%	0.7	1 Room	123	221	82	147	573
Office[1]	10,000	9,000	75%	25%	2.3	1,000 sf	17	6	16	5	44
Retail[2]	50,000	25,000	40%	60%	2.0	1,000 sf	40	60	20	30	150
Restaurant/Bar[2]	12,500	12,500	40%	60%	3.5	1,000 sf	18	26	18	26	88
Total Employees							275	427	160	254	1,116

1. Assumed an occupancy rate of 75% for weekdays and 25% for weekends to help identify the number of employees anticipated during the week and on weekends.
2. Assumed an occupancy rate of 40% for weekdays and 60% for weekends to help identify the number of employees anticipated during the week and on weekends.

Powder Mountain Resort is committed to provide transportation for all their employees to/from the ski resort by providing either a shuttle service or transit passes on UTA to reduce the number of trips to the resort by employees.

Utah Transit Authority (UTA) Ridership

January 2014 data from UTA shows average passengers by trip time going to Powder Mountain. There are an average of 12 skiers in the AM peak period and 32 skiers in the PM peak that take advantage of the UTA services to Powder Mountain.

Total Trip Generation

Using the previously stated assumptions, vehicle trips were forecast for the proposed types of development for each Stage of the resort. Table 12: Estimated Trip Generation - Stage 1 and Table 13: Estimated Trip Generation - Stage 2 summarize the trip generation for both development stages.

Table 12: Estimated Trip Generation - Stage 1

Land Use	ITE Code	Units/Rooms/KSF[3]	Average Rate		Occupancy Rates	Daily Trips[4]		Weekday AM Peak Hour.[5]			Weekday PM Peak Hour[5]			Saturday PM Peak Hour[5]		
			Daily	Peak Hour		Weekday	Saturday	In	Out	Total	In	Out	Total	In	Out	Total
Luxury Condominium (private) *(Internal Trips)*	233	92	6.5/weekday 6.5/Saturday	0.65/a.m. 0.65/p.m. 0.65/Sat. p.m.	25% Weekday 50% Saturday	150 *(16)*	299 *(33)*	32% 5 *(1)*	68% 10 *(1)*	15 *(2)*	65% 10 *(1)*	35% 5 *(1)*	15 *(2)*	55% 16 *(2)*	45% 13 *(1)*	29 *(3)*
Luxury Condominium (rental) *(Internal Trips)*	233	92	6.5/weekday 6.5/Saturday	0.65/a.m. 0.65/p.m. 0.65/Sat. p.m.	50% Weekday 90% Saturday	299 *(33)*	539 *(59)*	32% 10 *(1)*	68% 20 *(2)*	30 *(3)*	65% 10 *(1)*	35% 20 *(2)*	30 *(3)*	55% 30 *(3)*	45% 24 *(3)*	54 *(6)*
Recreational Homes[1] (du[2])	260	156	3.16/weekday 3.07/Saturday	0.30/a.m. 0.31/p.m. 0.36/Sat. p.m.	25% Weekday 50% Saturday	123	240	49% 6	51% 6	12	44% 5	56% 7	12	48% 14	52% 15	29
Resort Hotel[1] (rooms)	330	509	8.92/weekday 13.43/Saturday	0.47/a.m. 0.59/p.m. 1.23/Sat. p.m.	50% Weekday 90% Saturday	2,269	6,150	63% 75	37% 45	120	50% 75	50% 75	150	48% 270	52% 293	563
General Office Building (ksf[3]) *(Internal Trips)*	710	10,000	11.03/weekday 2.46/Saturday	1.56/a.m. 1.49/p.m. 0.43/Sat. p.m.	N/A	110 *(12)*	25 *(3)*	88% 14 *(2)*	12% 2 *(0)*	16 *(2)*	17% 3 *(0)*	83% 12 *(2)*	15 *(2)*	55% 2 *(0)*	45% 2 *(0)*	4 *(0)*
Specialty Retail Center (ksf[3]) *(Internal Trips)*	826	25,000	44.32/weekday 42.04/Saturday	6.84/a.m. 5.02/p.m. 4.20/Sat. p.m.	N/A	1,108 *(122)*	1,051 *(116)*	48% 82 *(9)*	52% 89 *(10)*	171 *(19)*	56% 70 *(8)*	44% 56 *(6)*	126 *(14)*	50% 53 *(6)*	50% 53 *(6)*	106 *(12)*
Quality Restaurant (ksf[3]) *(Internal Trips)*	931	12,500	89.95/weekday 94.36/Saturday	5.57/a.m. 9.02/p.m. 10.82/Sat. p.m.	N/A	1,124 *(124)*	1,180 *(130)*	82% 57 *(6)*	18% 13 *(1)*	70 *(7)*	62% 70 *(8)*	38% 43 *(5)*	113 *(13)*	59% 80 *(9)*	41% 55 *(6)*	135 *(15)*
Snow Ski Lifts[6]		6 lifts	67.20/weekday 112.20/Saturday	25.89/a.m. 34.16/p.m. 88.95/Sat. p.m.		37	62	14	1	15	1	18	19	1	48	49
Total Project Trips[7]						**4,913**	**9,205**	**244**	**174**	**416**	**236**	**211**	**447**	**446**	**487**	**933**

1. Trip rates already include effects of internalization, so no internal trip reduction is shown.
2. Dwelling units (du)
3. KSF = 1,000 square feet
4. Daily trips = Units X Average Rate X Occupancy Rate
5. Peak Hour Trips = Units X Average Rate X Occupancy Rate X In/Out percentage
6. Snow Ski Lifts = Units X Average Rate X ½ skiers use UTA X ½ skiers are accounted for in housing ÷ 2.7 skiers per vehicle
7. Total Project Trips = Generated trips – *(internal trips)*

Table 13: Estimated Trip Generation - Stage 2

Land Use/ (ITE Code)	ITE Code	Units/Rooms/KSF[3]	Average Rate		Occupancy Rates	Daily Trips[4]		Weekday AM Peak Hour.[5]			Weekday PM Peak Hour[5]			Saturday PM Peak Hour[5]		
			Daily	Peak Hour		Weekday	Saturday	In	Out	Total	In	Out	Total	In	Out	Total
Luxury Condominium (private)	233	236	6.5/weekday 6.5/Saturday	0.65/a.m. 0.65/p.m. 0.65/Sat. p.m.	25% Weekday 50% Saturday	383	766	32% 12	68% 26	38	65% 25	35% 13	38	55% 42	45% 35	77
(Internal Trips)						*(23)*	*(46)*	*(1)*	*(2)*	*(3)*	*(1)*	*(1)*	*(2)*	*(3)*	*(2)*	*(5)*
Luxury Condominium (rental)	233	236	6.5/weekday 6.5/Saturday	0.65/a.m. 0.65/p.m. 0.65/Sat. p.m.	50% Weekday 90% Saturday	766	1,379	32% 25	68% 52	77	65% 50	35% 27	77	55% 76	45% 62	138
(Internal Trips)						*(46)*	*(83)*	*(2)*	*(3)*	*(5)*	*(3)*	*(2)*	*(5)*	*(4)*	*(4)*	*(8)*
Recreational Homes[1] (du[2])	260	378	3.16/weekday 3.07/Saturday	0.30/a.m. 0.31/p.m. 0.36/Sat. p.m.	25% Weekday 50% Saturday	299	580	49% 14	51% 14	28	44% 13	56% 16	29	48% 33	52% 35	68
Resort Hotel[1] (rooms)	330	399	8.92/weekday 13.43/Saturday	0.47/a.m. 0.59/p.m. 1.23/Sat. p.m.	50% Weekday 90% Saturday	1,780	4,823	63% 59	37% 35	94	50% 59	50% 59	118	48% 212	52% 230	442
General Office Building (ksf[3])	710	9,000	11.03/weekday 2.46/Saturday	1.56/a.m. 1.49/p.m. 0.43/Sat. p.m.	N/A	99	22	88% 12	12% 2	14	17% 2	83% 11	13	55% 2	45% 2	4
(Internal Trips)						*(6)*	*(1)*	*(1)*	*(0)*	*(1)*	*(0)*	*(1)*	*(1)*	*(0)*	*(0)*	*(0)*
Specialty Retail Center (ksf[3])	826	25,000	44.32/weekday 42.04/Saturday	6.84/a.m. 5.02/p.m. 4.20/Sat. p.m.	N/A	1,108	1,051	48% 82	52% 89	171	56% 70	44% 56	126	50% 53	50% 53	106
(Internal Trips)						*(66)*	*(63)*	*(5)*	*(5)*	*(10)*	*(4)*	*(4)*	*(8)*	*(3)*	*(3)*	*(6)*
Quality Restaurant (ksf[3])	931	12,500	89.95/weekday 94.36/Saturday	5.57/a.m. 9.02/p.m. 10.82/Sat. p.m.	N/A	1,124	1,180	82% 57	18% 13	70	62% 70	38% 43	113	59% 80	41% 55	135
(Internal Trips)						*(67)*	*(71)*	*(3)*	*(1)*	*(4)*	*(3)*	*(4)*	*(7)*	*(5)*	*(3)*	*(8)*
Snow Ski Lifts[6]		11 Lifts	9.36/weekday 15.63/Saturday	3.61/a.m. 4.76/p.m. 12.39/Sat. p.m.		13	22	5	0	5	0	7	7	1	17	18
Total Project Trips[7]						**5,366**	**9,562**	**254**	**220**	**474**	**277**	**221**	**498**	**484**	**477**	**961**

1. Trip rates already include effects of internalization, so no internal trip reduction is shown.
2. Dwelling units (du)
3. KSF = 1,000 square feet
4. Daily trips = Units X Average Rate X Occupancy Rate
5. Peak Hour Trips = Units X Average Rate X Occupancy Rate X In/Out percentage
6. Snow Ski Lifts (2% growth in skiers from 2019 to 2025) to account for growth of skiers not associated with the proposed development = Units X Average Rate X ½ skiers use UTA X ½ skiers are accounted for in housing ÷ 2.7 skiers per vehicle
7. Total Project Trips = Generated trips – *(internal trips)*

C. Resort Vehicle-Trip Distribution and Assignment

Project traffic was assigned to the roadway network based on the proximity of project access points to major roads, population densities, and regional trip attractions. Existing travel patterns observed during site visits also provided helpful guidance to establishing these distribution percentage. SR-158 is the only major route into and out of the site vicinity. As such, all access to and from the project will be channeled through SR-158. The trip distribution prepared for this report is consistent with the distribution presented in the *Powder Mountain Resort - Traffic Impact Study* (Fehr & Peers, 2005). The distribution percentages are as follows, and are illustrated in Figure 3: Trip Distribution.

- 10 % - to/from the west on North Ogden Canyon Road
- 60 % - to/from the west on Ogden Canyon Road (SR-39)
- 23 % - to/from the west on Interstate 84
- 5 % - to/from the east on Interstate 84
- 2 % - to/from the east on SR-39

Figure 11: Trip Distribution

2011 NAIP 1-meter Aerial Photography
Powder Mountain Traffic Study

Study Intersections
State Route
Highway
X% Trip Distribution Percentage

0 2 4
Miles

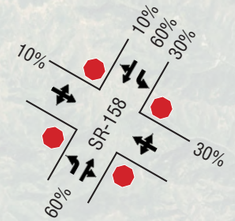
N

Liberty
Route 3460
Route 3464
North Ogden
Eden
158
166
39
Huntsville
Ogden
167
South Weber
Mountain Green
84
30
A
B
C
10%
60%
2%
23%
5%

A

SR-158/SR-162

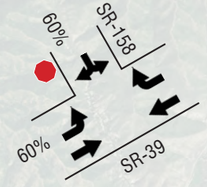
Stop Sign
xx% Trip Distribution



B

SR-39/SR-158

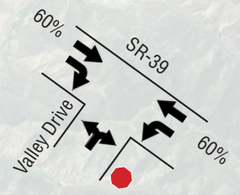
Stop Sign
xx% Trip Distribution



C

SR-39/Valley Drive

Stop Sign
xx% Trip Distribution



III. Traffic Impacts

A. Background Traffic Volume Projections

Background traffic volumes were derived from historical daily traffic volumes along SR-39 and SR-158. The growth factor was based on historical growth trends from 1998 to 2012 as shown in Table 10: Traffic Growth Rate. Based on the historical data, traffic on the roadways in the vicinity of the project has decreased or grown very little. To be conservative, traffic is anticipated to grow at a rate of 2.00 percent per year. This yearly growth is unrelated to the proposed project.

Table 14: Traffic Growth Rate

Road	Location	1998 AADT	2013 AADT	Annual Growth
SR-39	8.680 - Valley Dr.	7,935	6,110	-1.73 percent
	13.792 - SR-158	3,845	2,825	-2.03 percent
	16.563 – Snow Basin Rd.	2,440	2,630	0.50 percent
			SR-39 Average Growth	-0.81 percent
SR-158	0.0 – Jct. SR-39	3,935	6,410	3.31 percent
	3.778 – Route 3464	3,985	3,520	-0.82 percent
	4.337 – Route 3460	2,780	2,960	0.42 percent
	8.181 - Powder Mountain	1,605	2,195	2.11 percent
			SR-158 Average Growth	1.26 percent
			Anticipated Growth Rate	2.00 percent

B. Future (2019) Traffic Operations

Figure 3: 2019 Baseline Traffic depicts the traffic volumes expected in 2019 at the three study intersections with two percent baseline traffic growth rate applied. Figure 5: 2019 Baseline + Stage 1 Traffic shows the anticipated traffic volumes when the trips generated by Stage 1 traffic are added to the baseline traffic. Table 15: Future (2019) Level of Service Summary – Stage 1 shows the LOS anticipated in 2019 with the baseline traffic growth and the proposed development at full build-out of Stage 1. During the Saturday PM peak hour the northeastbound left turn movement at the SR-39/Valley Drive intersection will operate at LOS E in 2019 from the natural growth of the local traffic. In addition, the southbound shared through/left turn movement at the SR-39/SR-158 intersection will operate at LOS D and the SR-158/Route 3460 intersection will function at LOS C. The addition of resort traffic will decrease the LOS at all three study intersections during the Saturday PM peak period to LOS F.

Figure 12: 2019 Baseline Traffic

2011 NAIP 1-meter Aerial Photography
Powder Mountain Traffic Study

Study Intersections
State Route
Highway
Stop Sign

XX AM Peak
(XX) PM Peak
[XX] Saturday PM Peak

N

0 1.25 2.5
Miles

Powder Mountain
158
Route 3460
Route 3464
A
Eden
158
Pineview Reservoir
B
39
39
166
39
Huntsville
C
167

A

SR-158/SR-162
Weekday AM: LOS B
Weekday PM: LOS C
Saturday PM: LOS C

38, (64), [61]
98, (72), [44]
79, (93), [153]
33, (68), [67]
75, (105), [189]
53, (46), [71]
SR-158
75, (155), [108]
75, (115), [117]
4, (6), [12]
35, (44), [60]
95, (73), [56]
4, (3), [12]

B

SR-39/SR-158
Weekday AM: LOS B
Weekday PM: LOS B
Saturday PM: LOS D

199, (156), [287]
26, (14), [55]
SR-158
12, (54), [45]
70, (110), [258]
110, (250), [198]
129, (100), [109]
SR-39

C

SR-39/Valley Drive
Weekday AM: LOS B
Weekday PM: LOS C
Saturday PM: LOS E

169, (227), [226]
20, (61), [141]
SR-39
Valley Drive
192, (290), [380]
180, (97), [163]
8, (50), [75]
66, (128), [100]

Figure 13: 2019 Baseline+Stage 1 Traffic

2011 NAIP 1-meter Aerial Photography
Powder Mountain Traffic Study

Study Intersections
State Route
Highway
Stop Sign

XX AM Peak
(XX) PM Peak
[XX] Saturday PM Peak

N

0 1.25 2.5
Miles

Powder Mountain
158
Route 3460
Route 3464
A
Eden
158
Pineview Reservoir
B
39
39
166
39
Huntsville
C
167

A

SR-158/SR-162
Weekday AM: LOS D
Weekday PM: LOS F
Saturday PM: LOS F

62, (88), [106]
98, (72), [44]
79, (93), [153]
51, (90), [117]
179, (234), [488]
105, (111), [220]
SR-158
75, (155), [108]
224, (259), [391]
4, (6), [12]
110, (116), [197]
95, (73), [56]
4, (3), [12]

B

SR-39/SR-158
Weekday AM: LOS B
Weekday PM: LOS B
Saturday PM: LOS F

298, (285), [586]
26, (14), [55]
SR-158
12, (54), [45]
70, (110), [258]
260, (394), [472]
129, (100), [109]
SR-39

C

SR-39/Valley Drive
Weekday AM: LOS B
Weekday PM: LOS C
Saturday PM: LOS F

318, (371), [501]
20, (61), [141]
SR-39
Valley Drive
8, (50), [75]
66, (128), [100]
297, (420), [679]
180, (97), [163]

C. Future (2025) Traffic Operations

Figure 6: 2025 Baseline Traffic shows the traffic volumes anticipated in 2025 at the three study intersections with a two percent baseline traffic growth rate applied. Figure 7: 2025 Baseline + Stage 2 Traffic illustrates the expected traffic volumes when the trips generated by Stage 2 traffic are added to the baseline traffic. Table 16: Future (2025) Level of Service Summary – Stage 2 shows the LOS anticipated in 2025 with the baseline growth and the proposed development at full build-out of Stage 2. The baseline growth of traffic will cause the northeastbound left/right movement at SR-39/Valley Drive to operate at LOS F during the Saturday PM peak hour, SR-39/SR-158 will operate at LOS E, and SR-158/Route 3460 will also operate at LOS F during the same time period.

When the trips generated by the resort from Stage 2 are added to the surrounding roadway network, the results show all three study intersections operating at LOS F during the Saturday PM peak period.

Figure 14: 2025 Baseline Traffic

2011 NAIP 1-meter Aerial Photography
Powder Mountain Traffic Study

Study Intersections
State Route
Highway
Stop Sign

XX AM Peak
(XX) PM Peak
[XX] Saturday PM Peak

N

0 1.25 2.5
Miles

Powder Mountain
Eden
Pineview Reservoir
Huntsville
Route 3460
Route 3464
158
39
166
167
A
B
C

A

SR-158/SR-162
Weekday AM: LOS F
Weekday PM: LOS F
Saturday PM: LOS F

SR-158
42, (72), [68]
111, (81), [50]
90, (104), [173]
37, (77), [76]
85, (118), [213]
60, (52), [80]
85, (174), [122]
85, (129), [132]
5, (6), [14]
40, (50), [67]
107, (82), [63]
5, (4), [14]

B

SR-39/SR-158
Weekday AM: LOS B
Weekday PM: LOS B
Saturday PM: LOS E

SR-158
SR-39
218, (175), [323]
30, (16), [62]
14, (61), [51]
78, (124), [291]
124, (281), [223]
145, (113), [123]

C

SR-39/Valley Drive
Weekday AM: LOS B
Weekday PM: LOS C
Saturday PM: LOS F

SR-39
Valley Drive
190, (256), [255]
22, (68), [159]
216, (327), [428]
203, (109), [184]
9, (56), [85]
75, (144), [113]

Figure 15: 2025 Baseline+Stage 2 Traffic

2011 NAIP 1-meter Aerial Photography
Powder Mountain Traffic Study

Study Intersections
State Route
Highway
Stop Sign

XX AM Peak
(XX) PM Peak
[XX] Saturday PM Peak

N

0 1.25 2.5
Miles

Powder Mountain
Eden
Pineview Reservoir
Huntsville
Route 3460
Route 3464
158
39
166
167

A

SR-158/SR-162
Weekday AM: LOS F
Weekday PM: LOS F
Saturday PM: LOS F

92, (124), [162]
111, (81), [50]
90, (104), [173]
77, (120), [172]
321, (379), [791]
178, (182), [369]
SR-158
85, (174), [122]
385, (439), [696]
5, (6), [14]
190, (205), [349]
107, (82), [63]
5, (4), [114]

B

SR-39/SR-158
Weekday AM: LOS D
Weekday PM: LOS E
Saturday PM: LOS F

454, (436), [902]
30, (16), [62]
SR-158
14, (61), [62]
78, (124), [291]
424, (591), [787]
145, (113), [123]
SR-39

C

SR-39/Valley Drive
Weekday AM: LOS D
Weekday PM: LOS F
Saturday PM: LOS F

490, (566), [819]
22, (68), [159]
SR-39
Valley Drive
9, (56), [85]
75, (144), [113]
453, (587), [1006]
203, (109), [184]

Table 15: Future (2019) Level of Service Summary - Stage 1

		2019 Baseline			With Project		
Intersection		Minor Street		Intersection	Minor Street		Intersection
Description/Control	Peak Period	LOS/ Control Delay (s)	Movement	Delay (s/veh)	LOS/ Control Delay (s)	Movement	Delay (s/veh)
SR-39/Valley Drive NE/Stop	Weekday AM	B/12.2	NEBLR	3.9	B/14.8	NEBLR	3.1
	Weekday PM	C/17.0	NEBLR	4.5	C/19.8	NEBLR	3.9
	Saturday PM	E/41.3	NEBLR	7.8	F/450.8	NEBLR	47.0
SR-39/SR-158 S/Stop	Weekday AM	B/10.9	SBLR	5.9	B/13.3	SBLR	8.0
	Weekday PM	B/11.3	SBLR	5.6	B/14.0	SBLR	7.7
	Saturday PM	D/26.4	SBLR	11.1	F/372.4	SBLR	162.8
				LOS/Delay (s/veh)			LOS/Delay (s/veh)
SR-158/Route 3460 All-Way Stop	Weekday AM	na	na	B/11.4	na	na	D/27.1
	Weekday PM	na	na	C/17.2	na	na	F/54.9
	Saturday PM	na	na	C/24.1	na	na	F/70.4

NEBLR = Northeastbound shared Left/Right Lane; SBLR = Southbound shared Left/Right Lane; s = seconds; s/veh = seconds/vehicle

Table 16: Future (2025) Level of Service Summary – Stage 2

		2025 Baseline			With Project		
Intersection		Minor Street		Intersection	Minor Street		Intersection
Description/Control	Peak Period	LOS/ Control Delay (s)	Movement	Delay (s/veh)	LOS/ Control Delay (s)	Movement	Delay (s/veh)
SR-39/Valley Drive NE/Stop	Weekday AM	B/13.3	NEBLR	4.1	D/32.4	NEBLR	4.0
	Weekday PM	C/21.4	NEBLR	5.3	F/163	NEBLR	21.3
	Saturday PM	F/227.6	NEBLR	41.9	F/6274	NEBLR	591
SR-39/SR-158 S/Stop	Weekday AM	B/11.5	SBLR	6.2	D/27.6	SBLR	15.1
	Weekday PM	B/12	SBLR	5.8	E/35.8	SBLR	16.5
	Saturday PM	E/47.9	SBLR	19	F/2632	SBLR	1184
				LOS/Delay (s/veh)			LOS/Delay (s/veh
SR-158/Route 3460 All-Way Stop	Weekday AM	na	na	F/72.9	na	na	F/72.9
	Weekday PM	na	na	F/70.0	na	na	F/70.0
	Saturday PM	na	na	F/76.4	na	na	F/76.4

NEBLR = Northeastbound shared Left/Right Lane; SBLR = Southbound shared Left/Right Lane; s = seconds; s/veh = seconds/vehicle

E. Highway Operations

Two-lane highway capacity analyses were performed for the following key sections of SR-39 and SR-158:

- SR-158 to Powder Mountain, uphill and downhill
- SR-158 to Eden, uphill and downhill
- SR-39 to Junction SR-158, uphill and downhill

Highway capacity analyses were performed using the two lane highway methodology found in the HCM. The uphill segments were evaluated during the morning peak and the downhill segments were evaluated during the evening peak for traffic volumes in 2014 (existing), 2019 and 2025. The intent is to capture the highway LOS for each direction of travel. The results are summarized in Table 17: Two-Lane Highway LOS.

Table 17: Two-Lane Highway Level of Service

Segment	2014 (Existing)		2019		2025	
	Uphill AM	Downhill PM	Uphill AM	Downhill PM	Uphill AM	Downhill PM
SR-158 to Powder Mountain	LOS B		LOS D		LOS F	
SR-158 to Powder Mountain		LOS C		LOS E		LOS F
SR-158 to Eden	LOS A		LOS C		LOS D	
SR-158 to Eden		LOS B		LOS C		LOS D
SR-39 to Jct. SR-158	LOS C		LOS C		LOS D	
SR-39 to Jct. SR-158		LOS C		LOS C		LOS D

F. Intersection Queue Length

The single lane approaches at T-intersections SR-39/Valley Drive and SR-39/SR-158 provide sufficient storage in the travel lane under stop conditions. At SR-158/Route 3460, the northeast left turn pocket provides 150 feet of storage and the southwest left turn pocket provides 100 feet of storage and there is sufficient storage length provided in the through lane of each approach. Table 18: Intersection Queue Lengths summarizes the projected 95th percentile queuing lengths at each intersection for the baseline scenario without the project and full build-out at the end of each Stage.

At SR-158/Route 3460, the northeast left turn pocket length provides sufficient storage for the projected left turn traffic during both stages of development. However, the queue length of the adjacent through lane will extend past the left turn pocket opening with the addition of project traffic in 2025 during the Saturday PM peak period. The queue length of the SW through lane will extend past the left turn pocket opening with the addition of the project traffic in 2019 during the weekday and Saturday PM peak.

Table 18: Intersection Queue Lengths (ft)

SR-39/VALLEY			
	NE Left/Right		
	WD AM	WD PM	Sat. PM
2014	3	16	82
2019 wo/p	15	50	122
2019 w/p	13	18	405
2025 wo/p	20	73	411
2025 w/p	59	291	938

SR-39/SR-158			
	S Left/Right		
	WD AM	WD PM	Sat. PM
2014	27	22	104
2019 wo/p	32	26	151
2019 w/p	65	65	1189
2025 wo/p	39	33	260
2025 w/p	213	245	3,170

SR-158/Route 3460																		
	NE Left			NE Through			NW Through			SE Trough			SW Left			SW Through		
	WD AM	WD PM	Sat. PM	WD AM	WD PM	Sat. PM	WD AM	WD PM	Sat. PM	WD AM	WD PM	Sat. PM	WD AM	WD PM	Sat. PM	WD AM	WD PM	Sat. PM
2014	13	50	23	15	33	33	25	23	30	43	93	78	13	10	23	25	68	123
2019 wo/p	15	55	35	18	35	43	30	40	48	53	130	178	15	10	18	30	75	180
2019 w/p	20	78	48	135	230	295	105	138	293	130	313	300	55	40	150	188	308	298
2025 wo/p	18	78	35	23	48	58	40	55	55	73	213	168	20	13	35	38	115	298
2025 w/p	28	108	45	295	295	295	303	303	305	298	298	300	225	103	288	298	298	298

KEY: Queue lengths in feet; wo/p = without project; w/p = with project; WD = weekday; Sat. = Saturday; NE = northeast; S = south; NE = northeast; NW = northwest; SE = southeast; SW = southwest; SW = southwest

G. Recommended Mitigation

All three intersections exceed the LOS C or better criteria and will require mitigation to improve the intersection LOS to bring the intersection operations back into compliance with LOS C or better. Table 19: Future Level of Service Summary with Recommended Mitigation shows the expected LOS with the addition of traffic signals or roundabouts.

SR-39/Valley Drive Currently the intersection operates at LOS E on Saturdays and decreases to LOS F in 2019 with the addition of project traffic and will continue to operate at LOS F in the coming years as traffic growth increases. The mitigation measure of widening Valley Drive to provide a separate left-turn lane and a separate right-turn lane only reduces the seconds of control delay, but still operates at LOS F. The other option to improve the LOS is the installation of a traffic signal. PEC conducted a signal warrant analysis (see Appendix D – Traffic Signal Warrant Analysis) and found that a traffic signal falls just short of warranting a traffic signal in 2019 but is definitely warranted by 2025. PEC recommends improving the intersection by installing a traffic signal by 2020 to improve LOS A.

SR-39/SR-158 On Saturday during the PM peak period, the LOS drops to LOS F in 2019 when project trips are added and continues at LOS F in 2025. PEC recommends adding a traffic signal at the intersection to improve the intersection operation to LOS A during the Saturday PM peak hour. PEC conducted a traffic signal warrant analysis (see Appendix D – Traffic Signal Warrant Analysis) and found that signal warrants 1 and 2 are met for this intersection by 2019 using Saturday traffic volumes with the additional project generated traffic.. Warrants for the signal meet the criteria for Saturday PM peak hour traffic only, not the weekdays. The traffic signal could be installed at the intersection without any geometric improvements and still achieve LOS C without impacting the dam.

SR-158/Route 3460 The growth in traffic with the addition of project traffic causes the Saturday PM peak hour LOS to decrease to LOS F in 2025 if no changes to the intersection traffic control are made. PEC recommends adding a traffic signal at the intersection to return the intersection operation to LOS C or better during the Saturday PM peak hour in 2019 and 2025. PEC conducted a traffic signal warrant analysis see Appendix D – Traffic Signal Warrant Analysis) and found that weekday traffic does not warrant a traffic signal but Saturday traffic with additional project traffic meets the criteria for signal warrants 1 and 2 in 2019. The LOS analysis for a roundabout shows the intersection will operate at LOS F with the addition of the resort traffic and is therefore not recommended.

Table 19: Future Level of Service Summary with Recommended Mitigation

Intersection *Traffic Control*	Peak Period	2019		2025	
		Baseline	With Project	Baseline	With Project
		LOS/Control Delay (s/veh)	LOS/Control Delay (s/veh)	LOS/Control Delay (s/veh)	LOS/Control Delay (s/veh)
SR-39/Valley Drive *Traffic Signal*	Saturday PM	A/5.0	A/9.7	A/5.9	B/19.2
SR-39/SR-158 *Traffic Signal*	Saturday PM	A/8.3	C/33.2	B/10.2	D/43.9
SR-158/Route 3460 *Traffic Signal* *Roundabout*	Saturday PM	A/9.0 B/11.3	C/28.3 F/100.7	A/9.1 B/14.0	C/33.5 F/512

s/veh = seconds/vehicle

H. Traffic Impact on Big Game

SR-158 is the main entrance to the Powder Mountain Resort as well as the other roadways in the vicinity travel through mule deer, elk and moose habitat where animals congregate during the fall, winter, and spring months. The big game mortality is summarized in Table 20: Big Game Mortality.

Table 20: Big Game Mortality

Roadway	Section	2-Year Mortality
SR-158	SR-39 Junction (MP 0.0) to Route 3460 (4.337)	24 mule deer
SR-158	Route 3460 (MP 4.337) to Powder Mountain (11.691)	10 mule deer
Route 3460	Liberty to Eden	16 mule deer
SR-39	SR-167 to Hunstville to Sr-158/Route 3460	20 mule deer

Source: Utah Division of Wildlife Resources

With a projected increase in vehicle travel during the fall, winter and spring months, it is anticipated that an increase in wildlife/vehicle collisions is likely, especially with mule deer. Potential impacts to big game animals and other wildlife species that could occur with the projected increase in traffic in this area should be studied in further detail. Powder Mountain Resort should work with the Utah Division of Wildlife Resources, Weber County and the Utah Department of Transportation to develop strategies to reduce wildlife/vehicle collisions.

IV. Parking

A. Current Parking Utilization

Parking utilization data for Powder Mountain Resort parking lots was collected between January 15, 2014 and February 5, 2014. A summary of existing parking conditions is listed below in Table 21: Parking Lot Summary.

Table 21: Parking Lot Summary

Parking Lots	Available Stalls	Weekday Utilization (%)	Saturday Utilization (%)
Rainbow Gardens Park-n-Ride Lot	69[1]	41	70
Eden Valley Market Park-n-Ride Lot	65[2]	19	29
Powder Mountain Tiger Lot	50[2]	14	81
Powder Mountain Sundown Lot	90[2]	24	70
Powder Mountain Resort Center Lot	460[2]	14	77

[1] Actual number of parking stalls. [2] Approximate number of parking stalls.

This utilization data indicates that during the weekdays skiers are 2.2 times more likely to ride UTA transit from the Rainbow Gardens park-n-ride lot rather than the Eden Valley Market park-n-ride lot and 2.5 times more likely on Saturdays.

Figure 8: Existing Parking details the weekday and Saturday utilization of the three resort parking lots and two park-n-ride lots associated with Powder Mountain Resort.

The Rainbow Gardens park-n-ride lot located on the west side of Rainbow Gardens Market on Valley Drive, is approximately 400 feet southwest of the junction with SR-39 at the mouth of Ogden Canyon. This parking lot is paved and operated by Rainbow Gardens in association with UTA.

The Eden Valley park-n-ride lot located approximately 600 feet northwest of Eden Valley Market on Route 3460 is unpaved and is serviced by UTA, but is not owned or operated by UTA.

The three parking lots owned and operated by Powder Mountain Resort are unpaved.

B. Future Parking Demands

Efforts to entice skiers and Powder Mountain employees to use UTA transit will create a need for additional park-n-ride lots to accommodate the increased ridership. Ninety-six seasonal employees will have the opportunity to stay in workforce housing at the ski resort while the others will commute daily to housing in other areas. Approximately 681 employees (Table 11) and 340 skiers will use UTA services on the weekend. To accommodate this parking demand 1000 additional parking stalls will be provided. There are approximately 8.5 acres adjacent to the existing Rainbow Gardens that might be suitable for a parking lot if available and appears to be large enough to accommodate the number of required parking stalls. Figure 9: Potential Park-n-Ride Location shows the proposed location for future parking needs.

The north parking lot (311 stalls) at the UTA Ogden Transit Center located at 2350 South Wall Avenue in Ogden could be used for overflow parking in the event the proposed park-n-ride lots become full. This lot should be available on weekends (when resort ridership is highest) when weekday commuters are not using the parking spaces. An agreement with UTA will be negotiated to facilitate the use of these UTA facilities.

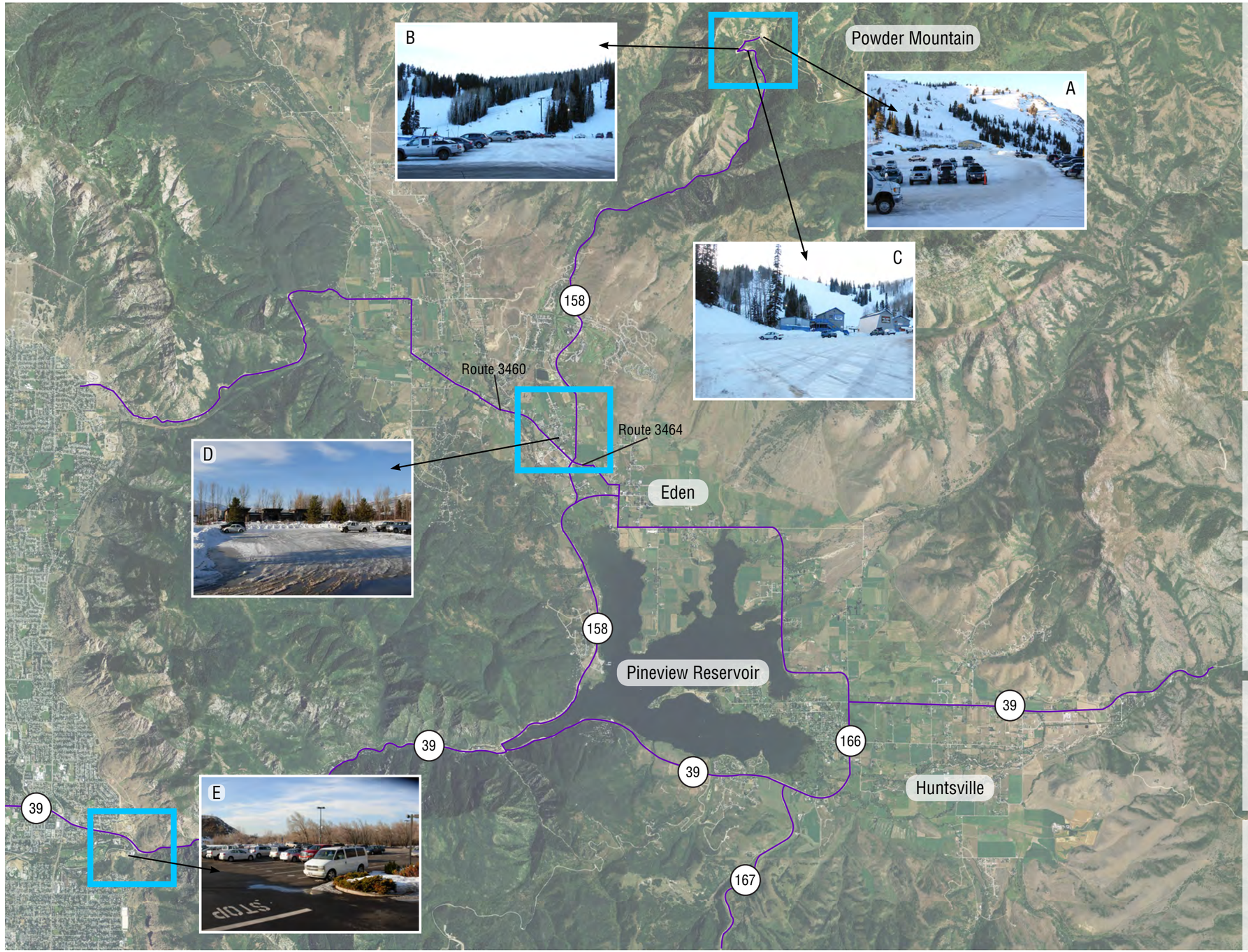


Figure 16: Existing Parking

2011 NAIP 1-meter Aerial Photography
Powder Mountain Traffic Study

Parking Lots Vicinity
State Route
Highway

0 1.25 2.5
Miles

N

A Powder Mountain Resort Center Lot
Available Stalls: 460
Weekday Utilization: 14%
Saturday Utilization: 77%

B Powder Mountain Sundown Lot
Available Stalls: 90
Weekday Utilization: 24%
Saturday Utilization: 70%

C Powder Mountain Tiger Lot
Available Stalls: 50
Weekday Utilization: 14%
Saturday Utilization: 81%

D Eden Valley Market Park-n-Ride Lot
Available Stalls: 65
Weekday Utilization: 19%
Saturday Utilization: 29%

E Rainbow Gardens Park-n-Ride Lot
Available Stalls: 69
Weekday Utilization: 41%
Saturday Utilization: 70%

Figure 17: Potential Park and Ride Location

2012 HRO 6-inch Orthophotography

Powder Mountain Traffic Study

Potential Park and Ride
8.5 acres
1000 Parking Stalls

0 150 300
Feet

N

V. Travel Demand Management

Travel demand management (TDM) measures represent actions taken by a development to limit vehicle trips made to and from the site. Typically these measures encourage site users to select a travel mode other than a single occupancy vehicle to get to and from the property, such as carpooling or transit.

Powder Mountain will provide an internal shuttle system so that overnight guests have means to access the ski area base without using their vehicles. The shuttle is anticipated to reduce vehicle travel within and between those areas by approximately 307 trips per day on the weekdays and 340 trips on the weekends during Phase 1 (Table 12) and 209 trips per day on the weekdays and 264 trips on the weekends (Table 13).

Powder Mountain has teamed up with UTA to provide transit service from Ogden or Eden so guests and employees don't have to rely on their personal vehicle to travel to the resort and are committed to reduce the number of skier single vehicle trips by 50 percent by providing enticements to the skiers to use UTA transit services. Some of the strategies that could be used include: discounted lift tickets, discounted concessions, subsidized transit fares, paid parking at the resort, etc. Beginning two years after DRR1 approval, the Developer shall provide a biennial report to the Planning Division Staff that [outlines data or provides details] on the strategies implemented. The report shall include, but not be limited to, the strategies used, the data collected and the reduction of single vehicle trips.

VI. Sustainability

Transportation sustainability is accomplished by limiting the traffic demand on the roadway system; fewer vehicles equals less congestion and less environmental impacts. Powder Mountain will strive to achieve that by providing on-mountain accommodations that allow residents and guests to drive to the resort once and stay for multiple days instead of making trips back and forth from the resort to surrounding cities (i.e., Ogden, Eden, etc.) every day. Additionally, Powder Mountain will provide supportive commercial and retail facilities within the resort that allow guests to fulfill many of their trip purposes (such as dining, entertainment and resort-related shopping) on site, limiting the number of trips to Eden or Ogden for those needs. Powder Mountain will also provide an internal shuttle system between the resort development areas that will enable guests to access the ski areas without using their own vehicle. This system could either operate as either an on-call system, a fixed route, fixed schedule system or hybrid system that offers fixed route service during the peak demand periods and on-call service during lower demand periods.

Other ways the resort will reduce travel demand and promote sustainability include:

- Provide preferred parking in the day skier lots for vehicles with three or more occupants. To promote reduced vehicle emissions and a healthier environment, preferred parking could also be extended to hybrid vehicles and other low-emissions vehicles.
- Consolidate services that are needed at the resort from any non-resort business, whether it be related to laundry, custodial, utility, or security.
- Implement the use of alternative fuel shuttles for the employee/skier transit services.
- Provide transit passes to all employees and require the employees to use them.
- Provide bicycles for use by resort employees and guests in the summer months.
- Provide information on shuttles, transit and other alternate modes to visitors.
- Have zipcars available for guests to use. Zipcar is a US membership-based car-sharing company providing automobile reservations to its members, billable by the hour or day.

Appendix A – 2014 Traffic Volumes

L2 Data Collection

www.L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: PEC
Intersection: SR-158 / SR-162
City, State: Eden, Utah
Control: Stop Sign

File Name : SR-158 SR-162
Site Code :
Start Date : 1/21/2014
Page No : 1

Groups Printed- General Traffic

	Wolf Creek (5100E) From Northeast					2500 W From Southeast					SR-158 From Southwest					SR-162 From Northwest					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:00 AM	1	12	0	0	13	0	2	0	0	2	0	1	0	0	1	12	5	3	0	20	36
06:15 AM	1	10	1	0	12	0	2	1	0	3	0	4	2	0	6	23	8	2	0	33	54
06:30 AM	2	10	2	0	14	0	4	1	0	5	1	6	3	0	10	25	3	5	0	33	62
06:45 AM	4	13	5	0	22	4	6	1	0	11	0	5	5	0	10	16	9	2	0	27	70
Total	8	45	8	0	61	4	14	3	0	21	1	16	10	0	27	76	25	12	0	113	222
07:00 AM	15	14	0	0	29	3	18	0	0	21	0	6	6	0	12	26	4	3	0	33	95
07:15 AM	17	17	2	0	36	0	26	2	0	28	1	1	9	0	11	21	15	7	0	43	118
07:30 AM	4	18	7	0	29	3	15	1	0	19	0	8	6	0	14	42	26	15	0	83	145
07:45 AM	8	14	8	0	30	6	22	1	0	29	3	8	9	0	20	31	14	9	0	54	133
Total	44	63	17	0	124	12	81	4	0	97	4	23	30	0	57	120	59	34	0	213	491
08:00 AM	3	12	10	0	25	3	7	2	0	12	2	10	8	0	20	27	16	4	0	47	104
08:15 AM	8	27	5	0	40	3	13	2	0	18	2	15	11	0	28	26	19	7	0	52	138
08:30 AM	5	10	17	0	32	8	42	2	0	52	1	17	11	0	29	10	38	7	0	55	168
08:45 AM	10	19	15	0	44	11	22	0	0	33	1	27	20	0	48	18	20	9	0	47	172
Total	26	68	47	0	141	25	84	6	0	115	6	69	50	0	125	81	93	27	0	201	582
09:00 AM	7	12	11	0	30	10	9	0	0	19	0	9	26	0	35	18	12	11	0	41	125
09:15 AM	6	14	9	0	29	5	14	1	0	20	1	22	23	0	46	17	15	2	0	34	129
09:30 AM	3	20	11	0	34	6	10	3	0	19	2	14	20	0	36	25	9	5	0	39	128
09:45 AM	11	13	5	0	29	10	10	3	0	23	2	12	19	0	33	10	10	6	0	26	111
Total	27	59	36	0	122	31	43	7	0	81	5	57	88	0	150	70	46	24	0	140	493
10:00 AM	2	11	5	0	18	6	6	1	0	13	1	14	16	0	31	14	5	1	0	20	82
10:15 AM	10	8	7	0	25	1	6	0	0	7	1	13	15	0	29	23	12	6	0	41	102
10:30 AM	10	20	7	1	38	6	13	3	1	23	1	13	15	0	29	23	9	13	1	46	136
10:45 AM	6	13	4	0	23	8	9	1	0	18	0	11	13	0	24	21	6	8	0	35	100
Total	28	52	23	1	104	21	34	5	1	61	3	51	59	0	113	81	32	28	1	142	420
11:00 AM	7	12	8	0	27	0	5	1	0	6	1	7	10	0	18	23	13	2	0	38	89
11:15 AM	4	9	10	0	23	12	8	2	0	22	2	12	13	0	27	14	6	6	0	26	98
11:30 AM	9	11	7	0	27	12	20	2	0	34	3	12	14	0	29	22	10	6	0	38	128
11:45 AM	11	11	10	0	32	6	17	0	0	23	3	18	19	0	40	15	14	11	0	40	135
Total	31	43	35	0	109	30	50	5	0	85	9	49	56	0	114	74	43	25	0	142	450
12:00 PM	6	13	9	0	28	8	20	2	0	30	2	14	19	0	35	14	13	8	0	35	128
12:15 PM	4	15	4	0	23	5	11	3	0	19	2	15	13	0	30	12	17	9	0	38	110
12:30 PM	11	15	8	0	34	12	10	3	0	25	1	12	18	0	31	21	16	3	0	40	130
12:45 PM	11	6	1	0	18	6	16	2	0	24	1	15	17	0	33	16	11	10	0	37	112
Total	32	49	22	0	103	31	57	10	0	98	6	56	67	0	129	63	57	30	0	150	480
01:00 PM	4	10	10	0	24	5	4	0	0	9	1	12	20	0	33	19	10	7	0	36	102
01:15 PM	8	14	7	0	29	9	6	2	0	17	2	10	17	0	29	23	13	6	0	42	117
01:30 PM	11	6	10	0	27	8	13	4	0	25	3	8	26	0	37	24	8	6	0	38	127
01:45 PM	9	9	12	0	30	10	13	1	0	24	4	12	15	0	31	24	9	11	0	44	129
Total	32	39	39	0	110	32	36	7	0	75	10	42	78	0	130	90	40	30	0	160	475
02:00 PM	9	19	5	1	34	3	6	1	0	10	1	5	19	0	25	18	13	4	0	35	104
02:15 PM	13	11	2	0	26	8	16	0	0	24	4	11	17	0	32	19	12	10	0	41	123
02:30 PM	9	13	2	0	24	7	15	3	0	25	1	7	20	1	29	18	18	15	0	51	129
02:45 PM	6	16	10	0	32	15	14	1	2	32	1	9	17	0	27	17	10	8	0	35	126
Total	37	59	19	1	116	33	51	5	2	91	7	32	73	1	113	72	53	37	0	162	482
03:00 PM	11	21	8	0	40	9	15	3	0	27	4	22	21	0	47	18	23	10	0	51	165
03:15 PM	9	14	14	0	37	4	16	3	0	23	4	17	19	0	40	23	27	15	0	65	165
03:30 PM	11	16	12	0	39	12	24	2	0	38	1	18	26	0	45	18	16	11	0	45	167
03:45 PM	15	21	10	0	46	9	16	2	0	27	2	11	34	0	47	24	10	5	0	39	159
Total	46	72	44	0	162	34	71	10	0	115	11	68	100	0	179	83	76	41	0	200	656

L2 Data Collection

www.L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: PEC
Intersection: SR-158 / SR-162
City, State: Eden, Utah
Control: Stop Sign

File Name : SR-158 SR-162
Site Code :
Start Date : 1/21/2014
Page No : 2

Groups Printed- General Traffic

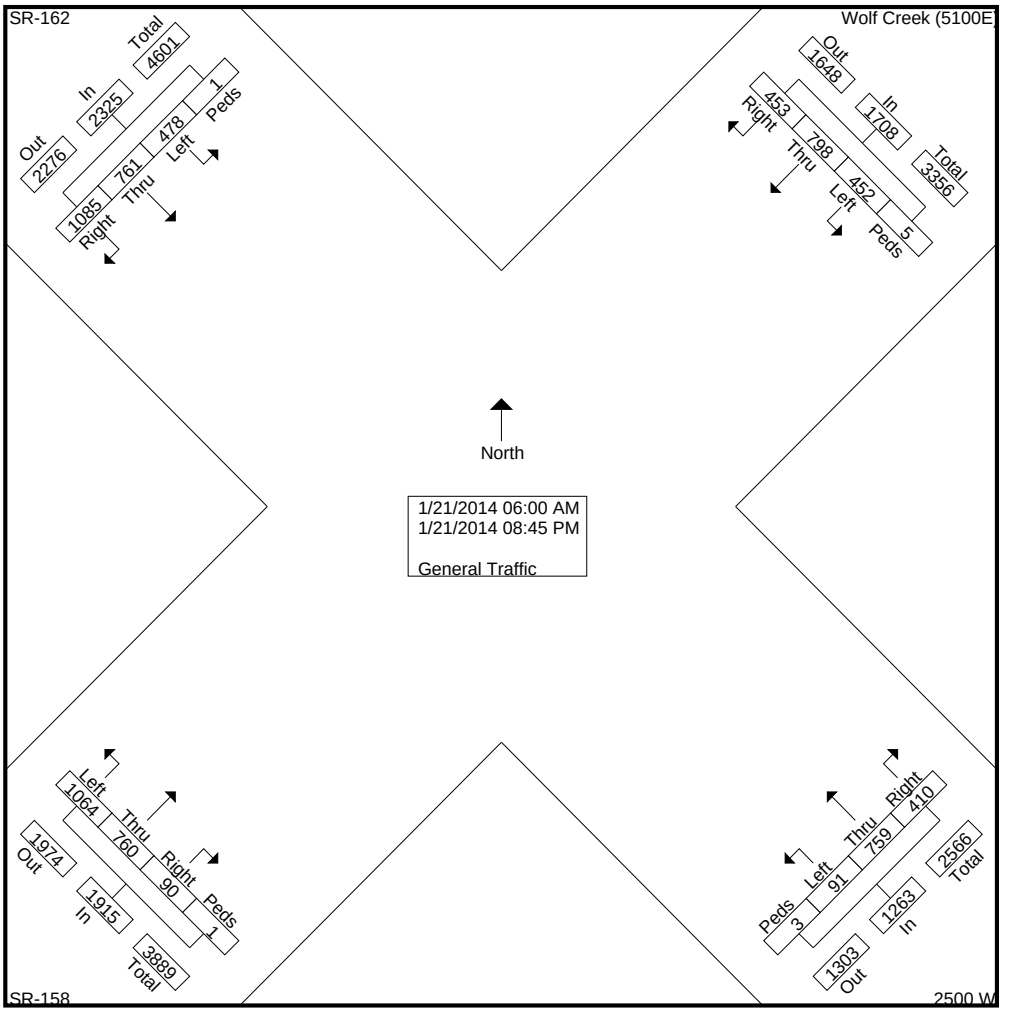
	Wolf Creek (5100E) From Northeast					2500 W From Southeast					SR-158 From Southwest					SR-162 From Northwest					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	11	22	7	0	40	8	23	4	0	35	2	8	26	0	36	25	14	15	0	54	165
04:15 PM	5	25	7	0	37	17	31	9	0	57	1	11	25	0	37	22	24	10	0	56	187
04:30 PM	13	32	11	3	59	13	20	1	0	34	1	15	7	0	23	27	15	11	0	53	169
04:45 PM	24	23	9	0	56	11	22	1	0	34	1	14	26	0	41	16	11	14	0	41	172
Total	53	102	34	3	192	49	96	15	0	160	5	48	84	0	137	90	64	50	0	204	693
05:00 PM	10	18	10	0	38	8	11	0	0	19	2	33	45	0	80	22	15	22	0	59	196
05:15 PM	15	22	12	0	49	8	13	1	0	22	1	42	62	0	105	19	24	11	0	54	230
05:30 PM	8	9	13	0	30	13	12	1	0	26	1	14	29	0	44	19	17	13	0	49	149
05:45 PM	8	13	7	0	28	11	7	4	0	22	2	12	34	0	48	15	13	14	0	42	140
Total	41	62	42	0	145	40	43	6	0	89	6	101	170	0	277	75	69	60	0	204	715
06:00 PM	10	13	11	0	34	4	20	1	0	25	0	16	17	0	33	7	17	9	0	33	125
06:15 PM	8	6	17	0	31	4	14	0	0	18	0	10	32	0	42	11	8	11	0	30	121
06:30 PM	3	8	4	0	15	5	8	1	0	14	0	12	22	0	34	14	13	8	0	35	98
06:45 PM	6	7	7	0	20	6	4	2	0	12	1	8	19	0	28	10	9	8	0	27	87
Total	27	34	39	0	100	19	46	4	0	69	1	46	90	0	137	42	47	36	0	125	431
07:00 PM	7	7	18	0	32	6	9	1	0	16	2	13	15	0	30	10	4	9	0	23	101
07:15 PM	2	1	4	0	7	7	9	1	0	17	3	15	15	0	33	8	12	3	0	23	80
07:30 PM	3	10	4	0	17	8	10	0	0	18	4	11	15	0	30	10	9	4	0	23	88
07:45 PM	1	11	3	0	15	8	4	0	0	12	0	19	12	0	31	8	11	6	0	25	83
Total	13	29	29	0	71	29	32	2	0	63	9	58	57	0	124	36	36	22	0	94	352
08:00 PM	4	8	1	0	13	3	10	0	0	13	3	12	15	0	30	4	7	2	0	13	69
08:15 PM	1	7	4	0	12	7	5	1	0	13	0	11	10	0	21	9	6	5	0	20	66
08:30 PM	2	3	10	0	15	4	3	1	0	8	1	10	17	0	28	6	2	4	0	12	63
08:45 PM	1	4	3	0	8	6	3	0	0	9	3	11	10	0	24	13	6	11	0	30	71
Total	8	22	18	0	48	20	21	2	0	43	7	44	52	0	103	32	21	22	0	75	269
Grand Total	453	798	452	5	1708	410	759	91	3	1263	90	760	1064	1	1915	1085	761	478	1	2325	7211
Apprch %	26.5	46.7	26.5	0.3		32.5	60.1	7.2	0.2		4.7	39.7	55.6	0.1		46.7	32.7	20.6	0		
Total %	6.3	11.1	6.3	0.1	23.7	5.7	10.5	1.3	0	17.5	1.2	10.5	14.8	0	26.6	15	10.6	6.6	0	32.2	

L2 Data Collection

www.L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: PEC
Intersection: SR-158 / SR-162
City, State: Eden, Utah
Control: Stop Sign

File Name : SR-158 SR-162
Site Code :
Start Date : 1/21/2014
Page No : 3



L2 Data Collection

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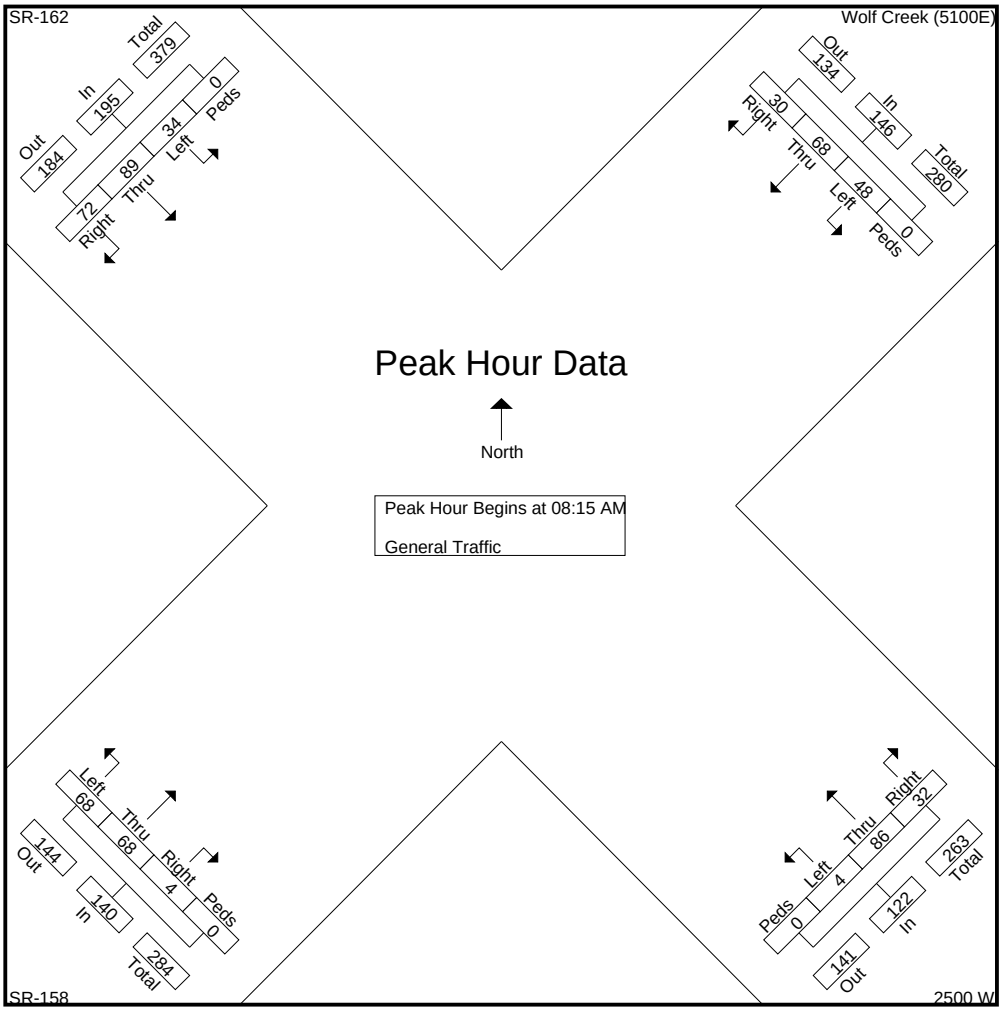
Idaho (208) 860-7554 Utah (801) 413-2993

Study: PEC
Intersection: SR-158 / SR-162
City, State: Eden, Utah
Control: Stop Sign

File Name : SR-158 SR-162
Site Code :
Start Date : 1/21/2014
Page No : 4

	Wolf Creek (5100E) From Northeast					2500 W From Southeast					SR-158 From Southwest					SR-162 From Northwest					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:15 AM																					
08:15 AM	8	**27**	5	0	40	3	13	**2**	0	18	**2**	15	11	0	28	**26**	19	7	0	52	138
08:30 AM	5	10	**17**	0	32	8	**42**	2	0	**52**	1	17	11	0	29	10	**38**	7	0	**55**	168
08:45 AM	**10**	19	15	0	**44**	**11**	22	0	0	33	1	**27**	20	0	**48**	18	20	9	0	47	**172**
09:00 AM	7	12	11	0	30	10	9	0	0	19	0	9	**26**	0	35	18	12	**11**	0	41	125
Total Volume	30	68	48	0	146	32	86	4	0	122	4	68	68	0	140	72	89	34	0	195	603
% App. Total	20.5	46.6	32.9	0		26.2	70.5	3.3	0		2.9	48.6	48.6	0		36.9	45.6	17.4	0		
PHF	.750	.630	.706	.000	.830	.727	.512	.500	.000	.587	.500	.630	.654	.000	.729	.692	.586	.773	.000	.886	.876



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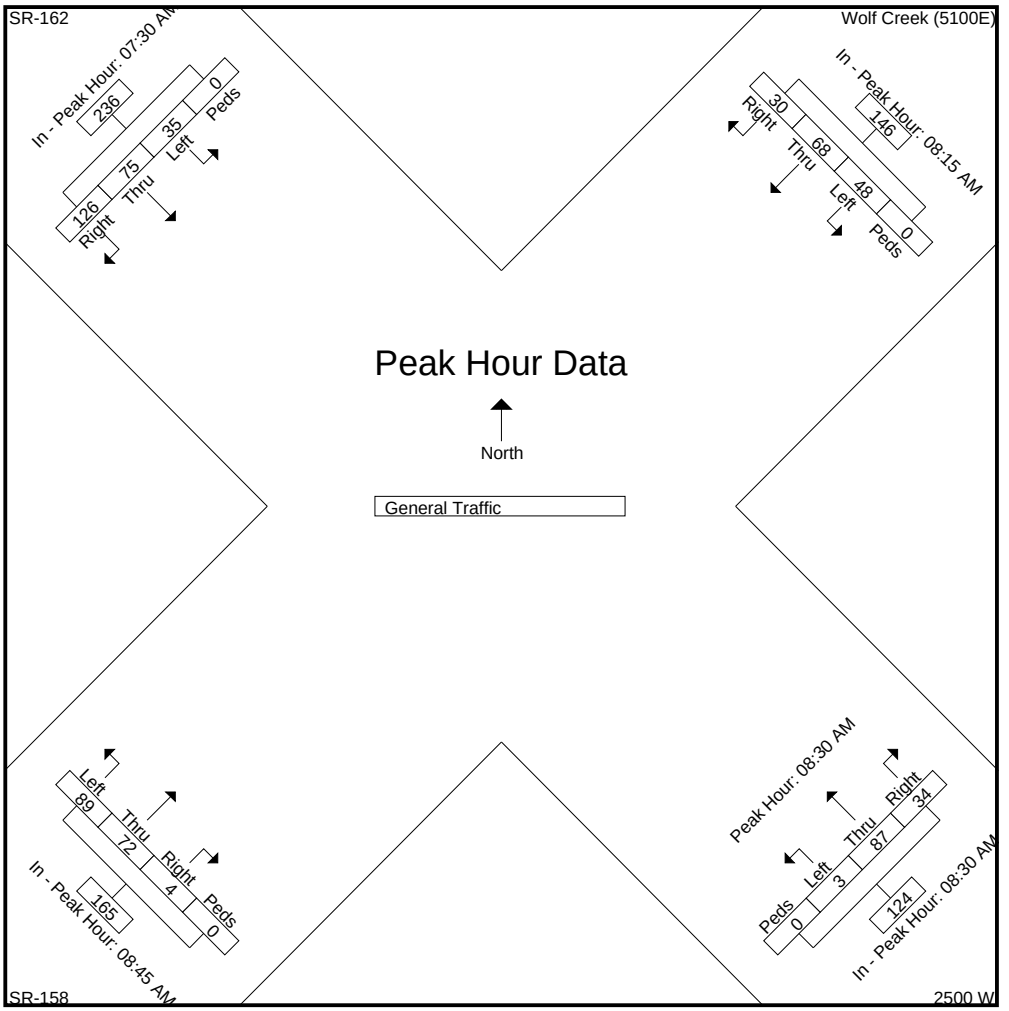
Study: PEC
Intersection: SR-158 / SR-162
City, State: Eden, Utah
Control: Stop Sign

File Name : SR-158 SR-162
Site Code :
Start Date : 1/21/2014
Page No : 5

	Wolf Creek (5100E) From Northeast					2500 W From Southeast					SR-158 From Southwest					SR-162 From Northwest					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	08:15 AM					08:30 AM					08:45 AM					07:30 AM					
+0 mins.	8	**27**	5	0	40	8	**42**	**2**	0	**52**	1	**27**	20	0	**48**	**42**	**26**	**15**	0	**83**	
+15 mins.	5	10	**17**	0	32	**11**	22	0	0	33	0	9	**26**	0	35	31	14	9	0	54	
+30 mins.	**10**	19	15	0	**44**	10	9	0	0	19	1	22	23	0	46	27	16	4	0	47	
+45 mins.	7	12	11	0	30	5	14	1	0	20	**2**	14	20	0	36	26	19	7	0	52	
Total Volume	30	68	48	0	146	34	87	3	0	124	4	72	89	0	165	126	75	35	0	236	
% App. Total	20.5	46.6	32.9	0		27.4	70.2	2.4	0		2.4	43.6	53.9	0		53.4	31.8	14.8	0		
PHF	.750	.630	.706	.000	.830	.773	.518	.375	.000	.596	.500	.667	.856	.000	.859	.750	.721	.583	.000	.711	



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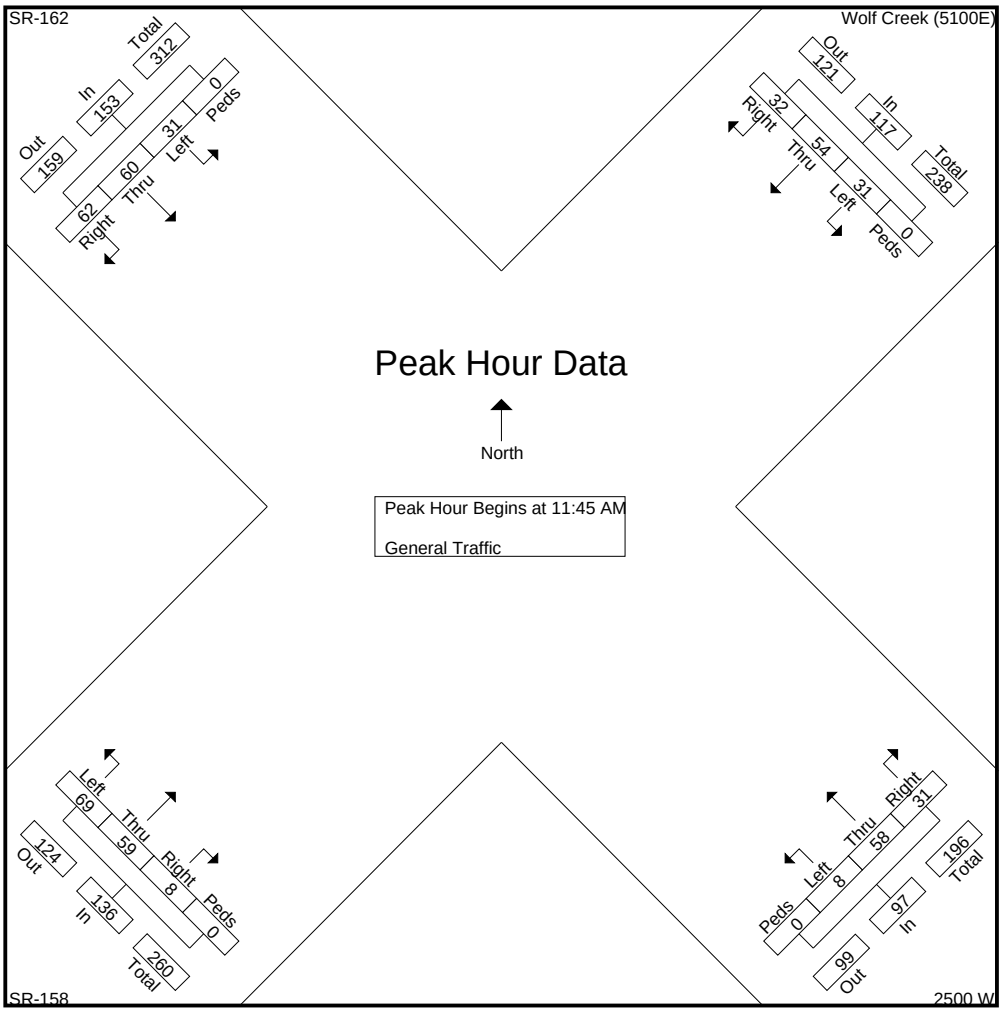
Study: PEC
Intersection: SR-158 / SR-162
City, State: Eden, Utah
Control: Stop Sign

File Name : SR-158 SR-162
Site Code :
Start Date : 1/21/2014
Page No : 6

	Wolf Creek (5100E) From Northeast					2500 W From Southeast					SR-158 From Southwest					SR-162 From Northwest					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:45 AM																					
11:45 AM	**11**	11	**10**	0	32	6	17	0	0	23	**3**	**18**	**19**	0	**40**	15	14	**11**	0	**40**	**135**
12:00 PM	6	13	9	0	28	8	**20**	2	0	**30**	2	14	19	0	35	14	13	8	0	35	128
12:15 PM	4	**15**	4	0	23	5	11	**3**	0	19	2	15	13	0	30	12	**17**	9	0	38	110
12:30 PM	11	15	8	0	**34**	**12**	10	3	0	25	1	12	18	0	31	**21**	16	3	0	40	130
Total Volume	32	54	31	0	117	31	58	8	0	97	8	59	69	0	136	62	60	31	0	153	503
% App. Total	27.4	46.2	26.5	0		32	59.8	8.2	0		5.9	43.4	50.7	0		40.5	39.2	20.3	0		
PHF	.727	.900	.775	.000	.860	.646	.725	.667	.000	.808	.667	.819	.908	.000	.850	.738	.882	.705	.000	.956	.931



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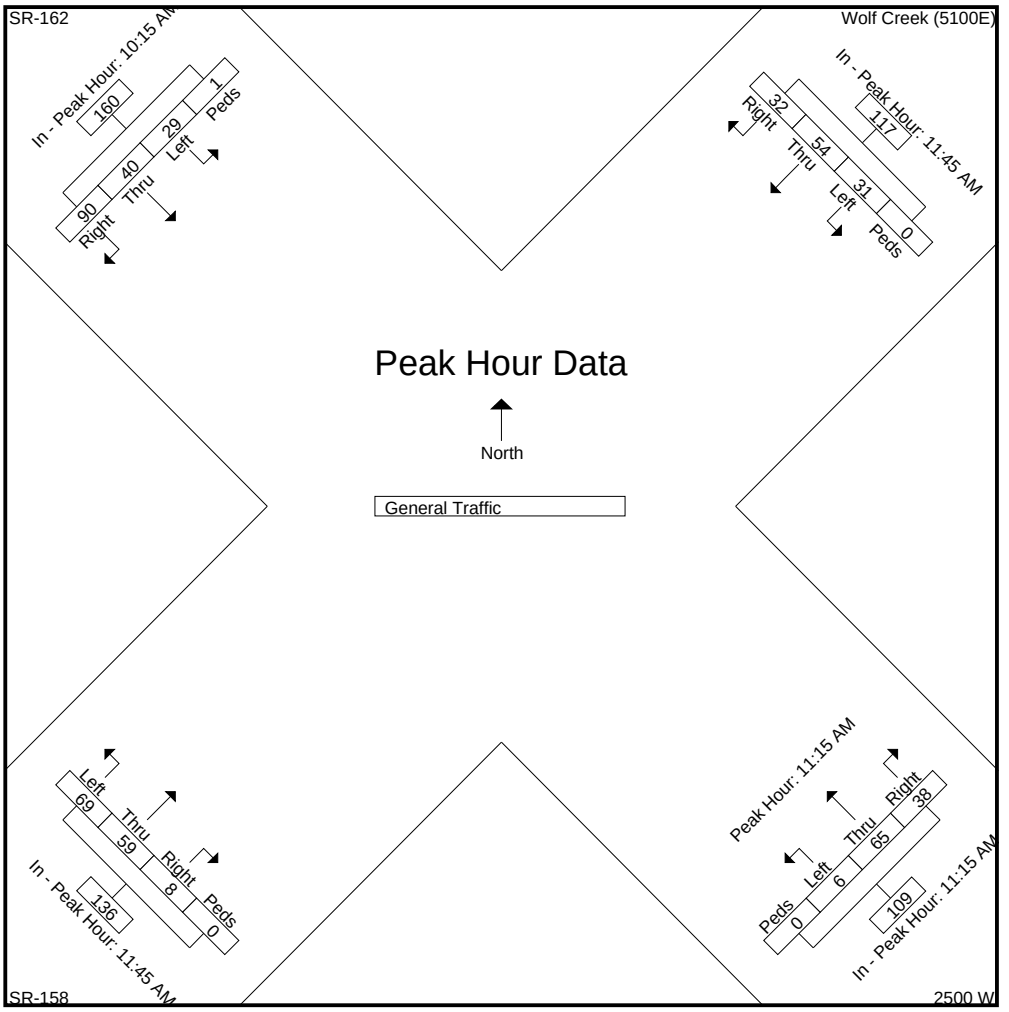
Study: PEC
Intersection: SR-158 / SR-162
City, State: Eden, Utah
Control: Stop Sign

File Name : SR-158 SR-162
Site Code :
Start Date : 1/21/2014
Page No : 7

	Wolf Creek (5100E) From Northeast					2500 W From Southeast					SR-158 From Southwest					SR-162 From Northwest					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	11:45 AM					11:15 AM					11:45 AM					10:15 AM					
+0 mins.	**11**	11	**10**	0	32	**12**	8	**2**	0	22	**3**	**18**	**19**	0	**40**	**23**	12	6	0	41	
+15 mins.	6	13	9	0	28	12	**20**	2	0	**34**	2	14	19	0	35	23	9	**13**	**1**	**46**	
+30 mins.	4	**15**	4	0	23	6	17	0	0	23	2	15	13	0	30	21	6	8	0	35	
+45 mins.	11	15	8	0	**34**	8	20	2	0	30	1	12	18	0	31	23	**13**	2	0	38	
Total Volume	32	54	31	0	117	38	65	6	0	109	8	59	69	0	136	90	40	29	1	160	
% App. Total	27.4	46.2	26.5	0		34.9	59.6	5.5	0		5.9	43.4	50.7	0		56.2	25	18.1	0.6		
PHF	.727	.900	.775	.000	.860	.792	.813	.750	.000	.801	.667	.819	.908	.000	.850	.978	.769	.558	.250	.870	



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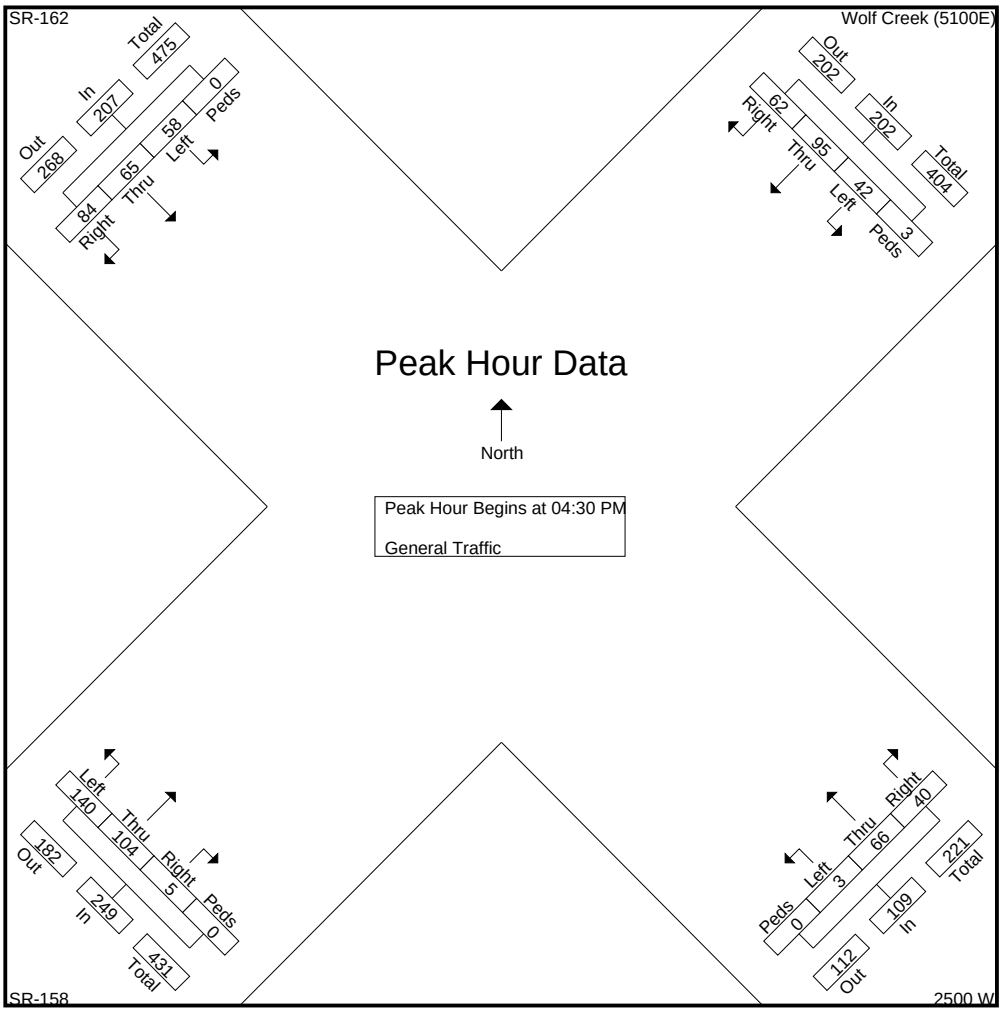
Study: PEC
Intersection: SR-158 / SR-162
City, State: Eden, Utah
Control: Stop Sign

File Name : SR-158 SR-162
Site Code :
Start Date : 1/21/2014
Page No : 8

	Wolf Creek (5100E) From Northeast					2500 W From Southeast					SR-158 From Southwest					SR-162 From Northwest					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	13	**32**	11	**3**	**59**	**13**	20	**1**	0	**34**	1	15	7	0	23	**27**	15	11	0	53	169
04:45 PM	**24**	23	9	0	56	11	**22**	1	0	34	1	14	26	0	41	16	11	14	0	41	172
05:00 PM	10	18	10	0	38	8	11	0	0	19	**2**	33	45	0	80	22	15	**22**	0	**59**	196
05:15 PM	15	22	**12**	0	49	8	13	1	0	22	1	**42**	**62**	0	**105**	19	**24**	11	0	54	**230**
Total Volume	62	95	42	3	202	40	66	3	0	109	5	104	140	0	249	84	65	58	0	207	767
% App. Total	30.7	47	20.8	1.5		36.7	60.6	2.8	0		2	41.8	56.2	0		40.6	31.4	28	0		
PHF	.646	.742	.875	.250	.856	.769	.750	.750	.000	.801	.625	.619	.565	.000	.593	.778	.677	.659	.000	.877	.834



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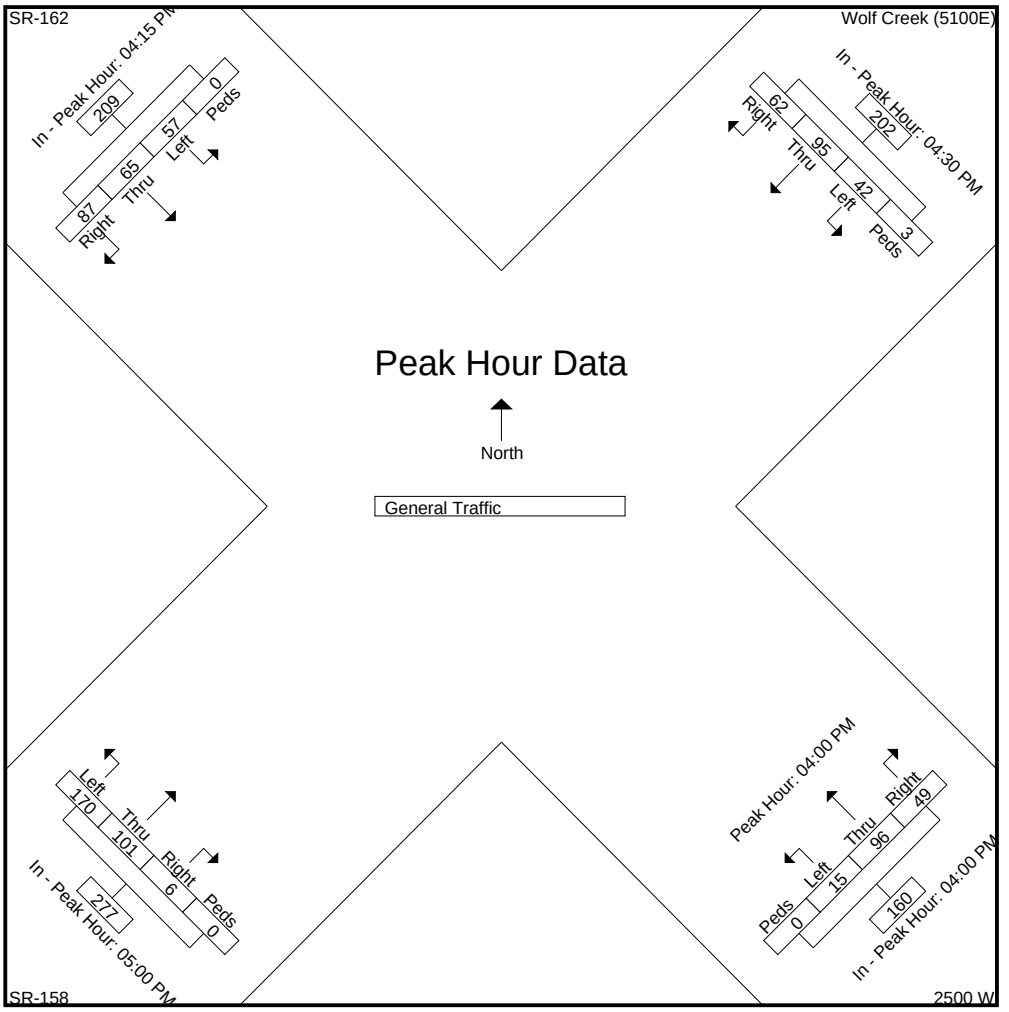
Study: PEC
Intersection: SR-158 / SR-162
City, State: Eden, Utah
Control: Stop Sign

File Name : SR-158 SR-162
Site Code :
Start Date : 1/21/2014
Page No : 9

	Wolf Creek (5100E) From Northeast					2500 W From Southeast					SR-158 From Southwest					SR-162 From Northwest					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:30 PM					04:00 PM					05:00 PM					04:15 PM					
+0 mins.	13	**32**	11	**3**	**59**	8	23	4	0	35	**2**	33	45	0	80	22	**24**	10	0	56	
+15 mins.	**24**	23	9	0	56	**17**	**31**	**9**	0	**57**	1	**42**	**62**	0	**105**	**27**	15	11	0	53	
+30 mins.	10	18	10	0	38	13	20	1	0	34	1	14	29	0	44	16	11	14	0	41	
+45 mins.	15	22	**12**	0	49	11	22	1	0	34	2	12	34	0	48	22	15	**22**	0	**59**	
Total Volume	62	95	42	3	202	49	96	15	0	160	6	101	170	0	277	87	65	57	0	209	
% App. Total	30.7	47	20.8	1.5		30.6	60	9.4	0		2.2	36.5	61.4	0		41.6	31.1	27.3	0		
PHF	.646	.742	.875	.250	.856	.721	.774	.417	.000	.702	.750	.601	.685	.000	.660	.806	.677	.648	.000	.886	



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Study: PEC
Intersection: SR-158 / SR-162
City, State: Eden, Utah
Control: Stop Sign

File Name : SR-158 SR-162
Site Code :
Start Date : 1/21/2014
Page No : 10

Image 1

L2 Data Collection

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Study: PEC
Intersection: SR-158 / SR-162
City, State: Eden, Utah
Control: Stop Sign

File Name : SR-158 SR-162 SAT
Site Code :
Start Date : 1/18/2014
Page No : 1

Groups Printed- General Traffic

	Wolf Creek (5100E) From Northeast					2500 W From Southeast					SR-158 From Southwest					SR-162 From Northwest					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:00 AM	0	1	0	0	1	0	1	0	0	1	2	2	1	0	5	2	1	0	0	3	10
06:15 AM	1	4	0	0	5	1	1	0	0	2	0	6	3	0	9	1	2	0	0	3	19
06:30 AM	0	4	1	0	5	0	3	1	0	4	0	0	0	0	0	6	1	2	0	9	18
06:45 AM	1	6	2	0	9	0	3	1	0	4	0	5	1	0	6	4	2	3	0	9	28
Total	2	15	3	0	20	1	8	2	0	11	2	13	5	0	20	13	6	5	0	24	75
07:00 AM	1	7	1	0	9	2	1	1	0	4	1	8	2	0	11	2	3	4	0	9	33
07:15 AM	4	7	3	0	14	2	5	0	0	7	1	4	3	0	8	7	3	3	0	13	42
07:30 AM	0	3	3	0	6	3	3	0	0	6	1	10	8	0	19	7	10	7	0	24	55
07:45 AM	7	16	5	0	28	3	2	2	0	7	3	13	8	0	24	11	12	4	0	27	86
Total	12	33	12	0	57	10	11	3	0	24	6	35	21	0	62	27	28	18	0	73	216
08:00 AM	2	6	6	0	14	0	6	0	0	6	1	9	9	0	19	12	8	8	0	28	67
08:15 AM	5	8	2	0	15	6	6	0	0	12	1	16	15	0	32	15	2	12	0	29	88
08:30 AM	8	12	5	0	25	4	5	2	0	11	6	35	14	0	55	2	8	8	0	18	109
08:45 AM	8	19	3	0	30	7	5	1	0	13	2	19	26	0	47	15	7	9	0	31	121
Total	23	45	16	0	84	17	22	3	0	42	10	79	64	0	153	44	25	37	0	106	385
09:00 AM	14	17	6	0	37	4	7	0	0	11	2	27	26	0	55	12	7	12	0	31	134
09:15 AM	10	20	8	0	38	9	9	1	0	19	4	31	14	0	49	16	5	10	0	31	137
09:30 AM	6	14	9	0	29	8	8	5	0	21	0	30	26	0	56	11	13	12	0	36	142
09:45 AM	6	25	8	0	39	6	11	0	0	17	3	23	17	1	44	15	14	16	0	45	145
Total	36	76	31	0	143	27	35	6	0	68	9	111	83	1	204	54	39	50	0	143	558
10:00 AM	8	19	6	0	33	9	5	0	0	14	2	28	17	0	47	11	14	12	0	37	131
10:15 AM	14	17	15	0	46	4	12	2	0	18	4	20	13	0	37	20	5	8	1	34	135
10:30 AM	13	16	7	0	36	10	9	4	0	23	2	19	19	0	40	27	12	13	0	52	151
10:45 AM	5	11	7	0	23	0	10	1	0	11	2	12	13	0	27	14	8	4	0	26	87
Total	40	63	35	0	138	23	36	7	0	66	10	79	62	0	151	72	39	37	1	149	504
11:00 AM	5	18	11	0	34	7	10	1	0	18	2	23	14	0	39	20	9	4	0	33	124
11:15 AM	9	15	13	0	37	6	12	3	0	21	6	16	20	0	42	20	9	8	0	37	137
11:30 AM	7	18	12	0	37	10	19	0	0	29	1	7	21	0	29	20	9	8	0	37	132
11:45 AM	14	9	8	0	31	10	14	2	0	26	1	13	20	0	34	23	11	9	0	43	134
Total	35	60	44	0	139	33	55	6	0	94	10	59	75	0	144	83	38	29	0	150	527
12:00 PM	9	9	6	0	24	9	19	3	0	31	2	22	21	0	45	19	10	19	0	48	148
12:15 PM	18	19	2	0	39	9	8	1	0	18	3	15	17	0	35	13	13	7	0	33	125
12:30 PM	14	15	6	0	35	10	9	1	0	20	0	20	26	0	46	22	9	14	0	45	146
12:45 PM	13	19	8	0	40	5	15	0	0	20	1	16	14	0	31	33	15	11	0	59	150
Total	54	62	22	0	138	33	51	5	0	89	6	73	78	0	157	87	47	51	0	185	569
01:00 PM	8	19	5	0	32	7	6	2	0	15	3	29	24	0	56	21	17	9	0	47	150
01:15 PM	8	25	7	0	40	7	15	1	0	23	3	20	23	0	46	18	9	9	0	36	145
01:30 PM	14	15	5	0	34	5	13	3	0	21	0	18	13	0	31	26	7	9	0	42	128
01:45 PM	10	22	3	0	35	9	12	2	0	23	5	15	19	0	39	24	11	8	0	43	140
Total	40	81	20	0	141	28	46	8	0	82	11	82	79	0	172	89	44	35	0	168	563
02:00 PM	5	19	9	0	33	7	14	3	0	24	2	15	21	1	39	17	5	10	0	32	128
02:15 PM	17	18	8	0	43	5	21	4	0	30	4	12	18	0	34	18	17	9	0	44	151
02:30 PM	8	19	13	0	40	6	8	3	0	17	3	16	15	0	34	18	7	6	0	31	122
02:45 PM	12	23	7	0	42	5	15	2	0	22	2	20	16	0	38	19	5	12	0	36	138
Total	42	79	37	0	158	23	58	12	0	93	11	63	70	1	145	72	34	37	0	143	539
03:00 PM	13	26	12	0	51	10	11	0	0	21	4	21	33	0	58	14	12	9	0	35	165
03:15 PM	11	29	14	0	54	9	20	3	0	32	4	29	20	0	53	24	8	13	0	45	184
03:30 PM	19	29	7	0	55	12	13	4	0	29	4	21	22	0	47	21	6	8	0	35	166
03:45 PM	17	33	20	0	70	8	8	7	0	23	2	26	28	0	56	22	10	11	0	43	192
Total	60	117	53	0	230	39	52	14	0	105	14	97	103	0	214	81	36	41	0	158	707

L2 Data Collection

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Idaho (208) 860-7554 Utah (801) 413-2993

Study: PEC
Intersection: SR-158 / SR-162
City, State: Eden, Utah
Control: Stop Sign

File Name : SR-158 SR-162 SAT
Site Code :
Start Date : 1/18/2014
Page No : 2

Groups Printed- General Traffic

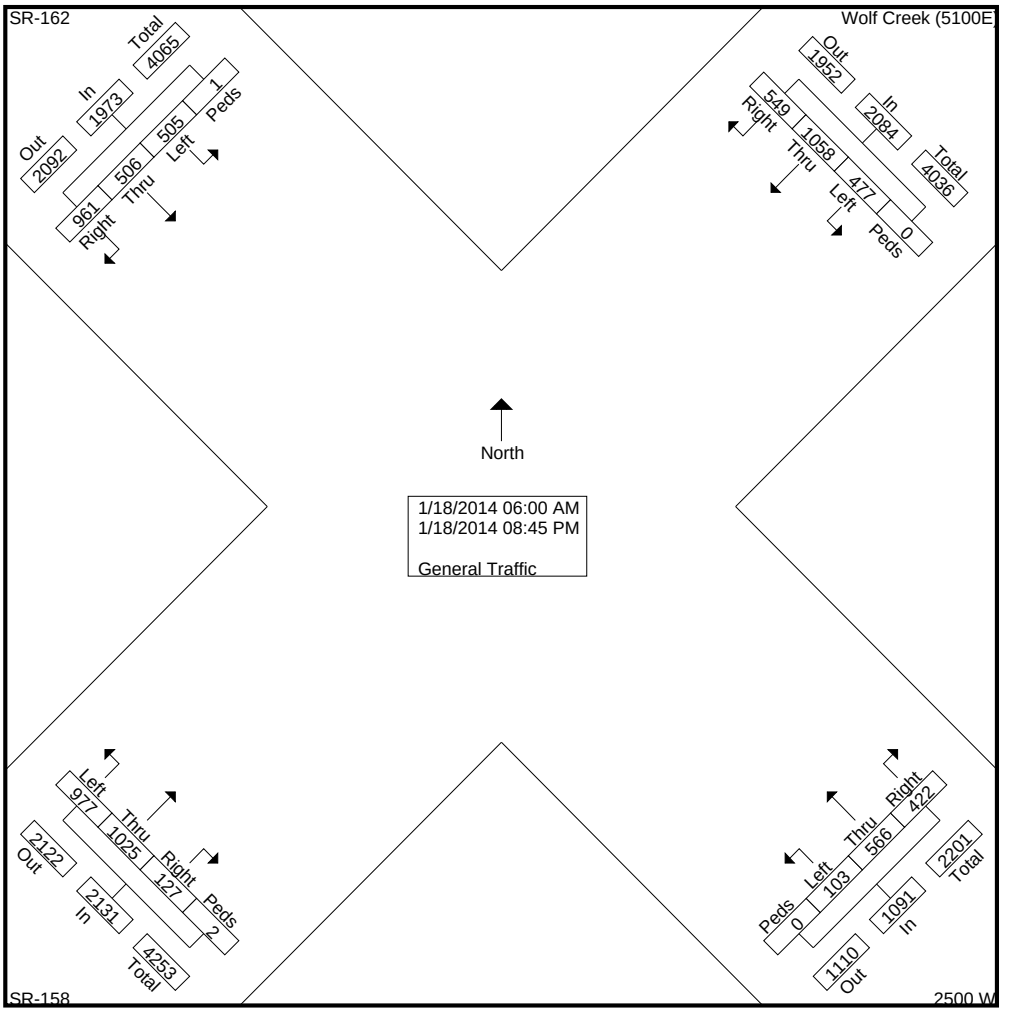
	Wolf Creek (5100E) From Northeast					2500 W From Southeast					SR-158 From Southwest					SR-162 From Northwest					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	10	33	12	0	55	12	17	7	0	36	5	20	25	0	50	34	8	11	0	53	194
04:15 PM	15	47	19	0	81	11	13	1	0	25	2	26	30	0	58	26	9	18	0	53	217
04:30 PM	14	57	12	0	83	18	11	1	0	30	1	38	21	0	60	50	7	12	0	69	242
04:45 PM	22	34	21	0	77	13	10	2	0	25	3	22	22	0	47	29	16	14	0	59	208
Total	61	171	64	0	296	54	51	11	0	116	11	106	98	0	215	139	40	55	0	234	861
05:00 PM	23	38	9	0	70	9	14	3	0	26	1	21	18	0	40	18	8	11	0	37	173
05:15 PM	16	30	7	0	53	10	17	4	0	31	4	21	16	0	41	13	8	9	0	30	155
05:30 PM	12	31	13	0	56	8	5	2	0	15	1	20	15	0	36	20	14	14	0	48	155
05:45 PM	10	13	7	0	30	10	13	3	0	26	1	19	15	0	35	16	12	7	0	35	126
Total	61	112	36	0	209	37	49	12	0	98	7	81	64	0	152	67	42	41	0	150	609
06:00 PM	12	16	10	0	38	7	16	2	0	25	3	28	24	0	55	17	10	4	0	31	149
06:15 PM	12	12	19	0	43	9	10	1	0	20	3	20	20	0	43	15	10	6	0	31	137
06:30 PM	7	10	18	0	35	17	11	1	0	29	2	8	17	0	27	16	11	8	0	35	126
06:45 PM	6	17	10	0	33	12	15	2	0	29	3	13	18	0	34	11	15	12	0	38	134
Total	37	55	57	0	149	45	52	6	0	103	11	69	79	0	159	59	46	30	0	135	546
07:00 PM	6	14	10	0	30	4	9	2	0	15	3	11	24	0	38	14	9	5	0	28	111
07:15 PM	10	15	3	0	28	12	7	2	0	21	1	13	15	0	29	13	6	6	0	25	103
07:30 PM	3	9	6	0	18	6	4	0	0	10	1	10	11	0	22	9	9	4	0	22	72
07:45 PM	9	4	3	0	16	6	3	1	0	10	2	10	13	0	25	11	4	2	0	17	68
Total	28	42	22	0	92	28	23	5	0	56	7	44	63	0	114	47	28	17	0	92	354
08:00 PM	4	10	9	0	23	6	1	1	0	8	1	12	11	0	24	13	4	4	0	21	76
08:15 PM	5	13	7	0	25	5	4	0	0	9	0	8	6	0	14	3	3	5	0	11	59
08:30 PM	4	10	6	0	20	8	4	2	0	14	0	7	10	0	17	6	5	10	0	21	72
08:45 PM	5	14	3	0	22	5	8	0	0	13	1	7	6	0	14	5	2	3	0	10	59
Total	18	47	25	0	90	24	17	3	0	44	2	34	33	0	69	27	14	22	0	63	266
Grand Total	549	1058	477	0	2084	422	566	103	0	1091	127	1025	977	2	2131	961	506	505	1	1973	7279
Apprch %	26.3	50.8	22.9	0		38.7	51.9	9.4	0		6	48.1	45.8	0.1		48.7	25.6	25.6	0.1		
Total %	7.5	14.5	6.6	0	28.6	5.8	7.8	1.4	0	15	1.7	14.1	13.4	0	29.3	13.2	7	6.9	0	27.1	

L2 Data Collection

www.L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: PEC
Intersection: SR-158 / SR-162
City, State: Eden, Utah
Control: Stop Sign

File Name : SR-158 SR-162 SAT
Site Code :
Start Date : 1/18/2014
Page No : 3



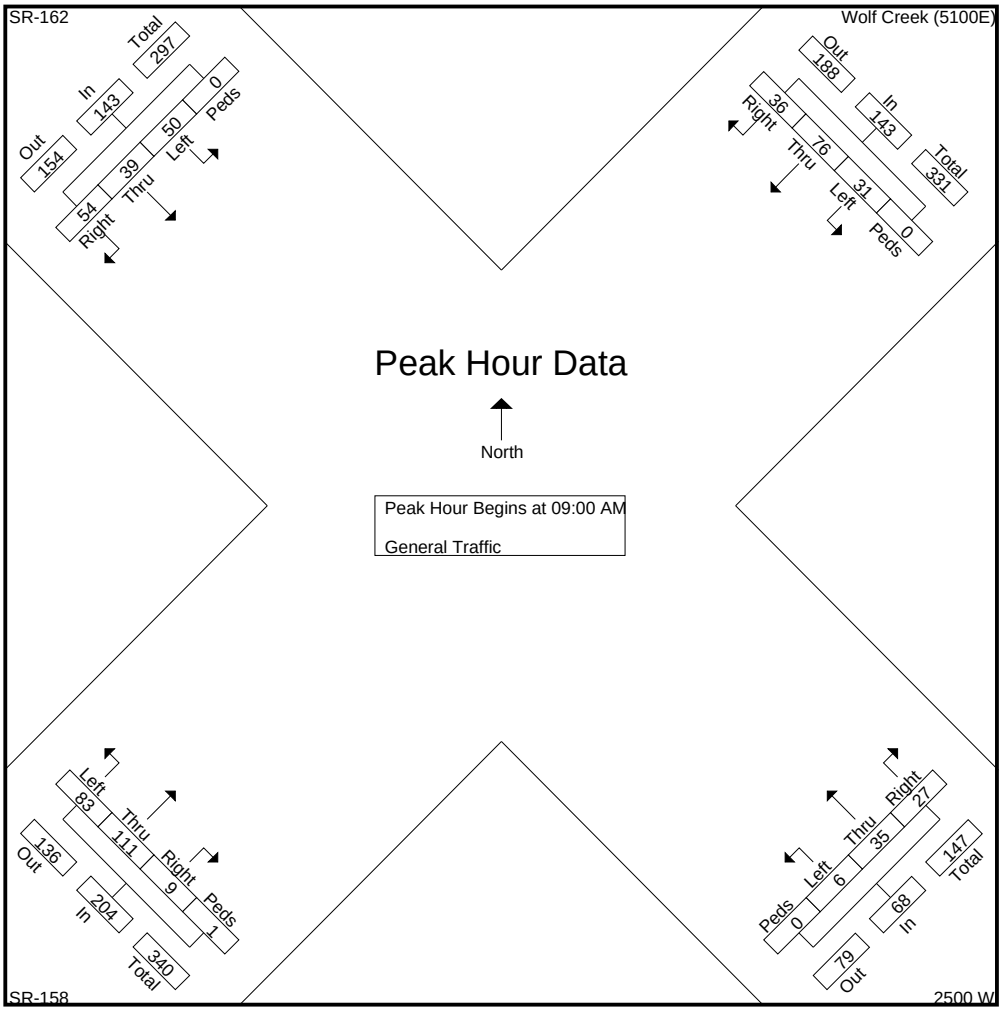
L2 Data Collection

www.L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: PEC
Intersection: SR-158 / SR-162
City, State: Eden, Utah
Control: Stop Sign

File Name : SR-158 SR-162 SAT
Site Code :
Start Date : 1/18/2014
Page No : 4

	Wolf Creek (5100E) From Northeast					2500 W From Southeast					SR-158 From Southwest					SR-162 From Northwest					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 09:00 AM																					
09:00 AM	**14**	17	6	0	37	4	7	0	0	11	2	27	**26**	0	55	12	7	12	0	31	134
09:15 AM	10	20	8	0	38	**9**	9	1	0	19	**4**	**31**	14	0	49	**16**	5	10	0	31	137
09:30 AM	6	14	**9**	0	29	8	8	**5**	0	**21**	0	30	26	0	**56**	11	13	12	0	36	142
09:45 AM	6	**25**	8	0	**39**	6	**11**	0	0	17	3	23	17	**1**	44	15	**14**	**16**	0	**45**	**145**
Total Volume	36	76	31	0	143	27	35	6	0	68	9	111	83	1	204	54	39	50	0	143	558
% App. Total	25.2	53.1	21.7	0		39.7	51.5	8.8	0		4.4	54.4	40.7	0.5		37.8	27.3	35	0		
PHF	.643	.760	.861	.000	.917	.750	.795	.300	.000	.810	.563	.895	.798	.250	.911	.844	.696	.781	.000	.794	.962



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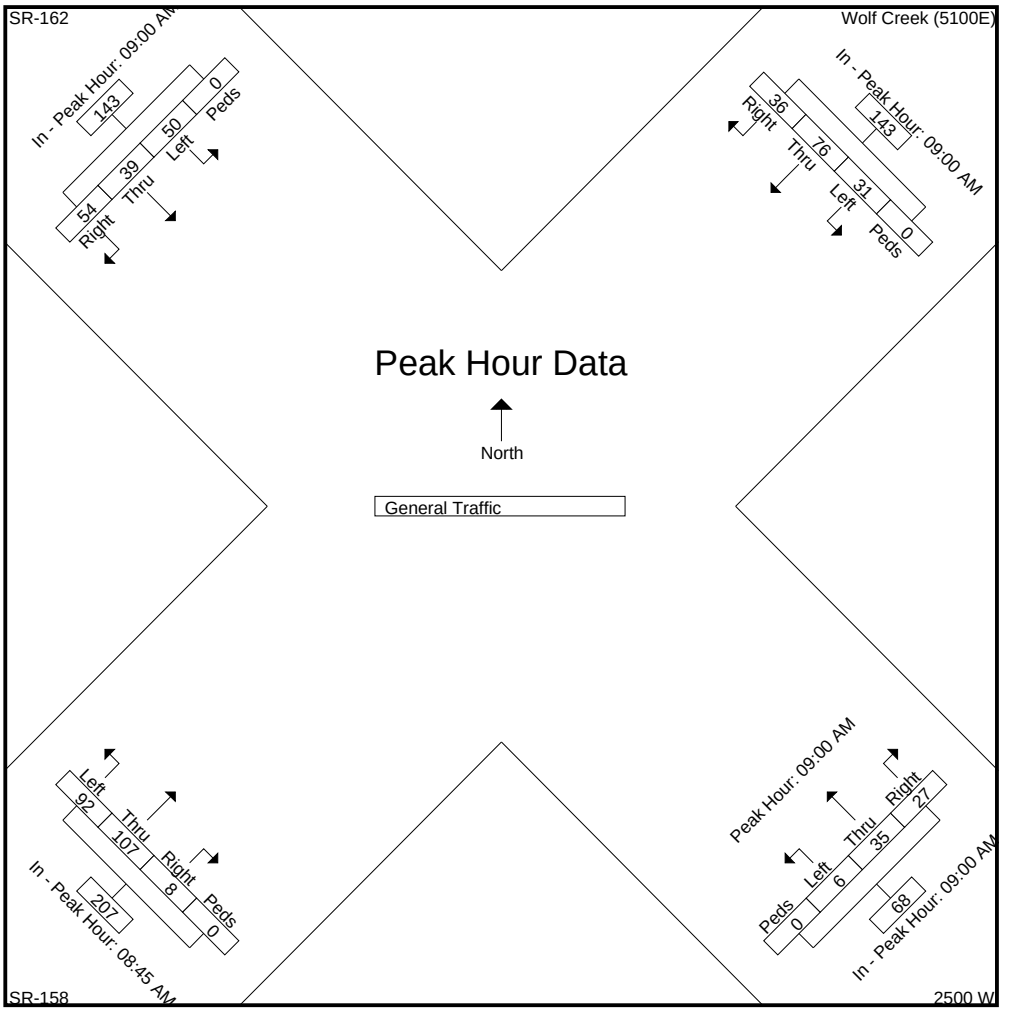
Idaho (208) 860-7554 Utah (801) 413-2993

Study: PEC
Intersection: SR-158 / SR-162
City, State: Eden, Utah
Control: Stop Sign

File Name : SR-158 SR-162 SAT
Site Code :
Start Date : 1/18/2014
Page No : 5

	Wolf Creek (5100E) From Northeast					2500 W From Southeast					SR-158 From Southwest					SR-162 From Northwest					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	09:00 AM					09:00 AM					08:45 AM					09:00 AM					
+0 mins.	**14**	17	6	0	37	4	7	0	0	11	2	19	**26**	0	47	12	7	12	0	31	
+15 mins.	10	20	8	0	38	**9**	9	1	0	19	2	27	26	0	55	**16**	5	10	0	31	
+30 mins.	6	14	**9**	0	29	8	8	**5**	0	**21**	**4**	**31**	14	0	49	11	13	12	0	36	
+45 mins.	6	**25**	8	0	**39**	6	**11**	0	0	17	0	30	26	0	**56**	15	**14**	**16**	0	**45**	
Total Volume	36	76	31	0	143	27	35	6	0	68	8	107	92	0	207	54	39	50	0	143	
% App. Total	25.2	53.1	21.7	0		39.7	51.5	8.8	0		3.9	51.7	44.4	0		37.8	27.3	35	0		
PHF	.643	.760	.861	.000	.917	.750	.795	.300	.000	.810	.500	.863	.885	.000	.924	.844	.696	.781	.000	.794	



L2 Data Collection

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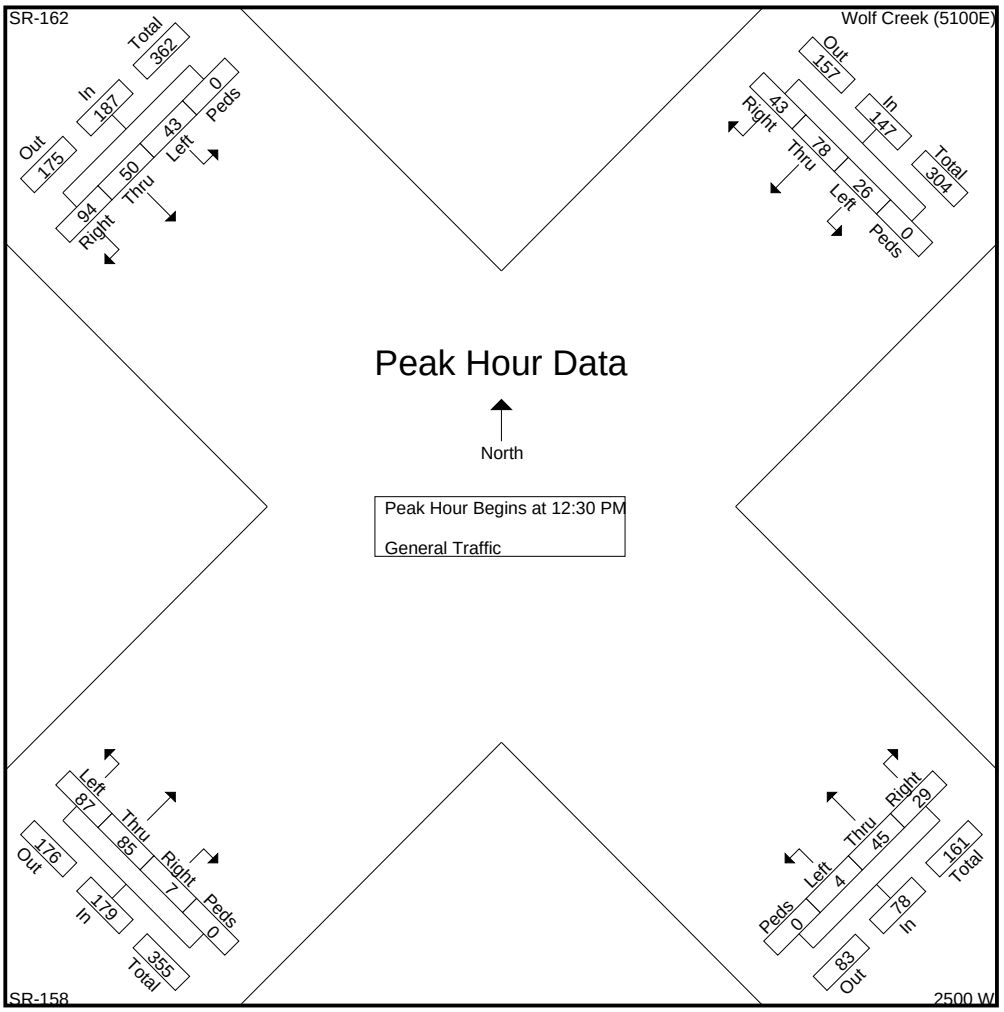
Study: PEC
Intersection: SR-158 / SR-162
City, State: Eden, Utah
Control: Stop Sign

File Name : SR-158 SR-162 SAT
Site Code :
Start Date : 1/18/2014
Page No : 6

	Wolf Creek (5100E) From Northeast					2500 W From Southeast					SR-158 From Southwest					SR-162 From Northwest					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:30 PM																					
12:30 PM	**14**	15	6	0	35	**10**	9	1	0	20	0	20	**26**	0	46	22	9	**14**	0	45	146
12:45 PM	13	19	**8**	0	**40**	5	**15**	0	0	20	1	16	14	0	31	**33**	15	11	0	**59**	**150**
01:00 PM	8	19	5	0	32	7	6	**2**	0	15	**3**	**29**	24	0	**56**	21	**17**	9	0	47	150
01:15 PM	8	**25**	7	0	40	7	15	1	0	**23**	3	20	23	0	46	18	9	9	0	36	145
Total Volume	43	78	26	0	147	29	45	4	0	78	7	85	87	0	179	94	50	43	0	187	591
% App. Total	29.3	53.1	17.7	0		37.2	57.7	5.1	0		3.9	47.5	48.6	0		50.3	26.7	23	0		
PHF	.768	.780	.813	.000	.919	.725	.750	.500	.000	.848	.583	.733	.837	.000	.799	.712	.735	.768	.000	.792	.985



L2 Data Collection

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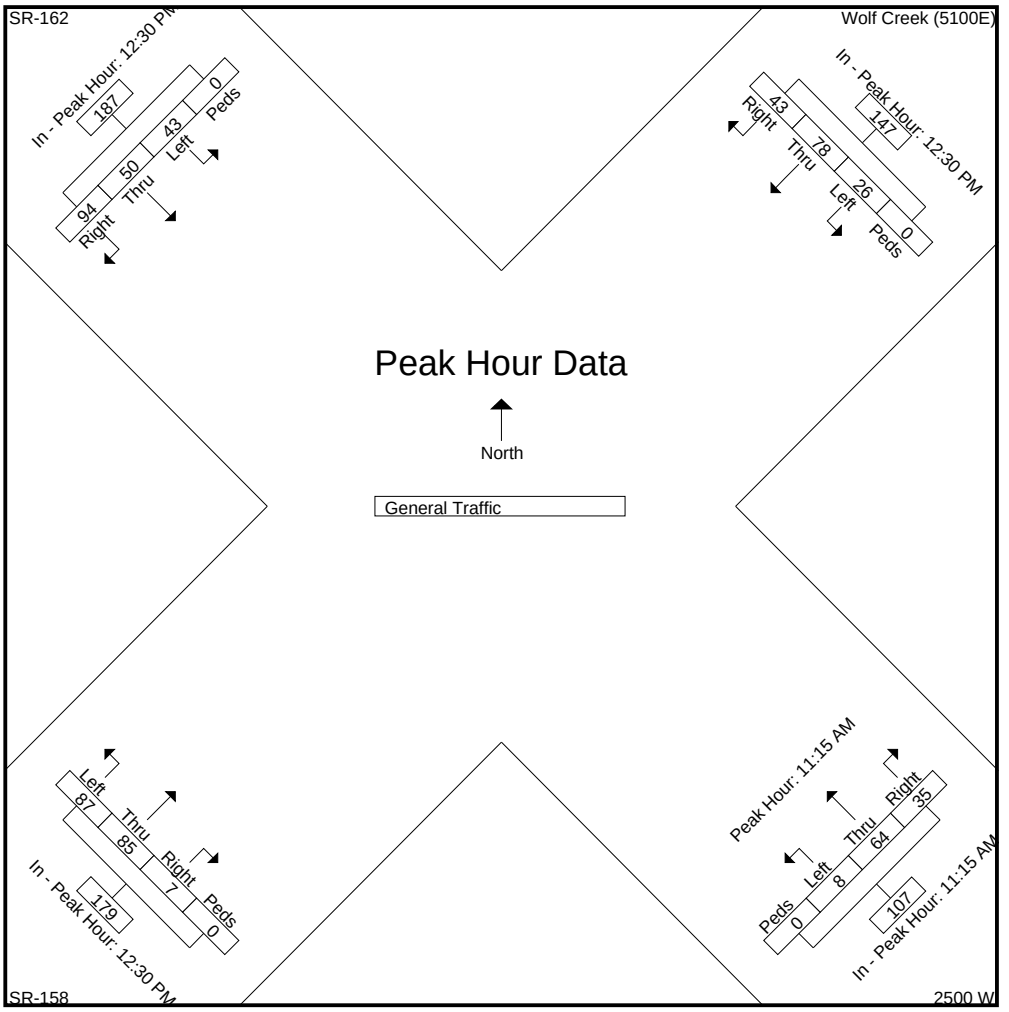
Study: PEC
Intersection: SR-158 / SR-162
City, State: Eden, Utah
Control: Stop Sign

File Name : SR-158 SR-162 SAT
Site Code :
Start Date : 1/18/2014
Page No : 7

	Wolf Creek (5100E) From Northeast					2500 W From Southeast					SR-158 From Southwest					SR-162 From Northwest					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	12:30 PM					11:15 AM					12:30 PM					12:30 PM					
+0 mins.	**14**	15	6	0	35	6	12	**3**	0	21	0	20	**26**	0	46	22	9	**14**	0	45	
+15 mins.	13	19	**8**	0	**40**	**10**	**19**	0	0	29	1	16	14	0	31	**33**	15	11	0	**59**	
+30 mins.	8	19	5	0	32	10	14	2	0	26	**3**	**29**	24	0	**56**	21	**17**	9	0	47	
+45 mins.	8	**25**	7	0	40	9	19	3	0	**31**	3	20	23	0	46	18	9	9	0	36	
Total Volume	43	78	26	0	147	35	64	8	0	107	7	85	87	0	179	94	50	43	0	187	
% App. Total	29.3	53.1	17.7	0		32.7	59.8	7.5	0		3.9	47.5	48.6	0		50.3	26.7	23	0		
PHF	.768	.780	.813	.000	.919	.875	.842	.667	.000	.863	.583	.733	.837	.000	.799	.712	.735	.768	.000	.792	



L2 Data Collection

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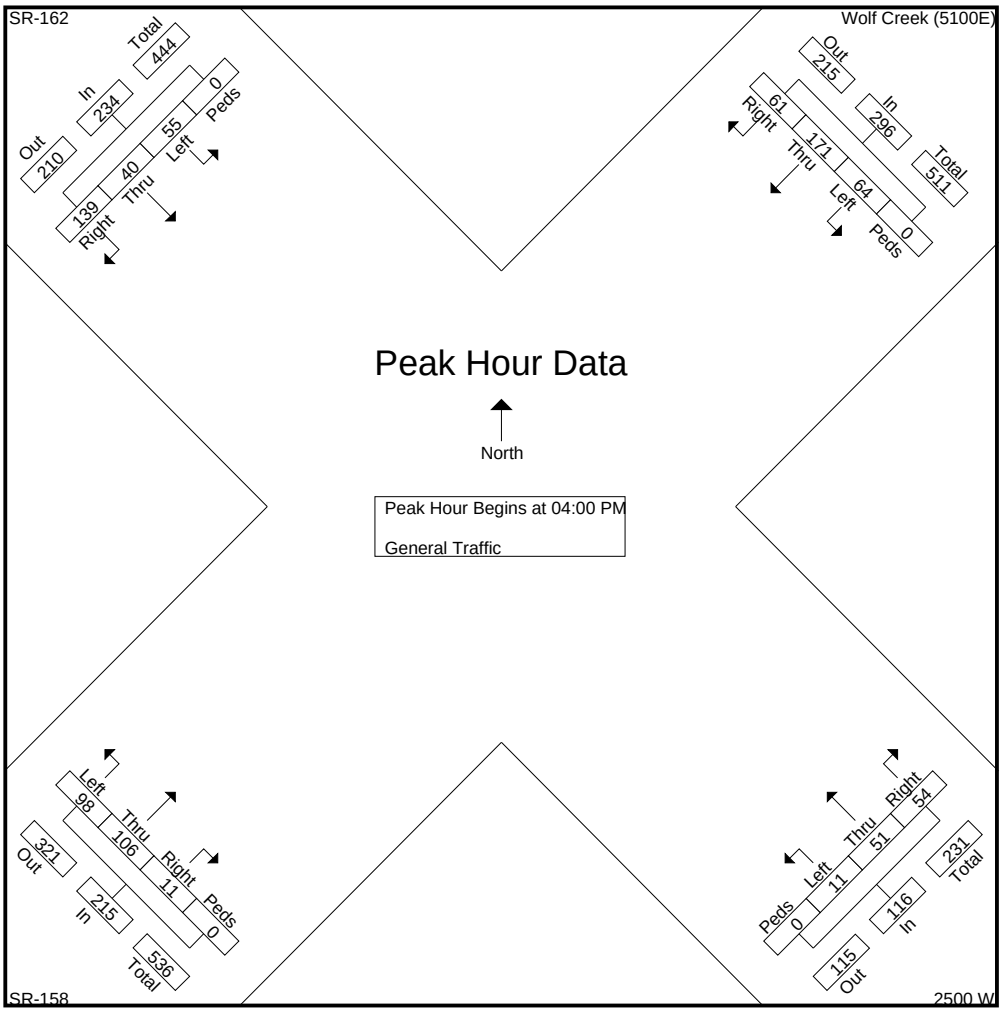
Idaho (208) 860-7554 Utah (801) 413-2993

Study: PEC
Intersection: SR-158 / SR-162
City, State: Eden, Utah
Control: Stop Sign

File Name : SR-158 SR-162 SAT
Site Code :
Start Date : 1/18/2014
Page No : 8

	Wolf Creek (5100E) From Northeast					2500 W From Southeast					SR-158 From Southwest					SR-162 From Northwest					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	10	33	12	0	55	12	**17**	**7**	0	**36**	**5**	20	25	0	50	34	8	11	0	53	194
04:15 PM	15	47	19	0	81	11	13	1	0	25	2	26	**30**	0	58	26	9	**18**	0	53	217
04:30 PM	14	**57**	12	0	**83**	**18**	11	1	0	30	1	**38**	21	0	**60**	**50**	7	12	0	**69**	**242**
04:45 PM	**22**	34	**21**	0	77	13	10	2	0	25	3	22	22	0	47	29	**16**	14	0	59	208
Total Volume	61	171	64	0	296	54	51	11	0	116	11	106	98	0	215	139	40	55	0	234	861
% App. Total	20.6	57.8	21.6	0		46.6	44	9.5	0		5.1	49.3	45.6	0		59.4	17.1	23.5	0		
PHF	.693	.750	.762	.000	.892	.750	.750	.393	.000	.806	.550	.697	.817	.000	.896	.695	.625	.764	.000	.848	.889



L2 Data Collection

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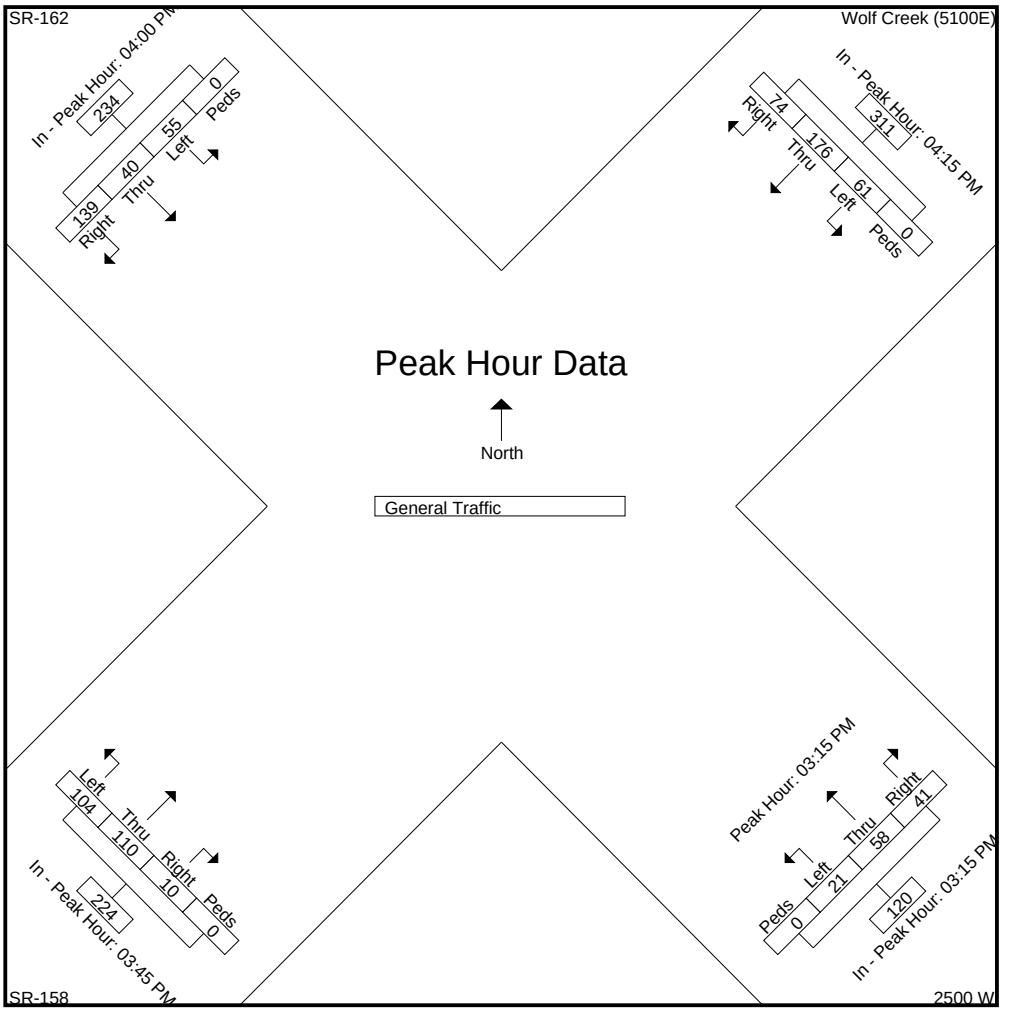
Idaho (208) 860-7554 Utah (801) 413-2993

Study: PEC
Intersection: SR-158 / SR-162
City, State: Eden, Utah
Control: Stop Sign

File Name : SR-158 SR-162 SAT
Site Code :
Start Date : 1/18/2014
Page No : 9

	Wolf Creek (5100E) From Northeast					2500 W From Southeast					SR-158 From Southwest					SR-162 From Northwest					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:15 PM					03:15 PM					03:45 PM					04:00 PM					
+0 mins.	15	47	19	0	81	9	**20**	3	0	32	2	26	28	0	56	34	8	11	0	53	
+15 mins.	14	**57**	12	0	**83**	**12**	13	4	0	29	**5**	20	25	0	50	26	9	**18**	0	53	
+30 mins.	22	34	**21**	0	77	8	8	**7**	0	23	2	26	**30**	0	58	**50**	7	12	0	**69**	
+45 mins.	**23**	38	9	0	70	12	17	7	0	**36**	1	**38**	21	0	**60**	29	**16**	14	0	59	
Total Volume	74	176	61	0	311	41	58	21	0	120	10	110	104	0	224	139	40	55	0	234	
% App. Total	23.8	56.6	19.6	0		34.2	48.3	17.5	0		4.5	49.1	46.4	0		59.4	17.1	23.5	0		
PHF	.804	.772	.726	.000	.937	.854	.725	.750	.000	.833	.500	.724	.867	.000	.933	.695	.625	.764	.000	.848	



L2 Data Collection

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Study: PEC
Intersection: SR-158 / SR-162
City, State: Eden, Utah
Control: Stop Sign

File Name : SR-158 SR-162 SAT
Site Code :
Start Date : 1/18/2014
Page No : 10

Image 1

L2 Data Collection

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Idaho (208) 860-7554 Utah (801) 413-2993

Study: PEC0003
Intersection: SR-158 / SR-39
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-158 SR-39
Site Code :
Start Date : 1/21/2014
Page No : 1

Groups Printed- General Traffic

	SR-158 From North				SR-39 From East				SR-39 From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
06:00 AM	25	1	0	26	0	7	0	7	4	6	0	10	43
06:15 AM	29	3	0	32	0	11	0	11	6	6	0	12	55
06:30 AM	45	2	0	47	1	20	0	21	9	11	0	20	88
06:45 AM	34	3	0	37	1	23	0	24	17	15	0	32	93
Total	133	9	0	142	2	61	0	63	36	38	0	74	279
07:00 AM	46	3	0	49	1	22	0	23	17	7	0	24	96
07:15 AM	47	2	0	49	2	37	0	39	17	14	0	31	119
07:30 AM	58	2	0	60	2	32	0	34	12	25	0	37	131
07:45 AM	35	8	0	43	2	18	0	20	26	26	0	52	115
Total	186	15	0	201	7	109	0	116	72	72	0	144	461
08:00 AM	41	7	0	48	2	15	0	17	25	25	0	50	115
08:15 AM	53	7	0	60	2	10	0	12	30	22	0	52	124
08:30 AM	48	6	0	54	3	20	0	23	29	26	0	55	132
08:45 AM	33	4	0	37	4	18	0	22	33	27	0	60	119
Total	175	24	0	199	11	63	0	74	117	100	0	217	490
09:00 AM	33	8	0	41	1	18	0	19	19	22	0	41	101
09:15 AM	33	6	0	39	2	14	0	16	20	26	0	46	101
09:30 AM	33	7	0	40	7	21	0	28	18	29	0	47	115
09:45 AM	27	6	0	33	4	21	0	25	27	21	0	48	106
Total	126	27	0	153	14	74	0	88	84	98	0	182	423
10:00 AM	31	7	0	38	5	12	0	17	18	14	0	32	87
10:15 AM	24	11	0	35	3	17	0	20	15	14	0	29	84
10:30 AM	30	2	0	32	4	23	0	27	18	16	0	34	93
10:45 AM	26	2	0	28	4	17	0	21	17	23	0	40	89
Total	111	22	0	133	16	69	0	85	68	67	0	135	353
11:00 AM	21	4	0	25	0	19	0	19	18	21	0	39	83
11:15 AM	26	5	0	31	1	14	0	15	15	17	0	32	78
11:30 AM	28	2	0	30	1	24	0	25	12	11	0	23	78
11:45 AM	35	3	0	38	0	18	0	18	18	23	0	41	97
Total	110	14	0	124	2	75	0	77	63	72	0	135	336
12:00 PM	28	4	0	32	5	18	0	23	17	23	0	40	95
12:15 PM	24	1	0	25	4	25	0	29	31	18	0	49	103
12:30 PM	35	3	0	38	3	18	0	21	24	25	0	49	108
12:45 PM	31	3	0	34	7	12	0	19	10	33	0	43	96
Total	118	11	0	129	19	73	0	92	82	99	0	181	402
01:00 PM	14	5	0	19	2	18	0	20	16	24	0	40	79
01:15 PM	23	5	0	28	2	15	0	17	17	21	0	38	83
01:30 PM	34	8	0	42	3	27	0	30	16	34	0	50	122
01:45 PM	25	3	0	28	7	37	0	44	15	28	0	43	115
Total	96	21	0	117	14	97	0	111	64	107	0	171	399
02:00 PM	31	5	0	36	4	19	0	23	21	19	0	40	99
02:15 PM	27	5	0	32	3	27	0	30	9	32	0	41	103
02:30 PM	34	2	0	36	5	18	0	23	24	34	0	58	117
02:45 PM	35	3	0	38	5	28	0	33	22	34	0	56	127
Total	127	15	0	142	17	92	0	109	76	119	0	195	446
03:00 PM	32	1	0	33	9	15	0	24	31	48	0	79	136
03:15 PM	22	7	3	32	8	17	0	25	29	32	0	61	118
03:30 PM	32	5	0	37	4	25	0	29	29	53	0	82	148
03:45 PM	35	3	0	38	12	27	0	39	26	54	0	80	157
Total	121	16	3	140	33	84	0	117	115	187	0	302	559

L2 Data Collection

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Study: PEC0003
Intersection: SR-158 / SR-39
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-158 SR-39
Site Code :
Start Date : 1/21/2014

Groups Printed- General Traffic

	SR-158 From North				SR-39 From East				SR-39 From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	27	3	0	30	12	21	0	33	19	64	0	83	146
04:15 PM	39	1	0	40	11	19	0	30	24	50	0	74	144
04:30 PM	40	6	0	46	14	33	0	47	22	58	0	80	173
04:45 PM	35	1	0	36	10	29	0	39	19	45	0	64	139
Total	141	11	0	152	47	102	0	149	84	217	0	301	602
05:00 PM	40	2	0	42	4	27	0	31	23	57	0	80	153
05:15 PM	40	5	0	45	4	31	0	35	23	52	0	75	155
05:30 PM	40	4	0	44	5	16	0	21	24	62	0	86	151
05:45 PM	27	1	0	28	4	15	0	19	23	37	0	60	107
Total	147	12	0	159	17	89	0	106	93	208	0	301	566
06:00 PM	16	3	0	19	3	13	0	16	34	51	0	85	120
06:15 PM	31	2	0	33	2	11	0	13	19	44	0	63	109
06:30 PM	27	1	0	28	5	15	0	20	26	37	0	63	111
06:45 PM	20	7	0	27	4	9	0	13	21	38	0	59	99
Total	94	13	0	107	14	48	0	62	100	170	0	270	439
07:00 PM	11	2	0	13	3	11	0	14	18	39	0	57	84
07:15 PM	18	2	0	20	1	6	0	7	14	29	0	43	70
07:30 PM	9	1	0	10	3	6	0	9	17	28	0	45	64
07:45 PM	7	1	0	8	4	4	0	8	10	25	0	35	51
Total	45	6	0	51	11	27	0	38	59	121	0	180	269
08:00 PM	12	3	0	15	2	6	0	8	6	23	0	29	52
08:15 PM	6	0	0	6	4	8	0	12	15	30	0	45	63
08:30 PM	6	3	0	9	6	4	0	10	11	25	0	36	55
08:45 PM	16	0	0	16	1	6	0	7	15	27	0	42	65
Total	40	6	0	46	13	24	0	37	47	105	0	152	235
Grand Total	1770	222	3	1995	237	1087	0	1324	1160	1780	0	2940	6259
Apprch %	88.7	11.1	0.2		17.9	82.1	0		39.5	60.5	0		
Total %	28.3	3.5	0	31.9	3.8	17.4	0	21.2	18.5	28.4	0	47	

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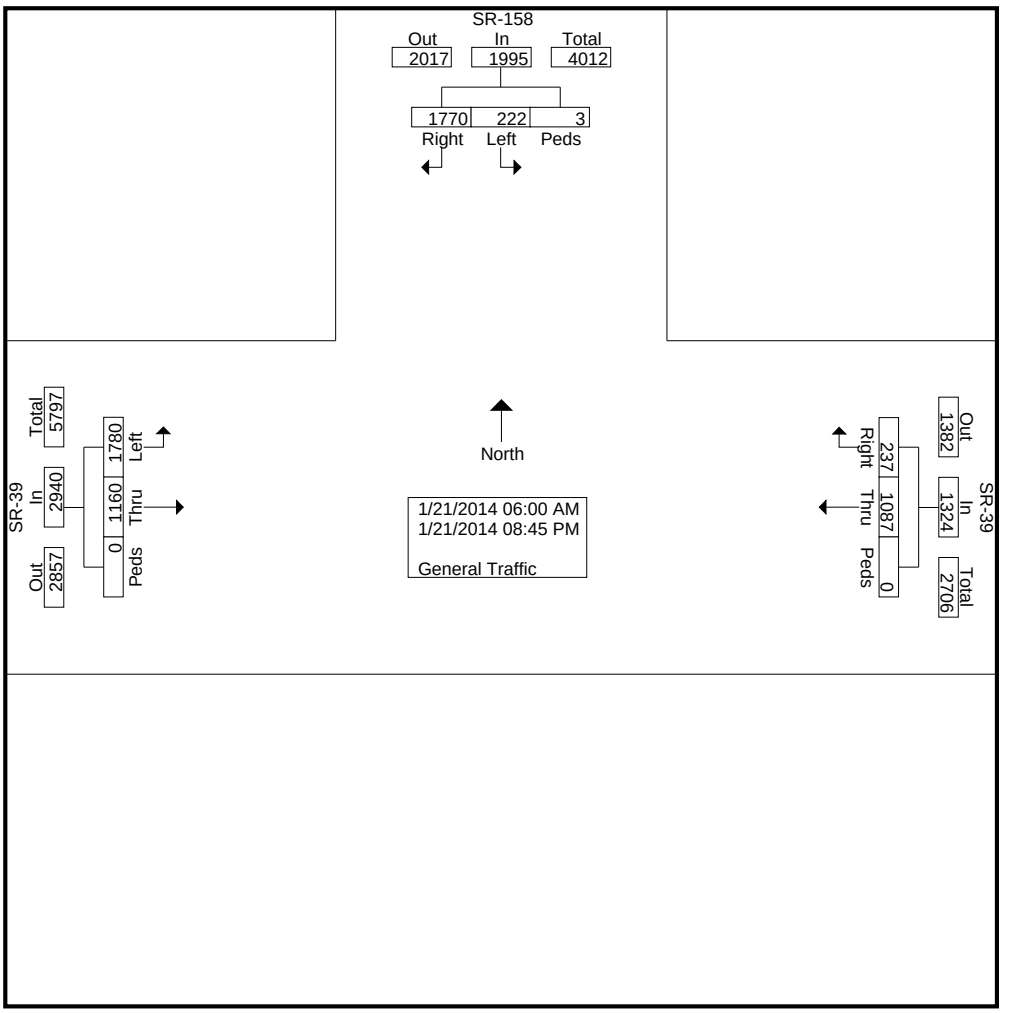
Study: PEC0003
Intersection: SR-158 / SR-39
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-158 SR-39
Site Code :
Start Date : 1/21/2014
Page No : 3



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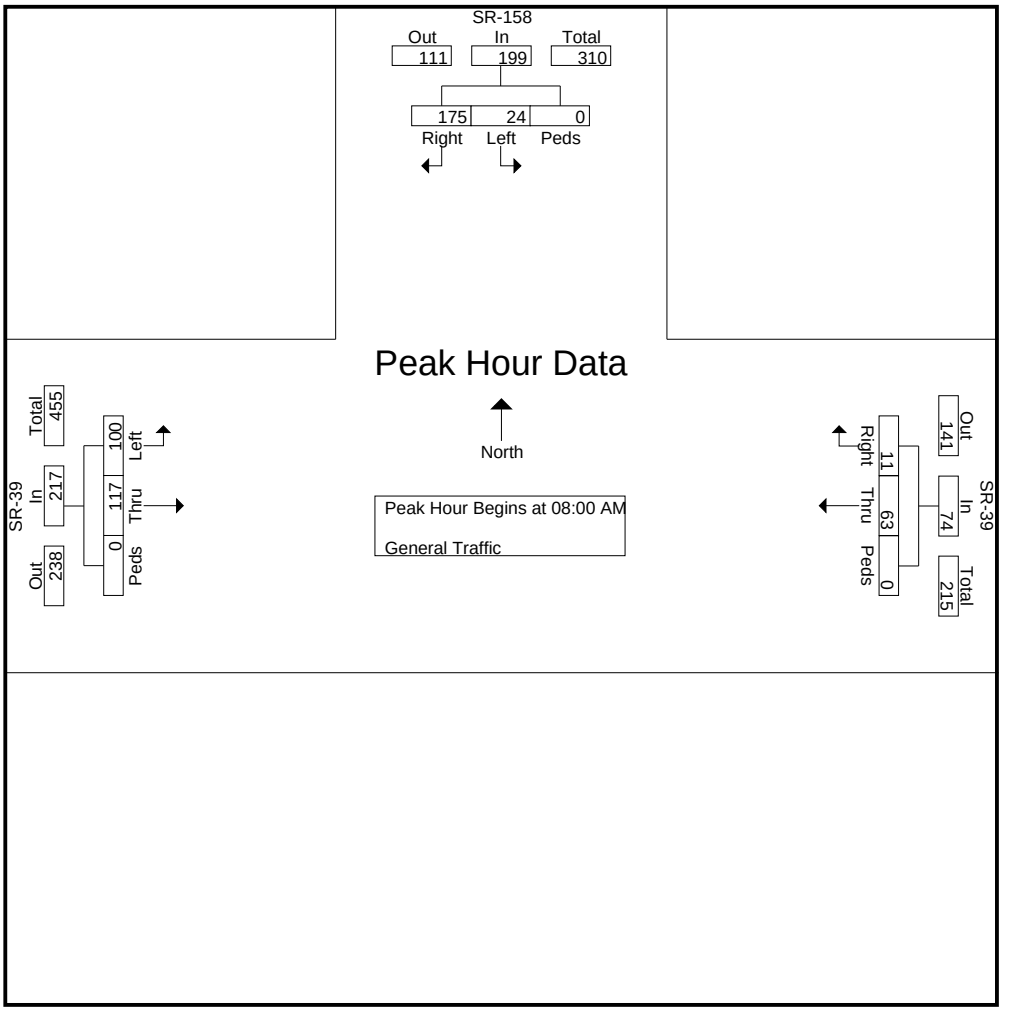
Study: PEC0003
Intersection: SR-158 / SR-39
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-158 SR-39
Site Code :
Start Date : 1/21/2014
Page No : 4

	SR-158 From North				SR-39 From East				SR-39 From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	41	**7**	0	48	2	15	0	17	25	25	0	50	115
08:15 AM	**53**	7	0	**60**	2	10	0	12	30	22	0	52	124
08:30 AM	48	6	0	54	3	**20**	0	**23**	29	26	0	55	**132**
08:45 AM	33	4	0	37	**4**	18	0	22	**33**	**27**	0	**60**	119
Total Volume	175	24	0	199	11	63	0	74	117	100	0	217	490
% App. Total	87.9	12.1	0		14.9	85.1	0		53.9	46.1	0		
PHF	.825	.857	.000	.829	.688	.788	.000	.804	.886	.926	.000	.904	.928



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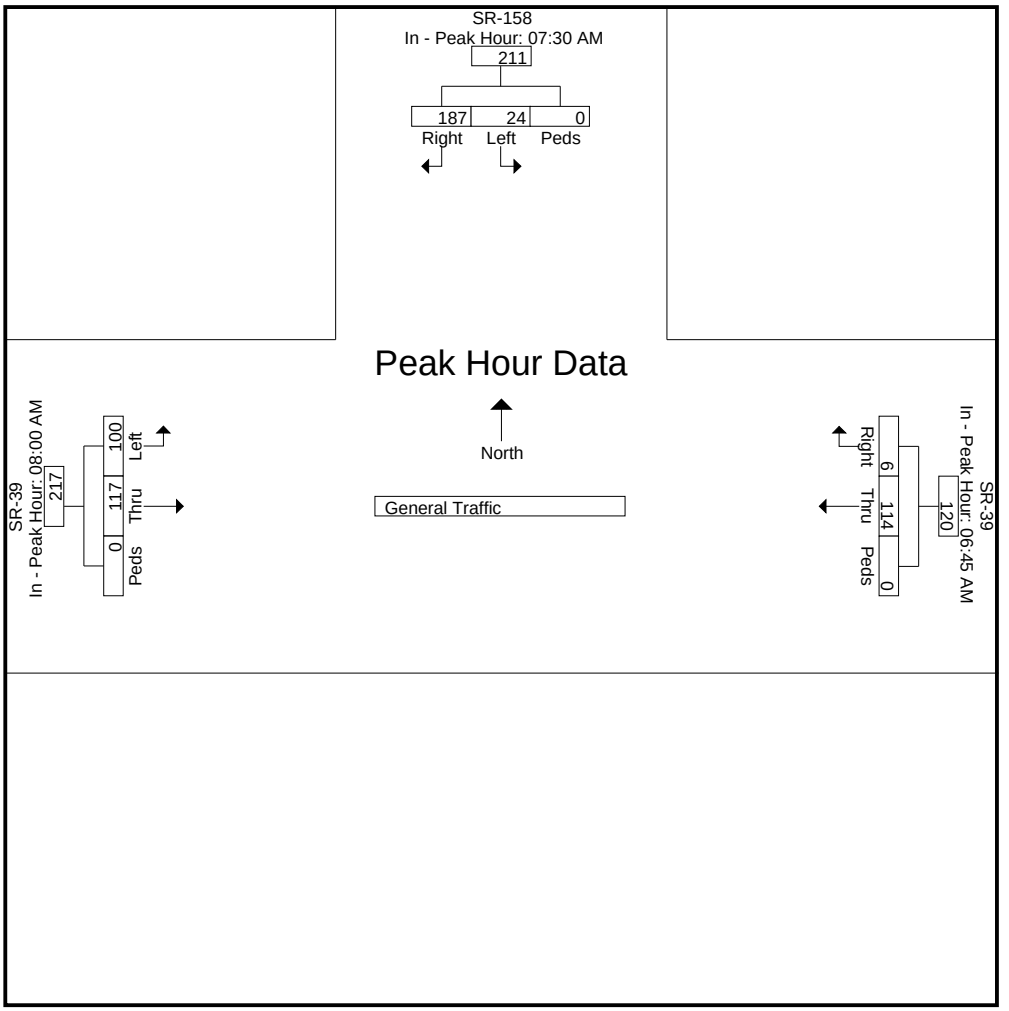
Study: PEC0003
Intersection: SR-158 / SR-39
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-158 SR-39
Site Code :
Start Date : 1/21/2014
Page No : 5

	SR-158 From North				SR-39 From East				SR-39 From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	07:30 AM				06:45 AM				08:00 AM				
+0 mins.	**58**	2	0	**60**	1	23	0	24	25	25	0	50	
+15 mins.	35	**8**	0	43	1	22	0	23	30	22	0	52	
+30 mins.	41	7	0	48	**2**	**37**	0	**39**	29	26	0	55	
+45 mins.	53	7	0	60	2	32	0	34	**33**	**27**	0	**60**	
Total Volume	187	24	0	211	6	114	0	120	117	100	0	217	
% App. Total	88.6	11.4	0		5	95	0		53.9	46.1	0		
PHF	.806	.750	.000	.879	.750	.770	.000	.769	.886	.926	.000	.904	



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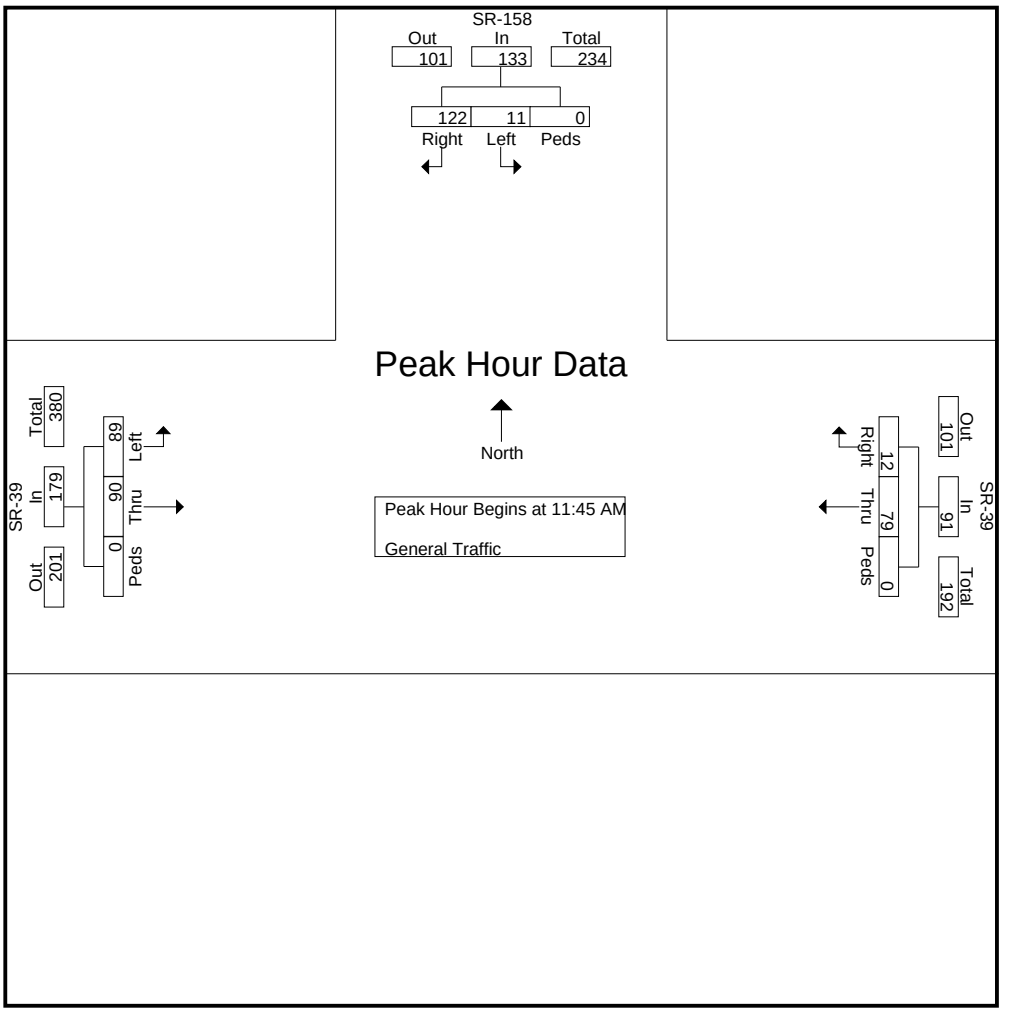
Study: PEC0003
Intersection: SR-158 / SR-39
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-158 SR-39
Site Code :
Start Date : 1/21/2014
Page No : 6

	SR-158 From North				SR-39 From East				SR-39 From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 11:45 AM													
11:45 AM	**35**	3	0	**38**	0	18	0	18	18	23	0	41	97
12:00 PM	28	**4**	0	32	**5**	18	0	23	17	23	0	40	95
12:15 PM	24	1	0	25	4	**25**	0	**29**	**31**	18	0	**49**	103
12:30 PM	35	3	0	38	3	18	0	21	24	**25**	0	49	**108**
Total Volume	122	11	0	133	12	79	0	91	90	89	0	179	403
% App. Total	91.7	8.3	0		13.2	86.8	0		50.3	49.7	0		
PHF	.871	.688	.000	.875	.600	.790	.000	.784	.726	.890	.000	.913	.933



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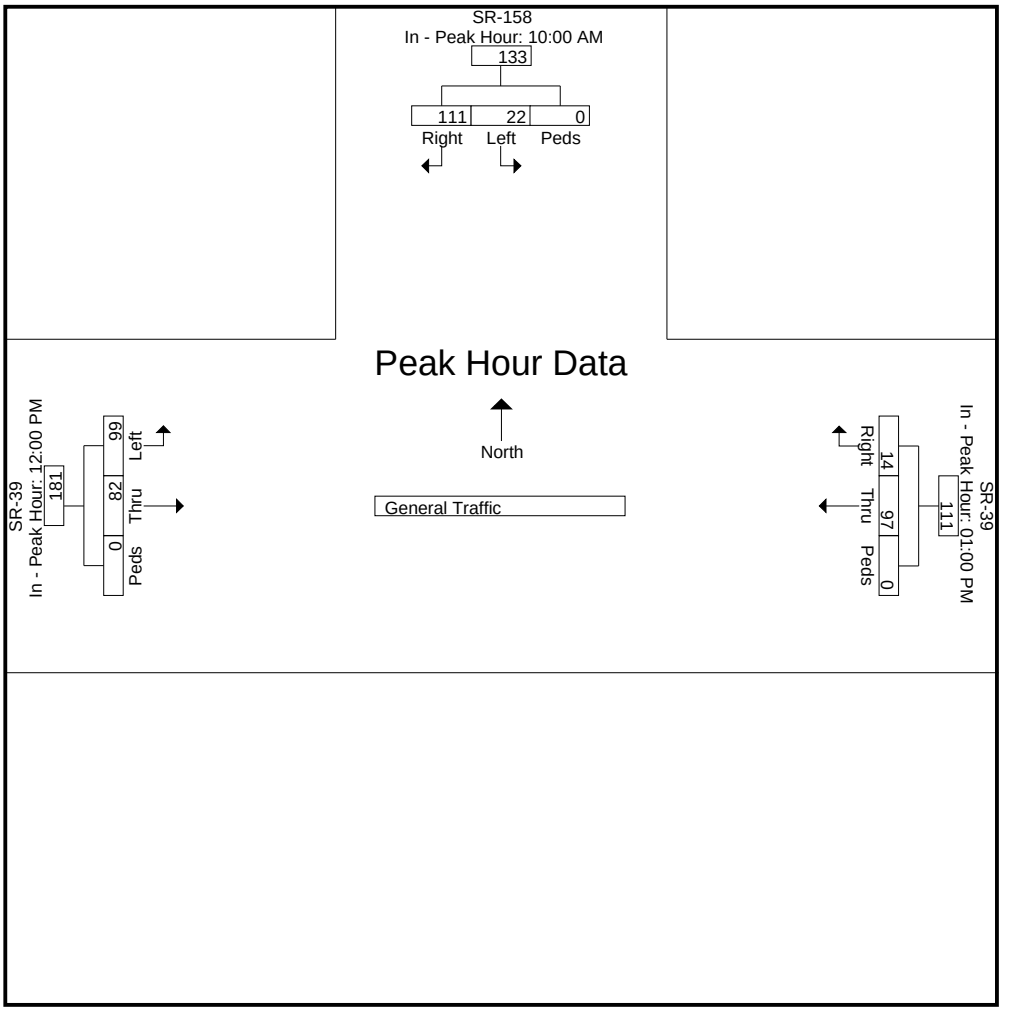
Study: PEC0003
Intersection: SR-158 / SR-39
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-158 SR-39
Site Code :
Start Date : 1/21/2014
Page No : 7

	SR-158 From North				SR-39 From East				SR-39 From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	10:00 AM				01:00 PM				12:00 PM				
+0 mins.	**31**	7	0	**38**	2	18	0	20	17	23	0	40	
+15 mins.	24	**11**	0	35	2	15	0	17	**31**	18	0	**49**	
+30 mins.	30	2	0	32	3	27	0	30	24	25	0	49	
+45 mins.	26	2	0	28	**7**	**37**	0	**44**	10	**33**	0	43	
Total Volume	111	22	0	133	14	97	0	111	82	99	0	181	
% App. Total	83.5	16.5	0		12.6	87.4	0		45.3	54.7	0		
PHF	.895	.500	.000	.875	.500	.655	.000	.631	.661	.750	.000	.923	



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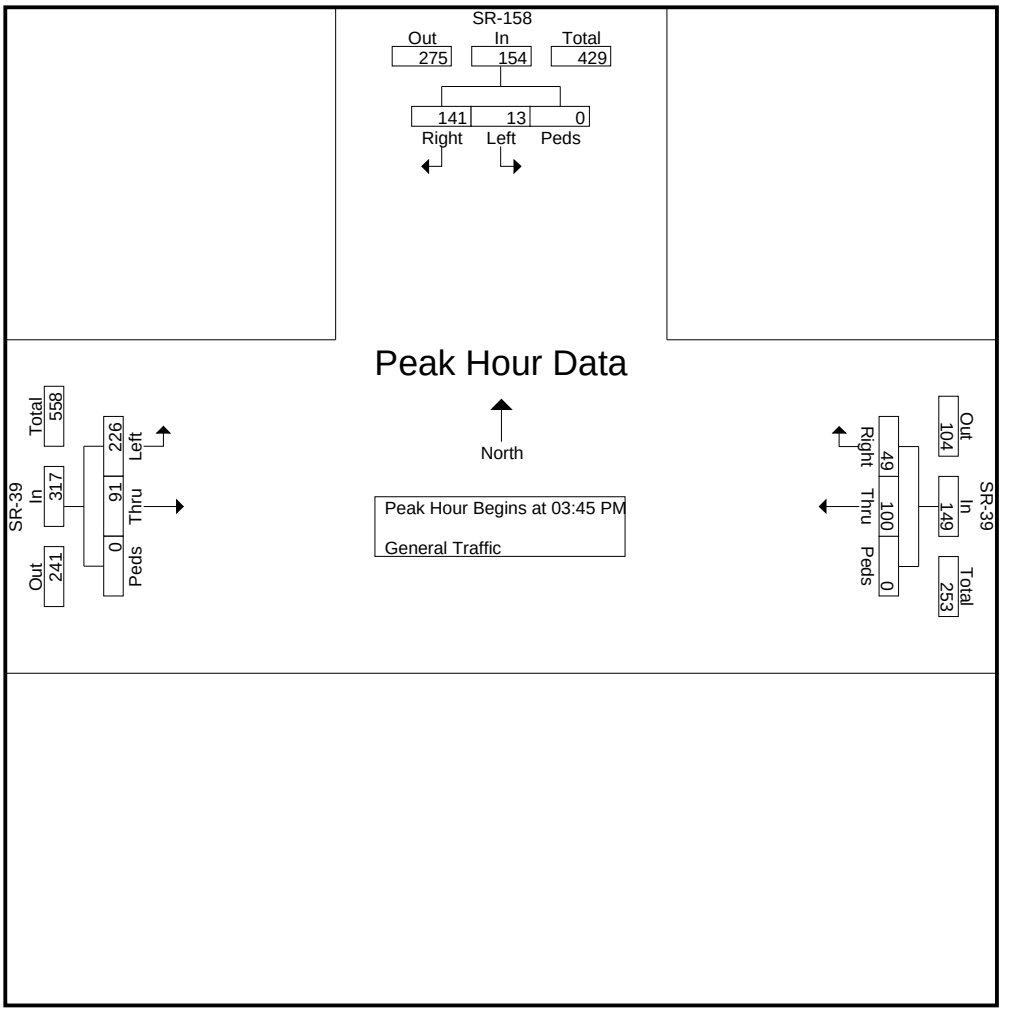
Study: PEC0003
Intersection: SR-158 / SR-39
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-158 SR-39
Site Code :
Start Date : 1/21/2014
Page No : 8

	SR-158 From North				SR-39 From East				SR-39 From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 03:45 PM													
03:45 PM	35	3	0	38	12	27	0	39	**26**	54	0	80	157
04:00 PM	27	3	0	30	12	21	0	33	19	**64**	0	**83**	146
04:15 PM	39	1	0	40	11	19	0	30	24	50	0	74	144
04:30 PM	**40**	**6**	0	**46**	**14**	**33**	0	**47**	22	58	0	80	**173**
Total Volume	141	13	0	154	49	100	0	149	91	226	0	317	620
% App. Total	91.6	8.4	0		32.9	67.1	0		28.7	71.3	0		
PHF	.881	.542	.000	.837	.875	.758	.000	.793	.875	.883	.000	.955	.896



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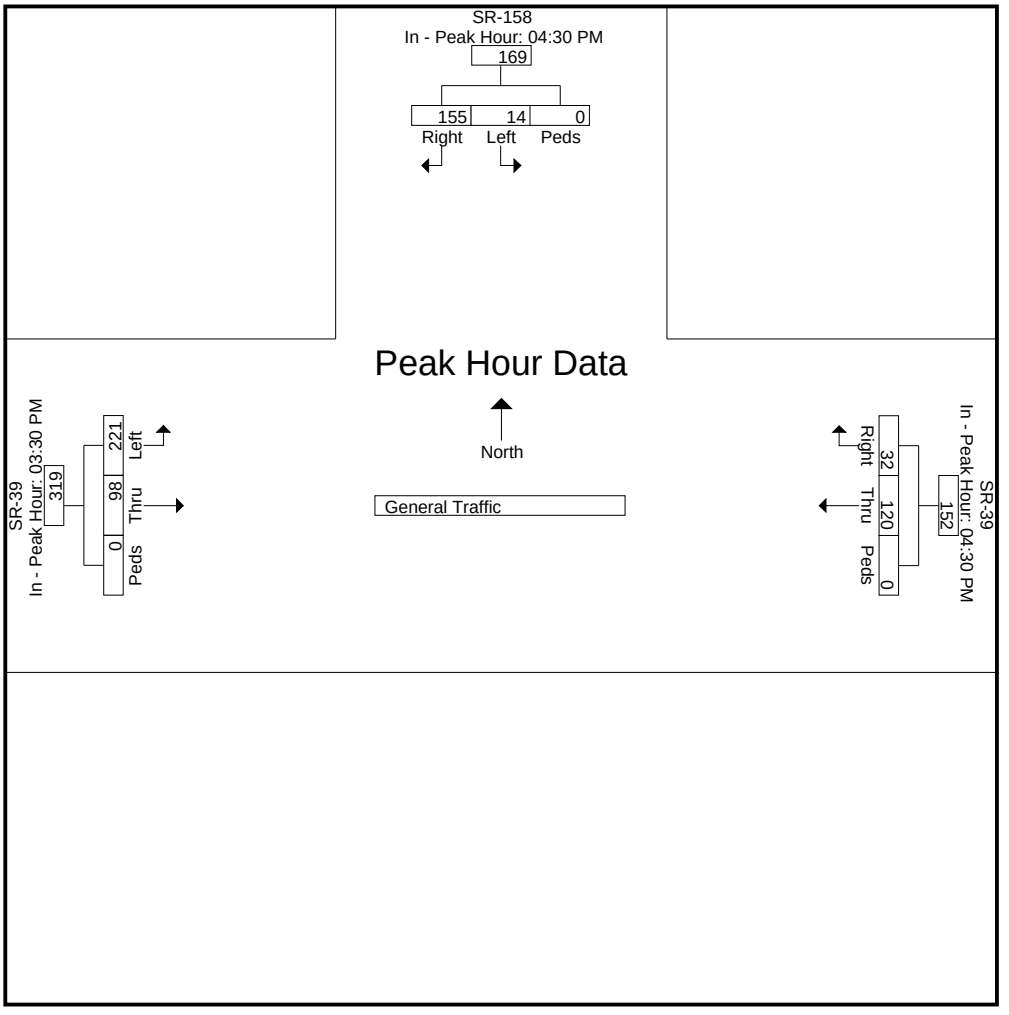
Study: PEC0003
Intersection: SR-158 / SR-39
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-158 SR-39
Site Code :
Start Date : 1/21/2014
Page No : 9

	SR-158 From North				SR-39 From East				SR-39 From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	04:30 PM				04:30 PM				03:30 PM				
+0 mins.	**40**	**6**	0	**46**	**14**	**33**	0	**47**	**29**	53	0	82	
+15 mins.	35	1	0	36	10	29	0	39	26	54	0	80	
+30 mins.	40	2	0	42	4	27	0	31	19	**64**	0	**83**	
+45 mins.	40	5	0	45	4	31	0	35	24	50	0	74	
Total Volume	155	14	0	169	32	120	0	152	98	221	0	319	
% App. Total	91.7	8.3	0		21.1	78.9	0		30.7	69.3	0		
PHF	.969	.583	.000	.918	.571	.909	.000	.809	.845	.863	.000	.961	



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Study: PEC0003
Intersection: SR-158 / SR-39
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-158 SR-39
Site Code :
Start Date : 1/21/2014

Image 1

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Study: PEC0003
Intersection: SR-158 / SR-39
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-158 SR-39 SAT
Site Code :
Start Date : 1/18/2014
Page No : 1

Groups Printed- General Traffic

	SR-158 From North				SR-39 From East				SR-39 From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
06:00 AM	6	0	0	6	0	1	0	1	2	5	0	7	14
06:15 AM	6	0	0	6	1	3	0	4	3	6	0	9	19
06:30 AM	7	2	0	9	0	7	0	7	11	10	0	21	37
06:45 AM	9	4	0	13	0	2	0	2	14	10	0	24	39
Total	28	6	0	34	1	13	0	14	30	31	0	61	109
07:00 AM	13	1	0	14	1	3	0	4	15	8	0	23	41
07:15 AM	5	5	0	10	3	9	0	12	16	10	0	26	48
07:30 AM	13	1	0	14	4	7	0	11	25	18	0	43	68
07:45 AM	10	4	0	14	7	7	0	14	32	28	0	60	88
Total	41	11	0	52	15	26	0	41	88	64	0	152	245
08:00 AM	19	5	0	24	2	8	0	10	40	26	0	66	100
08:15 AM	27	7	0	34	5	15	0	20	35	41	0	76	130
08:30 AM	18	4	0	22	6	10	0	16	34	36	0	70	108
08:45 AM	16	13	0	29	10	10	0	20	42	44	0	86	135
Total	80	29	0	109	23	43	0	66	151	147	0	298	473
09:00 AM	29	9	0	38	16	11	0	27	39	30	0	69	134
09:15 AM	30	13	0	43	10	11	0	21	31	39	0	70	134
09:30 AM	26	8	0	34	7	19	0	26	21	49	0	70	130
09:45 AM	32	12	0	44	14	20	0	34	27	28	0	55	133
Total	117	42	0	159	47	61	0	108	118	146	0	264	531
10:00 AM	23	6	0	29	10	19	0	29	37	42	0	79	137
10:15 AM	32	6	0	38	8	19	0	27	28	23	0	51	116
10:30 AM	40	11	0	51	8	12	0	20	35	29	0	64	135
10:45 AM	32	2	0	34	6	23	0	29	28	24	0	52	115
Total	127	25	0	152	32	73	0	105	128	118	0	246	503
11:00 AM	37	6	0	43	11	18	0	29	27	34	0	61	133
11:15 AM	34	3	0	37	12	25	0	37	47	27	0	74	148
11:30 AM	45	5	0	50	4	32	0	36	27	30	0	57	143
11:45 AM	37	5	0	42	8	23	0	31	24	23	0	47	120
Total	153	19	0	172	35	98	0	133	125	114	0	239	544
12:00 PM	32	4	0	36	9	20	0	29	32	33	0	65	130
12:15 PM	36	7	0	43	4	28	0	32	39	50	0	89	164
12:30 PM	41	7	0	48	8	23	0	31	37	29	0	66	145
12:45 PM	37	5	0	42	6	32	0	38	31	51	0	82	162
Total	146	23	0	169	27	103	0	130	139	163	0	302	601
01:00 PM	36	16	0	52	10	25	0	35	37	48	0	85	172
01:15 PM	39	7	0	46	6	25	0	31	28	30	0	58	135
01:30 PM	40	5	0	45	8	44	0	52	41	28	0	69	166
01:45 PM	49	5	0	54	10	44	0	54	26	37	0	63	171
Total	164	33	0	197	34	138	0	172	132	143	0	275	644
02:00 PM	31	8	0	39	7	39	0	46	26	27	0	53	138
02:15 PM	38	14	0	52	3	39	0	42	22	38	0	60	154
02:30 PM	46	8	0	54	6	43	0	49	31	33	0	64	167
02:45 PM	32	5	0	37	13	36	0	49	22	46	0	68	154
Total	147	35	0	182	29	157	0	186	101	144	0	245	613
03:00 PM	57	12	0	69	14	37	0	51	36	47	0	83	203
03:15 PM	65	9	0	74	12	53	0	65	40	56	0	96	235
03:30 PM	31	4	0	35	1	38	0	39	6	28	0	34	108
03:45 PM	37	11	0	48	14	63	0	77	17	42	0	59	184
Total	190	36	0	226	41	191	0	232	99	173	0	272	730

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Idaho (208) 860-7554 Utah (801) 413-2993

Study: PEC0003
Intersection: SR-158 / SR-39
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-158 SR-39 SAT
Site Code :
Start Date : 1/18/2014
Page No : 2

Groups Printed- General Traffic

	SR-158 From North				SR-39 From East				SR-39 From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	55	15	0	70	9	55	0	64	24	51	0	75	209
04:15 PM	58	6	0	64	8	56	0	64	22	44	0	66	194
04:30 PM	64	9	0	73	14	70	0	84	18	45	0	63	220
04:45 PM	83	20	0	103	10	53	0	63	35	39	0	74	240
Total	260	50	0	310	41	234	0	275	99	179	0	278	863
05:00 PM	65	8	0	73	8	58	0	66	16	33	0	49	188
05:15 PM	48	8	0	56	8	49	0	57	32	30	0	62	175
05:30 PM	54	8	0	62	11	42	0	53	27	32	0	59	174
05:45 PM	35	6	0	41	5	29	0	34	16	30	0	46	121
Total	202	30	0	232	32	178	0	210	91	125	0	216	658
06:00 PM	34	4	0	38	17	29	0	46	14	35	0	49	133
06:15 PM	35	4	0	39	6	35	0	41	17	30	0	47	127
06:30 PM	32	4	0	36	7	18	0	25	23	39	0	62	123
06:45 PM	30	0	0	30	5	14	0	19	16	22	0	38	87
Total	131	12	0	143	35	96	0	131	70	126	0	196	470
07:00 PM	29	4	0	33	0	17	0	17	19	32	0	51	101
07:15 PM	21	5	0	26	4	14	0	18	13	19	0	32	76
07:30 PM	19	2	0	21	6	13	0	19	15	22	0	37	77
07:45 PM	17	2	0	19	0	7	0	7	19	29	0	48	74
Total	86	13	0	99	10	51	0	61	66	102	0	168	328
08:00 PM	19	4	0	23	0	10	0	10	11	15	0	26	59
08:15 PM	18	3	0	21	1	4	0	5	14	17	0	31	57
08:30 PM	13	4	0	17	1	4	0	5	14	20	0	34	56
08:45 PM	23	2	0	25	2	7	0	9	8	21	0	29	63
Total	73	13	0	86	4	25	0	29	47	73	0	120	235
Grand Total	1945	377	0	2322	406	1487	0	1893	1484	1848	0	3332	7547
Apprch %	83.8	16.2	0		21.4	78.6	0		44.5	55.5	0		
Total %	25.8	5	0	30.8	5.4	19.7	0	25.1	19.7	24.5	0	44.1	

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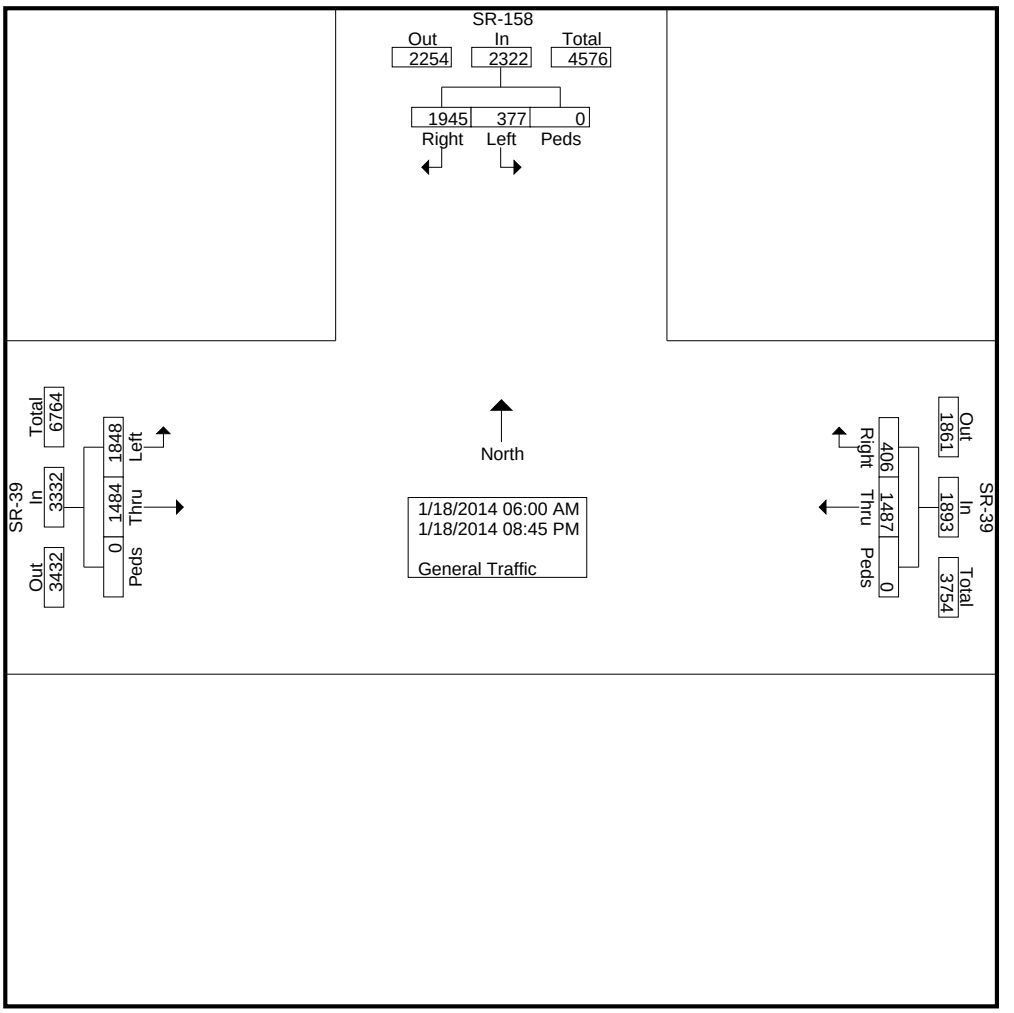
Study: PEC0003
Intersection: SR-158 / SR-39
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-158 SR-39 SAT
Site Code :
Start Date : 1/18/2014
Page No : 3



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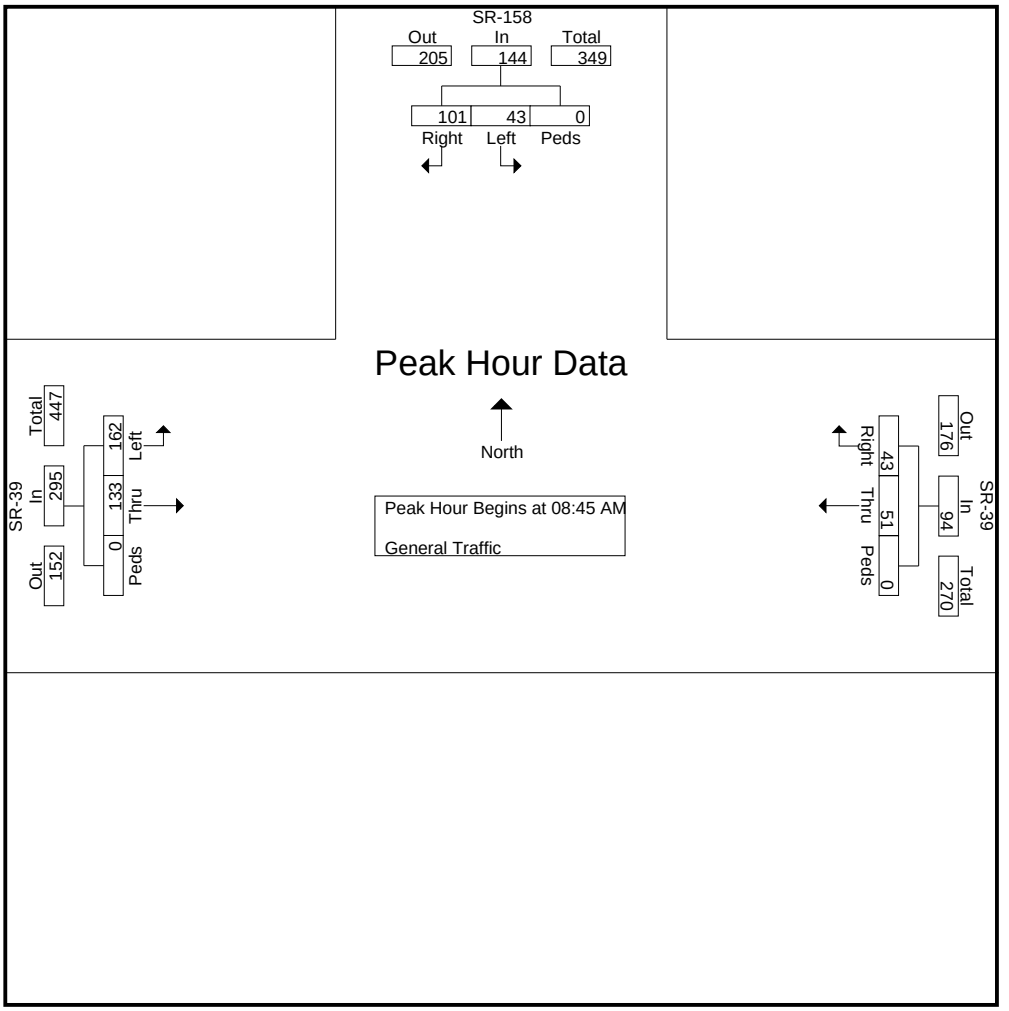
Study: PEC0003
Intersection: SR-158 / SR-39
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-158 SR-39 SAT
Site Code :
Start Date : 1/18/2014
Page No : 4

	SR-158 From North				SR-39 From East				SR-39 From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:45 AM													
08:45 AM	16	**13**	0	29	10	10	0	20	**42**	44	0	**86**	**135**
09:00 AM	29	9	0	38	**16**	11	0	**27**	39	30	0	69	134
09:15 AM	**30**	13	0	**43**	10	11	0	21	31	39	0	70	134
09:30 AM	26	8	0	34	7	**19**	0	26	21	**49**	0	70	130
Total Volume	101	43	0	144	43	51	0	94	133	162	0	295	533
% App. Total	70.1	29.9	0		45.7	54.3	0		45.1	54.9	0		
PHF	.842	.827	.000	.837	.672	.671	.000	.870	.792	.827	.000	.858	.987



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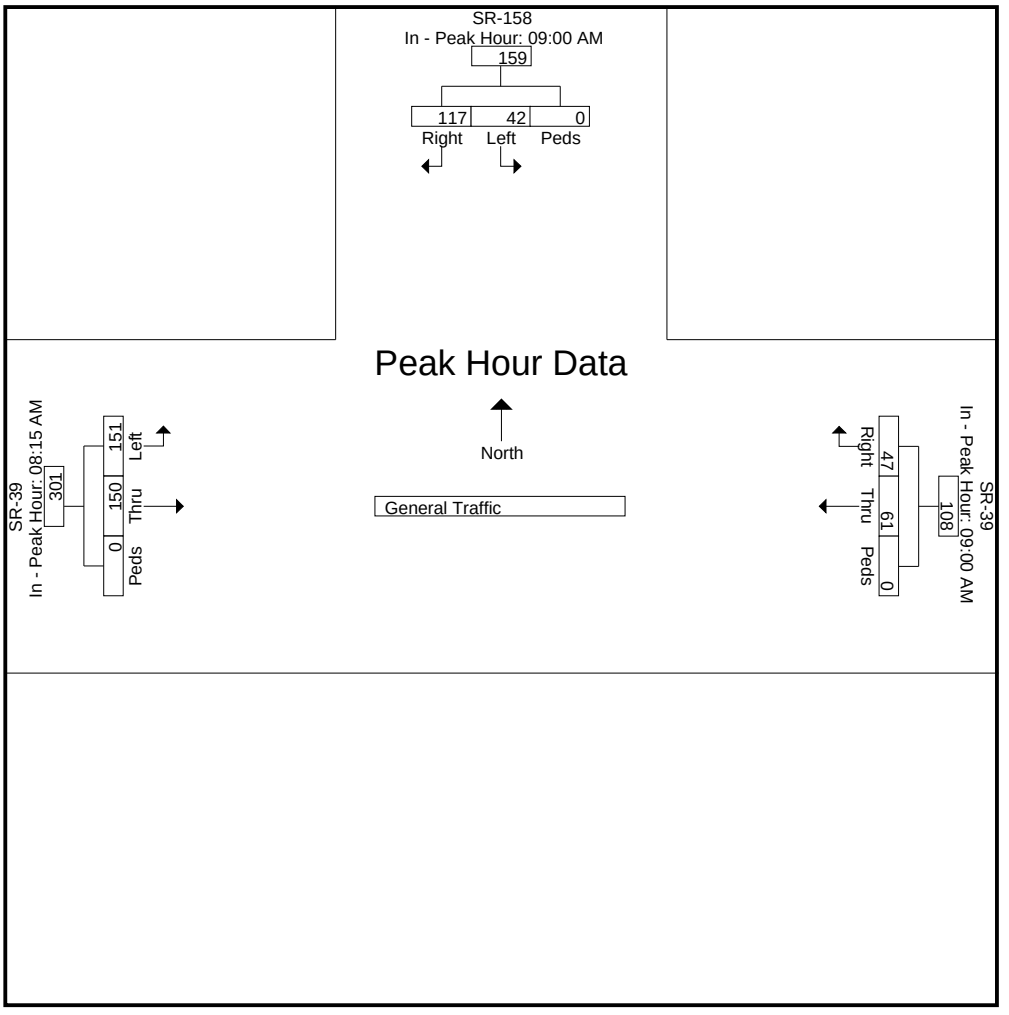
Study: PEC0003
Intersection: SR-158 / SR-39
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-158 SR-39 SAT
Site Code :
Start Date : 1/18/2014
Page No : 5

	SR-158 From North				SR-39 From East				SR-39 From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	09:00 AM				09:00 AM				08:15 AM				
+0 mins.	29	9	0	38	**16**	11	0	27	35	41	0	76	
+15 mins.	30	**13**	0	43	10	11	0	21	34	36	0	70	
+30 mins.	26	8	0	34	7	19	0	26	**42**	**44**	0	**86**	
+45 mins.	**32**	12	0	**44**	14	**20**	0	**34**	39	30	0	69	
Total Volume	117	42	0	159	47	61	0	108	150	151	0	301	
% App. Total	73.6	26.4	0		43.5	56.5	0		49.8	50.2	0		
PHF	.914	.808	.000	.903	.734	.763	.000	.794	.893	.858	.000	.875	



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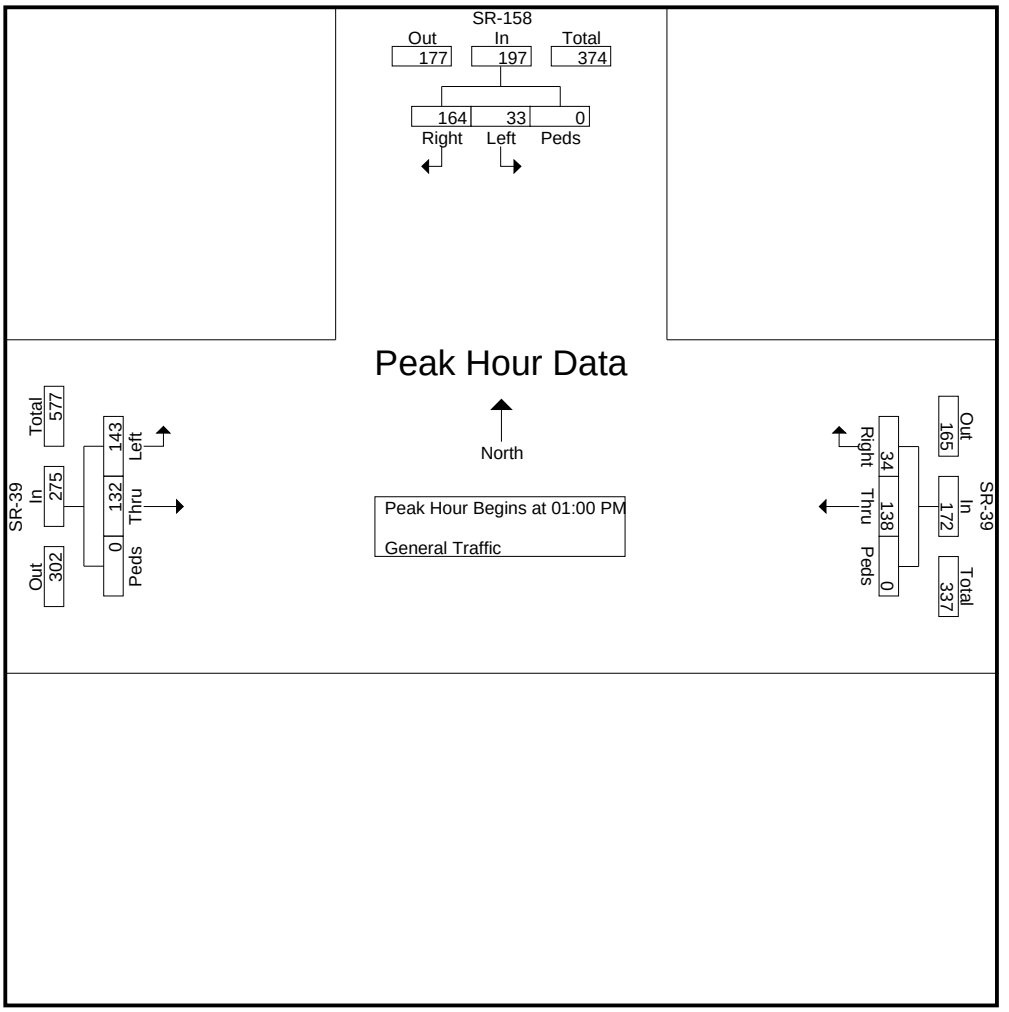
Study: PEC0003
Intersection: SR-158 / SR-39
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-158 SR-39 SAT
Site Code :
Start Date : 1/18/2014
Page No : 6

	SR-158 From North				SR-39 From East				SR-39 From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 01:00 PM													
01:00 PM	36	**16**	0	52	**10**	25	0	35	37	**48**	0	**85**	**172**
01:15 PM	39	7	0	46	6	25	0	31	28	30	0	58	135
01:30 PM	40	5	0	45	8	**44**	0	52	**41**	28	0	69	166
01:45 PM	**49**	5	0	**54**	10	44	0	**54**	26	37	0	63	171
Total Volume	164	33	0	197	34	138	0	172	132	143	0	275	644
% App. Total	83.2	16.8	0		19.8	80.2	0		48	52	0		
PHF	.837	.516	.000	.912	.850	.784	.000	.796	.805	.745	.000	.809	.936



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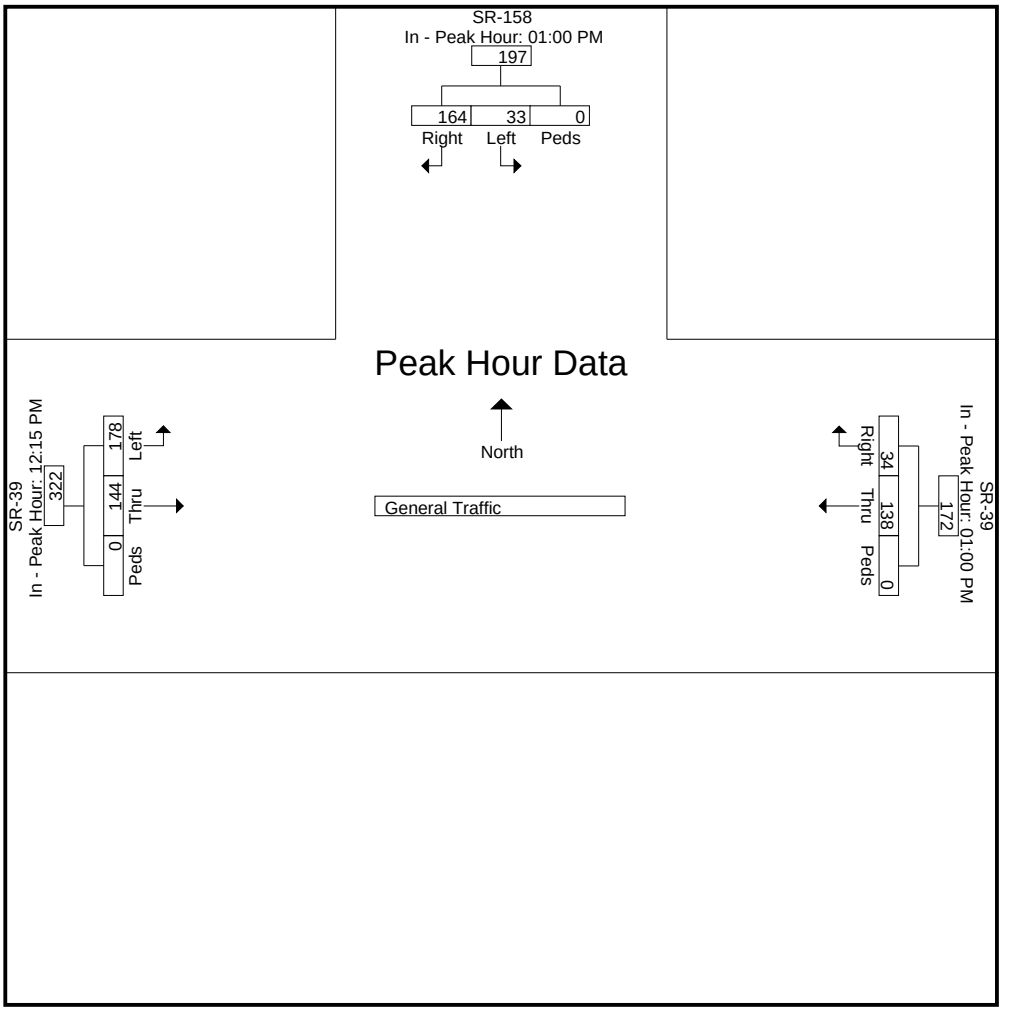
Study: PEC0003
Intersection: SR-158 / SR-39
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-158 SR-39 SAT
Site Code :
Start Date : 1/18/2014
Page No : 7

	SR-158 From North				SR-39 From East				SR-39 From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	01:00 PM				01:00 PM				12:15 PM				
+0 mins.	36	**16**	0	52	**10**	25	0	35	**39**	50	0	**89**	
+15 mins.	39	7	0	46	6	25	0	31	37	29	0	66	
+30 mins.	40	5	0	45	8	**44**	0	52	31	**51**	0	82	
+45 mins.	**49**	5	0	**54**	10	44	0	**54**	37	48	0	85	
Total Volume	164	33	0	197	34	138	0	172	144	178	0	322	
% App. Total	83.2	16.8	0		19.8	80.2	0		44.7	55.3	0		
PHF	.837	.516	.000	.912	.850	.784	.000	.796	.923	.873	.000	.904	



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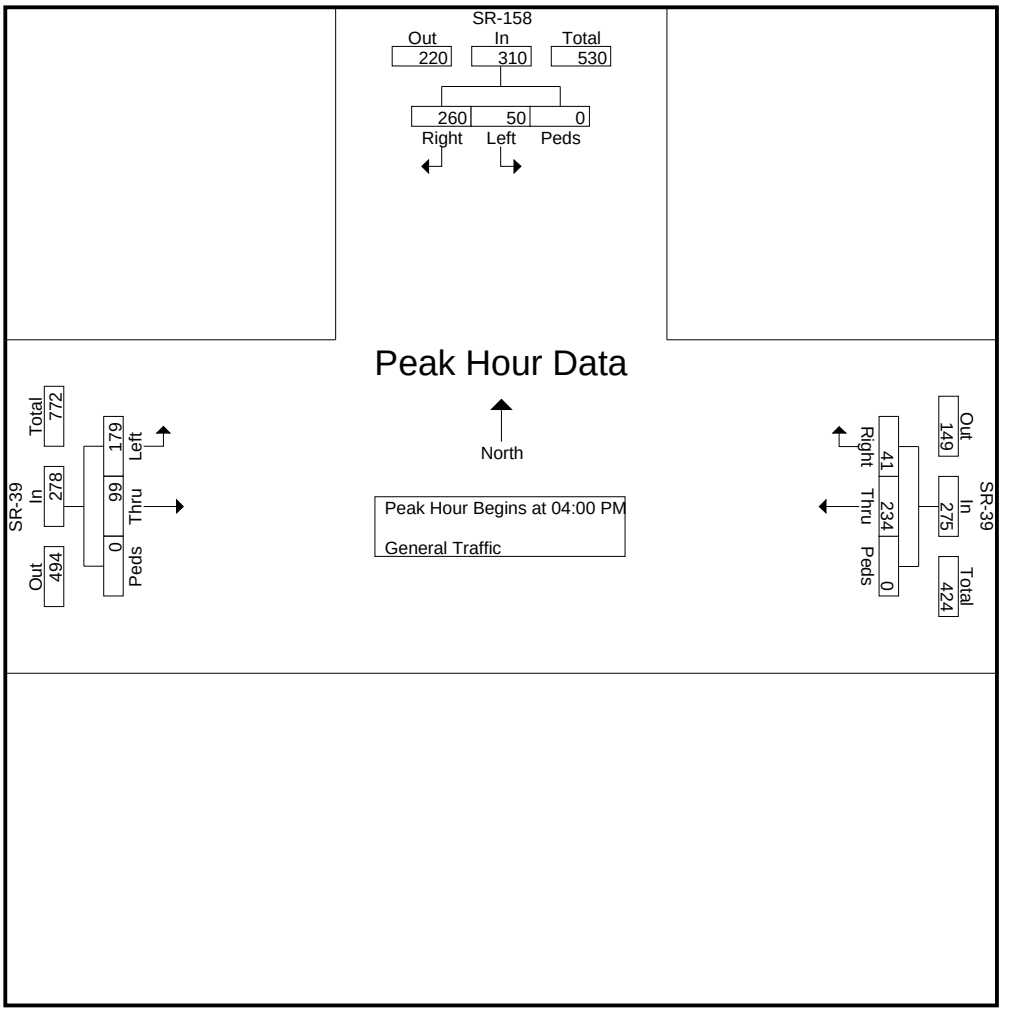
Study: PEC0003
Intersection: SR-158 / SR-39
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-158 SR-39 SAT
Site Code :
Start Date : 1/18/2014
Page No : 8

	SR-158 From North				SR-39 From East				SR-39 From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	55	15	0	70	9	55	0	64	24	**51**	0	**75**	209
04:15 PM	58	6	0	64	8	56	0	64	22	44	0	66	194
04:30 PM	64	9	0	73	**14**	**70**	0	**84**	18	45	0	63	220
04:45 PM	**83**	**20**	0	**103**	10	53	0	63	**35**	39	0	74	**240**
Total Volume	260	50	0	310	41	234	0	275	99	179	0	278	863
% App. Total	83.9	16.1	0		14.9	85.1	0		35.6	64.4	0		
PHF	.783	.625	.000	.752	.732	.836	.000	.818	.707	.877	.000	.927	.899



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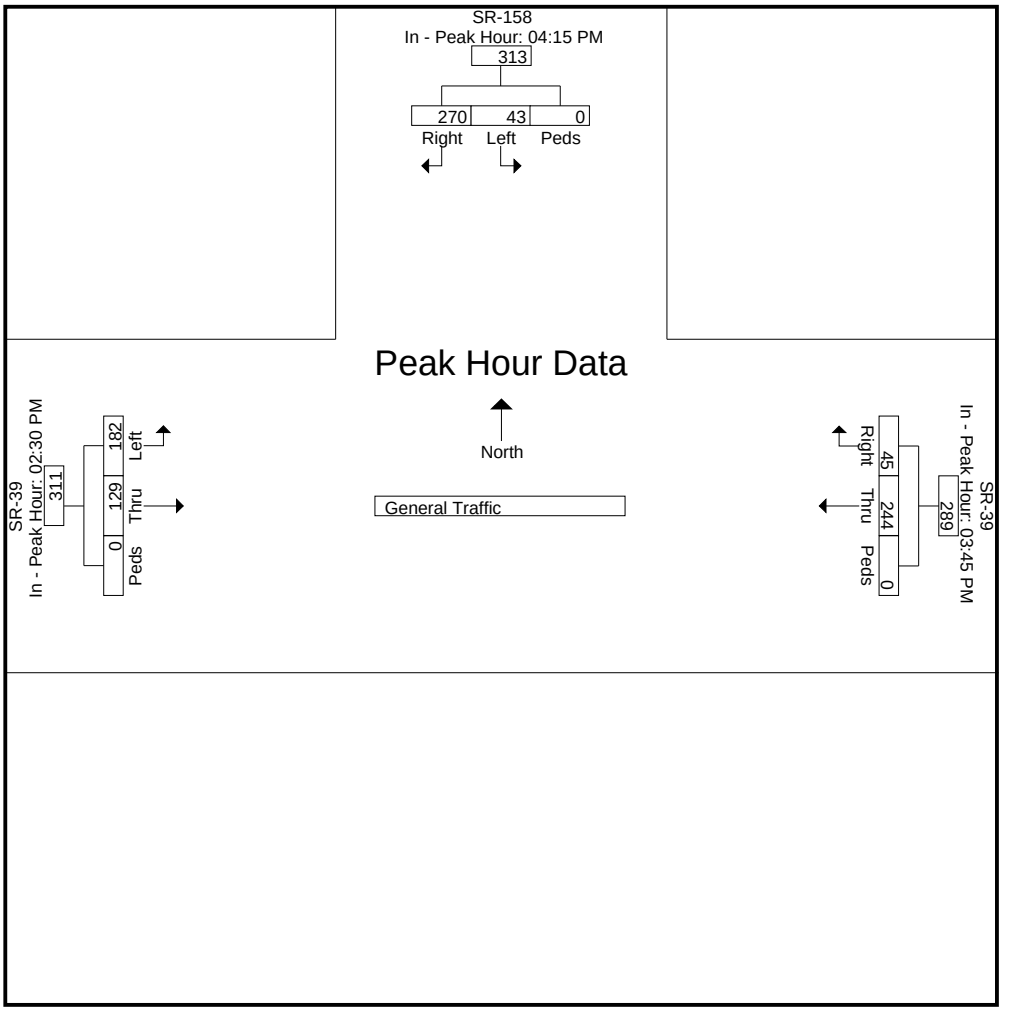
Study: PEC0003
Intersection: SR-158 / SR-39
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-158 SR-39 SAT
Site Code :
Start Date : 1/18/2014
Page No : 9

	SR-158 From North				SR-39 From East				SR-39 From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	04:15 PM				03:45 PM				02:30 PM				
+0 mins.	58	6	0	64	**14**	63	0	77	31	33	0	64	
+15 mins.	64	9	0	73	9	55	0	64	22	46	0	68	
+30 mins.	**83**	**20**	0	**103**	8	56	0	64	36	47	0	83	
+45 mins.	65	8	0	73	14	**70**	0	**84**	**40**	**56**	0	**96**	
Total Volume	270	43	0	313	45	244	0	289	129	182	0	311	
% App. Total	86.3	13.7	0		15.6	84.4	0		41.5	58.5	0		
PHF	.813	.538	.000	.760	.804	.871	.000	.860	.806	.813	.000	.810	



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Study: PEC0003
Intersection: SR-158 / SR-39
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-158 SR-39 SAT
Site Code :
Start Date : 1/18/2014

Image 1

L2 Data Collection

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Study: PEC0003
Intersection: SR-39 / Valley Drive
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-39 Valley Dr
Site Code :
Start Date : 1/21/2014
Page No : 1

Groups Printed- General Traffic

	SR-39 From Southeast				Valley Drive From Southwest				SR-39 From Northwest				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
06:00 AM	19	15	0	34	3	1	0	4	1	5	0	6	44
06:15 AM	30	13	0	43	8	1	0	9	4	10	0	14	66
06:30 AM	33	23	0	56	8	1	0	9	2	12	0	14	79
06:45 AM	31	30	0	61	10	1	0	11	5	14	0	19	91
Total	113	81	0	194	29	4	0	33	12	41	0	53	280
07:00 AM	40	28	0	68	12	2	0	14	8	19	0	27	109
07:15 AM	53	39	0	92	8	0	0	8	3	19	0	22	122
07:30 AM	52	38	0	90	7	2	0	9	5	31	0	36	135
07:45 AM	45	54	0	99	20	3	0	23	7	33	0	40	162
Total	190	159	0	349	47	7	0	54	23	102	0	125	528
08:00 AM	34	33	0	67	16	1	0	17	3	34	0	37	121
08:15 AM	43	38	0	81	17	1	0	18	3	55	0	58	157
08:30 AM	33	38	0	71	9	1	0	10	4	46	0	50	131
08:45 AM	34	34	0	68	12	0	0	12	3	47	0	50	130
Total	144	143	0	287	54	3	0	57	13	182	0	195	539
09:00 AM	29	24	0	53	16	2	0	18	2	34	0	36	107
09:15 AM	21	23	0	44	18	2	0	20	6	41	0	47	111
09:30 AM	32	18	0	50	7	3	0	10	6	35	0	41	101
09:45 AM	34	25	0	59	8	4	0	12	4	28	0	32	103
Total	116	90	0	206	49	11	0	60	18	138	0	156	422
10:00 AM	18	17	0	35	12	0	0	12	8	36	0	44	91
10:15 AM	38	16	0	54	8	4	0	12	5	27	0	32	98
10:30 AM	28	20	0	48	15	2	0	17	7	20	0	27	92
10:45 AM	43	26	0	69	8	3	0	11	4	21	0	25	105
Total	127	79	0	206	43	9	0	52	24	104	0	128	386
11:00 AM	40	12	0	52	14	2	0	16	5	29	0	34	102
11:15 AM	28	19	0	47	9	3	0	12	13	24	0	37	96
11:30 AM	19	12	0	31	14	3	0	17	6	40	0	46	94
11:45 AM	34	26	0	60	9	8	0	17	14	42	0	56	133
Total	121	69	0	190	46	16	0	62	38	135	0	173	425
12:00 PM	27	14	0	41	12	5	0	17	10	28	0	38	96
12:15 PM	41	13	0	54	16	11	1	28	21	38	0	59	141
12:30 PM	31	15	0	46	12	6	0	18	4	26	0	30	94
12:45 PM	31	16	0	47	16	9	0	25	9	37	0	46	118
Total	130	58	0	188	56	31	1	88	44	129	0	173	449
01:00 PM	24	19	0	43	19	7	0	26	8	28	0	36	105
01:15 PM	31	19	0	50	22	5	0	27	5	24	0	29	106
01:30 PM	31	26	0	57	13	5	0	18	3	43	0	46	121
01:45 PM	39	12	0	51	19	9	0	28	6	24	0	30	109
Total	125	76	0	201	73	26	0	99	22	119	0	141	441
02:00 PM	44	20	0	64	17	6	0	23	8	28	0	36	123
02:15 PM	35	32	0	67	14	11	0	25	6	28	0	34	126
02:30 PM	38	25	0	63	14	4	0	18	8	34	1	43	124
02:45 PM	51	22	0	73	16	12	0	28	7	45	0	52	153
Total	168	99	0	267	61	33	0	94	29	135	1	165	526
03:00 PM	29	18	0	47	20	8	0	28	6	50	0	56	131
03:15 PM	41	23	0	64	35	9	0	44	8	50	0	58	166
03:30 PM	39	23	0	62	23	7	0	30	9	52	0	61	153
03:45 PM	37	23	0	60	27	9	0	36	9	53	0	62	158
Total	146	87	0	233	105	33	0	138	32	205	0	237	608

L2 Data Collection

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Study: PEC0003
Intersection: SR-39 / Valley Drive
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-39 Valley Dr
Site Code :
Start Date : 1/21/2014
Page No : 2

Groups Printed- General Traffic

	SR-39 From Southeast				Valley Drive From Southwest				SR-39 From Northwest				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
04:00 PM	21	3	0	24	35	9	0	44	5	49	0	54	122
04:15 PM	31	3	0	34	34	4	0	38	16	47	0	63	135
04:30 PM	62	7	1	70	31	13	0	44	14	66	0	80	194
04:45 PM	90	23	0	113	9	11	0	20	11	11	0	22	155
Total	204	36	1	241	109	37	0	146	46	173	0	219	606
05:00 PM	71	41	0	112	41	9	0	50	15	75	0	90	252
05:15 PM	40	17	0	57	35	12	0	47	15	54	0	69	173
05:30 PM	46	20	0	66	24	11	0	35	6	49	0	55	156
05:45 PM	46	0	0	46	0	0	0	0	0	15	0	15	61
Total	203	78	0	281	100	32	0	132	36	193	0	229	642
06:00 PM	37	10	0	47	27	10	0	37	4	41	0	45	129
06:15 PM	26	15	0	41	20	8	0	28	14	46	0	60	129
06:30 PM	14	11	0	25	29	6	0	35	10	29	0	39	99
06:45 PM	26	8	0	34	18	7	0	25	1	35	0	36	95
Total	103	44	0	147	94	31	0	125	29	151	0	180	452
07:00 PM	18	9	0	27	15	7	0	22	3	27	0	30	79
07:15 PM	11	7	0	18	18	4	0	22	3	27	0	30	70
07:30 PM	9	6	0	15	16	7	0	23	1	28	0	29	67
07:45 PM	22	2	0	24	16	10	0	26	2	24	0	26	76
Total	60	24	0	84	65	28	0	93	9	106	0	115	292
08:00 PM	12	6	0	18	19	3	0	22	2	25	0	27	67
08:15 PM	7	7	0	14	21	3	0	24	2	18	0	20	58
08:30 PM	10	9	0	19	14	3	0	17	1	26	0	27	63
08:45 PM	5	6	0	11	17	5	0	22	3	19	0	22	55
Total	34	28	0	62	71	14	0	85	8	88	0	96	243
Grand Total	1984	1151	1	3136	1002	315	1	1318	383	2001	1	2385	6839
Apprch %	63.3	36.7	0		76	23.9	0.1		16.1	83.9	0		
Total %	29	16.8	0	45.9	14.7	4.6	0	19.3	5.6	29.3	0	34.9	

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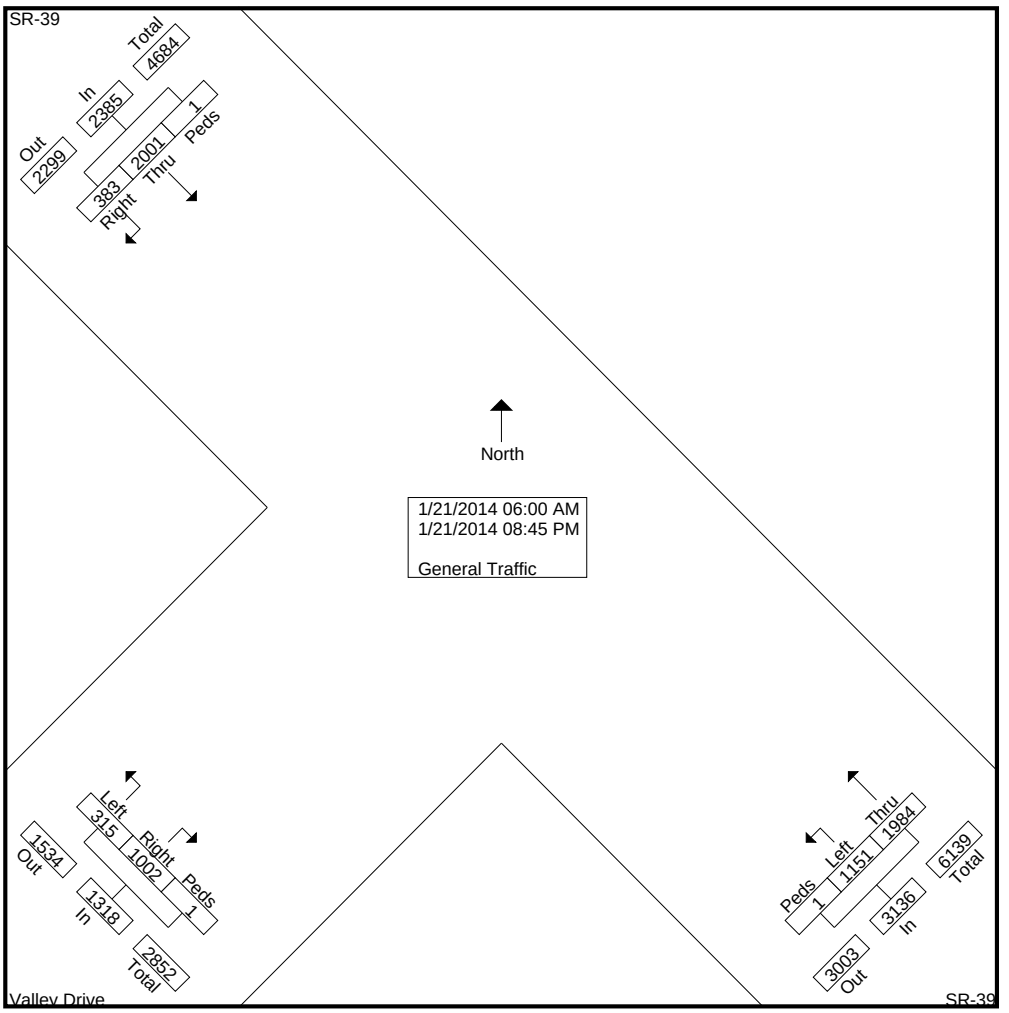
Study: PEC0003
Intersection: SR-39 / Valley Drive
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-39 Valley Dr
Site Code :
Start Date : 1/21/2014
Page No : 3



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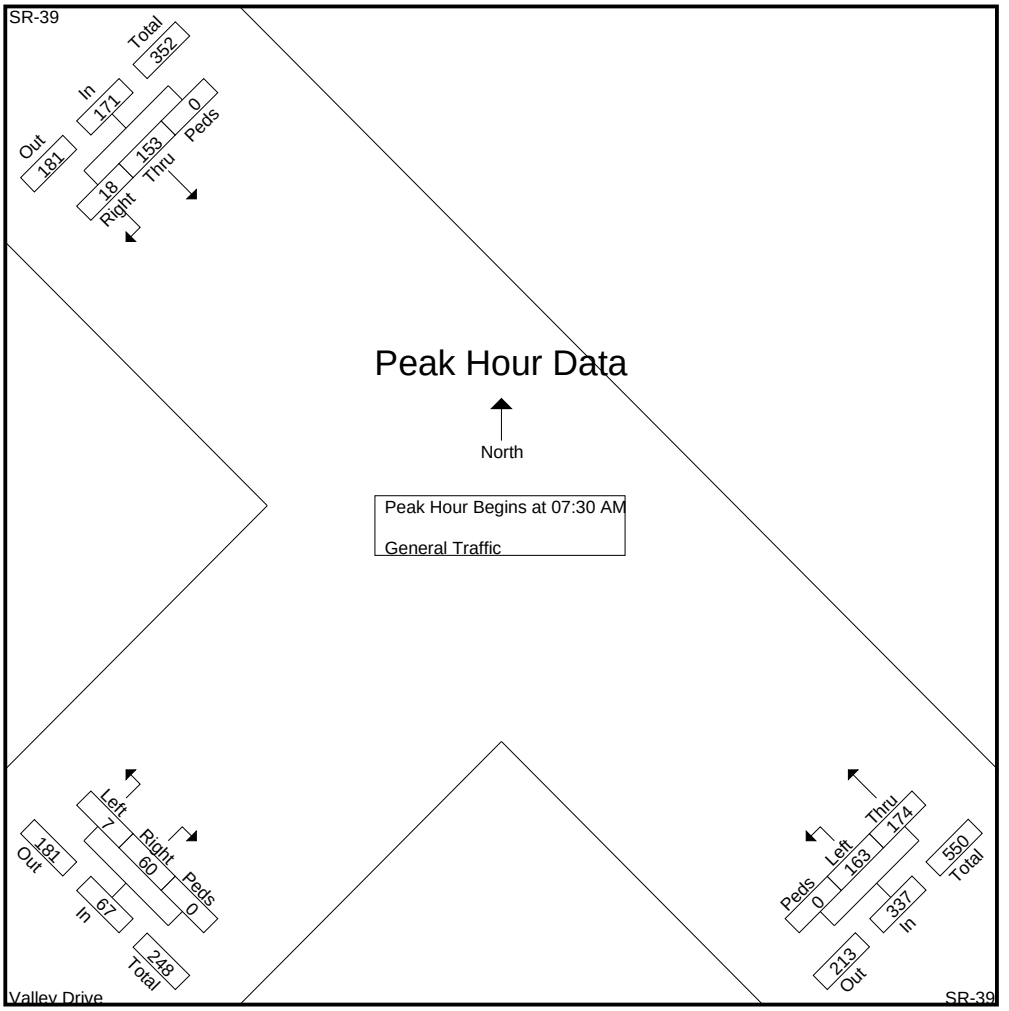
Study: PEC0003
Intersection: SR-39 / Valley Drive
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-39 Valley Dr
Site Code :
Start Date : 1/21/2014
Page No : 4

	SR-39 From Southeast				Valley Drive From Southwest				SR-39 From Northwest				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	**52**	38	0	90	7	2	0	9	5	31	0	36	135
07:45 AM	45	**54**	0	**99**	**20**	**3**	0	**23**	**7**	33	0	40	**162**
08:00 AM	34	33	0	67	16	1	0	17	3	34	0	37	121
08:15 AM	43	38	0	81	17	1	0	18	3	**55**	0	**58**	157
Total Volume	174	163	0	337	60	7	0	67	18	153	0	171	575
% App. Total	51.6	48.4	0		89.6	10.4	0		10.5	89.5	0		
PHF	.837	.755	.000	.851	.750	.583	.000	.728	.643	.695	.000	.737	.887



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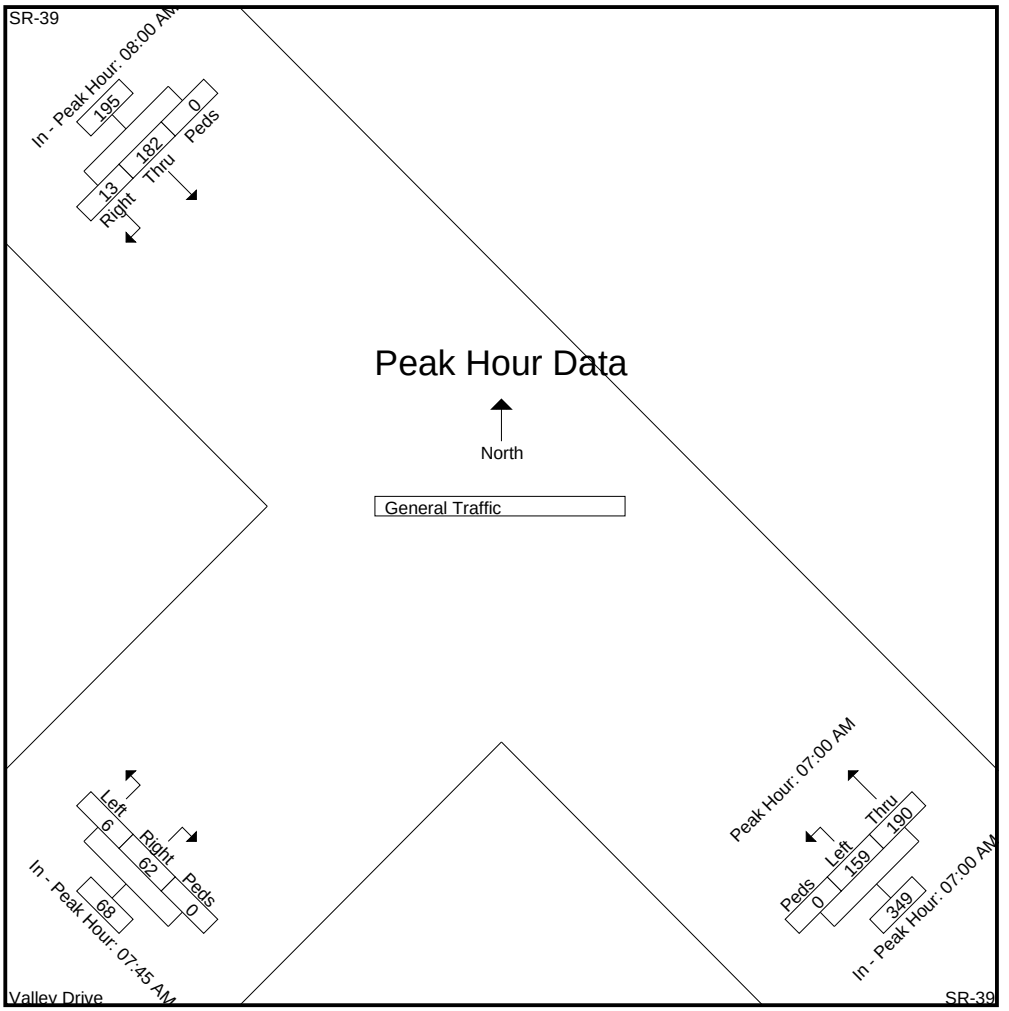
Study: PEC0003
Intersection: SR-39 / Valley Drive
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-39 Valley Dr
Site Code :
Start Date : 1/21/2014
Page No : 5

	SR-39 From Southeast				Valley Drive From Southwest				SR-39 From Northwest				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	07:00 AM				07:45 AM				08:00 AM				
+0 mins.	40	28	0	68	**20**	**3**	0	**23**	3	34	0	37	
+15 mins.	**53**	39	0	92	16	1	0	17	3	**55**	0	**58**	
+30 mins.	52	38	0	90	17	1	0	18	**4**	46	0	50	
+45 mins.	45	**54**	0	**99**	9	1	0	10	3	47	0	50	
Total Volume	190	159	0	349	62	6	0	68	13	182	0	195	
% App. Total	54.4	45.6	0		91.2	8.8	0		6.7	93.3	0		
PHF	.896	.736	.000	.881	.775	.500	.000	.739	.813	.827	.000	.841	



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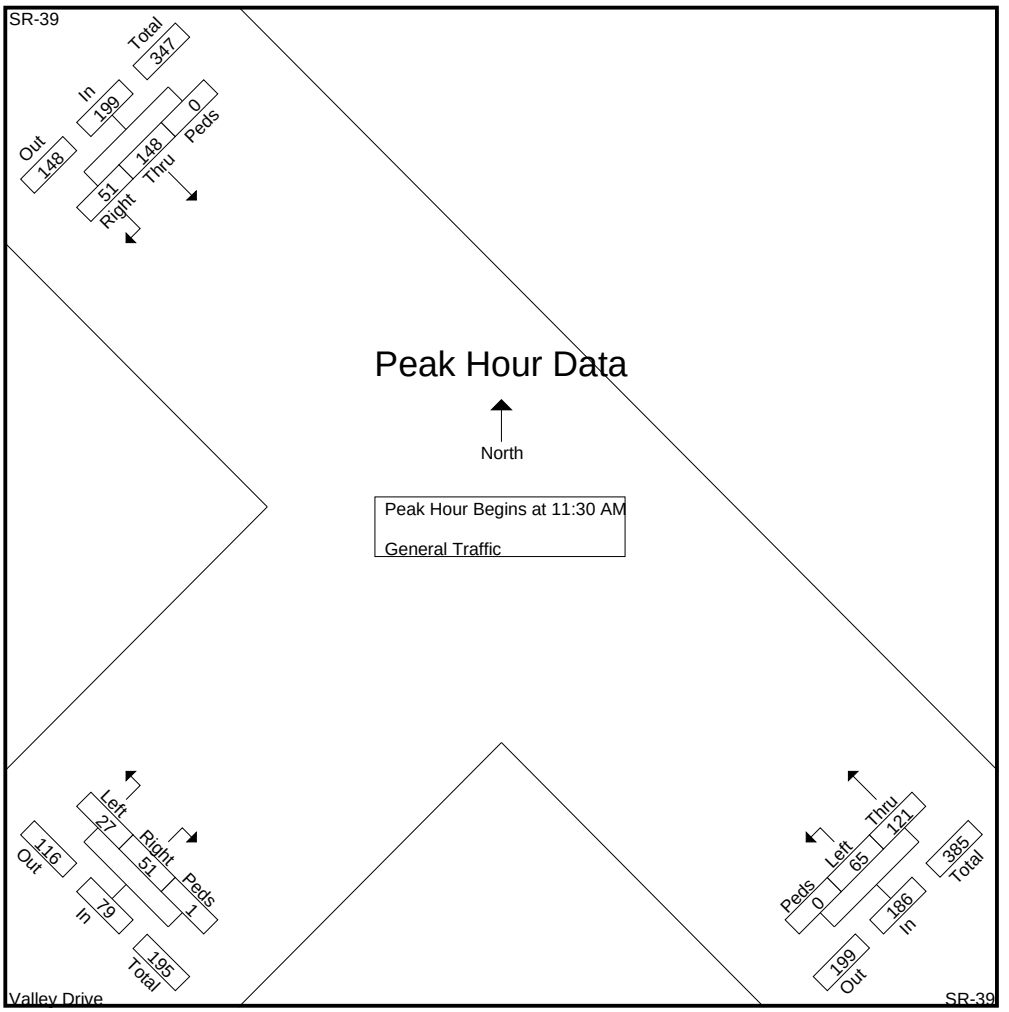
Study: PEC0003
Intersection: SR-39 / Valley Drive
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-39 Valley Dr
Site Code :
Start Date : 1/21/2014
Page No : 6

	SR-39 From Southeast				Valley Drive From Southwest				SR-39 From Northwest				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 11:30 AM													
11:30 AM	19	12	0	31	14	3	0	17	6	40	0	46	94
11:45 AM	34	**26**	0	**60**	9	8	0	17	14	**42**	0	56	133
12:00 PM	27	14	0	41	12	5	0	17	10	28	0	38	96
12:15 PM	**41**	13	0	54	**16**	**11**	**1**	**28**	**21**	38	0	**59**	**141**
Total Volume	121	65	0	186	51	27	1	79	51	148	0	199	464
% App. Total	65.1	34.9	0		64.6	34.2	1.3		25.6	74.4	0		
PHF	.738	.625	.000	.775	.797	.614	.250	.705	.607	.881	.000	.843	.823



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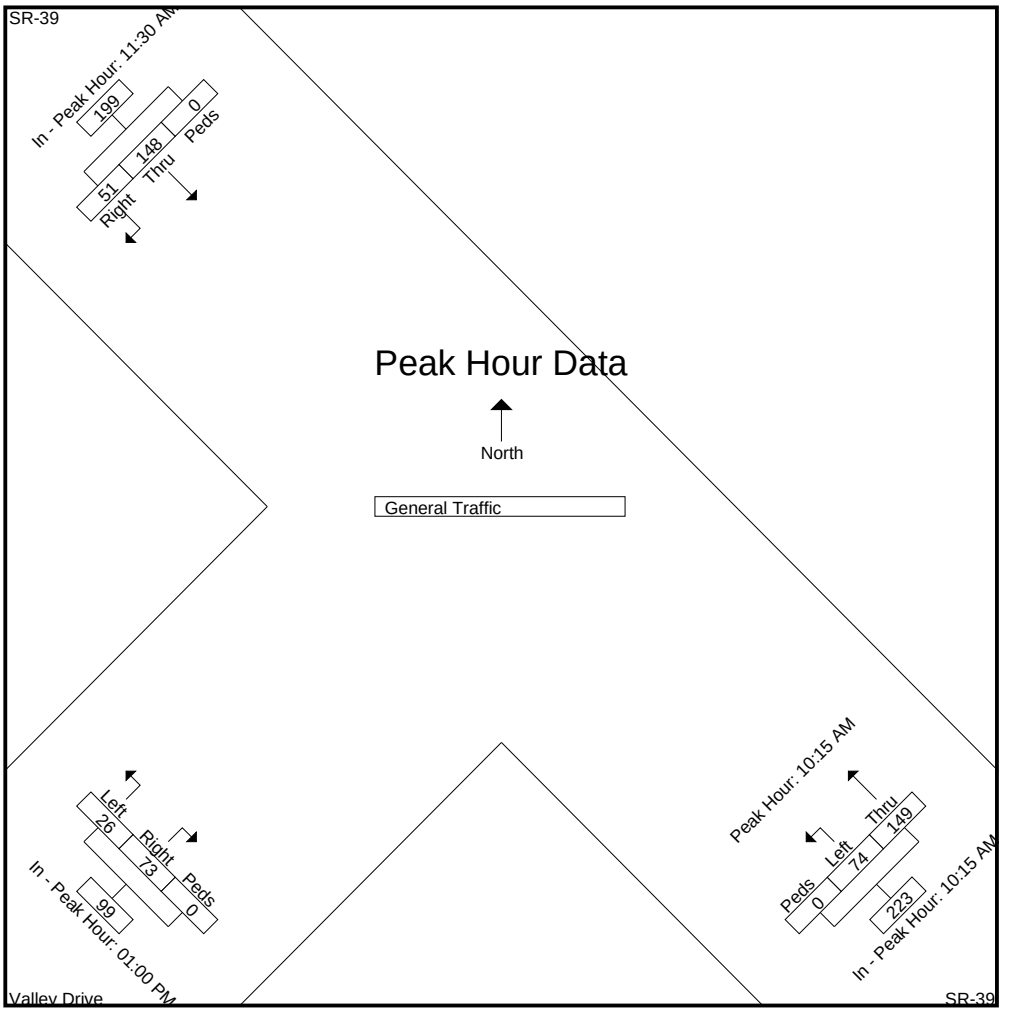
Study: PEC0003
Intersection: SR-39 / Valley Drive
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-39 Valley Dr
Site Code :
Start Date : 1/21/2014
Page No : 7

	SR-39 From Southeast				Valley Drive From Southwest				SR-39 From Northwest				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	10:15 AM				01:00 PM				11:30 AM				
+0 mins.	38	16	0	54	19	7	0	26	6	40	0	46	
+15 mins.	28	20	0	48	**22**	5	0	27	14	**42**	0	56	
+30 mins.	**43**	**26**	0	**69**	13	5	0	18	10	28	0	38	
+45 mins.	40	12	0	52	19	**9**	0	**28**	**21**	38	0	**59**	
Total Volume	149	74	0	223	73	26	0	99	51	148	0	199	
% App. Total	66.8	33.2	0		73.7	26.3	0		25.6	74.4	0		
PHF	.866	.712	.000	.808	.830	.722	.000	.884	.607	.881	.000	.843	



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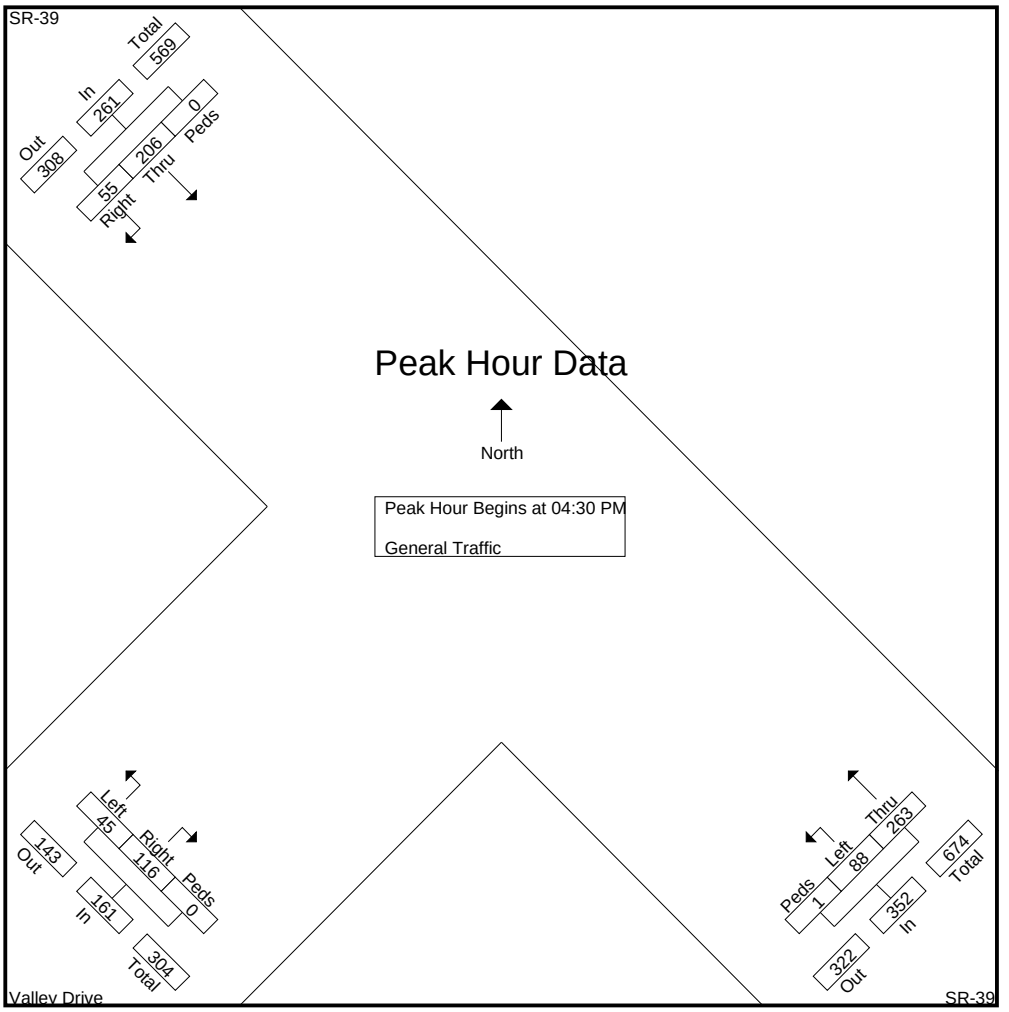
Study: PEC0003
Intersection: SR-39 / Valley Drive
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-39 Valley Dr
Site Code :
Start Date : 1/21/2014
Page No : 8

	SR-39 From Southeast				Valley Drive From Southwest				SR-39 From Northwest				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	62	7	**1**	70	31	**13**	0	44	14	66	0	80	194
04:45 PM	**90**	23	0	**113**	9	11	0	20	11	11	0	22	155
05:00 PM	71	**41**	0	112	**41**	9	0	**50**	**15**	**75**	0	**90**	**252**
05:15 PM	40	17	0	57	35	12	0	47	15	54	0	69	173
Total Volume	263	88	1	352	116	45	0	161	55	206	0	261	774
% App. Total	74.7	25	0.3		72	28	0		21.1	78.9	0		
PHF	.731	.537	.250	.779	.707	.865	.000	.805	.917	.687	.000	.725	.768



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Study: PEC0003
Intersection: SR-39 / Valley Drive
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-39 Valley Dr
Site Code :
Start Date : 1/21/2014
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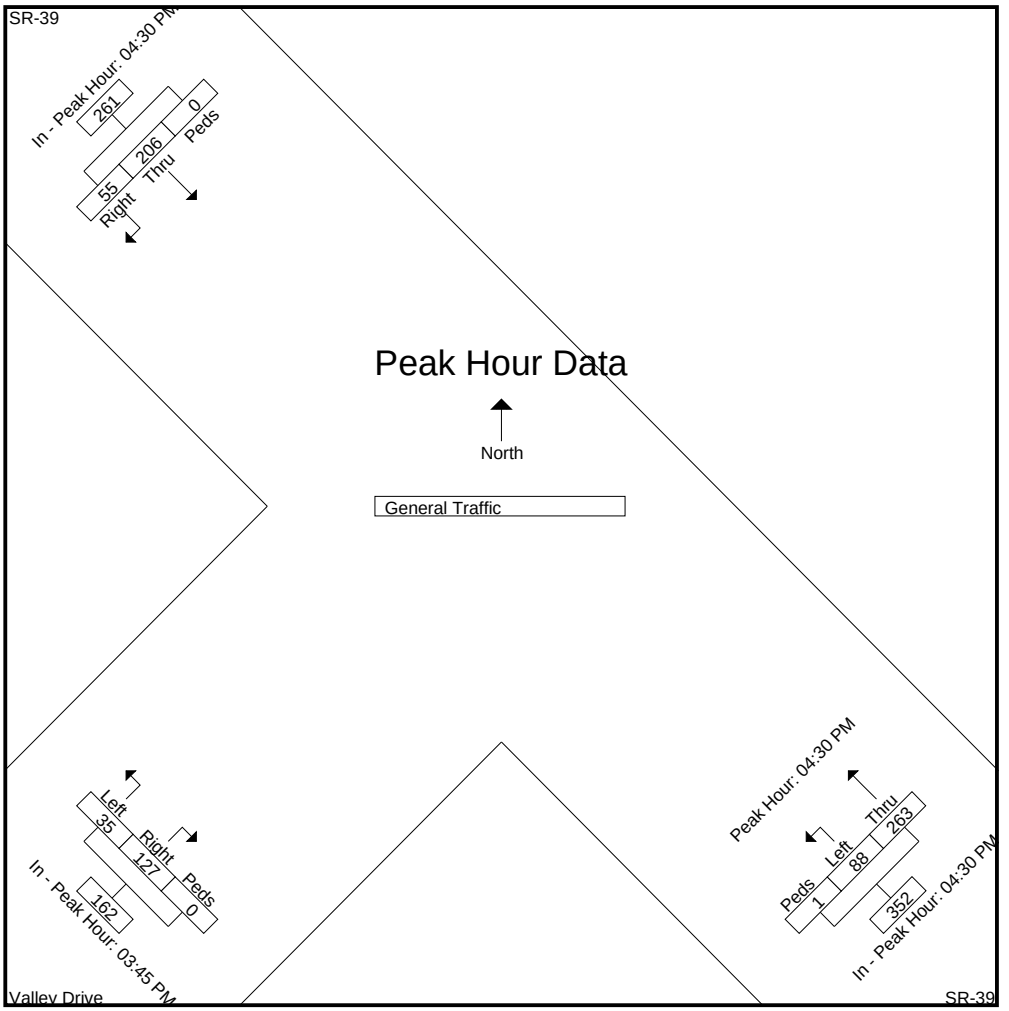
	SR-39 From Southeast				Valley Drive From Southwest				SR-39 From Northwest				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	04:30 PM				03:45 PM				04:30 PM				
+0 mins.	62	7	**1**	70	27	9	0	36	14	66	0	80	
+15 mins.	**90**	23	0	**113**	**35**	9	0	**44**	11	11	0	22	
+30 mins.	71	**41**	0	112	34	4	0	38	**15**	**75**	0	**90**	
+45 mins.	40	17	0	57	31	**13**	0	44	15	54	0	69	
Total Volume	263	88	1	352	127	35	0	162	55	206	0	261	
% App. Total	74.7	25	0.3		78.4	21.6	0		21.1	78.9	0		
PHF	.731	.537	.250	.779	.907	.673	.000	.920	.917	.687	.000	.725	



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Study: PEC0003
Intersection: SR-39 / Valley Drive
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-39 Valley Dr
Site Code :
Start Date : 1/21/2014
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Image 1

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Study: PEC0003
Intersection: SR-39 / Valley Drive
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-39 Valley Dr SAT
Site Code :
Start Date : 1/18/2014
Page No : 1

Groups Printed- General Traffic

	SR-39 From Southeast				Valley Drive From Southwest				SR-39 From Northwest				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
06:00 AM	4	0	0	4	3	0	0	3	5	6	0	11	18
06:15 AM	3	6	0	9	8	1	0	9	3	13	0	16	34
06:30 AM	14	6	0	20	4	1	0	5	1	16	0	17	42
06:45 AM	4	5	0	9	10	0	0	10	6	17	0	23	42
Total	25	17	0	42	25	2	0	27	15	52	0	67	136
07:00 AM	9	2	0	11	10	0	0	10	5	16	0	21	42
07:15 AM	15	6	0	21	10	3	0	13	4	29	0	33	67
07:30 AM	9	8	0	17	16	1	1	18	3	38	0	41	76
07:45 AM	10	10	0	20	13	4	0	17	17	49	0	66	103
Total	43	26	0	69	49	8	1	58	29	132	0	161	288
08:00 AM	16	5	0	21	19	2	0	21	2	59	0	61	103
08:15 AM	29	12	0	41	14	3	0	17	4	62	0	66	124
08:30 AM	20	16	0	36	12	0	0	12	3	85	0	88	136
08:45 AM	25	12	0	37	13	4	0	17	7	75	0	82	136
Total	90	45	0	135	58	9	0	67	16	281	0	297	499
09:00 AM	26	11	0	37	17	6	0	23	9	61	0	70	130
09:15 AM	33	12	0	45	14	5	0	19	7	60	0	67	131
09:30 AM	34	13	0	47	13	3	0	16	6	48	0	54	117
09:45 AM	37	26	0	63	17	4	0	21	10	65	0	75	159
Total	130	62	0	192	61	18	0	79	32	234	0	266	537
10:00 AM	32	10	0	42	18	5	0	23	5	36	0	41	106
10:15 AM	32	22	0	54	21	4	0	25	6	52	0	58	137
10:30 AM	35	16	0	51	12	5	0	17	7	50	0	57	125
10:45 AM	39	31	0	70	13	4	0	17	10	51	0	61	148
Total	138	79	0	217	64	18	0	82	28	189	0	217	516
11:00 AM	44	16	0	60	19	4	0	23	8	51	0	59	142
11:15 AM	45	20	0	65	16	5	0	21	13	40	0	53	139
11:30 AM	57	20	0	77	19	3	0	22	15	57	0	72	171
11:45 AM	48	13	0	61	18	9	0	27	19	37	0	56	144
Total	194	69	0	263	72	21	0	93	55	185	0	240	596
12:00 PM	56	19	0	75	20	4	0	24	20	55	0	75	174
12:15 PM	35	24	0	59	29	8	0	37	8	64	0	72	168
12:30 PM	51	17	0	68	19	13	0	32	12	51	0	63	163
12:45 PM	54	30	0	84	29	3	0	32	13	63	0	76	192
Total	196	90	0	286	97	28	0	125	53	233	0	286	697
01:00 PM	50	31	0	81	18	5	0	23	12	47	0	59	163
01:15 PM	42	20	0	62	21	5	0	26	11	47	0	58	146
01:30 PM	53	22	0	75	21	14	0	35	12	47	0	59	169
01:45 PM	65	22	0	87	17	16	0	33	15	56	0	71	191
Total	210	95	0	305	77	40	0	117	50	197	0	247	669
02:00 PM	61	26	0	87	13	8	0	21	12	45	0	57	165
02:15 PM	59	18	0	77	24	16	0	40	22	51	0	73	190
02:30 PM	54	26	0	80	28	12	0	40	17	58	0	75	195
02:45 PM	57	20	0	77	24	11	0	35	16	56	0	72	184
Total	231	90	0	321	89	47	0	136	67	210	0	277	734
03:00 PM	69	26	0	95	25	23	0	48	12	62	0	74	217
03:15 PM	52	29	0	81	26	16	0	42	14	52	0	66	189
03:30 PM	74	19	0	93	25	9	0	34	12	62	0	74	201
03:45 PM	77	38	0	115	25	14	0	39	17	43	0	60	214
Total	272	112	0	384	101	62	0	163	55	219	0	274	821

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Study: PEC0003
Intersection: SR-39 / Valley Drive
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-39 Valley Dr SAT
Site Code :
Start Date : 1/18/2014
Page No : 2

Groups Printed- General Traffic

	SR-39 From Southeast				Valley Drive From Southwest				SR-39 From Northwest				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
04:00 PM	64	41	0	105	32	22	0	54	14	49	0	63	222
04:15 PM	86	41	0	127	26	16	0	42	20	66	0	86	255
04:30 PM	96	35	0	131	24	18	0	42	27	52	0	79	252
04:45 PM	91	34	0	125	19	17	0	36	40	46	0	86	247
Total	337	151	0	488	101	73	0	174	101	213	0	314	976
05:00 PM	71	38	0	109	22	17	0	39	41	41	0	82	230
05:15 PM	71	30	0	101	19	16	0	35	29	33	0	62	198
05:30 PM	67	37	0	104	12	10	0	22	12	48	0	60	186
05:45 PM	59	33	0	92	14	12	0	26	10	38	0	48	166
Total	268	138	0	406	67	55	0	122	92	160	0	252	780
06:00 PM	44	22	0	66	19	19	0	38	20	37	0	57	161
06:15 PM	44	19	0	63	19	11	0	30	20	42	0	62	155
06:30 PM	38	20	0	58	16	8	0	24	8	39	0	47	129
06:45 PM	26	20	0	46	9	7	0	16	17	28	0	45	107
Total	152	81	0	233	63	45	0	108	65	146	0	211	552
07:00 PM	33	18	0	51	15	19	0	34	8	35	0	43	128
07:15 PM	34	12	0	46	14	31	0	45	7	32	0	39	130
07:30 PM	31	8	0	39	8	21	0	29	3	26	0	29	97
07:45 PM	26	7	0	33	12	12	0	24	3	24	0	27	84
Total	124	45	0	169	49	83	0	132	21	117	0	138	439
08:00 PM	22	7	0	29	11	11	0	22	5	20	0	25	76
08:15 PM	11	11	0	22	10	13	0	23	4	30	0	34	79
08:30 PM	13	8	0	21	12	18	0	30	1	17	0	18	69
08:45 PM	23	9	0	32	15	12	0	27	0	19	0	19	78
Total	69	35	0	104	48	54	0	102	10	86	0	96	302
Grand Total	2479	1135	0	3614	1021	563	1	1585	689	2654	0	3343	8542
Apprch %	68.6	31.4	0		64.4	35.5	0.1		20.6	79.4	0		
Total %	29	13.3	0	42.3	12	6.6	0	18.6	8.1	31.1	0	39.1	

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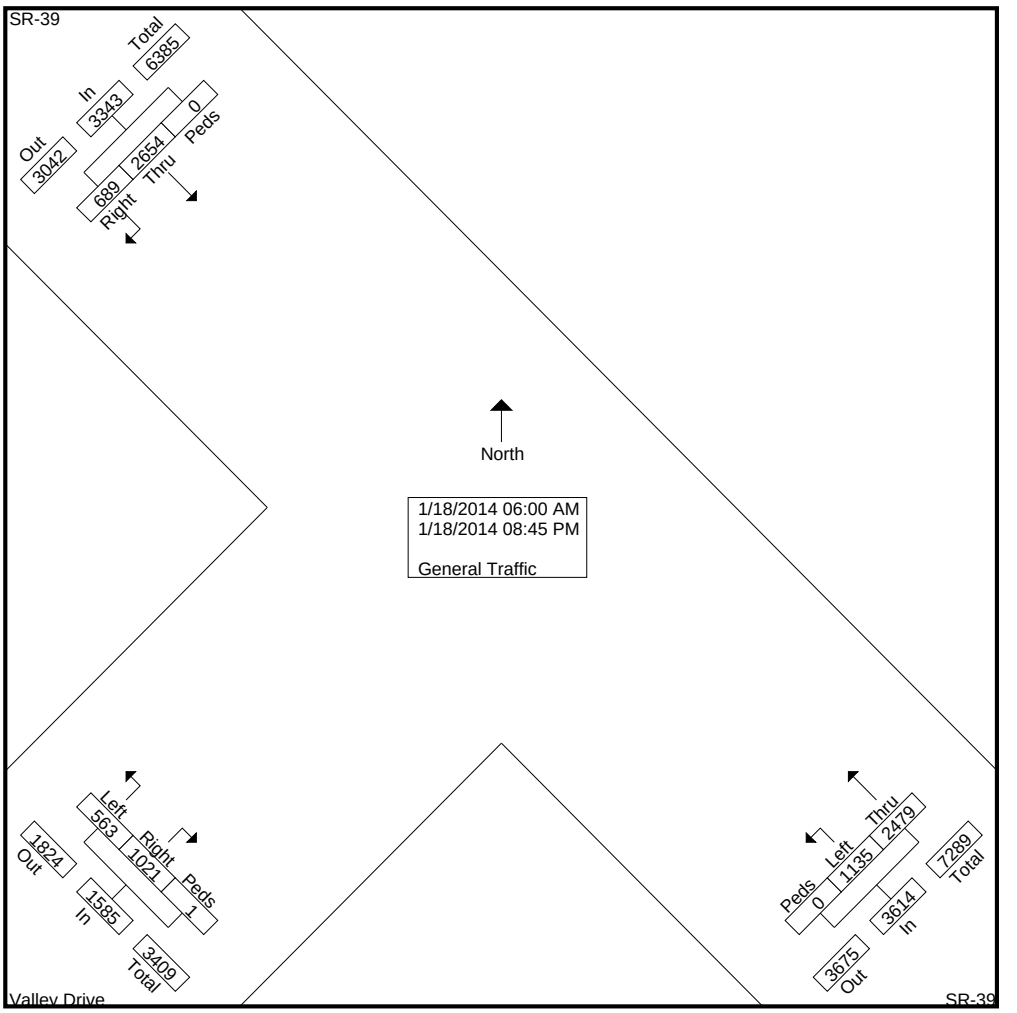
Study: PEC0003
Intersection: SR-39 / Valley Drive
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-39 Valley Dr SAT
Site Code :
Start Date : 1/18/2014
Page No : 3



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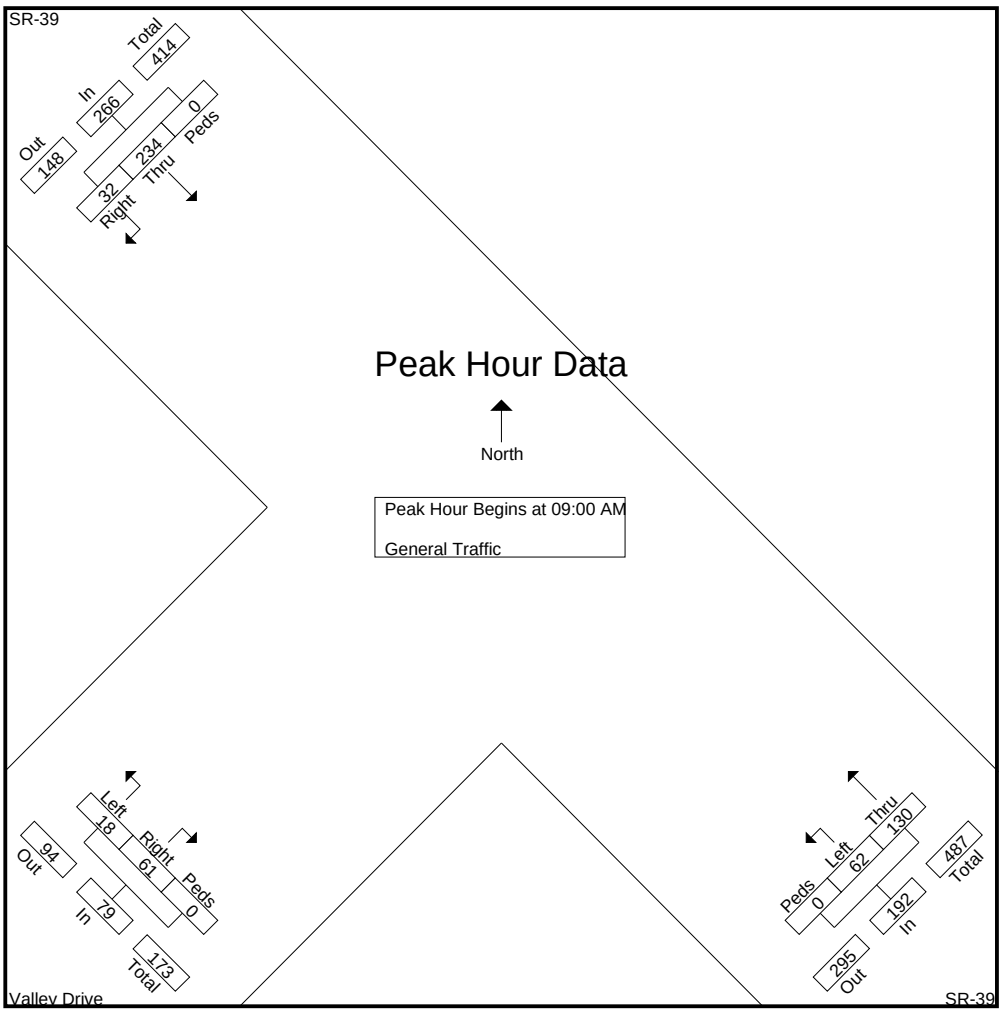
Study: PEC0003
Intersection: SR-39 / Valley Drive
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-39 Valley Dr SAT
Site Code :
Start Date : 1/18/2014
Page No : 4

	SR-39 From Southeast				Valley Drive From Southwest				SR-39 From Northwest				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 09:00 AM													
09:00 AM	26	11	0	37	**17**	**6**	0	**23**	9	61	0	70	130
09:15 AM	33	12	0	45	14	5	0	19	7	60	0	67	131
09:30 AM	34	13	0	47	13	3	0	16	6	48	0	54	117
09:45 AM	**37**	**26**	0	**63**	17	4	0	21	**10**	**65**	0	**75**	**159**
Total Volume	130	62	0	192	61	18	0	79	32	234	0	266	537
% App. Total	67.7	32.3	0		77.2	22.8	0		12	88	0		
PHF	.878	.596	.000	.762	.897	.750	.000	.859	.800	.900	.000	.887	.844



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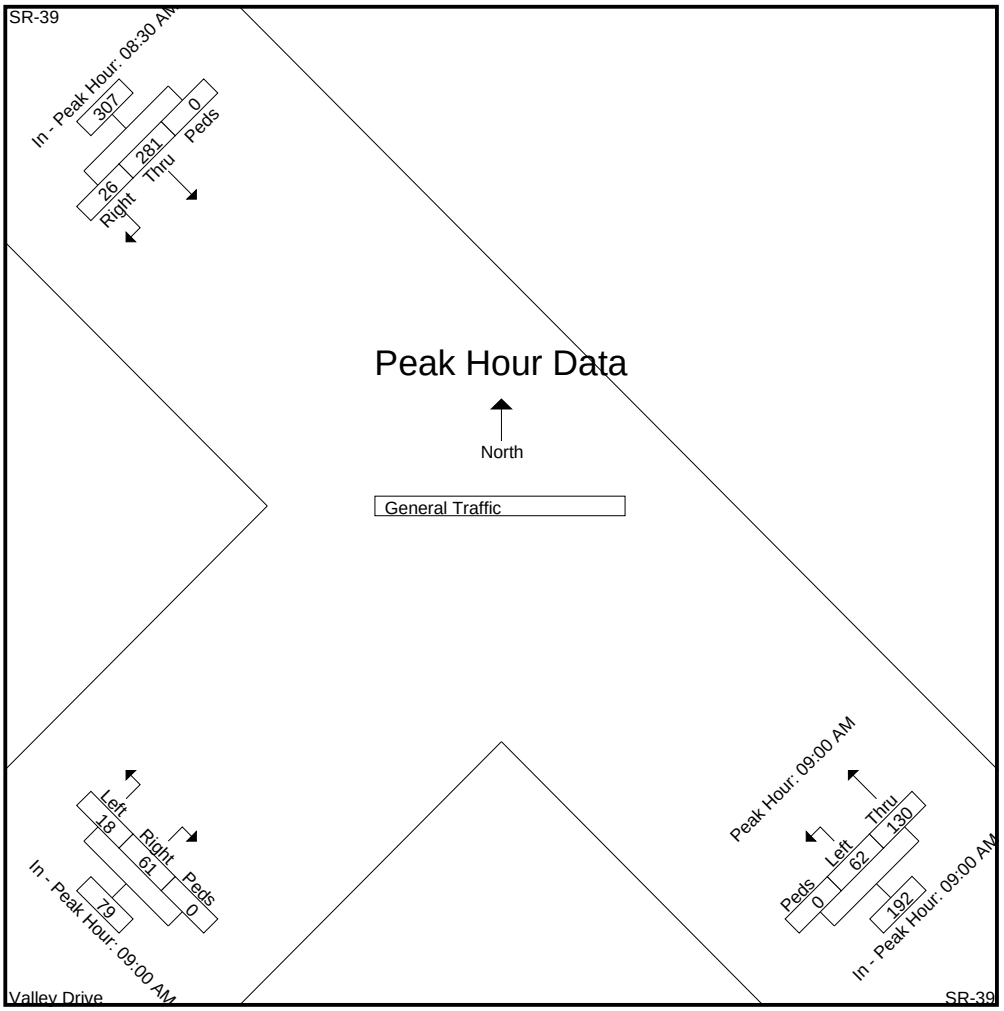
Study: PEC0003
Intersection: SR-39 / Valley Drive
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-39 Valley Dr SAT
Site Code :
Start Date : 1/18/2014
Page No : 5

	SR-39 From Southeast				Valley Drive From Southwest				SR-39 From Northwest				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	09:00 AM				09:00 AM				08:30 AM				
+0 mins.	26	11	0	37	**17**	**6**	0	**23**	3	**85**	0	**88**	
+15 mins.	33	12	0	45	14	5	0	19	7	75	0	82	
+30 mins.	34	13	0	47	13	3	0	16	**9**	61	0	70	
+45 mins.	**37**	**26**	0	**63**	17	4	0	21	7	60	0	67	
Total Volume	130	62	0	192	61	18	0	79	26	281	0	307	
% App. Total	67.7	32.3	0		77.2	22.8	0		8.5	91.5	0		
PHF	.878	.596	.000	.762	.897	.750	.000	.859	.722	.826	.000	.872	



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Study: PEC0003
Intersection: SR-39 / Valley Drive
City, State: Ogden Canyon, Utah
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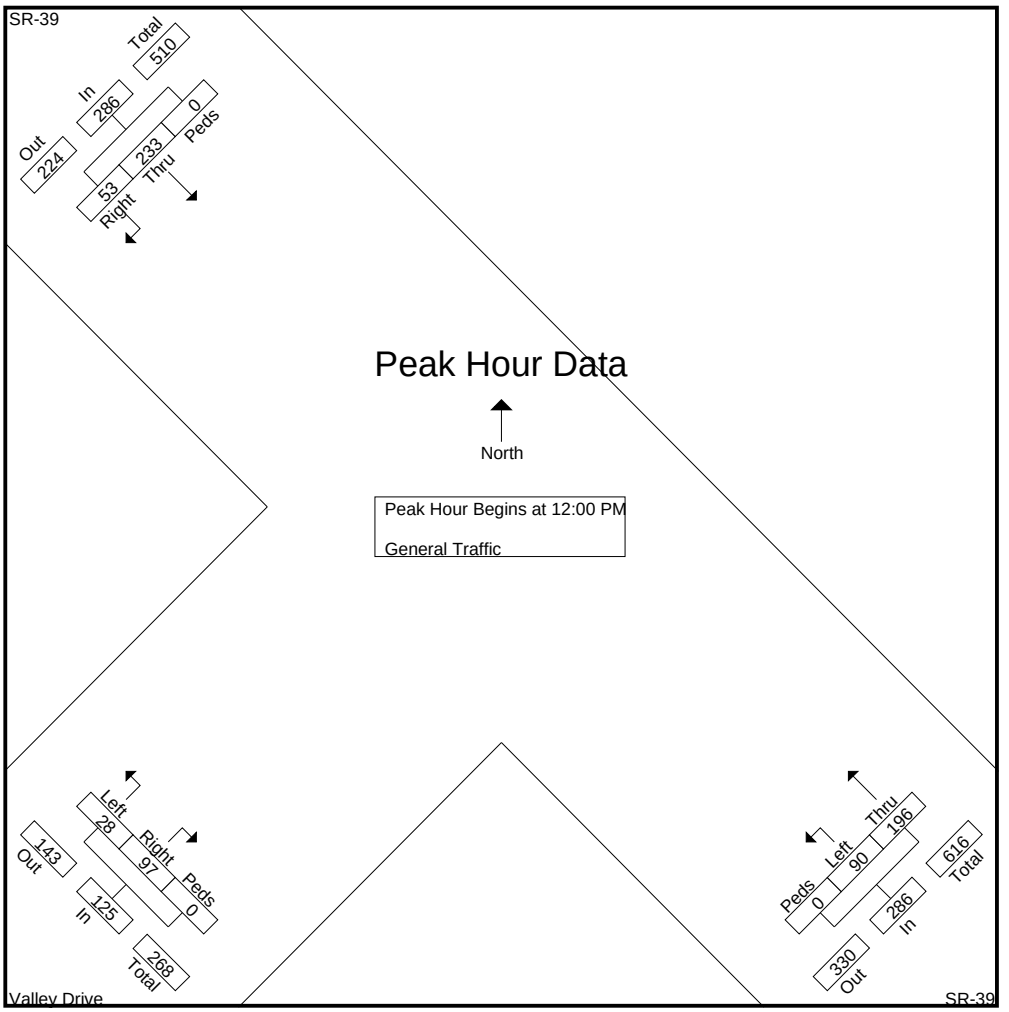
File Name : SR-39 Valley Dr SAT
Site Code :
Start Date : 1/18/2014
Page No : 6

	SR-39 From Southeast				Valley Drive From Southwest				SR-39 From Northwest				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 12:00 PM													
12:00 PM	**56**	19	0	75	20	4	0	24	**20**	55	0	75	174
12:15 PM	35	24	0	59	**29**	8	0	**37**	8	**64**	0	72	168
12:30 PM	51	17	0	68	19	**13**	0	32	12	51	0	63	163
12:45 PM	54	**30**	0	**84**	29	3	0	32	13	63	0	**76**	**192**
Total Volume	196	90	0	286	97	28	0	125	53	233	0	286	697
% App. Total	68.5	31.5	0		77.6	22.4	0		18.5	81.5	0		
PHF	.875	.750	.000	.851	.836	.538	.000	.845	.663	.910	.000	.941	.908



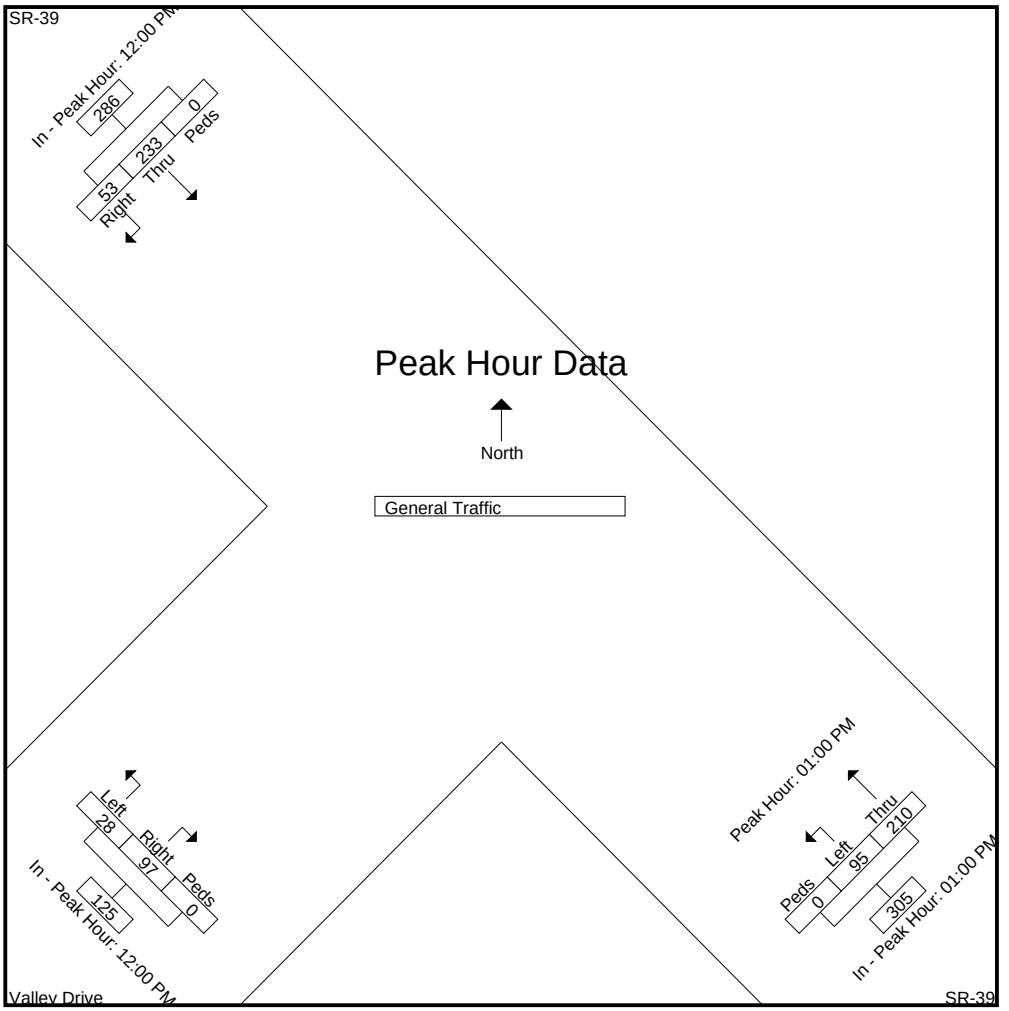
L2 Data Collection

www.L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: PEC0003
Intersection: SR-39 / Valley Drive
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-39 Valley Dr SAT
Site Code :
Start Date : 1/18/2014
Page No : 7

	SR-39 From Southeast				Valley Drive From Southwest				SR-39 From Northwest				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	01:00 PM				12:00 PM				12:00 PM				
+0 mins.	50	**31**	0	81	20	4	0	24	**20**	55	0	75	
+15 mins.	42	20	0	62	**29**	8	0	**37**	8	**64**	0	72	
+30 mins.	53	22	0	75	19	**13**	0	32	12	51	0	63	
+45 mins.	**65**	22	0	**87**	29	3	0	32	13	63	0	**76**	
Total Volume	210	95	0	305	97	28	0	125	53	233	0	286	
% App. Total	68.9	31.1	0		77.6	22.4	0		18.5	81.5	0		
PHF	.808	.766	.000	.876	.836	.538	.000	.845	.663	.910	.000	.941	



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Study: PEC0003
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Control: Stop Sign

File Name : SR-39 Valley Dr SAT
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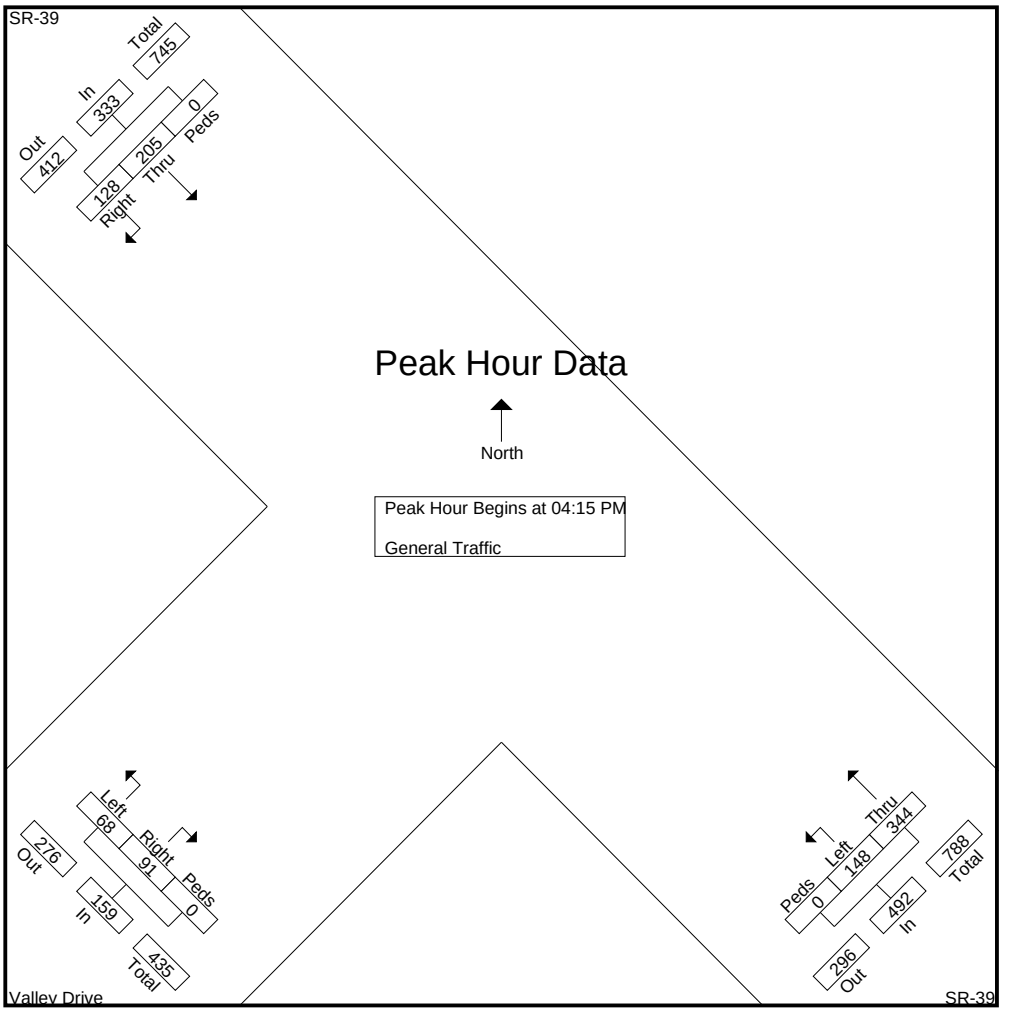
Start Date : 1/18/2014
Page No : 8

	SR-39 From Southeast				Valley Drive From Southwest				SR-39 From Northwest				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:15 PM													
04:15 PM	86	**41**	0	127	**26**	16	0	**42**	20	**66**	0	**86**	**255**
04:30 PM	**96**	35	0	**131**	24	**18**	0	42	27	52	0	79	252
04:45 PM	91	34	0	125	19	17	0	36	40	46	0	86	247
05:00 PM	71	38	0	109	22	17	0	39	**41**	41	0	82	230
Total Volume	344	148	0	492	91	68	0	159	128	205	0	333	984
% App. Total	69.9	30.1	0		57.2	42.8	0		38.4	61.6	0		
PHF	.896	.902	.000	.939	.875	.944	.000	.946	.780	.777	.000	.968	.965



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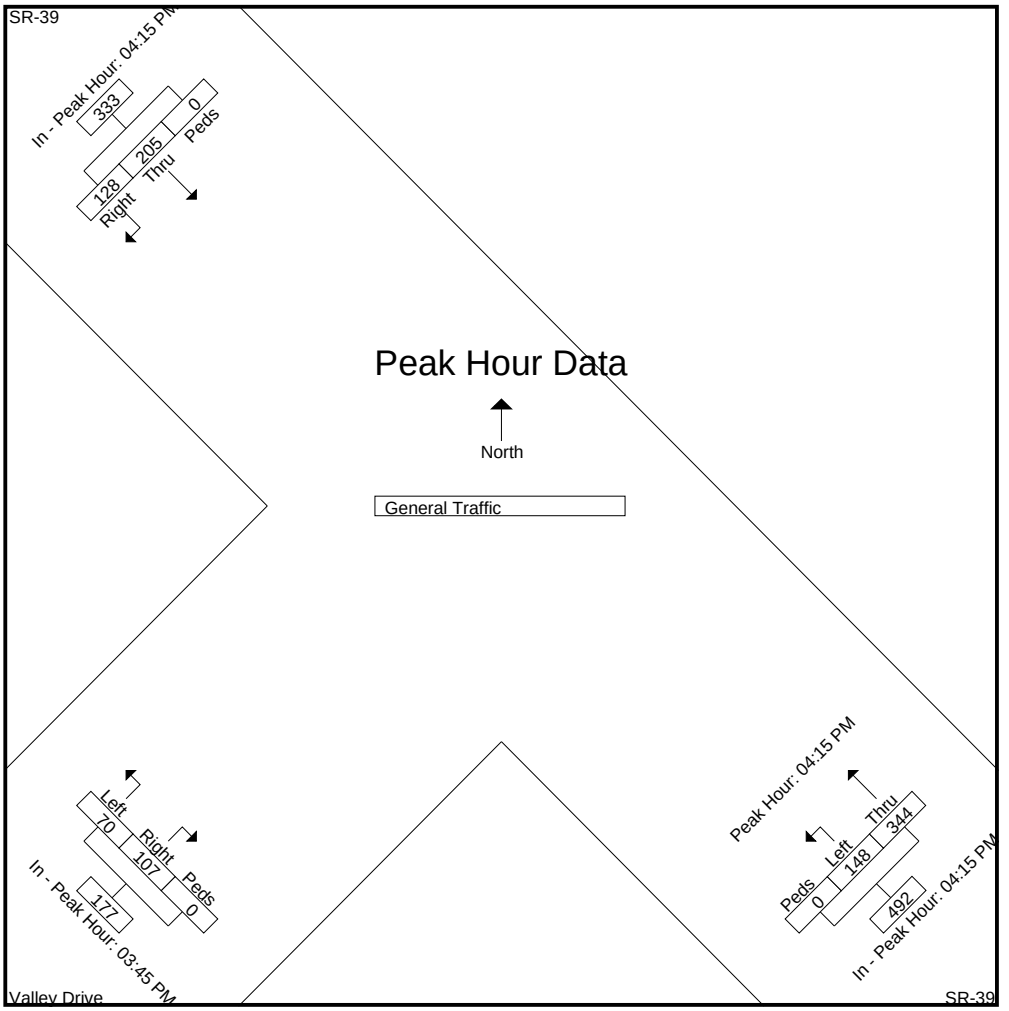
Study: PEC0003
Intersection: SR-39 / Valley Drive
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-39 Valley Dr SAT
Site Code :
Start Date : 1/18/2014
Page No : 9

	SR-39 From Southeast				Valley Drive From Southwest				SR-39 From Northwest				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	04:15 PM				03:45 PM				04:15 PM				
+0 mins.	86	**41**	0	127	25	14	0	39	20	**66**	0	**86**	
+15 mins.	**96**	35	0	**131**	**32**	**22**	0	**54**	27	52	0	79	
+30 mins.	91	34	0	125	26	16	0	42	40	46	0	86	
+45 mins.	71	38	0	109	24	18	0	42	**41**	41	0	82	
Total Volume	344	148	0	492	107	70	0	177	128	205	0	333	
% App. Total	69.9	30.1	0		60.5	39.5	0		38.4	61.6	0		
PHF	.896	.902	.000	.939	.836	.795	.000	.819	.780	.777	.000	.968	



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Study: PEC0003
Intersection: SR-39 / Valley Drive
City, State: Ogden Canyon, Utah
Control: Stop Sign

File Name : SR-39 Valley Dr SAT
Site Code :
Start Date : 1/18/2014
Page No : 10

Image 1

Appendix B – HCM Analyses

Intersection	
Intersection Delay, s/veh	3.7

Movement	SET	SER	NWL	NWT	NEL	NER
Vol, veh/h	153	18	163	174	7	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	214	-	20	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	64	75	84	58	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	219	28	217	207	12	80

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	219	0	861	219
Stage 1	-	-	-	-	219	-
Stage 2	-	-	-	-	642	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	1350	-	326	821
Stage 1	-	-	-	-	817	-
Stage 2	-	-	-	-	524	-
Time blocked-Platoon, %	-	-		-		
Mov Capacity-1 Maneuver	-	-	1350	-	274	821
Mov Capacity-2 Maneuver	-	-	-	-	274	-
Stage 1	-	-	-	-	817	-
Stage 2	-	-	-	-	440	-

Approach	SE	NW	NE
HCM Control Delay, s	0	4.2	11.1
HCM LOS			B

Minor Lane / Major Mvmt	NELn1	NELn2	NWL	NWT	SET	SER
Capacity (veh/h)	274	821	1350	-	-	-
HCM Lane V/C Ratio	0.044	0.097	0.161	-	-	-
HCM Control Delay (s)	18.7	9.9	8.178	-	-	-
HCM Lane LOS	C	A	A			
HCM 95th %tile Q(veh)	0.138	0.323	0.573	-	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	3.6

Movement	SET	SER	NWL	NWT	NEL	NER
Vol, veh/h	206	55	88	263	45	116
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	214	-	20	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	77	70	81	80	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	237	71	126	325	56	132

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	237	0	813	237
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	576	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	1330	-	348	802
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	562	-
Time blocked-Platoon, %	-	-		-		
Mov Capacity-1 Maneuver	-	-	1330	-	315	802
Mov Capacity-2 Maneuver	-	-	-	-	315	-
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	509	-

Approach	SE	NW	NE
HCM Control Delay, s	0	2.2	12.9
HCM LOS			B

Minor Lane / Major Mvmt	NELn1	NELn2	NWL	NWT	SET	SER
Capacity (veh/h)	315	802	1330	-	-	-
HCM Lane V/C Ratio	0.179	0.164	0.095	-	-	-
HCM Control Delay (s)	18.9	10.4	7.989	-	-	-
HCM Lane LOS	C	B	A			
HCM 95th %tile Q(veh)	0.64	0.586	0.313	-	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	6.3

Movement	SET	SER	NWL	NWT	NEL	NER
Vol, veh/h	205	128	148	344	68	91
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	214	-	20	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	64	75	84	58	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	293	200	197	410	117	121

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	293	0	1097	293
Stage 1	-	-	-	-	293	-
Stage 2	-	-	-	-	804	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	1269	-	236	746
Stage 1	-	-	-	-	757	-
Stage 2	-	-	-	-	440	-
Time blocked-Platoon, %	-	-		-		
Mov Capacity-1 Maneuver	-	-	1269	-	199	746
Mov Capacity-2 Maneuver	-	-	-	-	199	-
Stage 1	-	-	-	-	757	-
Stage 2	-	-	-	-	372	-

Approach	SE	NW	NE
HCM Control Delay, s	0	2.7	28.2
HCM LOS			D

Minor Lane / Major Mvmt	NELn1	NELn2	NWL	NWT	SET	SER
Capacity (veh/h)	199	746	1269	-	-	-
HCM Lane V/C Ratio	0.589	0.163	0.156	-	-	-
HCM Control Delay (s)	46.2	10.8	8.359	-	-	-
HCM Lane LOS	E	B	A			
HCM 95th %tile Q(veh)	3.261	0.578	0.55	-	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	6.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	100	91	63	11	24	175
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	52	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	89	79	69	86	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	108	102	80	16	28	211

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	80	0	-	0	397	80
Stage 1	-	-	-	-	80	-
Stage 2	-	-	-	-	317	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1518	-	-	-	608	980
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	738	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1518	-	-	-	565	980
Mov Capacity-2 Maneuver	-	-	-	-	565	-
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	685	-

Approach	EB	WB	SB
HCM Control Delay, s	3.9	0	10.4
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1518	-	-	-	903
HCM Lane V/C Ratio	0.071	-	-	-	0.264
HCM Control Delay (s)	7.552	-	-	-	10.4
HCM Lane LOS	A				B
HCM 95th %tile Q(veh)	0.228	-	-	-	1.065

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	5.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	226	91	100	49	13	141
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	52	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	89	79	69	86	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	243	102	127	71	15	170

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	127	0	-	0	715	127
Stage 1	-	-	-	-	127	-
Stage 2	-	-	-	-	588	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1459	-	-	-	397	923
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	555	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1459	-	-	-	331	923
Mov Capacity-2 Maneuver	-	-	-	-	331	-
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	463	-

Approach	EB	WB	SB
HCM Control Delay, s	5.6	0	10.8
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1459	-	-	-	805
HCM Lane V/C Ratio	0.167	-	-	-	0.23
HCM Control Delay (s)	7.96	-	-	-	10.8
HCM Lane LOS	A				B
HCM 95th %tile Q(veh)	0.597	-	-	-	0.885

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	8.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	179	99	234	41	50	260
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	52	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	89	79	69	86	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	192	111	296	59	58	313

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	296	0	-	0	792	296
Stage 1	-	-	-	-	296	-
Stage 2	-	-	-	-	496	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1265	-	-	-	358	743
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	612	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1265	-	-	-	304	743
Mov Capacity-2 Maneuver	-	-	-	-	304	-
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	519	-

Approach	EB	WB	SB
HCM Control Delay, s	5.3	0	19.9
HCM LOS			C

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1265	-	-	-	606
HCM Lane V/C Ratio	0.152	-	-	-	0.613
HCM Control Delay (s)	8.356	-	-	-	19.9
HCM Lane LOS	A				C
HCM 95th %tile Q(veh)	0.536	-	-	-	4.159

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Vol, veh/h	34	89	72	4	86	32	68	68	4	48	68	30
Peak Hour Factor	0.75	0.75	0.77	0.66	0.68	0.78	0.88	0.74	0.65	0.56	0.62	0.63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	45	119	94	6	126	41	77	92	6	86	110	48
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	11.3	10.3	10.2	10.5
HCM LOS	B	B	B	B

Lane	NELn1	NELn2	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	100%	0%	3%	17%	100%	0%
Vol Thru, %	0%	94%	70%	46%	0%	69%
Vol Right, %	0%	6%	26%	37%	0%	31%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	68	72	122	195	48	98
LT Vol	0	68	86	89	0	68
Through Vol	0	4	32	72	0	30
RT Vol	68	0	4	34	48	0
Lane Flow Rate	77	98	174	258	86	157
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.141	0.165	0.259	0.373	0.155	0.252
Departure Headway (Hd)	6.589	6.042	5.381	5.209	6.495	5.769
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	544	593	666	690	552	623
Service Time	4.33	3.782	3.422	3.245	4.232	3.507
HCM Lane V/C Ratio	0.142	0.165	0.261	0.374	0.156	0.252
HCM Control Delay	10.4	10	10.3	11.3	10.4	10.5
HCM Lane LOS	B	A	B	B	B	B
HCM 95th-tile Q	0.5	0.6	1	1.7	0.5	1

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	14.8
Intersection LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Vol, veh/h	58	65	84	3	73	3	155	115	6	46	105	68
Peak Hour Factor	0.39	0.75	0.75	0.76	0.63	0.70	0.76	0.75	0.69	0.82	0.70	0.55
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	149	87	112	4	116	4	204	153	9	56	150	124
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	17.1	12	13.6	14.6
HCM LOS	C	B	B	B

Lane	NELn1	NELn2	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	100%	0%	4%	28%	100%	0%
Vol Thru, %	0%	95%	92%	31%	0%	61%
Vol Right, %	0%	5%	4%	41%	0%	39%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	155	121	79	207	46	173
LT Vol	0	115	73	65	0	105
Through Vol	0	6	3	84	0	68
RT Vol	155	0	3	58	46	0
Lane Flow Rate	204	162	124	347	56	274
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.409	0.3	0.235	0.577	0.114	0.494
Departure Headway (Hd)	7.212	6.665	6.823	6.112	7.287	6.493
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	502	541	526	594	494	558
Service Time	4.932	4.384	4.858	4.112	5.005	4.211
HCM Lane V/C Ratio	0.406	0.299	0.236	0.584	0.113	0.491
HCM Control Delay	14.8	12.2	12	17.1	10.9	15.4
HCM Lane LOS	B	B	B	C	B	C
HCM 95th-tile Q	2	1.3	0.9	3.7	0.4	2.7

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	15.9
Intersection LOS	C

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Vol, veh/h	55	40	139	11	51	54	98	106	11	64	171	61
Peak Hour Factor	0.75	0.75	0.77	0.66	0.68	0.78	0.88	0.74	0.65	0.56	0.62	0.63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	73	53	181	17	75	69	111	143	17	114	276	97
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	15.9	12.4	12.6	18.9
HCM LOS	C	B	B	C

Lane	NELn1	NELn2	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	100%	0%	9%	24%	100%	0%
Vol Thru, %	0%	91%	44%	17%	0%	74%
Vol Right, %	0%	9%	47%	59%	0%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	98	117	116	234	64	232
LT Vol	0	106	51	40	0	171
Through Vol	0	11	54	139	0	61
RT Vol	98	0	11	55	64	0
Lane Flow Rate	111	160	161	307	114	373
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.231	0.306	0.296	0.527	0.226	0.664
Departure Headway (Hd)	7.467	6.887	6.618	6.181	7.112	6.413
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	481	522	542	584	505	563
Service Time	5.215	4.634	4.667	4.222	4.852	4.153
HCM Lane V/C Ratio	0.231	0.307	0.297	0.526	0.226	0.663
HCM Control Delay	12.5	12.7	12.4	15.9	11.9	21
HCM Lane LOS	B	B	B	C	B	C
HCM 95th-tile Q	0.9	1.3	1.2	3.1	0.9	4.9

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	3.9

Movement	SET	SER	NWL	NWT	NEL	NER
Vol, veh/h	169	20	180	192	8	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	214	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	64	75	84	58	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	241	31	240	229	14	88

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	241	0	950	241
Stage 1	-	-	-	-	241	-
Stage 2	-	-	-	-	709	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	1326	-	289	798
Stage 1	-	-	-	-	799	-
Stage 2	-	-	-	-	488	-
Time blocked-Platoon, %	-	-		-		
Mov Capacity-1 Maneuver	-	-	1326	-	237	798
Mov Capacity-2 Maneuver	-	-	-	-	237	-
Stage 1	-	-	-	-	799	-
Stage 2	-	-	-	-	400	-

Approach	SE	NW	NE
HCM Control Delay, s	0	4.3	12.2
HCM LOS			B

Minor Lane / Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	604	1326	-	-	-
HCM Lane V/C Ratio	0.169	0.181	-	-	-
HCM Control Delay (s)	12.2	8.314	-	-	-
HCM Lane LOS	B	A			
HCM 95th %tile Q(veh)	0.602	0.66	-	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	4.5

Movement	SET	SER	NWL	NWT	NEL	NER
Vol, veh/h	227	61	97	290	50	128
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	214	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	77	70	81	80	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	261	79	139	358	62	145

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	261	0	896	261
Stage 1	-	-	-	-	261	-
Stage 2	-	-	-	-	635	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	1303	-	311	778
Stage 1	-	-	-	-	783	-
Stage 2	-	-	-	-	528	-
Time blocked-Platoon, %	-	-		-		
Mov Capacity-1 Maneuver	-	-	1303	-	278	778
Mov Capacity-2 Maneuver	-	-	-	-	278	-
Stage 1	-	-	-	-	783	-
Stage 2	-	-	-	-	472	-

Approach	SE	NW	NE
HCM Control Delay, s	0	2.3	17
HCM LOS			C

Minor Lane / Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	505	1303	-	-	-
HCM Lane V/C Ratio	0.412	0.106	-	-	-
HCM Control Delay (s)	17	8.091	-	-	-
HCM Lane LOS	C	A			
HCM 95th %tile Q(veh)	1.993	0.356	-	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	7.8

Movement	SET	SER	NWL	NWT	NEL	NER
Vol, veh/h	226	141	163	380	75	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	214	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	77	70	81	80	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	260	183	233	469	94	114

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	260	0	1195	260
Stage 1	-	-	-	-	260	-
Stage 2	-	-	-	-	935	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	1304	-	206	779
Stage 1	-	-	-	-	783	-
Stage 2	-	-	-	-	382	-
Time blocked-Platoon, %	-	-		-		
Mov Capacity-1 Maneuver	-	-	1304	-	169	779
Mov Capacity-2 Maneuver	-	-	-	-	169	-
Stage 1	-	-	-	-	783	-
Stage 2	-	-	-	-	314	-

Approach	SE	NW	NE
HCM Control Delay, s	0	2.8	41.3
HCM LOS			E

Minor Lane / Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	296	1304	-	-	-
HCM Lane V/C Ratio	0.701	0.179	-	-	-
HCM Control Delay (s)	41.3	8.36	-	-	-
HCM Lane LOS	E	A			
HCM 95th %tile Q(veh)	4.875	0.649	-	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	3.1

Movement	SET	SER	NWL	NWT	NEL	NER
Vol, veh/h	318	20	180	297	8	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	214	-	20	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	64	75	84	58	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	454	31	240	354	14	88

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	454	0	1288	454
Stage 1	-	-	-	-	454	-
Stage 2	-	-	-	-	834	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	1107	-	181	606
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	426	-
Time blocked-Platoon, %	-	-		-		
Mov Capacity-1 Maneuver	-	-	1107	-	142	606
Mov Capacity-2 Maneuver	-	-	-	-	142	-
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	334	-

Approach	SE	NW	NE
HCM Control Delay, s	0	3.7	14.8
HCM LOS			B

Minor Lane / Major Mvmt	NELn1	NELn2	NWL	NWT	SET	SER
Capacity (veh/h)	142	606	1107	-	-	-
HCM Lane V/C Ratio	0.097	0.145	0.217	-	-	-
HCM Control Delay (s)	33.1	11.9	9.15	-	-	-
HCM Lane LOS	D	B	A			
HCM 95th %tile Q(veh)	0.317	0.506	0.824	-	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	3.9

Movement	SET	SER	NWL	NWT	NEL	NER
Vol, veh/h	371	61	97	420	50	128
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	214	-	20	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	77	70	81	80	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	426	79	139	519	62	145

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	426	0	1222	426
Stage 1	-	-	-	-	426	-
Stage 2	-	-	-	-	796	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	1133	-	198	628
Stage 1	-	-	-	-	659	-
Stage 2	-	-	-	-	444	-
Time blocked-Platoon, %	-	-		-		
Mov Capacity-1 Maneuver	-	-	1133	-	174	628
Mov Capacity-2 Maneuver	-	-	-	-	174	-
Stage 1	-	-	-	-	659	-
Stage 2	-	-	-	-	390	-

Approach	SE	NW	NE
HCM Control Delay, s	0	1.8	19.8
HCM LOS			C

Minor Lane / Major Mvmt	NELn1	NELn2	NWL	NWT	SET	SER
Capacity (veh/h)	174	628	1133	-	-	-
HCM Lane V/C Ratio	0.359	0.232	0.122	-	-	-
HCM Control Delay (s)	36.9	12.5	8.62	-	-	-
HCM Lane LOS	E	B	A			
HCM 95th %tile Q(veh)	1.517	0.891	0.417	-	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	47

Movement	SET	SER	NWL	NWT	NEL	NER
Vol, veh/h	501	141	163	679	75	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	214	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	77	70	81	80	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	576	183	233	838	94	114

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	576	0	1880	576
Stage 1	-	-	-	-	576	-
Stage 2	-	-	-	-	1304	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	997	-	# 78	517
Stage 1	-	-	-	-	562	-
Stage 2	-	-	-	-	254	-
Time blocked-Platoon, %	-	-		-		
Mov Capacity-1 Maneuver	-	-	997	-	# 60	517
Mov Capacity-2 Maneuver	-	-	-	-	# 60	-
Stage 1	-	-	-	-	562	-
Stage 2	-	-	-	-	195	-

Approach	SE	NW	NE
HCM Control Delay, s	0	2.1	$ 450.8
HCM LOS			F

Minor Lane / Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	116	997	-	-	-
HCM Lane V/C Ratio	1.788	0.234	-	-	-
HCM Control Delay (s)	$ 450.8	9.708	-	-	-
HCM Lane LOS	F	A			
HCM 95th %tile Q(veh)	16.218	0.906	-	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	5.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	110	129	70	12	26	193
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	52	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	89	79	69	86	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	118	145	89	17	30	233

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	89	0	-	0	471	89
Stage 1	-	-	-	-	89	-
Stage 2	-	-	-	-	382	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1506	-	-	-	551	969
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	690	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1506	-	-	-	508	969
Mov Capacity-2 Maneuver	-	-	-	-	508	-
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	636	-

Approach	EB	WB	SB
HCM Control Delay, s	3.4	0	10.9
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1506	-	-	-	877
HCM Lane V/C Ratio	0.079	-	-	-	0.3
HCM Control Delay (s)	7.594	-	-	-	10.9
HCM Lane LOS	A				B
HCM 95th %tile Q(veh)	0.255	-	-	-	1.263

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	5.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	250	100	110	54	14	156
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	52	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	89	79	69	86	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	269	112	139	78	16	188

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	139	0	-	0	789	139
Stage 1	-	-	-	-	139	-
Stage 2	-	-	-	-	650	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1445	-	-	-	359	909
Stage 1	-	-	-	-	888	-
Stage 2	-	-	-	-	520	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1445	-	-	-	292	909
Mov Capacity-2 Maneuver	-	-	-	-	292	-
Stage 1	-	-	-	-	888	-
Stage 2	-	-	-	-	423	-

Approach	EB	WB	SB
HCM Control Delay, s	5.7	0	11.3
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1445	-	-	-	778
HCM Lane V/C Ratio	0.186	-	-	-	0.263
HCM Control Delay (s)	8.06	-	-	-	11.3
HCM Lane LOS	A				B
HCM 95th %tile Q(veh)	0.682	-	-	-	1.052

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	11.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	198	109	258	45	55	287
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	52	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	89	79	69	86	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	213	122	327	65	64	346

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	327	0	-	0	875	327
Stage 1	-	-	-	-	327	-
Stage 2	-	-	-	-	548	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1233	-	-	-	320	714
Stage 1	-	-	-	-	731	-
Stage 2	-	-	-	-	579	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1233	-	-	-	265	714
Mov Capacity-2 Maneuver	-	-	-	-	265	-
Stage 1	-	-	-	-	731	-
Stage 2	-	-	-	-	479	-

Approach	EB	WB	SB
HCM Control Delay, s	5.4	0	26.4
HCM LOS			D

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1233	-	-	-	565
HCM Lane V/C Ratio	0.173	-	-	-	0.725
HCM Control Delay (s)	8.528	-	-	-	26.4
HCM Lane LOS	A				D
HCM 95th %tile Q(veh)	0.623	-	-	-	6.038

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	260	129	70	12	26	298
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	52	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	89	79	69	86	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	280	145	89	17	30	359

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	89	0	-	0	793	89
Stage 1	-	-	-	-	89	-
Stage 2	-	-	-	-	704	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1506	-	-	-	358	969
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	490	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1506	-	-	-	291	969
Mov Capacity-2 Maneuver	-	-	-	-	291	-
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	399	-

Approach	EB	WB	SB
HCM Control Delay, s	5.2	0	13.3
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1506	-	-	-	821
HCM Lane V/C Ratio	0.186	-	-	-	0.474
HCM Control Delay (s)	7.935	-	-	-	13.3
HCM Lane LOS	A				B
HCM 95th %tile Q(veh)	0.681	-	-	-	2.581

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	7.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	394	100	110	54	14	285
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	52	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	89	79	69	86	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	424	112	139	78	16	343

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	139	0	-	0	1099	139
Stage 1	-	-	-	-	139	-
Stage 2	-	-	-	-	960	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1445	-	-	-	235	909
Stage 1	-	-	-	-	888	-
Stage 2	-	-	-	-	372	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1445	-	-	-	166	909
Mov Capacity-2 Maneuver	-	-	-	-	166	-
Stage 1	-	-	-	-	888	-
Stage 2	-	-	-	-	263	-

Approach	EB	WB	SB
HCM Control Delay, s	6.7	0	14
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1445	-	-	-	756
HCM Lane V/C Ratio	0.293	-	-	-	0.476
HCM Control Delay (s)	8.521	-	-	-	14
HCM Lane LOS	A				B
HCM 95th %tile Q(veh)	1.233	-	-	-	2.587

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	162.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	472	109	258	45	55	586
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	52	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	89	79	69	86	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	508	122	327	65	64	706

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	327	0	-	0	1465	327
Stage 1	-	-	-	-	327	-
Stage 2	-	-	-	-	1138	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1233	-	-	-	141	714
Stage 1	-	-	-	-	731	-
Stage 2	-	-	-	-	306	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1233	-	-	-	83	714
Mov Capacity-2 Maneuver	-	-	-	-	83	-
Stage 1	-	-	-	-	731	-
Stage 2	-	-	-	-	180	-

Approach	EB	WB	SB
HCM Control Delay, s	8	0	$ 372.4
HCM LOS			F

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1233	-	-	-	438
HCM Lane V/C Ratio	0.412	-	-	-	1.758
HCM Control Delay (s)	9.947	-	-	-	$ 372.4
HCM Lane LOS	A				F
HCM 95th %tile Q(veh)	2.052	-	-	-	47.567

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Vol, veh/h	38	98	79	4	95	35	75	75	4	53	75	33
Peak Hour Factor	0.75	0.75	0.77	0.66	0.68	0.78	0.88	0.74	0.65	0.56	0.62	0.63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	51	131	103	6	140	45	85	101	6	95	121	52
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	12.4	11	10.7	11
HCM LOS	B	B	B	B

Lane	NELn1	NELn2	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	100%	0%	3%	18%	100%	0%
Vol Thru, %	0%	95%	71%	46%	0%	69%
Vol Right, %	0%	5%	26%	37%	0%	31%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	75	79	134	215	53	108
LT Vol	0	75	95	98	0	75
Through Vol	0	4	35	79	0	33
RT Vol	75	0	4	38	53	0
Lane Flow Rate	85	108	191	284	95	173
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.161	0.187	0.296	0.426	0.176	0.288
Departure Headway (Hd)	6.813	6.267	5.595	5.397	6.7	5.974
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	525	571	641	664	535	600
Service Time	4.569	4.024	3.651	3.448	4.453	3.726
HCM Lane V/C Ratio	0.162	0.189	0.298	0.428	0.178	0.288
HCM Control Delay	10.9	10.5	11	12.4	10.9	11.1
HCM Lane LOS	B	B	B	B	B	B
HCM 95th-tile Q	0.6	0.7	1.2	2.1	0.6	1.2

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	17.2
Intersection LOS	C

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Vol, veh/h	64	72	93	3	73	44	155	115	6	46	105	68
Peak Hour Factor	0.39	0.75	0.75	0.76	0.63	0.70	0.76	0.75	0.69	0.82	0.70	0.55
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	164	96	124	4	116	63	204	153	9	56	150	124
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	21.9	13.6	14.9	16.2
HCM LOS	C	B	B	C

Lane	NELn1	NELn2	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	100%	0%	3%	28%	100%	0%
Vol Thru, %	0%	95%	61%	31%	0%	61%
Vol Right, %	0%	5%	37%	41%	0%	39%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	155	121	120	229	46	173
LT Vol	0	115	73	72	0	105
Through Vol	0	6	44	93	0	68
RT Vol	155	0	3	64	46	0
Lane Flow Rate	204	162	183	384	56	274
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.434	0.32	0.349	0.679	0.121	0.527
Departure Headway (Hd)	7.662	7.112	6.884	6.361	7.733	6.936
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	469	504	521	568	462	517
Service Time	5.43	4.88	4.959	4.418	5.499	4.701
HCM Lane V/C Ratio	0.435	0.321	0.351	0.676	0.121	0.53
HCM Control Delay	16.2	13.2	13.6	21.9	11.6	17.2
HCM Lane LOS	C	B	B	C	B	C
HCM 95th-tile Q	2.2	1.4	1.6	5.2	0.4	3

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	24.1
Intersection LOS	C

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Vol, veh/h	61	44	153	12	56	60	108	117	12	71	189	67
Peak Hour Factor	0.39	0.75	0.75	0.76	0.63	0.70	0.76	0.75	0.69	0.82	0.70	0.55
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	156	59	204	16	89	86	142	156	17	87	270	122
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	29.7	15.5	15.2	28.6
HCM LOS	D	C	C	D

Lane	NELn1	NELn2	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	100%	0%	9%	24%	100%	0%
Vol Thru, %	0%	91%	44%	17%	0%	74%
Vol Right, %	0%	9%	47%	59%	0%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	108	129	128	258	71	256
LT Vol	0	117	56	44	0	189
Through Vol	0	12	60	153	0	67
RT Vol	108	0	12	61	71	0
Lane Flow Rate	142	173	190	419	87	392
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.332	0.377	0.4	0.778	0.193	0.787
Departure Headway (Hd)	8.412	7.827	7.561	6.798	8.037	7.356
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	429	461	478	536	448	494
Service Time	6.128	5.543	5.578	4.798	5.761	5.056
HCM Lane V/C Ratio	0.331	0.375	0.397	0.782	0.194	0.794
HCM Control Delay	15.3	15.2	15.5	29.7	12.7	32.1
HCM Lane LOS	C	C	C	D	B	D
HCM 95th-tile Q	1.4	1.7	1.9	7.1	0.7	7.2

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	27.1
Intersection LOS	D

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Vol, veh/h	62	98	79	4	95	110	75	224	4	105	179	51
Peak Hour Factor	0.75	0.75	0.77	0.66	0.68	0.78	0.88	0.74	0.65	0.56	0.62	0.63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	83	131	103	6	140	141	85	303	6	187	289	81
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	26.9	23.2	25.7	30.2
HCM LOS	D	C	D	D

Lane	NELn1	NELn2	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	100%	0%	2%	26%	100%	0%
Vol Thru, %	0%	98%	45%	41%	0%	78%
Vol Right, %	0%	2%	53%	33%	0%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	75	228	209	239	105	230
LT Vol	0	224	95	98	0	179
Through Vol	0	4	110	79	0	51
RT Vol	75	0	4	62	105	0
Lane Flow Rate	85	309	287	316	187	370
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.208	0.709	0.625	0.691	0.445	0.808
Departure Headway (Hd)	8.794	8.262	7.847	7.875	8.548	7.868
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	407	435	459	458	420	458
Service Time	6.566	6.034	5.924	5.947	6.32	5.64
HCM Lane V/C Ratio	0.209	0.71	0.625	0.69	0.445	0.808
HCM Control Delay	13.9	28.9	23.2	26.9	18.1	36.4
HCM Lane LOS	B	D	C	D	C	E
HCM 95th-tile Q	0.8	5.4	4.2	5.2	2.2	7.5

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	54.9
Intersection LOS	F

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Vol, veh/h	88	72	93	3	73	116	155	259	6	111	234	90
Peak Hour Factor	0.39	0.75	0.75	0.76	0.63	0.70	0.76	0.75	0.69	0.82	0.70	0.55
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	226	96	124	4	116	166	204	345	9	135	334	164
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	74	32.5	42.4	62.6
HCM LOS	F	D	E	F

Lane	NELn1	NELn2	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	100%	0%	2%	35%	100%	0%
Vol Thru, %	0%	98%	38%	28%	0%	72%
Vol Right, %	0%	2%	60%	37%	0%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	155	265	192	253	111	324
LT Vol	0	259	73	72	0	234
Through Vol	0	6	116	93	0	90
RT Vol	155	0	3	88	111	0
Lane Flow Rate	204	354	286	446	135	498
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.545	0.895	0.722	1	0.358	1
Departure Headway (Hd)	9.62	9.104	9.101	8.567	9.519	8.825
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	375	400	400	423	378	413
Service Time	7.365	6.849	7.136	6.652	7.288	6.594
HCM Lane V/C Ratio	0.544	0.885	0.715	1.054	0.357	1.206
HCM Control Delay	23.4	53.4	32.5	74	17.5	74.9
HCM Lane LOS	C	F	D	F	C	F
HCM 95th-tile Q	3.1	9.2	5.5	12.5	1.6	12.3

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	70.4
Intersection LOS	F

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Vol, veh/h	106	44	153	12	56	197	108	391	12	220	488	117
Peak Hour Factor	0.39	0.75	0.75	0.76	0.63	0.70	0.76	0.75	0.69	0.82	0.70	0.55
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	272	59	204	16	89	281	142	521	17	268	697	213
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	77.2	72.7	66.1	69
HCM LOS	F	F	F	F

Lane	NELn1	NELn2	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	100%	0%	5%	35%	100%	0%
Vol Thru, %	0%	97%	21%	15%	0%	81%
Vol Right, %	0%	3%	74%	50%	0%	19%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	108	403	265	303	220	605
LT Vol	0	391	56	44	0	488
Through Vol	0	12	197	153	0	117
RT Vol	108	0	12	106	220	0
Lane Flow Rate	142	539	386	534	268	910
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.403	1	0.985	1	0.76	1
Departure Headway (Hd)	10.2	9.679	9.186	9.353	10.199	9.564
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	355	382	398	396	357	391
Service Time	7.9	7.379	7.186	7.353	7.899	7.264
HCM Lane V/C Ratio	0.4	1.411	0.97	1.348	0.751	2.327
HCM Control Delay	19.6	78.4	72.7	77.2	38.9	77.9
HCM Lane LOS	C	F	F	F	E	F
HCM 95th-tile Q	1.9	11.8	11.7	12	6	11.9

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	4.1

Movement	SET	SER	NWL	NWT	NEL	NER
Vol, veh/h	190	22	203	216	9	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	214	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	64	75	84	58	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	271	34	271	257	16	100

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	271	0	1069	271
Stage 1	-	-	-	-	271	-
Stage 2	-	-	-	-	798	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	1292	-	245	768
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	443	-
Time blocked-Platoon, %	-	-		-		
Mov Capacity-1 Maneuver	-	-	1292	-	194	768
Mov Capacity-2 Maneuver	-	-	-	-	194	-
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	350	-

Approach	SE	NW	NE
HCM Control Delay, s	0	4.4	13.3
HCM LOS			B

Minor Lane / Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	550	1292	-	-	-
HCM Lane V/C Ratio	0.21	0.209	-	-	-
HCM Control Delay (s)	13.3	8.523	-	-	-
HCM Lane LOS	B	A			
HCM 95th %tile Q(veh)	0.786	0.79	-	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	5.3

Movement	SET	SER	NWL	NWT	NEL	NER
Vol, veh/h	256	68	109	327	56	144
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	214	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	77	70	81	80	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	294	88	156	404	70	164

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	294	0	1009	294
Stage 1	-	-	-	-	294	-
Stage 2	-	-	-	-	715	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	1268	-	266	745
Stage 1	-	-	-	-	756	-
Stage 2	-	-	-	-	485	-
Time blocked-Platoon, %	-	-		-		
Mov Capacity-1 Maneuver	-	-	1268	-	233	745
Mov Capacity-2 Maneuver	-	-	-	-	233	-
Stage 1	-	-	-	-	756	-
Stage 2	-	-	-	-	425	-

Approach	SE	NW	NE
HCM Control Delay, s	0	2.3	21.4
HCM LOS			C

Minor Lane / Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	449	1268	-	-	-
HCM Lane V/C Ratio	0.52	0.123	-	-	-
HCM Control Delay (s)	21.4	8.236	-	-	-
HCM Lane LOS	C	A			
HCM 95th %tile Q(veh)	2.935	0.419	-	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	41.9

Movement	SET	SER	NWL	NWT	NEL	NER
Vol, veh/h	255	159	184	428	85	113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	214	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	64	75	84	58	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	364	248	245	510	147	151

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	364	0	1364	364
Stage 1	-	-	-	-	364	-
Stage 2	-	-	-	-	1000	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	1195	-	163	681
Stage 1	-	-	-	-	703	-
Stage 2	-	-	-	-	356	-
Time blocked-Platoon, %	-	-		-		
Mov Capacity-1 Maneuver	-	-	1195	-	# 130	681
Mov Capacity-2 Maneuver	-	-	-	-	# 130	-
Stage 1	-	-	-	-	703	-
Stage 2	-	-	-	-	283	-

Approach	SE	NW	NE
HCM Control Delay, s	0	2.9	227.6
HCM LOS			F

Minor Lane / Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	220	1195	-	-	-
HCM Lane V/C Ratio	1.351	0.205	-	-	-
HCM Control Delay (s)	227.6	8.789	-	-	-
HCM Lane LOS	F	A			
HCM 95th %tile Q(veh)	16.434	0.77	-	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	4

Movement	SET	SER	NWL	NWT	NEL	NER
Vol, veh/h	490	22	203	453	9	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	214	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	64	75	84	58	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	700	34	271	539	16	100

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	700	0	1781	700
Stage 1	-	-	-	-	700	-
Stage 2	-	-	-	-	1081	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	897	-	90	439
Stage 1	-	-	-	-	493	-
Stage 2	-	-	-	-	326	-
Time blocked-Platoon, %	-	-		-		
Mov Capacity-1 Maneuver	-	-	897	-	63	439
Mov Capacity-2 Maneuver	-	-	-	-	63	-
Stage 1	-	-	-	-	493	-
Stage 2	-	-	-	-	228	-

Approach	SE	NW	NE
HCM Control Delay, s	0	3.6	32.4
HCM LOS			D

Minor Lane / Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	244	897	-	-	-
HCM Lane V/C Ratio	0.473	0.302	-	-	-
HCM Control Delay (s)	32.4	10.738	-	-	-
HCM Lane LOS	D	B			
HCM 95th %tile Q(veh)	2.353	1.276	-	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	21.3

Movement	SET	SER	NWL	NWT	NEL	NER
Vol, veh/h	566	68	109	587	56	144
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	214	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	77	70	81	80	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	651	88	156	725	70	164

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	651	0	1687	651
Stage 1	-	-	-	-	651	-
Stage 2	-	-	-	-	1036	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	935	-	103	469
Stage 1	-	-	-	-	519	-
Stage 2	-	-	-	-	342	-
Time blocked-Platoon, %	-	-		-		
Mov Capacity-1 Maneuver	-	-	935	-	86	469
Mov Capacity-2 Maneuver	-	-	-	-	86	-
Stage 1	-	-	-	-	519	-
Stage 2	-	-	-	-	285	-

Approach	SE	NW	NE
HCM Control Delay, s	0	1.7	162.9
HCM LOS			F

Minor Lane / Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	201	935	-	-	-
HCM Lane V/C Ratio	1.162	0.167	-	-	-
HCM Control Delay (s)	162.9	9.618	-	-	-
HCM Lane LOS	F	A			
HCM 95th %tile Q(veh)	11.62	0.596	-	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	591.6

Movement	SET	SER	NWL	NWT	NEL	NER
Vol, veh/h	819	159	184	1006	85	113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	214	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	64	75	84	58	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1170	248	245	1198	147	151

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1170	0	2858	1170
Stage 1	-	-	-	-	1170	-
Stage 2	-	-	-	-	1688	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	597	-	# 19	235
Stage 1	-	-	-	-	295	-
Stage 2	-	-	-	-	165	-
Time blocked-Platoon, %	-	-		-		
Mov Capacity-1 Maneuver	-	-	597	-	# 11	235
Mov Capacity-2 Maneuver	-	-	-	-	# 11	-
Stage 1	-	-	-	-	295	-
Stage 2	-	-	-	-	# 97	-

Approach	SE	NW	NE
HCM Control Delay, s	0	2.6	$ 6274.4
HCM LOS			F

Minor Lane / Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	21	597	-	-	-
HCM Lane V/C Ratio	14.153	0.411	-	-	-
HCM Control Delay (s)	$ 6274.4	15.172	-	-	-
HCM Lane LOS	F	C			
HCM 95th %tile Q(veh)	37.5	2.002	-	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	6.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	124	145	78	14	30	218
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	52	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	89	79	69	86	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	133	163	99	20	35	263

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	99	0	-	0	529	99
Stage 1	-	-	-	-	99	-
Stage 2	-	-	-	-	430	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1494	-	-	-	510	957
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	656	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1494	-	-	-	465	957
Mov Capacity-2 Maneuver	-	-	-	-	465	-
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	598	-

Approach	EB	WB	SB
HCM Control Delay, s	3.4	0	11.5
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1494	-	-	-	851
HCM Lane V/C Ratio	0.089	-	-	-	0.35
HCM Control Delay (s)	7.646	-	-	-	11.5
HCM Lane LOS	A				B
HCM 95th %tile Q(veh)	0.293	-	-	-	1.577

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	5.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	281	113	124	61	16	175
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	52	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	89	79	69	86	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	302	127	157	88	19	211

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	157	0	-	0	888	157
Stage 1	-	-	-	-	157	-
Stage 2	-	-	-	-	731	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1423	-	-	-	314	889
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	476	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1423	-	-	-	247	889
Mov Capacity-2 Maneuver	-	-	-	-	247	-
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	375	-

Approach	EB	WB	SB
HCM Control Delay, s	5.8	0	12.1
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1423	-	-	-	734
HCM Lane V/C Ratio	0.212	-	-	-	0.313
HCM Control Delay (s)	8.211	-	-	-	12.1
HCM Lane LOS	A				B
HCM 95th %tile Q(veh)	0.804	-	-	-	1.336

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	18.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	223	123	291	51	62	323
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	52	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	89	79	69	86	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	240	138	368	74	72	389

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	368	0	-	0	986	368
Stage 1	-	-	-	-	368	-
Stage 2	-	-	-	-	618	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1191	-	-	-	275	677
Stage 1	-	-	-	-	700	-
Stage 2	-	-	-	-	538	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1191	-	-	-	220	677
Mov Capacity-2 Maneuver	-	-	-	-	220	-
Stage 1	-	-	-	-	700	-
Stage 2	-	-	-	-	430	-

Approach	EB	WB	SB
HCM Control Delay, s	5.6	0	47.9
HCM LOS			E

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1191	-	-	-	511
HCM Lane V/C Ratio	0.201	-	-	-	0.903
HCM Control Delay (s)	8.783	-	-	-	47.9
HCM Lane LOS	A				E
HCM 95th %tile Q(veh)	0.751	-	-	-	10.405

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	15.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	424	145	78	14	30	454
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	52	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	89	79	69	86	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	456	163	99	20	35	547

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	99	0	-	0	1174	99
Stage 1	-	-	-	-	99	-
Stage 2	-	-	-	-	1075	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1494	-	-	-	212	957
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	328	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1494	-	-	-	147	957
Mov Capacity-2 Maneuver	-	-	-	-	147	-
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	228	-

Approach	EB	WB	SB
HCM Control Delay, s	6.2	0	27.6
HCM LOS			D

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1494	-	-	-	719
HCM Lane V/C Ratio	0.305	-	-	-	0.809
HCM Control Delay (s)	8.464	-	-	-	27.6
HCM Lane LOS	A				D
HCM 95th %tile Q(veh)	1.304	-	-	-	8.507

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	16.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	591	113	124	61	16	436
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	52	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	89	79	69	86	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	635	127	157	88	19	525

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	157	0	-	0	1555	157
Stage 1	-	-	-	-	157	-
Stage 2	-	-	-	-	1398	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1423	-	-	-	124	889
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	229	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1423	-	-	-	69	889
Mov Capacity-2 Maneuver	-	-	-	-	69	-
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	127	-

Approach	EB	WB	SB
HCM Control Delay, s	8	0	35.8
HCM LOS			E

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1423	-	-	-	632
HCM Lane V/C Ratio	0.447	-	-	-	0.861
HCM Control Delay (s)	9.555	-	-	-	35.8
HCM Lane LOS	A				E
HCM 95th %tile Q(veh)	2.364	-	-	-	9.8

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1184.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	787	123	291	51	62	902
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	52	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	89	79	69	86	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	846	138	368	74	72	1087

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	368	0	-	0	2199	368
Stage 1	-	-	-	-	368	-
Stage 2	-	-	-	-	1831	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1191	-	-	-	# 49	# 677
Stage 1	-	-	-	-	700	-
Stage 2	-	-	-	-	140	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1191	-	-	-	# 14	# 677
Mov Capacity-2 Maneuver	-	-	-	-	# 14	-
Stage 1	-	-	-	-	700	-
Stage 2	-	-	-	-	# 41	-

Approach	EB	WB	SB
HCM Control Delay, s	12.9	0	$ 2632.1
HCM LOS			F

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1191	-	-	-	172
HCM Lane V/C Ratio	0.711	-	-	-	6.737
HCM Control Delay (s)	15.062	-	-	-	$ 2632.1
HCM Lane LOS	C				F
HCM 95th %tile Q(veh)	6.41	-	-	-	126.783

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	12.8
Intersection LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Vol, veh/h	42	111	90	5	107	40	85	85	5	60	85	37
Peak Hour Factor	0.75	0.75	0.77	0.66	0.68	0.78	0.88	0.74	0.65	0.56	0.62	0.63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	56	148	117	8	157	51	97	115	8	107	137	59
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	14.5	12.3	11.5	12.2
HCM LOS	B	B	B	B

Lane	NELn1	NELn2	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	100%	0%	3%	17%	100%	0%
Vol Thru, %	0%	94%	70%	46%	0%	70%
Vol Right, %	0%	6%	26%	37%	0%	30%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	85	90	152	243	60	122
LT Vol	0	85	107	111	0	85
Through Vol	0	5	40	90	0	37
RT Vol	85	0	5	42	60	0
Lane Flow Rate	97	123	216	321	107	196
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.192	0.225	0.356	0.506	0.209	0.342
Departure Headway (Hd)	7.154	6.603	5.92	5.682	7.018	6.29
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	498	539	603	629	509	568
Service Time	4.944	4.392	4.009	3.763	4.802	4.074
HCM Lane V/C Ratio	0.195	0.228	0.358	0.51	0.21	0.345
HCM Control Delay	11.7	11.3	12.3	14.5	11.7	12.4
HCM Lane LOS	B	B	B	B	B	B
HCM 95th-tile Q	0.7	0.9	1.6	2.9	0.8	1.5

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	24.5
Intersection LOS	C

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Vol, veh/h	72	81	104	4	82	50	174	129	6	52	118	77
Peak Hour Factor	0.39	0.75	0.75	0.76	0.63	0.70	0.76	0.75	0.69	0.82	0.70	0.55
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	185	108	139	5	130	71	229	172	9	63	169	140
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	36.4	16.8	18.3	21.9
HCM LOS	E	C	C	C

Lane	NELn1	NELn2	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	100%	0%	3%	28%	100%	0%
Vol Thru, %	0%	96%	60%	32%	0%	61%
Vol Right, %	0%	4%	37%	40%	0%	39%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	174	135	136	257	52	195
LT Vol	0	129	82	81	0	118
Through Vol	0	6	50	104	0	77
RT Vol	174	0	4	72	52	0
Lane Flow Rate	229	181	207	431	63	309
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.534	0.394	0.443	0.836	0.149	0.654
Departure Headway (Hd)	8.391	7.841	7.704	6.976	8.436	7.632
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	430	459	467	518	425	472
Service Time	6.148	5.598	5.769	5.026	6.191	5.387
HCM Lane V/C Ratio	0.533	0.394	0.443	0.832	0.148	0.655
HCM Control Delay	20.4	15.6	16.8	36.4	12.7	23.8
HCM Lane LOS	C	C	C	E	B	C
HCM 95th-tile Q	3.1	1.9	2.2	8.5	0.5	4.6

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	32.6
Intersection LOS	D

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Vol, veh/h	68	50	173	14	63	67	122	132	14	80	213	76
Peak Hour Factor	0.75	0.75	0.77	0.66	0.68	0.78	0.88	0.74	0.65	0.56	0.62	0.63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	91	67	225	21	93	86	139	178	22	143	344	121
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	30.1	17.2	16.7	48.1
HCM LOS	D	C	C	E

Lane	NELn1	NELn2	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	100%	0%	10%	23%	100%	0%
Vol Thru, %	0%	90%	44%	17%	0%	74%
Vol Right, %	0%	10%	47%	59%	0%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	122	146	144	291	80	289
LT Vol	0	132	63	50	0	213
Through Vol	0	14	67	173	0	76
RT Vol	122	0	14	68	80	0
Lane Flow Rate	139	200	200	382	143	464
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.334	0.449	0.441	0.765	0.323	0.958
Departure Headway (Hd)	8.68	8.092	7.939	7.206	8.139	7.433
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	415	444	453	500	441	487
Service Time	6.442	5.853	6.005	5.256	5.892	5.186
HCM Lane V/C Ratio	0.335	0.45	0.442	0.764	0.324	0.953
HCM Control Delay	15.8	17.3	17.2	30.1	14.8	58.3
HCM Lane LOS	C	C	C	D	B	F
HCM 95th-tile Q	1.4	2.3	2.2	6.7	1.4	11.9

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	72.9
Intersection LOS	F

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Vol, veh/h	92	111	90	5	107	190	85	385	5	178	321	77
Peak Hour Factor	0.75	0.75	0.77	0.66	0.68	0.78	0.88	0.74	0.65	0.56	0.62	0.63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	123	148	117	8	157	244	97	520	8	318	518	122
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	77.9	76.8	69	71.8
HCM LOS	F	F	F	F

Lane	NELn1	NELn2	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	100%	0%	2%	31%	100%	0%
Vol Thru, %	0%	99%	35%	38%	0%	81%
Vol Right, %	0%	1%	63%	31%	0%	19%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	85	390	302	293	178	398
LT Vol	0	385	107	111	0	321
Through Vol	0	5	190	90	0	77
RT Vol	85	0	5	92	178	0
Lane Flow Rate	97	528	409	388	318	640
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.274	1	1	1	0.903	1
Departure Headway (Hd)	10.228	9.719	9.249	9.501	10.228	9.593
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	354	380	396	384	356	384
Service Time	7.928	7.419	7.249	7.501	7.928	7.293
HCM Lane V/C Ratio	0.274	1.389	1.033	1.01	0.893	1.667
HCM Control Delay	16.7	78.6	76.8	77.9	59.2	78
HCM Lane LOS	C	F	F	F	F	F
HCM 95th-tile Q	1.1	11.8	12.1	11.9	9	11.9

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	70
Intersection LOS	F

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Vol, veh/h	124	81	104	4	82	205	174	439	6	182	379	120
Peak Hour Factor	0.39	0.75	0.75	0.76	0.63	0.70	0.76	0.75	0.69	0.82	0.70	0.55
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	318	108	139	5	130	293	229	585	9	222	541	218
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	77.9	76.6	65.1	66.7
HCM LOS	F	F	F	F

Lane	NELn1	NELn2	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	100%	0%	1%	40%	100%	0%
Vol Thru, %	0%	99%	28%	26%	0%	76%
Vol Right, %	0%	1%	70%	34%	0%	24%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	174	445	291	309	182	499
LT Vol	0	439	82	81	0	379
Through Vol	0	6	205	104	0	120
RT Vol	174	0	4	124	182	0
Lane Flow Rate	229	594	428	565	222	760
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.65	1	1	1	0.631	1
Departure Headway (Hd)	10.228	9.719	9.203	9.501	10.228	9.56
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	355	380	398	390	355	387
Service Time	7.928	7.419	7.203	7.501	7.928	7.26
HCM Lane V/C Ratio	0.645	1.563	1.075	1.449	0.625	1.964
HCM Control Delay	30.1	78.6	76.6	77.9	28.9	77.8
HCM Lane LOS	D	F	F	F	D	F
HCM 95th-tile Q	4.3	11.8	12.1	11.9	4.1	11.9

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	76.4
Intersection LOS	F

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Vol, veh/h	162	50	173	14	63	349	122	696	14	369	791	172
Peak Hour Factor	0.75	0.75	0.77	0.66	0.68	0.78	0.88	0.74	0.65	0.56	0.62	0.63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	216	67	225	21	93	447	139	941	22	659	1276	273
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	77.6	76.3	71.1	78.8
HCM LOS	F	F	F	F

Lane	NELn1	NELn2	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	100%	0%	3%	42%	100%	0%
Vol Thru, %	0%	98%	15%	13%	0%	82%
Vol Right, %	0%	2%	82%	45%	0%	18%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	122	710	426	385	369	963
LT Vol	0	696	63	50	0	791
Through Vol	0	14	349	173	0	172
RT Vol	122	0	14	162	369	0
Lane Flow Rate	139	962	561	507	659	1549
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.394	1	1	1	1	1
Departure Headway (Hd)	10.231	9.717	9.144	9.443	10.228	9.603
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	354	385	404	391	362	403
Service Time	7.931	7.417	7.144	7.443	7.928	7.303
HCM Lane V/C Ratio	0.393	2.499	1.389	1.297	1.82	3.844
HCM Control Delay	19.4	78.5	76.3	77.6	80.8	78
HCM Lane LOS	C	F	F	F	F	F
HCM 95th-tile Q	1.8	11.8	12.2	12	11.5	11.9

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Volume (veh/h)	226	141	163	380	75	100
Number	6	16	5	2	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	1
Cap, veh/h	945	804	729	945	232	207
Arrive On Green	0.51	0.51	0.51	0.51	0.13	0.13
Sat Flow, veh/h	1863	1583	943	1863	1774	1583
Grp Volume(v), veh/h	260	183	233	469	94	114
Grp Sat Flow(s),veh/h/ln	1863	1583	943	1863	1774	1583
Q Serve(g_s), s	1.8	1.4	4.2	3.7	1.1	1.5
Cycle Q Clear(g_c), s	1.8	1.4	5.9	3.7	1.1	1.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	945	804	729	945	232	207
V/C Ratio(X)	0.28	0.23	0.32	0.50	0.41	0.55
Avail Cap(c_a), veh/h	1349	1146	933	1349	1284	1146
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	3.1	3.0	4.8	3.6	8.8	9.0
Incr Delay (d2), s/veh	0.2	0.1	0.3	0.4	1.1	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.0	0.0	0.2	0.1	0.4	0.5
Lane Grp Delay (d), s/veh	3.3	3.2	5.1	4.0	10.0	11.3
Lane Grp LOS	A	A	A	A	A	B
Approach Vol, veh/h	443			702	208	
Approach Delay, s/veh	3.2			4.3	10.7	
Approach LOS	A			A	B	

Timer						
Assigned Phs	6			2		
Phs Duration (G+Y+Rc), s	15.2			15.2		
Change Period (Y+Rc), s	4.0			4.0		
Max Green Setting (Gmax), s	16.0			16.0		
Max Q Clear Time (g_c+I1), s	3.8			7.9		
Green Ext Time (p_c), s	4.2			3.3		

Intersection Summary						
HCM 2010 Ctrl Delay			5.0			
HCM 2010 LOS			A			

Notes

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Volume (vph)	501	141	163	679	75	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.93	
Flt Protected	1.00	1.00	0.95	1.00	0.98	
Satd. Flow (prot)	1863	1583	1770	1863	1693	
Flt Permitted	1.00	1.00	0.27	1.00	0.98	
Satd. Flow (perm)	1863	1583	500	1863	1693	
Peak-hour factor, PHF	0.70	0.64	0.75	0.84	0.58	0.75
Adj. Flow (vph)	716	220	217	808	129	133
RTOR Reduction (vph)	0	96	0	0	80	0
Lane Group Flow (vph)	716	124	217	808	182	0
Turn Type	NA	Perm	Perm	NA	NA	
Protected Phases	6			2	4	
Permitted Phases		6	2			
Actuated Green, G (s)	20.3	20.3	20.3	20.3	7.8	
Effective Green, g (s)	20.3	20.3	20.3	20.3	7.8	
Actuated g/C Ratio	0.56	0.56	0.56	0.56	0.22	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1047	890	281	1047	365	
v/s Ratio Prot	0.38			0.43	c0.11	
v/s Ratio Perm		0.08	c0.43			
v/c Ratio	0.68	0.14	0.77	0.77	0.50	
Uniform Delay, d1	5.6	3.8	6.1	6.1	12.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.9	0.1	12.4	3.6	1.1	
Delay (s)	7.5	3.8	18.5	9.7	13.5	
Level of Service	A	A	B	A	B	
Approach Delay (s)	6.6			11.6	13.5	
Approach LOS	A			B	B	

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	36.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Volume (veh/h)	255	159	184	428	85	113
Number	6	16	5	2	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	1
Cap, veh/h	1043	887	614	1043	291	260
Arrive On Green	0.56	0.56	0.56	0.56	0.16	0.16
Sat Flow, veh/h	1863	1583	806	1863	1774	1583
Grp Volume(v), veh/h	364	248	245	510	147	151
Grp Sat Flow(s),veh/h/ln	1863	1583	806	1863	1774	1583
Q Serve(g_s), s	3.1	2.4	6.9	4.8	2.2	2.6
Cycle Q Clear(g_c), s	3.1	2.4	10.0	4.8	2.2	2.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1043	887	614	1043	291	260
V/C Ratio(X)	0.35	0.28	0.40	0.49	0.50	0.58
Avail Cap(c_a), veh/h	1349	1147	746	1349	979	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	3.5	3.3	6.2	3.9	11.0	11.2
Incr Delay (d2), s/veh	0.2	0.2	0.4	0.4	1.4	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.3	0.2	0.5	0.4	0.8	0.9
Lane Grp Delay (d), s/veh	3.7	3.5	6.7	4.2	12.4	13.2
Lane Grp LOS	A	A	A	A	B	B
Approach Vol, veh/h	612			755	298	
Approach Delay, s/veh	3.6			5.0	12.8	
Approach LOS	A			A	B	

Timer						
Assigned Phs	6			2		
Phs Duration (G+Y+Rc), s	20.2			20.2		
Change Period (Y+Rc), s	4.0			4.0		
Max Green Setting (Gmax), s	21.0			21.0		
Max Q Clear Time (g_c+I1), s	5.1			12.0		
Green Ext Time (p_c), s	5.8			4.2		

Intersection Summary						
HCM 2010 Ctrl Delay			5.9			
HCM 2010 LOS			A			

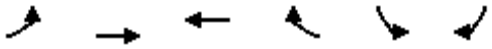
Notes

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Volume (veh/h)	819	159	184	1006	85	113
Number	6	16	5	2	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	1
Cap, veh/h	1540	1309	258	1540	197	175
Arrive On Green	0.83	0.83	0.83	0.83	0.11	0.11
Sat Flow, veh/h	1863	1583	377	1863	1774	1583
Grp Volume(v), veh/h	1170	248	245	1198	147	151
Grp Sat Flow(s),veh/h/ln	1863	1583	377	1863	1774	1583
Q Serve(g_s), s	37.5	4.1	68.5	40.0	10.3	12.0
Cycle Q Clear(g_c), s	37.5	4.1	106.0	40.0	10.3	12.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1540	1309	258	1540	197	175
V/C Ratio(X)	0.76	0.19	0.95	0.78	0.75	0.86
Avail Cap(c_a), veh/h	1540	1309	258	1540	221	198
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.2	2.3	36.0	5.4	55.3	56.0
Incr Delay (d2), s/veh	2.3	0.1	42.7	2.6	11.6	27.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	11.4	1.0	10.9	12.1	5.3	6.2
Lane Grp Delay (d), s/veh	7.4	2.4	78.7	8.0	66.9	83.7
Lane Grp LOS	A	A	E	A	E	F
Approach Vol, veh/h	1418			1443	298	
Approach Delay, s/veh	6.5			20.0	75.4	
Approach LOS	A			B	E	

Timer						
Assigned Phs	6			2		
Phs Duration (G+Y+Rc), s	110.0			110.0		
Change Period (Y+Rc), s	4.0			4.0		
Max Green Setting (Gmax), s	106.0			106.0		
Max Q Clear Time (g_c+I1), s	39.5			108.0		
Green Ext Time (p_c), s	44.1			0.0		

Intersection Summary						
HCM 2010 Ctrl Delay			19.2			
HCM 2010 LOS			B			

Notes

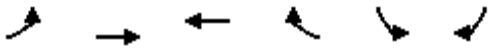


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	198	109	258	45	55	287
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	1
Cap, veh/h	552	805	805	684	526	469
Arrive On Green	0.43	0.43	0.43	0.43	0.30	0.30
Sat Flow, veh/h	988	1863	1863	1583	1774	1583
Grp Volume(v), veh/h	213	122	327	65	64	346
Grp Sat Flow(s),veh/h/ln	988	1863	1863	1583	1774	1583
Q Serve(g_s), s	5.6	1.2	3.6	0.7	0.8	5.8
Cycle Q Clear(g_c), s	9.1	1.2	3.6	0.7	0.8	5.8
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	552	805	805	684	526	469
V/C Ratio(X)	0.39	0.15	0.41	0.09	0.12	0.74
Avail Cap(c_a), veh/h	661	1011	1011	859	963	859
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.9	5.1	5.8	5.0	7.6	9.3
Incr Delay (d2), s/veh	0.4	0.1	0.3	0.1	0.1	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.1	0.4	1.2	0.2	0.3	1.9
Lane Grp Delay (d), s/veh	9.4	5.2	6.1	5.0	7.7	11.6
Lane Grp LOS	A	A	A	A	A	B
Approach Vol, veh/h		335	392		410	
Approach Delay, s/veh		7.8	5.9		11.0	
Approach LOS		A	A		B	

Timer		
Assigned Phs	4	8
Phs Duration (G+Y+Rc), s	16.7	16.7
Change Period (Y+Rc), s	4.0	4.0
Max Green Setting (Gmax), s	16.0	16.0
Max Q Clear Time (g_c+I1), s	11.1	5.6
Green Ext Time (p_c), s	1.6	2.7

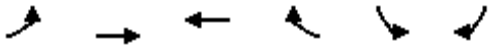
Intersection Summary	
HCM 2010 Ctrl Delay	8.3
HCM 2010 LOS	A

Notes



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	472	109	258	45	55	586
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	0.88	
Flt Protected	0.95	1.00	1.00	1.00	1.00	
Satd. Flow (prot)	1770	1863	1863	1583	1625	
Flt Permitted	0.54	1.00	1.00	1.00	1.00	
Satd. Flow (perm)	999	1863	1863	1583	1625	
Peak-hour factor, PHF	0.93	0.89	0.79	0.69	0.86	0.83
Adj. Flow (vph)	508	122	327	65	64	706
RTOR Reduction (vph)	0	0	0	34	295	0
Lane Group Flow (vph)	508	122	327	31	475	0
Turn Type	Perm	NA	NA	Perm	NA	
Protected Phases		4	8		6	
Permitted Phases	4			8		
Actuated Green, G (s)	21.1	21.1	21.1	21.1	14.5	
Effective Green, g (s)	21.1	21.1	21.1	21.1	14.5	
Actuated g/C Ratio	0.48	0.48	0.48	0.48	0.33	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	483	901	901	766	540	
v/s Ratio Prot		0.07	0.18		c0.29	
v/s Ratio Perm	c0.51			0.02		
v/c Ratio	1.05	0.14	0.36	0.04	0.88	
Uniform Delay, d1	11.2	6.2	7.0	5.9	13.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	55.2	0.1	0.3	0.0	15.1	
Delay (s)	66.5	6.3	7.3	5.9	28.8	
Level of Service	E	A	A	A	C	
Approach Delay (s)		54.8	7.1		28.8	
Approach LOS		D	A		C	

Intersection Summary			
HCM 2000 Control Delay	33.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	43.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

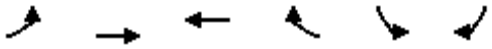


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	223	123	291	51	62	323
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	1
Cap, veh/h	522	877	877	745	544	486
Arrive On Green	0.47	0.47	0.47	0.47	0.31	0.31
Sat Flow, veh/h	944	1863	1863	1583	1774	1583
Grp Volume(v), veh/h	240	138	368	74	72	389
Grp Sat Flow(s),veh/h/ln	944	1863	1863	1583	1774	1583
Q Serve(g_s), s	8.1	1.5	4.7	0.9	1.1	8.1
Cycle Q Clear(g_c), s	12.8	1.5	4.7	0.9	1.1	8.1
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	522	877	877	745	544	486
V/C Ratio(X)	0.46	0.16	0.42	0.10	0.13	0.80
Avail Cap(c_a), veh/h	629	1088	1088	925	790	705
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.5	5.4	6.3	5.3	9.0	11.5
Incr Delay (d2), s/veh	0.6	0.1	0.3	0.1	0.1	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.4	0.4	1.4	0.2	0.4	3.1
Lane Grp Delay (d), s/veh	11.1	5.5	6.6	5.3	9.1	15.7
Lane Grp LOS	B	A	A	A	A	B
Approach Vol, veh/h		378	442		461	
Approach Delay, s/veh		9.1	6.4		14.7	
Approach LOS		A	A		B	

Timer		
Assigned Phs	4	8
Phs Duration (G+Y+Rc), s	20.9	20.9
Change Period (Y+Rc), s	4.0	4.0
Max Green Setting (Gmax), s	21.0	21.0
Max Q Clear Time (g_c+I1), s	14.8	6.7
Green Ext Time (p_c), s	2.2	3.4

Intersection Summary	
HCM 2010 Ctrl Delay	10.2
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	787	123	291	51	62	115
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	1
Cap, veh/h	811	1576	1576	1339	178	159
Arrive On Green	0.85	0.85	0.85	0.85	0.10	0.10
Sat Flow, veh/h	944	1863	1863	1583	1774	1583
Grp Volume(v), veh/h	846	138	368	74	72	139
Grp Sat Flow(s),veh/h/ln	944	1863	1863	1583	1774	1583
Q Serve(g_s), s	120.3	1.8	5.7	1.1	5.7	12.9
Cycle Q Clear(g_c), s	126.0	1.8	5.7	1.1	5.7	12.9
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	811	1576	1576	1339	178	159
V/C Ratio(X)	1.04	0.09	0.23	0.06	0.40	0.87
Avail Cap(c_a), veh/h	811	1576	1576	1339	191	170
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.9	1.9	2.2	1.9	62.8	66.1
Incr Delay (d2), s/veh	43.6	0.0	0.1	0.0	1.5	34.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	41.1	0.6	1.8	0.3	2.7	6.9
Lane Grp Delay (d), s/veh	61.5	1.9	2.3	1.9	64.3	100.7
Lane Grp LOS	F	A	A	A	E	F
Approach Vol, veh/h		984	442		211	
Approach Delay, s/veh		53.1	2.2		88.3	
Approach LOS		D	A		F	

Timer		
Assigned Phs	4	8
Phs Duration (G+Y+Rc), s	130.0	130.0
Change Period (Y+Rc), s	4.0	4.0
Max Green Setting (Gmax), s	126.0	126.0
Max Q Clear Time (g_c+I1), s	128.0	7.7
Green Ext Time (p_c), s	0.0	8.1

Intersection Summary	
HCM 2010 Ctrl Delay	43.9
HCM 2010 LOS	D

Notes

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	61	44	153	12	56	60	108	117	12	71	189	67
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	190.0	186.3	190.0	190.0	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Cap, veh/h	309	115	263	136	315	274	446	669	73	628	493	223
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	455	322	737	55	882	768	988	1651	180	1207	1216	550
Grp Volume(v), veh/h	419	0	0	191	0	0	142	0	173	87	0	392
Grp Sat Flow(s),veh/h/ln	1513	0	0	1706	0	0	988	0	1831	1207	0	1766
Q Serve(g_s), s	5.3	0.0	0.0	0.0	0.0	0.0	4.3	0.0	2.1	1.7	0.0	5.7
Cycle Q Clear(g_c), s	8.0	0.0	0.0	2.7	0.0	0.0	10.0	0.0	2.1	3.8	0.0	5.7
Prop In Lane	0.37		0.49	0.08		0.45	1.00		0.10	1.00		0.31
Lane Grp Cap(c), veh/h	688	0	0	725	0	0	446	0	742	628	0	715
V/C Ratio(X)	0.61	0.00	0.00	0.26	0.00	0.00	0.32	0.00	0.23	0.14	0.00	0.55
Avail Cap(c_a), veh/h	858	0	0	919	0	0	516	0	870	712	0	839
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.4	0.0	0.0	7.8	0.0	0.0	11.5	0.0	6.6	7.8	0.0	7.7
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.2	0.0	0.0	0.4	0.0	0.2	0.1	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.5	0.0	0.0	0.9	0.0	0.0	0.9	0.0	0.8	0.4	0.0	2.0
Lane Grp Delay (d), s/veh	10.3	0.0	0.0	8.0	0.0	0.0	11.9	0.0	6.7	7.9	0.0	8.3
Lane Grp LOS	B			A			B		A	A		A
Approach Vol, veh/h		419			191			315			479	
Approach Delay, s/veh		10.3			8.0			9.1			8.2	
Approach LOS		B			A			A			A	

Timer												
Assigned Phs		6			2			4			8	
Phs Duration (G+Y+Rc), s		16.0			16.0			17.6			17.6	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		16.0			16.0			16.0			16.0	
Max Q Clear Time (g_c+I1), s		10.0			4.7			12.0			7.7	
Green Ext Time (p_c), s		2.0			3.1			1.6			2.8	

Intersection Summary												
HCM 2010 Ctrl Delay			9.0									
HCM 2010 LOS			A									

Notes

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Approach	SE	NW	NE	SW
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	419	191	315	479
Demand Flow Rate, veh/h	427	195	321	488
Vehicles Circulating, veh/h	380	463	308	252
Vehicles Exiting, veh/h	360	166	499	406
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	13.2	8.5	9.1	12.1
Approach LOS	B	A	A	B

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	427	195	321	488
Cap Entry Lane, veh/h	773	711	830	878
Entry HV Adj Factor	0.981	0.981	0.981	0.981
Flow Entry, veh/h	419	191	315	479
Cap Entry, veh/h	758	697	815	861
V/C Ratio	0.553	0.274	0.387	0.556
Control Delay, s/veh	13.2	8.5	9.1	12.1
LOS	B	A	A	B
95th %tile Queue, veh	3	1	2	3

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	106	44	153	12	56	197	108	391	12	220	488	117
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	190.0	186.3	190.0	190.0	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Cap, veh/h	187	72	170	80	128	354	161	1009	34	458	821	194
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	339	248	583	40	441	1217	576	1791	61	857	1457	344
Grp Volume(v), veh/h	399	0	0	353	0	0	123	0	546	393	0	973
Grp Sat Flow(s),veh/h/ln	1170	0	0	1698	0	0	576	0	1852	857	0	1802
Q Serve(g_s), s	5.5	0.0	0.0	0.0	0.0	0.0	2.8	0.0	10.0	21.0	0.0	28.2
Cycle Q Clear(g_c), s	16.0	0.0	0.0	10.5	0.0	0.0	31.0	0.0	10.0	31.0	0.0	28.2
Prop In Lane	0.35		0.50	0.05		0.72	1.00		0.03	1.00		0.19
Lane Grp Cap(c), veh/h	429	0	0	563	0	0	161	0	1044	458	0	1016
V/C Ratio(X)	0.93	0.00	0.00	0.63	0.00	0.00	0.77	0.00	0.52	0.86	0.00	0.96
Avail Cap(c_a), veh/h	429	0	0	563	0	0	161	0	1044	458	0	1016
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.8	0.0	0.0	17.6	0.0	0.0	27.2	0.0	7.4	18.8	0.0	11.4
Incr Delay (d2), s/veh	26.9	0.0	0.0	2.2	0.0	0.0	19.6	0.0	0.5	15.0	0.0	18.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	8.4	0.0	0.0	4.3	0.0	0.0	2.5	0.0	3.8	7.0	0.0	15.1
Lane Grp Delay (d), s/veh	47.6	0.0	0.0	19.8	0.0	0.0	46.8	0.0	7.9	33.8	0.0	30.3
Lane Grp LOS	D			B			D		A	C		C
Approach Vol, veh/h		399			353			669			1366	
Approach Delay, s/veh		47.6			19.8			15.1			31.3	
Approach LOS		D			B			B			C	

Timer												
Assigned Phs		6			2			4			8	
Phs Duration (G+Y+Rc), s		20.0			20.0			35.0			35.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		16.0			16.0			31.0			31.0	
Max Q Clear Time (g_c+I1), s		18.0			12.5			33.0			33.0	
Green Ext Time (p_c), s		0.0			1.6			0.0			0.0	

Intersection Summary		
HCM 2010 Ctrl Delay		28.3
HCM 2010 LOS		C

Notes

Intersection	
Intersection Delay, s/veh	100.7
Intersection LOS	F

Approach	SE	NW	NE	SW
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	399	353	669	1366
Demand Flow Rate, veh/h	407	360	682	1394
Vehicles Circulating, veh/h	1222	808	605	227
Vehicles Exiting, veh/h	399	479	1024	941
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	30.0	15.2	82.3	152.5
Approach LOS	D	C	F	F

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	R	LT	R
Assumed Moves	LT	R	LT	R	LT	R	LT	R
RT Channelized								
Lane Util	0.501	0.499	0.283	0.717	0.974	0.026	0.864	0.136
Critical Headway, s	5.193	5.193	5.193	5.193	5.193	5.193	5.193	5.193
Entry Flow, veh/h	204	203	102	258	664	18	1204	190
Cap Entry Lane, veh/h	333	333	504	504	617	617	900	900
Entry HV Adj Factor	0.980	0.980	0.984	0.981	0.981	1.000	0.980	0.979
Flow Entry, veh/h	200	199	100	253	651	18	1180	186
Cap Entry, veh/h	326	326	496	494	605	617	883	882
V/C Ratio	0.613	0.610	0.203	0.512	1.076	0.029	1.337	0.211
Control Delay, s/veh	30.1	29.9	10.1	17.3	84.4	6.2	175.5	6.2
LOS	D	D	B	C	F	A	F	A
95th %tile Queue, veh	4	4	1	3	19	0	47	1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	68	50	173	14	63	67	122	132	14	80	213	76
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	190.0	186.3	190.0	190.0	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Cap, veh/h	216	128	304	143	296	243	426	704	87	639	570	201
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	258	385	916	78	892	732	924	1626	201	1178	1318	463
Grp Volume(v), veh/h	383	0	0	200	0	0	139	0	200	143	0	465
Grp Sat Flow(s),veh/h/ln	1559	0	0	1701	0	0	924	0	1827	1178	0	1781
Q Serve(g_s), s	4.1	0.0	0.0	0.0	0.0	0.0	4.6	0.0	2.4	3.0	0.0	6.8
Cycle Q Clear(g_c), s	7.2	0.0	0.0	3.0	0.0	0.0	11.5	0.0	2.4	5.4	0.0	6.8
Prop In Lane	0.24		0.59	0.10		0.43	1.00		0.11	1.00		0.26
Lane Grp Cap(c), veh/h	649	0	0	682	0	0	426	0	791	639	0	771
V/C Ratio(X)	0.59	0.00	0.00	0.29	0.00	0.00	0.33	0.00	0.25	0.22	0.00	0.60
Avail Cap(c_a), veh/h	856	0	0	904	0	0	460	0	858	682	0	836
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.9	0.0	0.0	8.6	0.0	0.0	11.8	0.0	6.2	7.9	0.0	7.4
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.2	0.0	0.0	0.4	0.0	0.2	0.2	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.3	0.0	0.0	1.0	0.0	0.0	0.9	0.0	0.8	0.7	0.0	2.4
Lane Grp Delay (d), s/veh	10.8	0.0	0.0	8.8	0.0	0.0	12.3	0.0	6.3	8.0	0.0	8.5
Lane Grp LOS	B			A			B		A	A		A
Approach Vol, veh/h		383			200			339			608	
Approach Delay, s/veh		10.8			8.8			8.8			8.4	
Approach LOS		B			A			A			A	

Timer												
Assigned Phs		6			2			4			8	
Phs Duration (G+Y+Rc), s		15.3			15.3			18.8			18.8	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		16.0			16.0			16.0			16.0	
Max Q Clear Time (g_c+I1), s		9.2			5.0			13.5			8.8	
Green Ext Time (p_c), s		2.1			2.9			1.3			3.0	

Intersection Summary		
HCM 2010 Ctrl Delay		9.1
HCM 2010 LOS		A

Notes

Intersection	
Intersection Delay, s/veh	14.0
Intersection LOS	B

Approach	SE	NW	NE	SW
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	383	200	339	608
Demand Flow Rate, veh/h	391	204	346	620
Vehicles Circulating, veh/h	518	417	307	258
Vehicles Exiting, veh/h	360	236	601	363
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	15.7	8.1	9.6	17.4
Approach LOS	C	A	A	C

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	391	204	346	620
Cap Entry Lane, veh/h	673	745	831	873
Entry HV Adj Factor	0.979	0.981	0.981	0.981
Flow Entry, veh/h	383	200	339	608
Cap Entry, veh/h	659	731	815	856
V/C Ratio	0.581	0.274	0.416	0.710
Control Delay, s/veh	15.7	8.1	9.6	17.4
LOS	C	A	A	C
95th %tile Queue, veh	4	1	2	6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	162	50	173	14	63	349	122	696	14	369	791	172
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	1	2	2	1	2	2	1
Cap, veh/h	238	396	336	288	396	336	518	2561	1089	836	2561	1089
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.69	0.69	0.69	0.69	0.69	0.69
Sat Flow, veh/h	862	1863	1583	1083	1863	1583	645	3725	1583	1127	3725	1583
Grp Volume(v), veh/h	216	67	225	21	93	447	139	941	22	659	1276	273
Grp Sat Flow(s),veh/h/ln	862	1863	1583	1083	1863	1583	322	1863	1583	564	1863	1583
Q Serve(g_s), s	13.7	2.4	10.4	1.3	3.3	17.0	10.4	8.4	0.4	46.6	13.0	5.2
Cycle Q Clear(g_c), s	17.0	2.4	10.4	3.6	3.3	17.0	23.5	8.4	0.4	55.0	13.0	5.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	238	396	336	288	396	336	518	2561	1089	836	2561	1089
V/C Ratio(X)	0.91	0.17	0.67	0.07	0.23	1.33	0.27	0.37	0.02	0.79	0.50	0.25
Avail Cap(c_a), veh/h	238	396	336	288	396	336	518	2561	1089	836	2561	1089
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.3	25.7	28.9	27.2	26.1	31.5	11.5	5.2	4.0	16.8	5.9	4.7
Incr Delay (d2), s/veh	35.1	0.2	5.0	0.1	0.3	167.0	0.3	0.1	0.0	5.1	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	6.6	1.1	4.5	0.4	1.5	22.2	0.8	3.2	0.1	6.5	4.8	1.6
Lane Grp Delay (d), s/veh	70.4	25.9	33.9	27.3	26.4	198.5	11.8	5.3	4.0	21.9	6.1	4.8
Lane Grp LOS	E	C	C	C	C	F	B	A	A	C	A	A
Approach Vol, veh/h		508			561			1102			2208	
Approach Delay, s/veh		48.4			163.6			6.1			10.7	
Approach LOS		D			F			A			B	

Timer												
Assigned Phs		6			2			4			8	
Phs Duration (G+Y+Rc), s		21.0			21.0			59.0			59.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		17.0			17.0			55.0			55.0	
Max Q Clear Time (g_c+I1), s		19.0			19.0			25.5			57.0	
Green Ext Time (p_c), s		0.0			0.0			24.9			0.0	

Intersection Summary												
HCM 2010 Ctrl Delay			33.5									
HCM 2010 LOS			C									

Notes

Intersection	
Intersection Delay, s/veh	512.4
Intersection LOS	F

Approach	SE	NW	NE	SW
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	508	561	1102	2208
Demand Flow Rate, veh/h	518	572	1124	2252
Vehicles Circulating, veh/h	1995	1322	960	258
Vehicles Exiting, veh/h	515	762	1552	1636
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	397.9	227.4	709.1	512.9
Approach LOS	F	F	F	F

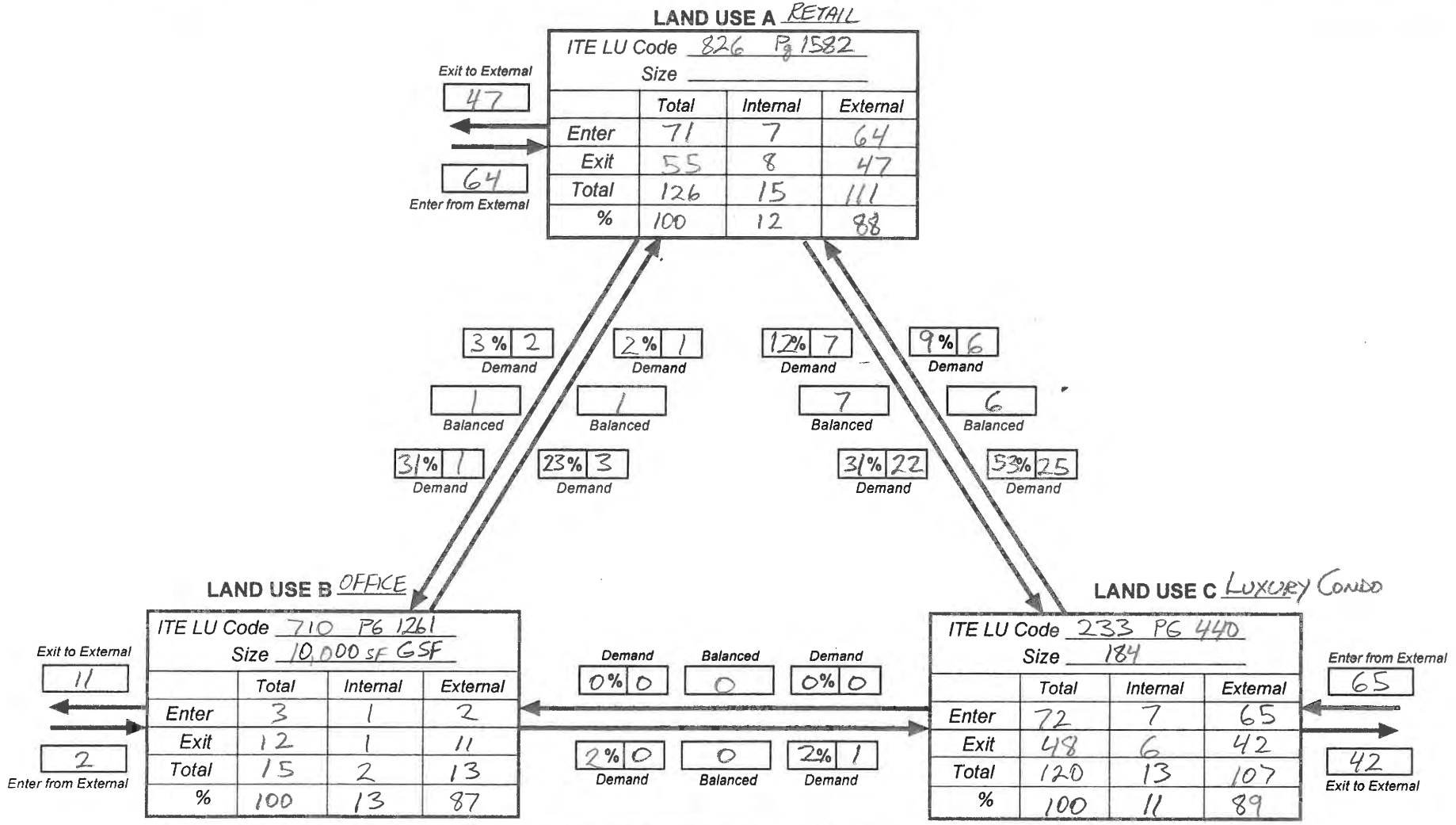
Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	R	LT	R
Assumed Moves	LT	R	LT	R	LT	R	LT	R
RT Channelized								
Lane Util	0.556	0.444	0.203	0.797	0.980	0.020	0.877	0.123
Critical Headway, s	5.193	5.193	5.193	5.193	5.193	5.193	5.193	5.193
Entry Flow, veh/h	288	230	116	456	1102	22	1974	278
Cap Entry Lane, veh/h	154	154	301	301	433	433	873	873
Entry HV Adj Factor	0.981	0.978	0.984	0.980	0.980	1.000	0.980	0.982
Flow Entry, veh/h	283	225	114	447	1080	22	1935	273
Cap Entry, veh/h	151	150	296	295	424	433	856	857
V/C Ratio	1.874	1.497	0.385	1.514	2.547	0.051	2.261	0.318
Control Delay, s/veh	468.0	309.8	21.5	280.0	723.4	9.0	584.2	7.7
LOS	F	F	C	F	F	A	F	A
95th %tile Queue, veh	21	15	2	26	87	0	140	1

Appendix C – Multi-Use Development Trip Generation and Internal Capture Summary

Analyst KDH
Date 9/10/14

MULTI-USE DEVELOPMENT TRIP GENERATION AND INTERNAL CAPTURE SUMMARY

Name of Dvlpt
Time Period 2019 PM PEAK



Net External Trips for Multi-Use Development

	LAND USE A	LAND USE B	LAND USE C	TOTAL
Enter	64	2	65	131
Exit	47	11	42	100
Total	111	13	107	231
Single-Use Trip Gen. Est.	126	15	120	261

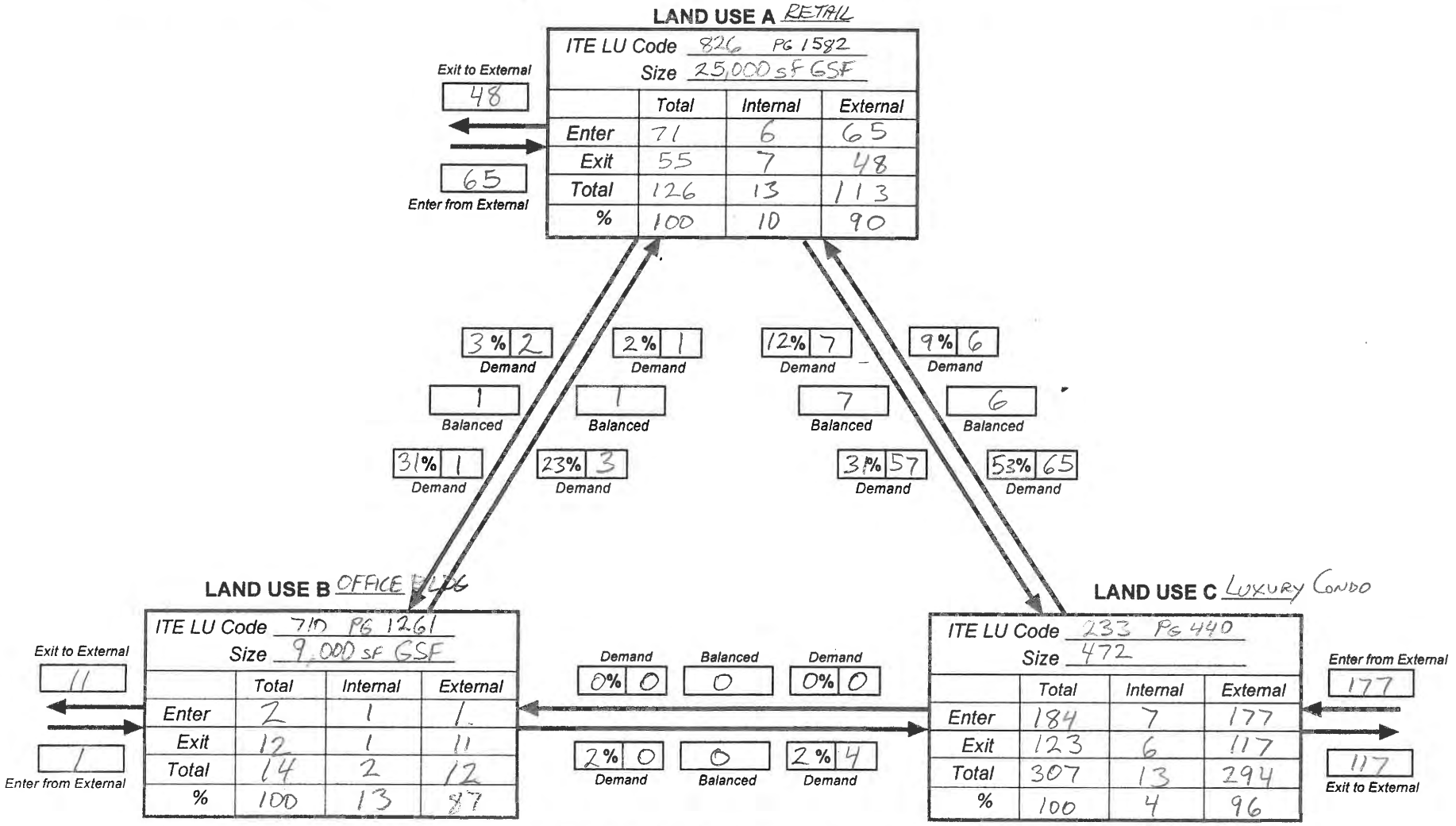
Source: Kaku Associates, Inc.

INTERNAL CAPTURE 11%

Analyst KDH
Date 9/10/14

MULTI-USE DEVELOPMENT TRIP GENERATION AND INTERNAL CAPTURE SUMMARY

Name of Dvlpt
Time Period 2025 PM PEAK



Net External Trips for Multi-Use Development

	LAND USE A	LAND USE B	LAND USE C	TOTAL
Enter	65	1	177	243
Exit	48	11	117	176
Total	113	12	294	419
Single-Use Trip Gen. Est.	126	14	307	447

Source: Kaku Associates, Inc.

INTERNAL CAPTURE 6%

Appendix D – Traffic Signal Warrant Analyses

TRAFFIC CONTROL STUDY - WARRANTS FOR TRAFFIC SIGNALS

[redacted] Department of Transportation. Programming Division

SFN 7924 (Rev. 02-2013)

~~23 USC §409 Documents~~
~~[redacted] All Objections~~

Date	Prepared by	City	Analysis Year
		OGDEN	
Major Road 9/18/14	KDH	Speed Limit (mph)	Number of Lanes
		30	1
Minor Road SR-39		Speed Limit (mph)	Number of Lanes
VALLEY DR.		25	1

Minor road right-turn traffic excluded from the analysis because there is an exclusive right turn lane and right-turn traffic enters the Major Road with minimal conflict: ☐ Yes ☑ No

1. Posted or 85th-percentile speed of major road traffic is > 40 mph: ☐ Yes ☑ No
2. In built-up area of isolated community < 10.000 population: ☐ Yes ☑ No

If question 1 or 2 is answered yes then use 70% volume criteria: ☐ 70% ☑ 100%

WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME

Requirements: Either Condition A (Minimum Vehicular Volume) or Condition B (Interruption of Continuous Traffic) is satisfied to 100% of the stated volumes for each of any 8 hours of an average day.
Or: Both Condition A and Condition B are satisfied to 80% of the stated volumes for each of any 8 hours of an average day.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A - Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10.000
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10.000

	8 Highest Hour Volumes							
	1	2	3	4	5	6	7	8
Both Approaches	700 780	530 557	530 554	627 525	579 661	843 721	517 704	783
Major Road Highest Approach	151 165	176 153	212 214	266 244	333 232	362 340	225 360	325
Minor Road								

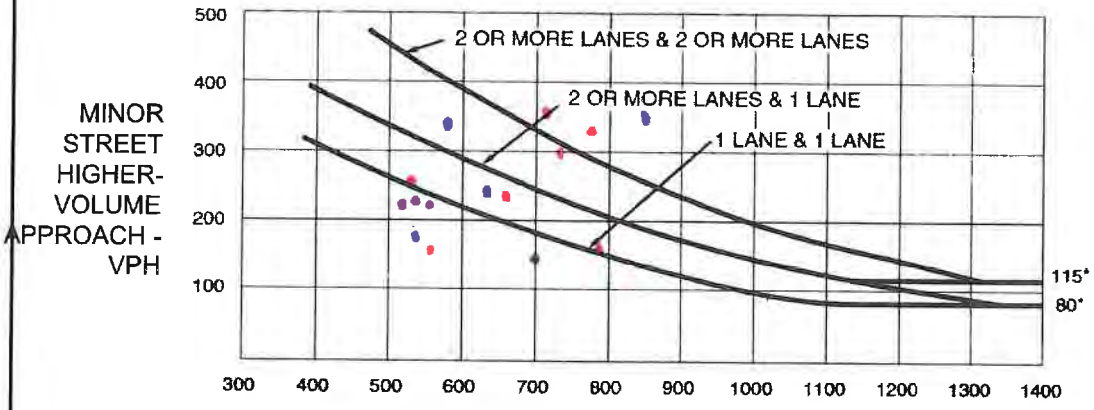
2019 - NO
2025 - YES

Warrant 1 Met? ☐ Yes ☐ No ☐ Does not apply

WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

Requirements: Plot four highest hour volumes on the applicable figure below. If four points lie above the applicable curve then the warrant is satisfied.

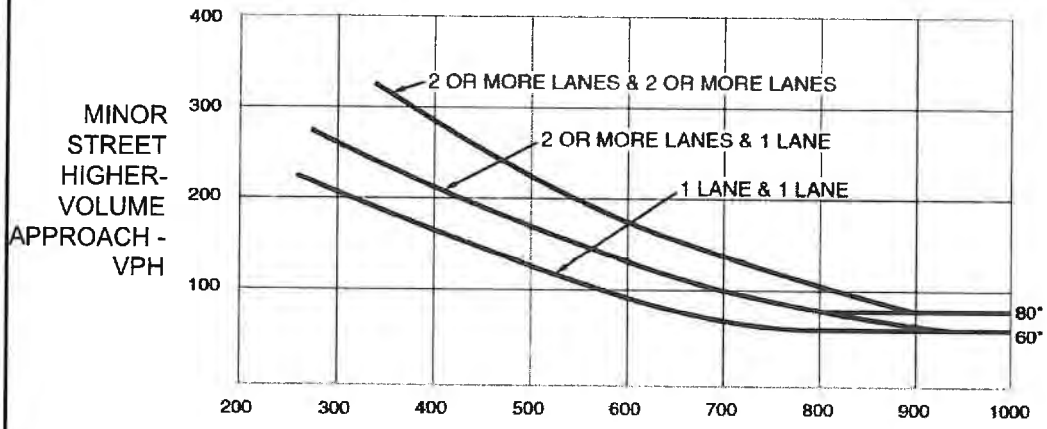
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

2019 - NO
2025 - YES

Warrant 2 Met? ☐ Yes ☐ No ☐ Does not apply

TRAFFIC CONTROL STUDY - WARRANTS FOR TRAFFIC SIGNALS

[redacted] Department of Transportation. Programming Division

SFN 7924 (Rev. 02-2013)

~~23 USC §409 Documents~~
~~[redacted] Reserves All Objections~~

Date	Prepared by	City	Analysis Year
Major Road 9/18/14	KDH	EDEN Speed Limit (mph)	2019, 2025 Number of Lanes
Minor Road SR-39		45 Speed Limit (mph)	1 Number of Lanes
SR-158		35	1

Minor road right-turn traffic excluded from the analysis because there is an exclusive right turn lane and right-turn traffic enters the Major Road with minimal conflict: ☐ Yes ☑ No

1. Posted or 85th-percentile speed of major road traffic is > 40 mph: ☑ Yes ☐ No
2. In built-up area of isolated community < 10.000 population: ☑ Yes ☐ No

If question 1 or 2 is answered yes then use 70% volume criteria: ☑ 70% ☐ 100%

WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME

Requirements: Either Condition A (Minimum Vehicular Volume) or Condition B (Interruption of Continuous Traffic) is satisfied to 100% of the stated volumes for each of any 8 hours of an average day.
Or: Both Condition A and Condition B are satisfied to 80% of the stated volumes for each of any 8 hours of an average day.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A - Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10.000
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10.000

	8 Highest Hour Volumes							
	1	2	3	4	5	6	7	8
Both Approaches	362 464	360 462	439 563	524 672	656 842	658 844	529 679	402 517
Major Road	233 306	222 291	257 338	253 333	270 355	315 414	231 304	164 215
Highest Approach Minor Road								

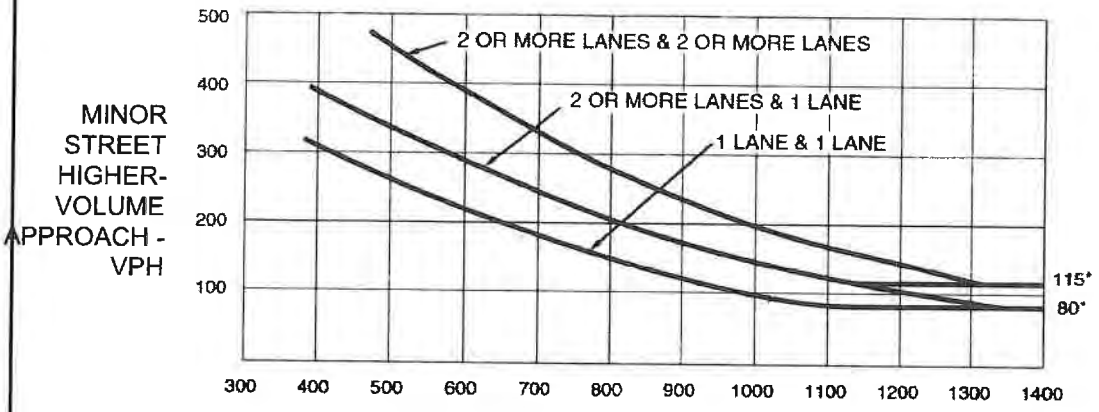
2019-YES
2025-YES

Warrant 1 Met? ☑ Yes ☐ No ☐ Does not apply

WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

Requirements: Plot four highest hour volumes on the applicable figure below. If four points lie above the applicable curve then the warrant is satisfied.

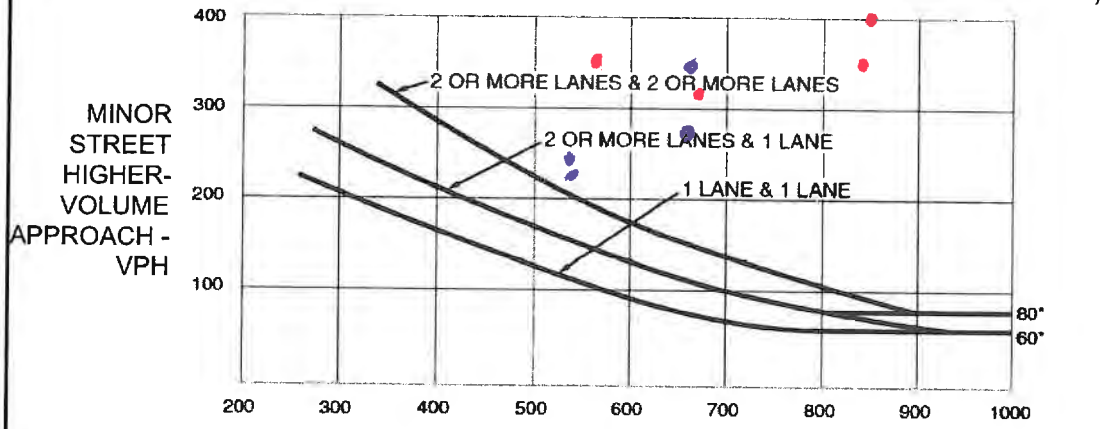
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

2019-YES
2025-YES

Warrant 2 Met? ☑ Yes ☐ No ☐ Does not apply

TRAFFIC CONTROL STUDY - WARRANTS FOR TRAFFIC SIGNALS

[redacted] Department of Transportation. Programming Division

SFN 7924 (Rev. 02-2013)

~~23 USC §409 Documents~~

[redacted]

Date	Prepared by	City	Analysis Year
Major Road 9/18/14	KDH	EDEN Speed Limit (mph)	2019, 2025 Number of Lanes
Minor Road SR-158		Speed Limit (mph) 40	1 Number of Lanes
ROUTE 3460		40	1

Minor road right-turn traffic excluded from the analysis because there is an exclusive right turn lane and right-turn traffic enters the Major Road with minimal conflict: ☐ Yes ☑ No

1. Posted or 85th-percentile speed of major road traffic is > 40 mph: ☑ Yes ☐ No
2. In built-up area of isolated community < 10.000 population: ☑ Yes ☐ No

If question 1 or 2 is answered yes then use 70% volume criteria: ☑ 70% ☐ 100%

WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME

Requirements: Either Condition A (Minimum Vehicular Volume) or Condition B (Interruption of Continuous Traffic) is satisfied to 100% of the stated volumes for each of any 8 hours of an average day.
Or: Both Condition A and Condition B are satisfied to 80% of the stated volumes for each of any 8 hours of an average day.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A - Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10.000
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10.000

	8 Highest Hour Volumes							
	1	2	3	4	5	6	7	8
Both Approaches	541 592	512 561	534 585	610 668	725 794	993 1088	643 704	514 563
Major Road Highest Approach Minor Road	183 205	188 211	192 215	245 274	267 295	251 281	187 209	139 156

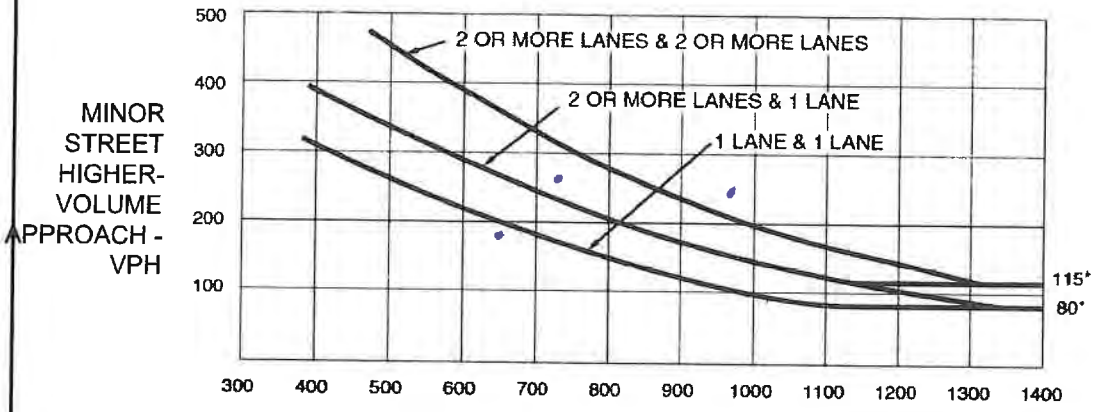
2014 - YES
2019 - YES

Warrant 1 Met? ☑ Yes ☐ No ☐ Does not apply

WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

Requirements: Plot four highest hour volumes on the applicable figure below. If four points lie above the applicable curve then the warrant is satisfied.

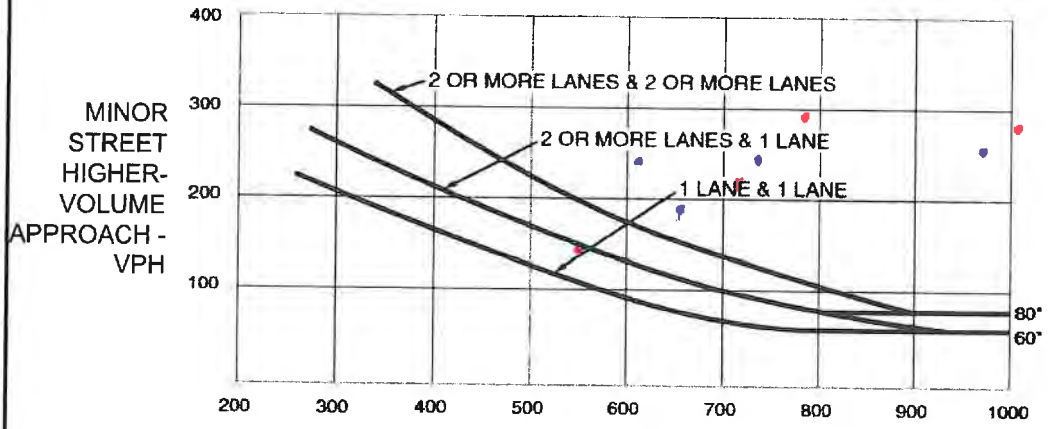
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

2019- YES
2025 - YES

Warrant 2 Met? ☒ Yes ☐ No ☐ Does not apply