

SOUTHERN OREGON TRANSPORTATION ENGINEERING, LLC

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February 27, 2019

Matt Samitore, Parks and Public Works Director
City of Central Point
140 So. 3rd Street
Central Point, Oregon 97502

Re: Proposed Fire Station Traffic Impact Analysis

Dear Matt,

Southern Oregon Transportation Engineering, LLC prepared a traffic impact analysis for a proposed Conditional Use Permit (CUP) for a Fire Station on Township 37S Range 2W Section 3AB, tax lots 4400, 4500, and part of 4600 in Central Point, Oregon. The subject property is located along the south side of Scenic Avenue, west of Rock Way. Access is proposed from Scenic Avenue and through a planned extension of Rock Way.

Proposed development includes a 10,200 square foot Fire Station, which is estimated to generate 9 trips during the a.m. peak hour and 5 trips during the p.m. peak hour. Study area intersections included:

1. Upton Road & Scenic Avenue
2. Rock Way & Scenic Avenue
3. Scenic Middle School & Scenic Avenue
4. Site Driveways

Study area intersections were evaluated under existing year 2019 and design year 2020 no-build and build conditions during the a.m. and p.m. peak hours due to the close proximity of the site to Scenic Middle School. Trips were re-routed under design year 2020 build conditions as a result of a Rock Way street extension to the school parking lot.

Summary & Conclusions

The findings of the traffic impact analysis conclude that the proposed Fire Station on 37S2W03AB tax lots 4400, 4500, and part of 4600 is not shown to degrade the performance of any study area intersection or cause adverse conditions with proposed improvements in place. Intersection operations and safety conditions were evaluated to address potential impacts to the transportation system. Results of the analysis show the following:

1. Left turn lane criterion was shown to be met on Scenic Avenue at both the Rock Way / Scenic Avenue and Scenic Middle School / Scenic Avenue intersections. Recommended mitigation is to stripe Scenic Avenue to include a center two-way-left-turn-lane (TWLTL) from the Scenic Middle School driveway to the existing turn lane west of Upton Road.
2. Crosswalks are proposed on Scenic Avenue at Rock Way to support increased pedestrian and bicycle traffic as a result of the Rock Way extension to Scenic Middle School.

The proposed Fire Station on 37S2W3AB tax lots 4400, 4500, and part of 4600 is shown to be in compliance with the Central Point Comprehensive Plan, Transportation System Plan and Municipal Code. Streets that serve the subject property are shown to have adequate capacity to support proposed development with proposed improvements.

INTRODUCTION

Background

Southern Oregon Transportation Engineering, LLC prepared a traffic impact analysis for a proposed Conditional Use Permit (CUP) for a Fire Station on Township 37S Range 2W Section 3AB, tax lots 4400, 4500, and part of 4600 in Central Point, Oregon. The subject property is located along the south side of Scenic Avenue, west of Rock Way. Access is proposed from Scenic Avenue and through a planned extension of Rock Way.

A traffic impact analysis is required by the City of Central Point to address issues of compliance with the Central Point Comprehensive Plan, Transportation System Plan (TSP), and Conditional Use Permit (CUP) criterion. The scope of the analysis includes evaluating development impacts within the identified study area under existing and design year conditions during the a.m. and p.m. peak hours. Study area intersections included:

1. Upton Road & Scenic Avenue
2. Rock Way & Scenic Avenue
3. Scenic Middle School & Scenic Avenue
4. Site Driveways

The proposed use for the site is a 10,200 square foot (SF) Fire Station, which is estimated to generate 9 a.m. and 5 p.m. trips to the transportation system during the a.m. and p.m. peak hours.

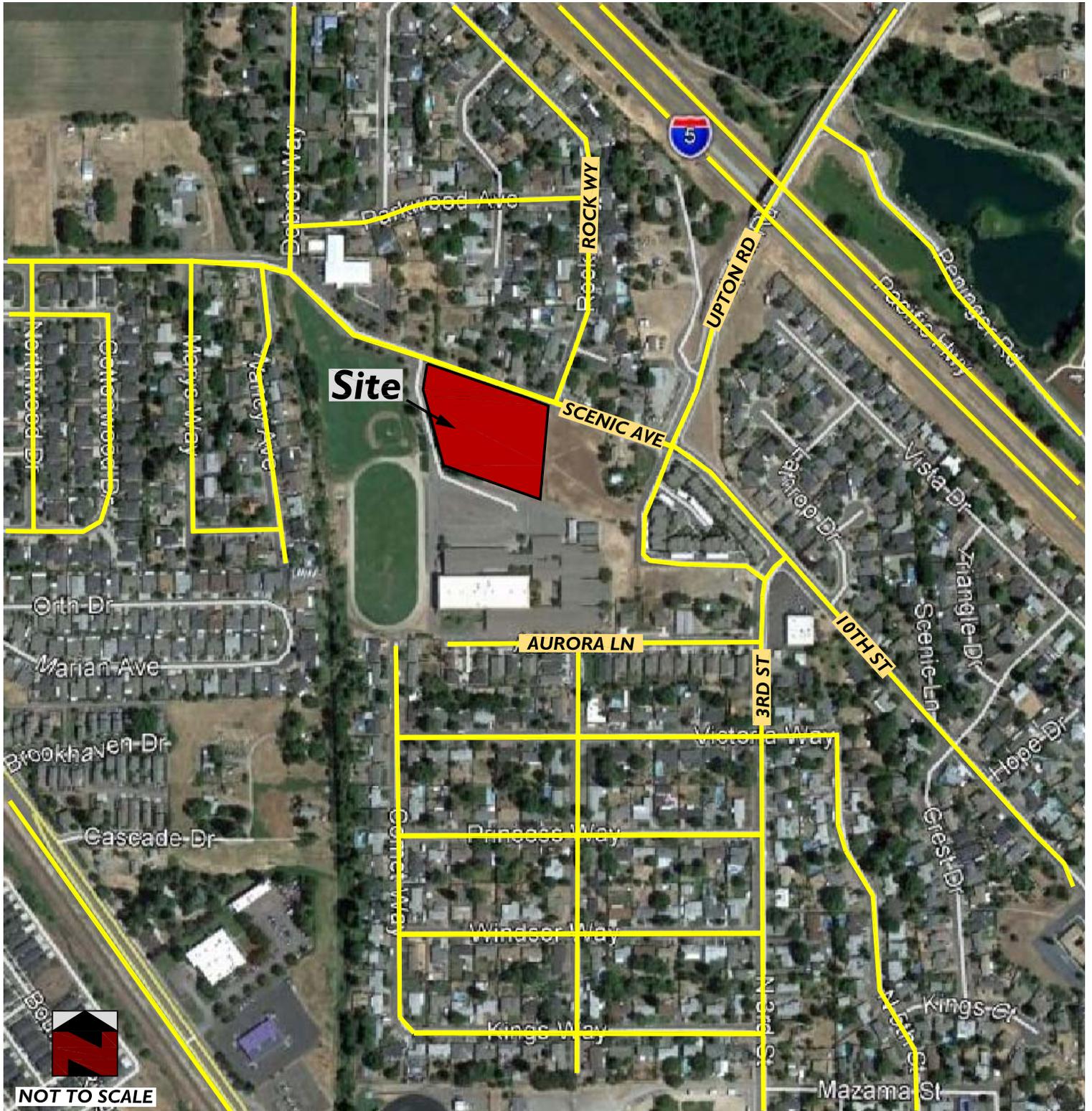
Project Location

The subject parcel is located along the south side of Scenic Avenue, west of Rock Way on Township 37S Range 2W Section 3AB, tax lots 4400, 4500, and parts of 4600 in Central Point, Oregon. Refer to Figure 1 for a vicinity map.

Project Description

The subject property is currently zoned Civic (C). A Fire Station is a conditional use in the Civic zone. A 10,200 SF Fire Station is estimated to generate 9 a.m. and 5 p.m. trips to the transportation system during the a.m. and p.m. peak hours. Trips will be split between an access on Scenic Avenue and through an access on a proposed Rock Way extension.

Figure 1 : Vicinity Map

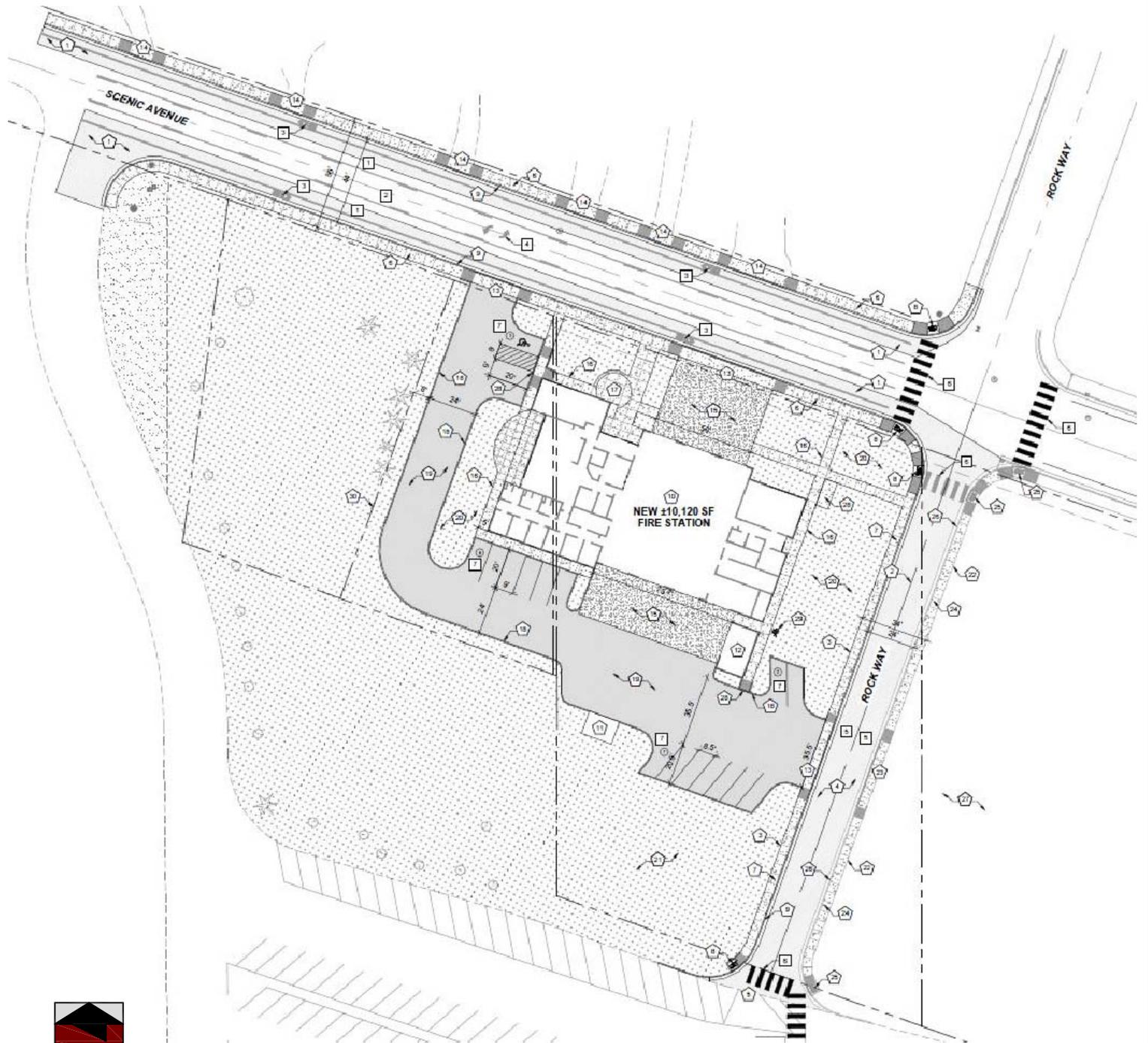


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Figure 2 : Site Plan



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EXISTING CONDITIONS

Site Conditions

The proposed site is located on Township 37S Range 2W Section 3AB, tax lots 4400, 4500, and part of 4600. The subject property is currently vacant.

Roadway Characteristics

Table 1 provides a summary of existing roadway classifications and descriptions in the study area.

Table 1 - Roadway Classifications and Descriptions					
Roadway	Jurisdiction	Functional Classification	Lanes	City Operational Standard	Posted Speed
Scenic Avenue	City of Central Point	Minor Arterial	2-3	LOS D	20-30 mph
10 th Street	City of Central Point	Minor Arterial	2-3	LOS D	30 mph
Upton Road	City of Central Point	Minor Arterial	2	LOS D	45 mph
Rock Way	City of Central Point	Local	2	LOS D	25 mph

Pedestrian and Bicycle Accessibility

Pedestrian activity was observed to be high along Scenic Avenue and between Scenic Middle School and Rock Way through an existing gravel path. The majority of pedestrians walked along the south side of Scenic Avenue and crossed Scenic Avenue at either Rock Way or Upton Road. Sidewalks are currently provided on both side of Scenic Avenue east of Rock Way, on both side of Rock Way, and on both sides of Upton Road. A multi-use path exists along the south side of Scenic Avenue between Rock Way and the Scenic Middle School driveway. When the Fire Station develops, the south side of Scenic Avenue along its frontage will be improved with curb, gutter, and sidewalk. The Rock Way extension from Scenic Avenue to the Scenic Middle School parking lot will also be improved on the west side with curb, gutter, and sidewalk. The east side will have curb and gutter, but sidewalk improvements will be deferred until the Housing Authority develops on the adjoining property.

Cyclist activity was observed to be low on Scenic Avenue and around the study area. Bike lanes are striped on Upton Road north of Scenic Avenue and on Scenic Avenue east of Rock Way, but do not continue west of Rock Way. There are also no bike lanes on Rock Way. Bike lanes will be striped on Scenic Avenue west of Rock Way when frontage improvements are made as part of the Fire Station site development. There is no plan to stripe bike lanes on the Rock Way extension to Scenic Middle School because it is classified as a local street.

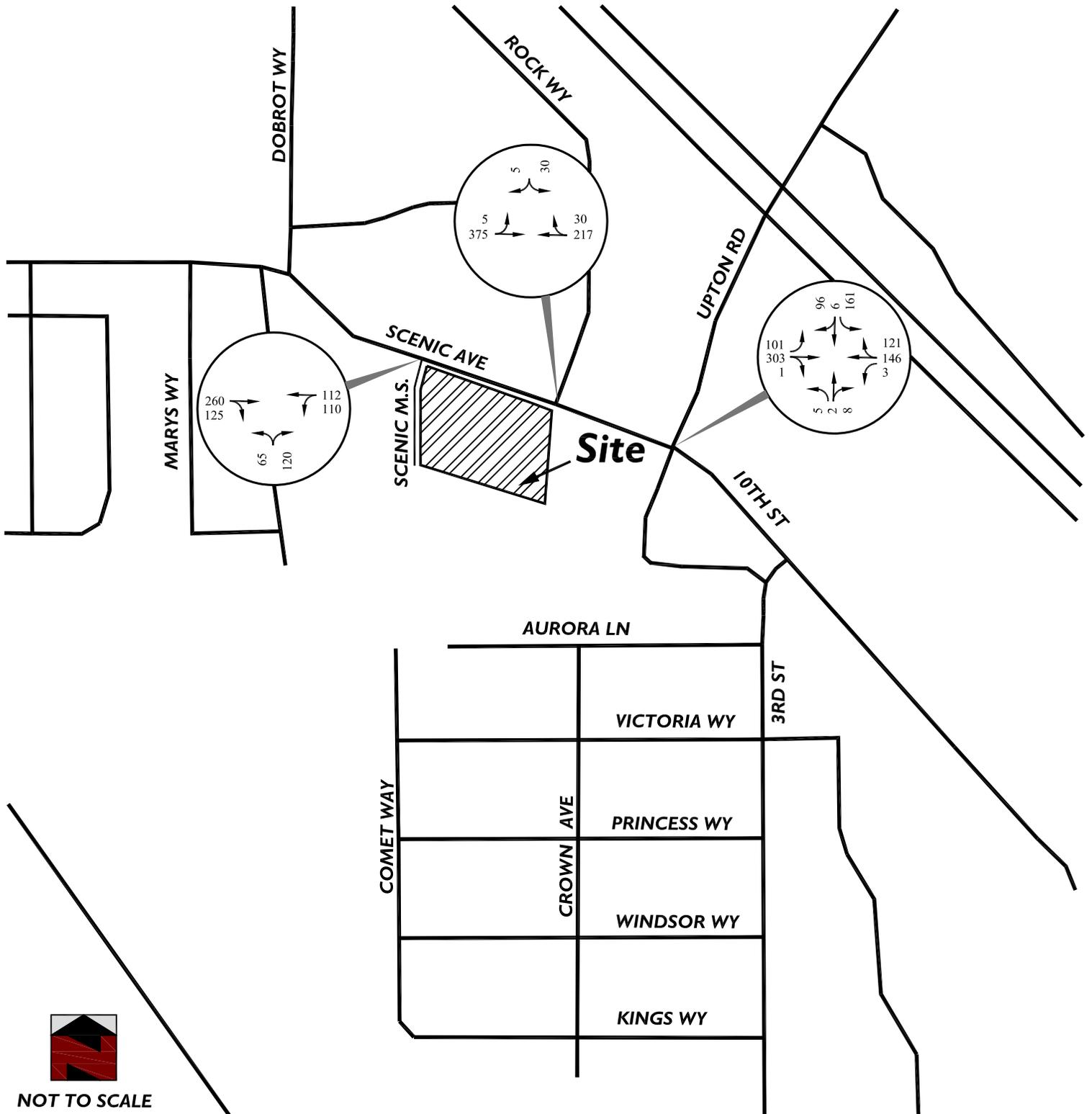
Traffic Counts

Manual traffic counts were collected from 7:00-9:00 a.m. and 3:00-6:00 p.m. at study area intersections in early October of 2018. Counts were seasonally adjusted and balanced to reflect peak conditions. The a.m. peak hour was shown to occur from 7:45-8:45 a.m. and the p.m. peak hour from 3:30-4:30 p.m. in the surrounding area. A follow up stop-sign delay count was gathered on Upton Road at Scenic Avenue in January to determine what the actual average delay time per vehicle is for vehicles waiting on Upton Road during peak conditions. Counts are provided in the attachments.

Background Growth

Background growth was derived using growth rates from the Interchange Area Management Plan (IAMP) for Exit 33 and volume comparisons between counts in 2010 and 2018 for 10th Street. The IAMP estimated 0.7% of growth per year on 10th Street between 2010 and future year 2034. We rounded that up to 1% to be conservative and applied it to all streets within the study area.

Figure 3a : Year 2019 No-Build Traffic Volumes, AM Peak Hour



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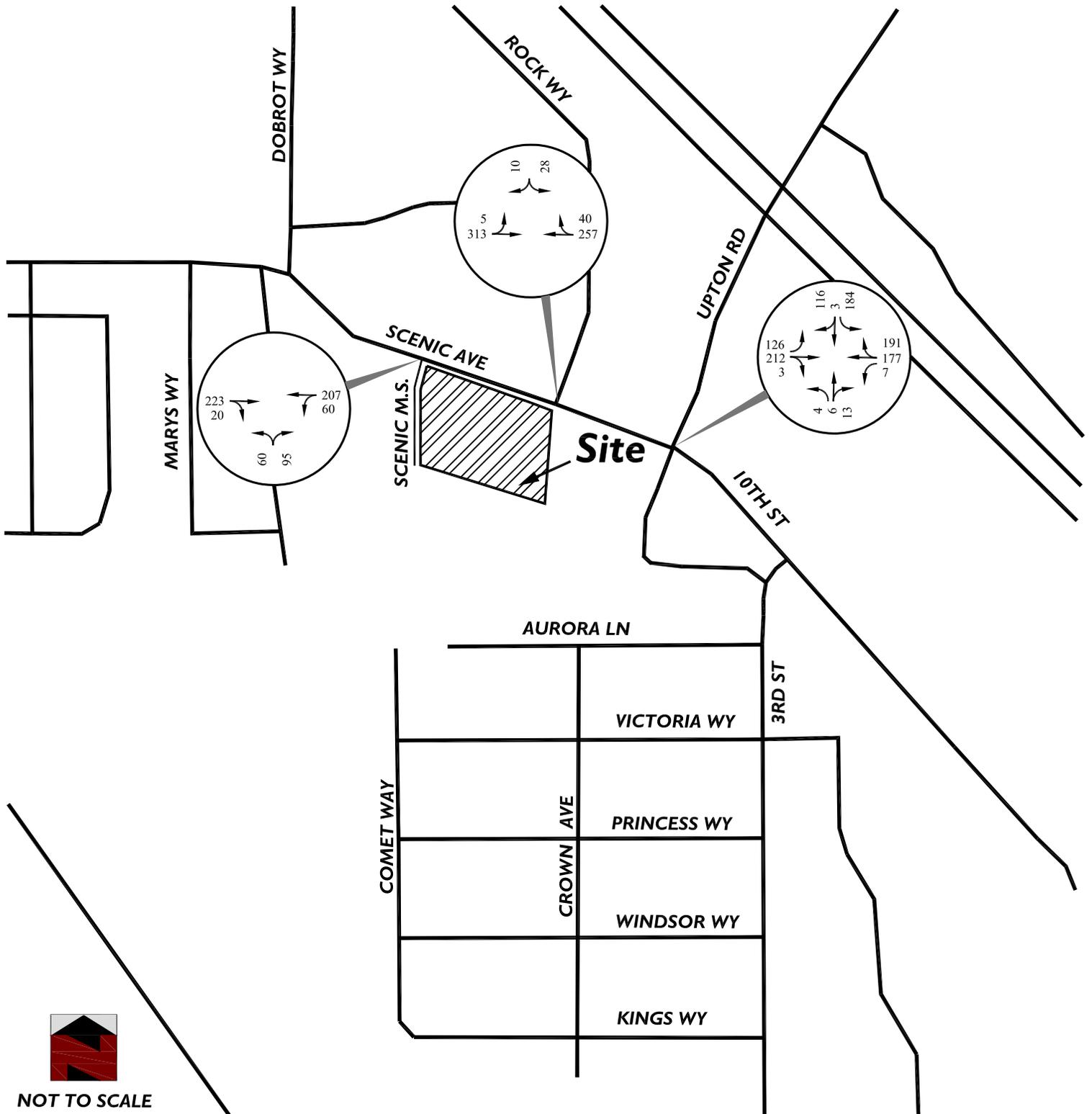


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Figure 3b : Year 2019 No-Build Traffic Volumes, PM Peak Hour



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Intersection Capacity and Level of Service

Intersection capacity calculations were conducted utilizing the methodologies presented in the Year 2000 *Highway Capacity Manual*. Capacity and level of service calculations for signalized and unsignalized intersections were prepared using “SYNCHRO” timing software.

Level of service quantifies the degree of comfort afforded to drivers as they travel through an intersection or along a roadway section. The level of service methodology was developed to quantify the quality of service of transportation facilities. Level of service is based on total delay, defined as the total elapsed time from when a vehicle stops at the end of a queue until the vehicle departs from the stop line. Level of service ranges from “A” to “F”, with “A” indicating the most desirable condition and “F” indicating an unsatisfactory condition. The HCM LOS designations for stop-controlled intersections are provided in Table 2. The HCM LOS designations for signalized intersections are provided in Table 3.

Table 2 – HCM Level of Service Designations for Stop-Controlled Intersections

Level of Service	Delay Range
A	< 10
B	>10 – 15
C	>15 – 25
D	>25 – 35
E	>35 – 50
F	> 50

Table 3 – HCM Level of Service Designations for Signalized Intersections

Level of Service	Delay Range
A	< 10
B	>10 – 20
C	>20 – 35
D	>35 – 55
E	>55 – 80
F	> 80

Key intersections are under City of Central Point jurisdiction. The City of Central Point requires all study area intersections to operate at acceptable levels of service (LOS). The minimum acceptable level of service for signalized intersections and unsignalized intersection movements is LOS “D”. Mitigation is required if proposed development is shown to degrade an intersection to a level of service worse than under no-build conditions.

Year 2019 No-Build Intersection Operations

Key intersections were evaluated under year 2019 no-build conditions during the a.m. and p.m. peak hours. Results are summarized in Table 4.

Table 4 - Year 2019 No-Build Intersection Operations, AM and PM Peak Hours				
Intersection	Performance Standard	Traffic Control	Year 2018 No-Build	
			AM Peak Hour	PM Peak Hour
Upton Road / Scenic Avenue	LOS D	TWSC	F ¹ (SB), D ² (SB)	F ¹ (SB), D ² (SB)
Rock Way / Scenic Avenue	LOS D	TWSC	C, (SB)	B, (SB)
Scenic Middle School / Scenic Avenue	None	TWSC	C, (NB)	C, (NB)

LOS=Level of Service, TWSC=Two-way stop controlled, NB=northbound, SB=southbound
Notes:

1. Intersection LOS using Synchro Software
2. Intersection LOS from Stop Sign Delay measurement

Results of the analysis show the intersection of Upton Road / Scenic Avenue operating at a level of service (LOS) “F” under existing year 2019 no-build conditions, which exceeds the LOS “D” standard. The critical movement is the southbound left turn movement, which drives the failing LOS. Before evaluating various mitigation options, however, we conducted a stop sign delay study to determine what the actual delay is for each vehicle waiting on Upton Road. The stop sign delay study showed the average delay per vehicle to be 31.22 seconds during the a.m. peak hour and 32.25 seconds during the p.m. peak hour. This coincides with a level of service “D”. Based on this, it is concluded that the intersection is currently operating within acceptable standards. Remaining intersections are also shown to operate acceptably. Refer to the attachments for synchro and stop sign delay output sheets.

Year 2019 No-Build 95th Percentile Queuing

Queuing is the stacking up of vehicles for a given lane movement, and it can have a significant effect on roadway safety and the overall operation of a transportation system. Long queue lengths in through lanes can block access to turn lanes, driveways, and minor street approaches, as well as spill back into upstream intersections. As a result of this, the estimation of queue lengths is an important aspect of the analysis process for determining how a transportation corridor operates.

Queue lengths are reported as the average, maximum, or 95th percentile queue length. The 95th percentile queue length is used for design purposes and is the queue length reported in this analysis. Five simulations were run and averaged in SimTraffic to determine 95th percentile queue lengths at study area intersections under existing conditions. Queue lengths were then rounded up to the nearest 25 feet (single vehicle length) and reported in Table 5 for the a.m. and p.m. peak hours.

Table 5 – Year 2019 No-Build 95th Percentile Queue Lengths, AM and PM Peak Hours				
Intersection / Movement	Available Link Distance (Ft)	95th Percentile Queue Lengths		Exceeded or Blocked Roadway
		AM	PM	
Scenic Avenue / Rock Way				
Eastbound Left/Through	425	25	25	-
Westbound Through/Right	350	25	25	-
Southbound Left/Right	650	50	50	-
Scenic MS / Scenic Avenue				
Eastbound Through/Right	500	25	25	-
Westbound Left/Through	425	75	75	-
Northbound Left/Right	350	125	125	-
Upton Road / Scenic Avenue				
Eastbound Left	150	50	75	-
Eastbound Through/Right	350	25	25	-
Westbound Left	425	25	25	-
Westbound Through/Right	450	25	50	-
Northbound Left	100	25	25	-
Northbound Through/Right	200	25	50	-
Southbound Left	225	125	125	-
Southbound Through/Right	225	75	50	-

Note: Exceeded performance standards are shown in bold, italic

Results of the queuing analysis show no link distances at key intersections exceeded under year 2019 no-build conditions. The longest queues are the southbound left turn queue length on Upton Road at Scenic Avenue and the northbound left turn queue on the Scenic Middle School driveway at Scenic Avenue. Both are estimated to be 125 feet or the equivalent of 5 vehicles. At Scenic Middle School this queue is longer when buses are trying to make left turns onto Scenic Avenue. Refer to the attachments for a full queuing and blocking report.

Crash History

Crash data for the most recent five-year period was gathered from ODOT’s crash analysis unit. Results were gathered for the period of January 1, 2012 through December 31st, 2016. Crash data is gathered to identify crash patterns that could be attributable to geometric or operational deficiencies, or crash trends of a specific type that would indicate the need for further investigation at an intersection. Tables 6 and 7 provide intersection crash rates and types of collisions at study area intersections. Intersections with no reported crashes were not included. Full crash reports are provided in the attachments.

Table 6 - Study Area Intersection Crash Rates, 2012-2016									
Intersection	2012	2013	2014	2015	2016	Total Crashes	ADT	Crash Rate	ODOT Crash Rate¹
Rock Way / Scenic Ave	0	0	0	0	1	1	5,950	0.092	0.293 ¹
Upton Rd / Scenic Ave	1	0	0	0	2	3	7,780	0.212	0.408 ¹

¹ 90th Percentile Crash Rate from Exhibit 4-1 in ODOT’s Analysis Procedures Manual v2
ADT=average daily traffic

Table 7 - Crash History by Type, 2012-2016								
Intersection	Collision Type					Severity		
	Rear-End	Turning/Angle	Head-on	Pedestrian/Bicyclist	Fixed Object	Non-Injury	Injury	Fatal
Rock Way / Scenic Ave	0	0	0	1	0	0	1	0
Upton Rd / Scenic Ave	0	2	0	1	0	1	2	0

Results of the crash analysis show the intersection with the highest crash frequency being Scenic Avenue at Upton Road with three crashes occurring within a five-year period. All three crashes were turning collisions, with one involving a bicyclist traveling westbound. Two resulted in non-fatal injuries and one property damage only. At the intersections of Rock Way / Scenic Avenue, there was one reported crash within a five-year period. The crash involved a pedestrian crossing Scenic Avenue and being struck by an eastbound traveling vehicle that had a blind spot due to the morning sun. All collisions along Scenic Avenue occurred between 6:00-8:00a.m. and 1:00-3:00 p.m., which is during the school a.m. and p.m. peak periods when congestion is highest.

The type of collision (turning) occurring along Scenic Avenue within the study area is common for stop-controlled intersections, where drivers from side streets are turning onto and off of the mainline based on the availability of adequate gaps in traffic. School traffic is an added factor that contributes to higher spikes in traffic with a greater mix of pedestrians and bicyclists during the a.m. and p.m. peak periods, but even considering this, the number of crashes reported within a five-year period is fairly low. Overall, the crash analysis does not raise any safety concerns regarding the number, type, or severity of collisions reported in the study area that would require further investigation.

SITE TRAFFIC

Trip Generation

Trip generation calculations for the proposed Fire Station were prepared utilizing the Institute of Transportation Engineers (ITE) *Trip Generation*, 10th Edition and local data. An ITE rate was used for land use 575 – Fire Station, but this land use only had data for the p.m. peak hour. Because the ITE had no a.m. data for a Fire Station, we gathered local data at the existing Fire Station on S. Front Street (OR 99). We gathered data on an average weekday from 7:00-9:00 a.m. and 3:00-6:00 p.m. to use in the analysis and compare to the ITE p.m. trip rate. The local data showed slightly higher trips during the a.m. peak hour than the p.m. peak hour, and the p.m. peak hour trips were surprisingly exactly what the ITE estimated for a 10,200 square foot Fire Station. This showed us that the data was reliable. No pass-by or internal trip reductions were taken. All trips were considered new trips to the transportation system. Table 8 provides a summary of generations. ITE descriptions and graphs are provided in the attachments.

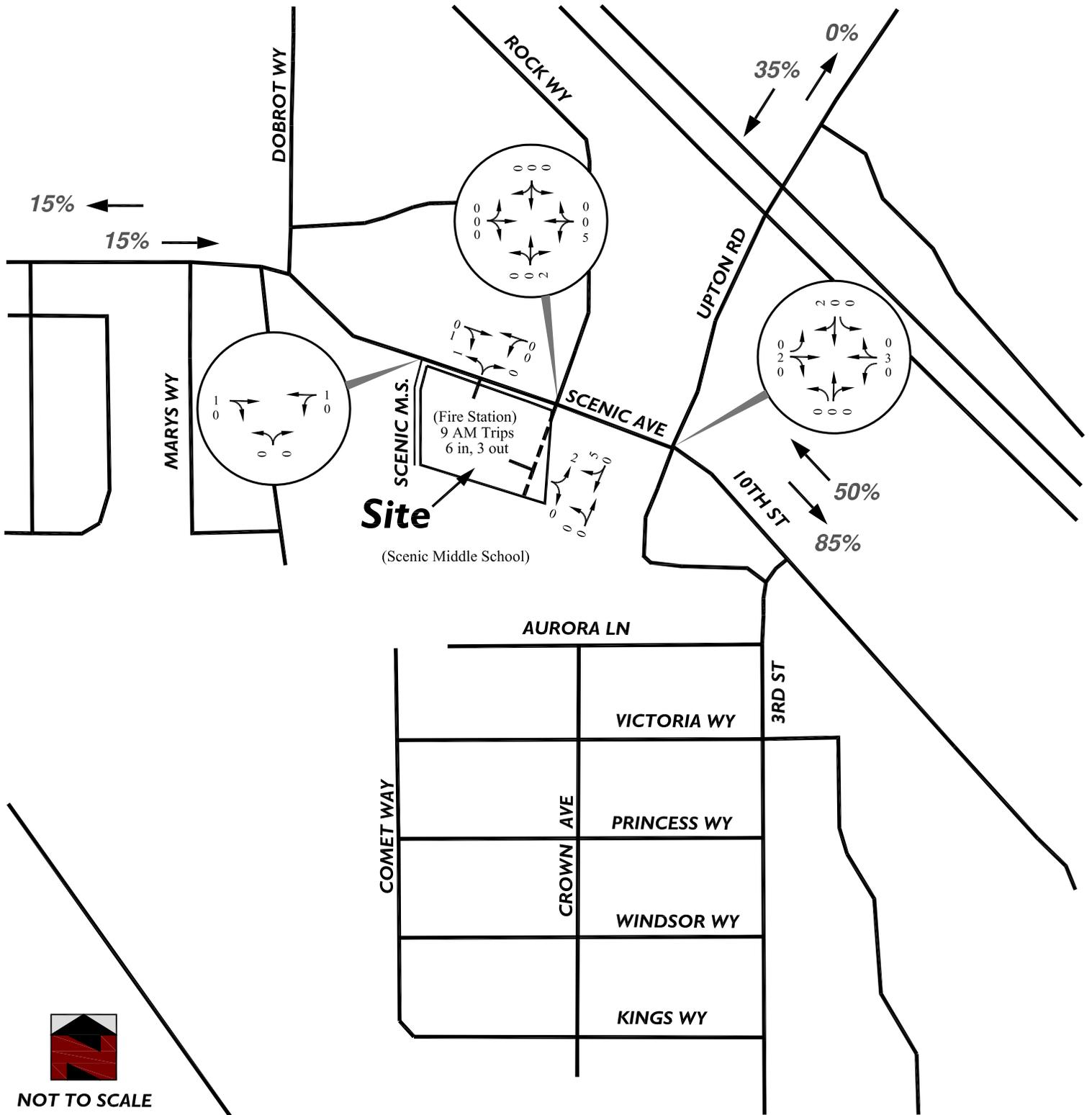
Table 8 – Development Trip Generations										
Land Use	Unit	Size	Peak Hour Rates		Peak Hour Trips					
					AM			PM		
			AM	PM	Total	In	Out	Total	In	Out
ITE 575 – Fire Station	1000 SF	10.2	--	0.48	--	--	--	5	1	4
Local Data	NA	NA	NA	NA	9	6	3	5	1	4
Total Trips					9	6	3	5	1	4

SF = square feet

Trip Distribution and Assignment

Development trips were distributed based on existing traffic patterns at Rock Way in the study area. They varied depending upon which peak hour was being evaluated. During the a.m. peak hour, traffic to the site was shown to be roughly 15% to/from the west and 85% to/from the east. During the p.m. peak hour, 25% of traffic was to/from the west and 75% to/from the east. Refer to Figures 4a and 4b for development distribution percentages and trip assignments.

Figure 4a : Development Trip Distribution & Percentages, AM Peak Hour

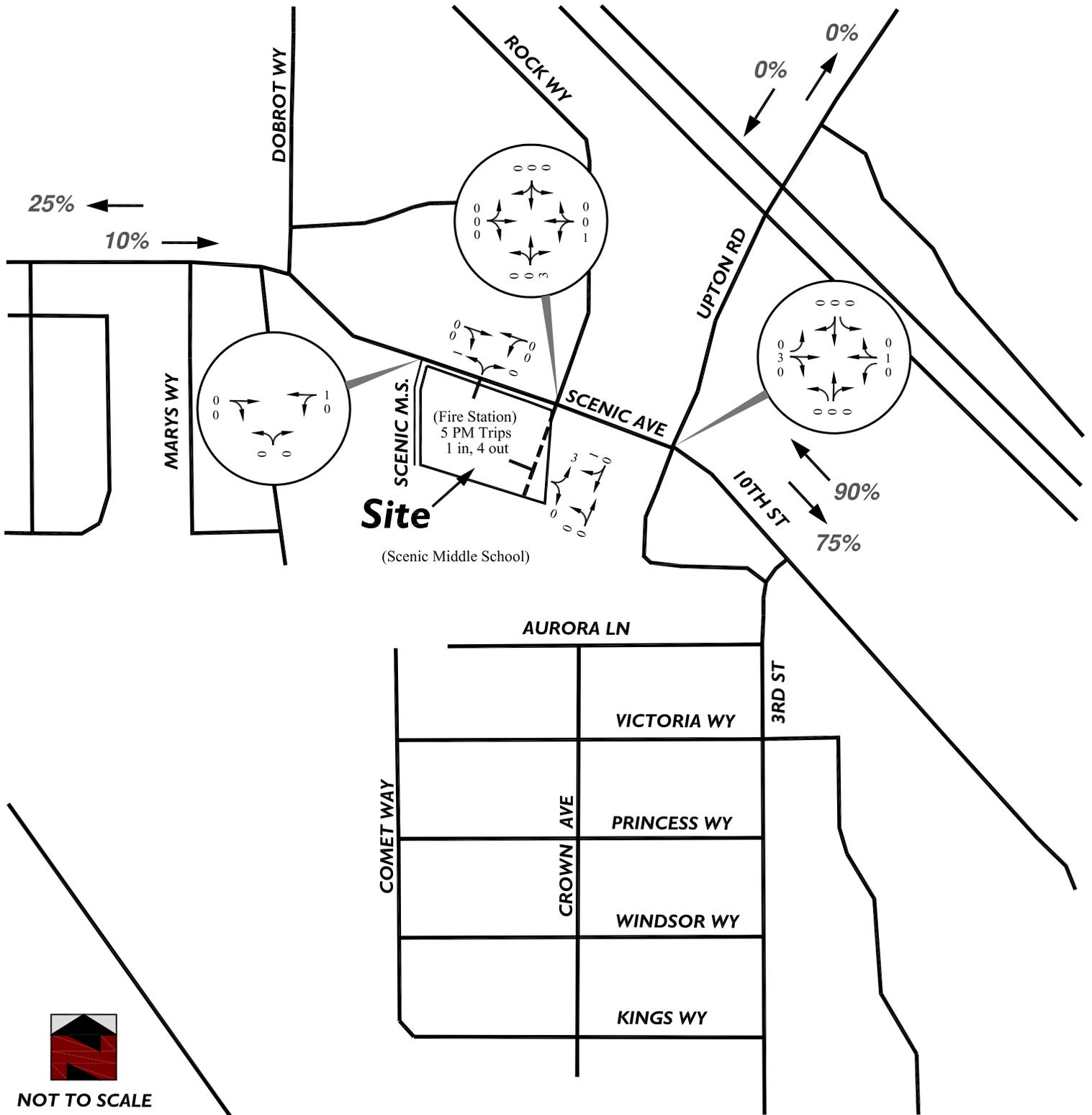


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Figure 4b : Development Trip Distribution & Percentages, PM Peak Hour



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DESIGN YEAR 2020 BUILD CONDITIONS

Design Year 2020 Build Description

Build conditions represent no-build conditions for a study area with the addition of proposed development trips considered. Build conditions are compared to no-build conditions to determine what impacts and/or mitigation measures will result from proposed development. Build conditions are evaluated in this analysis for the design year 2020. Year 2020 build traffic volumes during the a.m. and p.m. peak hours are provided in Figures 5a and 5b.

Design Year 2020 Build Intersection Operations

Design year 2020 build traffic volumes were evaluated at key intersections under a.m. and p.m. peak hour conditions. Results are summarized in Table 9.

Intersection	Performance Standard	Traffic Control	Design Year 2020 Build	
			AM Peak Hour	PM Peak Hour
Upton Road / Scenic Avenue	LOS D	TWSC	F^1 (SB), D^2 (SB)	F^1 (SB), D^2 (SB)
Rock Way / Scenic Avenue	LOS D	TWSC	C^3 , (SB)	C^3 , (SB)
Scenic Middle School / Scenic Avenue	None	TWSC	C, (NB)	B, (NB)
Rock Way / Fire Station	None	None	A, (EB)	A, (EB)
Scenic Avenue / Fire Station	None	None	B, (NB)	B, (NB)

LOS=Level of Service, TWSC=Two-way stop controlled, NB=northbound, SB=southbound

Notes:

1. Intersection LOS using Synchro Software
2. Intersection LOS from Stop Sign Delay measurement
3. Includes TWLTL improvement

Results of the analysis show all intersections within the study area operating acceptably with the exception of Upton Road / Scenic Avenue. This intersection is shown in Synchro output to operate at a LOS “F”, but was shown in a field-measured, stop sign delay study to operate at a LOS “D”. The design year 2020 build condition showed very little change in delay from year 2019 no-build conditions. Based on this, the intersection will likely continue to operate at a LOS “D” with the additional trips from the proposed Fire Station development. When the delay for the southbound left turn movement exceeds the range for a LOS “D” then it is our recommendation to stripe the existing left turn lane on the Scenic Avenue east approach as a TWLTL to allow the southbound left turning movement to turn with a two-stage gap process. This is preferred to implementing an all-way stop because of the high traffic volumes on Scenic Avenue during peak conditions. An all-way stop will create queue lengths on Scenic Avenue that are currently minimal. Restriping the east leg of the Upton Road / Scenic Avenue intersection to a center TWLTL will reduce delay for the southbound movement.

The main changes that occur within the study area are seen at Rock Way / Scenic Avenue and Scenic Middle School / Scenic Avenue as a result of the Rock Way extension and center TWLTL on Scenic Avenue. The extension of Rock Way to the Scenic Middle School parking lot allows school traffic to

re-route, which increases traffic at the Rock Way intersection, but decreases traffic at the Scenic Middle School driveway. The result is slightly higher delay at Rock Way during the p.m. peak hour, but lower delay at the Middle School driveway during afternoon pick-up and release time. Our analysis made assumptions for re-routed trips to/from Scenic Middle School, but did not make any assumptions for changes in school bus traffic patterns because this will be evaluated at a later time by Scenic Middle School. Refer to the attachments for synchro output sheets.

Design Year 2020 Build 95th Percentile Queuing

Five simulations were run and averaged in SimTraffic to determine 95th percentile queue lengths at study area intersections under design year 2020 build conditions. Queue lengths were then rounded up to the nearest 25 feet (single vehicle length) and reported in Table 10 for the a.m. and p.m. peak hours.

Table 10 – Design Year 2020 Build 95th Percentile Queue Lengths, AM and PM Peak Hours				
Intersection / Movement	Available Link Distance (Ft)	95th Percentile Queue Lengths		Exceeded or Blocked Roadway
		AM	PM	
Scenic Avenue / Rock Way				
Eastbound Left	100	25	25	-
Eastbound Through/Right	425	25	25	-
Westbound Left	100	50	50	-
Westbound Through/Right	350	0	25	-
Northbound Left/Through/Right	650	50	50	-
Southbound Left/Through/Right	200	50	50	-
Scenic MS / Scenic Avenue				
Eastbound Through/Right	500	25	25	-
Westbound Left	100	50	25	-
Westbound Through	225	0	0	-
Northbound Left/Right	350	75	75	-
Upton Road / Scenic Avenue				
Eastbound Left	150	75	75	-
Eastbound Through/Right	350	25	25	-
Westbound Left	425	25	25	-
Westbound Through/Right	450	25	50	-
Northbound Left	100	25	25	-
Northbound Through/Right	200	25	50	-
Southbound Left	225	125	125	-
Southbound Through/Right	225	75	75	-
Scenic Avenue / Fire Station				
Eastbound Through/Right	225	0	75	-
Westbound Left	100	0	25	-
Westbound Through	250	0	25	-
Northbound Left/Right	100	25	25	-
Rock Way Ext. / Fire Station				
Eastbound Left/Right	100	25	25	-
Northbound Left/Through	150	0	50	-
Southbound Through/Right	150	0	125	-

Note: Exceeded performance standards are shown in bold, italic

Results of the queuing analysis show decreases in queue lengths within the study area as a result of the Rock Way extension. The impact of re-routed traffic from Scenic Middle School reduced queue lengths at the Scenic Middle School / Scenic Avenue intersection by splitting entering and exiting trips to/from the east with the Rock Way intersection. The addition of a center TWLTL along Scenic

Avenue from Rock Way to Scenic Middle School reduced westbound left turning queues at both Rock Way and Scenic Middle School intersections. Refer to the attachments for a full queuing and blocking report.

Design Year 2020 Build Turn Lanes

Left and right turn lanes were evaluated on Scenic Avenue to determine whether turn lane criterion is met under design year 2020 build conditions at Rock Way during the a.m. and p.m. peak hours. Results show that right turn lane criterion is not met during either peak hour for the eastbound right turn movement, but left turn lane criterion is met during both peak hours for the westbound left turn movement. Turn lane graphs are provided in the attachments for further reference.

Sight Distance

Sight distance is provided at intersections to allow drivers adequate time to perceive other vehicles approaching the intersection and react in time to avoid collisions. The driver of a vehicle approaching an intersection should have an unobstructed view of the entire intersection. Likewise, stopped vehicles at intersections should have a sufficient view of the intersecting roadway to decide when to enter or cross without colliding with on-coming vehicles. Minimum sight distances are provided by the American Association of State Highways and Transportation Officials (AASHTO) in what is referred to as the AASHTO handbook.

Departure sight triangles for intersections with stop control on the minor road should be considered for three situations:

1. Case B1 – Left turns from the minor road
2. Case B2 – Right turns from the minor road
3. Case B3 – Crossing the major road from the minor road

The length of the leg of the departure sight triangle along the major road for all stop-controlled movements is dependent upon the speed of the major roadway and perception reaction times of drivers. The minimum stopping sight distance (SSD) represents the minimum sight distance required by AASHTO. Intersection sight distance (ISD) is considered to be the desirable sight distance by AASHTO. The speed used in the analysis was 30 mph because the school zone speed of 20 mph is only specified during school times.

- The minimum SSD for a left, through or right turn movement is 200 feet
- The desirable ISD for a left turn movement is 335 feet
- The desirable ISD for a right turn or crossing maneuver is 290 feet

Sight distance was measured from the Rock Way / Scenic Avenue intersection, and estimated for the proposed new Fire Station driveway on Scenic Avenue approximately halfway between the Scenic Middle School driveway and Rock Way. From the Rock Way south approach, sight distance was measured to be 600 feet to the west and 485 feet to the east, which meet both minimum SSD and desirable ISD. From the north approach, sight distance was measured to be 550 feet to the west and 480 feet to the east, which also meet both SSD and ISD.

From the proposed new Fire Station driveway on Scenic Avenue, sight distance was estimated to be approximately 600 feet in both directions based on the location shown on the site plan.

Rock Way south approach - looking west



Rock Way south approach - looking east



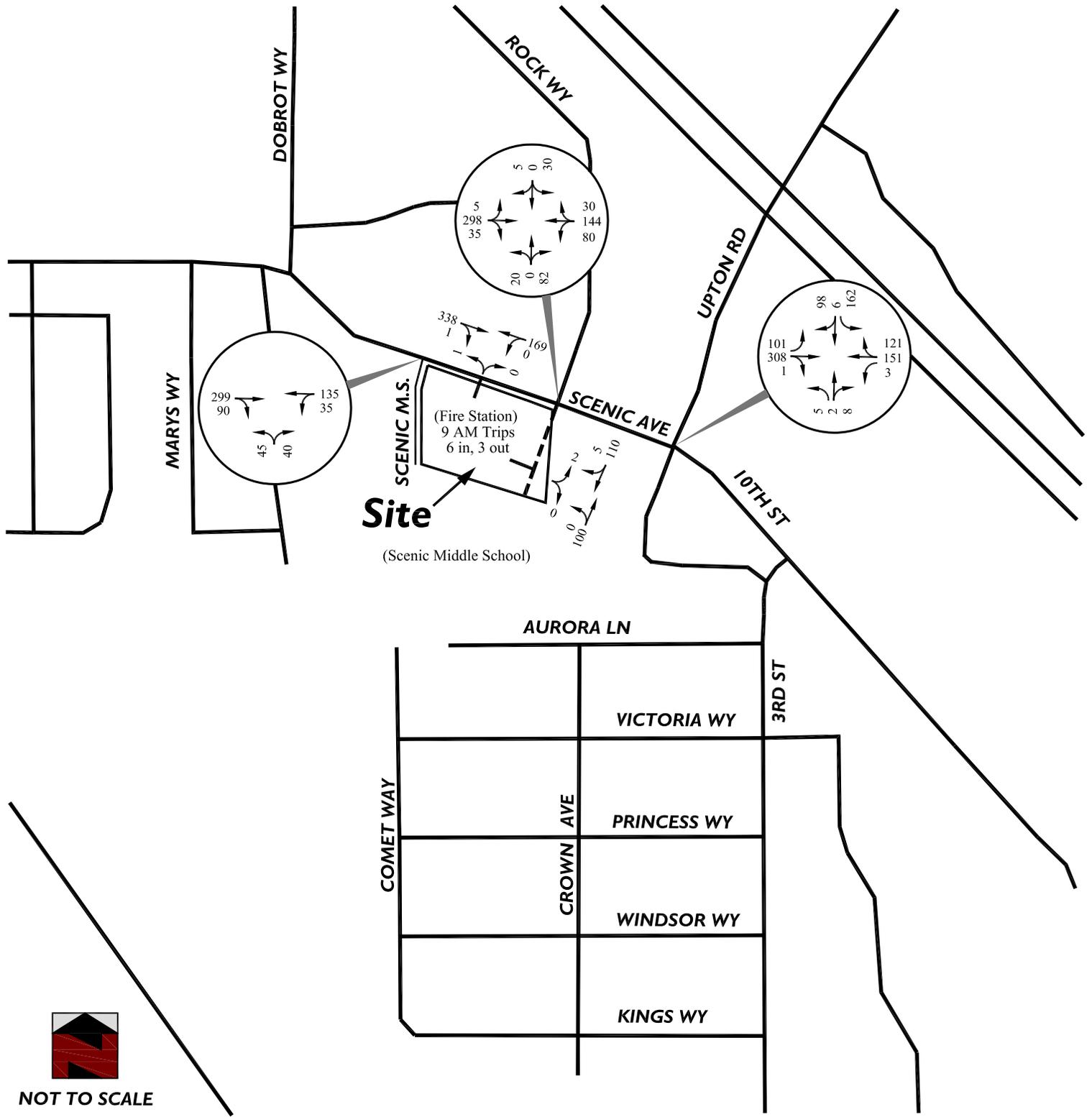
Rock Way north approach - looking east



Rock Way north approach - looking west



Figure 5a : Design Year 2020 Build Traffic Volumes, AM Peak Hour



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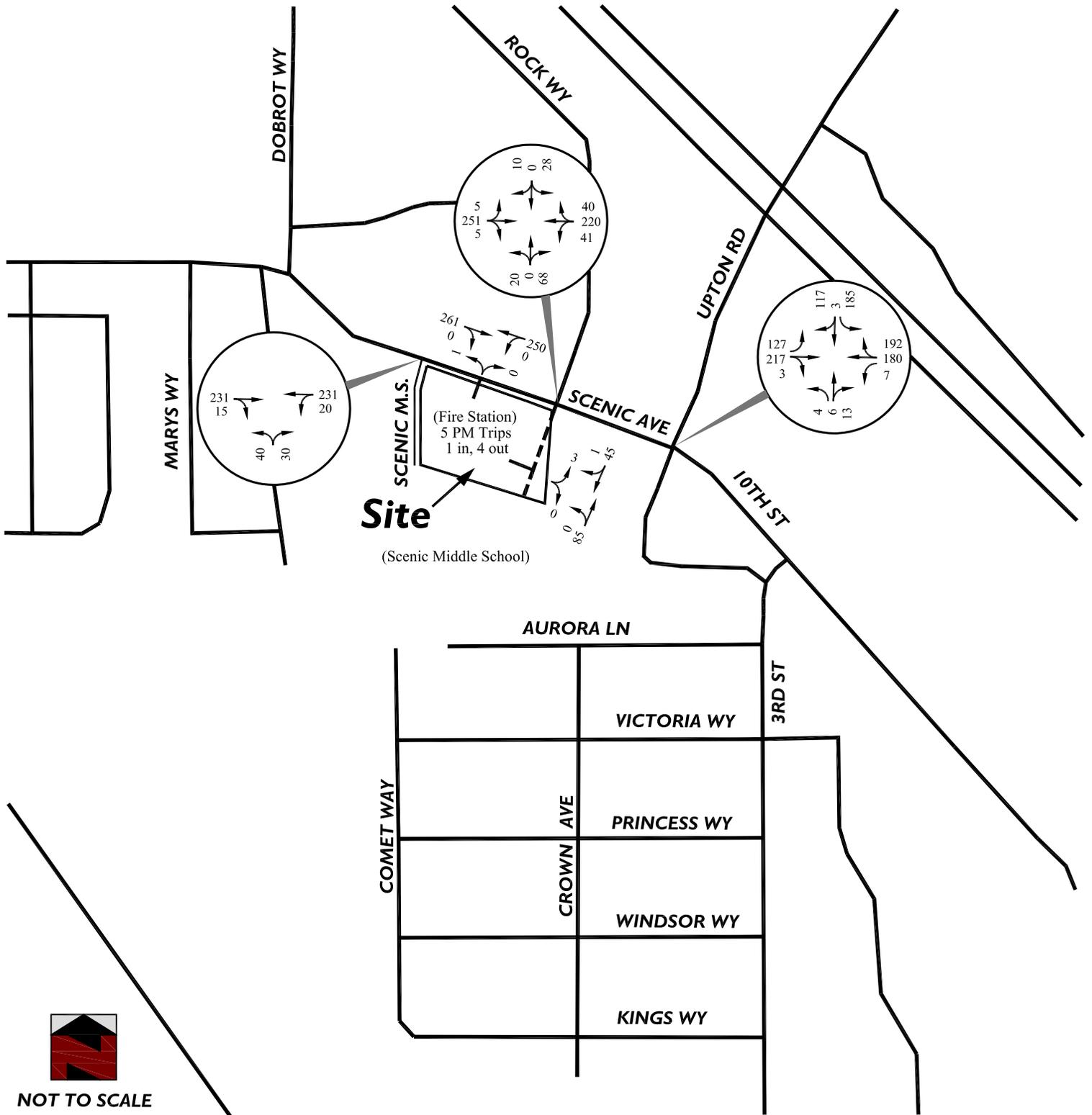


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Figure 5b : Design Year 2020 Build Traffic Volumes, PM Peak Hour



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 email: kim.parducci@gmail.com

**Fire District #3
Fire Station CUP
Traffic Impact Analysis
Central Point, Oregon**

CONCLUSIONS

The findings of the traffic impact analysis conclude that the proposed Fire Station on 37S2W03AB tax lots 4400, 4500, and part of 4600 is not shown to degrade the performance of any study area intersection or cause adverse conditions with proposed improvements in place. Intersection operations and safety conditions were evaluated to address potential impacts to the transportation system. Results of the analysis show the following:

1. Left turn lane criterion was shown to be met on Scenic Avenue at both the Rock Way / Scenic Avenue and Scenic Middle School / Scenic Avenue intersections. Recommended mitigation is to stripe Scenic Avenue to include a center two-way-left-turn-lane (TWLTL) from the Scenic Middle School driveway to the existing turn lane west of Upton Road.
2. Crosswalks are proposed on Scenic Avenue at Rock Way to support increased pedestrian and bicycle traffic as a result of the Rock Way extension to Scenic Middle School.

The proposed Fire Station on 37S2W3AB tax lots 4400, 4500, and part of 4600 is shown to be in compliance with the Central Point Comprehensive Plan, Transportation System Plan and Municipal Code. Streets that serve the subject property are shown to have adequate capacity to support proposed development with proposed improvements.

Please feel free to contact me if you have any questions or concerns regarding this analysis.

Sincerely,



Kimberly Parducci PE, PTOE

SOUTHERN OREGON TRANSPORTATION ENGINEERING, LLC

Attachments: Manual Count Data
Stop Sign Delay Data
Crash Data
Traffic Volume Development
Synchro Output/SimTraffic Output
Turn Lane Graphs
Agency Requirements



Cc: Client

ATTACHMENTS

SOUTHERN OREGON TRANSPORTATION ENGINEERING

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North-South: Rock Way
East-West: Scenic Ave
Weather: Clear, Warm
Veh Type: All Vehicles

File Name : rockway-scenicave
Site Code : 00000002
Start Date : 10/9/2018
Page No : 1

Groups Printed- All Vehicles

Start Time	From North					From East					From South					From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	6	0	0	0	6	0	24	0	0	24	0	0	0	0	0	1	33	0	0	34	64
07:15 AM	8	0	0	0	8	0	33	6	0	39	0	0	0	0	0	1	45	0	0	46	93
07:30 AM	10	0	1	0	11	0	45	2	0	47	0	0	0	0	0	2	78	0	0	80	138
07:45 AM	8	0	1	0	9	0	44	5	0	49	0	0	0	0	0	0	81	0	0	81	139
Total	32	0	2	0	34	0	146	13	0	159	0	0	0	0	0	4	237	0	0	241	434
08:00 AM	4	0	1	0	5	0	54	9	0	63	0	0	0	0	0	0	66	0	0	66	134
08:15 AM	7	0	1	8	16	0	54	6	0	60	0	0	0	0	0	1	83	0	6	90	166
08:30 AM	8	0	3	1	12	0	54	8	0	62	0	0	0	0	0	2	125	0	0	127	201
08:45 AM	6	0	1	0	7	0	25	4	0	29	0	0	0	0	0	0	48	0	0	48	84
Total	25	0	6	9	40	0	187	27	0	214	0	0	0	0	0	3	322	0	6	331	585
*** BREAK ***																					
03:00 PM	1	0	0	0	1	0	42	3	0	45	0	0	0	0	0	3	41	0	0	44	90
03:15 PM	5	0	1	6	12	0	58	8	1	67	0	0	0	0	0	5	49	0	0	54	133
03:30 PM	8	0	6	15	29	0	62	7	2	71	0	0	0	0	0	1	106	0	0	107	207
03:45 PM	7	0	2	2	11	0	75	13	0	88	0	0	0	0	0	2	73	0	38	113	212
Total	21	0	9	23	53	0	237	31	3	271	0	0	0	0	0	11	269	0	38	318	642
04:00 PM	8	0	0	0	8	0	61	8	0	69	0	0	0	0	0	0	71	0	2	73	150
04:15 PM	4	0	2	0	6	0	45	9	0	54	0	0	0	0	0	1	47	0	0	48	108
04:30 PM	6	0	1	0	7	0	65	15	0	80	0	0	0	0	0	0	51	0	0	51	138
04:45 PM	6	0	0	0	6	0	56	15	0	71	0	0	0	0	0	1	51	0	39	91	168
Total	24	0	3	0	27	0	227	47	0	274	0	0	0	0	0	2	220	0	41	263	564
05:00 PM	4	0	3	3	10	0	67	12	0	79	0	0	0	0	0	1	47	0	0	48	137
05:15 PM	8	0	1	2	11	0	73	19	0	92	0	0	0	0	0	1	53	0	0	54	157
05:30 PM	10	0	2	0	12	0	73	10	0	83	0	0	0	0	0	4	56	0	0	60	155
05:45 PM	8	0	1	0	9	0	89	6	0	95	0	0	0	0	0	1	52	0	0	53	157
Total	30	0	7	5	42	0	302	47	0	349	0	0	0	0	0	7	208	0	0	215	606
Grand Total	132	0	27	37	196	0	1099	165	3	1267	0	0	0	0	0	27	1256	0	85	1368	2831
Apprch %	67.3	0	13.8	18.9		0	86.7	13	0.2		0	0	0	0		2	91.8	0	6.2		
Total %	4.7	0	1	1.3	6.9	0	38.8	5.8	0.1	44.8	0	0	0	0	0	1	44.4	0	3	48.3	

SOUTHERN OREGON TRANSPORTATION ENGINEERING

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North-South: Rock Way
East-West: Scenic Ave
Weather: Clear, Warm
Veh Type: All Vehicles

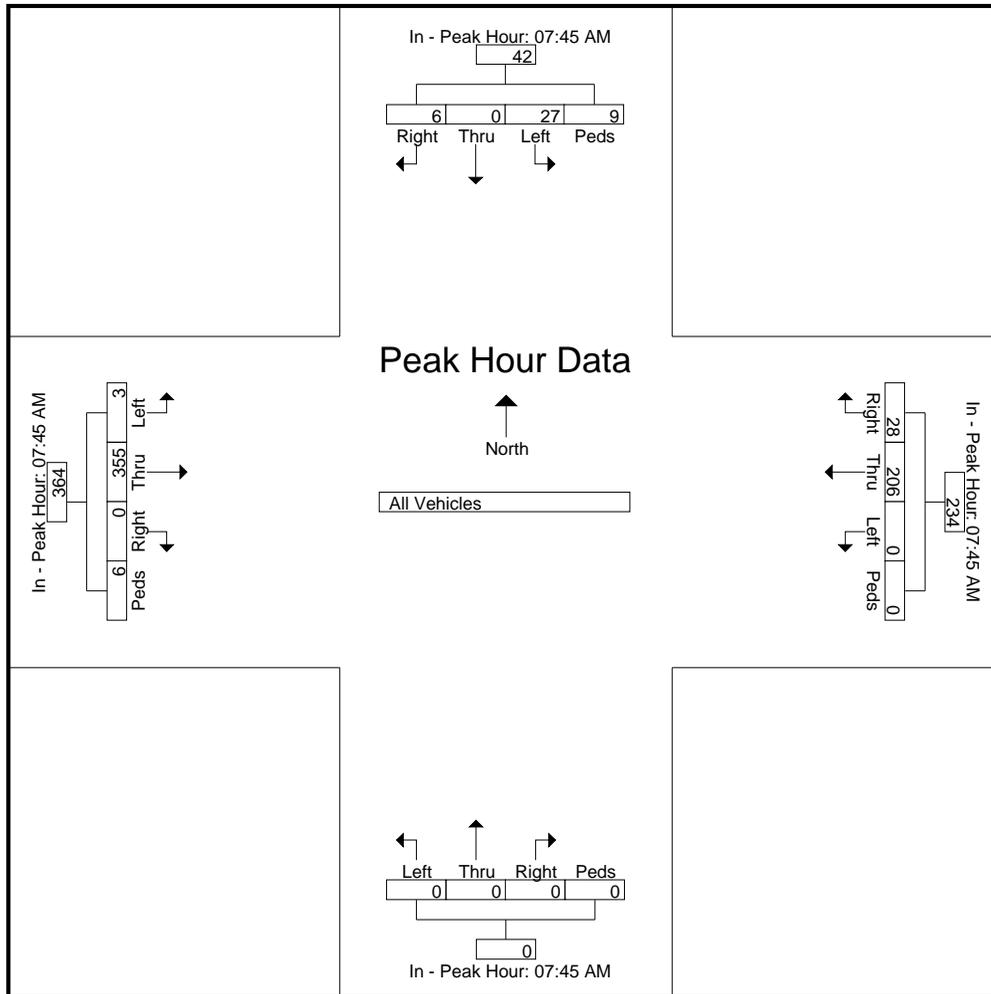
File Name : rockway-scenicave
Site Code : 00000002
Start Date : 10/9/2018
Page No : 2

Start Time	From North					From East					From South					From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	

Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45 AM					07:45 AM					07:45 AM					07:45 AM					
+0 mins.	8	0	1	0	9	0	44	5	0	49	0	0	0	0	0	0	81	0	0	0	81
+15 mins.	4	0	1	0	5	0	54	9	0	63	0	0	0	0	0	0	66	0	0	0	66
+30 mins.	7	0	1	8	16	0	54	6	0	60	0	0	0	0	0	1	83	0	6	0	90
+45 mins.	8	0	3	1	12	0	54	8	0	62	0	0	0	0	0	2	125	0	0	0	127
Total Volume	27	0	6	9	42	0	206	28	0	234	0	0	0	0	0	3	355	0	6	0	364
% App. Total	64.3	0	14.3	21.4		0	88	12	0		0	0	0	0		0.8	97.5	0	1.6		
PHF	.844	.000	.500	.281	.656	.000	.954	.778	.000	.929	.000	.000	.000	.000	.000	.375	.710	.000	.250	.717	



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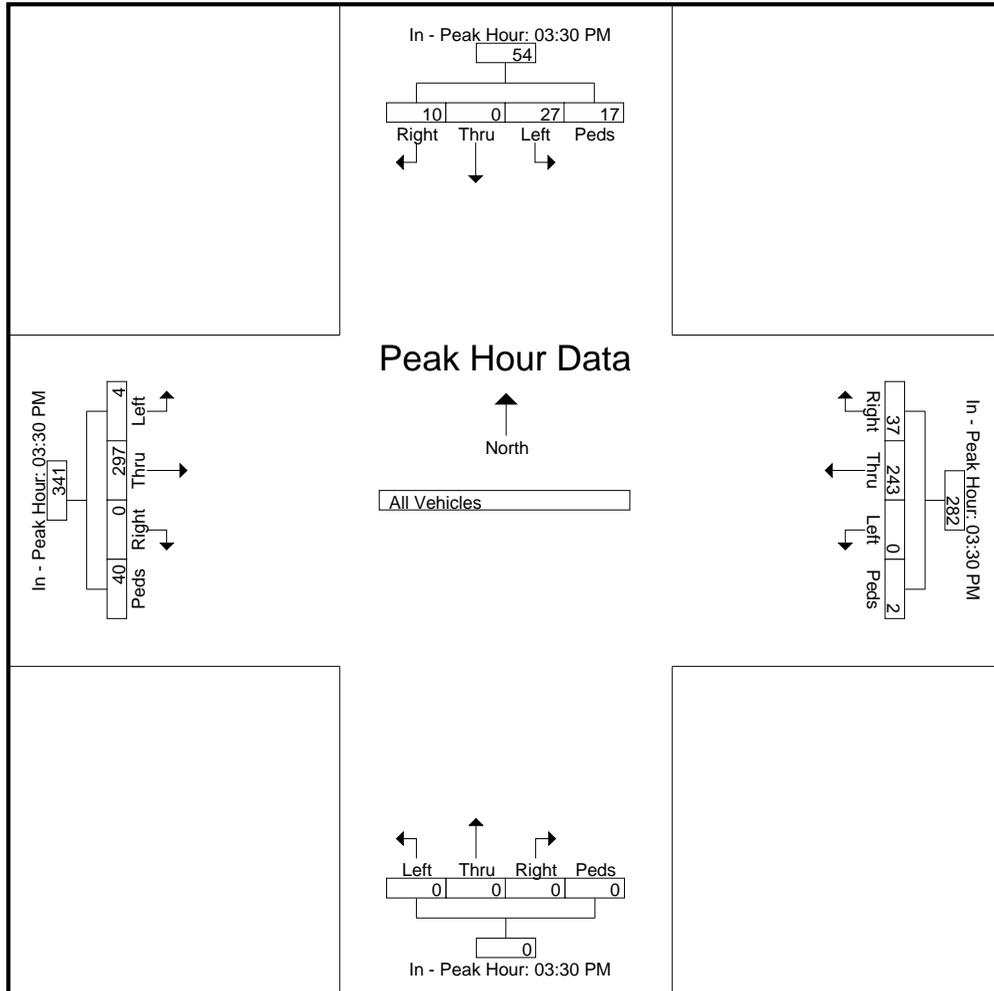
File Name : rockway-scenicave
Site Code : 00000002
Start Date : 10/9/2018
Page No : 3

Start Time	From North					From East					From South					From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	

Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	03:30 PM					03:30 PM					03:30 PM					03:30 PM									
+0 mins.	8	0	6	15	29	0	62	7	2	71	0	0	0	0	0	1	106	0	0	107	2	73	0	38	113
+15 mins.	7	0	2	2	11	0	75	13	0	88	0	0	0	0	0	0	71	0	2	73	1	47	0	0	48
+30 mins.	8	0	0	0	8	0	61	8	0	69	0	0	0	0	0	0	297	0	40	341	1.2	87.1	0	11.7	
+45 mins.	4	0	2	0	6	0	45	9	0	54	0	0	0	0	0										
Total Volume	27	0	10	17	54	0	243	37	2	282	0	0	0	0	0	4	297	0	40	341					
% App. Total	50	0	18.5	31.5		0	86.2	13.1	0.7		0	0	0	0	0	1.2	87.1	0	11.7						
PHF	.844	.000	.417	.283	.466	.000	.810	.712	.250	.801	.000	.000	.000	.000	.000	.500	.700	.000	.263	.754					



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North-South: Upton Road
 East-West: Scenic Avenue
 Weather: Clear, Warm
 Veh Type: All Vehicles

File Name : UptonScenic
 Site Code : 00000003
 Start Date : 10/9/2018
 Page No : 1

Groups Printed- All Vehicles

Start Time	From North					From East					From South					From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	16	0	11	0	27	0	12	22	0	34	1	0	0	15	16	17	22	0	0	39	116
07:15 AM	31	0	22	1	54	0	16	32	0	48	1	1	1	3	6	17	34	2	15	68	176
07:30 AM	38	0	21	1	60	2	24	31	0	57	2	0	2	0	4	27	59	0	0	86	207
07:45 AM	44	0	20	1	65	0	26	35	1	62	3	1	7	3	14	25	61	1	2	89	230
Total	129	0	74	3	206	2	78	120	1	201	7	2	10	21	40	86	176	3	17	282	729
08:00 AM	31	1	25	1	58	2	36	35	0	73	2	0	0	1	3	21	47	0	0	68	202
08:15 AM	40	2	22	1	65	0	38	20	0	58	0	0	0	0	0	24	64	0	3	91	214
08:30 AM	39	3	24	0	66	1	38	25	1	65	0	1	1	7	9	24	107	0	1	132	272
08:45 AM	19	1	11	0	31	1	27	16	1	45	1	1	1	1	4	15	39	0	1	55	135
Total	129	7	82	2	220	4	139	96	2	241	3	2	2	9	16	84	257	0	5	346	823
*** BREAK ***																					
03:00 PM	12	1	17	0	30	3	27	23	0	53	1	0	1	0	2	19	23	0	0	42	127
03:15 PM	28	1	25	0	54	3	40	17	0	60	1	2	2	1	6	27	24	2	2	55	175
03:30 PM	35	1	28	3	67	4	39	25	0	68	2	4	7	1	14	37	85	1	12	135	284
03:45 PM	42	1	34	0	77	3	51	69	0	123	1	2	1	3	7	24	34	0	29	87	294
Total	117	4	104	3	228	13	157	134	0	304	5	8	11	5	29	107	166	3	43	319	880
04:00 PM	40	0	28	0	68	0	41	54	1	96	0	0	1	56	57	37	43	1	0	81	302
04:15 PM	58	1	20	0	79	0	33	34	0	67	1	0	3	0	4	23	36	1	28	88	238
04:30 PM	40	3	35	2	80	3	45	33	0	81	0	1	1	23	25	34	31	1	3	69	255
04:45 PM	46	1	26	0	73	2	44	34	34	114	1	0	0	41	42	23	26	2	9	60	289
Total	184	5	109	2	300	5	163	155	35	358	2	1	5	120	128	117	136	5	40	298	1084
05:00 PM	48	0	29	0	77	0	50	34	1	85	0	1	0	0	1	31	43	1	3	78	241
05:15 PM	62	0	41	0	103	2	51	40	0	93	0	0	1	1	2	17	35	0	2	54	252
05:30 PM	50	0	41	0	91	0	42	34	0	76	0	1	1	2	4	30	45	1	0	76	247
05:45 PM	48	0	40	1	89	3	45	25	0	73	0	0	0	7	7	29	83	0	1	113	282
Total	208	0	151	1	360	5	188	133	1	327	0	2	2	10	14	107	206	2	6	321	1022
Grand Total	767	16	520	11	1314	29	725	638	39	1431	17	15	30	165	227	501	941	13	111	1566	4538
Apprch %	58.4	1.2	39.6	0.8		2	50.7	44.6	2.7		7.5	6.6	13.2	72.7		32	60.1	0.8	7.1		
Total %	16.9	0.4	11.5	0.2	29	0.6	16	14.1	0.9	31.5	0.4	0.3	0.7	3.6	5	11	20.7	0.3	2.4	34.5	

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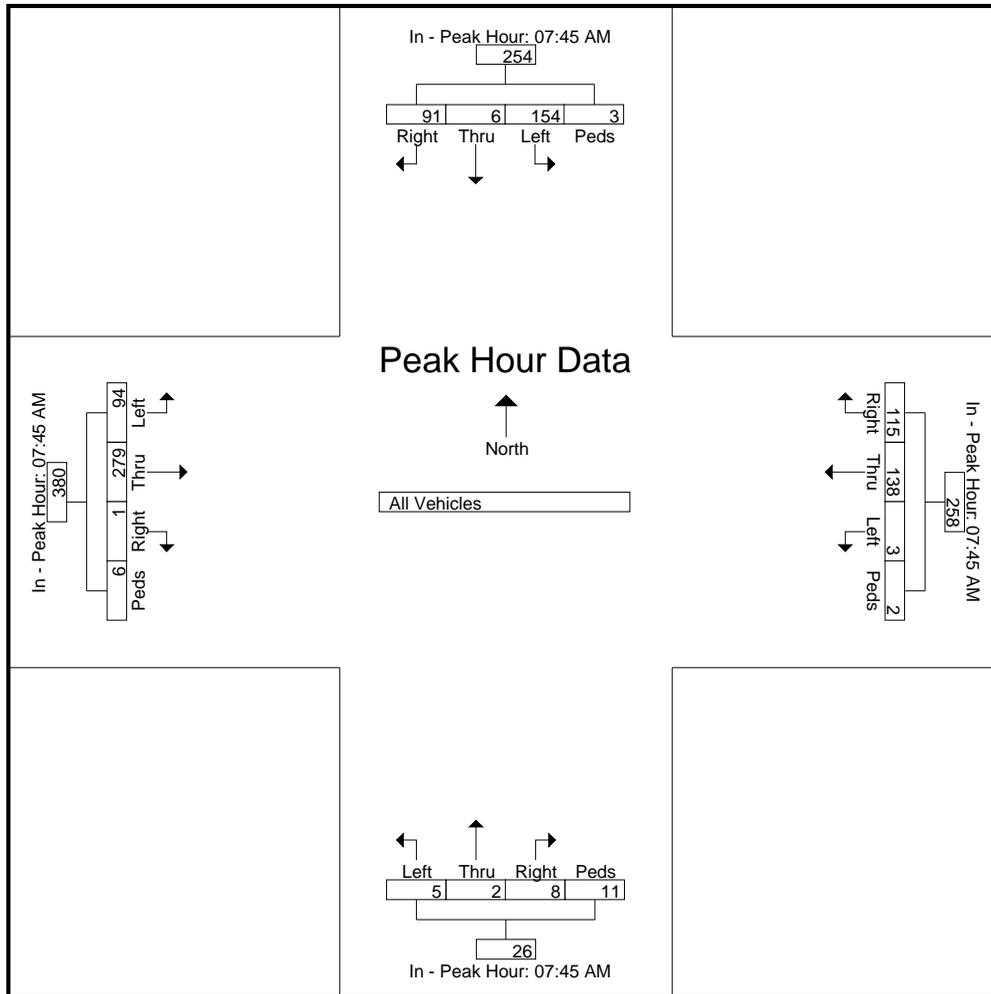
North-South: Upton Road
 East-West: Scenic Avenue
 Weather: Clear, Warm
 Veh Type: All Vehicles

File Name : UptonScenic
 Site Code : 00000003
 Start Date : 10/9/2018
 Page No : 2

Start Time	From North					From East					From South					From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	

Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:45 AM					07:45 AM					07:45 AM					07:45 AM				
+0 mins.	44	0	20	1	65	0	26	35	1	62	3	1	7	3	14	25	61	1	2	89
+15 mins.	31	1	25	1	58	2	36	35	0	73	2	0	0	1	3	21	47	0	0	68
+30 mins.	40	2	22	1	65	0	38	20	0	58	0	0	0	0	0	24	64	0	3	91
+45 mins.	39	3	24	0	66	1	38	25	1	65	0	1	1	7	9	24	107	0	1	132
Total Volume	154	6	91	3	254	3	138	115	2	258	5	2	8	11	26	94	279	1	6	380
% App. Total	60.6	2.4	35.8	1.2		1.2	53.5	44.6	0.8		19.2	7.7	30.8	42.3		24.7	73.4	0.3	1.6	
PHF	.875	.500	.910	.750	.962	.375	.908	.821	.500	.884	.417	.500	.286	.393	.464	.940	.652	.250	.500	.720



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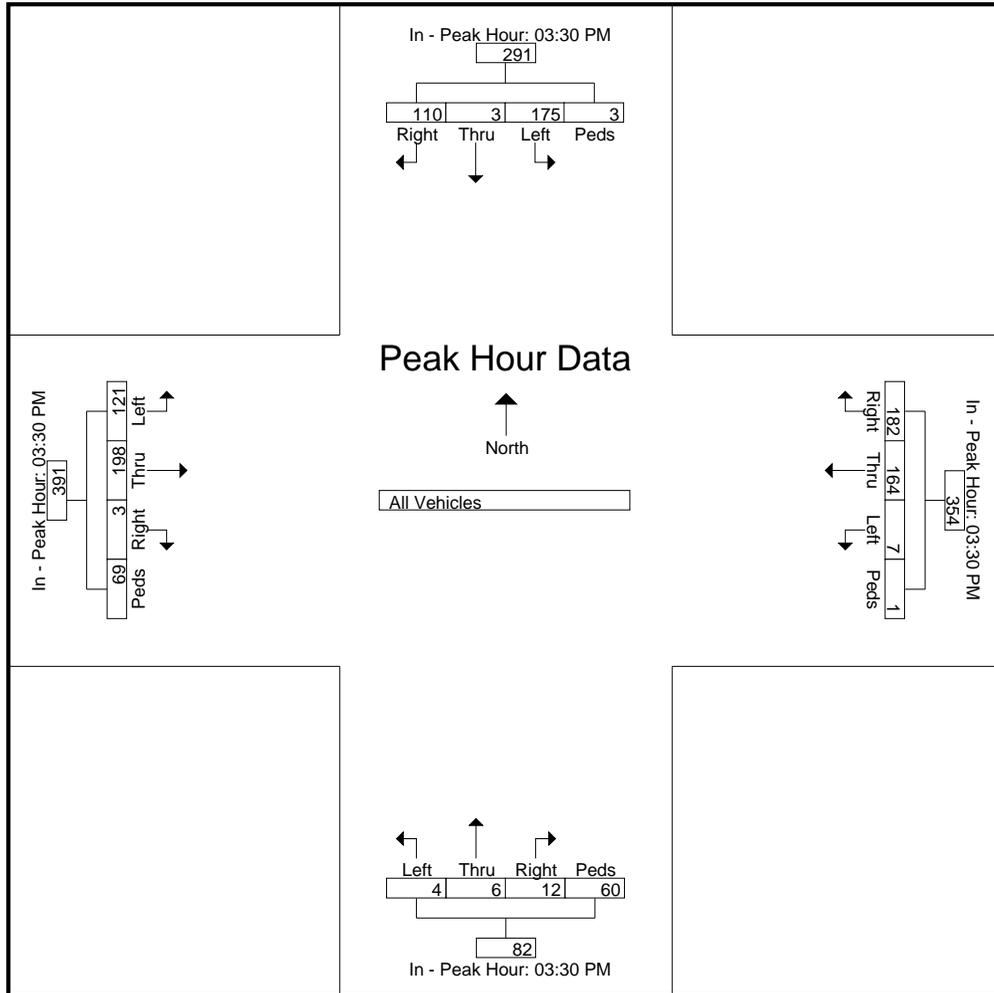
North-South: Upton Road
 East-West: Scenic Avenue
 Weather: Clear, Warm
 Veh Type: All Vehicles

File Name : UptonScenic
 Site Code : 00000003
 Start Date : 10/9/2018
 Page No : 3

Start Time	From North					From East					From South					From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	

Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	03:30 PM					03:30 PM					03:30 PM					03:30 PM				
+0 mins.	35	1	28	3	67	4	39	25	0	68	2	4	7	1	14	37	85	1	12	135
+15 mins.	42	1	34	0	77	3	51	69	0	123	1	2	1	3	7	24	34	0	29	87
+30 mins.	40	0	28	0	68	0	41	54	1	96	0	0	1	56	57	37	43	1	0	81
+45 mins.	58	1	20	0	79	0	33	34	0	67	1	0	3	0	4	23	36	1	28	88
Total Volume	175	3	110	3	291	7	164	182	1	354	4	6	12	60	82	121	198	3	69	391
% App. Total	60.1	1	37.8	1		2	46.3	51.4	0.3		4.9	7.3	14.6	73.2		30.9	50.6	0.8	17.6	
PHF	.754	.750	.809	.250	.921	.438	.804	.659	.250	.720	.500	.375	.429	.268	.360	.818	.582	.750	.595	.724



SOUTHERN OREGON TRANSPORTATION ENGINEERING

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North-South: Scenic Middle School
 East-West: Scenic Avenue
 Weather: Clear, Warm
 Veh Type: All Vehicles

File Name : scenicave_middleschool
 Site Code : 00000001
 Start Date : 10/9/2018
 Page No : 1

Groups Printed- Unshifted

Start Time	From North					Scenic Ave From East					Middle School From South					Scenic Ave From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	0	0	0	0	3	22	0	15	40	0	0	2	0	2	0	29	2	14	45	87
07:15 AM	0	0	0	0	0	3	28	0	0	31	0	0	3	0	3	0	41	4	1	46	80
07:30 AM	0	0	0	0	0	12	34	0	1	47	0	0	4	0	4	0	76	7	1	84	135
07:45 AM	0	0	0	0	0	21	23	0	0	44	4	0	11	0	15	0	70	17	1	88	147
Total	0	0	0	0	0	39	107	0	16	162	4	0	20	0	24	0	216	30	17	263	449
08:00 AM	0	0	0	0	0	28	27	0	1	56	13	0	22	0	35	0	41	27	2	70	161
08:15 AM	0	0	0	0	0	34	22	0	0	56	21	0	35	0	56	0	53	40	7	100	212
08:30 AM	0	0	0	0	0	23	31	0	0	54	25	0	44	0	69	0	81	34	6	121	244
08:45 AM	0	0	0	0	0	8	19	0	1	28	3	0	12	0	15	0	36	6	0	42	85
Total	0	0	0	0	0	93	99	0	2	194	62	0	113	0	175	0	211	107	15	333	702
*** BREAK ***																					
03:00 PM	0	0	0	0	0	4	38	0	0	42	2	0	2	0	4	0	42	12	0	54	100
03:15 PM	0	0	0	0	0	17	42	0	0	59	2	0	8	0	10	0	46	9	0	55	124
03:30 PM	0	0	0	0	0	29	39	0	0	68	33	0	44	9	86	0	63	9	1	73	227
03:45 PM	0	0	0	0	0	18	59	0	0	77	10	0	24	1	35	0	51	6	1	58	170
Total	0	0	0	0	0	68	178	0	0	246	47	0	78	10	135	0	202	36	2	240	621
04:00 PM	0	0	0	0	0	6	55	0	0	61	6	0	21	3	30	0	50	1	1	52	143
04:15 PM	0	0	0	0	0	4	43	0	0	47	8	0	1	0	9	0	47	1	0	48	104
04:30 PM	0	0	0	0	0	5	61	0	0	66	2	0	6	0	8	0	45	2	2	49	123
04:45 PM	0	0	0	0	0	6	50	0	0	56	0	0	1	17	18	0	51	6	14	71	145
Total	0	0	0	0	0	21	209	0	0	230	16	0	29	20	65	0	193	10	17	220	515
05:00 PM	0	0	0	0	0	21	49	0	0	70	10	0	24	4	38	0	44	10	1	55	163
05:15 PM	0	0	0	0	0	25	49	0	0	74	5	0	12	0	17	0	42	12	1	55	146
05:30 PM	0	0	0	0	0	26	49	0	0	75	8	0	20	0	28	0	40	21	0	61	164
05:45 PM	0	0	0	0	0	37	53	0	0	90	7	0	14	0	21	0	38	22	0	60	171
Total	0	0	0	0	0	109	200	0	0	309	30	0	70	4	104	0	164	65	2	231	644
Grand Total	0	0	0	0	0	330	793	0	18	1141	159	0	310	34	503	0	986	248	53	1287	2931
Apprch %	0	0	0	0		28.9	69.5	0	1.6		31.6	0	61.6	6.8		0	76.6	19.3	4.1		
Total %	0	0	0	0	0	11.3	27.1	0	0.6	38.9	5.4	0	10.6	1.2	17.2	0	33.6	8.5	1.8	43.9	

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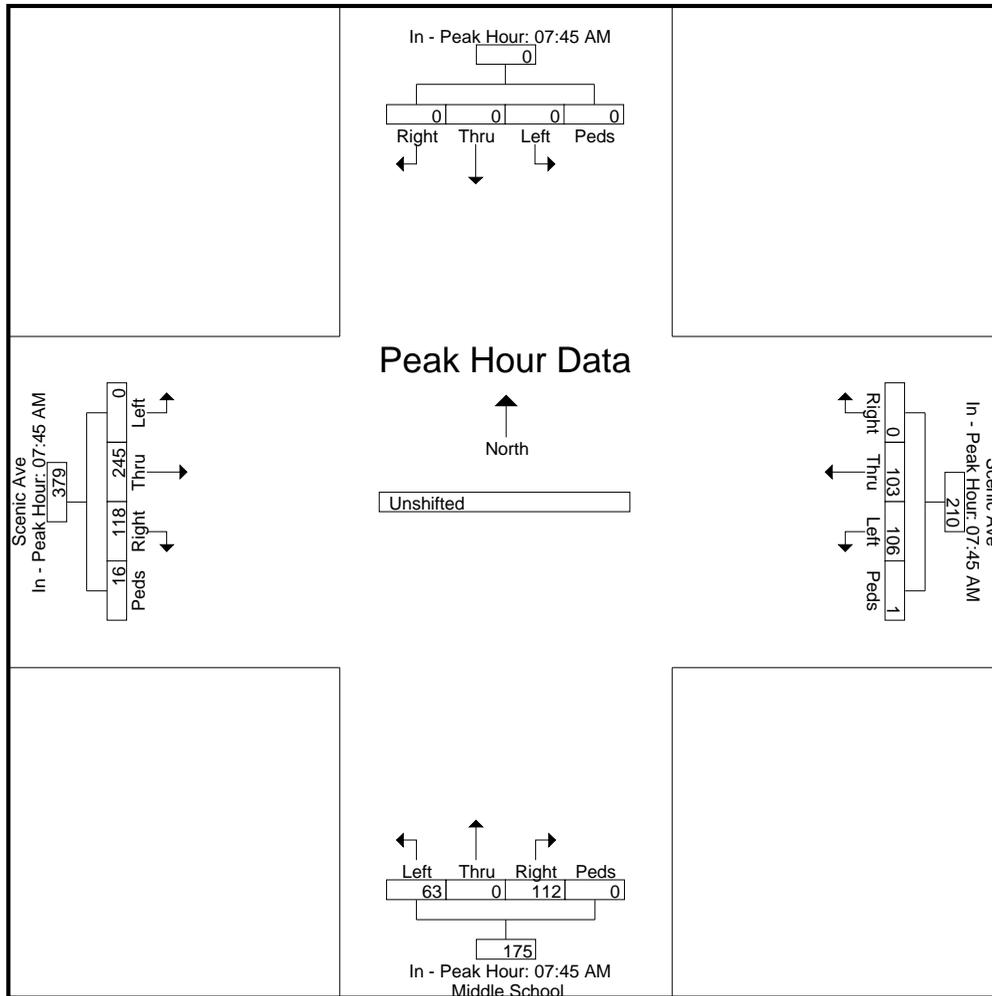
North-South: Scenic Middle School
 East-West: Scenic Avenue
 Weather: Clear, Warm
 Veh Type: All Vehicles

File Name : scenicave_middleschool
 Site Code : 00000001
 Start Date : 10/9/2018
 Page No : 2

Start Time	From North					Scenic Ave From East					Middle School From South					Scenic Ave From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	

Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:45 AM					07:45 AM					07:45 AM					07:45 AM				
+0 mins.	0	0	0	0	0	21	23	0	0	44	4	0	11	0	15	0	70	17	1	88
+15 mins.	0	0	0	0	0	28	27	0	1	56	13	0	22	0	35	0	41	27	2	70
+30 mins.	0	0	0	0	0	34	22	0	0	56	21	0	35	0	56	0	53	40	7	100
+45 mins.	0	0	0	0	0	23	31	0	0	54	25	0	44	0	69	0	81	34	6	121
Total Volume	0	0	0	0	0	106	103	0	1	210	63	0	112	0	175	0	245	118	16	379
% App. Total	0	0	0	0	0	50.5	49	0	0.5	.938	.36	0	.64	0	.634	0	64.6	31.1	4.2	.783
PHF	.000	.000	.000	.000	.000	.779	.831	.000	.250	.938	.630	.000	.636	.000	.634	.000	.756	.738	.571	.783



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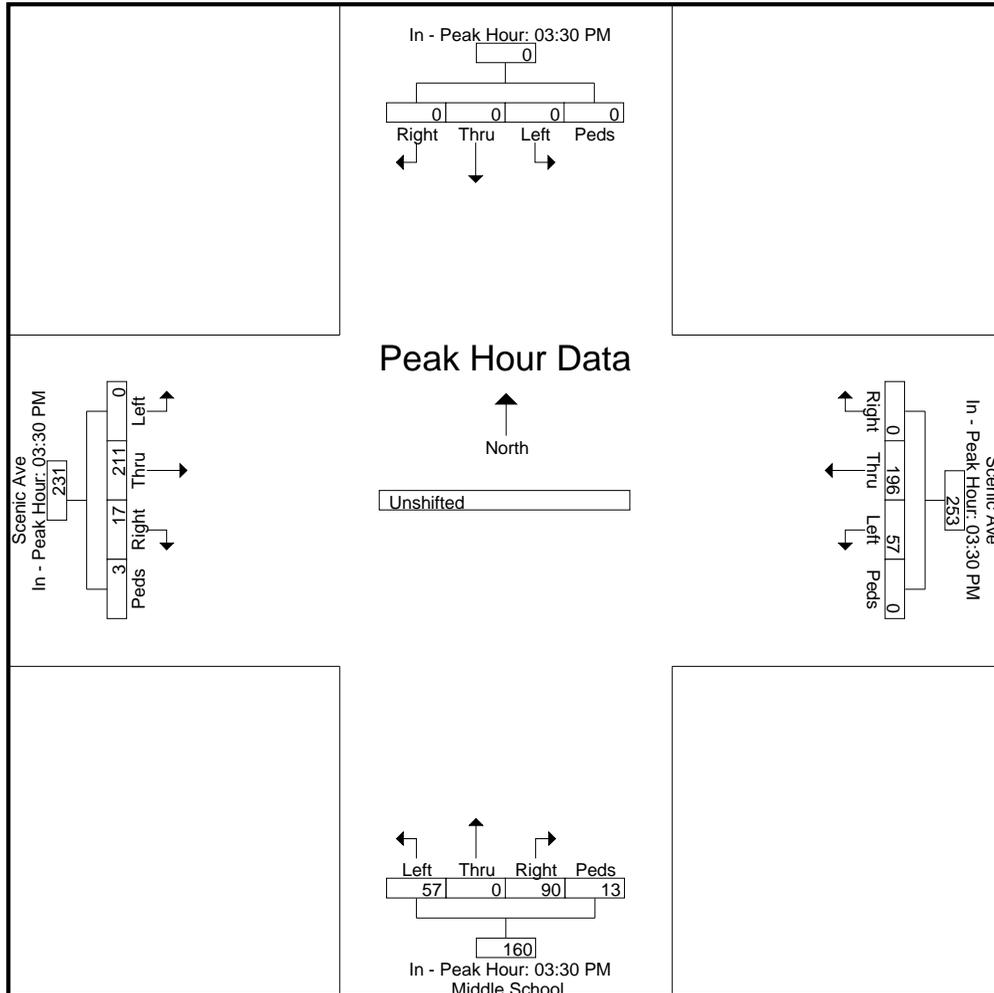
North-South: Scenic Middle School
 East-West: Scenic Avenue
 Weather: Clear, Warm
 Veh Type: All Vehicles

File Name : scenicave_middleschool
 Site Code : 00000001
 Start Date : 10/9/2018
 Page No : 3

Start Time	From North					Scenic Ave From East					Middle School From South					Scenic Ave From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	

Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	03:30 PM					03:30 PM					03:30 PM					03:30 PM				
+0 mins.	0	0	0	0	0	29	39	0	0	68	33	0	44	9	86	0	63	9	1	73
+15 mins.	0	0	0	0	0	18	59	0	0	77	10	0	24	1	35	0	51	6	1	58
+30 mins.	0	0	0	0	0	6	55	0	0	61	6	0	21	3	30	0	50	1	1	52
+45 mins.	0	0	0	0	0	4	43	0	0	47	8	0	1	0	9	0	47	1	0	48
Total Volume	0	0	0	0	0	57	196	0	0	253	57	0	90	13	160	0	211	17	3	231
% App. Total	0	0	0	0	0	22.5	77.5	0	0		35.6	0	56.2	8.1		0	91.3	7.4	1.3	
PHF	.000	.000	.000	.000	.000	.491	.831	.000	.000	.821	.432	.000	.511	.361	.465	.000	.837	.472	.750	.791



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North-South: 1st Street
East-West: Fire Station DW
Weather: Clear, 30-40 deg
Veh Type: All Vehicles

File Name : 1st St-FireStation3
Site Code : 00000001
Start Date : 2/5/2019
Page No : 1

Groups Printed- Unshifted

Start Time	1st Street From North					From East					1st Street From South					Fire Station From West					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
07:00 AM	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
07:15 AM	0	1	3	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	5
07:30 AM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	1	1	1	5
07:45 AM	0	1	0	2	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4
Total	0	4	4	2	10	0	0	0	0	0	1	3	0	0	4	1	0	0	1	2	2	16
08:00 AM	0	4	0	1	5	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	7
08:15 AM	0	3	1	0	4	0	0	0	0	0	0	1	0	0	1	1	0	1	0	2	2	7
08:30 AM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
Total	0	8	1	1	10	0	0	0	0	0	0	6	0	0	6	1	0	2	0	3	3	19
*** BREAK ***																						
03:00 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	4
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2
03:30 PM	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	5
03:45 PM	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	5
Total	0	9	0	0	9	0	0	0	0	0	0	6	0	1	7	0	0	0	0	0	0	16
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2
*** BREAK ***																						
04:30 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	2	5
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
Total	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	1	0	1	0	2	2	8
05:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
05:30 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
05:45 PM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	4	1	0	5	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	7
Grand Total	0	28	6	3	37	0	0	0	0	0	1	20	0	1	22	3	0	3	1	7	66	
Apprch %	0	75.7	16.2	8.1		0	0	0	0		4.5	90.9	0	4.5		42.9	0	42.9	14.3			
Total %	0	42.4	9.1	4.5	56.1	0	0	0	0	0	1.5	30.3	0	1.5	33.3	4.5	0	4.5	1.5	10.6		

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North-South: 1st Street
 East-West: Fire Station DW
 Weather: Clear, 30-40 deg
 Veh Type: All Vehicles

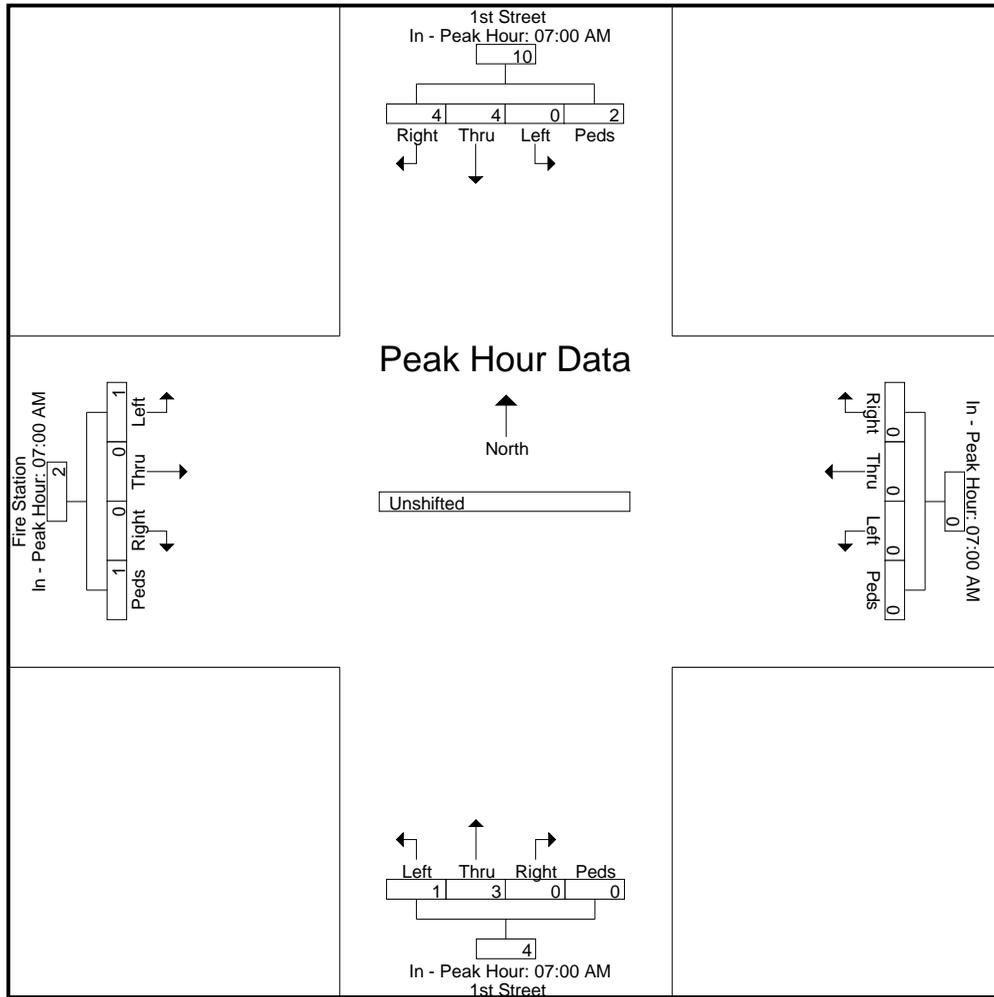
File Name : 1st St-FireStation3
 Site Code : 00000001
 Start Date : 2/5/2019
 Page No : 2

Start Time	1st Street From North					From East					1st Street From South					Fire Station From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM					07:00 AM					07:00 AM					07:00 AM									
+0 mins.	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	3	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	1
+30 mins.	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	1	1
+45 mins.	0	1	0	2	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
Total Volume	0	4	4	2	10	0	0	0	0	0	1	3	0	0	4	1	0	0	1	2	50	0	0	50	100
% App. Total	0	40	40	20		0	0	0	0		.25	.75	0	0		.25	.00	.00	.50		.50	.00	.00	.50	1.00
PHF	.000	.500	.333	.250	.625	.000	.000	.000	.000	.000	.250	.375	.000	.000	.500	.250	.000	.000	.250	.500	.250	.000	.000	.250	.500



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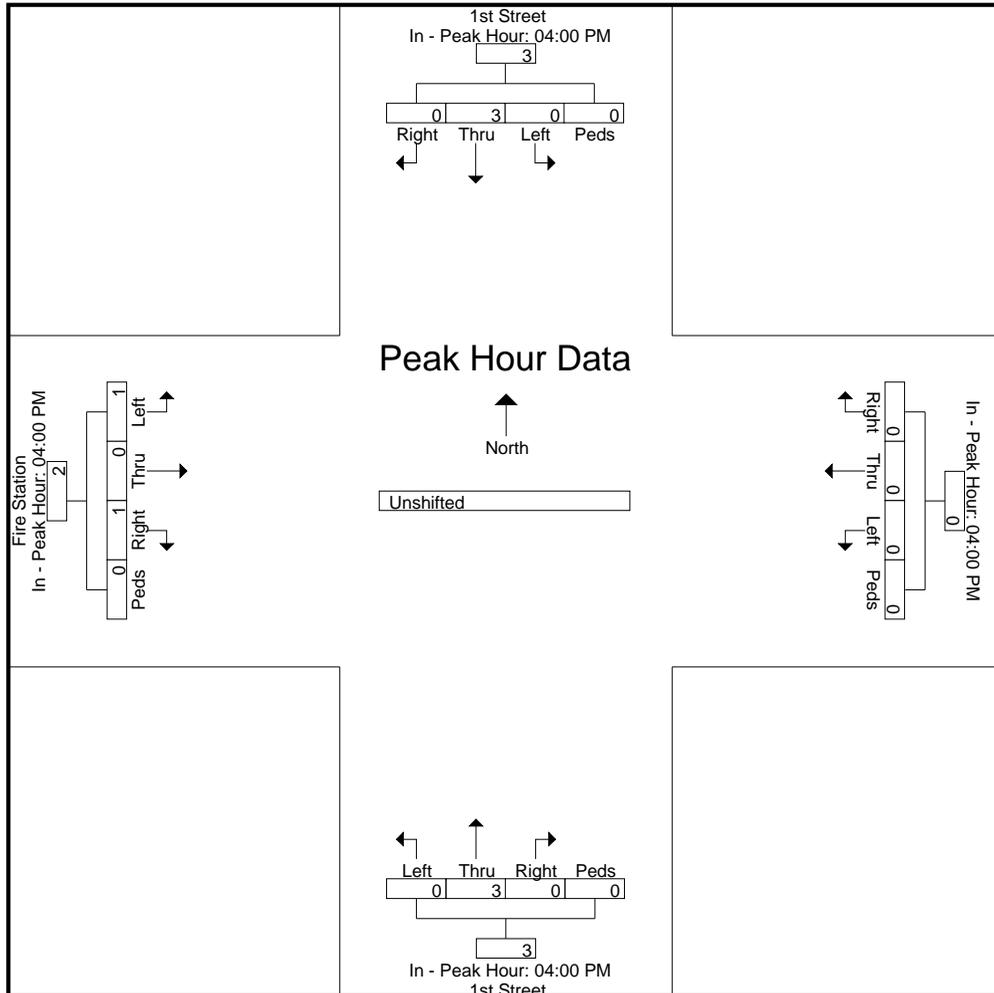
North-South: 1st Street
 East-West: Fire Station DW
 Weather: Clear, 30-40 deg
 Veh Type: All Vehicles

File Name : 1st St-FireStation3
 Site Code : 00000001
 Start Date : 2/5/2019
 Page No : 3

Start Time	1st Street From North					From East					1st Street From South					Fire Station From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM					04:00 PM					04:00 PM					04:00 PM									
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
Total Volume	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	1	0	1	0	2	0	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	0	0	0	100	0	0	0	50	0	50	0	0	0	0	0	0	0
PHF	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.375	.000	.000	.375	.250	.000	.250	.000	.250					



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North-South: OR 99 (Front St)
 East-West: Fire Station
 Weather: Clear, 30-40 deg
 Veh Type: All Vehicles

File Name : 99-FireStation3
 Site Code : 00000001
 Start Date : 2/5/2019
 Page No : 1

Groups Printed- Unshifted

Start Time	OR 99 (Front) From North					Fire Station From East					OR 99 (Front) From South					From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	1	67	0	0	68	0	0	1	0	1	0	76	0	0	76	0	0	0	0	0	145
07:15 AM	0	116	0	0	116	1	0	0	0	1	0	96	0	0	96	0	0	0	0	0	213
07:30 AM	0	172	0	0	172	0	0	0	0	0	0	149	0	0	149	0	0	0	0	0	321
07:45 AM	0	198	0	0	198	0	0	0	0	0	0	139	0	0	139	0	0	0	0	0	337
Total	1	553	0	0	554	1	0	1	0	2	0	460	0	0	460	0	0	0	0	0	1016
08:00 AM	0	153	0	0	153	0	0	0	0	0	0	134	0	0	134	0	0	0	0	0	287
08:15 AM	0	143	0	0	143	0	0	0	0	0	0	104	0	0	104	0	0	0	0	0	247
08:30 AM	0	130	0	0	130	0	0	0	0	0	0	117	0	0	117	0	0	0	0	0	247
08:45 AM	1	112	0	0	113	0	0	0	0	0	0	126	0	0	126	0	0	0	0	0	239
Total	1	538	0	0	539	0	0	0	0	0	0	481	0	0	481	0	0	0	0	0	1020
*** BREAK ***																					
03:00 PM	0	138	0	0	138	0	0	0	0	0	0	175	0	0	175	0	0	0	0	0	313
03:15 PM	0	113	0	0	113	0	0	0	0	0	0	183	0	0	183	0	0	0	0	0	296
03:30 PM	0	160	0	0	160	0	0	0	0	0	0	197	0	0	197	0	0	0	0	0	357
03:45 PM	0	159	0	0	159	0	0	0	0	0	0	166	0	0	166	0	0	0	0	0	325
Total	0	570	0	0	570	0	0	0	0	0	0	721	0	0	721	0	0	0	0	0	1291
04:00 PM	0	178	0	0	178	0	0	1	0	1	0	148	0	0	148	0	0	0	0	0	327
04:15 PM	0	138	0	0	138	0	0	0	0	0	0	171	0	0	171	0	0	0	0	0	309
04:30 PM	1	123	0	0	124	0	0	1	0	1	0	189	0	0	189	0	0	0	0	0	314
04:45 PM	0	129	0	0	129	0	0	0	0	0	0	190	0	0	190	0	0	0	0	0	319
Total	1	568	0	0	569	0	0	2	0	2	0	698	0	0	698	0	0	0	0	0	1269
05:00 PM	0	125	0	0	125	0	0	0	0	0	0	216	0	0	216	0	0	0	0	0	341
05:15 PM	0	125	0	0	125	0	0	0	0	0	0	209	0	0	209	0	0	0	0	0	334
05:30 PM	0	113	0	0	113	0	0	0	0	0	0	176	0	0	176	0	0	0	0	0	289
05:45 PM	0	108	0	0	108	0	0	0	0	0	0	126	0	0	126	0	0	0	0	0	234
Total	0	471	0	0	471	0	0	0	0	0	0	727	0	0	727	0	0	0	0	0	1198
Grand Total	3	2700	0	0	2703	1	0	3	0	4	0	3087	0	0	3087	0	0	0	0	0	5794
Apprch %	0.1	99.9	0	0		25	0	75	0		0	100	0	0		0	0	0	0		
Total %	0.1	46.6	0	0	46.7	0	0	0.1	0	0.1	0	53.3	0	0	53.3	0	0	0	0	0	

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North-South: OR 99 (Front St)
 East-West: Fire Station
 Weather: Clear, 30-40 deg
 Veh Type: All Vehicles

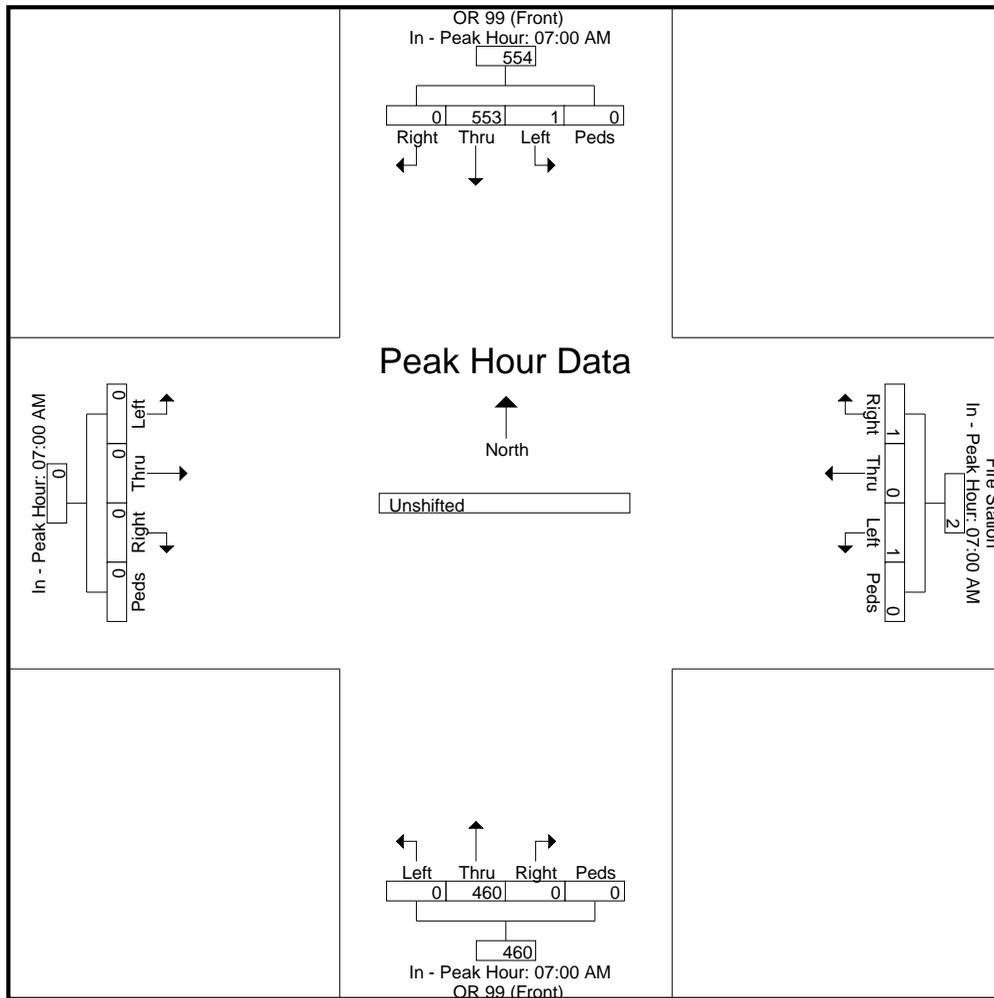
File Name : 99-FireStation3
 Site Code : 00000001
 Start Date : 2/5/2019
 Page No : 2

Start Time	OR 99 (Front) From North					Fire Station From East					OR 99 (Front) From South					From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM					07:00 AM					07:00 AM					07:00 AM				
+0 mins.	1	67	0	0	68	0	0	1	0	1	0	76	0	0	76	0	0	0	0	0
+15 mins.	0	116	0	0	116	1	0	0	0	1	0	96	0	0	96	0	0	0	0	0
+30 mins.	0	172	0	0	172	0	0	0	0	0	0	149	0	0	149	0	0	0	0	0
+45 mins.	0	198	0	0	198	0	0	0	0	0	0	139	0	0	139	0	0	0	0	0
Total Volume	1	553	0	0	554	1	0	1	0	2	0	460	0	0	460	0	0	0	0	0
% App. Total	0.2	99.8	0	0		50	0	50	0		0	100	0	0		0	0	0	0	
PHF	.250	.698	.000	.000	.699	.250	.000	.250	.000	.500	.000	.772	.000	.000	.772	.000	.000	.000	.000	.000



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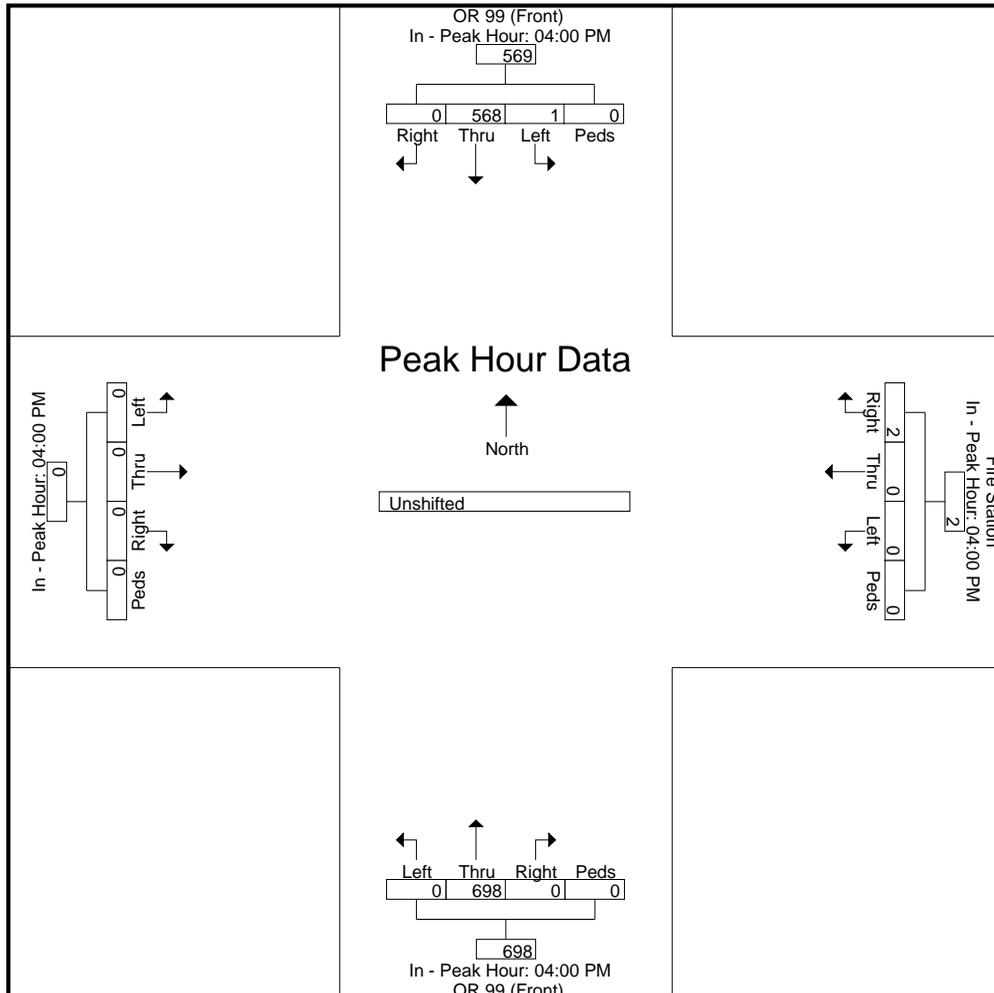
North-South: OR 99 (Front St)
 East-West: Fire Station
 Weather: Clear, 30-40 deg
 Veh Type: All Vehicles

File Name : 99-FireStation3
 Site Code : 00000001
 Start Date : 2/5/2019
 Page No : 3

Start Time	OR 99 (Front) From North					Fire Station From East					OR 99 (Front) From South					From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM					04:00 PM					04:00 PM					04:00 PM				
+0 mins.	0	178	0	0	178	0	0	1	0	1	0	148	0	0	148	0	0	0	0	0
+15 mins.	0	138	0	0	138	0	0	0	0	0	0	171	0	0	171	0	0	0	0	0
+30 mins.	1	123	0	0	124	0	0	1	0	1	0	189	0	0	189	0	0	0	0	0
+45 mins.	0	129	0	0	129	0	0	0	0	0	0	190	0	0	190	0	0	0	0	0
Total Volume	1	568	0	0	569	0	0	2	0	2	0	698	0	0	698	0	0	0	0	0
% App. Total	0.2	99.8	0	0		0	0	100	0		0	100	0	0		0	0	0	0	
PHF	.250	.798	.000	.000	.799	.000	.000	.500	.000	.500	.000	.918	.000	.000	.918	.000	.000	.000	.000	.000



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Lane 1: Southbound Left
 Lane 2: Southbound Through/Right
 Weather: Clear, 40 deg
 Veh Type: All Vehicles

File Name : Upton-Scenic_SD
 Site Code : 00000000
 Start Date : 1/15/2019
 Page No : 1

L n.	No.	Joined Queue	Released From Queue	Delay
1	66	7:40:00 AM	7:40:02 AM	2
1	67	7:40:35 AM	7:40:47 AM	12
1	68	7:40:48 AM	7:41:02 AM	14
1	69	7:40:49 AM	7:41:09 AM	20
1	70	7:40:55 AM	7:41:12 AM	17
1	71	7:41:36 AM	7:41:48 AM	12
1	72	7:41:45 AM	7:41:55 AM	10
1	73	7:42:23 AM	7:42:33 AM	10
1	74	7:42:24 AM	7:43:37 AM	73
1	75	7:42:53 AM	7:44:36 AM	103
1	76	7:42:54 AM	7:44:41 AM	107
1	77	7:42:56 AM	7:44:43 AM	107
1	78	7:43:30 AM	7:44:47 AM	77
1	79	7:43:45 AM	7:44:52 AM	67
1	80	7:44:40 AM	7:45:09 AM	29
1	81	7:46:08 AM	7:46:12 AM	4
1	82	7:46:33 AM	7:46:51 AM	18
1	83	7:46:35 AM	7:46:58 AM	23
1	84	7:46:37 AM	7:47:03 AM	26
1	85	7:46:39 AM	7:47:06 AM	27
1	86	7:46:49 AM	7:47:10 AM	21
1	87	7:47:22 AM	7:47:27 AM	5
1	88	7:47:41 AM	7:47:49 AM	8
1	89	7:47:54 AM	7:48:07 AM	13
1	90	7:48:12 AM	7:48:24 AM	12
1	91	7:48:40 AM	7:48:44 AM	4
1	92	7:49:05 AM	7:49:09 AM	4
1	93	7:49:05 AM	7:49:56 AM	51
1	94	7:49:13 AM	7:50:05 AM	52
1	95	7:49:22 AM	7:50:32 AM	70
1	96	7:49:31 AM	7:50:46 AM	75
1	97	7:49:44 AM	7:51:14 AM	90
1	98	7:50:16 AM	7:51:20 AM	64
1	99	7:50:53 AM	7:51:26 AM	33
1	100	7:50:57 AM	7:51:32 AM	35
1	101	7:51:16 AM	7:51:38 AM	22
1	102	7:52:08 AM	7:52:24 AM	16
1	103	7:52:18 AM	7:52:27 AM	9
1	104	7:52:26 AM	7:52:42 AM	16
1	105	7:52:44 AM	7:52:54 AM	10
1	106	7:52:47 AM	7:53:25 AM	38
1	107	7:52:50 AM	7:54:05 AM	75
1	108	7:52:57 AM	7:54:09 AM	72
1	109	7:53:04 AM	7:54:17 AM	73
1	110	7:54:11 AM	7:54:19 AM	8
1	111	7:55:04 AM	7:55:18 AM	14
1	112	7:55:07 AM	7:55:25 AM	18
1	113	7:56:49 AM	7:57:09 AM	20
1	114	7:57:16 AM	7:57:18 AM	2
1	115	7:57:17 AM	7:57:21 AM	4
1	116	7:57:26 AM	7:57:27 AM	1
1	117	7:57:29 AM	7:57:35 AM	6
1	118	7:57:38 AM	7:57:42 AM	4
1	119	7:57:43 AM	7:58:25 AM	42
1	120	7:58:19 AM	7:58:35 AM	16
1	121	7:58:51 AM	7:59:16 AM	25
1	122	7:59:29 AM	7:59:45 AM	16
1	123	7:59:34 AM	7:59:55 AM	21

SOUTHERN OREGON TRANSPORTATION ENGINEERING

Medford, Oregon 97504 | Kim.parducci@gmail.com | (541) 941-4148 cell

Lane 1: Southbound Left
 Lane 2: Southbound Through/Right
 Weather: Clear, 40 deg
 Veh Type: All Vehicles

File Name : Upton-Scenic_SD
 Site Code : 00000000
 Start Date : 1/15/2019
 Page No : 2

L n.	No.	Joined Queue	Released From Queue	Delay	
1	124	8:00:22 AM	8:00:31 AM	9	
1	125	8:01:13 AM	8:01:16 AM	3	
1	126	8:01:59 AM	8:02:21 AM	22	
1	127	8:01:59 AM	8:02:34 AM	35	
1	128	8:02:20 AM	8:02:41 AM	21	
1	129	8:03:19 AM	8:03:24 AM	5	
1	130	8:04:10 AM	8:04:20 AM	10	
1	131	8:04:12 AM	8:04:28 AM	16	
1	132	8:05:07 AM	8:05:47 AM	40	
1	133	8:06:00 AM	8:06:06 AM	6	
1	134	8:07:00 AM	8:07:09 AM	9	
1	135	8:07:15 AM	8:07:20 AM	5	
1	136	8:08:18 AM	8:08:23 AM	5	
1	137	8:09:01 AM	8:09:18 AM	17	
1	138	8:10:15 AM	8:10:24 AM	9	
1	139	8:10:41 AM	8:10:44 AM	3	
1	140	8:11:34 AM	8:11:38 AM	4	
1	141	8:11:36 AM	8:11:45 AM	9	
1	142	8:12:32 AM	8:12:38 AM	6	
1	143	8:12:36 AM	8:12:42 AM	6	
1	144	8:12:52 AM	8:13:08 AM	16	
1	145	8:13:00 AM	8:13:10 AM	10	
1	146	8:13:06 AM	8:13:18 AM	12	
1	147	8:13:35 AM	8:13:37 AM	2	
1	148	8:13:45 AM	8:13:51 AM	6	
1	149	8:14:03 AM	8:14:38 AM	35	
1	150	8:15:03 AM	8:15:08 AM	5	
1	151	8:15:11 AM	8:15:21 AM	10	
1	152	8:16:13 AM	8:16:15 AM	2	
1	153	8:16:43 AM	8:16:49 AM	6	
1	154	8:16:46 AM	8:16:53 AM	7	
1	155	8:16:48 AM	8:17:09 AM	21	
1	156	8:16:59 AM	8:17:13 AM	14	
1	157	8:17:54 AM	8:18:22 AM	28	
1	158	8:17:58 AM	8:18:31 AM	33	
1	159	8:18:45 AM	8:19:08 AM	23	
1	160	8:18:48 AM	8:19:23 AM	35	
1	161	8:19:07 AM	8:19:27 AM	20	
1	162	8:19:13 AM	8:19:46 AM	33	
1	163	8:20:26 AM	8:20:32 AM	6	
1	164	8:20:31 AM	8:20:51 AM	20	
1	165	8:20:44 AM	8:20:58 AM	14	
1	166	8:20:49 AM	8:21:05 AM	16	
1	167	8:21:06 AM	8:21:14 AM	8	
1	168	8:21:09 AM	8:21:32 AM	23	
1	169	8:21:29 AM	8:21:37 AM	8	
1	170	8:22:12 AM	8:22:25 AM	13	
1	171	8:22:16 AM	8:22:49 AM	33	
1	172	8:22:18 AM	8:22:53 AM	35	
1	173	8:22:59 AM	8:23:36 AM	37	
1	174	8:23:03 AM	8:23:52 AM	49	
1	175	8:24:18 AM	8:24:35 AM	17	
1	176	8:24:39 AM	8:24:43 AM	4	
1	177	8:25:56 AM	8:26:18 AM	22	
1	178	8:26:11 AM	8:27:20 AM	69	
1	179	8:28:41 AM	8:29:07 AM	26	
1	180	8:28:46 AM	8:29:14 AM	28	
1	181	8:28:48 AM	8:30:14 AM	86	

SOUTHERN OREGON TRANSPORTATION ENGINEERING

Medford, Oregon 97504 | Kim.parducci@gmail.com | (541) 941-4148 cell

Lane 1: Southbound Left
Lane 2: Southbound Through/Right
Weather: Clear, 40 deg
Veh Type: All Vehicles

File Name : Upton-Scenic_SD
Site Code : 00000000
Start Date : 1/15/2019
Page No : 3

L n.	No.	Joined Queue	Released From Queue	Delay	
1	182	8:28:58 AM	8:30:22 AM	84	
1	183	8:29:25 AM	8:30:28 AM	63	
1	184	8:30:27 AM	8:30:37 AM	10	
1	185	8:30:31 AM	8:30:41 AM	10	
1	186	8:30:33 AM	8:30:56 AM	23	
1	187	8:30:36 AM	8:31:31 AM	55	
1	188	8:30:59 AM	8:31:37 AM	38	
1	189	8:31:04 AM	8:31:47 AM	43	
1	190	8:31:30 AM	8:31:52 AM	22	
1	191	8:31:59 AM	8:32:00 AM	1	
1	192	8:31:59 AM	8:32:12 AM	13	
1	193	8:32:29 AM	8:33:17 AM	48	
1	194	8:32:58 AM	8:33:29 AM	31	
1	195	8:33:00 AM	8:33:53 AM	53	
1	196	8:33:11 AM	8:34:01 AM	50	
1	197	8:33:16 AM	8:34:34 AM	78	
1	198	8:33:39 AM	8:34:39 AM	60	
1	199	8:33:40 AM	8:35:03 AM	83	
1	200	8:34:02 AM	8:35:35 AM	93	
1	201	8:34:04 AM	8:35:38 AM	94	
1	202	8:34:08 AM	8:36:09 AM	121	
1	203	8:34:21 AM	8:36:13 AM	112	
1	204	8:34:45 AM	8:36:21 AM	96	
1	205	8:35:22 AM	8:36:21 AM	59	
1	206	8:35:26 AM	8:36:24 AM	58	
1	207	8:35:27 AM	8:36:30 AM	63	
1	208	8:36:17 AM	8:36:43 AM	26	
1	209	8:36:28 AM	8:36:55 AM	27	
1	210	8:36:28 AM	8:37:13 AM	45	
1	211	8:36:29 AM	8:37:18 AM	49	
1	212	8:36:38 AM	8:37:21 AM	43	
1	213	8:37:03 AM	8:37:43 AM	40	
1	214	8:37:28 AM	8:38:05 AM	37	
1	215	8:37:30 AM	8:38:11 AM	41	
1	216	8:37:42 AM	8:38:39 AM	57	
1	217	8:37:47 AM	8:38:44 AM	57	
1	218	8:38:24 AM	8:39:07 AM	43	
1	219	8:38:30 AM	8:39:25 AM	55	
1	220	8:38:42 AM	8:39:30 AM	48	
1	221	8:39:32 AM	8:39:34 AM	2	
1	222	8:39:40 AM	8:39:43 AM	3	
1	223	8:39:41 AM	8:39:45 AM	4	
2	33	7:40:34 AM	7:40:37 AM	3	
2	34	7:41:45 AM	7:41:51 AM	6	
2	35	7:42:15 AM	7:42:21 AM	6	
2	36	7:43:09 AM	7:43:13 AM	4	
2	37	7:44:18 AM	7:44:37 AM	19	
2	38	7:45:53 AM	7:46:01 AM	8	
2	39	7:46:03 AM	7:46:07 AM	4	
2	40	7:46:19 AM	7:46:21 AM	2	
2	41	7:46:48 AM	7:46:52 AM	4	
2	42	7:49:36 AM	7:49:45 AM	9	
2	43	7:52:08 AM	7:52:20 AM	12	
2	44	7:52:09 AM	7:52:24 AM	15	
2	45	7:52:26 AM	7:52:30 AM	4	
2	46	7:52:29 AM	7:52:36 AM	7	
2	47	7:52:33 AM	7:52:43 AM	10	
2	48	7:53:28 AM	7:53:39 AM	11	

SOUTHERN OREGON TRANSPORTATION ENGINEERING

Medford, Oregon 97504 | Kim.parducci@gmail.com | (541) 941-4148 cell

Lane 1: Southbound Left
 Lane 2: Southbound Through/Right
 Weather: Clear, 40 deg
 Veh Type: All Vehicles

File Name : Upton-Scenic_SD
 Site Code : 00000000
 Start Date : 1/15/2019
 Page No : 4

L n.	No.	Joined Queue	Released From Queue	Delay	
2	49	7:53:51 AM	7:53:55 AM	4	
2	50	7:53:56 AM	7:53:58 AM	2	
2	51	7:55:13 AM	7:55:17 AM	4	
2	52	7:55:29 AM	7:55:31 AM	2	
2	53	7:56:47 AM	7:56:58 AM	11	
2	54	7:59:54 AM	7:59:56 AM	2	
2	55	8:00:43 AM	8:00:46 AM	3	
2	56	8:01:25 AM	8:01:28 AM	3	
2	57	8:01:56 AM	8:02:01 AM	5	
2	58	8:02:33 AM	8:02:37 AM	4	
2	59	8:03:10 AM	8:03:13 AM	3	
2	60	8:04:16 AM	8:04:20 AM	4	
2	61	8:04:58 AM	8:05:04 AM	6	
2	62	8:06:09 AM	8:06:13 AM	4	
2	63	8:07:32 AM	8:07:37 AM	5	
2	64	8:09:04 AM	8:09:09 AM	5	
2	65	8:10:17 AM	8:10:26 AM	9	
2	66	8:10:36 AM	8:10:40 AM	4	
2	67	8:10:53 AM	8:11:01 AM	8	
2	68	8:11:32 AM	8:11:37 AM	5	
2	69	8:12:13 AM	8:12:17 AM	4	
2	70	8:12:49 AM	8:13:05 AM	16	
2	71	8:12:55 AM	8:13:09 AM	14	
2	72	8:13:07 AM	8:13:14 AM	7	
2	73	8:13:12 AM	8:13:20 AM	8	
2	74	8:13:22 AM	8:13:26 AM	4	
2	75	8:14:05 AM	8:14:14 AM	9	
2	76	8:14:13 AM	8:14:26 AM	13	
2	77	8:14:49 AM	8:14:55 AM	6	
2	78	8:14:53 AM	8:15:05 AM	12	
2	79	8:14:58 AM	8:15:09 AM	11	
2	80	8:15:19 AM	8:15:23 AM	4	
2	81	8:15:41 AM	8:15:48 AM	7	
2	82	8:15:59 AM	8:16:09 AM	10	
2	83	8:16:05 AM	8:16:26 AM	21	
2	84	8:16:24 AM	8:16:33 AM	9	
2	85	8:16:28 AM	8:16:41 AM	13	
2	86	8:17:24 AM	8:17:30 AM	6	
2	87	8:17:28 AM	8:18:09 AM	41	
2	88	8:17:36 AM	8:18:32 AM	56	
2	89	8:18:01 AM	8:18:33 AM	32	
2	90	8:19:20 AM	8:19:23 AM	3	
2	91	8:20:57 AM	8:21:01 AM	4	
2	92	8:22:08 AM	8:22:13 AM	5	
2	93	8:22:11 AM	8:22:27 AM	16	
2	94	8:22:19 AM	8:22:32 AM	13	
2	95	8:22:45 AM	8:22:49 AM	4	
2	96	8:22:47 AM	8:22:52 AM	5	
2	97	8:23:02 AM	8:23:10 AM	8	
2	98	8:23:32 AM	8:23:39 AM	7	
2	99	8:23:54 AM	8:23:57 AM	3	
2	100	8:24:28 AM	8:24:32 AM	4	
2	101	8:24:43 AM	8:24:46 AM	3	
2	102	8:25:35 AM	8:25:39 AM	4	
2	103	8:25:44 AM	8:25:47 AM	3	
2	104	8:26:21 AM	8:26:26 AM	5	
2	105	8:26:25 AM	8:26:37 AM	12	
2	106	8:28:36 AM	8:28:48 AM	12	

SOUTHERN OREGON TRANSPORTATION ENGINEERING

Medford, Oregon 97504 | Kim.parducci@gmail.com | (541) 941-4148 cell

Lane 1: Southbound Left
 Lane 2: Southbound Through/Right
 Weather: Clear, 40 deg
 Veh Type: All Vehicles

File Name : Upton-Scenic_SD
 Site Code : 00000000
 Start Date : 1/15/2019
 Page No : 5

L n.	No.	Joined Queue	Released From Queue	Delay	
2	107	8:28:40 AM	8:28:55 AM	15	
2	108	8:28:44 AM	8:29:01 AM	17	
2	109	8:29:48 AM	8:29:59 AM	11	
2	110	8:29:50 AM	8:30:07 AM	17	
2	111	8:30:16 AM	8:30:20 AM	4	
2	112	8:30:47 AM	8:30:53 AM	6	
2	113	8:30:55 AM	8:31:07 AM	12	
2	114	8:31:01 AM	8:31:13 AM	12	
2	115	8:32:01 AM	8:32:04 AM	3	
2	116	8:33:57 AM	8:34:05 AM	8	
2	117	8:34:35 AM	8:34:38 AM	3	
2	118	8:35:51 AM	8:36:12 AM	21	
2	119	8:36:12 AM	8:36:19 AM	7	
2	120	8:36:46 AM	8:36:59 AM	13	
2	121	8:37:25 AM	8:37:32 AM	7	
2	122	8:38:07 AM	8:38:12 AM	5	
2	123	8:39:05 AM	8:39:10 AM	5	
2	124	8:39:18 AM	8:39:25 AM	7	
2	125	8:39:47 AM	8:39:48 AM	1	

Summary Information:

7:40:00 AM - 8:40:00 AM	Lane 1	Lane 2
Total Vehicle Count:	158	93
Delayed Vehicle Count:	158	93
Through Vehicle Count:	0	0
Average Stopped Time:	31.22	8.656
Maximum Stopped Time:	121	56
Min. Secs. for Delay:	0	0
Average Queue:	1.38	0.226
Queue Density:	2.40	1.254
Maximum Queue:	8	3
Delay in Vehicle Hour:	1.38	0.23
Total Delay:	4933	805

SOUTHERN OREGON TRANSPORTATION ENGINEERING

Medford, Oregon 97504 | Kim.parducci@gmail.com | (541) 941-4148 cell

Lane 1: Southbound Left
 Lane 2: Southbound Through/Right
 Weather: Clear, 55 deg
 Veh Type: All Vehicles

File Name : Upton-Scenic-SD_PM
 Site Code : 00000002
 Start Date : 1/15/2019
 Page No : 1

L n.	No.	Joined Queue	Released From Queue	Delay
1	26	3:28:35 PM	3:28:37 PM	2
1	27	3:28:55 PM	3:28:57 PM	2
1	28	3:29:00 PM	3:29:04 PM	4
1	29	3:29:08 PM	3:29:43 PM	35
1	30	3:29:21 PM	3:29:47 PM	26
1	31	3:29:37 PM	3:30:48 PM	71
1	32	3:29:48 PM	3:30:58 PM	70
1	33	3:29:55 PM	3:31:07 PM	72
1	34	3:30:03 PM	3:31:11 PM	68
1	35	3:30:23 PM	3:31:48 PM	85
1	36	3:30:43 PM	3:32:25 PM	102
1	37	3:31:05 PM	3:32:29 PM	84
1	38	3:31:17 PM	3:32:41 PM	84
1	39	3:31:23 PM	3:32:46 PM	83
1	40	3:31:37 PM	3:32:58 PM	81
1	41	3:32:28 PM	3:33:04 PM	36
1	42	3:32:50 PM	3:33:42 PM	52
1	43	3:32:53 PM	3:33:59 PM	66
1	44	3:33:13 PM	3:34:46 PM	93
1	45	3:33:32 PM	3:34:59 PM	87
1	46	3:36:35 PM	3:36:38 PM	3
1	47	3:36:47 PM	3:37:20 PM	33
1	48	3:37:02 PM	3:37:26 PM	24
1	49	3:37:37 PM	3:37:43 PM	6
1	50	3:37:39 PM	3:37:49 PM	10
1	51	3:37:50 PM	3:37:55 PM	5
1	52	3:37:58 PM	3:38:23 PM	25
1	53	3:38:02 PM	3:38:28 PM	26
1	54	3:38:16 PM	3:38:35 PM	19
1	55	3:39:21 PM	3:39:30 PM	9
1	56	3:39:25 PM	3:39:47 PM	22
1	57	3:39:26 PM	3:39:52 PM	26
1	58	3:39:30 PM	3:39:56 PM	26
1	59	3:39:39 PM	3:40:06 PM	27
1	60	3:40:40 PM	3:41:37 PM	57
1	61	3:40:56 PM	3:42:27 PM	91
1	62	3:41:10 PM	3:42:43 PM	93
1	63	3:41:15 PM	3:42:53 PM	98
1	64	3:41:33 PM	3:43:06 PM	93
1	65	3:42:01 PM	3:43:10 PM	69
1	66	3:43:43 PM	3:43:50 PM	7
1	67	3:44:16 PM	3:44:19 PM	3
1	68	3:44:30 PM	3:44:41 PM	11
1	69	3:44:31 PM	3:44:44 PM	13
1	70	3:44:36 PM	3:44:49 PM	13
1	71	3:44:38 PM	3:44:56 PM	18
1	72	3:44:54 PM	3:45:08 PM	14
1	73	3:45:18 PM	3:45:19 PM	1
1	74	3:45:22 PM	3:46:01 PM	39
1	75	3:45:30 PM	3:46:17 PM	47
1	76	3:45:48 PM	3:46:59 PM	71
1	77	3:46:10 PM	3:47:07 PM	57
1	78	3:46:11 PM	3:47:08 PM	57
1	79	3:46:21 PM	3:47:30 PM	69
1	80	3:46:43 PM	3:47:46 PM	63
1	81	3:46:55 PM	3:47:59 PM	64
1	82	3:47:19 PM	3:48:13 PM	54
1	83	3:47:34 PM	3:48:42 PM	68

SOUTHERN OREGON TRANSPORTATION ENGINEERING

Medford, Oregon 97504 | Kim.parducci@gmail.com | (541) 941-4148 cell

Lane 1: Southbound Left
 Lane 2: Southbound Through/Right
 Weather: Clear, 55 deg
 Veh Type: All Vehicles

File Name : Upton-Scenic-SD_PM
 Site Code : 00000002
 Start Date : 1/15/2019
 Page No : 2

L n.	No.	Joined Queue	Released From Queue	Delay	
1	84	3:47:39 PM	3:48:50 PM	71	
1	85	3:48:07 PM	3:48:55 PM	48	
1	86	3:48:16 PM	3:49:05 PM	49	
1	87	3:48:26 PM	3:49:15 PM	49	
1	88	3:48:27 PM	3:49:43 PM	76	
1	89	3:48:56 PM	3:49:55 PM	59	
1	90	3:49:02 PM	3:50:00 PM	58	
1	91	3:50:39 PM	3:51:13 PM	34	
1	92	3:51:10 PM	3:51:25 PM	15	
1	93	3:51:41 PM	3:51:53 PM	12	
1	94	3:51:46 PM	3:52:00 PM	14	
1	95	3:51:49 PM	3:52:14 PM	25	
1	96	3:53:10 PM	3:53:17 PM	7	
1	97	3:53:15 PM	3:54:02 PM	47	
1	98	3:53:19 PM	3:54:11 PM	52	
1	99	3:53:40 PM	3:54:17 PM	37	
1	100	3:53:55 PM	3:54:33 PM	38	
1	101	3:54:05 PM	3:54:52 PM	47	
1	102	3:54:19 PM	3:55:10 PM	51	
1	103	3:54:43 PM	3:55:17 PM	34	
1	104	3:54:59 PM	3:55:22 PM	23	
1	105	3:55:38 PM	3:55:43 PM	5	
1	106	3:55:39 PM	3:55:51 PM	12	
1	107	3:55:54 PM	3:56:12 PM	18	
1	108	3:56:33 PM	3:57:24 PM	51	
1	109	3:56:36 PM	3:57:31 PM	55	
1	110	3:56:46 PM	3:58:08 PM	82	
1	111	3:57:30 PM	3:58:13 PM	43	
1	112	3:57:43 PM	3:58:31 PM	48	
1	113	3:57:47 PM	3:58:32 PM	45	
1	114	3:57:48 PM	3:58:52 PM	64	
1	115	3:58:14 PM	3:58:53 PM	39	
1	116	3:58:19 PM	3:59:00 PM	41	
1	117	3:58:23 PM	3:59:47 PM	84	
1	118	3:58:33 PM	3:59:50 PM	77	
1	119	3:58:45 PM	3:59:56 PM	71	
1	120	4:00:12 PM	4:00:24 PM	12	
1	121	4:00:40 PM	4:00:53 PM	13	
1	122	4:00:43 PM	4:00:59 PM	16	
1	123	4:00:52 PM	4:01:03 PM	11	
1	124	4:01:33 PM	4:01:40 PM	7	
1	125	4:01:45 PM	4:01:48 PM	3	
1	126	4:01:59 PM	4:02:07 PM	8	
1	127	4:02:32 PM	4:03:03 PM	31	
1	128	4:03:06 PM	4:03:09 PM	3	
1	129	4:04:04 PM	4:04:08 PM	4	
1	130	4:04:06 PM	4:04:12 PM	6	
1	131	4:04:46 PM	4:04:52 PM	6	
1	132	4:05:25 PM	4:06:12 PM	47	
1	133	4:05:43 PM	4:06:20 PM	37	
1	134	4:06:16 PM	4:06:30 PM	14	
1	135	4:06:27 PM	4:06:36 PM	9	
1	136	4:06:34 PM	4:06:42 PM	8	
1	137	4:06:41 PM	4:06:56 PM	15	
1	138	4:06:50 PM	4:07:02 PM	12	
1	139	4:06:54 PM	4:07:04 PM	10	
1	140	4:07:36 PM	4:07:40 PM	4	
1	141	4:07:48 PM	4:07:51 PM	3	

SOUTHERN OREGON TRANSPORTATION ENGINEERING

Medford, Oregon 97504 | Kim.parducci@gmail.com | (541) 941-4148 cell

Lane 1: Southbound Left
 Lane 2: Southbound Through/Right
 Weather: Clear, 55 deg
 Veh Type: All Vehicles

File Name : Upton-Scenic-SD_PM
 Site Code : 00000002
 Start Date : 1/15/2019
 Page No : 3

L n.	No.	Joined Queue	Released From Queue	Delay
1	142	4:08:39 PM	4:08:41 PM	2
1	143	4:09:24 PM	4:09:26 PM	2
1	144	4:09:51 PM	4:09:56 PM	5
1	145	4:10:30 PM	4:10:41 PM	11
1	146	4:10:32 PM	4:10:46 PM	14
1	147	4:11:39 PM	4:11:42 PM	3
1	148	4:12:07 PM	4:12:46 PM	39
1	149	4:12:42 PM	4:13:06 PM	24
1	150	4:12:45 PM	4:13:28 PM	43
1	151	4:12:57 PM	4:13:41 PM	44
1	152	4:13:03 PM	4:13:55 PM	52
1	153	4:13:31 PM	4:14:03 PM	32
1	154	4:13:42 PM	4:14:04 PM	22
1	155	4:13:52 PM	4:14:19 PM	27
1	156	4:14:08 PM	4:14:27 PM	19
1	157	4:14:34 PM	4:14:58 PM	24
1	158	4:14:38 PM	4:15:14 PM	36
1	159	4:14:41 PM	4:15:22 PM	41
1	160	4:14:52 PM	4:15:33 PM	41
1	161	4:15:15 PM	4:15:34 PM	19
1	162	4:16:00 PM	4:16:11 PM	11
1	163	4:16:42 PM	4:16:58 PM	16
1	164	4:16:55 PM	4:17:03 PM	8
1	165	4:18:56 PM	4:18:58 PM	2
1	166	4:19:03 PM	4:19:06 PM	3
1	167	4:19:08 PM	4:19:31 PM	23
1	168	4:19:55 PM	4:19:56 PM	1
1	169	4:21:37 PM	4:21:41 PM	4
1	170	4:21:40 PM	4:21:44 PM	4
1	171	4:21:59 PM	4:22:07 PM	8
1	172	4:22:38 PM	4:22:53 PM	15
1	173	4:22:46 PM	4:23:00 PM	14
1	174	4:23:15 PM	4:23:35 PM	20
1	175	4:23:20 PM	4:23:40 PM	20
1	176	4:24:28 PM	4:24:32 PM	4
1	177	4:24:34 PM	4:24:35 PM	1
1	178	4:24:39 PM	4:24:48 PM	9
1	179	4:24:41 PM	4:24:54 PM	13
1	180	4:24:44 PM	4:24:58 PM	14
1	181	4:25:06 PM	4:25:09 PM	3
1	182	4:26:03 PM	4:26:07 PM	4
1	183	4:27:09 PM	4:27:12 PM	3
1	184	4:27:22 PM	4:27:26 PM	4
1	185	4:27:25 PM	4:27:29 PM	4
1	186	4:27:48 PM	4:27:59 PM	11
2	19	3:28:08 PM	3:28:10 PM	2
2	20	3:28:45 PM	3:28:49 PM	4
2	21	3:29:02 PM	3:29:06 PM	4
2	22	3:29:19 PM	3:29:27 PM	8
2	23	3:30:24 PM	3:30:33 PM	9
2	24	3:31:13 PM	3:31:15 PM	2
2	25	3:32:34 PM	3:32:36 PM	2
2	26	3:32:42 PM	3:32:44 PM	2
2	27	3:33:29 PM	3:33:31 PM	2
2	28	3:33:51 PM	3:33:54 PM	3
2	29	3:35:26 PM	3:35:31 PM	5
2	30	3:38:04 PM	3:38:20 PM	16
2	31	3:38:39 PM	3:38:41 PM	2

SOUTHERN OREGON TRANSPORTATION ENGINEERING

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Lane 1: Southbound Left
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 Weather: Clear, 55 deg
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File Name : Upton-Scenic-SD_PM
 Site Code : 00000002
 Start Date : 1/15/2019
 Page No : 4

L n.	No.	Joined Queue	Released From Queue	Delay
2	32	3:38:46 PM	3:38:48 PM	2
2	33	3:38:52 PM	3:38:54 PM	2
2	34	3:39:00 PM	3:39:03 PM	3
2	35	3:41:09 PM	3:41:12 PM	3
2	36	3:41:22 PM	3:41:25 PM	3
2	37	3:41:42 PM	3:41:57 PM	15
2	38	3:42:06 PM	3:42:08 PM	2
2	39	3:43:00 PM	3:43:03 PM	3
2	40	3:44:02 PM	3:44:07 PM	5
2	41	3:44:35 PM	3:44:39 PM	4
2	42	3:45:34 PM	3:45:50 PM	16
2	43	3:45:38 PM	3:45:56 PM	18
2	44	3:45:45 PM	3:46:02 PM	17
2	45	3:45:54 PM	3:46:08 PM	14
2	46	3:46:18 PM	3:46:24 PM	6
2	47	3:46:22 PM	3:46:35 PM	13
2	48	3:46:30 PM	3:46:40 PM	10
2	49	3:46:54 PM	3:46:58 PM	4
2	50	3:49:00 PM	3:49:04 PM	4
2	51	3:50:33 PM	3:50:42 PM	9
2	52	3:50:54 PM	3:50:57 PM	3
2	53	3:51:34 PM	3:51:42 PM	8
2	54	3:53:00 PM	3:53:04 PM	4
2	55	3:53:30 PM	3:53:45 PM	15
2	56	3:53:35 PM	3:53:56 PM	21
2	57	3:54:34 PM	3:54:37 PM	3
2	58	3:55:47 PM	3:55:49 PM	2
2	59	3:56:03 PM	3:56:09 PM	6
2	60	3:56:23 PM	3:56:32 PM	9
2	61	3:58:08 PM	3:58:10 PM	2
2	62	3:58:30 PM	3:58:35 PM	5
2	63	3:58:47 PM	3:58:50 PM	3
2	64	3:58:58 PM	3:58:59 PM	1
2	65	3:59:06 PM	3:59:17 PM	11
2	66	3:59:16 PM	3:59:26 PM	10
2	67	3:59:31 PM	3:59:35 PM	4
2	68	4:02:23 PM	4:02:24 PM	1
2	69	4:02:23 PM	4:02:31 PM	8
2	70	4:02:45 PM	4:02:54 PM	9
2	71	4:03:44 PM	4:03:47 PM	3
2	72	4:04:00 PM	4:04:02 PM	2
2	73	4:04:17 PM	4:04:20 PM	3
2	74	4:04:45 PM	4:04:51 PM	6
2	75	4:05:18 PM	4:05:20 PM	2
2	76	4:05:26 PM	4:05:29 PM	3
2	77	4:05:42 PM	4:05:45 PM	3
2	78	4:05:57 PM	4:05:59 PM	2
2	79	4:06:29 PM	4:06:32 PM	3
2	80	4:06:40 PM	4:06:55 PM	15
2	81	4:07:22 PM	4:07:25 PM	3
2	82	4:09:46 PM	4:09:49 PM	3
2	83	4:10:09 PM	4:10:10 PM	1
2	84	4:10:42 PM	4:10:44 PM	2
2	85	4:10:48 PM	4:10:51 PM	3
2	86	4:10:49 PM	4:10:58 PM	9
2	87	4:11:00 PM	4:11:08 PM	8
2	88	4:11:27 PM	4:11:31 PM	4
2	89	4:12:25 PM	4:12:28 PM	3

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File Name : Upton-Scenic-SD_PM
 Site Code : 00000002
 Start Date : 1/15/2019
 Page No : 5

L n.	No.	Joined Queue	Released From Queue	Delay	
2	90	4:12:37 PM	4:12:48 PM	11	
2	91	4:13:56 PM	4:13:59 PM	3	
2	92	4:14:27 PM	4:14:33 PM	6	
2	93	4:15:27 PM	4:15:30 PM	3	
2	94	4:15:44 PM	4:15:47 PM	3	
2	95	4:15:51 PM	4:15:53 PM	2	
2	96	4:16:10 PM	4:16:13 PM	3	
2	97	4:16:40 PM	4:16:41 PM	1	
2	98	4:16:59 PM	4:17:02 PM	3	
2	99	4:17:02 PM	4:17:04 PM	2	
2	100	4:17:17 PM	4:17:18 PM	1	
2	101	4:17:42 PM	4:17:47 PM	5	
2	102	4:18:41 PM	4:18:42 PM	1	
2	103	4:19:13 PM	4:19:15 PM	2	
2	104	4:20:00 PM	4:20:18 PM	18	
2	105	4:20:46 PM	4:20:49 PM	3	
2	106	4:20:50 PM	4:20:52 PM	2	
2	107	4:21:24 PM	4:21:26 PM	2	
2	108	4:22:52 PM	4:22:56 PM	4	
2	109	4:22:58 PM	4:23:08 PM	10	
2	110	4:24:59 PM	4:25:03 PM	4	
2	111	4:25:15 PM	4:25:19 PM	4	
2	112	4:25:21 PM	4:25:23 PM	2	
2	113	4:25:31 PM	4:25:34 PM	3	
2	114	4:26:30 PM	4:26:32 PM	2	
2	115	4:27:06 PM	4:27:08 PM	2	
2	116	4:27:51 PM	4:27:53 PM	2	

Summary Information:

3:28:00 PM - 4:28:00 PM	SBL	SBTR
Total Vehicle Count:	162	98
Delayed Vehicle Count:	162	98
Through Vehicle Count:	0	0
Average Stopped Time:	32.25	5.316
Maximum Stopped Time:	102	21
Min. Secs. for Delay:	0	0
Average Queue:	1.46	0.145
Queue Density:	2.56	1.111
Maximum Queue:	6	3
Delay in Vehicle Hour:	1.46	0.15
Total Delay:	5224	521

SEASONAL TREND TABLE (Updated: 9/19/2017)

TREND	1-Jan	15-Jan	1-Feb	15-Feb	1-Mar	15-Mar	1-Apr	15-Apr	1-May	15-May	1-Jun	15-Jun	1-Jul	15-Jul	1-Aug	15-Aug	1-Sep	15-Sep	1-Oct	15-Oct	1-Nov	15-Nov	1-Dec	15-Dec	Seasonal Trend Factor	Seasonal Trend K30 Value
	INTERSTATE URBANIZED	1.0605	1.0659	1.0360	1.0061	0.9881	0.9701	0.9616	0.9530	0.9444	0.9558	0.9339	0.9120	0.8727	0.9154	0.9116	0.9078	0.9279	0.9481	0.9536	0.9592	0.9789	0.9986	1.0210	1.0434	0.9078
INTERSTATE NONURBANIZED	1.2276	1.2860	1.2343	1.1825	1.1244	1.0652	1.0562	1.0463	1.0221	0.9981	0.9532	0.9082	0.8650	0.8575	0.8569	0.8564	0.9011	0.9456	0.9833	1.0207	1.0429	1.0650	1.1128	1.1605	0.8564	0.1225
COMMUTER	1.0578	1.0635	1.0337	1.0038	0.9943	0.9849	0.9693	0.9538	0.9488	0.9439	0.9497	0.9543	0.9321	0.9107	0.9072	0.9037	0.9198	0.9359	0.9431	0.9504	0.9608	1.0113	1.0375	1.0637	0.9037	0.0997
COASTAL DESTINATION	1.2144	1.2255	1.1807	1.1359	1.1048	1.0737	1.0729	1.0721	1.0473	1.0224	0.9805	0.9385	0.8853	0.8206	0.8204	0.8202	0.8726	0.9251	0.9862	1.0474	1.1053	1.1632	1.1911	1.2190	0.8202	0.1216
COASTAL DESTINATION ROUTE	1.4648	1.5007	1.4182	1.3357	1.2719	1.2080	1.1972	1.1864	1.1258	1.0652	1.0058	0.9464	0.8673	0.7660	0.7681	0.7703	0.8383	0.9063	1.0104	1.1145	1.1986	1.2848	1.3566	1.4284	0.7660	0.1630
AGRICULTURE	1.2660	1.2884	1.2341	1.1798	1.1400	1.1002	1.0624	1.0246	0.9798	0.9351	0.9038	0.8725	0.8538	0.8319	0.8317	0.8315	0.8397	0.8479	0.8944	0.9208	0.9326	1.0664	1.1632	1.2600	0.8315	0.1407
RECREATIONAL SUMMER	1.6772	1.7234	1.6678	1.6122	1.5251	1.4380	1.3855	1.3330	1.1823	1.0317	0.9473	0.8628	0.8028	0.7303	0.7449	0.7596	0.8179	0.8763	0.9888	1.1013	1.2469	1.3925	1.4752	1.5579	0.7303	0.1954
RECREATIONAL SUMMER WINTE	1.1733	1.2256	1.2446	1.2635	1.2945	1.3255	1.4481	1.5706	1.5411	1.5115	1.3013	1.0311	0.9783	0.8307	0.8667	0.9068	1.0479	1.1889	1.4188	1.6270	1.7098	1.7710	1.4135	1.0562	0.9307	0.2260
RECREATIONAL WINTER	1.0031	0.9909	0.9956	1.0002	1.0165	1.0228	1.2614	1.4899	1.8635	2.2372	1.9344	1.6317	1.4383	1.1339	1.1597	1.1855	1.3222	1.4588	1.7556	2.0525	2.3741	2.6957	1.8795	1.0634	0.9309	0.3314
SUMMER < 2500	1.2125	1.2424	1.1995	1.1567	1.1212	1.0856	1.0561	1.0265	0.9929	0.9593	0.9241	0.8888	0.8648	0.8350	0.8395	0.8440	0.8775	0.9110	0.9452	0.9784	1.0363	1.0933	1.1408	1.1884	0.8350	0.1147
	1.2969	1.3292	1.2825	1.2359	1.1786	1.1213	1.0719	1.0225	0.9721	0.9217	0.8901	0.8584	0.8331	0.8154	0.8234	0.8314	0.8460	0.8606	0.9004	0.9401	1.0138	1.0875	1.1758	1.2642	0.8154	0.1371

*Seasonal Trend Table factors are based on previous year ATR data. The table is updated yearly.

*Grey shading indicates months were seasonal factor is greater than 30%.

Commuter	
9-Oct	0.9470
Peak	0.9037
Adj	1.048

AM Peak Hour (7:45-8:45 AM)

Seasonally Adjusted

								35		35			261		222			
								5	0	30			95	6	160			
175	0	Scenic MS / Scenic Ave		0	220	220	5	Rock Wy / Scenic Ave		30	245	245	100	Upton Rd / Scenic Ave		120	268	
	255			110			370			215			300			145		
380	125			110	375	375	0			0	400	401	1			3	468	
		65	0	120					0	0	0			5	2	8		
		235		185					0		0			10		15		

Fire Station Dev Trips AM

								0		0			2		0			
								0	0	0			2	0	0			
1	0	Scenic MS / Scenic Ave		0	1	1	0	Rock Wy / Scenic Ave		0	5	5	0	Upton Rd / Scenic Ave		0	3	
	1			1			0			0			2			3		
1	0			0	1	1	1			5	2	2	0			0	2	
		0	0	0					1	0	2			0	0	0		
		0		0					6		3			0		0		

2019 NB (AM Peak)

								35		35			263		223			
								5	0	30			96	6	161			
177	0	Scenic MS / Scenic Ave		0	222	222	5	Rock Wy / Scenic Ave		30	247	247	101	Upton Rd / Scenic Ave		121	270	
	260			112			375			217			303			146		
385	125			110	380	380	0			0	405	405	1			3	472.01	
		65	0	120					0	0	0			5	2	8		
		235		185					0		0			10		15		

Design Year 2020 NB (AM Peak)

								35		35			264		225			
								5	0	30			96	6	162			
179	0	Scenic MS / Scenic Ave		0	224	224	5	Rock Wy / Scenic Ave		30	249	249	101	Upton Rd / Scenic Ave		121	272	
	263			114			378			219			306.03			148		
388	125			110	383	383	0			0	408	408	1			3	476	
		65	0	120					0	0	0			5	2	8		
		235		185					0		0			10		15		

Re-routed 2020 NB with Rock Way Extension to Scenic MS (AM Peak)

								35		35			264		224			
								5	0	30			96	6	162			
179	0	Scenic MS / Scenic Ave		0	169	169	5	Rock Wy / Scenic Ave		30	249	249	101	Upton Rd / Scenic Ave		121	272	
	298			134			298			144			306			148		
388	90			35	338	338	35			75	408	408	1			3	476	
		45	0	40					20	0	80			5	2	8		
		125		85					110		100			10		15		

Design Year 2020 Build (AM Peak)

								35		35			266		224			
								5	0	30			98	6	162			
180	0	Scenic MS / Scenic Ave		0	170	170	5	Rock Wy / Scenic Ave		30	254	254	101	Upton Rd / Scenic Ave		121	275	
	299			135			298			144			308			151		
389	90			35	339	339	36			80	410	410	1			3	478	
		45	0	40					21	0	82			5	2	8		
		125		85					116		103			10		15		

PM Peak Hour (3:30-4:30 PM)

Seasonally Adjusted

								38		45			301		321		
								10	0	28			115	3	183		
265	0	Scenic MS / Scenic Ave		0	265	265	5	Rock Wy / Scenic Ave		40	295	294	125	Upton Rd / Scenic Ave		190	372
	220			205			310			255		210	175				
240	20			60	315	315	0			0	338	338	3			7	406
				60	0	95				0	0	0	4			6	13
				80			155			0			0			13	23

Fire Station Dev Trips PM

								0		0			0		0		
								0	0	0			0	0	0		
1	0	Scenic MS / Scenic Ave		0	1	1	0	Rock Wy / Scenic Ave		0	1	1	0	Upton Rd / Scenic Ave		0	1
	0			1			0			0		3	1				
0	0			0	0	0	0			1	3	3	0			0	3
				0	0	0				1	0	3	0			0	0
				0			0			1			4			0	0

2019 NB (PM Peak)

								38		45			303		323		
								10	0	28			116	3	184		
267	0	Scenic MS / Scenic Ave		0	267	267	5	Rock Wy / Scenic Ave		40	297	297	126	Upton Rd / Scenic Ave		191	375
	223			207			313			257		212	177				
243	20			60	318	318	0			0	341	341	3			7	409
				60	0	95				0	0	0	4			6	13
				80			155			0			0			13	23

Design Year 2020 NB (PM Peak)

								38		46			305		325		
								10	0	28			117	3	185		
270	0	Scenic MS / Scenic Ave		0	270	270	5	Rock Wy / Scenic Ave		40	300	300	127	Upton Rd / Scenic Ave		192	378
	226			210			316			260		214	179				
246	20			60	321	321	0			0	344	344	3			7	413
				60	0	95				0	0	0	4			6	13
				80			155			0			0			13	23

Re-routed 2020 NB with Rock Way Extension to Scenic MS (PM Peak)

								38		46			305		325		
								10	0	28			117	3	185		
270	0	Scenic MS / Scenic Ave		0	250	250	5	Rock Wy / Scenic Ave		40	300	300	127	Upton Rd / Scenic Ave		192	378
	231			230			251			220		214	179				
246	15			20	261	261	5			40	344	344	3			7	412
				40	0	30				20	0	65	4			6	13
				35			70			45			85			13	23

Design Year 2020 Build (PM Peak)

								38		46			305		325		
								10	0	28			117	3	185		
271	0	Scenic MS / Scenic Ave		0	251	251	5	Rock Wy / Scenic Ave		40	301	301	127	Upton Rd / Scenic Ave		192	379
	231			231			251			220		217	180				
246	15			20	261	261	5			41	347	347	3			7	415
				40	0	30				21	0	68	4			6	13
				35			70			46			89			13	23

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	5	375	217	30	30	5
Future Vol, veh/h	5	375	217	30	30	5
Conflicting Peds, #/hr	0	0	0	0	0	9
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	0	5	6	3	0	0
Mvmt Flow	6	481	278	38	38	6

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	316	0	0 790 306
Stage 1	-	-	- 297 -
Stage 2	-	-	- 493 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	1256	-	- 362 739
Stage 1	-	-	- 758 -
Stage 2	-	-	- 618 -
Platoon blocked, %		-	- -
Mov Cap-1 Maneuver	1256	-	- 359 733
Mov Cap-2 Maneuver	-	-	- 359 -
Stage 1	-	-	- 753 -
Stage 2	-	-	- 618 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1256	-	-	-	387
HCM Lane V/C Ratio	0.005	-	-	-	0.116
HCM Control Delay (s)	7.9	0	-	-	15.5
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection

Int Delay, s/veh 7.1

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	260	125	110	112	65	120
Future Vol, veh/h	260	125	110	112	65	120
Conflicting Peds, #/hr	0	16	16	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	5	11	6	7	15	10
Mvmt Flow	333	160	141	144	83	154

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	509	0	855	429
Stage 1	-	-	-	-	429	-
Stage 2	-	-	-	-	426	-
Critical Hdwy	-	-	4.16	-	6.55	6.3
Critical Hdwy Stg 1	-	-	-	-	5.55	-
Critical Hdwy Stg 2	-	-	-	-	5.55	-
Follow-up Hdwy	-	-	2.254	-	3.635	3.39
Pot Cap-1 Maneuver	-	-	1036	-	312	609
Stage 1	-	-	-	-	630	-
Stage 2	-	-	-	-	632	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1022	-	262	601
Mov Cap-2 Maneuver	-	-	-	-	262	-
Stage 1	-	-	-	-	622	-
Stage 2	-	-	-	-	537	-

Approach EB WB NB

HCM Control Delay, s	0	4.5	24.8
HCM LOS			C

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	413	-	-	1022	-
HCM Lane V/C Ratio	0.574	-	-	0.138	-
HCM Control Delay (s)	24.8	-	-	9.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	3.5	-	-	0.5	-

Intersection												
Int Delay, s/veh	12.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↵		↵	↵		↵	↵		↵	↵	
Traffic Vol, veh/h	101	303	1	3	146	121	5	2	8	161	6	96
Future Vol, veh/h	101	303	1	3	146	121	5	2	8	161	6	96
Conflicting Peds, #/hr	2	0	6	6	0	2	3	0	11	11	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	100	-	-	100	-	-	100	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	9	3	0	0	6	8	0	0	0	4	0	7
Mvmt Flow	120	361	1	4	174	144	6	2	10	192	7	114

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	320	0	0	368	0	0	926	936	379	875	864	251
Stage 1	-	-	-	-	-	-	608	608	-	256	256	-
Stage 2	-	-	-	-	-	-	318	328	-	619	608	-
Critical Hdwy	4.19	-	-	4.1	-	-	7.1	6.5	6.2	7.14	6.5	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.14	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.14	5.5	-
Follow-up Hdwy	2.281	-	-	2.2	-	-	3.5	4	3.3	3.536	4	3.363
Pot Cap-1 Maneuver	1201	-	-	1202	-	-	251	267	672	268	294	776
Stage 1	-	-	-	-	-	-	486	489	-	744	699	-
Stage 2	-	-	-	-	-	-	698	651	-	473	489	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1199	-	-	1196	-	-	192	238	663	239	262	773
Mov Cap-2 Maneuver	-	-	-	-	-	-	192	238	-	239	262	-
Stage 1	-	-	-	-	-	-	435	438	-	668	696	-
Stage 2	-	-	-	-	-	-	585	648	-	413	438	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	2.1		0.1		16.4		42.2	
HCM LOS					C		E	

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	192	489	1199	-	-	1196	-	-	239	693
HCM Lane V/C Ratio	0.031	0.024	0.1	-	-	0.003	-	-	0.802	0.175
HCM Control Delay (s)	24.3	12.5	8.3	-	-	8	-	-	61.7	11.3
HCM Lane LOS	C	B	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.1	0.1	0.3	-	-	0	-	-	6	0.6

HCM 2010 TWSC
5: Scenic Ave & Rock Way

02/04/2019

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	5	313	257	40	28	10
Future Vol, veh/h	5	313	257	40	28	10
Conflicting Peds, #/hr	2	0	0	2	0	17
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	6	5	3	0	0
Mvmt Flow	6	360	295	46	32	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	343	0	-	0	692
Stage 1	-	-	-	-	320
Stage 2	-	-	-	-	372
Critical Hdwy	4.1	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1227	-	-	-	413
Stage 1	-	-	-	-	741
Stage 2	-	-	-	-	702
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1225	-	-	-	409
Mov Cap-2 Maneuver	-	-	-	-	409
Stage 1	-	-	-	-	735
Stage 2	-	-	-	-	701

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1225	-	-	-	459
HCM Lane V/C Ratio	0.005	-	-	-	0.095
HCM Control Delay (s)	8	0	-	-	13.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection

Int Delay, s/veh 4.8

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	223	20	60	207	60	95
Future Vol, veh/h	223	20	60	207	60	95
Conflicting Peds, #/hr	0	3	3	0	0	13
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	5	25	8	3	13	11
Mvmt Flow	297	27	80	276	80	127

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	327	0	750	327
Stage 1	-	-	-	-	314	-
Stage 2	-	-	-	-	436	-
Critical Hdwy	-	-	4.18	-	6.53	6.31
Critical Hdwy Stg 1	-	-	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	5.53	-
Follow-up Hdwy	-	-	2.272	-	3.617	3.399
Pot Cap-1 Maneuver	-	-	1200	-	364	694
Stage 1	-	-	-	-	716	-
Stage 2	-	-	-	-	629	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1197	-	335	685
Mov Cap-2 Maneuver	-	-	-	-	335	-
Stage 1	-	-	-	-	715	-
Stage 2	-	-	-	-	579	-

Approach EB WB NB

HCM Control Delay, s	0	1.8	17.7
HCM LOS			C

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	488	-	-	1197	-
HCM Lane V/C Ratio	0.423	-	-	0.067	-
HCM Control Delay (s)	17.7	-	-	8.2	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.1	-	-	0.2	-

Intersection

Int Delay, s/veh 16.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷		↶	↷	
Traffic Vol, veh/h	126	212	3	7	177	191	4	6	13	184	3	116
Future Vol, veh/h	126	212	3	7	177	191	4	6	13	184	3	116
Conflicting Peds, #/hr	1	0	69	69	0	1	3	0	60	60	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	100	-	-	100	-	-	100	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	6	5	10	0	3	2	0	0	0	1	0	2
Mvmt Flow	134	226	3	7	188	203	4	6	14	196	3	123

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	392	0	0	298
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.16	-	-	4.1
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.254	-	-	2.2
Pot Cap-1 Maneuver	1145	-	-	1275
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1144	-	-	1202
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.2	0.1	16.8	51.2
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	175	385	1144	-	-	1202	-	-	224	706
HCM Lane V/C Ratio	0.024	0.053	0.117	-	-	0.006	-	-	0.874	0.179
HCM Control Delay (s)	26.1	14.9	8.6	-	-	8	-	-	77.1	11.2
HCM Lane LOS	D	B	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.1	0.2	0.4	-	-	0	-	-	7	0.6

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:35	7:35	7:35	7:35	7:35	7:35
End Time	8:45	8:45	8:45	8:45	8:45	8:45
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	3	3	3	3	3	3
# of Recorded Intervals	2	2	2	2	2	2
Vehs Entered	1323	1438	1340	1333	1330	1350
Vehs Exited	1338	1444	1334	1357	1342	1362
Starting Vehs	27	20	13	35	24	24
Ending Vehs	12	14	19	11	12	12
Travel Distance (mi)	348	369	348	351	347	353
Travel Time (hr)	16.2	17.5	16.3	16.7	16.3	16.6
Total Delay (hr)	3.0	3.4	3.1	3.3	3.0	3.1
Total Stops	787	882	802	792	789	810
Fuel Used (gal)	14.5	15.4	14.6	14.6	14.5	14.7

Interval #0 Information Seeding

Start Time	7:35
End Time	7:45
Total Time (min)	10
Volumes adjusted by PHF, Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15
Volumes adjusted by PHF, Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	446	488	459	429	448	452
Vehs Exited	449	483	451	449	454	457
Starting Vehs	27	20	13	35	24	24
Ending Vehs	24	25	21	15	18	19
Travel Distance (mi)	110	119	114	109	112	113
Travel Time (hr)	5.3	5.7	5.6	5.2	5.3	5.4
Total Delay (hr)	1.2	1.2	1.2	1.1	1.1	1.2
Total Stops	261	285	269	236	242	258
Fuel Used (gal)	4.7	5.0	4.9	4.6	4.8	4.8

Interval #2 Information Recording

Start Time 8:00
End Time 8:45
Total Time (min) 45

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	877	950	881	904	882	898
Vehs Exited	889	961	883	908	888	904
Starting Vehs	24	25	21	15	18	19
Ending Vehs	12	14	19	11	12	12
Travel Distance (mi)	238	250	234	242	236	240
Travel Time (hr)	10.8	11.8	10.7	11.5	11.0	11.2
Total Delay (hr)	1.8	2.2	1.8	2.2	1.9	2.0
Total Stops	526	597	533	556	547	552
Fuel Used (gal)	9.7	10.4	9.8	10.0	9.7	9.9

Intersection: 5: Scenic Ave & Rock Way

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	35	18	47
Average Queue (ft)	3	1	24
95th Queue (ft)	17	11	47
Link Distance (ft)	437	340	357
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Middle School & Scenic Ave

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	28	92	149
Average Queue (ft)	1	33	66
95th Queue (ft)	13	76	113
Link Distance (ft)	220	437	592
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 30: JC Housing/Upton Rd & Scenic Ave/10th St

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	73	33	12	55	30	29	141	79
Average Queue (ft)	22	2	1	5	5	9	63	38
95th Queue (ft)	57	14	10	28	23	30	113	64
Link Distance (ft)		340		459		167		223
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100		100		100		200	
Storage Blk Time (%)	0							
Queuing Penalty (veh)	0							

Zone Summary

Zone wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	3:20	3:20	3:20	3:20	3:20	3:20
End Time	4:30	4:30	4:30	4:30	4:30	4:30
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	3	3	3	3	3	3
# of Recorded Intervals	2	2	2	2	2	2
Vehs Entered	1438	1384	1454	1453	1437	1436
Vehs Exited	1436	1400	1465	1475	1441	1444
Starting Vehs	19	28	22	33	16	22
Ending Vehs	21	12	11	11	12	11
Travel Distance (mi)	343	332	338	353	344	342
Travel Time (hr)	17.2	15.8	16.2	17.2	17.1	16.7
Total Delay (hr)	4.1	3.1	3.3	3.7	3.8	3.6
Total Stops	895	807	836	864	892	858
Fuel Used (gal)	14.9	14.0	14.4	15.2	14.9	14.7

Interval #0 Information Seeding

Start Time	3:20
End Time	3:30
Total Time (min)	10
Volumes adjusted by PHF, Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	3:30
End Time	3:45
Total Time (min)	15
Volumes adjusted by PHF, Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	504	505	460	458	497	487
Vehs Exited	501	516	461	476	484	488
Starting Vehs	19	28	22	33	16	22
Ending Vehs	22	17	21	15	29	20
Travel Distance (mi)	114	114	99	106	110	109
Travel Time (hr)	6.3	5.6	4.8	5.3	5.5	5.5
Total Delay (hr)	1.9	1.3	1.0	1.3	1.3	1.4
Total Stops	309	275	233	248	276	267
Fuel Used (gal)	5.2	5.1	4.3	4.7	4.7	4.8

Interval #2 Information Recording

Start Time	3:45
End Time	4:30
Total Time (min)	45
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	934	879	994	995	940	949
Vehs Exited	935	884	1004	999	957	958
Starting Vehs	22	17	21	15	29	20
Ending Vehs	21	12	11	11	12	11
Travel Distance (mi)	229	217	239	247	234	233
Travel Time (hr)	10.9	10.2	11.4	11.9	11.5	11.2
Total Delay (hr)	2.1	1.8	2.2	2.4	2.5	2.2
Total Stops	586	532	603	616	616	588
Fuel Used (gal)	9.8	9.0	10.2	10.5	10.2	9.9

Intersection: 5: Scenic Ave & Rock Way

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	49	31	62
Average Queue (ft)	3	1	25
95th Queue (ft)	21	14	51
Link Distance (ft)	437	340	357
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Middle School & Scenic Ave

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	10	111	139
Average Queue (ft)	0	18	60
95th Queue (ft)	5	64	111
Link Distance (ft)	220	437	592
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 30: JC Housing/Upton Rd & Scenic Ave/10th St

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	90	39	31	72	24	43	138	79
Average Queue (ft)	31	3	3	15	3	15	66	37
95th Queue (ft)	68	20	16	52	18	39	114	61
Link Distance (ft)		340		459		167		223
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100		100		100		200	
Storage Blk Time (%)	0			0			0	
Queuing Penalty (veh)	0			0			0	

Zone Summary

Zone wide Queuing Penalty: 0

HCM 2010 TWSC
5: Rock Way Ext/Rock Way & Scenic Ave

02/21/2019

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↵		↵	↵			↕			↕	
Traffic Vol, veh/h	5	298	35	80	144	30	20	0	82	30	0	5
Future Vol, veh/h	5	298	35	80	144	30	20	0	82	30	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	9
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	100	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	92	92	78	78	92	92	92	78	92	78
Heavy Vehicles, %	0	5	2	2	6	3	2	2	2	0	2	0
Mvmt Flow	6	382	38	87	185	38	22	0	89	38	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	223	0	0	420	0	0	803	810	401	836	810	213
Stage 1	-	-	-	-	-	-	413	413	-	378	378	-
Stage 2	-	-	-	-	-	-	390	397	-	458	432	-
Critical Hdwy	4.1	-	-	4.12	-	-	7.12	6.52	6.22	7.1	6.52	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.1	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.1	5.52	-
Follow-up Hdwy	2.2	-	-	2.218	-	-	3.518	4.018	3.318	3.5	4.018	3.3
Pot Cap-1 Maneuver	1358	-	-	1139	-	-	302	314	649	289	314	832
Stage 1	-	-	-	-	-	-	616	594	-	648	615	-
Stage 2	-	-	-	-	-	-	634	603	-	587	582	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1358	-	-	1139	-	-	279	289	649	234	289	826
Mov Cap-2 Maneuver	-	-	-	-	-	-	279	289	-	234	289	-
Stage 1	-	-	-	-	-	-	614	592	-	645	568	-
Stage 2	-	-	-	-	-	-	577	557	-	504	580	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			2.4			13.9			21.6		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	515	1358	-	-	1139	-	-	261
HCM Lane V/C Ratio	0.215	0.005	-	-	0.076	-	-	0.172
HCM Control Delay (s)	13.9	7.7	-	-	8.4	-	-	21.6
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.8	0	-	-	0.2	-	-	0.6

Intersection

Int Delay, s/veh 2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	
Traffic Vol, veh/h	299	90	35	135	45	40
Future Vol, veh/h	299	90	35	135	45	40
Conflicting Peds, #/hr	0	16	16	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	5	11	6	7	15	10
Mvmt Flow	383	115	45	173	58	51

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	514	0	720
Stage 1	-	-	-	-	457
Stage 2	-	-	-	-	263
Critical Hdwy	-	-	4.16	-	6.55
Critical Hdwy Stg 1	-	-	-	-	5.55
Critical Hdwy Stg 2	-	-	-	-	5.55
Follow-up Hdwy	-	-	2.254	-	3.635
Pot Cap-1 Maneuver	-	-	1031	-	376
Stage 1	-	-	-	-	611
Stage 2	-	-	-	-	752
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1017	-	355
Mov Cap-2 Maneuver	-	-	-	-	355
Stage 1	-	-	-	-	603
Stage 2	-	-	-	-	719

Approach

	EB	WB	NB
HCM Control Delay, s	0	1.8	16.1
HCM LOS			C

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	434	-	-	1017	-
HCM Lane V/C Ratio	0.251	-	-	0.044	-
HCM Control Delay (s)	16.1	-	-	8.7	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1	-	-	0.1	-

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	
Traffic Vol, veh/h	338	1	0	169	1	0
Future Vol, veh/h	338	1	0	169	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	4	0	0	4	0	0
Mvmt Flow	367	1	0	184	1	0

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	368	0	552
Stage 1	-	-	-	-	368
Stage 2	-	-	-	-	184
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1202	-	498
Stage 1	-	-	-	-	704
Stage 2	-	-	-	-	852
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1202	-	498
Mov Cap-2 Maneuver	-	-	-	-	573
Stage 1	-	-	-	-	704
Stage 2	-	-	-	-	852

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	573	-	-	1202	-
HCM Lane V/C Ratio	0.002	-	-	-	-
HCM Control Delay (s)	11.3	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	TT			TT	TT	
Traffic Vol, veh/h	2	0	0	100	110	5
Future Vol, veh/h	2	0	0	100	110	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	5	0	0
Mvmt Flow	2	0	0	109	120	5

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	232	123	125	0	-	0
Stage 1	123	-	-	-	-	-
Stage 2	109	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	761	933	1474	-	-	-
Stage 1	907	-	-	-	-	-
Stage 2	921	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	761	933	1474	-	-	-
Mov Cap-2 Maneuver	761	-	-	-	-	-
Stage 1	907	-	-	-	-	-
Stage 2	921	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1474	-	761	-	-
HCM Lane V/C Ratio	-	-	0.003	-	-
HCM Control Delay (s)	0	-	9.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection												
Int Delay, s/veh	13.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↵		↵	↵		↵	↵		↵	↵	
Traffic Vol, veh/h	101	308	1	3	151	121	5	2	8	162	6	98
Future Vol, veh/h	101	308	1	3	151	121	5	2	8	162	6	98
Conflicting Peds, #/hr	2	0	6	6	0	2	3	0	11	11	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	100	-	-	100	-	-	100	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	9	3	0	0	6	8	0	0	0	4	0	7
Mvmt Flow	120	367	1	4	180	144	6	2	10	193	7	117

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	326	0	0	374	0	0	939	948	385	887	876	257
Stage 1	-	-	-	-	-	-	614	614	-	262	262	-
Stage 2	-	-	-	-	-	-	325	334	-	625	614	-
Critical Hdwy	4.19	-	-	4.1	-	-	7.1	6.5	6.2	7.14	6.5	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.14	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.14	5.5	-
Follow-up Hdwy	2.281	-	-	2.2	-	-	3.5	4	3.3	3.536	4	3.363
Pot Cap-1 Maneuver	1195	-	-	1196	-	-	246	263	667	263	290	770
Stage 1	-	-	-	-	-	-	483	486	-	739	695	-
Stage 2	-	-	-	-	-	-	692	647	-	469	486	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1193	-	-	1190	-	-	187	234	658	234	258	767
Mov Cap-2 Maneuver	-	-	-	-	-	-	187	234	-	234	258	-
Stage 1	-	-	-	-	-	-	432	435	-	664	692	-
Stage 2	-	-	-	-	-	-	577	644	-	410	435	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	2.1		0.1		16.7		44.7	
HCM LOS					C		E	

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	187	483	1193	-	-	1190	-	-	234	689
HCM Lane V/C Ratio	0.032	0.025	0.101	-	-	0.003	-	-	0.824	0.18
HCM Control Delay (s)	24.9	12.6	8.4	-	-	8	-	-	66.1	11.4
HCM Lane LOS	C	B	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.1	0.1	0.3	-	-	0	-	-	6.3	0.7

HCM 2010 TWSC
 5: Rock Way Ext/Rock Way & Scenic Ave

02/21/2019

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↵		↵	↵			↕			↕	
Traffic Vol, veh/h	5	251	5	41	220	40	20	0	68	28	0	10
Future Vol, veh/h	5	251	5	41	220	40	20	0	68	28	0	10
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	0	0	0	17
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	100	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	92	92	87	87	92	92	92	87	92	87
Heavy Vehicles, %	0	6	2	2	5	3	2	2	2	0	2	0
Mvmt Flow	6	289	5	45	253	46	22	0	74	32	0	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	301	0	0	294	0	0	693	695	292	709	674	295
Stage 1	-	-	-	-	-	-	304	304	-	368	368	-
Stage 2	-	-	-	-	-	-	389	391	-	341	306	-
Critical Hdwy	4.1	-	-	4.12	-	-	7.12	6.52	6.22	7.1	6.52	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.1	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.1	5.52	-
Follow-up Hdwy	2.2	-	-	2.218	-	-	3.518	4.018	3.318	3.5	4.018	3.3
Pot Cap-1 Maneuver	1272	-	-	1268	-	-	358	366	747	352	376	749
Stage 1	-	-	-	-	-	-	705	663	-	656	621	-
Stage 2	-	-	-	-	-	-	635	607	-	678	662	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1270	-	-	1268	-	-	337	351	747	307	360	737
Mov Cap-2 Maneuver	-	-	-	-	-	-	337	351	-	307	360	-
Stage 1	-	-	-	-	-	-	701	660	-	652	598	-
Stage 2	-	-	-	-	-	-	594	585	-	608	659	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1	12.4	16.3
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	585	1270	-	-	1268	-	-	363
HCM Lane V/C Ratio	0.164	0.005	-	-	0.035	-	-	0.12
HCM Control Delay (s)	12.4	7.8	-	-	7.9	-	-	16.3
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.6	0	-	-	0.1	-	-	0.4

Intersection

Int Delay, s/veh 2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	
Traffic Vol, veh/h	231	15	20	231	40	30
Future Vol, veh/h	231	15	20	231	40	30
Conflicting Peds, #/hr	0	3	3	0	0	13
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	5	25	8	3	13	11
Mvmt Flow	308	20	27	308	53	40

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	331	0	683
Stage 1	-	-	-	-	321
Stage 2	-	-	-	-	362
Critical Hdwy	-	-	4.18	-	6.53
Critical Hdwy Stg 1	-	-	-	-	5.53
Critical Hdwy Stg 2	-	-	-	-	5.53
Follow-up Hdwy	-	-	2.272	-	3.617
Pot Cap-1 Maneuver	-	-	1196	-	399
Stage 1	-	-	-	-	711
Stage 2	-	-	-	-	681
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1193	-	389
Mov Cap-2 Maneuver	-	-	-	-	389
Stage 1	-	-	-	-	710
Stage 2	-	-	-	-	665

Approach

	EB	WB	NB
HCM Control Delay, s	0	0.6	14.4
HCM LOS			B

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	476	-	-	1193	-
HCM Lane V/C Ratio	0.196	-	-	0.022	-
HCM Control Delay (s)	14.4	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-

Intersection

Int Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	
Traffic Vol, veh/h	261	0	0	250	1	0
Future Vol, veh/h	261	0	0	250	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	4	0	0	4	0	0
Mvmt Flow	284	0	0	272	1	0

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	284	0	556
Stage 1	-	-	-	-	284
Stage 2	-	-	-	-	272
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1290	-	496
Stage 1	-	-	-	-	769
Stage 2	-	-	-	-	778
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1290	-	496
Mov Cap-2 Maneuver	-	-	-	-	579
Stage 1	-	-	-	-	769
Stage 2	-	-	-	-	778

Approach

	EB	WB	NB
HCM Control Delay, s	0	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	579	-	-	1290	-
HCM Lane V/C Ratio	0.002	-	-	-	-
HCM Control Delay (s)	11.2	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	TT			TT	TT	
Traffic Vol, veh/h	3	0	0	85	45	1
Future Vol, veh/h	3	0	0	85	45	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	5	0	0
Mvmt Flow	3	0	0	92	49	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	142	50	50	0	0
Stage 1	50	-	-	-	-
Stage 2	92	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	856	1024	1570	-	-
Stage 1	978	-	-	-	-
Stage 2	937	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	856	1024	1570	-	-
Mov Cap-2 Maneuver	856	-	-	-	-
Stage 1	978	-	-	-	-
Stage 2	937	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1570	-	856	-	-
HCM Lane V/C Ratio	-	-	0.004	-	-
HCM Control Delay (s)	0	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh 17.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷		↶	↷	
Traffic Vol, veh/h	127	217	3	7	180	192	4	6	13	185	3	117
Future Vol, veh/h	127	217	3	7	180	192	4	6	13	185	3	117
Conflicting Peds, #/hr	1	0	69	69	0	1	3	0	60	60	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	100	-	-	100	-	-	100	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	6	5	10	0	3	2	0	0	0	1	0	2
Mvmt Flow	135	231	3	7	191	204	4	6	14	197	3	124

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	396	0	0	303
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.16	-	-	4.1
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.254	-	-	2.2
Pot Cap-1 Maneuver	1141	-	-	1269
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1140	-	-	1196
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.1	0.1	17	54.3
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	170	379	1140	-	-	1196	-	-	220	703
HCM Lane V/C Ratio	0.025	0.053	0.119	-	-	0.006	-	-	0.895	0.182
HCM Control Delay (s)	26.7	15	8.6	-	-	8	-	-	82.2	11.3
HCM Lane LOS	D	C	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.1	0.2	0.4	-	-	0	-	-	7.3	0.7

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:35	7:35	7:35	7:35	7:35	7:35
End Time	8:45	8:45	8:45	8:45	8:45	8:45
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	3	3	3	3	3	3
# of Recorded Intervals	2	2	2	2	2	2
Vehs Entered	1404	1412	1427	1427	1491	1428
Vehs Exited	1397	1423	1427	1437	1506	1440
Starting Vehs	12	19	14	21	27	18
Ending Vehs	19	8	14	11	12	10
Travel Distance (mi)	329	336	332	337	353	337
Travel Time (hr)	15.6	16.2	15.8	16.3	17.2	16.2
Total Delay (hr)	2.8	3.2	3.0	3.1	3.5	3.1
Total Stops	751	799	784	859	876	813
Fuel Used (gal)	13.9	14.2	14.3	14.6	15.2	14.5

Interval #0 Information Seeding

Start Time	7:35
End Time	7:45
Total Time (min)	10
Volumes adjusted by PHF, Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15
Volumes adjusted by PHF, Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	444	468	495	487	506	478
Vehs Exited	445	468	498	481	512	481
Starting Vehs	12	19	14	21	27	18
Ending Vehs	11	19	11	27	21	16
Travel Distance (mi)	100	106	110	105	116	107
Travel Time (hr)	4.9	5.5	5.4	5.2	6.0	5.4
Total Delay (hr)	1.0	1.4	1.2	1.1	1.5	1.3
Total Stops	251	264	252	267	302	265
Fuel Used (gal)	4.3	4.7	4.8	4.7	5.1	4.7

Interval #2 Information Recording

Start Time	8:00
End Time	8:45
Total Time (min)	45

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	960	944	932	940	985	951
Vehs Exited	952	955	929	956	994	958
Starting Vehs	11	19	11	27	21	16
Ending Vehs	19	8	14	11	12	10
Travel Distance (mi)	230	230	222	232	237	230
Travel Time (hr)	10.7	10.7	10.4	11.1	11.2	10.8
Total Delay (hr)	1.8	1.7	1.7	2.0	2.0	1.9
Total Stops	500	535	532	592	574	546
Fuel Used (gal)	9.7	9.5	9.5	9.9	10.1	9.7

Intersection: 5: Rock Way Ext/Rock Way & Scenic Ave

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	18	24	55	9	71	50
Average Queue (ft)	1	1	16	0	38	24
95th Queue (ft)	11	11	44	7	61	50
Link Distance (ft)		198		342	87	358
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)	100		200			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 8: Middle School & Scenic Ave

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	16	60	97
Average Queue (ft)	1	14	47
95th Queue (ft)	7	42	86
Link Distance (ft)	221		586
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		100	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Fire Station & Scenic Ave

Movement	NB
Directions Served	LR
Maximum Queue (ft)	19
Average Queue (ft)	1
95th Queue (ft)	10
Link Distance (ft)	102
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 13: Rock Way Ext & Fire Station

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	24	14
Average Queue (ft)	3	0
95th Queue (ft)	17	0
Link Distance (ft)	105	126
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 30: JC Housing/Upton Rd & Scenic Ave/10th St

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	75	24	30	38	29	29	168	79
Average Queue (ft)	27	1	1	3	4	10	61	40
95th Queue (ft)	66	12	11	19	22	33	118	69
Link Distance (ft)		342		459		167		223
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100		100		100		200	
Storage Blk Time (%)	0						0	
Queuing Penalty (veh)	0						0	

Zone Summary

Zone wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	3:20	3:20	3:20	3:20	3:20	3:20
End Time	4:30	4:30	4:30	4:30	4:30	4:30
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	3	3	3	3	3	3
# of Recorded Intervals	2	2	2	2	2	2
Vehs Entered	1395	1435	1348	1499	1465	1428
Vehs Exited	1400	1442	1371	1500	1471	1435
Starting Vehs	20	21	30	15	17	19
Ending Vehs	15	14	7	14	11	9
Travel Distance (mi)	312	328	300	337	330	322
Travel Time (hr)	15.4	16.0	14.8	17.1	16.2	15.9
Total Delay (hr)	3.2	3.3	3.2	3.9	3.4	3.4
Total Stops	843	822	815	955	873	858
Fuel Used (gal)	13.6	14.2	13.4	14.9	14.4	14.1

Interval #0 Information Seeding

Start Time	3:20
End Time	3:30
Total Time (min)	10
Volumes adjusted by PHF, Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	3:30
End Time	3:45
Total Time (min)	15
Volumes adjusted by PHF, Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	420	444	459	512	491	465
Vehs Exited	422	447	466	496	484	462
Starting Vehs	20	21	30	15	17	19
Ending Vehs	18	18	23	31	24	22
Travel Distance (mi)	86	93	96	109	98	96
Travel Time (hr)	4.0	4.6	5.1	5.6	4.9	4.8
Total Delay (hr)	0.7	1.0	1.4	1.4	1.1	1.1
Total Stops	205	216	271	306	248	250
Fuel Used (gal)	3.6	4.1	4.4	4.9	4.3	4.2

Interval #2 Information Recording

Start Time	3:45
End Time	4:30
Total Time (min)	45
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	975	991	889	987	974	962
Vehs Exited	978	995	905	1004	987	971
Starting Vehs	18	18	23	31	24	22
Ending Vehs	15	14	7	14	11	9
Travel Distance (mi)	226	235	205	228	232	225
Travel Time (hr)	11.4	11.4	9.7	11.5	11.4	11.1
Total Delay (hr)	2.5	2.3	1.8	2.5	2.3	2.3
Total Stops	638	606	544	649	625	612
Fuel Used (gal)	10.0	10.1	9.0	10.1	10.0	9.8

Intersection: 5: Rock Way Ext/Rock Way & Scenic Ave

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	34	35	54	17	66	54
Average Queue (ft)	2	2	10	1	36	26
95th Queue (ft)	14	17	36	10	59	51
Link Distance (ft)		198		342	87	358
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)	100		200			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 8: Middle School & Scenic Ave

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	23	52	6	106
Average Queue (ft)	1	7	0	37
95th Queue (ft)	11	32	4	76
Link Distance (ft)	221		183	586
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Fire Station & Scenic Ave

Movement	NB
Directions Served	LR
Maximum Queue (ft)	18
Average Queue (ft)	1
95th Queue (ft)	9
Link Distance (ft)	102
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 13: Rock Way Ext & Fire Station

Movement	EB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	4
95th Queue (ft)	20
Link Distance (ft)	105
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 30: JC Housing/Upton Rd & Scenic Ave/10th St

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	69	38	25	93	30	40	179	106
Average Queue (ft)	30	4	1	21	4	14	75	40
95th Queue (ft)	62	23	12	65	20	39	138	74
Link Distance (ft)		342		459		167		223
Upstream Blk Time (%)							0	0
Queuing Penalty (veh)							0	0
Storage Bay Dist (ft)	100		100		100		200	
Storage Blk Time (%)	0			0			0	0
Queuing Penalty (veh)	0			0			0	0

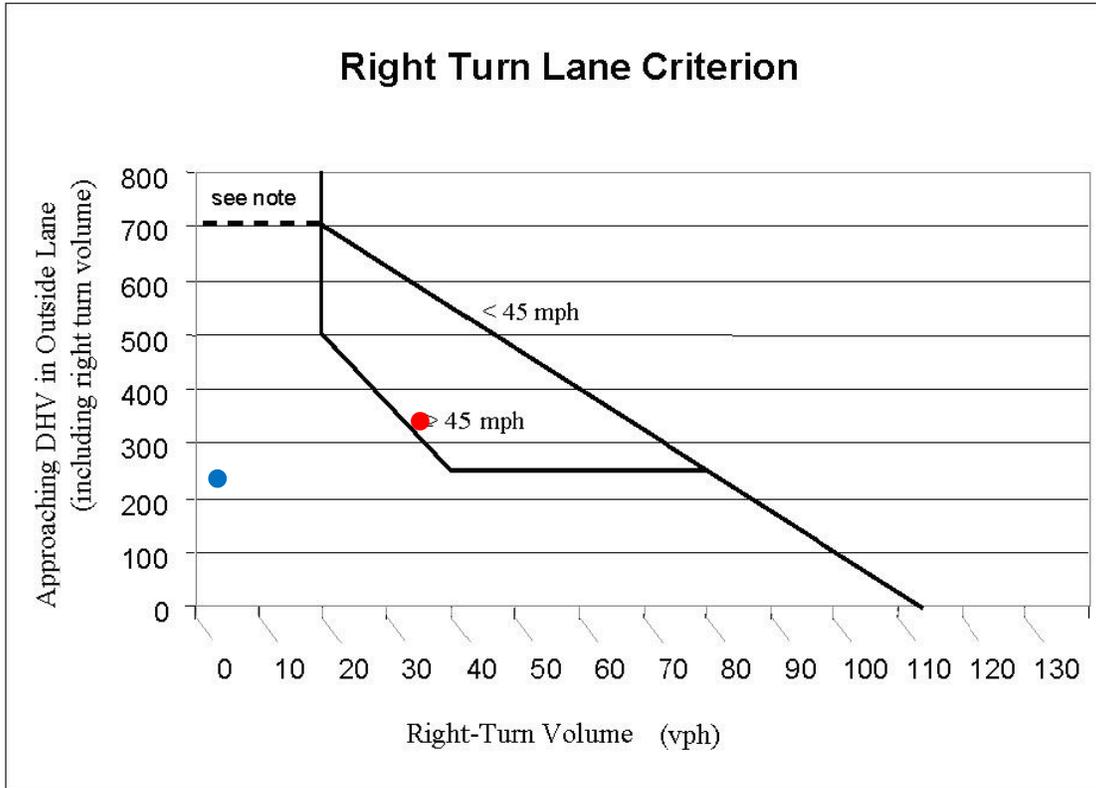
Zone Summary

Zone wide Queuing Penalty: 0

Rock Way / Scenic Avenue Intersection

Exhibit 7-2 Right Turn Lane Criterion

Year 2020 Build, AM/PM Peak Hours



Note: If there is no right turn lane, a shoulder needs to be provided. If this intersection is in a rural area and is a connection to a public street, a right turn lane is needed.

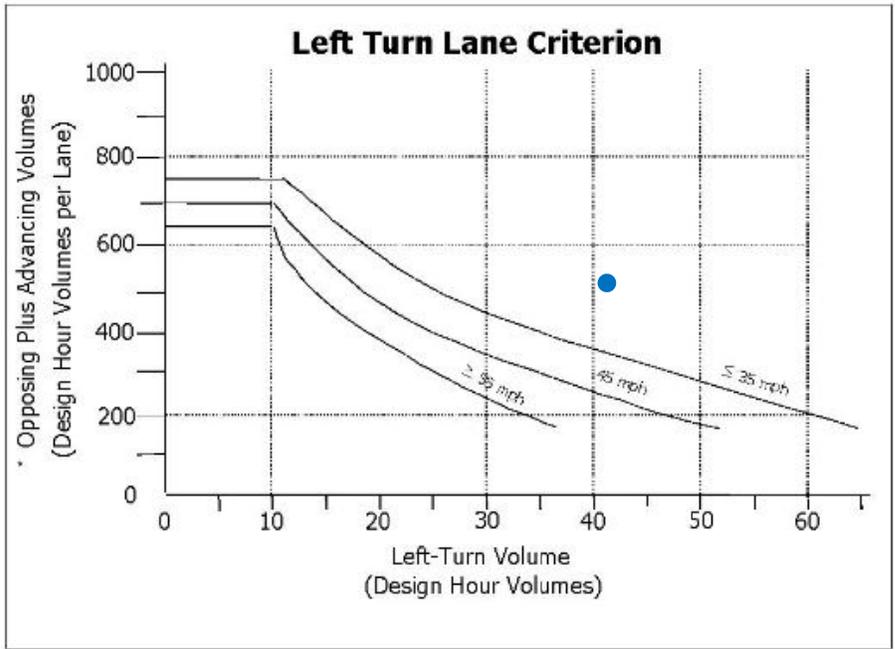
AM Peak Hour ●
X = 35 VPH
Y = 333 VPH
Criterion: Not Met

PM Peak Hour ●
X = 5 VPH
Y = 256 VPH
Criterion: Not Met

Rock Way / Scenic Avenue Intersection

Exhibit 7-1 Left Turn Lane Criterion (TTI)

Year 2020 Build, AM/PM Peak Hours



*(Advancing Volume/Number of Advancing Through Lanes) + (Opposing Volume/Number of Opposing Through Lanes)

AM Peak Hour ●
 X = 80 VPH
 Y = 592 VPH
 Criterion: Met

PM Peak Hour ●
 X = 41 VPH
 Y = 562 VPH
 Criterion: Met

320.00.00 – Design

320.10.01 – Design Standards

The purpose of these standards is to provide a consistent policy under which certain physical aspects of street and related design and plan preparation will be observed by the engineer.

The Engineer should be aware that certain alternate street standards for the Transit Oriented District and Transit Oriented Corridor might apply to the design and construction streets in these areas of the city. These alternate standards are fully described in the Central Point TOD Design Requirements and Guidelines. They are also briefly described in lesser detail in these Standards and Specifications.

This section contains design standards to ensure the safe and efficient operation of each facility type for all users and the best use of public space. The requirements in this section are established as minimum standards to follow and apply to both new construction and reconstruction, except as otherwise specified.

Designs shall consider the needs of people with disabilities and the aged, such as visually impaired pedestrians and mobility impaired pedestrians. Every effort should be made to locate street hardware away from pedestrian locations and provide a surface free of bumps and cracks, which create safety and mobility problems. Smooth access ramps shall be provided where required. All designs shall conform to the current American Disabilities Act (ADA) or as adopted by the Oregon Department of Transportation (ODOT), Oregon Bicycle and Pedestrian Plan.

The determination of the pavement width and total right-of-way shall be based on the operational needs for each street as determined by a technical analysis. The technical analysis shall use demand volumes that reflect the maximum number of pedestrians, bicyclists, parked vehicles and motorized vehicle traffic expected when the area using the street is fully developed. Technical analysis shall take into consideration, transportation elements of the Comprehensive Plan, TOD, neighborhood plans, approved tentative plans as well as existing commercial and residential developments. All street designs shall be coordinated with the design of other new or existing infrastructure.

These standards set forth the minimum requirements for materials and street design. The Public Works Director shall have discretion to require a higher or different standard for materials or design when in his judgment it is in the best interest of the public's health, safety and welfare when considering all aspects and circumstances of the project.

The minimum geometric requirements for all street classifications are defined in Tables 300 – 1 through 300 – 7.

320.10.02 – Traffic Impact Analysis

The purpose of this section is to assist in the determination of which road authorities participate in land use decisions, and to implement Section 660-012-0045(2)(e) of the State Transportation

Planning Rule that requires the city to adopt a process to apply conditions to development proposals in order to minimize impacts and protect transportation facilities.

This chapter establishes the standards for when a proposal must be reviewed for potential traffic impacts; when a traffic impact analysis must be submitted with a development application in order to determine whether conditions are needed to minimize impacts to and protect transportation facilities; what must be in a traffic impact analysis; and who is qualified to prepare the study.

A traffic impact analysis shall be prepared by a traffic engineer or civil engineer licensed to practice in the state of Oregon with special training and experience in traffic engineering. If the road authority is the Oregon Department of Transportation (ODOT), consult ODOT's regional development review planner and OAR 734-051-180. If the road is the authority of Jackson County, consult Jackson County's road design requirements.

The Public Works Director may, at his/her discretion, waive the study of certain intersections when it is concluded that the impacts are not substantial.

320.10.03 – Traffic Impact Analysis Applicability

(1) The level of detail and scope of a traffic impact analysis (TIA) will vary with the size, complexity, and location of the proposed application. Prior to any TIA, the applicant shall submit sufficient information to the City for the Public Works Department to issue a scoping letter. If stipulations to reduce traffic are requested by an applicant, it must first be shown by means of an analysis that an unconditional approval is not possible without some form of mitigation to maintain an adequate LOS. This will determine whether a stipulation is necessary.

(2) Extent of Study Area:

The study area shall be defined by the Public Works Department in the scoping letter and shall address at least the following areas:

- a) All proposed site access points;
- b) Any intersection where the proposed development can be expected to contribute 25 or more trips during the analysis peak period. Impacts of less than 25 peak period trips are not substantial and will not be included in the study area. This volume may be adjusted, at the discretion of the Public Works Department, for safety or unusual situations; and
- c) Any intersections directly adjacent to the subject property.

(3) When required: TIA shall be required when a land use application involves one or more of the following actions:

- a) A change in zoning or a plan amendment designation that generates 300 average daily trips (ADT) more than the current zoning;
- b) Any proposed development or land use action that a road authority, including the city, Jackson County or ODOT, states may have operational or safety concerns along its facilities;
- c) An increase in site traffic volume generation by 250 average daily trips (ADT) or more, or 25 Peak Hour Trips (PHT);

- d) An increase in peak hour volume of a particular movement to and from the State highway by 20 percent or more;
- e) An increase in use of adjacent streets by vehicles exceeding twenty thousand pounds gross vehicle weight by 10 vehicles or more per day;
- f) The location of the access driveway does not meet minimum sight distance requirements, as determined by the city engineer, or is located where vehicles entering or leaving the property are restricted, or such vehicles queue or hesitate on the state highway, creating a safety hazard at the discretion of the community development director; or
- g) A change in internal traffic patterns that, at the discretion of the Public Works Director, may cause safety problems, such as back-up onto a street or greater potential for traffic accidents.

(4) Submittals:

Provide two copies of the TIA for Public Works Department to review.

(5) Elements of Analysis:

A TIA shall be prepared by a Traffic Engineer or Civil Engineer licensed to practice in the State of Oregon with special training and experience in traffic engineering. The TIA shall be a thorough review of the effects a proposed use will have on the transportation system. The study area shall include all streets and intersections in the analysis, as defined in subsection (2) above. Traffic generated from a proposed site will be distributed throughout the transportation system using existing count data or the current transportation model used by the City. Any alternate distribution method must be based on data acceptable to the Public Works Department. The following checklist outlines what a TIA shall contain. Incomplete reports shall be returned to the applicant for completion without review:

- a) The scoping letter as provided by the Public Works Department;
 - b) The Final TIA shall be signed and stamped by a Professional Civil or Traffic Engineer registered in the State of Oregon;
 - c) An executive summary, discussing the development, the major findings of the analysis, and the mitigation measures proposed;
 - d) A vicinity map of the proposed site and study area;
 - e) Project characteristics such as zoning, potential trip generations (unless stipulated to less than potential), proposed access(s), and other pertinent factors;
 - f) Street characteristics within the study area including functional classification, number of travel lanes, lane width, shoulder treatment, bicycle path corridors, and traffic control at intersections;
 - g) Description of existing transportation conditions including transit accessibility, accident history, pedestrian facilities, bicycle facilities, traffic signals, and overall traffic operations and circulation;
 - h) Peak period turning movement counts of at least two-hour minimums at study area intersections, less than 2 years old. These counts shall be adjusted to the design year of the project and consider seasonal traffic adjustments when required by the scoping letter;
 - i) A "Figure" showing existing peak period (AM, noon, or PM, whichever is largest) turning movement volumes at study area intersections, as shown in Example 1.
- Approved applications obtained from the City that have not built out but will impact study

- area intersections shall be included as pipeline traffic. An appropriate adjustment factor shall be applied to existing count data if counts were taken during the off-peak season;
- j) Potential “Project” trip generation using the most current edition of the ITE Trip Generation, as required by the Public Works Department at the time of scoping. Variations of trip rates will require the approval of the Public Works Department. Such approval will require submission of adequate supporting data prior to first submittal of the TIA;
- k) A “Figure” illustrating project turning movement volumes at study area intersections for peak periods, as shown in Example 2. Adjustments made for pass-by traffic volumes shall follow the methodology outlined in the latest edition of the ITE Trip Generation, and shall not exceed 25% unless approved by the Public Works Director;
- l) A “Figure” illustrating the combined traffic of existing, background, and project turning movement volumes at study area intersections for peak periods, as shown in Example 3;
- m) Level of Service (LOS) analysis at study area intersections under the following conditions:
- (A) Existing plus pipeline traffic
 - (B) Existing plus pipeline traffic and project traffic.

A table shall be prepared which illustrates all LOS results. The table shall show LOS conditions with corresponding vehicle delays for signalized intersections and the critical movement at unsignalized intersections. If the proposed use is scheduled to be completed in phases, a LOS analysis shall be prepared for each phase;

- n) A mitigation plan if impacts to the study area reduce level of service (LOS) below minimums. Mitigation measures may include stipulations and/or construction of necessary transportation improvements. Mitigation measures shall be required to the extent that the transportation facilities, under City jurisdiction, operate at an acceptable level of service (LOS) with the addition of project traffic; and
- o) Intersections under jurisdiction of another agency, but still within the City limits, shall be evaluated by either the City’s criteria or the other jurisdiction’s criteria, or both, whichever is considered applicable by the Public Works Department.

If the TIA is not consistent with the scoping letter (including any amendments) then the TIA will be returned to the applicant without review.

(6) Analysis criteria:

- a) All trip distributions into and out of the transportation system must reflect existing traffic count data for consistency or follow the current transportation model used by the City. If alternate splits are used to distribute traffic then justification must be provided and approved by the Public Works Department prior to first submittal of the TIA.
- b) If progression analysis is being evaluated or queuing between intersections is a concern, the peak period used in the analysis must be the same for every intersection along the street and reflect that of the most critical intersection being evaluated. If a common peak period is not requested by the Public Works Department, then the actual peak period of every intersection shall be used.
- c) Counts performed must be a minimum of two hours and include the peak period for analysis purposes. All documentation shall be included in the TIA.
- d) All supporting count data, LOS analyses, pass-by deductions, growth rates, traffic

distributions, or other engineering assumptions must be clearly defined and attached to the TIA when submitted in report form to the City for review.

- e) All LOS analyses shall follow operational procedures per the current Highway Capacity Manual. Ideal saturation flow rates greater than 1800 vehicles per hour per lane should not be used unless otherwise measured in the project vicinity. Queue lengths shall be calculated at the 95th percentile where feasible. Actual peak hour factors should be used for each movement or lane grouping in the analysis. Peak hour factors over 0.90 shall not be used unless justified by specific counts at that location.
- f) Signal timing used in capacity or progression analysis shall follow City timing plans and account for pedestrian crossing times, unless otherwise noted in the scoping letter.
- g) Arrival Type 3 (random arrivals) shall be used unless a coordinated plan is in place during the peak period.

320.10.04 – Maintenance of level of Service D

Whenever level of service is determined to be below level D for arterials or collectors, development is not permitted unless the developer makes the roadway or other improvements necessary to maintain level of service D respectively.