TRANSPORTATION TECHNICAL REPORT

for the

AUBURN COMMUNITY CENTER & YOUTH CENTER

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CITY OF AUBURN

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1. INTRODUCTION

This transportation impact analysis was prepared for the City of Auburn's proposed Auburn Community Center and Youth Center (ACCYC) planned within Les Gove Park. The planned ACCYC would re-purpose the existing 7,110 square foot (sf) Parks, Arts, and Recreation Building located at 910 – 9th Street SE and would construct a new addition with about 13,770 sf of floor area on the eastern side of the existing building to provide a combined facility with a total of about 20,880 sf. The project site location and vicinity are shown on Figure 1.

This report documents the existing conditions in the site vicinity and evaluates the anticipated impacts to the surrounding transportation system on traffic operations, vehicular site access, local circulation, pedestrian access, parking, and event conditions.

1.1. Project Description

1.1.1. Existing Facility

The City of Auburn proposes to re-purpose and expand the existing Parks, Arts, and Recreation Building to provide a Community Center and Teen Center located on a site within the northern portion of Les Gove Park. The project site area is bounded by 8th Street SE to the north, the Existing Gymnasium and Senior Activity Center to the west, Les Gove Park open space to the south, and residential properties to the east. The existing Parks, Arts, and Recreation Administration Building is a one story, 7,110 sf brick building that houses administrative and recreation staff. The building includes a multi-purpose room (which can be divided into two meeting rooms), a reception area, and kitchen. The attached gymnasium (9,850 sf) was opened in October 2011. The existing facility is used for a variety of programs scheduled throughout the year, including open gym sports, and indoor preschool playground, rock climbing instruction and more. The gymnasium also supports a host of organized programs, rock climbing classes, and birthday party packages. The facility is available for rentals and other special events.

Currently, vehicular access to the main on-site parking lot (with 68 spaces) occurs from two driveways—one on 8th Street SE to the north, and one from 9th Street SE just east of H Street SE. The Senior Activity Center is located to the west of the site and has parking for about 38 vehicles in lots along the west and south sides of the building. The White River Valley Museum is located south of the Senior Activity Center and has 13 parking spaces in front of the building. There are also 34 front-in parking spaces along both sides of Deal's Way adjacent to Les Gove Park south of the project site. In total there are 153 off-street parking spaces serving the project vicinity. On-street parking also occurs along roadways near the site including 8th and 9th Streets SE and H Street SE.

1.1.2. Proposed Project

The proposed project would repurpose the existing 7,110-sf Parks, Arts, and Recreation building and would provide spaces for a teen hangout area, office, a games room, a small daycare area, and a lounge area. It would maintain the existing kitchen spaces and restrooms. An addition would be constructed to the east of the existing building that would consist of about 13,770 sf and would provide spaces for a reception lobby, a living room, administrative office space, a classroom, utilities and storage, restrooms, and a multi-purpose room for banquets and meetings (with capacity for up to 250 persons). The multi-purpose room could be divided with movable walls into three smaller rooms that could be used for classes or other community activities. The existing main parking lot is proposed to be expanded to the east and west to provide about 68 additional spaces. No changes to the existing vehicular access locations are planned. The proposed site plan showing the building, parking, and access is presented on Figure 2.

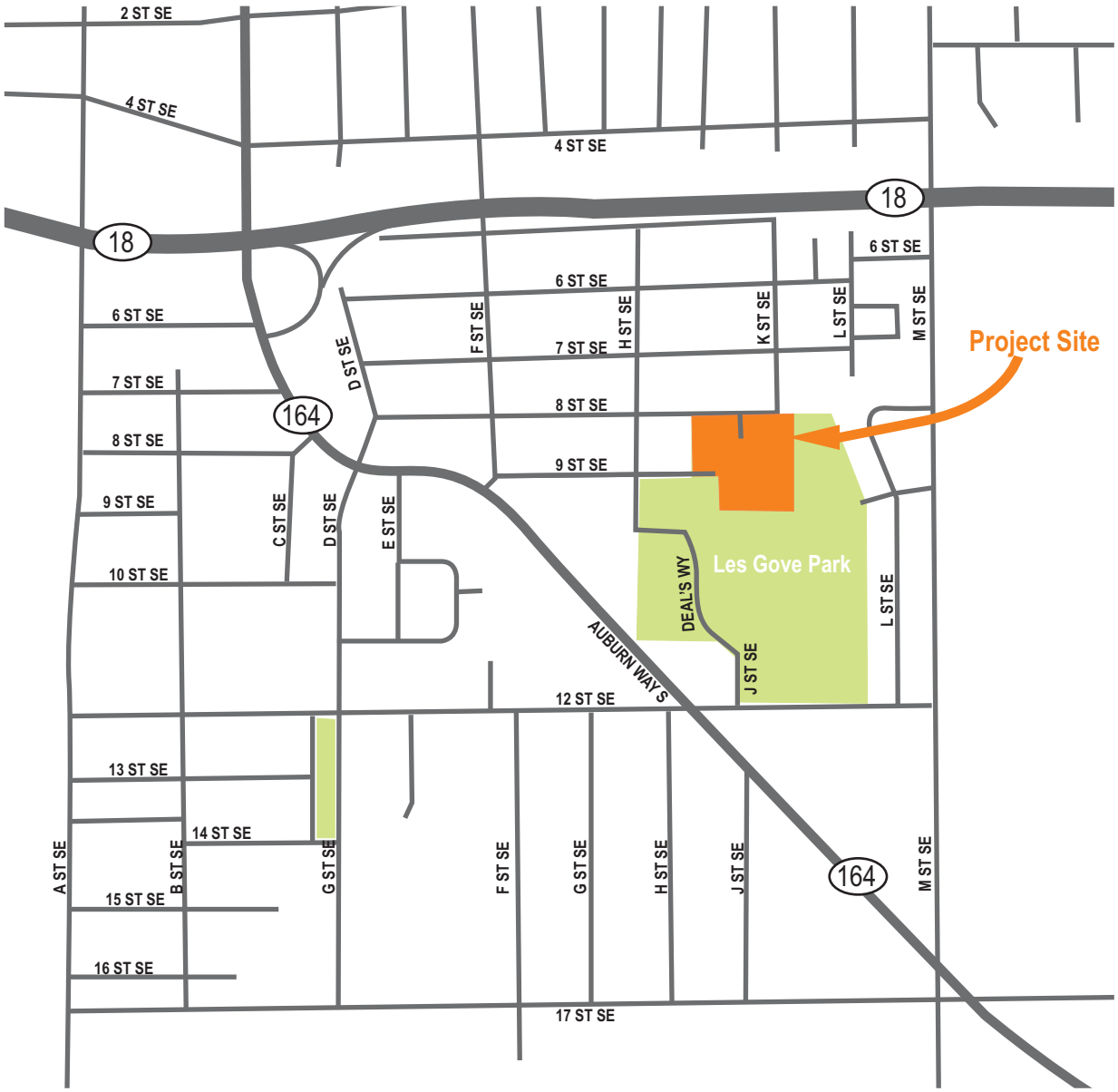

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Figure 1

Site Location and Vicinity Map

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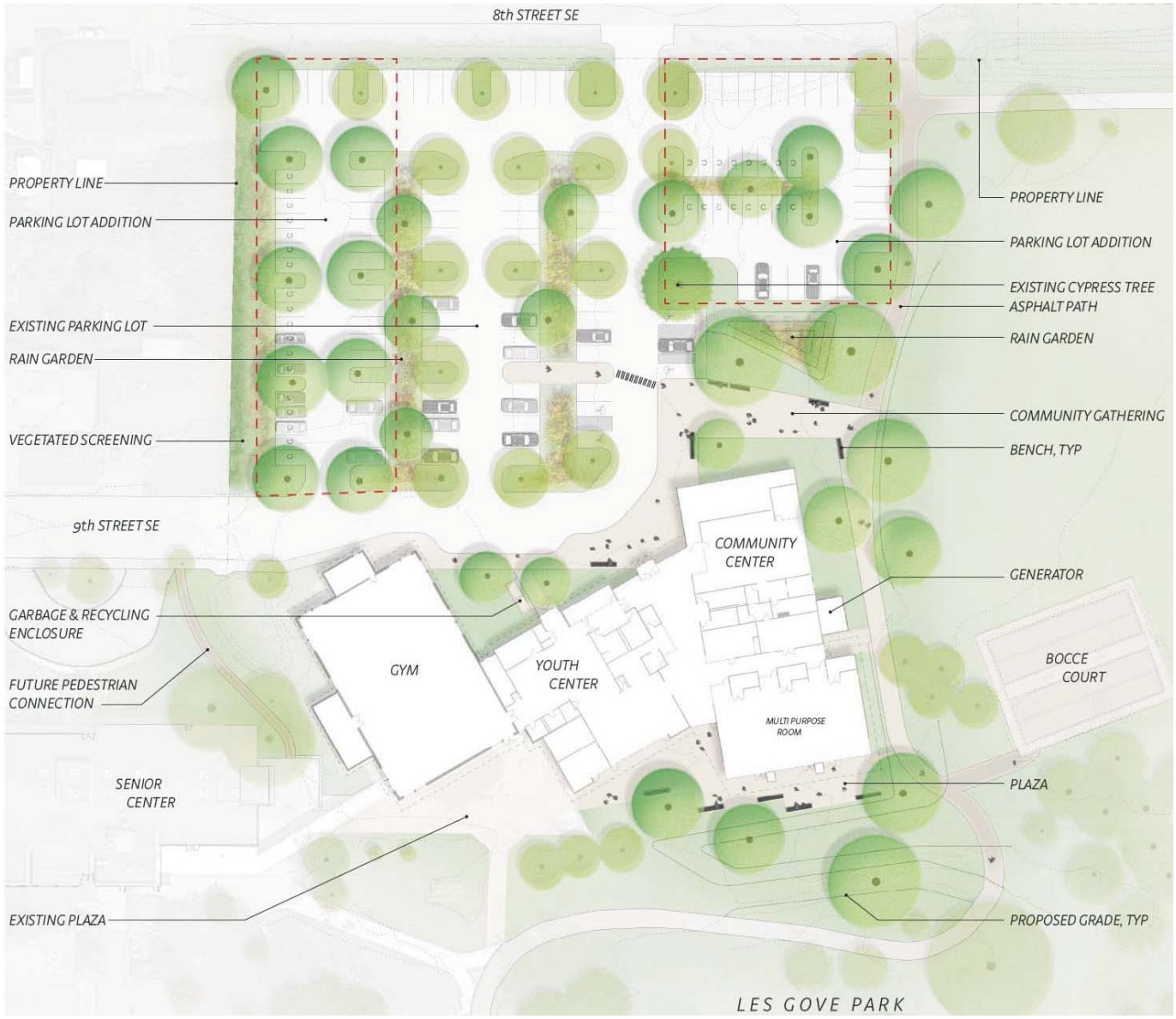

Source: ARC Architects, February 17, 2015

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Figure 2

Proposed Site Plan

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1.2. Study Area and Analysis Approach

The study area for this analysis was developed based on the possible access routes to and from the site. The following intersections were evaluated to determine the potential traffic-related impact of the ACCYC and traffic patterns surrounding the site.

- Auburn Way S / 12th Street SE (signalized)
- Auburn Way S / F Street SE (signalized)
- F Street SE / 8th Street SE (stop-sign control)
- J Street E (Deal's Way) / 12th Street SE
- M Street SE / 12th Street SE
- M Street SE / 6th Street SE

Community center use is expected to occur throughout the day, peaking between 9:00 A.M. and 2:00 P.M. and then again after 6:00 P.M. Traffic in the site vicinity peaks during the morning and afternoon commuter periods. Therefore, the analysis focuses on the weekday commuter PM peak period (the highest hour between 4:00 and 6:00 P.M.) when background traffic volumes are highest and congestion is typically worst.

The project is expected to be completed and fully operating by year 2016, so this year was used for all future traffic analysis conditions. This transportation analysis relies on data collected at and around the site in 2014. Counts at three locations were commissions by the City of Auburn in March and May 2014; counts at three other locations were commissioned by Heffron Transportation in December 2014 for use in this analysis.

Existing parking demand and supply at the site and in the vicinity were documented and parking demand estimates for the ACCYC were developed for the peak hour on a typical day as well as the peak during large events at the ACCYC.

2. BACKGROUND CONDITIONS

This section describes the existing roadway network, traffic volumes, traffic operations at the study intersections, parking conditions, and transit and pedestrian facilities in the site vicinity. It also describes how these conditions are likely to change in the future without the proposed project.

2.1. Roadway Network

The ACCYC site and the surrounding Les Gove Park are located north of 12th Street SE, South of 8th Street SE, west of M Street SE, and east of F and H Streets SE. The following describes key roadways that serve the immediate site area.

Auburn Way S is a Principal Arterial[1] that provides northwest to southeast access from Downtown Auburn and State Route (SR) 18 to the southeastern portion of the City. Auburn Way S is also designated as SR 164, which extends beyond the City limits. In the study area, between SR 18 and 12th Street SE, it has five to six travel lanes (two to three in each direction). There are curbs, gutters, and sidewalks on both sides of the street. The posted speed limit is 35 mph. Its intersections with F Street SE and 12th Street SE are controlled by traffic signals. It has a raised center median that controls access and turning movements in the area.

[1] City of Auburn, *Functional Roadway Classifications,* Map ID 4096; September 7, 2012.

M Street SE is a Principal Arterial that provides north-south access east of the project site between downtown Auburn and residential areas to the south. In the study area, between SR 18 and 12th Street SE, it has four to five travel lanes (two in each direction plus added turn lanes in some locations). There are curbs, gutters, and sidewalks on both sides of some segments; there are also segments with curb and gutter only, but no sidewalk. The posted speed limit is 35 mph.

12th Street SE is an east-west Residential Collector that provides access between M Street SE on the east to Auburn Way S and west to A Street SE on the west. Near the site, between Auburn Way S and M Street SE, the roadway mostly operates with two travel lanes (one in each direction) with parallel on-street parking on both sides. Near Auburn Way S, the two outside lanes are used as travel lanes. There are curbs, gutters, and sidewalks on both sides of the street. The posted speed limit is 30 mph. Its approach to M Street SE is stop-sign controlled; its intersection with Auburn Way S is signalized.

F Street SE is a north-south Residential Collector connecting from Auburn Way S north across (under) SR 18 to 2nd Street. In the site vicinity, F Street SE has two travel lanes (one in each direction). The roadway edge is primarily open gravel shoulders with sidewalks (generally no curbs or gutters). There is c-curb in the middle of the roadway near its signalized intersection with Auburn Way S that restricts turns at the 9th Street SE intersections to right-only. The posted speed limit is 25 mph.

8th Street SE and **9th Street SE** are east-west local roadways that provide direct access to residential properties as well as the project site. The segment of 8th Street SE between H Street SE and F Street SE has curb, gutter, and sidewalk on both sides; to the east, there is no curb, gutter or sidewalk. 9th Street SE has curb, gutter, and sidewalk on both sides between the project site and F Street SE (except for a segment in front of one residence at the east end of the roadway). Both roadways' approaches to F Street SE are stop-sign controlled; the 8th Street SE approaches to H Street SE and the H Street SE approaches to 9th Street SE are stop-sign controlled. The speed limit on local roads is 25 mph.

J Street SE is a local street that provides access north from 12th Street SE to Les Gove Park and **Deal's Way**, which is identified as a private street. Deal's Way circulates through the park and the Senior Activity Center to H Street SE. The roadway has curbs, and gutters on both sides and sidewalk along the east side. The J-Street SE approaches to 12th Street SE are stop-sign controlled. The speed limit on local roads is 25 mph; there are advisory speed limits of 10 mph posted along Deal's Way. According to City staff, Deal's Way has 10 mph advisory speed limit signs because of speed bumps located along the roadway to reduce vehicle speeds and discourage through traffic.[2]

The City of Auburn's *2015 to 2020 Transportation Improvement Program (TIP)*[3] was reviewed to determine if the study area has any planned improvements scheduled. There several projects planned in the area including some that would affect capacity and operations at study-area intersections. The projects are described below.

> ***TIP Project #10: F Street SE Non-Motorized Improvements (Downtown to Les Gove)*** *– The F Street SE project includes pavement rehabilitation, installation of curbs, gutters, bike lanes, sidewalks, ADA improvements, utility undergrounding, LED street lighting, new two way center left turn-lane, crash attenuation at the supports for the BNSF railroad bridge, initiation of Auburn Staff Bikeshare pilot program, wayfinding signage and a "Bicycle Boulevard" designation of roadway connections between Auburn City Hall and the Les Gove Park Campus. This project improves mobility and safety along the corridor and will complete a gap in the non-motorized network between Auburn's Downtown and the Les Gove Community Campus. The major infrastructure improvements*

[2] Email communication, City of Auburn, James Webb, Traffic Engineering review staff, February 5, 2015
[3] City of Auburn, adopted June 16, 2014.

are approximately 0.3 miles long and the "Bicycle Boulevard" improvements are just over a mile long. Expenditures are planned for 2015, 2016, and 2017.

***TIP Project #14: M Street SE / 12th Street SE Traffic Signal** – This project includes the design, right of way acquisition, and construction of a new traffic signal. Expenditures are forecast for 2018.*

***TIP Project #53: Auburn Way S / 12th Street SE Intersection Improvements** – The project will design multi-modal intersection improvements at the Auburn Way S / 12th Street SE intersection. The improvements will include pedestrian access, bicycle lanes, signal phasing and timing, and ITS upgrades. All aspects of the project will be completed with the exception of construction which will be initiated with the allocation of future funding or the award of a grant. Expenditures are forecast for 2015 and 2016.*

***TIP Project #60: M Street SE Corridor (8th Street SE to Auburn Way S)** – Widen M Street SE into a multi-lane arterial between 8th Street SE and Auburn Way S. This project will improve mobility and is tied to corridor development. It is consistent with the Comprehensive Plan and contributes to the completion of a north/south arterial corridor. Expenditures are planned for 2018 and 2019.*

Although two of the above projects (#10 and # 53) could affect capacity and operations at the associated intersections by 2016, it is not certain that they will be completed before the ACCYC project. Therefore, the existing intersection geometry and traffic control were assumed to represent potential worst-case conditions for the evaluation of project impacts.

2.2. Traffic Volumes

Afternoon (PM) peak period turning movement counts were obtained from the City of Auburn for three of the study-area intersections—Auburn Way S/12th Street SE, Auburn Way S/F Street SE, and M Street SE/12th Street SE. The two counts on Auburn Way S were performed on May 20, 2014; the count on M Street SE was performed on March 6, 2014. New PM peak period turning movement counts were commissioned by Heffron Transportation and performed by Idax Data Solution, Inc. at the remaining three study area intersections on Tuesday, December 2, 2014. The existing PM peak hour traffic volumes at the study intersections are shown on Figure 3.

Future without-project traffic volumes were estimated for this analysis. Based on a review of historic peak hour counts along 12th Street SE (at Auburn Way S, J Street SE, and M Street SE) and Auburn Way S (at 12th Street SE and F Street SE), volumes generally declined from 2007, 2009, and 2011 when compared to the 2014 counts. A review of multi-day counts performed by the City of Auburn 2008, 2009, and 2013 also showed declines in daily and PM peak hour volumes. However, to account for the potential for future background traffic growth from new development, the existing PM peak hour traffic volumes were increased using a 1% compound annual growth rate to reflect year 2016 conditions. The forecast 2016 PM peak hour traffic volumes without the project are shown on Figure 4.

2.3. Traffic Operations

Level of service (LOS) analyses were performed for the study area intersections during the PM peak hour. Level of service is a qualitative measure used to characterize traffic operating conditions. Six letter designations, “A” through “F,” are used to define level of service. LOS A is the best and represents good traffic operations with little or no delay to motorists. LOS F is the worst and indicates poor traffic operations with long delays**.** The Appendix presents the level of service criteria from the *Highway*

Capacity Manual (HCM) 2010[4] for signalized and unsignalized intersections. Trafficware's *Synchro 8.0* traffic operations analysis software was used to calculate the levels of service. The results for signalized intersections were determined and reported using the *Synchro* reporting module, which is based on the *Highway Capacity Manual 2010* methodology. Results for unsignalized intersections were reported using the HCM 2010 module. Existing traffic signal timing information and intersection channelization were determined from field observations. The analyses account for the presence of trucks using heavy vehicle percentages, which address the slower moving turns and different gap acceptance characteristics.

According to the City's *Comprehensive Transportation Plan*,[5] the City of Auburn uses corridor LOS as its primary measurement of transportation system impacts. All arterials and collectors in Auburn have designated LOS standards. The LOS standard for these corridors is primarily LOS D with the exception of some corridors that may operate as LOS E or F, with a specified maximum travel time.

Levels of service were determined for the study-area intersection to reflect existing and 2016-without-project conditions. Table 1 shows the results for the PM peak hour conditions. As shown, both of the signalized study intersections are currently operating at LOS A; all movements at the unsignalized intersections currently operate at LOS C or better. The 2016 without-project analyses indicate the signalized intersections would remain operating at LOS A; all movements at the unsignalized intersections would operate at LOS D or better with the assumed growth in background traffic. The level-of-service calculation sheets are included in the Appendix.

Table 1. PM Peak Hour Level of Service Summary – Existing and 2016 Without Project

	Existing (2014)		2016 Without Project	
Signalized Intersections	LOS [1]	Delay [2]	LOS	Delay
Auburn Way S / F Street SE	A	8.8	A	8.9
Auburn Way S / 12th Street SE	A	9.2	A	9.3
Two-Way Stop Controlled Intersections	LOS	Delay	LOS	Delay
12th Street SE / M Street SE				
Northbound Left Turns	B	11.8	B	12.0
Eastbound Movements	C	24.3	D	25.4
M Street SE / 6th Street SE				
Northbound Left Turns	B	11.7	B	11.9
Eastbound Movements	C	23.5	C	24.0
12th Street SE / J Street SE (Deal's Way)				
Eastbound Left Turns	A	7.4	A	7.4
Southbound Left Turns	A	9.2	A	9.2
Southbound Right Turns	A	8.6	A	8.6
8th Street SE / F Street SE				
Northbound Left Turns	A	7.5	A	7.5
Eastbound Movements	B	10.6	B	10.6
Westbound Movements	B	10.0	B	10.0
Southbound Left Turns	A	7.4	A	7.4

Source: Heffron Transportation, Inc., January 2015.
1. *Level of service.*
2. *Average seconds of delay per vehicle.*

[4] Transportation Research Board [TRB], 2010.
[5] City of Auburn, Adopted by Ord. No. 6280, Dec. 7, 2009; Revised by Ord. No. 6394, Dec. 5, 2011; Revised by Ord. No. 6440, Dec. 17, 2012.

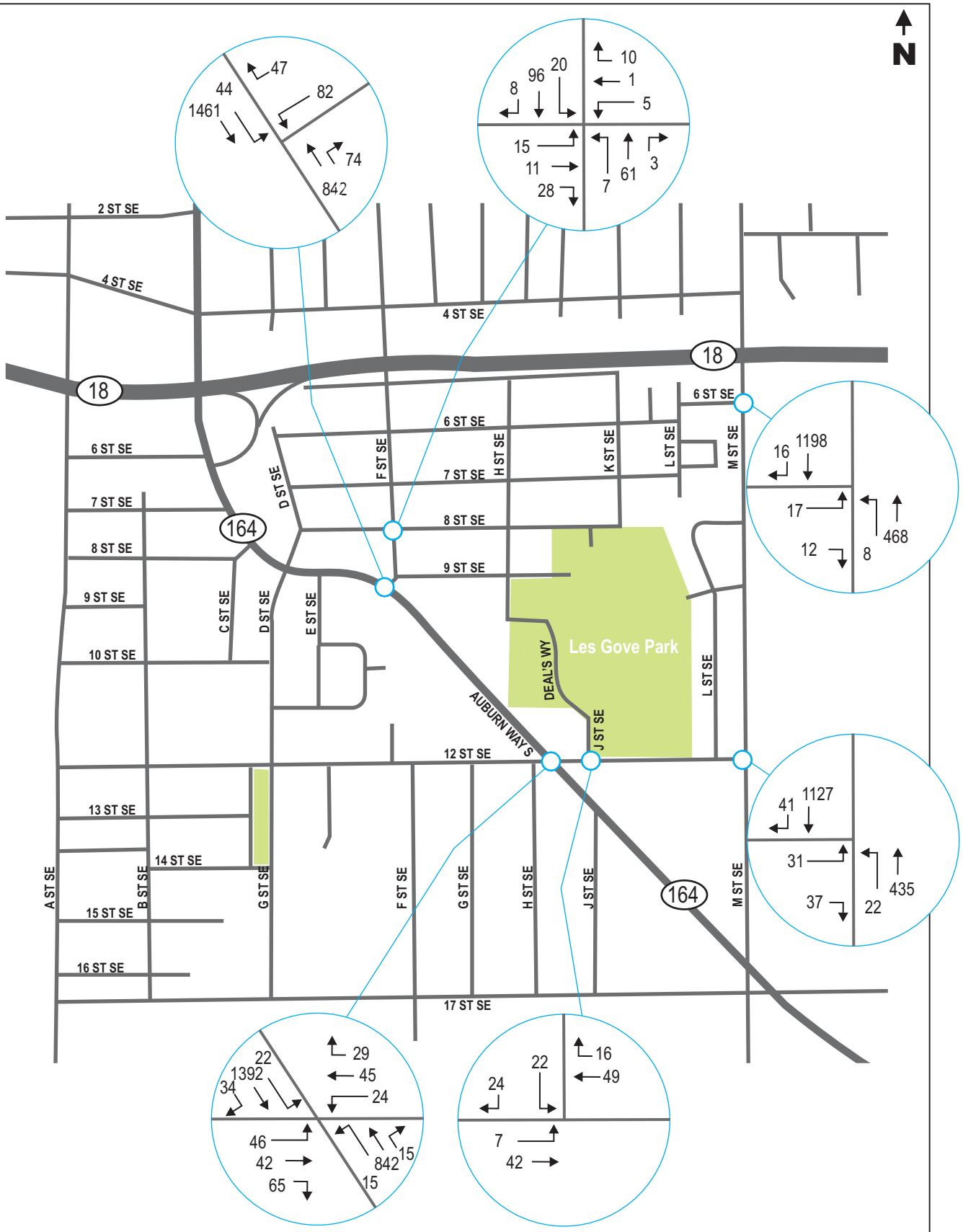

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Figure 3

Existing (2014) Traffic Volumes
PM Peak Hour

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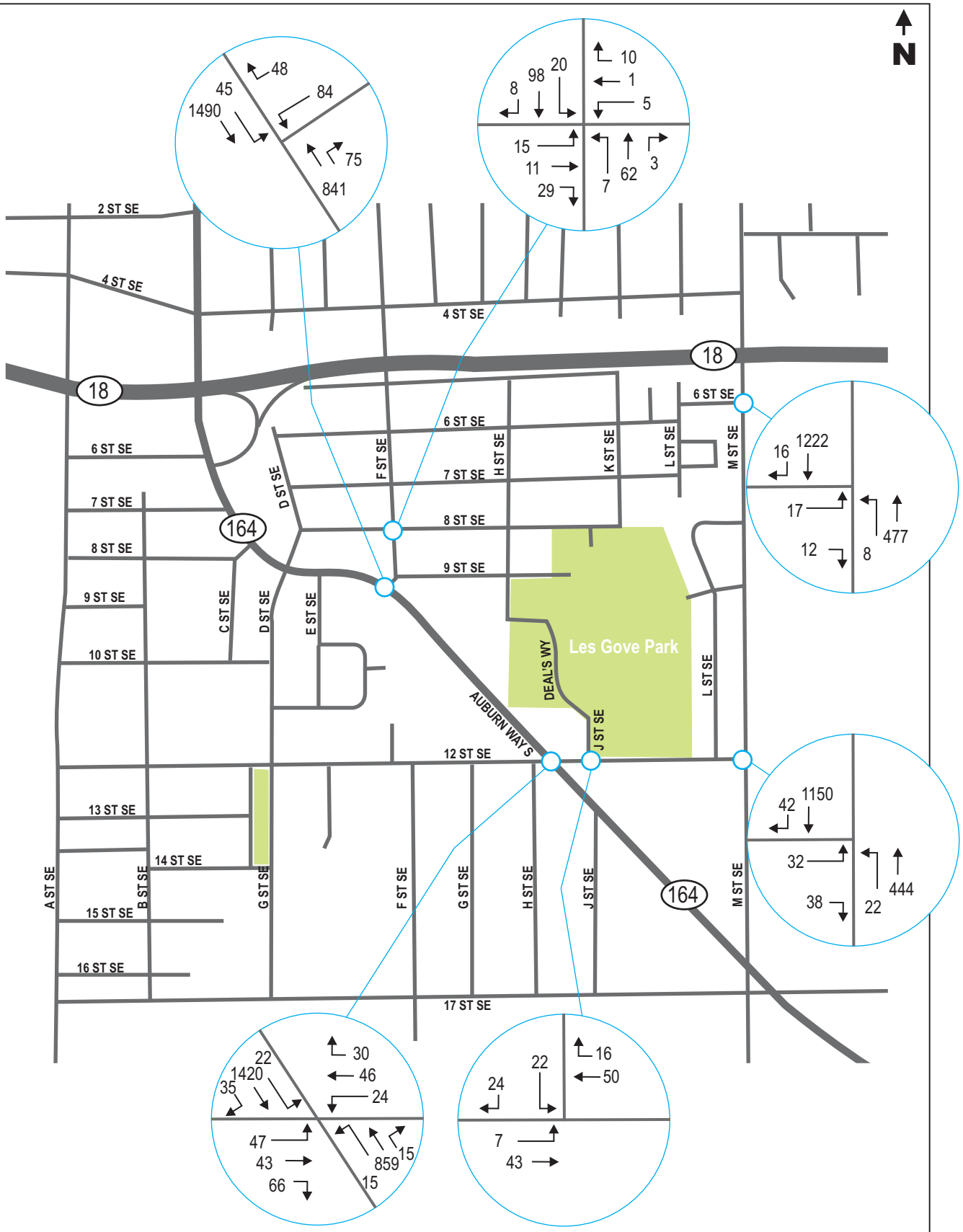

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Figure 4

Forecast 2016 Without-Project Traffic Volumes
PM Peak Hour

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2.4. Traffic Safety

Collision data for the intersections surrounding the project site were obtained from the Washington State Department of Transportation (WSDOT). The data reflecting the period between January 1, 2011 and December 31, 2014 (4.0 years) are summarized in Table 2. The data were examined to determine if there are any unusual traffic safety conditions that could impact or be impacted by the proposed project. During the four-year analysis period, the highest number of collisions occurred at the Auburn Way S/12th Street SE and Auburn Way S/F Street SE intersections with 26 and 18 collisions, respectively. The majority of these were rear-end collisions. According to the WSDOT collision report, many of these rear-end collisions were due to drivers following too closely or exceeding a safe speed. No fatalities were reported at any of the study area intersections.

Collision rates, in terms of collisions per year and collisions per million entering vehicles (MEV), are also reported. The collision rate per MEV is a ratio of the number of collisions and the total number of vehicles that travel through an intersection over the study period. This collision rate, allows a comparison of intersections with varying traffic volumes. For example, intersections that have very high traffic volumes are more likely to have a larger number of collisions; however, the rate of collisions may be low when considering the volume of traffic. The rates were determined using estimated Average Daily Traffic (ADT) volumes. The ADT volumes were estimated based on PM peak hour counts for the intersections assuming that an intersection's ADT is 10 times the PM peak hour volume. This estimating tool (the inverse is also known as a K-factor—0.1 in this case) is commonly applied to estimate daily traffic. Collision rates higher than 1.0 per MEV are considered to be relatively high and intersections with rates higher than that may merit additional examination from a safety perspective. As shown, the collision rates for all of the study-area intersections are below 1.00 collisions per MEV over the 4.0 year period and these data do not indicate any unusual traffic safety conditions.

Table 2. Collision Summary (January 1, 2011 through December 31, 2014)

Intersection	Rear-End	Side-Swipe	Right Turn	Left Turn	Right Angle	Ped / Cycle	Other [a]	Total for 4.0 Years	Average/ Year	Acc. / MEV [b]
Auburn Wy S / F St SE	15	0	0	1	0	1	1	18	4.5	0.49
Auburn Wy S / 12th St SE	14	1	2	3	2	2	2	26	6.5	0.69
12th St SE / J St SE (Deal's)	0	1	0	0	0	0	0	1	0.3	0.43
M St SE / 12th St SE	1	0	1	0	6	0	1	9	2.3	0.36
M St SE / 6th St SE	0	0	0	0	0	0	0	0	0.0	0.00
F St SE / 8th St SE	0	0	0	0	3	0	0	3	0.8	0.76

Source: Washington State Department of Transportation, Collision data for the period 01/01/2011 through 12/31/2014.

a. Other collisions included vehicle hitting an object.

b. Acc. / MEV = Number of accidents per million entering vehicles.

2.5. Parking Supply and Demand

There are 68 striped parking spaces located the main lot immediately to the north of the project site that serve the existing Parks, Arts, and Recreation Building as well as the existing gymnasium. Of these, five (5) are signed for fuel efficient vehicles and four (4) are signed as vanpool parking. The Senior Activity Center is located to the west of the site and has parking for 38 vehicles in two locations (31 spaces in the main lot west of the building and 7 spaces along the south side of the building). The White River Valley

Museum is located south of the Senior Activity Center and has 13 parking spaces in front of the building. There are also 34 front-in-angle parking spaces along both sides of Deal's Way adjacent to Les Gove Park south of the project site. In total, there are 153 off-street parking spaces serving the project site vicinity. On-street parking also occurs along roadways near the site including along 8th and 9th Streets SE and H Street SE. Parking supply along these roadways was estimated at about 110 spaces (estimated at 44 spaces on 9th Street SE between F Street SE and the project site; 26 spaces on H Street SE between Deal's Way and 8th Street SE; and 40 spaces along 8th Street SE between H-Street SE and K Street SE).

Parking demand counts were performed several times within off-street lots described and on-street near the project site. Two midday parking demand counts were performed on Tuesday, January 27, 2015, between 11:00 and 11:30 A.M. and again between 2:00 and 2:30 P.M. The times for these counts were selected to coincide with the existing peak demand periods resulting from activity at the Senior Activity Center as identified by the City's project team.

Evening parking demand counts were performed on three separate days—Saturday, February 21, Friday, February 27, and Saturday, February 28, 2015. These counts were performed from 6:30 to 7:00 P.M. to capture conditions when a weekend evening event might occur at the proposed new ACCYC facility. The first evening count, on Saturday, February 21, reflected conditions with a large evening event held at the Senior Activity Center. According to Auburn Parks staff, the Father-Daughter Dance event had an estimated attendance of about 150 persons plus volunteers. The two counts performed on the following Friday and Saturday evenings reflected conditions with no large evening events (there was a small event—Overnight at the Museum—which was expected to have about 15 children staying overnight at the White River Valley Museum). Table 3 presents the results of the parking demand counts. As shown, the highest midday utilization occurred at 11:00 A.M. During this time, the Senior Center lot was full, but there were 30 spaces still available in the main lot that serves the Parks, Arts, and Recreation Building as well as the Gymnasium. On-street parking was 40% utilized during this time. On Saturday evening with a large event, there were 115 cars counted in the four off-street locations; however, there were still 38 off-street spaces available and the on-street parking was less than 35% utilized (with an estimated 72 spaces available). During evening conditions without a large event, there was an average of 130 off-street spaces available and an average of about 82 on-street spaces available.

Table 3. Parking Demand Survey Results – January & February 2015

		Midday Demand Counts		Evening Demand Counts (6:30 P.M.)		
Location	Parking Supply (spaces)	Tues., 01/27/15 11:00 A.M.	Tues., 01/27/15 2:00 P.M.	Saturday 02/21/15 With Event [a]	Friday 02/27/15 No Event	Saturday 02/28/15 No Event
Parks, Arts, & Rec./ Gym Lot	68	38	25	56	23	12
Senior Center Lot	38	38	33	36	1	1
White River Valley Museum	13	12	9	12	0	0
Deal's Way	34	16	10	11	6	2
Total	*153*	*104*	*77*	*115*	*30*	*15*
Off-Street Spaces Available		*49*	*76*	*38*	*123*	*138*
On-Street Parking (8th, 9th, H)	110	44	40	32	19	37

Source: Heffron Transportation, Inc., February 2015

a. Father-Daughter Dance held at Senior Activity Center with attendance of 150 plus volunteers.

Based on these observations, excess off-street parking capacity exists during typical weekday conditions as well as on Friday and Saturday evenings with no event. The observations demonstrate that large events generate demand in all four off-site parking locations, but some excess supply was available. The counts of on-street parking indicate that some midday demand (21 to 23 vehicles) generated by the Senior Center may occur near the site along H Street SE or the eastern segment of 9th Street SE; however, very little demand (3 to 7 vehicles) was observed in these locations during the Friday and Saturday evening counts. It is noted that, based on information provided by the City, parking demand generated by large events within Les Gove Park (such as on the last day of school or the 4th of July Holiday weekend) can fill the off-street lots and spill over to nearby on-street parking within the residential areas to the north.

2.6. Transit

The site vicinity is currently served by King County Metro Transit Route 186 and DART Route 915 with bus stops along Auburn Way S. These routes provide service between Enumclaw and Auburn Station. Stops serving northbound buses are located on Auburn Way S between 1,000 and 1,350 feet away from the project site. One stop is located just south of the F Street SE intersection and another is just north of the 12th Street SE intersection (in front of the Auburn Library). Stops serving southbound buses on Auburn Way S are farther away (1,700 to 1,850 feet away from the site) with one located just south of the 12th Street SE intersection and the other located just northwest of the D Street SE intersection. Route 186 operates with peak period service on weekdays only and includes six northbound trips and three southbound trips in the morning peak period (4:45 to 9:00 A.M.) and five trips in each direction in the afternoon peak period (3:40 to 7: 40 P.M.). DART Route 915 operates Monday through Saturday. Weekday service includes five trips in each direction between about 9:15 A.M. and 4:00 P.M.; Saturday service includes six trips in each direction per day between about 10:00 A.M. and 6:30 P.M.

Auburn Station is served by the Sounder commuter rail service as well as Sound Transit's Regional Express and King County Metro bus services. From Auburn Station, service is available to many locations including Puyallup, Sumner, Kent, Bellevue, Overlake, and Seattle.

The Auburn School District provides afternoon school bus transportation between its four middle schools and site's gymnasium for teen sports activities (e.g. basketball, volleyball, indoor soccer, etc.). On school days, the buses transport teens (middle and high school age) to the site between 2:30 and 3:00 P.M. and then returns them to the schools at 5:00 P.M..

2.7. Non-Motorized Transportation

As described in the *Roadway Network* section of this report, most of the study-area roadways have curbs, gutters, and sidewalks along both sides. However, there are segments of 8th Street SE and F Street SE that do not have sidewalk.

Based on the city's TIP, Project #10: F Street SE Non-Motorized Improvements (Downtown to Les Gove), would include the installation of curbs, gutters, bike lanes, sidewalks, ADA improvements, and a "Bicycle Boulevard" designation of roadway connections between Downtown Auburn (including Auburn City Hall) and the Les Gove Park Campus. This project is expected to improve mobility and safety along the corridor and will complete a gap in the non-motorized network between Auburn's Downtown and the Les Gove Community Campus including the ACCYC project site.

3. PROJECT IMPACTS

This section of the report describes the conditions that would exist with the proposed project. The project impacts are based on the anticipated changes in on-site functions and increased parking capacity that would occur with the project.

3.1. Roadway Network

The proposed ACCYC project would not change the roadway network in the site vicinity. Right-of-way dedications and frontage improvements to meet City of Auburn roadway standards, including the installation of curb, gutter, sidewalk, landscaping, and illumination, where applicable are required along the south side of 8th Street SE. The process to dedicate the required ROW is currently underway. As the project design progresses, the City is evaluating options for constructing the required half street improvements.

3.2. Trip Generation

Trip generation estimates for the ACCYC project were prepared based on information provided by the City of Auburn's Parks, Arts, & Recreation Department.[6] The information included the anticipated future use and staffing levels of the community center and teen/youth center elements for weekdays, weekends, and evenings. The following summarizes the expected operational conditions and the assumptions used in the traffic generation estimates.

3.2.1. Community Center

The existing classroom activities that occur at the Parks, Arts & Recreation building will be transferred to the new Community Center. The rooms at the new Community Center will offer spaces for up to four activities or classes simultaneously (three in the divided multi-purpose room and one in the classroom) such as dance, yoga, art, calligraphy classes, and extended learning classes, plus a cooking class in the kitchen. Each activity or class could have a range of 5 to 20 participants plus an instructor. There are four blocks of time that are expected to be used for classes and activities—6:00 to 9:00 A.M., 9:00 A.M. to 2:00 P.M., 2:00 to 6:00 P.M., and 6:00 to 10:00 P.M. The classes that take place within these time blocks are typically one to one-and-a-half hours in length; however, the classes may have variable start times within the time block (i.e. one class may be from 6:00 to 7:00 A.M. while another is from 6:30 to 8:00 A.M.). Classes and activities are expected to serve regular enrolled participants as well as some walk-in participants. During the midday period, some of the spaces may also be occupied by groups that have rented one or more of the spaces. It was estimated that the facility could have a total of about 20 staff/instructors on site throughout the day between 6:00 A.M. and 6:00 P.M.; about 5 are expected in the evenings after 6:00 P.M. Typically, a portion of the employees are out of the office (off-site at another program, league, tournament, etc.), with about ten on site together at one time and six others that may arrive for short periods to teach a class or volunteer. The numbers of staff/instructors, participants, and rental users are summarized in Table 4.

[6] City of Auburn, Daryl Faber, January 5, 2015.

Table 4. Summary of Projected Community Center Users by Time of Day

	Number of Users by Time of Day			
User Groups	6:00 to 9:00 A.M.	9:00 A.M. to 2:00 P.M.	2:00 to 6:00 P.M.	6:00 to 10:00 P.M.
Staff / Instructors	20	20	20	5
Enrolled Participants	25	40	20	60
Walk-in Participants	15	15	15	20
Rental Group Participants	0	30	0	0

Source: City of Auburn, Parks, Arts, & Recreation staff, January 5, 2015.

Trip generation for the ACCYC was estimated based on the number of users and staff/instructors that are projected to be on the site at various times. As previously discussed, off-site traffic analysis was performed for the PM peak hour of the vicinity street system, which occurs between 4:00 and 6:00 P.M. Only a portion of the late afternoon participants are expected to leave the site during this peak hour, and only a portion of the evening participants are expected to arrive during this hour. However, this analysis included all users expected to participate in activities with a start or end time of 6:00 P.M. in the PM peak hour trip estimates. The trip estimate for participants also assumes that each participate drives or is driven to the site. It is likely that some participants could arrive as part of a carpool with a friend or a parent, or walk to the site. These assumptions ensure a conservatively high estimate of facility-generated PM peak hour traffic.

The number of PM peak hour trips generated by staff/instructors and participants were estimated using several assumptions. Although it is possible that some staff/instructors and participants may arrive and leave by transit or carpool, this analysis assumes all would arrive and leave by car. The analysis assumes half of the day-time staff/instructors and participants leave during PM peak hour and that 60% of evening staff/instructors and participants arrive during PM peak hour. The analysis assumes that the midday rental users do not generate PM peak hour trips.

3.2.2. Teen Center

The Teen Center is expected to continue to operate with four staff (two from 9:00 A.M. to 6:00 P.M. and two from 2:30 to 6:30 P.M.). Based on these staffing times, none of the staff are expected to generate trips during the PM peak hour. Future activity at the Teen Center was assumed to have about 30 students arrive on four buses (one from each of the Auburn School District middle schools) and 10 students arrive in autos (with an average of 1.5 students per vehicle). The remaining students are expected to walk or bike to the site and would not generate vehicular trips.

3.2.3. Total Weekday Trip Estimates

Table 5 presents a summary of the daily and PM peak hour trip estimates developed for the proposed ACCYC project. As shown, the community center and teen center are estimated to generate and average of 570 trips per day and 87 trips during the PM peak hour. It should be noted that the inbound and outbound proportions of peak hour trips for enrolled and walk-in participants is different because the estimated numbers of participants in each category are different. For example, inbound trips are estimated assuming 60% of 60 enrolled and 20 walk-in participates arrive for evening classes; outbound trips are estimated assuming half of 20 enrolled and 15 walk-in participants leave afternoon classes.

Table 5. Trip Generation Summary – Proposed ACCYC

		PM Peak Hour		
Community Center	Daily	In	Out	Total
Staff / Instructors	60	3	10	13
Classes (enrolled)	290	36	10	46
Classes (extra/walk-in)	130	12	8	20
Rental users	60	0	0	0
Teen Center				
Staff / Instructors	8	0	0	0
Teens (bus / car)	22	4	4	8
Total	570	55	32	87

Source: Heffron Transportation, Inc., February 2015

Since the existing Parks, Arts, & Recreation building is already used for some of the activities that would occur in the new ACCYC, it is appropriate to account for those activities that are already occurring at the site since they would not generate new traffic. For example, the existing building houses administration staff and currently hosts regular activities such as classes for dance, art, nutrition, and athletics. The building and gymnasium are already serving as a teen center with staff and students that are transported from Auburn middle schools. Table 6 presents a summary of the daily and PM peak hour trip estimates developed for the existing Parks, Arts, and Recreation Building. As shown, the existing building is estimated to generate and average of 114 trips per day and 51 trips during the PM peak hour.

Table 6. Trip Generation Summary – Existing Parks, Arts, & Recreation Building

		PM Peak Hour		
Community Center	Daily	In	Out	Total
Staff / Instructors	20	1	5	6
Classes (enrolled)	60	20	10	30
Classes (extra/walk-in)	10	5	2	7
Teen Center				
Staff / Instructors	8	0	0	0
Teens (bus / car)	16	4	4	8
Total	114	30	21	51

Source: Heffron Transportation, Inc., February 2015

The number of new daily and PM peak hour trips estimated to be generated as a result of the proposed ACCYC project are summarized in Table 7. As shown, the project is expected to generate a net increase of 456 trips per day and 36 trips during the PM peak hour. For comparison, average trip generation rates published by the Institute of Transportation Engineers [ITE] in its *Trip Generation Manual*[7] for the Recreational Community Center land use (Land Use Code 495) were examined and applied to the proposed project. The description in this reference states that:

[7] ITE, 9th Edition, 2012.

> *Recreational Community Centers are stand-alone public facilities similar to and including YMCAs. The facilities often include classes and clubs for adults and children; a day care or nursery school; meeting rooms; swimming pools and whirlpools; saunas; tennis, racquetball, handball, basketball and volleyball courts; outdoor athletic fields/courts; exercise classes; weightlifting and gymnastics equipment; locker rooms; and a restaurant or snack bar. Public access is typically allowed, but a fee may be charged.*

Based on the above description, this category is reasonable as a comparison for the ACCYC facility. The ITE rate was applied to the net increase in building area—13,770-sf—which was calculated as the proposed project size of 20,880-sf less the existing 7,110-sf building that would be re-purposed. The ITE rates indicate a project of the size proposed could generate 470 net new daily trips and 38 net new PM peak hour trips. These estimates, based on ITE rates, are very similar to those determined based on the specific program details provided by the City and the assumptions described previously. The estimates developed specifically for the ACCYC were selected for use in the subsequent analyses.

Table 7. Trip Generation Summary – Net Change Due to ACCYC Project

		PM Peak Hour		
Site Condition	Daily	In	Out	Total
With Proposed ACCYC Project	570	55	32	87
With Existing Parks, Arts, & Recreation Building	-114	-30	-21	-51
Estimated Net Change Due to Proposal	456	25	11	36
Estimate using ITE Trip Generation rates [a]	470	19	19	38

Source: Heffron Transportation, Inc., February 2015

a. ITE, Trip Generation Manual, 9th Edition, 2012. Rates for Recreational Community Center (LU 495) were applied.

3.2.4. Evening Banquet Trip Estimates

The multi-purpose room would be available for banquets, evening meetings, and other community events in addition to its regular use supporting the recreation activities program. It is estimated that there would be up to 50 events (such as banquets or similar activities) per year scheduled for this room, typically on weekend nights (most likely Fridays or Saturdays). The proposed multi-purpose room would have capacity for 250 persons, but most events are expected to have attendance that ranges from 100 to 225 persons. Events would likely start at 6:30 or 7:00 P.M. and guests are likely to arrive between 6:00 and 7:30 P.M. The set-up crew (setting up tables and chairs, decorating, laying out table cloths and place settings, etc.) would arrive around 3:00 P.M.; caterers and kitchen staff would likely arrive at about 5:00 P.M. Caterers typically leave at about 9:00 P.M., while kitchen staff would likely leave at about 10:00 P.M., and the tear down crew would leave at about 11:00 P.M. For a weeknight event (such as a Friday banquet), the arrival of most or all guests is expected to occur after the PM peak hour of the adjacent roadways and intersections (after the 4:00 to 6:00 P.M. peak hours). However, a portion of the catering and kitchen staff (10 to 15) could arrive during the PM peak hour. These trips were not included in the trip estimates for typical weekdays for two main reasons: 1) large banquets are not expected to occur on most weekdays; and 2) on evening with large banquets, the multi-purpose room would not be available for afternoon or evening classes, which would reduce or eliminate most of the trips otherwise assumed to occur on typical weekdays. Therefore, the trip estimates for a typical weekday result in higher PM peak hour volumes that would be expected on an evening with a banquet.

3.2.5. Trip Distribution & Assignment

Inbound and outbound trip distribution patterns were developed for project traffic based on access locations, constraints of the roadway network (e.g. turn restrictions), and existing travel patterns in the area derived from the turning movement counts described previously. The net new PM peak hour trips were assigned to the site access driveways and adjacent roadway network using these distribution patterns. The trip distribution patterns and the assignment of net new trips are shown in Figure 5.

The net new project trips were added to the forecast 2016 without-project traffic volumes to represent forecast 2016 PM peak hour traffic with the proposed ACCYC project. The forecast 2016 with-project traffic volumes are shown in Figure 6.

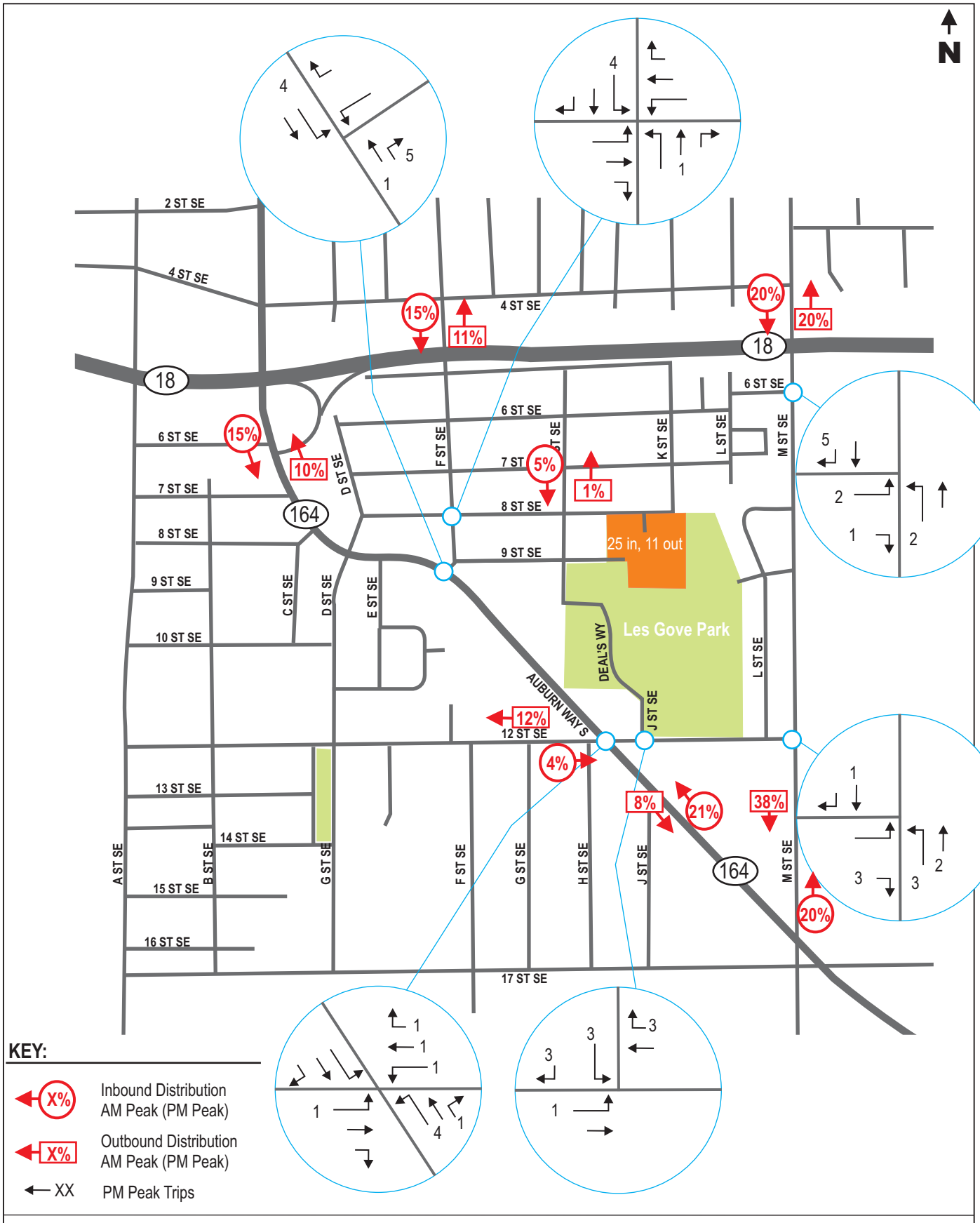
3.3. Traffic Operations

Levels of service for study-area intersections were calculated using the 2016 with-project traffic volumes and the methodology described earlier in this report. Table 8 shows the results; levels of service for 2016 without-project conditions are shown for comparison. As shown, the project would result in negligible changes to average delay at all locations and would not change any of the levels of service. Therefore, no adverse impacts are expected to occur to City of Auburn transportation corridors during peak periods as a result of the ACCYC project.

Table 8. PM Peak Hour Level of Service – 2016 Without- and With-Project Conditions

	2016 Without Project		2016 With Project	
Signalized Intersections	LOS [1]	Delay [2]	LOS	Delay
Auburn Way S / F Street SE	A	8.9	A	9.0
Auburn Way S / 12th Street SE	A	9.3	A	9.4
Two-Way Stop Controlled Intersections	LOS	Delay	LOS	Delay
12th Street SE / M Street SE				
Northbound Left Turns	B	12.0	B	12.0
Eastbound Movements	D	25.4	D	25.4
M Street SE / 6th Street SE				
Northbound Left Turns	B	11.9	B	11.9
Eastbound Movements	C	24.0	C	24.9
12th Street SE / J Street SE (Deal's Way)				
Eastbound Left Turns	A	7.4	A	7.4
Southbound Left Turns	A	9.2	A	9.3
Southbound Right Turns	A	8.6	A	8.7
8th Street SE / F Street SE				
Northbound Left Turns	A	7.5	A	7.5
Eastbound Movements	B	10.6	B	10.6
Westbound Movements	B	10.0	B	10.1
Southbound Left Turns	A	7.4	A	7.5

Source: Heffron Transportation, Inc., January 2015.
1. *Level of service.*
2. *Average seconds of delay per vehicle.*



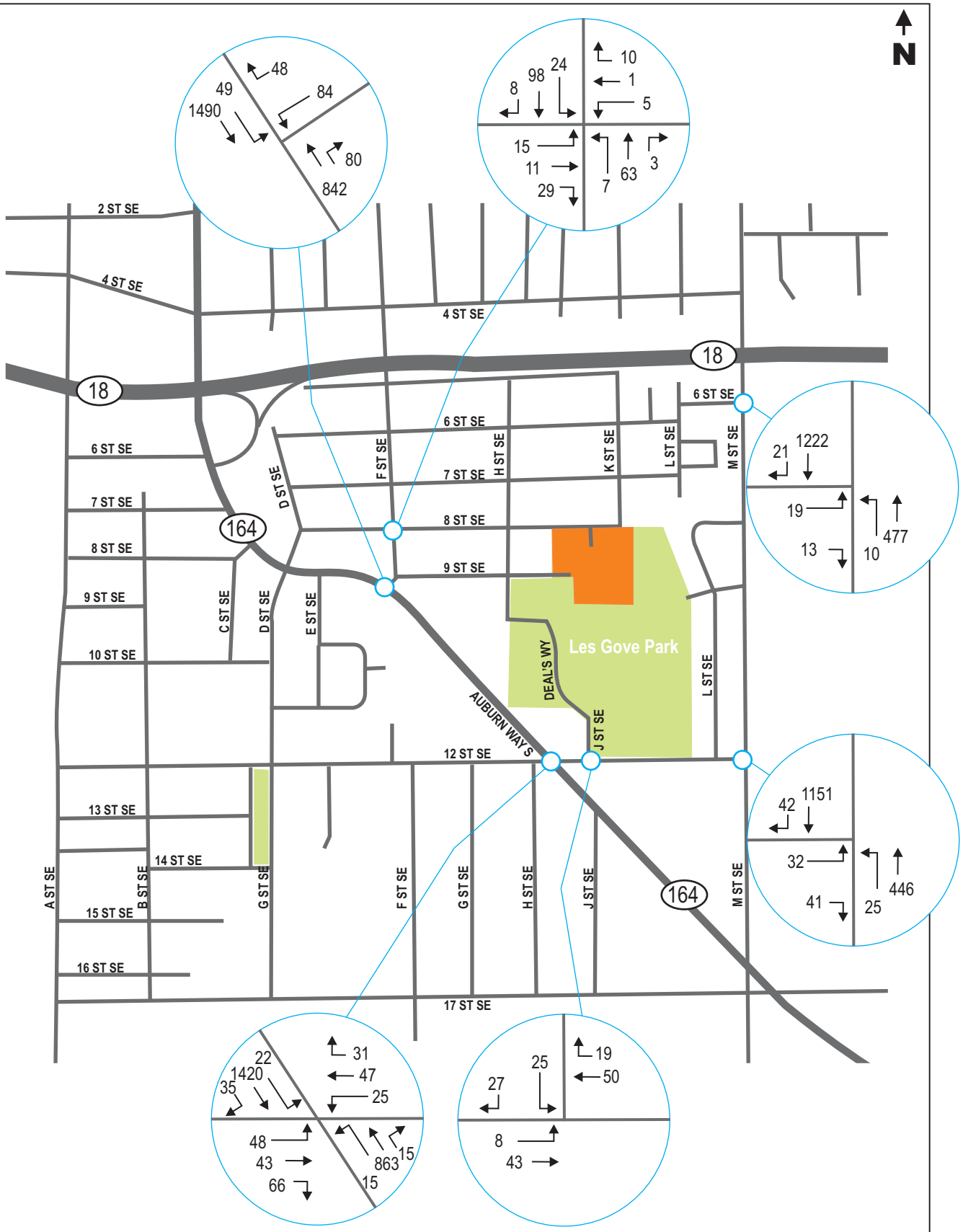
Auuburn Community Center & Youth Center
Transportation Technical Report

Figure 5

Net Project Trip Distribution and Assignment
PM Peak Hour

heffron transportation, inc.

01.24.15



Auuburn Community Center & Youth Center
Transportation Technical Report

Figure 6

Forecast 2016 With-Project Traffic Volumes
PM Peak Hour

heffron transportation, inc.

01.24.15

3.4. Traffic Safety

As discussed previously, review of historical collision data did not indicate any unusual traffic safety conditions in the study area. Project traffic would represent less than 1% of total entering traffic at four of the study-area intersections—12th Street SE / M Street SE, Auburn Way SE/12th Street SW, 6th Street SE/M Street SE, and Auburn Way S/F Street SE. Project traffic would represent less than 2% at the 8th Street SE/F Street SE intersection, and less than 6% at the 12th Street SE/J Street SE (Deal's Way) intersection where the number of collisions was very low. As a result, the proposed project is not expected to result in adverse impacts to safety at these locations.

3.5. Parking Supply and Demand

3.5.1. Typical Daytime Parking Conditions

Parking demand estimates were developed using the same information and approach described previously for the trip generation estimates. Similar to existing conditions, parking demand at the facility is likely to fluctuate substantially depending on the number of activities in the building and expected attendance. Peak parking demand times are likely to occur during times when one group of classes ends and another group of classes begins, thus attendees and parked vehicles from both time periods overlap and are on-site simultaneously. In the morning, it is likely this overlap period would occur between about 8:30 and 9:30 A.M. (when early morning activities end and mid-morning activities begin). In the afternoon, it is likely this overlap period would occur between about 5:30 and 6:00 P.M. (when afternoon activities end and early evening activities begin). It is reasonable to assume that as many as 85% of the attendees, staff, and instructors from both time periods could be on-site simultaneously during these overlap periods. The parking demand estimates also assumed a parking demand rate of 0.9 vehicles per building occupant (includes staff, instructors, and activity participants), which reflects a conservatively high number who might drive and park at the site. This estimate is conservatively high because it is likely that a higher number of building occupants (higher that 10%) may be dropped off at the site, carpool to the site with another occupant, or use a non-automobile mode to arrive at the site. Based on the user group forecasts presented previously and these assumptions, the peak parking demand during these overlap periods is estimated to be about 110 vehicles (if considering a 5% buffer to account for drivers that may be circulating through the parking lot looking for spaces, the total demand could be 116 vehicles). The amount of overlap may be lower on some days, for example if schedules are slightly offset, and the overlap is closer to 60% of the building occupants on site simultaneously, then the parking demand is expected to be 65 to 70 vehicles (68 to 74 vehicles when considering the 5% buffer for circulation). It should be noted that the facility management would have the ability to control peak parking demand through scheduling of daily activities such that start times do not result in overlapping arrivals and departures.

For comparison, the peak parking demand rate published for Recreation Community Center (Land Use 495) in ITE's *Parking Generation*[8] was applied to the proposed project. With the addition and the proposed total facility size of 20,880-sf, the ACCYC would be estimated to generate a peak parking demand of 67 vehicles on a typical weekday. This is identical to the estimate developed using the program information and 60% off-site schedule presented above.

The project proposes to provide 69 new off-street parking spaces, increasing the supply in the lot north of the proposed building to 137 spaces that would be available for regular daily use. Based on the demand estimates described, the proposed supply could adequately meet the typical daily parking demand plus the existing level of Auburn fleet vehicle parking.

[8] ITE, 4th Edition, 2010.

3.5.2. Potential Peak Event Demand

Peak demand at the site would be associated with an evening event in the multi-purpose room. With the stated capacity of 250 persons, it is estimated that a peak parking demand of 155 vehicles could occur. This reflects 250 attendees with an average of 2.0 persons per car (reasonable for evening banquets such as weddings or other family events) plus 30 staff (set-up, caterers, kitchen, and take-down staff). However, most events are expected to have attendance that ranges between 100 and 225 persons. At these levels, the peak parking demand for most events would be between 80 and 143 vehicles.

As described, the project proposes to construct 69 new spaces and increase the on-site parking supply directly north of the new building to 137 spaces. This supply is expected to adequately accommodate demand from most of the evening events. However, some of the larger events (those with attendance of 200 or more) could generate demand that exceeds the supply of the lot directly north of the new building by 15 to 40 vehicles. This excess demand could be accommodated by the off-street parking supply that serves the Senior Activity Center, the White River Valley Museum, and along Deal's Way. Based on the parking demand counts performed around the site on Friday and Saturday evenings without an event, all of the overflow parking demand could be accommodated within these lots since there was an average of 54 spaces available in these areas.

Use of these parking spaces for event demand would require coordination to ensure that large events are not held simultaneously at the ACCYC and Senior Activity Center. Although the alternative parking areas (Senior Activity Center, Museum, and Deal's Way) have adequate capacity to accommodate the estimated overflow from large evening events, it is possible that some overflow parking demand may occur at on-street parking nearest the site. The most likely streets to be used include H Street SE (south of 8th Street SE), 9th Street SE (west of the site), and possible 8th Street SE (along the site frontage). Based on on-street parking demand observations on Friday and Saturday evenings, there is also excess capacity along these roadways to accommodate some overflow parking. However, it is recommended that the facility actively manage the parking for events to minimize overflow demand impacts to the residential streets north and west of the facility. Specific measures to manage parking are described in the mitigation section.

3.6. Transit

Although the project could generate some additional trips on existing transit routes near the site, the project is not expected to adversely affect transit service. It is anticipated that the Auburn School District would continue providing school bus transportation to the Teen Center from the four area middle schools.

3.7. Non-Motorized Transportation

The project does not propose any changes to the non-motorized transportation facilities in the site vicinity. Frontage improvements to meet City of Auburn roadway standards, including the installation of curb, gutter, sidewalk, landscaping, and illumination, where applicable are required along the south side of 8th Street SE. As the project design progresses, the City is evaluating options for constructing the required half street improvements. Although the project may result in some increased use of non-motorized facilities (such as added walk-in trips or bicycle trips), the existing and planned non-motorized facilities in the area are expected to accommodate these added trips.

4. MITIGATION

The City of Auburn collects traffic impact fees from all new development to pay for a development's proportionate share of the impacts to the City's transportation network resulting from growth. The fee amount will be calculated at the time building permits are issued based on the rates in effect at that time.

The project would not result in significant adverse impacts to study area roadways or intersections, and no additional traffic-related mitigation should be required.

It is possible that evening events held in the multi-purpose room could generate parking demand that could overspill to residential roadways north and west of the site. Several measures are recommended to minimize the potential parking impacts related to evening events.

- **Manage Event Schedule –** Actively manage the event schedule at the new facility to ensure that large events are not held at the site and the adjacent gymnasium or Senior Activity Center simultaneously. This will allow for the shared parking supply to accommodate event demand.

- **Develop Parking Plan for Events –** The facility management should include preparation of a parking plan for large events and include the following elements:

    - The plan should show the preferred locations for guest and staff parking including the main lot and identified overflow parking locations (i.e. Senior Activity Center, parking along Deal's Way, and/or gravel lot);

    - If feasible, the plan should identify alternative parking locations for City fleet vehicles (vans and shuttle buses) during events to maximize the available on-site supply for guests at the facility;

    - The plan should identify locations where overflow parking is not to occur (e.g., residential roadways north and west of the site); and

    - The plan should be provided to user groups at booking; users should be requested to disseminate information to guests.

- **Provide Signage During Events –** On evenings with large events, temporary sandwich-board style signs could be used to indicate when the main lot is full and direct guests to appropriate overflow parking locations.

- **Monitor Residential Parking Impacts –** Facility management staff should periodically monitor residential parking near the site to determine if overflow event parking is occurring. If so, consider working with City of Auburn public works to implement parking management measures on affected residential roadways. Measures could include parking restrictions, added parking enforcement (if overspill impacts are affecting driveways), or development and implementation of residential parking zones.

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APPENDIX

LEVEL OF SERVICE DEFINITIONS
&
LOS CALCULATION SHEETS

Levels of service (LOS) are qualitative descriptions of traffic operating conditions. These levels of service are designated with letters ranging from LOS A, which is indicative of good operating conditions with little or no delay, to LOS F, which is indicative of stop-and-go conditions with frequent and lengthy delays. Levels of service for this analysis were developed using procedures presented in the *Highway Capacity Manual* (Transportation Research Board, 2010).

Level of service for signalized intersections is defined in terms of delay. Delay can be a cause of driver discomfort, frustration, inefficient fuel consumption, and lost travel time. Specifically, level of service criteria are stated in terms of the average delay per vehicle in seconds. Delay is a complex measure and is dependent on a number of variables including: the quality of progression, cycle length, green ratio, and a volume-to-capacity ratio for the lane group or approach in question. Table A-1 shows the level of service criteria for signalized intersections from the *Highway Capacity Manual*.

Table A-1. Level of Service Criteria

Level of Service	Average Delay Per Vehicle	General Description
A	Less than 10.0 Seconds	Free flow
B	10.1 to 20.0 seconds	Stable flow (slight delays)
C	20.1 to 35.0 seconds	Stable flow (acceptable delays)
D	35.1 to 55.0 seconds	Approaching unstable flow (tolerable delay—occasionally wait through more than one signal cycle before proceeding.
E	55.1 to 80.0 seconds	Unstable flow (approaching intolerable delay)
F	Greater than 80.0 seconds	Forced flow (jammed)

Source: Transportation Research Board, Highway Capacity Manual, 2010.

For unsignalized two-way-stop-controlled, all-way-stop-controlled, and roundabout intersections, level of service is based on the average delay per vehicle. The level of service for a two-way, stop-controlled intersection is determined by the computed or measured control delay and is defined for each minor movement. Delay is related to the availability of gaps in the main street's traffic flow, and the ability of a driver to enter or pass through those gaps. The delay at an all-way, stop-sign (AWSC) controlled intersection is based on saturation headways, departure headways, and service times. Delay at roundabouts is based on entry flow rates and flow rate capacity. Table A-2 shows the level of service criteria for unsignalized intersections from the *Highway Capacity Manual*.

Table A-2. Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Delay (seconds per vehicle)
A	Less than 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	Greater than 50.0

Source: Transportation Research Board, Highway Capacity Manual, 2010.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	46	42	65	24	45	29	22	1392	34	15	842	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		0	0		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.98			0.99		0.99	1.00		1.00	1.00	
Frt		0.937			0.955			0.996			0.997	
Flt Protected		0.985			0.988		0.950			0.950		
Satd. Flow (prot)	0	3262	0	0	3342	0	1787	3558	0	1787	3561	0
Flt Permitted		0.839			0.847		0.950			0.950		
Satd. Flow (perm)	0	2765	0	0	2858	0	1771	3558	0	1784	3561	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		66			30			4			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		393			206			1320			606	
Travel Time (s)		8.9			4.7			30.0			13.8	
Confl. Peds. (#/hr)	13		10	10		13	18		7	7		18
Confl. Bikes (#/hr)			1									1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	47	43	66	24	46	30	22	1420	35	15	859	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	156	0	0	100	0	22	1455	0	15	874	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	31.0	31.0		31.0	31.0		9.0	27.0		9.0	27.0	
Total Split (s)	31.0	31.0		31.0	31.0		10.0	79.0		10.0	79.0	
Total Split (%)	25.8%	25.8%		25.8%	25.8%		8.3%	65.8%		8.3%	65.8%	
Maximum Green (s)	26.0	26.0		26.0	26.0		5.0	74.0		5.0	74.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0			6.0			6.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			16.0			16.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		8.3			8.3		5.5	35.5		5.5	33.7	
Actuated g/C Ratio		0.15			0.15		0.10	0.63		0.10	0.60	
v/c Ratio		0.34			0.22		0.13	0.65		0.09	0.41	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Control Delay		19.0			21.2		33.9	8.1		33.6	7.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		19.0			21.2		33.9	8.1		33.6	7.0	
LOS		B			C		C	A		C	A	
Approach Delay		19.0			21.2			8.5			7.4	
Approach LOS		B			C			A			A	
Queue Length 50th (ft)		12			8		6	104		4	48	
Queue Length 95th (ft)		53			42		36	297		28	144	
Internal Link Dist (ft)		313			126			1240			526	
Turn Bay Length (ft)							200					
Base Capacity (vph)		1440			1470		175	3445		175	3448	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.11			0.07		0.13	0.42		0.09	0.25	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 56
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 9.2 — Intersection LOS: A
Intersection Capacity Utilization 60.7% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: Auburn Wy S & 12th St SE

Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (vph)	44	1461	824	74	82	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175			0	0	125
Storage Lanes	1			0	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor	1.00		1.00		0.99	
Frt			0.988			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	3574	3521	0	1805	1615
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1783	3574	3521	0	1788	1615
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			13			50
Link Speed (mph)		30	30		30	
Link Distance (ft)		684	1320		331	
Travel Time (s)		15.5	30.0		7.5	
Confl. Peds. (#/hr)	4			7	7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	0%	0%
Adj. Flow (vph)	47	1554	877	79	87	50
Shared Lane Traffic (%)						
Lane Group Flow (vph)	47	1554	956	0	87	50
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	9.0	21.0	31.0		31.0	31.0
Total Split (s)	15.0	87.0	72.0		33.0	33.0
Total Split (%)	12.5%	72.5%	60.0%		27.5%	27.5%
Maximum Green (s)	10.0	82.0	67.0		28.0	28.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	None		None	None
Walk Time (s)			10.0		10.0	10.0
Flash Dont Walk (s)			16.0		16.0	16.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	8.1	39.2	32.5		9.5	9.5
Actuated g/C Ratio	0.15	0.74	0.61		0.18	0.18
v/c Ratio	0.17	0.59	0.44		0.27	0.15
Control Delay	27.8	6.2	10.4		26.8	10.1

Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	27.8	6.2	10.4		26.8	10.1
LOS	C	A	B		C	B
Approach Delay		6.9	10.4		20.7	
Approach LOS		A	B		C	
Queue Length 50th (ft)	14	127	117		25	0
Queue Length 95th (ft)	51	223	202		78	28
Internal Link Dist (ft)		604	1240		251	
Turn Bay Length (ft)	175					125
Base Capacity (vph)	396	3574	3427		1047	958
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.12	0.43	0.28		0.08	0.05

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 53.2
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 8.8 — Intersection LOS: A
Intersection Capacity Utilization 53.3% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: Auburn Wy S & F St SE

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	31	37	22	435	1127	41
Conflicting Peds, #/hr	3	3	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	160	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	90	90	94	94
Heavy Vehicles, %	2	2	2	2	1	1
Mvmt Flow	36	44	24	483	1199	44

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1756	624	1246	0	-	0
Stage 1	1224	-	-	-	-	-
Stage 2	532	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.14	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.22	-	-	-
Pot Cap-1 Maneuver	84	429	554	-	-	-
Stage 1	242	-	-	-	-	-
Stage 2	588	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	80	428	554	-	-	-
Mov Cap-2 Maneuver	183	-	-	-	-	-
Stage 1	241	-	-	-	-	-
Stage 2	561	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.3	0.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	554	-	266	-	-
HCM Lane V/C Ratio	0.044	-	0.301	-	-
HCM Control Delay (s)	11.8	-	24.3	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.2	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	17	12	8	468	1198	16
Conflicting Peds, #/hr	0	0	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	95	95	95	95
Heavy Vehicles, %	3	3	1	1	1	1
Mvmt Flow	28	20	8	493	1261	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1532	642	1278	0	-	0
Stage 1	1269	-	-	-	-	-
Stage 2	263	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.12	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.21	-	-	-
Pot Cap-1 Maneuver	106	414	544	-	-	-
Stage 1	226	-	-	-	-	-
Stage 2	754	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	104	413	543	-	-	-
Mov Cap-2 Maneuver	188	-	-	-	-	-
Stage 1	226	-	-	-	-	-
Stage 2	743	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.5	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	543	-	243	-	-
HCM Lane V/C Ratio	0.016	-	0.199	-	-
HCM Control Delay (s)	11.7	-	23.5	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.7	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	7	42	49	16	22	24
Conflicting Peds, #/hr	6	0	0	6	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	60	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	86	86	88	88
Heavy Vehicles, %	6	6	3	3	0	0
Mvmt Flow	9	51	57	19	25	27

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	76	0	-	0	109	44
Stage 1	-	-	-	-	66	-
Stage 2	-	-	-	-	43	-
Critical Hdwy	4.22	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.26	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1492	-	-	-	882	1023
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	980	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1485	-	-	-	877	1018
Mov Cap-2 Maneuver	-	-	-	-	877	-
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	974	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1485	-	-	-	877	1018
HCM Lane V/C Ratio	0.006	-	-	-	0.029	0.027
HCM Control Delay (s)	7.4	0	-	-	9.2	8.6
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.1

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	15	11	28	5	1	10	7	61	3	20	96	8
Conflicting Peds, #/hr	2	0	4	4	0	2	3	0	10	10	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	67	67	67	74	74	74	74	74	74
Heavy Vehicles, %	0	0	0	6	6	6	1	1	1	0	0	0
Mvmt Flow	22	16	41	7	1	15	9	82	4	27	130	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	309	302	149	329	306	98	145	0	0	90	0	0
Stage 1	193	193	-	107	107	-	-	-	-	-	-	-
Stage 2	116	109	-	222	199	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.16	6.56	6.26	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.16	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.16	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.554	4.054	3.354	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	647	614	903	617	601	947	1443	-	-	1518	-	-
Stage 1	813	745	-	889	799	-	-	-	-	-	-	-
Stage 2	894	809	-	771	729	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	616	594	892	558	582	936	1431	-	-	1505	-	-
Mov Cap-2 Maneuver	616	594	-	558	582	-	-	-	-	-	-	-
Stage 1	805	728	-	880	791	-	-	-	-	-	-	-
Stage 2	865	801	-	700	713	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	10	0.7	1.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1431	-	-	727	749	1505	-	-
HCM Lane V/C Ratio	0.007	-	-	0.109	0.032	0.018	-	-
HCM Control Delay (s)	7.5	0	-	10.6	10	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.1	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	47	43	66	24	46	30	22	1420	35	15	859	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		0	0		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.98			0.99		0.99	1.00		1.00	1.00	
Frt		0.937			0.954			0.996			0.997	
Flt Protected		0.985			0.988		0.950			0.950		
Satd. Flow (prot)	0	3262	0	0	3339	0	1787	3558	0	1787	3561	0
Flt Permitted		0.838			0.848		0.950			0.950		
Satd. Flow (perm)	0	2762	0	0	2858	0	1772	3558	0	1785	3561	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		67			31			4			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		393			206			1320			606	
Travel Time (s)		8.9			4.7			30.0			13.8	
Confl. Peds. (#/hr)	13		10	10		13	18		7	7		18
Confl. Bikes (#/hr)			1									1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	48	44	67	24	47	31	22	1449	36	15	877	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	159	0	0	102	0	22	1485	0	15	892	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	31.0	31.0		31.0	31.0		9.0	27.0		9.0	27.0	
Total Split (s)	31.0	31.0		31.0	31.0		10.0	79.0		10.0	79.0	
Total Split (%)	25.8%	25.8%		25.8%	25.8%		8.3%	65.8%		8.3%	65.8%	
Maximum Green (s)	26.0	26.0		26.0	26.0		5.0	74.0		5.0	74.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0			6.0			6.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			16.0			16.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		8.4			8.4		5.5	37.0		5.5	35.2	
Actuated g/C Ratio		0.15			0.15		0.10	0.64		0.10	0.61	
v/c Ratio		0.35			0.23		0.13	0.65		0.09	0.41	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Control Delay		19.6			21.8		35.2	8.1		34.8	6.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		19.6			21.8		35.2	8.1		34.8	6.9	
LOS		B			C		D	A		C	A	
Approach Delay		19.6			21.8			8.5			7.4	
Approach LOS		B			C			A			A	
Queue Length 50th (ft)		12			10		6	108		4	51	
Queue Length 95th (ft)		55			43		37	310		28	148	
Internal Link Dist (ft)		313			126			1240			526	
Turn Bay Length (ft)							200					
Base Capacity (vph)		1402			1432		170	3428		170	3431	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.11			0.07		0.13	0.43		0.09	0.26	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 57.7
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 9.3 — Intersection LOS: A
Intersection Capacity Utilization 61.5% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: Auburn Wy S & 12th St SE

Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (vph)	45	1490	841	75	84	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175			0	0	125
Storage Lanes	1			0	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor	1.00		1.00		0.99	
Frt			0.988			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	3574	3521	0	1805	1615
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1783	3574	3521	0	1788	1615
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			13			51
Link Speed (mph)		30	30		30	
Link Distance (ft)		684	1320		331	
Travel Time (s)		15.5	30.0		7.5	
Confl. Peds. (#/hr)	4			7	7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	0%	0%
Adj. Flow (vph)	48	1585	895	80	89	51
Shared Lane Traffic (%)						
Lane Group Flow (vph)	48	1585	975	0	89	51
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	9.0	21.0	31.0		31.0	31.0
Total Split (s)	15.0	87.0	72.0		33.0	33.0
Total Split (%)	12.5%	72.5%	60.0%		27.5%	27.5%
Maximum Green (s)	10.0	82.0	67.0		28.0	28.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	None		None	None
Walk Time (s)			10.0		10.0	10.0
Flash Dont Walk (s)			16.0		16.0	16.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	8.2	40.5	33.8		9.7	9.7
Actuated g/C Ratio	0.15	0.74	0.62		0.18	0.18
v/c Ratio	0.18	0.60	0.45		0.28	0.16
Control Delay	29.0	6.3	10.3		27.7	10.2

Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	29.0	6.3	10.3		27.7	10.2
LOS	C	A	B		C	B
Approach Delay		7.0	10.3		21.3	
Approach LOS		A	B		C	
Queue Length 50th (ft)	15	133	121		27	0
Queue Length 95th (ft)	53	236	209		81	29
Internal Link Dist (ft)		604	1240		251	
Turn Bay Length (ft)	175					125
Base Capacity (vph)	389	3574	3406		1028	942
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.12	0.44	0.29		0.09	0.05

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 54.7
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 8.9 — Intersection LOS: A
Intersection Capacity Utilization 54.2% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: Auburn Wy S & F St SE

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	32	38	22	444	1150	42
Conflicting Peds, #/hr	3	3	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	160	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	90	90	94	94
Heavy Vehicles, %	2	2	2	2	1	1
Mvmt Flow	38	45	24	493	1223	45

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1791	637	1271	0	-	0
Stage 1	1249	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.14	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.22	-	-	-
Pot Cap-1 Maneuver	80	421	542	-	-	-
Stage 1	234	-	-	-	-	-
Stage 2	582	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	76	420	542	-	-	-
Mov Cap-2 Maneuver	177	-	-	-	-	-
Stage 1	233	-	-	-	-	-
Stage 2	555	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.4	0.6	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	542	-	258	-	-
HCM Lane V/C Ratio	0.045	-	0.319	-	-
HCM Control Delay (s)	12	-	25.4	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	1.3	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	17	12	8	477	1222	16
Conflicting Peds, #/hr	0	0	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	95	95	95	95
Heavy Vehicles, %	3	3	1	1	1	1
Mvmt Flow	28	20	8	502	1286	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1563	655	1303	0	-	0
Stage 1	1295	-	-	-	-	-
Stage 2	268	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.12	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.21	-	-	-
Pot Cap-1 Maneuver	101	406	533	-	-	-
Stage 1	219	-	-	-	-	-
Stage 2	750	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	99	405	532	-	-	-
Mov Cap-2 Maneuver	183	-	-	-	-	-
Stage 1	219	-	-	-	-	-
Stage 2	739	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	532	-	237	-	-
HCM Lane V/C Ratio	0.016	-	0.204	-	-
HCM Control Delay (s)	11.9	-	24	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.7	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	7	43	50	16	22	24
Conflicting Peds, #/hr	6	0	0	6	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	60	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	86	86	88	88
Heavy Vehicles, %	6	6	3	3	0	0
Mvmt Flow	9	52	58	19	25	27

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	77	0	-	0	110	44
Stage 1	-	-	-	-	67	-
Stage 2	-	-	-	-	43	-
Critical Hdwy	4.22	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.26	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1491	-	-	-	881	1023
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	980	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1484	-	-	-	876	1018
Mov Cap-2 Maneuver	-	-	-	-	876	-
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	974	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1484	-	-	-	876	1018
HCM Lane V/C Ratio	0.006	-	-	-	0.029	0.027
HCM Control Delay (s)	7.4	0	-	-	9.2	8.6
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.1

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	15	11	29	5	1	10	7	62	3	20	98	8
Conflicting Peds, #/hr	2	0	4	4	0	2	3	0	10	10	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	67	67	67	74	74	74	74	74	74
Heavy Vehicles, %	0	0	0	6	6	6	1	1	1	0	0	0
Mvmt Flow	22	16	43	7	1	15	9	84	4	27	132	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	313	307	152	334	310	100	147	0	0	92	0	0
Stage 1	196	196	-	109	109	-	-	-	-	-	-	-
Stage 2	117	111	-	225	201	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.16	6.56	6.26	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.16	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.16	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.554	4.054	3.354	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	643	610	900	612	598	945	1441	-	-	1515	-	-
Stage 1	810	742	-	887	797	-	-	-	-	-	-	-
Stage 2	892	807	-	769	727	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	611	590	890	552	578	934	1429	-	-	1502	-	-
Mov Cap-2 Maneuver	611	590	-	552	578	-	-	-	-	-	-	-
Stage 1	802	725	-	878	789	-	-	-	-	-	-	-
Stage 2	863	799	-	696	710	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	10	0.7	1.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1429	-	-	726	744	1502	-	-
HCM Lane V/C Ratio	0.007	-	-	0.111	0.032	0.018	-	-
HCM Control Delay (s)	7.5	0	-	10.6	10	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.1	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	48	43	66	25	47	31	22	1420	35	15	863	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		0	0		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.98			0.99		0.99	1.00		1.00	1.00	
Frt		0.937			0.955			0.996			0.997	
Flt Protected		0.985			0.988		0.950			0.950		
Satd. Flow (prot)	0	3262	0	0	3342	0	1787	3558	0	1787	3561	0
Flt Permitted		0.835			0.843		0.950			0.950		
Satd. Flow (perm)	0	2752	0	0	2844	0	1772	3558	0	1785	3561	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		67			32			4			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		393			206			1320			606	
Travel Time (s)		8.9			4.7			30.0			13.8	
Confl. Peds. (#/hr)	13		10	10		13	18		7	7		18
Confl. Bikes (#/hr)			1									1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	49	44	67	26	48	32	22	1449	36	15	881	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	160	0	0	106	0	22	1485	0	15	896	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	31.0	31.0		31.0	31.0		9.0	27.0		9.0	27.0	
Total Split (s)	31.0	31.0		31.0	31.0		10.0	79.0		10.0	79.0	
Total Split (%)	25.8%	25.8%		25.8%	25.8%		8.3%	65.8%		8.3%	65.8%	
Maximum Green (s)	26.0	26.0		26.0	26.0		5.0	74.0		5.0	74.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0			6.0			6.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			16.0			16.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		8.5			8.5		5.5	37.0		5.5	35.3	
Actuated g/C Ratio		0.15			0.15		0.10	0.64		0.10	0.61	
v/c Ratio		0.35			0.24		0.13	0.65		0.09	0.41	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Control Delay		19.7			21.9		35.3	8.2		34.9	7.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		19.7			21.9		35.3	8.2		34.9	7.0	
LOS		B			C		D	A		C	A	
Approach Delay		19.7			21.9			8.5			7.4	
Approach LOS		B			C			A			A	
Queue Length 50th (ft)		13			10		6	109		4	51	
Queue Length 95th (ft)		55			44		37	311		29	150	
Internal Link Dist (ft)		313			126			1240			526	
Turn Bay Length (ft)							200					
Base Capacity (vph)		1396			1424		169	3426		169	3429	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.11			0.07		0.13	0.43		0.09	0.26	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 57.8
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 9.4 — Intersection LOS: A
Intersection Capacity Utilization 61.6% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: Auburn Wy S & 12th St SE

Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (vph)	49	1490	842	80	84	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175			0	0	125
Storage Lanes	1			0	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor	1.00		1.00		0.99	
Frt			0.987			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	3574	3517	0	1805	1615
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1783	3574	3517	0	1788	1615
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			13			51
Link Speed (mph)		30	30		30	
Link Distance (ft)		684	1320		331	
Travel Time (s)		15.5	30.0		7.5	
Confl. Peds. (#/hr)	4			7	7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	0%	0%
Adj. Flow (vph)	52	1585	896	85	89	51
Shared Lane Traffic (%)						
Lane Group Flow (vph)	52	1585	981	0	89	51
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	9.0	21.0	31.0		31.0	31.0
Total Split (s)	15.0	87.0	72.0		33.0	33.0
Total Split (%)	12.5%	72.5%	60.0%		27.5%	27.5%
Maximum Green (s)	10.0	82.0	67.0		28.0	28.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	None		None	None
Walk Time (s)			10.0		10.0	10.0
Flash Dont Walk (s)			16.0		16.0	16.0
Pedestrian Calls (#/hr)			0		0	0
Act Effct Green (s)	8.3	40.5	33.8		9.7	9.7
Actuated g/C Ratio	0.15	0.74	0.62		0.18	0.18
v/c Ratio	0.19	0.60	0.45		0.28	0.16
Control Delay	29.0	6.3	10.4		27.7	10.2

Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	29.0	6.3	10.4		27.7	10.2
LOS	C	A	B		C	B
Approach Delay		7.0	10.4		21.3	
Approach LOS		A	B		C	
Queue Length 50th (ft)	16	133	123		27	0
Queue Length 95th (ft)	57	236	211		81	29
Internal Link Dist (ft)		604	1240		251	
Turn Bay Length (ft)	175					125
Base Capacity (vph)	389	3574	3402		1028	942
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.13	0.44	0.29		0.09	0.05

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 54.7
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 9.0 — Intersection LOS: A
Intersection Capacity Utilization 54.2% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: Auburn Wy S & F St SE

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	32	41	25	446	1151	42
Conflicting Peds, #/hr	3	3	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	160	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	90	90	94	94
Heavy Vehicles, %	2	2	2	2	1	1
Mvmt Flow	38	48	28	496	1224	45

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1801	638	1272	0	-	0
Stage 1	1250	-	-	-	-	-
Stage 2	551	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.14	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.22	-	-	-
Pot Cap-1 Maneuver	79	420	542	-	-	-
Stage 1	234	-	-	-	-	-
Stage 2	576	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	75	419	542	-	-	-
Mov Cap-2 Maneuver	176	-	-	-	-	-
Stage 1	233	-	-	-	-	-
Stage 2	545	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.4	0.6	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	542	-	261	-	-
HCM Lane V/C Ratio	0.051	-	0.329	-	-
HCM Control Delay (s)	12	-	25.4	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0.2	-	1.4	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	19	13	10	477	1222	21
Conflicting Peds, #/hr	0	0	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	95	95	95	95
Heavy Vehicles, %	3	3	1	1	1	1
Mvmt Flow	32	22	11	502	1286	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1569	657	1308	0	-	0
Stage 1	1297	-	-	-	-	-
Stage 2	272	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.12	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.21	-	-	-
Pot Cap-1 Maneuver	100	405	530	-	-	-
Stage 1	218	-	-	-	-	-
Stage 2	746	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	98	404	529	-	-	-
Mov Cap-2 Maneuver	182	-	-	-	-	-
Stage 1	218	-	-	-	-	-
Stage 2	730	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.9	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	529	-	234	-	-
HCM Lane V/C Ratio	0.02	-	0.228	-	-
HCM Control Delay (s)	11.9	-	24.9	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.9	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	8	43	50	19	25	27
Conflicting Peds, #/hr	6	0	0	6	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	60	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	86	86	88	88
Heavy Vehicles, %	6	6	3	3	0	0
Mvmt Flow	10	52	58	22	28	31

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	80	0	-	0	115	46
Stage 1	-	-	-	-	69	-
Stage 2	-	-	-	-	46	-
Critical Hdwy	4.22	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.26	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1487	-	-	-	875	1020
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	977	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1480	-	-	-	869	1015
Mov Cap-2 Maneuver	-	-	-	-	869	-
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	970	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1480	-	-	-	869	1015
HCM Lane V/C Ratio	0.007	-	-	-	0.033	0.03
HCM Control Delay (s)	7.4	0	-	-	9.3	8.7
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.1

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	15	11	29	5	1	10	7	63	3	24	98	8
Conflicting Peds, #/hr	2	0	4	4	0	2	3	0	10	10	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	67	67	67	74	74	74	74	74	74
Heavy Vehicles, %	0	0	0	6	6	6	1	1	1	0	0	0
Mvmt Flow	22	16	43	7	1	15	9	85	4	32	132	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	325	319	152	346	322	101	147	0	0	93	0	0
Stage 1	207	207	-	110	110	-	-	-	-	-	-	-
Stage 2	118	112	-	236	212	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.16	6.56	6.26	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.16	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.16	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.554	4.054	3.354	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	632	601	900	601	589	943	1441	-	-	1514	-	-
Stage 1	800	734	-	886	797	-	-	-	-	-	-	-
Stage 2	891	807	-	758	720	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	599	579	890	541	568	932	1429	-	-	1501	-	-
Mov Cap-2 Maneuver	599	579	-	541	568	-	-	-	-	-	-	-
Stage 1	792	715	-	877	789	-	-	-	-	-	-	-
Stage 2	862	799	-	683	701	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	10.1	0.7	1.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1429	-	-	718	736	1501	-	-
HCM Lane V/C Ratio	0.007	-	-	0.113	0.032	0.022	-	-
HCM Control Delay (s)	7.5	0	-	10.6	10.1	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.1	0.1	-	-