



WASHINGTON AVENUE TOWNHOMES
TRAFFIC IMPACT ANALYSIS

Chehalis, WA



01/25/2022

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WASHINGTON AVENUE TOWNHOMES
TRAFFIC IMPACT ANALYSIS

TABLE OF CONTENTS

1. Introduction3
2. Project Description3
3. Existing Conditions5
4. Future Traffic Conditions9
5. Summary17

Appendix

LIST OF TABLES

1. Roadway Network5
2. Existing PM Peak Hour Level of Service8
3. Project Trip Generation9
4. Forecast 2027 PM Peak Hour Level of Service15

LIST OF FIGURES

1. Vicinity Map3
2. Site Plan4
3. Existing PM Peak Hour Volumes7
4. PM Peak Hour Trip Distribution & Assignment11
5. PM Peak Hour Pipeline Volumes12
6. Forecast 2027 PM Peak Hour Background Volumes13
7. Forecast 2027 PM Peak Hour Volumes with Project14

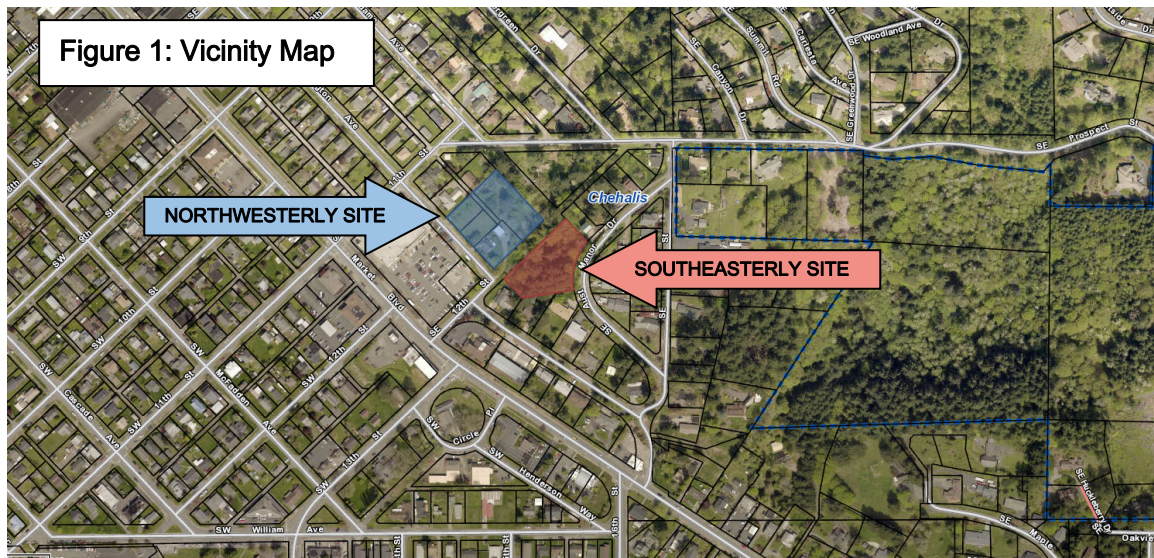
WASHINGTON AVENUE TOWNHOMES TRAFFIC IMPACT ANALYSIS

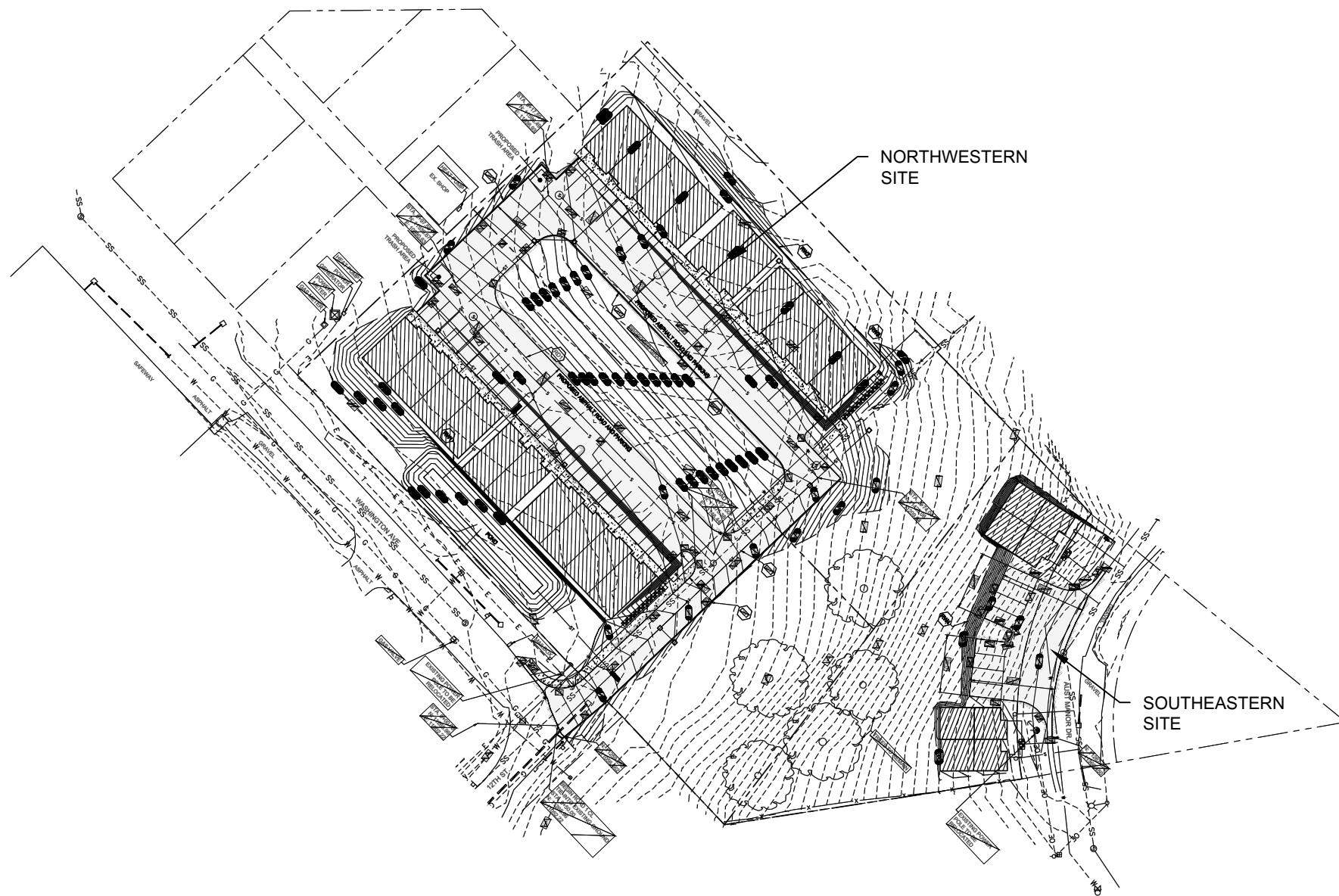
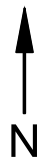
1. INTRODUCTION

The main goals of this study focus on the analysis of existing roadway conditions and forecasts of newly generated project traffic. The first task includes the review of general roadway information on the adjacent street system, baseline vehicular volumes, and entering sight distance data. Forecasts of future traffic and dispersion patterns on the street system are then determined using established trip generation and distribution techniques. As a final step, appropriate conclusions and mitigation measures are defined.

2. PROJECT DESCRIPTION

Washington Avenue Townhomes is a proposed residential project comprising 24 two-story townhomes located in the city of Chehalis. The northwestern portion of the subject site (tax parcel #'s: 00549000-0000; -1000; -2000; & 00585300-1000) is to encompass 20 townhomes and is bordered to the southwest by SE Washington Avenue. A single-family structure exists within this portion of the subject site, which is to be demolished prior to new construction. Access to these 20 townhomes is proposed via a northeasterly extension of SE 12th Street from SE Washington Avenue. The southeastern portion of the subject site (undeveloped tax parcel #: 00560419-2001) is to encompass 4 townhomes and is bordered to the east by SE Aust Manor Drive. Access to these 4 townhomes is proposed via one driveway extending west from SE Aust Manor Drive. The total subject site encompasses 2.26-acres. Figure 1 below depicts the boundaries of the northwest (blue) and southeast (red) portions of the subject site and an aerial vicinity of the surrounding roadway network. Figure 2 illustrates a conceptual site plan.





NORTHWESTERN
SITE

SOUTHEASTERN
SITE

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WASHINGTON AVENUE TOWNHOMES

SITE PLAN
FIGURE 2

3. EXISTING CONDITIONS

3.1 Existing Street System

The street network serving the proposed project consists of a variety of roadways. The major roadways and arterials defined in the study area are listed and described below.

Table 1: Roadway Network

| Functional Classification | Roadway | Speed Limit | Lanes | Street Parking | Sidewalk | Bike Facilities |
|---------------------------|-------------------|-------------|-------|----------------|--------------|-----------------|
| Principal Arterial | S Market Blvd | 25-30 mph | 2-3 | Some | Yes | No |
| | SE Washington Ave | 15-25* mph | 2 | Yes | NW/o SE 11th | No |
| Local | SE Aust Manor Dr | 15-25* mph | 2 | No | No | No |
| | SE 11th St | 25* mph | 2 | Some | Yes | No |
| | SE 12th St | 25* mph | 2 | Some | Some | No |
| | SE 16th St | 15-25* mph | 2 | No | No | No |

*No posted speed limit—25mph assumed.

3.2 Public Transit

A review of the Twin Transit regional bus schedule indicates that transit service is provided within walking distance of the subject site. The nearest bus stops are located at the Chehalis Safeway (0.1-miles walking distance from the northwest portion of the subject site) and at 16th Street & S Market Boulevard (0.2-miles walking distance from the southeast portion), servicing the Red Line. The Red Line provides service north of I-5 throughout the city of Chehalis. Weekday service is provided from 6:00 AM – 7:00 PM and weekend service is provided from 7:00 AM – 4:00 PM. Refer to Twin Transit’s Routes & Schedules for more detailed information.

3.3 Pedestrian and Bicycle Activity

Pedestrian and bicycle activity were observed on the nearby street segments. Observations were made during routine peak hour movement counts at all study intersections. No pedestrians or bicyclists were observed during the PM peak hour at either SE 16th Street & SE Aust Manor Drive Approximately or SE 12th Street & Market Boulevard. Approximately 2 pedestrians and 2 bicyclists were observed at SE 11th Street & SE Washington Avenue and 2 pedestrians and no bicyclists were observed at SE 11th Street & S Market Boulevard during the PM peak hour.

Sidewalk internal to the northwesterly portion of the subject site is proposed with connection to SE Washington Avenue. Moreover, planned City improvements outlined in the proposed TIP indicate pedestrian infrastructure projects that will increase non-motorist accessibility in the vicinity of the subject site.

3.4 Roadway Improvements

A review of the City of Chehalis Six-Year (2022-2027) Transportation Improvement Program indicates the following planned projects in the general area.

S Market Boulevard - Park Street to N National Avenue: This project entails renaissance streetscape planning. The project has a total cost of \$3,050,000 with a start date of 2021 and an end date of 2024.

S Market Boulevard - Park Street to SE City Limits: This project entails reconstructing the roadway and installing pedestrian improvements from 13th to the SE City limits. The project has a total cost of \$9,800,000 with a start date of 2023 and an end date of 2026.

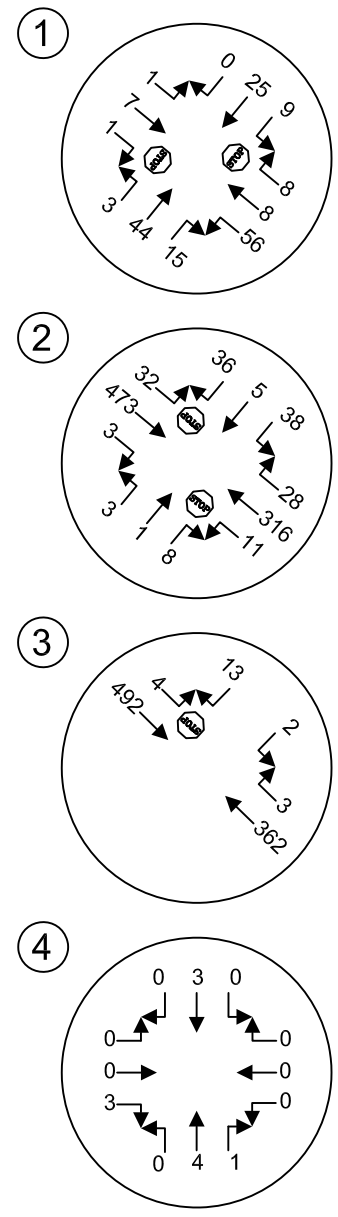
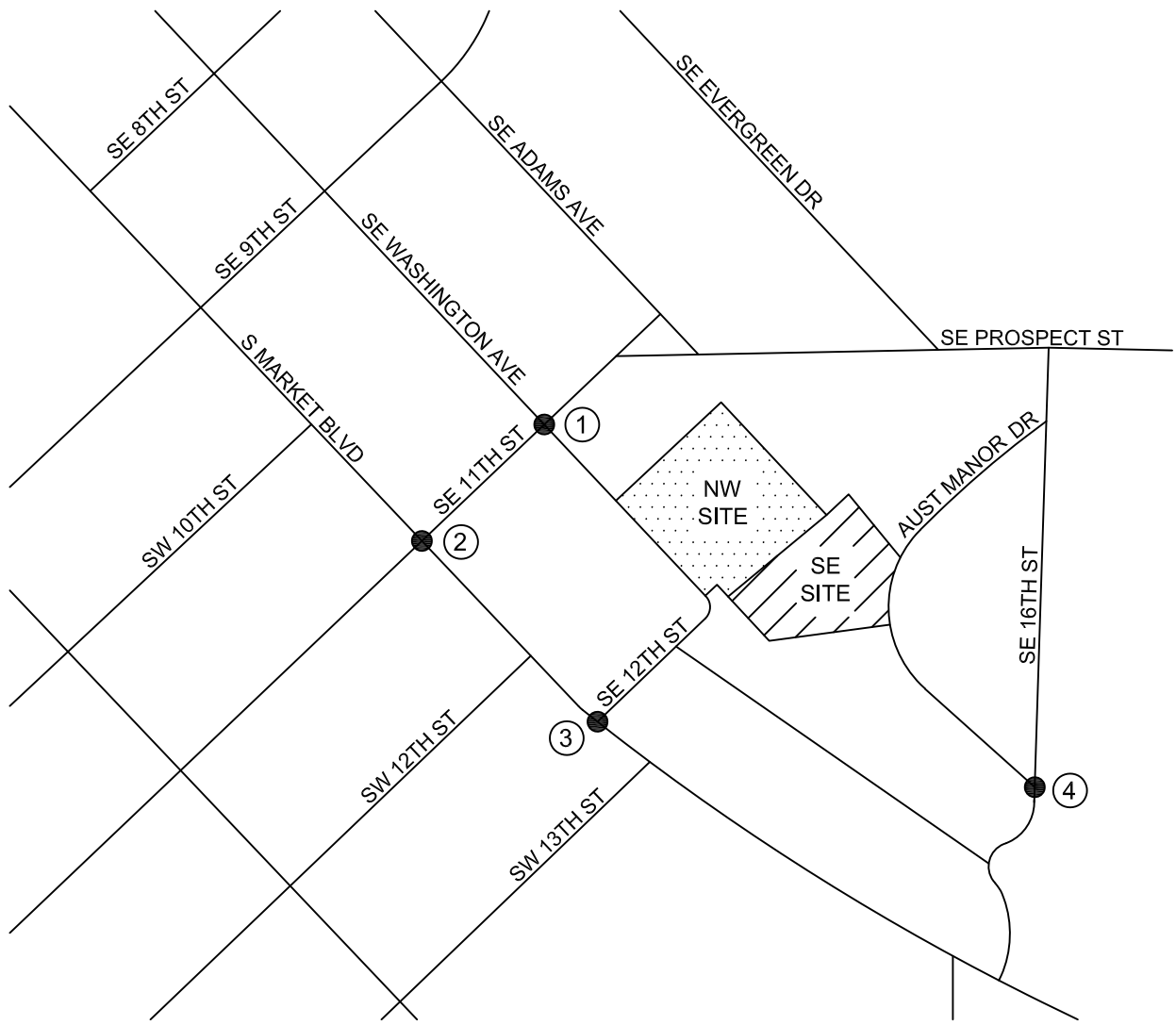
13th Street SW – S Market Boulevard to I-5: This project entails a grind and overlay in addition to ADA compliant upgrades. The project has a total cost of \$600,000 with a start date of 2027.

3.5 Existing Peak Hour Volumes and Patterns

Field data for this study was collected in January of 2022. Traffic counts were administered at the listed intersections below, which would receive the bulk of the anticipated vehicular demands.

- SE 11th St & SE Washington Ave
- S Market Blvd & SE 12th St
- S Market Blvd & SE 11th St
- SE 16th St & SE Aust Manor Dr

Data was obtained during the evening peak period between the hours of 3:00 PM – 6:00 PM, which generally translates to highest overall roadway volumes in a given 24-hour period. The one hour reflecting highest overall roadway volumes (peak hour) was then derived from these counts. Figure 3 illustrates existing PM peak hour volumes at the study intersections. Full count sheets have been attached in the appendix.



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WASHINGTON AVENUE TOWNHOMES
EXISTING PM PEAK HOUR VOLUMES
FIGURE 3

3.6 Level of Service

Existing intersection delays were determined through the use of the *Highway Capacity Manual* 6th Edition. Capacity analysis is used to determine level of service (LOS) which is an established measure of congestion for transportation facilities. The range¹ for intersection level of service is LOS A to LOS F with the former indicating the best operating conditions with low control delays and the latter indicating the worst conditions with heavy control delays. Detailed descriptions of intersection LOS are given in the 2016 Highway Capacity Manual. Level of service calculations were made through the use of the *Synchro 11* analysis program. For side-street stop-controlled intersections, LOS is determined by the approach with the highest delay. For uncontrolled intersections, LOS is determined by the intersection's overall weighted average delay for each approaching leg. Table 2 below presents existing PM peak hour LOS delays for the key intersection of study.

Table 2: Existing PM Peak Hour Level of Service

Delays given in seconds per vehicle

| Intersection | Control | Movement | LOS | Delay |
|-------------------------------|---------|----------|-----|-------|
| SE Washington Ave & SE 11th S | Stop | WB | A | 9.6 |
| S Market Blvd & SE 12th St | Stop | SB | C | 19.5 |
| S Market Blvd & S 11th St t | Stop | SB | B | 11.6 |
| SE 16th St & SE Aust Manor Dr | Unsig. | Overall | A | 6.8 |

Existing PM peak hour conditions are shown to operate with minimal delays at LOS C indicating stable operations during the critical PM peak hour of travel.

¹ *Signalized Intersections - Level of Service*

| Level of Service | Control Delay per Vehicle (sec) |
|------------------|---------------------------------|
| A | ≤ 10 |
| B | > 10 and ≤ 20 |
| C | > 20 and ≤ 35 |
| D | > 35 and ≤ 55 |
| E | > 55 and ≤ 80 |
| F | > 80 |

Stop Controlled Intersections – Level of Service

| Level of Service | Control Delay per Vehicle (sec) |
|------------------|---------------------------------|
| A | ≤ 10 |
| B | > 10 and ≤ 15 |
| C | > 15 and ≤ 25 |
| D | > 25 and ≤ 35 |
| E | > 35 and ≤ 50 |
| F | > 50 |

Highway Capacity Manual, 6th Edition

4. FUTURE TRAFFIC CONDITIONS

4.1 Trip Generation

Trip generation is used to determine the magnitude of project impacts on the surrounding street system. This is usually denoted by the quantity or specific number of new trips that enter and exit a project during a designated time period, such as a specific peak hour (AM or PM) or an entire day. Data presented in this report was taken from the Institute of Transportation Engineer's publication *Trip Generation*, 11th Edition. The designated land use for this project is defined as Single-Family Attached Housing – LUC 215. Table 3 below summarizes the estimated project trip generation using ITE average rates to determine trips ends with dwelling units as the input variable. Included are the average weekday daily traffic (AWDT) and the AM and PM peak hours. Refer to the appendix for trip generation output.

Table 3: Project Trip Generation

| Land Use | Size | AWDT | AM Peak-Hour Trips | | | PM Peak-Hour Trips | | |
|----------------------------------|-------------------|------|--------------------|-----|-------|--------------------|-----|-------|
| | | | In | Out | Total | In | Out | Total |
| Single-Family Attached – LUC 215 | 24 dwelling units | 173 | 4 | 8 | 12 | 8 | 6 | 14 |

Based on ITE data, the project is anticipated to generate 173 new daily weekday trips with 12 trips (4 inbound / 8 outbound) occurring in the AM peak hour and 14 trips (8 inbound / 6 outbound) in the PM peak hour.

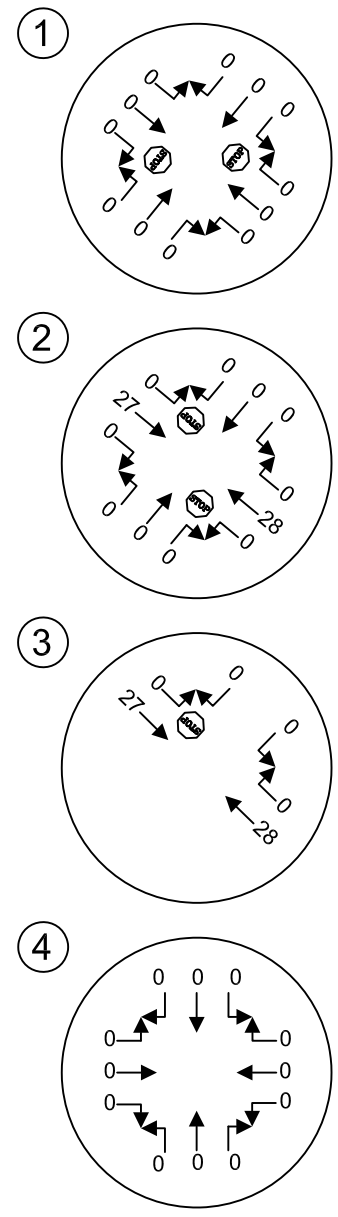
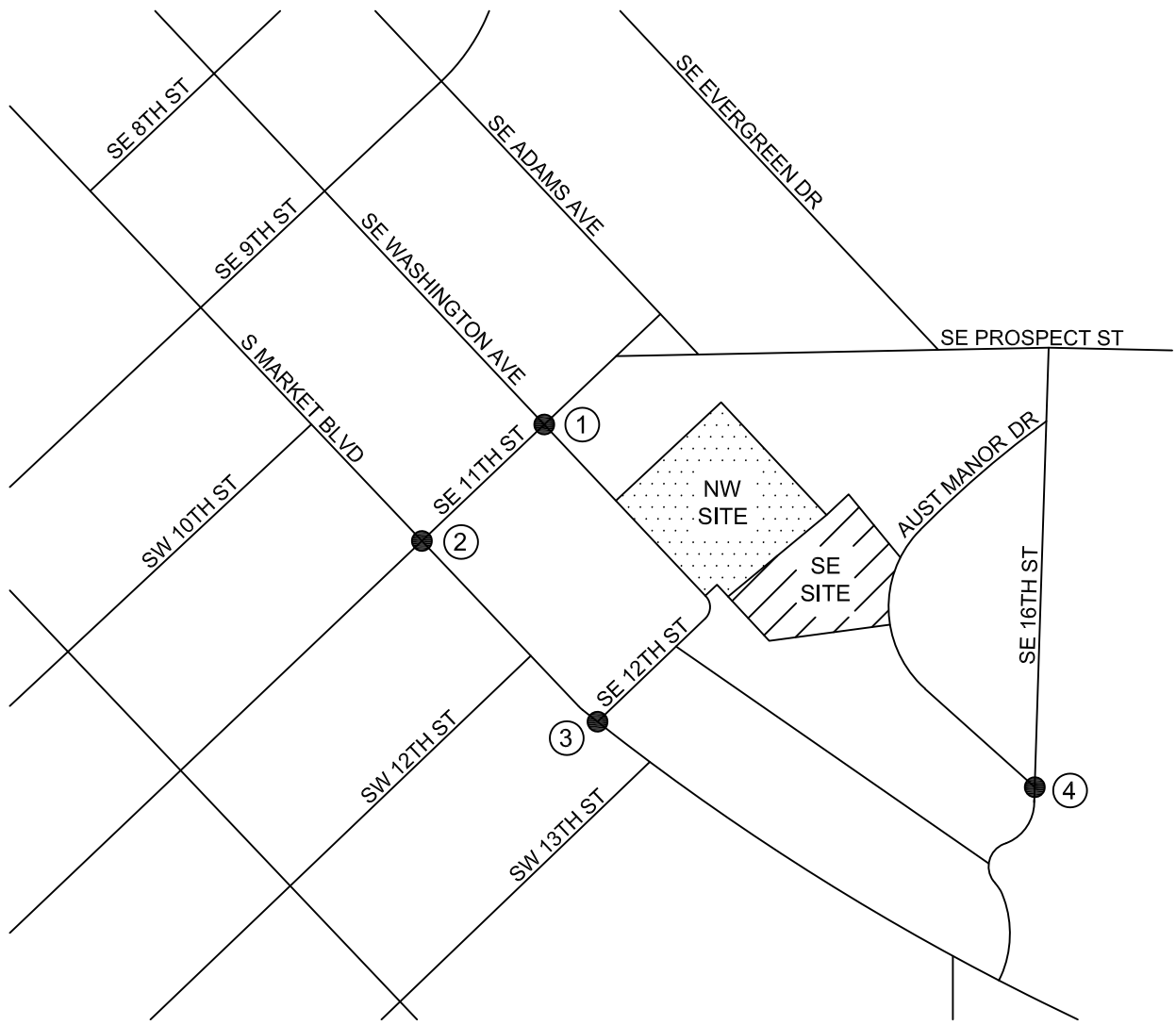
4.2 Trip Distribution and Assignment

Trip distribution describes the process by which project generated trips are dispersed on the roadway network surrounding the site. Trip distribution percentages are illustrated in Figure 4 for the PM peak travel hour and are primarily based on existing travel patterns identified from the field counts.

4.3 Future Peak Hour Volumes

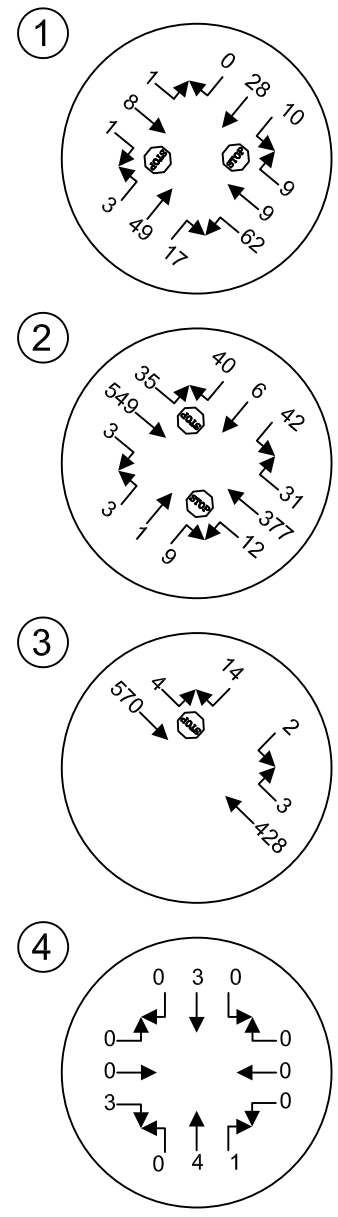
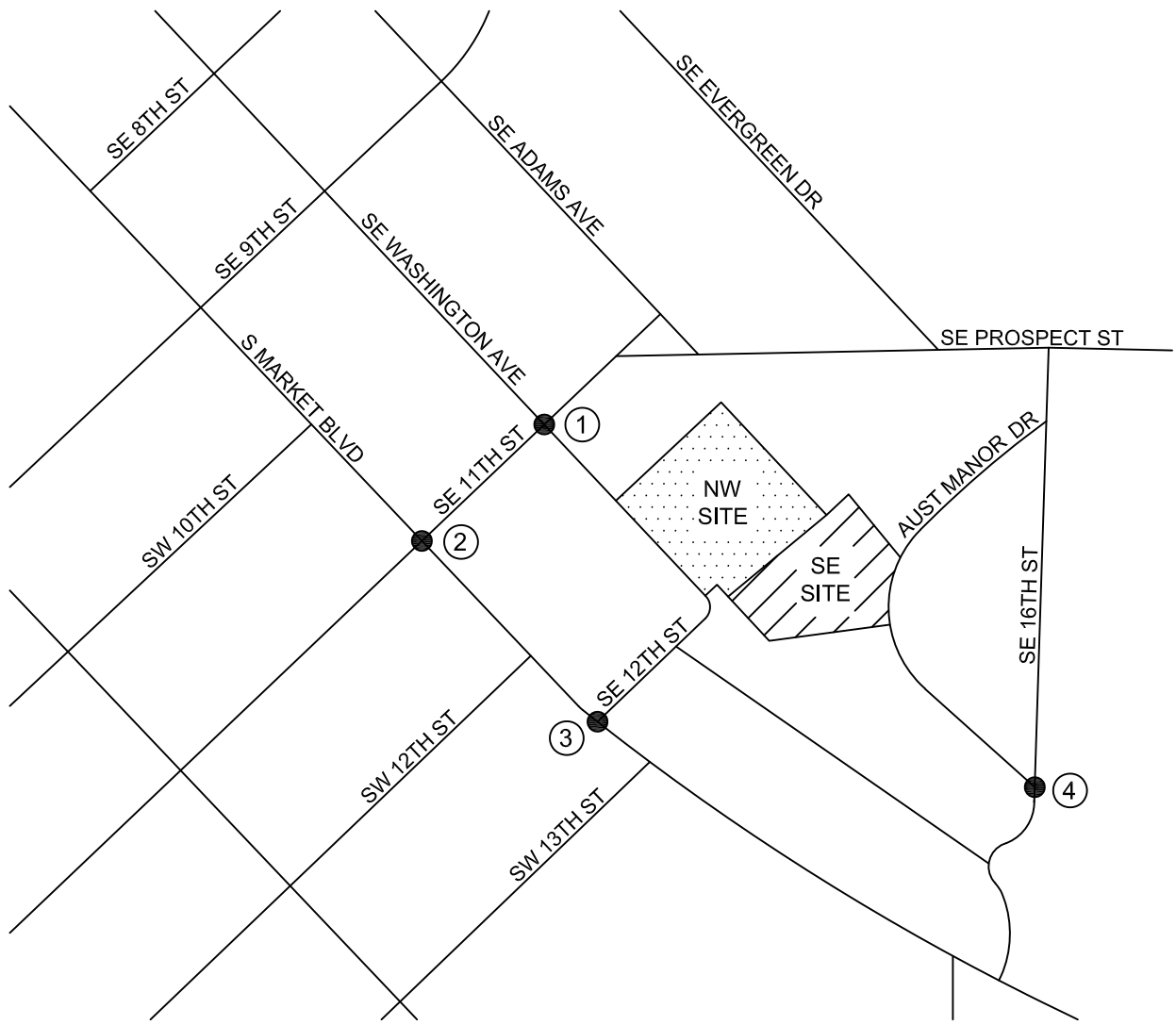
A 5-year horizon of 2027 was used to assess future conditions with project-buildout. The proposed development is located within the Chehalis city limits. The City is forecasted to grow at an annual rate of 1.50%² according to the Chehalis Comprehensive Plan (2017). A compound annual growth rate of 2.0% was utilized to present a conservative analysis. Additionally, pipeline volumes associated with the nearby Jackson Meadows, Smith Medical, Jackson Highway Warehouse, Jackson Villa's 4, Jackson Tiny Homes, and Jackson Heights projects were added to the roadway network and included in forecast analysis. PM peak hour pipeline volumes are illustrated in Figure 5. Forecast 2027 PM peak hour volumes without project are shown in Figure 6 while Figure 7 illustrates forecast 2027 volumes with the addition of project-generated traffic.

² Chehalis Comprehensive Plan 2017: Chapter 3 Land Use, pg. 4



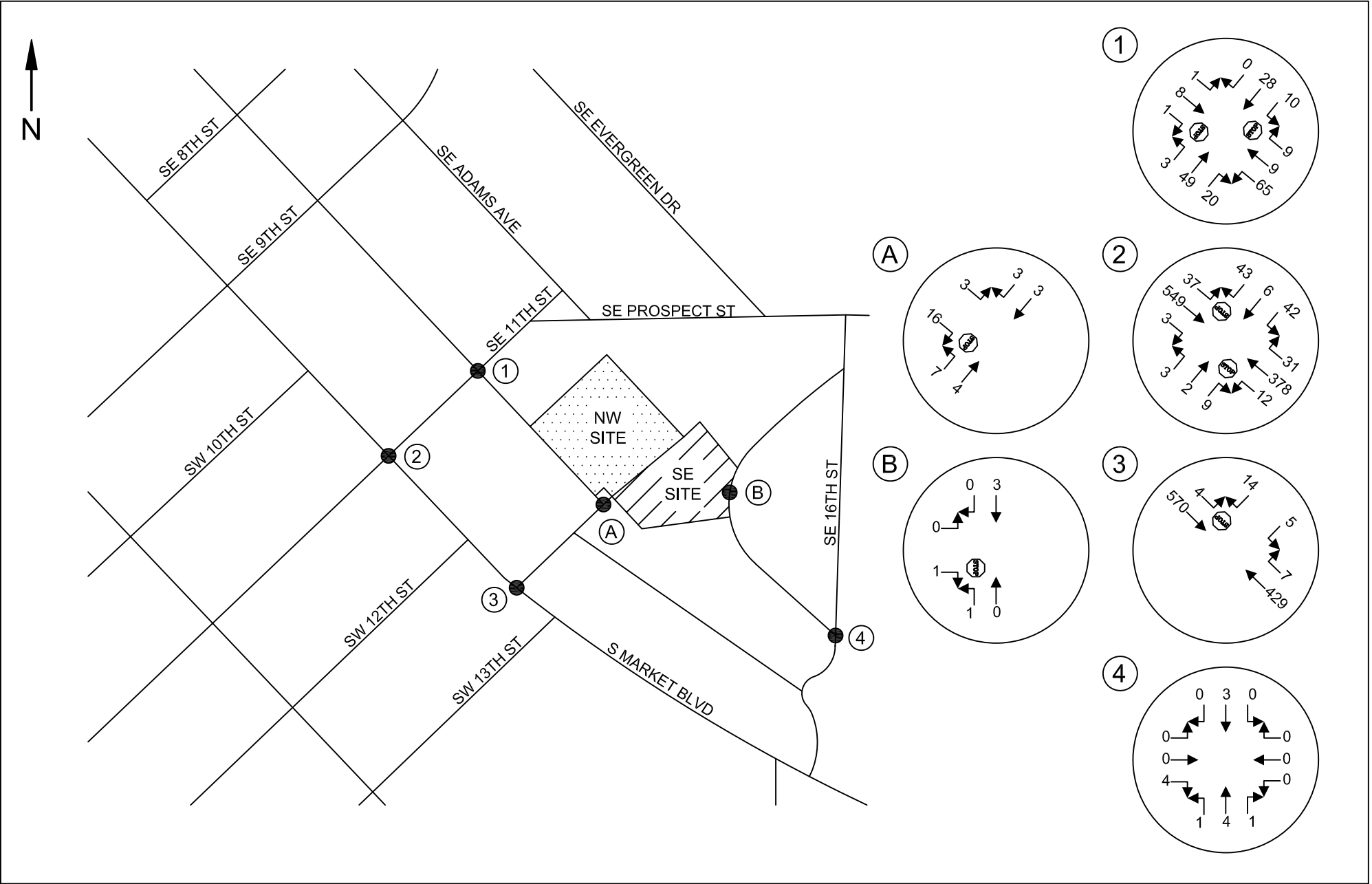
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WASHINGTON AVENUE TOWNHOMES
PM PEAK HOUR PIPELINE VOLUMES
FIGURE 5



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WASHINGTON AVENUE TOWNHOMES
FORECAST 2027 PM PEAK HOUR BACKGROUND VOLUMES
FIGURE 6



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WASHINGTON AVENUE TOWNHOMES
 FORECAST 2027 PM PEAK HOUR VOLUMES WITH PROJECT
 FIGURE 7

4.4 Future Level of Service

Level of service analyses were made of the future PM peak hour volumes without (background) and with project related trips added to the key roadways and intersections. This analysis once again involved the use of the *Synchro 11* analysis program. Delays for the study intersections and proposed accesses under future conditions are shown below in Table 4.

Table 4: Forecast 2027 PM Peak Hour Level of Service

Delays given in seconds per vehicle

| Intersection | Control | Movement | <i>Background</i> | | <i>With Project</i> | |
|--------------------------------|---------|----------|-------------------|-------|---------------------|-------|
| | | | LOS | Delay | LOS | Delay |
| SE Washington Ave & SE 11th St | Stop | WB | A | 9.7 | A | 9.7 |
| S Market Blvd & SE 12th St | Stop | SB | D | 25.6 | D | 25.8 |
| S Market Blvd & S 11th St t | Stop | SB | B | 12.4 | B | 13.9 |
| SE 16th St & SE Aust Manor Dr | Unsig. | Overall | A | 6.8 | A | 6.8 |
| SE Washington Ave & SE 12th St | Stop | SEB | - | - | A | 8.5 |
| Access & SE Aust Manor Dr | Stop | EB | - | - | A | 8.3 |

Forecast 2027 PM peak hour Level of Service at the outlying study intersections are shown to operate with LOS D or better conditions. Moreover, the proposed accesses are shown to operate with LOS A conditions. No operational deficiencies are identified as a result of the proposed development.

According to the Chapter 12.04.330 of the City's Engineering Development Code, non-signalized intersections that operate at less than LOS C should be analyzed for traffic signal improvements. S Market Boulevard & SE 12th Street is shown to operate with LOS D conditions both without and with the proposed development. As such, a peak hour signal warrant analysis (Warrant 3) was conducted, which indicated that a signal is not warranted at the intersection under forecast PM peak hour conditions with project. As such, no mitigation is recommended at the intersection at this time.

Moreover, it should be noted that the intersection of SE Washington Avenue & SE 12th Street was modeled to comprise a stop-control at the northwesterly leg (SE Washington Avenue). The proposed northeasterly extension of SE 12th Street providing access to the subject site is located within City ROW. The roadway extension has the potential for a

future northeasterly extension beyond the subject site frontage providing an additional southwest-northeast roadway connection. Moreover, stop-control at the northwesterly approach of the intersection is consistent with adjacent intersections along SE Washington Avenue.

It should also be noted that sight distance is limited at SE Washington Avenue & SE 12th Street. Existing vegetation at the western side of the intersection impairs sight distance for southeastern-bound vehicles. Implementing a stop-control at the northwesterly leg of the intersection could help to mitigate turning maneuver conflicts caused by sight distance impairments and may improve safety. Ultimately, final intersection control design should be discussed and coordinated with the City.

4.5 Site Access & Roadway Design

Site access for the proposed Washington Ave Townhomes is proposed via a northeasterly extension of SE 12th Street into the northwest portion of the subject site and via one new driveway extending west from SE Aust Manor Drive into the southeast portion of the development. As previously discussed, sight distance is currently limited at SE Washington Avenue & SE 12th Street. However, traffic volumes are light and the implementation of a stop-control at a leg deemed appropriate by the City is anticipated to improve sight lines and safety operations. Moreover, only 3 PM peak hour through-volumes are anticipated under forecast conditions along proposed SE Aust Manor Drive access. As such, no sight deficiencies are identified at this time. Ultimately, discussion should be made with the City regarding final access requirements and design.

5. SUMMARY

Washington Avenue Townhomes is a proposed residential development encompassing 24 townhomes located in the city of Chehalis. The subject site is located on a cumulative 2.26-acres within tax parcel #'s: 00549000-0000; -1000; -2000; & 00585300-1000; & 00560419-2001. Access to the northwestern portion of the site comprising 20 townhomes is proposed via a northeasterly extension of SE 12th Street. Access to the southeasterly portion of the subject site comprising 4 townhomes is proposed via one driveway extending west from SE Aust Manor Drive. A conceptual site plan is illustrated in Figure 2. Existing level of service (LOS) is summarized in Table 1 and indicates the outlying study intersections operating with delays of LOS C or better during the critical PM peak hour.

Based on ITE data the project would be anticipated to generate 12 new AM peak hour trips (4 inbound / 8 outbound) and 14 new PM peak hour trips (8 inbound / 6 outbound). For forecast analyses, a five-year horizon was evaluated to assess impacts under future conditions. Table 3 summarizes forecast 2027 PM peak hour LOS delays without and with the project. Forecast 2027 conditions are shown to operate satisfactorily with LOS D or better conditions at the outlying study intersections. The proposed accesses are shown to operate with LOS A conditions. Overall, no operational deficiencies are identified as a result of the proposed development.

Based on the above analysis, recommended mitigation is as follows:

1. With the creation of a new northeast leg at the intersection of SE Washington Avenue & SE 12th Street, it is recommended to formalize the intersection with a STOP control for SE Washington Avenue. Currently there is limited sight distance available for drivers advancing southeast when looking southwest due to existing vegetation which may or may not be located within the public right-of-way. Based on review and location, vegetation may need to be trimmed and/or eliminated. Alternative intersection scenarios could be explored based on City review. Actual intersection control and design shall be coordinated and approved by the City.



No other mitigation is identified at this time.

SMITH MEDICAL
TRAFFIC IMPACT ANALYSIS

APPENDIX

Heath & Associates

PO Box 397
Puyallup, WA 98371

File Name : 4814d
Site Code : 00004814
Start Date : 1/6/2022
Page No : 1

Groups Printed- Passenger + - Heavy

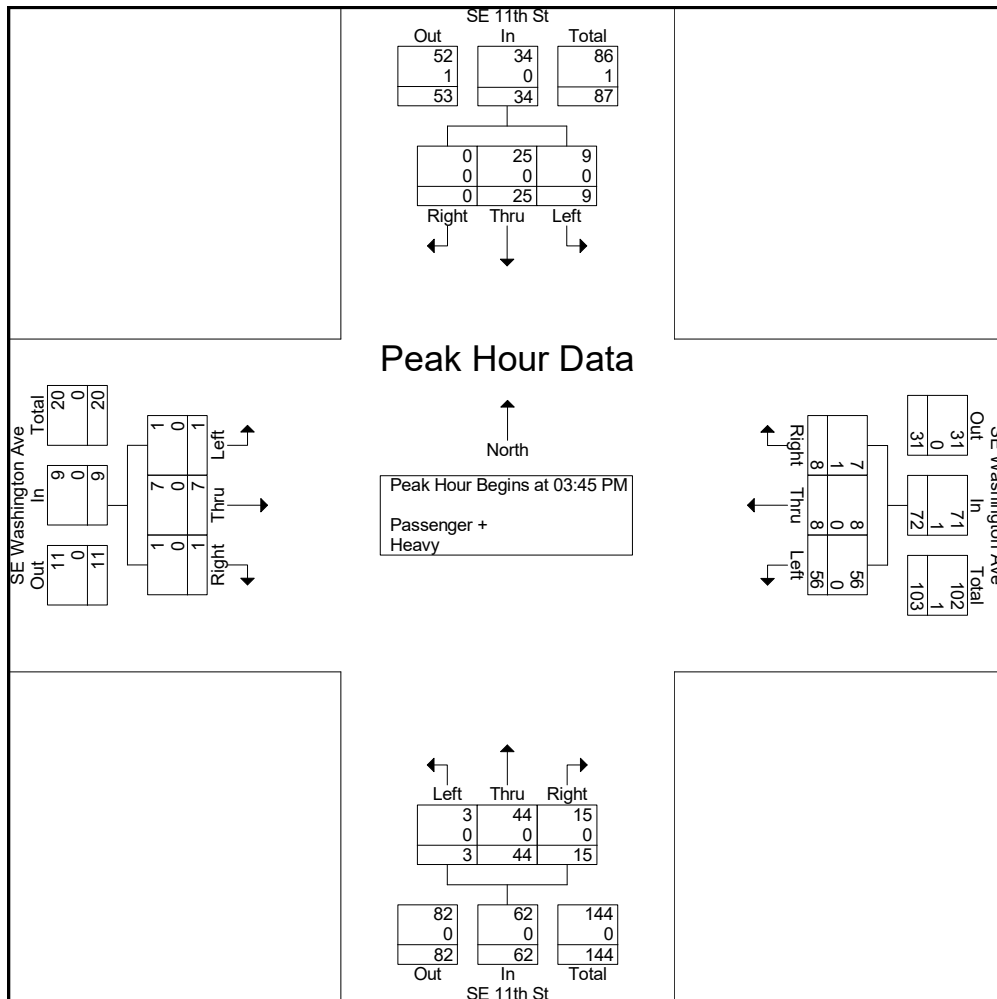
| Start Time | SE 11th St Southbound | | | | SE Washington Ave Westbound | | | | SE 11th St Northbound | | | | SE Washington Ave Eastbound | | | | Int. Total |
|---------------|-----------------------|------|------|------------|-----------------------------|------|------|------------|-----------------------|------|------|------------|-----------------------------|------|------|------------|------------|
| | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | |
| 03:00 PM | 1 | 5 | 1 | 7 | 2 | 4 | 13 | 19 | 5 | 9 | 0 | 14 | 1 | 2 | 1 | 4 | 44 |
| 03:15 PM | 2 | 7 | 0 | 9 | 6 | 1 | 18 | 25 | 1 | 12 | 2 | 15 | 0 | 2 | 1 | 3 | 52 |
| 03:30 PM | 0 | 3 | 0 | 3 | 1 | 0 | 15 | 16 | 3 | 8 | 1 | 12 | 0 | 1 | 0 | 1 | 32 |
| 03:45 PM | 0 | 2 | 1 | 3 | 0 | 1 | 16 | 17 | 5 | 12 | 3 | 20 | 1 | 2 | 0 | 3 | 43 |
| Total | 3 | 17 | 2 | 22 | 9 | 6 | 62 | 77 | 14 | 41 | 6 | 61 | 2 | 7 | 2 | 11 | 171 |
| 04:00 PM | 0 | 11 | 3 | 14 | 2 | 2 | 17 | 21 | 1 | 7 | 0 | 8 | 0 | 1 | 1 | 2 | 45 |
| 04:15 PM | 0 | 8 | 3 | 11 | 4 | 3 | 6 | 13 | 7 | 11 | 0 | 18 | 0 | 1 | 0 | 1 | 43 |
| 04:30 PM | 0 | 4 | 2 | 6 | 2 | 2 | 17 | 21 | 2 | 14 | 0 | 16 | 0 | 3 | 0 | 3 | 46 |
| 04:45 PM | 0 | 6 | 1 | 7 | 2 | 2 | 16 | 20 | 4 | 7 | 0 | 11 | 1 | 0 | 0 | 1 | 39 |
| Total | 0 | 29 | 9 | 38 | 10 | 9 | 56 | 75 | 14 | 39 | 0 | 53 | 1 | 5 | 1 | 7 | 173 |
| 05:00 PM | 0 | 7 | 2 | 9 | 3 | 1 | 7 | 11 | 3 | 14 | 0 | 17 | 0 | 2 | 0 | 2 | 39 |
| 05:15 PM | 0 | 3 | 0 | 3 | 2 | 3 | 6 | 11 | 3 | 12 | 0 | 15 | 0 | 5 | 0 | 5 | 34 |
| 05:30 PM | 0 | 4 | 1 | 5 | 2 | 2 | 5 | 9 | 0 | 4 | 1 | 5 | 1 | 1 | 0 | 2 | 21 |
| 05:45 PM | 0 | 2 | 1 | 3 | 3 | 0 | 9 | 12 | 1 | 1 | 0 | 2 | 0 | 1 | 0 | 1 | 18 |
| Total | 0 | 16 | 4 | 20 | 10 | 6 | 27 | 43 | 7 | 31 | 1 | 39 | 1 | 9 | 0 | 10 | 112 |
| Grand Total | 3 | 62 | 15 | 80 | 29 | 21 | 145 | 195 | 35 | 111 | 7 | 153 | 4 | 21 | 3 | 28 | 456 |
| Apprch % | 3.8 | 77.5 | 18.8 | | 14.9 | 10.8 | 74.4 | | 22.9 | 72.5 | 4.6 | | 14.3 | 75 | 10.7 | | |
| Total % | 0.7 | 13.6 | 3.3 | 17.5 | 6.4 | 4.6 | 31.8 | 42.8 | 7.7 | 24.3 | 1.5 | 33.6 | 0.9 | 4.6 | 0.7 | 6.1 | |
| Passenger + | 3 | 61 | 15 | 79 | 28 | 21 | 145 | 194 | 35 | 111 | 7 | 153 | 4 | 21 | 3 | 28 | 454 |
| % Passenger + | 100 | 98.4 | 100 | 98.8 | 96.6 | 100 | 100 | 99.5 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99.6 |
| Heavy | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| % Heavy | 0 | 1.6 | 0 | 1.2 | 3.4 | 0 | 0 | 0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 |

Heath & Associates

PO Box 397
Puyallup, WA 98371

File Name : 4814d
Site Code : 00004814
Start Date : 1/6/2022
Page No : 2

| Start Time | SE 11th St Southbound | | | | SE Washington Ave Westbound | | | | SE 11th St Northbound | | | | SE Washington Ave Eastbound | | | | Int. Total |
|--|-----------------------|------|------|------------|-----------------------------|------|------|------------|-----------------------|------|------|------------|-----------------------------|------|------|------------|------------|
| | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | |
| Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 03:45 PM | | | | | | | | | | | | | | | | | |
| 03:45 PM | 0 | 2 | 1 | 3 | 0 | 1 | 16 | 17 | 5 | 12 | 3 | 20 | 1 | 2 | 0 | 3 | 43 |
| 04:00 PM | 0 | 11 | 3 | 14 | 2 | 2 | 17 | 21 | 1 | 7 | 0 | 8 | 0 | 1 | 1 | 2 | 45 |
| 04:15 PM | 0 | 8 | 3 | 11 | 4 | 3 | 6 | 13 | 7 | 11 | 0 | 18 | 0 | 1 | 0 | 1 | 43 |
| 04:30 PM | 0 | 4 | 2 | 6 | 2 | 2 | 17 | 21 | 2 | 14 | 0 | 16 | 0 | 3 | 0 | 3 | 46 |
| Total Volume | 0 | 25 | 9 | 34 | 8 | 8 | 56 | 72 | 15 | 44 | 3 | 62 | 1 | 7 | 1 | 9 | 177 |
| % App. Total | 0 | 73.5 | 26.5 | | 11.1 | 11.1 | 77.8 | | 24.2 | 71 | 4.8 | | 11.1 | 77.8 | 11.1 | | |
| PHF | .000 | .568 | .750 | .607 | .500 | .667 | .824 | .857 | .536 | .786 | .250 | .775 | .250 | .583 | .250 | .750 | .962 |
| Passenger + | 0 | 25 | 9 | 34 | 7 | 8 | 56 | 71 | 15 | 44 | 3 | 62 | 1 | 7 | 1 | 9 | 176 |
| % Passenger + | 0 | 100 | 100 | 100 | 87.5 | 100 | 100 | 98.6 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99.4 |
| Heavy | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| % Heavy | 0 | 0 | 0 | 0 | 12.5 | 0 | 0 | 1.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.6 |



Heath & Associates

PO Box 397
Puyallup, WA 98371

File Name : 4814b
Site Code : 00004814
Start Date : 1/6/2022
Page No : 1

Groups Printed- Passenger + - Heavy

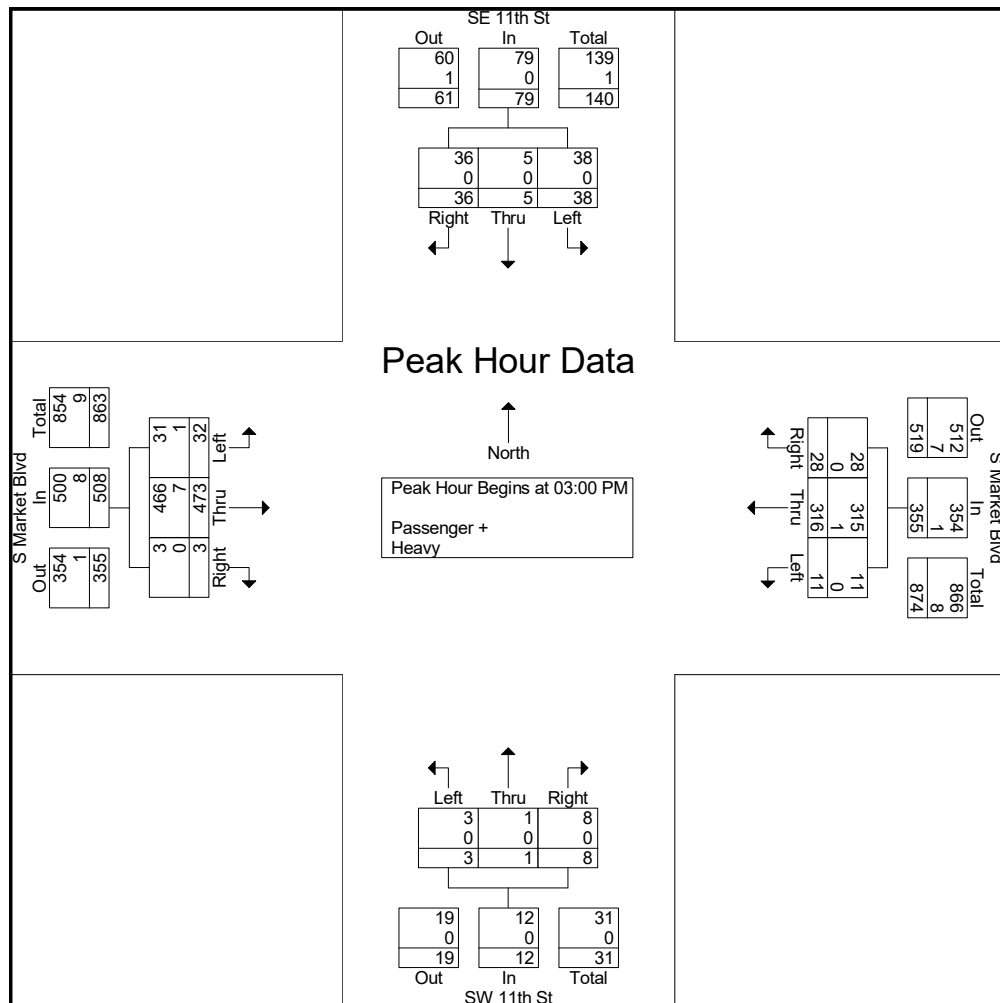
| Start Time | SE 11th St Southbound | | | | S Market Blvd Westbound | | | | SW 11th St Northbound | | | | S Market Blvd Eastbound | | | | Int. Total |
|---------------|-----------------------|------|------|------------|-------------------------|------|------|------------|-----------------------|------|------|------------|-------------------------|------|------|------------|------------|
| | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | |
| 03:00 PM | 9 | 2 | 3 | 14 | 6 | 91 | 2 | 99 | 2 | 0 | 1 | 3 | 0 | 128 | 9 | 137 | 253 |
| 03:15 PM | 16 | 0 | 9 | 25 | 7 | 71 | 5 | 83 | 0 | 1 | 1 | 2 | 1 | 120 | 7 | 128 | 238 |
| 03:30 PM | 8 | 2 | 9 | 19 | 9 | 87 | 3 | 99 | 2 | 0 | 0 | 2 | 2 | 111 | 6 | 119 | 239 |
| 03:45 PM | 3 | 1 | 17 | 21 | 6 | 67 | 1 | 74 | 4 | 0 | 1 | 5 | 0 | 114 | 10 | 124 | 224 |
| Total | 36 | 5 | 38 | 79 | 28 | 316 | 11 | 355 | 8 | 1 | 3 | 12 | 3 | 473 | 32 | 508 | 954 |
| 04:00 PM | 10 | 1 | 17 | 28 | 7 | 65 | 5 | 77 | 0 | 0 | 0 | 0 | 2 | 107 | 4 | 113 | 218 |
| 04:15 PM | 10 | 0 | 3 | 13 | 7 | 56 | 0 | 63 | 3 | 1 | 1 | 5 | 1 | 110 | 9 | 120 | 201 |
| 04:30 PM | 8 | 0 | 12 | 20 | 5 | 60 | 3 | 68 | 2 | 0 | 1 | 3 | 0 | 79 | 11 | 90 | 181 |
| 04:45 PM | 11 | 0 | 14 | 25 | 8 | 50 | 2 | 60 | 3 | 0 | 0 | 3 | 0 | 74 | 4 | 78 | 166 |
| Total | 39 | 1 | 46 | 86 | 27 | 231 | 10 | 268 | 8 | 1 | 2 | 11 | 3 | 370 | 28 | 401 | 766 |
| 05:00 PM | 7 | 0 | 9 | 16 | 9 | 60 | 1 | 70 | 1 | 0 | 0 | 1 | 1 | 81 | 7 | 89 | 176 |
| 05:15 PM | 4 | 0 | 5 | 9 | 3 | 52 | 7 | 62 | 0 | 0 | 0 | 0 | 0 | 67 | 10 | 77 | 148 |
| 05:30 PM | 5 | 0 | 5 | 10 | 3 | 52 | 1 | 56 | 0 | 0 | 0 | 0 | 1 | 61 | 3 | 65 | 131 |
| 05:45 PM | 3 | 1 | 7 | 11 | 0 | 41 | 1 | 42 | 2 | 0 | 0 | 2 | 0 | 46 | 3 | 49 | 104 |
| Total | 19 | 1 | 26 | 46 | 15 | 205 | 10 | 230 | 3 | 0 | 0 | 3 | 2 | 255 | 23 | 280 | 559 |
| Grand Total | 94 | 7 | 110 | 211 | 70 | 752 | 31 | 853 | 19 | 2 | 5 | 26 | 8 | 1098 | 83 | 1189 | 2279 |
| Apprch % | 44.5 | 3.3 | 52.1 | | 8.2 | 88.2 | 3.6 | | 73.1 | 7.7 | 19.2 | | 0.7 | 92.3 | 7 | | |
| Total % | 4.1 | 0.3 | 4.8 | 9.3 | 3.1 | 33 | 1.4 | 37.4 | 0.8 | 0.1 | 0.2 | 1.1 | 0.4 | 48.2 | 3.6 | 52.2 | |
| Passenger + | 94 | 7 | 108 | 209 | 70 | 750 | 31 | 851 | 19 | 2 | 5 | 26 | 8 | 1087 | 82 | 1177 | 2263 |
| % Passenger + | 100 | 100 | 98.2 | 99.1 | 100 | 99.7 | 100 | 99.8 | 100 | 100 | 100 | 100 | 100 | 99 | 98.8 | 99 | 99.3 |
| Heavy | 0 | 0 | 2 | 2 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 11 | 1 | 12 | 16 |
| % Heavy | 0 | 0 | 1.8 | 0.9 | 0 | 0.3 | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 1 | 1.2 | 1 | 0.7 |

Heath & Associates

PO Box 397
Puyallup, WA 98371

File Name : 4814b
Site Code : 00004814
Start Date : 1/6/2022
Page No : 2

| Start Time | SE 11th St Southbound | | | | S Market Blvd Westbound | | | | SW 11th St Northbound | | | | S Market Blvd Eastbound | | | | Int. Total |
|--|-----------------------|------|------|------------|-------------------------|------|------|------------|-----------------------|------|------|------------|-------------------------|------|------|------------|------------|
| | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | |
| Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 03:00 PM | | | | | | | | | | | | | | | | | |
| 03:00 PM | 9 | 2 | 3 | 14 | 6 | 91 | 2 | 99 | 2 | 0 | 1 | 3 | 0 | 128 | 9 | 137 | 253 |
| 03:15 PM | 16 | 0 | 9 | 25 | 7 | 71 | 5 | 83 | 0 | 1 | 1 | 2 | 1 | 120 | 7 | 128 | 238 |
| 03:30 PM | 8 | 2 | 9 | 19 | 9 | 87 | 3 | 99 | 2 | 0 | 0 | 2 | 2 | 111 | 6 | 119 | 239 |
| 03:45 PM | 3 | 1 | 17 | 21 | 6 | 67 | 1 | 74 | 4 | 0 | 1 | 5 | 0 | 114 | 10 | 124 | 224 |
| Total Volume | 36 | 5 | 38 | 79 | 28 | 316 | 11 | 355 | 8 | 1 | 3 | 12 | 3 | 473 | 32 | 508 | 954 |
| % App. Total | 45.6 | 6.3 | 48.1 | | 7.9 | 89 | 3.1 | | 66.7 | 8.3 | 25 | | 0.6 | 93.1 | 6.3 | | |
| PHF | .563 | .625 | .559 | .790 | .778 | .868 | .550 | .896 | .500 | .250 | .750 | .600 | .375 | .924 | .800 | .927 | .943 |
| Passenger + | 36 | 5 | 38 | 79 | 28 | 315 | 11 | 354 | 8 | 1 | 3 | 12 | 3 | 466 | 31 | 500 | 945 |
| % Passenger + | 100 | 100 | 100 | 100 | 100 | 99.7 | 100 | 99.7 | 100 | 100 | 100 | 100 | 100 | 98.5 | 96.9 | 98.4 | 99.1 |
| Heavy | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 7 | 1 | 8 | 9 |
| % Heavy | 0 | 0 | 0 | 0 | 0 | 0.3 | 0 | 0.3 | 0 | 0 | 0 | 0 | 0 | 1.5 | 3.1 | 1.6 | 0.9 |



Heath & Associates

PO Box 397
Puyallup, WA 98371

File Name : 4814c
Site Code : 00004814
Start Date : 1/6/2022
Page No : 1

Groups Printed- Passenger + - Heavy

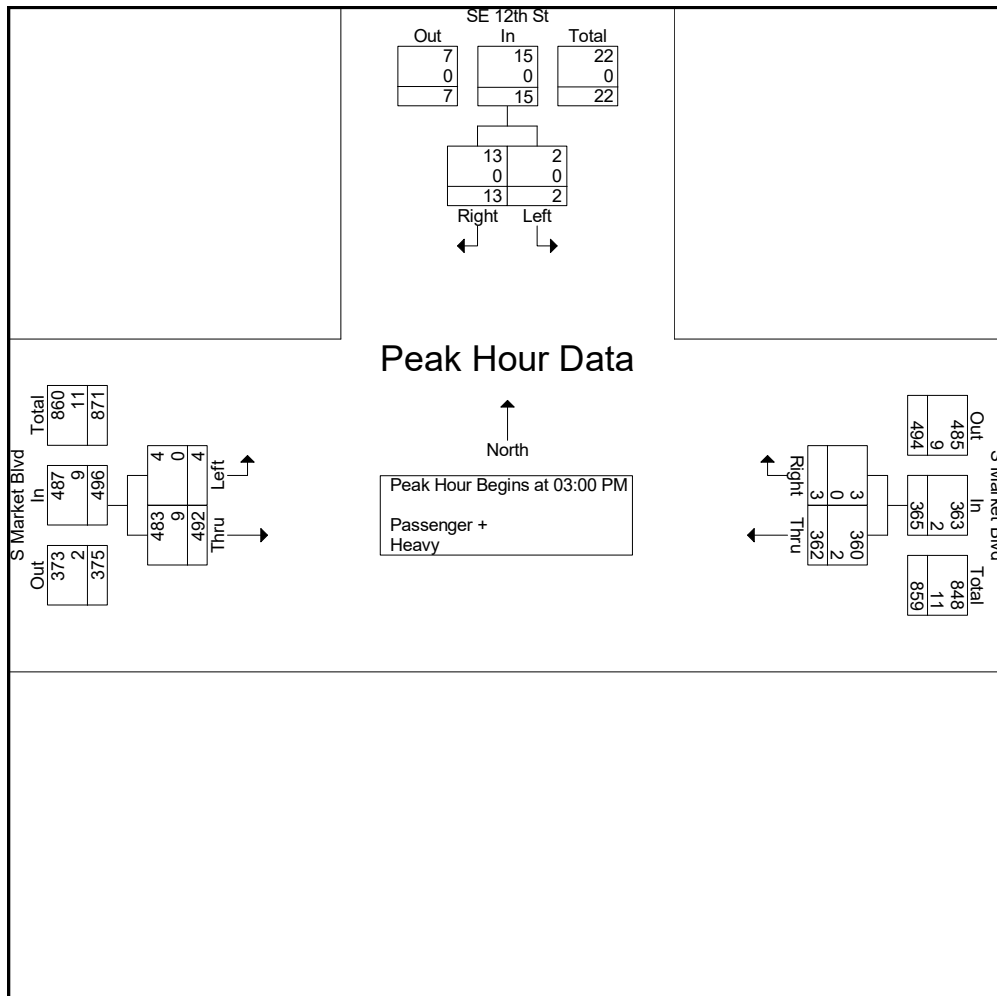
| Start Time | SE 12th St Southbound | | | S Market Blvd Westbound | | | S Market Blvd Eastbound | | | Int. Total |
|---------------|--------------------------|------|------------|----------------------------|------|------------|----------------------------|------|------------|------------|
| | Right | Left | App. Total | Right | Thru | App. Total | Thru | Left | App. Total | |
| 03:00 PM | 4 | 0 | 4 | 0 | 98 | 98 | 120 | 0 | 120 | 222 |
| 03:15 PM | 4 | 0 | 4 | 0 | 85 | 85 | 123 | 2 | 125 | 214 |
| 03:30 PM | 3 | 1 | 4 | 2 | 102 | 104 | 130 | 0 | 130 | 238 |
| 03:45 PM | 2 | 1 | 3 | 1 | 77 | 78 | 119 | 2 | 121 | 202 |
| Total | 13 | 2 | 15 | 3 | 362 | 365 | 492 | 4 | 496 | 876 |
| 04:00 PM | 4 | 2 | 6 | 2 | 79 | 81 | 118 | 1 | 119 | 206 |
| 04:15 PM | 4 | 1 | 5 | 3 | 65 | 68 | 111 | 0 | 111 | 184 |
| 04:30 PM | 1 | 4 | 5 | 1 | 80 | 81 | 95 | 1 | 96 | 182 |
| 04:45 PM | 0 | 0 | 0 | 0 | 63 | 63 | 86 | 0 | 86 | 149 |
| Total | 9 | 7 | 16 | 6 | 287 | 293 | 410 | 2 | 412 | 721 |
| 05:00 PM | 1 | 0 | 1 | 1 | 70 | 71 | 95 | 1 | 96 | 168 |
| 05:15 PM | 2 | 1 | 3 | 4 | 67 | 71 | 82 | 0 | 82 | 156 |
| 05:30 PM | 1 | 1 | 2 | 1 | 55 | 56 | 80 | 0 | 80 | 138 |
| 05:45 PM | 1 | 1 | 2 | 0 | 38 | 38 | 67 | 0 | 67 | 107 |
| Total | 5 | 3 | 8 | 6 | 230 | 236 | 324 | 1 | 325 | 569 |
| Grand Total | 27 | 12 | 39 | 15 | 879 | 894 | 1226 | 7 | 1233 | 2166 |
| Apprch % | 69.2 | 30.8 | | 1.7 | 98.3 | | 99.4 | 0.6 | | |
| Total % | 1.2 | 0.6 | 1.8 | 0.7 | 40.6 | 41.3 | 56.6 | 0.3 | 56.9 | |
| Passenger + | 27 | 12 | 39 | 14 | 874 | 888 | 1213 | 7 | 1220 | 2147 |
| % Passenger + | 100 | 100 | 100 | 93.3 | 99.4 | 99.3 | 98.9 | 100 | 98.9 | 99.1 |
| Heavy | 0 | 0 | 0 | 1 | 5 | 6 | 13 | 0 | 13 | 19 |
| % Heavy | 0 | 0 | 0 | 6.7 | 0.6 | 0.7 | 1.1 | 0 | 1.1 | 0.9 |

Heath & Associates

PO Box 397
Puyallup, WA 98371

File Name : 4814c
Site Code : 00004814
Start Date : 1/6/2022
Page No : 2

| Start Time | SE 12th St Southbound | | | S Market Blvd Westbound | | | S Market Blvd Eastbound | | | Int. Total |
|--|-----------------------|------|------------|-------------------------|------|------------|-------------------------|------|------------|------------|
| | Right | Left | App. Total | Right | Thru | App. Total | Thru | Left | App. Total | |
| Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 03:00 PM | | | | | | | | | | |
| 03:00 PM | 4 | 0 | 4 | 0 | 98 | 98 | 120 | 0 | 120 | 222 |
| 03:15 PM | 4 | 0 | 4 | 0 | 85 | 85 | 123 | 2 | 125 | 214 |
| 03:30 PM | 3 | 1 | 4 | 2 | 102 | 104 | 130 | 0 | 130 | 238 |
| 03:45 PM | 2 | 1 | 3 | 1 | 77 | 78 | 119 | 2 | 121 | 202 |
| Total Volume | 13 | 2 | 15 | 3 | 362 | 365 | 492 | 4 | 496 | 876 |
| % App. Total | 86.7 | 13.3 | | 0.8 | 99.2 | | 99.2 | 0.8 | | |
| PHF | .813 | .500 | .938 | .375 | .887 | .877 | .946 | .500 | .954 | .920 |
| Passenger + | 13 | 2 | 15 | 3 | 360 | 363 | 483 | 4 | 487 | 865 |
| % Passenger + | 100 | 100 | 100 | 100 | 99.4 | 99.5 | 98.2 | 100 | 98.2 | 98.7 |
| Heavy | 0 | 0 | 0 | 0 | 2 | 2 | 9 | 0 | 9 | 11 |
| % Heavy | 0 | 0 | 0 | 0 | 0.6 | 0.5 | 1.8 | 0 | 1.8 | 1.3 |



Heath & Associates

PO Box 397
Puyallup, WA 98371

File Name : 4814a
Site Code : 00004814
Start Date : 1/6/2022
Page No : 1

Groups Printed- Passenger + - Heavy

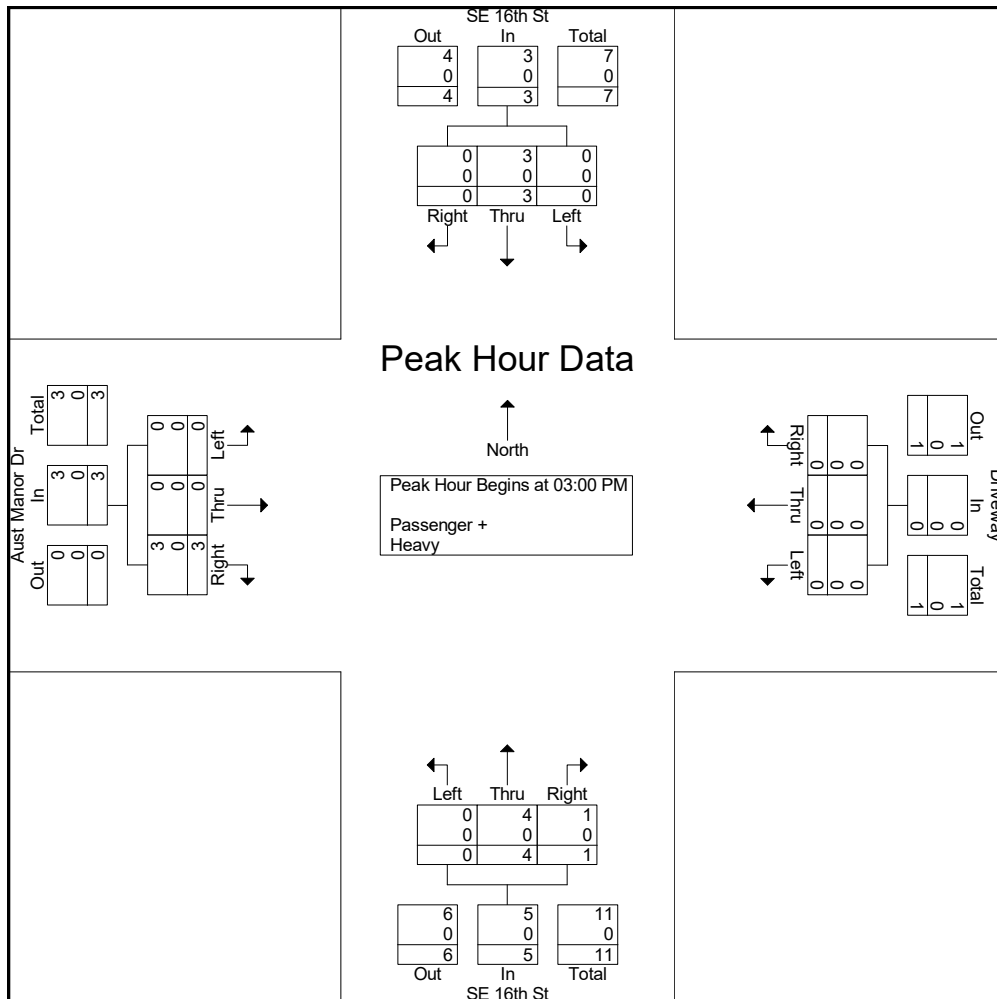
| Start Time | SE 16th St Southbound | | | | Driveway Westbound | | | | SE 16th St Northbound | | | | Aust Manor Dr Eastbound | | | | Int. Total |
|---------------|-----------------------|------|------|------------|--------------------|------|------|------------|-----------------------|------|------|------------|-------------------------|------|------|------------|------------|
| | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | |
| 03:00 PM | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 4 |
| 03:15 PM | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 1 | 4 |
| 03:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| 03:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| Total | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 5 | 3 | 0 | 0 | 3 | 11 |
| 04:00 PM | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 04:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| 04:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 3 |
| 04:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| Total | 0 | 2 | 0 | 2 | 0 | 0 | 1 | 1 | 0 | 3 | 0 | 3 | 1 | 0 | 1 | 2 | 8 |
| 05:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:15 PM | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 4 |
| 05:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| Total | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 5 |
| Grand Total | 0 | 7 | 0 | 7 | 0 | 0 | 1 | 1 | 3 | 8 | 0 | 11 | 4 | 0 | 1 | 5 | 24 |
| Apprch % | 0 | 100 | 0 | | 0 | 0 | 100 | | 27.3 | 72.7 | 0 | | 80 | 0 | 20 | | |
| Total % | 0 | 29.2 | 0 | 29.2 | 0 | 0 | 4.2 | 4.2 | 12.5 | 33.3 | 0 | 45.8 | 16.7 | 0 | 4.2 | 20.8 | |
| Passenger + | 0 | 7 | 0 | 7 | 0 | 0 | 1 | 1 | 3 | 8 | 0 | 11 | 4 | 0 | 1 | 5 | 24 |
| % Passenger + | 0 | 100 | 0 | 100 | 0 | 0 | 100 | 100 | 100 | 100 | 0 | 100 | 100 | 0 | 100 | 100 | 100 |
| Heavy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Heavy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Heath & Associates

PO Box 397
Puyallup, WA 98371

File Name : 4814a
Site Code : 00004814
Start Date : 1/6/2022
Page No : 2

| Start Time | SE 16th St Southbound | | | | Driveway Westbound | | | | SE 16th St Northbound | | | | Aust Manor Dr Eastbound | | | | Int. Total |
|--|-----------------------|------|------|------------|--------------------|------|------|------------|-----------------------|------|------|------------|-------------------------|------|------|------------|------------|
| | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | |
| Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 03:00 PM | | | | | | | | | | | | | | | | | |
| 03:00 PM | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 4 |
| 03:15 PM | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 1 | 4 |
| 03:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| 03:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| Total Volume | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 5 | 3 | 0 | 0 | 3 | 11 |
| % App. Total | 0 | 100 | 0 | | 0 | 0 | 0 | | 20 | 80 | 0 | | 100 | 0 | 0 | | |
| PHF | .000 | .375 | .000 | .375 | .000 | .000 | .000 | .000 | .250 | .500 | .000 | .625 | .750 | .000 | .000 | .750 | .688 |
| Passenger + | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 5 | 3 | 0 | 0 | 3 | 11 |
| % Passenger + | 0 | 100 | 0 | 100 | 0 | 0 | 0 | 0 | 100 | 100 | 0 | 100 | 100 | 0 | 0 | 100 | 100 |
| Heavy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Heavy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



Single-Family Attached Housing (215)

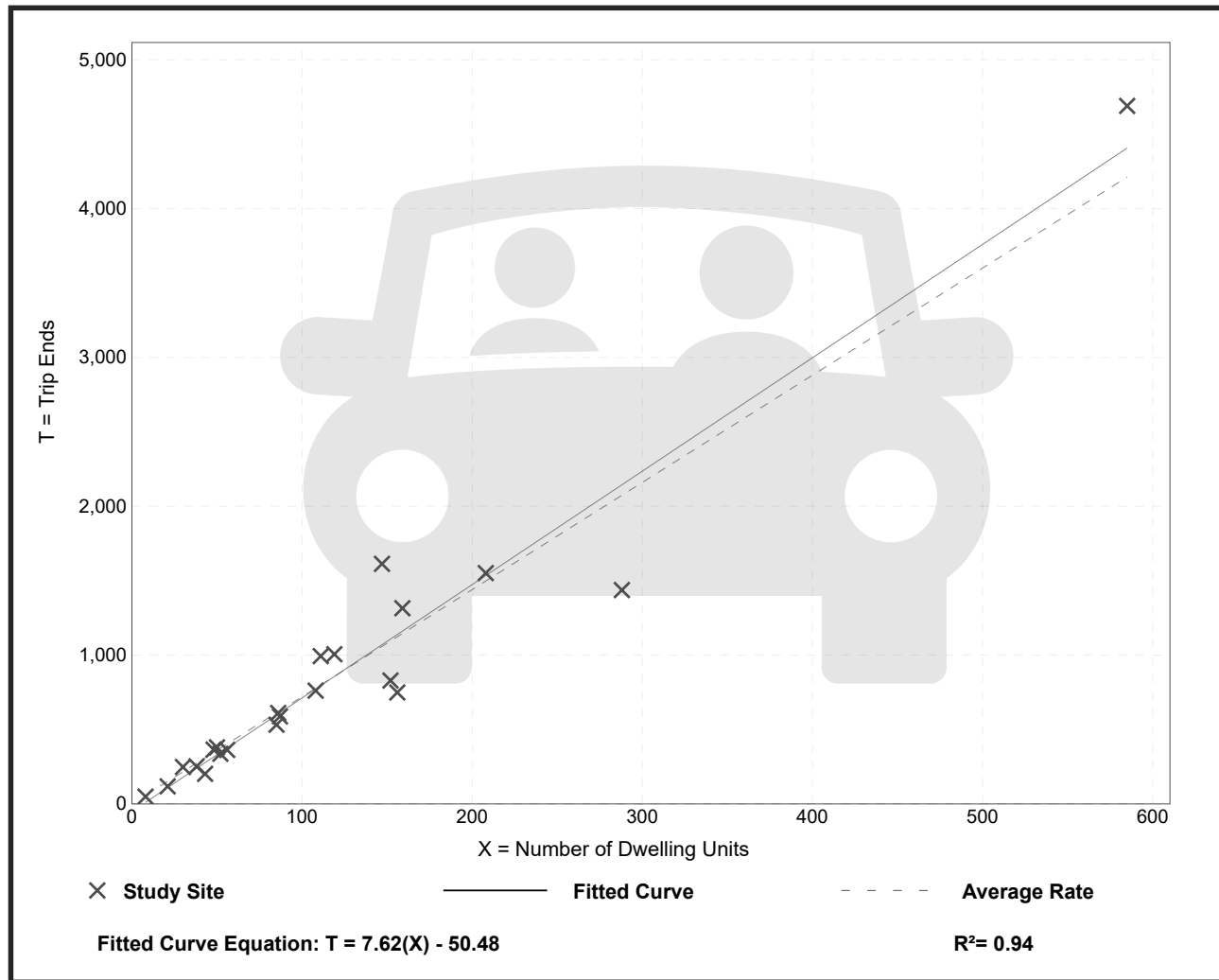
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 22
Avg. Num. of Dwelling Units: 120
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 7.20 | 4.70 - 10.97 | 1.61 |

Data Plot and Equation



Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

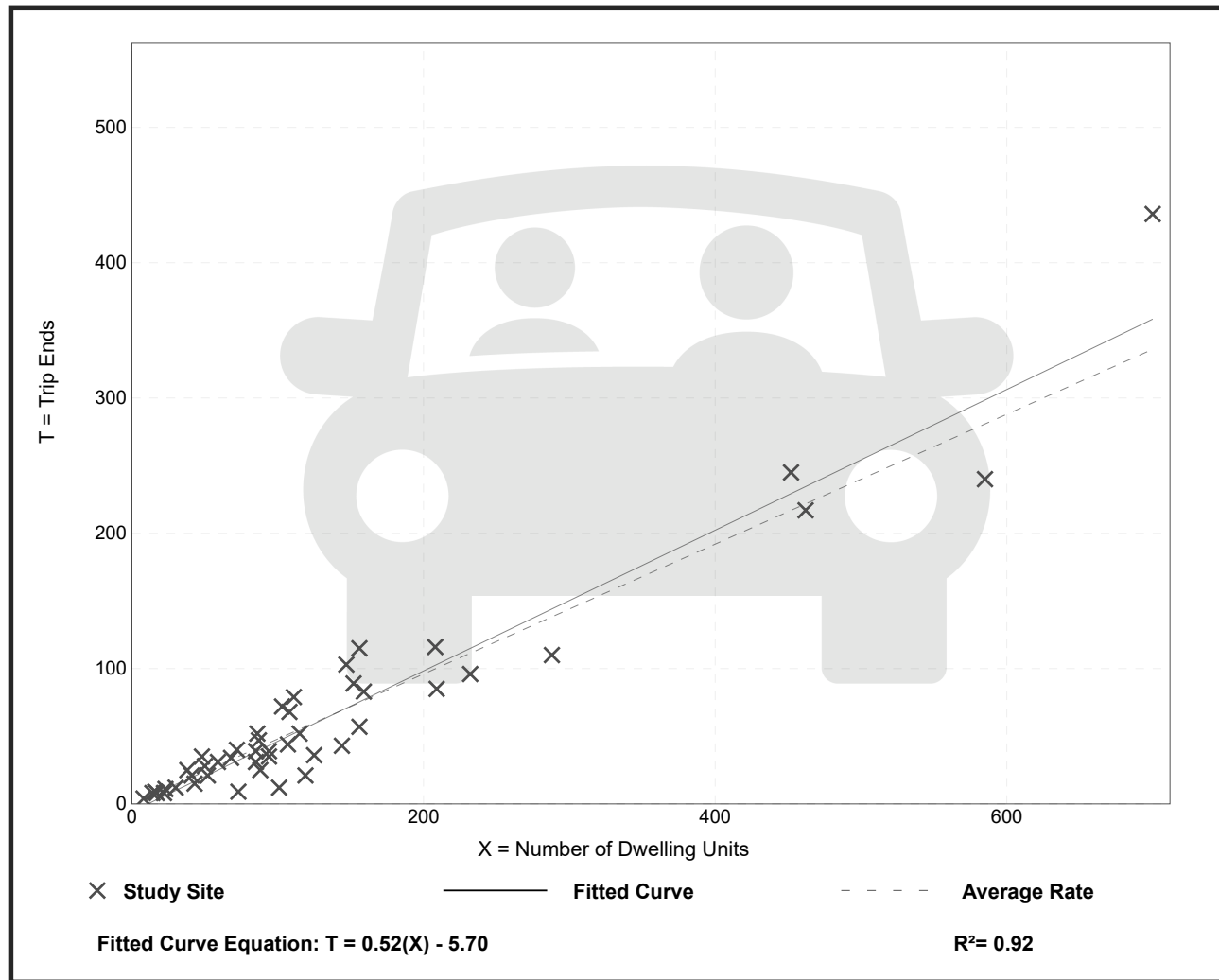
Setting/Location: General Urban/Suburban

Number of Studies: 46
 Avg. Num. of Dwelling Units: 135
 Directional Distribution: 31% entering, 69% exiting

Vehicle Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 0.48 | 0.12 - 0.74 | 0.14 |

Data Plot and Equation



Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

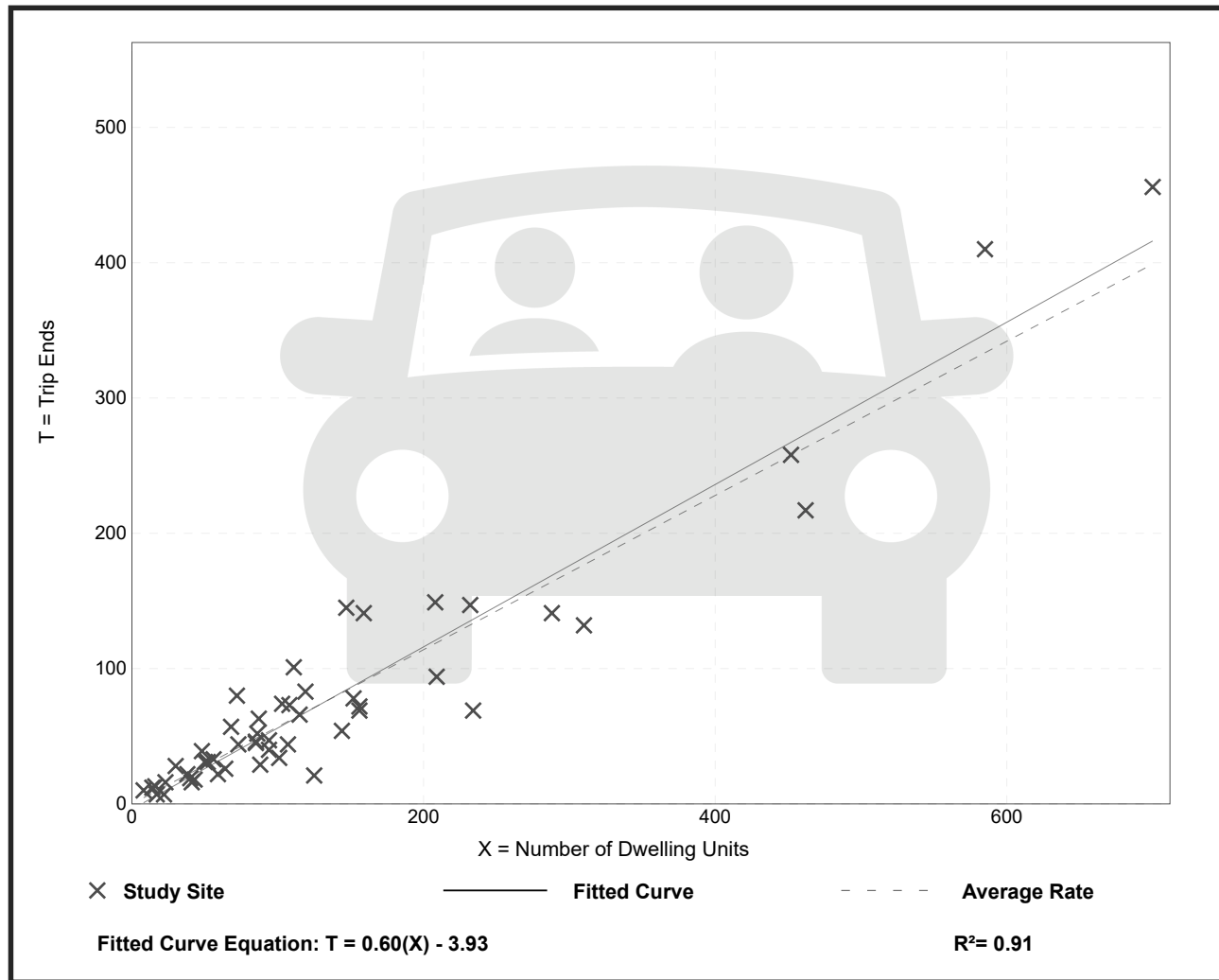
Setting/Location: General Urban/Suburban

Number of Studies: 51
 Avg. Num. of Dwelling Units: 136
 Directional Distribution: 57% entering, 43% exiting

Vehicle Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 0.57 | 0.17 - 1.25 | 0.18 |

Data Plot and Equation



| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 4.9 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 1 | 7 | 1 | 56 | 8 | 8 | 3 | 44 | 15 | 9 | 25 | 0 |
| Future Vol, veh/h | 1 | 7 | 1 | 56 | 8 | 8 | 3 | 44 | 15 | 9 | 25 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 |
| Heavy Vehicles, % | 1 | 1 | 1 | 1 | 1 | 13 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 1 | 7 | 1 | 58 | 8 | 8 | 3 | 46 | 16 | 9 | 26 | 0 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | | Major2 | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|-------|--------|---|-------|---|---|
| Conflicting Flow All | 112 | 112 | 26 | 108 | 104 | 54 | 26 | 0 | 0 | 62 | 0 | 0 |
| Stage 1 | 44 | 44 | - | 60 | 60 | - | - | - | - | - | - | - |
| Stage 2 | 68 | 68 | - | 48 | 44 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.11 | 6.51 | 6.21 | 7.11 | 6.51 | 6.33 | 4.11 | - | - | 4.11 | - | - |
| Critical Hdwy Stg 1 | 6.11 | 5.51 | - | 6.11 | 5.51 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.11 | 5.51 | - | 6.11 | 5.51 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.509 | 4.009 | 3.309 | 3.509 | 4.009 | 3.417 | 2.209 | - | - | 2.209 | - | - |
| Pot Cap-1 Maneuver | 868 | 780 | 1053 | 873 | 788 | 983 | 1595 | - | - | 1547 | - | - |
| Stage 1 | 973 | 860 | - | 954 | 847 | - | - | - | - | - | - | - |
| Stage 2 | 945 | 840 | - | 968 | 860 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 848 | 774 | 1053 | 861 | 782 | 983 | 1595 | - | - | 1547 | - | - |
| Mov Cap-2 Maneuver | 848 | 774 | - | 861 | 782 | - | - | - | - | - | - | - |
| Stage 1 | 971 | 855 | - | 952 | 845 | - | - | - | - | - | - | - |
| Stage 2 | 926 | 838 | - | 953 | 855 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|----------------------|-----|-----|-----|-----|
| HCM Control Delay, s | 9.5 | 9.6 | 0.4 | 1.9 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|------------|-------|-------|-----|
| Capacity (veh/h) | 1595 | - | - | 806 | 863 | 1547 | - |
| HCM Lane V/C Ratio | 0.002 | - | - | 0.012 | 0.087 | 0.006 | - |
| HCM Control Delay (s) | 7.3 | 0 | - | 9.5 | 9.6 | 7.3 | 0 |
| HCM Lane LOS | A | A | - | A | A | A | A |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0.3 | 0 | - |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.2 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ↖ | ↗ | | ↖ | ↗ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 32 | 473 | 3 | 11 | 316 | 28 | 3 | 1 | 8 | 38 | 5 | 36 |
| Future Vol, veh/h | 32 | 473 | 3 | 11 | 316 | 28 | 3 | 1 | 8 | 38 | 5 | 36 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 110 | - | - | 220 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 34 | 503 | 3 | 12 | 336 | 30 | 3 | 1 | 9 | 40 | 5 | 38 |

| Major/Minor | Major1 | | Major2 | | Minor1 | | Minor2 | | | | | |
|----------------------|--------|---|--------|-------|--------|---|--------|-------|-------|-------|-------|-------|
| Conflicting Flow All | 366 | 0 | 0 | 506 | 0 | 0 | 970 | 963 | 505 | 953 | 949 | 351 |
| Stage 1 | - | - | - | - | - | - | 573 | 573 | - | 375 | 375 | - |
| Stage 2 | - | - | - | - | - | - | 397 | 390 | - | 578 | 574 | - |
| Critical Hdwy | 4.13 | - | - | 4.11 | - | - | 7.11 | 6.51 | 6.21 | 7.11 | 6.51 | 6.21 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.11 | 5.51 | - | 6.11 | 5.51 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.11 | 5.51 | - | 6.11 | 5.51 | - |
| Follow-up Hdwy | 2.227 | - | - | 2.209 | - | - | 3.509 | 4.009 | 3.309 | 3.509 | 4.009 | 3.309 |
| Pot Cap-1 Maneuver | 1187 | - | - | 1064 | - | - | 234 | 257 | 569 | 240 | 261 | 695 |
| Stage 1 | - | - | - | - | - | - | 506 | 505 | - | 648 | 619 | - |
| Stage 2 | - | - | - | - | - | - | 631 | 609 | - | 503 | 505 | - |
| Platoon blocked, % | | - | - | - | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1187 | - | - | 1064 | - | - | 211 | 247 | 569 | 228 | 251 | 695 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 211 | 247 | - | 228 | 251 | - |
| Stage 1 | - | - | - | - | - | - | 491 | 490 | - | 629 | 612 | - |
| Stage 2 | - | - | - | - | - | - | 584 | 602 | - | 480 | 490 | - |

| Approach | EB | | WB | | NB | | SB | |
|----------------------|-----|--|-----|--|----|--|------|--|
| HCM Control Delay, s | 0.5 | | 0.3 | | 15 | | 19.5 | |
| HCM LOS | | | | | C | | C | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 371 | 1187 | - | - | 1064 | - | - | 331 |
| HCM Lane V/C Ratio | 0.034 | 0.029 | - | - | 0.011 | - | - | 0.254 |
| HCM Control Delay (s) | 15 | 8.1 | - | - | 8.4 | - | - | 19.5 |
| HCM Lane LOS | C | A | - | - | A | - | - | C |
| HCM 95th %tile Q(veh) | 0.1 | 0.1 | - | - | 0 | - | - | 1 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.3 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | ↶ | ↷ | | ↶ | |
| Traffic Vol, veh/h | 4 | 492 | 362 | 3 | 2 | 13 |
| Future Vol, veh/h | 4 | 492 | 362 | 3 | 2 | 13 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 1 | 2 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 4 | 535 | 393 | 3 | 2 | 14 |

















| Major/Minor | Major1 | Major2 | Minor2 | | |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 396 | 0 | - | 0 | 938 395 |
| Stage 1 | - | - | - | - | 395 - |
| Stage 2 | - | - | - | - | 543 - |
| Critical Hdwy | 4.11 | - | - | - | 6.41 6.21 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.41 - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.41 - |
| Follow-up Hdwy | 2.209 | - | - | - | 3.509 3.309 |
| Pot Cap-1 Maneuver | 1168 | - | - | - | 295 656 |
| Stage 1 | - | - | - | - | 683 - |
| Stage 2 | - | - | - | - | 584 - |
| Platoon blocked, % | | - | - | - | |
| Mov Cap-1 Maneuver | 1168 | - | - | - | 294 656 |
| Mov Cap-2 Maneuver | - | - | - | - | 294 - |
| Stage 1 | - | - | - | - | 680 - |
| Stage 2 | - | - | - | - | 584 - |

| Approach | EB | WB | SB |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.1 | 0 | 11.6 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h) | 1168 | - | - | - | 563 |
| HCM Lane V/C Ratio | 0.004 | - | - | - | 0.029 |
| HCM Control Delay (s) | 8.1 | 0 | - | - | 11.6 |
| HCM Lane LOS | A | A | - | - | B |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 |

HCM Unsignalized Intersection Capacity Analysis
4: SE 16th St & SE Aust Manor Dr

Existing PM Peak Hour
01/25/2022

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | | |  | | |  | |
| Sign Control | | Yield | | | Yield | | | Yield | | | Yield | |
| Traffic Volume (vph) | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 4 | 1 | 0 | 3 | 0 |
| Future Volume (vph) | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 4 | 1 | 0 | 3 | 0 |
| Peak Hour Factor | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 |
| Hourly flow rate (vph) | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 6 | 1 | 0 | 4 | 0 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 4 | 0 | 7 | 4 | | | | | | | | |
| Volume Left (vph) | 0 | 0 | 0 | 0 | | | | | | | | |
| Volume Right (vph) | 4 | 0 | 1 | 0 | | | | | | | | |
| Hadj (s) | -0.57 | 0.00 | -0.05 | 0.03 | | | | | | | | |
| Departure Headway (s) | 3.4 | 3.9 | 3.9 | 3.9 | | | | | | | | |
| Degree Utilization, x | 0.00 | 0.00 | 0.01 | 0.00 | | | | | | | | |
| Capacity (veh/h) | 1061 | 911 | 928 | 905 | | | | | | | | |
| Control Delay (s) | 6.4 | 6.9 | 6.9 | 7.0 | | | | | | | | |
| Approach Delay (s) | 6.4 | 0.0 | 6.9 | 7.0 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | | | 6.8 | | | | | | | | | |
| Level of Service | | | A | | | | | | | | | |
| Intersection Capacity Utilization | | | 13.3% | ICU Level of Service | A | | | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 4.9 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 1 | 8 | 1 | 62 | 9 | 9 | 3 | 49 | 17 | 10 | 28 | 0 |
| Future Vol, veh/h | 1 | 8 | 1 | 62 | 9 | 9 | 3 | 49 | 17 | 10 | 28 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 |
| Heavy Vehicles, % | 1 | 1 | 1 | 1 | 1 | 13 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 1 | 8 | 1 | 65 | 9 | 9 | 3 | 51 | 18 | 10 | 29 | 0 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | | Major2 | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|-------|--------|---|-------|---|---|
| Conflicting Flow All | 124 | 124 | 29 | 120 | 115 | 60 | 29 | 0 | 0 | 69 | 0 | 0 |
| Stage 1 | 49 | 49 | - | 66 | 66 | - | - | - | - | - | - | - |
| Stage 2 | 75 | 75 | - | 54 | 49 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.11 | 6.51 | 6.21 | 7.11 | 6.51 | 6.33 | 4.11 | - | - | 4.11 | - | - |
| Critical Hdwy Stg 1 | 6.11 | 5.51 | - | 6.11 | 5.51 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.11 | 5.51 | - | 6.11 | 5.51 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.509 | 4.009 | 3.309 | 3.509 | 4.009 | 3.417 | 2.209 | - | - | 2.209 | - | - |
| Pot Cap-1 Maneuver | 853 | 768 | 1049 | 858 | 777 | 975 | 1591 | - | - | 1538 | - | - |
| Stage 1 | 967 | 856 | - | 947 | 842 | - | - | - | - | - | - | - |
| Stage 2 | 937 | 834 | - | 961 | 856 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 831 | 761 | 1049 | 844 | 770 | 975 | 1591 | - | - | 1538 | - | - |
| Mov Cap-2 Maneuver | 831 | 761 | - | 844 | 770 | - | - | - | - | - | - | - |
| Stage 1 | 965 | 850 | - | 945 | 840 | - | - | - | - | - | - | - |
| Stage 2 | 916 | 832 | - | 944 | 850 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | SB | |
|----------------------|-----|--|-----|--|-----|--|-----|--|
| HCM Control Delay, s | 9.6 | | 9.7 | | 0.3 | | 1.9 | |
| HCM LOS | A | | A | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|------------|-------|-------|-----|
| Capacity (veh/h) | 1591 | - | - | 789 | 848 | 1538 | - |
| HCM Lane V/C Ratio | 0.002 | - | - | 0.013 | 0.098 | 0.007 | - |
| HCM Control Delay (s) | 7.3 | 0 | - | 9.6 | 9.7 | 7.4 | 0 |
| HCM Lane LOS | A | A | - | A | A | A | A |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0.3 | 0 | - |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.6 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ↖ | ↗ | | ↖ | ↗ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 35 | 549 | 3 | 12 | 377 | 31 | 3 | 1 | 9 | 42 | 6 | 40 |
| Future Vol, veh/h | 35 | 549 | 3 | 12 | 377 | 31 | 3 | 1 | 9 | 42 | 6 | 40 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 110 | - | - | 220 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 37 | 584 | 3 | 13 | 401 | 33 | 3 | 1 | 10 | 45 | 6 | 43 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 434 | 0 | 0 | 587 | 0 | 0 | 1128 | 1120 | 586 | 1109 | 1105 | 418 |
| Stage 1 | - | - | - | - | - | - | 660 | 660 | - | 444 | 444 | - |
| Stage 2 | - | - | - | - | - | - | 468 | 460 | - | 665 | 661 | - |
| Critical Hdwy | 4.13 | - | - | 4.11 | - | - | 7.11 | 6.51 | 6.21 | 7.11 | 6.51 | 6.21 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.11 | 5.51 | - | 6.11 | 5.51 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.11 | 5.51 | - | 6.11 | 5.51 | - |
| Follow-up Hdwy | 2.227 | - | - | 2.209 | - | - | 3.509 | 4.009 | 3.309 | 3.509 | 4.009 | 3.309 |
| Pot Cap-1 Maneuver | 1120 | - | - | 993 | - | - | 182 | 207 | 512 | 188 | 212 | 637 |
| Stage 1 | - | - | - | - | - | - | 454 | 462 | - | 595 | 577 | - |
| Stage 2 | - | - | - | - | - | - | 577 | 568 | - | 451 | 461 | - |
| Platoon blocked, % | | - | - | - | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1120 | - | - | 993 | - | - | 160 | 197 | 512 | 177 | 202 | 637 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 160 | 197 | - | 177 | 202 | - |
| Stage 1 | - | - | - | - | - | - | 439 | 447 | - | 575 | 569 | - |
| Stage 2 | - | - | - | - | - | - | 525 | 561 | - | 427 | 446 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|-----|--|--|-----|--|--|----|--|--|------|--|--|
| HCM Control Delay, s | 0.5 | | | 0.2 | | | 17 | | | 25.6 | | |
| HCM LOS | | | | | | | C | | | D | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 314 | 1120 | - | - | 993 | - | - | 267 |
| HCM Lane V/C Ratio | 0.044 | 0.033 | - | - | 0.013 | - | - | 0.351 |
| HCM Control Delay (s) | 17 | 8.3 | - | - | 8.7 | - | - | 25.6 |
| HCM Lane LOS | C | A | - | - | A | - | - | D |
| HCM 95th %tile Q(veh) | 0.1 | 0.1 | - | - | 0 | - | - | 1.5 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.3 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | ↕ | ↕ | | ↕ | |
| Traffic Vol, veh/h | 4 | 570 | 428 | 3 | 2 | 14 |
| Future Vol, veh/h | 4 | 570 | 428 | 3 | 2 | 14 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 1 | 2 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 4 | 620 | 465 | 3 | 2 | 15 |

| Major/Minor | Major1 | Major2 | Minor2 | | |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 468 | 0 | - | 0 | 1095 467 |
| Stage 1 | - | - | - | - | 467 - |
| Stage 2 | - | - | - | - | 628 - |
| Critical Hdwy | 4.11 | - | - | - | 6.41 6.21 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.41 - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.41 - |
| Follow-up Hdwy | 2.209 | - | - | - | 3.509 3.309 |
| Pot Cap-1 Maneuver | 1099 | - | - | - | 238 598 |
| Stage 1 | - | - | - | - | 633 - |
| Stage 2 | - | - | - | - | 534 - |
| Platoon blocked, % | | - | - | - | |
| Mov Cap-1 Maneuver | 1099 | - | - | - | 237 598 |
| Mov Cap-2 Maneuver | - | - | - | - | 237 - |
| Stage 1 | - | - | - | - | 629 - |
| Stage 2 | - | - | - | - | 534 - |

| Approach | EB | WB | SB |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.1 | 0 | 12.4 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h) | 1099 | - | - | - | 502 |
| HCM Lane V/C Ratio | 0.004 | - | - | - | 0.035 |
| HCM Control Delay (s) | 8.3 | 0 | - | - | 12.4 |
| HCM Lane LOS | A | A | - | - | B |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|-------|-------|------|----------------------|------|------|-------|------|------|-------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Sign Control | | Yield | | | Yield | | | Yield | | | Yield | |
| Traffic Volume (vph) | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 4 | 1 | 0 | 3 | 0 |
| Future Volume (vph) | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 4 | 1 | 0 | 3 | 0 |
| Peak Hour Factor | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 |
| Hourly flow rate (vph) | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 6 | 1 | 0 | 4 | 0 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 4 | 0 | 7 | 4 | | | | | | | | |
| Volume Left (vph) | 0 | 0 | 0 | 0 | | | | | | | | |
| Volume Right (vph) | 4 | 0 | 1 | 0 | | | | | | | | |
| Hadj (s) | -0.57 | 0.00 | -0.05 | 0.03 | | | | | | | | |
| Departure Headway (s) | 3.4 | 3.9 | 3.9 | 3.9 | | | | | | | | |
| Degree Utilization, x | 0.00 | 0.00 | 0.01 | 0.00 | | | | | | | | |
| Capacity (veh/h) | 1061 | 911 | 928 | 905 | | | | | | | | |
| Control Delay (s) | 6.4 | 6.9 | 6.9 | 7.0 | | | | | | | | |
| Approach Delay (s) | 6.4 | 0.0 | 6.9 | 7.0 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | | | 6.8 | | | | | | | | | |
| Level of Service | | | A | | | | | | | | | |
| Intersection Capacity Utilization | | | 13.3% | | ICU Level of Service | | | | A | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 4.9 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 1 | 8 | 1 | 65 | 9 | 9 | 3 | 49 | 20 | 10 | 28 | 0 |
| Future Vol, veh/h | 1 | 8 | 1 | 65 | 9 | 9 | 3 | 49 | 20 | 10 | 28 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 |
| Heavy Vehicles, % | 1 | 1 | 1 | 1 | 1 | 13 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 1 | 8 | 1 | 68 | 9 | 9 | 3 | 51 | 21 | 10 | 29 | 0 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 126 | 127 | 29 | 122 | 117 | 62 | 29 | 0 | 0 | 72 | 0 | 0 |
| Stage 1 | 49 | 49 | - | 68 | 68 | - | - | - | - | - | - | - |
| Stage 2 | 77 | 78 | - | 54 | 49 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.11 | 6.51 | 6.21 | 7.11 | 6.51 | 6.33 | 4.11 | - | - | 4.11 | - | - |
| Critical Hdwy Stg 1 | 6.11 | 5.51 | - | 6.11 | 5.51 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.11 | 5.51 | - | 6.11 | 5.51 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.509 | 4.009 | 3.309 | 3.509 | 4.009 | 3.417 | 2.209 | - | - | 2.209 | - | - |
| Pot Cap-1 Maneuver | 850 | 765 | 1049 | 855 | 775 | 973 | 1591 | - | - | 1534 | - | - |
| Stage 1 | 967 | 856 | - | 945 | 840 | - | - | - | - | - | - | - |
| Stage 2 | 934 | 832 | - | 961 | 856 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 828 | 758 | 1049 | 841 | 768 | 973 | 1591 | - | - | 1534 | - | - |
| Mov Cap-2 Maneuver | 828 | 758 | - | 841 | 768 | - | - | - | - | - | - | - |
| Stage 1 | 965 | 850 | - | 943 | 838 | - | - | - | - | - | - | - |
| Stage 2 | 913 | 830 | - | 944 | 850 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|----------------------|-----|-----|-----|-----|
| HCM Control Delay, s | 9.6 | 9.7 | 0.3 | 1.9 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|------------|-------|-------|-----|
| Capacity (veh/h) | 1591 | - | - | 786 | 845 | 1534 | - |
| HCM Lane V/C Ratio | 0.002 | - | - | 0.013 | 0.102 | 0.007 | - |
| HCM Control Delay (s) | 7.3 | 0 | - | 9.6 | 9.7 | 7.4 | 0 |
| HCM Lane LOS | A | A | - | A | A | A | A |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0.3 | 0 | - |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.7 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ↖ | ↗ | | ↖ | ↗ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 37 | 549 | 3 | 12 | 378 | 31 | 3 | 2 | 9 | 42 | 6 | 43 |
| Future Vol, veh/h | 37 | 549 | 3 | 12 | 378 | 31 | 3 | 2 | 9 | 42 | 6 | 43 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 110 | - | - | 220 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 39 | 584 | 3 | 13 | 402 | 33 | 3 | 2 | 10 | 45 | 6 | 46 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 435 | 0 | 0 | 587 | 0 | 0 | 1135 | 1125 | 586 | 1115 | 1110 | 419 |
| Stage 1 | - | - | - | - | - | - | 664 | 664 | - | 445 | 445 | - |
| Stage 2 | - | - | - | - | - | - | 471 | 461 | - | 670 | 665 | - |
| Critical Hdwy | 4.13 | - | - | 4.11 | - | - | 7.11 | 6.51 | 6.21 | 7.11 | 6.51 | 6.21 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.11 | 5.51 | - | 6.11 | 5.51 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.11 | 5.51 | - | 6.11 | 5.51 | - |
| Follow-up Hdwy | 2.227 | - | - | 2.209 | - | - | 3.509 | 4.009 | 3.309 | 3.509 | 4.009 | 3.309 |
| Pot Cap-1 Maneuver | 1119 | - | - | 993 | - | - | 180 | 206 | 512 | 186 | 210 | 636 |
| Stage 1 | - | - | - | - | - | - | 452 | 460 | - | 594 | 576 | - |
| Stage 2 | - | - | - | - | - | - | 575 | 567 | - | 448 | 459 | - |
| Platoon blocked, % | | - | - | - | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1119 | - | - | 993 | - | - | 157 | 196 | 512 | 174 | 200 | 636 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 157 | 196 | - | 174 | 200 | - |
| Stage 1 | - | - | - | - | - | - | 436 | 444 | - | 573 | 569 | - |
| Stage 2 | - | - | - | - | - | - | 521 | 560 | - | 422 | 443 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0.5 | | | 0.2 | | | 17.7 | | | 25.8 | | |
| HCM LOS | | | | | | | C | | | D | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 299 | 1119 | - | - | 993 | - | - | 268 |
| HCM Lane V/C Ratio | 0.05 | 0.035 | - | - | 0.013 | - | - | 0.361 |
| HCM Control Delay (s) | 17.7 | 8.3 | - | - | 8.7 | - | - | 25.8 |
| HCM Lane LOS | C | A | - | - | A | - | - | D |
| HCM 95th %tile Q(veh) | 0.2 | 0.1 | - | - | 0 | - | - | 1.6 |

















| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.3 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | ↕ | ↕ | | ↕ | |
| Traffic Vol, veh/h | 4 | 570 | 429 | 7 | 5 | 14 |
| Future Vol, veh/h | 4 | 570 | 429 | 7 | 5 | 14 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 1 | 2 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 4 | 620 | 466 | 8 | 5 | 15 |

| Major/Minor | Major1 | Major2 | Minor2 | | |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 474 | 0 | - | 0 | 1098 470 |
| Stage 1 | - | - | - | - | 470 - |
| Stage 2 | - | - | - | - | 628 - |
| Critical Hdwy | 4.11 | - | - | - | 6.41 6.21 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.41 - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.41 - |
| Follow-up Hdwy | 2.209 | - | - | - | 3.509 3.309 |
| Pot Cap-1 Maneuver | 1093 | - | - | - | 237 596 |
| Stage 1 | - | - | - | - | 631 - |
| Stage 2 | - | - | - | - | 534 - |
| Platoon blocked, % | | - | - | - | |
| Mov Cap-1 Maneuver | 1093 | - | - | - | 236 596 |
| Mov Cap-2 Maneuver | - | - | - | - | 236 - |
| Stage 1 | - | - | - | - | 627 - |
| Stage 2 | - | - | - | - | 534 - |

| Approach | EB | WB | SB |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.1 | 0 | 13.9 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h) | 1093 | - | - | - | 425 |
| HCM Lane V/C Ratio | 0.004 | - | - | - | 0.049 |
| HCM Control Delay (s) | 8.3 | 0 | - | - | 13.9 |
| HCM Lane LOS | A | A | - | - | B |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.2 |

HCM Unsignalized Intersection Capacity Analysis Forecast 2027 PM Peak Hour With Project
 4: SE 16th St & SE Aust Manor Dr 01/25/2022

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | | |  | | |  | |
| Sign Control | | Yield | | | Yield | | | Yield | | | Yield | |
| Traffic Volume (vph) | 0 | 0 | 4 | 0 | 0 | 0 | 1 | 4 | 1 | 0 | 3 | 0 |
| Future Volume (vph) | 0 | 0 | 4 | 0 | 0 | 0 | 1 | 4 | 1 | 0 | 3 | 0 |
| Peak Hour Factor | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 |
| Hourly flow rate (vph) | 0 | 0 | 6 | 0 | 0 | 0 | 1 | 6 | 1 | 0 | 4 | 0 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 6 | 0 | 8 | 4 | | | | | | | | |
| Volume Left (vph) | 0 | 0 | 1 | 0 | | | | | | | | |
| Volume Right (vph) | 6 | 0 | 1 | 0 | | | | | | | | |
| Hadj (s) | -0.57 | 0.00 | -0.02 | 0.03 | | | | | | | | |
| Departure Headway (s) | 3.4 | 3.9 | 3.9 | 4.0 | | | | | | | | |
| Degree Utilization, x | 0.01 | 0.00 | 0.01 | 0.00 | | | | | | | | |
| Capacity (veh/h) | 1060 | 900 | 918 | 904 | | | | | | | | |
| Control Delay (s) | 6.4 | 6.9 | 6.9 | 7.0 | | | | | | | | |
| Approach Delay (s) | 6.4 | 0.0 | 6.9 | 7.0 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | | | 6.8 | | | | | | | | | |
| Level of Service | | | A | | | | | | | | | |
| Intersection Capacity Utilization | | | 13.3% | ICU Level of Service | A | | | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 5.9 | | | | | |
| Movement | SEL | SER | NEL | NET | SWT | SWR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 3 | 16 | 7 | 4 | 3 | 3 |
| Future Vol, veh/h | 3 | 16 | 7 | 4 | 3 | 3 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 17 | 8 | 4 | 3 | 3 |

| Major/Minor | Minor2 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 25 | 5 | 6 | 0 | - | 0 |
| Stage 1 | 5 | - | - | - | - | - |
| Stage 2 | 20 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 991 | 1078 | 1615 | - | - | - |
| Stage 1 | 1018 | - | - | - | - | - |
| Stage 2 | 1003 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 986 | 1078 | 1615 | - | - | - |
| Mov Cap-2 Maneuver | 986 | - | - | - | - | - |
| Stage 1 | 1013 | - | - | - | - | - |
| Stage 2 | 1003 | - | - | - | - | - |

| Approach | SE | NE | SW |
|----------------------|-----|-----|----|
| HCM Control Delay, s | 8.5 | 4.6 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NEL | NET SELn1 | SWT | SWR |
|-----------------------|-------|-----------|-----|-----|
| Capacity (veh/h) | 1615 | - 1062 | - | - |
| HCM Lane V/C Ratio | 0.005 | - 0.019 | - | - |
| HCM Control Delay (s) | 7.2 | 0 8.5 | - | - |
| HCM Lane LOS | A | A A | - | - |
| HCM 95th %tile Q(veh) | 0 | - 0.1 | - | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.1 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 1 | 1 | 0 | 3 | 0 |
| Future Vol, veh/h | 0 | 1 | 1 | 0 | 3 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 1 | 0 | 3 | 0 |

| Major/Minor | Minor2 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 5 | 3 | 3 | 0 | - | 0 |
| Stage 1 | 3 | - | - | - | - | - |
| Stage 2 | 2 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 1017 | 1081 | 1619 | - | - | - |
| Stage 1 | 1020 | - | - | - | - | - |
| Stage 2 | 1021 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 1016 | 1081 | 1619 | - | - | - |
| Mov Cap-2 Maneuver | 1016 | - | - | - | - | - |
| Stage 1 | 1019 | - | - | - | - | - |
| Stage 2 | 1021 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|-----|-----|----|
| HCM Control Delay, s | 8.3 | 7.2 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 1619 | - | 1081 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | 0.001 | - | - |
| HCM Control Delay (s) | 7.2 | 0 | 8.3 | - | - |
| HCM Lane LOS | A | A | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

SIGNAL WARRANT ANALYSIS, WARRANT 3 – PEAK HOUR

S Market Blvd & SE 11th St Forecast 2027 PM Peak Hour Volumes With Project

Warrant met if criteria in either of the following two categories A and B are met:

A. If ALL 3 of the following conditions exist for the same 1 hour of an average day: **NOT MET**

1. The total stopped time delay for the minor-street approach equals or exceeds 4 vehicle-hours for a one-lane approach (5 veh-hrs for a two-lane approach).

SB Approach: $((42+6+43)*25.8)/3600 = 0.65 < 4.0$ **NOT MET**

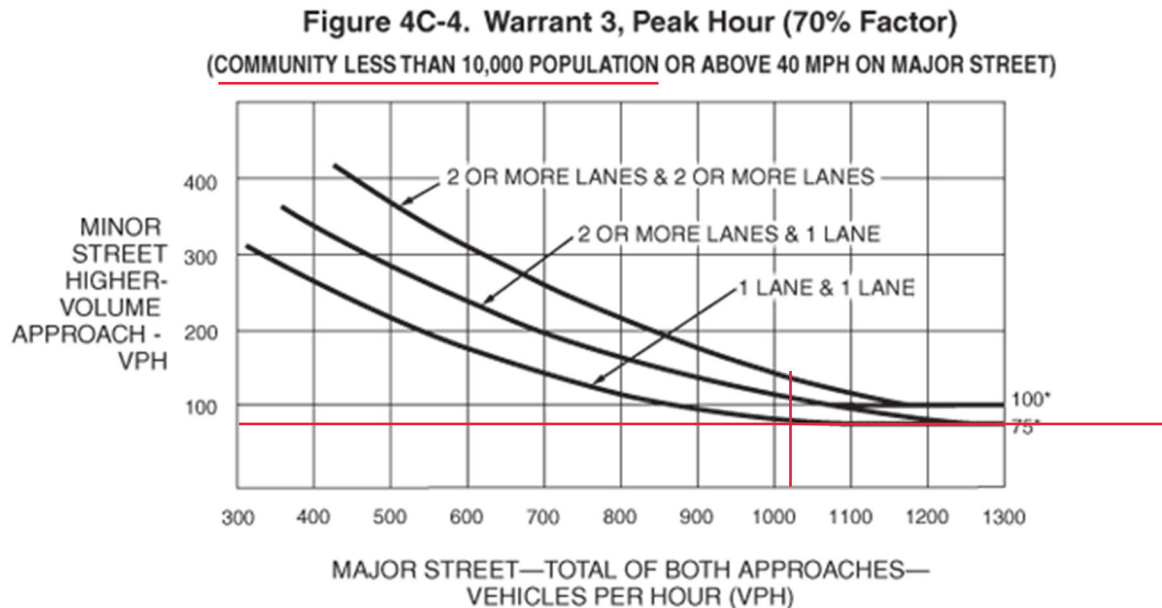
2. The volume on the same minor street approach equals or exceeds 100 vehicles per hour for one moving lane of traffic (150 veh/hr for two moving lanes).

WB Approach: $91 < 100$ **NOT MET**

3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with 3 approaches (800 veh/hr for 4 approaches).

$1,115 > 800$ **MET**

B. The plotted point in Figure 4C-2 falls above the applicable curve for the existing combination of approach lanes. **NOT MET**



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.