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July 31, 2019

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City of Tacoma
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RE: Appendix G – Transportation Technical Report – Addendum to the Point Ruston Final Supplemental Environmental Impact Statement ("FSEIS")
Permit No. LU19-0116
Original Approval No. SEP2007-40000090529 / Prior Addendum No. SEP2015-40000239477

Dear Peter:

Point Ruston, LLC ("**Point Ruston**") is pleased to submit the attached Transportation Technical Report ("**TTR**"), prepared by Heffron Transportation, Inc., as a part of the Point Ruston FSEIS Addendum (the "**Addendum**"), Permit No. LU19-0116, previously submitted to the City of Tacoma ("**City**") on May 31, 2019. The TTR is Appendix G of the Addendum's SEPA Checklist and provides additional information and analysis of the Point Ruston project (the "**Project**"), as described in the Addendum particularly related to transportation mitigation. While the underlying Project has changed since the FSEIS in 2008, the changes do not substantially change the analysis of significant impacts and alternatives under the FSEIS.

The TTR incorporates recommendations from the City of Tacoma, gathered during multiple preliminarily application meetings and approved scoping documents. The TTR utilizes the best traffic engineering methods and data for estimating trip generation, which have been accepted by the City.[1] The TTR is substantially more comprehensive than the approved Point Defiance Park Traffic Impact Analysis Update ("**Parks TIA**"), which was accepted by the City and is included within the TTR's analysis.

The TTR re-assesses the Project's potential transportation impacts given current traffic conditions and other applicable factors. Review of estimated traffic generation and background traffic conditions related to the Project indicate that (i) no new adverse environmental impacts are expected; (ii) that some impacts previously projected under the FSEIS in 2008 are now not anticipated to occur; (iii) and that the FSEIS transportation mitigation improvement schedule should be revised with the elimination of arbitrary trip threshold triggers and replaced with a monitoring program, similar to the Parks TIA, for the remainder of the Project's development.

While the TTR does not go as far as to specifically recommend alternative mitigation measures to address the Project's transportation impacts, the TTR does recommend a series of measures that would address the Project's impacts, and further identifies those that have negligible benefit. Point Ruston believes that the City has the authority to adopt the TTR recommendations based on the Addendum process.

[1] November 20, 2018, emailed acceptance from Brennan Kidd, City of Tacoma Transportation Engineer, of the Point Ruston Technical Memorandum regarding 2017 Trip Generation Counts with Refined & Calibrated Model, dated November 20, 2018.

Based upon the TTR and the Parks TIA, Point Ruston proposes the following mitigation measures to address the transportation impacts of the Project.

- Baltimore
  Biennially (every other year) monitor background traffic and Point Ruston-generated use of the N Baltimore Street corridor to assess whether impacts necessitate the remaining Baltimore mitigation measures. If background and Point Ruston traffic reach the levels originally projected in the FSEIS, then immediately-surrounding community support for the implementation should be assessed, and impacts to the Baltimore-fronting property owners should be weighed prior to proceeding with the improvement designed under City Work Order WO18-0043.

- Intersection Improvements
  1. Design and installation of the signal modification of Ruston Way and McCarver Street at full occupancy of Phase 10 (Buildings 9 north, 9 south, and 11 north).
  2. Design and installation of a traffic signal at Ruston Way and N 49th Street at full occupancy of Phase 10 (Buildings 9 north, 9 south, and 11 north).
  3. Biennially (every other year) monitor the intersection of Ruston Way and N Alder Street to determine if/when the intersection meets one or more applicable MUTCD warrants for the installation of a traffic signal.

- Transit Service
  Encourage Pierce Transit to extend Route 11 to Point Ruston's developed transit stop.

- Options to Address Ruston Way Congestion between McCarver and Harbor Lights
  As part of the next steps of the *Envision Our Waterfront* process, examine and determine feasibility and support for driveway consolidation, limited left-turn restrictions, and internal parking lot connectivity that would reduce congestion and enhance the non-motorized environment in the area.

These mitigation measures, according to the TTR, address the original intent of the FSEIS mitigation for the Ruston Way transportation sub-area (reduces Ruston Way northwest-bound peak-direction PM travel times by 12.3 minutes), while remaining consistent with the City's current vision outlined in the, *Envision Our Waterfront – A Community Vision for the Tacoma Waterfront* ("**Waterfront Study**"). In contrast: a) Section 3.3.1 of the TTR details the negligible benefit of Baltimore improvements; and b) Section 3.3.2 of the TTR details that provision of the FSEIS-prescribed center turn lane mitigation along a portion of Ruston Way could result in detrimental parking and/or pedestrian impacts and would only benefit the corridor peak direction travel times by 14 seconds. Point Ruston believes the modification to this center turn lane mitigation requirement is explicitly contemplated and justified because FSEIS Ruston Way mitigation measure #7 states that "*To protect existing parking facilities,* the City reserves the right to reduce the length of the new center turn lanes required for mitigation."

While the TTR provides additional information and analysis, it does not substantially change the analysis of the significant impacts and alternatives under the existing Point Ruston FSEIS, and aligns the remaining transportation mitigations under the FSEIS with the Waterfront Study, which states:

> The vision for Ruston Way is of a space that prioritizes pedestrians and cyclists and minimizes infrastructure for single occupancy motor vehicles. Infrastructure that facilitates the safe separation of bikes, pedestrians and future mass transit users will be prioritized. Vehicular infrastructure can be consolidated by reducing the number of curb cuts and developing a cohesive and efficient corridor parking strategy that further minimizes potential vehicle and pedestrian conflicts.

In summary, the measures listed above would avoid the adverse consequences of requiring the completion of work that (i) may not be needed to mitigate impacts; (ii) does not provide a public benefit and potentially results in undesired impacts to parking facilities or the non-motorized environment; (iii) may include signalization improvements that do not meet standard warrants; (iv) makes improvements that may not be desired by the City or the adjacent property owners; and/or; (v) conflicts with the current vision of the Waterfront Study.

Thank you for your review. We look forward to working with the City through this process and continuing a coordinated and systematic approach to completing the Project. Should you have any questions or concerns with the information outlined in this letter, please do not hesitate to contact me at mattc@pointruston.com.

Sincerely,

Matt Cyr
Planning Manager

cc: Loren Cohen, Point Ruston, LLC
Robert Fredrick, Abernethy Road Group, LLC
Bill Lynn, Gordon Thomas Honeywell LLP
Tod McBryan, Heffron Transportation, Inc.

Attachments: As noted

DRAFT

TRANSPORTATION TECHNICAL REPORT

for the

Point Ruston FSEIS Addendum

PREPARED FOR:

Point Ruston

PREPARED BY:

heffron transportation inc

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July 30, 2019

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1. INTRODUCTION

Point Ruston, LLC ("Point Ruston") has continued its development of the ASARCO Smelter Site Development that was envisioned by the Master Development Plan and evaluated in the *Final Supplemental Environmental Impact Statement to the ASARCO Smelter Site Master Development Plan Final EIS* (FSEIS).[1] Point Ruston is preparing a proposed Addendum to the FSEIS to refresh specific sections of the 11-year old document with updated information to reflect the current and planned completion of the Point Ruston project. As part of the Addendum, Point Ruston has updated the project description, land use, and transportation sections. This transportation technical report was prepared to provide detailed analysis supporting the updated transportation section and is based on current recommended practice and methodologies for traffic engineering and the analysis of potential transportation impacts. The scope of the analysis and study area for the addendum were coordinated with City of Tacoma transportation review staff.[2]

1.1. Analysis Elements and Study Area

This transportation technical report presents additional information about the Point Ruston development's current and planned land use components and how they are expected to influence the site's traffic generation. It also provides updated information about the surrounding transportation system, which has been modified as Point Ruston completed some of the roadway mitigation improvements such as the connection of Ruston Way to Baltimore Street. With that connection and a portion of the project completed and occupied, it is now possible to measure the traffic generation of the site, observe and document the distribution of site traffic on the surrounding roadways, examine how background traffic has changed since the original FSEIS, and update the anticipated level of impacts from the Point Ruston development.

The study area for this addendum analysis focuses on 14 key intersections and roadways that serve the largest portions of site-generated traffic and/or that were identified in the FSEIS as locations requiring mitigation. Detailed analyses were prepared for intersections along the Ruston Way corridor (from McCarver Street to N Baltimore Street / N 51st Street) as well as key intersections on N 51st Street, N Baltimore Street, N 46th Street, N Pearl Street, and McCarver Street. The following lists the key study-area intersections evaluated for this addendum analysis.

- Ruston Way / N Baltimore St / N 51st S
- Ruston Way / Grand Avenue
- Ruston Way / N 49th Street
- Ruston Way / N Dale Street
- Ruston Way / Alder Way
- Ruston Way / McCarver Street
- N 30th Street / McCarver Street
- N 49th Street / Baltimore Street
- N 46th Street / Baltimore Street
- N 46th Street / N Ferdinand Street
- N 51st Street / N Winnifred Street
- N 51st Street / N Pearl Street
- N 51st Street / N Vassault Street
- N Pearl St / Five Mile Dr / Park Avenue

In addition to the above intersections, the Point Ruston site access driveways on Ruston Way were evaluated along with segments of the Ruston Way corridor near Dale Street and N Alder Way where there are a number of access driveways that serve the waterfront area and influence traffic conditions.

This report presents updated traffic generation estimates for the full-build completion of Point Ruston project, updated project traffic distribution and assignments, updated study-area operational forecasts, a review of traffic safety conditions, and evaluation of previous mitigation requirements.

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1 City of Tacoma – Public Works Department, March 27, 2008.
2 B. Kidd, City of Tacoma, Public Works Department – Engineering/Traffic, meeting & email communication, April 2019.

1.2. Prior and Current Land Use Proposals

The FSEIS included detailed traffic analyses based on an assumed development program for a mixed-use project that was expected to include residential (apartments, condominiums, and senior housing), office, hotel, restaurants, retail, health club, and supermarket components. The FSEIS transportation analyses, prepared in 2006 and 2007, reflected a mix of those uses that were based on the best information available at that time considering market conditions. As is common with planned mixed-use developments, the exact mix of uses that have actually been developed and are now occupied (or expected to be occupied) has evolved and reflects current market conditions that have changed since the original traffic analysis was completed. The prior and current land use development plans are summarized in Table 1. As shown, the current plan would construct more residential units, hotel rooms, retail space, and restaurant space, but would have a much smaller health club, no supermarket, less office, and some new uses that were not specifically considered in the FSEIS, including the movie theater, clinic, and medical office building uses.

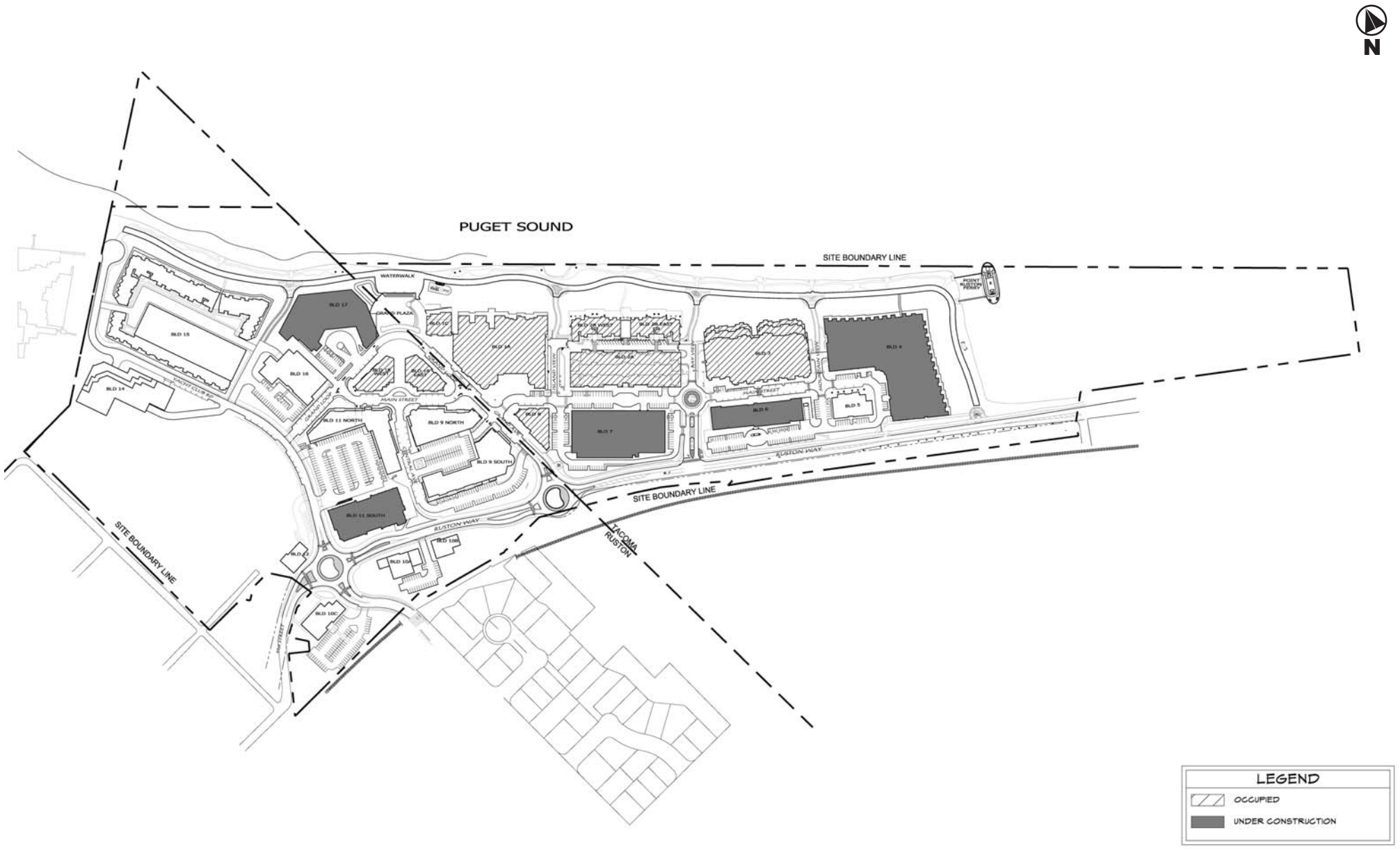
Table 1. Comparison of Prior and Current Land Use Proposals (FSEIS and for Addendum)

Evaluated in FSEIS [1]		Current Proposal Evaluated for Addendum [2]	
Land Use	Size / # units	Land Use	Size / # units
Multi-Family Residential	Condominiums – 830 units Apartments – 70 units	Multi-Family Residential	1,528 units [3]
Senior housing	100 units	Senior Housing	155 units
Hotel	150 rooms	Hotel	194 rooms
Retail	60,000 sfgla	Retail	177,049 sfgla
Restaurant	20,000 sfgfa	Restaurant	32,734 sfgfa
Supermarket	18,000 sfgfa	Supermarket	0 sfgla
Health Club	70,000 sfgfa	Health Club	5,275 sfgfa
Office	60,000 sfgfa	Office	50,731 sfgfa
		Movie Theater	38,525 sfgfa (729 seats) [4]
		Clinic	14,147 sfgfa (22 employees) [5]
		Medical Office Building	120,000 sfgfa (50 employees) [5]

1. *Source: FSEIS, Table 3.7-5 March 27, 2008.*
2. *Source: Point Ruston, LLC, March 28, 2019.*
3. *For the purposes of the trip generation estimates, the Institute of Transportation Engineers (ITE) considers apartments and condominiums in the same multi-family residential category.*
4. *For the movie theater, trip generation estimates were based on number of seats.*
5. *For the clinic and medical office building uses, trip generation estimates were based on number of employees for each.*

No changes are proposed to the primary access points or overall internal circulation roadways, most of which have already been constructed. There are some minor differences in access planned for buildings proposed to be located west and south of the Ruston Way / N 51st Street / N Baltimore Street roundabout intersection. The current site development plan is shown in Figure 1.

The FSEIS anticipated the development would be constructed in phases and fully occupied in 8 to 10 years (roughly by 2018); however, economic conditions did not allow for that to occur. In 2019, several phases have been constructed and are occupied, while others are currently under construction. Completion and occupancy are now expected by year 2026.



Source: Point Ruston, LLC, Point Ruston Master Site Plan, July 1, 2019

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FSEIS Addendum

Figure 1

Site Development Plan

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2. BACKGROUND CONDITIONS

This section presents the existing and future conditions without the proposed project. The updated impacts of the proposed project for this addendum were evaluated against these base conditions. For comparison, and to provide an analysis of relative traffic impacts, future-year-without-project conditions exclude traffic generated by the Point Ruston development, even the portions that have already been occupied. The following sections describe the existing roadway network, traffic volumes, traffic operations, traffic safety, transit facilities, non-motorized facilities, and parking.

2.1. Roadway Network

The Point Ruston development is located on the west side of Commencement Bay in the Cities of Tacoma and Ruston. The site vicinity is accessed from the regional roadway system primarily via two arterials—Ruston Way and Pearl Street—which are described in more detail below. Roadway classifications are based on the Street Classification Maps for each City.[3,4] The existing road network is illustrated in Figure 2.

Ruston Way is a Collector Arterial aligned along Commencement Bay and providing access between the site at N 51st Street (its north end terminus) to the Tacoma Central Business District (CBD) and Interstate 705 (I-705) at Schuster Parkway to the south. Adjacent to the site, Ruston Way was reconstructed by Point Ruston as a condition of its early development phases. It has two lanes with curbs and gutters on both sides and a shared-use path on the north/east side. Its roundabout intersections at N 51st Street / N Baltimore Street and the Point Ruston access known as the Grand Avenue were both constructed by Point Ruston.

N Pearl Street is a Principal Arterial that is also designated as State Route (SR) SR-163. It provides north-south access west of the site connecting the Washington State Ferries' Vashon Island ferry terminal with SR-16 and I-5 to the south.

Other City of Tacoma roadways in the site vicinity include **N 46th Street** (an east-west Minor Arterial), **N Stevens Street** (a north-south Minor Arterial), **N Ferdinand Street** (a north-south Collector Arterial) and **N 51st Street** (an-east-west Collector Arterial). South of the site, connections to Ruston Way occur at **N 49th Street**, **Dale Street**, **Alder Way**, and **McCarver Street**. McCarver Street extends south of Ruston Way with a signalized intersection at **N 30th Street**.

Roadways within the City of Ruston are described in the Transportation element (Chapter 7) of the City's *2015 Comprehensive Plan*. That document lists the roadway designations, which consist of four types of thoroughfares—parkways; boulevards; local streets; and alleys. **Pearl Street**, **51st Street**, **Ruston Way**, and **Baltimore Street** are designated by the City of Ruston as parkways; **Winnifred Street** is designated as a boulevard. **Baltimore Street** provides a north south connection between Ruston and Tacoma residential neighborhoods and ends at Ruston Way.

The most recent Transportation Improvement Plans (TIPs) for both Tacoma and Ruston were reviewed. The City of Tacoma's *2019 Amended 2020-2025 TIP*[5] lists one project within the study area—Railroad Crossing Improvements at several locations including at McCarver Street; however, it indicates that work is 95% complete at the McCarver crossing. The City of Ruston *Draft 6 Year TIP 2019 – 2024*[6] lists one project that would affect roadway operations—Winnifred Street at N 51st Street Signal System—with fund expenditures planned for 2019.

3 City of Tacoma, *One Tacoma: Comprehensive Plan – Transportation Element*, December 2015.
4 City of Ruston, *2015 Comprehensive Plan, Transportation Element* (Chapter 7), 2015.
5 City of Tacoma, 2019.
6 City of Ruston, March 2018.

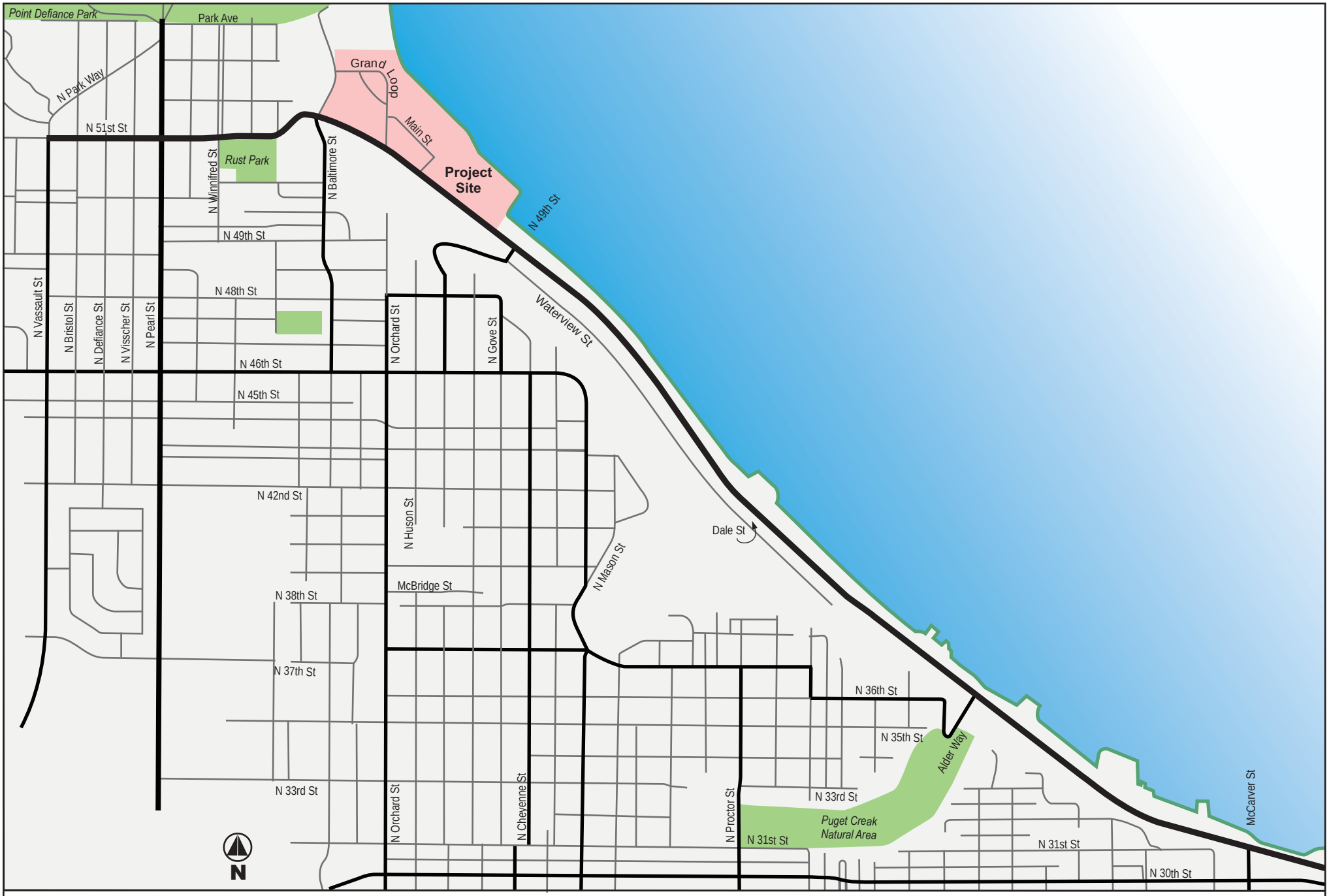

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Figure 2

Existing Vicinity Roadway Network

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The City of Tacoma's *Transportation Master Plan* (TMP) serves as the Transportation element (*Chapter 7*) of the City's *2015 Comprehensive Plan.* It sets out the City's vision and goals for transportation, and recommends projects, programs, and strategies aimed at achieving those goals. Within the study area there are several projects identified within the TMP including the following.

Project ID #98: Ruston Way Shared lane markings between N 49th St - Schuster Parkway

Project ID#151: Ruston Way Corridor Improvement Project – A signal integration and coordination project and other ITS Applications.

Project ID #230: Ruston Way Rehab – Reconstruction of Ruston Way from McCarver Street to North 49th Street to include repair of subgrade, replacement of curb and gutter as needed, sidewalk and seawall repairs, utility repairs and replacements as necessary, landscaping, and ADA improvements. Adjacent parking areas within City right-of-way may also be improved.

Project ID #292: Pedestrian overpass between Old Town Business District and Ruston Way. Grade separated pedestrian link over the rail lines.

2.2. Traffic Volumes

2.2.1. Existing Peak Hour Conditions

Analysis of existing PM peak hour traffic conditions within the overall study area was based on data collected in late summer, fall, and early winter of 2017 for Point Ruston as well as the nearby Metro Parks Tacoma's *Point Defiance Park Transportation Impact Analysis*.[7] New PM peak period (4:00 to 6:00 P.M.) traffic counts were performed at the Point Ruston access driveways as well as the majority of off-site intersections on Tuesday, November 7, 2017. PM peak period counts were performed for the Point Defiance Park project at four of the intersections in August and December 2017. Based on direction from the City of Tacoma,[8] two City intersections were added to the analysis study area during scoping correspondence in April 2019 and counts were performed in May 2019. The study-area intersections are listed below with the count data sources and dates.

Analysis Intersections:	Data Source and Date
• Ruston Way / N Baltimore St / N 51st St	Idax Data Solutions for Point Ruston, Nov. 7, 2017
• Ruston Way / Grand Avenue	Idax Data Solutions for Point Ruston, Nov. 7, 2017
• Ruston Way / N 49th Street	Idax Data Solutions for Point Ruston, Nov. 7, 2017
• Ruston Way / Dale Street	Idax Data Solutions for Point Ruston, May 9, 2019
• Ruston Way / Alder Way	Idax Data Solutions for Point Ruston, Nov. 7, 2017
• Ruston Way / McCarver Street	Idax Data Solutions for Point Ruston, Nov. 7, 2017
• N 30th Street / McCarver Street	Idax Data Solutions for Point Ruston, May 9, 2019
• N 49th Street / N Baltimore Street	Idax Data Solutions for Point Ruston, Nov. 7, 2017
• N 46th Street / N Baltimore Street	Idax Data Solutions for Point Ruston, Nov. 7, 2017
• N 46th Street / N Ferdinand Street	Idax Data Solutions for Point Ruston, Nov. 7, 2017
• N 51st Street / N Winnifred Street	Idax Data Solutions for Metro Parks Tacoma, Dec. 12, 2017
• N 51st Street / N Pearl Street	Idax Data Solutions for Metro Parks Tacoma, Dec. 12, 2017
• N 51st Street / N Vassault Street	Idax Data Solutions for Metro Parks Tacoma, Aug. 22, 2017
• N Pearl St / Park Ave / Five Mile Drive / Ferry Crossing Landing Road	Idax Data Solutions for Metro Parks Tacoma, Aug. 22, 2017

[7] Fehr & Peers, March 2019.
[8] B. Kidd, email communication, April 19, 2019.

During the new counts in May 2019, there were record warm temperatures (83-degrees) for the Puget Sound region and they likely resulted in higher than normal activity along the waterfront and Ruston Way. In addition, those counts included traffic generated by Point Ruston, which had added a number of uses since the year 2017 data were collected. Therefore, to maintain consistent baseline for comparison and for use in developing background projections, all study-area intersections were balanced and normalized to reflect conditions representative of November 2017. The existing PM peak hour traffic volumes are shown on Figure 3 and Figure 4. The count data sheets are provided in Appendix A.

2.2.2. Existing Daily Traffic Conditions

As part of the overall data collection effort in 2017 that was commissioned by Point Ruston, new 72-hour machine traffic counts were performed from November 7th to 9th along several key routes including: Ruston Way at McCarver Street, Alder Way, and N 49th Street; N 46th Street at Ferdinand Street; N 49th Street at Ruston Way; Alder Way at Ruston Way, N Baltimore Street south of Ruby Street; N Ferdinand Street at N 46th Street; and McCarver Street south of Ruston Way. As recommended by City of Tacoma staff during correspondence related to the scope of the FSEIS Addendum analysis, two additional roadways were counted from May 7 to 9, 2019—N 51st Street just east of N Bennett Street and N Pearl Street north of N 50th Street. Charts showing the average weekday traffic volumes at six key locations are presented in Figure 5.

When compared to the weekday daily traffic volumes presented in the FSEIS, the results suggest traffic patterns may have shifted since 2006. Daily volumes on Ruston Way west of McCarver Street have remained virtually unchanged since 2006 (declined by 1.8% from 12,582 to 12,353), while PM peak volumes declined by nearly 35% (from 1,537 to 1,008). Similar declines occurred on N 46th Street west of N Ferdinand Street (daily volumes were 18% lower and PM peak volumes over 25% lower). In contrast, volumes on both N 51st Street and N Pearl Street have increased substantially since 2006. This may be a result of the revisions to the roadway network (e.g. new roundabout intersection at Ruston Way / N 51st Street / N Baltimore Street) and/or possible driver perceptions that the N 51st Street-to-N Pearl Street corridors provide a more direct route between the regional freeway system and the Ruston area.

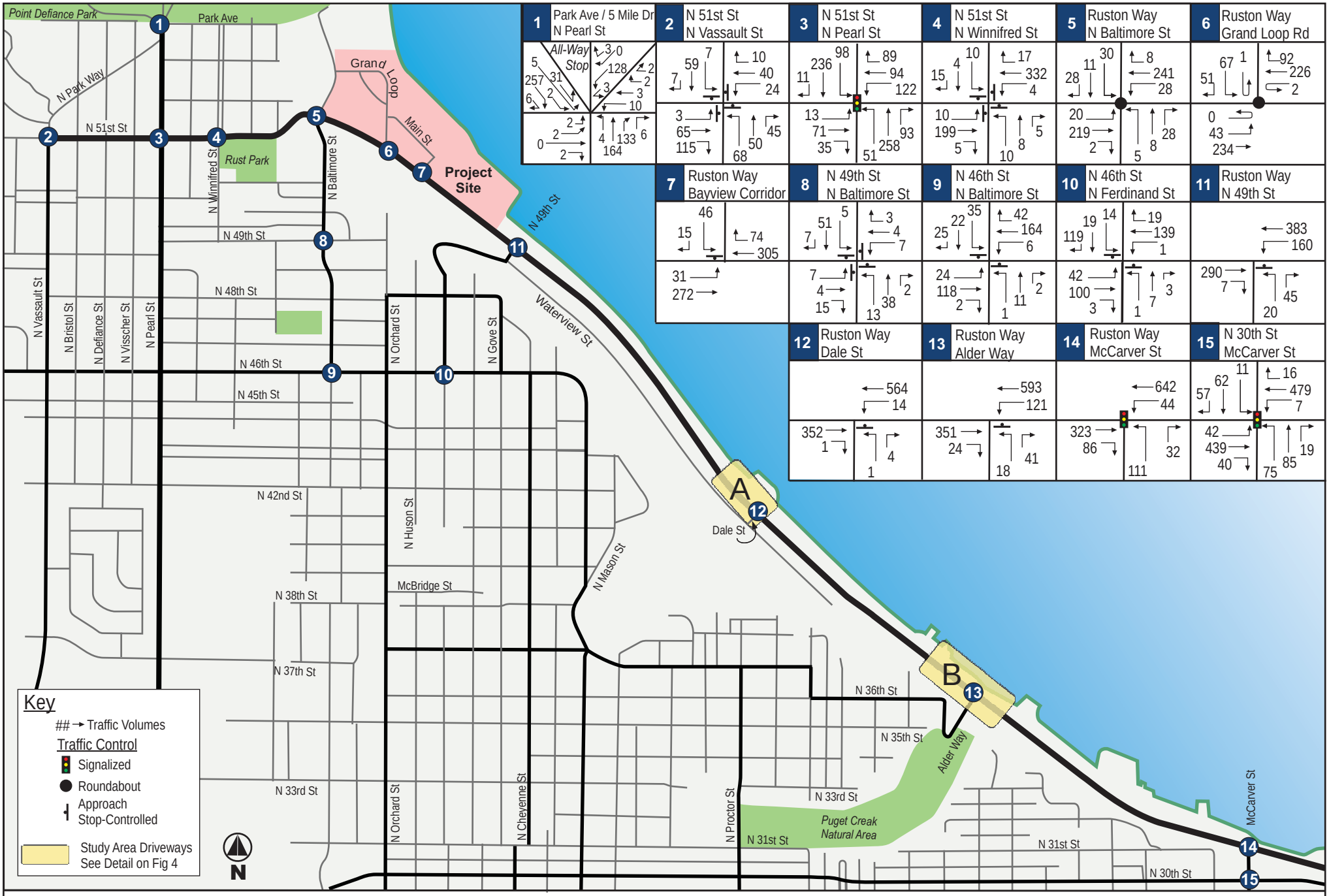

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Figure 3
Existing (2017) PM Peak Hour Traffic Volumes
Analysis Intersections

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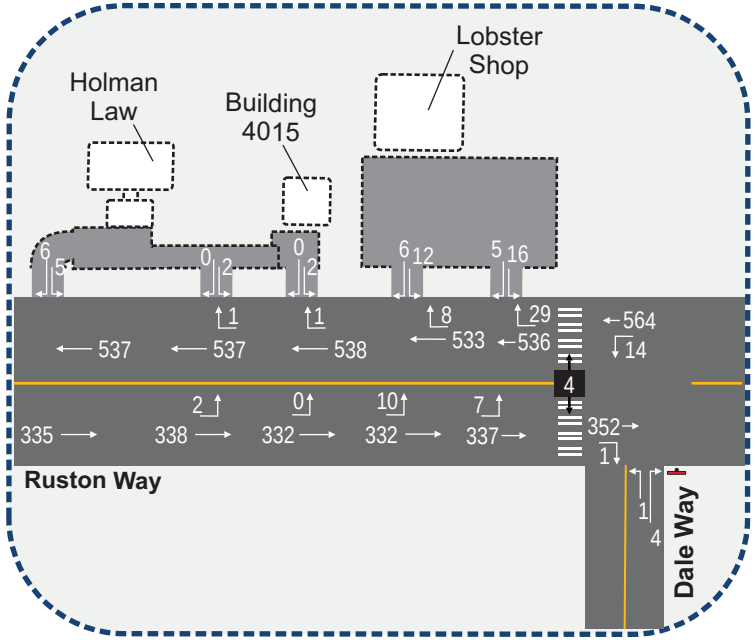

Location A

N

Not to Scale

Key

Total Pedestrian Crossings per Hour

→ Hourly Traffic Volumes

For clarity, arrows only shown for movements with traffic volumes

Location B

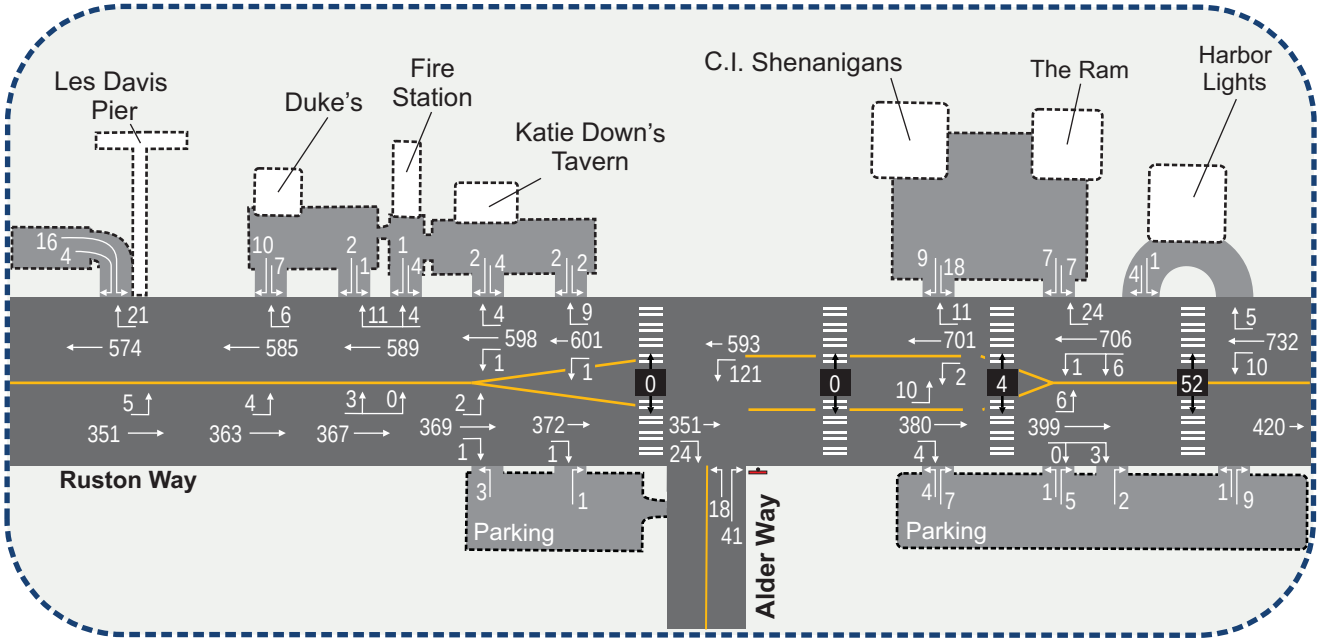

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Figure 4
Existing (2017) PM Peak Hour Traffic Volumes
Ruston Way Driveways

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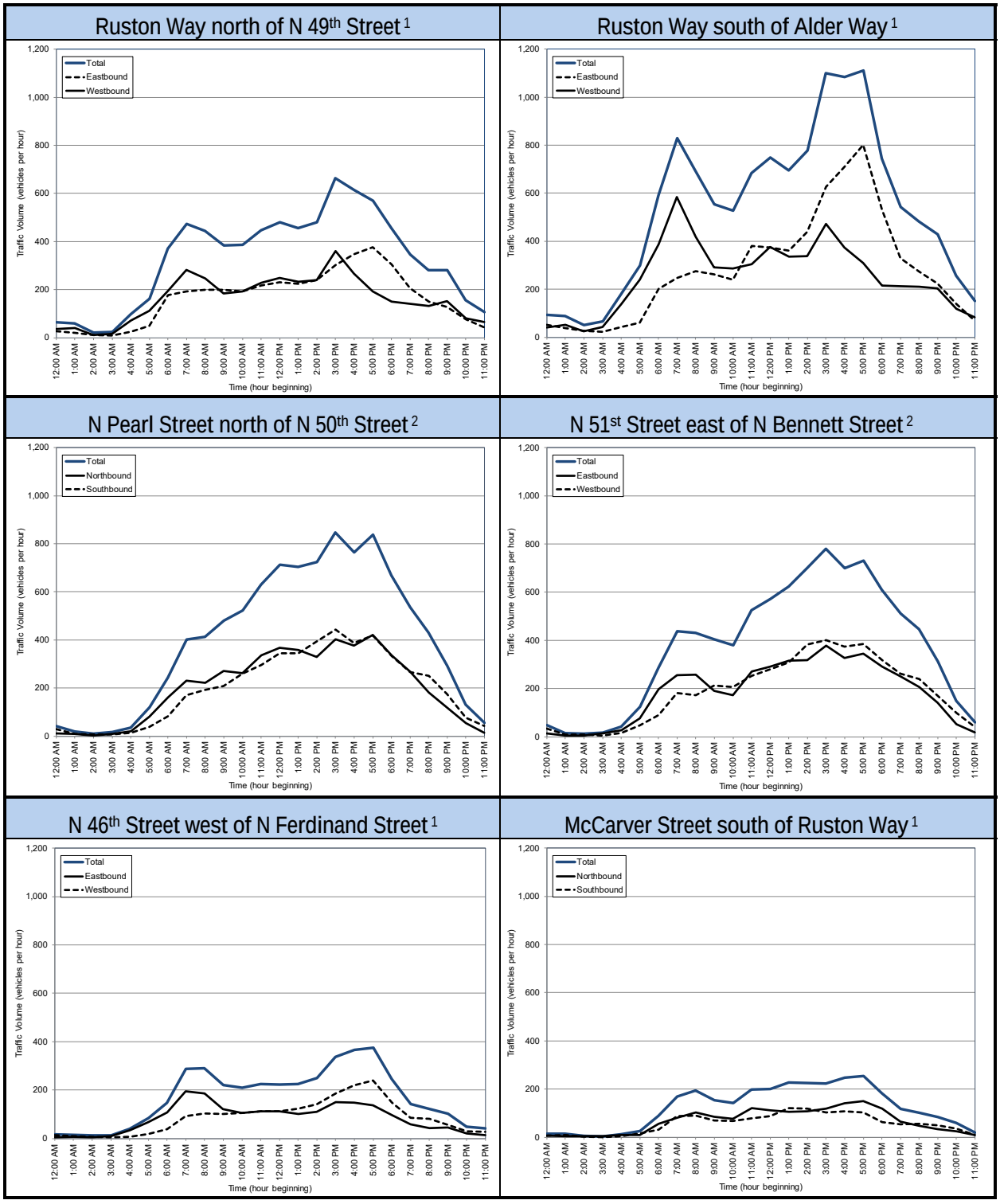
Figure 5. Existing Average Weekday Daily Traffic Volumes



Source: Idax Data Solutions, compiled by Heffron Transportation, Inc., May 2019.

1. *Average of counts taken November 8 and 9, 2017; excludes Nov. 7 (election day) per City of Tacoma guidance.*
2. *Average of counts taken May 7-9, 2019.*

2.2.3. Future Without-Project Conditions

As noted previously, completion and occupancy of the Point Ruston development is expected by year 2026. The City of Tacoma typically requires that transportation analyses be performed for conditions six years beyond the year of opening. Therefore, future conditions were evaluated for the year 2032. It is noted that the long-term transportation analysis for the Metro Parks' Point Defiance Park project (with Phase III) were performed for year 2030.

Future traffic volume forecasts for 2032 conditions without the project were developed using a combination of a compound annual growth rate (0.5%) and traffic estimates provided in the *Point Defiance Park Transportation Impact Analysis*. The growth rate is consistent with the Point Defiance Park analysis and was applied to non-Point Ruston traffic throughout the study area. Traffic estimates for the proposed Point Defiance Park project reflect several planned additions that are expected to be built over three phases with elements of Phase 1 having begun in 2016 and full completion of Phase 3 expected in 2030. For this analysis, all trips associated with the Point Defiance development (through Phase 3 and expected to be complete by 2030) were included. The Point Defiance project is estimated to generate 609 weekday PM peak hour trips (221 arriving, 388 departing) with about 50% using N Pearl Street and about 40% using Ruston Way. To reflect 2032 conditions without Point Ruston, trips generated by the site in November of 2017 were removed from the network based on counts at the site access driveways. The 2032-without-project PM peak hour traffic volumes are shown on Figure 6 and Figure 7.

2.3. Traffic Operations

2.3.1. Off-Site Study Area Intersection LOS

Traffic operations are evaluated based on level-of-service (LOS), which is a qualitative measure used to characterize intersection 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. Levels of service for the study area intersections were determined using methodologies established in the *Highway Capacity Manual (HCM), 6th Edition.*[9] Appendix B summarizes HCM level of service thresholds.

The City of Tacoma's *Transportation Master Plan* does not define intersection or roadway level-of-service standards based on the average delay results from the HCM methodology. However, it does require that the transportation network be built concurrently to accommodate development. The City of Ruston utilizes a design-based LOS standard for its transportation network rather than a capacity-based standard. The City's *2015 Ruston Comprehensive Plan* states that "*This approach is often suitable in smaller communities where overall congestion is not expected to be a major issue.*" However, because N Pearl Street is designated part of SR 163, Washington State Department of Transportation (WSDOT) LOS standards apply to the N Pearl Street/N 51st Street intersection. The WSDOT standard for this segment of SR 163 is LOS E mitigated.

Intersection level of service analysis provides a relative comparison in each jurisdiction and to results presented in the FSEIS. They were determined using the *Synchro 10.1* analysis software and results are reported using the *Synchro* module for signalized locations and *HCM 6* module for unsignalized intersections. The geometries at the study area intersections and key roadways were all field-verified. The models reflect existing intersection geometries and channelization in place in November 2017. It is acknowledged that the N Pearl Street / Park Avenue / Five Mile Drive / Ferry Crossing Landing Road intersection was reconstructed as a roundabout in 2018. All future conditions analyses evaluate it as a roundabout. All other intersections were assumed to remain unchanged for future 2032 conditions.

[9] Transportation Research Board 2016.

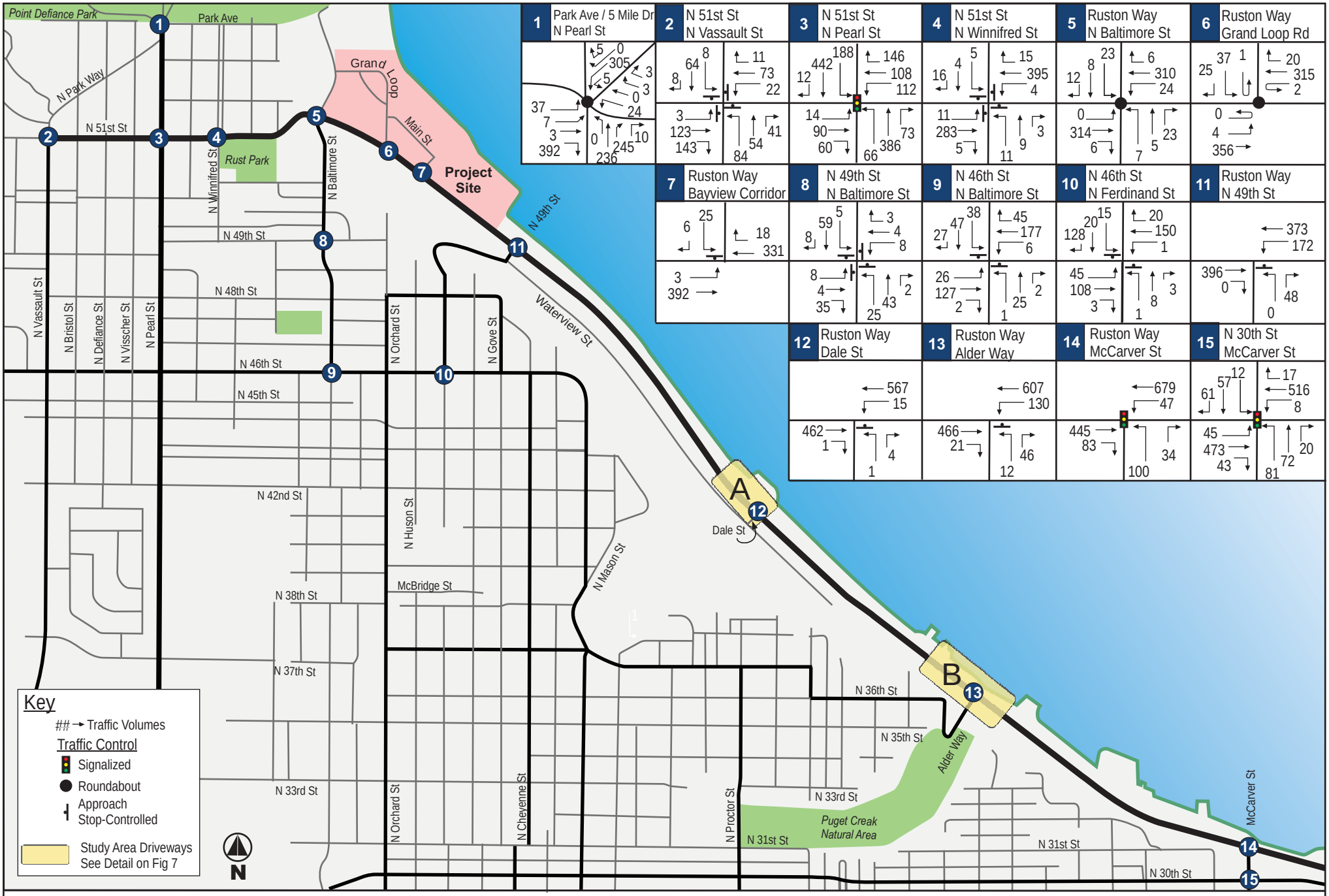


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Figure 6
Forecast 2032 Without-Project PM Peak Hour Traffic Volumes
Analysis Intersections

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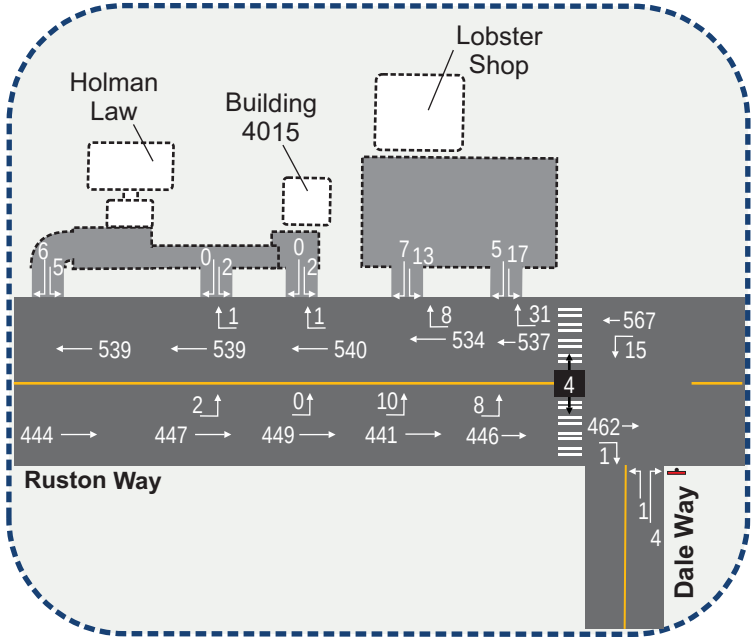


Location A

N

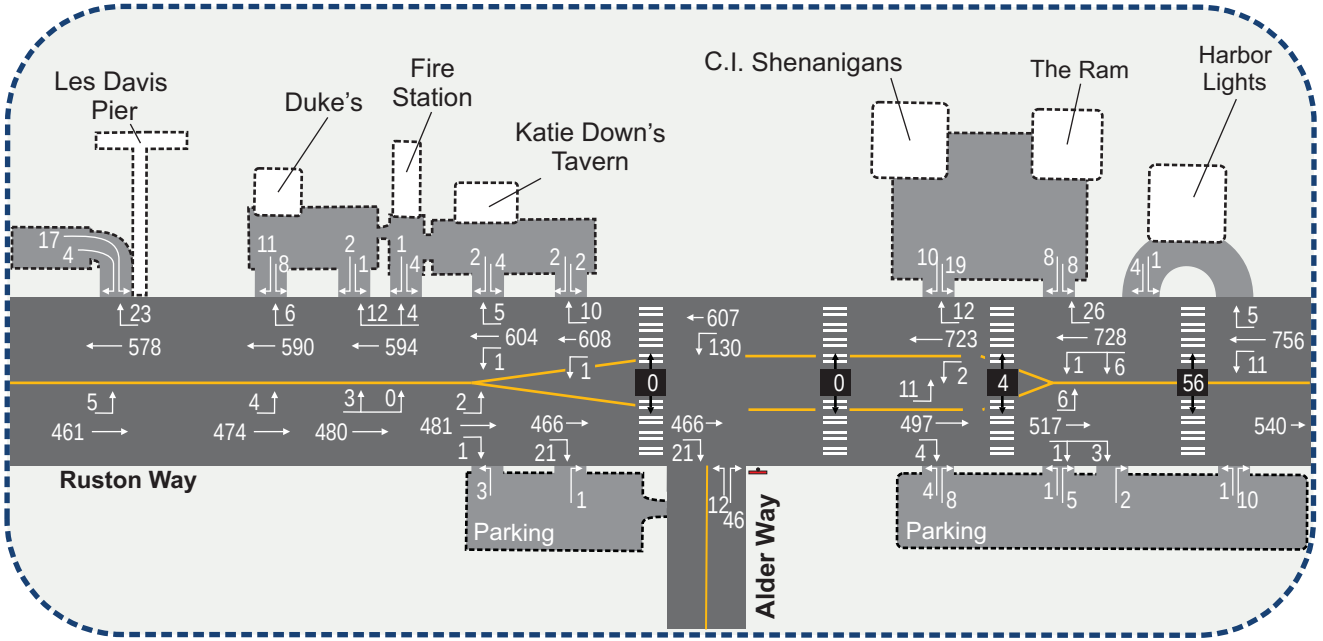
Not to Scale

Key

Total Pedestrian Crossings per Hour

→ Hourly Traffic Volumes

For clarity, arrows only shown for movements with traffic volumes



Location B

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Figure 7
Forecast 2032 Without-Project PM Peak Hour Traffic Volumes
Ruston Way Driveways

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Table 2 summarizes existing (2017) and forecast 2032 levels of service without traffic generated by the Point Ruston development for the PM peak hour. The LOS calculations sheets are provided in Appendix B.

Table 2. PM Peak Hour Level of Service – Existing (2017) and 2032-Without-Project

Control Type / Intersections	Existing (2017)		2032 Without Project [1]	
Signalized	LOS [2]	Delay [3]	LOS	Delay
Ruston Way / McCarver Street	A	9.3	A	8.9
N 30th Street / McCarver Street	B	14.0	B	11.6
N 51st Street / N Pearl Street	B	16.0	B	15.9
Roundabouts	**LOS**	**Delay**	**LOS**	**Delay**
Ruston Way / N Baltimore St / N 51st St	A	4.7	A	5.2
Ruston Way / Grand Avenue	A	5.1	A	5.3
N Pearl St / Park Ave / Five Mile Dr	n/a [3]		A	8.6
All-Way Stop Controlled	**LOS**	**Delay**	**LOS**	**Delay**
N Pearl St / Park Ave / Five Mile Dr [4]	B	13.3	n/a [3]	
N 51st Street / N Vassault Street	A	9.0	B	10.4
N 51st Street / N Winnifred Street	B	10.4	B	12.1
N 49th Street / Baltimore Street	A	7.4	A	7.6
One or Two-Way-Stop Controlled	**LOS**	**Delay**	**LOS**	**Delay**
Ruston Way / N 49th Street	A	2.9	A	2.1
Northbound Movements	C	18.6	B	12.2
Westbound Left Turn	A	8.7	A	9.2
Ruston Way / Dale Street	A	0.3	A	0.2
Northbound Movements	B	11.4	B	12.3
Westbound Left Turn	A	8.1	A	8.4
Ruston Way / Alder Way	A	1.7	A	1.7
Northbound Movements	C	15.4	C	16.4
Westbound Left Turn	A	8.8	A	9.5
N 46th Street / N Baltimore Street	A	3.2	A	4.5
Northbound Movements	B	13.1	B	14.5
Eastbound Left Turn	A	7.9	A	7.9
Westbound Left Turn	A	7.5	A	7.6
Southbound Movements	B	13.7	C	16.0
N 46th Street / N Ferdinand Street	A	5.2	A	5.4
Northbound Movements	B	12.2	B	12.7
Eastbound Left Turn	A	7.8	A	7.8
Westbound Left Turn	A	7.5	A	7.5
Southbound Movements	B	12.3	B	12.9

Source: Heffron Transportation, Inc., June 2019.

1. *Assumes no traffic generated by the Point Ruston site even for buildings that have already been occupied.*
2. *LOS = Level of service.*
3. *Delay = Average seconds of delay per vehicle.*
4. *Evaluated as stop-control for 2017 conditions; rebuilt as roundabout in 2018 and evaluated as such for 2032 conditions.*

As shown, all study-area intersections operate at LOS B overall or better and all movements currently operate at LOS C or better. The projected increases in background traffic (from the assumed 0.5% compound annual increase plus the Metro Parks Tacoma Point Defiance Park project) are forecast to change some delay estimates at the study-area intersections by 2032. In some locations, the increase in background traffic on movements with relatively low delays (such as at the McCarver Street intersections with Ruston Way and N 30th Street) is forecast to reduce the overall average delay per vehicle for the entire intersection. It is important to note that the existing condition results reflect some traffic generated by the Point Ruston development. In order to evaluate the potential impact of the full Point Ruston project, those trips were subtracted out for the forecast 2032-without-project analysis. As a result, some of the delay reductions—such as at the N 49th Street / Ruston Way intersection—are a result of the removal of Point Ruston traffic from key movements.

2.3.2. Ruston Way Arterial LOS and Travel Times

The travel times and arterial levels of service for Ruston Way between McCarver Street and N 51st Street / N Baltimore Street were evaluated using the *SimTraffic* microsimulation companion software to the *Synchro* traffic analysis program. The corridor analysis reflects actual counts of intersection turning movements and pedestrians at the key intersections evaluated in the prior section as well as 19 access driveways and three mid-block crosswalks.

Arterial levels of service (LOS) are based on methodologies outlined in Chapter 15 of the Highway Capacity Manual 2000 (HCM). For urban streets, LOS is based on average through-vehicle travel speed for the street segment or corridor and computed using running time for each segment and control delays at signalized intersections. The results can be affected by the number of signals per mile and related delays. Factors that can negatively affect travel times include inefficient signal timing, poor progression, and high traffic volumes. Long street segments carrying relatively high volumes can still offer reasonably good travel times and related LOS results, even if individual intersections may experience higher delays and poor LOS.

The arterial LOS criteria are based on average travel speed and the urban street class. For this analysis, Ruston Way is identified as a Class III urban street, which is related to its function (designated as Collector Arterial and matching the HCM characteristics of a Principal Arterial[10]) with low signal density and a free flow travel speed of 35 mph, though the posted speed limit is 30 mph. The travel-speed and LOS thresholds are also provided in Appendix B.

The resulting arterial travel time analysis relies on the *SimTraffic* results to account for the effects of unsignalized intersections and mid-block crosswalks (modeled as proxy signals). Based on compiled results from 11 separate simulations for the full 60-minute PM peak hour, the travel-time results indicate the existing northwest-bound travel time is 7.1 minutes with an arterial speed of 26 mph (LOS B) and the southeast-bound travel time of 5.7 minutes with a speed of 27 mph (LOS B). Compiled simulations of the 2032-without-project conditions indicate northwest-bound travel time increased slightly to 7.3 minutes with an arterial speed of 25 mph (LOS B) and the southeast-bound travel time of 5.9 minutes with a speed of 27 mph (LOS B). These results are similar to those presented the original FSEIS.

2.4. Traffic Safety

Collision data at 14 intersections and along seven roadway corridors in the study area were obtained, compiled, and analyzed. Collision data for the study area locations were obtained from WSDOT. These data, reflecting the period between January 1, 2016 and April 20, 2019 (3.3 years), were examined to

[10] HCM 2000, Chapter 10, Exhibits 10.3 and 10.4, TRB, 2000.

determine if there are any unusual traffic safety conditions that could impact or be impacted by the proposed project. Historical collision data for the intersections are summarized in Table 3.

Table 3. Historical Collision Summary at Intersections (January 1, 2016 – April 20, 2019)

Intersections	Number of Collisions by Type								Summary		
	Head-On	Rear-End	Side Swipe	Right Turn	Left Turn	Right Angle	Ped / Cycle	Other [a]	Total (3.3Yrs)	Avg / Year	# per MEV
Signalized											
N 51st St / N Pearl St	0	0	0	0	0	1	0	0	1	0.3	0.06
Ruston Wy / N McCarver St	0	2	0	0	1	0	0	0	3	0.9	0.18
N 30th St / N McCarver St	0	1	0	0	1	0	0	0	2	0.6	0.11
Unsignalized [b]											
N 51st St / N Vassault St	0	0	0	0	0	0	0	0	0	0.0	0.00
N 51st St / N Winnifred St	0	0	0	0	0	0	0	0	0	0.0	0.00
N 49th St / N Baltimore St	0	0	0	0	0	0	0	0	0	0.0	0.00
N 46th St / N Baltimore St	0	0	0	0	0	0	0	1	1	0.3	0.17
N 46th St / N Ferdinand St	0	1	0	0	0	2	0	1	4	1.2	0.70
Ruston Wy / N 49th St	0	0	0	0	0	0	0	0	0	0.0	0.00
Ruston Wy / Dale St	0	0	0	0	0	0	0	0	0	0.0	0.00
Ruston Wy / Alder Wy	0	2	0	0	0	0	0	0	2	0.6	0.10
Roundabout											
Park Ave / 5 Mile Dr / N Pearl St	0	0	0	0	0	0	1	0	1	0.3	0.10
Ruston Wy / N Balt. St / N 51st	0	1	1	0	0	0	0	1	3	0.9	0.36
Ruston Wy / Grand Avenue	0	0	0	0	0	0	0	2	2	0.6	0.21

Source: WSDOT, May 2019. Reflects collision data for the 3.3-year time period between January 1, 2016 and April 20, 2019. Collisions that have occurred recently during this time period (within the past 30 days) may not have been entered into the WSDOT database.

a. Other collision types include vehicle overturned, improper movement, vehicle hit object.

b. Unsignalized intersections include two-way-stop, or all-way-stop controlled.

c. # per MEV = Number of collisions per million entering vehicle.

As shown, the study area intersections experienced a relatively low number of collisions (four or fewer). During the study time period, one pedestrian collision was recorded at the Park Avenue / Five Mile Drive / N Pearl Street intersection. The collision occurred on November 16, 2017, prior to the completion of the roundabout in 2018 and the contributing cause was cited as driver "*inattention*." All of the intersections had collision rates of 0.7 per million entering vehicles (MEV); all but one had rates of 0.36 or less. Typically, collision rates lower than 1.0 per MEV are generally considered to have no safety issues.

Collision data for the roadway corridors are summarized in Table 4. These data reflect the reported collisions that occurred at intersections, excluding the study-area intersections listed previously in Table 3, and along segments between intersections. As shown, there were 45 collisions recorded along the three-mile section of Ruston Way between Baltimore Street and Schuster Parkway. The majority (24) were rear-end collisions; 21 recorded collisions occurred between within about ½-mile of N Alder Way and 5 involved pedestrians or bicyclists. The bicyclist collision occurred at a parking lot driveway (driver turned right into the lot and failed to yield to the cyclist). Contributing causes to the four

pedestrian collisions were cited as driver "*distraction*," "*under the influence of alcohol*," and "*under influence of drugs*." None of the collisions resulted in fatalities.

Table 4. Historical Collision Summary along Corridors (January 1, 2016 – April 20, 2019)

Corridors	Number of Collisions by Type								Summary	
	Head-On	Rear-End	Side Swipe	Right Turn	Left Turn	Right Angle	Ped / Cycle	Other [a]	Total (3.3Yrs)	Avg / Year
Ruston Wy: Baltimore – Schuster										
At Intersections [b]	0	0	0	0	0	0	0	0	0	0.0
Along Segments	2	24	2	2	1	1	5	8	45	13.6
Yacht Club Rd: Ruston – terminus										
At Intersections [b]	0	0	0	0	0	0	0	0	0	0.0
Along Segments	0	0	0	0	0	0	0	0	0	0.0
N 51st St: Pearl – Baltimore										
At Intersections [b]	0	0	0	0	0	0	0	0	0	0.0
Along Segments	0	1	1	0	1	0	0	0	3	0.9
N Pearl St: N 51st St – N 46th St										
At Intersections [b]	0	1	0	0	2	3	0	0	6	1.8
Along Segments	0	0	4	1	0	0	0	2	7	2.1
N Baltimore St: Ruston – N 46th St										
At Intersections [b]	0	0	0	0	0	2	0	0	2	0.6
Along Segments	0	0	0	0	0	0	0	2	2	0.6
N Ferdinand St: Ruston – N 46th St										
At Intersections [b]	0	0	0	0	0	1	0	1	2	0.6
Along Segments	0	0	0	0	0	0	0	0	0	0.0
N 46th St: N Pearl St – Ferdinand St										
At Intersections [b]	0	0	0	0	1	4	0	1	6	1.8
Along Segments	0	0	0	0	0	0	0	0	0	0.0

Source: WSDOT, January 2018. Reflects collision data for the 3.3-year time period between January 1, 2016 and April 20, 2019. Collisions that have occurred recently during this time period (within the past 30 days) may not have been entered into the WSDOT database.

a. Other collision types include vehicle overturned, improper movement, vehicle hit parked vehicle, sign, post, tree, stump, or deer.

b. Excludes major intersections that were evaluated in Table 3.

2.5. Transit Facilities and Service

The Point Ruston site is not directly served by transit. Pierce Transit provides bus service within the larger Tacoma, Ruston, and Pierce County areas. The closest transit stops are located about 0.6-mile to the west on N Pearl Street south of N 51st Street. These stops are served by Pierce Transit Routes 10 and 11. Route 10 provides service along Pearl Street between Point Defiance Park and the Tacoma Community College Transit Center (at S Mildred Street / S 19th Street). Route 11 provides service between Point Defiance Park and the Commerce Street Transit Station in Downtown Tacoma. Both routes operate seven days per week with weekday headways (time between consecutive buses) of about 30 minutes to an hour.[11]

During summer 2017 (June 2 through September 3), Pierce Transit partnered with the City of Tacoma, Point Ruston, Metro Parks Tacoma, South Sound Together, and Travel Tacoma, to offer the Pierce

[11] Pierce Transit online time tables (https://www.piercetransit.org), accessed May 2019.

Transit Route 15 – Downtown to Defiance trolley service. This demonstration project was designed to draw residents and tourists to the area's hotels, museums, restaurants, and parks and to introduce public transit as an alternative mode of transport for the Ruston Way corridor. The route operated Friday through Sunday from 10:30 A.M. to 8:30 P.M. on 30-minute headways. The route connected Downtown Tacoma along Ruston Way to Point Ruston and the Point Defiance Zoo and Aquarium. Fares were $1 per ride or $5 for an all-day pass. City of Tacoma staff indicated there are currently no plans or funding to repeat the service in future years.

2.6. Non-Motorized Transportation Facilities

The non-motorized transportation network has been substantially improved at and around the Point Ruston site as part of its development. The project has constructed the waterfront trail that extends around the property from the Ruston Way Path to the Tacoma Yacht Club. In addition, as part of the improvements on Ruston Way, the development constructed a shared-use trail on the north/east side of Ruston Way from the prior northern terminus of the Ruston Way Path to the N 51st Street / N Baltimore Street roundabout intersection. Construction of Ruston Way between the Grand Avenue and N 51st Street / N Baltimore Street included curbs and sidewalks on both sides plus crosswalks at the roundabout intersections. There are also pedestrian facilities within the development connecting buildings to the public roadway and path network. Beyond the Point Ruston site, the Ruston Way Path extends along the waterfront southeast past McCarver Street to the Tacoma Chinese Reconciliation Park.

West of the Point Ruston site, the non-motorized transportation network consists of sidewalks on one or both sides of most roadways in the City of Ruston, with some exceptions. It is noted that the sidewalks along N 51st Street west of N Pearl Street are incomplete.

Within the vicinity southwest of the site and within the City of Tacoma, the non-motorized network is intermittent with some roadways or roadway segments that have curbs and/or sidewalk, while others have unimproved shoulders with no curbs and a mix of sidewalks and areas with no designated walkways.

3. PROJECT IMPACTS

This section describes the updated conditions expected to exist with full-build and occupancy of the Point Ruston development. Vehicle trip estimates associated with completion of all phases of the project, including those that are already constructed and occupied, were added to the 2032-without-project traffic volume forecasts presented previously. Traffic operations analyses were performed to determine the proposed project's relative impact on conditions in the study area. Other elements including parking, transit, and non-motorized facilities are also addressed.

3.1. Roadway Network

Point Ruston has completed the improvements to Ruston Way along the site frontage, which included construction of a new roundabout intersection at the Ruston Way / N 51st Street and connecting N Baltimore Street to the Ruston Way / N 51st Street corridor. The roadway improvements resulted in a new two-lane Ruston Way with curbs and gutters on both sides. After design coordination with the City of Tacoma, a shared-use non-motorized path was constructed along the north/east side of Ruston Way connecting to the prior northern terminus of the Ruston Way Walking Path at about N 49th Street. A new roundabout intersection was also constructed at the Ruston Way intersection with Grand Avenue, which serves as the primary access point for the Point Ruston development. No new or additional changes to the surrounding roadway network are proposed.

3.2. Traffic Volumes

The proposed project is expected to generate new vehicular activity on the surrounding transportation network. The following describes the method used to estimate project-generated traffic.

3.2.1. Trip Generation Approach

In November 2017, with a portion of the site development complete and a variety of uses occupied (consisting of retail, restaurant, residential, office, and cinema), trip counts were conducted to document actual trip generation of the site. The data collection effort and approach were coordinated with City staff.[12] Using the counts and updated information about occupied and planned uses, a refined trip generation model, relying on standard ITE published rates from the most current version (10th Edition published in September 2017) of ITE's *Trip Generation Manual*, was created. The results of the trip counts and analysis were documented in the *Point Ruston – 2017 Trip Generation Counts with Refined & Calibrated Model*.[13] That document (provided in Appendix C) details the site access trip counts performed in November 2017, and presents the trip generation model developed based on those counts and the buildings that were occupied at that time. This trip generation model reflects ITE's current recommended practice for estimating trips within mixed-use developments, including the estimation of internal trips.[14] The analysis and results of the modeling effort were reviewed and approved by City of Tacoma transportation review staff to estimate future development phases at Point Ruston.

Trip generation estimates for the complete Point Ruston mixed-use development were derived using the methodology and models described above. The complete project land-use development plan by phase is presented below in Table 5.

12 Email communications October and November 2017.
13 Heffron Transportation, Inc. November 20, 2018.
14 ITE, *Trip Generation Handbook*, 3rd Edition, September 2017.

Table 5. Point Ruston Building Summary – by Phase, Land Use Type, and Size

Phase	Building No.	ITE Land Use Code	Land Use	Tenants / Other Details (if known)	Size	Ind. Var.
Open	1A	221	Multi-Family (Mid-Rise)		135	units
Open	1A	444	Cinema	9 Screens, 38,525 sf	729	seats
Open	1A.1.A	820	Retail	Art Gallery - Blue Octopus	2,298	sfgfa
Open	1A.1.B	820	Retail	South Sound Running	2,762	sfgla
Open	1A.1.C	932	High-Turn (sit-down) Restaurant	Jewel Box Café	2,743	sfgfa
Open	1A.2	931	Quality Restaurant	Stack 571	2,267	sfgfa
Open	1A.3	931	Quality Restaurant	Mio Sushi	2,105	sfgfa
Open	1C.1	931	Quality Restaurant	Wild Fin Seafood	6,438	sfgfa
Open	1C.2	n/a	Kayak & Bike Storage (1,798 sf)			
Open	2A	221	Multi-Family (Mid-Rise)		173	units
Open	2A	630	Clinic	Franciscan Plastic Surg. (6,240 sf)	12	emp
Open	2A	630	Clinic	Tranquilty Dental (3,076 sf)	4	emp
Open	2A	932	High-Turn (sit-down) Restaurant	Two-Town Pub	2,386	sfgfa
Open	2A	932	High-Turn (sit-down) Restaurant	Dolce Si Bakery	2,386	sfgfa
Open	2A	492	Health/Fitness Club	NW Fitness 24-7	5,275	sfgfa
Open	2A	712	Office	Coldwell Banker Bain	1,386	sfgfa
Open	2B E & W	221	Multi-Family (Mid-Rise)		43	units
Phase 1	18 West	932	High-Turn (sit-down) Restaurant	Fish Tale Brewery	6,943	sfgfa
Open	18 West	820	Retail	Ice Cream Social	1,267	sfgla
Phase 1	18 West	820	Retail	Pink Polish	1,985	sfgla
Open	18 East	932	High-Turn (sit-down) Restaurant	Farrelli's Wood Fired Pizza	7,466	sfgfa
Phase 1	18 East	820	Retail	Tickled Pink	1,311	sfgla
Open	18 East	820	Retail	Purpose Boutique	1,801	sfgla
Open	18 East	918	Hair Salon	Insaglio	2,147	sfgla
Phase 2	8	630	Clinic	Urgent Care (4,831 sf)	6	emp
Phase 2	8	820	Retail	Rebels & Lovers: 1,552 sf; Tickled Pink 2: 1,655 sf; Obee CU: 2,592 sf.	5,799	sfgla
Phase 3	3	221	Multi-Family (Mid-Rise)		166	units
Phase 3	3	712	Office		3,953	sfgfa
Phase 4	11 South	820	Retail	Public Market (22,713 leasable)	30,023	sfgla
Phase 5	6	255	Sr. Living / Retirement Community		155	units
Phase 6	17	310	Hotel		194	rooms
Phase 7	7	221	Multi-Family (Mid-Rise)		200	units
Phase 7	7	820	Retail		20,000	sfgla
Phase 8	4	221	Multi-Family (Mid-Rise)		207	units
Phase 9	16	720	Medical Office Building	Cancer treatment (120,000 sf)	50	emp
Phase 10	9 N/S; 11 N	221	Multi-Family (Mid-Rise)		206	units
Phase 10	9 N/S; 11 N	820	Retail		78,656	sfgla
Phase 11	5	710	Office		22,696	sfgfa
Phase 12	15	221	Multi-Family (Mid-Rise)		248	units
Phase 13	14	221	Multi-Family (Mid-Rise)		150	units
Phase 14	10A	820	Retail		11,000	sfgla
Phase 14	10B	820	Retail		6,000	sfgla
Phase 14	10C	710	Office		22,696	sfgla
Phase 15	12	820	Retail		12,000	sfgla

Source: Point Ruston LLC, April 2019.

3.2.2. Selected Additional Trip Generation Rates and Equations

The trip generation models for the overall site were modified to include four additional uses that were not present or included as part of the 2017 counts or calibration effort. These include the planned GenCare senior living facility, the Silver Cloud Hotel, the cancer treatment center, and the public market. The following describes the rates and equations selected and applied for each.

Continuing Care Retirement Community (Land Use 255) – This land use provides multiple elements of senior adult living. As described by ITE, it provides housing options that "…*may include various combinations of senior adult (detached), senior adult (attached), congregate care, assisted living, and skilled nursing care—aimed at allowing the residents to live in one community as their medical needs change.*" This best matches the planned GenCare facility in the new Building 6.

Hotel (Land Use 310) – This land use is described as "…*a place of lodging that provide sleeping accommodations and supporting facilities such as restaurants, cocktail lounges, meeting and banquet rooms or convention facilities, limited recreational facilities (pool, fitness room), and/or other retail and service shops.*" This best matches the planned Silver Cloud Hotel and its supporting facilities in the new Building 17.

Medical-Dental Office Building (LU 720) – Building 16 is expected to be occupied by an outpatient specialty medical treatment center. Due to its unique function, it requires a relatively large building area (120,000 sf), but has proportionately low employment and patient volumes. Based on these characteristics and the relative size of the proposed building and those studied for the ITE rates and equations, the Medical-Dental Office Building (LU 720) category, using the fitted curve equation based on number of employees (provided by the planned tenant), offers the best match for estimating trip generation for this use in Building 16.

Public Market / Shopping Center (LU 820) – The planned public market would provide leased retail spaces for a variety of vendors offering fresh food, produce, meats, soft goods, and other items in a connected space that shares common elements. This planned use does not match well with ITE categories such as supermarket or farmers market, but is more consistent with typical shopping center arrangements. Therefore, the Shopping Center category was applied to this planned site element in the new Building 11 South. The full building floor area was applied rather than smaller leased area to provide a conservatively higher trip estimate.

The rates and assumptions applied for each added land use type are summarized in Table 6. Although the detailed operational analyses are only prepared for the PM peak hours, AM peak hour trip generation estimates are also presented as a matter of disclosure and for comparison to the estimates in the FSEIS.

Table 6. Baseline Trip Generation Rates & Equations, AVO Rates, and Mode Assumptions

Land Use (ITE Land Use Code)	ITE Baseline Trip Generation Rates & Equations [a]	Baseline Average Vehicle Occupancy (AVO) Rates [b]		Baseline Vehicle Trip % [b]	
		Inbound	Outbound	Inbound	Outbound
Continuing Care retirement Community (255) – Residential various combinations of senior adult (detached), senior adult (attached), congregate care, assisted living, and skilled nursing care.					
AM Peak Hour	0.14 trips / unit	1.13 [c]	1.09 [c]	96.2% [c]	97.8% [c]
PM Peak Hour	0.16 trips / unit	1.15 [c]	1.21 [c]	97.3% [c]	96.2% [c]
Hotel (310) – A place of lodging that provide sleeping accommodations and supporting facilities such as restaurants, cocktail lounges, meeting and banquet rooms or convention facilities, limited recreational facilities, and/or other retail and services. [d]					
AM Peak Hour	T = 0.50(X) – 5.34	1.26	1.26	93.3%	99%
PM Peak Hour	T = 0.75(X) – 26.02	1.31	1.30	98.7%	98%
Medical-Dental Office Building (720) – A facility that provides diagnoses and outpatient care on a routine basis but is unable to provide prolonged in-house medical and surgical care. [e]					
AM Peak Hour	T = 0.45(X) + 11.83	1.26	1.26	93.3%	99%
PM Peak Hour	T = 1.01(X) - 1.73	1.00	1.00	100%	100%
Shopping Center Retail (820) – Group of commercial establishments that may include uses such as traditional retail stores, banks, post offices, recreational uses, and others. [f]					
AM Peak Hour	0.94 trips / 1,000 sfgfa	1.17	1.16	100%	100%
PM Peak Hour	Ln(T) = 0.74Ln(X) + 2.89	1.21	1.18	100%	100%

a. *Source: Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition, September 2017. "sfgla" = square feet of gross leasable area; sfgfa = square feet of gross floor area.*
b. *Based on data in ITE Trip Generation Handbook, 3rd Edition; Tables B.1, B.2, and B.3, unless noted otherwise. Percentage of vehicle trips inherent in the ITE trip rates; values less than 100% reflect trips made by walk, bike, and transit modes.*
c. *AVO rate and vehicle trip % assumed to be the same as Multi-family Residential rates from Trip Generation Handbook.*
d. *T = number of trips, X = number of rooms.*
e. *T = number of trips, X = number of employees.*
f. *T = number of trips, X = square feet; full building floor area (about 30,000 sf) applied instead of leasable area (~22,700 sf) to provide a conservatively higher trip estimate.*

3.2.3. Trip Generation Model Results

The following outlines the steps applied in developing the trip generation model as recommended in the *Trip Generation Handbook*.

1. **Estimate baseline vehicle trips.** Using the standard rates and equations, the combined sum of vehicle trip generation, with no adjustment for internal trips between uses (the simple sum of discrete uses), results in a total of 2,093 PM peak hour trips.

2. **Determine the number of person trips.** The estimated person trips are summarized in Table 7 (next page). As shown, the model estimates a total of 1,247 AM peak hour person trips and 2,630 PM peak hour person trips.

3. **Determine internal trips.** Internal trips among on-site uses were determined using the methodology in the *Trip Generation Handbook*. The walking distance among uses within the site are also factored into the methodology and calculations. For the entire site, the average distance between the centroids of the buildings is estimated at about 976 feet. Based on the published internal capture rates for the site uses, 254 person trips (20.4%) are estimated to be internal during the AM peak hour with 1,042 (39.6%) internal trips in the PM peak hour.

4. **Determine trips by mode of travel.** All external trips were assumed to occur with the same mode and AVO rates used to estimate person trips (in Step 2), since there are no data to indicate other AVO rates or alternative modes would apply to this site. This may result in conservatively high trip generation rates, since some trips to and from the retail and restaurant uses are likely arrive via non-motorized modes (walk or bicycle) using the waterfront trail.

5. **Convert person trips by vehicle to final vehicle trips.** The total vehicle trips estimated by the model for Point Ruston are summarized in Table 8. As shown, the cumulative vehicle trips generated by all the land uses included in this analysis are estimated at 895 during the AM peak hour and 1,275 trips during the PM peak hour.

Table 7. Total Person Trips Generated by Point Ruston – Full Build

Land Use	Size	AM Peak Hour Person Trips			PM Peak Hour Person Trips		
		In	Out	Total	In	Out	Total
Multifamily Housing (Mid-Rise) (LU 221)	1,528 units	145	414	559	448	287	735
Cont. Care Retirement Comm. (LU 255)	155 units	16	9	25	12	19	31
Hotel (LU 310)	194 rooms	71	50	121	81	77	158
Movie Theater with Matinee (LU 444)	729 seats	0	0	0	73	59	132
Health/Fitness Club (LU 492)	5,275 sfgfa	4	4	8	13	9	22
Clinic (LU 630)	22 employees	26	8	34	9	17	26
General Office Building (LU 710)	45,392 sfgfa	64	10	74	9	50	59
Small Office (LU 712)	5,339 sfgfa	9	2	11	4	10	14
Medical Office Building (LU 720)	50 employees	27	7	34	17	32	49
Retail Shopping Center (LU 820)	174,902 sfgla	118	73	191	471	511	982
Hair Salon (LU 918)	2,147 sfgfa	3	1	4	1	3	4
Quality Restaurant (LU 931)	10,810 sfgfa	9	4	13	89	44	133
High-Turnover Restaurant (LU 932)	21,924 sfgfa	128	104	232	177	108	285
Total All Person Trips		620	686	1,306	1,404	1,226	2,630
Internal Person Trips		127	127	254	521	521	1,042
% Internal Person Trips			19.4%			39.6%	
Total External Person Trips		493	559	1,052	883	705	1,588

Source: Heffron Transportation, Inc., May 2019. Trips estimated using procedures in the ITE Trip Generation Handbook, September 2017.

A total daily trip estimate was derived using the same methodology described above. The internalization estimates for the PM peak hour were applied. This approach is reasonable, since internal capture of trips during the midday hours and post-PM-peak hour are likely higher as employees, visitors, and residents are more likely to visit other uses within the site on the same trip. For example, employees of retail and offices in the larger development are more likely to visit local restaurants for lunch or mid-day breaks than during the PM peak hour. Similarly, residents are likely to visit local retail or restaurants in the early evening hours after returning home from work. The estimated daily vehicle trip estimates for each land-use component and the total daily estimate are also presented in Table 8. As shown the site, when fully occupied is forecast to generate about 15,500 vehicle trips per day at the site driveways.

Table 8. Estimated Driveway Vehicle Trips Generated by Point Ruston – Full Build

Land Use	Size	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Multifamily Housing (Mid-Rise) (LU 221)	1,528 units	6,130	123	336	459	243	169	412
Cont. Care Retirement Comm. (LU 255)	155 units	280	14	7	21	6	11	17
Hotel (LU 310)	194 room	1,210	52	27	79	35	41	76
Movie Theater with Matinee (LU 444)	729 seats	470	0	0	0	21	17	38
Health/Fitness Club (LU 492)	5,275 sfgfa	110	3	2	5	7	4	11
Clinic (LU 630)	22 employees	150	18	1	19	2	12	14
General Office Building (LU 710)	45,392 sfgfa	290	43	1	44	3	36	39
Small Office (LU 712)	5,339 sfgfa	50	6	0	6	1	7	8
Medical Office Building (LU 720)	50 employees	220	18	0	18	4	23	27
Retail Shopping Center (LU 820)	174,902 sfgla	5,300	80	48	128	282	226	508
Hair Salon (LU 918)	2,147 sfgfa	20	2	1	3	1	1	2
Quality Restaurant (LU 931)	10,810 sfgfa	380	4	2	6	32	8	40
High-Turnover Restaurant (LU 932)	21,924 sfgfa	890	54	53	107	65	18	83
Total All Vehicle Driveway Trips [a]		15,500	417	478	895	702	573	1,275

Source: Heffron Transportation, Inc., May 2019. Trips estimated using procedures in the ITE Trip Generation Handbook, September 2017.

3.2.4. Vehicle Trip Subsets (Primary/New and Pass-by/Diverted)

As described in the FSEIS (page 3.7-19), retail and restaurant uses generate two different types of driveway trips—pass-by and primary/new trips—that affect local roadways differently. Pass-by trips are attracted from roadways immediately adjacent to the site. For example, a trip to one of the site's restaurants made by a driver already using Ruston Way on a trip home from work or another origin would be considered a pass-by trip. As stated in ITE's *Trip Generation Handbook*, "…"*pass-by" trips do not add new traffic to the adjacent street system and may be reduced from the total external trips generated by a study site.*" Non-Pass-by trips consist of both Primary (new) and Diverted trips. Primary/new trips are single-purpose trips generated by the site and are generally assumed to begin and end at home, although some primary trips could originate at work or other locations. Diverted trips are attracted from traffic on roadways within the vicinity of the generator but require a diversion from a roadway not adjacent to the site to gain direct access to the site. For the purposes of this analysis, non-pass-by trips are assumed to be primary trips, generated by the Point Ruston development, and referred to as new trips; none were assumed to be diverted trips.

The proportion of pass-by trips for each land use were estimated using information in the *Trip Generation Handbook*, and described in the referenced technical memorandum—*Point Ruston – 2017 Trip Generation Counts with Refined & Calibrated Model*. The selected pass-by trip percentages and resulting pass-by trip estimates are presented in Table 9. As shown, the retail and restaurants are estimated to generate a total of 34 pass-by trips during the AM peak hour and 138 pass-by trips during the PM peak hour. These are reasonable figures given the forecast 2032 traffic volume of about 1,475 PM peak hour trips on Ruston Way south of the site. It is noted that while pass-by trips are expected to occur, and were evaluated as part of the original FSEIS, the pass-by trip estimates herein were all assumed to be new trips to the area roadway network. This results in a conservative worst-case condition for the analysis. The LOS calculation sheets are included in Appendix C.

Table 9. Pass-by & New Trip Estimates for Point Ruston – Full Build

Land Use	Pass-by Trip % (AM / PM)	AM Peak Hour Trips In	AM Peak Hour Trips Out	AM Peak Hour Trips Total	PM Peak Hour Trips In	PM Peak Hour Trips Out	PM Peak Hour Trips Total
Retail (LU 820)	0% / 20% [a]	0	0	0	58	46	104
Quality Restaurant (LU 931)	26% / 26% [b]	1	1	2	8	2	10
High-Turnover Restaurant (LU 932)	30% / 30% [b]	16	16	32	19	5	24
Total Pass-by Vehicle Trip Estimate	4% / 11%	17	17	34	85	53	138
Total Primary Vehicle Trip Estimate	96% / 89%	400	461	861	617	520	1,137
Total Driveway Vehicle Trip Estimate	100%	417	478	895	702	573	1,275

Source: Heffron Transportation, Inc., July 2018. Trips estimated using procedures in the ITE Trip Generation Handbook, September 2017.

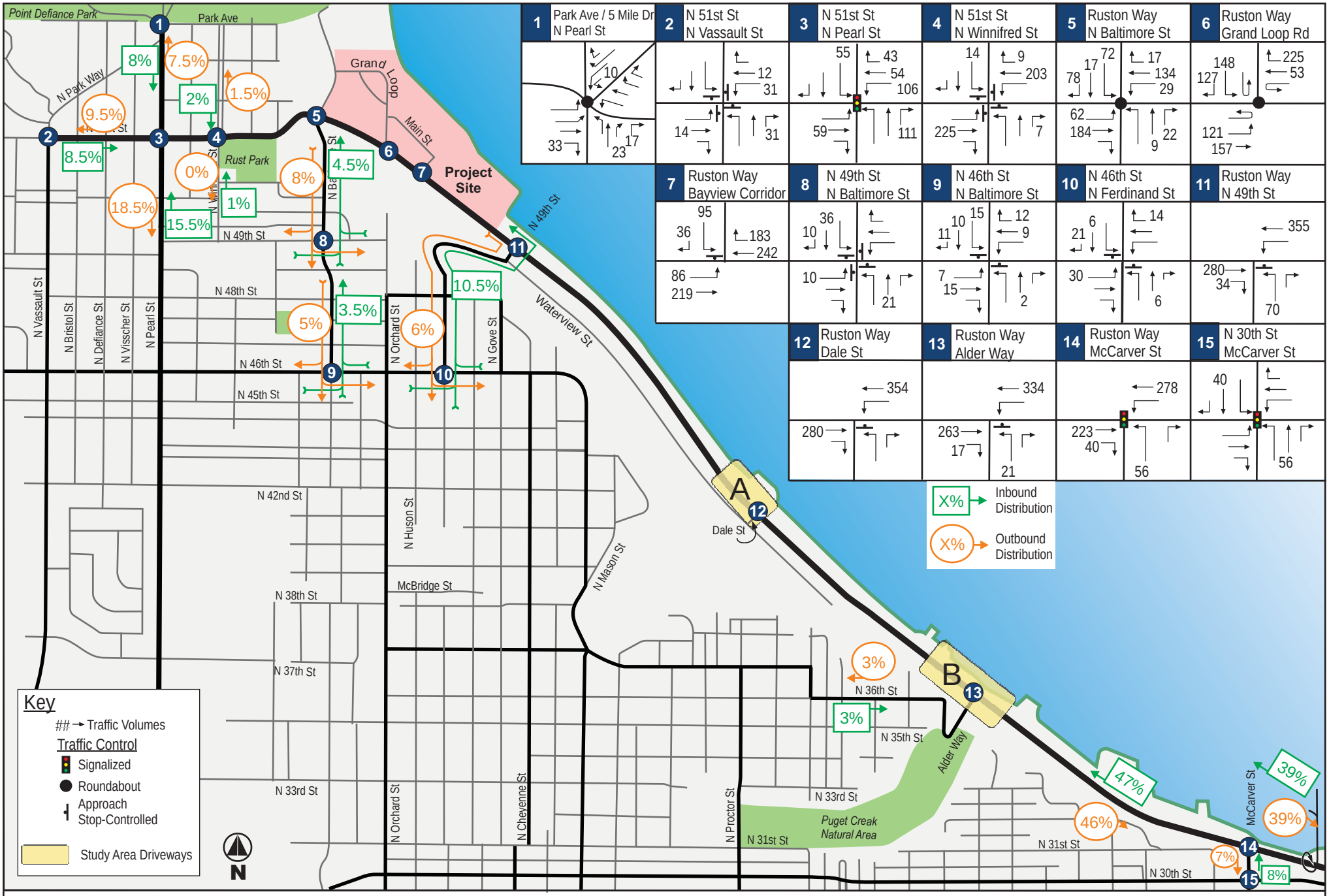
a. Average pass-by trip rate for Shopping Center (presented in Tables E.9 of the Trip Generation Handbook) during PM peak hours is 34%; however, selected rate of 20% comparable to 10th percentile to account for lower volume of traffic on Ruston Way. No pass-by trips were assumed for AM peak hour at retail uses.

b. Average pass-by rates published for Quality Restaurant and High-Turnover (Sit-Down) Restaurant are 44% and 43%, respectively (Tables E.29 and E.30). Selected values equal to roughly the 10th percentiles of the reported pass-by rates applied.

3.2.5. Trip Distribution & Assignment

The net increase in Point-Ruston-generated traffic was assigned to the adjacent roadway network based on distribution patterns derived from a combination of existing site access counts and a detailed origin-destination survey conducted in November 2017 using Bluetooth device signal capture within the larger site vicinity. A detailed origin-destination survey was conducted using Acyclica Bluetooth signal capture and matching over the period from November 4 to November 20, 2017. The survey resulted in over 4,200 matches between the Point Ruston site and five key origin-destination points indicating travel path routing. Based on the combination of count data and origin-destination survey results, trip distribution patterns for inbound and outbound Point Ruston-generated trips were derived. The resulting trip distribution patterns are shown on Figure 8. As shown, 39% of inbound and outbound use Ruston Way south of McCarver Street. To the west, 35% of inbound trips and 37% of outbound trips use N 51st Street. Other routes used by Point Ruston traffic include McCarver Street (8% inbound, 7% outbound), Alder Way (3% in and out), N 49th Street (10.5% inbound and 6% outbound), and N Baltimore Street (4.5% inbound and 8% outbound). When compared to the trip distributions assumed in the FSEIS, which were prepared prior to the completion of the N 51st Street / N Baltimore Street connection to Ruston Way, the actual patterns are slightly different. For example, a higher proportion of site trips use N 51st Street to and from the site with an average of about 36% instead of the 29% assumed in the FSEIS. Fewer trips were found to use N Baltimore Street than assumed with a total of about 4.6% compared to the assumed 10% in the FSEIS. Other access routes to Ruston Way including N 49th Street, Alder Way, and McCarver Street all carried slightly higher percentages of Pont Ruston trips than assumed in the FSEIS.

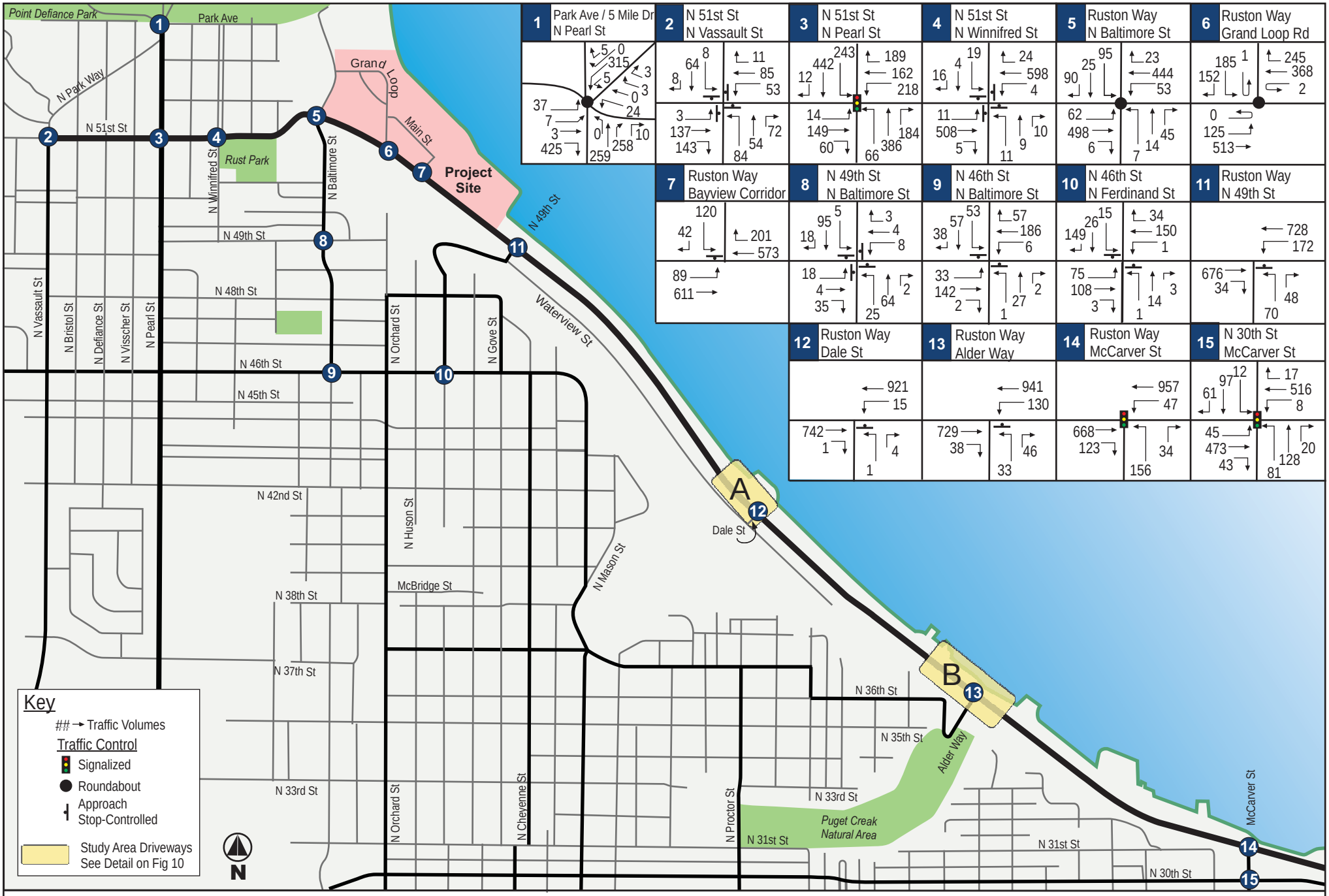
The projected traffic distribution patterns and assignments of added Point Ruston trips for the PM peak hour are also shown on Figure 8. The additional Point Ruston trips were added to the forecast 2032 without-project traffic volumes to reflect future conditions with full build and occupancy of Point Ruston. The forecast 2032 with-project PM peak hour traffic volumes are shown on Figure 9.



Point Ruston
FSEIS Addendum

Figure 8
Project Trip Distribution & Assignment
PM Peak Hour

heffron transportation inc



Point Ruston
FSEIS Addendum

Figure 9
Forecast 2032 With-Project PM Peak Hour Traffic Volumes
Analysis Intersections

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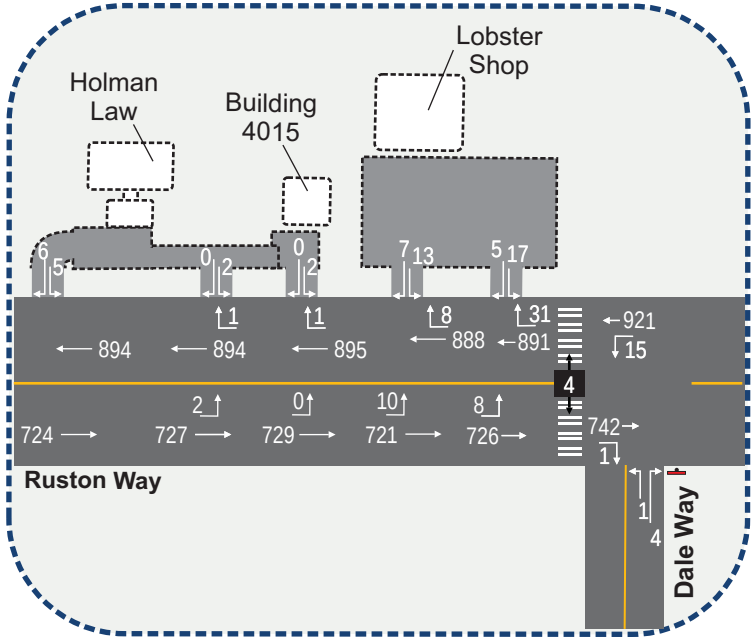


N

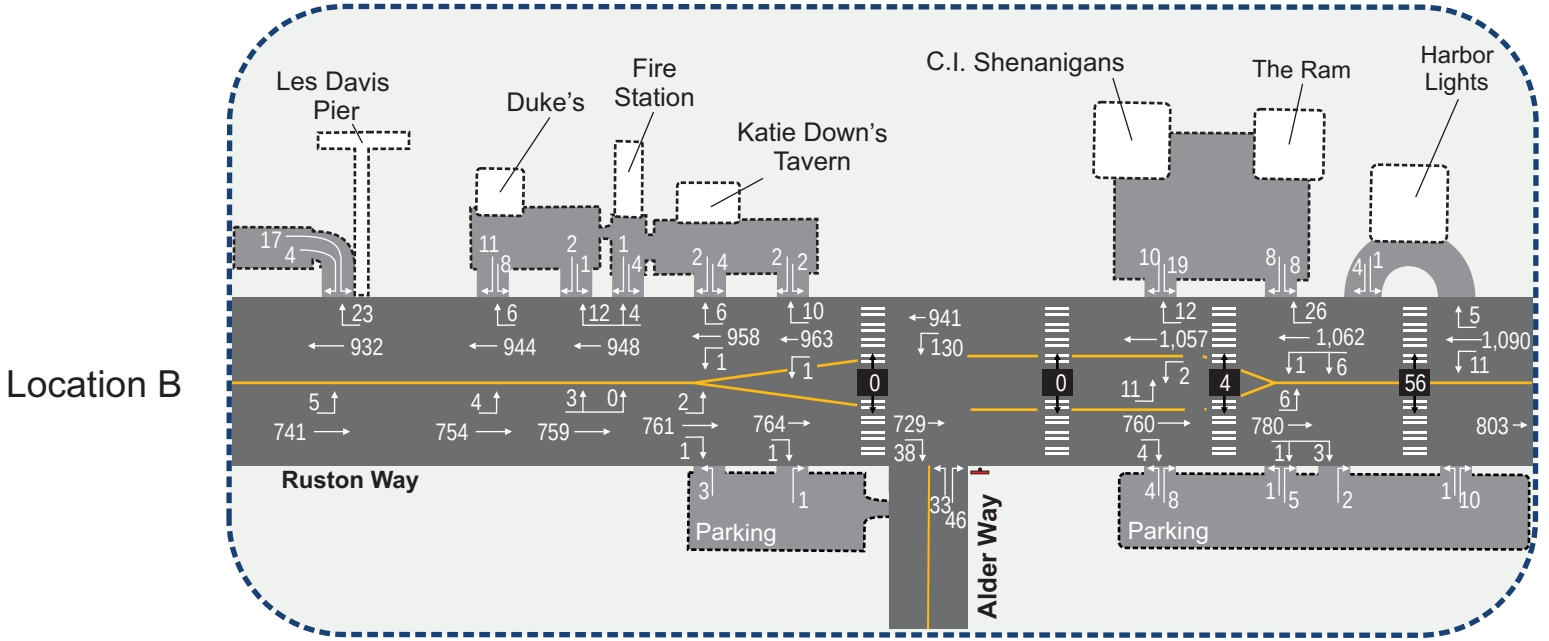
Not to Scale

Key

Total Pedestrian Crossings per Hour

→ Hourly Traffic Volumes

For clarity, arrows only shown for movements with traffic volumes



Point Ruston
FSEIS Addendum

Figure 10
Forecast 2032 With-Project PM Peak Hour Traffic Volumes
Ruston Way Driveways

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3.2.6. Project Traffic Volume Impacts

To illustrate the potential traffic volume impacts of the full Point Ruston development, percentage of future traffic related to the Point Ruston development was calculated for each of the study area intersections. These percentages are summarized in Table 10. For comparison, the volume and percentage contributions of background traffic and the Point Defiance Park traffic are also shown.

Table 10. Point Ruston Full-Build 2032 Traffic Volume Impacts – PM Peak Hour

	Total Entering PM Peak Hour Trips							
	Background [1]		Point	Point	Total	% Back-	% Point	% Point
Intersection Name	Existing	Growth	Defiance [2]	Ruston [3]	Volume [4]	ground	Defiance	Ruston [3]
Ruston Way / Grand Avenue	485	37	238	831	1,591	32.8%	15.0%	52.2%
Ruston Wy / N Baltimore St / N 51st St	459	35	244	624	1,362	36.3%	17.9%	45.8%
Ruston Way / N 49th Street	697	54	238	739	1,728	43.5%	13.8%	42.8%
N 51st Street / N Winnifred Street	492	37	232	458	1,219	48.2%	14.1%	37.6%
Ruston Way / Dale Street	755	57	238	634	1,684	43.4%	19.0%	37.6%
Ruston Way / Alder Way	967	77	238	635	1,917	54.5%	12.4%	33.1%
Ruston Way / McCarver Street	1,068	82	238	597	1,985	57.9%	12.0%	30.1%
N 49th Street / Baltimore Street	156	12	36	77	281	59.8%	12.8%	27.4%
N 51st Street / N Pearl Street	1,054	82	561	428	2,125	53.5%	26.4%	20.1%
N 46th Street / N Baltimore Street	452	35	36	81	604	80.6%	6.0%	13.4%
N 46th Street / N Ferdinand Street	467	35	0	77	579	86.7%	0.0%	13.3%
N 51st Street / N Vassault Street	474	39	121	88	722	71.1%	16.8%	12.2%
N 30th Street / McCarver Street	1,305	100	0	96	1,501	93.6%	0.0%	6.4%
N Pearl St / Park Ave / Five Mile Dr 3	733	55	483	83	1,354	58.2%	35.7%	6.1%
	Two Way Daily Volume							
	Background [1]		Point	Point	Total	% Back-	% Point	% Point
Corridor Name – Extents	Existing	Growth	Defiance [2]	Ruston [3]	Volume [4]	ground	Defiance	Ruston [3]
Ruston Wy – south of N 49th St	7,180	560	3,150	7,390	18,280	42.4%	17.2%	40.4%
N 51st St – east of N Bennett St	7,090	470	3,070	5,380	16,010	47.2%	19.2%	33.6%
N Pearl St – north of N 50th St	8,720	590	4,360	2,550	16,220	57.4%	26.9%	15.7%
McCarver St – south of Ruston Wy	2,640	200	0	1,120	3,960	71.7%	0.0%	28.3%
N 46th St – west of N Ferdinand St	3,840	300	400	600	5,140	80.5%	7.8%	11.7%
N Baltimore St – north of N 46th St	1,000	80	80	700	1,860	58.1%	4.3%	37.6%
N Ferdinand St – north of N 46th St	1,860	140	0	870	2,870	69.7%	0.0%	30.3%

Source: Heffron Transportation, Inc. June 2019.

1. *Background traffic consists of existing volumes (excluding Point Ruston traffic) and assumed growth at 0.5% compounded annually.*
2. *Point Defiance trips derived from trip generation tables and distribution patterns in* Point Defiance Park Transportation Impact Analysis.
3. *Point Ruston trips are those forecast to enter the intersection (PM peak Hour) or use roadway segments (daily).*
4. *Total Volume consist of the total trips forecast to enter intersection or on roadway segment.*

As shown, project-generated trips are expected to comprise larger percentages of overall traffic at locations closest to the site and smaller percentages farther from the site and/or away from the primary access routes to and from the regional network. The traffic volume impacts identified in Table 10 provide a means to compare forecast project traffic to the estimated background traffic volumes at study area intersections. Operations analyses that measure the impact on delay and levels of service are presented in the following section.

3.3. Traffic Operations

The *City of Tacoma Transportation Master Plan*[15] prepared in 2014 and published in December 2015, developed year 2040 PM peak period City-wide traffic forecasts that accounted for anticipated growth in population and employment. Those 2040 forecasts accounted for the Point Ruston development since it was already permitted at the time of analysis. The City's analysis found that "*In general, the City's network has sufficient capacity to absorb the forecast growth. The most significant travel delays on the City's network are a result of backups on the regional network, rather than local-level capacity constraints; however, only a small portion of the City's system is expected to exceed capacity and will do so only for a small part of the day.*"

Even though the proposed Point Ruston development is expected to generate fewer trips than had been evaluated in the FSEIS or the City's *Transportation Master Plan,* detailed traffic operations analyses were performed to reflect the new trip generation estimates as well as the transportation improvements that have already been constructed by Point Ruston. This analysis, which includes intersection level of service, corridor travel times, and signal warrant analysis—was used to assess the remaining mitigation measures from the FSEIS that have not yet been built.

3.3.1. Off-Site Study Area Intersections

Levels of service for the off-site study area intersections were calculated using the 2032-with-project traffic volumes with and without the full set of mitigation prescribed in the FSEIS. Table 11 shows the results of the analysis; levels of service for the 2032-without-project conditions are provided for comparison.

As shown, traffic generated by the Point Ruston development is forecast to increase delays at several locations. Most locations would continue to operate at LOS C or better overall. However, degradations to LOS E or F are predicted at three of the study-area intersections. The all-way-stop N 51st Street / N Winnifred Street intersection is forecast to operate at LOS E with the full-build traffic from Point Ruston. This is consistent with findings of the recent Point Defiance Park traffic analysis that indicated it is likely to operate at LOS D in 2030 and "*LOS F under heavy summer event Saturday midday periods.*" The City of Ruston has identified a possible signalization improvement at this intersection in its *Draft 6 Year TIP 2019 – 2024.* The Point Defiance Park traffic analysis stated that delays could be greatly reduced if it were converted to two-way stop control (with stops on the north and south approaches); however, that change may not be desired since all-way-stop control calms traffic through Ruston and congestion is only a concern on the highest-use days. That analysis also noted that the intersection does not meet even the least stringent traffic signal warrant (peak hour) due to very low northbound and southbound volumes on Winnifred Street. It recommended mitigation measures be implemented if a monitoring program determines they are necessary and further states that "*[g]iven the seasonality of traffic patterns in the area, we would recommend conducting traffic counts annually on a busy summer Saturday. Due to the long planning time frame (12 years) and the background assumptions, it is possible that the amount of additional traffic forecast will not rise to the level predicted in this study for a very long time. If traffic counts do not rise to the level reported, improvements may not be necessary.* The City could elect to tolerate the conditions.

[15] City of Tacoma, December 2015.

Table 11. Level of Service Summary – Forecast 2032 Without- and With-Project Conditions

Control Type / Intersections	Without Project		With Project		With Proj. & Mitigation [3]	
Signalized	LOS [1]	Delay [2]	LOS	Delay	LOS	Delay
Ruston Way / McCarver Street	A	8.9	B	14.1	B	11.4
N 30th Street / McCarver Street	B	11.6	B	12.4	B	12.4
N 51st Street / N Pearl Street	B	15.9	C	28.4	C	28.4
Ruston Way / N 49th Street	n/a [4]		n/a [4]		B	19.7
Ruston Way / Alder Way	n/a [4]		n/a [4]		B	15.7
Roundabouts	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**
Ruston Way / N Baltimore St / N 51st St	A	5.2	A	9.5	A	9.5
Ruston Way / Grand Avenue	A	5.3	B	11.4	B	11.4
N Pearl St / Park Ave / Five Mile Dr [3]	A	8.6	C	15.6	C	15.6
All-Way Stop Controlled	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**
N 51st Street / N Vassault Street	B	10.4	B	11.3	B	11.3
N 51st Street / N Winnifred Street	B	12.1	E	38.7	E	38.7
N 49th Street / Baltimore Street	A	7.6	A	8.0	A	8.0
One or Two-Way-Stop Controlled	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**
Ruston Way / N 49th Street	A	2.1	F	63.4	n/a [4]	
Northbound Movements	B	12.2	F	873.2		
Westbound Left Turn	A	9.2	B	11.7		
Ruston Way / Dale Street	A	0.2	A	0.3	A	0.2
Northbound Movements	B	12.3	C	22.5	C	16.3
Westbound Left Turn	A	8.4	A	9.4	A	9.4
Ruston Way / Alder Way	A	1.7	A	2.6	n/a [4]	
Northbound Movements	C	16.4	E	41.9		
Westbound Left Turn	A	9.5	B	11.6		
N 46th Street / N Baltimore Street	A	4.5	A	5.7	A	5.3
Northbound Movements	B	14.5	C	15.8	C	15.7
Eastbound Left Turn	A	7.9	A	8.0	A	8.0
Westbound Left Turn	A	7.6	A	7.6	A	7.6
Southbound Movements	C	16.0	C	19.4	C	19.9
N 46th Street / N Ferdinand Street	A	5.4	A	6.4	A	6.4
Northbound Movements	B	12.7	B	14.5	B	14.5
Eastbound Left Turn	A	7.8	A	8.0	A	8.0
Westbound Left Turn	A	7.5	A	7.5	A	7.5
Southbound Movements	B	12.9	B	14.5	B	14.5

Source: Heffron Transportation, Inc., June 2019.

1. *LOS = Level of service.*
2. *Delay = Average seconds of delay per vehicle.*
3. *Reflects prescribed mitigation outlined in FSEIS.*
4. *n/a = not applicable, intersection currently unsignalized, evaluated with signal for with-project and prescribed mitigation from FSEIS.*

The Ruston Way / N 49th Street intersection is expected to degrade to LOS F in part due to Point Ruston traffic. The predicted operations are somewhat worse than those predicted in the FSEIS primarily due to the installation of a center pedestrian refuge island that eliminated the option for drivers to make two-stage left-turns from N 49th Street. The FSEIS included a mitigation measure to signalize the intersection, which would improve operations to LOS B overall (all movements to LOS C or better) and would address project impacts. The FSEIS measure stated "*Signalize the intersection of Ruston Way and North 49th Street if an analysis indicates the delay for any movement exceeds level of service 'D' and/or meets accident warrants.*" Based on discussions with City of Tacoma Public Works staff,[16] signalization would only occur if/when the intersection meets one or more of the applicable warrants published in published in the *Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways*, *2009 Edition.*[17] A warrant analysis for that intersection was conducted using 72-hour counts of each approach and the same assumptions for background growth and pipeline traffic (Point Defiance Park) estimates described previously. In addition, traffic collision data for the crash experience warrant were reviewed. Based on the current Point Ruston development Phasing Plan, the analysis indicates the signal is not likely to be warranted (Warrant 1B for eight-hour volume) until occupancy of Phase 10 (out of 15 phases) of the planned Point Ruston project. With Phase 10, the Point Ruston site is projected to generate about 80% of its total full-build traffic. The warrant analysis is provided in Appendix D.

Since the warrant analysis relies on projections of background growth along with estimates of future traffic generated by Point Ruston and Point Defiance, periodic monitoring is recommended to confirm one or more of the MUTCD signal warrants are likely to be met before installation.

Turns from Alder Way onto Ruston Way are expected to degrade to LOS E due to added Point Ruston traffic. The FSEIS also included a mitigation measure to signalize this intersection, which would improve operations to LOS B and would address project impacts. The FSEIS mitigation measures stated "*Signalize the intersection of North Alder Street and Ruston Way to improve intersection operation from level-of-service F to level-of-service D or better for any movement.*" The City noted signalization would only occur if/when the intersection meets one or more of the applicable warrants published in published in MUTCD. Warrant analysis review for this intersection suggests a signal may not be warranted, even with full-build of the Point Ruston project. The warrant analysis is provided in Appendix D. As noted for the Ruston Way / N 49th Street intersection, periodic monitoring is recommended to determine if one or more of the MUTCD signal warrants are likely to be met and what share of the improvement costs could be attributable to Point Ruston before installation. As shown in Table 10, Point Ruston traffic is estimated to represent about 33% of the total entering PM peak hour traffic at this location.

The two analysis intersections along N Baltimore Street are forecast to operate at LOS A overall with all movements operating at LOS C or better in 2032 with the full-build Point Ruston project. The FSEIS attempted to forecast the effect of the new N Baltimore Street connection to Ruston Way and assumed that portions of existing volume would divert to this new route to avoid congestion on N 51st Street and at the N 51st Street / N Pearl Street intersection. The FSEIS provided analysis test scenarios with 10% and 20% of traffic diverting from the N 51st Street / N Pearl Street route to use N Baltimore Street. However, existing PM peak hour volumes counted in 2017 after the N Baltimore Street connection had been established, were about 53% of the forecast levels from the FSEIS. In addition, the proportion of Point-Ruston-generated traffic using that route was observed to be lower than predicted in the FSEIS. Current forecasts for year 2032 based on actual counts and observed use by Point Ruston traffic, are about 70% of the level predicted in the FSEIS. As a result and as can be seen in Table 11, the prescribed mitigation would have a negligible effect on intersection operations.

16 Meeting with City of Tacoma, April 25, 2018.
17 US Department of Transportation – Federal Highway Administration, 2009.

3.3.2. Ruston Way Arterial LOS and Travel Times

The travel times and arterial levels of service for Ruston Way between McCarver Street and N 51st Street / N Baltimore Street were evaluated for with-project conditions using the same *SimTraffic* microsimulation approach as described previously for existing and without-project conditions.

For conditions with the project but without the remaining mitigation, the travel-time results indicate the northwest-bound travel time would increase to 22.3 minutes with an arterial speed of 13 mph (LOS E). This increase in travel time is roughly triple the without-project conditions; however, nearly 95% of the increase in delay and travel time is projected to occur approaching the McCarver Street intersection and the area in front of the southernmost Harbor Lights entry driveway. The southeast-bound travel time is predicted to increase to 9.7 minutes with a speed of 18 mph (LOS C). It is important to note that these modeled conditions reflect the addition of traffic from the Point Defiance Park project, which has been proposed after the review and approval of the Point Ruston development. That project is forecast to contribute between 12% and 19% of total entering traffic at intersections along the Ruston Way corridor.

The FSEIS-prescribed mitigation consists of: 1) adding a protected left-turn phase for northwest-bound turns from Ruston Way to McCarver Street, 2) extending the center left-turn lane to a point about 240 feet northwest of the Les Davis Pier / Judge Jack Tanner Park driveway and south to the Harbor Lights pull-through exit driveway, 3) signalizing the Ruston Way / Alder Way intersection; and 4) signalizing the Ruston Way / N 49th Street intersection. With the mitigation, simulated northwest-bound travel time decreases to about 10 minutes and arterial speed improves to 19 mph (LOS C). The simulated southeast-bound travel time increases to about 7.5 minutes with a slight speed reduction to 21 mph (LOS C).

Additional simulations were prepared to help understand which of the mitigation improvements or components contributed most to the improvement in northwest-bound flow and the degradation of southbound flow. Based on these analyses, it appears that the introduction of signals at Alder Way and N 49th Street along with protected-permissive left-turn phasing for turns from Ruston Way would introduce platoon flow of southbound traffic, creating more gaps allowing left-turns to occur at various locations along the corridor south of Alder Way. The simulations suggest that a large portion of the overall corridor delay and congestion accumulates around the McCarver Street and southernmost Harbor Lights driveways, where the prescribed mitigation would not change the channelization.

The simulation analysis also tested conditions with and without the FSEIS-prescribed left-turn lane extensions north and south of Alder Way. As stated in the FSEIS, that mitigation measure was intended "*…to reduce delays for through traffic and to facilitate left turns to parking lots.*" However, the added left-turn lane would serve only six or seven driveway intersections, which had a total of 9 northwest-bound left turns and 20 southeast-bound left turns during the PM peak hour (see Figure 4). The simulations indicate that provision of the center turn lane at these locations would have some incremental benefit to through traffic along Ruston Way (travel times were improved by about 14 seconds in the peak direction). In-person observations and simulations of the corridor have found that northwest-bound through travel (the peak direction during the PM peak hour) may be more affected by right-turning traffic that yields to pedestrians and cyclists on the adjacent Ruston Way Path. Delays caused by that activity would not be addressed by the center-turn pocket.

In 2018 and 2019, Metro Parks Tacoma together with the City of Tacoma, prepared the *Envision Our Waterfront – A Community Vision for the Tacoma Waterfront*. It involved a series of community outreach events focused on the three-mile stretch of Ruston Way on Commencement Bay. A team of consultants led by Mithun assisted in preparing a technical gaps analysis, defining issues, conducting a public workshop, and identifying a roadmap for next steps. The document states that "*The vision for Ruston Way is of a space that prioritizes pedestrians and cyclists and minimizes infrastructure for single occupancy motor vehicles. Infrastructure that facilitates the safe separation of bikes, pedestrians and*

future mass transit users will be prioritized. Vehicular infrastructure can be consolidated by reducing the number of curb cuts and developing a cohesive and efficient corridor parking strategy that further minimizes potential vehicle and pedestrian conflicts." As a result, expansion of the roadway to provide the left-turn pocket for those limited number driveways and relatively low volumes may conflict with the current vision for the corridor. It may also result in the loss of parking along one or both sides of the roadway due to limits in available right-of-way. Preliminary schematic plans indicate as many as 56 parking spaces could be eliminated in the areas near Katie Downs, Duke's Chowder House, and Harbor Lights). More effective mitigation may consist of providing a series of access consolidation and parking management improvements to reduce conflict points.

3.3.3. Site Access

Analyses of the two Point Ruston site access points on Ruston Way indicate the roundabout at Grand Avenue would operate at LOS B overall with all approaches operating at LOS B or better. The stop-controlled access at the Bayview Corridor intersection on Ruston Way is forecast to degrade to LOS D overall with the left-turn out of the site onto Ruston Way operating at LOS F. This analysis assumes that the proportion of site traffic using each access point would remain similar to existing conditions. However, if left-turn delays at the Bayview Corridor exit become intolerable, drivers are likely to choose one of the other egress routes that have roundabout access and less delay. If delays continue to be excessive, the access could be restricted to right-out-only.

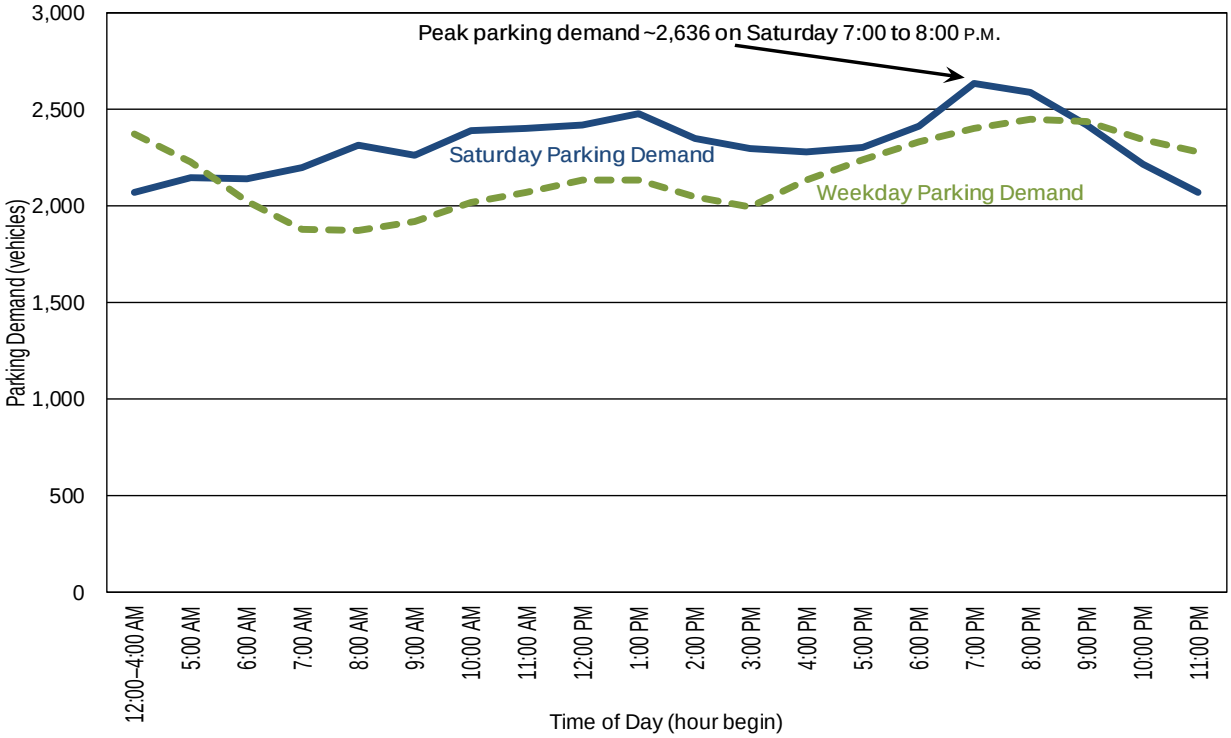
3.4. Parking Supply and Demand

Shared-use parking demand models were developed for the full-build Point Ruston development. Peak weekday and Saturday parking demand rates and equations from ITE's *Parking Generation*[18] were applied to each land use. The published rates and equations reflect the peak demand, but the time that the peak occurs varies by land use. For example, the peak parking demand for an office use occurs mid-morning on a weekday, while the peak demand for restaurants occurs in the early evening or weekend. *Parking Generation* includes information about how parking for each use fluctuates by time of day (referred to as the parking accumulation rates) and how it differs on a weekday compared to weekends. The parking accumulation data from ITE were used for all of the land uses, where available. Accumulation rates were estimated for uses or time periods that were not available in *Parking Generation.*

To illustrate how parking varies, charts for the full-build development were prepared. Figure 11 shows the parking demand for a weekday versus a Saturday. As shown, the Saturday parking demand would be higher than the weekday demand primarily due to the retail, restaurant, and residential components. Figure 12 shows how the various land uses contribute to the cumulative demand on weekdays; Figure 13 shows cumulative demand by use for Saturdays. The parking demand and accumulation calculations are provided in Appendix C.

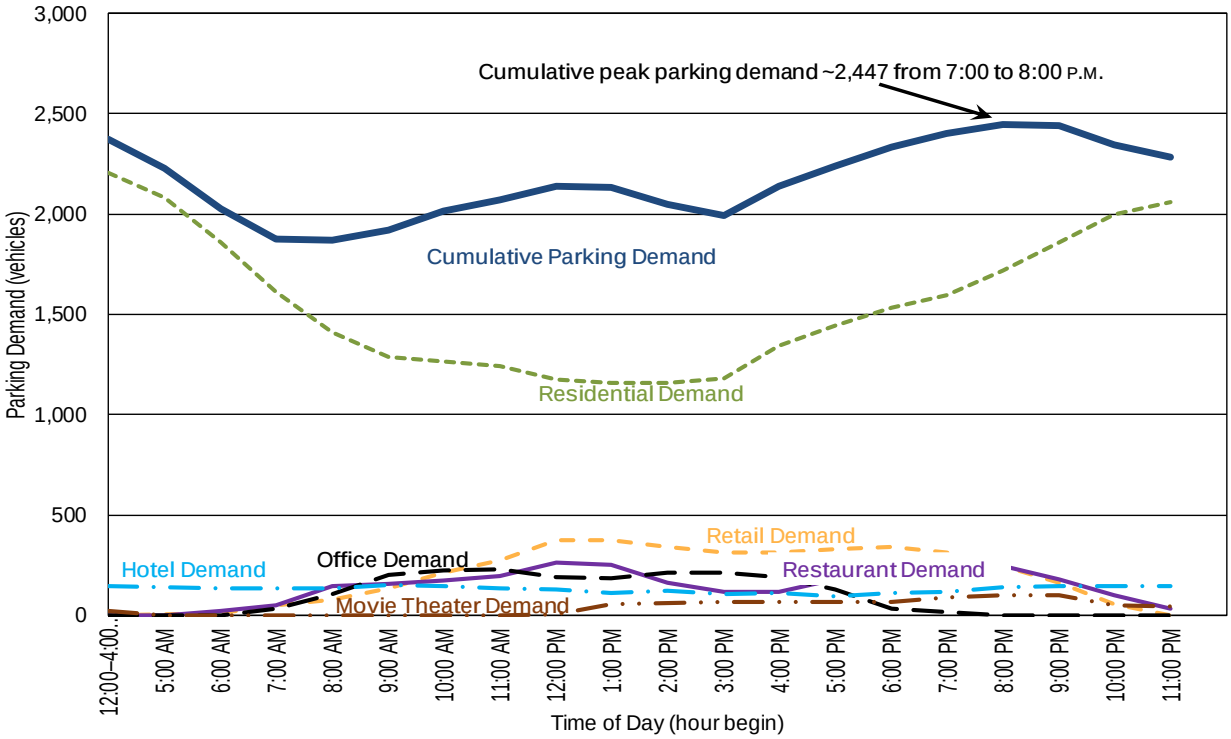
[18] ITE, 5th Edition, January 2019.

Figure 11. Parking Demand for Weekday versus Saturday Conditions



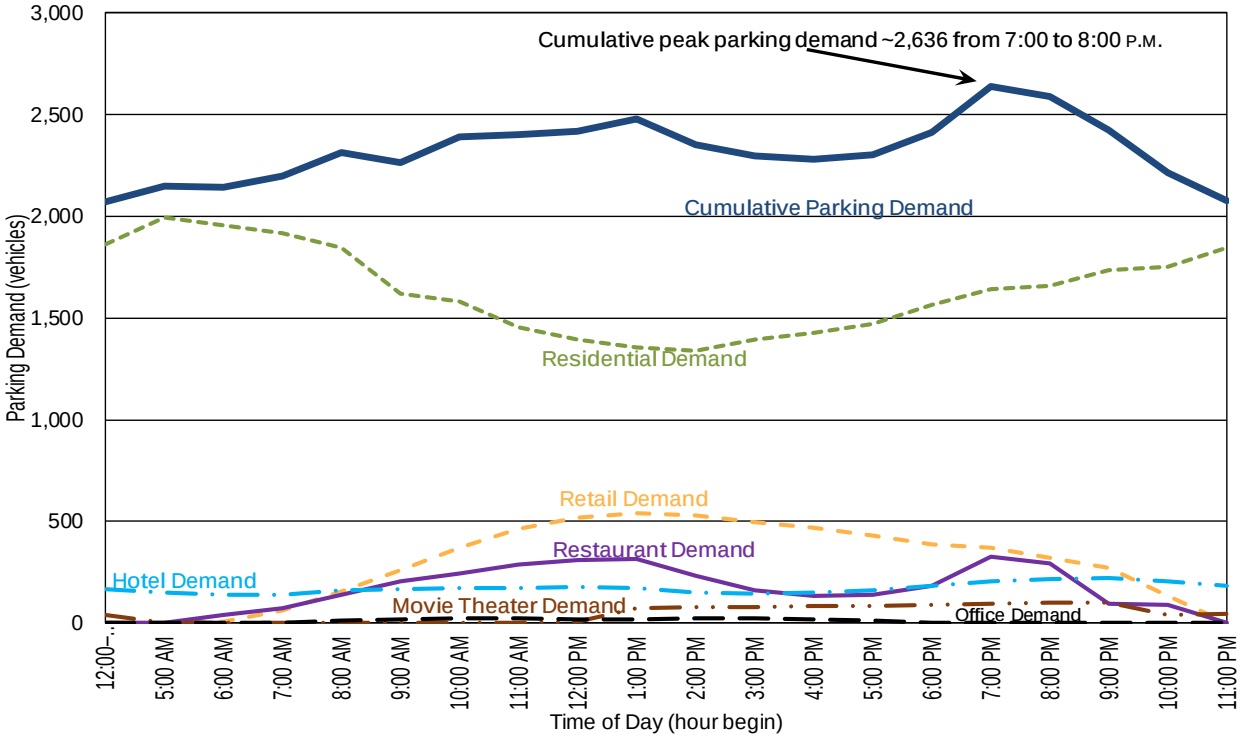
Source: Heffron Transportation, Inc. June 2019.

Figure 12. Parking Demand for a Weekday by Land Use Type



Source: Heffron Transportation, Inc. June 2019.

Figure 13. Parking Demand for a Saturday by Land Use Type



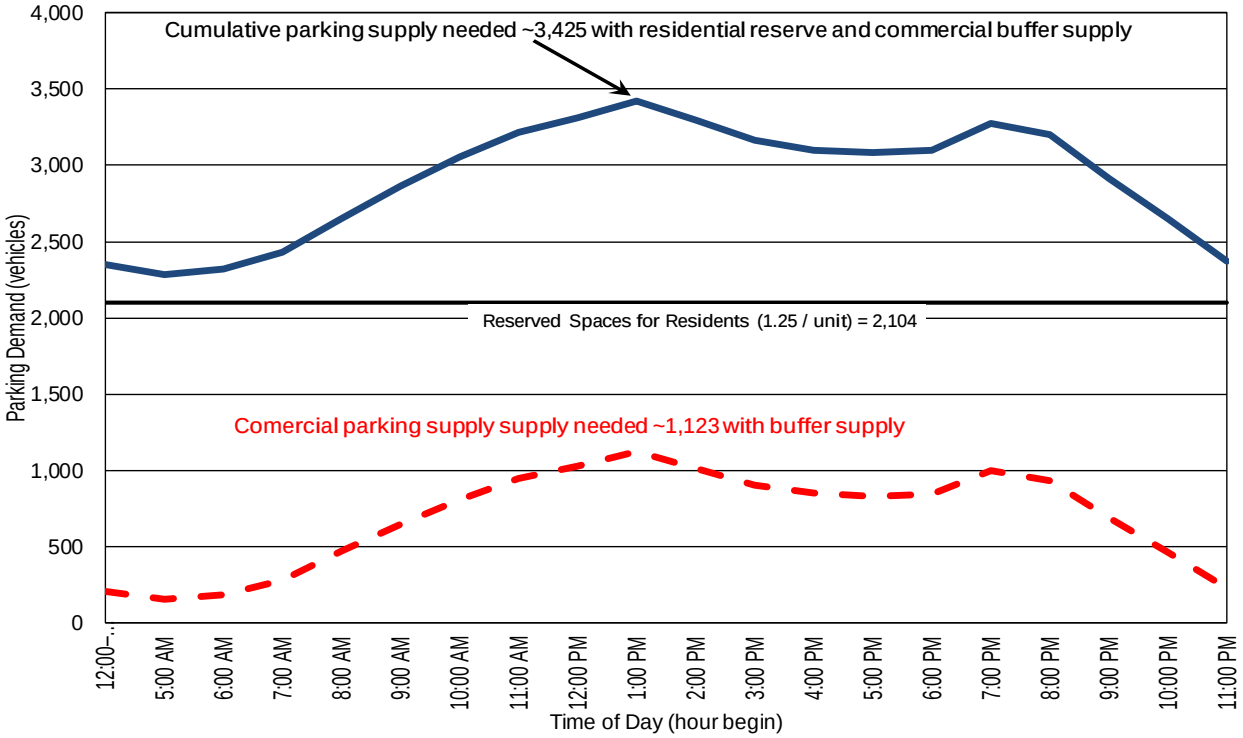
Source: Heffron Transportation, Inc. June 2019.

The previous charts show the cumulative parking demand without accounting for residential supply that may not be shared by other uses. Within Point Ruston, residential spaces are expected to be reserved for residents. This assures that spaces are available for them when they return home from work or weekend errands. Spaces reserved for residents are not available for use by vehicles generated by commercial spaces (e.g. office employees or retail customers). The effect is to increase the total supply needed for the overall site. To illustrate the effect of reserving residential spaces, parking demand was determined assuming that 1.25 parking spaces would be reserved for each residential unit.

Best planning practices for parking lots intended to serve short-term demand (two hours or less)—such as that generated by retail, restaurant, clinic, and theater uses—suggests providing enough supply to keep occupancy rates at or below 85%. When occupancy exceeds this level, users are forced to circulate through the lot to find the few remaining unoccupied spaces, increasing driving frustration. As a result, 85% occupancy is considered effectively full for short-term parking. Occupancy levels over 85% may discourage customers, clients, and visitors from coming the to the site and/or encourage undesirable parking (such as unpermitted use of disabled parking spaces, use of parking reserved for others, or parking in fire lanes).

Supply guidance for long-term parking, that serving all-day employee demand, can target 90% occupancy as effectively full. Employees may be willing to spend a bit more time searching for empty spaces with the understanding they will be parked for at least four hours or all day. Employees also come to the site daily and likely have a sense of where available spaces exist based on the time of arrival. Therefore, for the commercial uses at the site, it would be prudent to provide excess (or buffer) supply to accommodate seasonal fluctuations in demand and to account for the effective capacity of the overall parking supply. Figure 14 shows that 3,425 total spaces would be needed to account for reserved residential spaces and a buffer for commercial demand. It is acknowledged that this demand estimate does not account for the dispersed location of parking that may not support sharing among uses that are located relatively far apart on the site.

Figure 14. Parking Demand for a Saturday with Reserved Residential Spaces



Source: Heffron Transportation, Inc. June 2019. Assumes 1.25 reserved spaces per residential unit not available for other uses.

3.4.1. Parking Supply and Code Requirements

Parking will be provided in surface lots and garages throughout the Point Ruston development. The current development plan indicates total supply of over 4,600 spaces. This supply would meet the estimated peak demand described in the previous section.

Parking code requirements for the range of land use types vary depending on the use and location. City of Tacoma parking code requirements are outlined in the Tacoma Municipal Code (TMC) and apply to those uses within the Tacoma portion of the site. Requirements for uses within the City of Ruston are subject to requirements in the *Point Ruston Master Development Plan (PRMDP)*. Based on the current land use development plan and the applicable code requirements, Point Ruston estimates that the total code-required parking supply would be about 4,040 spaces. The planned parking supply would also meet the minimum code requirement for parking.

The code-required parking supply would accommodate the anticipated demand. As further development occurs, the proponent should work with the Cities of Tacoma and Ruston to determine if parking supply could be reduced to account for shared parking use or other management measures. A study published in the *ITE Journal* addresses issues associated with residential parking supply and demand. This study—*Assessing Multifamily Residential Parking Demand and Transit Service* [19]—presented results from surveys of eight apartment buildings in two distinct types of development areas with different levels of transit service. One of the conclusions of that study is that:

[19] D. Rowe, Dr. C.C. Bae, Q. Shen, ITE Journal, December 2010

> "*…the requirements that many cities place on developers to build excess parking supply has proved to encourage automobile use, increase development costs, decrease housing affordability, consume more land and natural resources, increase air and water pollution, and prohibit smart growth.*"

As technology evolves with increased use of car-share, ride-share, and autonomous vehicles, parking demand rates and supply needs may decline. Ongoing monitoring of parking supply and demand is recommended as the site is built and occupied.

3.5. Traffic Safety

The collision data provided for the study area did not indicate any unusual collision patterns that would impact or be impacted by the proposed project. Based on statistical trends, higher traffic volumes tend to relate to a higher number of collisions because they increase potential vehicle conflicts. Thus, the increase in traffic associated with full development of the Point Ruston site is likely to increase the probability for collisions in the study area. However, the volume of daily and PM peak hour traffic estimated for the current proposal is similar to that considered and evaluated in the FSEIS; therefore, the current proposal is not expected to result in any new adverse impacts to traffic safety.

3.6. Transit

As described previously, the site is not currently served by public transit and Pierce Transit does not currently have plans to provide transit service along Ruston Way. The increase in residential and commercial density at the site could influence future route planning decisions that may lead to some future provision of service. Point Ruston would support future implementation of transit service that could enhance the overall multi-modal environment for the Ruston Way corridor. One of the FSEIS mitigation measures stated that "*In coordination with Pierce Transit, design the internal roadway to provide for future transit service.*" Point Ruston has committed to providing space for transit stops within the site and would support additional stops along Ruston Way if recommended by Pierce Transit.

3.7. Non-Motorized Transportation Facilities

The non-motorized transportation facilities and access options have already been improved as part of the early phases of the Point Ruston development. Pedestrian and bicycle access to the waterfront for the general public was provided in the form of the waterfront promenade connecting the north terminus of the Ruston Way Path with the Peninsula Park. In addition, a multi-use non-motorized facility was constructed along Ruston Way between N 51st Street / N Baltimore Street and the former north terminus of the Ruston Way Path.

4. FINDINGS AND CONCLUSIONS

The following sections summarize the findings of this report.

- **Development Program:** The current Point Ruston development plan would construct more residential units, hotel rooms, retail space, and restaurant space, but would have a much smaller health club, no supermarket, less office space, and some new uses that were not specifically considered in the original FSEIS prepared for the project in 2006 and 2007.

- **Site Access:** No changes are proposed to the primary access points or overall internal circulation roadways, which have already largely been constructed. There are some minor differences in access planned for buildings proposed to be located west and south of the Ruston Way / N 51st Street / N Baltimore roundabout intersection.

- **Schedule for Completion:** Several phases of the development have been constructed and are occupied, while others are currently under construction. Completion and occupancy are now expected by year 2026.

- **Traffic Generation:** Peak hour and daily vehicular trip generation estimates were derived using a calibrated trip generation model based on the most current version (10th Edition) of ITE's *Trip Generation Manual*. The cumulative vehicle trips generated by all the land uses included in this analysis are estimated at 895 during the AM peak hour and 1,275 trips during the PM peak hour. The forecast PM peak hour trip estimates for the current development are about 16% lower than the external trip values used in the FSEIS (Table 3.7-10) for the original analysis.

- **Traffic Distribution:** Trip distribution patterns were derived from a combination of count data and origin-destination survey results. The results are slightly different from those assumed in the FSEIS, which were prepared prior to the completion of the N 51st Street / N Baltimore Street connection to Ruston Way. A higher proportion of site trips (36% instead of the FSEIS-assumed 29%) use N 51st Street to and from the site, while fewer trips use N Baltimore Street (4.6% compared to the FSEIS-assumed 10%). Routes accessing Ruston Way (N 49th Street, Alder Way, and McCarver Street) carried slightly higher percentages of Pont Ruston trips than assumed in the FSEIS.

- **Impacts to Intersection Operations:** Point Ruston traffic is forecast to increase delays at several locations; however, most would continue operating at LOS C or better overall. Degradations to LOS E or F are predicted at three of the study-area intersections—the all-way-stop N 51st Street / N Winnifred Street (forecast to operate at LOS E); the stop-controlled Ruston Way / N 49th Street (expected to degrade to LOS F); and turns from Alder Way onto Ruston Way (degrade to LOS E). All three locations were also identified as project-impact locations in the FSEIS; two of which were identified for mitigation—Ruston Way at N 49th Street and at Alder Way. The N 51st Street N Winnifred Street intersection has been identified for mitigation by Metro Parks Tacoma as a result of the Point Defiance Park project, if a monitoring program determines they are necessary.

- **Signal Warrant Reviews:** Warrant analyses suggest the FSEIS-prescribed mitigation of installing a signal at the Ruston Way / N 49th Street intersection would be needed when the Point Ruston site is projected to generate about 80% of its total full-build traffic (expected at Phase 10). Warrants may not be met for a signal at the Ruston Way / Alder Way intersection as previously required in the FSEIS.

- **Limited Utility of N Baltimore Street / N 46th Street Mitigation:** The FSEIS predicted larger project-related traffic impacts and recommended mitigation at this intersection because of assumed traffic diversions from N 51st Street that have not materialized. The prescribed mitigation at this intersection consisted of adding eastbound and westbound left-turn lanes and a southbound right-turn lane. The intersection is forecast to operate at LOS A overall with all movements at LOS C or better with the full-build Point Ruston traffic and without the prescribed mitigation. The analysis demonstrated negligible benefits of the added turn lanes.

- **Ruston Way Travel Time Impacts:** Travel-time analysis and simulations indicate the northwest-bound travel time on Ruston Way between McCarver Street and N 51st Street could triple with the project (increasing to 22.3 minutes with an arterial speed of 13 mph (LOS E)). However, nearly 95% of the increase in delay and travel time is projected to occur approaching the McCarver Street intersection and the southernmost Harbor Lights driveways. The southeast-bound travel time is predicted to increase to 9.7 minutes with a speed of 18 mph (LOS C).

- **Travel-time Benefits of FSEIS-Prescribed Mitigation:** With the remaining FSEIS-prescribed mitigation improvements, the simulated northwest-bound travel time was reduced to 10 minutes with an arterial speed improved to 19 mph (LOS C). The simulated southeast-bound travel time increased to 7.3 minutes with a slightly reduced speed of 22 mph (LOS C). The introduction of signals at Alder Way and N 49th Street with protected-permissive left-turn phasing would introduce platoon flow of southbound traffic creating more gaps and allowing left-turns to occur at various locations along the corridor south of Alder Way. These changes account for much of the benefit to northbound flow and the slight degradation to southbound flow.

- **McCarver Street-Harbor Lights Congestion:** Simulations indicate that the majority of the corridor delay and congestion accumulates around the McCarver Street and southernmost Harbor Lights driveways, where the prescribed mitigation would not change the channelization. Elimination of left turns at locations where left-turn storage does not exist and likely cannot be added, resulted in substantial reduction in congestion and delay at the McCarver Street and Harbor Lights vicinity.

- **Limited Benefit of Prescribed Left-Turn Pocket:** The FSEIS-prescribed left-turn lane additions on Ruston way would serve six or seven driveway intersections with relatively few trips (9 northwest bound left turns and 20 southeast-bound left-turns during the PM peak hour). Simulations indicate some incremental benefit to through traffic, but improvement was only by about 14 seconds in the peak direction. It may also result in the loss of parking along one or both sides of the roadway due to limits in available right-of-way. Preliminary schematic plans indicate as many as 56 parking spaces could be eliminated in the areas near Katie Downs, Duke's Chowder House, and Harbor Lights).

- **On-site Parking.** The code-required parking supply would accommodate the anticipated demand. As further development occurs, the proponent should work with the Cities of Tacoma and Ruston to determine if parking supply could be reduced to account for shared parking use or other management measures.

Based on the analysis presented, the current Point Ruston development plan is expected to generate lower levels of PM peak hour and daily traffic than evaluated in the FSEIS. The actual distribution of site trips is somewhat different than was predicted prior to the completion of key roadway network elements; however, the no new adverse impacts nor additional mitigation would be required to accommodate the full-build Point Ruston development.

The schedule and PM peak hour trip thresholds identified in the FSEIS for making the mitigation improvements, particularly those required at the 600th PM peak hour trip, did not consider key factors for implementation. Specifically, they did not consider that the signalization at the Ruston Way intersections with N 49th Street and Alder Way would only be approved by the City of Tacoma when applicable signal warrants are met, which may not occur until later phases of the development. In addition, with new information about how project traffic is using N Baltimore Street and now expected to result in less-than-predicted traffic volume and delay impacts, it would be reasonable to re-examine whether the remaining prescribed mitigation improvements along N Baltimore Street are cost-effective and/or desirable. Even if Point Ruston-generated traffic on N Baltimore Street is double the level forecast in this report, the intersection operations would not necessitate the listed channelization improvements at the N 46th Street intersection. Finally, the remaining mitigation measure for left-turn storage along Ruston Way north and south of the Alder Way noted that the City reserved the right to reduce the length of the new turn lane in order to preserve and protect existing parking facilities. The actual implementation of this measure should be consistent with the vision set by the *Envision Our Waterfront* planning document and any subsequent recommendations from that community-based effort. The final configuration could consist of a combination of access consolidation, turn restrictions, non-motorized facility enhancement, and some additional turn pocket segments where feasible, if needed.

Based on these analyses, it is recommended that Point Ruston, provide periodic traffic monitoring as site development phases continue to be occupied. The monitoring effort would be used to confirm that trip generation remains at or below the FSEIS levels and to determine if and when the remaining mitigation measures should be implemented. With on-going monitoring, the City and Point Ruston may jointly agree that some measures do not have a clear relationship to project-generated traffic or are no longer consistent with the current vision for one or more of the subject roadways or intersections. In that instance, alternative, substitute or no mitigation would need to be identified and processed through the appropriate environmental review. The following lists the specific completed and remaining measures from the FSEIS and how traffic monitoring is recommended for those remaining. The monitoring efforts should be ended within six months to a year of full occupancy of the full Point Ruston development, since all project-related impacts would be accounted for at that time.

Completed Measures

Ruston Way:

1. Reconstruct Ruston Way to a two-lane cross section with curb and gutter on both sides of the street and planting strip and sidewalk on the project side of the street. Provide a center turn lane at stop-controlled access along the frontage.
2. Provide bicycle lanes on both sides of the street between the north terminus of the Ruston bicycle/pedestrian trail and the proposed intersection at Baltimore/ Ruston Way. Provide a marked pedestrian crossing on Ruston Way to provide a link between the southbound bicycle lane and the Ruston bicycle/pedestrian trail. *[This measure was modified in coordination with City of Tacoma to provide shared-use path on one side.]*
3. Decommission the existing tunnel on Ruston Way.
4. Provide a roundabout at the proposed intersection of N Baltimore Street/ Ruston Way. The roundabout shall be designed to operate at level-of-service D or better at full project build out and year 2014.
5. Provide a roundabout at the proposed intersection southeast of N Baltimore Street / Ruston Way. The roundabout shall be designed to operate at level-of-service D or better at full project build out and year 2014.
6. Provide a stop-controlled access with separate outbound turn lanes at the secondary site access to the south of the primary access.

Baltimore Street:

1. Provide a two-lane roadway with bike lanes to reconnect N Baltimore Street with Ruston Way.

2. Provide curb and gutter on the west side of Baltimore Street north of N 49th Street where needed. (Improvements to the east side of the street are provided as part of the Stack Hill development.)

Non-Motorized Improvements

1. Pedestrian and bicycle access to the waterfront for the general public will be improved with the proposed waterfront promenade that will connect the north terminus of the Ruston bicycle/pedestrian trail with the proposed Peninsula Park.

2. Bicycle lanes will be provided on Ruston Way between N Baltimore Street and the north terminus of the Ruston bicycle/pedestrian path.

3. A bicycle route will be included with improvements to the segment of N Baltimore Street between Ruston Way and N 46th Street.

4. Provide secure bicycle parking facilities to accommodate a minimum of 75 bicycles.

Other Improvements

1. Design the internal roadway to provide for a future access to Peninsula Park when it is developed.

2. In coordination with Pierce Transit, design the internal roadway to provide for future transit service.

Remaining Measures

Ruston Way:

7. Extend the Ruston Way center turn lane starting from the center line of North Alder Street north for approximately 1,630 feet to reduce delays for through traffic and to facilitate left turns to parking lots. Extend the Ruston Way center turn lane starting from the center line of North Alder Street south for approximately 930 feet to provide a refuge for northbound left turns into the existing parking lots. To protect existing parking facilities, the City reserves the right to reduce the length of the new center turn lanes required for mitigation.

   For the identified segment, coordinate with City of Tacoma and Metro Parks Tacoma to explore design options that consider access consolidation, turn restrictions, and non-motorized facilities consistent with the vision set by the *Envision Our Waterfront* planning document. Possible options to meet the intent of this measure while protecting the existing parking facilities and aligning with the most current vision for the corridor could include:

   - Encourage transit use for those visiting the waterfront and Point Ruston by extending Pierce Transit Route 11 to serve the Point Ruston site as an interim step until a waterfront Pierce Transit route can be established. Point Ruston decommissioned the tunnel on Ruston Way, which previously prevented transit bus access. It also constructed a transit stop on Ruston Way adjacent to the site near the N Baltimore Street / N 51st Street roundabout and has recently begun discussions with Pierce Transit on service options.

- Restrict left turns at locations where adding left-turn storage would otherwise eliminate parking and increase crossing distance for marked crosswalks. Provide signage and parking lot circulation improvements to better serve those affected waterfront businesses.

8. Ruston Way & N Alder Street – Signalize the intersection of North Alder Street and Ruston Way to improve intersection operation from level-of-service F to level-of-service D or better for any movement.

   Provide ongoing monitoring to determine if/when intersection meets one or more applicable MUTCD warrants for the installation of a traffic signal. If/when met, provide protected/permitted phasing for northwest-bound left turns to Alder Way.

9. Ruston Way & McCarver Street – Modify the vehicle signal head for the westbound (Ruston Way) left-turn onto McCarver Street from a permissive left-turn to a protected/permissive left-turn.

   Monitor traffic volumes to determine timing for implementation and install as required by the City. Ensure that signal cycle length and phase splits can be optimized as traffic volumes grow on Ruston Way. This measure could be implemented with item 10 below.

10. Ruston Way & N 49th Street – Signalize the intersection of Ruston Way and North 49th Street if an analysis indicates the delay for any movement exceeds level of service 'D' and/or meets accident warrants. The traffic signal will reduce delays experienced by left-turning vehicles and will increase pedestrian safety.

    Provide ongoing monitoring to determine when intersection meets one or more applicable MUTCD warrants for the installation of a traffic signal. Analysis in this report indicates one or more warrants may be met with 80% of the Point Ruston traffic or with occupancy of Phase 10. If/when met, design signal to provide protected/permitted phasing for northwest-bound left turns to Alder Way.

Baltimore Street:

The following measures appear to have been included as mitigation in the FSEIS due to predicted and assumed increases in traffic resulting from the connection of N Baltimore Street to Ruston Way. Specifically, the FSEIS stated that:

> *Reestablishing the Baltimore connection will increase the number of vehicle trips at the south leg of the intersection of N. 46th Street & N. Baltimore Street from 50 to 272 during the PM peak hour. The controlled southbound approach to the intersection would drop from LOS-B under existing conditions to LOS-D under future conditions with the project complete and occupied. Segments of this roadway are deficient and would be impacted by the increase in traffic volumes.*

However, the diversion of existing traffic has not occurred as predicted and the prescribed improvements do not appear to have a clear relationship to project-generated traffic.

3. Provide curb, gutter, and sidewalk between N 49th Street and N 46th Street where needed.

   Monitor Point Ruston-generated use of corridor and review City and immediately-surrounding community support for implementation. If background and Point Ruston traffic reach the levels originally projected in the FSEIS, then immediately-surrounding community support for the implementation should be assessed, and impacts to the Baltimore-fronting property owners should be weighed prior to proceeding with the improvement designed under City Work Order WO18-0043.

4. Upgrade existing or add new street lighting to meet current arterial street standards.

   Monitor Point Ruston-generated use of corridor and review City and immediately-surrounding community support for implementation.

5. Develop a channelization plan for the segment of Baltimore between N 49th Street and N 46th Street that provides for a single travel lane in each direction, additional road width for bicycles, and accommodates parallel parking within the usable right of way. The plan should minimize impacts to existing land uses. Review and refine plan with City staff and construct improvements. *[This measure is complete except for construction.]*

   Monitor Point Ruston traffic use of corridor and review City and immediately-surrounding community support for implementation.

6. N 46th Street & N Baltimore Street – Provide eastbound and westbound left turn lanes and a southbound right turn lane. Reconstruct the sidewalks/curb ramps at the corners of the intersection to meet current road standards. Provide a marked pedestrian crossing on N 46th Street with warning signs and beacons as per City street standards.

   Monitor volumes and Point Ruston traffic use of intersection and review City and immediately-surrounding community support for implementation of some or all elements.

As stated above, the monitoring efforts should be ended within six months to a year of full occupancy of the full Point Ruston development, since all project-related impacts would be accounted for at that time.

DRAFT

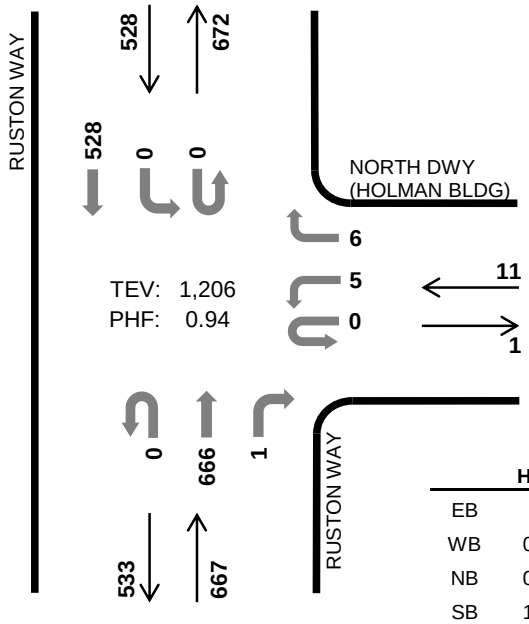
APPENDIX A
Traffic Count Data Sheets

RUSTON WAY
NORTH DWY (HOLMAN BLDG)

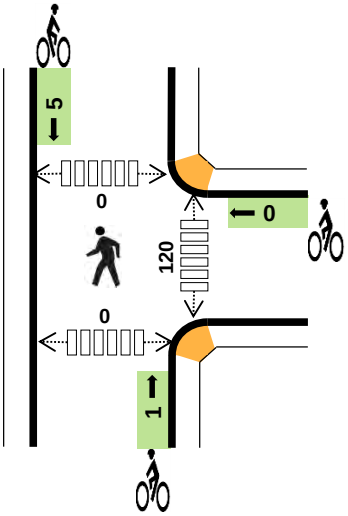
Date: Thu, May 09, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM

N

Peak Hour



	HV %:	PHF
EB	-	-
WB	0.0%	0.69
NB	0.1%	0.89
SB	1.1%	0.92
TOTAL	0.6%	0.94



Two-Hour Count Summaries

Interval Start	0				NORTH DWY (HOLMAN BLDG)				RUSTON WAY				RUSTON WAY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	1	0	4	0	0	148	0	0	0	129	0	282	0
4:15 PM	0	0	0	0	0	1	0	0	0	0	160	0	0	0	135	0	296	0
4:30 PM	0	0	0	0	0	1	0	1	0	0	136	0	0	0	126	0	264	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**172**	**0**	**0**	**0**	**144**	**0**	**320**	1,162
5:00 PM	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**1**	**0**	**0**	**157**	**0**	**0**	**0**	**130**	**0**	**291**	1,171
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**150**	**1**	**0**	**0**	**126**	**0**	**278**	1,153
5:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**187**	**0**	**0**	**0**	**128**	**0**	**317**	**1,206**
5:45 PM	0	0	0	0	0	0	0	0	0	0	175	0	0	0	89	0	264	1,150
Count Total	0	0	0	0	0	8	0	11	0	0	1,285	1	0	0	1,007	0	2,312	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**6**	**0**	**0**	**666**	**1**	**0**	**0**	**528**	**0**	**1,206**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	2	*3*	0	0	0	0	*0*	20	0	0	0	*20*
4:15 PM	0	0	0	2	*2*	0	0	3	1	*4*	25	0	0	0	*25*
4:30 PM	0	0	0	1	*1*	0	0	0	0	*0*	19	0	0	0	*19*
4:45 PM	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**1**	***1***	**36**	**0**	**0**	**0**	*36*
5:00 PM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**1**	**3**	***4***	**41**	**0**	**0**	**0**	*41*
5:15 PM	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**1**	***1***	**28**	**0**	**0**	**0**	*28*
5:30 PM	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**0**	***0***	**15**	**0**	**0**	**0**	***15***
5:45 PM	0	0	0	1	*1*	0	0	0	0	*0*	19	0	0	0	*19*
Count Total	0	0	2	12	*14*	0	0	4	6	*10*	203	0	0	0	*203*
Peak Hr	**0**	**0**	**1**	**6**	***7***	**0**	**0**	**1**	**5**	***6***	**120**	**0**	**0**	**0**	***120***

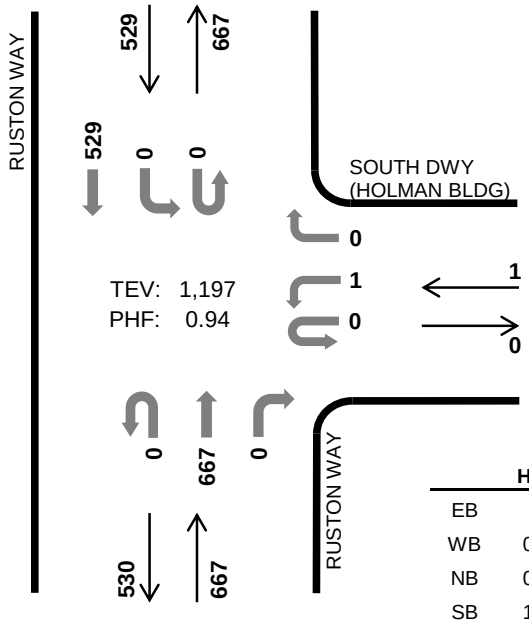
Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

RUSTON WAY
SOUTH DWY (HOLMAN BLDG)

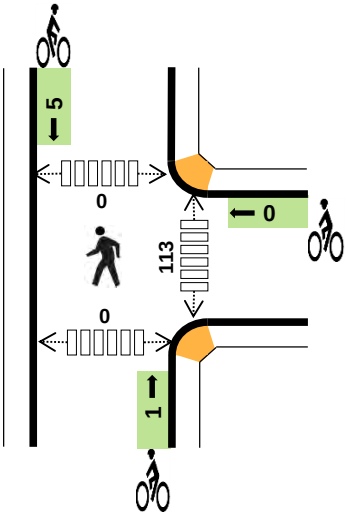
Date: Thu, May 09, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM

N

Peak Hour



	HV %:	PHF
EB	-	-
WB	0.0%	0.25
NB	0.1%	0.88
SB	1.1%	0.92
TOTAL	0.6%	0.94



Two-Hour Count Summaries

Interval Start	0				SOUTH DWY (HOLMAN BLDG)				RUSTON WAY				RUSTON WAY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	1	0	0	0	0	148	1	0	2	128	0	280	0
4:15 PM	0	0	0	0	0	2	0	0	0	0	159	2	0	0	135	0	298	0
4:30 PM	0	0	0	0	0	1	0	0	0	0	138	0	0	0	128	0	267	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**173**	**0**	**0**	**0**	**144**	**0**	**317**	1,162
5:00 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**157**	**0**	**0**	**0**	**130**	**0**	**288**	1,170
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**148**	**0**	**0**	**0**	**128**	**0**	**276**	1,148
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**189**	**0**	**0**	**0**	**127**	**0**	**316**	**1,197**
5:45 PM	0	0	0	0	0	1	0	0	0	0	175	0	0	0	91	0	267	1,147
Count Total	0	0	0	0	0	6	0	0	0	0	1,287	3	0	2	1,011	0	2,309	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**667**	**0**	**0**	**0**	**529**	**0**	**1,197**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

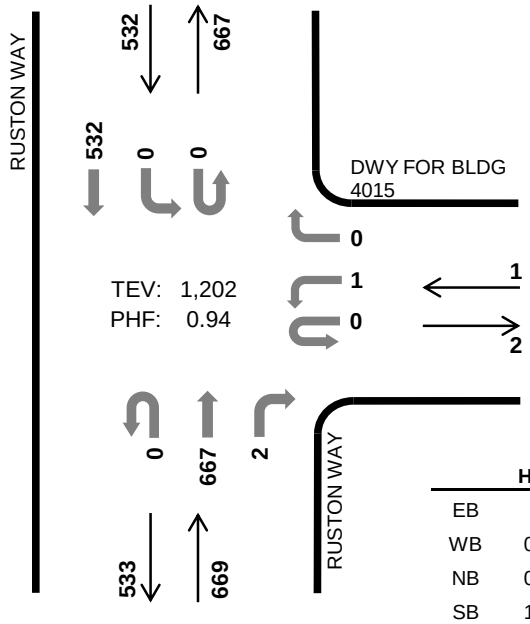
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	2	*3*	0	0	0	0	*0*	27	0	0	0	*27*
4:15 PM	0	0	0	2	*2*	0	0	3	1	*4*	26	0	0	0	*26*
4:30 PM	0	0	0	1	*1*	0	0	0	0	*0*	19	0	0	0	*19*
4:45 PM	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**1**	***1***	**34**	**0**	**0**	**0**	*34*
5:00 PM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**1**	**3**	***4***	**34**	**0**	**0**	**0**	*34*
5:15 PM	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**1**	***1***	**31**	**0**	**0**	**0**	*31*
5:30 PM	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**0**	***0***	**14**	**0**	**0**	**0**	***14***
5:45 PM	0	0	0	1	*1*	0	0	0	0	*0*	23	0	0	0	*23*
Count Total	0	0	2	12	*14*	0	0	4	6	*10*	208	0	0	0	*208*
Peak Hr	**0**	**0**	**1**	**6**	***7***	**0**	**0**	**1**	**5**	***6***	**113**	**0**	**0**	**0**	***113***

RUSTON WAY
DWY FOR BLDG 4015

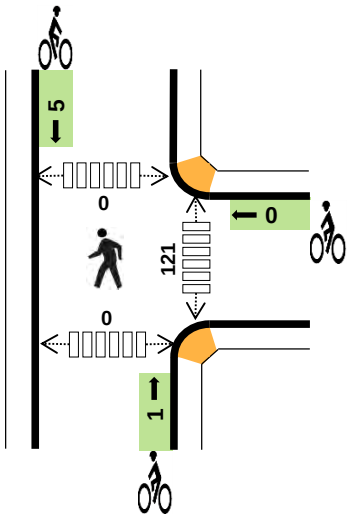
Date: Thu, May 09, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM

N

Peak Hour



	HV %:	PHF
EB	-	-
WB	0.0%	0.25
NB	0.1%	0.88
SB	1.1%	0.93
TOTAL	0.6%	0.94



Two-Hour Count Summaries

Interval Start	0				DWY FOR BLDG 4015				RUSTON WAY				RUSTON WAY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	1	0	0	0	0	149	1	0	0	129	0	280	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	164	1	0	0	138	0	303	0
4:30 PM	0	0	0	0	0	2	0	0	0	0	137	2	0	0	129	0	270	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**175**	**1**	**0**	**0**	**143**	**0**	**319**	1,172
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**156**	**0**	**0**	**0**	**134**	**0**	**290**	1,182
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**146**	**0**	**0**	**0**	**128**	**0**	**274**	1,153
5:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**190**	**1**	**0**	**0**	**127**	**0**	**319**	**1,202**
5:45 PM	0	0	0	0	0	0	0	0	0	0	175	1	0	0	93	0	269	1,152
Count Total	0	0	0	0	0	4	0	0	0	0	1,292	7	0	0	1,021	0	2,324	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**667**	**2**	**0**	**0**	**532**	**0**	**1,202**	**0**

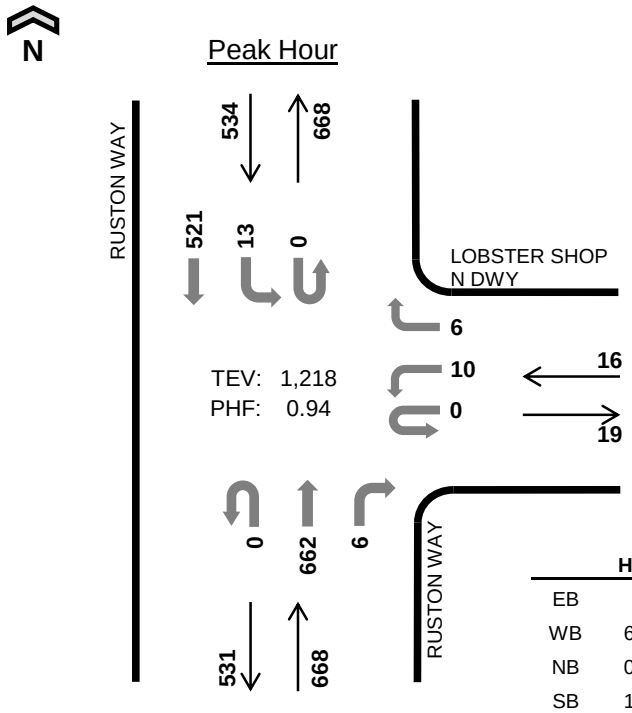
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	2	*3*	0	0	0	0	*0*	27	0	0	0	*27*
4:15 PM	0	0	0	2	*2*	0	0	3	1	*4*	28	0	0	0	*28*
4:30 PM	0	0	0	1	*1*	0	0	0	0	*0*	21	0	0	0	*21*
4:45 PM	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**1**	***1***	**36**	**0**	**0**	**0**	*36*
5:00 PM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**1**	**3**	***4***	**30**	**0**	**0**	**0**	*30*
5:15 PM	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**1**	***1***	**37**	**0**	**0**	**0**	*37*
5:30 PM	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**0**	***0***	**18**	**0**	**0**	**0**	***18***
5:45 PM	0	0	0	1	*1*	0	0	0	0	*0*	21	0	0	0	*21*
Count Total	0	0	2	12	*14*	0	0	4	6	*10*	218	0	0	0	*218*
Peak Hr	**0**	**0**	**1**	**6**	***7***	**0**	**0**	**1**	**5**	***6***	**121**	**0**	**0**	**0**	***121***

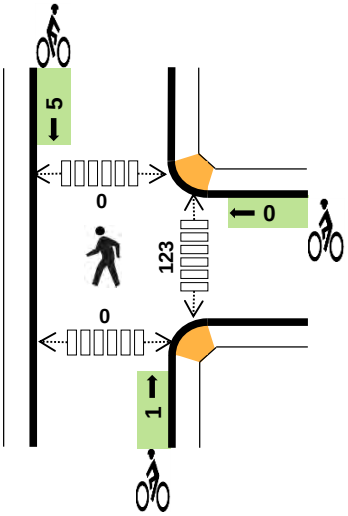
Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

RUSTON WAY
LOBSTER SHOP N DWY

Date: Thu, May 09, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	-	-
WB	6.3%	0.67
NB	0.1%	0.89
SB	1.1%	0.91
TOTAL	0.7%	0.94



Two-Hour Count Summaries

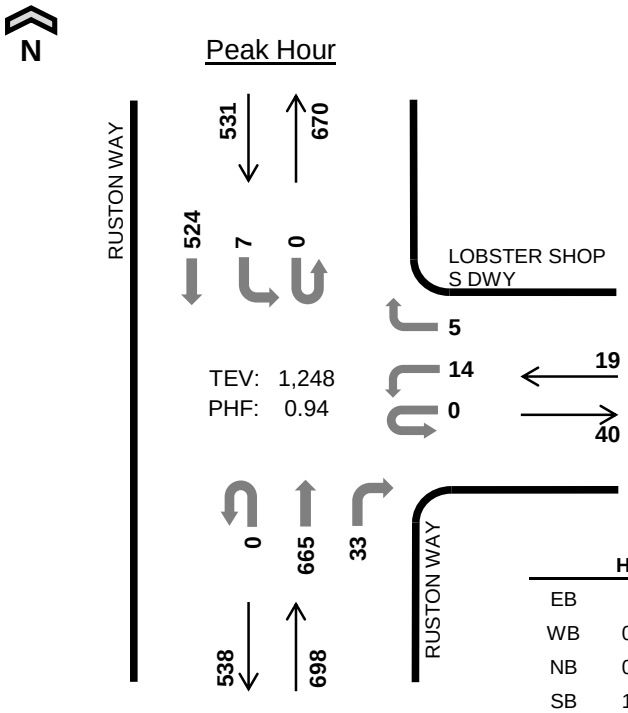
Interval Start	0				LOBSTER SHOP N DWY				RUSTON WAY				RUSTON WAY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	1	0	0	149	1	0	3	129	0	283	0
4:15 PM	0	0	0	0	0	1	0	2	0	0	163	2	0	4	135	0	307	0
4:30 PM	0	0	0	0	0	1	0	0	0	0	139	4	0	2	128	0	274	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**3**	**0**	**0**	**173**	**0**	**0**	**3**	**143**	**0**	**325**	1,189
5:00 PM	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**2**	**0**	**0**	**156**	**1**	**0**	**2**	**132**	**0**	**297**	1,203
5:15 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**148**	**2**	**0**	**4**	**122**	**0**	**277**	1,173
5:30 PM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**185**	**3**	**0**	**4**	**124**	**0**	**319**	**1,218**
5:45 PM	0	0	0	0	0	0	0	1	0	0	177	2	0	1	92	0	273	1,166
Count Total	0	0	0	0	0	12	0	10	0	0	1,290	15	0	23	1,005	0	2,355	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**6**	**0**	**0**	**662**	**6**	**0**	**13**	**521**	**0**	**1,218**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

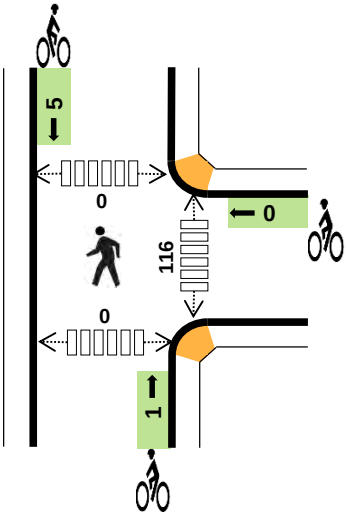
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	2	*3*	0	0	0	0	*0*	30	0	0	0	*30*
4:15 PM	0	0	0	2	*2*	0	0	3	1	*4*	29	0	0	0	*29*
4:30 PM	0	0	0	1	*1*	0	0	0	0	*0*	20	0	0	0	*20*
4:45 PM	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**1**	***1***	**37**	**0**	**0**	**0**	*37*
5:00 PM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**1**	**3**	***4***	**29**	**0**	**0**	**0**	*29*
5:15 PM	**0**	**1**	**0**	**2**	***3***	**0**	**0**	**0**	**1**	***1***	**39**	**0**	**0**	**0**	*39*
5:30 PM	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**0**	***0***	**18**	**0**	**0**	**0**	***18***
5:45 PM	0	0	0	1	*1*	0	0	0	0	*0*	17	0	0	0	*17*
Count Total	0	1	2	12	*15*	0	0	4	6	*10*	219	0	0	0	*219*
Peak Hr	**0**	**1**	**1**	**6**	***8***	**0**	**0**	**1**	**5**	***6***	**123**	**0**	**0**	**0**	***123***

RUSTON WAY
LOBSTER SHOP S DWY

Date: Thu, May 09, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	-	-
WB	0.0%	0.95
NB	0.3%	0.87
SB	1.3%	0.93
TOTAL	0.7%	0.94



Two-Hour Count Summaries

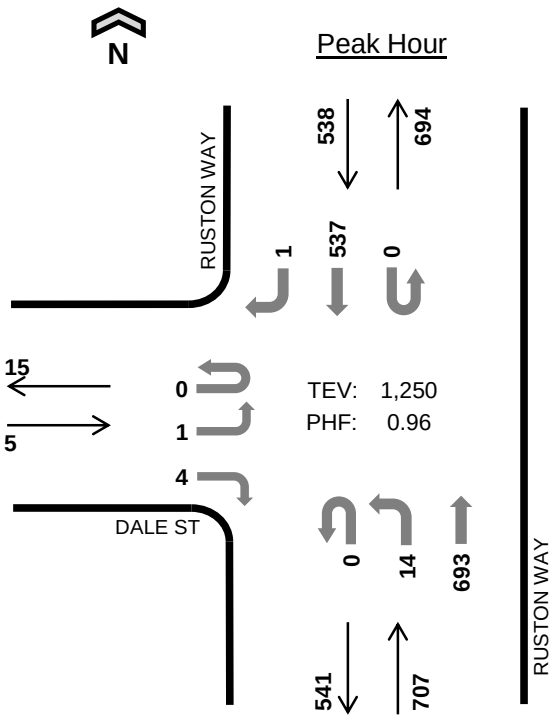
Interval Start	0				LOBSTER SHOP S DWY				RUSTON WAY				RUSTON WAY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	2	0	2	0	0	148	5	0	1	126	0	284	0
4:15 PM	0	0	0	0	0	2	0	3	0	0	161	5	0	4	131	0	306	0
4:30 PM	0	0	0	0	0	4	0	1	0	0	140	6	0	1	127	0	279	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**1**	**0**	**0**	**174**	**6**	**0**	**1**	**141**	**0**	**326**	1,195
5:00 PM	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**157**	**9**	**0**	**2**	**134**	**0**	**307**	1,218
5:15 PM	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**1**	**0**	**0**	**147**	**5**	**0**	**1**	**124**	**0**	**282**	1,194
5:30 PM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**3**	**0**	**0**	**187**	**13**	**0**	**3**	**125**	**0**	**333**	**1,248**
5:45 PM	0	0	0	0	0	1	0	1	0	0	177	4	0	1	88	0	272	1,194
Count Total	0	0	0	0	0	23	0	12	0	0	1,291	53	0	14	996	0	2,389	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**5**	**0**	**0**	**665**	**33**	**0**	**7**	**524**	**0**	**1,248**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

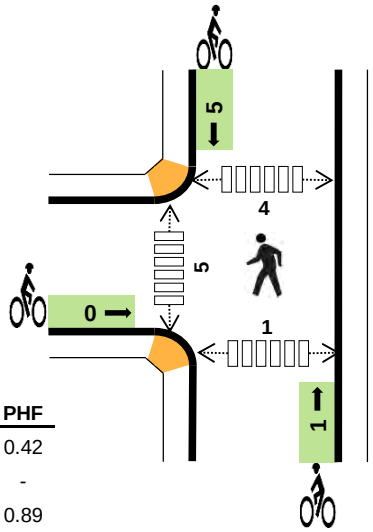
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	2	*3*	0	0	0	0	*0*	24	0	0	0	*24*
4:15 PM	0	0	0	2	*2*	0	0	3	1	*4*	26	0	0	0	*26*
4:30 PM	0	0	0	1	*1*	0	0	0	0	*0*	22	0	0	0	*22*
4:45 PM	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**1**	***1***	**36**	**0**	**0**	**0**	*36*
5:00 PM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**1**	**3**	***4***	**25**	**0**	**0**	**0**	*25*
5:15 PM	**0**	**0**	**1**	**3**	***4***	**0**	**0**	**0**	**1**	***1***	**38**	**0**	**0**	**0**	*38*
5:30 PM	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**0**	***0***	**17**	**0**	**0**	**0**	***17***
5:45 PM	0	0	0	1	*1*	0	0	0	0	*0*	19	0	0	0	*19*
Count Total	0	0	3	13	*16*	0	0	4	6	*10*	207	0	0	0	*207*
Peak Hr	**0**	**0**	**2**	**7**	***9***	**0**	**0**	**1**	**5**	***6***	**116**	**0**	**0**	**0**	***116***

RUSTON WAY
DALE ST

Peak Hour



Date: Thu, May 09, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	0.0%	0.42
WB	-	-
NB	0.3%	0.89
SB	1.3%	0.94
TOTAL	0.7%	0.96

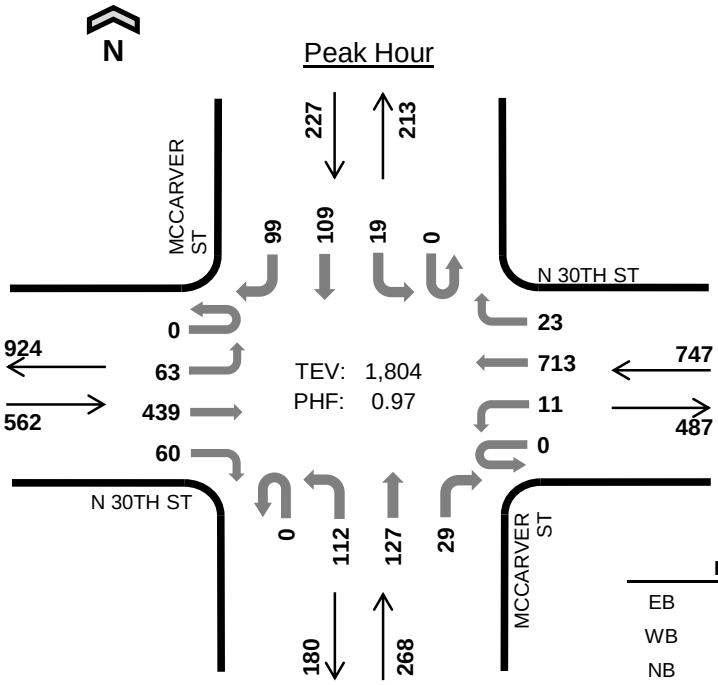
Two-Hour Count Summaries

Interval Start	DALE ST Eastbound				0 Westbound				RUSTON WAY Northbound				RUSTON WAY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	0	0	0	0	0	0	0	3	151	0	0	0	128	0	283	0
4:15 PM	0	1	0	2	0	0	0	0	0	0	170	0	0	0	133	0	306	0
4:30 PM	0	0	0	1	0	0	0	0	0	0	145	0	0	0	133	0	279	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**179**	**0**	**0**	**0**	**143**	**0**	**326**	1,194
5:00 PM	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**3**	**165**	**0**	**0**	**0**	**139**	**1**	**311**	1,222
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**155**	**0**	**0**	**0**	**129**	**0**	**287**	1,203
5:30 PM	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**4**	**194**	**0**	**0**	**0**	**126**	**0**	**326**	**1,250**
5:45 PM	0	0	0	2	0	0	0	0	0	7	183	0	0	0	90	0	282	1,206
Count Total	0	3	0	9	0	0	0	0	0	24	1,342	0	0	0	1,021	1	2,400	0
Peak Hour	**0**	**1**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**14**	**693**	**0**	**0**	**0**	**537**	**1**	**1,250**	**0**

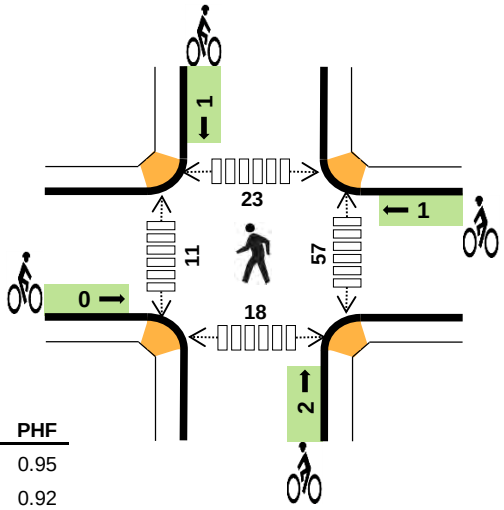
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	2	*3*	0	0	0	0	*0*	13	0	0	0	*13*
4:15 PM	0	0	0	2	*2*	0	0	3	1	*4*	14	0	0	0	*14*
4:30 PM	0	0	0	1	*1*	0	0	0	0	*0*	18	0	0	0	*18*
4:45 PM	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**1**	***1***	**19**	**0**	**2**	**0**	*21*
5:00 PM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**1**	**3**	***4***	**17**	**2**	**0**	**0**	*19*
5:15 PM	**0**	**0**	**1**	**3**	***4***	**0**	**0**	**0**	**1**	***1***	**20**	**2**	**0**	**0**	*22*
5:30 PM	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**0**	***0***	**17**	**1**	**2**	**1**	***21***
5:45 PM	0	0	0	1	*1*	0	0	0	0	*0*	16	0	0	2	*18*
Count Total	0	0	3	13	*16*	0	0	4	6	*10*	134	5	4	3	*146*
Peak Hr	**0**	**0**	**2**	**7**	***9***	**0**	**0**	**1**	**5**	***6***	**73**	**5**	**4**	**1**	***83***

MCCARVER ST
N 30TH ST



Date: Thu, May 09, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	0.2%	0.95
WB	0.4%	0.92
NB	1.1%	0.87
SB	0.4%	0.89
TOTAL	0.4%	0.97

Two-Hour Count Summaries

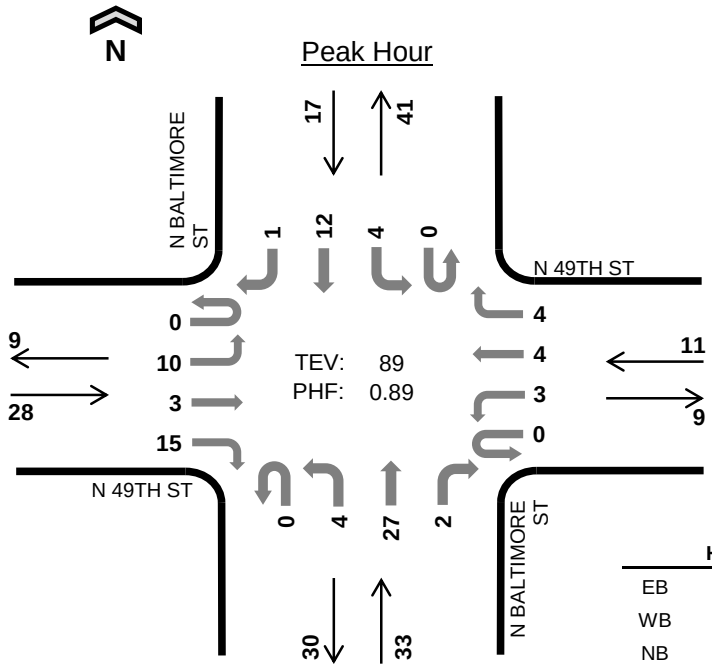
Interval Start	N 30TH ST Eastbound				N 30TH ST Westbound				MCCARVER ST Northbound				MCCARVER ST Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	10	122	11	0	3	183	8	1	30	25	9	0	5	24	18	449	0
4:15 PM	0	15	123	15	0	1	174	7	0	25	36	6	0	5	22	8	437	0
4:30 PM	0	13	105	22	0	1	186	5	0	31	28	8	0	1	25	22	447	0
4:45 PM	**0**	**19**	**110**	**19**	**0**	**4**	**181**	**10**	**0**	**25**	**36**	**7**	**0**	**1**	**18**	**19**	**449**	1,782
5:00 PM	**0**	**12**	**101**	**13**	**0**	**3**	**155**	**3**	**0**	**29**	**37**	**11**	**0**	**7**	**37**	**20**	**428**	1,761
5:15 PM	**0**	**17**	**110**	**18**	**0**	**2**	**179**	**6**	**0**	**31**	**30**	**8**	**0**	**4**	**29**	**29**	**463**	1,787
5:30 PM	**0**	**15**	**118**	**10**	**0**	**2**	**198**	**4**	**0**	**27**	**24**	**3**	**0**	**7**	**25**	**31**	**464**	**1,804**
5:45 PM	0	17	115	11	0	2	166	2	0	15	38	7	0	6	25	29	433	1,788
Count Total	0	118	904	119	0	18	1,422	45	1	213	254	59	0	36	205	176	3,570	0
Peak Hour	**0**	**63**	**439**	**60**	**0**	**11**	**713**	**23**	**0**	**112**	**127**	**29**	**0**	**19**	**109**	**99**	**1,804**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

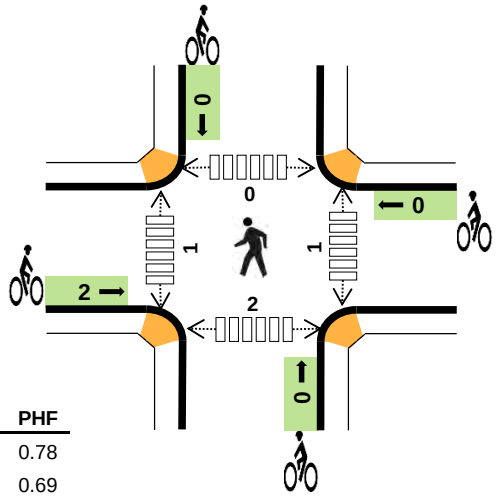
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	3	0	0	1	*4*	0	0	2	0	*2*	19	15	15	22	*71*
4:15 PM	1	0	1	0	*2*	0	0	2	2	*4*	15	12	4	10	*41*
4:30 PM	2	1	0	0	*3*	0	0	3	0	*3*	16	1	2	11	*30*
4:45 PM	**0**	**2**	**2**	**0**	***4***	**0**	**0**	**0**	**1**	***1***	**15**	**3**	**5**	**4**	*27*
5:00 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**2**	**0**	***2***	**15**	**2**	**5**	**6**	*28*
5:15 PM	**1**	**0**	**0**	**0**	***1***	**0**	**1**	**0**	**0**	***1***	**12**	**4**	**6**	**5**	*27*
5:30 PM	**0**	**1**	**1**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**15**	**2**	**7**	**3**	***27***
5:45 PM	1	0	0	0	*1*	0	1	0	0	*1*	18	6	7	2	*33*
Count Total	8	4	4	2	*18*	0	2	9	3	*14*	125	45	51	63	*284*
Peak Hour	**1**	**3**	**3**	**1**	***8***	**0**	**1**	**2**	**1**	***4***	**57**	**11**	**23**	**18**	***109***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

N BALTIMORE ST
N 49TH ST



Date: Tue, Nov 07, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	0.0%	0.78
WB	0.0%	0.69
NB	0.0%	0.75
SB	5.9%	0.47
TOTAL	1.1%	0.89

Two-Hour Count Summaries

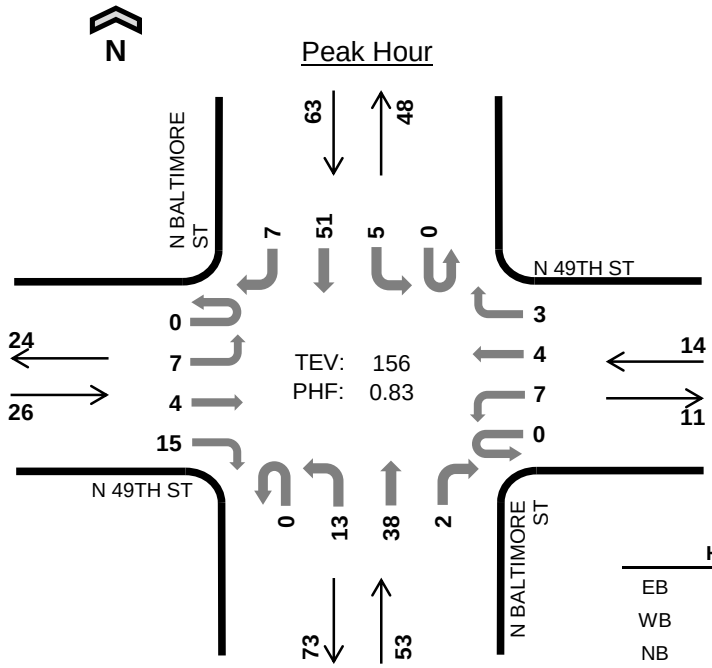
Interval Start	N 49TH ST Eastbound				N 49TH ST Westbound				N BALTIMORE ST Northbound				N BALTIMORE ST Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**2**	**1**	**5**	**0**	**1**	**0**	**1**	**0**	**0**	**11**	**0**	**0**	**1**	**2**	**0**	**24**	0
7:15 AM	**0**	**4**	**1**	**4**	**0**	**2**	**1**	**1**	**0**	**1**	**6**	**0**	**0**	**0**	**2**	**1**	**23**	0
7:30 AM	**0**	**3**	**1**	**3**	**0**	**0**	**0**	**1**	**0**	**2**	**3**	**2**	**0**	**1**	**1**	**0**	**17**	0
7:45 AM	**0**	**1**	**0**	**3**	**0**	**0**	**3**	**1**	**0**	**1**	**7**	**0**	**0**	**2**	**7**	**0**	**25**	**89**
8:00 AM	0	1	1	4	0	0	1	2	0	2	7	1	0	0	3	1	23	88
8:15 AM	0	0	2	2	0	0	0	0	0	3	7	0	0	0	5	0	19	84
8:30 AM	0	1	2	2	0	1	0	1	0	1	3	0	0	1	5	2	19	86
8:45 AM	0	3	0	4	0	0	4	0	0	1	7	1	0	0	5	1	26	87
Count Total	0	15	8	27	0	4	9	7	0	11	51	4	0	5	30	5	176	0
Peak Hour	**0**	**10**	**3**	**15**	**0**	**3**	**4**	**4**	**0**	**4**	**27**	**2**	**0**	**4**	**12**	**1**	**89**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

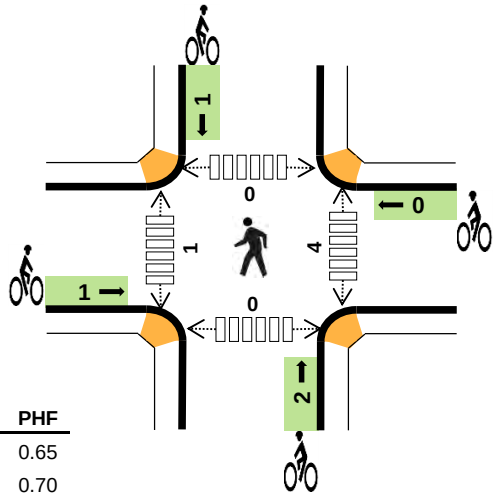
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
7:15 AM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**1**	*2*
7:30 AM	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	***1***
8:00 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	0	0	1	1	*2*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	0	1	2	*3*	2	0	0	0	*2*	1	1	0	2	*4*
Peak Hour	**0**	**0**	**0**	**1**	***1***	**2**	**0**	**0**	**0**	***2***	**1**	**1**	**0**	**2**	***4***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

N BALTIMORE ST
N 49TH ST



Date: Tue, Nov 07, 2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	0.0%	0.65
WB	0.0%	0.70
NB	0.0%	0.88
SB	0.0%	0.72
TOTAL	0.0%	0.83

Two-Hour Count Summaries

Interval Start	N 49TH ST Eastbound				N 49TH ST Westbound				N BALTIMORE ST Northbound				N BALTIMORE ST Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	2	1	4	0	0	2	0	0	5	8	0	0	0	11	1	34	0
4:15 PM	0	2	2	3	0	1	2	2	0	4	7	0	0	0	5	0	28	0
4:30 PM	**0**	**0**	**1**	**4**	**0**	**2**	**2**	**0**	**0**	**3**	**12**	**0**	**0**	**1**	**9**	**2**	**36**	0
4:45 PM	**0**	**2**	**1**	**3**	**0**	**2**	**0**	**2**	**0**	**5**	**7**	**2**	**0**	**0**	**12**	**2**	**38**	136
5:00 PM	**0**	**4**	**2**	**4**	**0**	**3**	**2**	**0**	**0**	**2**	**8**	**0**	**0**	**4**	**16**	**2**	**47**	149
5:15 PM	**0**	**1**	**0**	**4**	**0**	**0**	**0**	**1**	**0**	**3**	**11**	**0**	**0**	**0**	**14**	**1**	**35**	**156**
5:30 PM	0	3	1	3	0	1	0	1	0	5	8	0	0	0	7	4	33	153
5:45 PM	0	2	0	2	0	0	2	3	0	4	8	0	0	1	5	1	28	143
Count Total	0	16	8	27	0	9	10	9	0	31	69	2	0	6	79	13	279	0
Peak Hour	**0**	**7**	**4**	**15**	**0**	**7**	**4**	**3**	**0**	**13**	**38**	**2**	**0**	**5**	**51**	**7**	**156**	**0**

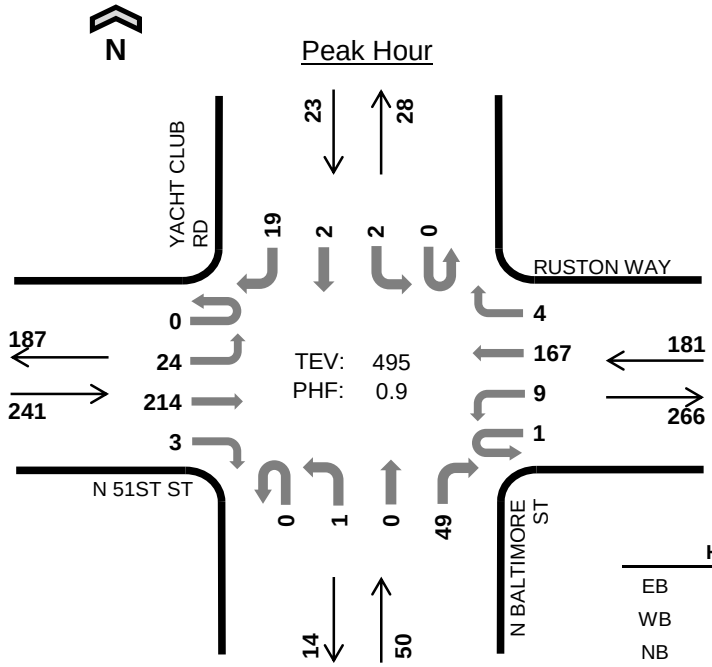
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

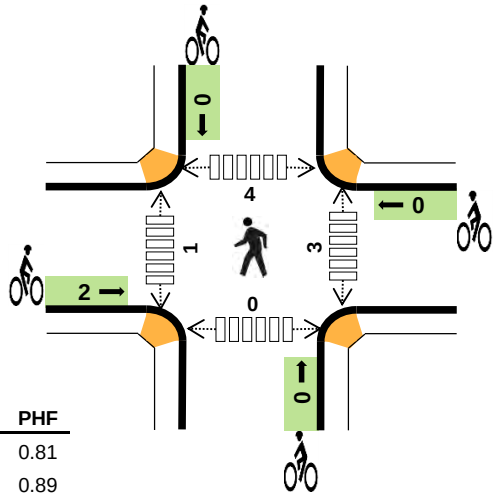
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	1	*1*	0	0	0	0	*0*	4	1	0	0	*5*
4:15 PM	0	0	0	0	*0*	0	0	1	0	*1*	0	2	0	0	*2*
4:30 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***	**4**	**0**	**0**	**0**	*4*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**1**	***2***	**0**	**1**	**0**	**0**	*1*
5:00 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:30 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	1	0	0	*1*	0	0	0	0	*0*	1	0	0	0	*1*
Count Total	0	1	0	1	*2*	1	0	3	1	*5*	9	4	0	0	*13*
Peak Hour	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**2**	**1**	***4***	**4**	**1**	**0**	**0**	***5***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

N BALTIMORE ST
N 51ST ST

Date: Tue, Nov 07, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV %:	PHF
EB	5.0%	0.81
WB	6.1%	0.89
NB	0.0%	0.74
SB	17.4%	0.64
TOTAL	5.5%	0.90

Two-Hour Count Summaries

Interval Start	N 51ST ST				RUSTON WAY				N BALTIMORE ST				YACHT CLUB RD				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	6	34	0	0	0	17	0	0	0	2	13	0	5	1	1	79	0
7:15 AM	**0**	**8**	**48**	**1**	**1**	**1**	**42**	**1**	**0**	**0**	**0**	**17**	**0**	**1**	**0**	**3**	**123**	0
7:30 AM	**0**	**6**	**67**	**1**	**0**	**1**	**45**	**0**	**0**	**0**	**0**	**13**	**0**	**0**	**0**	**4**	**137**	0
7:45 AM	**0**	**9**	**43**	**1**	**0**	**6**	**45**	**0**	**0**	**0**	**0**	**7**	**0**	**1**	**1**	**4**	**117**	456
8:00 AM	**0**	**1**	**56**	**0**	**0**	**1**	**35**	**3**	**0**	**1**	**0**	**12**	**0**	**0**	**1**	**8**	**118**	**495**
8:15 AM	0	4	45	1	0	4	42	5	0	0	3	6	0	3	1	1	115	487
8:30 AM	0	3	29	1	0	6	33	7	0	0	1	8	0	6	1	4	99	449
8:45 AM	0	5	23	2	0	5	38	1	0	1	4	8	0	2	0	5	94	426
Count Total	0	42	345	7	1	24	297	17	0	2	10	84	0	18	5	30	882	0
Peak Hour	**0**	**24**	**214**	**3**	**1**	**9**	**167**	**4**	**0**	**1**	**0**	**49**	**0**	**2**	**2**	**19**	**495**	**0**

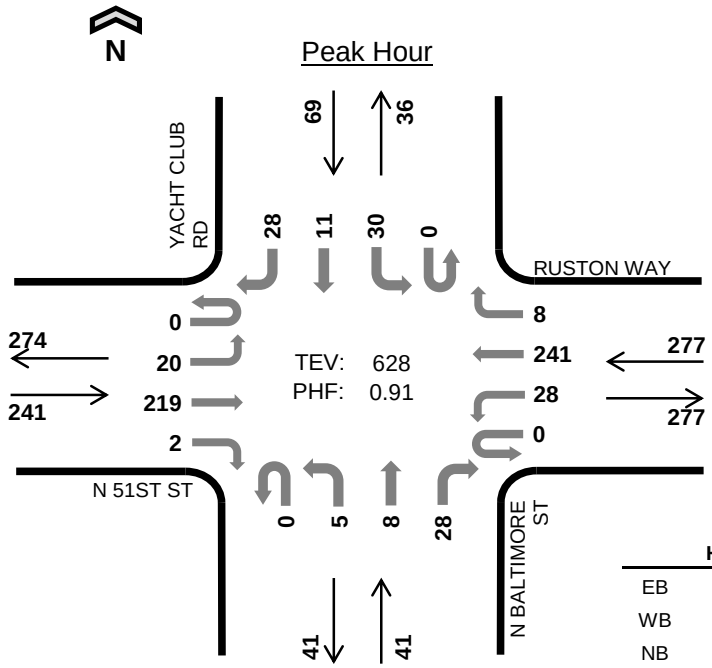
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

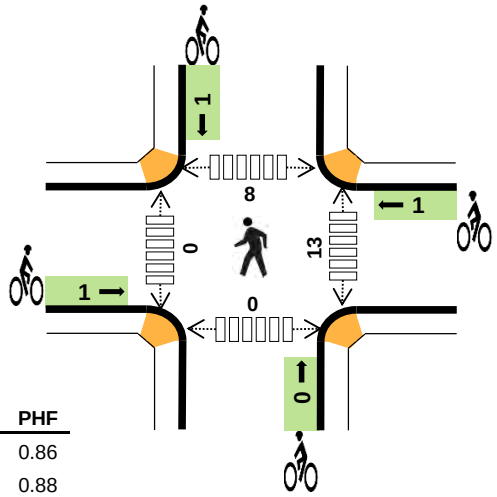
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	3	*3*	0	0	0	0	*0*	1	0	1	0	*2*
7:15 AM	**2**	**6**	**0**	**0**	***8***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**3**	**0**	*3*
7:30 AM	**3**	**2**	**0**	**1**	***6***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
7:45 AM	**3**	**0**	**0**	**1**	***4***	**1**	**0**	**0**	**0**	***1***	**1**	**0**	**0**	**0**	*1*
8:00 AM	**4**	**3**	**0**	**2**	***9***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**1**	**0**	***3***
8:15 AM	2	7	1	2	*12*	0	0	0	0	*0*	1	0	1	0	*2*
8:30 AM	1	2	0	3	*6*	0	0	0	0	*0*	1	0	2	0	*3*
8:45 AM	1	1	0	2	*4*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	16	21	1	14	*52*	2	0	0	0	*2*	6	1	8	0	*15*
Peak Hour	**12**	**11**	**0**	**4**	***27***	**2**	**0**	**0**	**0**	***2***	**3**	**1**	**4**	**0**	***8***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

N BALTIMORE ST
N 51ST ST

Date: Tue, Nov 07, 2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV %:	PHF
EB	1.2%	0.86
WB	0.7%	0.88
NB	0.0%	0.79
SB	5.8%	0.82
TOTAL	1.4%	0.91

Two-Hour Count Summaries

Interval Start	N 51ST ST				RUSTON WAY				N BALTIMORE ST				YACHT CLUB RD				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**5**	**48**	**1**	**0**	**5**	**61**	**2**	**0**	**0**	**2**	**9**	**0**	**6**	**5**	**3**	**147**	0
4:15 PM	**0**	**6**	**64**	**0**	**0**	**9**	**67**	**3**	**0**	**1**	**2**	**6**	**0**	**8**	**0**	**6**	**172**	0
4:30 PM	**0**	**5**	**50**	**1**	**0**	**7**	**53**	**0**	**0**	**2**	**2**	**9**	**0**	**8**	**3**	**9**	**149**	0
4:45 PM	**0**	**4**	**57**	**0**	**0**	**7**	**60**	**3**	**0**	**2**	**2**	**4**	**0**	**8**	**3**	**10**	**160**	**628**
5:00 PM	0	4	40	0	0	14	48	1	0	3	2	5	0	5	6	5	133	614
5:15 PM	0	3	54	2	1	12	71	0	0	2	5	6	0	5	3	4	168	610
5:30 PM	0	0	46	1	0	7	42	1	0	0	0	9	0	0	4	1	111	572
5:45 PM	0	8	29	0	0	7	55	2	0	0	3	7	0	1	1	2	115	527
Count Total	0	35	388	5	1	68	457	12	0	10	18	55	0	41	25	40	1,155	0
Peak Hour	**0**	**20**	**219**	**2**	**0**	**28**	**241**	**8**	**0**	**5**	**8**	**28**	**0**	**30**	**11**	**28**	**628**	**0**

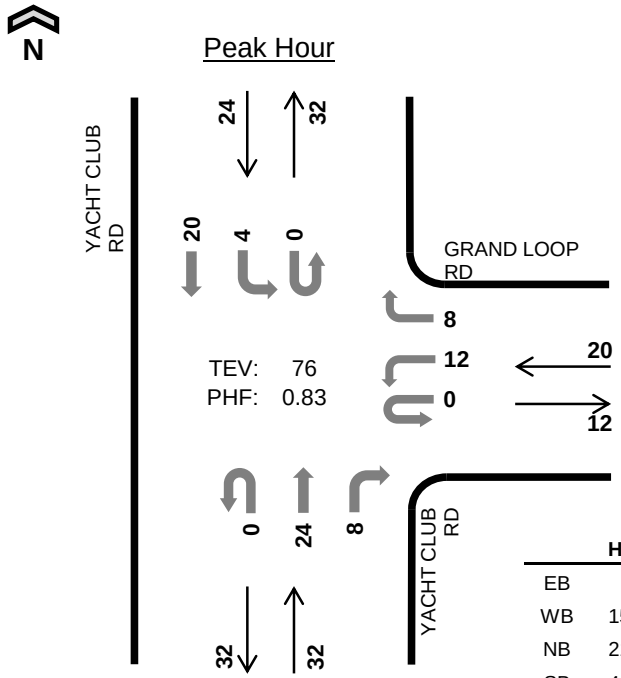
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**1**	**1**	**0**	**2**	***4***	**0**	**0**	**0**	**0**	***0***	**6**	**0**	**4**	**0**	*10*
4:15 PM	**1**	**1**	**0**	**0**	***2***	**1**	**1**	**0**	**1**	***3***	**1**	**0**	**2**	**0**	*3*
4:30 PM	**1**	**0**	**0**	**2**	***3***	**0**	**0**	**0**	**0**	***0***	**5**	**0**	**2**	**0**	*7*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	***1***
5:00 PM	1	0	0	0	*1*	0	1	0	0	*1*	0	0	2	0	*2*
5:15 PM	2	0	0	0	*2*	0	1	0	0	*1*	0	0	1	0	*1*
5:30 PM	0	1	0	0	*1*	0	0	0	0	*0*	0	0	3	0	*3*
5:45 PM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	6	3	1	4	*14*	1	3	0	1	*5*	13	0	14	0	*27*
Peak Hour	**3**	**2**	**0**	**4**	***9***	**1**	**1**	**0**	**1**	***3***	**13**	**0**	**8**	**0**	***21***

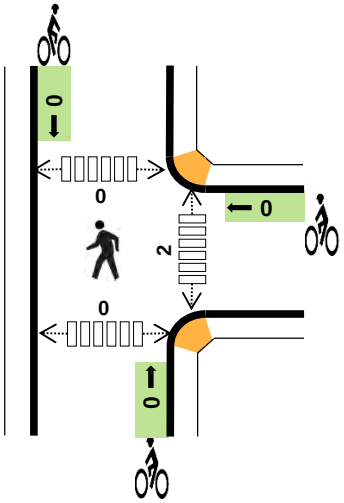
Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

YACHT CLUB RD
GRAND LOOP RD

Date: Tue, Nov 07, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	-	-
WB	15.0%	0.71
NB	21.9%	0.80
SB	41.7%	0.67
TOTAL	26.3%	0.83



Two-Hour Count Summaries

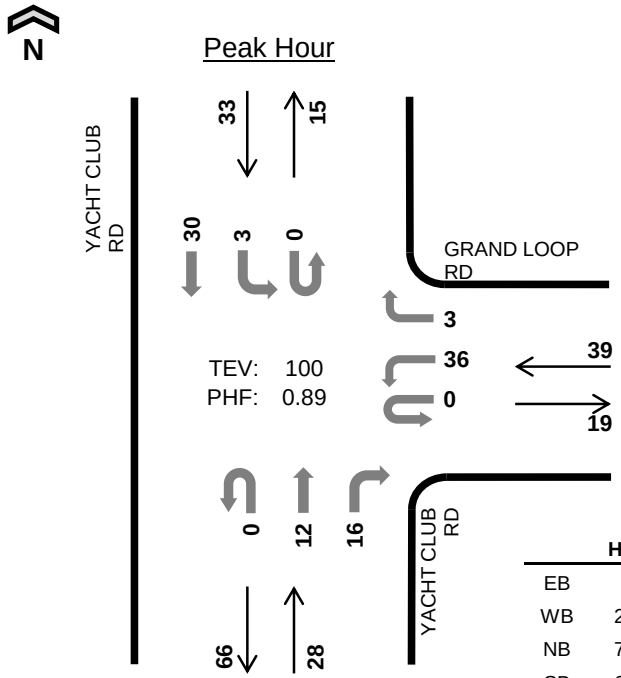
Interval Start	0				GRAND LOOP RD				YACHT CLUB RD				YACHT CLUB RD				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	3	0	2	0	0	5	4	0	4	4	0	22	0
7:15 AM	0	0	0	0	0	0	0	2	0	0	8	1	0	3	3	0	17	0
7:30 AM	0	0	0	0	0	1	0	1	0	0	6	0	0	0	3	0	11	0
7:45 AM	0	0	0	0	0	4	0	1	0	0	7	2	0	0	2	0	16	66
8:00 AM	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**3**	**0**	**0**	**3**	**0**	**0**	**2**	**4**	**0**	**16**	60
8:15 AM	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**1**	**0**	**0**	**7**	**3**	**0**	**1**	**2**	**0**	**17**	60
8:30 AM	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**1**	**0**	**0**	**10**	**0**	**0**	**1**	**8**	**0**	**23**	72
8:45 AM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**3**	**0**	**0**	**4**	**5**	**0**	**0**	**6**	**0**	**20**	**76**
Count Total	0	0	0	0	0	20	0	14	0	0	50	15	0	11	32	0	142	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**8**	**0**	**0**	**24**	**8**	**0**	**4**	**20**	**0**	**76**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

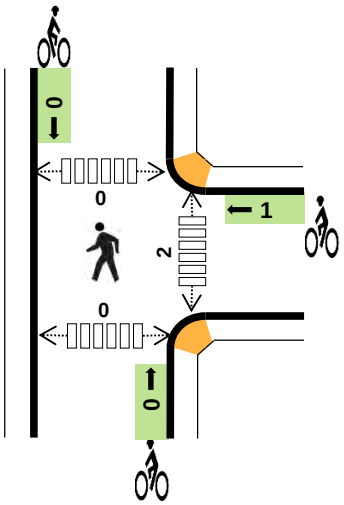
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	4	*4*	0	0	0	0	*0*	2	0	0	0	*2*
7:15 AM	0	0	3	2	*5*	0	0	1	0	*1*	1	0	0	0	*1*
7:30 AM	0	1	0	1	*2*	0	0	0	0	*0*	1	0	0	0	*1*
7:45 AM	0	1	2	1	*4*	0	0	0	0	*0*	2	0	0	0	*2*
8:00 AM	**0**	**0**	**1**	**4**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**0**	**2**	**3**	**1**	***6***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
8:30 AM	**0**	**1**	**2**	**3**	***6***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
8:45 AM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	0	5	12	18	*35*	0	0	1	0	*1*	8	0	0	0	*8*
Peak Hr	**0**	**3**	**7**	**10**	***20***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	***2***

YACHT CLUB RD
GRAND LOOP RD

Date: Tue, Nov 07, 2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	-	-
WB	2.6%	0.75
NB	7.1%	0.64
SB	6.1%	0.59
TOTAL	5.0%	0.89



Two-Hour Count Summaries

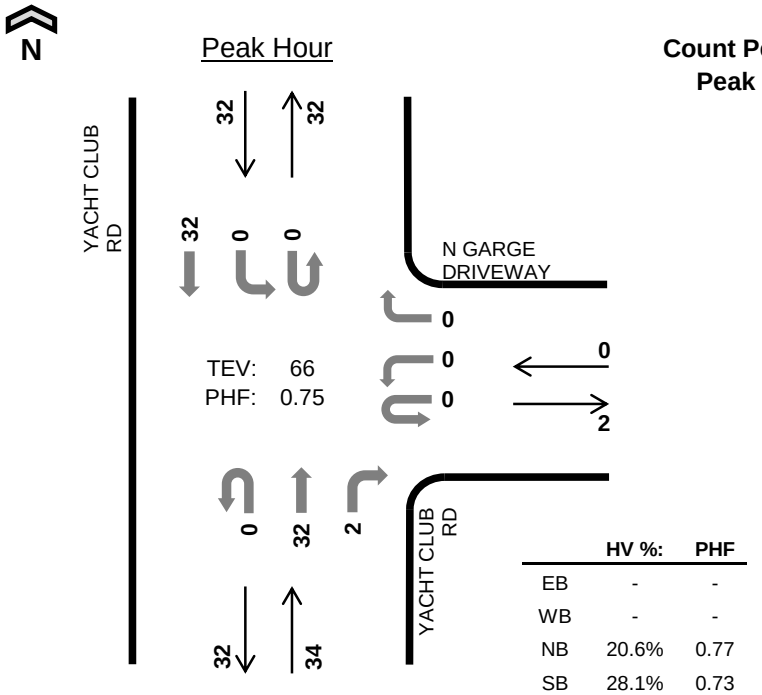
Interval Start	0				GRAND LOOP RD				YACHT CLUB RD				YACHT CLUB RD				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	3	0	3	0	0	4	1	0	2	7	0	20	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**2**	**0**	**0**	**7**	**4**	**0**	**2**	**7**	**0**	**28**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**1**	**0**	**0**	**1**	**5**	**0**	**0**	**14**	**0**	**27**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**0**	**0**	**0**	**2**	**3**	**0**	**0**	**5**	**0**	**23**	98
5:00 PM	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**2**	**4**	**0**	**1**	**4**	**0**	**22**	**100**
5:15 PM	0	0	0	0	0	8	0	1	0	0	0	5	0	0	3	0	17	89
5:30 PM	0	0	0	0	2	3	0	0	0	0	1	0	0	1	1	0	8	70
5:45 PM	0	0	0	0	0	3	0	0	0	0	4	3	0	1	0	0	11	58
Count Total	0	0	0	0	2	53	0	7	0	0	21	25	0	7	41	0	156	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**36**	**0**	**3**	**0**	**0**	**12**	**16**	**0**	**3**	**30**	**0**	**100**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

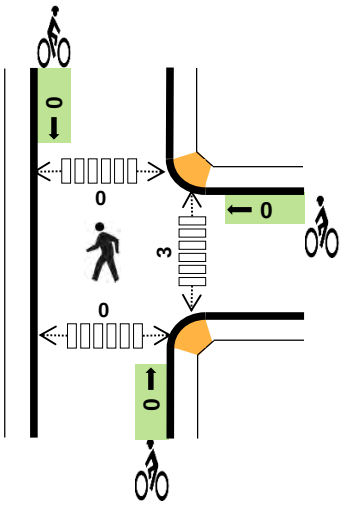
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	2	*3*	0	0	0	0	*0*	1	0	0	1	*2*
4:15 PM	**0**	**1**	**1**	**0**	***2***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
5:00 PM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	1	3	4	*8*	0	1	0	0	*1*	3	0	0	1	*4*
Peak Hr	**0**	**1**	**2**	**2**	***5***	**0**	**1**	**0**	**0**	***1***	**2**	**0**	**0**	**0**	***2***

YACHT CLUB RD
N GARGE DRIVEWAY

Date: Tue, Nov 07, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	-	-
WB	-	-
NB	20.6%	0.77
SB	28.1%	0.73
TOTAL	24.2%	0.75



Two-Hour Count Summaries

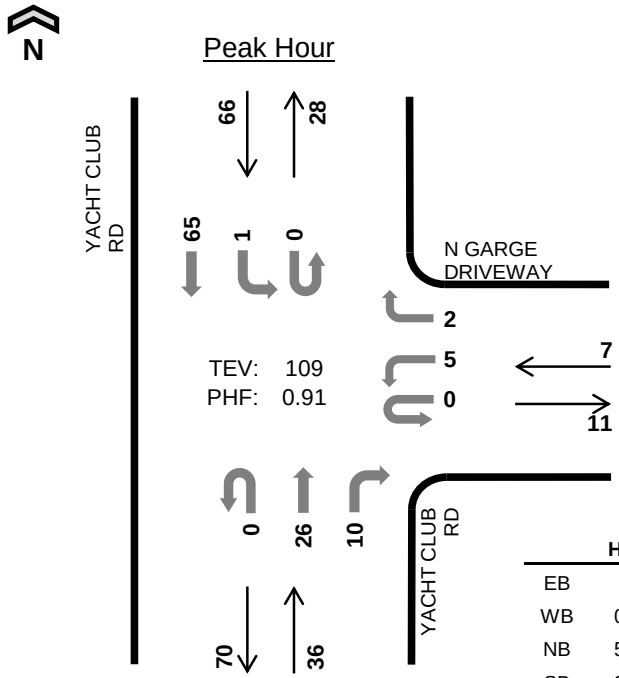
Interval Start	0				N GARGE DRIVEWAY				YACHT CLUB RD				YACHT CLUB RD				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	9	0	0	0	7	0	16	0
7:15 AM	0	0	0	0	0	1	0	0	0	0	9	0	0	0	3	0	13	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	4	0	10	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	9	1	0	0	6	0	16	55
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**8**	**0**	**11**	50
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**5**	**0**	**15**	52
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**1**	**0**	**0**	**11**	**0**	**22**	64
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**1**	**0**	**0**	**8**	**0**	**18**	**66**
Count Total	0	0	0	0	0	1	0	0	0	0	65	3	0	0	52	0	121	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**32**	**2**	**0**	**0**	**32**	**0**	**66**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

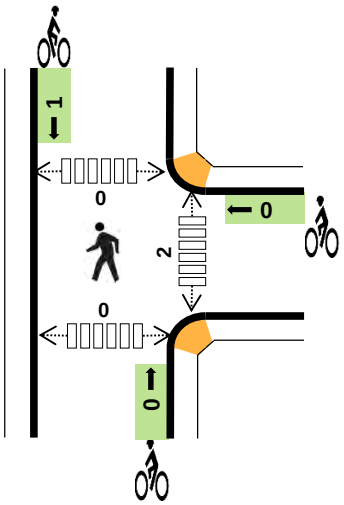
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	3	*3*	0	0	0	0	*0*	2	0	0	0	*2*
7:15 AM	0	0	3	0	*3*	0	0	1	0	*1*	1	0	0	0	*1*
7:30 AM	0	0	0	1	*1*	0	0	0	0	*0*	0	0	0	0	*0*
7:45 AM	0	0	2	1	*3*	0	0	0	0	*0*	2	0	0	0	*2*
8:00 AM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	*2*
8:15 AM	**0**	**0**	**3**	**2**	***5***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
8:30 AM	**0**	**0**	**2**	**3**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:45 AM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	0	0	12	14	*26*	0	0	1	0	*1*	8	0	0	0	*8*
Peak Hr	**0**	**0**	**7**	**9**	***16***	**0**	**0**	**0**	**0**	***0***	**3**	**0**	**0**	**0**	***3***

YACHT CLUB RD
N GARGE DRIVEWAY

Date: Tue, Nov 07, 2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	-	-
WB	0.0%	0.88
NB	5.6%	0.82
SB	3.0%	0.83
TOTAL	3.7%	0.91



Two-Hour Count Summaries

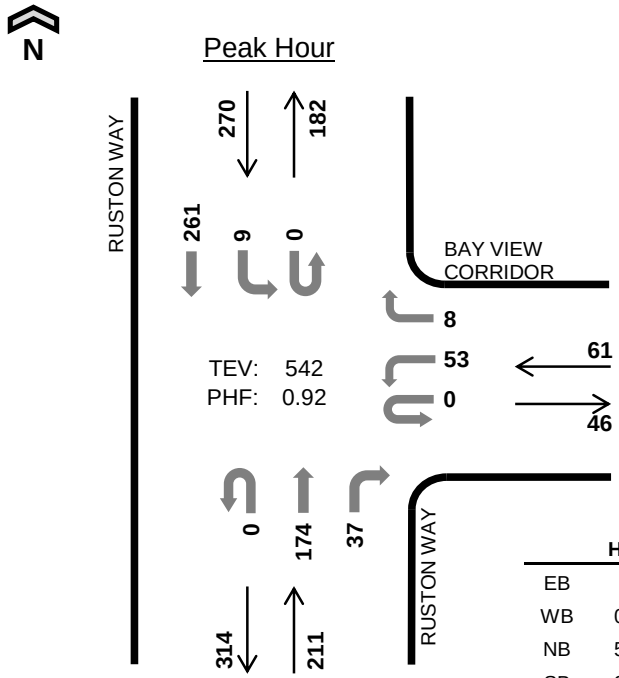
Interval Start	0				N GARGE DRIVEWAY				YACHT CLUB RD				YACHT CLUB RD				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	4	0	0	0	0	5	3	0	0	10	0	22	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**10**	**1**	**0**	**0**	**13**	**0**	**26**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**5**	**2**	**0**	**1**	**19**	**0**	**29**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**5**	**6**	**0**	**0**	**18**	**0**	**30**	107
5:00 PM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**6**	**1**	**0**	**0**	**15**	**0**	**24**	**109**
5:15 PM	0	0	0	0	0	1	0	0	0	0	5	3	0	0	11	0	20	103
5:30 PM	0	0	0	0	0	1	0	0	0	0	1	0	0	0	4	0	6	80
5:45 PM	0	0	0	0	0	1	0	0	0	0	7	6	0	0	3	0	17	67
Count Total	0	0	0	0	0	12	0	2	0	0	44	22	0	1	93	0	174	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**2**	**0**	**0**	**26**	**10**	**0**	**1**	**65**	**0**	**109**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

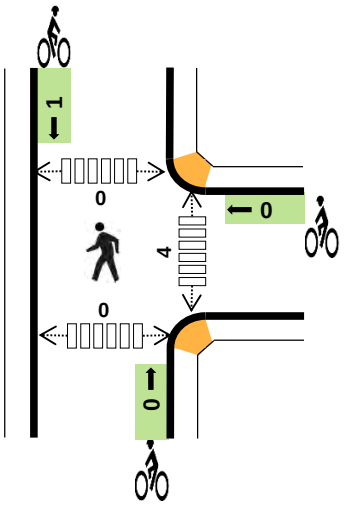
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	2	*3*	0	0	0	0	*0*	2	0	1	0	*3*
4:15 PM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**1**	***1***	**1**	**0**	**0**	**0**	*1*
4:30 PM	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	0	3	4	*7*	0	0	0	1	*1*	4	0	1	0	*5*
Peak Hr	**0**	**0**	**2**	**2**	***4***	**0**	**0**	**0**	**1**	***1***	**2**	**0**	**0**	**0**	***2***

RUSTON WAY
BAY VIEW CORRIDOR

Date: Tue, Nov 07, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	-	-
WB	0.0%	0.95
NB	5.2%	0.88
SB	2.6%	0.82
TOTAL	3.3%	0.92



Two-Hour Count Summaries

Interval Start	0				BAY VIEW CORRIDOR				RUSTON WAY				RUSTON WAY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	6	0	2	0	0	22	10	0	3	48	0	91	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**2**	**0**	**0**	**44**	**11**	**0**	**3**	**68**	**0**	**141**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**2**	**0**	**0**	**38**	**11**	**0**	**1**	**81**	**0**	**147**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**2**	**0**	**0**	**53**	**7**	**0**	**3**	**48**	**0**	**126**	505
8:00 AM	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**2**	**0**	**0**	**39**	**8**	**0**	**2**	**64**	**0**	**128**	**542**
8:15 AM	0	0	0	0	0	10	0	5	0	0	48	4	0	3	51	0	121	522
8:30 AM	0	0	0	0	0	14	0	9	0	0	31	2	0	5	43	0	104	479
8:45 AM	0	0	0	0	0	5	0	3	0	0	41	14	0	3	25	0	91	444
Count Total	0	0	0	0	0	88	0	27	0	0	316	67	0	23	428	0	949	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**53**	**0**	**8**	**0**	**0**	**174**	**37**	**0**	**9**	**261**	**0**	**542**	**0**

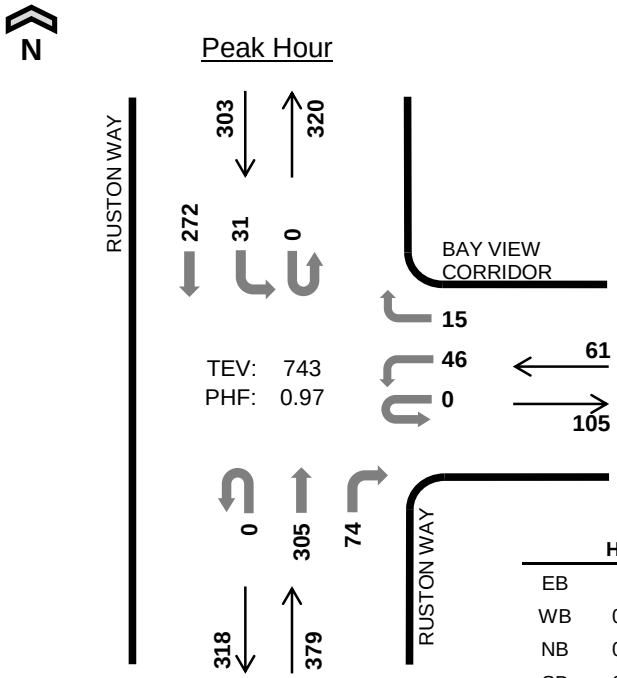
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	2	*2*	0	0	0	0	*0*	3	0	0	0	*3*
7:15 AM	**0**	**0**	**5**	**0**	***5***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**0**	**2**	**3**	***5***	**0**	**0**	**0**	**0**	***0***	**4**	**0**	**0**	**0**	*4*
7:45 AM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**0**	**0**	**4**	**3**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	0	0	7	4	*11*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	0	1	1	3	*5*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	0	2	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	1	21	16	*38*	0	0	0	1	*1*	7	0	0	0	*7*
Peak Hr	**0**	**0**	**11**	**7**	***18***	**0**	**0**	**0**	**1**	***1***	**4**	**0**	**0**	**0**	***4***

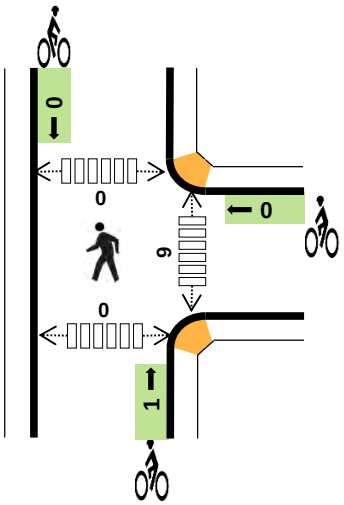
Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

RUSTON WAY
BAY VIEW CORRIDOR

Date: Tue, Nov 07, 2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



	HV %:	PHF
EB	-	-
WB	0.0%	0.76
NB	0.5%	0.96
SB	0.7%	0.89
TOTAL	0.5%	0.97



Two-Hour Count Summaries

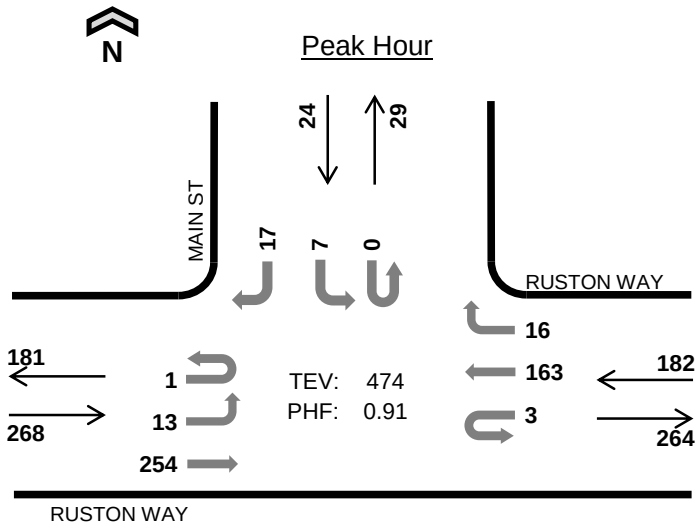
Interval Start	0				BAY VIEW CORRIDOR				RUSTON WAY				RUSTON WAY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**15**	**0**	**5**	**0**	**0**	**81**	**18**	**0**	**6**	**54**	**0**	**179**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**6**	**0**	**0**	**86**	**13**	**0**	**9**	**69**	**0**	**192**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**2**	**0**	**0**	**66**	**26**	**0**	**11**	**69**	**0**	**184**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**2**	**0**	**0**	**72**	**17**	**0**	**5**	**80**	**0**	**188**	**743**
5:00 PM	0	0	0	0	0	7	0	2	0	0	81	12	0	4	49	0	155	719
5:15 PM	0	0	0	0	0	7	0	1	0	0	109	22	0	4	59	0	202	729
5:30 PM	0	0	0	0	0	9	0	3	0	0	77	11	0	5	44	0	149	694
5:45 PM	0	0	0	0	0	8	0	1	0	0	87	15	0	9	31	0	151	657
Count Total	0	0	0	0	0	77	0	22	0	0	659	134	0	53	455	0	1,400	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**46**	**0**	**15**	**0**	**0**	**305**	**74**	**0**	**31**	**272**	**0**	**743**	**0**

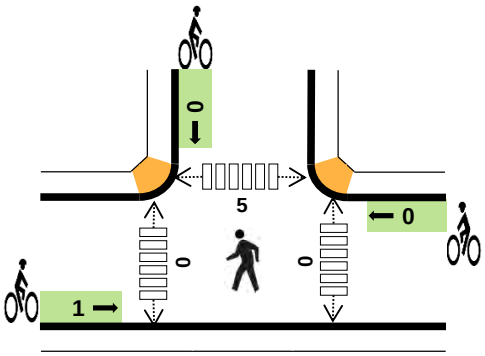
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	*2*
4:15 PM	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**1**	**0**	***1***	**5**	**0**	**0**	**0**	*5*
4:30 PM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	***1***
5:00 PM	0	0	2	0	*2*	0	0	1	1	*2*	1	0	0	0	*1*
5:15 PM	0	0	0	2	*2*	0	0	1	0	*1*	2	0	0	0	*2*
5:30 PM	0	1	0	0	*1*	0	0	0	0	*0*	3	0	0	0	*3*
5:45 PM	0	0	0	1	*1*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	1	4	5	*10*	0	0	3	1	*4*	15	0	0	0	*15*
Peak Hr	**0**	**0**	**2**	**2**	***4***	**0**	**0**	**1**	**0**	***1***	**9**	**0**	**0**	**0**	***9***

MAIN ST
RUSTON WAY

Date: Tue, Nov 07, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV %:	PHF
EB	3.0%	0.83
WB	5.5%	0.80
NB	-	-
SB	0.0%	0.60
TOTAL	3.8%	0.91

Two-Hour Count Summaries

Interval Start	RUSTON WAY Eastbound				RUSTON WAY Westbound				0 Northbound				MAIN ST Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	2	48	0	0	0	20	4	0	0	0	0	0	4	0	0	78	0
7:15 AM	**0**	**1**	**67**	**0**	**0**	**0**	**40**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**112**	0
7:30 AM	**0**	**1**	**80**	**0**	**1**	**0**	**39**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**5**	**130**	0
7:45 AM	**0**	**6**	**45**	**0**	**1**	**0**	**52**	**4**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**5**	**118**	438
8:00 AM	**1**	**5**	**62**	**0**	**1**	**0**	**32**	**8**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**4**	**114**	**474**
8:15 AM	0	3	51	0	0	0	44	8	0	0	0	0	2	1	0	3	112	474
8:30 AM	0	7	43	0	0	0	41	2	0	0	0	0	0	7	0	5	105	449
8:45 AM	0	4	27	0	0	0	37	6	0	0	0	0	1	3	0	5	83	414
Count Total	1	29	423	0	3	0	305	36	0	0	0	0	3	22	0	30	852	0
Peak Hour	**1**	**13**	**254**	**0**	**3**	**0**	**163**	**16**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**17**	**474**	**0**

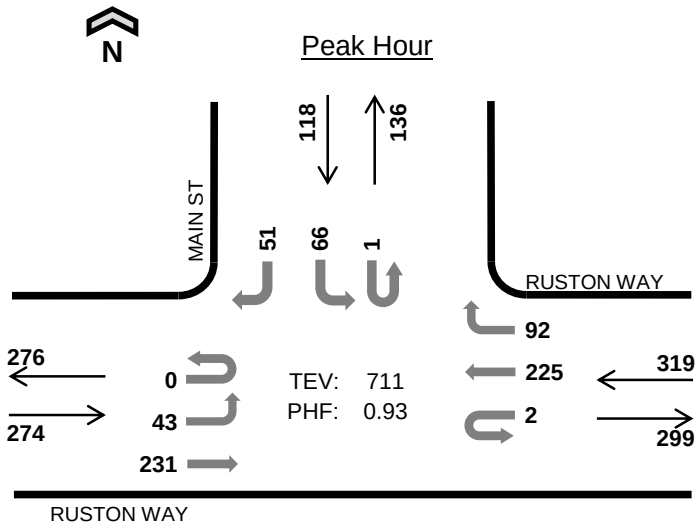
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

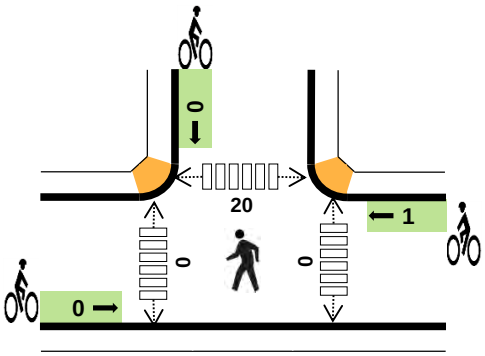
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	2	0	0	0	*2*	0	0	0	0	*0*	0	0	3	0	*3*
7:15 AM	**0**	**6**	**0**	**0**	***6***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**1**	**0**	*1*
7:30 AM	**3**	**2**	**0**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**4**	**0**	*4*
7:45 AM	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**4**	**2**	**0**	**0**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	4	7	0	0	*11*	0	0	0	0	*0*	0	1	0	0	*1*
8:30 AM	3	2	0	0	*5*	0	0	0	0	*0*	0	0	1	0	*1*
8:45 AM	1	1	0	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	18	20	0	0	*38*	1	0	0	0	*1*	0	1	9	0	*10*
Peak Hr	**8**	**10**	**0**	**0**	***18***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**5**	**0**	***5***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

MAIN ST
RUSTON WAY

Date: Tue, Nov 07, 2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV %:	PHF
EB	0.7%	0.87
WB	0.6%	0.90
NB	-	-
SB	0.0%	0.80
TOTAL	0.6%	0.93

Two-Hour Count Summaries

Interval Start	RUSTON WAY Eastbound				RUSTON WAY Westbound				0 Northbound				MAIN ST Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**15**	**48**	**0**	**0**	**0**	**60**	**27**	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**7**	**173**	0
4:15 PM	**0**	**13**	**66**	**0**	**0**	**0**	**68**	**21**	**0**	**0**	**0**	**0**	**1**	**9**	**0**	**13**	**191**	0
4:30 PM	**0**	**9**	**54**	**0**	**1**	**0**	**45**	**24**	**0**	**0**	**0**	**0**	**0**	**21**	**0**	**16**	**170**	0
4:45 PM	**0**	**6**	**63**	**0**	**1**	**0**	**52**	**20**	**0**	**0**	**0**	**0**	**0**	**20**	**0**	**15**	**177**	**711**
5:00 PM	0	9	43	0	2	0	64	21	0	0	0	0	0	7	0	7	153	691
5:15 PM	0	12	55	0	1	0	73	33	0	0	0	0	0	8	0	7	189	689
5:30 PM	0	13	41	0	1	0	46	34	0	0	0	0	0	8	0	7	150	669
5:45 PM	0	11	29	0	1	0	56	29	0	0	0	0	0	11	0	8	145	637
Count Total	0	88	399	0	7	0	464	209	0	0	0	0	1	100	0	80	1,348	0
Peak Hour	**0**	**43**	**231**	**0**	**2**	**0**	**225**	**92**	**0**	**0**	**0**	**0**	**1**	**66**	**0**	**51**	**711**	**0**

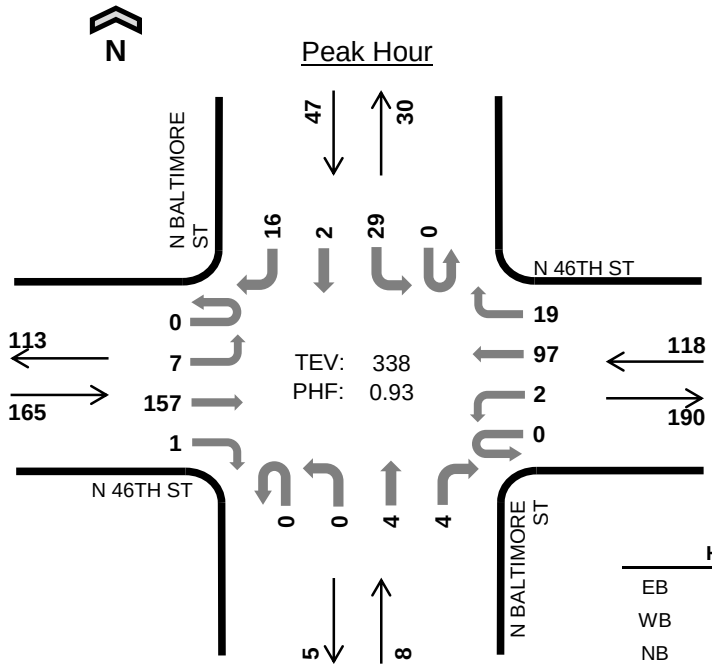
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

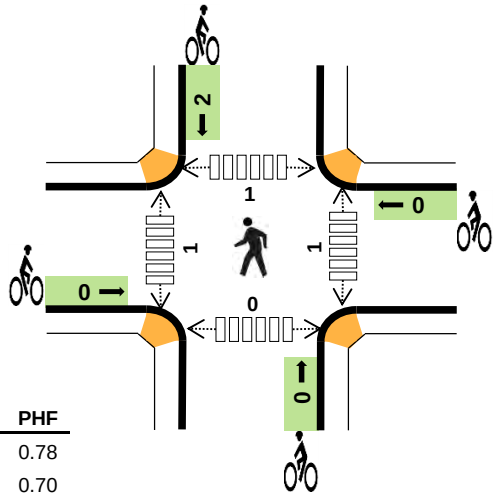
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**7**	**0**	*7*
4:15 PM	**1**	**1**	**0**	**0**	***2***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**6**	**0**	*6*
4:30 PM	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**6**	**0**	*6*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***
5:00 PM	0	2	0	0	*2*	1	1	0	0	*2*	0	0	2	0	*2*
5:15 PM	2	0	0	0	*2*	0	1	0	0	*1*	0	0	2	0	*2*
5:30 PM	0	1	0	0	*1*	0	0	0	0	*0*	0	1	3	0	*4*
5:45 PM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	5	5	0	0	*10*	1	3	0	0	*4*	0	1	27	0	*28*
Peak Hr	**2**	**2**	**0**	**0**	***4***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**20**	**0**	***20***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

N BALTIMORE ST
N 46TH ST

Date: Tue, Nov 07, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV %:	PHF
EB	0.6%	0.78
WB	0.0%	0.70
NB	0.0%	0.67
SB	0.0%	0.69
TOTAL	0.3%	0.93

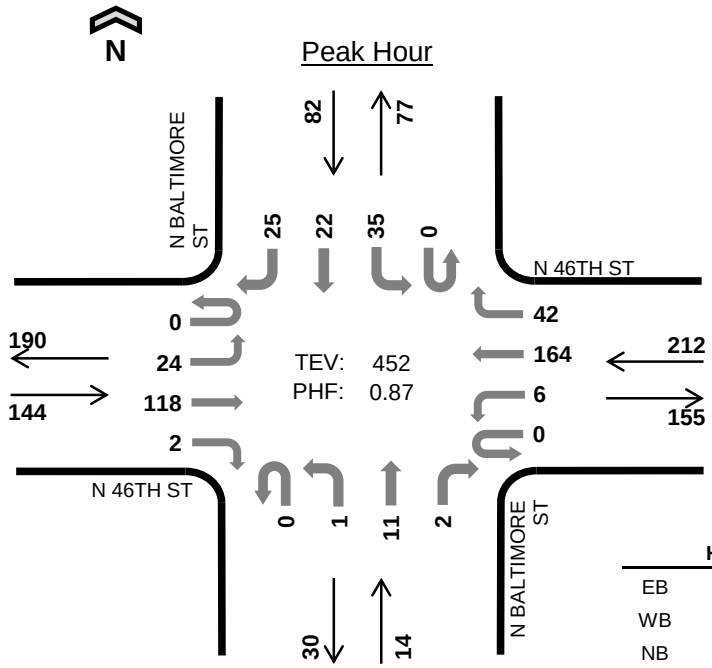
Two-Hour Count Summaries

Interval Start	N 46TH ST Eastbound				N 46TH ST Westbound				N BALTIMORE ST Northbound				N BALTIMORE ST Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	4	31	0	0	1	11	0	0	0	1	2	0	9	2	4	65	0
7:15 AM	**0**	**1**	**35**	**0**	**0**	**0**	**26**	**2**	**0**	**0**	**1**	**1**	**0**	**12**	**1**	**4**	**83**	0
7:30 AM	**0**	**1**	**52**	**0**	**0**	**1**	**22**	**5**	**0**	**0**	**1**	**1**	**0**	**6**	**0**	**2**	**91**	0
7:45 AM	**0**	**1**	**33**	**1**	**0**	**1**	**33**	**8**	**0**	**0**	**0**	**1**	**0**	**5**	**1**	**5**	**89**	328
8:00 AM	**0**	**4**	**37**	**0**	**0**	**0**	**16**	**4**	**0**	**0**	**2**	**1**	**0**	**6**	**0**	**5**	**75**	**338**
8:15 AM	0	3	23	0	0	0	22	2	0	0	2	1	0	4	4	7	68	323
8:30 AM	0	3	29	1	0	0	25	4	0	0	0	1	0	10	0	4	77	309
8:45 AM	0	5	34	0	0	0	21	7	0	0	0	0	0	10	2	5	84	304
Count Total	0	22	274	2	0	3	176	32	0	0	7	8	0	62	10	36	632	0
Peak Hour	**0**	**7**	**157**	**1**	**0**	**2**	**97**	**19**	**0**	**0**	**4**	**4**	**0**	**29**	**2**	**16**	**338**	**0**

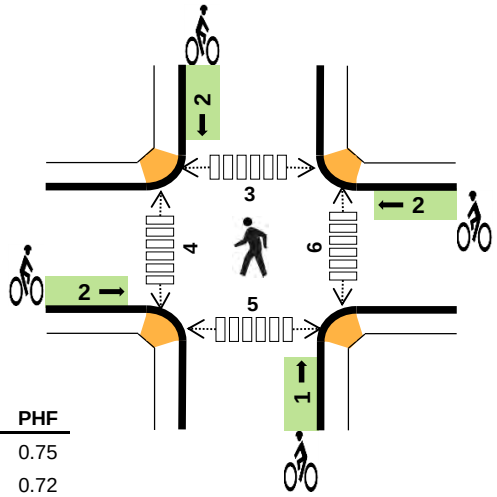
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	1	0	*1*
7:15 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
7:30 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**1**	**0**	*2*
8:00 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	2	1	0	1	*4*	0	0	0	0	*0*	0	1	0	0	*1*
8:30 AM	0	1	0	0	*1*	0	0	0	0	*0*	1	0	0	0	*1*
8:45 AM	1	1	0	0	*2*	0	0	0	0	*0*	0	1	0	0	*1*
Count Total	4	3	0	1	*8*	0	0	0	2	*2*	2	3	2	0	*7*
Peak Hour	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**2**	***2***	**1**	**1**	**1**	**0**	***3***

N BALTIMORE ST
N 46TH ST



Date: Tue, Nov 07, 2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	0.0%	0.75
WB	0.5%	0.72
NB	0.0%	0.58
SB	0.0%	0.85
TOTAL	0.2%	0.87

Two-Hour Count Summaries

Interval Start	N 46TH ST Eastbound				N 46TH ST Westbound				N BALTIMORE ST Northbound				N BALTIMORE ST Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	5	26	0	0	1	37	14	0	0	6	2	0	8	4	8	111	0
4:15 PM	0	2	21	0	0	0	33	13	0	0	2	0	0	6	4	6	87	0
4:30 PM	**0**	**8**	**38**	**2**	**0**	**0**	**35**	**13**	**0**	**0**	**4**	**0**	**0**	**9**	**4**	**3**	**116**	0
4:45 PM	**0**	**5**	**26**	**0**	**0**	**2**	**32**	**7**	**0**	**1**	**5**	**0**	**0**	**6**	**6**	**8**	**98**	412
5:00 PM	**0**	**6**	**26**	**0**	**0**	**1**	**61**	**12**	**0**	**0**	**1**	**1**	**0**	**7**	**7**	**8**	**130**	431
5:15 PM	**0**	**5**	**28**	**0**	**0**	**3**	**36**	**10**	**0**	**0**	**1**	**1**	**0**	**13**	**5**	**6**	**108**	**452**
5:30 PM	0	5	27	2	0	2	48	16	0	0	1	0	0	9	2	2	114	450
5:45 PM	0	8	17	0	0	1	46	10	0	1	2	0	0	5	1	4	95	447
Count Total	0	44	209	4	0	10	328	95	0	2	22	4	0	63	33	45	859	0
Peak Hour	**0**	**24**	**118**	**2**	**0**	**6**	**164**	**42**	**0**	**1**	**11**	**2**	**0**	**35**	**22**	**25**	**452**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	2	0	0	*2*	0	0	0	0	*0*	5	2	0	0	*7*
4:15 PM	0	0	0	1	*1*	0	1	1	0	*2*	2	0	1	2	*5*
4:30 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***	**0**	**3**	**2**	**3**	*8*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	***1***	**6**	**0**	**0**	**2**	*8*
5:00 PM	**0**	**0**	**0**	**0**	***0***	**2**	**1**	**0**	**1**	***4***	**0**	**1**	**0**	**0**	*1*
5:15 PM	**0**	**1**	**0**	**0**	***1***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**1**	**0**	***1***
5:30 PM	0	0	0	0	*0*	0	1	0	0	*1*	0	0	1	1	*2*
5:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	1	*1*
Count Total	0	3	0	1	*4*	2	4	2	2	*10*	13	6	5	9	*33*
Peak Hour	**0**	**1**	**0**	**0**	***1***	**2**	**2**	**1**	**2**	***7***	**6**	**4**	**3**	**5**	***18***

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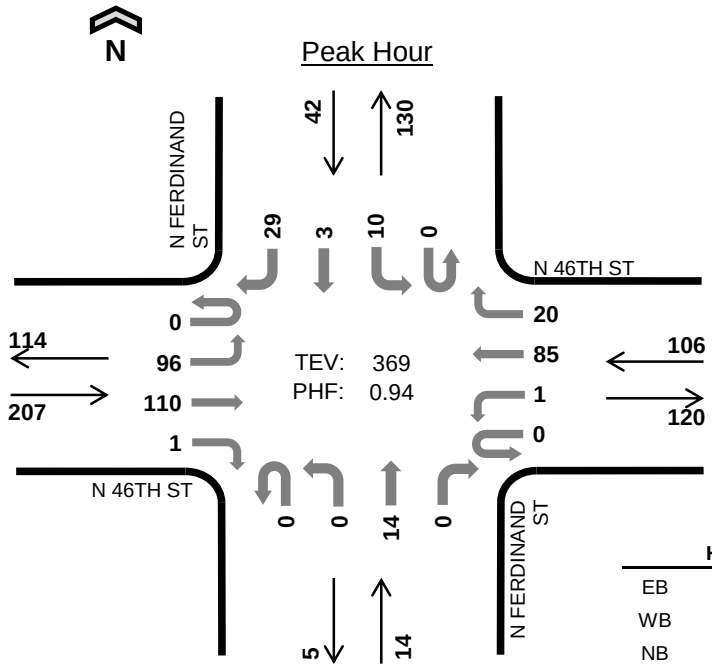
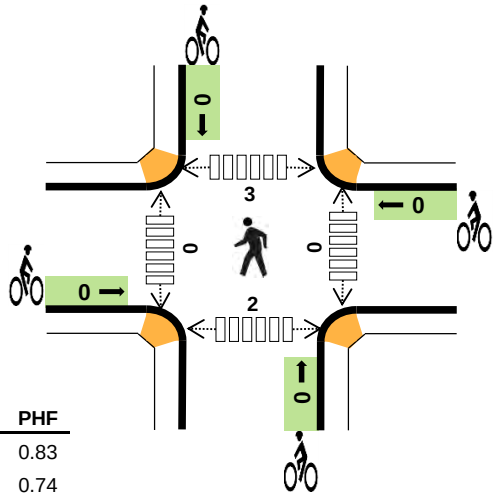
N FERDINAND ST
N 46TH ST



Date: Tue, Nov 07, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	0.5%	0.83
WB	0.9%	0.74
NB	0.0%	0.44
SB	2.4%	0.70
TOTAL	0.8%	0.94

Two-Hour Count Summaries

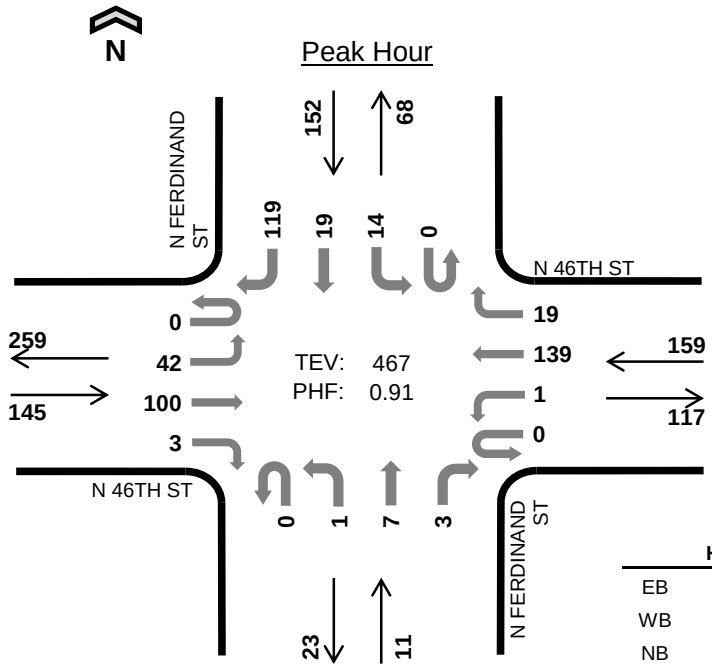
Interval Start	N 46TH ST Eastbound				N 46TH ST Westbound				N FERDINAND ST Northbound				N FERDINAND ST Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	26	21	0	0	0	6	4	0	0	1	1	0	1	1	7	68	0
7:15 AM	**0**	**22**	**26**	**1**	**0**	**1**	**14**	**5**	**0**	**0**	**8**	**0**	**0**	**2**	**1**	**12**	**92**	0
7:30 AM	**0**	**33**	**29**	**0**	**0**	**0**	**21**	**1**	**0**	**0**	**2**	**0**	**0**	**4**	**1**	**7**	**98**	0
7:45 AM	**0**	**24**	**25**	**0**	**0**	**0**	**30**	**6**	**0**	**0**	**2**	**0**	**0**	**3**	**1**	**7**	**98**	356
8:00 AM	**0**	**17**	**30**	**0**	**0**	**0**	**20**	**8**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**3**	**81**	**369**
8:15 AM	0	9	22	0	0	0	24	4	0	0	2	0	0	3	2	4	70	347
8:30 AM	0	15	24	1	0	0	20	4	0	1	2	0	0	8	1	5	81	330
8:45 AM	0	18	26	0	0	0	23	7	0	0	4	0	0	3	1	3	85	317
Count Total	0	164	203	2	0	1	158	39	0	1	23	1	0	25	8	48	673	0
Peak Hour	**0**	**96**	**110**	**1**	**0**	**1**	**85**	**20**	**0**	**0**	**14**	**0**	**0**	**10**	**3**	**29**	**369**	**0**

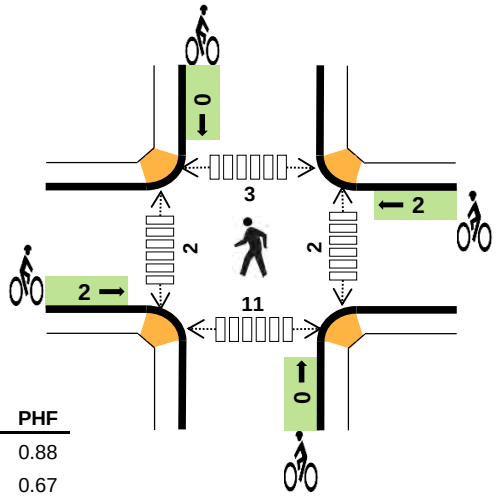
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
7:30 AM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
7:45 AM	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
8:00 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**1**	***2***
8:15 AM	2	1	0	0	*3*	0	0	0	0	*0*	0	3	0	3	*6*
8:30 AM	0	2	0	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	0	1	*1*
Count Total	4	4	0	2	*10*	0	0	0	0	*0*	0	3	3	6	*12*
Peak Hour	**1**	**1**	**0**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**3**	**2**	***5***

N FERDINAND ST
N 46TH ST

Date: Tue, Nov 07, 2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM





	HV %:	PHF
EB	0.0%	0.88
WB	0.0%	0.67
NB	0.0%	0.55
SB	0.7%	0.70
TOTAL	0.2%	0.91

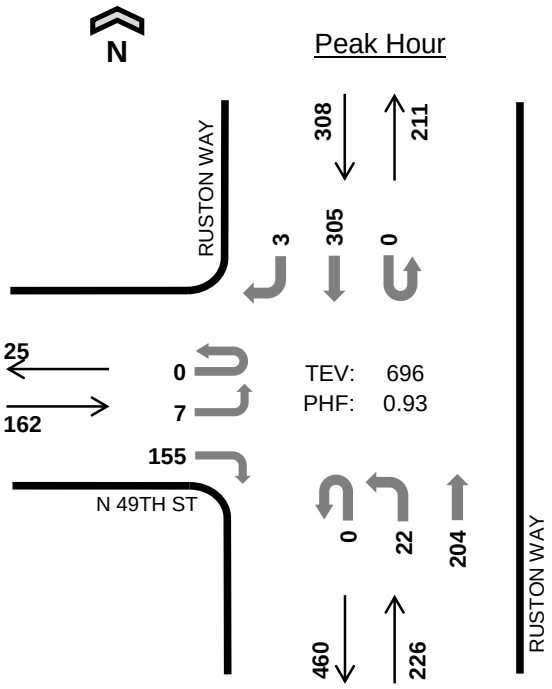
Two-Hour Count Summaries

Interval Start	N 46TH ST Eastbound				N 46TH ST Westbound				N FERDINAND ST Northbound				N FERDINAND ST Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	14	25	1	0	1	27	7	0	0	4	0	0	3	2	19	103	0
4:15 PM	0	5	21	0	0	0	31	8	0	0	1	0	0	6	1	17	90	0
4:30 PM	0	12	31	0	0	0	27	9	0	1	2	0	0	3	8	17	110	0
4:45 PM	**0**	**13**	**18**	**0**	**0**	**1**	**28**	**4**	**0**	**0**	**0**	**1**	**0**	**3**	**8**	**24**	**100**	403
5:00 PM	**0**	**10**	**30**	**1**	**0**	**0**	**31**	**1**	**0**	**0**	**2**	**0**	**0**	**5**	**3**	**46**	**129**	429
5:15 PM	**0**	**13**	**28**	**0**	**0**	**0**	**30**	**5**	**0**	**0**	**3**	**2**	**0**	**4**	**5**	**27**	**117**	456
5:30 PM	**0**	**6**	**24**	**2**	**0**	**0**	**50**	**9**	**0**	**1**	**2**	**0**	**0**	**2**	**3**	**22**	**121**	**467**
5:45 PM	0	5	16	0	0	0	29	6	0	1	3	1	0	1	15	21	98	465
Count Total	0	78	193	4	0	2	253	49	0	3	17	4	0	27	45	193	868	0
Peak Hour	**0**	**42**	**100**	**3**	**0**	**1**	**139**	**19**	**0**	**1**	**7**	**3**	**0**	**14**	**19**	**119**	**467**	**0**

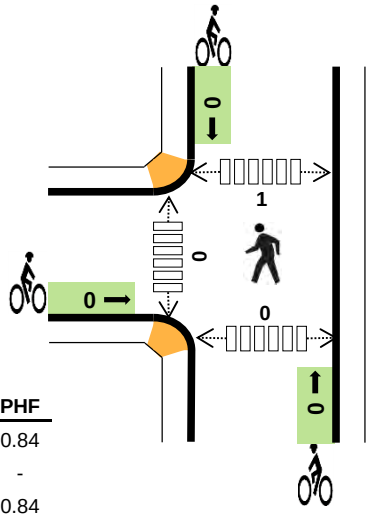
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	1	0	4	*5*
4:15 PM	0	0	0	0	*0*	0	1	0	0	*1*	0	0	0	3	*3*
4:30 PM	0	0	0	0	*0*	0	1	0	0	*1*	1	0	1	1	*3*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**7**	*8*
5:00 PM	**0**	**0**	**0**	**0**	***0***	**2**	**1**	**0**	**0**	***3***	**0**	**0**	**0**	**1**	*1*
5:15 PM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**0**	**0**	*2*
5:30 PM	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	***1***	**2**	**0**	**2**	**3**	***7***
5:45 PM	0	0	0	1	*1*	0	0	0	0	*0*	1	0	0	1	*2*
Count Total	0	0	0	2	*2*	2	4	0	0	*6*	4	3	4	20	*31*
Peak Hour	**0**	**0**	**0**	**1**	***1***	**2**	**2**	**0**	**0**	***4***	**2**	**2**	**3**	**11**	***18***

RUSTON WAY
N 49TH ST



Date: Tue, Nov 07, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	0.0%	0.84
WB	-	-
NB	4.9%	0.84
SB	1.6%	0.81
TOTAL	2.3%	0.93

Two-Hour Count Summaries

Interval Start	N 49TH ST Eastbound				0 Westbound				RUSTON WAY Northbound				RUSTON WAY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	0	39	0	0	0	0	0	6	32	0	0	0	58	1	137	0
7:15 AM	**0**	**1**	**0**	**47**	**0**	**0**	**0**	**0**	**0**	**8**	**53**	**0**	**0**	**0**	**75**	**1**	**185**	0
7:30 AM	**0**	**2**	**0**	**37**	**0**	**0**	**0**	**0**	**0**	**5**	**48**	**0**	**0**	**0**	**94**	**1**	**187**	0
7:45 AM	**0**	**0**	**0**	**38**	**0**	**0**	**0**	**0**	**0**	**7**	**60**	**0**	**0**	**0**	**64**	**1**	**170**	679
8:00 AM	**0**	**4**	**0**	**33**	**0**	**0**	**0**	**0**	**0**	**2**	**43**	**0**	**0**	**0**	**72**	**0**	**154**	**696**
8:15 AM	0	1	0	18	0	0	0	0	0	3	49	0	0	0	60	5	136	647
8:30 AM	0	0	0	24	0	0	0	0	0	9	35	0	0	0	54	3	125	585
8:45 AM	0	7	0	21	0	0	0	0	0	5	49	0	0	0	36	1	119	534
Count Total	0	16	0	257	0	0	0	0	0	45	369	0	0	0	513	13	1,213	0
Peak Hour	**0**	**7**	**0**	**155**	**0**	**0**	**0**	**0**	**0**	**22**	**204**	**0**	**0**	**0**	**305**	**3**	**696**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	2	0	*2*
7:15 AM	**0**	**0**	**5**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
7:30 AM	**0**	**0**	**2**	**3**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**0**	**0**	**4**	**2**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	1	0	7	3	*11*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	0	0	3	3	*6*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	1	0	23	11	*35*	0	0	0	0	*0*	0	0	3	0	*3*
Peak Hr	**0**	**0**	**11**	**5**	***16***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***

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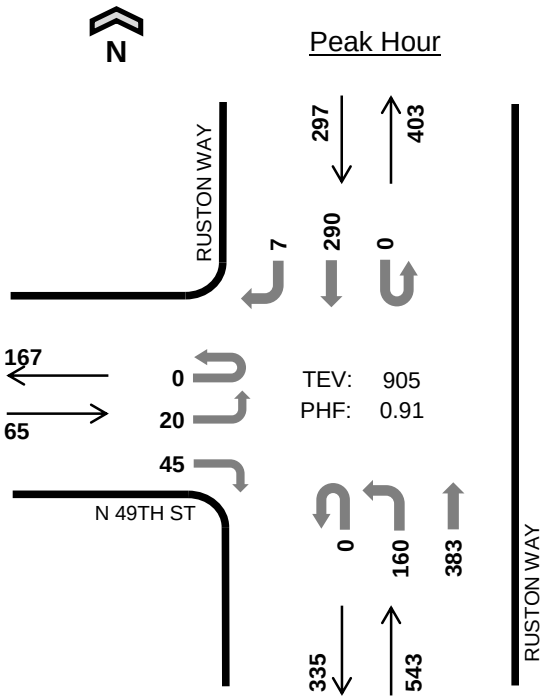
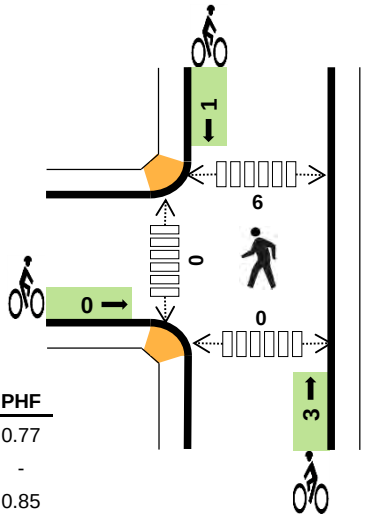
RUSTON WAY
N 49TH ST

Peak Hour



Date: Tue, Nov 07, 2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	0.0%	0.77
WB	-	-
NB	0.6%	0.85
SB	1.0%	0.76
TOTAL	0.7%	0.91

Two-Hour Count Summaries

Interval Start	N 49TH ST Eastbound				0 Westbound				RUSTON WAY Northbound				RUSTON WAY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	6	0	15	0	0	0	0	0	30	93	0	0	0	64	5	213	0
4:15 PM	0	4	0	6	0	0	0	0	0	22	97	0	0	0	75	1	205	0
4:30 PM	**0**	**5**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**28**	**85**	**0**	**0**	**0**	**77**	**1**	**207**	0
4:45 PM	**0**	**4**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**34**	**86**	**0**	**0**	**0**	**94**	**4**	**234**	859
5:00 PM	**0**	**2**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**60**	**91**	**0**	**0**	**0**	**52**	**1**	**216**	862
5:15 PM	**0**	**9**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**38**	**121**	**0**	**0**	**0**	**67**	**1**	**248**	**905**
5:30 PM	0	8	0	8	0	0	0	0	0	29	82	0	0	0	56	1	184	882
5:45 PM	0	2	0	9	0	0	0	0	0	39	100	0	0	0	40	1	191	839
Count Total	0	40	0	83	0	0	0	0	0	280	755	0	0	0	525	15	1,698	0
Peak Hour	**0**	**20**	**0**	**45**	**0**	**0**	**0**	**0**	**0**	**160**	**383**	**0**	**0**	**0**	**290**	**7**	**905**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	1	0	*1*
4:15 PM	0	0	1	1	*2*	0	0	2	0	*2*	0	0	1	0	*1*
4:30 PM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**3**	**0**	*3*
5:00 PM	**0**	**0**	**2**	**0**	***2***	**0**	**0**	**2**	**1**	***3***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**2**	**0**	***2***
5:30 PM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	1	0	*1*
5:45 PM	0	0	0	1	*1*	0	0	0	0	*0*	0	0	1	0	*1*
Count Total	0	0	6	5	*11*	0	0	5	1	*6*	0	0	10	0	*10*
Peak Hr	**0**	**0**	**3**	**3**	***6***	**0**	**0**	**3**	**1**	***4***	**0**	**0**	**6**	**0**	***6***

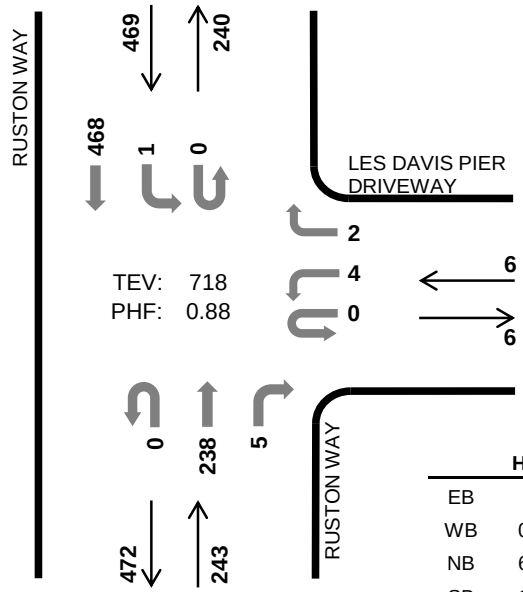
Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

RUSTON WAY
LES DAVIS PIER DRIVEWAY

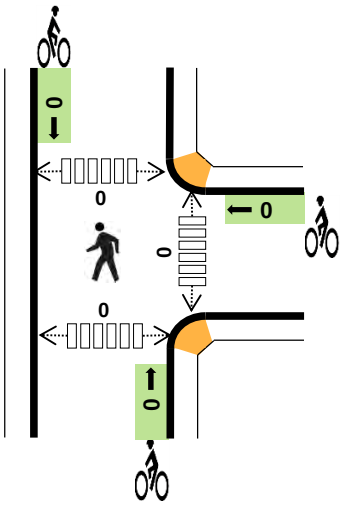
Date: Tue, Nov 07, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM

N

Peak Hour



	HV %:	PHF
EB	-	-
WB	0.0%	0.50
NB	6.2%	0.96
SB	1.5%	0.84
TOTAL	3.1%	0.88



Two-Hour Count Summaries

Interval Start	0				LES DAVIS PIER DRIVEWAY				RUSTON WAY				RUSTON WAY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	4	0	0	0	0	44	3	0	0	104	0	155	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**61**	**2**	**0**	**1**	**123**	**0**	**188**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**60**	**1**	**0**	**0**	**140**	**0**	**204**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**62**	**1**	**0**	**0**	**103**	**0**	**167**	714
8:00 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**55**	**1**	**0**	**0**	**102**	**0**	**159**	**718**
8:15 AM	0	0	0	0	0	2	0	0	0	0	69	0	0	2	79	0	152	682
8:30 AM	0	0	0	0	0	1	0	1	0	0	39	1	0	2	68	0	112	590
8:45 AM	0	0	0	0	0	1	0	0	0	0	58	4	0	0	61	0	124	547
Count Total	0	0	0	0	0	12	0	3	0	0	448	13	0	5	780	0	1,261	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**2**	**0**	**0**	**238**	**5**	**0**	**1**	**468**	**0**	**718**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	2	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**0**	**0**	**5**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**0**	**2**	**4**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**0**	**0**	**7**	**2**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	0	0	9	3	*12*	0	0	0	0	*0*	1	0	0	0	*1*
8:30 AM	0	0	3	6	*9*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	0	2	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	0	31	17	*48*	0	0	0	0	*0*	1	0	0	0	*1*
Peak Hr	**0**	**0**	**15**	**7**	***22***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

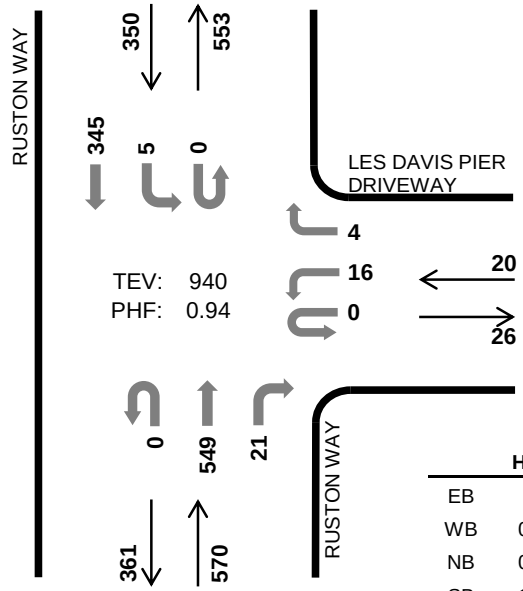
Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

RUSTON WAY
LES DAVIS PIER DRIVEWAY

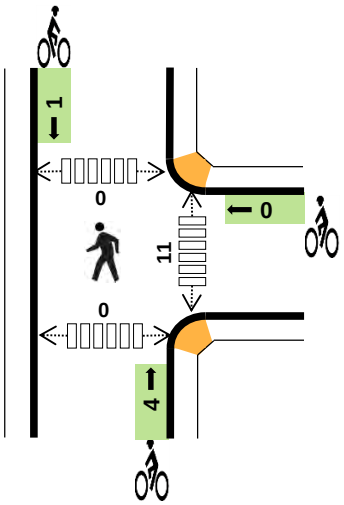
Date: Tue, Nov 07, 2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM

N

Peak Hour



	HV %:	PHF
EB	-	-
WB	0.0%	0.71
NB	0.2%	0.88
SB	1.4%	0.80
TOTAL	0.6%	0.94



Two-Hour Count Summaries

Interval Start	0				LES DAVIS PIER DRIVEWAY				RUSTON WAY				RUSTON WAY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	1	0	2	0	0	129	3	0	1	83	0	219	0
4:15 PM	0	0	0	0	0	2	0	2	0	0	111	8	0	2	78	0	203	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**113**	**1**	**0**	**1**	**88**	**0**	**206**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**2**	**0**	**0**	**126**	**7**	**0**	**0**	**110**	**0**	**249**	877
5:00 PM	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**158**	**3**	**0**	**2**	**69**	**0**	**236**	894
5:15 PM	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**2**	**0**	**0**	**152**	**10**	**0**	**2**	**78**	**0**	**249**	**940**
5:30 PM	0	0	0	0	0	1	0	1	0	0	122	10	0	0	64	0	198	932
5:45 PM	0	0	0	0	0	3	0	1	0	0	140	6	0	4	56	0	210	893
Count Total	0	0	0	0	0	23	0	10	0	0	1,051	48	0	12	626	0	1,770	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**4**	**0**	**0**	**549**	**21**	**0**	**5**	**345**	**0**	**940**	**0**

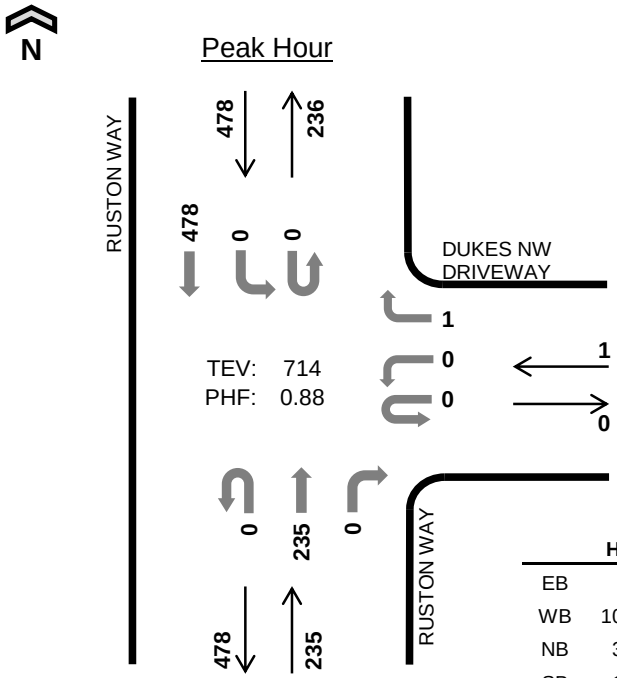
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	0	*1*	0	0	0	0	*0*	4	0	0	0	*4*
4:15 PM	0	0	1	0	*1*	0	0	2	0	*2*	6	0	0	0	*6*
4:30 PM	**0**	**0**	**0**	**3**	***3***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	*2*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***	**2**	**0**	**0**	**0**	*2*
5:00 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**2**	**1**	***3***	**2**	**0**	**0**	**0**	*2*
5:15 PM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**1**	**0**	***1***	**5**	**0**	**0**	**0**	***5***
5:30 PM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	1	*1*
5:45 PM	0	0	0	1	*1*	0	0	0	0	*0*	0	0	0	2	*2*
Count Total	0	0	4	6	*10*	0	0	6	1	*7*	21	0	0	3	*24*
Peak Hr	**0**	**0**	**1**	**5**	***6***	**0**	**0**	**4**	**1**	***5***	**11**	**0**	**0**	**0**	***11***

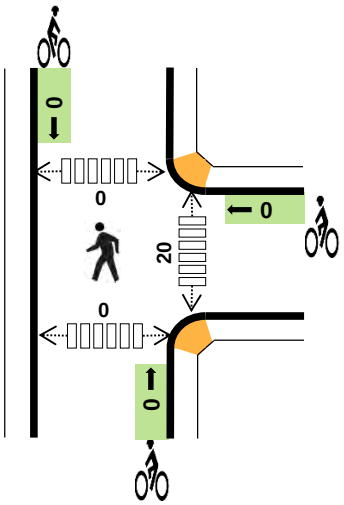
Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

RUSTON WAY
DUKES NW DRIVEWAY

Date: Tue, Nov 07, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	-	-
WB	100.0%	0.25
NB	3.8%	0.93
SB	1.0%	0.84
TOTAL	2.1%	0.88



Two-Hour Count Summaries

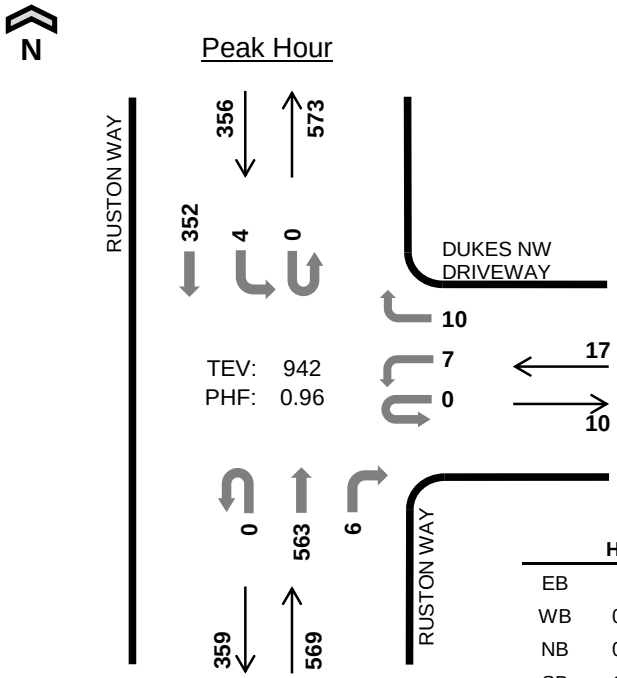
Interval Start	0				DUKES NW DRIVEWAY				RUSTON WAY				RUSTON WAY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**50**	**0**	**0**	**0**	**109**	**0**	**160**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**62**	**0**	**0**	**0**	**123**	**0**	**185**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**60**	**0**	**0**	**0**	**142**	**0**	**202**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**63**	**0**	**0**	**0**	**104**	**0**	**167**	**714**
8:00 AM	0	0	0	0	0	0	0	0	0	0	57	0	0	0	101	0	158	712
8:15 AM	0	0	0	0	0	1	0	0	0	0	65	0	0	0	81	0	147	674
8:30 AM	0	0	0	0	0	0	0	0	0	0	42	0	0	0	69	0	111	583
8:45 AM	0	0	0	0	0	0	0	1	0	0	62	1	0	0	62	0	126	542
Count Total	0	0	0	0	0	1	0	2	0	0	461	1	0	0	791	0	1,256	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**235**	**0**	**0**	**0**	**478**	**0**	**714**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

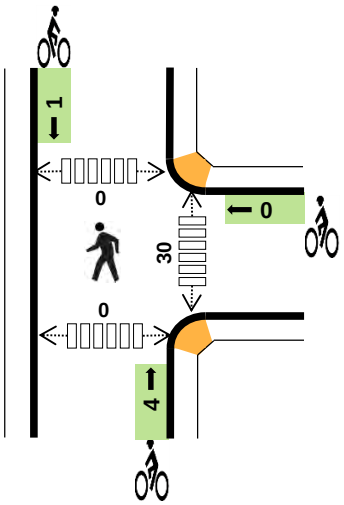
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**0**	**1**	**2**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**4**	**0**	**0**	**0**	*4*
7:15 AM	**0**	**0**	**4**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**5**	**0**	**0**	**0**	*5*
7:30 AM	**0**	**0**	**2**	**4**	***6***	**0**	**0**	**0**	**0**	***0***	**7**	**0**	**0**	**0**	*7*
7:45 AM	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**0**	***0***	**4**	**0**	**0**	**0**	***4***
8:00 AM	0	0	6	2	*8*	0	0	0	0	*0*	5	0	0	0	*5*
8:15 AM	0	0	12	4	*16*	0	0	0	0	*0*	10	0	0	0	*10*
8:30 AM	0	0	3	6	*9*	0	0	0	0	*0*	9	0	0	0	*9*
8:45 AM	0	0	3	1	*4*	0	0	0	0	*0*	4	0	0	0	*4*
Count Total	0	1	33	18	*52*	0	0	0	0	*0*	48	0	0	0	*48*
Peak Hr	**0**	**1**	**9**	**5**	***15***	**0**	**0**	**0**	**0**	***0***	**20**	**0**	**0**	**0**	***20***

RUSTON WAY
DUKES NW DRIVEWAY

Date: Tue, Nov 07, 2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	-	-
WB	0.0%	0.61
NB	0.2%	0.86
SB	1.1%	0.78
TOTAL	0.5%	0.96



Two-Hour Count Summaries

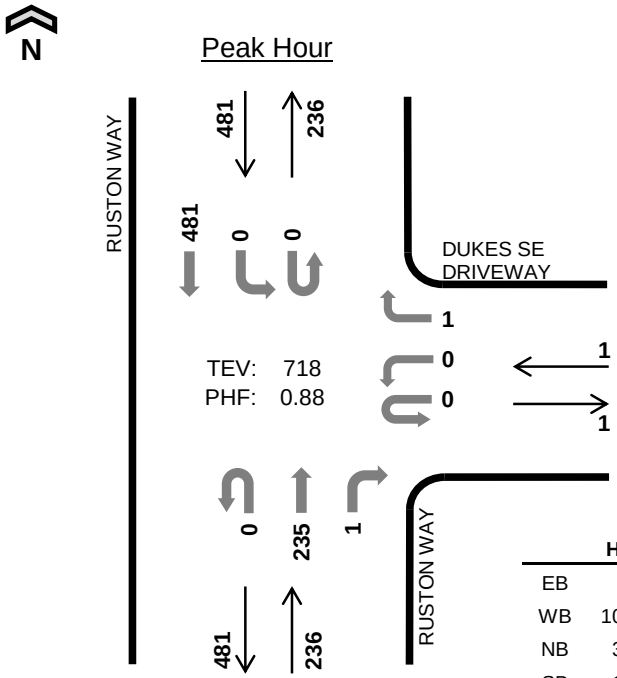
Interval Start	0				DUKES NW DRIVEWAY				RUSTON WAY				RUSTON WAY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	1	0	0	0	0	130	0	0	1	82	0	214	0
4:15 PM	0	0	0	0	0	1	0	0	0	0	126	1	0	0	81	0	209	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**116**	**2**	**0**	**0**	**88**	**0**	**210**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**128**	**1**	**0**	**3**	**111**	**0**	**246**	879
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**162**	**3**	**0**	**1**	**72**	**0**	**241**	906
5:15 PM	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**2**	**0**	**0**	**157**	**0**	**0**	**0**	**81**	**0**	**245**	**942**
5:30 PM	0	0	0	0	0	1	0	0	0	0	136	1	0	0	65	0	203	935
5:45 PM	0	0	0	0	0	1	0	0	0	0	144	1	0	2	58	0	206	895
Count Total	0	0	0	0	0	11	0	10	0	0	1,099	9	0	7	638	0	1,774	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**10**	**0**	**0**	**563**	**6**	**0**	**4**	**352**	**0**	**942**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

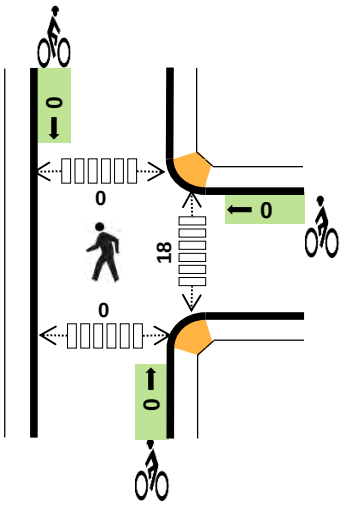
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	0	*1*	0	0	0	0	*0*	15	0	0	0	*15*
4:15 PM	0	0	1	0	*1*	0	0	2	0	*2*	11	0	0	0	*11*
4:30 PM	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**0**	***0***	**8**	**0**	**0**	**0**	*8*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***	**7**	**0**	**0**	**0**	*7*
5:00 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**3**	**1**	***4***	**11**	**0**	**0**	**0**	*11*
5:15 PM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**0**	**0**	***0***	**4**	**0**	**0**	**0**	***4***
5:30 PM	0	0	1	0	*1*	0	0	0	0	*0*	3	0	0	0	*3*
5:45 PM	0	0	0	2	*2*	0	0	0	0	*0*	5	0	0	0	*5*
Count Total	0	0	4	6	*10*	0	0	6	1	*7*	64	0	0	0	*64*
Peak Hr	**0**	**0**	**1**	**4**	***5***	**0**	**0**	**4**	**1**	***5***	**30**	**0**	**0**	**0**	***30***

RUSTON WAY
DUKES SE DRIVEWAY

Date: Tue, Nov 07, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	-	-
WB	100.0%	0.25
NB	3.4%	0.94
SB	1.0%	0.84
TOTAL	1.9%	0.88



Two-Hour Count Summaries

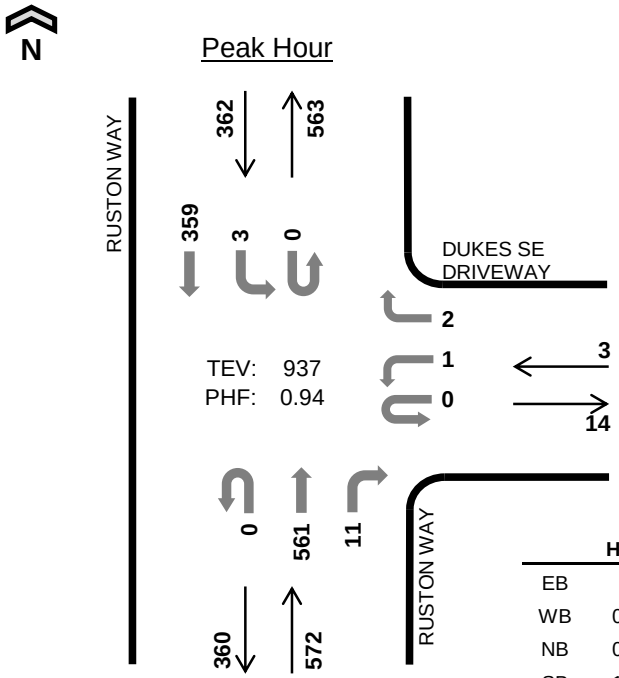
Interval Start	0				DUKES SE DRIVEWAY				RUSTON WAY				RUSTON WAY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**52**	**0**	**0**	**0**	**112**	**0**	**164**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**61**	**0**	**0**	**0**	**122**	**0**	**183**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**60**	**0**	**0**	**0**	**144**	**0**	**204**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**62**	**1**	**0**	**0**	**103**	**0**	**167**	**718**
8:00 AM	0	0	0	0	0	0	0	0	0	0	57	0	0	0	103	0	160	714
8:15 AM	0	0	0	0	0	0	0	0	0	0	66	1	0	0	82	0	149	680
8:30 AM	0	0	0	0	0	0	0	0	0	0	42	4	0	0	70	0	116	592
8:45 AM	0	0	0	0	0	0	0	0	0	0	62	1	0	0	61	0	124	549
Count Total	0	0	0	0	0	0	0	1	0	0	462	7	0	0	797	0	1,267	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**235**	**1**	**0**	**0**	**481**	**0**	**718**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

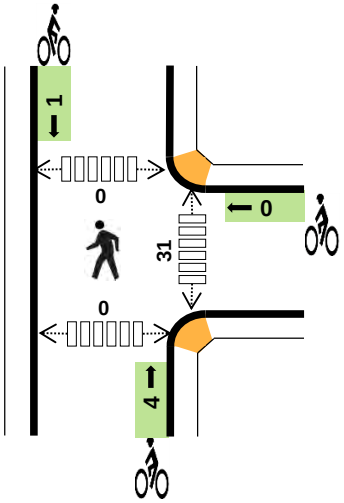
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**0**	**0**	**2**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**3**	**0**	**0**	**0**	*3*
7:15 AM	**0**	**0**	**4**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**5**	**0**	**0**	**0**	*5*
7:30 AM	**0**	**0**	**2**	**4**	***6***	**0**	**0**	**0**	**0**	***0***	**7**	**0**	**0**	**0**	*7*
7:45 AM	**0**	**1**	**0**	**1**	***2***	**0**	**0**	**0**	**0**	***0***	**3**	**0**	**0**	**0**	***3***
8:00 AM	0	0	6	2	*8*	0	0	0	0	*0*	7	0	0	0	*7*
8:15 AM	0	0	12	4	*16*	0	0	0	0	*0*	8	0	0	0	*8*
8:30 AM	0	0	3	6	*9*	0	0	0	0	*0*	7	0	0	0	*7*
8:45 AM	0	0	3	1	*4*	0	0	0	0	*0*	4	0	0	0	*4*
Count Total	0	1	32	18	*51*	0	0	0	0	*0*	44	0	0	0	*44*
Peak Hr	**0**	**1**	**8**	**5**	***14***	**0**	**0**	**0**	**0**	***0***	**18**	**0**	**0**	**0**	***18***

RUSTON WAY
DUKES SE DRIVEWAY

Date: Tue, Nov 07, 2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	-	-
WB	0.0%	0.75
NB	0.2%	0.88
SB	1.1%	0.81
TOTAL	0.5%	0.94



Two-Hour Count Summaries

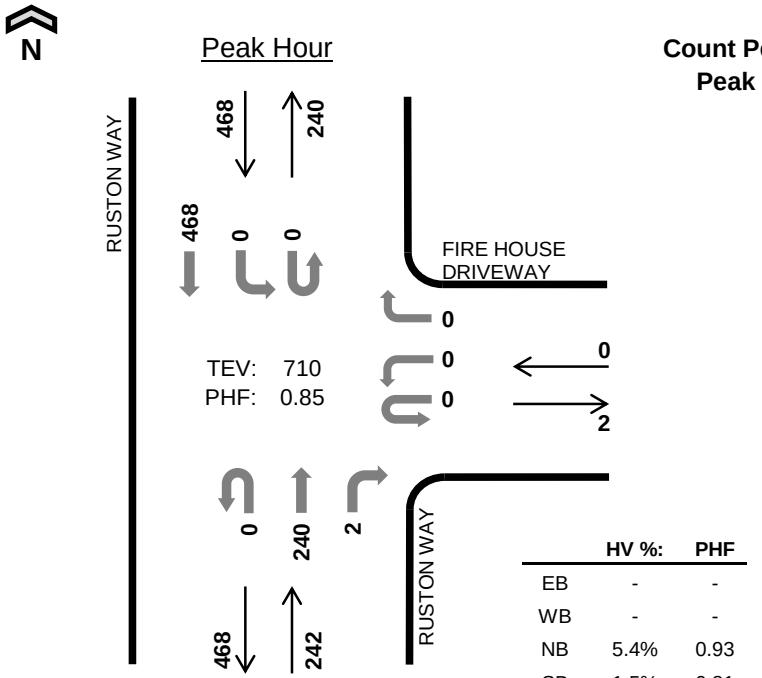
Interval Start	0				DUKES SE DRIVEWAY				RUSTON WAY				RUSTON WAY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	1	0	0	0	0	130	3	0	0	84	0	218	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	124	2	0	0	82	0	208	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**116**	**3**	**0**	**0**	**91**	**0**	**211**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**128**	**2**	**0**	**0**	**112**	**0**	**242**	879
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**161**	**2**	**0**	**2**	**70**	**0**	**236**	897
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**156**	**4**	**0**	**1**	**86**	**0**	**248**	**937**
5:30 PM	0	0	0	0	0	0	0	0	0	0	138	3	0	0	66	0	207	933
5:45 PM	0	0	0	0	0	0	0	1	0	0	141	2	0	0	59	0	203	894
Count Total	0	0	0	0	0	2	0	3	0	0	1,094	21	0	3	650	0	1,773	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**561**	**11**	**0**	**3**	**359**	**0**	**937**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

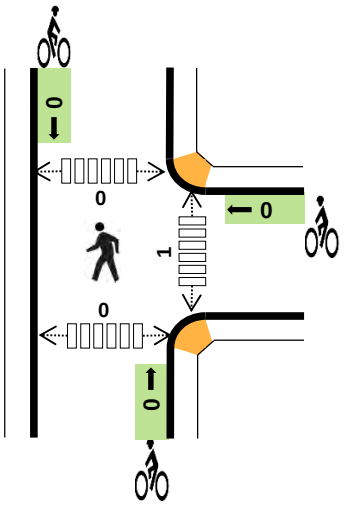
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	0	*1*	0	0	0	0	*0*	15	0	0	0	*15*
4:15 PM	0	0	1	0	*1*	0	0	2	0	*2*	11	0	0	0	*11*
4:30 PM	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**0**	***0***	**8**	**0**	**0**	**0**	*8*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***	**7**	**0**	**0**	**0**	*7*
5:00 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**3**	**1**	***4***	**11**	**0**	**0**	**0**	*11*
5:15 PM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**0**	**0**	***0***	**5**	**0**	**0**	**0**	***5***
5:30 PM	0	0	1	0	*1*	0	0	0	0	*0*	2	0	0	0	*2*
5:45 PM	0	0	0	2	*2*	0	0	0	0	*0*	6	0	0	0	*6*
Count Total	0	0	4	6	*10*	0	0	6	1	*7*	65	0	0	0	*65*
Peak Hr	**0**	**0**	**1**	**4**	***5***	**0**	**0**	**4**	**1**	***5***	**31**	**0**	**0**	**0**	***31***

RUSTON WAY
FIRE HOUSE DRIVEWAY

Date: Tue, Nov 07, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	-	-
WB	-	-
NB	5.4%	0.93
SB	1.5%	0.81
TOTAL	2.8%	0.85



Two-Hour Count Summaries

Interval Start	0				FIRE HOUSE DRIVEWAY				RUSTON WAY				RUSTON WAY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	46	0	0	0	107	0	153	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**60**	**0**	**0**	**0**	**118**	**0**	**178**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**65**	**0**	**0**	**0**	**144**	**0**	**209**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**59**	**0**	**0**	**0**	**108**	**0**	**167**	707
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**56**	**2**	**0**	**0**	**98**	**0**	**156**	**710**
8:15 AM	0	0	0	0	0	1	0	0	0	0	71	2	0	0	86	0	160	692
8:30 AM	0	0	0	0	0	0	0	0	0	0	45	0	0	0	65	0	110	593
8:45 AM	0	0	0	0	0	0	0	0	0	0	64	0	0	1	62	0	127	553
Count Total	0	0	0	0	0	1	0	0	0	0	466	4	0	1	788	0	1,260	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**240**	**2**	**0**	**0**	**468**	**0**	**710**	**0**

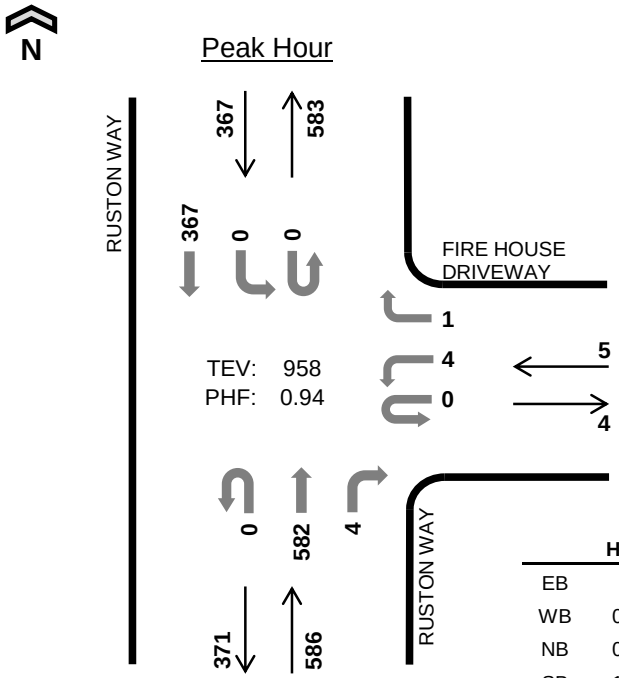
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**0**	**0**	**5**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**0**	**2**	**4**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
8:00 AM	**0**	**0**	**6**	**2**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	0	0	12	3	*15*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	0	0	3	5	*8*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	0	2	2	*4*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	0	31	17	*48*	0	0	0	0	*0*	1	0	0	0	*1*
Peak Hr	**0**	**0**	**13**	**7**	***20***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	***1***

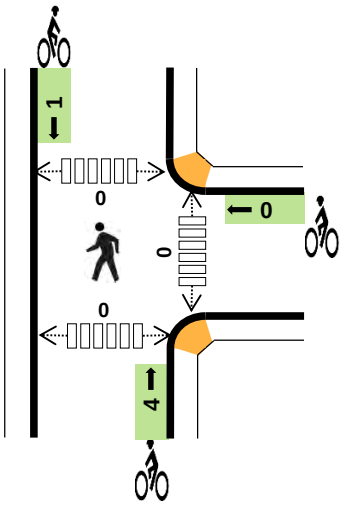
Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

RUSTON WAY
FIRE HOUSE DRIVEWAY

Date: Tue, Nov 07, 2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	-	-
WB	0.0%	0.42
NB	0.2%	0.88
SB	1.1%	0.86
TOTAL	0.5%	0.94



Two-Hour Count Summaries

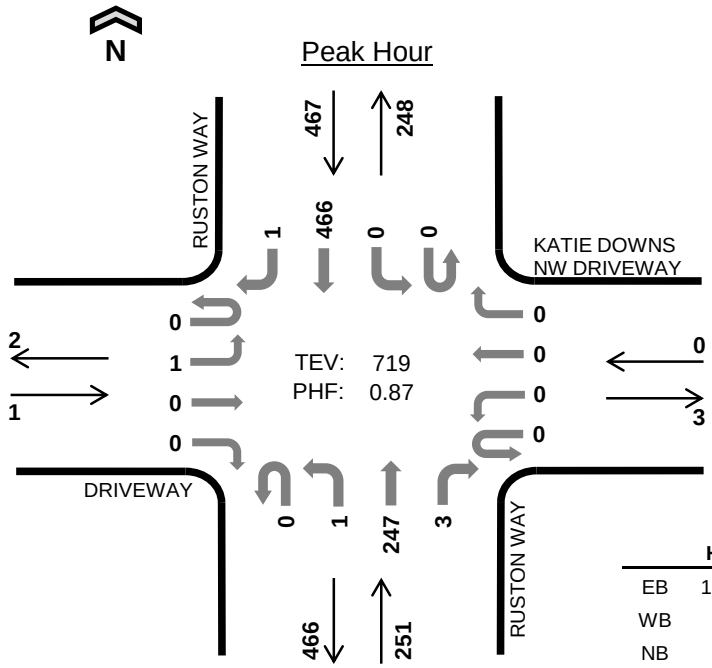
Interval Start	0				FIRE HOUSE DRIVEWAY				RUSTON WAY				RUSTON WAY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	135	0	0	1	89	0	225	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	123	1	0	0	76	0	200	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**119**	**1**	**0**	**0**	**97**	**0**	**217**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**135**	**0**	**0**	**0**	**107**	**0**	**243**	885
5:00 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**164**	**3**	**0**	**0**	**74**	**0**	**242**	902
5:15 PM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**164**	**0**	**0**	**0**	**89**	**0**	**256**	**958**
5:30 PM	0	0	0	0	0	0	0	1	0	0	134	0	0	0	65	0	200	941
5:45 PM	0	0	0	0	0	0	0	0	0	0	149	0	0	0	59	0	208	906
Count Total	0	0	0	0	0	4	0	2	0	0	1,123	5	0	1	656	0	1,791	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**1**	**0**	**0**	**582**	**4**	**0**	**0**	**367**	**0**	**958**	**0**

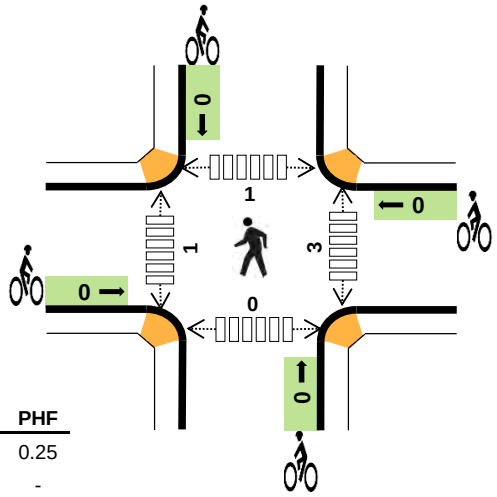
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	0	0	1	0	*1*	0	0	2	0	*2*	0	0	0	0	*0*
4:30 PM	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**2**	**1**	***3***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***
5:30 PM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	0	0	2	*2*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	0	4	6	*10*	0	0	6	1	*7*	0	0	0	0	*0*
Peak Hr	**0**	**0**	**1**	**4**	***5***	**0**	**0**	**4**	**1**	***5***	**0**	**0**	**0**	**0**	***0***

RUSTON WAY
KATIE DOWNS NW DRIVEWAY

Date: Tue, Nov 07, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV %:	PHF
EB	100.0%	0.25
WB	-	-
NB	4.8%	0.97
SB	1.5%	0.82
TOTAL	2.8%	0.87

Two-Hour Count Summaries

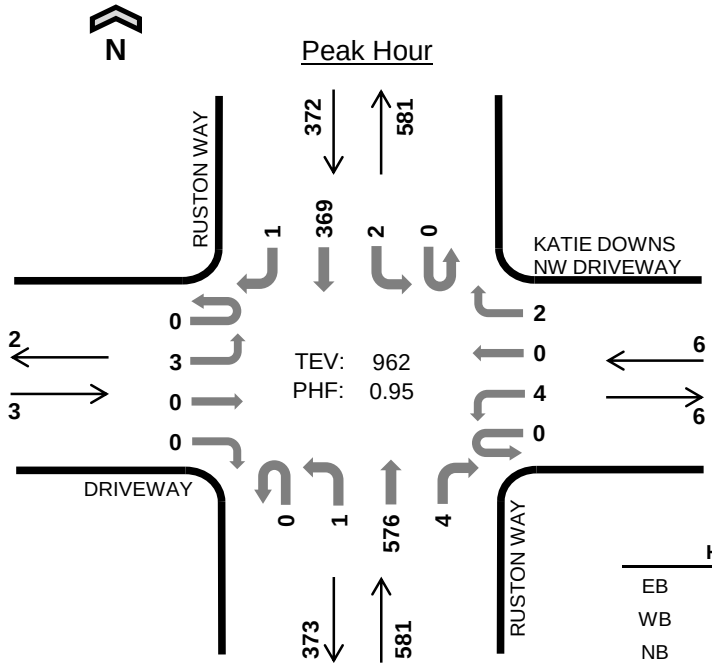
Interval Start	DRIVEWAY				KATIE DOWNS NW DRIVEWAY				RUSTON WAY				RUSTON WAY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	45	0	0	0	107	0	152	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**63**	**1**	**0**	**0**	**118**	**0**	**182**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**63**	**0**	**0**	**0**	**142**	**1**	**206**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**63**	**1**	**0**	**0**	**109**	**0**	**174**	714
8:00 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**58**	**1**	**0**	**0**	**97**	**0**	**157**	**719**
8:15 AM	0	1	0	0	0	0	0	0	0	0	71	0	0	0	88	0	160	697
8:30 AM	0	0	0	0	0	0	0	0	0	0	46	0	0	0	64	1	111	602
8:45 AM	0	0	0	0	0	0	0	1	0	0	61	1	0	0	62	0	125	553
Count Total	0	2	0	0	0	0	0	1	0	1	470	4	0	0	787	2	1,267	0
Peak Hour	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**247**	**3**	**0**	**0**	**466**	**1**	**719**	**0**

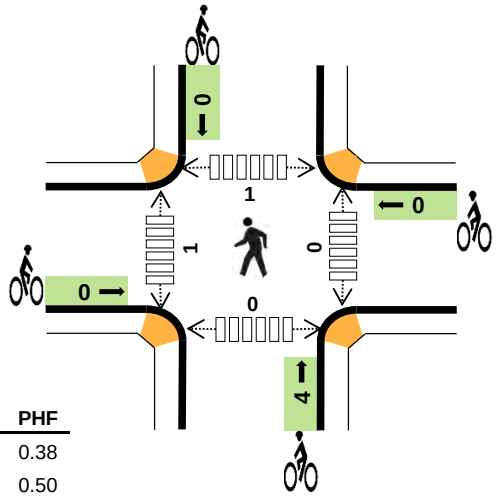
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	1	0	*1*
7:15 AM	**0**	**0**	**5**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
7:30 AM	**0**	**0**	**2**	**4**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**1**	**0**	*3*
8:00 AM	**1**	**0**	**5**	**2**	***8***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	***1***
8:15 AM	0	0	12	3	*15*	0	0	0	0	*0*	0	1	1	0	*2*
8:30 AM	0	0	3	5	*8*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	0	2	2	*4*	0	0	0	0	*0*	2	0	0	0	*2*
Count Total	1	0	30	17	*48*	0	0	0	0	*0*	5	2	3	0	*10*
Peak Hour	**1**	**0**	**12**	**7**	***20***	**0**	**0**	**0**	**0**	***0***	**3**	**1**	**1**	**0**	***5***

RUSTON WAY
KATIE DOWNS NW DRIVEWAY

Date: Tue, Nov 07, 2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV %:	PHF
EB	0.0%	0.38
WB	0.0%	0.50
NB	0.2%	0.89
SB	1.1%	0.86
TOTAL	0.5%	0.95

Two-Hour Count Summaries

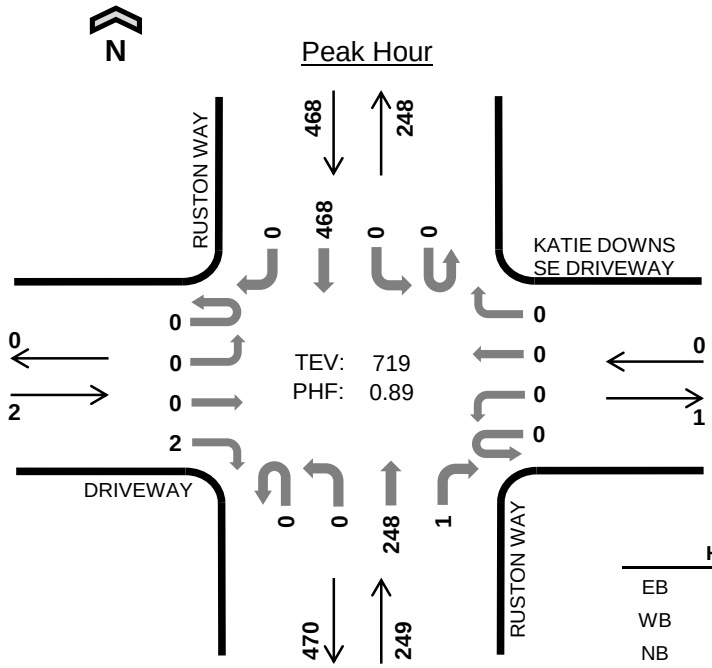
Interval Start	DRIVEWAY Eastbound				KATIE DOWNS NW DRIVEWAY Westbound				RUSTON WAY Northbound				RUSTON WAY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	1	134	0	0	0	89	0	224	0
4:15 PM	0	0	0	1	0	0	0	0	0	0	123	0	0	1	73	1	199	0
4:30 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**119**	**2**	**0**	**0**	**98**	**0**	**221**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**133**	**0**	**0**	**2**	**105**	**1**	**245**	889
5:00 PM	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**162**	**1**	**0**	**0**	**75**	**0**	**242**	907
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**162**	**1**	**0**	**0**	**91**	**0**	**254**	**962**
5:30 PM	0	0	0	0	0	1	0	0	0	0	134	1	0	0	65	0	201	942
5:45 PM	0	0	0	0	0	0	0	2	0	0	146	1	0	2	58	0	209	906
Count Total	0	3	0	1	0	5	0	4	0	2	1,113	6	0	5	654	2	1,795	0
Peak Hour	**0**	**3**	**0**	**0**	**0**	**4**	**0**	**2**	**0**	**1**	**576**	**4**	**0**	**2**	**369**	**1**	**962**	**0**

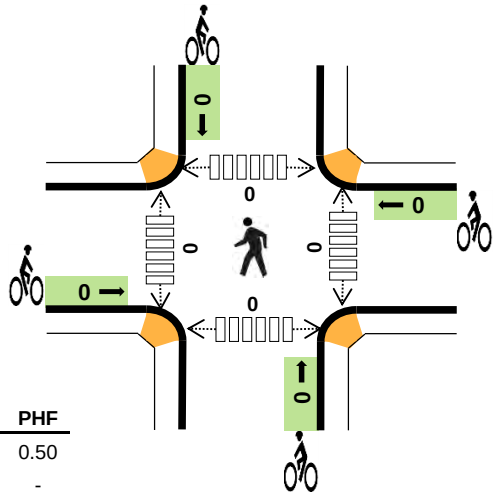
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	0	*1*	0	0	0	0	*0*	2	0	0	0	*2*
4:15 PM	0	0	1	0	*1*	0	0	2	0	*2*	2	0	0	0	*2*
4:30 PM	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**0**	*2*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**2**	**0**	***2***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***
5:30 PM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	0	0	2	*2*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	0	4	6	*10*	0	0	6	0	*6*	4	1	1	0	*6*
Peak Hour	**0**	**0**	**1**	**4**	***5***	**0**	**0**	**4**	**0**	***4***	**0**	**1**	**1**	**0**	***2***

RUSTON WAY
KATIE DOWNS SE DRIVEWAY

Date: Tue, Nov 07, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV %:	PHF
EB	0.0%	0.50
WB	-	-
NB	4.8%	0.97
SB	1.5%	0.84
TOTAL	2.6%	0.89

Two-Hour Count Summaries

Interval Start	DRIVEWAY Eastbound				KATIE DOWNS SE DRIVEWAY Westbound				RUSTON WAY Northbound				RUSTON WAY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	46	0	0	0	105	0	151	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**63**	**1**	**0**	**0**	**120**	**0**	**184**	0
7:30 AM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**61**	**0**	**0**	**0**	**139**	**0**	**201**	0
7:45 AM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**64**	**0**	**0**	**0**	**112**	**0**	**177**	713
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**60**	**0**	**0**	**0**	**97**	**0**	**157**	**719**
8:15 AM	0	0	0	1	0	0	0	0	0	0	70	0	0	0	89	0	160	695
8:30 AM	0	0	0	0	0	0	0	0	0	0	44	1	0	0	62	0	107	601
8:45 AM	0	0	0	0	0	1	0	0	0	0	64	1	0	0	64	0	130	554
Count Total	0	0	0	3	0	1	0	0	0	0	472	3	0	0	788	0	1,267	0
Peak Hour	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**248**	**1**	**0**	**0**	**468**	**0**	**719**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**0**	**0**	**5**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**0**	**2**	**4**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**0**	**0**	**5**	**2**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	0	0	12	3	*15*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	0	0	4	6	*10*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	0	2	2	*4*	0	0	0	0	*0*	0	0	0	1	*1*
Count Total	0	0	31	18	*49*	0	0	0	0	*0*	0	0	0	1	*1*
Peak Hour	**0**	**0**	**12**	**7**	***19***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

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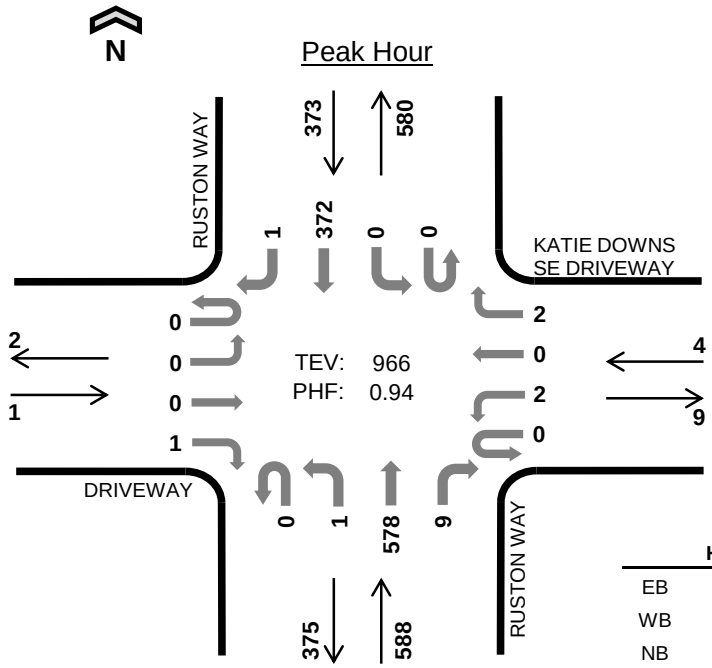
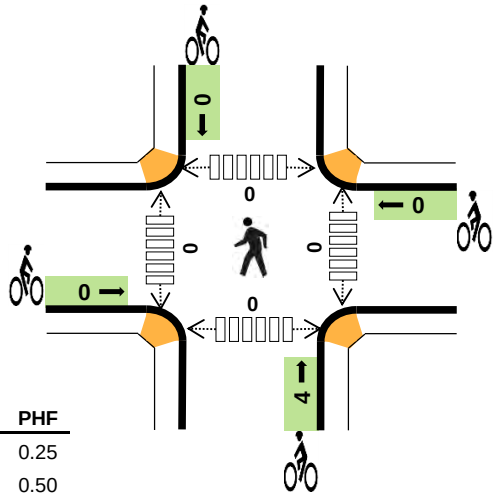
RUSTON WAY
KATIE DOWNS SE DRIVEWAY



Date: Tue, Nov 07, 2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	0.0%	0.25
WB	0.0%	0.50
NB	0.2%	0.89
SB	1.1%	0.85
TOTAL	0.5%	0.94

Two-Hour Count Summaries

Interval Start	DRIVEWAY				KATIE DOWNS SE DRIVEWAY				RUSTON WAY				RUSTON WAY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	1	0	1	0	0	0	0	135	2	0	0	88	0	227	0
4:15 PM	0	0	0	1	0	0	0	0	0	0	120	0	0	0	74	0	195	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**118**	**1**	**0**	**0**	**97**	**0**	**219**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**134**	**2**	**0**	**0**	**110**	**0**	**248**	889
5:00 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**165**	**1**	**0**	**0**	**75**	**1**	**243**	905
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**161**	**5**	**0**	**0**	**90**	**0**	**256**	**966**
5:30 PM	0	0	0	0	0	1	0	0	0	0	135	1	0	0	66	0	203	950
5:45 PM	0	0	0	0	0	0	0	1	0	0	142	0	0	0	56	0	199	901
Count Total	0	0	0	3	0	4	0	3	0	1	1,110	12	0	0	656	1	1,790	0
Peak Hour	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**2**	**0**	**1**	**578**	**9**	**0**	**0**	**372**	**1**	**966**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	0	0	1	0	*1*	0	0	2	0	*2*	0	0	0	0	*0*
4:30 PM	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**2**	**0**	***2***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***
5:30 PM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	0	0	1	*1*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	0	4	5	*9*	0	0	6	0	*6*	0	0	0	0	*0*
Peak Hour	**0**	**0**	**1**	**4**	***5***	**0**	**0**	**4**	**0**	***4***	**0**	**0**	**0**	**0**	***0***

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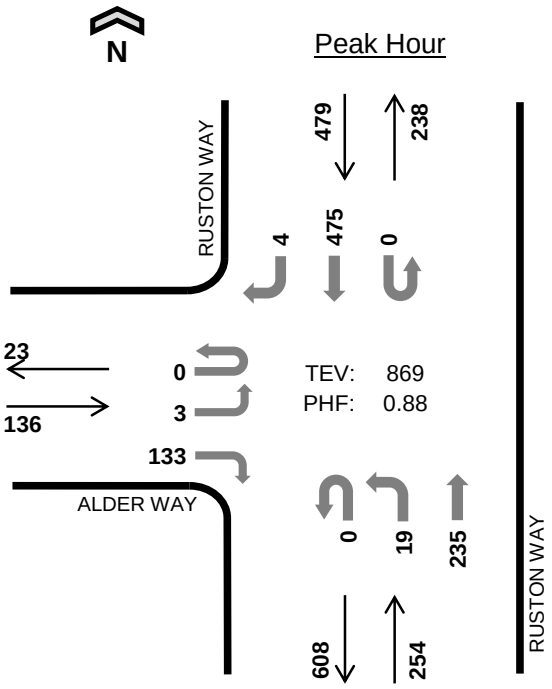
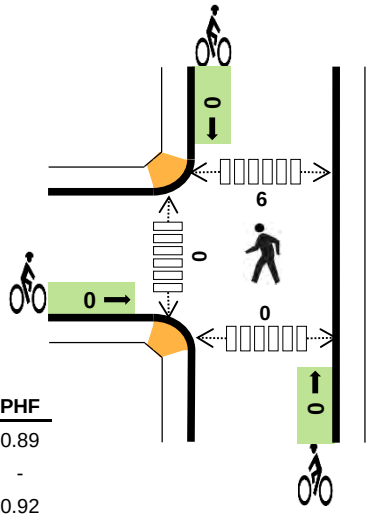
RUSTON WAY
ALDER WAY

Peak Hour



Date: Tue, Nov 07, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	0.0%	0.89
WB	-	-
NB	3.1%	0.92
SB	1.0%	0.84
TOTAL	1.5%	0.88

Two-Hour Count Summaries

Interval Start	ALDER WAY Eastbound				0 Westbound				RUSTON WAY Northbound				RUSTON WAY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**1**	**0**	**30**	**0**	**0**	**0**	**0**	**0**	**5**	**49**	**0**	**0**	**0**	**107**	**2**	**194**	0
7:15 AM	**0**	**1**	**0**	**30**	**0**	**0**	**0**	**0**	**0**	**3**	**62**	**0**	**0**	**0**	**123**	**0**	**219**	0
7:30 AM	**0**	**0**	**0**	**36**	**0**	**0**	**0**	**0**	**0**	**4**	**65**	**0**	**0**	**0**	**142**	**1**	**248**	0
7:45 AM	**0**	**1**	**0**	**37**	**0**	**0**	**0**	**0**	**0**	**7**	**59**	**0**	**0**	**0**	**103**	**1**	**208**	**869**
8:00 AM	0	4	0	26	0	0	0	0	0	2	56	0	0	0	100	3	191	866
8:15 AM	0	2	0	27	0	0	0	0	0	9	65	0	0	0	86	0	189	836
8:30 AM	0	1	0	26	0	0	0	0	0	5	51	0	0	0	67	1	151	739
8:45 AM	0	1	0	15	0	0	0	0	0	3	63	0	0	0	62	1	145	676
Count Total	0	11	0	227	0	0	0	0	0	38	470	0	0	0	790	9	1,545	0
Peak Hour	**0**	**3**	**0**	**133**	**0**	**0**	**0**	**0**	**0**	**19**	**235**	**0**	**0**	**0**	**475**	**4**	**869**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**3**	**0**	*3*
7:15 AM	**0**	**0**	**4**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
7:30 AM	**0**	**0**	**2**	**4**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
7:45 AM	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***
8:00 AM	0	0	5	2	*7*	0	0	0	0	*0*	0	0	4	0	*4*
8:15 AM	0	0	12	4	*16*	0	0	0	0	*0*	0	0	3	0	*3*
8:30 AM	1	0	3	6	*10*	0	0	0	0	*0*	0	1	1	1	*3*
8:45 AM	0	0	2	1	*3*	0	0	0	0	*0*	0	2	0	2	*4*
Count Total	1	0	30	18	*49*	0	0	0	0	*0*	0	3	14	3	*20*
Peak Hr	**0**	**0**	**8**	**5**	***13***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**6**	**0**	***6***

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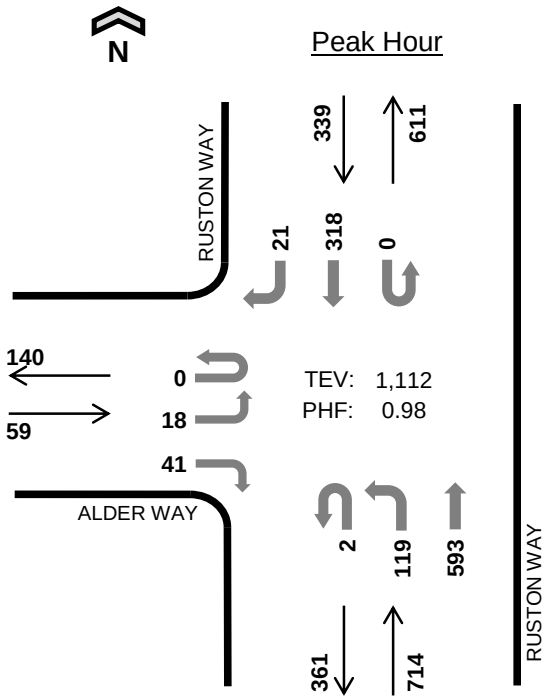
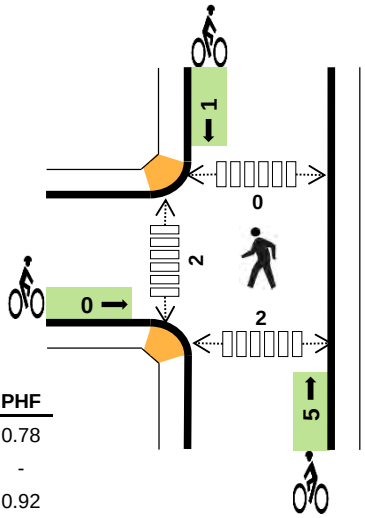
RUSTON WAY
ALDER WAY

Peak Hour



Date: Tue, Nov 07, 2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	0.0%	0.78
WB	-	-
NB	0.3%	0.92
SB	0.6%	0.75
TOTAL	0.4%	0.98

Two-Hour Count Summaries

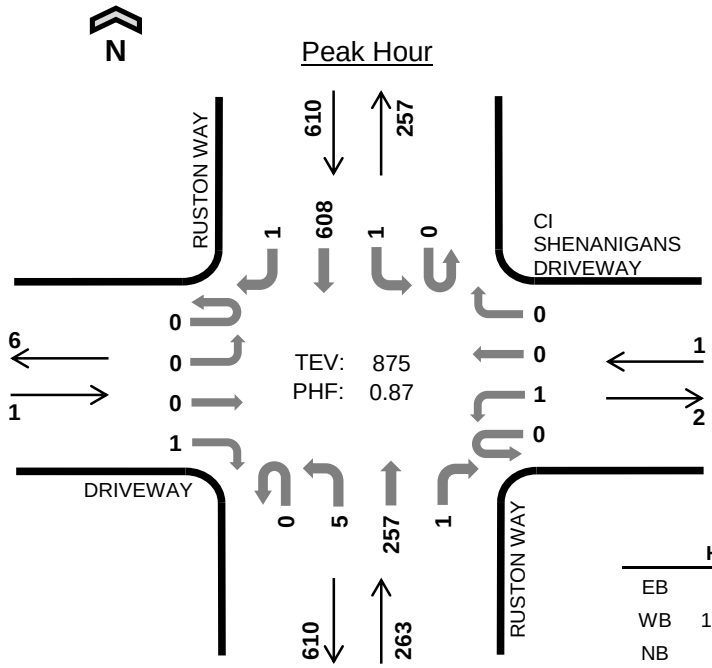
Interval Start	ALDER WAY Eastbound				0 Westbound				RUSTON WAY Northbound				RUSTON WAY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	2	0	13	0	0	0	0	0	8	136	0	0	0	78	5	242	0
4:15 PM	0	3	0	15	0	0	0	0	0	21	128	0	0	0	81	2	250	0
4:30 PM	0	3	0	9	0	0	0	0	0	24	115	0	0	0	85	5	241	0
4:45 PM	**0**	**3**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**27**	**132**	**0**	**0**	**0**	**107**	**6**	**285**	1,018
5:00 PM	**0**	**4**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**32**	**163**	**0**	**0**	**0**	**67**	**4**	**284**	1,060
5:15 PM	**0**	**6**	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**26**	**160**	**0**	**0**	**0**	**84**	**5**	**285**	1,095
5:30 PM	**0**	**5**	**0**	**14**	**0**	**0**	**0**	**0**	**1**	**34**	**138**	**0**	**0**	**0**	**60**	**6**	**258**	**1,112**
5:45 PM	0	6	0	9	0	0	0	0	0	18	145	0	0	0	55	2	235	1,062
Count Total	0	32	0	87	0	0	0	0	2	190	1,117	0	0	0	617	35	2,080	0
Peak Hour	**0**	**18**	**0**	**41**	**0**	**0**	**0**	**0**	**2**	**119**	**593**	**0**	**0**	**0**	**318**	**21**	**1,112**	**0**

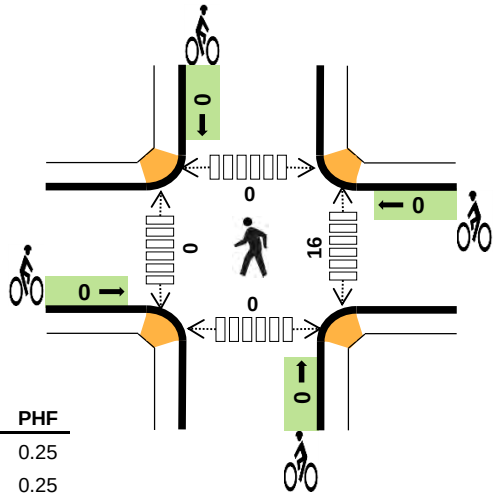
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	0	0	1	0	*1*	0	0	1	0	*1*	0	0	0	0	*0*
4:30 PM	0	0	0	2	*2*	0	0	0	0	*0*	0	1	0	1	*2*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***	**0**	**2**	**0**	**2**	*4*
5:00 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**3**	**1**	***4***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:30 PM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***
5:45 PM	0	0	0	1	*1*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	0	4	5	*9*	0	0	6	1	*7*	0	3	0	3	*6*
Peak Hr	**0**	**0**	**2**	**2**	***4***	**0**	**0**	**5**	**1**	***6***	**0**	**2**	**0**	**2**	***4***

RUSTON WAY
CI SHENANIGANS DRIVEWAY

Date: Tue, Nov 07, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	0.0%	0.25
WB	100.0%	0.25
NB	3.4%	0.91
SB	0.8%	0.86
TOTAL	1.7%	0.87

Two-Hour Count Summaries

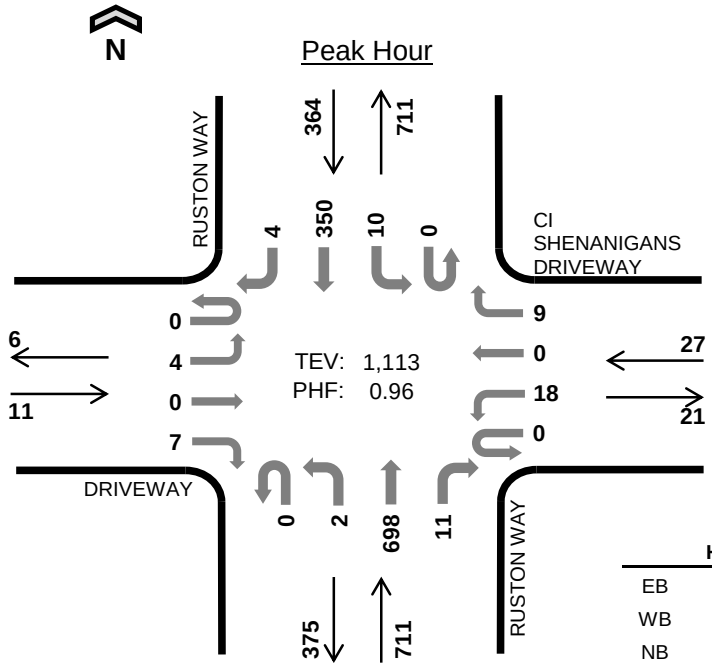
Interval Start	DRIVEWAY Eastbound				CI SHENANIGANS DRIVEWAY Westbound				RUSTON WAY Northbound				RUSTON WAY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**54**	**0**	**0**	**0**	**137**	**0**	**191**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**65**	**0**	**0**	**0**	**147**	**0**	**213**	0
7:30 AM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**69**	**1**	**0**	**0**	**177**	**1**	**251**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**69**	**0**	**0**	**1**	**147**	**0**	**220**	**875**
8:00 AM	0	0	0	1	0	0	0	0	0	2	58	0	0	1	121	3	186	870
8:15 AM	0	0	0	0	0	0	0	1	0	3	67	0	0	1	112	1	185	842
8:30 AM	0	0	0	0	0	0	0	1	0	1	55	1	0	0	88	0	146	737
8:45 AM	0	0	0	0	0	2	0	0	0	0	67	0	0	0	81	0	150	667
Count Total	0	0	0	2	0	3	0	2	0	11	504	2	0	3	1,010	5	1,542	0
Peak Hour	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**5**	**257**	**1**	**0**	**1**	**608**	**1**	**875**	**0**

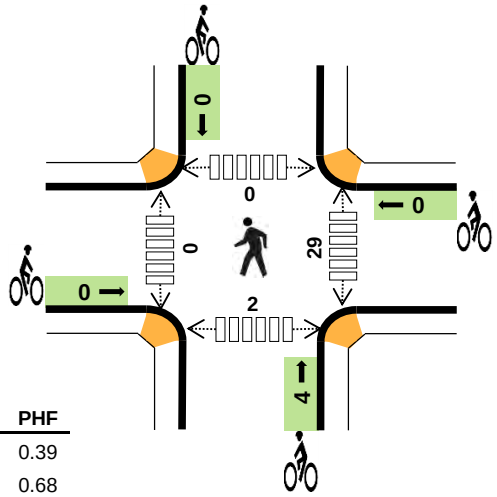
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**3**	**0**	**0**	**0**	*3*
7:15 AM	**0**	**0**	**4**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**4**	**0**	**0**	**0**	*4*
7:30 AM	**0**	**0**	**3**	**4**	***7***	**0**	**0**	**0**	**0**	***0***	**8**	**0**	**0**	**0**	*8*
7:45 AM	**0**	**1**	**1**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	***1***
8:00 AM	0	0	6	2	*8*	0	0	0	0	*0*	8	0	0	0	*8*
8:15 AM	0	0	12	4	*16*	0	0	0	0	*0*	9	0	0	1	*10*
8:30 AM	0	0	3	6	*9*	0	0	0	0	*0*	2	0	0	0	*2*
8:45 AM	0	1	2	1	*4*	0	0	0	0	*0*	12	0	0	0	*12*
Count Total	0	2	32	18	*52*	0	0	0	0	*0*	47	0	0	1	*48*
Peak Hour	**0**	**1**	**9**	**5**	***15***	**0**	**0**	**0**	**0**	***0***	**16**	**0**	**0**	**0**	***16***

RUSTON WAY
CI SHENANIGANS DRIVEWAY

Date: Tue, Nov 07, 2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM





	HV %:	PHF
EB	0.0%	0.39
WB	0.0%	0.68
NB	0.3%	0.92
SB	0.5%	0.80
TOTAL	0.4%	0.96

Two-Hour Count Summaries

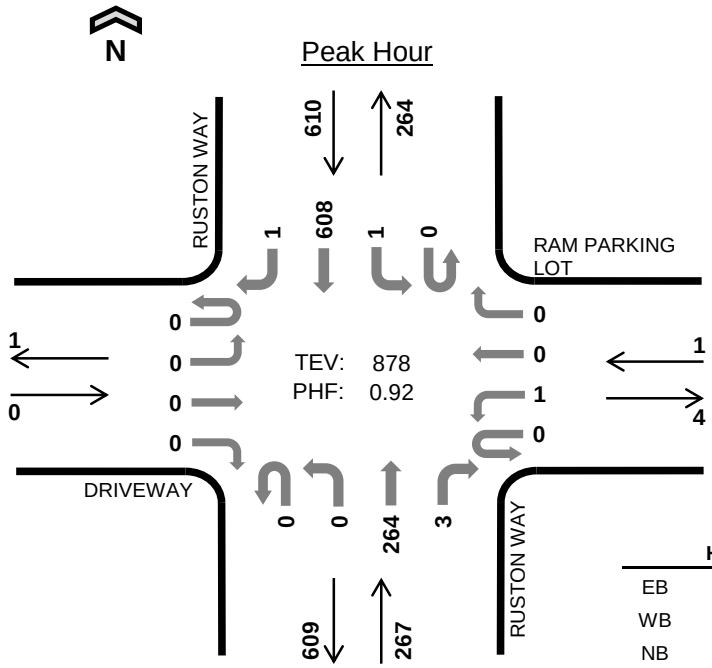
Interval Start	DRIVEWAY Eastbound				CI SHENANIGANS DRIVEWAY Westbound				RUSTON WAY Northbound				RUSTON WAY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	0	2	0	0	0	2	0	0	150	4	0	3	93	1	256	0
4:15 PM	0	1	0	4	0	1	0	0	0	1	153	10	0	4	87	0	261	0
4:30 PM	0	1	0	1	0	1	0	0	0	0	136	3	0	6	93	0	241	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**2**	**0**	**1**	**156**	**1**	**0**	**7**	**107**	**0**	**278**	1,036
5:00 PM	**0**	**3**	**0**	**4**	**0**	**2**	**0**	**1**	**0**	**0**	**189**	**4**	**0**	**0**	**85**	**3**	**291**	1,071
5:15 PM	**0**	**1**	**0**	**2**	**0**	**7**	**0**	**3**	**0**	**1**	**184**	**1**	**0**	**1**	**86**	**0**	**286**	1,096
5:30 PM	**0**	**0**	**0**	**1**	**0**	**5**	**0**	**3**	**0**	**0**	**169**	**5**	**0**	**2**	**72**	**1**	**258**	**1,113**
5:45 PM	0	0	0	0	0	5	0	4	0	0	158	6	0	4	58	0	235	1,070
Count Total	0	7	0	14	0	25	0	15	0	3	1,295	34	0	27	681	5	2,106	0
Peak Hour	**0**	**4**	**0**	**7**	**0**	**18**	**0**	**9**	**0**	**2**	**698**	**11**	**0**	**10**	**350**	**4**	**1,113**	**0**

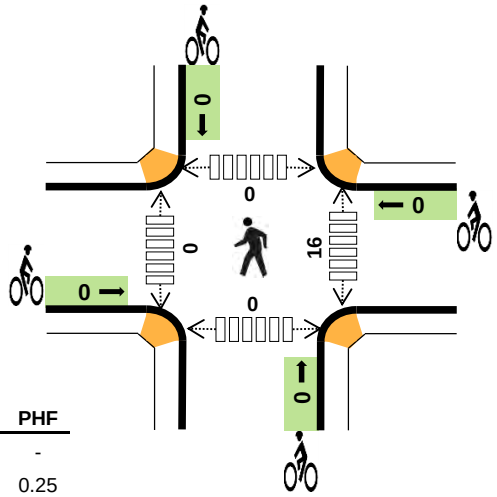
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	0	*1*	0	0	1	0	*1*	13	0	0	0	*13*
4:15 PM	0	0	1	0	*1*	0	0	1	0	*1*	16	0	0	0	*16*
4:30 PM	0	0	0	2	*2*	0	0	0	0	*0*	3	0	0	0	*3*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***	**10**	**0**	**0**	**1**	*11*
5:00 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**3**	**0**	***3***	**9**	**0**	**0**	**0**	*9*
5:15 PM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**0**	**0**	***0***	**5**	**0**	**0**	**1**	*6*
5:30 PM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**5**	**0**	**0**	**0**	***5***
5:45 PM	0	0	0	1	*1*	0	0	0	0	*0*	7	0	0	1	*8*
Count Total	0	0	4	5	*9*	0	0	6	0	*6*	68	0	0	3	*71*
Peak Hour	**0**	**0**	**2**	**2**	***4***	**0**	**0**	**4**	**0**	***4***	**29**	**0**	**0**	**2**	***31***

RUSTON WAY
RAM PARKING LOT

Date: Tue, Nov 07, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	-	-
WB	0.0%	0.25
NB	4.1%	0.91
SB	1.0%	0.91
TOTAL	1.9%	0.92

Two-Hour Count Summaries

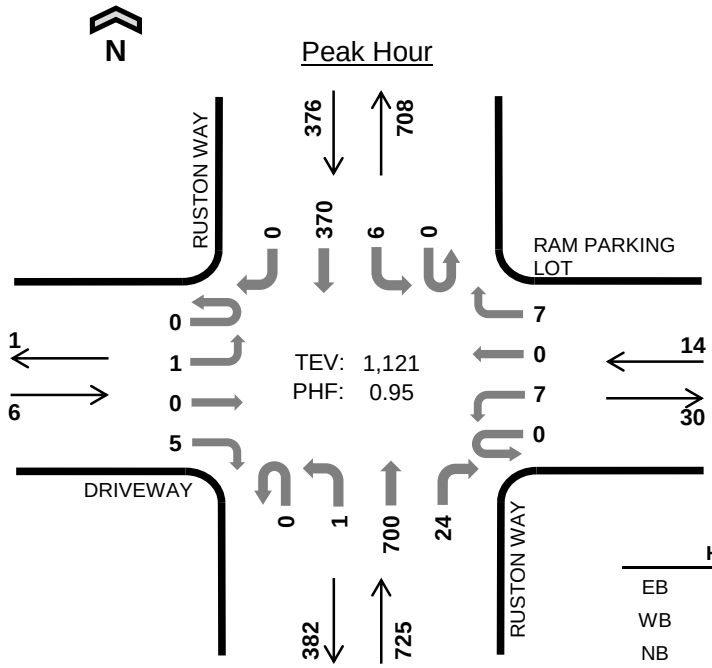
Interval Start	DRIVEWAY Eastbound				RAM PARKING LOT Westbound				RUSTON WAY Northbound				RUSTON WAY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**56**	**1**	**0**	**0**	**136**	**0**	**194**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**66**	**1**	**0**	**1**	**149**	**0**	**217**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**70**	**0**	**0**	**0**	**168**	**0**	**238**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**72**	**1**	**0**	**0**	**155**	**1**	**229**	**878**
8:00 AM	0	0	0	0	0	0	0	0	0	0	59	1	0	0	118	0	178	862
8:15 AM	0	0	0	0	0	0	0	0	0	1	74	1	0	0	115	0	191	836
8:30 AM	0	0	0	0	0	1	0	1	0	0	54	2	0	0	83	0	141	739
8:45 AM	0	0	0	0	0	0	0	0	0	1	66	1	0	0	86	0	154	664
Count Total	0	0	0	0	0	2	0	1	0	2	517	8	0	1	1,010	1	1,542	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**264**	**3**	**0**	**1**	**608**	**1**	**878**	**0**

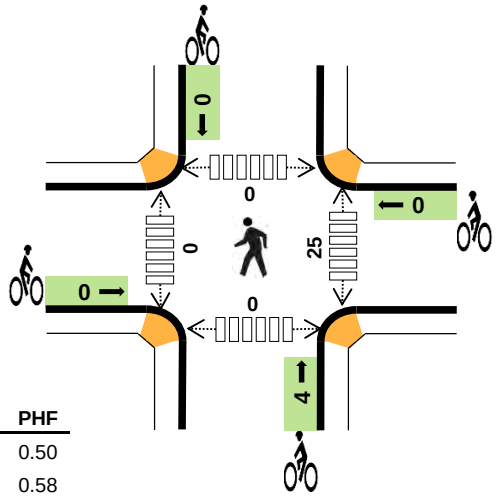
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**0**	**0**	**2**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**4**	**0**	**0**	**0**	*4*
7:15 AM	**0**	**0**	**4**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**4**	**0**	**0**	**0**	*4*
7:30 AM	**0**	**0**	**2**	**4**	***6***	**0**	**0**	**0**	**0**	***0***	**7**	**0**	**0**	**0**	*7*
7:45 AM	**0**	**0**	**3**	**2**	***5***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	***1***
8:00 AM	0	0	6	2	*8*	0	0	0	0	*0*	8	0	0	1	*9*
8:15 AM	0	0	12	3	*15*	0	0	0	0	*0*	7	0	0	0	*7*
8:30 AM	0	1	3	6	*10*	0	0	0	0	*0*	4	0	0	0	*4*
8:45 AM	0	0	3	3	*6*	0	0	0	0	*0*	7	0	0	0	*7*
Count Total	0	1	35	20	*56*	0	0	0	0	*0*	42	0	0	1	*43*
Peak Hour	**0**	**0**	**11**	**6**	***17***	**0**	**0**	**0**	**0**	***0***	**16**	**0**	**0**	**0**	***16***

RUSTON WAY
RAM PARKING LOT

Date: Tue, Nov 07, 2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM





	HV %:	PHF
EB	0.0%	0.50
WB	0.0%	0.58
NB	0.3%	0.92
SB	0.5%	0.84
TOTAL	0.4%	0.95

Two-Hour Count Summaries

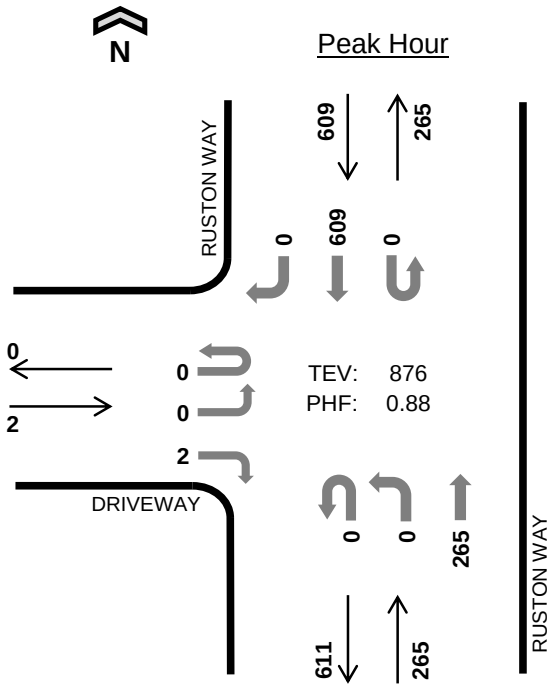
Interval Start	DRIVEWAY				RAM PARKING LOT				RUSTON WAY				RUSTON WAY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	2	0	1	0	1	0	1	155	1	0	2	97	1	261	0
4:15 PM	0	0	0	0	0	3	2	0	0	0	158	3	0	0	87	0	253	0
4:30 PM	0	0	0	0	0	2	0	1	0	1	144	5	0	1	98	0	252	0
4:45 PM	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**1**	**0**	**0**	**153**	**4**	**0**	**2**	**110**	**0**	**273**	1,039
5:00 PM	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**0**	**191**	**5**	**0**	**2**	**81**	**0**	**284**	1,062
5:15 PM	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**183**	**6**	**0**	**1**	**101**	**0**	**295**	1,104
5:30 PM	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**4**	**0**	**1**	**173**	**9**	**0**	**1**	**78**	**0**	**269**	**1,121**
5:45 PM	0	0	0	2	0	5	0	4	0	0	155	15	0	1	66	1	249	1,097
Count Total	0	1	0	9	0	18	2	13	0	3	1,312	48	0	10	718	2	2,136	0
Peak Hour	**0**	**1**	**0**	**5**	**0**	**7**	**0**	**7**	**0**	**1**	**700**	**24**	**0**	**6**	**370**	**0**	**1,121**	**0**

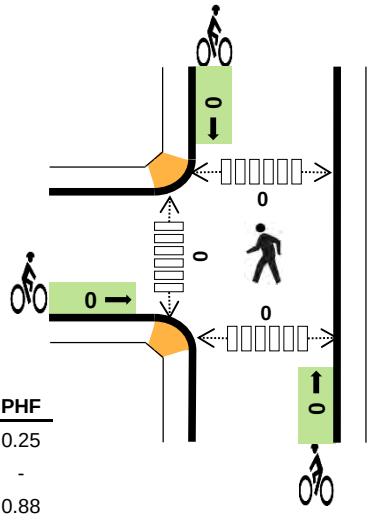
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	0	*1*	0	0	0	0	*0*	14	0	0	1	*15*
4:15 PM	0	1	1	0	*2*	0	1	2	0	*3*	15	0	0	0	*15*
4:30 PM	0	0	0	3	*3*	0	0	0	0	*0*	3	0	0	1	*4*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***	**9**	**0**	**0**	**0**	*9*
5:00 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**3**	**0**	***3***	**7**	**0**	**0**	**0**	*7*
5:15 PM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**0**	**0**	***0***	**4**	**0**	**0**	**0**	*4*
5:30 PM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**5**	**0**	**0**	**0**	***5***
5:45 PM	0	0	0	2	*2*	0	0	0	0	*0*	6	0	0	0	*6*
Count Total	0	1	4	7	*12*	0	1	6	0	*7*	63	0	0	2	*65*
Peak Hour	**0**	**0**	**2**	**2**	***4***	**0**	**0**	**4**	**0**	***4***	**25**	**0**	**0**	**0**	***25***

RUSTON WAY
DRIVEWAY

Date: Tue, Nov 07, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	0.0%	0.25
WB	-	-
NB	3.8%	0.88
SB	0.8%	0.88
TOTAL	1.7%	0.88

Two-Hour Count Summaries

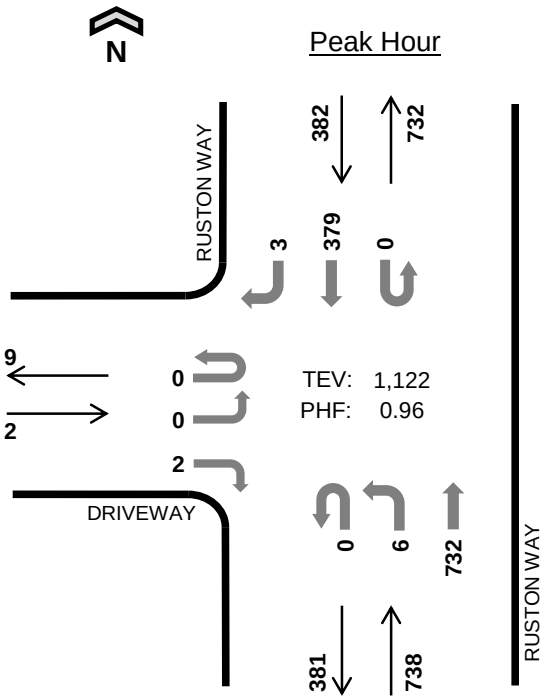
Interval Start	DRIVEWAY Eastbound				0 Westbound				RUSTON WAY Northbound				RUSTON WAY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**56**	**0**	**0**	**0**	**137**	**0**	**193**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**68**	**0**	**0**	**0**	**146**	**0**	**214**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**75**	**0**	**0**	**0**	**174**	**0**	**249**	0
7:45 AM	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**66**	**0**	**0**	**0**	**152**	**0**	**220**	**876**
8:00 AM	0	0	0	0	0	0	0	0	0	0	62	0	0	0	118	0	180	863
8:15 AM	0	0	0	0	0	0	0	0	0	0	79	0	0	0	114	0	193	842
8:30 AM	0	0	0	0	0	0	0	0	0	0	57	0	0	0	85	0	142	735
8:45 AM	0	0	0	0	0	0	0	0	0	0	68	0	0	0	84	0	152	667
Count Total	0	0	0	2	0	0	0	0	0	0	531	0	0	0	1,010	0	1,543	0
Peak Hour	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**265**	**0**	**0**	**0**	**609**	**0**	**876**	**0**

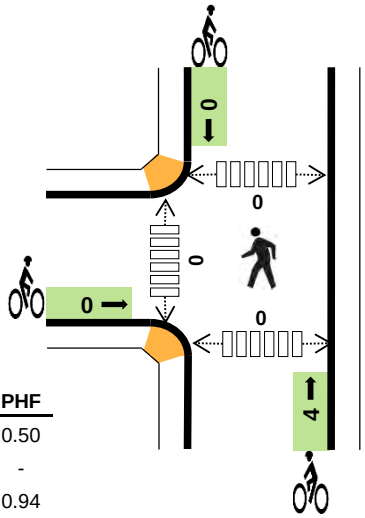
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**0**	**0**	**4**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**0**	**3**	**4**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**0**	**0**	**2**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:00 AM	0	0	7	2	*9*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	0	0	12	3	*15*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	0	0	3	5	*8*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	0	2	3	*5*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	0	34	18	*52*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hr	**0**	**0**	**10**	**5**	***15***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

RUSTON WAY
DRIVEWAY

Date: Tue, Nov 07, 2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM





	HV %:	PHF
EB	0.0%	0.50
WB	-	-
NB	0.3%	0.94
SB	0.5%	0.85
TOTAL	0.4%	0.96

Two-Hour Count Summaries

Interval Start	DRIVEWAY Eastbound				0 Westbound				RUSTON WAY Northbound				RUSTON WAY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	1	0	0	0	0	0	2	159	0	0	0	101	0	263	0
4:15 PM	0	1	0	0	0	0	0	0	0	0	163	0	0	0	89	3	256	0
4:30 PM	0	0	0	0	0	0	0	0	0	1	143	0	0	0	100	1	245	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**166**	**0**	**0**	**0**	**111**	**1**	**279**	1,043
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**194**	**0**	**0**	**0**	**84**	**2**	**283**	1,063
5:15 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**189**	**0**	**0**	**0**	**102**	**0**	**293**	1,100
5:30 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**183**	**0**	**0**	**0**	**82**	**0**	**267**	**1,122**
5:45 PM	0	0	0	0	0	0	0	0	0	1	174	0	0	0	72	1	248	1,091
Count Total	0	1	0	3	0	0	0	0	0	10	1,371	0	0	0	741	8	2,134	0
Peak Hour	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**6**	**732**	**0**	**0**	**0**	**379**	**3**	**1,122**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

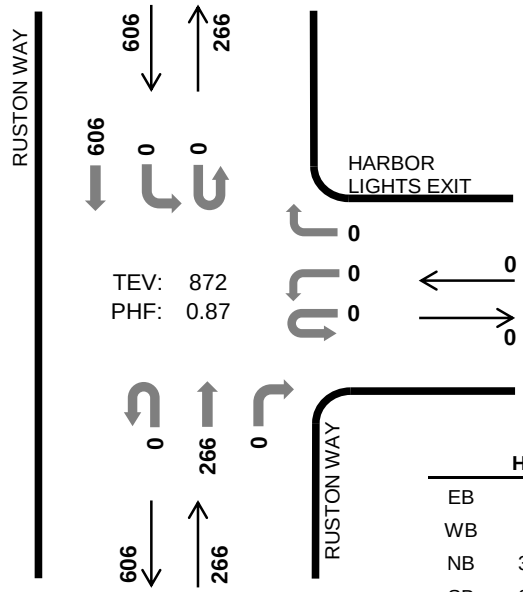
Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	0	0	1	0	*1*	0	0	1	0	*1*	0	0	0	0	*0*
4:15 PM	0	0	1	0	*1*	0	0	1	0	*1*	0	0	0	0	*0*
4:30 PM	0	0	0	3	*3*	0	0	0	0	*0*	0	0	0	0	*0*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**3**	**0**	***3***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:30 PM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:45 PM	0	0	0	2	*2*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	0	4	7	*11*	0	0	6	0	*6*	0	0	0	0	*0*
Peak Hr	**0**	**0**	**2**	**2**	***4***	**0**	**0**	**4**	**0**	***4***	**0**	**0**	**0**	**0**	***0***

RUSTON WAY
HARBOR LIGHTS EXIT

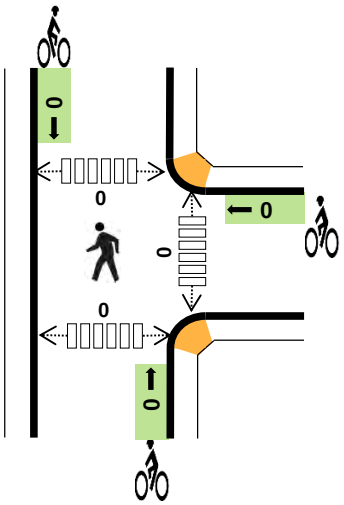
Date: Tue, Nov 07, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM

N

Peak Hour



	HV %:	PHF
EB	-	-
WB	-	-
NB	3.8%	0.88
SB	0.8%	0.87
TOTAL	1.7%	0.87



Two-Hour Count Summaries

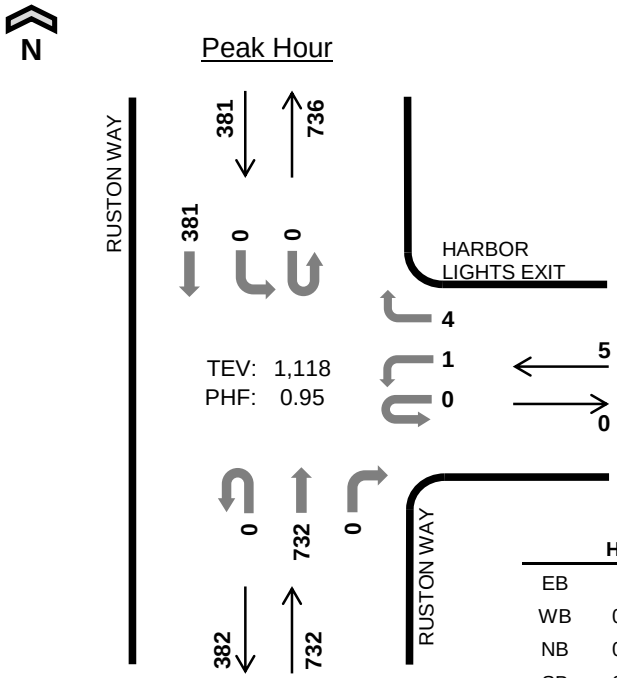
Interval Start	0				HARBOR LIGHTS EXIT				RUSTON WAY				RUSTON WAY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**55**	**0**	**0**	**0**	**136**	**0**	**191**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**67**	**0**	**0**	**0**	**145**	**0**	**212**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**76**	**0**	**0**	**0**	**175**	**0**	**251**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**68**	**0**	**0**	**0**	**150**	**0**	**218**	**872**
8:00 AM	0	0	0	0	0	0	0	0	0	0	62	0	0	0	118	0	180	861
8:15 AM	0	0	0	0	0	1	0	1	0	0	79	0	0	0	115	0	196	845
8:30 AM	0	0	0	0	0	0	0	1	0	0	57	0	0	0	85	0	143	737
8:45 AM	0	0	0	0	0	0	0	0	0	0	68	0	0	0	83	0	151	670
Count Total	0	0	0	0	0	1	0	2	0	0	532	0	0	0	1,007	0	1,542	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**266**	**0**	**0**	**0**	**606**	**0**	**872**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

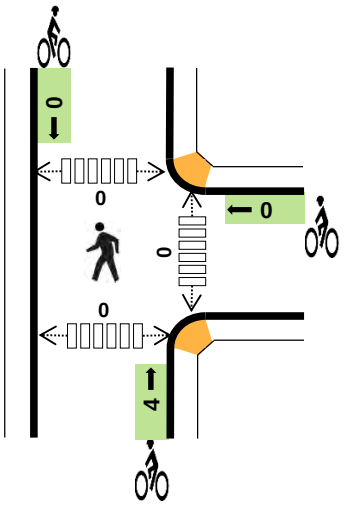
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**0**	**0**	**4**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**0**	**3**	**4**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**0**	**0**	**2**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:00 AM	0	0	7	2	*9*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	0	0	12	3	*15*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	0	0	3	5	*8*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	0	2	3	*5*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	0	34	18	*52*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hr	**0**	**0**	**10**	**5**	***15***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

RUSTON WAY
HARBOR LIGHTS EXIT

Date: Tue, Nov 07, 2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	-	-
WB	0.0%	0.42
NB	0.3%	0.93
SB	0.5%	0.86
TOTAL	0.4%	0.95



Two-Hour Count Summaries

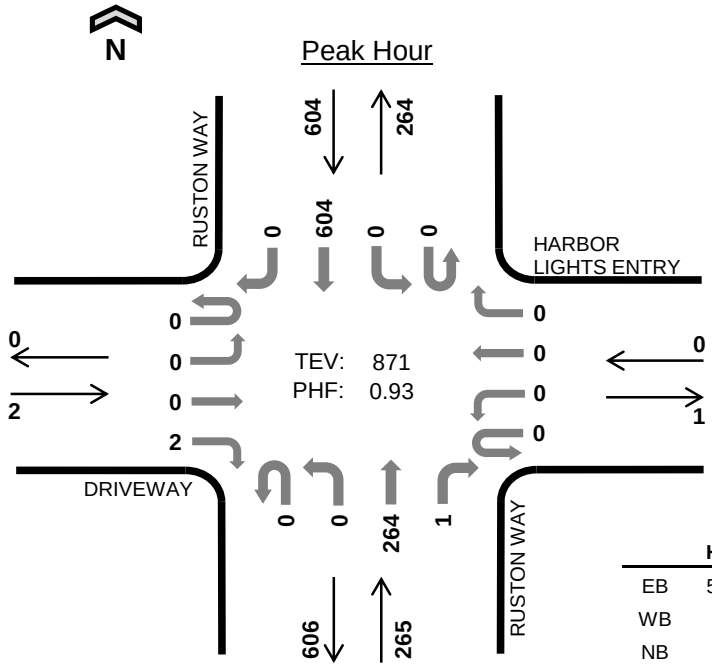
Interval Start	0				HARBOR LIGHTS EXIT				RUSTON WAY				RUSTON WAY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	2	0	0	158	0	0	0	101	0	261	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	163	0	0	0	89	0	252	0
4:30 PM	0	0	0	0	0	0	0	2	0	0	143	0	0	0	99	0	244	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**166**	**0**	**0**	**0**	**111**	**0**	**278**	1,035
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**197**	**0**	**0**	**0**	**83**	**0**	**280**	1,054
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**187**	**0**	**0**	**0**	**104**	**0**	**294**	1,096
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**182**	**0**	**0**	**0**	**83**	**0**	**266**	**1,118**
5:45 PM	0	0	0	0	0	0	0	1	0	0	174	0	0	0	72	0	247	1,087
Count Total	0	0	0	0	0	1	0	9	0	0	1,370	0	0	0	742	0	2,122	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**4**	**0**	**0**	**732**	**0**	**0**	**0**	**381**	**0**	**1,118**	**0**

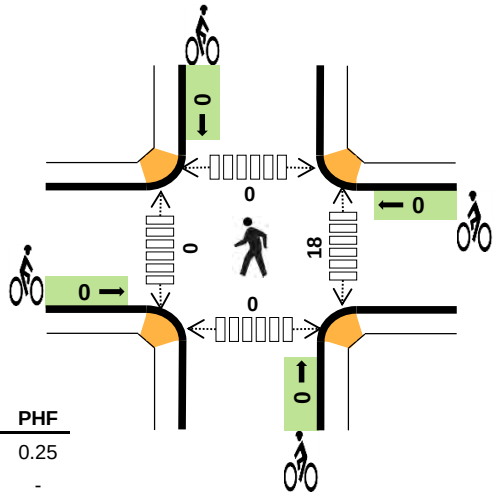
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	0	*1*	0	0	1	0	*1*	0	0	2	0	*2*
4:15 PM	0	0	1	0	*1*	0	0	1	0	*1*	0	0	0	2	*2*
4:30 PM	0	0	0	3	*3*	0	0	0	0	*0*	0	0	0	0	*0*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**3**	**0**	***3***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:30 PM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:45 PM	0	0	0	2	*2*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	0	4	7	*11*	0	0	6	0	*6*	0	0	2	2	*4*
Peak Hr	**0**	**0**	**2**	**2**	***4***	**0**	**0**	**4**	**0**	***4***	**0**	**0**	**0**	**0**	***0***

RUSTON WAY
HARBOR LIGHTS ENTRY

Date: Tue, Nov 07, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	50.0%	0.25
WB	-	-
NB	4.5%	0.91
SB	0.8%	0.92
TOTAL	2.1%	0.93

Two-Hour Count Summaries

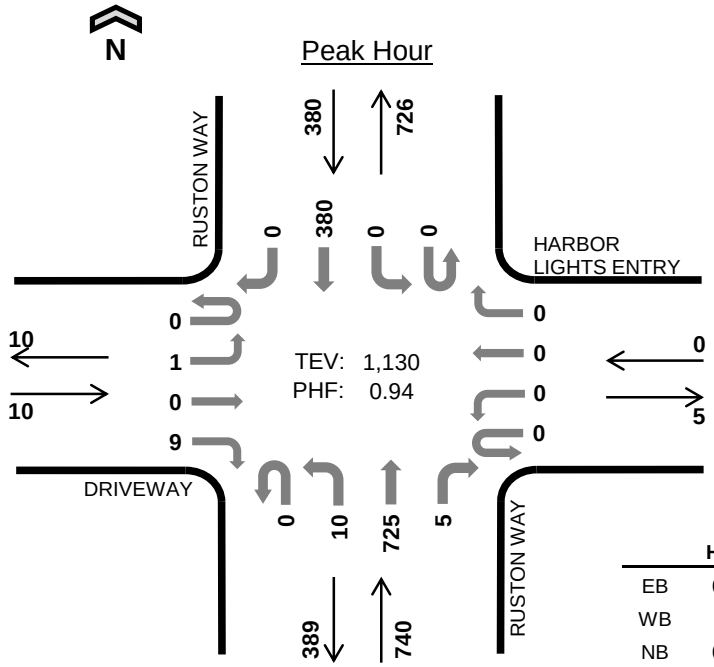
Interval Start	DRIVEWAY Eastbound				HARBOR LIGHTS ENTRY Westbound				RUSTON WAY Northbound				RUSTON WAY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**54**	**0**	**0**	**0**	**138**	**0**	**192**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**67**	**1**	**0**	**0**	**144**	**0**	**212**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**70**	**0**	**0**	**0**	**164**	**0**	**234**	0
7:45 AM	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**73**	**0**	**0**	**0**	**158**	**0**	**233**	**871**
8:00 AM	0	0	0	0	0	0	0	0	0	0	63	0	0	0	109	1	173	852
8:15 AM	0	0	0	1	0	0	0	0	0	0	78	2	0	0	125	0	206	846
8:30 AM	0	0	0	0	0	0	0	0	0	0	54	1	0	0	87	0	142	754
8:45 AM	0	0	0	0	0	0	0	0	0	0	70	0	0	0	86	0	156	677
Count Total	0	0	0	3	0	0	0	0	0	0	529	4	0	0	1,011	1	1,548	0
Peak Hour	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**264**	**1**	**0**	**0**	**604**	**0**	**871**	**0**

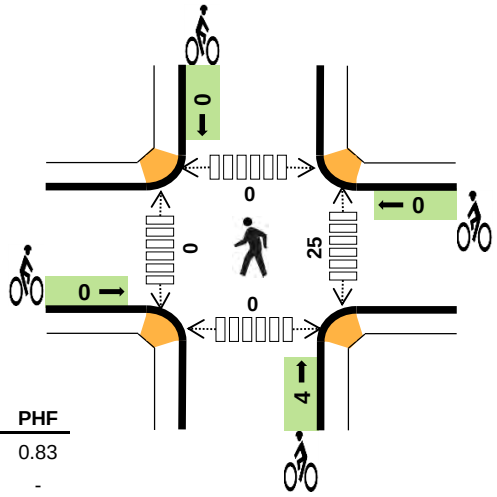
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**0**	**0**	**2**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**7**	**0**	**0**	**0**	*7*
7:15 AM	**0**	**0**	**5**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**4**	**0**	**0**	**0**	*4*
7:30 AM	**0**	**0**	**2**	**3**	***5***	**0**	**0**	**0**	**0**	***0***	**6**	**0**	**0**	**0**	*6*
7:45 AM	**1**	**0**	**3**	**2**	***6***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	***1***
8:00 AM	0	0	6	2	*8*	0	0	0	0	*0*	7	0	0	0	*7*
8:15 AM	0	0	12	3	*15*	0	0	0	0	*0*	10	0	0	0	*10*
8:30 AM	0	0	3	6	*9*	0	0	0	0	*0*	4	0	0	0	*4*
8:45 AM	0	0	2	3	*5*	0	0	0	0	*0*	10	0	0	0	*10*
Count Total	1	0	35	19	*55*	0	0	0	0	*0*	49	0	0	0	*49*
Peak Hour	**1**	**0**	**12**	**5**	***18***	**0**	**0**	**0**	**0**	***0***	**18**	**0**	**0**	**0**	***18***

RUSTON WAY
HARBOR LIGHTS ENTRY

Date: Tue, Nov 07, 2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM





	HV %:	PHF
EB	0.0%	0.83
WB	-	-
NB	0.3%	0.91
SB	0.5%	0.83
TOTAL	0.4%	0.94

Two-Hour Count Summaries

Interval Start	DRIVEWAY Eastbound				HARBOR LIGHTS ENTRY Westbound				RUSTON WAY Northbound				RUSTON WAY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	0	3	0	0	0	0	0	2	160	0	0	1	96	0	263	0
4:15 PM	0	1	0	1	0	0	0	0	0	1	157	1	0	0	90	0	251	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	149	1	0	0	98	0	248	0
4:45 PM	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**160**	**0**	**0**	**0**	**114**	**0**	**278**	1,040
5:00 PM	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**4**	**199**	**1**	**0**	**0**	**82**	**0**	**289**	1,066
5:15 PM	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**2**	**188**	**2**	**0**	**0**	**105**	**0**	**300**	1,115
5:30 PM	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**178**	**2**	**0**	**0**	**79**	**0**	**263**	**1,130**
5:45 PM	0	1	0	2	0	0	0	0	0	0	169	1	0	0	68	0	241	1,093
Count Total	0	4	0	15	0	0	0	0	0	13	1,360	8	0	1	732	0	2,133	0
Peak Hour	**0**	**1**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**10**	**725**	**5**	**0**	**0**	**380**	**0**	**1,130**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

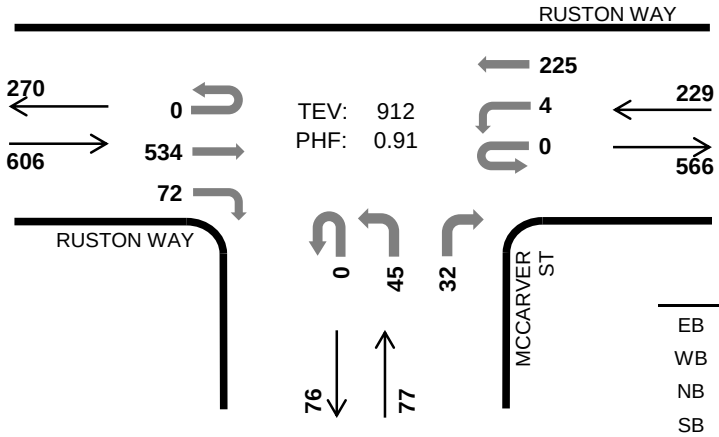
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	0	*1*	0	0	0	0	*0*	14	5	5	0	*24*
4:15 PM	0	0	1	0	*1*	0	0	2	0	*2*	12	1	0	0	*13*
4:30 PM	0	0	0	3	*3*	0	0	0	0	*0*	5	0	0	0	*5*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***	**9**	**0**	**0**	**0**	*9*
5:00 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**3**	**0**	***3***	**11**	**0**	**0**	**0**	*11*
5:15 PM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
5:30 PM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**4**	**0**	**0**	**0**	***4***
5:45 PM	0	0	0	2	*2*	0	0	0	0	*0*	4	0	2	0	*6*
Count Total	0	0	4	7	*11*	0	0	6	0	*6*	60	6	7	0	*73*
Peak Hour	**0**	**0**	**2**	**2**	***4***	**0**	**0**	**4**	**0**	***4***	**25**	**0**	**0**	**0**	***25***

MCCARVER ST
RUSTON WAY

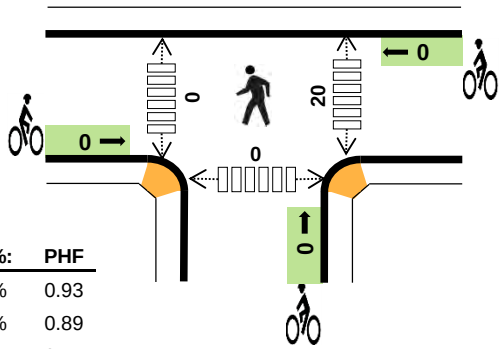
N

Peak Hour

Date: Tue, Nov 07, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	1.0%	0.93
WB	2.6%	0.89
NB	5.2%	0.77
SB	-	-
TOTAL	1.8%	0.91



Two-Hour Count Summaries

Interval Start	RUSTON WAY Eastbound				RUSTON WAY Westbound				MCCARVER ST Northbound				0 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**123**	**15**	**0**	**0**	**45**	**0**	**0**	**6**	**0**	**6**	**0**	**0**	**0**	**0**	**195**	0
7:15 AM	**0**	**0**	**132**	**12**	**0**	**1**	**55**	**0**	**0**	**11**	**0**	**11**	**0**	**0**	**0**	**0**	**222**	0
7:30 AM	**0**	**0**	**140**	**23**	**0**	**1**	**63**	**0**	**0**	**12**	**0**	**6**	**0**	**0**	**0**	**0**	**245**	0
7:45 AM	**0**	**0**	**139**	**22**	**0**	**2**	**62**	**0**	**0**	**16**	**0**	**9**	**0**	**0**	**0**	**0**	**250**	**912**
8:00 AM	0	0	106	17	0	1	56	0	0	12	0	2	0	0	0	0	194	911
8:15 AM	0	0	102	27	0	0	61	0	0	19	0	2	0	0	0	0	211	900
8:30 AM	0	0	84	9	0	2	46	0	0	14	0	4	0	0	0	0	159	814
8:45 AM	0	0	69	19	0	0	54	0	0	20	0	2	0	0	0	0	164	728
Count Total	0	0	895	144	0	7	442	0	0	110	0	42	0	0	0	0	1,640	0
Peak Hour	**0**	**0**	**534**	**72**	**0**	**4**	**225**	**0**	**0**	**45**	**0**	**32**	**0**	**0**	**0**	**0**	**912**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

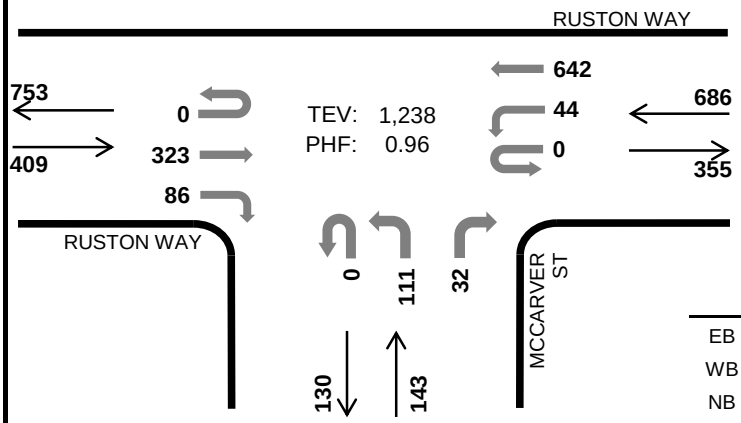
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**7**	**0**	**0**	**0**	*7*
7:15 AM	**0**	**4**	**1**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**4**	**0**	**0**	**0**	*4*
7:30 AM	**3**	**2**	**1**	**0**	***6***	**0**	**0**	**0**	**0**	***0***	**5**	**0**	**0**	**0**	*5*
7:45 AM	**3**	**0**	**2**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**4**	**0**	**0**	**0**	***4***
8:00 AM	2	7	0	0	*9*	0	0	0	0	*0*	1	0	0	0	*1*
8:15 AM	3	12	0	0	*15*	0	0	0	0	*0*	3	2	0	0	*5*
8:30 AM	5	1	2	0	*8*	0	0	0	0	*0*	1	1	0	0	*2*
8:45 AM	4	4	0	0	*8*	0	0	1	0	*1*	2	0	0	0	*2*
Count Total	20	30	6	0	*56*	0	0	1	0	*1*	27	3	0	0	*30*
Peak Hr	**6**	**6**	**4**	**0**	***16***	**0**	**0**	**0**	**0**	***0***	**20**	**0**	**0**	**0**	***20***

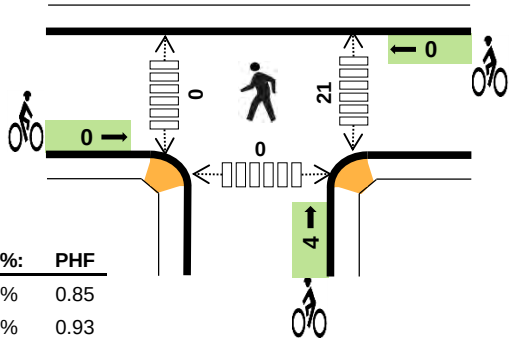
MCCARVER ST
RUSTON WAY

N

Peak Hour

Date: Tue, Nov 07, 2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM





	HV %:	PHF
EB	0.5%	0.85
WB	0.4%	0.93
NB	0.0%	0.78
SB	-	-
TOTAL	0.4%	0.96

Two-Hour Count Summaries

Interval Start	RUSTON WAY Eastbound				RUSTON WAY Westbound				MCCARVER ST Northbound				0 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	90	9	0	15	132	0	0	41	0	3	0	0	0	0	290	0
4:15 PM	0	0	77	15	0	6	129	0	0	35	0	6	0	0	0	0	268	0
4:30 PM	0	0	81	17	0	6	124	0	0	24	0	9	0	0	0	0	261	0
4:45 PM	**0**	**0**	**84**	**37**	**0**	**7**	**147**	**0**	**0**	**32**	**0**	**4**	**0**	**0**	**0**	**0**	**311**	1,130
5:00 PM	**0**	**0**	**72**	**20**	**0**	**8**	**176**	**0**	**0**	**33**	**0**	**13**	**0**	**0**	**0**	**0**	**322**	1,162
5:15 PM	**0**	**0**	**94**	**19**	**0**	**5**	**159**	**0**	**0**	**33**	**0**	**13**	**0**	**0**	**0**	**0**	**323**	1,217
5:30 PM	**0**	**0**	**73**	**10**	**0**	**24**	**160**	**0**	**0**	**13**	**0**	**2**	**0**	**0**	**0**	**0**	**282**	**1,238**
5:45 PM	0	0	59	19	0	2	147	0	0	31	0	8	0	0	0	0	266	1,193
Count Total	0	0	630	146	0	73	1,174	0	0	242	0	58	0	0	0	0	2,323	0
Peak Hour	**0**	**0**	**323**	**86**	**0**	**44**	**642**	**0**	**0**	**111**	**0**	**32**	**0**	**0**	**0**	**0**	**1,238**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	1	0	0	*1*	0	0	1	0	*1*	1	0	0	0	*1*
4:15 PM	0	1	1	0	*2*	0	0	1	0	*1*	4	1	0	0	*5*
4:30 PM	3	0	0	0	*3*	0	0	0	0	*0*	12	0	0	0	*12*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**3**	**0**	***3***	**5**	**0**	**0**	**0**	*5*
5:15 PM	**2**	**1**	**0**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**11**	**0**	**0**	**0**	*11*
5:30 PM	**0**	**2**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**5**	**0**	**0**	**0**	***5***
5:45 PM	1	0	0	0	*1*	0	0	0	0	*0*	8	0	0	1	*9*
Count Total	6	5	1	0	*12*	0	0	6	0	*6*	46	1	0	1	*48*
Peak Hr	**2**	**3**	**0**	**0**	***5***	**0**	**0**	**4**	**0**	***4***	**21**	**0**	**0**	**0**	***21***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

Location: BALTIMORE STREET S/O RUBY STREET
Date Range: 11/7/2017 - 11/13/2017
Site Code: 01

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	11/7/2017			11/8/2017			11/9/2017			11/10/2017			11/11/2017			11/12/2017			11/13/2017					
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	0	1	1	2	6	8	1	7	8	-	-	-	-	-	-	-	-	-	-	-	-	1	5	6
1:00 AM	2	4	6	1	9	10	0	2	2	-	-	-	-	-	-	-	-	-	-	-	-	1	5	6
2:00 AM	2	1	3	0	4	4	2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3
3:00 AM	4	0	4	1	1	2	3	1	4	-	-	-	-	-	-	-	-	-	-	-	-	3	1	3
4:00 AM	6	4	10	8	2	10	10	1	11	-	-	-	-	-	-	-	-	-	-	-	-	8	2	10
5:00 AM	6	4	10	8	5	13	10	10	20	-	-	-	-	-	-	-	-	-	-	-	-	8	6	14
6:00 AM	24	14	38	26	17	43	21	15	36	-	-	-	-	-	-	-	-	-	-	-	-	24	15	39
7:00 AM	32	30	62	31	36	67	30	31	61	-	-	-	-	-	-	-	-	-	-	-	-	31	32	63
8:00 AM	32	34	66	31	34	65	30	42	72	-	-	-	-	-	-	-	-	-	-	-	-	31	37	68
9:00 AM	42	33	75	43	36	79	32	26	58	-	-	-	-	-	-	-	-	-	-	-	-	39	32	71
10:00 AM	27	30	57	32	36	68	35	23	58	-	-	-	-	-	-	-	-	-	-	-	-	31	30	61
11:00 AM	44	17	61	40	32	72	36	40	76	-	-	-	-	-	-	-	-	-	-	-	-	40	30	70
12:00 PM	41	39	80	29	35	64	43	41	84	-	-	-	-	-	-	-	-	-	-	-	-	38	38	76
1:00 PM	51	36	87	33	37	70	32	33	65	-	-	-	-	-	-	-	-	-	-	-	-	39	35	74
2:00 PM	33	36	69	33	45	78	34	34	68	-	-	-	-	-	-	-	-	-	-	-	-	33	38	72
3:00 PM	58	64	122	49	56	105	52	56	108	-	-	-	-	-	-	-	-	-	-	-	-	53	59	112
4:00 PM	52	54	106	54	53	107	46	55	101	-	-	-	-	-	-	-	-	-	-	-	-	51	54	105
5:00 PM	49	59	108	72	55	127	61	48	109	-	-	-	-	-	-	-	-	-	-	-	-	61	54	115
6:00 PM	36	39	75	38	38	76	45	44	89	-	-	-	-	-	-	-	-	-	-	-	-	40	40	80
7:00 PM	23	25	48	28	39	67	19	47	66	-	-	-	-	-	-	-	-	-	-	-	-	23	37	60
8:00 PM	21	17	38	25	30	55	27	31	58	-	-	-	-	-	-	-	-	-	-	-	-	24	26	50
9:00 PM	8	24	32	7	23	30	21	44	65	-	-	-	-	-	-	-	-	-	-	-	-	12	30	42
10:00 PM	6	18	24	4	12	16	7	20	27	-	-	-	-	-	-	-	-	-	-	-	-	6	17	22
11:00 PM	0	12	12	5	13	18	3	13	16	-	-	-	-	-	-	-	-	-	-	-	-	3	13	15
Total	**599**	**595**	**1,194**	**600**	**654**	**1,254**	**600**	**664**	**1,264**	-	-	-	-	-	-	-	-	-	-	-	-	**600**	**638**	**1,237**
Percent	**50%**	**50%**	-	**48%**	**52%**	-	**47%**	**53%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**48%**	**52%**	-

1. Mid-week average includes data between Tuesday and Thursday.

Mark Skaggs:425-250-0777
mark.skaggs@idaxdata.com

Location: GRAND LOOP RD N/O RUSTON WAY
Date Range: 11/7/2017 - 11/13/2017
Site Code: 02

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	11/7/2017			11/8/2017			11/9/2017			11/10/2017			11/11/2017			11/12/2017			11/13/2017					
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	3	23	26	4	50	54	5	17	22	-	-	-	-	-	-	-	-	-	-	-	-	4	30	34
1:00 AM	4	10	14	4	51	55	2	15	17	-	-	-	-	-	-	-	-	-	-	-	-	3	25	29
2:00 AM	1	1	2	0	1	1	3	4	7	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3
3:00 AM	3	1	4	1	1	2	1	6	7	-	-	-	-	-	-	-	-	-	-	-	-	2	3	4
4:00 AM	4	5	9	4	7	11	3	6	9	-	-	-	-	-	-	-	-	-	-	-	-	4	6	10
5:00 AM	12	10	22	10	9	19	15	14	29	-	-	-	-	-	-	-	-	-	-	-	-	12	11	23
6:00 AM	35	20	55	45	22	67	45	9	54	-	-	-	-	-	-	-	-	-	-	-	-	42	17	59
7:00 AM	23	24	47	31	20	51	42	19	61	-	-	-	-	-	-	-	-	-	-	-	-	32	21	53
8:00 AM	44	34	78	57	35	92	43	34	77	-	-	-	-	-	-	-	-	-	-	-	-	48	34	82
9:00 AM	73	30	103	56	49	105	64	43	107	-	-	-	-	-	-	-	-	-	-	-	-	64	41	105
10:00 AM	88	43	131	80	56	136	82	57	139	-	-	-	-	-	-	-	-	-	-	-	-	83	52	135
11:00 AM	101	51	152	93	65	158	96	67	163	-	-	-	-	-	-	-	-	-	-	-	-	97	61	158
12:00 PM	119	84	203	83	70	153	79	92	171	-	-	-	-	-	-	-	-	-	-	-	-	94	82	176
1:00 PM	111	95	206	93	81	174	78	65	143	-	-	-	-	-	-	-	-	-	-	-	-	94	80	174
2:00 PM	73	96	169	59	82	141	76	58	134	-	-	-	-	-	-	-	-	-	-	-	-	69	79	148
3:00 PM	122	133	255	80	118	198	73	114	187	-	-	-	-	-	-	-	-	-	-	-	-	92	122	213
4:00 PM	139	117	256	118	61	179	113	84	197	-	-	-	-	-	-	-	-	-	-	-	-	123	87	211
5:00 PM	163	58	221	123	65	188	126	67	193	-	-	-	-	-	-	-	-	-	-	-	-	137	63	201
6:00 PM	174	120	294	110	75	185	169	74	243	-	-	-	-	-	-	-	-	-	-	-	-	151	90	241
7:00 PM	132	105	237	86	85	171	126	95	221	-	-	-	-	-	-	-	-	-	-	-	-	115	95	210
8:00 PM	95	101	196	46	80	126	73	67	140	-	-	-	-	-	-	-	-	-	-	-	-	71	83	154
9:00 PM	60	185	245	28	121	149	72	146	218	-	-	-	-	-	-	-	-	-	-	-	-	53	151	204
10:00 PM	64	77	141	19	50	69	46	60	106	-	-	-	-	-	-	-	-	-	-	-	-	43	62	105
11:00 PM	9	64	73	6	28	34	16	62	78	-	-	-	-	-	-	-	-	-	-	-	-	10	51	62
Total	**1,652**	**1,487**	**3,139**	**1,236**	**1,282**	**2,518**	**1,448**	**1,275**	**2,723**	-	-	-	-	-	-	-	-	-	-	-	-	**1,445**	**1,348**	**2,793**
Percent	**53%**	**47%**	-	**49%**	**51%**	-	**53%**	**47%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**52%**	**48%**	-

1. Mid-week average includes data between Tuesday and Thursday.

Mark Skaggs:425-250-0777
mark.skaggs@idaxdata.com

Location: POINT LOOP N GARAGE DWY E/O YATCH CLUB RD
Date Range: 11/7/2017 - 11/13/2017
Site Code: 03

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	11/7/2017			11/8/2017			11/9/2017			11/10/2017			11/11/2017			11/12/2017			11/13/2017					
Time	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	1	2	3	1	4	5	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3
1:00 AM	0	0	0	0	2	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	0	2	2
2:00 AM	1	0	1	0	0	0	2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1
3:00 AM	0	1	1	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
5:00 AM	0	0	0	0	2	2	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0	1	1
6:00 AM	1	2	3	1	1	2	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2
7:00 AM	1	1	2	3	3	6	3	1	4	-	-	-	-	-	-	-	-	-	-	-	-	2	2	4
8:00 AM	2	0	2	1	0	1	2	2	4	-	-	-	-	-	-	-	-	-	-	-	-	2	1	2
9:00 AM	2	2	4	3	1	4	3	0	3	-	-	-	-	-	-	-	-	-	-	-	-	3	1	4
10:00 AM	3	2	5	3	2	5	5	1	6	-	-	-	-	-	-	-	-	-	-	-	-	4	2	5
11:00 AM	7	0	7	5	1	6	4	3	7	-	-	-	-	-	-	-	-	-	-	-	-	5	1	7
12:00 PM	4	3	7	11	2	13	3	4	7	-	-	-	-	-	-	-	-	-	-	-	-	6	3	9
1:00 PM	11	1	12	5	9	14	3	2	5	-	-	-	-	-	-	-	-	-	-	-	-	6	4	10
2:00 PM	4	7	11	1	5	6	2	5	7	-	-	-	-	-	-	-	-	-	-	-	-	2	6	8
3:00 PM	6	9	15	5	6	11	5	3	8	-	-	-	-	-	-	-	-	-	-	-	-	5	6	11
4:00 PM	13	9	22	11	4	15	13	0	13	-	-	-	-	-	-	-	-	-	-	-	-	12	4	17
5:00 PM	10	5	15	12	4	16	14	5	19	-	-	-	-	-	-	-	-	-	-	-	-	12	5	17
6:00 PM	10	8	18	5	2	7	9	3	12	-	-	-	-	-	-	-	-	-	-	-	-	8	4	12
7:00 PM	5	9	14	3	8	11	6	11	17	-	-	-	-	-	-	-	-	-	-	-	-	5	9	14
8:00 PM	2	6	8	4	9	13	10	12	22	-	-	-	-	-	-	-	-	-	-	-	-	5	9	14
9:00 PM	3	19	22	1	9	10	2	10	12	-	-	-	-	-	-	-	-	-	-	-	-	2	13	15
10:00 PM	2	10	12	0	4	4	1	14	15	-	-	-	-	-	-	-	-	-	-	-	-	1	9	10
11:00 PM	0	5	5	0	1	1	0	6	6	-	-	-	-	-	-	-	-	-	-	-	-	0	4	4
Total	**88**	**101**	**189**	**75**	**79**	**154**	**89**	**86**	**175**	-	-	-	-	-	-	-	-	-	-	-	-	**84**	**89**	**173**
Percent	**47%**	**53%**	-	**49%**	**51%**	-	**51%**	**49%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**49%**	**51%**	-

1. Mid-week average includes data between Tuesday and Thursday.

Mark Skaggs:425-250-0777
mark.skaggs@idaxdata.com

Location: GRAND LOOP RD E/O YACHT CLUB RD
Date Range: 11/7/2017 - 11/13/2017
Site Code: 04

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	11/7/2017			11/8/2017			11/9/2017			11/10/2017			11/11/2017			11/12/2017			11/13/2017					
Time	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	1	7	8	1	7	8	0	2	2	-	-	-	-	-	-	-	-	-	-	-	-	1	5	6
1:00 AM	0	2	2	1	9	10	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	1	4	5
2:00 AM	0	0	0	1	1	2	0	2	2	-	-	-	-	-	-	-	-	-	-	-	-	0	1	1
3:00 AM	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
4:00 AM	1	0	1	1	1	2	4	0	4	-	-	-	-	-	-	-	-	-	-	-	-	2	0	2
5:00 AM	2	0	2	1	0	1	2	4	6	-	-	-	-	-	-	-	-	-	-	-	-	2	1	3
6:00 AM	10	6	16	11	15	26	9	7	16	-	-	-	-	-	-	-	-	-	-	-	-	10	9	19
7:00 AM	13	14	27	15	11	26	6	14	20	-	-	-	-	-	-	-	-	-	-	-	-	11	13	24
8:00 AM	12	22	34	13	22	35	10	22	32	-	-	-	-	-	-	-	-	-	-	-	-	12	22	34
9:00 AM	17	22	39	16	14	30	17	25	42	-	-	-	-	-	-	-	-	-	-	-	-	17	20	37
10:00 AM	11	23	34	22	23	45	13	21	34	-	-	-	-	-	-	-	-	-	-	-	-	15	22	38
11:00 AM	9	22	31	12	35	47	12	22	34	-	-	-	-	-	-	-	-	-	-	-	-	11	26	37
12:00 PM	15	27	42	17	32	49	13	28	41	-	-	-	-	-	-	-	-	-	-	-	-	15	29	44
1:00 PM	12	40	52	13	39	52	12	27	39	-	-	-	-	-	-	-	-	-	-	-	-	12	35	48
2:00 PM	16	35	51	17	33	50	9	34	43	-	-	-	-	-	-	-	-	-	-	-	-	14	34	48
3:00 PM	12	44	56	5	35	40	13	50	63	-	-	-	-	-	-	-	-	-	-	-	-	10	43	53
4:00 PM	17	34	51	13	33	46	19	32	51	-	-	-	-	-	-	-	-	-	-	-	-	16	33	49
5:00 PM	17	28	45	15	25	40	10	22	32	-	-	-	-	-	-	-	-	-	-	-	-	14	25	39
6:00 PM	7	34	41	19	17	36	16	20	36	-	-	-	-	-	-	-	-	-	-	-	-	14	24	38
7:00 PM	10	24	34	6	23	29	7	36	43	-	-	-	-	-	-	-	-	-	-	-	-	8	28	35
8:00 PM	5	28	33	6	21	27	2	34	36	-	-	-	-	-	-	-	-	-	-	-	-	4	28	32
9:00 PM	4	33	37	3	22	25	5	38	43	-	-	-	-	-	-	-	-	-	-	-	-	4	31	35
10:00 PM	5	20	25	0	8	8	2	21	23	-	-	-	-	-	-	-	-	-	-	-	-	2	16	19
11:00 PM	1	8	9	1	10	11	1	9	10	-	-	-	-	-	-	-	-	-	-	-	-	1	9	10
Total	**197**	**473**	**670**	**209**	**436**	**645**	**183**	**471**	**654**	-	-	-	-	-	-	-	-	-	-	-	-	**196**	**460**	**656**
Percent	**29%**	**71%**	-	**32%**	**68%**	-	**28%**	**72%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**30%**	**70%**	-

1. Mid-week average includes data between Tuesday and Thursday.

Mark Skaggs:425-250-0777
mark.skaggs@idaxdata.com

Location: BAY VIEW CORRIDOR N/O RUSTON WAY
Date Range: 11/7/2017 - 11/13/2017
Site Code: 05

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	11/7/2017			11/8/2017			11/9/2017			11/10/2017			11/11/2017			11/12/2017			11/13/2017					
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	4	4	8	2	4	6	2	2	4	-	-	-	-	-	-	-	-	-	-	-	-	3	3	6
1:00 AM	2	2	4	5	3	8	2	3	5	-	-	-	-	-	-	-	-	-	-	-	-	3	3	6
2:00 AM	0	1	1	2	0	2	6	1	7	-	-	-	-	-	-	-	-	-	-	-	-	3	1	3
3:00 AM	1	0	1	5	2	7	1	0	1	-	-	-	-	-	-	-	-	-	-	-	-	2	1	3
4:00 AM	4	9	13	1	8	9	2	10	12	-	-	-	-	-	-	-	-	-	-	-	-	2	9	11
5:00 AM	11	27	38	8	20	28	10	26	36	-	-	-	-	-	-	-	-	-	-	-	-	10	24	34
6:00 AM	36	46	82	40	46	86	33	34	67	-	-	-	-	-	-	-	-	-	-	-	-	36	42	78
7:00 AM	49	60	109	54	58	112	51	72	123	-	-	-	-	-	-	-	-	-	-	-	-	51	63	115
8:00 AM	40	60	100	40	53	93	60	54	114	-	-	-	-	-	-	-	-	-	-	-	-	47	56	102
9:00 AM	56	63	119	58	46	104	51	58	109	-	-	-	-	-	-	-	-	-	-	-	-	55	56	111
10:00 AM	57	56	113	51	54	105	56	74	130	-	-	-	-	-	-	-	-	-	-	-	-	55	61	116
11:00 AM	56	41	97	46	55	101	59	40	99	-	-	-	-	-	-	-	-	-	-	-	-	54	45	99
12:00 PM	102	76	178	58	52	110	65	57	122	-	-	-	-	-	-	-	-	-	-	-	-	75	62	137
1:00 PM	61	61	122	52	53	105	50	51	101	-	-	-	-	-	-	-	-	-	-	-	-	54	55	109
2:00 PM	58	50	108	50	44	94	64	44	108	-	-	-	-	-	-	-	-	-	-	-	-	57	46	103
3:00 PM	73	59	132	49	58	107	53	61	114	-	-	-	-	-	-	-	-	-	-	-	-	58	59	118
4:00 PM	116	61	177	63	58	121	59	63	122	-	-	-	-	-	-	-	-	-	-	-	-	79	61	140
5:00 PM	90	35	125	83	35	118	81	24	105	-	-	-	-	-	-	-	-	-	-	-	-	85	31	116
6:00 PM	98	55	153	77	21	98	64	25	89	-	-	-	-	-	-	-	-	-	-	-	-	80	34	113
7:00 PM	50	33	83	57	17	74	44	26	70	-	-	-	-	-	-	-	-	-	-	-	-	50	25	76
8:00 PM	41	13	54	37	6	43	47	28	75	-	-	-	-	-	-	-	-	-	-	-	-	42	16	57
9:00 PM	35	27	62	11	14	25	41	28	69	-	-	-	-	-	-	-	-	-	-	-	-	29	23	52
10:00 PM	20	7	27	17	7	24	14	10	24	-	-	-	-	-	-	-	-	-	-	-	-	17	8	25
11:00 PM	8	10	18	5	4	9	10	14	24	-	-	-	-	-	-	-	-	-	-	-	-	8	9	17
Total	**1,068**	**856**	**1,924**	**871**	**718**	**1,589**	**925**	**805**	**1,730**	-	-	-	-	-	-	-	-	-	-	-	-	**955**	**793**	**1,748**
Percent	**56%**	**44%**	-	**55%**	**45%**	-	**53%**	**47%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**55%**	**45%**	-

1. Mid-week average includes data between Tuesday and Thursday.

Mark Skaggs:425-250-0777
mark.skaggs@idaxdata.com

Location: N FERDINAND ST N/O N 46TH ST
Date Range: 11/7/2017 - 11/13/2017
Site Code: 06

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	11/7/2017			11/8/2017			11/9/2017			11/10/2017			11/11/2017			11/12/2017			11/13/2017					
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	5	7	12	2	10	12	3	10	13	-	-	-	-	-	-	-	-	-	-	-	-	3	9	12
1:00 AM	1	5	6	2	10	12	7	4	11	-	-	-	-	-	-	-	-	-	-	-	-	3	6	10
2:00 AM	3	0	3	2	5	7	2	5	7	-	-	-	-	-	-	-	-	-	-	-	-	2	3	6
3:00 AM	10	1	11	12	1	13	13	4	17	-	-	-	-	-	-	-	-	-	-	-	-	12	2	14
4:00 AM	34	5	39	36	2	38	29	6	35	-	-	-	-	-	-	-	-	-	-	-	-	33	4	37
5:00 AM	78	13	91	77	7	84	72	4	76	-	-	-	-	-	-	-	-	-	-	-	-	76	8	84
6:00 AM	80	15	95	94	18	112	72	23	95	-	-	-	-	-	-	-	-	-	-	-	-	82	19	101
7:00 AM	135	44	179	119	37	156	120	51	171	-	-	-	-	-	-	-	-	-	-	-	-	125	44	169
8:00 AM	94	34	128	93	42	135	107	39	146	-	-	-	-	-	-	-	-	-	-	-	-	98	38	136
9:00 AM	55	42	97	62	37	99	60	38	98	-	-	-	-	-	-	-	-	-	-	-	-	59	39	98
10:00 AM	44	35	79	49	42	91	57	35	92	-	-	-	-	-	-	-	-	-	-	-	-	50	37	87
11:00 AM	46	44	90	49	57	106	52	39	91	-	-	-	-	-	-	-	-	-	-	-	-	49	47	96
12:00 PM	48	59	107	55	42	97	51	46	97	-	-	-	-	-	-	-	-	-	-	-	-	51	49	100
1:00 PM	55	43	98	49	54	103	52	54	106	-	-	-	-	-	-	-	-	-	-	-	-	52	50	102
2:00 PM	48	82	130	47	67	114	42	82	124	-	-	-	-	-	-	-	-	-	-	-	-	46	77	123
3:00 PM	71	102	173	67	88	155	62	91	153	-	-	-	-	-	-	-	-	-	-	-	-	67	94	160
4:00 PM	78	111	189	76	114	190	67	118	185	-	-	-	-	-	-	-	-	-	-	-	-	74	114	188
5:00 PM	64	157	221	69	157	226	84	139	223	-	-	-	-	-	-	-	-	-	-	-	-	72	151	223
6:00 PM	62	101	163	43	94	137	50	74	124	-	-	-	-	-	-	-	-	-	-	-	-	52	90	141
7:00 PM	29	77	106	29	78	107	34	52	86	-	-	-	-	-	-	-	-	-	-	-	-	31	69	100
8:00 PM	22	37	59	18	34	52	24	54	78	-	-	-	-	-	-	-	-	-	-	-	-	21	42	63
9:00 PM	25	44	69	11	23	34	25	45	70	-	-	-	-	-	-	-	-	-	-	-	-	20	37	58
10:00 PM	13	20	33	7	16	23	14	23	37	-	-	-	-	-	-	-	-	-	-	-	-	11	20	31
11:00 PM	7	22	29	3	10	13	8	19	27	-	-	-	-	-	-	-	-	-	-	-	-	6	17	23
Total	**1,107**	**1,100**	**2,207**	**1,071**	**1,045**	**2,116**	**1,107**	**1,055**	**2,162**	-	-	-	-	-	-	-	-	-	-	-	-	**1,095**	**1,067**	**2,162**
Percent	**50%**	**50%**	-	**51%**	**49%**	-	**51%**	**49%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**51%**	**49%**	-

1. Mid-week average includes data between Tuesday and Thursday.

Mark Skaggs:425-250-0777
mark.skaggs@idaxdata.com

Location: N 46TH ST W/O N FERDINAND ST
Date Range: 11/7/2017 - 11/13/2017
Site Code: 07

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	11/7/2017			11/8/2017			11/9/2017			11/10/2017			11/11/2017			11/12/2017			11/13/2017					
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	6	7	13	4	13	17	4	15	19	-	-	-	-	-	-	-	-	-	-	-	-	5	12	16
1:00 AM	2	5	7	5	10	15	8	6	14	-	-	-	-	-	-	-	-	-	-	-	-	5	7	12
2:00 AM	5	3	8	5	7	12	4	8	12	-	-	-	-	-	-	-	-	-	-	-	-	5	6	11
3:00 AM	10	6	16	10	1	11	10	6	16	-	-	-	-	-	-	-	-	-	-	-	-	10	4	14
4:00 AM	38	9	47	38	5	43	29	8	37	-	-	-	-	-	-	-	-	-	-	-	-	35	7	42
5:00 AM	71	20	91	70	16	86	66	18	84	-	-	-	-	-	-	-	-	-	-	-	-	69	18	87
6:00 AM	113	29	142	115	39	154	99	39	138	-	-	-	-	-	-	-	-	-	-	-	-	109	36	145
7:00 AM	205	103	308	197	89	286	194	97	291	-	-	-	-	-	-	-	-	-	-	-	-	199	96	295
8:00 AM	163	103	266	183	112	295	190	95	285	-	-	-	-	-	-	-	-	-	-	-	-	179	103	282
9:00 AM	121	108	229	117	102	219	123	100	223	-	-	-	-	-	-	-	-	-	-	-	-	120	103	224
10:00 AM	98	80	178	107	112	219	102	97	199	-	-	-	-	-	-	-	-	-	-	-	-	102	96	199
11:00 AM	95	123	218	114	127	241	111	96	207	-	-	-	-	-	-	-	-	-	-	-	-	107	115	222
12:00 PM	99	109	208	118	106	224	104	118	222	-	-	-	-	-	-	-	-	-	-	-	-	107	111	218
1:00 PM	121	104	225	106	117	223	97	131	228	-	-	-	-	-	-	-	-	-	-	-	-	108	117	225
2:00 PM	109	150	259	110	143	253	108	137	245	-	-	-	-	-	-	-	-	-	-	-	-	109	143	252
3:00 PM	153	225	378	150	190	340	151	183	334	-	-	-	-	-	-	-	-	-	-	-	-	151	199	351
4:00 PM	141	191	332	151	222	373	146	215	361	-	-	-	-	-	-	-	-	-	-	-	-	146	209	355
5:00 PM	134	265	399	138	247	385	135	232	367	-	-	-	-	-	-	-	-	-	-	-	-	136	248	384
6:00 PM	101	165	266	110	156	266	84	141	225	-	-	-	-	-	-	-	-	-	-	-	-	98	154	252
7:00 PM	68	105	173	46	92	138	69	78	147	-	-	-	-	-	-	-	-	-	-	-	-	61	92	153
8:00 PM	51	63	114	49	81	130	36	79	115	-	-	-	-	-	-	-	-	-	-	-	-	45	74	120
9:00 PM	38	53	91	29	43	72	61	70	131	-	-	-	-	-	-	-	-	-	-	-	-	43	55	98
10:00 PM	21	30	51	15	22	37	26	35	61	-	-	-	-	-	-	-	-	-	-	-	-	21	29	50
11:00 PM	8	26	34	10	22	32	16	33	49	-	-	-	-	-	-	-	-	-	-	-	-	11	27	38
Total	**1,971**	**2,082**	**4,053**	**1,997**	**2,074**	**4,071**	**1,973**	**2,037**	**4,010**	-	-	-	-	-	-	-	-	-	-	-	-	**1,980**	**2,064**	**4,045**
Percent	**49%**	**51%**	-	**49%**	**51%**	-	**49%**	**51%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**49%**	**51%**	-

1. Mid-week average includes data between Tuesday and Thursday.

Mark Skaggs:425-250-0777
mark.skaggs@idaxdata.com

Location: N 46TH ST E/O N FERNINAND ST
Date Range: 11/7/2017 - 11/13/2017
Site Code: 08

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	11/7/2017			11/8/2017			11/9/2017			11/10/2017			11/11/2017			11/12/2017			11/13/2017					
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	3	4	7	5	8	13	2	8	10	-	-	-	-	-	-	-	-	-	-	-	-	3	7	10
1:00 AM	2	2	4	5	3	8	4	6	10	-	-	-	-	-	-	-	-	-	-	-	-	4	4	7
2:00 AM	2	3	5	3	2	5	2	3	5	-	-	-	-	-	-	-	-	-	-	-	-	2	3	5
3:00 AM	3	8	11	0	2	2	1	7	8	-	-	-	-	-	-	-	-	-	-	-	-	1	6	7
4:00 AM	6	5	11	5	7	12	4	6	10	-	-	-	-	-	-	-	-	-	-	-	-	5	6	11
5:00 AM	13	18	31	11	14	25	14	22	36	-	-	-	-	-	-	-	-	-	-	-	-	13	18	31
6:00 AM	54	30	84	45	35	80	55	34	89	-	-	-	-	-	-	-	-	-	-	-	-	51	33	84
7:00 AM	108	90	198	113	79	192	109	86	195	-	-	-	-	-	-	-	-	-	-	-	-	110	85	195
8:00 AM	120	107	227	112	95	207	125	101	226	-	-	-	-	-	-	-	-	-	-	-	-	119	101	220
9:00 AM	90	88	178	90	99	189	87	93	180	-	-	-	-	-	-	-	-	-	-	-	-	89	93	182
10:00 AM	78	74	152	83	91	174	73	86	159	-	-	-	-	-	-	-	-	-	-	-	-	78	84	162
11:00 AM	68	97	165	100	110	210	96	80	176	-	-	-	-	-	-	-	-	-	-	-	-	88	96	184
12:00 PM	89	90	179	86	88	174	89	99	188	-	-	-	-	-	-	-	-	-	-	-	-	88	92	180
1:00 PM	87	95	182	94	100	194	99	111	210	-	-	-	-	-	-	-	-	-	-	-	-	93	102	195
2:00 PM	93	112	205	101	109	210	91	82	173	-	-	-	-	-	-	-	-	-	-	-	-	95	101	196
3:00 PM	130	185	315	141	138	279	142	140	282	-	-	-	-	-	-	-	-	-	-	-	-	138	154	292
4:00 PM	112	142	254	137	163	300	124	161	285	-	-	-	-	-	-	-	-	-	-	-	-	124	155	280
5:00 PM	114	164	278	122	147	269	120	153	273	-	-	-	-	-	-	-	-	-	-	-	-	119	155	273
6:00 PM	78	108	186	96	111	207	82	111	193	-	-	-	-	-	-	-	-	-	-	-	-	85	110	195
7:00 PM	64	65	129	47	59	106	58	55	113	-	-	-	-	-	-	-	-	-	-	-	-	56	60	116
8:00 PM	50	50	100	44	58	102	38	53	91	-	-	-	-	-	-	-	-	-	-	-	-	44	54	98
9:00 PM	35	38	73	30	33	63	57	52	109	-	-	-	-	-	-	-	-	-	-	-	-	41	41	82
10:00 PM	18	24	42	13	13	26	22	25	47	-	-	-	-	-	-	-	-	-	-	-	-	18	21	38
11:00 PM	8	14	22	9	15	24	15	22	37	-	-	-	-	-	-	-	-	-	-	-	-	11	17	28
Total	**1,425**	**1,613**	**3,038**	**1,492**	**1,579**	**3,071**	**1,509**	**1,596**	**3,105**	-	-	-	-	-	-	-	-	-	-	-	-	**1,475**	**1,596**	**3,071**
Percent	**47%**	**53%**	-	**49%**	**51%**	-	**49%**	**51%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**48%**	**52%**	-

1. Mid-week average includes data between Tuesday and Thursday.

Mark Skaggs:425-250-0777
mark.skaggs@idaxdata.com

Location: N FERDINAND ST N/O N 46TH ST
Date Range: 11/7/2017 - 11/13/2017
Site Code: 09

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	11/7/2017			11/8/2017			11/9/2017			11/10/2017			11/11/2017			11/12/2017			11/13/2017					
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	1	3	4	2	2	4	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	1	2	4
1:00 AM	0	1	1	0	2	2	0	1	1	-	-	-	-	-	-	-	-	-	-	-	-	0	1	1
2:00 AM	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
3:00 AM	1	0	1	0	0	0	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
4:00 AM	2	1	3	3	2	5	2	2	4	-	-	-	-	-	-	-	-	-	-	-	-	2	2	4
5:00 AM	11	1	12	12	0	12	10	0	10	-	-	-	-	-	-	-	-	-	-	-	-	11	0	11
6:00 AM	9	0	9	6	0	6	8	5	13	-	-	-	-	-	-	-	-	-	-	-	-	8	2	9
7:00 AM	13	4	17	19	3	22	17	4	21	-	-	-	-	-	-	-	-	-	-	-	-	16	4	20
8:00 AM	10	7	17	10	7	17	11	5	16	-	-	-	-	-	-	-	-	-	-	-	-	10	6	17
9:00 AM	9	7	16	6	9	15	7	8	15	-	-	-	-	-	-	-	-	-	-	-	-	7	8	15
10:00 AM	4	10	14	9	4	13	5	6	11	-	-	-	-	-	-	-	-	-	-	-	-	6	7	13
11:00 AM	4	5	9	5	9	14	7	7	14	-	-	-	-	-	-	-	-	-	-	-	-	5	7	12
12:00 PM	8	7	15	2	5	7	11	11	22	-	-	-	-	-	-	-	-	-	-	-	-	7	8	15
1:00 PM	3	13	16	6	9	15	11	11	22	-	-	-	-	-	-	-	-	-	-	-	-	7	11	18
2:00 PM	6	11	17	5	15	20	8	19	27	-	-	-	-	-	-	-	-	-	-	-	-	6	15	21
3:00 PM	7	25	32	6	8	14	6	19	25	-	-	-	-	-	-	-	-	-	-	-	-	6	17	24
4:00 PM	8	24	32	8	17	25	4	28	32	-	-	-	-	-	-	-	-	-	-	-	-	7	23	30
5:00 PM	16	29	45	6	26	32	10	31	41	-	-	-	-	-	-	-	-	-	-	-	-	11	29	39
6:00 PM	5	17	22	12	22	34	9	15	24	-	-	-	-	-	-	-	-	-	-	-	-	9	18	27
7:00 PM	4	16	20	2	18	20	4	9	13	-	-	-	-	-	-	-	-	-	-	-	-	3	14	18
8:00 PM	1	4	5	2	5	7	2	8	10	-	-	-	-	-	-	-	-	-	-	-	-	2	6	7
9:00 PM	3	6	9	0	2	2	1	10	11	-	-	-	-	-	-	-	-	-	-	-	-	1	6	7
10:00 PM	0	4	4	3	5	8	2	2	4	-	-	-	-	-	-	-	-	-	-	-	-	2	4	5
11:00 PM	0	3	3	0	0	0	0	4	4	-	-	-	-	-	-	-	-	-	-	-	-	0	2	2
Total	**125**	**198**	**323**	**124**	**170**	**294**	**137**	**209**	**346**	-	-	-	-	-	-	-	-	-	-	-	-	**129**	**192**	**321**
Percent	**39%**	**61%**	-	**42%**	**58%**	-	**40%**	**60%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**40%**	**60%**	-

1. Mid-week average includes data between Tuesday and Thursday.

Mark Skaggs:425-250-0777
mark.skaggs@idaxdata.com

Location: RUSTON WAY N/O 49TH ST
Date Range: 11/7/2017 - 11/13/2017
Site Code: 10

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday					
	11/7/2017			11/8/2017			11/9/2017			11/10/2017			11/11/2017			11/12/2017			11/13/2017			Mid-Week Average		
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	12	33	45	26	51	77	30	22	52	-	-	-	-	-	-	-	-	-	-	-	-	23	35	58
1:00 AM	17	17	34	27	56	83	12	23	35	-	-	-	-	-	-	-	-	-	-	-	-	19	32	51
2:00 AM	5	6	11	7	8	15	17	13	30	-	-	-	-	-	-	-	-	-	-	-	-	10	9	19
3:00 AM	9	10	19	10	12	22	8	19	27	-	-	-	-	-	-	-	-	-	-	-	-	9	14	23
4:00 AM	21	60	81	19	66	85	30	78	108	-	-	-	-	-	-	-	-	-	-	-	-	23	68	91
5:00 AM	57	109	166	40	113	153	59	113	172	-	-	-	-	-	-	-	-	-	-	-	-	52	112	164
6:00 AM	189	223	412	187	205	392	165	185	350	-	-	-	-	-	-	-	-	-	-	-	-	180	204	385
7:00 AM	194	297	491	195	265	460	188	299	487	-	-	-	-	-	-	-	-	-	-	-	-	192	287	479
8:00 AM	189	229	418	202	252	454	195	239	434	-	-	-	-	-	-	-	-	-	-	-	-	195	240	435
9:00 AM	200	174	374	184	188	372	216	179	395	-	-	-	-	-	-	-	-	-	-	-	-	200	180	380
10:00 AM	175	184	359	189	187	376	197	199	396	-	-	-	-	-	-	-	-	-	-	-	-	187	190	377
11:00 AM	192	246	438	218	258	476	217	198	415	-	-	-	-	-	-	-	-	-	-	-	-	209	234	443
12:00 PM	267	234	501	255	243	498	207	255	462	-	-	-	-	-	-	-	-	-	-	-	-	243	244	487
1:00 PM	281	242	523	221	218	439	225	248	473	-	-	-	-	-	-	-	-	-	-	-	-	242	236	478
2:00 PM	252	257	509	235	241	476	244	240	484	-	-	-	-	-	-	-	-	-	-	-	-	244	246	490
3:00 PM	335	377	712	309	369	678	296	351	647	-	-	-	-	-	-	-	-	-	-	-	-	313	366	679
4:00 PM	383	316	699	360	246	606	335	287	622	-	-	-	-	-	-	-	-	-	-	-	-	359	283	642
5:00 PM	420	220	640	400	209	609	354	178	532	-	-	-	-	-	-	-	-	-	-	-	-	391	202	594
6:00 PM	377	231	608	299	141	440	311	159	470	-	-	-	-	-	-	-	-	-	-	-	-	329	177	506
7:00 PM	223	168	391	203	125	328	207	158	365	-	-	-	-	-	-	-	-	-	-	-	-	211	150	361
8:00 PM	193	158	351	143	126	269	157	137	294	-	-	-	-	-	-	-	-	-	-	-	-	164	140	305
9:00 PM	132	208	340	93	120	213	163	185	348	-	-	-	-	-	-	-	-	-	-	-	-	129	171	300
10:00 PM	105	107	212	59	68	127	92	94	186	-	-	-	-	-	-	-	-	-	-	-	-	85	90	175
11:00 PM	37	75	112	33	48	81	51	80	131	-	-	-	-	-	-	-	-	-	-	-	-	40	68	108
Total	**4,265**	**4,181**	**8,446**	**3,914**	**3,815**	**7,729**	**3,976**	**3,939**	**7,915**	-	-	-	-	-	-	-	-	-	-	-	-	**4,052**	**3,978**	**8,030**
Percent	**50%**	**50%**	-	**51%**	**49%**	-	**50%**	**50%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**50%**	**50%**	-

1. Mid-week average includes data between Tuesday and Thursday.

Mark Skaggs:425-250-0777
mark.skaggs@idaxdata.com

Location: N 49TH ST W/O RUSTON WAY
Date Range: 11/7/2017 - 11/13/2017
Site Code: 11

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	11/7/2017			11/8/2017			11/9/2017			11/10/2017			11/11/2017			11/12/2017			11/13/2017					
Time	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	3	9	12	2	13	15	1	20	21	-	-	-	-	-	-	-	-	-	-	-	-	2	14	16
1:00 AM	1	5	6	2	11	13	7	12	19	-	-	-	-	-	-	-	-	-	-	-	-	3	9	13
2:00 AM	4	1	5	5	5	10	4	8	12	-	-	-	-	-	-	-	-	-	-	-	-	4	5	9
3:00 AM	17	2	19	16	5	21	16	5	21	-	-	-	-	-	-	-	-	-	-	-	-	16	4	20
4:00 AM	40	4	44	46	3	49	37	13	50	-	-	-	-	-	-	-	-	-	-	-	-	41	7	48
5:00 AM	102	10	112	94	6	100	87	8	95	-	-	-	-	-	-	-	-	-	-	-	-	94	8	102
6:00 AM	111	11	122	118	13	131	103	33	136	-	-	-	-	-	-	-	-	-	-	-	-	111	19	130
7:00 AM	161	41	202	160	31	191	152	42	194	-	-	-	-	-	-	-	-	-	-	-	-	158	38	196
8:00 AM	107	40	147	105	37	142	115	30	145	-	-	-	-	-	-	-	-	-	-	-	-	109	36	145
9:00 AM	57	66	123	68	34	102	63	39	102	-	-	-	-	-	-	-	-	-	-	-	-	63	46	109
10:00 AM	52	53	105	61	42	103	62	34	96	-	-	-	-	-	-	-	-	-	-	-	-	58	43	101
11:00 AM	44	47	91	51	53	104	60	35	95	-	-	-	-	-	-	-	-	-	-	-	-	52	45	97
12:00 PM	49	66	115	56	43	99	55	40	95	-	-	-	-	-	-	-	-	-	-	-	-	53	50	103
1:00 PM	60	44	104	52	80	132	53	52	105	-	-	-	-	-	-	-	-	-	-	-	-	55	59	114
2:00 PM	53	78	131	45	114	159	43	85	128	-	-	-	-	-	-	-	-	-	-	-	-	47	92	139
3:00 PM	66	102	168	74	160	234	58	109	167	-	-	-	-	-	-	-	-	-	-	-	-	66	124	190
4:00 PM	63	127	190	59	181	240	58	140	198	-	-	-	-	-	-	-	-	-	-	-	-	60	149	209
5:00 PM	61	173	234	69	298	367	79	157	236	-	-	-	-	-	-	-	-	-	-	-	-	70	209	279
6:00 PM	57	102	159	38	162	200	48	90	138	-	-	-	-	-	-	-	-	-	-	-	-	48	118	166
7:00 PM	25	82	107	23	148	171	38	60	98	-	-	-	-	-	-	-	-	-	-	-	-	29	97	125
8:00 PM	20	48	68	16	58	74	21	67	88	-	-	-	-	-	-	-	-	-	-	-	-	19	58	77
9:00 PM	24	49	73	9	41	50	24	61	85	-	-	-	-	-	-	-	-	-	-	-	-	19	50	69
10:00 PM	14	23	37	8	28	36	13	26	39	-	-	-	-	-	-	-	-	-	-	-	-	12	26	37
11:00 PM	5	25	30	6	17	23	6	17	23	-	-	-	-	-	-	-	-	-	-	-	-	6	20	25
Total	**1,196**	**1,208**	**2,404**	**1,183**	**1,583**	**2,766**	**1,203**	**1,183**	**2,386**	-	-	-	-	-	-	-	-	-	-	-	-	**1,194**	**1,325**	**2,519**
Percent	**50%**	**50%**	-	**43%**	**57%**	-	**50%**	**50%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**47%**	**53%**	-

1. Mid-week average includes data between Tuesday and Thursday.

Mark Skaggs:425-250-0777
mark.skaggs@idaxdata.com

Location: RUSTON WAY S/O 49TH ST
Date Range: 11/7/2017 - 11/13/2017
Site Code: 12

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday					
	11/7/2017			11/8/2017			11/9/2017			11/10/2017			11/11/2017			11/12/2017			11/13/2017			Mid-Week Average		
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	17	32	49	35	50	85	40	21	61	-	-	-	-	-	-	-	-	-	-	-	-	31	34	65
1:00 AM	20	16	36	33	53	86	16	28	44	-	-	-	-	-	-	-	-	-	-	-	-	23	32	55
2:00 AM	6	10	16	12	13	25	22	18	40	-	-	-	-	-	-	-	-	-	-	-	-	13	14	27
3:00 AM	9	25	34	14	29	43	10	35	45	-	-	-	-	-	-	-	-	-	-	-	-	11	30	41
4:00 AM	23	100	123	23	110	133	36	116	152	-	-	-	-	-	-	-	-	-	-	-	-	27	109	136
5:00 AM	60	200	260	43	202	245	56	204	260	-	-	-	-	-	-	-	-	-	-	-	-	53	202	255
6:00 AM	188	326	514	198	313	511	184	276	460	-	-	-	-	-	-	-	-	-	-	-	-	190	305	495
7:00 AM	222	453	675	219	409	628	205	452	657	-	-	-	-	-	-	-	-	-	-	-	-	215	438	653
8:00 AM	197	320	517	233	333	566	212	331	543	-	-	-	-	-	-	-	-	-	-	-	-	214	328	542
9:00 AM	212	216	428	200	242	442	234	225	459	-	-	-	-	-	-	-	-	-	-	-	-	215	228	443
10:00 AM	194	206	400	204	234	438	220	240	460	-	-	-	-	-	-	-	-	-	-	-	-	206	227	433
11:00 AM	224	270	494	246	269	515	230	255	485	-	-	-	-	-	-	-	-	-	-	-	-	233	265	498
12:00 PM	292	254	546	271	272	543	215	289	504	-	-	-	-	-	-	-	-	-	-	-	-	259	272	531
1:00 PM	303	275	578	249	234	483	254	312	566	-	-	-	-	-	-	-	-	-	-	-	-	269	274	542
2:00 PM	309	288	597	292	268	560	307	307	614	-	-	-	-	-	-	-	-	-	-	-	-	303	288	590
3:00 PM	397	430	827	372	500	872	374	412	786	-	-	-	-	-	-	-	-	-	-	-	-	381	447	828
4:00 PM	476	352	828	425	344	769	440	376	816	-	-	-	-	-	-	-	-	-	-	-	-	447	357	804
5:00 PM	563	258	821	515	270	785	495	238	733	-	-	-	-	-	-	-	-	-	-	-	-	524	255	780
6:00 PM	440	241	681	366	156	522	376	180	556	-	-	-	-	-	-	-	-	-	-	-	-	394	192	586
7:00 PM	280	170	450	273	135	408	240	184	424	-	-	-	-	-	-	-	-	-	-	-	-	264	163	427
8:00 PM	228	158	386	177	139	316	207	144	351	-	-	-	-	-	-	-	-	-	-	-	-	204	147	351
9:00 PM	169	210	379	103	122	225	212	181	393	-	-	-	-	-	-	-	-	-	-	-	-	161	171	332
10:00 PM	116	112	228	72	77	149	107	98	205	-	-	-	-	-	-	-	-	-	-	-	-	98	96	194
11:00 PM	56	71	127	36	49	85	63	79	142	-	-	-	-	-	-	-	-	-	-	-	-	52	66	118
Total	**5,001**	**4,993**	**9,994**	**4,611**	**4,823**	**9,434**	**4,755**	**5,001**	**9,756**	-	-	-	-	-	-	-	-	-	-	-	-	**4,789**	**4,939**	**9,728**
Percent	**50%**	**50%**	-	**49%**	**51%**	-	**49%**	**51%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**49%**	**51%**	-

1. Mid-week average includes data between Tuesday and Thursday.

Mark Skaggs:425-250-0777
mark.skaggs@idaxdata.com

Location: RUSTON WAY W/O McCARVER ST
Date Range: 11/7/2017 - 11/13/2017
Site Code: 13

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday					
	11/7/2017			11/8/2017			11/9/2017			11/10/2017			11/11/2017			11/12/2017			11/13/2017			Mid-Week Average		
Time	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	48	38	86	56	52	108	41	49	90	-	-	-	-	-	-	-	-	-	-	-	-	48	46	95
1:00 AM	32	28	60	70	48	118	30	25	55	-	-	-	-	-	-	-	-	-	-	-	-	44	34	78
2:00 AM	24	15	39	28	23	51	25	33	58	-	-	-	-	-	-	-	-	-	-	-	-	26	24	49
3:00 AM	36	24	60	40	25	65	40	16	56	-	-	-	-	-	-	-	-	-	-	-	-	39	22	60
4:00 AM	119	33	152	135	33	168	140	52	192	-	-	-	-	-	-	-	-	-	-	-	-	131	39	171
5:00 AM	242	68	310	244	52	296	230	67	297	-	-	-	-	-	-	-	-	-	-	-	-	239	62	301
6:00 AM	402	197	599	393	221	614	374	183	557	-	-	-	-	-	-	-	-	-	-	-	-	390	200	590
7:00 AM	607	268	875	571	271	842	571	252	823	-	-	-	-	-	-	-	-	-	-	-	-	583	264	847
8:00 AM	442	271	713	454	298	752	433	287	720	-	-	-	-	-	-	-	-	-	-	-	-	443	285	728
9:00 AM	280	249	529	311	248	559	303	290	593	-	-	-	-	-	-	-	-	-	-	-	-	298	262	560
10:00 AM	259	247	506	302	262	564	291	229	520	-	-	-	-	-	-	-	-	-	-	-	-	284	246	530
11:00 AM	302	354	656	325	404	729	290	322	612	-	-	-	-	-	-	-	-	-	-	-	-	306	360	666
12:00 PM	334	382	716	394	352	746	342	300	642	-	-	-	-	-	-	-	-	-	-	-	-	357	345	701
1:00 PM	413	339	752	379	313	692	398	307	705	-	-	-	-	-	-	-	-	-	-	-	-	397	320	716
2:00 PM	397	376	773	367	351	718	363	364	727	-	-	-	-	-	-	-	-	-	-	-	-	376	364	739
3:00 PM	535	505	1,040	515	465	980	464	466	930	-	-	-	-	-	-	-	-	-	-	-	-	505	479	983
4:00 PM	413	636	1,049	367	573	940	384	593	977	-	-	-	-	-	-	-	-	-	-	-	-	388	601	989
5:00 PM	362	764	1,126	291	678	969	319	728	1,047	-	-	-	-	-	-	-	-	-	-	-	-	324	723	1,047
6:00 PM	301	527	828	224	470	694	229	512	741	-	-	-	-	-	-	-	-	-	-	-	-	251	503	754
7:00 PM	255	363	618	227	298	525	283	286	569	-	-	-	-	-	-	-	-	-	-	-	-	255	316	571
8:00 PM	263	256	519	236	231	467	311	228	539	-	-	-	-	-	-	-	-	-	-	-	-	270	238	508
9:00 PM	286	177	463	201	140	341	263	251	514	-	-	-	-	-	-	-	-	-	-	-	-	250	189	439
10:00 PM	148	107	255	106	97	203	162	133	295	-	-	-	-	-	-	-	-	-	-	-	-	139	112	251
11:00 PM	99	78	177	75	48	123	101	81	182	-	-	-	-	-	-	-	-	-	-	-	-	92	69	161
Total	**6,599**	**6,302**	**12,901**	**6,311**	**5,953**	**12,264**	**6,387**	**6,054**	**12,441**	-	-	-	-	-	-	-	-	-	-	-	-	**6,432**	**6,103**	**12,535**
Percent	**51%**	**49%**	-	**51%**	**49%**	-	**51%**	**49%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**51%**	**49%**	-

1. Mid-week average includes data between Tuesday and Thursday.

Mark Skaggs:425-250-0777
mark.skaggs@idaxdata.com

Location: McCARVER ST S/O RUSTON WAY
Date Range: 11/7/2017 - 11/13/2017
Site Code: 14

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	11/7/2017			11/8/2017			11/9/2017			11/10/2017			11/11/2017			11/12/2017			11/13/2017					
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	10	11	21	8	8	16	6	7	13	-	-	-	-	-	-	-	-	-	-	-	-	8	9	17
1:00 AM	4	6	10	8	16	24	3	3	6	-	-	-	-	-	-	-	-	-	-	-	-	5	8	13
2:00 AM	0	2	2	7	3	10	2	1	3	-	-	-	-	-	-	-	-	-	-	-	-	3	2	5
3:00 AM	0	2	2	5	1	6	2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	2	1	3
4:00 AM	8	2	10	4	4	8	12	7	19	-	-	-	-	-	-	-	-	-	-	-	-	8	4	12
5:00 AM	12	16	28	7	16	23	13	17	30	-	-	-	-	-	-	-	-	-	-	-	-	11	16	27
6:00 AM	50	39	89	60	24	84	53	39	92	-	-	-	-	-	-	-	-	-	-	-	-	54	34	88
7:00 AM	97	92	189	84	84	168	78	91	169	-	-	-	-	-	-	-	-	-	-	-	-	86	89	175
8:00 AM	76	88	164	119	84	203	88	97	185	-	-	-	-	-	-	-	-	-	-	-	-	94	90	184
9:00 AM	85	62	147	80	65	145	90	73	163	-	-	-	-	-	-	-	-	-	-	-	-	85	67	152
10:00 AM	85	77	162	77	69	146	75	65	140	-	-	-	-	-	-	-	-	-	-	-	-	79	70	149
11:00 AM	99	59	158	114	85	199	127	72	199	-	-	-	-	-	-	-	-	-	-	-	-	113	72	185
12:00 PM	137	70	207	115	89	204	110	85	195	-	-	-	-	-	-	-	-	-	-	-	-	121	81	202
1:00 PM	116	97	213	108	142	250	103	100	203	-	-	-	-	-	-	-	-	-	-	-	-	109	113	222
2:00 PM	105	96	201	95	151	246	118	85	203	-	-	-	-	-	-	-	-	-	-	-	-	106	111	217
3:00 PM	132	130	262	125	109	234	114	97	211	-	-	-	-	-	-	-	-	-	-	-	-	124	112	236
4:00 PM	166	126	292	123	112	235	157	104	261	-	-	-	-	-	-	-	-	-	-	-	-	149	114	263
5:00 PM	156	117	273	147	101	248	152	107	259	-	-	-	-	-	-	-	-	-	-	-	-	152	108	260
6:00 PM	116	100	216	112	67	179	127	60	187	-	-	-	-	-	-	-	-	-	-	-	-	118	76	194
7:00 PM	83	65	148	64	38	102	66	69	135	-	-	-	-	-	-	-	-	-	-	-	-	71	57	128
8:00 PM	62	58	120	39	53	92	54	59	113	-	-	-	-	-	-	-	-	-	-	-	-	52	57	108
9:00 PM	53	66	119	19	44	63	50	54	104	-	-	-	-	-	-	-	-	-	-	-	-	41	55	95
10:00 PM	32	29	61	13	26	39	36	44	80	-	-	-	-	-	-	-	-	-	-	-	-	27	33	60
11:00 PM	20	21	41	8	11	19	9	9	18	-	-	-	-	-	-	-	-	-	-	-	-	12	14	26
Total	**1,704**	**1,431**	**3,135**	**1,541**	**1,402**	**2,943**	**1,645**	**1,345**	**2,990**	-	-	-	-	-	-	-	-	-	-	-	-	**1,630**	**1,393**	**3,023**
Percent	**54%**	**46%**	-	**52%**	**48%**	-	**55%**	**45%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**54%**	**46%**	-

1. Mid-week average includes data between Tuesday and Thursday.

Mark Skaggs:425-250-0777
mark.skaggs@idaxdata.com

Location: RUSTON WAY E/O McCARVER ST
Date Range: 11/7/2017 - 11/13/2017
Site Code: 15

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	11/7/2017			11/8/2017			11/9/2017			11/10/2017			11/11/2017			11/12/2017			11/13/2017					
Time	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	41	31	72	51	47	98	33	45	78	-	-	-	-	-	-	-	-	-	-	-	-	42	41	83
1:00 AM	28	26	54	57	43	100	30	25	55	-	-	-	-	-	-	-	-	-	-	-	-	38	31	70
2:00 AM	24	17	41	28	18	46	23	31	54	-	-	-	-	-	-	-	-	-	-	-	-	25	22	47
3:00 AM	36	23	59	39	20	59	40	15	55	-	-	-	-	-	-	-	-	-	-	-	-	38	19	58
4:00 AM	118	27	145	131	31	162	135	45	180	-	-	-	-	-	-	-	-	-	-	-	-	128	34	162
5:00 AM	231	67	298	225	53	278	221	64	285	-	-	-	-	-	-	-	-	-	-	-	-	226	61	287
6:00 AM	390	187	577	400	202	602	368	167	535	-	-	-	-	-	-	-	-	-	-	-	-	386	185	571
7:00 AM	553	233	786	514	236	750	515	218	733	-	-	-	-	-	-	-	-	-	-	-	-	527	229	756
8:00 AM	363	228	591	382	242	624	382	238	620	-	-	-	-	-	-	-	-	-	-	-	-	376	236	612
9:00 AM	258	226	484	277	208	485	250	261	511	-	-	-	-	-	-	-	-	-	-	-	-	262	232	493
10:00 AM	226	219	445	267	237	504	246	211	457	-	-	-	-	-	-	-	-	-	-	-	-	246	222	469
11:00 AM	277	298	575	271	318	589	243	270	513	-	-	-	-	-	-	-	-	-	-	-	-	264	295	559
12:00 PM	289	288	577	302	308	610	306	238	544	-	-	-	-	-	-	-	-	-	-	-	-	299	278	577
1:00 PM	335	276	611	304	255	559	337	280	617	-	-	-	-	-	-	-	-	-	-	-	-	325	270	596
2:00 PM	329	340	669	308	298	606	320	295	615	-	-	-	-	-	-	-	-	-	-	-	-	319	311	630
3:00 PM	425	464	889	468	439	907	413	435	848	-	-	-	-	-	-	-	-	-	-	-	-	435	446	881
4:00 PM	329	571	900	290	538	828	325	542	867	-	-	-	-	-	-	-	-	-	-	-	-	315	550	865
5:00 PM	309	690	999	283	634	917	270	645	915	-	-	-	-	-	-	-	-	-	-	-	-	287	656	944
6:00 PM	246	448	694	186	379	565	203	399	602	-	-	-	-	-	-	-	-	-	-	-	-	212	409	620
7:00 PM	207	302	509	216	242	458	233	241	474	-	-	-	-	-	-	-	-	-	-	-	-	219	262	480
8:00 PM	220	204	424	192	192	384	248	193	441	-	-	-	-	-	-	-	-	-	-	-	-	220	196	416
9:00 PM	224	142	366	171	127	298	229	200	429	-	-	-	-	-	-	-	-	-	-	-	-	208	156	364
10:00 PM	126	90	216	86	87	173	123	108	231	-	-	-	-	-	-	-	-	-	-	-	-	112	95	207
11:00 PM	82	60	142	66	45	111	96	77	173	-	-	-	-	-	-	-	-	-	-	-	-	81	61	142
Total	**5,666**	**5,457**	**11,123**	**5,514**	**5,199**	**10,713**	**5,589**	**5,243**	**10,832**	-	-	-	-	-	-	-	-	-	-	-	-	**5,590**	**5,300**	**10,889**
Percent	**51%**	**49%**	-	**51%**	**49%**	-	**52%**	**48%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**51%**	**49%**	-

1. Mid-week average includes data between Tuesday and Thursday.

Mark Skaggs:425-250-0777
mark.skaggs@idaxdata.com

Location: RUSTON WAY N/O ALDER ST
Date Range: 11/7/2017 - 11/13/2017
Site Code: 16

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday					
	11/7/2017			11/8/2017			11/9/2017			11/10/2017			11/11/2017			11/12/2017			11/13/2017			Mid-Week Average		
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	36	44	80	50	53	103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	49	92
1:00 AM	25	31	56	44	66	110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	49	83
2:00 AM	16	22	38	23	26	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	24	44
3:00 AM	23	32	55	25	39	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	36	60
4:00 AM	34	101	135	33	107	140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	104	138
5:00 AM	65	211	276	47	218	265	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	215	271
6:00 AM	204	346	550	210	331	541	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	207	339	546
7:00 AM	231	484	715	235	442	677	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	233	463	696
8:00 AM	244	312	556	276	340	616	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	260	326	586
9:00 AM	242	228	470	223	257	480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	233	243	475
10:00 AM	232	220	452	240	254	494	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	236	237	473
11:00 AM	291	277	568	326	292	618	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	309	285	593
12:00 PM	347	297	644	315	310	625	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	331	304	635
1:00 PM	320	316	636	350	309	659	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	335	313	648
2:00 PM	339	353	692	439	351	790	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	389	352	741
3:00 PM	432	460	892	441	441	882	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	437	451	887
4:00 PM	503	386	889	494	326	820	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	499	356	855
5:00 PM	603	295	898	569	281	850	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	586	288	874
6:00 PM	480	258	738	418	189	607	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	449	224	673
7:00 PM	327	211	538	285	185	470	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	306	198	504
8:00 PM	224	228	452	196	189	385	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	210	209	419
9:00 PM	157	259	416	121	178	299	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	139	219	358
10:00 PM	117	140	257	87	103	190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	102	122	224
11:00 PM	64	91	155	56	85	141	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	88	148
Total	**5,556**	**5,602**	**11,158**	**5,503**	**5,372**	**10,875**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**5,530**	**5,487**	**11,017**
Percent	**50%**	**50%**	-	**51%**	**49%**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**50%**	**50%**	-

1. Mid-week average includes data between Tuesday and Thursday.

Mark Skaggs:425-250-0777
mark.skaggs@idaxdata.com

Location: ALDER ST SW/O RUSTON WAY
Date Range: 11/7/2017 - 11/13/2017
Site Code: 17

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	11/7/2017			11/8/2017			11/9/2017			11/10/2017			11/11/2017			11/12/2017			11/13/2017					
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	1	3	4	1	5	6	0	8	8	-	-	-	-	-	-	-	-	-	-	-	-	1	5	6
1:00 AM	1	4	5	2	5	7	4	4	8	-	-	-	-	-	-	-	-	-	-	-	-	2	4	7
2:00 AM	3	1	4	1	0	1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	2	1	3
3:00 AM	6	0	6	6	1	7	4	3	7	-	-	-	-	-	-	-	-	-	-	-	-	5	1	7
4:00 AM	22	2	24	33	4	37	29	6	35	-	-	-	-	-	-	-	-	-	-	-	-	28	4	32
5:00 AM	33	5	38	36	6	42	32	2	34	-	-	-	-	-	-	-	-	-	-	-	-	34	4	38
6:00 AM	71	7	78	86	14	100	77	9	86	-	-	-	-	-	-	-	-	-	-	-	-	78	10	88
7:00 AM	135	16	151	134	25	159	129	16	145	-	-	-	-	-	-	-	-	-	-	-	-	133	19	152
8:00 AM	107	31	138	92	38	130	106	24	130	-	-	-	-	-	-	-	-	-	-	-	-	102	31	133
9:00 AM	59	13	72	70	32	102	56	22	78	-	-	-	-	-	-	-	-	-	-	-	-	62	22	84
10:00 AM	53	29	82	65	46	111	45	26	71	-	-	-	-	-	-	-	-	-	-	-	-	54	34	88
11:00 AM	57	50	107	88	54	142	57	51	108	-	-	-	-	-	-	-	-	-	-	-	-	67	52	119
12:00 PM	63	37	100	66	62	128	52	45	97	-	-	-	-	-	-	-	-	-	-	-	-	60	48	108
1:00 PM	48	50	98	43	56	99	50	64	114	-	-	-	-	-	-	-	-	-	-	-	-	47	57	104
2:00 PM	44	62	106	48	61	109	44	56	100	-	-	-	-	-	-	-	-	-	-	-	-	45	60	105
3:00 PM	57	78	135	41	95	136	58	65	123	-	-	-	-	-	-	-	-	-	-	-	-	52	79	131
4:00 PM	50	116	166	54	123	177	52	114	166	-	-	-	-	-	-	-	-	-	-	-	-	52	118	170
5:00 PM	57	132	189	49	128	177	72	121	193	-	-	-	-	-	-	-	-	-	-	-	-	59	127	186
6:00 PM	41	89	130	33	69	102	56	80	136	-	-	-	-	-	-	-	-	-	-	-	-	43	79	123
7:00 PM	34	77	111	28	52	80	21	68	89	-	-	-	-	-	-	-	-	-	-	-	-	28	66	93
8:00 PM	20	43	63	20	56	76	22	56	78	-	-	-	-	-	-	-	-	-	-	-	-	21	52	72
9:00 PM	13	42	55	12	37	49	16	54	70	-	-	-	-	-	-	-	-	-	-	-	-	14	44	58
10:00 PM	11	14	25	11	20	31	8	27	35	-	-	-	-	-	-	-	-	-	-	-	-	10	20	30
11:00 PM	3	9	12	3	7	10	6	21	27	-	-	-	-	-	-	-	-	-	-	-	-	4	12	16
Total	**989**	**910**	**1,899**	**1,022**	**996**	**2,018**	**997**	**944**	**1,941**	-	-	-	-	-	-	-	-	-	-	-	-	**1,003**	**950**	**1,953**
Percent	**52%**	**48%**	-	**51%**	**49%**	-	**51%**	**49%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**51%**	**49%**	-

1. Mid-week average includes data between Tuesday and Thursday.

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Location: RUSTON WAY S/O ALDER ST
Date Range: 11/7/2017 - 11/13/2017
Site Code: 18

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	11/7/2017			11/8/2017			11/9/2017			11/10/2017			11/11/2017			11/12/2017			11/13/2017					
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	37	42	79	52	50	102	52	32	84	-	-	-	-	-	-	-	-	-	-	-	-	47	41	88
1:00 AM	27	30	57	49	67	116	26	34	60	-	-	-	-	-	-	-	-	-	-	-	-	34	44	78
2:00 AM	16	24	40	24	27	51	29	22	51	-	-	-	-	-	-	-	-	-	-	-	-	23	24	47
3:00 AM	22	37	59	23	41	64	24	44	68	-	-	-	-	-	-	-	-	-	-	-	-	23	41	64
4:00 AM	32	123	155	31	138	169	54	139	193	-	-	-	-	-	-	-	-	-	-	-	-	39	133	172
5:00 AM	66	233	299	48	251	299	72	228	300	-	-	-	-	-	-	-	-	-	-	-	-	62	237	299
6:00 AM	202	407	609	212	408	620	193	366	559	-	-	-	-	-	-	-	-	-	-	-	-	202	394	596
7:00 AM	259	600	859	257	573	830	234	595	829	-	-	-	-	-	-	-	-	-	-	-	-	250	589	839
8:00 AM	259	403	662	297	411	708	253	424	677	-	-	-	-	-	-	-	-	-	-	-	-	270	413	682
9:00 AM	253	266	519	237	298	535	287	285	572	-	-	-	-	-	-	-	-	-	-	-	-	259	283	542
10:00 AM	236	249	485	244	297	541	234	278	512	-	-	-	-	-	-	-	-	-	-	-	-	238	275	513
11:00 AM	295	310	605	344	323	667	415	287	702	-	-	-	-	-	-	-	-	-	-	-	-	351	307	658
12:00 PM	359	320	679	344	350	694	402	401	803	-	-	-	-	-	-	-	-	-	-	-	-	368	357	725
1:00 PM	352	333	685	317	326	643	403	344	747	-	-	-	-	-	-	-	-	-	-	-	-	357	334	692
2:00 PM	374	366	740	433	333	766	444	345	789	-	-	-	-	-	-	-	-	-	-	-	-	417	348	765
3:00 PM	496	475	971	703	487	1,190	551	459	1,010	-	-	-	-	-	-	-	-	-	-	-	-	583	474	1,057
4:00 PM	588	413	1,001	791	374	1,165	628	374	1,002	-	-	-	-	-	-	-	-	-	-	-	-	669	387	1,056
5:00 PM	705	315	1,020	804	298	1,102	799	320	1,119	-	-	-	-	-	-	-	-	-	-	-	-	769	311	1,080
6:00 PM	523	281	804	490	188	678	569	241	810	-	-	-	-	-	-	-	-	-	-	-	-	527	237	764
7:00 PM	365	212	577	304	185	489	356	241	597	-	-	-	-	-	-	-	-	-	-	-	-	342	213	554
8:00 PM	247	236	483	233	194	427	312	225	537	-	-	-	-	-	-	-	-	-	-	-	-	264	218	482
9:00 PM	178	255	433	147	182	329	300	227	527	-	-	-	-	-	-	-	-	-	-	-	-	208	221	430
10:00 PM	119	141	260	103	96	199	175	140	315	-	-	-	-	-	-	-	-	-	-	-	-	132	126	258
11:00 PM	69	89	158	51	69	120	86	96	182	-	-	-	-	-	-	-	-	-	-	-	-	69	85	153
Total	**6,079**	**6,160**	**12,239**	**6,538**	**5,966**	**12,504**	**6,898**	**6,147**	**13,045**	-	-	-	-	-	-	-	-	-	-	-	-	**6,505**	**6,091**	**12,596**
Percent	**50%**	**50%**	-	**52%**	**48%**	-	**53%**	**47%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**52%**	**48%**	-

1. Mid-week average includes data between Tuesday and Thursday.

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Location: N 51ST ST E/O N BENNET ST
Date Range: 5/7/2019 - 5/13/2019
Site Code: 01

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday					
	5/7/2019			5/8/2019			5/9/2019			5/10/2019			5/11/2019			5/12/2019			5/13/2019			Mid-Week Average		
Time	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	14	34	48	6	37	43	14	39	53	-	-	-	-	-	-	-	-	-	-	-	-	11	37	48
1:00 AM	5	9	14	6	24	30	15	17	32	-	-	-	-	-	-	-	-	-	-	-	-	9	17	25
2:00 AM	5	8	13	4	5	9	5	12	17	-	-	-	-	-	-	-	-	-	-	-	-	5	8	13
3:00 AM	14	4	18	13	7	20	13	9	22	-	-	-	-	-	-	-	-	-	-	-	-	13	7	20
4:00 AM	26	15	41	29	22	51	30	17	47	-	-	-	-	-	-	-	-	-	-	-	-	28	18	46
5:00 AM	77	47	124	88	50	138	96	50	146	-	-	-	-	-	-	-	-	-	-	-	-	87	49	136
6:00 AM	196	90	286	192	82	274	154	101	255	-	-	-	-	-	-	-	-	-	-	-	-	181	91	272
7:00 AM	256	181	437	226	151	377	220	161	381	-	-	-	-	-	-	-	-	-	-	-	-	234	164	398
8:00 AM	258	172	430	201	165	366	202	178	380	-	-	-	-	-	-	-	-	-	-	-	-	220	172	392
9:00 AM	190	213	403	178	222	400	203	221	424	-	-	-	-	-	-	-	-	-	-	-	-	190	219	409
10:00 AM	172	207	379	189	211	400	229	204	433	-	-	-	-	-	-	-	-	-	-	-	-	197	207	404
11:00 AM	270	254	524	236	249	485	262	275	537	-	-	-	-	-	-	-	-	-	-	-	-	256	259	515
12:00 PM	292	280	572	283	271	554	288	292	580	-	-	-	-	-	-	-	-	-	-	-	-	288	281	569
1:00 PM	316	308	624	313	323	636	358	355	713	-	-	-	-	-	-	-	-	-	-	-	-	329	329	658
2:00 PM	319	383	702	325	387	712	301	388	689	-	-	-	-	-	-	-	-	-	-	-	-	315	386	701
3:00 PM	379	401	780	396	333	729	363	369	732	-	-	-	-	-	-	-	-	-	-	-	-	379	368	747
4:00 PM	327	373	700	344	347	691	373	395	768	-	-	-	-	-	-	-	-	-	-	-	-	348	372	720
5:00 PM	344	386	730	350	354	704	348	412	760	-	-	-	-	-	-	-	-	-	-	-	-	347	384	731
6:00 PM	291	318	609	273	352	625	283	360	643	-	-	-	-	-	-	-	-	-	-	-	-	282	343	626
7:00 PM	251	261	512	213	288	501	242	349	591	-	-	-	-	-	-	-	-	-	-	-	-	235	299	535
8:00 PM	207	239	446	219	235	454	231	263	494	-	-	-	-	-	-	-	-	-	-	-	-	219	246	465
9:00 PM	142	171	313	118	157	275	130	153	283	-	-	-	-	-	-	-	-	-	-	-	-	130	160	290
10:00 PM	52	98	150	60	78	138	63	105	168	-	-	-	-	-	-	-	-	-	-	-	-	58	94	152
11:00 PM	19	40	59	24	45	69	25	50	75	-	-	-	-	-	-	-	-	-	-	-	-	23	45	68
Total	**4,422**	**4,492**	**8,914**	**4,286**	**4,395**	**8,681**	**4,448**	**4,775**	**9,223**	-	-	-	-	-	-	-	-	-	-	-	-	**4,385**	**4,554**	**8,939**
Percent	**50%**	**50%**	-	**49%**	**51%**	-	**48%**	**52%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**49%**	**51%**	-

1. Mid-week average includes data between Tuesday and Thursday.

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Location: N PEARL ST N/O N 50TH ST
Date Range: 5/7/2019 - 5/13/2019
Site Code: 02

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	5/7/2019			5/8/2019			5/9/2019			5/10/2019			5/11/2019			5/12/2019			5/13/2019					
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	12	29	41	12	34	46	13	21	34	-	-	-	-	-	-	-	-	-	-	-	-	12	28	40
1:00 AM	10	9	19	7	21	28	7	8	15	-	-	-	-	-	-	-	-	-	-	-	-	8	13	21
2:00 AM	3	7	10	3	9	12	5	12	17	-	-	-	-	-	-	-	-	-	-	-	-	4	9	13
3:00 AM	9	7	16	7	4	11	10	11	21	-	-	-	-	-	-	-	-	-	-	-	-	9	7	16
4:00 AM	21	14	35	22	12	34	20	9	29	-	-	-	-	-	-	-	-	-	-	-	-	21	12	33
5:00 AM	80	39	119	78	29	107	78	35	113	-	-	-	-	-	-	-	-	-	-	-	-	79	34	113
6:00 AM	162	82	244	161	93	254	149	85	234	-	-	-	-	-	-	-	-	-	-	-	-	157	87	244
7:00 AM	231	170	401	220	182	402	201	155	356	-	-	-	-	-	-	-	-	-	-	-	-	217	169	386
8:00 AM	221	192	413	207	186	393	202	190	392	-	-	-	-	-	-	-	-	-	-	-	-	210	189	399
9:00 AM	272	208	480	244	195	439	327	210	537	-	-	-	-	-	-	-	-	-	-	-	-	281	204	485
10:00 AM	263	259	522	307	277	584	318	235	553	-	-	-	-	-	-	-	-	-	-	-	-	296	257	553
11:00 AM	335	295	630	346	266	612	359	299	658	-	-	-	-	-	-	-	-	-	-	-	-	347	287	633
12:00 PM	368	345	713	363	318	681	361	348	709	-	-	-	-	-	-	-	-	-	-	-	-	364	337	701
1:00 PM	359	344	703	345	343	688	431	366	797	-	-	-	-	-	-	-	-	-	-	-	-	378	351	729
2:00 PM	330	393	723	342	408	750	349	430	779	-	-	-	-	-	-	-	-	-	-	-	-	340	410	751
3:00 PM	404	444	848	381	422	803	401	397	798	-	-	-	-	-	-	-	-	-	-	-	-	395	421	816
4:00 PM	376	388	764	375	341	716	371	427	798	-	-	-	-	-	-	-	-	-	-	-	-	374	385	759
5:00 PM	420	419	839	403	358	761	413	429	842	-	-	-	-	-	-	-	-	-	-	-	-	412	402	814
6:00 PM	336	333	669	334	371	705	330	315	645	-	-	-	-	-	-	-	-	-	-	-	-	333	340	673
7:00 PM	268	267	535	258	231	489	264	293	557	-	-	-	-	-	-	-	-	-	-	-	-	263	264	527
8:00 PM	181	251	432	162	250	412	185	291	476	-	-	-	-	-	-	-	-	-	-	-	-	176	264	440
9:00 PM	118	174	292	83	162	245	106	159	265	-	-	-	-	-	-	-	-	-	-	-	-	102	165	267
10:00 PM	53	77	130	45	72	117	38	80	118	-	-	-	-	-	-	-	-	-	-	-	-	45	76	122
11:00 PM	13	43	56	22	38	60	23	42	65	-	-	-	-	-	-	-	-	-	-	-	-	19	41	60
Total	**4,845**	**4,789**	**9,634**	**4,727**	**4,622**	**9,349**	**4,961**	**4,847**	**9,808**	-	-	-	-	-	-	-	-	-	-	-	-	**4,844**	**4,753**	**9,597**
Percent	**50%**	**50%**	-	**51%**	**49%**	-	**51%**	**49%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**50%**	**50%**	-

1. Mid-week average includes data between Tuesday and Thursday.

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APPENDIX B
Level of Service Definitions & Thresholds and 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, Sixth Edition* (Transportation Research Board, 2016).

Signalized Intersections

Level of service for signalized intersections is defined in terms of average delay for all vehicles that travel through the intersection. 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: number and type of vehicles by movement, intersection lane geometry, signal phasing, the amount of green time allocated to each phase, transit stops and parking maneuvers. Table B-1 shows the level of service criteria for signalized intersections from the *Highway Capacity Manual, Sixth Edition.*

Table B-1. Level of Service for Signalized Intersections

Level of Service	Average Control Delay Per Vehicle
A	≤ 10 seconds
B	> 10 – 20 seconds
C	> 20 – 35 seconds
D	> 35 – 55 seconds
E	> 55 – 80 seconds
F	> 80 seconds

Source: Transportation Research Board, Highway Capacity Manual, Exhibit 19.8, 2016.

Unsignalized Intersections

For unsignalized intersections, level of service is based on the average delay per vehicle for each turning movement. The level of service for all-way stop or roundabout-controlled intersections is based upon the average delay for all vehicles that travel through the intersection. The level of service for a one- or two-way, stop-controlled intersection, 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. Table B-2 shows the level of service criteria for unsignalized intersections from the *Highway Capacity Manual, Sixth Edition*.

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

Level of Service	Average Control Delay per Vehicle
A	0 – 10 seconds
B	> 10 – 15 seconds
C	> 15 – 25 seconds
D	> 25 – 35 seconds
E	> 35 – 50 seconds
F	> 50 seconds

Source: Transportation Research Board, Highway Capacity Manual, Exhibit 20.2, 2016.

Arterials

Vehicular level of service along an urban arterial is based on average through-vehicle travel speed for the street segment or corridor under consideration. The level of service for urban streets is influenced by the number of signals in a set distance and the intersection control delay. Inappropriate timing, poor progression, and increasing traffic flow can degrade the LOS substantially. Streets with medium-high signal densities are more susceptible to these factors and poor LOS might be observed even before significant problems occur. Alternatively, longer urban street segments comprising heavily loaded intersections can provide reasonably good LOS, although an individual signalized intersection might be operating at a lower level.

Arterial level of service is measured by vehicle travel speed as a percentage of the free-flow speed. The average travel times include running speed between intersections and cumulative delay at corridor traffic signals. Intersection delay includes deceleration, move-up time in the queue, stops, and re-acceleration. The motorized vehicle LOS criteria intersections from the *Highway Capacity Manual, Sixth Edition* for 25-, 30-, and 35-mph arterials are presented in Table B-3.

Table B-3. Level of Service Criteria: Motorized Vehicle Modew

LOS	Travel Speed Threshold by Base Free-Flow Speed (mi/h)		
	For a 35 mph Arterial	For a 30 mph Arterial	For a 25 mph Arterial
A	>28	>24	>20
B	>23	>20	>17
C	>18	>15	>13
D	>14	>12	>10
E	>11	>9	>8
F	≤11	≤9	≤8

Source: Transportation Research Board, Highway Capacity Manual, Exhibit 16.3, 2016.

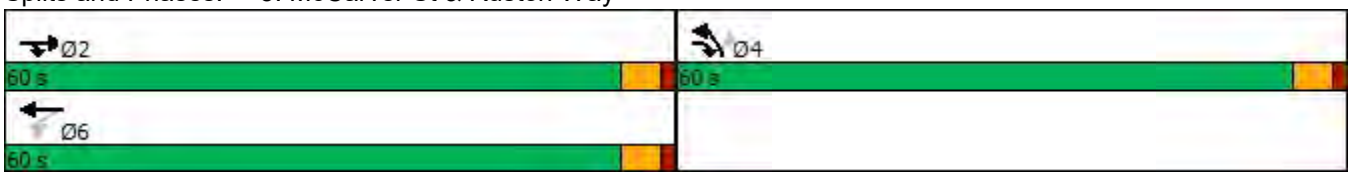
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	323	86	44	642	111	32
Future Volume (vph)	323	86	44	642	111	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		95	150		0	25
Storage Lanes		1	1		1	1
Taper Length (ft)			25		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						0.95
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1900	1615	1805	1900	1805	1615
Flt Permitted			0.558		0.950	
Satd. Flow (perm)	1900	1615	1060	1900	1805	1541
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						32
Link Speed (mph)	30			30	30	
Link Distance (ft)	2497			2441	405	
Travel Time (s)	56.8			55.5	9.2	
Confl. Peds. (#/hr)						21
Confl. Bikes (#/hr)						4
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	336	90	46	669	116	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	336	90	46	669	116	33
Turn Type	NA	pt+ov	Perm	NA	Prot	Perm
Protected Phases	2	2 4		6	4	
Permitted Phases			6			4
Detector Phase	2	2 4	6	6	4	4
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	25.0		15.0	15.0	15.0	15.0
Total Split (s)	60.0		60.0	60.0	60.0	60.0
Total Split (%)	50.0%		50.0%	50.0%	50.0%	50.0%
Maximum Green (s)	55.0		55.0	55.0	55.0	55.0
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.5		1.5	1.5	1.5	1.5
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 Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	2.5	2.5
Recall Mode	None		Min	Min	None	None
Walk Time (s)	7.0					
Flash Dont Walk (s)	13.0					
Pedestrian Calls (#/hr)	21					
Act Effct Green (s)	25.8	46.6	25.8	25.8	10.8	10.8
Actuated g/C Ratio	0.55	1.00	0.55	0.55	0.23	0.23

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.32	0.06	0.08	0.64	0.28	0.09
Control Delay	6.9	0.1	5.6	10.8	16.7	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.9	0.1	5.6	10.8	16.7	7.5
LOS	A	A	A	B	B	A
Approach Delay	5.4			10.5	14.7	
Approach LOS	A			B	B	
Queue Length 50th (ft)	40	0	5	101	21	0
Queue Length 95th (ft)	86	0	17	210	64	17
Internal Link Dist (ft)	2417			2361	325	
Turn Bay Length (ft)		95	150			25
Base Capacity (vph)	1900	1615	1060	1900	1805	1541
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	0.18	0.06	0.04	0.35	0.06	0.02

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 46.6
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 9.3 Intersection LOS: A
Intersection Capacity Utilization 50.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: McCarver St & Ruston Way



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	71	35	122	94	89	51	258	93	98	236	11
Future Volume (vph)	13	71	35	122	94	89	51	258	93	98	236	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	100		110	105		0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99	0.97	0.99		0.95	0.99	1.00	
Frt		0.960				0.850			0.850		0.993	
Flt Protected		0.995			0.972		0.950			0.950		
Satd. Flow (prot)	0	1796	0	0	1847	1615	1752	1863	1583	1787	1865	0
Flt Permitted		0.957			0.786		0.591			0.377		
Satd. Flow (perm)	0	1726	0	0	1484	1559	1079	1863	1504	701	1865	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16				51			73		3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1321			652			490			1311	
Travel Time (s)		30.0			14.8			11.1			29.8	
Confl. Peds. (#/hr)	4		4	4		4	4		8	8		4
Confl. Bikes (#/hr)									1			1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	2%	2%	1%	1%	1%
Adj. Flow (vph)	14	79	39	136	104	99	57	287	103	109	262	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	132	0	0	240	99	57	287	103	109	274	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			4			6		5	2	
Permitted Phases	4			4		4	6		6	2		
Detector Phase	4	4		4	4	4	6	6	6	5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	25.0	25.0	25.0	11.0	25.0	
Total Split (s)	60.0	60.0		60.0	60.0	60.0	60.0	60.0	60.0	30.0	60.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	20.0%	40.0%	
Maximum Green (s)	55.0	55.0		55.0	55.0	55.0	55.0	55.0	55.0	25.0	55.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)		0.0			0.0	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	5.0	5.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Recall Mode	None	None		None	None	None	Min	Min	Min	None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	13.0	13.0	13.0		13.0	
Pedestrian Calls (#/hr)	4	4		4	4	4	8	8	8		4	
Act Effct Green (s)		16.8			16.8	16.8	15.9	15.9	15.9	26.9	26.9	
Actuated g/C Ratio		0.31			0.31	0.31	0.29	0.29	0.29	0.49	0.49	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.24			0.53	0.19	0.18	0.53	0.21	0.21	0.30	
Control Delay		16.5			23.0	10.7	19.7	23.0	9.2	8.7	9.2	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		16.5			23.0	10.7	19.7	23.0	9.2	8.7	9.2	
LOS		B			C	B	B	C	A	A	A	
Approach Delay		16.5			19.4			19.4			9.1	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)		28			65	11	14	79	7	16	43	
Queue Length 95th (ft)		80			160	49	48	187	44	48	110	
Internal Link Dist (ft)		1241			572			410			1231	
Turn Bay Length (ft)						50	100		110	105		
Base Capacity (vph)		1573			1352	1424	983	1697	1376	1024	1865	
Starvation Cap Reductn		0			0	0	0	0	0	0	0	
Spillback Cap Reductn		0			0	0	0	0	0	0	0	
Storage Cap Reductn		0			0	0	0	0	0	0	0	
Reduced v/c Ratio		0.08			0.18	0.07	0.06	0.17	0.07	0.11	0.15	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 54.8
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 16.0 Intersection LOS: B
Intersection Capacity Utilization 52.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 71: N Pearl St & N 51st St

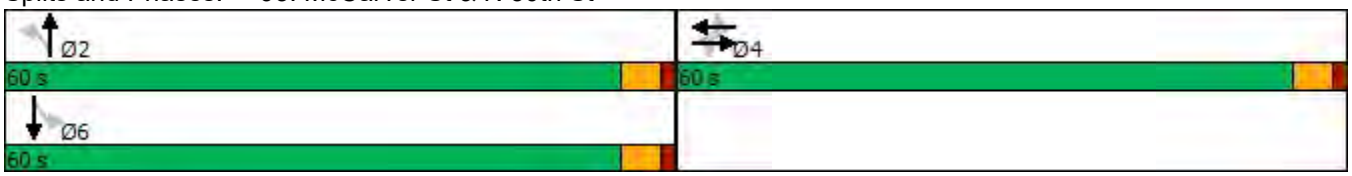
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	439	40	7	479	16	75	85	19	11	62	57
Future Volume (vph)	42	439	40	7	479	16	75	85	19	11	62	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	170		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			0			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00			0.97			0.97	
Frt		0.987			0.995			0.986			0.941	
Flt Protected	0.950			0.950				0.980			0.996	
Satd. Flow (prot)	1805	1864	0	1805	1885	0	0	1781	0	0	1739	0
Flt Permitted	0.337			0.368				0.814			0.970	
Satd. Flow (perm)	640	1864	0	699	1885	0	0	1464	0	0	1679	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			2			7			43	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		337			413			275			405	
Travel Time (s)		7.7			9.4			6.3			9.2	
Confl. Peds. (#/hr)	23		18	18		23	11		57	57		11
Confl. Bikes (#/hr)						1			2			1
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.87	0.87	0.87	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Adj. Flow (vph)	44	462	42	8	521	17	86	98	22	12	70	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	504	0	8	538	0	0	206	0	0	146	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			6	
Permitted Phases	4			4			2			6		
Detector Phase	4	4		4	4		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	60.0	60.0		60.0	60.0		60.0	60.0		60.0	60.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	55.0	55.0		55.0	55.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
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 Optimize?												
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	18	18		18	18		57	57		23	23	
Act Effct Green (s)	22.4	22.4		22.4	22.4			16.1			16.1	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.33			0.33	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.15	0.59		0.03	0.63			0.43			0.25	
Control Delay	10.1	13.6		8.3	14.3			17.1			11.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	10.1	13.6		8.3	14.3			17.1			11.6	
LOS	B	B		A	B			B			B	
Approach Delay		13.3			14.3			17.1			11.6	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	8	114		1	125			42			20	
Queue Length 95th (ft)	24	200		7	218			112			67	
Internal Link Dist (ft)		257			333			195			325	
Turn Bay Length (ft)	120			170								
Base Capacity (vph)	615	1791		671	1811			1407			1615	
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	0.07	0.28		0.01	0.30			0.15			0.09	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 49.2
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 14.0 Intersection LOS: B
Intersection Capacity Utilization 60.1% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 93: McCarver St & N 30th St



Intersection	
Int Delay, s/veh	1.7

Movement	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Vol, veh/h	18	41	351	24	121	593
Future Vol, veh/h	18	41	351	24	121	593
Conflicting Peds, #/hr	0	2	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	75	75	92	92
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	23	53	468	32	132	645

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1395	488	0	0	502	0
Stage 1	486	-	-	-	-	-
Stage 2	909	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	157	584	-	-	1073	-
Stage 1	623	-	-	-	-	-
Stage 2	396	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	137	582	-	-	1071	-
Mov Cap-2 Maneuver	259	-	-	-	-	-
Stage 1	622	-	-	-	-	-
Stage 2	347	-	-	-	-	-

Approach	NB	SE	NW
HCM Control Delay, s	15.4	0	1.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBLn1	NWL	NWT	SET	SER
Capacity (veh/h)	422	1071	-	-	-
HCM Lane V/C Ratio	0.179	0.123	-	-	-
HCM Control Delay (s)	15.4	8.8	-	-	-
HCM Lane LOS	C	A	-	-	-
HCM 95th %tile Q(veh)	0.6	0.4	-	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	31	272	305	74	46	15
Future Vol, veh/h	31	272	305	74	46	15
Conflicting Peds, #/hr	6	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	170	-	-	-	0	75
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	96	96	76	76
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	35	306	318	77	61	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	401	0	-	0	739	363
Stage 1	-	-	-	-	363	-
Stage 2	-	-	-	-	376	-
Critical Hdwy	4.11	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.209	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1163	-	-	-	388	686
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	699	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1157	-	-	-	372	683
Mov Cap-2 Maneuver	-	-	-	-	372	-
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	696	-

Approach	EB	WB	SW
HCM Control Delay, s	0.8	0	15
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1	SWLn2
Capacity (veh/h)	1157	-	-	-	372	683
HCM Lane V/C Ratio	0.03	-	-	-	0.163	0.029
HCM Control Delay (s)	8.2	-	-	-	16.5	10.4
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6	0.1

Intersection	
Int Delay, s/veh	2.9

Movement	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Vol, veh/h	20	45	290	7	160	383
Future Vol, veh/h	20	45	290	7	160	383
Conflicting Peds, #/hr	6	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	225	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	77	77	76	76	85	85
Heavy Vehicles, %	0	0	1	1	1	1
Mvmt Flow	26	58	382	9	188	451

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1220	387	0	0	391	0
Stage 1	387	-	-	-	-	-
Stage 2	833	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.209	-
Pot Cap-1 Maneuver	201	665	-	-	1173	-
Stage 1	691	-	-	-	-	-
Stage 2	430	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	168	665	-	-	1173	-
Mov Cap-2 Maneuver	168	-	-	-	-	-
Stage 1	691	-	-	-	-	-
Stage 2	359	-	-	-	-	-

Approach	NB	SE	NW
HCM Control Delay, s	18.6	0	2.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBLn1	NWL	NWT	SET	SER
Capacity (veh/h)	348	1173	-	-	-
HCM Lane V/C Ratio	0.243	0.16	-	-	-
HCM Control Delay (s)	18.6	8.7	-	-	-
HCM Lane LOS	C	A	-	-	-
HCM 95th %tile Q(veh)	0.9	0.6	-	-	-

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	24	118	2	6	164	42	1	11	2	35	22	25
Future Vol, veh/h	24	118	2	6	164	42	1	11	2	35	22	25
Conflicting Peds, #/hr	3	0	5	5	0	3	4	0	6	6	0	4
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	72	72	72	58	58	58	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	32	157	3	8	228	58	2	19	3	41	26	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	289	0	0	165	0	0	533	533	170	516	505	264
Stage 1	-	-	-	-	-	-	228	228	-	276	276	-
Stage 2	-	-	-	-	-	-	305	305	-	240	229	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1284	-	-	1426	-	-	461	456	879	473	473	780
Stage 1	-	-	-	-	-	-	779	719	-	735	685	-
Stage 2	-	-	-	-	-	-	709	666	-	768	718	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1281	-	-	1420	-	-	410	438	871	440	454	775
Mov Cap-2 Maneuver	-	-	-	-	-	-	410	438	-	440	454	-
Stage 1	-	-	-	-	-	-	755	697	-	714	679	-
Stage 2	-	-	-	-	-	-	649	660	-	720	696	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.2	13.1	13.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	469	1281	-	-	1420	-	-	512
HCM Lane V/C Ratio	0.051	0.025	-	-	0.006	-	-	0.188
HCM Control Delay (s)	13.1	7.9	0	-	7.5	0	-	13.7
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.7

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	4	15	7	4	3	13	38	2	5	51	7
Future Vol, veh/h	7	4	15	7	4	3	13	38	2	5	51	7
Peak Hour Factor	0.65	0.65	0.65	0.70	0.70	0.70	0.88	0.88	0.88	0.72	0.72	0.72
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	6	23	10	6	4	15	43	2	7	71	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	7.3	7.4	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	27%	50%	8%
Vol Thru, %	72%	15%	29%	81%
Vol Right, %	4%	58%	21%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	53	26	14	63
LT Vol	13	7	7	5
Through Vol	38	4	4	51
RT Vol	2	15	3	7
Lane Flow Rate	60	40	20	88
Geometry Grp	1	1	1	1
Degree of Util (X)	0.069	0.043	0.023	0.097
Departure Headway (Hd)	4.099	3.879	4.159	4.001
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	871	912	851	893
Service Time	2.139	1.948	2.231	2.037
HCM Lane V/C Ratio	0.069	0.044	0.024	0.099
HCM Control Delay	7.4	7.1	7.3	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.1	0.3

Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	42	100	3	1	139	19	1	7	3	14	19	119
Future Vol, veh/h	42	100	3	1	139	19	1	7	3	14	19	119
Conflicting Peds, #/hr	3	0	11	11	0	3	2	0	2	2	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	67	67	67	55	55	55	70	70	70
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	48	114	3	1	207	28	2	13	5	20	27	170

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	238	0	0	128	0	0	547	463	129	449	450	226
Stage 1	-	-	-	-	-	-	223	223	-	226	226	-
Stage 2	-	-	-	-	-	-	324	240	-	223	224	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.509	4.009	3.309
Pot Cap-1 Maneuver	1341	-	-	1470	-	-	451	499	926	522	506	816
Stage 1	-	-	-	-	-	-	784	723	-	779	719	-
Stage 2	-	-	-	-	-	-	692	711	-	782	720	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1338	-	-	1457	-	-	328	474	916	491	481	813
Mov Cap-2 Maneuver	-	-	-	-	-	-	328	474	-	491	481	-
Stage 1	-	-	-	-	-	-	747	689	-	748	717	-
Stage 2	-	-	-	-	-	-	525	709	-	733	686	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	0	12.2	12.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	522	1338	-	-	1457	-	-	709
HCM Lane V/C Ratio	0.038	0.036	-	-	0.001	-	-	0.306
HCM Control Delay (s)	12.2	7.8	0	-	7.5	0	-	12.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	1.3

Intersection	
Intersection Delay, s/veh	5.1
Intersection LOS	A

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	318	355	149
Demand Flow Rate, veh/h	321	359	149
Vehicles Circulating, veh/h	87	50	256
Vehicles Exiting, veh/h	318	358	153
Ped Vol Crossing Leg, #/h	0	0	20
Ped Cap Adj	1.000	1.000	0.997
Approach Delay, s/veh	5.1	5.2	4.7
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LT	LTR	LR
Assumed Moves	LT	LTR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	321	359	149
Cap Entry Lane, veh/h	1263	1311	1063
Entry HV Adj Factor	0.992	0.990	1.000
Flow Entry, veh/h	318	355	149
Cap Entry, veh/h	1252	1298	1060
V/C Ratio	0.254	0.274	0.141
Control Delay, s/veh	5.1	5.2	4.7
LOS	A	A	A
95th %tile Queue, veh	1	1	0

Intersection	
Intersection Delay, s/veh	4.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	280	315	51	84
Demand Flow Rate, veh/h	283	318	51	89
Vehicles Circulating, veh/h	85	39	320	315
Vehicles Exiting, veh/h	319	332	48	42
Ped Vol Crossing Leg, #/h	0	13	0	8
Ped Cap Adj	1.000	0.998	1.000	0.999
Approach Delay, s/veh	4.8	4.8	4.1	4.6
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	283	318	51	89
Cap Entry Lane, veh/h	1265	1326	996	1001
Entry HV Adj Factor	0.991	0.991	1.000	0.946
Flow Entry, veh/h	280	315	51	84
Cap Entry, veh/h	1254	1312	996	946
V/C Ratio	0.224	0.240	0.051	0.089
Control Delay, s/veh	4.8	4.8	4.1	4.6
LOS	A	A	A	A
95th %tile Queue, veh	1	1	0	0

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	199	5	4	332	17	10	8	5	10	4	15
Future Vol, veh/h	10	199	5	4	332	17	10	8	5	10	4	15
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.64	0.64	0.64	0.81	0.81	0.81
Heavy Vehicles, %	3	3	3	1	1	1	4	4	4	0	0	0
Mvmt Flow	11	224	6	4	373	19	16	13	8	12	5	19
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.5	11.3	8.7	8.4
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	43%	5%	1%	34%
Vol Thru, %	35%	93%	94%	14%
Vol Right, %	22%	2%	5%	52%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	23	214	353	29
LT Vol	10	10	4	10
Through Vol	8	199	332	4
RT Vol	5	5	17	15
Lane Flow Rate	36	240	397	36
Geometry Grp	1	1	1	1
Degree of Util (X)	0.054	0.303	0.478	0.051
Departure Headway (Hd)	5.372	4.541	4.335	5.106
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	664	791	833	699
Service Time	3.423	2.572	2.361	3.157
HCM Lane V/C Ratio	0.054	0.303	0.477	0.052
HCM Control Delay	8.7	9.5	11.3	8.4
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.2	1.3	2.6	0.2

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	65	115	24	40	10	68	50	45	7	59	7
Future Vol, veh/h	3	65	115	24	40	10	68	50	45	7	59	7
Peak Hour Factor	0.80	0.80	0.80	0.77	0.77	0.77	0.87	0.87	0.87	0.76	0.76	0.76
Heavy Vehicles, %	1	1	1	0	0	0	2	2	2	0	0	0
Mvmt Flow	4	81	144	31	52	13	78	57	52	9	78	9
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	9.1	8.7	9	9
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	2%	32%	100%	0%
Vol Thru, %	0%	53%	36%	54%	0%	89%
Vol Right, %	0%	47%	63%	14%	0%	11%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	68	95	183	74	7	66
LT Vol	68	0	3	24	7	0
Through Vol	0	50	65	40	0	59
RT Vol	0	45	115	10	0	7
Lane Flow Rate	78	109	229	96	9	87
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.128	0.153	0.279	0.13	0.015	0.13
Departure Headway (Hd)	5.884	5.045	4.387	4.873	5.957	5.378
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	607	706	817	732	597	663
Service Time	3.647	2.808	2.428	2.928	3.727	3.147
HCM Lane V/C Ratio	0.129	0.154	0.28	0.131	0.015	0.131
HCM Control Delay	9.5	8.7	9.1	8.7	8.8	9
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.4	0.5	1.1	0.4	0	0.4

Intersection	
Intersection Delay, s/veh	13.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	257	6	10	3	4	4	164	139	3	128	3
Future Vol, veh/h	7	257	6	10	3	4	4	164	139	3	128	3
Peak Hour Factor	0.95	0.95	0.95	0.47	0.47	0.47	0.77	0.77	0.77	0.55	0.55	0.55
Heavy Vehicles, %	1	1	1	6	6	6	3	3	3	8	8	8
Mvmt Flow	7	271	6	21	6	9	5	213	181	5	233	5
Number of Lanes	1	1	0	0	1	0	0	2	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	14.9	10.6	12	13.9
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	5%	0%	100%	0%	59%	2%
Vol Thru, %	95%	37%	0%	98%	18%	96%
Vol Right, %	0%	63%	0%	2%	24%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	86	221	7	263	17	134
LT Vol	4	0	7	0	10	3
Through Vol	82	82	0	257	3	128
RT Vol	0	139	0	6	4	3
Lane Flow Rate	112	287	7	277	36	244
Geometry Grp	7	7	7	7	6	6
Degree of Util (X)	0.187	0.442	0.014	0.487	0.07	0.425
Departure Headway (Hd)	6.02	5.55	6.851	6.327	6.998	6.275
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	595	649	522	570	510	573
Service Time	3.766	3.296	4.597	4.073	5.07	4.323
HCM Lane V/C Ratio	0.188	0.442	0.013	0.486	0.071	0.426
HCM Control Delay	10.2	12.7	9.7	15	10.6	13.9
HCM Lane LOS	B	B	A	B	B	B
HCM 95th-tile Q	0.7	2.3	0	2.7	0.2	2.1

Intersection	
Int Delay, s/veh	0.3

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	352	1	14	564	1	4
Future Vol, veh/h	352	1	14	564	1	4
Conflicting Peds, #/hr	0	5	5	0	4	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	89	89	42	42
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	374	1	16	634	2	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	380	0	1050	381
Stage 1	-	-	-	-	380	-
Stage 2	-	-	-	-	670	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1190	-	254	671
Stage 1	-	-	-	-	696	-
Stage 2	-	-	-	-	512	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1185	-	249	668
Mov Cap-2 Maneuver	-	-	-	-	375	-
Stage 1	-	-	-	-	693	-
Stage 2	-	-	-	-	503	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.2	11.4
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	578	1185	-	-	-
HCM Lane V/C Ratio	0.021	0.013	-	-	-
HCM Control Delay (s)	11.4	8.1	-	-	-
HCM Lane LOS	B	A	-	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

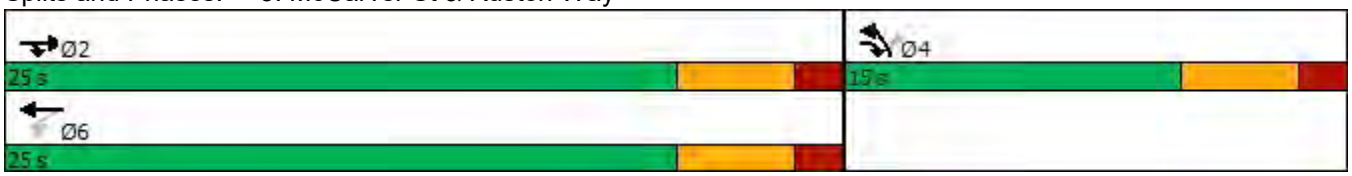
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	445	83	47	679	100	34
Future Volume (vph)	445	83	47	679	100	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		95	150		0	25
Storage Lanes		1	1		1	1
Taper Length (ft)			25		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						0.93
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1900	1615	1805	1900	1805	1615
Flt Permitted			0.474		0.950	
Satd. Flow (perm)	1900	1615	901	1900	1805	1507
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						35
Link Speed (mph)	30			30	30	
Link Distance (ft)	2497			2441	405	
Travel Time (s)	56.8			55.5	9.2	
Confl. Peds. (#/hr)						21
Confl. Bikes (#/hr)						4
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	464	86	49	707	104	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	464	86	49	707	104	35
Turn Type	NA	pt+ov	Perm	NA	Prot	Perm
Protected Phases	2	2 4		6	4	
Permitted Phases			6			4
Detector Phase	2	2 4	6	6	4	4
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	25.0		15.0	15.0	15.0	15.0
Total Split (s)	25.0		25.0	25.0	15.0	15.0
Total Split (%)	62.5%		62.5%	62.5%	37.5%	37.5%
Maximum Green (s)	20.0		20.0	20.0	10.0	10.0
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.5		1.5	1.5	1.5	1.5
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 Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	2.5	2.5
Recall Mode	None		Min	Min	None	None
Walk Time (s)	7.0					
Flash Dont Walk (s)	13.0					
Pedestrian Calls (#/hr)	21					
Act Effct Green (s)	25.6	40.8	25.6	25.6	10.3	10.3
Actuated g/C Ratio	0.63	1.00	0.63	0.63	0.25	0.25

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.39	0.05	0.09	0.59	0.23	0.09
Control Delay	7.2	0.1	5.8	10.7	14.4	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.2	0.1	5.8	10.7	14.4	5.9
LOS	A	A	A	B	B	A
Approach Delay	6.1			10.4	12.3	
Approach LOS	A			B	B	
Queue Length 50th (ft)	60	0	5	110	20	0
Queue Length 95th (ft)	113	0	16	#268	46	14
Internal Link Dist (ft)	2417			2361	325	
Turn Bay Length (ft)		95	150			25
Base Capacity (vph)	1193	1615	566	1193	455	406
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	0.39	0.05	0.09	0.59	0.23	0.09

Intersection Summary

Area Type: Other
Cycle Length: 40
Actuated Cycle Length: 40.8
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 8.9 Intersection LOS: A
Intersection Capacity Utilization 52.6% ICU Level of Service A
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: McCarver St & Ruston Way



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	90	60	112	108	146	66	386	73	188	442	12
Future Volume (vph)	14	90	60	112	108	146	66	386	73	188	442	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	100		110	105		0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00	0.97	1.00		0.97	1.00	1.00	
Frt		0.951				0.850			0.850		0.996	
Flt Protected		0.996			0.975		0.950			0.950		
Satd. Flow (prot)	0	1782	0	0	1852	1615	1752	1863	1583	1787	1872	0
Flt Permitted		0.960			0.769		0.478			0.247		
Satd. Flow (perm)	0	1717	0	0	1458	1572	879	1863	1530	462	1872	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46				159			117		3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1321			652			490			1115	
Travel Time (s)		30.0			14.8			11.1			25.3	
Confl. Peds. (#/hr)	4		4	4		4	4		8	8		4
Confl. Bikes (#/hr)									1			1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	2%	2%	1%	1%	1%
Adj. Flow (vph)	16	100	67	124	120	162	73	429	81	209	491	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	183	0	0	244	162	73	429	81	209	504	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			4			6		5	2	
Permitted Phases	4			4		4	6		6	2		
Detector Phase	4	4		4	4	4	6	6	6	5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	25.0	25.0	25.0	11.0	25.0	
Total Split (s)	25.0	25.0		25.0	25.0	25.0	28.0	28.0	28.0	12.0	40.0	
Total Split (%)	38.5%	38.5%		38.5%	38.5%	38.5%	43.1%	43.1%	43.1%	18.5%	61.5%	
Maximum Green (s)	20.0	20.0		20.0	20.0	20.0	23.0	23.0	23.0	7.0	35.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)		0.0			0.0	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	5.0	5.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Recall Mode	None	None		None	None	None	Min	Min	Min	None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	13.0	13.0	13.0		13.0	
Pedestrian Calls (#/hr)	4	4		4	4	4	8	8	8		4	
Act Effct Green (s)		14.9			14.9	14.9	17.1	17.1	17.1	29.3	29.3	
Actuated g/C Ratio		0.27			0.27	0.27	0.31	0.31	0.31	0.54	0.54	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.37			0.61	0.30	0.27	0.74	0.14	0.50	0.50	
Control Delay		15.2			25.7	5.3	17.5	25.5	2.3	11.6	10.5	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		15.2			25.7	5.3	17.5	25.5	2.3	11.6	10.5	
LOS		B			C	A	B	C	A	B	B	
Approach Delay		15.2			17.6			21.3			10.8	
Approach LOS		B			B			C			B	
Queue Length 50th (ft)		35			69	1	17	120	0	31	90	
Queue Length 95th (ft)		87			145	37	49	230	14	72	186	
Internal Link Dist (ft)		1241			572			410			1035	
Turn Bay Length (ft)						50	100		110	105		
Base Capacity (vph)		680			553	695	383	813	733	424	1244	
Starvation Cap Reductn		0			0	0	0	0	0	0	0	
Spillback Cap Reductn		0			0	0	0	0	0	0	0	
Storage Cap Reductn		0			0	0	0	0	0	0	0	
Reduced v/c Ratio		0.27			0.44	0.23	0.19	0.53	0.11	0.49	0.41	

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 54.5
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 15.9 Intersection LOS: B
Intersection Capacity Utilization 71.7% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 71: N Pearl St & N 51st St

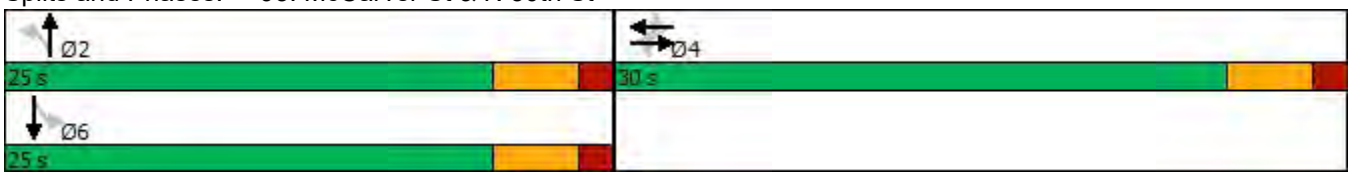
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	473	43	8	516	17	81	72	20	12	57	61
Future Volume (vph)	45	473	43	8	516	17	81	72	20	12	57	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	170		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			0			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		0.99	1.00			0.98			0.98	
Frt		0.988			0.995			0.984			0.936	
Flt Protected	0.950			0.950				0.977			0.996	
Satd. Flow (prot)	1805	1870	0	1805	1887	0	0	1788	0	0	1741	0
Flt Permitted	0.351			0.381				0.820			0.959	
Satd. Flow (perm)	660	1870	0	717	1887	0	0	1492	0	0	1668	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			4			13			69	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		337			413			275			405	
Travel Time (s)		7.7			9.4			6.3			9.2	
Confl. Peds. (#/hr)	23		18	18		23	11		57	57		11
Confl. Bikes (#/hr)						1			2			1
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.87	0.87	0.87	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Adj. Flow (vph)	47	498	45	9	561	18	93	83	23	13	64	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	543	0	9	579	0	0	199	0	0	146	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			6	
Permitted Phases	4			4			2			6		
Detector Phase	4	4		4	4		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	30.0	30.0		30.0	30.0		25.0	25.0		25.0	25.0	
Total Split (%)	54.5%	54.5%		54.5%	54.5%		45.5%	45.5%		45.5%	45.5%	
Maximum Green (s)	25.0	25.0		25.0	25.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
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 Optimize?												
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	18	18		18	18		57	57		23	23	
Act Effct Green (s)	24.6	24.6		24.6	24.6			13.8			13.8	
Actuated g/C Ratio	0.57	0.57		0.57	0.57			0.32			0.32	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.13	0.51		0.02	0.54			0.41			0.25	
Control Delay	9.4	11.3		8.2	11.9			14.7			8.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	9.4	11.3		8.2	11.9			14.7			8.4	
LOS	A	B		A	B			B			A	
Approach Delay		11.2			11.9			14.7			8.4	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)	5	74		1	83			36			14	
Queue Length 95th (ft)	25	214		8	235			84			47	
Internal Link Dist (ft)		257			333			195			325	
Turn Bay Length (ft)	120			170								
Base Capacity (vph)	426	1212		463	1220			738			852	
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	0.45		0.02	0.47			0.27			0.17	

Intersection Summary

Area Type: Other
Cycle Length: 55
Actuated Cycle Length: 43.2
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.54
Intersection Signal Delay: 11.6 Intersection LOS: B
Intersection Capacity Utilization 62.4% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 93: McCarver St & N 30th St



Intersection	
Int Delay, s/veh	1.7

Movement	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Vol, veh/h	12	46	466	21	130	607
Future Vol, veh/h	12	46	466	21	130	607
Conflicting Peds, #/hr	0	2	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	75	75	92	92
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	15	59	621	28	141	660

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1579	639	0	0	651	0
Stage 1	637	-	-	-	-	-
Stage 2	942	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	122	480	-	-	945	-
Stage 1	531	-	-	-	-	-
Stage 2	382	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	103	478	-	-	943	-
Mov Cap-2 Maneuver	227	-	-	-	-	-
Stage 1	530	-	-	-	-	-
Stage 2	325	-	-	-	-	-

Approach	NB	SE	NW
HCM Control Delay, s	16.4	0	1.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBLn1	NWL	NWT	SET	SER
Capacity (veh/h)	389	943	-	-	-
HCM Lane V/C Ratio	0.191	0.15	-	-	-
HCM Control Delay (s)	16.4	9.5	-	-	-
HCM Lane LOS	C	A	-	-	-
HCM 95th %tile Q(veh)	0.7	0.5	-	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	3	392	331	18	25	6
Future Vol, veh/h	3	392	331	18	25	6
Conflicting Peds, #/hr	6	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	170	-	-	-	0	75
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	96	96	76	76
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	3	440	345	19	33	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	370	0	-	0	807	361
Stage 1	-	-	-	-	361	-
Stage 2	-	-	-	-	446	-
Critical Hdwy	4.11	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.209	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1194	-	-	-	354	688
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	649	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1188	-	-	-	349	685
Mov Cap-2 Maneuver	-	-	-	-	349	-
Stage 1	-	-	-	-	704	-
Stage 2	-	-	-	-	646	-

Approach	EB	WB	SW
HCM Control Delay, s	0.1	0	15.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1	SWLn2
Capacity (veh/h)	1188	-	-	-	349	685
HCM Lane V/C Ratio	0.003	-	-	-	0.094	0.012
HCM Control Delay (s)	8	-	-	-	16.4	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0

Intersection	
Int Delay, s/veh	2.1

Movement	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Vol, veh/h	0	48	396	0	172	373
Future Vol, veh/h	0	48	396	0	172	373
Conflicting Peds, #/hr	6	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	225	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	77	77	76	76	85	85
Heavy Vehicles, %	0	0	1	1	1	1
Mvmt Flow	0	62	521	0	202	439

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1370	521	0	0	521	0
Stage 1	521	-	-	-	-	-
Stage 2	849	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.209	-
Pot Cap-1 Maneuver	163	559	-	-	1050	-
Stage 1	600	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	131	559	-	-	1050	-
Mov Cap-2 Maneuver	131	-	-	-	-	-
Stage 1	600	-	-	-	-	-
Stage 2	340	-	-	-	-	-

Approach	NB	SE	NW
HCM Control Delay, s	12.2	0	2.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBLn1	NWL	NWT	SET	SER
Capacity (veh/h)	559	1050	-	-	-
HCM Lane V/C Ratio	0.112	0.193	-	-	-
HCM Control Delay (s)	12.2	9.2	-	-	-
HCM Lane LOS	B	A	-	-	-
HCM 95th %tile Q(veh)	0.4	0.7	-	-	-

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	127	2	6	177	45	1	25	2	38	47	27
Future Vol, veh/h	26	127	2	6	177	45	1	25	2	38	47	27
Conflicting Peds, #/hr	3	0	5	5	0	3	4	0	6	6	0	4
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	72	72	72	58	58	58	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	35	169	3	8	246	63	2	43	3	45	55	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	312	0	0	177	0	0	587	574	182	567	544	285
Stage 1	-	-	-	-	-	-	246	246	-	297	297	-
Stage 2	-	-	-	-	-	-	341	328	-	270	247	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1260	-	-	1411	-	-	424	432	866	437	449	759
Stage 1	-	-	-	-	-	-	762	706	-	716	671	-
Stage 2	-	-	-	-	-	-	678	651	-	740	706	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1257	-	-	1405	-	-	353	413	858	386	429	755
Mov Cap-2 Maneuver	-	-	-	-	-	-	353	413	-	386	429	-
Stage 1	-	-	-	-	-	-	735	681	-	692	665	-
Stage 2	-	-	-	-	-	-	589	645	-	666	681	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.2	14.5	16
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	426	1257	-	-	1405	-	-	459
HCM Lane V/C Ratio	0.113	0.028	-	-	0.006	-	-	0.287
HCM Control Delay (s)	14.5	7.9	0	-	7.6	0	-	16
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	1.2

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	4	35	8	4	3	25	43	2	5	59	8
Future Vol, veh/h	8	4	35	8	4	3	25	43	2	5	59	8
Peak Hour Factor	0.65	0.65	0.65	0.70	0.70	0.70	0.88	0.88	0.88	0.72	0.72	0.72
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	12	6	54	11	6	4	28	49	2	7	82	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	7.5	7.7	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	36%	17%	53%	7%
Vol Thru, %	61%	9%	27%	82%
Vol Right, %	3%	74%	20%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	47	15	72
LT Vol	25	8	8	5
Through Vol	43	4	4	59
RT Vol	2	35	3	8
Lane Flow Rate	80	72	21	100
Geometry Grp	1	1	1	1
Degree of Util (X)	0.093	0.077	0.026	0.113
Departure Headway (Hd)	4.194	3.813	4.355	4.071
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	847	923	827	873
Service Time	2.254	1.906	2.355	2.129
HCM Lane V/C Ratio	0.094	0.078	0.025	0.115
HCM Control Delay	7.7	7.2	7.5	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.2	0.1	0.4

Intersection												
Int Delay, s/veh	5.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	45	108	3	1	150	20	1	8	3	15	20	128
Future Vol, veh/h	45	108	3	1	150	20	1	8	3	15	20	128
Conflicting Peds, #/hr	3	0	11	11	0	3	2	0	2	2	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	67	67	67	55	55	55	70	70	70
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	51	123	3	1	224	30	2	15	5	21	29	183

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	257	0	0	137	0	0	587	497	138	483	483	244
Stage 1	-	-	-	-	-	-	238	238	-	244	244	-
Stage 2	-	-	-	-	-	-	349	259	-	239	239	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.509	4.009	3.309
Pot Cap-1 Maneuver	1320	-	-	1459	-	-	424	477	916	496	485	797
Stage 1	-	-	-	-	-	-	770	712	-	762	706	-
Stage 2	-	-	-	-	-	-	671	697	-	767	709	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1317	-	-	1446	-	-	298	452	906	463	459	794
Mov Cap-2 Maneuver	-	-	-	-	-	-	298	452	-	463	459	-
Stage 1	-	-	-	-	-	-	731	676	-	728	704	-
Stage 2	-	-	-	-	-	-	494	695	-	713	673	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	0	12.7	12.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	492	1317	-	-	1446	-	-	687
HCM Lane V/C Ratio	0.044	0.039	-	-	0.001	-	-	0.339
HCM Control Delay (s)	12.7	7.8	0	-	7.5	0	-	12.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	1.5

Intersection	
Intersection Delay, s/veh	5.3
Intersection LOS	A

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	414	374	78
Demand Flow Rate, veh/h	418	378	78
Vehicles Circulating, veh/h	49	6	355
Vehicles Exiting, veh/h	384	461	28
Ped Vol Crossing Leg, #/h	0	0	20
Ped Cap Adj	1.000	1.000	0.997
Approach Delay, s/veh	5.7	5.0	4.5
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LT	LTR	LR
Assumed Moves	LT	LTR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	418	378	78
Cap Entry Lane, veh/h	1313	1371	961
Entry HV Adj Factor	0.990	0.991	1.000
Flow Entry, veh/h	414	374	78
Cap Entry, veh/h	1300	1359	958
V/C Ratio	0.318	0.276	0.081
Control Delay, s/veh	5.7	5.0	4.5
LOS	A	A	A
95th %tile Queue, veh	1	1	0

Intersection	
Intersection Delay, s/veh	5.2
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	372	386	44	53
Demand Flow Rate, veh/h	376	390	44	57
Vehicles Circulating, veh/h	68	15	399	392
Vehicles Exiting, veh/h	381	428	45	13
Ped Vol Crossing Leg, #/h	0	13	0	8
Ped Cap Adj	1.000	0.998	1.000	0.999
Approach Delay, s/veh	5.4	5.2	4.4	4.7
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	376	390	44	57
Cap Entry Lane, veh/h	1287	1359	919	925
Entry HV Adj Factor	0.990	0.991	1.000	0.936
Flow Entry, veh/h	372	386	44	53
Cap Entry, veh/h	1275	1344	919	865
V/C Ratio	0.292	0.288	0.048	0.062
Control Delay, s/veh	5.4	5.2	4.4	4.7
LOS	A	A	A	A
95th %tile Queue, veh	1	1	0	0

Intersection	
Intersection Delay, s/veh	1.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	283	5	4	395	15	11	9	3	5	4	16
Future Vol, veh/h	11	283	5	4	395	15	11	9	3	5	4	16
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.64	0.64	0.64	0.81	0.81	0.81
Heavy Vehicles, %	3	3	3	1	1	1	4	4	4	0	0	0
Mvmt Flow	12	318	6	4	444	17	17	14	5	6	5	20
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.1	13.3	9.2	8.7
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	48%	4%	1%	20%
Vol Thru, %	39%	95%	95%	16%
Vol Right, %	13%	2%	4%	64%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	23	299	414	25
LT Vol	11	11	4	5
Through Vol	9	283	395	4
RT Vol	3	5	15	16
Lane Flow Rate	36	336	465	31
Geometry Grp	1	1	1	1
Degree of Util (X)	0.058	0.431	0.574	0.046
Departure Headway (Hd)	5.781	4.617	4.443	5.361
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	615	779	809	663
Service Time	3.855	2.656	2.479	3.436
HCM Lane V/C Ratio	0.059	0.431	0.575	0.047
HCM Control Delay	9.2	11.1	13.3	8.7
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.2	2.2	3.7	0.1

Intersection

Intersection Delay, s/veh	10.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	123	143	22	73	11	84	54	41	8	64	8
Future Vol, veh/h	3	123	143	22	73	11	84	54	41	8	64	8
Peak Hour Factor	0.80	0.80	0.80	0.77	0.77	0.77	0.87	0.87	0.87	0.76	0.76	0.76
Heavy Vehicles, %	1	1	1	0	0	0	2	2	2	0	0	0
Mvmt Flow	4	154	179	29	95	14	97	62	47	11	84	11
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	11.2	9.6	9.9	9.7
HCM LOS	B	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	1%	21%	100%	0%
Vol Thru, %	0%	57%	46%	69%	0%	89%
Vol Right, %	0%	43%	53%	10%	0%	11%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	84	95	269	106	8	72
LT Vol	84	0	3	22	8	0
Through Vol	0	54	123	73	0	64
RT Vol	0	41	143	11	0	8
Lane Flow Rate	97	109	336	138	11	95
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.172	0.169	0.431	0.2	0.019	0.156
Departure Headway (Hd)	6.4	5.587	4.616	5.233	6.522	5.935
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	563	645	770	688	551	606
Service Time	4.111	3.297	2.712	3.249	4.236	3.649
HCM Lane V/C Ratio	0.172	0.169	0.436	0.201	0.02	0.157
HCM Control Delay	10.4	9.4	11.2	9.6	9.4	9.7
HCM Lane LOS	B	A	B	A	A	A
HCM 95th-tile Q	0.6	0.6	2.2	0.7	0.1	0.5

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Approach	EB	WB	NB	SB	SW
Entry Lanes	1	1	1	0	1
Conflicting Circle Lanes	1	1	1	1	1
Adj Approach Flow, veh/h	463	60	581	0	342
Demand Flow Rate, veh/h	467	63	595	0	349
Vehicles Circulating, veh/h	398	629	55	398	414
Vehicles Exiting, veh/h	0	21	810	365	278
Ped Vol Crossing Leg, #/h	9	5	9	6	0
Ped Cap Adj	0.999	0.999	0.999	1.000	1.000
Approach Delay, s/veh	10.5	6.1	7.5	0.0	8.5
Approach LOS	B	A	A	-	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LR
Assumed Moves	LTR	LTR	LTR	LR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	467	63	595	349
Cap Entry Lane, veh/h	919	726	1305	905
Entry HV Adj Factor	0.991	0.952	0.976	0.980
Flow Entry, veh/h	463	60	581	342
Cap Entry, veh/h	910	691	1272	886
V/C Ratio	0.509	0.087	0.457	0.386
Control Delay, s/veh	10.5	6.1	7.5	8.5
LOS	B	A	A	A
95th %tile Queue, veh	3	0	2	2

Intersection						
Int Delay, s/veh	0.2					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	462	1	15	567	1	4
Future Vol, veh/h	462	1	15	567	1	4
Conflicting Peds, #/hr	0	5	5	0	4	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	89	89	42	42
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	491	1	17	637	2	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	497	0	1172	498
Stage 1	-	-	-	-	497	-
Stage 2	-	-	-	-	675	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1077	-	215	576
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	510	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1073	-	210	573
Mov Cap-2 Maneuver	-	-	-	-	346	-
Stage 1	-	-	-	-	613	-
Stage 2	-	-	-	-	500	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.2	12.3
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	507	1073	-	-	-
HCM Lane V/C Ratio	0.023	0.016	-	-	-
HCM Control Delay (s)	12.3	8.4	-	-	-
HCM Lane LOS	B	A	-	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	149	60	218	162	189	66	386	184	243	442	12
Future Volume (vph)	14	149	60	218	162	189	66	386	184	243	442	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		120	80		75	105		0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00	0.97	1.00		0.97	1.00	1.00	
Frt		0.964				0.850			0.850		0.996	
Flt Protected		0.997			0.972		0.950			0.950		
Satd. Flow (prot)	0	1813	0	0	1847	1615	1752	1863	1583	1787	1872	0
Flt Permitted		0.961			0.675		0.478			0.223		
Satd. Flow (perm)	0	1747	0	0	1280	1572	879	1863	1530	417	1872	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29				210			161		3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1321			656			490			1138	
Travel Time (s)		30.0			14.9			11.1			25.9	
Confl. Peds. (#/hr)	4		4	4		4	4		8	8		4
Confl. Bikes (#/hr)									1			1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	2%	2%	1%	1%	1%
Adj. Flow (vph)	16	166	67	242	180	210	73	429	204	270	491	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	249	0	0	422	210	73	429	204	270	504	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			4			6		5	2	
Permitted Phases	4			4		4	6		6	2		
Detector Phase	4	4		4	4	4	6	6	6	5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	25.0	25.0	25.0	11.0	25.0	
Total Split (s)	25.0	25.0		25.0	25.0	25.0	28.0	28.0	28.0	12.0	40.0	
Total Split (%)	38.5%	38.5%		38.5%	38.5%	38.5%	43.1%	43.1%	43.1%	18.5%	61.5%	
Maximum Green (s)	20.0	20.0		20.0	20.0	20.0	23.0	23.0	23.0	7.0	35.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)		0.5			0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Total Lost Time (s)		5.5			5.5	5.5	5.5	5.5	5.5	5.5	5.5	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Recall Mode	None	None		None	None	None	Min	Min	Min	None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	13.0	13.0	13.0		13.0	
Pedestrian Calls (#/hr)	4	4		4	4	4	4	4	4		0	
Act Effct Green (s)		19.6			19.6	19.6	18.0	18.0	18.0	30.0	30.0	
Actuated g/C Ratio		0.32			0.32	0.32	0.30	0.30	0.30	0.49	0.49	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.43			1.02	0.32	0.28	0.78	0.36	0.76	0.54	
Control Delay		18.1			76.7	4.6	19.0	30.0	6.8	26.3	12.9	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		18.1			76.7	4.6	19.0	30.0	6.8	26.3	12.9	
LOS		B			E	A	B	C	A	C	B	
Approach Delay		18.1			52.7			22.1			17.6	
Approach LOS		B			D			C			B	
Queue Length 50th (ft)		64			~180	0	20	141	11	54	116	
Queue Length 95th (ft)		130			#351	42	50	233	52	#126	190	
Internal Link Dist (ft)		1241			576			410			1058	
Turn Bay Length (ft)						120	80		75	105		
Base Capacity (vph)		583			413	649	327	693	670	353	1071	
Starvation Cap Reductn		0			0	0	0	0	0	0	0	
Spillback Cap Reductn		0			0	0	0	0	0	0	0	
Storage Cap Reductn		0			0	0	0	0	0	0	0	
Reduced v/c Ratio		0.43			1.02	0.32	0.22	0.62	0.30	0.76	0.47	

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 60.7
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 28.4 Intersection LOS: C
Intersection Capacity Utilization 85.6% ICU Level of Service E
Analysis Period (min) 15

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

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

Splits and Phases: 71: N Pearl St & N 51st St

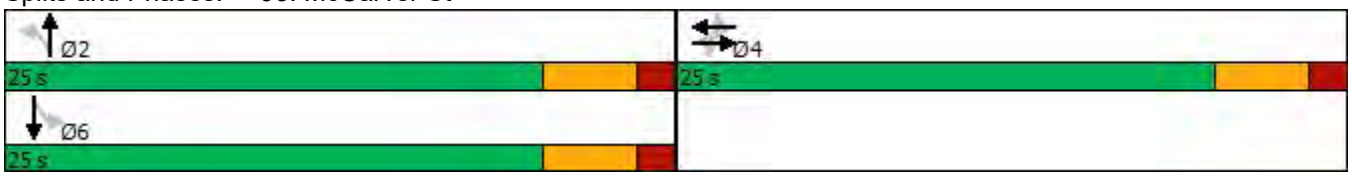
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	473	43	8	516	17	81	128	20	12	97	61
Future Volume (vph)	45	473	43	8	516	17	81	128	20	12	97	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	170		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			0			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		0.99	1.00			0.99			0.98	
Frt		0.988			0.995			0.988			0.951	
Flt Protected	0.950			0.950				0.983			0.997	
Satd. Flow (prot)	1805	1871	0	1805	1887	0	0	1812	0	0	1779	0
Flt Permitted	0.365			0.381				0.849			0.966	
Satd. Flow (perm)	686	1871	0	718	1887	0	0	1559	0	0	1718	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			4			12			63	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		337			413			275			405	
Travel Time (s)		7.7			9.4			6.3			9.2	
Confl. Peds. (#/hr)	23		18	18		23	11		57	57		11
Confl. Bikes (#/hr)						1			2			1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Adj. Flow (vph)	46	488	44	8	532	18	84	132	21	12	100	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	532	0	8	550	0	0	237	0	0	175	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			6	
Permitted Phases	4			4			2			6		
Detector Phase	4	4		4	4		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
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 Optimize?												
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	18	18		18	18		57	57		23	23	
Act Effct Green (s)	22.1	22.1		22.1	22.1			13.9			13.9	
Actuated g/C Ratio	0.54	0.54		0.54	0.54			0.34			0.34	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.12	0.52		0.02	0.53			0.44			0.28	
Control Delay	10.1	12.6		9.0	13.2			13.4			8.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	10.1	12.6		9.0	13.2			13.4			8.4	
LOS	B	B		A	B			B			A	
Approach Delay		12.4			13.1			13.4			8.4	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)	5	74		1	78			44			20	
Queue Length 95th (ft)	26	#222		7	#244			88			51	
Internal Link Dist (ft)		257			333			195			325	
Turn Bay Length (ft)	120			170								
Base Capacity (vph)	392	1075		411	1081			815			922	
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	0.12	0.49		0.02	0.51			0.29			0.19	

Intersection Summary

Area Type: Other
Cycle Length: 50
Actuated Cycle Length: 40.6
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 12.4 Intersection LOS: B
Intersection Capacity Utilization 78.0% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 93: McCarver St



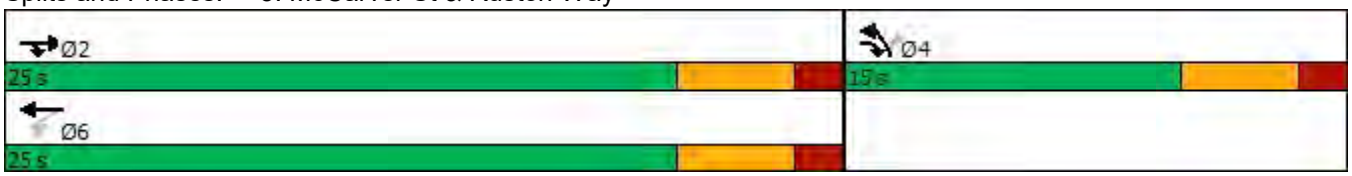
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	668	123	47	957	156	34
Future Volume (vph)	668	123	47	957	156	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		95	150		0	25
Storage Lanes		1	1		1	1
Taper Length (ft)			25		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						0.94
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1900	1615	1805	1900	1805	1615
Flt Permitted			0.295		0.950	
Satd. Flow (perm)	1900	1615	560	1900	1805	1514
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						35
Link Speed (mph)	30			30	30	
Link Distance (ft)	2497			2437	405	
Travel Time (s)	56.8			55.4	9.2	
Confl. Peds. (#/hr)						21
Confl. Bikes (#/hr)						4
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	696	128	49	997	163	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	696	128	49	997	163	35
Turn Type	NA	pt+ov	Perm	NA	Prot	Perm
Protected Phases	2	2 4		6	4	
Permitted Phases			6			4
Detector Phase	2	2 4	6	6	4	4
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	25.0		15.0	15.0	15.0	15.0
Total Split (s)	25.0		25.0	25.0	15.0	15.0
Total Split (%)	62.5%		62.5%	62.5%	37.5%	37.5%
Maximum Green (s)	20.0		20.0	20.0	10.0	10.0
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.5		1.5	1.5	1.5	1.5
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	2.5	2.5
Recall Mode	None		Min	Min	None	None
Walk Time (s)	7.0					
Flash Dont Walk (s)	13.0					
Pedestrian Calls (#/hr)	21					
Act Effct Green (s)	26.5	41.6	26.5	26.5	11.1	11.1
Actuated g/C Ratio	0.64	1.00	0.64	0.64	0.27	0.27

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.58	0.08	0.14	0.83	0.34	0.08
Control Delay	9.2	0.1	6.2	19.8	14.5	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.2	0.1	6.2	19.8	14.5	5.5
LOS	A	A	A	B	B	A
Approach Delay	7.8			19.2	12.9	
Approach LOS	A			B	B	
Queue Length 50th (ft)	99	0	5	190	29	0
Queue Length 95th (ft)	190	0	17	#422	64	13
Internal Link Dist (ft)	2417			2357	325	
Turn Bay Length (ft)		95	150			25
Base Capacity (vph)	1208	1615	356	1208	479	427
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	0.58	0.08	0.14	0.83	0.34	0.08

Intersection Summary

Area Type: Other
Cycle Length: 40
Actuated Cycle Length: 41.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 14.1 Intersection LOS: B
Intersection Capacity Utilization 65.7% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: McCarver St & Ruston Way



Intersection	
Int Delay, s/veh	2.6

Movement	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Vol, veh/h	33	46	729	38	130	941
Future Vol, veh/h	33	46	729	38	130	941
Conflicting Peds, #/hr	0	2	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	75	75	92	92
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	42	59	972	51	141	1023

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2305	1002	0	0	1025	0
Stage 1	1000	-	-	-	-	-
Stage 2	1305	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	43	297	-	-	685	-
Stage 1	359	-	-	-	-	-
Stage 2	256	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~34	296	-	-	684	-
Mov Cap-2 Maneuver	~32	-	-	-	-	-
Stage 1	358	-	-	-	-	-
Stage 2	203	-	-	-	-	-

Approach	NB	SE	NW
HCM Control Delay, s	41.9	0	1.4
HCM LOS	E		

Minor Lane/Major Mvmt	NBLn1	NWL	NWT	SET	SER
Capacity (veh/h)	195	684	-	-	-
HCM Lane V/C Ratio	0.519	0.207	-	-	-
HCM Control Delay (s)	41.9	11.6	-	-	-
HCM Lane LOS	E	B	-	-	-
HCM 95th %tile Q(veh)	2.6	0.8	-	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	32.1

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	89	611	573	201	120	42
Future Vol, veh/h	89	611	573	201	120	42
Conflicting Peds, #/hr	6	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	170	-	-	-	0	75
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	96	96	76	76
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	100	687	597	209	158	55

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	812	0	-	0	1595	708
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	887	-
Critical Hdwy	4.11	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.209	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	819	-	-	-	~ 119	438
Stage 1	-	-	-	-	492	-
Stage 2	-	-	-	-	406	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	815	-	-	-	~ 103	436
Mov Cap-2 Maneuver	-	-	-	-	~ 103	-
Stage 1	-	-	-	-	430	-
Stage 2	-	-	-	-	404	-

Approach	EB	WB	SW
HCM Control Delay, s	1.3	0	267.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1	SWLn2
Capacity (veh/h)	815	-	-	-	103	436
HCM Lane V/C Ratio	0.123	-	-	-	1.533	0.127
HCM Control Delay (s)	10	-	-	-	$ 356.1	14.5
HCM Lane LOS	B	-	-	-	F	B
HCM 95th %tile Q(veh)	0.4	-	-	-	11.9	0.4

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	63.4

Movement	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Vol, veh/h	70	48	676	34	172	728
Future Vol, veh/h	70	48	676	34	172	728
Conflicting Peds, #/hr	6	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	225	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	77	77	76	76	85	85
Heavy Vehicles, %	0	0	1	1	1	1
Mvmt Flow	91	62	889	45	202	856

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2178	912	0	0	934	0
Stage 1	912	-	-	-	-	-
Stage 2	1266	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.209	-
Pot Cap-1 Maneuver	~ 52	335	-	-	737	-
Stage 1	395	-	-	-	-	-
Stage 2	268	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~38	335	-	-	737	-
Mov Cap-2 Maneuver	~38	-	-	-	-	-
Stage 1	395	-	-	-	-	-
Stage 2	193	-	-	-	-	-

Approach	NB	SE	NW
HCM Control Delay, s	$ 873.2	0	2.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBLn1	NWL	NWT	SET	SER
Capacity (veh/h)	59	737	-	-	-
HCM Lane V/C Ratio	2.597	0.275	-	-	-
HCM Control Delay (s)	$ 873.2	11.7	-	-	-
HCM Lane LOS	F	B	-	-	-
HCM 95th %tile Q(veh)	15.5	1.1	-	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection												
Int Delay, s/veh	5.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	33	142	2	6	186	57	1	27	2	53	57	38
Future Vol, veh/h	33	142	2	6	186	57	1	27	2	53	57	38
Conflicting Peds, #/hr	3	0	5	5	0	3	4	0	6	6	0	4
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	72	72	72	58	58	58	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	44	189	3	8	258	79	2	47	3	62	67	45

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	340	0	0	197	0	0	658	640	202	627	602	305
Stage 1	-	-	-	-	-	-	284	284	-	317	317	-
Stage 2	-	-	-	-	-	-	374	356	-	310	285	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1230	-	-	1388	-	-	380	396	844	399	416	740
Stage 1	-	-	-	-	-	-	727	680	-	698	658	-
Stage 2	-	-	-	-	-	-	651	633	-	705	679	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1227	-	-	1382	-	-	297	375	836	344	394	736
Mov Cap-2 Maneuver	-	-	-	-	-	-	297	375	-	344	394	-
Stage 1	-	-	-	-	-	-	695	650	-	669	652	-
Stage 2	-	-	-	-	-	-	543	627	-	623	649	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.2	15.8	19.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	386	1227	-	-	1382	-	-	422
HCM Lane V/C Ratio	0.134	0.036	-	-	0.006	-	-	0.413
HCM Control Delay (s)	15.8	8	0	-	7.6	0	-	19.4
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0	-	-	2

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	4	35	8	4	3	25	64	2	5	95	18
Future Vol, veh/h	18	4	35	8	4	3	25	64	2	5	95	18
Peak Hour Factor	0.65	0.65	0.65	0.70	0.70	0.70	0.88	0.88	0.88	0.72	0.72	0.72
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	28	6	54	11	6	4	28	73	2	7	132	25
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	7.7	8	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	27%	32%	53%	4%
Vol Thru, %	70%	7%	27%	81%
Vol Right, %	2%	61%	20%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	91	57	15	118
LT Vol	25	18	8	5
Through Vol	64	4	4	95
RT Vol	2	35	3	18
Lane Flow Rate	103	88	21	164
Geometry Grp	1	1	1	1
Degree of Util (X)	0.122	0.102	0.027	0.186
Departure Headway (Hd)	4.259	4.207	4.572	4.086
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	827	857	787	865
Service Time	2.359	2.208	2.575	2.176
HCM Lane V/C Ratio	0.125	0.103	0.027	0.19
HCM Control Delay	8	7.7	7.7	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.3	0.1	0.7

Intersection												
Int Delay, s/veh	6.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	75	108	3	1	150	34	1	14	3	15	26	149
Future Vol, veh/h	75	108	3	1	150	34	1	14	3	15	26	149
Conflicting Peds, #/hr	3	0	11	11	0	3	2	0	2	2	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	67	67	67	55	55	55	70	70	70
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	85	123	3	1	224	51	2	25	5	21	37	213

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	278	0	0	137	0	0	685	586	138	567	562	255
Stage 1	-	-	-	-	-	-	306	306	-	255	255	-
Stage 2	-	-	-	-	-	-	379	280	-	312	307	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.509	4.009	3.309
Pot Cap-1 Maneuver	1296	-	-	1459	-	-	365	425	916	436	437	786
Stage 1	-	-	-	-	-	-	708	665	-	752	698	-
Stage 2	-	-	-	-	-	-	647	683	-	701	663	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1293	-	-	1446	-	-	231	390	906	388	401	783
Mov Cap-2 Maneuver	-	-	-	-	-	-	231	390	-	388	401	-
Stage 1	-	-	-	-	-	-	651	612	-	697	696	-
Stage 2	-	-	-	-	-	-	445	681	-	619	611	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.2	0	14.5	14.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	413	1293	-	-	1446	-	-	647
HCM Lane V/C Ratio	0.079	0.066	-	-	0.001	-	-	0.42
HCM Control Delay (s)	14.5	8	0	-	7.5	0	-	14.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0.2	-	-	0	-	-	2.1

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	734	683	422
Demand Flow Rate, veh/h	741	690	422
Vehicles Circulating, veh/h	234	146	415
Vehicles Exiting, veh/h	603	829	421
Ped Vol Crossing Leg, #/h	0	0	30
Ped Cap Adj	1.000	1.000	0.996
Approach Delay, s/veh	13.6	10.1	9.8
Approach LOS	B	B	A

Lane	Left	Left	Left
Designated Moves	LT	LTR	LR
Assumed Moves	LT	LTR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	741	690	422
Cap Entry Lane, veh/h	1078	1189	904
Entry HV Adj Factor	0.991	0.990	1.000
Flow Entry, veh/h	734	683	422
Cap Entry, veh/h	1077	1177	900
V/C Ratio	0.682	0.580	0.469
Control Delay, s/veh	13.6	10.1	9.8
LOS	B	B	A
95th %tile Queue, veh	6	4	3

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	658	591	84	256
Demand Flow Rate, veh/h	665	597	84	272
Vehicles Circulating, veh/h	216	100	781	580
Vehicles Exiting, veh/h	636	765	100	117
Ped Vol Crossing Leg, #/h	0	30	0	25
Ped Cap Adj	1.000	0.996	1.000	0.997
Approach Delay, s/veh	11.1	8.0	7.4	9.6
Approach LOS	B	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	665	597	84	272
Cap Entry Lane, veh/h	1107	1246	622	764
Entry HV Adj Factor	0.990	0.990	1.000	0.942
Flow Entry, veh/h	658	591	84	256
Cap Entry, veh/h	1096	1228	622	717
V/C Ratio	0.601	0.481	0.135	0.357
Control Delay, s/veh	11.1	8.0	7.4	9.6
LOS	B	A	A	A
95th %tile Queue, veh	4	3	0	2

Intersection

Intersection Delay, s/veh	38.7
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	508	5	4	598	24	11	9	10	19	4	16
Future Vol, veh/h	11	508	5	4	598	24	11	9	10	19	4	16
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.64	0.64	0.64	0.81	0.81	0.81
Heavy Vehicles, %	3	3	3	1	1	1	4	4	4	0	0	0
Mvmt Flow	12	571	6	4	672	27	17	14	16	23	5	20
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	29.8	49.9	10.8	10.7
HCM LOS	D	E	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	37%	2%	1%	49%
Vol Thru, %	30%	97%	96%	10%
Vol Right, %	33%	1%	4%	41%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	30	524	626	39
LT Vol	11	11	4	19
Through Vol	9	508	598	4
RT Vol	10	5	24	16
Lane Flow Rate	47	589	703	48
Geometry Grp	1	1	1	1
Degree of Util (X)	0.091	0.845	0.976	0.092
Departure Headway (Hd)	6.995	5.167	4.994	6.9
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	510	701	724	518
Service Time	5.062	3.201	3.026	4.967
HCM Lane V/C Ratio	0.092	0.84	0.971	0.093
HCM Control Delay	10.8	29.8	49.9	10.7
HCM Lane LOS	B	D	E	B
HCM 95th-tile Q	0.3	9.6	15.2	0.3

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	137	143	53	85	11	84	54	72	8	64	8
Future Vol, veh/h	3	137	143	53	85	11	84	54	72	8	64	8
Peak Hour Factor	0.80	0.80	0.80	0.77	0.77	0.77	0.87	0.87	0.87	0.76	0.76	0.76
Heavy Vehicles, %	1	1	1	0	0	0	2	2	2	0	0	0
Mvmt Flow	4	171	179	69	110	14	97	62	83	11	84	11
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	12.5	10.8	10.4	10.1
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	1%	36%	100%	0%
Vol Thru, %	0%	43%	48%	57%	0%	89%
Vol Right, %	0%	57%	51%	7%	0%	11%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	84	126	283	149	8	72
LT Vol	84	0	3	53	8	0
Through Vol	0	54	137	85	0	64
RT Vol	0	72	143	11	0	8
Lane Flow Rate	97	145	354	194	11	95
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.178	0.231	0.484	0.293	0.02	0.165
Departure Headway (Hd)	6.654	5.739	4.925	5.453	6.846	6.257
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	540	626	732	658	522	572
Service Time	4.394	3.479	2.96	3.494	4.593	4.003
HCM Lane V/C Ratio	0.18	0.232	0.484	0.295	0.021	0.166
HCM Control Delay	10.8	10.2	12.5	10.8	9.7	10.2
HCM Lane LOS	B	B	B	B	A	B
HCM 95th-tile Q	0.6	0.9	2.7	1.2	0.1	0.6

Intersection	
Intersection Delay, s/veh	15.6
Intersection LOS	C

Approach	EB	WB	NB	SB	SW
Entry Lanes	1	1	1	0	1
Conflicting Circle Lanes	1	1	1	1	1
Adj Approach Flow, veh/h	496	63	684	0	591
Demand Flow Rate, veh/h	500	66	701	0	639
Vehicles Circulating, veh/h	683	734	59	683	445
Vehicles Exiting, veh/h	0	26	1124	401	355
Ped Vol Crossing Leg, #/h	20	10	20	15	0
Ped Cap Adj	0.997	0.999	0.997	1.000	1.000
Approach Delay, s/veh	21.8	6.9	8.9	0.0	19.0
Approach LOS	C	A	A	-	C

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LR
Assumed Moves	LTR	LTR	LTR	LR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	500	66	701	639
Cap Entry Lane, veh/h	688	653	1299	876
Entry HV Adj Factor	0.991	0.955	0.976	0.925
Flow Entry, veh/h	496	63	684	591
Cap Entry, veh/h	680	622	1264	811
V/C Ratio	0.729	0.101	0.541	0.729
Control Delay, s/veh	21.8	6.9	8.9	19.0
LOS	C	A	A	C
95th %tile Queue, veh	6	0	3	7

Intersection	
Int Delay, s/veh	0.3

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	742	1	15	921	1	4
Future Vol, veh/h	742	1	15	921	1	4
Conflicting Peds, #/hr	0	5	5	0	4	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	89	89	42	42
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	789	1	17	1035	2	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	795	0	1868	796
Stage 1	-	-	-	-	795	-
Stage 2	-	-	-	-	1073	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	835	-	81	390
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	331	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	832	-	79	388
Mov Cap-2 Maneuver	-	-	-	-	79	-
Stage 1	-	-	-	-	446	-
Stage 2	-	-	-	-	323	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.2	22.5
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	218	832	-	-	-
HCM Lane V/C Ratio	0.055	0.02	-	-	-
HCM Control Delay (s)	22.5	9.4	-	-	-
HCM Lane LOS	C	A	-	-	-
HCM 95th %tile Q(veh)	0.2	0.1	-	-	-

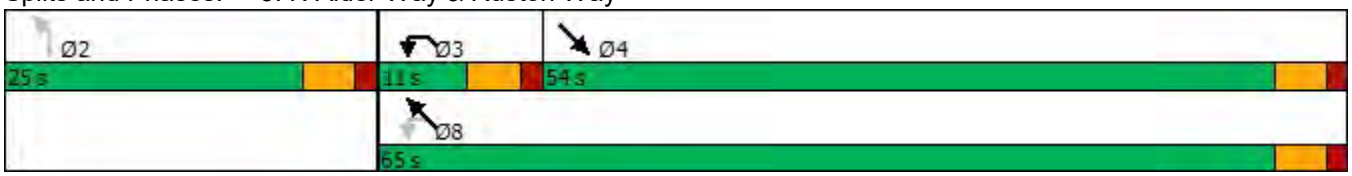
Lane Group	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Volume (vph)	33	46	729	38	130	941
Future Volume (vph)	33	46	729	38	130	941
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	300	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		1.00			
Frt	0.921		0.993			
Flt Protected	0.980				0.950	
Satd. Flow (prot)	1690	0	1866	0	1805	1900
Flt Permitted	0.980				0.096	
Satd. Flow (perm)	1690	0	1866	0	182	1900
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	59		5			
Link Speed (mph)	30		30			30
Link Distance (ft)	378		170			570
Travel Time (s)	8.6		3.9			13.0
Confl. Peds. (#/hr)		2		2	2	
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.78	0.78	0.75	0.75	0.92	0.92
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%
Adj. Flow (vph)	42	59	972	51	141	1023
Shared Lane Traffic (%)						
Lane Group Flow (vph)	101	0	1023	0	141	1023
Turn Type	Perm		NA		pm+pt	NA
Protected Phases			4		3	8
Permitted Phases	2				8	
Detector Phase	2		4		3	8
Switch Phase						
Minimum Initial (s)	6.0		10.0		6.0	10.0
Minimum Split (s)	25.0		28.0		11.0	15.0
Total Split (s)	25.0		54.0		11.0	65.0
Total Split (%)	27.8%		60.0%		12.2%	72.2%
Maximum Green (s)	20.0		49.0		6.0	60.0
Yellow Time (s)	3.5		3.5		3.5	3.5
All-Red Time (s)	1.5		1.5		1.5	1.5
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	5.0		5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.5		3.0		3.0	3.0
Recall Mode	None		Min		None	Min
Walk Time (s)	7.0		7.0			
Flash Dont Walk (s)	13.0		16.0			
Pedestrian Calls (#/hr)	2		2			
Act Effct Green (s)	9.2		51.4		62.4	63.5
Actuated g/C Ratio	0.12		0.65		0.79	0.80

Lane Group	NBL	NBR	SET	SER	NWL	NWT
v/c Ratio	0.41		0.85		0.53	0.67
Control Delay	20.5		22.0		13.8	8.9
Queue Delay	0.0		0.0		0.0	0.4
Total Delay	20.5		22.0		13.8	9.3
LOS	C		C		B	A
Approach Delay	20.5		22.0			9.8
Approach LOS	C		C			A
Queue Length 50th (ft)	19		343		12	169
Queue Length 95th (ft)	48		541		#81	570
Internal Link Dist (ft)	298		90			490
Turn Bay Length (ft)					300	
Base Capacity (vph)	472		1210		266	1520
Starvation Cap Reductn	0		0		0	144
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.21		0.85		0.53	0.74

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 79.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 15.7 Intersection LOS: B
Intersection Capacity Utilization 66.1% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: N Alder Way & Ruston Way



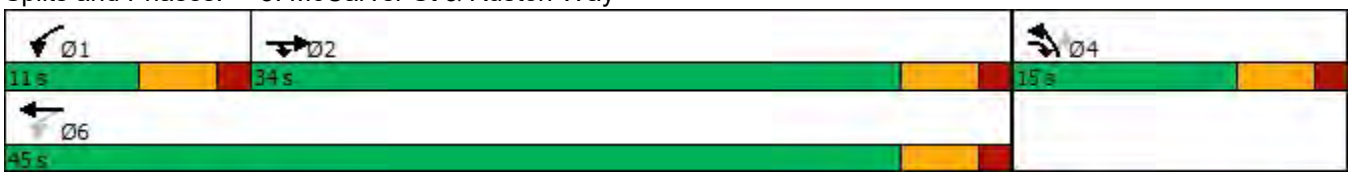
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	668	123	47	957	156	34
Future Volume (vph)	668	123	47	957	156	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		95	150		0	25
Storage Lanes		1	1		1	1
Taper Length (ft)			25		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						0.92
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1900	1615	1805	1900	1805	1615
Flt Permitted			0.228		0.950	
Satd. Flow (perm)	1900	1615	433	1900	1805	1480
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		128				32
Link Speed (mph)	30			30	30	
Link Distance (ft)	2497			2437	405	
Travel Time (s)	56.8			55.4	9.2	
Confl. Peds. (#/hr)						21
Confl. Bikes (#/hr)						4
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	696	128	49	997	163	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	696	128	49	997	163	35
Turn Type	NA	pt+ov	pm+pt	NA	Prot	Perm
Protected Phases	2	2 4	1	6	4	
Permitted Phases			6			4
Detector Phase	2	2 4	1	6	4	4
Switch Phase						
Minimum Initial (s)	10.0		6.0	10.0	10.0	10.0
Minimum Split (s)	25.0		11.0	15.0	15.0	15.0
Total Split (s)	34.0		11.0	45.0	15.0	15.0
Total Split (%)	56.7%		18.3%	75.0%	25.0%	25.0%
Maximum Green (s)	29.0		6.0	40.0	10.0	10.0
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.5		1.5	1.5	1.5	1.5
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		2.5	3.0	2.5	2.5
Recall Mode	None		None	Min	None	None
Walk Time (s)	7.0					
Flash Dont Walk (s)	13.0					
Pedestrian Calls (#/hr)	21					
Act Effct Green (s)	33.5	45.8	38.4	39.5	11.3	11.3
Actuated g/C Ratio	0.62	0.85	0.71	0.73	0.21	0.21

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.59	0.09	0.10	0.72	0.43	0.10
Control Delay	12.9	0.6	3.6	10.0	25.4	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.9	0.6	3.6	10.0	25.4	10.3
LOS	B	A	A	A	C	B
Approach Delay	11.0			9.7	22.7	
Approach LOS	B			A	C	
Queue Length 50th (ft)	183	0	5	190	52	1
Queue Length 95th (ft)	304	8	12	338	105	21
Internal Link Dist (ft)	2417			2357	325	
Turn Bay Length (ft)		95	150			25
Base Capacity (vph)	1189	1376	491	1474	377	335
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	0.59	0.09	0.10	0.68	0.43	0.10

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 53.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 11.4 Intersection LOS: B
Intersection Capacity Utilization 65.7% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: McCarver St & Ruston Way



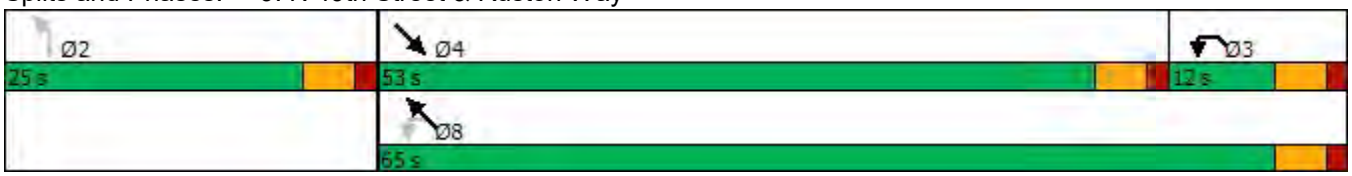
Lane Group	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Volume (vph)	70	48	676	34	172	728
Future Volume (vph)	70	48	676	34	172	728
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	225	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		1.00			
Frt	0.945		0.993			
Flt Protected	0.971				0.950	
Satd. Flow (prot)	1743	0	1866	0	1787	1881
Flt Permitted	0.971				0.119	
Satd. Flow (perm)	1729	0	1866	0	224	1881
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	35		4			
Link Speed (mph)	30		30			30
Link Distance (ft)	606		1131			2906
Travel Time (s)	13.8		25.7			66.0
Confl. Peds. (#/hr)	6					
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.77	0.77	0.76	0.76	0.85	0.85
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%
Adj. Flow (vph)	91	62	889	45	202	856
Shared Lane Traffic (%)						
Lane Group Flow (vph)	153	0	934	0	202	856
Turn Type	Perm		NA		pm+pt	NA
Protected Phases			4		3	8
Permitted Phases	2				8	
Detector Phase	2		4		3	8
Switch Phase						
Minimum Initial (s)	6.0		10.0		6.0	10.0
Minimum Split (s)	24.0		15.0		11.0	15.0
Total Split (s)	25.0		53.0		12.0	65.0
Total Split (%)	27.8%		58.9%		13.3%	72.2%
Maximum Green (s)	20.0		48.0		7.0	60.0
Yellow Time (s)	3.5		3.5		3.5	3.5
All-Red Time (s)	1.5		1.5		1.5	1.5
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	5.0		5.0		5.0	5.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.5		3.0		2.5	3.0
Recall Mode	None		Min		None	Min
Walk Time (s)	7.0					
Flash Dont Walk (s)	12.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	10.4		43.2		55.5	55.5
Actuated g/C Ratio	0.14		0.57		0.73	0.73

Lane Group	NBL	NBR	SET	SER	NWL	NWT
v/c Ratio	0.58		0.88		0.65	0.62
Control Delay	33.8		26.1		28.9	8.0
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	33.8		26.1		28.9	8.0
LOS	C		C		C	A
Approach Delay	33.8		26.1			12.0
Approach LOS	C		C			B
Queue Length 50th (ft)	56		342		23	158
Queue Length 95th (ft)	92		432		#98	289
Internal Link Dist (ft)	526		1051			2826
Turn Bay Length (ft)					225	
Base Capacity (vph)	488		1200		310	1506
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.31		0.78		0.65	0.57

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 76
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 19.7 Intersection LOS: B
Intersection Capacity Utilization 66.5% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: N 49th Street & Ruston Way



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	149	60	218	162	189	66	386	184	243	442	12
Future Volume (vph)	14	149	60	218	162	189	66	386	184	243	442	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		120	80		75	105		0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00	0.97	1.00		0.97	1.00	1.00	
Frt		0.964				0.850			0.850		0.996	
Flt Protected		0.997			0.972		0.950			0.950		
Satd. Flow (prot)	0	1813	0	0	1847	1615	1752	1863	1583	1787	1872	0
Flt Permitted		0.961			0.675		0.478			0.223		
Satd. Flow (perm)	0	1747	0	0	1280	1572	879	1863	1530	417	1872	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29				210			161		3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1321			656			490			1138	
Travel Time (s)		30.0			14.9			11.1			25.9	
Confl. Peds. (#/hr)	4		4	4		4	4		8	8		4
Confl. Bikes (#/hr)									1			1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	2%	2%	1%	1%	1%
Adj. Flow (vph)	16	166	67	242	180	210	73	429	204	270	491	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	249	0	0	422	210	73	429	204	270	504	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			4			6		5	2	
Permitted Phases	4			4		4	6		6	2		
Detector Phase	4	4		4	4	4	6	6	6	5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	25.0	25.0	25.0	11.0	25.0	
Total Split (s)	25.0	25.0		25.0	25.0	25.0	28.0	28.0	28.0	12.0	40.0	
Total Split (%)	38.5%	38.5%		38.5%	38.5%	38.5%	43.1%	43.1%	43.1%	18.5%	61.5%	
Maximum Green (s)	20.0	20.0		20.0	20.0	20.0	23.0	23.0	23.0	7.0	35.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)		0.5			0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Total Lost Time (s)		5.5			5.5	5.5	5.5	5.5	5.5	5.5	5.5	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Recall Mode	None	None		None	None	None	Min	Min	Min	None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	13.0	13.0	13.0		13.0	
Pedestrian Calls (#/hr)	4	4		4	4	4	4	4	4		0	
Act Effct Green (s)		19.6			19.6	19.6	18.0	18.0	18.0	30.0	30.0	
Actuated g/C Ratio		0.32			0.32	0.32	0.30	0.30	0.30	0.49	0.49	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.43			1.02	0.32	0.28	0.78	0.36	0.76	0.54	
Control Delay		18.1			76.7	4.6	19.0	30.0	6.8	26.3	12.9	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		18.1			76.7	4.6	19.0	30.0	6.8	26.3	12.9	
LOS		B			E	A	B	C	A	C	B	
Approach Delay		18.1			52.7			22.1			17.6	
Approach LOS		B			D			C			B	
Queue Length 50th (ft)		64			~180	0	20	141	11	54	116	
Queue Length 95th (ft)		130			#351	42	50	233	52	#126	190	
Internal Link Dist (ft)		1241			576			410			1058	
Turn Bay Length (ft)						120	80		75	105		
Base Capacity (vph)		583			413	649	327	693	670	353	1071	
Starvation Cap Reductn		0			0	0	0	0	0	0	0	
Spillback Cap Reductn		0			0	0	0	0	0	0	0	
Storage Cap Reductn		0			0	0	0	0	0	0	0	
Reduced v/c Ratio		0.43			1.02	0.32	0.22	0.62	0.30	0.76	0.47	

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 60.7
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 28.4 Intersection LOS: C
Intersection Capacity Utilization 85.6% ICU Level of Service E
Analysis Period (min) 15

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

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

Splits and Phases: 71: N Pearl St & N 51st St

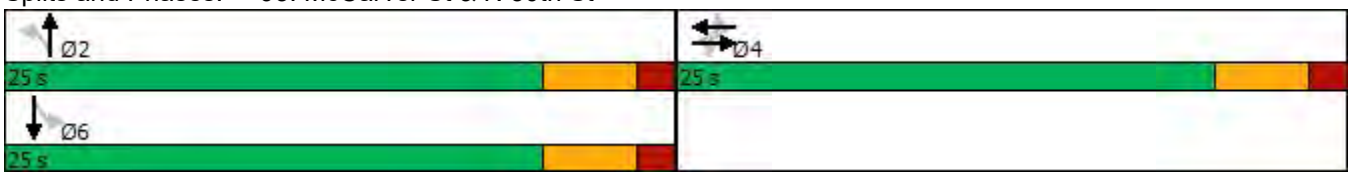
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	473	43	8	516	17	81	128	20	12	97	61
Future Volume (vph)	45	473	43	8	516	17	81	128	20	12	97	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	170		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			0			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		0.99	1.00			0.99			0.98	
Frt		0.988			0.995			0.988			0.951	
Flt Protected	0.950			0.950				0.983			0.997	
Satd. Flow (prot)	1805	1871	0	1805	1887	0	0	1812	0	0	1779	0
Flt Permitted	0.365			0.381				0.849			0.966	
Satd. Flow (perm)	686	1871	0	718	1887	0	0	1559	0	0	1718	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			4			12			63	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		337			413			275			405	
Travel Time (s)		7.7			9.4			6.3			9.2	
Confl. Peds. (#/hr)	23		18	18		23	11		57	57		11
Confl. Bikes (#/hr)						1			2			1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Adj. Flow (vph)	46	488	44	8	532	18	84	132	21	12	100	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	532	0	8	550	0	0	237	0	0	175	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			6	
Permitted Phases	4			4			2			6		
Detector Phase	4	4		4	4		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
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 Optimize?												
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	18	18		18	18		57	57		23	23	
Act Effct Green (s)	22.1	22.1		22.1	22.1			13.9			13.9	
Actuated g/C Ratio	0.54	0.54		0.54	0.54			0.34			0.34	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.12	0.52		0.02	0.53			0.44			0.28	
Control Delay	10.1	12.6		9.0	13.2			13.4			8.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	10.1	12.6		9.0	13.2			13.4			8.4	
LOS	B	B		A	B			B			A	
Approach Delay		12.4			13.1			13.4			8.4	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)	5	74		1	78			44			20	
Queue Length 95th (ft)	26	#222		7	#244			88			51	
Internal Link Dist (ft)		257			333			195			325	
Turn Bay Length (ft)	120			170								
Base Capacity (vph)	392	1075		411	1081			815			922	
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	0.12	0.49		0.02	0.51			0.29			0.19	

Intersection Summary

Area Type: Other
Cycle Length: 50
Actuated Cycle Length: 40.6
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 12.4 Intersection LOS: B
Intersection Capacity Utilization 78.0% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 93: McCarver St & N 30th St



Intersection						
Int Delay, s/veh	32.1					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	89	611	573	201	120	42
Future Vol, veh/h	89	611	573	201	120	42
Conflicting Peds, #/hr	6	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	170	-	-	-	0	75
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	96	96	76	76
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	100	687	597	209	158	55

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	812	0	-	0	1595	708
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	887	-
Critical Hdwy	4.11	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.209	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	819	-	-	-	~ 119	438
Stage 1	-	-	-	-	492	-
Stage 2	-	-	-	-	406	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	815	-	-	-	~ 103	436
Mov Cap-2 Maneuver	-	-	-	-	~ 103	-
Stage 1	-	-	-	-	430	-
Stage 2	-	-	-	-	404	-

Approach	EB	WB	SW
HCM Control Delay, s	1.3	0	267.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1	SWLn2
Capacity (veh/h)	815	-	-	-	103	436
HCM Lane V/C Ratio	0.123	-	-	-	1.533	0.127
HCM Control Delay (s)	10	-	-	-	$ 356.1	14.5
HCM Lane LOS	B	-	-	-	F	B
HCM 95th %tile Q(veh)	0.4	-	-	-	11.9	0.4

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection												
Int Delay, s/veh	5.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	142	2	6	186	57	1	27	2	53	57	38
Future Vol, veh/h	33	142	2	6	186	57	1	27	2	53	57	38
Conflicting Peds, #/hr	3	0	5	5	0	3	4	0	6	6	0	4
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	72	72	72	58	58	58	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	44	189	3	8	258	79	2	47	3	62	67	45

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	340	0	0	197	0	0	658	640	202	627	602	305
Stage 1	-	-	-	-	-	-	284	284	-	317	317	-
Stage 2	-	-	-	-	-	-	374	356	-	310	285	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1230	-	-	1388	-	-	380	396	844	399	416	740
Stage 1	-	-	-	-	-	-	727	680	-	698	658	-
Stage 2	-	-	-	-	-	-	651	633	-	705	679	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1227	-	-	1382	-	-	299	377	836	346	396	736
Mov Cap-2 Maneuver	-	-	-	-	-	-	299	377	-	346	396	-
Stage 1	-	-	-	-	-	-	698	653	-	671	653	-
Stage 2	-	-	-	-	-	-	544	628	-	626	652	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.2	15.7	17.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	388	1227	-	-	1382	-	-	370	736
HCM Lane V/C Ratio	0.133	0.036	-	-	0.006	-	-	0.35	0.061
HCM Control Delay (s)	15.7	8	-	-	7.6	-	-	19.9	10.2
HCM Lane LOS	C	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0	-	-	1.5	0.2

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	4	35	8	4	3	25	64	2	5	95	18
Future Vol, veh/h	18	4	35	8	4	3	25	64	2	5	95	18
Peak Hour Factor	0.65	0.65	0.65	0.70	0.70	0.70	0.88	0.88	0.88	0.72	0.72	0.72
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	28	6	54	11	6	4	28	73	2	7	132	25
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	7.7	8	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	27%	32%	53%	4%
Vol Thru, %	70%	7%	27%	81%
Vol Right, %	2%	61%	20%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	91	57	15	118
LT Vol	25	18	8	5
Through Vol	64	4	4	95
RT Vol	2	35	3	18
Lane Flow Rate	103	88	21	164
Geometry Grp	1	1	1	1
Degree of Util (X)	0.122	0.102	0.027	0.186
Departure Headway (Hd)	4.259	4.207	4.572	4.086
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	827	857	787	865
Service Time	2.359	2.208	2.575	2.176
HCM Lane V/C Ratio	0.125	0.103	0.027	0.19
HCM Control Delay	8	7.7	7.7	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.3	0.1	0.7

Intersection												
Int Delay, s/veh	6.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	75	108	3	1	150	34	1	14	3	15	26	149
Future Vol, veh/h	75	108	3	1	150	34	1	14	3	15	26	149
Conflicting Peds, #/hr	3	0	11	11	0	3	2	0	2	2	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	67	67	67	55	55	55	70	70	70
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	85	123	3	1	224	51	2	25	5	21	37	213

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	278	0	0	137	0	0	685	586	138	567	562	255
Stage 1	-	-	-	-	-	-	306	306	-	255	255	-
Stage 2	-	-	-	-	-	-	379	280	-	312	307	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.509	4.009	3.309
Pot Cap-1 Maneuver	1296	-	-	1459	-	-	365	425	916	436	437	786
Stage 1	-	-	-	-	-	-	708	665	-	752	698	-
Stage 2	-	-	-	-	-	-	647	683	-	701	663	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1293	-	-	1446	-	-	231	390	906	388	401	783
Mov Cap-2 Maneuver	-	-	-	-	-	-	231	390	-	388	401	-
Stage 1	-	-	-	-	-	-	651	612	-	697	696	-
Stage 2	-	-	-	-	-	-	445	681	-	619	611	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.2	0	14.5	14.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	413	1293	-	-	1446	-	-	647
HCM Lane V/C Ratio	0.079	0.066	-	-	0.001	-	-	0.42
HCM Control Delay (s)	14.5	8	0	-	7.5	0	-	14.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0.2	-	-	0	-	-	2.1

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	734	683	422
Demand Flow Rate, veh/h	741	690	422
Vehicles Circulating, veh/h	234	146	415
Vehicles Exiting, veh/h	603	829	421
Ped Vol Crossing Leg, #/h	0	0	30
Ped Cap Adj	1.000	1.000	0.996
Approach Delay, s/veh	13.6	10.1	9.8
Approach LOS	B	B	A

Lane	Left	Left	Left
Designated Moves	LT	LTR	LR
Assumed Moves	LT	LTR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	741	690	422
Cap Entry Lane, veh/h	1087	1189	904
Entry HV Adj Factor	0.991	0.990	1.000
Flow Entry, veh/h	734	683	422
Cap Entry, veh/h	1077	1177	900
V/C Ratio	0.682	0.580	0.469
Control Delay, s/veh	13.6	10.1	9.8
LOS	B	B	A
95th %tile Queue, veh	6	4	3

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	658	591	84	256
Demand Flow Rate, veh/h	665	597	84	272
Vehicles Circulating, veh/h	216	100	781	580
Vehicles Exiting, veh/h	636	765	100	117
Ped Vol Crossing Leg, #/h	0	30	0	25
Ped Cap Adj	1.000	0.996	1.000	0.997
Approach Delay, s/veh	11.1	8.0	7.4	9.6
Approach LOS	B	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	665	597	84	272
Cap Entry Lane, veh/h	1107	1246	622	764
Entry HV Adj Factor	0.990	0.990	1.000	0.942
Flow Entry, veh/h	658	591	84	256
Cap Entry, veh/h	1096	1228	622	717
V/C Ratio	0.601	0.481	0.135	0.357
Control Delay, s/veh	11.1	8.0	7.4	9.6
LOS	B	A	A	A
95th %tile Queue, veh	4	3	0	2

Intersection	
Intersection Delay, s/veh	38.7
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	508	5	4	598	24	11	9	10	19	4	16
Future Vol, veh/h	11	508	5	4	598	24	11	9	10	19	4	16
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.64	0.64	0.64	0.81	0.81	0.81
Heavy Vehicles, %	3	3	3	1	1	1	4	4	4	0	0	0
Mvmt Flow	12	571	6	4	672	27	17	14	16	23	5	20
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	29.8	49.9	10.8	10.7
HCM LOS	D	E	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	37%	2%	1%	49%
Vol Thru, %	30%	97%	96%	10%
Vol Right, %	33%	1%	4%	41%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	30	524	626	39
LT Vol	11	11	4	19
Through Vol	9	508	598	4
RT Vol	10	5	24	16
Lane Flow Rate	47	589	703	48
Geometry Grp	1	1	1	1
Degree of Util (X)	0.091	0.845	0.976	0.092
Departure Headway (Hd)	6.995	5.167	4.994	6.9
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	510	701	724	518
Service Time	5.062	3.201	3.026	4.967
HCM Lane V/C Ratio	0.092	0.84	0.971	0.093
HCM Control Delay	10.8	29.8	49.9	10.7
HCM Lane LOS	B	D	E	B
HCM 95th-tile Q	0.3	9.6	15.2	0.3

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	137	143	53	85	11	84	54	72	8	64	8
Future Vol, veh/h	3	137	143	53	85	11	84	54	72	8	64	8
Peak Hour Factor	0.80	0.80	0.80	0.77	0.77	0.77	0.87	0.87	0.87	0.76	0.76	0.76
Heavy Vehicles, %	1	1	1	0	0	0	2	2	2	0	0	0
Mvmt Flow	4	171	179	69	110	14	97	62	83	11	84	11
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	12.5	10.8	10.4	10.1
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	1%	36%	100%	0%
Vol Thru, %	0%	43%	48%	57%	0%	89%
Vol Right, %	0%	57%	51%	7%	0%	11%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	84	126	283	149	8	72
LT Vol	84	0	3	53	8	0
Through Vol	0	54	137	85	0	64
RT Vol	0	72	143	11	0	8
Lane Flow Rate	97	145	354	194	11	95
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.178	0.231	0.484	0.293	0.02	0.165
Departure Headway (Hd)	6.654	5.739	4.925	5.453	6.846	6.257
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	540	626	732	658	522	572
Service Time	4.394	3.479	2.96	3.494	4.593	4.003
HCM Lane V/C Ratio	0.18	0.232	0.484	0.295	0.021	0.166
HCM Control Delay	10.8	10.2	12.5	10.8	9.7	10.2
HCM Lane LOS	B	B	B	B	A	B
HCM 95th-tile Q	0.6	0.9	2.7	1.2	0.1	0.6

Intersection	
Intersection Delay, s/veh	15.6
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	0
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	496	63	684	0
Demand Flow Rate, veh/h	500	66	701	0
Vehicles Circulating, veh/h	683	734	59	683
Vehicles Exiting, veh/h	0	26	1124	401
Ped Vol Crossing Leg, #/h	20	10	20	15
Ped Cap Adj	0.997	0.999	0.997	1.000
Approach Delay, s/veh	21.8	6.9	8.9	0.0
Approach LOS	C	A	A	-

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	500	66	701
Cap Entry Lane, veh/h	688	653	1299
Entry HV Adj Factor	0.991	0.955	0.976
Flow Entry, veh/h	496	63	684
Cap Entry, veh/h	680	622	1264
V/C Ratio	0.729	0.101	0.541
Control Delay, s/veh	21.8	6.9	8.9
LOS	C	A	A
95th %tile Queue, veh	6	0	3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	SW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	591
Demand Flow Rate, veh/h	639
Vehicles Circulating, veh/h	445
Vehicles Exiting, veh/h	355
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	19.0
Approach LOS	C

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	639
Cap Entry Lane, veh/h	876
Entry HV Adj Factor	0.925
Flow Entry, veh/h	591
Cap Entry, veh/h	811
V/C Ratio	0.729
Control Delay, s/veh	19.0
LOS	C
95th %tile Queue, veh	7

Intersection						
Int Delay, s/veh	0.2					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	742	1	15	921	1	4
Future Vol, veh/h	742	1	15	921	1	4
Conflicting Peds, #/hr	0	5	5	0	4	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	89	89	42	42
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	789	1	17	1035	2	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	795	0	1868	796
Stage 1	-	-	-	-	795	-
Stage 2	-	-	-	-	1073	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	835	-	81	390
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	331	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	832	-	79	388
Mov Cap-2 Maneuver	-	-	-	-	206	-
Stage 1	-	-	-	-	446	-
Stage 2	-	-	-	-	323	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.2	16.3
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	330	832	-	-	-
HCM Lane V/C Ratio	0.036	0.02	-	-	-
HCM Control Delay (s)	16.3	9.4	-	-	-
HCM Lane LOS	C	A	-	-	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	-

Simulation Results Summaries

Arterial Level of Service: NW Ruston Way

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
McCarver St	5	12.5	67.9	0.5	25
Harbor Lights Entry	54	11.8	67.8	0.5	25
	57	1.7	3.4	0.0	13
Harbor Lights Exit D	52	0.8	2.2	0.0	20
SW Pkg Dwy N/O HL	50	0.6	1.8	0.0	25
Ram Pkg Dwy	47	0.9	3.3	0.0	22
	44	0.8	3.2	0.0	19
CI Shenanigan's Dwy	41	0.6	3.1	0.0	25
S/O Alder X-Walk	38	1.4	11.4	0.1	26
N Alder Way	3	0.4	3.4	0.0	28
Katie Downs SE Dwy	24	0.4	4.2	0.0	28
Katie Downs NW Dwy	27	0.6	7.4	0.1	27
Fire House Dwy	31	0.3	3.3	0.0	28
Duke's SE Dwy	33	0.3	2.9	0.0	27
Duke's NW Dwy	34	0.3	3.6	0.0	27
Les Davis Pier Dwy	36	0.9	11.7	0.1	28
Dale Street	92	4.2	48.2	0.4	28
Lobster Shop S Dwy	90	1.4	10.0	0.1	27
Lobster Shop N Dwy	88	0.5	4.0	0.0	26
#4015 Dwy	86	0.3	2.8	0.0	28
Holman Dwy	84	0.4	4.4	0.0	27
Holman N Exit	81	0.8	9.6	0.1	27
N 49th Street	9	6.8	71.0	0.6	28
	66	2.0	27.6	0.2	28
Bay View Corridor	8	1.4	7.4	0.1	26
Grand Loop	60	4.8	15.2	0.1	22
	16	0.4	13.8	0.1	19
Yacht Club Road	62	4.0	13.4	0.1	23
Total		61.2	428.0	3.1	26

Arterial Level of Service: SE Ruston Way

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	16	0.5	15.2	0.1	20
Grand Loop	60	3.7	11.7	0.1	23
Bay View Corridor	8	0.3	15.9	0.1	21
	66	0.1	6.4	0.1	30
N 49th Street	9	1.1	25.2	0.2	31
Holman N Exit	81	3.6	65.6	0.6	30
Holman Dwy	84	0.7	9.3	0.1	27
#4015 Dwy	86	0.5	4.4	0.0	27
Lobster Shop N Dwy	88	0.5	3.2	0.0	25
Lobster Shop S Dwy	90	0.5	3.8	0.0	27
Dale Street	92	0.7	9.3	0.1	29
Les Davis Pier Dwy	36	3.3	46.1	0.4	29
Duke's NW Dwy	34	1.1	12.0	0.1	27
Duke's SE Dwy	33	0.4	3.7	0.0	26
Fire House Dwy	31	0.3	2.9	0.0	27
West Pkg Lot Dwy	27	0.3	3.4	0.0	28
West Pkg Lot	24	0.7	7.5	0.1	27
N Alder Way	3	0.6	4.1	0.0	29
	38	0.5	4.1	0.0	24
SW Pkg Lot Dwy	41	0.9	10.2	0.1	29
	44	0.7	3.1	0.0	25
SW Pkg Dwy	47	0.5	2.4	0.0	25
SW Pkg Dwy N/O HL	50	0.6	3.2	0.0	24
Harbor Lights Exit D	52	0.5	2.1	0.0	21
	57	1.2	2.6	0.0	17
SW Pkg Lot Dwy	54	0.5	2.0	0.0	21
McCarver St	5	8.9	62.6	0.5	27
Total		33.1	341.9	2.6	27

Arterial Level of Service: NW Ruston Way

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
McCarver St	5	20.6	76.1	0.5	22
Harbor Lights Entry	54	12.6	68.4	0.5	25
	57	1.8	3.5	0.0	13
Harbor Lights Exit D	52	0.8	2.2	0.0	20
SW Pkg Dwy N/O HL	50	0.6	1.9	0.0	24
Ram Pkg Dwy	47	1.0	3.4	0.0	22
	44	0.9	3.3	0.0	19
CI Shenanigan's Dwy	41	0.6	3.2	0.0	25
S/O Alder X-Walk	38	1.5	11.4	0.1	26
N Alder Way	3	0.4	3.3	0.0	29
Katie Downs SE Dwy	24	0.4	4.1	0.0	28
Katie Downs NW Dwy	27	0.6	7.4	0.1	27
Fire House Dwy	31	0.3	3.3	0.0	28
Duke's SE Dwy	33	0.3	2.9	0.0	27
Duke's NW Dwy	34	0.3	3.6	0.0	27
Les Davis Pier Dwy	36	0.9	11.7	0.1	28
Dale Street	92	4.1	48.2	0.4	28
Lobster Shop S Dwy	90	1.3	9.9	0.1	27
Lobster Shop N Dwy	88	0.5	3.9	0.0	26
#4015 Dwy	86	0.3	2.8	0.0	28
Holman Dwy	84	0.4	4.4	0.0	27
Holman N Exit	81	0.8	9.6	0.1	27
N 49th Street	9	6.4	70.4	0.6	28
	66	1.8	27.3	0.2	28
Bay View Corridor	8	0.8	6.9	0.1	28
Grand Loop	60	4.5	15.0	0.1	23
	16	0.4	13.8	0.1	19
Yacht Club Road	62	4.3	13.7	0.1	22
Total		69.1	435.7	3.1	25

Arterial Level of Service: SE Ruston Way

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	16	0.6	15.3	0.1	20
Grand Loop	60	3.9	11.9	0.1	23
Bay View Corridor	8	0.3	16.1	0.1	21
	66	0.1	6.4	0.1	30
N 49th Street	9	1.5	25.7	0.2	30
Holman N Exit	81	5.0	67.2	0.6	30
Holman Dwy	84	0.9	9.4	0.1	27
#4015 Dwy	86	0.5	4.5	0.0	27
Lobster Shop N Dwy	88	0.6	3.2	0.0	24
Lobster Shop S Dwy	90	0.6	4.0	0.0	26
Dale Street	92	0.9	9.5	0.1	28
Les Davis Pier Dwy	36	4.1	46.8	0.4	28
Duke's NW Dwy	34	1.3	12.2	0.1	27
Duke's SE Dwy	33	0.4	3.7	0.0	26
Fire House Dwy	31	0.3	2.9	0.0	27
West Pkg Lot Dwy	27	0.4	3.4	0.0	27
West Pkg Lot	24	0.8	7.6	0.1	26
N Alder Way	3	0.7	4.2	0.0	28
	38	0.6	4.2	0.0	23
SW Pkg Lot Dwy	41	1.4	10.8	0.1	27
	44	1.0	3.4	0.0	23
SW Pkg Dwy	47	0.6	2.6	0.0	24
SW Pkg Dwy N/O HL	50	0.8	3.4	0.0	22
Harbor Lights Exit D	52	0.7	2.3	0.0	19
	57	1.4	2.9	0.0	15
SW Pkg Lot Dwy	54	0.6	2.2	0.0	20
McCarver St	5	12.3	66.2	0.5	26
Total		42.3	351.8	2.6	27

Arterial Level of Service: NW Ruston Way

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
McCarver St	5	339.4	882.7	0.5	4
Harbor Lights Entry	54	58.1	115.6	0.5	15
	57	4.2	11.1	0.0	7
Harbor Lights Exit D	52	1.8	4.8	0.0	14
SW Pkg Dwy N/O HL	50	2.0	3.6	0.0	14
Ram Pkg Dwy	47	1.8	4.3	0.0	18
	44	1.4	3.9	0.0	16
CI Shenanigan's Dwy	41	1.1	3.7	0.0	22
S/O Alder X-Walk	38	2.6	12.6	0.1	23
N Alder Way	3	0.5	3.5	0.0	27
Katie Downs SE Dwy	24	1.3	5.3	0.0	23
Katie Downs NW Dwy	27	4.5	11.3	0.1	18
Fire House Dwy	31	0.4	3.4	0.0	27
Duke's SE Dwy	33	0.4	3.0	0.0	26
Duke's NW Dwy	34	0.5	3.7	0.0	26
Les Davis Pier Dwy	36	1.3	12.1	0.1	27
Dale Street	92	5.2	49.4	0.4	27
Lobster Shop S Dwy	90	1.7	10.3	0.1	26
Lobster Shop N Dwy	88	0.7	4.1	0.0	25
#4015 Dwy	86	0.4	2.9	0.0	27
Holman Dwy	84	0.5	4.5	0.0	26
Holman N Exit	81	1.0	9.7	0.1	26
N 49th Street	9	8.4	72.5	0.6	27
	66	3.0	28.6	0.2	27
Bay View Corridor	8	2.7	8.8	0.1	22
Grand Loop	60	8.3	18.7	0.1	18
	96	5.6	20.0	0.1	15
Yacht Club Road	62	14.0	22.6	0.1	12
Total		472.5	1337.1	3.1	13

Arterial Level of Service: SE Ruston Way

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	96	6.2	19.9	0.1	14
Grand Loop	60	14.8	24.1	0.1	13
Bay View Corridor	8	5.9	22.1	0.1	16
	66	3.6	9.9	0.1	19
N 49th Street	9	13.1	37.7	0.2	21
Holman N Exit	81	35.3	99.8	0.6	20
Holman Dwy	84	6.3	15.3	0.1	17
#4015 Dwy	86	3.3	7.8	0.0	16
Lobster Shop N Dwy	88	2.5	5.6	0.0	15
Lobster Shop S Dwy	90	3.1	6.9	0.0	16
Dale Street	92	5.8	14.7	0.1	19
Les Davis Pier Dwy	36	31.3	82.3	0.4	18
Duke's NW Dwy	34	9.8	22.3	0.1	16
Duke's SE Dwy	33	3.4	7.3	0.0	15
Fire House Dwy	31	2.5	7.5	0.0	16
West Pkg Lot Dwy	27	3.0	6.5	0.0	15
West Pkg Lot	24	6.8	13.8	0.1	15
N Alder Way	3	4.1	15.0	0.0	15
	38	3.2	10.5	0.0	14
SW Pkg Lot Dwy	41	11.1	30.7	0.1	14
	44	3.9	8.4	0.0	13
SW Pkg Dwy	47	1.9	3.9	0.0	16
SW Pkg Dwy N/O HL	50	3.0	6.5	0.0	13
Harbor Lights Exit D	52	1.8	3.7	0.0	13
	57	2.6	7.2	0.0	11
SW Pkg Lot Dwy	54	1.2	5.1	0.0	16
McCarver St	5	31.4	85.2	0.5	20
Total		221.2	579.8	2.6	18

Arterial Level of Service: NW Ruston Way

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
McCarver St	5	80.5	137.2	0.5	12
Harbor Lights Entry	54	26.0	82.2	0.5	21
	57	2.8	5.4	0.0	10
Harbor Lights Exit D	52	1.5	2.9	0.0	15
SW Pkg Dwy N/O HL	50	1.2	2.5	0.0	18
Ram Pkg Dwy	47	2.1	4.5	0.0	17
	44	1.9	4.3	0.0	14
CI Shenanigan's Dwy	41	1.6	4.2	0.0	19
N Alder Way	3	11.4	24.1	0.1	16
Katie Downs SE Dwy	24	2.6	6.6	0.0	18
Katie Downs NW Dwy	27	2.4	9.2	0.1	22
Fire House Dwy	31	0.8	3.8	0.0	25
Duke's SE Dwy	33	0.6	3.2	0.0	25
Duke's NW Dwy	34	0.6	3.9	0.0	25
Les Davis Pier Dwy	36	1.5	12.3	0.1	26
Dale Street	92	5.6	49.8	0.4	27
Lobster Shop S Dwy	90	1.9	10.6	0.1	25
Lobster Shop N Dwy	88	0.7	4.2	0.0	25
#4015 Dwy	86	0.4	2.9	0.0	27
Holman Dwy	84	0.5	4.6	0.0	26
Holman N Exit	81	1.1	9.9	0.1	26
N 49th Street	9	24.3	88.4	0.6	23
	66	5.8	31.3	0.2	25
Bay View Corridor	8	3.2	9.4	0.1	20
Grand Loop	60	9.2	19.5	0.1	17
	96	10.5	24.9	0.1	12
Yacht Club Road	62	24.5	33.3	0.1	9
Total		225.4	595.2	3.1	19

Arterial Level of Service: SE Ruston Way

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	96	1.9	15.7	0.1	18
Grand Loop	60	9.4	18.4	0.1	16
Bay View Corridor	8	1.8	17.7	0.1	20
	66	0.9	7.2	0.1	27
N 49th Street	9	33.8	62.0	0.2	13
Holman N Exit	81	9.8	71.9	0.6	28
Holman Dwy	84	1.6	10.2	0.1	25
#4015 Dwy	86	1.4	5.3	0.0	22
Lobster Shop N Dwy	88	1.4	4.1	0.0	19
Lobster Shop S Dwy	90	1.5	4.8	0.0	21
Dale Street	92	1.7	10.3	0.1	26
Les Davis Pier Dwy	36	7.0	49.8	0.4	27
Duke's NW Dwy	34	2.2	13.0	0.1	25
Duke's SE Dwy	33	1.0	4.2	0.0	23
Fire House Dwy	31	1.1	3.7	0.0	22
West Pkg Lot Dwy	27	1.8	4.8	0.0	19
West Pkg Lot	24	8.7	15.7	0.1	13
N Alder Way	3	9.6	20.6	0.0	9
SW Pkg Lot Dwy	41	5.4	18.7	0.1	21
	44	0.8	3.3	0.0	24
SW Pkg Dwy	47	0.7	2.6	0.0	23
SW Pkg Dwy N/O HL	50	1.1	3.6	0.0	21
Harbor Lights Exit D	52	0.9	2.4	0.0	18
	57	1.2	2.7	0.0	17
SW Pkg Lot Dwy	54	0.7	2.2	0.0	19
McCarver St	5	19.6	73.6	0.5	23
Total		126.8	448.5	2.6	21

DRAFT

APPENDIX C

Point Ruston – 2017 Trip Generation Counts with Refined & Calibrated Model

&

Full-Build Trip Generation Calculations

&

Full-Build Parking Demand Calculations

TECHNICAL MEMORANDUM

Project: **Point Ruston**

Subject: 2017 Trip Generation Counts with Refined & Calibrated Model

Date: November 20, 2018

Author: Tod S. McBryan, P.E. – Principal

1. Background

Point Ruston, LLC has continued its development of the ASARCO Smelter Site Development that was envisioned by the Master Development Plan and evaluated in the *Final Supplemental Environmental Impact Statement to the ASARCO Smelter Site Master Development Plan Final EIS* (FSEIS).[1] The FSEIS included detailed traffic analyses based on an assumed development program for a mixed-use project that was expected to include residential (apartments, condominiums, and senior housing), office, hotel, restaurants, retail, health club, and supermarket components. The transportation analyses, prepared in 2006 and 2007, reflected a mix of those uses that were based on the best information available at that time considering market conditions. Those analyses were conducted using trip generation rates and equations from the 7th Edition of Institute of Transportation Engineers' (ITE) *Trip Generation Manual* published in 2003.

As is common with planned mixed-use developments, the exact mix of uses that have actually been developed and are now occupied (or expected to be occupied) has evolved and reflects current market conditions that have changed since the original traffic analysis was completed. In May 2014, the City of Tacoma and Point Ruston, LLC jointly recognized the current development plan and expected mix of uses in the *Phased Occupancy Agreement – Building 1, File BLD2014-40000213040*.[2] That agreement outlined the anticipated mitigation requirements and trigger levels for phased occupancy of the site development according to external trip generation levels at the site driveways. The established trigger levels (450 and 600 PM peak hour trips) were defined in the FSEIS on pages 3.7-51 and were intended to reflect 30% and 60% (respectively) of the project's total estimated external vehicle trip generation identified in Table 3.7-10. For the *Phased Occupancy Agreement*, trip generation estimates for each of the planned uses was prepared by the City of Tacoma using standard rates published in a more recent version of ITE's *Trip Generation Manual* (9th Edition published in 2012) than was used in the FSEIS. The trip generation estimates developed by the City were based on the anticipated development program available at that time.

With the site development partially complete and occupied, trip counts were conducted during the summer of 2014 at the project site driveway to determine actual trip generation of those uses. Using those counts and updated information about the development program, a more refined trip generation model, relying on standard ITE published rates from the same 9th Edition of the *Trip Generation Manual* was created and documented in a technical memorandum titled *2014 Trip Generation Counts with Refined & Calibrated Model*.[3] The overall approach and selection of rates and equations for those trip generation estimates were coordinated with City of Tacoma staff.[4]

1 City of Tacoma – Public Works Department, March 2008.
2 City of Tacoma – Planning and Development Services, May 14, 2014.
3 Heffron Transportation, Inc., May 13, 2015.
4 Brennan Kidd, PE, PTOE, City of Tacoma Public Works Department/Engineering Division, May 2015.

In November 2017 with more of the site development complete and a variety of additional uses occupied (consisting of retail, restaurant, residential, office, and cinema), trip counts were conducted again to update actual trip generation of the site. The data collection effort and approach were coordinated with City staff.[5] Using the new counts and updated information about occupied and planned uses, a more refined trip generation model, relying on standard ITE published rates from the most current version (10th Edition published in September 2017) of ITE's *Trip Generation Manual*, has been created. The following sections present the results of the trip counts and analysis, including details regarding:

1) Site access trip counts that were performed in November 2017;
2) A trip generation model that reflects the actual site elements (based on occupancy, size, and types of uses at the time of the counts); and
3) A refined forecast trip generation model that reflects ITE's current recommended practice for estimating trips within mixed-use developments, including the estimation of internal trips.[6]

2. Site Access Trip Generation Counts

Three-day (72-hour) machine traffic counts were commissioned at the four active Point Ruston site access driveways including: 1) Grand Avenue north of Ruston Way; 2) Parking Garage Access / Yacht Club Road; 3) Grand Loop Road / Yacht Club Road; and 4) Bayview Corridor north of Ruston Way beginning November 7, 2017. At the time of the counts, these access driveways provided vehicular access to the site for residents, retail customers, and retail employees, as well as some construction employees. In addition, AM and PM peak period video turning movement counts were performed at each of the same locations on Tuesday, November 7, 2017. All counts were performed by Idax Data Solutions. The video turning movement counts were used to calibrate the machine counts to ensure accuracy. The count data sheets are included as Attachment A.

The site access traffic count data were compiled to document the average weekday daily, AM, and PM peak hour trip generation at the Point Ruston site. Based on detailed review of the data, the hourly trip generation during the PM peak period (4:00 to 6:00 P.M.) during two of the three days was very consistent. However, the counts on Tuesday, November 7, 2018, were noticeably higher. It is noted that Tuesday was election day in Washington state. While general background traffic volumes in the area were not likely materially affected (elections are conducted by mail), there may have been election night parties at Point Ruston restaurant. Point Ruston staff also indicated that day included installation of the temporary holiday ice rink, which could have influenced and inflated the results that day due to extra trips or extra axles[7] associated with larger vehicles. The results for that day were about 35% higher than the average of the following two days as shown in Figure 1. Based on consultation with City staff, it was agreed that the Tuesday data, which were collected on an election day, were not representative and were excluded. The two-day results were averaged and are shown in Figure 2. The two-day average PM peak hour trip generation was 375 trips (207 in and 168 out).

It should be noted that in addition to the trips generated by the occupied uses, the counts also reflect some construction employee traffic currently being generated at the site. Due to the construction schedule requirements of Point Ruston (starting later in the morning to minimize noise impacts to residents), these employee trips occur later than typical construction-related trips and likely coincided with the traditional commuter PM peak period. As a result, the observed trip generation may be slightly inflated beyond what would occur with the occupied uses alone.

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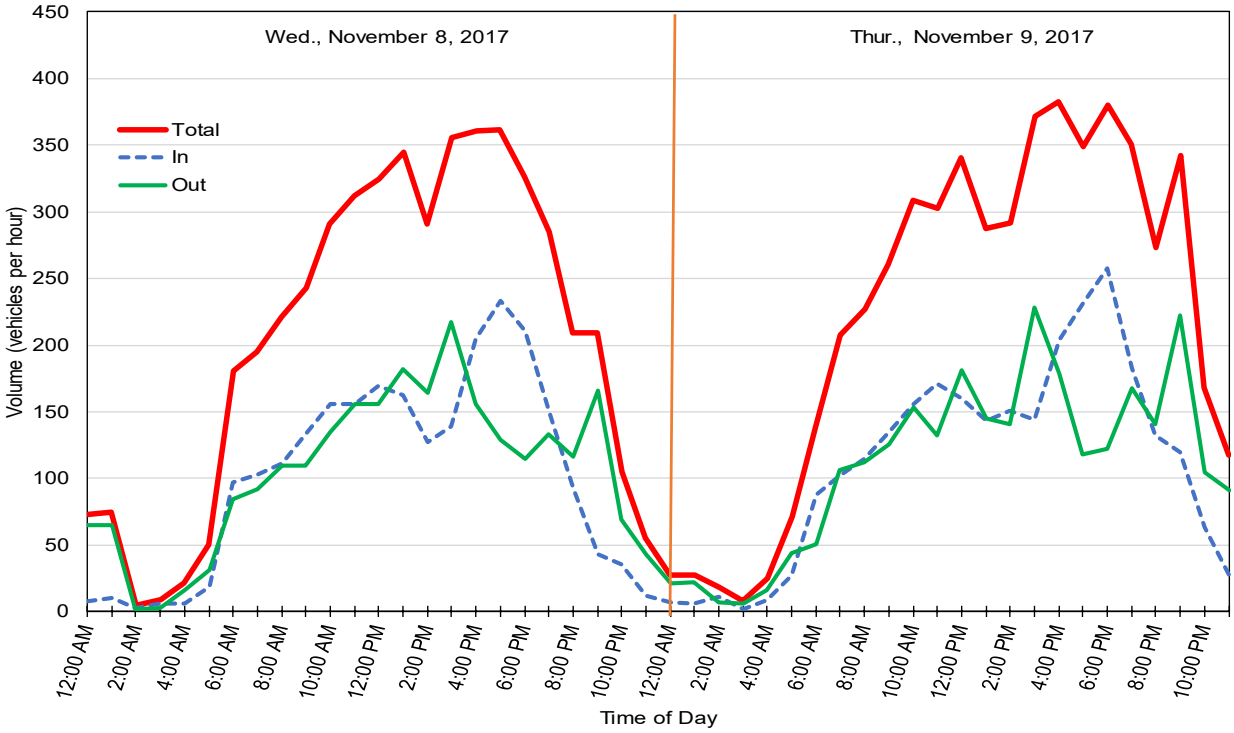
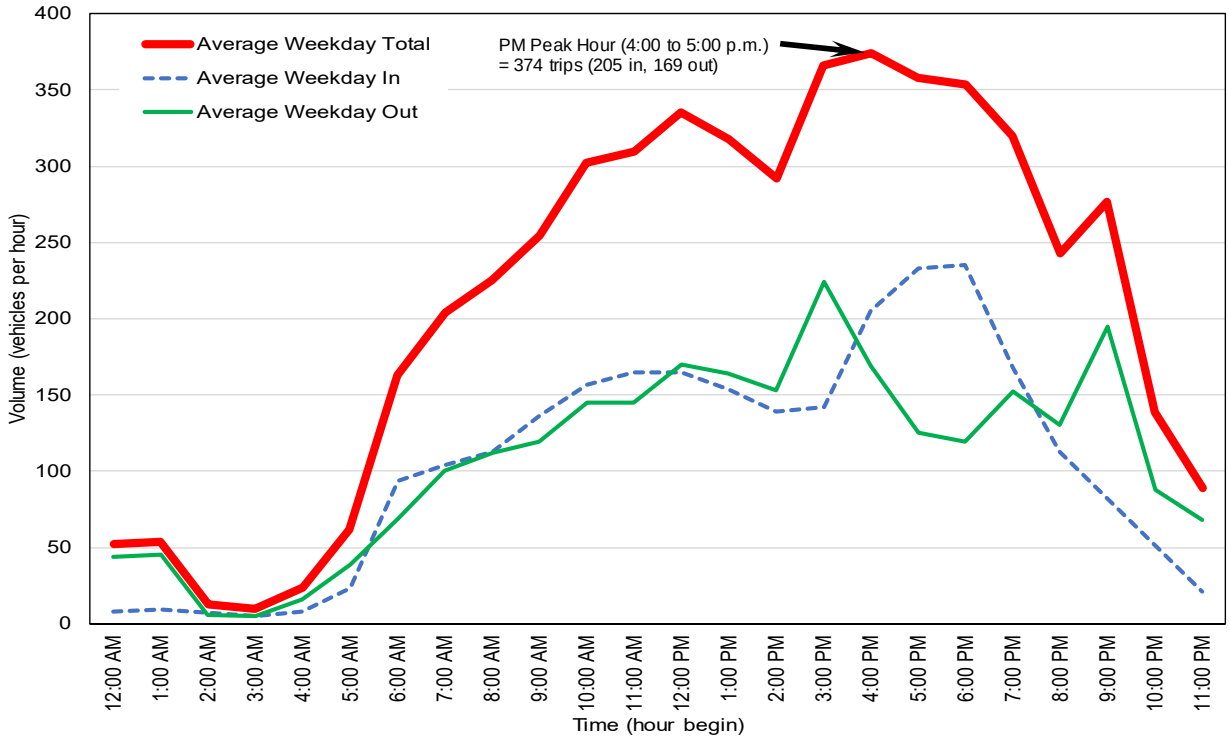
5 Email communications October and November 2017.
6 ITE, *Trip Generation Handbook*, 3rd Edition, September 2017.
7 There were several extra trips from flatbed trucks and trailer vehicles used to deliver the ice rink structure and mechanical cooling equipment for the ice rink.

Figure 1. Point Ruston – Two-Day Traffic Generation



Source: Heffron Transportation, Inc., compiled from counts taken November 8-9, 2017 by Idax Data Solutions.

Figure 2. Point Ruston – Average Weekday Traffic Generation



Source: Heffron Transportation, Inc., compiled from counts taken November 8-9, 2017 by Idax Data Solutions.

Table 1 presents the observed hourly trip generation of the Point Ruston site during the AM and PM peak periods (7:00 to 9:00 A.M. and 4:00 to 6:00 P.M.), as well as the total daily (24-hour) and the averages for both days.

Table 1. Point Ruston – Total Trips by Day and by Hour (AM, PM Peak & Daily (24-Hour)

	Machine Counts by Day of Week		
Hour During Study Periods	Wed., Nov. 8, 2017	Thu., Nov. 9, 2017	Average
AM Peak (7:00 to 9:00 A.M.)			227 [a]
7:00 to 8:00 A.M.	195	208	202
8:00 to 9:00 A.M.	221	227	224
PM Peak (4:00 to 6:00 P.M.)			375 [a]
4:00 to 5:00 P.M.	361	383	372
5:00 to 6:00 P.M.	362	349	356
Daily 24-Hour Totals	4,906	5,282	5,370

Source: Heffron Transportation, Inc., compiled from counts taken November 8-9, 2017 by Idax Data Solutions.

a. Reflects average of highest hour on each day (the times for which varied slightly) selected for comparison with trip generation model.

3. Trip Generation Model

3.1. Method Overview

The trip generation model for the Point Ruston site was developed using procedures set forth in ITE's *Trip Generation Handbook.*[8] ITE recognizes that "*…development sites with two or more complementary uses are now much more common and a method to accurately estimate the external trip generation effects of these types of developments is needed. At a development site consisting of two or more land uses, there is potential for interaction among these uses (referred to as "internal capture trips"), particularly where the trip can be made by walking. As a result, the total generation of external trips (that is, those entering and exiting the overall site) may be less than the simple sum of the trips generated by each discrete land use.*" Chapter 6.0 of the handbook presents the recommended methodology for estimating trips at mixed-use development sites, which conforms to the flow chart presented in Chapter 3 with the following steps:

- *Estimate baseline vehicle trips;*
- *Convert baseline vehicle trips to person trips;*
- *Estimate internal person trips;*
- *Determine external person trips by mode (walk/bike, transit, and in vehicles);*
- *Convert person trips to final vehicle trips; and*
- *Estimate vehicle trip subsets (pass-by / diverted trips).*

The recommended methodology is the same procedure presented in in *National Cooperative Highway Research Program (NCHRP) Report 684: Enhancing Trip Capture Estimation for Mixed-Use Developments.*[9] ITE recommends taking actual counts of similar local uses to determine mode of travel

[8] Institute of Transportation Engineers, *Trip Generation Handbook*, 3rd Edition, 2017.

[9] *Transportation Research Board (TRB), 2011.*

and internalization. The effort to model trip generation at the Point Ruston site based on actual driveway counts are consistent with ITE's recommended practice. Therefore, a trip generation model that relies on standard published rates for the uses within the development and the current recommended practice for estimating external vehicle trip generation at mixed-use development was prepared and compared to the results of the site driveway counts. The occupied development components used in the model are listed in Table 2. Note that the sizes of each use are listed in terms used in ITE's *Trip Generation Manual* (e.g. number of units for residential uses and square feet gross floor area (sfgfa) for commercial spaces).

Table 2. Point Ruston – Existing Uses and Occupancies (November 2017)

Building	Type and/or Name of Use	Size
1A	Multi-Family Housing (Mid-Rise)	135 units
1A	Movie Theater (Cinema with 38,525 sfgfa and 9 screens)	729 seats [1]
1A.1.A	Retail (Art Gallery – Blue Octopus)	2,298 sfgla [2]
1A.1.B	Retail (South Sound Running)	2,762 sfgla
1A.1.C	High-Turnover Restaurant – Jewel Box Café	2,743 sfgfa [2]
1A.2	Quality Restaurant – Stack 571	2,267 sfgfa
1A.3	Quality Restaurant – Mio Sushi	2,105 sfgfa
1C.1	Quality Restaurant – Wild Fin Seafood	6,438 sfgfa
2A	Multi-Family (Mid-Rise)	173 units
2A	Clinic – Franciscan Plastic Surgery (6,240 sfgfa)	12 employees [1]
2A	Clinic – Tranquility Dental (3,076 sfgfa)	4 employees [1]
2A	High-Turnover Restaurant – Two-Town Pub/Eatery	2,386 sfgfa
2A	High-Turnover Restaurant – Dolce Si Bakery	2,386 sfgfa
2A	Health/Fitness Club – NW Fitness 24-7	5,275 sfgfa
2A	Office – Coldwell Banker Bain	1,386 sfgfa
2B East & West	Multi-Family (Mid-Rise)	43 units
18 West	High-Turnover Restaurant – Farrelli's Wood Fired Pizza	7,466 sfgfa
18 West	Retail – Ice Cream Social	1,267 sfgla
18 East	Retail – Purpose Boutique	1,801 sfgla
18 East	Hair Salon – Intaglio	2,147 sfgla

Source: Point Ruston LLC, November 2017.

1. *Independent variable used for those uses by ITE (seats for cinema, employees for clinic).*
2. *sfgfa = square feet gross floor area & sfgla = square feet gross leasable area (the independent variables used for those uses by ITE)*

3.2. Selected Trip Generation Rates and Equations

In order to create a trip generation model for the overall site, rates and equations available within ITE's *Trip Generation Manual* were reviewed to find the best matches to the development that has occurred. Then, the trip generation model was created. Rates and equations for the existing land uses were applied as follows.

Multifamily Housing (Mid-Rise) (Land Use 221) – This residential category "…*includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have between three and 10 levels (floors),*" which best fits the residential units within the Point Ruston development. The fitted curve equation was applied as recommended by City staff.

Movie Theater (Land Use 444) – The cinema has 38,525 sfgfa with nine movie screens. Due to recent trends in the industry, there are fewer, more luxurious seats with more legroom in each auditorium. Since the number of seats is the primary driver of trip generation for theaters, it provides the best independent variable for the rates available. It should be noted that the description for this land use in the *Trip Generation Manual* states that "*Traditional theaters characteristically house a larger number of seats per screen than multiplex theaters. For the eight sites in Land Use 444 with data for both number of movie screens and number of seats, the average number of seats per movie screen was 343.*" The Point Ruston 9-screen cinema complex has 729 seats (fewer than 100 seats per screen on average). As a result, the rates for this land use based on floor area and number of screens reflect higher numbers of seats per screen than what is located at Point Ruston. The published ITE rates based on floor area were determined from either one study on a weekday or two studies on Fridays. The rates based on number of seats were developed from a total of seven studies (three weekday and four Friday). These data were collected in the 1980s, 1990s, and 2010s. Independent trip generation studies have found rates that are more comparable to the published ITE rates based on number of seats. A study prepared for a proposed AMC theater in Santa Monica, California,[10] included data collected at the AMC Santa Monica 7 and AMC Broadway 4 theaters in downtown Santa Monica during the weekday PM peak period in August 2011. The study found the average PM peak hour trip generation rate of 0.06 trips per seat. A study of the Bella Botega Cinema in Redmond, Washington was performed in 1997.[11] For this study, machine traffic counts were performed at all driveways serving the site over a seven-day period in September 1997. Manual check counts were also performed at each driveway to validate the machine traffic counts. These counts found that the cinema (with 1,873-seats) generated traffic at a rate of 0.04 trips per seat. Based on these data and analyses, the published ITE weekday rate of 0.09 trips per seat is the most reasonable and appropriate for application to the proposed Point Ruston cinema.

Health/Fitness Club (Land Use 492) – The rates for this land use based on floor area were applied to the NW Fitness 24/7 facility.

Clinic (Land Use 630) – The description for this land use category is most consistent with the actual uses at the Point Ruston site, which include a Franciscan Plastic Surgery clinic and a dental office. The plastic surgery clinic at 6,240 sfgfa and the dental office at 3,076 sfgfa are both well below the average size of the facilities studied by ITE for the Medical-Dental Office rates (Land Use 720). The ITE description for the Clinic use (LU 630) states: "*A clinic is any facility that provides limited diagnostics and outpatient care but is unable to provide prolonged in-house medical or surgical care*." The Franciscan facility at Point Ruston provides cosmetic procedures, reconstruction, med/spa, and skin care procedures. Tranquility Dental is described at providing gentle dentistry services in a spa-like atmosphere. Since these specialized service uses likely utilize more floor area per employee than the comparable uses in the ITE clinic category, the rates based on total employees were applied. Point Ruston staff obtained information from both businesses about the total number of employees at the time of the counts, which are listed in Table 2.

Small Office Building (Land Use 712) – This land use is described as follows: "*A small office building houses a single tenant and is less than or equal to 5,000 gross square feet in size. It is a*

[10] *Traffic and Parking Study for the AMC Theater Development Project*, Fehr & Peers, September 2012.
[11] *Bella Botega Driveway Traffic Counts and Trip Generation*, Heffron Transportation, Inc. October 20, 1997.

location where affairs of business, commercial or industrial organization, or professional person or firm are conducted." The published average rate was applied for the small office space.

Shopping Center (Land Use 820) – The Shopping Center category is best suited for application to the general retail spaces at Point Ruston for soft goods, art, and accessories. Trip estimates for the restaurant portions of the site are calculated separately and most of the retail spaces do not open until 10 or 11 A.M. Since the AM peak hour equation has a high y-intercept, which is likely because of restaurant spaces within the Shopping Center category, the average rate is more appropriate for application during the AM peak hour. For PM peak hour conditions, the average rate is applied when total retail is 25,000 sf or less; the equation would be applied when total retail exceeds 25,000 sf.

Hair Salon (Land Use 918) – This land use, described as "…*facilities that specialize in cosmetic and beauty services including hair cutting and styling, skin and nail care, and massage therapy. Hair salons may also contain spa facilities.*" provides the best available fit for the planned use.

Quality Restaurant (Land Use 931) – This land use is described as "…*high-quality, full-service eating establishments with typical duration of stay of at least one hour. Quality restaurants generally do not serve breakfast; some do not serve lunch; all serve dinner.*" Three of the existing restaurants fit this description—Stack 571, Mio Sushi, and Wild Fin Seafood.

High-Turnover (Sit-Down) Restaurant (Land Use 932) – The ITE description for this category states: "*This land use consists of sit-down, full service eating establishments with typical duration of stay of approximately one hour. This type of restaurant is usually moderately priced and frequently belongs to a restaurant chain. Generally, these restaurants serve lunch and dinner; they may also be open for breakfast and are sometimes open 24 hours per day… Some facilities contained within this land use may also contain a bar area for serving food and alcoholic drinks.*" This land use category provides the best fit for four of the existing restaurants—Two-Town Pub/Café, Jewel Box Café, Farrelli's Wood Fired Pizza, and Dolce Si Bakery. For the AM peak hour, 80% of the published rate was applied to reflect that several locations are not open for breakfast.

3.3. Trip Generation Model Development

The following outlines the steps applied in developing the trip generation model as recommended in the *Trip Generation Handbook.*

1. **Estimate baseline vehicle trips.** Using the standard rates and equations described above, the combined sum of vehicle trip generation, with no adjustment for internal trips between uses (the simple sum of discrete uses), results in a total of 513 PM peak hour trips. When compared to the actual driveway counts, which resulted in a two-day average of 375 PM peak hour trips, it is clear that the site is generating fewer trips than would be predicted by applying rates without adjustments. The driveway counts imply an internal trip capture rate of approximately 27%.
2. **Determine the number of person trips.** The total number of "person trips" generated by the various uses on the site was determined using results from step one above combined with information about the inherent mode of travel and number of persons per vehicle from ITE's *Trip Generation Handbook.*[12] The rates and assumptions applied for each land use type are summarized in Table 3; the estimates of person trips are summarized in Table 4. As shown, the model estimates a total of 353 AM peak hour person trips and 724 PM peak hour person trips.

[12] Institute of Transportation Engineers, *Trip Generation Handbook, 3rd Edition,* 2014

3. **Determine internal trips.** Internal trips between on-site uses were determined using the methodology in the *Trip Generation Handbook*. An example of an internal trip is when an apartment resident within the site shops at an on-site commercial use or uses an on-site service such as a café or restaurant. The percentage of internal trips depends on the balance of trips generated by the individual land uses—a development that has a balanced mix of uses (retail versus residential trips) will have a higher percentage of internal trips than a development that has one land use that dominates the site's trip generation. The walking distance among uses within the site are also factored into the methodology and calculations. For the uses that were open at the time of the counts, the average distance between the centroids of the buildings was about 490 feet. When reviewing the distances between various uses and building entrance points, the actual walking distance between uses could range from as little as 50 feet to over 1,100 feet. Since several of the buildings contain more than one type of use, an average distance between uses was assumed to be 500 feet. Based on the published internal capture rates for the site uses, 72 person trips (20.4%) are estimated to be internal during the AM peak hour with 192 (26.5%) internal trips in the PM peak hour. Based on the results of the site driveway counts, the number of external vehicle trips observed, and considering on-going construction activity that is not generated by the on-site land uses, the modeled forecast of internal trips appears to be a reasonable approximation of internal trip patterns and capture.

4. **Determine trips by mode of travel.** After the numbers of internal and external person trips are estimated, they are typically separated by mode of travel to account for trips made by various modes including: single occupant vehicles (SOV), carpools, vanpools, transit, walk, and bicycle. Since the nearest transit stop is more than ½ mile from the site and 'Journey-to-Work' survey data from the 2010 Census[13] indicates that residents and employees in the larger area that surrounds the site use transit at a rate of just under 4%, transit trips to and from the development are likely negligible. Although some of the external person trips may occur by pedestrian and bicycle modes (Journey-to-Work surveys for the same zones indicate less than 1% of commute trips by non-motorized modes). Therefore, all external trips were assumed to occur in vehicles (SOVs, carpools, and vanpools). The external person trips were converted to vehicle trips using the same AVO rates presented previously for each land use, since there are no data to indicate other AVO rates would apply to this site.

5. **Convert person trips by vehicle to final vehicle trips.** The total vehicle trips estimated by the model for Point Ruston are summarized in Table 5. As shown, the cumulative vehicle trips generated by all the land uses included in this analysis are estimated at 226 during the AM peak hour (compared to 227 vehicle trips counted at the site driveways) and 371 trips during the PM peak hour (compared to 375 vehicle trips counted at the site driveways).

   As shown, the modeled AM and PM peak hour volumes are nearly identical to the observed driveway counts (within 1%). Based on these results, the trip generation model appears to provide reasonable estimates of external vehicle trip generation by the site. It is also consistent with the current rates and methodology for estimating trip generation at mixed-use developments as recommended by the ITE.

   For comparison, the current modeled result reflects a 27.7% reduction in PM peak hour vehicle trips compared to the cumulative sum of ITE vehicle trip estimates for all uses without any adjustment for internalization. This is nearly identical to the rate originally developed for the FSEIS, before it was reduced to the conservatively low 13% (see page 3.7-19 of the FSEIS).

[13] 2010 Census Journey-to-Work survey data compiled by the Puget Sound Regional Council for Transportation Analysis Zones (TAZs) 682 and 877.

Table 3. Baseline Trip Generation Rates & Equations, AVO Rates, and Mode Assumptions

Land Use (ITE Land Use Code)	ITE Baseline Trip Generation Rates & Equations [a]	Baseline Average Vehicle Occupancy (AVO) Rates [b]		Baseline Vehicle Trip % [b]	
		Inbound	Outbound	Inbound	Outbound
Multifamily Housing (Mid-Rise) (221) – Residential dwelling units located within the same building with at least three other dwelling units in buildings with three to 10 levels.					
AM Peak Hour	Ln(T) = 0.98Ln(X) - 0.98	1.13	1.09	96.2%	97.8%
PM Peak Hour	Ln(T) = 0.96Ln(X) - 0.63	1.15	1.21	97.3%	96.2%
Movie Theater (444) – Consists of audience seating, typically less than 10 screens, a lobby, and a refreshment stand.					
AM Peak Hour	N/A (not open)	--	--	--	--
PM Peak Hour	0.09 trips / seat	2.00 [c]	2.00 [c]	100% [c]	100% [c]
Health / Fitness Club (492) – Privately-owned facility focusing on individual fitness or training.					
AM Peak Hour	1.31 trips / 1,000 sfgla	1.17 [d]	1.16 [d]	100% [d]	100% [d]
PM Peak Hour	3.45 trips / 1,000 sfgla	1.21 [d]	1.18 [d]	100% [d]	100% [d]
Clinic (630) – Facility that provides limited diagnostics and outpatient care but not prolonged in-house medical care.					
AM Peak Hour	1.12 trips per employee	1.37 [e]	1.37 [e]	100% [e]	100% [e]
PM Peak Hour	0.85 trips per employee	1.37 [e]	1.37 [e]	100% [e]	100% [e]
Small Office Building (712) – A single tenant building (<5,000 sf) where affairs of business are conducted.					
AM Peak Hour	1.92 trips / 1,000 sfgfa	1.06	1.06	99%	100%
PM Peak Hour	2.45 trips / 1,000 sfgfa	1.11	1.07	100%	99%
Shopping Center Retail (820) – Group of commercial establishments that may include uses such as traditional retail stores, banks, post offices, recreational uses, and others. Because of the small size of the proposed retail, average rates were used.					
AM Peak Hour	0.94 trips / 1,000 sfgfa	1.17	1.16	100%	100%
PM Peak Hour	3.81 trips / 1,000 sfgla [f] Ln(T) = 0.74Ln(X) + 2.89 [f]	1.21	1.18	100%	100%
Hair Salon (918) – Facilities specializing in cosmetic and beauty services (hair, skin and nail care, and massage therapy).					
AM Peak Hour	1.21 trips / 1,000 sfgfa	1.17 [d]	1.16 [d]	100% [d]	100% [d]
PM Peak Hour	1.45 trips / 1,000 sfgfa	1.21 [d]	1.18 [d]	100% [d]	100% [d]
Quality Restaurant (931) – Full-service eating establishments with typical duration of stay of at least one hour. All serve dinner, some serve lunch, most generally do not serve breakfast.					
AM Peak Hour	0.73 trips / 1,000 sfgfa	1.62 [g]	1.52 [g]	100% [g]	100% [g]
PM Peak Hour	7.80 trips / 1,000 sfgfa	1.62	1.52	100%	100%
High-turnover Sit-Down Restaurant (LU 932) – Consists of sit-down, full service eating establishments with typical duration of stay of approximately one hour. Usually moderately priced and frequently belongs to a restaurant chain. Generally, serve lunch and dinner; may also be open for breakfast. Some may also contain a bar serving food and alcoholic drinks.					
AM Peak Hour	9.94 trips/1,000 sfgfa	1.33 [g]	1.34 [g]	100% [g]	100% [g]
PM Peak Hour	9.77 trips/1,000 sfgfa	1.33	1.34	100%	100%

a. *Source: Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition, September 2017. "sfgla" = square feet of gross leasable area; sfgfa = square feet of gross floor area. For equations, T = number of trips, X = number of dwelling units.*

b. *Based on data in ITE Trip Generation Handbook, 3rd Edition; Tables B.1, B.2, and B.3, unless noted otherwise. Percentage of vehicle trips inherent in the ITE trip rates; values less than 100% reflect trips made by walk, bike, and transit modes.*

c. *Trip Generation Manual does not include AVO or mode-share data. AVO rates estimated by Heffron Transportation.*

d. *AVO rate and vehicle trip % assumed to be the same as shopping center rates from Trip Generation Handbook.*

e. *AVO and mode shares published for Medical Dental Office Building from Table B.3 of Trip Generation Handbook.*

f. *Average rate applied up to 25,000-sf, then equation applied when retail exceeds 25,000-sf.*

g. *No AM peak hour AVO and mode shares; assumed to be same as PM peak hour.*

Table 4. Total Person Trips Generated by Point Ruston (November 2017)

Land Use	Size	AM Peak Hour Person Trips			PM Peak Hour Person Trips		
		In	Out	Total	In	Out	Total
Multifamily Housing (Mid-Rise) (LU 221)	351 units	34	98	132	109	70	179
Movie Theater with Matinee (LU 444)	729 seats	0	0	0	72	59	131
Health/Fitness Club (LU 492)	5,275 sfgfa	4	4	8	13	9	22
Clinic (LU 630)	16 employees	19	6	25	7	12	19
Small Office (LU 712)	1,386 sfgfa	2	1	3	1	2	3
Retail Shopping Center (LU 820)	8,128 sfgla	6	3	9	18	19	37
Hair Salon (LU 918)	2,147 sfgfa	3	1	4	1	3	4
Quality Restaurant (LU 931)	10,810 sfgfa	9	4	13	90	44	134
High-Turnover Restaurant (LU 932)	14,981 sfgfa	87	72	159	121	74	195
Total All Person Trips		164	189	353	432	292	724
Internal Person Trips		36	36	72	96	96	192
% Internal Person Trips			20.4%			26.5%	
Total External Person Trips		128	153	281	336	196	532

Source: Heffron Transportation, Inc., July 2018. Trips estimated using procedures in the ITE Trip Generation Handbook, September 2017.

Table 5. Estimated Driveway Vehicle Trips Generated by Point Ruston

Land Use	Size	AM Peak Hour Vehicle Driveway Trips			PM Peak Hour Vehicle Driveway Trips		
		In	Out	Total	In	Out	Total
Multifamily Housing (Mid-Rise) (LU 221)	351 units	27	68	95	66	42	108
Movie Theater with Matinee (LU 444)	729 seats	0	0	0	31	24	55
Health/Fitness Club (LU 492)	5,275 sfgfa	2	3	5	3	3	6
Clinic (LU 630)	16 employees	11	1	12	2	8	10
Small Office (LU 712)	1,386 sfgfa	1	0	1	0	1	1
Retail Shopping Center (LU 820)	8,128 sfgla	5	0	5	5	6	11
Hair Salon (LU 918)	2,147 sfgfa	1	1	2	0	1	1
Quality Restaurant (LU 931)	10,810 sfgfa	5	3	8	54	19	73
High-Turnover Restaurant (LU 932)	14,981 sfgfa	48	50	98	73	33	106
Total All Vehicle Driveway Trips [a]		100	126	226	234	137	371
Observed Driveway Volumes (2-day average) [b]		114	113	227	207	168	375

Source: Heffron Transportation, Inc., August 2018. Trips estimated using procedures in the ITE Trip Generation Handbook, September 2017.

a. It is noted that the modeled in/out proportions are slightly different from the count results. These differences are likely due to the influence of some construction worker trips in the driveway counts and due to the time of the observed highest hourly volume (4:00 & 4:30 P.M.) when in/out proportions for restaurant and movie theater uses may be different than at 5:00 P.M.

b. Average of two-day counts performed by IDAX, Inc. on November 8 and 9, 2018.

6. **Estimate vehicle trip subsets (pass-by / diverted trips).** Retail and restaurant uses generate two different types of driveway trips—pass-by and new trips—that affect local roadways differently. Pass-by trips are attracted from roadways immediately adjacent to the site. For example, a trip to a restaurant on the site made by a driver already using Ruston Way past the site on a trip home from work or another origin would be considered a pass-by trip. As stated in ITE's *Trip Generation Handbook*, "…"*pass-by" trips do not add new traffic to the adjacent street system and may be reduced from the total external trips generated by a study site.*" Non-Pass-by trips consist of both Primary and Diverted trips. Primary trips are single-purpose trips generated by the site and are generally assumed to begin and end at home, although some primary trips could originate at work or other locations. Diverted trips are attracted from traffic on roadways within the vicinity of the generator but require a diversion from a roadway not adjacent to the site to gain direct access to the site. For the purposes of this analysis, non-pass-by trips are assumed to be new, generated by the Point Ruston development, and referred to as new trips.

   The proportion of pass-by trips for each land use were estimated using information in the *Trip Generation Handbook*. Of the current and proposed additional uses, the retail space and the restaurants could draw pass-by trips from Ruston Way; however, the retail space is very small and is not expected to draw measurable pass-by trips. Although the average pass-by trip percentage rates published for Quality Restaurant and High-Turnover (Sit-Down) Restaurant (presented in Tables E.29 and E.30 of the Trip Generation Handbook) are 44% and 43%, respectively, these averages reflect surveys of sites with higher volumes of traffic on adjacent streets than Ruston Way. For the restaurants, values equal to roughly the 10th percentiles of the reported pass-by survey results published in the *Trip Generation Handbook* for each of these uses were applied. This results in pass-by rates of 26% for Quality Restaurants and 30% for High-Turnover Restaurants, which accounts for the relatively lower volume of traffic on Ruston Way from which those uses could draw trips. The selected pass-by trip percentages and resulting pass-by trip estimates are presented in Table 6. As shown, the restaurants are estimated to generate a total of 31 pass-by trips during the AM peak hour and 51 pass-by trips during the PM peak hour. These are reasonable figures given the existing background traffic volume of about 575 PM peak hour trips on Ruston Way in November 2017. As also shown are the total numbers of non-pass-by trips, those generated exclusively by Point Ruston, estimated at 195 AM peak hour trips (85 in, 110 out) and 320 PM peak hour trips (198 in, 122 out).

   The pass-by trip estimates are provided for information and possible future use in evaluating off-site roadway conditions or operations; they are not used in assessing the established mitigation triggers, which are based on total external vehicle driveway trips (pass-by and primary trips).

Table 6. Pass-by & New Trip Estimates for Point Ruston (November 2017)

		AM Peak Hour Trips			PM Peak Hour Trips		
Land Use	Pass-by Trip %	In	Out	Total	In	Out	Total
Quality Restaurant (LU 931)	26%	1	1	2	14	5	19
High-Turnover Restaurant (LU 932)	30%	14	15	29	22	10	32
Total Pass-by Vehicle Trip Estimate	13%	15	16	31	36	15	51
Total Primary Vehicle Trip Estimate	87%	85	110	195	198	122	320
Total Driveway Vehicle Trip Estimate	100%	100	126	226	234	137	371

Source: Heffron Transportation, Inc., Nov. 2018. Trips estimated using procedures in the ITE Trip Generation Handbook, September 2017.

4. Conclusions

The trip generation model developed for the Point Ruston site follows the recommended methodology and approach outlined in the most current version of ITE's *Trip Generation Manual* and its *Trip Generation Handbook* (from September 2017) for estimating traffic within mixed-use developments.

Based on the data and analyses presented above, this model provides reasonable estimates of the site's internal and external vehicle trips. The model and input assumptions described herein should be applied for future analyses in support of building and occupancy permits as well as mitigation implementation.

Attachments: Attachment A: Traffic count data sheets
Attachment B: Detailed Calibrated Model Data Calculation Sheets – November 2017

TSM/tsm

PR - 2017 Trip Gen Counts_Calibrated Model - FINAL

heffron transportation inc

Attachment A

Traffic Count Data Sheets

November 20, 2018

Location: GRAND LOOP RD N/O RUSTON WAY
Date Range: 11/7/2017 - 11/13/2017
Site Code: 02

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	11/7/2017			11/8/2017			11/9/2017			11/10/2017			11/11/2017			11/12/2017			11/13/2017					
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	3	23	26	4	50	54	5	17	22	-	-	-	-	-	-	-	-	-	-	-	-	4	30	34
1:00 AM	4	10	14	4	51	55	2	15	17	-	-	-	-	-	-	-	-	-	-	-	-	3	25	29
2:00 AM	1	1	2	0	1	1	3	4	7	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3
3:00 AM	3	1	4	1	1	2	1	6	7	-	-	-	-	-	-	-	-	-	-	-	-	2	3	4
4:00 AM	4	5	9	4	7	11	3	6	9	-	-	-	-	-	-	-	-	-	-	-	-	4	6	10
5:00 AM	12	10	22	10	9	19	15	14	29	-	-	-	-	-	-	-	-	-	-	-	-	12	11	23
6:00 AM	35	20	55	45	22	67	45	9	54	-	-	-	-	-	-	-	-	-	-	-	-	42	17	59
7:00 AM	23	24	47	31	20	51	42	19	61	-	-	-	-	-	-	-	-	-	-	-	-	32	21	53
8:00 AM	44	34	78	57	35	92	43	34	77	-	-	-	-	-	-	-	-	-	-	-	-	48	34	82
9:00 AM	73	30	103	56	49	105	64	43	107	-	-	-	-	-	-	-	-	-	-	-	-	64	41	105
10:00 AM	88	43	131	80	56	136	82	57	139	-	-	-	-	-	-	-	-	-	-	-	-	83	52	135
11:00 AM	101	51	152	93	65	158	96	67	163	-	-	-	-	-	-	-	-	-	-	-	-	97	61	158
12:00 PM	119	84	203	83	70	153	79	92	171	-	-	-	-	-	-	-	-	-	-	-	-	94	82	176
1:00 PM	111	95	206	93	81	174	78	65	143	-	-	-	-	-	-	-	-	-	-	-	-	94	80	174
2:00 PM	73	96	169	59	82	141	76	58	134	-	-	-	-	-	-	-	-	-	-	-	-	69	79	148
3:00 PM	122	133	255	80	118	198	73	114	187	-	-	-	-	-	-	-	-	-	-	-	-	92	122	213
4:00 PM	139	117	256	118	61	179	113	84	197	-	-	-	-	-	-	-	-	-	-	-	-	123	87	211
5:00 PM	163	58	221	123	65	188	126	67	193	-	-	-	-	-	-	-	-	-	-	-	-	137	63	201
6:00 PM	174	120	294	110	75	185	169	74	243	-	-	-	-	-	-	-	-	-	-	-	-	151	90	241
7:00 PM	132	105	237	86	85	171	126	95	221	-	-	-	-	-	-	-	-	-	-	-	-	115	95	210
8:00 PM	95	101	196	46	80	126	73	67	140	-	-	-	-	-	-	-	-	-	-	-	-	71	83	154
9:00 PM	60	185	245	28	121	149	72	146	218	-	-	-	-	-	-	-	-	-	-	-	-	53	151	204
10:00 PM	64	77	141	19	50	69	46	60	106	-	-	-	-	-	-	-	-	-	-	-	-	43	62	105
11:00 PM	9	64	73	6	28	34	16	62	78	-	-	-	-	-	-	-	-	-	-	-	-	10	51	62
Total	**1,652**	**1,487**	**3,139**	**1,236**	**1,282**	**2,518**	**1,448**	**1,275**	**2,723**	-	-	-	-	-	-	-	-	-	-	-	-	**1,445**	**1,348**	**2,793**
Percent	**53%**	**47%**	-	**49%**	**51%**	-	**53%**	**47%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**52%**	**48%**	-

1. Mid-week average includes data between Tuesday and Thursday.

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Location: POINT LOOP N GARAGE DWY E/O YATCH CLUB RD
Date Range: 11/7/2017 - 11/13/2017
Site Code: 03

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	11/7/2017			11/8/2017			11/9/2017			11/10/2017			11/11/2017			11/12/2017			11/13/2017					
Time	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	1	2	3	1	4	5	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3
1:00 AM	0	0	0	0	2	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	0	2	2
2:00 AM	1	0	1	0	0	0	2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1
3:00 AM	0	1	1	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
5:00 AM	0	0	0	0	2	2	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0	1	1
6:00 AM	1	2	3	1	1	2	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2
7:00 AM	1	1	2	3	3	6	3	1	4	-	-	-	-	-	-	-	-	-	-	-	-	2	2	4
8:00 AM	2	0	2	1	0	1	2	2	4	-	-	-	-	-	-	-	-	-	-	-	-	2	1	2
9:00 AM	2	2	4	3	1	4	3	0	3	-	-	-	-	-	-	-	-	-	-	-	-	3	1	4
10:00 AM	3	2	5	3	2	5	5	1	6	-	-	-	-	-	-	-	-	-	-	-	-	4	2	5
11:00 AM	7	0	7	5	1	6	4	3	7	-	-	-	-	-	-	-	-	-	-	-	-	5	1	7
12:00 PM	4	3	7	11	2	13	3	4	7	-	-	-	-	-	-	-	-	-	-	-	-	6	3	9
1:00 PM	11	1	12	5	9	14	3	2	5	-	-	-	-	-	-	-	-	-	-	-	-	6	4	10
2:00 PM	4	7	11	1	5	6	2	5	7	-	-	-	-	-	-	-	-	-	-	-	-	2	6	8
3:00 PM	6	9	15	5	6	11	5	3	8	-	-	-	-	-	-	-	-	-	-	-	-	5	6	11
4:00 PM	13	9	22	11	4	15	13	0	13	-	-	-	-	-	-	-	-	-	-	-	-	12	4	17
5:00 PM	10	5	15	12	4	16	14	5	19	-	-	-	-	-	-	-	-	-	-	-	-	12	5	17
6:00 PM	10	8	18	5	2	7	9	3	12	-	-	-	-	-	-	-	-	-	-	-	-	8	4	12
7:00 PM	5	9	14	3	8	11	6	11	17	-	-	-	-	-	-	-	-	-	-	-	-	5	9	14
8:00 PM	2	6	8	4	9	13	10	12	22	-	-	-	-	-	-	-	-	-	-	-	-	5	9	14
9:00 PM	3	19	22	1	9	10	2	10	12	-	-	-	-	-	-	-	-	-	-	-	-	2	13	15
10:00 PM	2	10	12	0	4	4	1	14	15	-	-	-	-	-	-	-	-	-	-	-	-	1	9	10
11:00 PM	0	5	5	0	1	1	0	6	6	-	-	-	-	-	-	-	-	-	-	-	-	0	4	4
Total	**88**	**101**	**189**	**75**	**79**	**154**	**89**	**86**	**175**	-	-	-	-	-	-	-	-	-	-	-	-	**84**	**89**	**173**
Percent	**47%**	**53%**	-	**49%**	**51%**	-	**51%**	**49%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**49%**	**51%**	-

1. Mid-week average includes data between Tuesday and Thursday.

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Location: GRAND LOOP RD E/O YACHT CLUB RD
Date Range: 11/7/2017 - 11/13/2017
Site Code: 04

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	11/7/2017			11/8/2017			11/9/2017			11/10/2017			11/11/2017			11/12/2017			11/13/2017					
Time	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	1	7	8	1	7	8	0	2	2	-	-	-	-	-	-	-	-	-	-	-	-	1	5	6
1:00 AM	0	2	2	1	9	10	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	1	4	5
2:00 AM	0	0	0	1	1	2	0	2	2	-	-	-	-	-	-	-	-	-	-	-	-	0	1	1
3:00 AM	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
4:00 AM	1	0	1	1	1	2	4	0	4	-	-	-	-	-	-	-	-	-	-	-	-	2	0	2
5:00 AM	2	0	2	1	0	1	2	4	6	-	-	-	-	-	-	-	-	-	-	-	-	2	1	3
6:00 AM	10	6	16	11	15	26	9	7	16	-	-	-	-	-	-	-	-	-	-	-	-	10	9	19
7:00 AM	13	14	27	15	11	26	6	14	20	-	-	-	-	-	-	-	-	-	-	-	-	11	13	24
8:00 AM	12	22	34	13	22	35	10	22	32	-	-	-	-	-	-	-	-	-	-	-	-	12	22	34
9:00 AM	17	22	39	16	14	30	17	25	42	-	-	-	-	-	-	-	-	-	-	-	-	17	20	37
10:00 AM	11	23	34	22	23	45	13	21	34	-	-	-	-	-	-	-	-	-	-	-	-	15	22	38
11:00 AM	9	22	31	12	35	47	12	22	34	-	-	-	-	-	-	-	-	-	-	-	-	11	26	37
12:00 PM	15	27	42	17	32	49	13	28	41	-	-	-	-	-	-	-	-	-	-	-	-	15	29	44
1:00 PM	12	40	52	13	39	52	12	27	39	-	-	-	-	-	-	-	-	-	-	-	-	12	35	48
2:00 PM	16	35	51	17	33	50	9	34	43	-	-	-	-	-	-	-	-	-	-	-	-	14	34	48
3:00 PM	12	44	56	5	35	40	13	50	63	-	-	-	-	-	-	-	-	-	-	-	-	10	43	53
4:00 PM	17	34	51	13	33	46	19	32	51	-	-	-	-	-	-	-	-	-	-	-	-	16	33	49
5:00 PM	17	28	45	15	25	40	10	22	32	-	-	-	-	-	-	-	-	-	-	-	-	14	25	39
6:00 PM	7	34	41	19	17	36	16	20	36	-	-	-	-	-	-	-	-	-	-	-	-	14	24	38
7:00 PM	10	24	34	6	23	29	7	36	43	-	-	-	-	-	-	-	-	-	-	-	-	8	28	35
8:00 PM	5	28	33	6	21	27	2	34	36	-	-	-	-	-	-	-	-	-	-	-	-	4	28	32
9:00 PM	4	33	37	3	22	25	5	38	43	-	-	-	-	-	-	-	-	-	-	-	-	4	31	35
10:00 PM	5	20	25	0	8	8	2	21	23	-	-	-	-	-	-	-	-	-	-	-	-	2	16	19
11:00 PM	1	8	9	1	10	11	1	9	10	-	-	-	-	-	-	-	-	-	-	-	-	1	9	10
Total	**197**	**473**	**670**	**209**	**436**	**645**	**183**	**471**	**654**	-	-	-	-	-	-	-	-	-	-	-	-	**196**	**460**	**656**
Percent	**29%**	**71%**	-	**32%**	**68%**	-	**28%**	**72%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**30%**	**70%**	-

1. Mid-week average includes data between Tuesday and Thursday.

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Location: BAY VIEW CORRIDOR N/O RUSTON WAY
Date Range: 11/7/2017 - 11/13/2017
Site Code: 05

	Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Mid-Week Average		
	11/7/2017			11/8/2017			11/9/2017			11/10/2017			11/11/2017			11/12/2017			11/13/2017					
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	4	4	8	2	4	6	2	2	4	-	-	-	-	-	-	-	-	-	-	-	-	3	3	6
1:00 AM	2	2	4	5	3	8	2	3	5	-	-	-	-	-	-	-	-	-	-	-	-	3	3	6
2:00 AM	0	1	1	2	0	2	6	1	7	-	-	-	-	-	-	-	-	-	-	-	-	3	1	3
3:00 AM	1	0	1	5	2	7	1	0	1	-	-	-	-	-	-	-	-	-	-	-	-	2	1	3
4:00 AM	4	9	13	1	8	9	2	10	12	-	-	-	-	-	-	-	-	-	-	-	-	2	9	11
5:00 AM	11	27	38	8	20	28	10	26	36	-	-	-	-	-	-	-	-	-	-	-	-	10	24	34
6:00 AM	36	46	82	40	46	86	33	34	67	-	-	-	-	-	-	-	-	-	-	-	-	36	42	78
7:00 AM	49	60	109	54	58	112	51	72	123	-	-	-	-	-	-	-	-	-	-	-	-	51	63	115
8:00 AM	40	60	100	40	53	93	60	54	114	-	-	-	-	-	-	-	-	-	-	-	-	47	56	102
9:00 AM	56	63	119	58	46	104	51	58	109	-	-	-	-	-	-	-	-	-	-	-	-	55	56	111
10:00 AM	57	56	113	51	54	105	56	74	130	-	-	-	-	-	-	-	-	-	-	-	-	55	61	116
11:00 AM	56	41	97	46	55	101	59	40	99	-	-	-	-	-	-	-	-	-	-	-	-	54	45	99
12:00 PM	102	76	178	58	52	110	65	57	122	-	-	-	-	-	-	-	-	-	-	-	-	75	62	137
1:00 PM	61	61	122	52	53	105	50	51	101	-	-	-	-	-	-	-	-	-	-	-	-	54	55	109
2:00 PM	58	50	108	50	44	94	64	44	108	-	-	-	-	-	-	-	-	-	-	-	-	57	46	103
3:00 PM	73	59	132	49	58	107	53	61	114	-	-	-	-	-	-	-	-	-	-	-	-	58	59	118
4:00 PM	116	61	177	63	58	121	59	63	122	-	-	-	-	-	-	-	-	-	-	-	-	79	61	140
5:00 PM	90	35	125	83	35	118	81	24	105	-	-	-	-	-	-	-	-	-	-	-	-	85	31	116
6:00 PM	98	55	153	77	21	98	64	25	89	-	-	-	-	-	-	-	-	-	-	-	-	80	34	113
7:00 PM	50	33	83	57	17	74	44	26	70	-	-	-	-	-	-	-	-	-	-	-	-	50	25	76
8:00 PM	41	13	54	37	6	43	47	28	75	-	-	-	-	-	-	-	-	-	-	-	-	42	16	57
9:00 PM	35	27	62	11	14	25	41	28	69	-	-	-	-	-	-	-	-	-	-	-	-	29	23	52
10:00 PM	20	7	27	17	7	24	14	10	24	-	-	-	-	-	-	-	-	-	-	-	-	17	8	25
11:00 PM	8	10	18	5	4	9	10	14	24	-	-	-	-	-	-	-	-	-	-	-	-	8	9	17
Total	**1,068**	**856**	**1,924**	**871**	**718**	**1,589**	**925**	**805**	**1,730**	-	-	-	-	-	-	-	-	-	-	-	-	**955**	**793**	**1,748**
Percent	**56%**	**44%**	-	**55%**	**45%**	-	**53%**	**47%**	-	-	-	-	-	-	-	-	-	-	-	-	-	**55%**	**45%**	-

1. Mid-week average includes data between Tuesday and Thursday.

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Attachment B

Detailed Calibrated Model Data Calculation Sheets

November 20, 2018

Point Ruston - PM Peak Model

11/16/2018

Test Phase

Open

Proposed Project - Person Trips

	Land Use	Size	Trip Rate/Eq from 10th Edition: Vehicle Trips	Inbound %	In	Out	Inherent in ITE Rates: ITE Veh Trips	AVO Rates		Vehicle Share		Person Trips
221	Multi-Family (Mid-Rise) - LU 221	351 dus	Ln(T) = 0.96Ln(X) - 0.63	61%	90	58	148	1.15	1.21	97.3%	96.2%	179
255	Continuing Care Retirement - LU 255	0 units	0.16 trips/unit	39%	0	0	0	1.15	1.21	97.3%	96.2%	0
310	Hotel - LU 310	0 rooms	T = 0.75(X) - 26.02	51%	0	0	0	1.31	1.30	98.7%	98.0%	0
444	Movie Theater - LU 444	729 seats	0.090 trips/seat	55%	36	30	66	2.00	2.00	100.0%	100.0%	132
492	Health Fitness Club - LU 492	5,275 sfgfa	3.45 trips/1,000 sfgla	57%	10	8	18	1.21	1.18	100.0%	100.0%	22
630	Clinic - LU 630	16 employees	0.85 trips/employee	36%	5	9	14	1.37	1.37	100.0%	100.0%	19
710	General Office - LU 710	0 sfgfa	Ln(T) = 0.95Ln(X) + 0.36	16%	0	0	0	1.11	1.07	100.0%	99.0%	0
712	Small Office Building - LU 712	1,386 sfgfa	2.45 trips/1,000 sfgfa	32%	1	2	3	1.11	1.07	100.0%	99.0%	3
820	Retail - LU 820	8,128 sfgla	3.81 trips/1,000 sfgla	48%	15	16	31	1.21	1.18	100.0%	100.0%	37
850	Supermarket - LU 850	0 sfgfa	Ln(T) = 0.75Ln(X) + 3.21	51%	0	0	0	1.21	1.18	100.0%	100.0%	0
918	Hair Salon - LU 918	2,147 sfgfa	1.45 trips/1,000 sfgfa	17%	1	2	3	1.21	1.18	100.0%	100.0%	4
931	Quality Restaurant (LU 931)	10,810 sfgfa	7.80 trips/1,000 sfgfa	67%	56	28	84	1.62	1.52	100.0%	100.0%	133
932	High Turn Restaurant (LU 932)	14,981 sfgfa	9.77 trips/1,000 sq. ft.	62%	91	55	146	1.33	1.34	100.0%	100.0%	195
					305	208	513					724
							27.7%					

Retail (LU 820) Rate	3.81 trips/1,000 sfgla	if <25,000 sf
Retail (LU 820) Eq	Ln(T) = 0.74Ln(X) + 2.89	if >25,000 sf

Weighted Average Baseline AVO/Mode Adjustment

	In	Out
Office	1.333	1.273
Retail	1.231	1.192
Restaurant	1.429	1.422
Cinema	2.028	1.967
Residential	1.211	1.207
Hotel	1.000	1.000

Point Ruston - PM Peak Model

11/16/2018

Total Person Trips

Person Trip Summary	Size	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Multi-Family (Mid-Rise) - LU 221	351 dus	109	70	179
Continuing Care Retirement - LU 255	0 units	0	0	0
Hotel - LU 310	0 rooms	0	0	0
Movie Theater - LU 444	729 seats	73	59	132
Health Fitness Club - LU 492	5,275 sfgfa	13	9	22
Clinic - LU 630	16 employees	7	12	19
General Office - LU 710	0 sfgfa	0	0	0
Small Office Building - LU 712	1,386 sfgfa	1	2	3
Retail - LU 820	8,128 sfgla	18	19	37
Supermarket - LU 850	0 sfgfa	0	0	0
Hair Salon - LU 918	2,147 sfgfa	1	3	4
Quality Restaurant (LU 931)	10,810 sfgfa	89	44	133
High Turn Restaurant (LU 932)	14,981 sfgfa	121	74	195
Total All Person Trips		432	292	724

Total Internal Person Trips

Person Trip Summary	Size	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Office	14,163 sfgfa	6	3	9
Retail	15,550 sfgla	22	19	41
Restaurant	25,791 sfgfa	29	44	73
Cinema/Entertainment	729 seats	10	11	21
Residential	351 dus	29	19	48
Hotel	0 rooms	0	0	0
Total All Internal Person Trips	**26.5%**	96	96	192
Total All External Person Trips		336	196	532

Total Person Trips

Person Trip Summary	Size	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Office	14,163 sfgfa	8	14	22
Retail	15,550 sfgla	32	31	63
Restaurant	25,791 sfgfa	210	118	328
Cinema/Entertainment	729 seats	73	59	132
Residential	351 dus	109	70	179
Hotel	0 rooms	0	0	0
Total All Person Trips		432	292	724

Total Vehicle Trips (External Person Trips by Vehicle)

Person Trip Summary	Size	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Office	14,163 sfgfa	2	9	11
Retail	15,550 sfgla	8	10	18
Restaurant	25,791 sfgfa	127	52	179
Cinema/Entertainment	729 seats	31	24	55
Residential	351 dus	66	42	108
Hotel	0 rooms	0	0	0
Total All Person Trips		234	137	371

Point Ruston - PM Peak Model

11/16/2018

Total Vehicle Trips

Land Use	Size	PM Peak Hour Vehicle Trips In	PM Peak Hour Vehicle Trips Out	PM Peak Hour Vehicle Trips Total
Multi-Family (Mid-Rise) - LU 221	351 dus	66	42	108
Continuing Care Retirement - LU 255	0 units	0	0	0
Hotel - LU 310	0 rooms	0	0	0
Movie Theater - LU 444	729 seats	31	24	55
Health Fitness Club - LU 492	5,275 sfgfa	3	3	6
Clinic - LU 630	16 sfgfa	2	8	10
General Office - LU 710	0 sfgfa	0	0	0
Small Office Building - LU 712	1,386 sfgfa	0	1	1
Retail - LU 820	8,128 sfgfa	5	6	11
Supermarket - LU 850	0 sfgfa	0	0	0
Hair Salon - LU 918	2,147 sfgfa	0	1	1
Quality Restaurant (LU 931)	10,810 sfgfa	54	19	73
High Turn Restaurant (LU 932)	14,981 sfgfa	73	33	106
Total		234	137	371

Vehicle Trip Generation by Trip Component - Total Site

Land Use	Trip Component %	PM Peak Hour Vehicle Trips In	PM Peak Hour Vehicle Trips Out	PM Peak Hour Vehicle Trips Total
Office				
Primary Trips	100%	2	9	11
Retail - LU 820				
Primary Trips	100%	8	10	18
Pass-by Trips	0%	0	0	0
Total	100%	8	10	18
Quality Restaurant (LU 931)				
Primary Trips	74%	40	14	54
Pass-by Trips	26%	14	5	19
Total	100%	54	19	73
High Turn Restaurant (LU 932)				
Primary Trips	70%	51	23	74
Pass-by Trips	30%	22	10	32
Total	100%	73	33	106
Cinema/Entertainment				
Primary Trips	100%	31	24	55
Residential				
Primary Trips	100%	66	42	108
Hotel				
Primary Trips	100%	0	0	0
Total Project - Vehicle Trips				
Primary Trips		198	122	320
Pass-by Trips		36	15	51
Total Project Trips		234	137	371

Note: Pass-by rates from Tables E.9 (Shopping Ctr), E.29 (Quality Restaurant), and E.30 (High-Turnover Restaurant) from the Trip Generation Handbook, 3rd Edition (Sept. 2017)

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Point Ruston	**Organization:**	Heffron Transportation, Inc.
Project Location:	Tacoma & Ruston, WA	**Performed By:**	T.S. McBryan, P.E.
Scenario Description:	PM Peak Model - Open Uses	**Date:**	11/16/2018
Analysis Year:	2017	**Checked By:**	R.H. Frankel, E.I.T
Analysis Period:	**PM Street Peak Hour**	**Date:**	11/16/2018

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	712, 630	10,702	sfgfa	17	6	11
Retail	492,820,918	15,550	sfgla	52	26	26
Restaurant	931,932	25,791	sfgfa	230	147	83
Cinema/Entertainment	444	729	seats	66	36	30
Residential	221	351	units	148	90	58
Hotel		-	rooms	0	0	0
All Other Land Uses[2]				0		
				513	305	208

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.33	0%	0%	1.27	0%	0%
Retail	1.23	0%	0%	1.19	0%	0%
Restaurant	1.43	0%	0%	1.42	0%	0%
Cinema/Entertainment	2.03	0%	0%	1.97	0%	0%
Residential	1.21	0%	0%	1.21	0%	0%
Hotel	1.00	0%	0%	1.00	0%	0%
All Other Land Uses[2]		0%	0%		0%	0%

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		500	500		500	
Retail					500	
Restaurant					500	
Cinema/Entertainment					500	
Residential		500	500			
Hotel					500	

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		2	1	0	0	0
Retail	1		9	1	8	0
Restaurant	2	16		9	17	0
Cinema/Entertainment	0	1	6		4	0
Residential	3	3	13	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	724	432	292
Internal Capture Percentage	27%	22%	33%
External Vehicle-Trips[5]	371	234	137
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	75%	21%
Retail	69%	61%
Restaurant	14%	37%
Cinema/Entertainment	14%	19%
Residential	27%	27%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	Point Ruston
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.33	6	8	1.27	11	14
Retail	1.23	26	32	1.19	26	31
Restaurant	1.43	147	210	1.42	83	118
Cinema/Entertainment	2.03	36	73	1.97	30	59
Residential	1.21	90	109	1.21	58	70
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		3	1	0	0	0
Retail	1		9	1	8	2
Restaurant	4	48		9	21	8
Cinema/Entertainment	1	12	18		5	1
Residential	3	27	13	0		2
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		2	4	1	4	0
Retail	2		61	19	50	0
Restaurant	2	16		23	17	0
Cinema/Entertainment	0	1	6		4	0
Residential	5	3	27	0		0
Hotel	0	1	11	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	6	2	8	2	0	0
Retail	22	10	32	8	0	0
Restaurant	29	181	210	127	0	0
Cinema/Entertainment	10	63	73	31	0	0
Residential	29	80	109	66	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	3	11	14	9	0	0
Retail	19	12	31	10	0	0
Restaurant	44	74	118	52	0	0
Cinema/Entertainment	11	48	59	24	0	0
Residential	19	51	70	42	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Point Ruston - AM Peak Model

11/16/2018

Test Phase

Open

Proposed Project - Person Trips

No AM data, used PM

	Land Use	Size	Trip Rate/Eq from 10th Edition: Vehicle Trips	Inbound %	In	Out	ITE Veh Trips	Inherent in ITE Rates: AVO Rates		Vehicle Share		Person Trips
221	Multi-Family (Mid-Rise) - LU 221	351 dus	Ln(T) = 0.98Ln(X) - 0.98	26%	30	87	117	1.13	1.09	96.2%	97.8%	132
255	Continuing Care Retirement - LU 255	0 units	0.14 trips/unit	65%	0	0	0	1.13	1.09	96.2%	97.8%	0
310	Hotel - LU 310	0 rooms	T = 0.50(X) - 5.34	59%	0	0	0	1.26	1.26	93.3%	99.0%	0
444	Movie Theater - LU 444	729 seats	0.000 trips/seat	55%	0	0	0	2.00	2.00	100.0%	100.0%	0
492	Health Fitness Club - LU 492	5,275 sfgfa	1.31 trips/1,000 sfgla	51%	4	3	7	1.17	1.16	100.0%	100.0%	8
630	Clinic - LU 630	16 employees	1.120 trips/employee	77%	14	4	18	1.37	1.37	100.0%	100.0%	25
710	General Office - LU 710	0 sfgfa	T= 0.94(X) + 26.49	86%	0	0	0	1.06	1.06	99.0%	100.0%	0
712	Small Office Building - LU 712	1,386 sfgfa	1.92 trips/1,000 sfgfa	83%	2	1	3	1.06	1.06	99.0%	100.0%	3
820	Retail - LU 820	8,128 sfgla	0.94 trips/1,000 sfgla	62%	5	3	8	1.17	1.16	100.0%	100.0%	9
850	Supermarket - LU 850	0 sfgfa	3.82 trips/1,000 sfgla	60%	0	0	0	1.17	1.16	100.0%	100.0%	0
918	Hair Salon - LU 918	2,147 sfgfa	1.21 trips/1,000 sfgfa	83%	2	1	3	1.17	1.16	100.0%	100.0%	4
931	Quality Restaurant (LU 931)	10,810 sfgfa	0.73 trips/1,000 sfgfa	67%	5	3	8	1.62	1.52	100.0%	100.0%	13
932	High Turn Restaurant (LU 932)	14,981 sfgfa	9.94 trips/1,000 sq. ft.	55%	65	54	119	1.33	1.34	100.0%	100.0%	159
					127	156	283					353

Weighted Average Baseline AVO/Mode Adjustment

	In	Out
Office	1.313	1.400
Retail	1.182	1.143
Restaurant	1.371	1.333
Cinema		
Residential	1.133	1.126
Hotel	1.000	1.000

Point Ruston - AM Peak Model

11/16/2018

Total Person Trips

Person Trip Summary	Size	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total
Multi-Family (Mid-Rise) - LU 221	351 dus	34	98	132
Continuing Care Retirement - LU 255	0 units	0	0	0
Hotel - LU 310	0 rooms	0	0	0
Movie Theater - LU 444	729 seats	0	0	0
Health Fitness Club - LU 492	5,275 sfgfa	4	4	8
Clinic - LU 630	16 sfgfa	19	6	25
General Office - LU 710	0 sfgfa	0	0	0
Small Office Building - LU 712	1,386 sfgfa	2	1	3
Retail - LU 820	8,128 sfgla	6	3	9
Supermarket - LU 850	0 sfgfa	0	0	0
Hair Salon - LU 918	2,147 sfgfa	3	1	4
Quality Restaurant (LU 931)	10,810 sfgfa	9	4	13
High Turn Restaurant (LU 932)	14,981 sfgfa	87	72	159
Total All Person Trips		164	189	353

Total Internal Person Trips

Person Trip Summary	Size	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total
Office	1,402 sfgfa	5	6	11
Retail	15,550 sfgla	4	3	7
Restaurant	25,791 sfgfa	24	6	30
Cinema/Entertainment	729 seats	0	0	0
Residential	351 dus	3	21	24
Hotel	0 rooms	0	0	0
Total All Internal Person Trips	**20.4%**	36	36	72
Total All External Person Trips		128	153	281

Total Person Trips

Person Trip Summary	Size	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total
Office	1,402 sfgfa	21	7	28
Retail	15,550 sfgla	13	8	21
Restaurant	25,791 sfgfa	96	76	172
Cinema/Entertainment	729 seats	0	0	0
Residential	351 dus	34	98	132
Hotel	0 rooms	0	0	0
Total All Person Trips		164	189	353

Total Vehicle Trips (External Person Trips by Vehicle)

Person Trip Summary	Size	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total
Office	1,402 sfgfa	12	1	13
Retail	15,550 sfgla	8	4	12
Restaurant	25,791 sfgfa	53	53	106
Cinema/Entertainment	729 seats			
Residential	351 dus	27	68	95
Hotel	0 rooms	0	0	0
Total All Person Trips		100	126	226

Point Ruston - AM Peak Model

11/16/2018

Total Vehicle Trips

Land Use	Size	AM Peak Hour Vehicle Trips In	AM Peak Hour Vehicle Trips Out	AM Peak Hour Vehicle Trips Total
Multi-Family (Mid-Rise) - LU 221	351 dus	27	68	95
Continuing Care Retirement - LU 255	0 units	0	0	0
Hotel - LU 310	0 rooms	0	0	0
Movie Theater - LU 444	729 seats			
Health Fitness Club - LU 492	5,275 sfgfa	2	3	5
Clinic - LU 630	16 sfgfa	11	1	12
General Office - LU 710	0 sfgfa	0	0	0
Small Office Building - LU 712	1,386 sfgfa	1	0	1
Retail - LU 820	8,128 sfgfa	5	0	5
Supermarket - LU 850	0 sfgfa	0	0	0
Hair Salon - LU 918	2,147 sfgfa	1	1	2
Quality Restaurant (LU 931)	10,810 sfgfa	5	3	8
High Turn Restaurant (LU 932)	14,981 sfgfa	48	50	98
Total		100	126	226

Vehicle Trip Generation by Trip Component - Total Site

Land Use	Trip Component %	AM Peak Hour Vehicle Trips In	AM Peak Hour Vehicle Trips Out	AM Peak Hour Vehicle Trips Total
Office				
Primary Trips	100%	12	1	13
Retail - LU 820				
Primary Trips	100%	8	4	12
Pass-by Trips	0%	0	0	0
Total	100%	8	4	12
Quality Restaurant (LU 931)				
Primary Trips	74%	4	2	6
Pass-by Trips	26%	1	1	2
Total	100%	5	3	8
High Turn Restaurant (LU 932)				
Primary Trips	70%	34	35	69
Pass-by Trips	30%	14	15	29
Total	100%	48	50	98
Cinema/Entertainment				
Primary Trips	100%	0	0	0
Residential				
Primary Trips	100%	27	68	95
Hotel				
Primary Trips	100%	0	0	0
Total Project - Vehicle Trips				
Primary Trips		85	110	195
Pass-by Trips		15	16	31
Total Project Trips		100	126	226

Note: Pass-by rates same as for PM peak hour and sourced from Tables E.9 (Shopping Ctr), E.29 (Quality Restaurant), and E.30 (High-Turnover Restaurant) from the Trip Generation Handbook, 3rd Edition (Sept. 2017)

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Point Ruston	**Organization:**	Heffron Transportation, Inc.
Project Location:	Tacoma & Ruston, WA	**Performed By:**	T.S. McBryan, P.E.
Scenario Description:	AM Peak Model - Open Uses	**Date:**	11/16/2018
Analysis Year:	2017	**Checked By:**	R.H. Frankel, E.I.T
Analysis Period:	**AM Street Peak Hour**	**Date:**	11/16/2018

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	712, 630	10,702	sfgfa	21	16	5
Retail	492,820,918	15,550	sfgla	18	11	7
Restaurant	931,932	25,791	sfgfa	127	70	57
Cinema/Entertainment	444	729	seats	0	0	0
Residential	221	351	units	117	30	87
Hotel		-	rooms	0	0	0
All Other Land Uses[2]				0		
				283	127	156

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.31	0%	0%	1.40	0%	0%
Retail	1.18	0%	0%	1.14	0%	0%
Restaurant	1.37	0%	0%	1.33	0%	0%
Cinema/Entertainment	0.00	0%	0%	0.00	0%	0%
Residential	1.13	0%	0%	1.13	0%	0%
Hotel	1.00	0%	0%	1.00	0%	0%
All Other Land Uses[2]		0%	0%		0%	0%

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		500	500		500	
Retail					500	
Restaurant					500	
Cinema/Entertainment					500	
Residential		500	500			
Hotel					500	

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		2	4	0	0	0
Retail	1		1	0	1	0
Restaurant	3	1		0	2	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	1	19	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	353	164	189
Internal Capture Percentage	20%	22%	19%
External Vehicle-Trips[5]	226	100	126
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	24%	86%
Retail	31%	38%
Restaurant	25%	8%
Cinema/Entertainment	N/A	N/A
Residential	9%	21%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	Point Ruston
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.31	16	21	1.40	5	7
Retail	1.18	11	13	1.14	7	8
Restaurant	1.37	70	96	1.33	57	76
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.13	30	34	1.13	87	98
Hotel	1.00	0	0	1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		2	4	0	0	0
Retail	2		1	0	1	0
Restaurant	24	11		0	3	2
Cinema/Entertainment	0	0	0		0	0
Residential	2	1	20	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		4	22	0	0	0
Retail	1		48	0	1	0
Restaurant	3	1		0	2	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	2	19	0		0
Hotel	1	1	6	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	5	16	21	12	0	0
Retail	4	9	13	8	0	0
Restaurant	24	72	96	53	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	3	31	34	27	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	6	1	7	1	0	0
Retail	3	5	8	4	0	0
Restaurant	6	70	76	53	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	21	77	98	68	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Point Ruston - Full Build Trip Generation Calculations

Point Ruston - Daily Model

5/23/2019

Test Phase

Phase 15

Proposed Project - Person Trips

	Land Use	Size	Trip Rate/Eq from 10th Edition: Vehicle Trips	Inbound %	In	Out	ITE Veh Trips	Inherent in ITE Rates: AVO Rates		Vehicle Share		Person Trips
221	Multi-Family (Mid-Rise) - LU 221	1,528 dus	T = 5.45(X) - 1.75	50%	4,163	4,163	8,326	1.15	1.21	97.3%	96.2%	10,157
255	Continuing Care Retirement - LU 255	155 units	2.40 trips/unit	50%	186	186	372	1.15	1.21	97.3%	96.2%	454
310	Hotel - LU 310	194 rooms	T = 11.29(X) - 426.97	50%	882	881	1,763	1.31	1.30	98.7%	98.0%	2,339
444	Movie Theater - LU 444	729 seats	1.157 trips/seat	50%	422	421	843	2.00	2.00	100.0%	100.0%	1,686
492	Health Fitness Club - LU 492	5,275 sfgfa	32.93 trips/1,000 sfgla	50%	87	87	174	1.21	1.18	100.0%	100.0%	208
630	Clinic - LU 630	22 employees	9.25 trips/employee	50%	102	102	204	1.37	1.37	100.0%	100.0%	279
710	General Office - LU 710	45,392 sfgfa	Ln(T) = 0.97Ln(X) + 2.50	50%	247	246	493	1.11	1.07	100.0%	99.0%	540
712	Small Office Building - LU 712	5,339 sfgfa	16.19 trips/1,000 sfgfa	50%	43	43	86	1.11	1.07	100.0%	99.0%	94
720	Medical Office Bldg - LU 720	50 employees	T = 6.63(X) + 73.68	50%	203	202	405	1.00	1.00	100.0%	100.0%	405
820	Retail - LU 820	174,902 sfgla	Ln(T) = 0.68Ln(X) + 5.57	50%	4,397	4,396	8,793	1.21	1.18	100.0%	100.0%	10,508
850	Supermarket - LU 850	0 sfgfa	T = 70.89(X) + 1212.64	50%	0	0	0	1.21	1.18	100.0%	100.0%	0
918	Hair Salon - LU 918	2,147 sfgfa	14.50 trips/1,000 sfgfa	50%	16	15	31	1.21	1.18	100.0%	100.0%	37
931	Quality Restaurant (LU 931)	10,810 sfgfa	83.84 trips/1,000 sfgfa	50%	453	453	906	1.62	1.52	100.0%	100.0%	1,422
932	High Turn Restaurant (LU 932)	21,924 sfgfa	112.18 trips/1,000 sq. ft.	50%	1,230	1,229	2,459	1.33	1.34	100.0%	100.0%	3,283
					12,431	12,424	24,855					31,412
							37.8%					
	Retail (LU 820) Rate		37.75 trips/1,000 sfgla	if <25,000 sf								
	Retail (LU 820) Eq		Ln(T) = 0.68Ln(X) + 5.57	if >25,000 sf								

Weighted Average Baseline AVO/Mode Adjustment

	In	Out
Office	1.109	1.110
Retail	1.195	1.195
Restaurant	1.398	1.398
Cinema	1.998	2.002
Residential	1.220	1.220
Hotel	1.327	1.327

Point Ruston - Daily Model

5/23/2019

Total Person Trips

Person Trip Summary	Size	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Multi-Family (Mid-Rise) - LU 221	1,528 dus	5,079	5,078	10,157
Continuing Care Retirement - LU 255	155 units	227	227	454
Hotel - LU 310	194 rooms	1,170	1,169	2,339
Movie Theater - LU 444	729 seats	843	843	1,686
Health Fitness Club - LU 492	5,275 sfgfa	104	104	208
Clinic - LU 630	22 employees	140	139	279
General Office - LU 710	45,392 sfgfa	270	270	540
Small Office Building - LU 712	5,339 sfgfa	47	47	94
Medical Office Bldg - LU 720	50 employees	203	202	405
Retail - LU 820	174,902 sfgla	5,254	5,254	10,508
Supermarket - LU 850	0 sfgfa	0	0	0
Hair Salon - LU 918	2,147 sfgfa	19	18	37
Quality Restaurant (LU 931)	10,810 sfgfa	711	711	1,422
High Turn Restaurant (LU 932)	21,924 sfgfa	1,642	1,641	3,283
Total All Person Trips		15,709	15,703	31,412

Total Internal Person Trips

Person Trip Summary	Size	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Office	184,878 sfgfa	408	133	541
Retail	182,324 sfgla	1,762	2,514	4,276
Restaurant	32,734 sfgfa	1,144	1,785	2,929
Cinema/Entertainment	729 seats	403	340	743
Residential	1,683 dus	1,782	1,017	2,799
Hotel	194 rooms	516	226	742
Total All Internal Person Trips	38.3%	6,015	6,015	12,030
Total All External Person Trips		9,694	9,688	19,382

Total Person Trips

Person Trip Summary	Size	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Office	184,878 sfgfa	660	658	1,318
Retail	182,324 sfgla	5,377	5,376	10,753
Restaurant	32,734 sfgfa	2,353	2,352	4,705
Cinema/Entertainment	729 seats	843	843	1,686
Residential	1,683 dus	5,306	5,305	10,611
Hotel	194 rooms	1,170	1,169	2,339
Total All Person Trips		15,709	15,703	31,412

Total Vehicle Trips (External Person Trips by Vehicle)

Person Trip Summary	Size	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Office	184,878 sfgfa	227	473	700
Retail	182,324 sfgla	3,025	2,395	5,420
Restaurant	32,734 sfgfa	865	405	1,270
Cinema/Entertainment	729 seats	220	251	471
Residential	1,683 dus	2,888	3,515	6,403
Hotel	194 rooms	493	711	1,204
Total All Person Trips		7,718	7,750	15,468

Point Ruston - Daily Model

5/23/2019

Total Vehicle Trips

Land Use	Size	PM Peak Hour Vehicle Trips In	PM Peak Hour Vehicle Trips Out	PM Peak Hour Vehicle Trips Total
Multi-Family (Mid-Rise) - LU 221	1,528 dus	2,764	3,365	6,129
Continuing Care Retirement - LU 255	155 units	124	150	274
Hotel - LU 310	194 rooms	493	711	1,204
Movie Theater - LU 444	729 seats	220	251	471
Health Fitness Club - LU 492	5,275 sfgfa	59	46	105
Clinic - LU 630	22 employees	48	100	148
General Office - LU 710	45,392 sfgfa	93	194	287
Small Office Building - LU 712	5,339 sfgfa	16	34	50
Medical Office Bldg - LU 720	50 employees	70	145	215
Retail - LU 820	174,902 sfgfa	2,956	2,340	5,296
Supermarket - LU 850	0 sfgfa	0	0	0
Hair Salon - LU 918	2,147 sfgfa	11	8	19
Quality Restaurant (LU 931)	10,810 sfgfa	261	122	383
High Turn Restaurant (LU 932)	21,924 sfgfa	604	283	887
Total		7,719	7,749	15,468

Vehicle Trip Generation by Trip Component - Total Site

Land Use	Trip Component %	PM Peak Hour Vehicle Trips In	PM Peak Hour Vehicle Trips Out	PM Peak Hour Vehicle Trips Total
Office				
Primary Trips	100%	227	473	700
Retail - LU 820				
Primary Trips	100%	3,025	2,395	5,420
Pass-by Trips	0%	0	0	0
Total	100%	3,025	2,395	5,420
Quality Restaurant (LU 931)				
Primary Trips	74%	193	90	283
Pass-by Trips	26%	68	32	100
Total	100%	261	122	383
High Turn Restaurant (LU 932)				
Primary Trips	70%	423	198	621
Pass-by Trips	30%	181	85	266
Total	100%	604	283	887
Cinema/Entertainment				
Primary Trips	100%	220	251	471
Residential				
Primary Trips	100%	2,888	3,515	6,403
Hotel				
Primary Trips	100%	493	711	1,204
Total Project - Vehicle Trips				
Primary Trips		7,469	7,633	15,102
Pass-by Trips		249	117	366
Total Project Trips		7,718	7,750	15,468

Note: Pass-by rates from Tables E.9 (Shopping Ctr), E.29 (Quality Restaurant), and E.30 (High-Turnover Restaurant) from the Trip Generation Handbook, 3rd Edition (Sept. 2017)

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Point Ruston	**Organization:**	Heffron Transportation, Inc.
Project Location:	Tacoma & Ruston, WA	**Performed By:**	T.S. McBryan, P.E.
Scenario Description:	Daily Model - Full Build (approx. w/ PM info)	**Date:**	5/23/2019
Analysis Year:	2026	**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	712,630,720	184,878	sfgfa	1,188	595	593
Retail	492,820,918	182,324	sfgla	8,998	4,500	4,498
Restaurant	931,932	32,734	sfgfa	3,365	1,683	1,682
Cinema/Entertainment	444	729	seats	843	422	421
Residential	221, 255	1,683	units	8,698	4,349	4,349
Hotel	310	194	rooms	1,763	882	881
All Other Land Uses[2]				0		
				24,855	12,431	12,424

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.11	0%	0%	1.11	0%	0%
Retail	1.19	0%	0%	1.20	0%	0%
Restaurant	1.40	0%	0%	1.40	0%	0%
Cinema/Entertainment	2.00	0%	0%	2.00	0%	0%
Residential	1.22	0%	0%	1.22	0%	0%
Hotel	1.33	0%	0%	1.33	0%	0%
All Other Land Uses[2]		0%	0%		0%	0%

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		976	976		976	
Retail					976	
Restaurant					976	
Cinema/Entertainment					976	
Residential		976	976			
Hotel					976	

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		101	20	0	12	0
Retail	108		682	215	1310	199
Restaurant	71	964		188	397	165
Cinema/Entertainment	17	177	71		63	12
Residential	212	412	253	0		140
Hotel	0	108	118	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	31,412	15,709	15,703
Internal Capture Percentage	38%	38%	38%
External Vehicle-Trips[5]	15,468	7,718	7,750
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	62%	20%
Retail	33%	47%
Restaurant	49%	76%
Cinema/Entertainment	48%	40%
Residential	34%	19%
Hotel	44%	19%

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	Point Ruston
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.11	595	660	1.11	593	658
Retail	1.19	4500	5377	1.20	4498	5376
Restaurant	1.40	1683	2353	1.40	1682	2352
Cinema/Entertainment	2.00	422	843	2.00	421	843
Residential	1.22	4349	5306	1.22	4349	5305
Hotel	1.33	882	1170	1.33	881	1169

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	310	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		101	20	0	12	0
Retail	108		1559	215	1310	269
Restaurant	71	964		188	397	165
Cinema/Entertainment	17	177	261		63	17
Residential	212	1709	855	0		159
Hotel	0	187	795	0	22	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		330	36	8	212	0
Retail	205		682	219	2441	199
Restaurant	198	2689		270	849	831
Cinema/Entertainment	40	215	71		212	12
Residential	376	412	253	0		140
Hotel	0	108	118	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	408	252	660	227	0	0
Retail	1762	3615	5377	3025	0	0
Restaurant	1144	1209	2353	865	0	0
Cinema/Entertainment	403	440	843	220	0	0
Residential	1782	3524	5306	2888	0	0
Hotel	516	654	1170	493	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	133	525	658	473	0	0
Retail	2514	2862	5376	2395	0	0
Restaurant	1785	567	2352	405	0	0
Cinema/Entertainment	340	503	843	251	0	0
Residential	1017	4288	5305	3515	0	0
Hotel	226	943	1169	711	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Point Ruston - AM Peak Model

4/28/2019

Test Phase

Phase 15

Proposed Project - Person Trips

Trip Rate/Eq from 10th Edition

No AM data, used PM

Inherent in ITE Rates

	Land Use	Size	Vehicle Trips	Inbound %	In	Out	ITE Veh Trips	AVO Rates		Vehicle Share		Person Trips
221	Multi-Family (Mid-Rise) - LU 221	1,528 dus	Ln(T) = 0.98Ln(X) - 0.98	26%	129	366	495	1.13	1.09	96.2%	97.8%	559
255	Continuing Care Retirement - LU 255	155 units	0.14 trips/unit	65%	14	8	22	1.13	1.09	96.2%	97.8%	25
310	Hotel - LU 310	194 rooms	T = 0.50(X) - 5.34	59%	54	38	92	1.26	1.26	93.3%	99.0%	121
444	Movie Theater - LU 444	729 seats	0.000 trips/seat	55%	0	0	0	2.00	2.00	100.0%	100.0%	0
492	Health Fitness Club - LU 492	5,275 sfgfa	1.31 trips/1,000 sfgla	51%	4	3	7	1.17	1.16	100.0%	100.0%	8
630	Clinic - LU 630	22 employees	1.120 trips/employee	77%	19	6	25	1.37	1.37	100.0%	100.0%	34
710	General Office - LU 710	45,392 sfgfa	T= 0.94(X) + 26.49	86%	59	10	69	1.06	1.06	99.0%	100.0%	74
712	Small Office Building - LU 712	5,339 sfgfa	1.92 trips/1,000 sfgfa	83%	8	2	10	1.06	1.06	99.0%	100.0%	11
720	Medical Office Bldg - LU 720	50 employees	T = 0.45(X) + 11.83	78%	27	7	34	1.00	1.00	100.0%	100.0%	34
820	Retail - LU 820	174,902 sfgla	0.94 trips/1,000 sfgla	62%	102	62	164	1.17	1.16	100.0%	100.0%	191
850	Supermarket - LU 850	0 sfgfa	3.82 trips/1,000 sfgla	60%	0	0	0	1.17	1.16	100.0%	100.0%	0
918	Hair Salon - LU 918	2,147 sfgfa	1.21 trips/1,000 sfgfa	83%	2	1	3	1.17	1.16	100.0%	100.0%	4
931	Quality Restaurant (LU 931)	10,810 sfgfa	0.73 trips/1,000 sfgfa	67%	5	3	8	1.62	1.52	100.0%	100.0%	13
932	High Turn Restaurant (LU 932)	21,924 sfgfa	9.94 trips/1,000 sq. ft.	55%	96	78	174	1.33	1.34	100.0%	100.0%	232
					519	584	1,103					1,306
							18.9%					

Medical Uses	Floor Areas
Clinic - LU 630	14,147 sfgfa
Medical Office Bldg - LU 720	120,000 sfgfa

Weighted Average Baseline AVO/Mode Adjustment

	In	Out
Office	1.115	1.080
Retail	1.157	1.182
Restaurant	1.356	1.333
Cinema		
Residential	1.126	1.131
Hotel	1.315	1.316

Point Ruston - AM Peak Model

4/28/2019

Total Person Trips

Person Trip Summary	Size	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total
Multi-Family (Mid-Rise) - LU 221	1,528 dus	145	414	559
Continuing Care Retirement - LU 255	155 units	16	9	25
Hotel - LU 310	194 rooms	71	50	121
Movie Theater - LU 444	729 seats	0	0	0
Health Fitness Club - LU 492	5,275 sfgfa	4	4	8
Clinic - LU 630	22 employees	26	8	34
General Office - LU 710	45,392 sfgfa	64	10	74
Small Office Building - LU 712	5,339 sfgfa	9	2	11
Medical Office Bldg - LU 720	50 employees	27	7	34
Retail - LU 820	174,902 sfgla	118	73	191
Supermarket - LU 850	0 sfgfa	0	0	0
Hair Salon - LU 918	2,147 sfgfa	3	1	4
Quality Restaurant (LU 931)	10,810 sfgfa	9	4	13
High Turn Restaurant (LU 932)	21,924 sfgfa	128	104	232
Total All Person Trips		620	686	1,306

Total Internal Person Trips

Person Trip Summary	Size	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total
Office	184,878 sfgfa	31	25	56
Retail	182,324 sfgla	27	18	45
Restaurant	32,734 sfgfa	59	35	94
Cinema/Entertainment	729 seats	0	0	0
Residential	1,683 dus	7	35	42
Hotel	194 rooms	3	14	17
Total All Internal Person Trips	**19.4%**	127	127	254
Total All External Person Trips		493	559	1,052

Total Person Trips

Person Trip Summary	Size	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total
Office	184,878 sfgfa	126	27	153
Retail	182,324 sfgla	125	78	203
Restaurant	32,734 sfgfa	137	108	245
Cinema/Entertainment	729 seats	0	0	0
Residential	1,683 dus	161	423	584
Hotel	194 rooms	71	50	121
Total All Person Trips		620	686	1,306

Total Vehicle Trips (External Person Trips by Vehicle)

Person Trip Summary	Size	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total
Office	184,878 sfgfa	85	2	87
Retail	182,324 sfgla	85	51	136
Restaurant	32,734 sfgfa	58	55	113
Cinema/Entertainment	729 seats			
Residential	1,683 dus	137	343	480
Hotel	194 rooms	52	27	79
Total All Person Trips		417	478	895

Point Ruston - AM Peak Model

4/28/2019

Total Vehicle Trips

Land Use	Size	AM Peak Hour Vehicle Trips In	AM Peak Hour Vehicle Trips Out	AM Peak Hour Vehicle Trips Total
Multi-Family (Mid-Rise) - LU 221	1,528 dus	123	336	459
Continuing Care Retirement - LU 255	155 units	14	7	21
Hotel - LU 310	194 rooms	52	27	79
Movie Theater - LU 444	729 seats			
Health Fitness Club - LU 492	5,275 sfgfa	3	2	5
Clinic - LU 630	22 employees	18	1	19
General Office - LU 710	45,392 sfgfa	43	1	44
Small Office Building - LU 712	5,339 sfgfa	6	0	6
Medical Office Bldg - LU 720	50 sfgfa	18	0	18
Retail - LU 820	174,902 sfgfa	80	48	128
Supermarket - LU 850	0 sfgfa	0	0	0
Hair Salon - LU 918	2,147 sfgfa	2	1	3
Quality Restaurant (LU 931)	10,810 sfgfa	4	2	6
High Turn Restaurant (LU 932)	21,924 sfgfa	54	53	107
Total		417	478	895

Vehicle Trip Generation by Trip Component - Total Site

Land Use	Trip Component %	AM Peak Hour Vehicle Trips In	AM Peak Hour Vehicle Trips Out	AM Peak Hour Vehicle Trips Total
Office				
Primary Trips	100%	85	2	87
Retail - LU 820				
Primary Trips	100%	85	51	136
Pass-by Trips	0%	0	0	0
Total	100%	85	51	136
Quality Restaurant (LU 931)				
Primary Trips	74%	3	1	4
Pass-by Trips	26%	1	1	2
Total	100%	4	2	6
High Turn Restaurant (LU 932)				
Primary Trips	70%	38	37	75
Pass-by Trips	30%	16	16	32
Total	100%	54	53	107
Cinema/Entertainment				
Primary Trips	100%	0	0	0
Residential				
Primary Trips	100%	137	343	480
Hotel				
Primary Trips	100%	52	27	79
Total Project - Vehicle Trips				
Primary Trips		400	461	861
Pass-by Trips		17	17	34
Total Project Trips		417	478	895

Note: Pass-by rates same as for PM peak hour and sourced from Tables E.9 (Shopping Ctr), E.29 (Quality Restaurant), and E.30 (High-Turnover Restaurant) from the Trip Generation Handbook, 3rd Edition (Sept. 2017)

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Point Ruston	**Organization:**	Heffron Transportation, Inc.
Project Location:	Tacoma & Ruston, WA	**Performed By:**	T.S. McBryan, P.E.
Scenario Description:	AM Peak Model - Pull Build	**Date:**	4/28/2019
Analysis Year:	2026	**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	712,630,720	184,878	sfgfa	138	113	25
Retail	492,820,918	182,324	sfgla	174	108	66
Restaurant	931,932	32,734	sfgfa	182	101	81
Cinema/Entertainment	444	729	seats	0	0	0
Residential	221, 255	1,683	units	517	143	374
Hotel	310	194	rooms	92	54	38
All Other Land Uses[2]				0		
				1,103	519	584

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.12	0%	0%	1.08	0%	0%
Retail	1.16	0%	0%	1.18	0%	0%
Restaurant	1.36	0%	0%	1.33	0%	0%
Cinema/Entertainment	0.00	0%	0%	0.00	0%	0%
Residential	1.13	0%	0%	1.13	0%	0%
Hotel	1.31	0%	0%	1.32	0%	0%
All Other Land Uses[2]		0%	0%		0%	0%

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		976	976		976	
Retail					976	
Restaurant					976	
Cinema/Entertainment					976	
Residential		976	976			
Hotel					976	

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		8	17	0	0	0
Retail	5		10	0	3	0
Restaurant	18	10		0	4	3
Cinema/Entertainment	0	0	0		0	0
Residential	4	4	27	0		0
Hotel	4	5	5	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	1,306	620	686
Internal Capture Percentage	19%	20%	19%
External Vehicle-Trips[5]	895	417	478
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	25%	93%
Retail	22%	23%
Restaurant	43%	32%
Cinema/Entertainment	N/A	N/A
Residential	4%	8%
Hotel	4%	28%

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	Point Ruston
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.12	113	126	1.08	25	27
Retail	1.16	108	125	1.18	66	78
Restaurant	1.36	101	137	1.33	81	108
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.13	143	161	1.13	374	423
Hotel	1.31	54	71	1.32	38	50
	#N/A					

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		8	17	0	0	0
Retail	23		10	0	11	0
Restaurant	33	15		0	4	3
Cinema/Entertainment	0	0	0		0	0
Residential	8	4	85	0		0
Hotel	38	7	5	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		40	32	0	0	0
Retail	5		69	0	3	0
Restaurant	18	10		0	8	3
Cinema/Entertainment	0	0	0		0	0
Residential	4	21	27	0		0
Hotel	4	5	8	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	31	95	126	85	0	0
Retail	27	98	125	85	0	0
Restaurant	59	78	137	58	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	7	154	161	137	0	0
Hotel	3	68	71	52	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	25	2	27	2	0	0
Retail	18	60	78	51	0	0
Restaurant	35	73	108	55	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	35	388	423	343	0	0
Hotel	14	36	50	27	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Point Ruston - PM Peak Model

4/28/2019

Test Phase

Phase 15

Proposed Project - Person Trips

	Land Use	Size	Trip Rate/Eq from 10th Edition: Vehicle Trips	Inbound %	In	Out	Inherent in ITE Rates: ITE Veh Trips	AVO Rates		Vehicle Share		Person Trips
221	Multi-Family (Mid-Rise) - LU 221	1,528 dus	Ln(T) = 0.96Ln(X) - 0.63	61%	370	237	607	1.15	1.21	97.3%	96.2%	735
255	Continuing Care Retirement - LU 255	155 units	0.16 trips/unit	39%	10	15	25	1.15	1.21	97.3%	96.2%	31
310	Hotel - LU 310	194 rooms	T = 0.75(X) - 26.02	51%	61	58	119	1.31	1.30	98.7%	98.0%	158
444	Movie Theater - LU 444	729 seats	0.090 trips/seat	55%	36	30	66	2.00	2.00	100.0%	100.0%	132
492	Health Fitness Club - LU 492	5,275 sfgfa	3.45 trips/1,000 sfgla	57%	10	8	18	1.21	1.18	100.0%	100.0%	22
630	Clinic - LU 630	22 employees	0.85 trips/employee	36%	7	12	19	1.37	1.37	100.0%	100.0%	26
710	General Office - LU 710	45,392 sfgfa	Ln(T) = 0.95Ln(X) + 0.36	16%	9	45	54	1.11	1.07	100.0%	99.0%	59
712	Small Office Building - LU 712	5,339 sfgfa	2.45 trips/1,000 sfgfa	32%	4	9	13	1.11	1.07	100.0%	99.0%	14
720	Medical Office Bldg - LU 720	50 employees	T = 1.01(X) - 1.73	34%	17	32	49	1.00	1.00	100.0%	100.0%	49
820	Retail - LU 820	174,902 sfgla	Ln(T) = 0.74Ln(X) + 2.89	48%	395	427	822	1.21	1.18	100.0%	100.0%	982
850	Supermarket - LU 850	0 sfgfa	Ln(T) = 0.75Ln(X) + 3.21	51%	0	0	0	1.21	1.18	100.0%	100.0%	0
918	Hair Salon - LU 918	2,147 sfgfa	1.45 trips/1,000 sfgfa	17%	1	2	3	1.21	1.18	100.0%	100.0%	4
931	Quality Restaurant (LU 931)	10,810 sfgfa	7.80 trips/1,000 sfgfa	67%	56	28	84	1.62	1.52	100.0%	100.0%	133
932	High Turn Restaurant (LU 932)	21,924 sfgfa	9.77 trips/1,000 sq. ft.	62%	133	81	214	1.33	1.34	100.0%	100.0%	285
					1,109	984	2,093					2,630
							39.1%					

Retail (LU 820) Rate	3.81 trips/1,000 sfgla	if <25,000 sf
Retail (LU 820) Eq	Ln(T) = 0.74Ln(X) + 2.89	if >25,000 sf

Weighted Average Baseline AVO/Mode Adjustment

	In	Out
Office	1.054	1.112
Retail	1.195	1.197
Restaurant	1.407	1.394
Cinema	2.028	1.967
Residential	1.211	1.214
Hotel	1.328	1.328

Point Ruston - PM Peak Model

4/28/2019

Total Person Trips

Person Trip Summary	Size	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Multi-Family (Mid-Rise) - LU 221	1,528 dus	448	287	735
Continuing Care Retirement - LU 255	155 units	12	19	31
Hotel - LU 310	194 rooms	81	77	158
Movie Theater - LU 444	729 seats	73	59	132
Health Fitness Club - LU 492	5,275 sfgfa	13	9	22
Clinic - LU 630	22 employees	9	17	26
General Office - LU 710	45,392 sfgfa	9	50	59
Small Office Building - LU 712	5,339 sfgfa	4	10	14
Medical Office Bldg - LU 720	50 employees	17	32	49
Retail - LU 820	174,902 sfgla	471	511	982
Supermarket - LU 850	0 sfgfa	0	0	0
Hair Salon - LU 918	2,147 sfgfa	1	3	4
Quality Restaurant (LU 931)	10,810 sfgfa	89	44	133
High Turn Restaurant (LU 932)	21,924 sfgfa	177	108	285
Total All Person Trips		1,404	1,226	2,630

Total Internal Person Trips

Person Trip Summary	Size	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Office	184,878 sfgfa	28	22	50
Retail	182,324 sfgla	138	247	385
Restaurant	32,734 sfgfa	130	116	246
Cinema/Entertainment	729 seats	31	26	57
Residential	1,683 dus	159	87	246
Hotel	194 rooms	35	23	58
Total All Internal Person Trips	39.6%	521	521	1,042
Total All External Person Trips		883	705	1,588

Total Person Trips

Person Trip Summary	Size	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Office	184,878 sfgfa	39	109	148
Retail	182,324 sfgla	485	523	1,008
Restaurant	32,734 sfgfa	266	152	418
Cinema/Entertainment	729 seats	73	59	132
Residential	1,683 dus	460	306	766
Hotel	194 rooms	81	77	158
Total All Person Trips		1,404	1,226	2,630

Total Vehicle Trips (External Person Trips by Vehicle)

Person Trip Summary	Size	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Office	184,878 sfgfa	10	78	88
Retail	182,324 sfgla	290	231	521
Restaurant	32,734 sfgfa	97	26	123
Cinema/Entertainment	729 seats	21	17	38
Residential	1,683 dus	249	180	429
Hotel	194 rooms	35	41	76
Total All Person Trips		702	573	1,275

Point Ruston - PM Peak Model

4/28/2019

Total Vehicle Trips

Land Use	Size	PM Peak Hour Vehicle Trips In	PM Peak Hour Vehicle Trips Out	PM Peak Hour Vehicle Trips Total
Multi-Family (Mid-Rise) - LU 221	1,528 dus	243	169	412
Continuing Care Retirement - LU 255	155 units	6	11	17
Hotel - LU 310	194 rooms	35	41	76
Movie Theater - LU 444	729 seats	21	17	38
Health Fitness Club - LU 492	5,275 sfgfa	7	4	11
Clinic - LU 630	22 sfgfa	2	12	14
General Office - LU 710	45,392 sfgfa	3	36	39
Small Office Building - LU 712	5,339 sfgfa	1	7	8
Medical Office Bldg - LU 720	50 sfgfa	4	23	27
Retail - LU 820	174,902 sfgfa	282	226	508
Supermarket - LU 850	0 sfgfa	0	0	0
Hair Salon - LU 918	2,147 sfgfa	1	1	2
Quality Restaurant (LU 931)	10,810 sfgfa	32	8	40
High Turn Restaurant (LU 932)	21,924 sfgfa	65	18	83
Total		702	573	1,275

Vehicle Trip Generation by Trip Component - Total Site

Land Use	Trip Component %	PM Peak Hour Vehicle Trips In	PM Peak Hour Vehicle Trips Out	PM Peak Hour Vehicle Trips Total
Office				
Primary Trips	100%	10	78	88
Retail - LU 820				
Primary Trips	80%	232	185	417
Pass-by Trips	20%	58	46	104
Total	100%	290	231	521
Quality Restaurant (LU 931)				
Primary Trips	74%	24	6	30
Pass-by Trips	26%	8	2	10
Total	100%	32	8	40
High Turn Restaurant (LU 932)				
Primary Trips	70%	46	13	59
Pass-by Trips	30%	19	5	24
Total	100%	65	18	83
Cinema/Entertainment				
Primary Trips	100%	21	17	38
Residential				
Primary Trips	100%	249	180	429
Hotel				
Primary Trips	100%	35	41	76
Total Project - Vehicle Trips				
Primary Trips		617	520	1,137
Pass-by Trips		85	53	138
Total Project Trips		702	573	1,275

Note: Pass-by rates from Tables E.9 (Shopping Ctr), E.29 (Quality Restaurant), and E.30 (High-Turnover Restaurant) from the Trip Generation Handbook, 3rd Edition (Sept. 2017)

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Point Ruston	**Organization:**	Heffron Transportation, Inc.
Project Location:	Tacoma & Ruston, WA	**Performed By:**	T.S. McBryan, P.E.
Scenario Description:	PM Peak Model - Full Build	**Date:**	4/28/2019
Analysis Year:	2026	**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	712,630,720	184,878	sfgfa	135	37	98
Retail	492,820,918	182,324	sfgla	843	406	437
Restaurant	931,932	32,734	sfgfa	298	189	109
Cinema/Entertainment	444	729	seats	66	36	30
Residential	221, 255	1,683	units	632	380	252
Hotel	310	194	rooms	119	61	58
All Other Land Uses[2]				0		
				2,093	1,109	984

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.05	0%	0%	1.11	0%	0%
Retail	1.19	0%	0%	1.20	0%	0%
Restaurant	1.41	0%	0%	1.39	0%	0%
Cinema/Entertainment	2.03	0%	0%	1.97	0%	0%
Residential	1.21	0%	0%	1.21	0%	0%
Hotel	1.33	0%	0%	1.33	0%	0%
All Other Land Uses[2]		0%	0%		0%	0%

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		976	976		976	
Retail					976	
Restaurant					976	
Cinema/Entertainment					976	
Residential		976	976			
Hotel					976	

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		17	3	0	2	0
Retail	10		77	19	127	14
Restaurant	5	62		12	26	11
Cinema/Entertainment	1	12	8		4	1
Residential	12	37	29	0		9
Hotel	0	10	13	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	2,630	1,404	1,226
Internal Capture Percentage	40%	37%	42%
External Vehicle-Trips[5]	1,275	702	573
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	72%	20%
Retail	28%	47%
Restaurant	49%	76%
Cinema/Entertainment	42%	44%
Residential	35%	28%
Hotel	43%	30%

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	Point Ruston
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.05	37	39	1.11	98	109
Retail	1.19	406	485	1.20	437	523
Restaurant	1.41	189	266	1.39	109	152
Cinema/Entertainment	2.03	36	73	1.97	30	59
Residential	1.21	380	460	1.21	252	306
Hotel	1.33	61	81	1.33	58	77

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	310	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		17	3	0	2	0
Retail	10		152	21	127	26
Restaurant	5	62		12	26	11
Cinema/Entertainment	1	12	18		4	1
Residential	12	99	49	0		9
Hotel	0	12	52	0	1	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		30	4	1	18	0
Retail	12		77	19	212	14
Restaurant	12	243		23	74	58
Cinema/Entertainment	2	19	8		18	1
Residential	22	37	29	0		10
Hotel	0	10	13	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	28	11	39	10	0	0
Retail	138	347	485	290	0	0
Restaurant	130	136	266	97	0	0
Cinema/Entertainment	31	42	73	21	0	0
Residential	159	301	460	249	0	0
Hotel	35	46	81	35	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	22	87	109	78	0	0
Retail	247	276	523	231	0	0
Restaurant	116	36	152	26	0	0
Cinema/Entertainment	26	33	59	17	0	0
Residential	87	219	306	180	0	0
Hotel	23	54	77	41	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Point Ruston - Full Build Parking Generation Calculations

Point Ruston - Parking Demand Model

Source: ITE, Parking Generation, 5th Edition, January 2019

Land Use	Multi-Family (Mid-Rise) - LU 221				Continuing Care Retirement - LU 255				Hotel - LU 310			
Size	1,528 dus				155 units				194 rooms			
	Weekday		Saturday		Weekday		Saturday (Sunday)		Weekday		Saturday	
Peak Parking	Eq. / Rate	Demand	Eq. / Rate	Demand	Eq. / Rate	Demand	Eq. / Rate	Demand	Eq. / Rate	Demand	Eq. / Rate	Demand
	Eq.	2,039	Rate	1,864	Eq.	166	Rate	130	Eq.	149	Rate	223
Hour Begin	ToD Dist. %	Demand	ToD Dist. %	Demand	ToD Dist. %	Demand	ToD Dist. %	Demand	ToD Dist. %	Demand	ToD Dist. %	Demand
12:00–4:00 AM	100	2,039	93	1,734	100	166	100	130	96	143	74	165
5:00 AM	94	1,917	100	1,864	100	166	100	130	94	140	68	152
6:00 AM	83	1,692	98	1,827	100	166	100	130	91	136	62	138
7:00 AM	71	1,448	96	1,789	100	166	100	130	89	133	62	138
8:00 AM	61	1,244	92	1,715	100	166	100	130	90	134	72	161
9:00 AM	55	1,121	80	1,491	99	164	99	129	100	149	74	165
10:00 AM	54	1,101	78	1,454	99	164	99	129	98	146	76	169
11:00 AM	53	1,081	71	1,323	99	164	99	129	89	133	77	172
12:00 PM	50	1,020	68	1,268	95	158	95	124	85	127	79	176
1:00 PM	49	999	66	1,230	96	159	96	125	75	112	78	174
2:00 PM	49	999	65	1,212	96	159	96	125	81	121	67	149
3:00 PM	50	1,020	68	1,268	98	163	98	127	70	104	64	143
4:00 PM	58	1,183	70	1,305	95	158	95	124	74	110	67	149
5:00 PM	64	1,305	73	1,361	83	138	83	108	65	97	73	163
6:00 PM	67	1,366	77	1,435	100	166	100	130	73	109	83	185
7:00 PM	70	1,427	81	1,510	100	166	100	130	78	116	92	205
8:00 PM	76	1,550	82	1,528	100	166	100	130	93	139	97	216
9:00 PM	83	1,692	86	1,603	100	166	100	130	96	143	100	223
10:00 PM	90	1,835	87	1,622	100	166	100	130	95	142	91	203
11:00 PM	93	1,896	92	1,715	100	166	100	130	95	142	83	185

Equation	P = 1.34(X) - 8.73		n/a		Ln(P) = 0.95Ln(X)+0.32		n/a		Ln(P) = 0.90Ln(X)+0.26		n/a	
Rate	1.31		1.22		1.09		0.84 Sunday		0.74		1.15	
Based on Rate		2,002		1,864		169		130		144		223
Based on Eq.		2,039				166						

Distribution data not available, estimated by Heffron Transp.

Point Ruston - Parking Demand Model

Source: ITE, Parking Generation, 5th Edition, January 2019

Land Use	Movie Theater - LU 444				Health Fitness Club - LU 492				Clinic - LU 630			
Size	729 seats				5,275 sfgfa				22 employees			
	Weekday (Friday)		Saturday		Weekday		Saturday		Weekday		Saturday	
Peak Parking	Eq. / Rate	Demand	Eq. / Rate	Demand	Eq. / Rate	Demand	Eq. / Rate	Demand	Eq. / Rate	Demand	Eq. / Rate	Demand
	Rate	102	Rate	139	Rate	25	Rate	17	Rate	18	Rate	n/a
Hour Begin	ToD Dist. %	Demand	ToD Dist. %	Demand	ToD Dist. %	Demand	ToD Dist. %	Demand	ToD Dist. %	Demand	ToD Dist. %	Demand
12:00–4:00 AM	24	24	41	42	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	20	5	10	2	0	0	0	0
6:00 AM	0	0	0	0	40	10	30	5	0	0	0	0
7:00 AM	0	0	0	0	50	13	50	9	30	5	0	0
8:00 AM	0	0	0	0	80	20	80	14	63	11	0	0
9:00 AM	0	0	0	0	60	15	100	17	93	17	0	0
10:00 AM	0	0	0	0	62	16	100	17	96	17	0	0
11:00 AM	0	0	0	0	55	14	97	16	100	18	0	0
12:00 PM	7	7	5	5	44	11	79	13	80	14	0	0
1:00 PM	53	54	73	74	41	10	81	14	75	14	0	0
2:00 PM	61	62	77	79	36	9	73	12	90	16	0	0
3:00 PM	63	64	77	79	41	10	71	12	89	16	0	0
4:00 PM	63	64	81	83	69	17	70	12	74	13	0	0
5:00 PM	64	65	84	86	96	24	65	11	41	7	0	0
6:00 PM	63	64	86	88	100	25	62	11	15	3	0	0
7:00 PM	86	88	93	95	85	21	40	7	0	0	0	0
8:00 PM	99	101	100	102	60	15	20	3	0	0	0	0
9:00 PM	100	102	98	100	20	5	10	2	0	0	0	0
10:00 PM	46	47	39	40	0	0	0	0	0	0	0	0
11:00 PM	43	44	43	44	0	0	0	0	0	0	0	0

Equation	n/a		n/a		P = 3.33(X)+42.58				n/a			
Rate	0.14		0.19		4.73		3.26		0.83		n/a	
Based on Rate		102		139		25		17				
Based on Eq.												

Distribution data not available, estimated by Heffron Transp.

Point Ruston - Parking Demand Model

Source: ITE, Parking Generation, 5th Edition, January 2019

Land Use	General Office - LU 710				Small Office Building - LU 712				Medical Office Bldg - LU 720			
Size	45,392 sfgfa				5,339 sfgfa				50 employees			
	Weekday		Saturday		Weekday		Saturday		Weekday		Saturday	
Peak Parking	Eq. / Rate	Demand	Eq. / Rate	Demand	Eq. / Rate	Demand	Eq. / Rate	Demand	Eq. / Rate	Demand	Eq. / Rate	Demand
	Eq.	132	Rate	13	Rate	14	Rate	2	Eq.	63	Rate	7
Hour Begin	ToD Dist. %	Demand	ToD Dist. %	Demand	ToD Dist. %	Demand	ToD Dist. %	Demand	ToD Dist. %	Demand	ToD Dist. %	Demand
12:00–4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	13	17	13	2	0	0	0	0	12	8	12	1
8:00 AM	48	63	48	6	27	4	27	1	43	27	43	3
9:00 AM	88	116	88	11	69	10	69	1	88	55	88	6
10:00 AM	100	132	100	13	88	12	88	2	99	62	99	7
11:00 AM	100	132	100	13	100	14	100	2	100	63	100	7
12:00 PM	85	112	85	11	81	11	81	2	83	52	83	6
1:00 PM	84	111	84	11	81	11	81	2	74	47	74	5
2:00 PM	93	123	93	12	84	12	84	2	94	59	94	7
3:00 PM	94	124	94	12	86	12	86	2	93	59	93	7
4:00 PM	85	112	85	11	92	13	92	2	86	54	86	6
5:00 PM	56	74	56	7	85	12	85	2	54	34	54	4
6:00 PM	20	26	20	3	4	1	4	0	30	19	30	2
7:00 PM	11	15	11	1	0	0	0	0	10	6	10	1
8:00 PM	0	0	0	0	0	0	0	0	5	3	5	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0

Equation	P = 2.15(X)+34.60	n/a	n/a	n/a	P = 1.22(X)+1.67	n/a		
Rate	2.39	0.28	2.56	0.30 ratio of 710	1.26	0.15 ratio of 710		
Based on Rate	108	13			63	7		
Based on Eq.								

Distribution data not available, estimated by Heffron Transp.

Point Ruston - Parking Demand Model

Source: ITE, Parking Generation, 5th Edition, January 2019

Land Use	Retail - LU 820				Hair Salon - LU 918				Quality Restaurant (LU 931)			
Size	174,902 sfgfa				2,147 sfgfa				10,810 sfgfa			
	Weekday		Saturday		Weekday		Saturday		Weekday		Saturday	
Peak Parking	Eq. / Rate	Demand	Eq. / Rate	Demand	Eq. / Rate	Demand	Eq. / Rate	Demand	Eq. / Rate	Demand	Eq. / Rate	Demand
	Eq.	361	Eq.	525	Rate	4	Rate	4	Rate	114	Rate	184
Hour Begin	ToD Dist. %	Demand	ToD Dist. %	Demand	ToD Dist. %	Demand	ToD Dist. %	Demand	ToD Dist. %	Demand	ToD Dist. %	Demand
12:00–4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	10	36	10	53	10	0	10	0	0	0	0	0
8:00 AM	15	54	27	142	15	1	15	1	5	6	0	0
9:00 AM	32	116	46	242	32	1	32	1	5	6	0	0
10:00 AM	54	195	67	352	54	2	54	2	10	11	0	0
11:00 AM	71	256	85	446	71	3	71	3	20	23	11	20
12:00 PM	99	357	95	499	99	4	99	4	51	58	37	68
1:00 PM	100	361	100	525	100	4	100	4	56	64	54	99
2:00 PM	90	325	98	515	90	4	90	4	40	46	29	53
3:00 PM	83	300	92	483	83	3	83	3	27	31	22	40
4:00 PM	81	292	86	452	81	3	81	3	27	31	14	26
5:00 PM	84	303	79	415	84	3	84	3	39	44	18	33
6:00 PM	86	310	71	373	86	3	86	3	71	81	42	77
7:00 PM	80	289	69	362	80	3	80	3	100	114	91	167
8:00 PM	63	227	60	315	63	3	63	3	97	111	100	184
9:00 PM	42	152	51	268	42	2	42	2	80	91	0	0
10:00 PM	15	54	25	131	15	1	15	1	50	57	0	0
11:00 PM	0	0	0	0	0	0	0	0	30	34	0	0
											Friday dist.	
Equation	P = 1.49(X)+100.32		P = 2.78(X)+39.26		n/a		No rates or eq.		n/a		n/a	
Rate	1.95		2.91		1.95 retail		Use retail		10.52		17.00	
Based on Rate		341		509		4						
Based on Eq.												

Distribution data not available, estimated by Heffron T

Point Ruston - Parking Demand Model

Land Use	High Turn Restaurant (LU 932)					
Size	21,924 sfgfa					
	Weekday		Saturday			
Peak Parking	Eq. / Rate	Demand	Eq. / Rate	Demand	Total	
	Rate	207	Rate	269	3,394	3,377
Hour Begin	ToD Dist. %	Demand	ToD Dist. %	Demand	Weekday	Saturday
12:00–4:00 AM	0	0	0	0	2,372	2,071
5:00 AM	0	0	0	0	2,228	2,148
6:00 AM	10	21	15	40	2,025	2,140
7:00 AM	25	52	28	75	1,878	2,197
8:00 AM	68	141	52	140	1,871	2,313
9:00 AM	72	149	75	202	1,919	2,265
10:00 AM	77	159	91	245	2,017	2,390
11:00 AM	83	172	100	269	2,073	2,400
12:00 PM	100	207	90	242	2,138	2,418
1:00 PM	91	188	80	215	2,134	2,478
2:00 PM	56	116	67	180	2,051	2,350
3:00 PM	42	87	45	121	1,993	2,297
4:00 PM	42	87	39	105	2,137	2,278
5:00 PM	64	132	40	108	2,238	2,301
6:00 PM	87	180	40	108	2,353	2,415
7:00 PM	79	164	58	156	2,409	2,637
8:00 PM	65	135	40	108	2,450	2,589
9:00 PM	42	87	35	94	2,440	2,422
10:00 PM	21	43	33	89	2,345	2,216
11:00 PM	0	0	0	0	2,282	2,074

Equation	n/a	n/a
Rate	9.44	12.28
Based on Rate		
Based on Eq.		

Distribution data not available, estimated by Heffron T

DRAFT

APPENDIX D
Signal Warrant Analysis

Point Ruston

SIGNAL WARRANT ANALYSIS
WARRANT 1, Eight-Hour Vehicular Volume

DATE OF ANALYSIS: 10-Jun-19
DATE OF DATA: 7-Nov-32
PREPARED BY: TSM

MAJOR ROUTE: Ruston Way # OF LANES: 1
MINOR ROUTE: N 49th Street # OF LANES: 1
LOCATION: City of Tacoma IS AREA'S POPULATION > 10,000? (Y/N): Y
COUNTY: Pierce IS POSTED SPEED OF MAJOR STREET > 40 MPH? (Y/N): N

	MAJOR LEG			MINOR LEG			WARRANT 1			
	Ruston Way	Ruston Way		N 49th Street			Condition A		Condition B	
		2032 COND.					100%	70%	100%	70%
PERIOD			TOTAL	Total	Total	SUM MAJOR	500	350	750	525
BEGINNING	SB	NB	NB + SB	EB		MAX MINOR	150	105	75	53
12:00 AM	102	41	143	4						
01:00 AM	83	34	117	6						
02:00 AM	16	22	38	6						
03:00 AM	20	17	37	19						
04:00 AM	91	38	128	46						
05:00 AM	163	81	243	107						
06:00 AM	298	314	612	139						
07:00 AM	515	444	958	203			Y		Y	
08:00 AM	394	518	913	142					Y	
09:00 AM	362	452	814	97					Y	
10:00 AM	439	482	921	97					Y	
11:00 AM	493	546	1,039	91					Y	
12:00 PM	562	605	1,167	93					Y	
01:00 PM	590	732	1,322	92					Y	
02:00 PM	560	583	1,143	80					Y	
03:00 PM	839	634	1,472	102					Y	
04:00 PM	640	777	1,417	109					Y	
05:00 PM	624	903	1,527	125					Y	
06:00 PM	438	756	1,194	102					Y	
07:00 PM	419	510	930	67						
08:00 PM	384	357	741	45						
09:00 PM	470	266	736	38						
10:00 PM	249	163	412	24						
11:00 PM	163	77	240	11						
TOTAL	8,914	9,350	18,265	1,842	0		1	0	12	0

100%	70%	100%	70%
Y	Y	Y	Y

MINIMUM VEHICULAR VOLUMES FOR WARRANT 1, Condition A

NUMBER OF LANES FOR MOVING TRAFFIC ON EACH APPROACH		VEHICLES/HOUR ON MAJOR STREET (TOTAL OF BOTH APPROACHES)	VEHICLES/HOUR ON HIGHER-VOLUME MINOR STREET APPROACH (ONE DIRECTION ONLY)
MAJOR STREE	MINOR STREET		
1	1	500	150
2 OR MORE	1	600	150
2 OR MORE	2 OR MORE	600	200
1	2 OR MORE	500	200

MINIMUM VEHICULAR VOLUMES FOR WARRANT 1, Condition B

NUMBER OF LANES FOR MOVING TRAFFIC ON EACH APPROACH		VEHICLES/HOUR ON MAJOR STREET (TOTAL OF BOTH APPROACHES)	VEHICLES/HOUR ON HIGHER-VOLUME MINOR STREET APPROACH (ONE DIRECTION ONLY)
MAJOR STREE	MINOR STREET		
1	1	750	75
2 OR MORE	1	900	75
2 OR MORE	2 OR MORE	900	100
1	2 OR MORE	750	100

SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, U.S. GOVERNMENT PRINTING OFFICE, WASHINGTON D.C., Dec. 2000.

*****SIGNAL IS WARRANTED UNDER*****

WARRANT # 1B, 100%

Point Ruston

Volumes on Major Leg - Ruston Way

Sources: Idax Data Solutions Count, 72-hours, November 7-9, 2017.

Ruston Way at N 49th Street

	Ruston Way																
	Northbound								Southbound								2032
Time Begin	7-Nov	8-Nov	9-Nov	Average	Growth-0.5%/yr	Pt. Defiance	Point Ruston	W/Growth	7-Nov	8-Nov	9-Nov	Average	Growth-0.5%/yr	Pt. Defiance	Point Ruston	W/Growth	Total NB + SB
12:00 AM	17	35	40	31	2	0	8	41	33	51	22	35	3	16	48	102	143
1:00 AM	20	33	16	23	2	0	9	34	17	56	23	32	2	0	49	83	117
2:00 AM	6	12	22	13	1	0	7	22	6	8	13	9	1	0	7	16	38
3:00 AM	9	14	10	11	1	0	5	17	10	12	19	14	1	0	5	20	37
4:00 AM	23	23	36	27	2	0	8	38	60	66	78	68	5	0	17	91	128
5:00 AM	60	43	56	53	4	0	23	81	109	113	113	112	9	0	42	163	243
6:00 AM	188	198	184	190	15	13	96	314	223	205	185	204	16	3	75	298	612
7:00 AM	222	219	205	215	17	53	159	444	297	265	299	287	22	12	194	515	958
8:00 AM	197	233	212	214	17	172	115	518	229	252	239	240	19	14	122	394	913
9:00 AM	212	200	234	215	17	81	139	452	174	188	179	180	14	38	129	362	814
10:00 AM	194	204	220	206	16	100	160	482	184	187	199	190	15	76	158	439	921
11:00 AM	224	246	230	233	18	126	169	546	246	258	198	234	18	83	158	493	1,039
12:00 PM	292	271	215	259	20	157	169	605	234	243	255	244	19	114	185	562	1,167
1:00 PM	303	249	254	269	21	285	157	732	242	218	248	236	18	157	178	590	1,322
2:00 PM	309	292	307	303	24	115	142	583	257	241	240	246	19	128	166	560	1,143
3:00 PM	397	372	374	381	30	78	145	634	377	369	351	366	28	201	244	839	1,472
4:00 PM	476	425	440	447	35	86	209	777	316	246	287	283	22	151	184	640	1,417
5:00 PM	563	515	495	524	41	101	237	903	220	209	178	202	16	161	245	624	1,527
6:00 PM	440	366	376	394	31	91	240	756	231	141	159	177	14	118	129	438	1,194
7:00 PM	280	273	240	264	21	54	172	510	168	125	158	150	12	92	165	419	930
8:00 PM	228	177	207	204	16	22	115	357	158	126	137	140	11	91	141	384	741
9:00 PM	169	103	212	161	13	8	84	266	208	120	185	171	13	74	212	470	736
10:00 PM	116	72	107	98	8	5	52	163	107	68	94	90	7	57	96	249	412
11:00 PM	56	36	63	52	4	0	21	77	75	48	80	68	5	16	74	163	240
Total Day	5,001	4,611	4,755	4,789	372	1,547	2,642	9,350	4,181	3,815	3,939	3,978	309	1,602	3,025	8,914	18,265

Ruston Way at N 49th Street

	N 49th Street							
	Eastbound							2032
Time Begin	7-Nov	8-Nov	9-Nov	Average	Growth-0.5%/yr	Pt. Defiance	Point Ruston	W/Growth
12:00 AM	3	2	1	2	0	0	2	4
1:00 AM	1	2	7	3	0	0	2	6
2:00 AM	4	5	4	4	0	0	2	6
3:00 AM	17	16	16	16	1	0	1	19
4:00 AM	40	46	37	41	3	0	2	46
5:00 AM	102	94	87	94	7	0	5	107
6:00 AM	111	118	103	111	9	0	20	139
7:00 AM	161	160	152	158	12	0	33	203
8:00 AM	107	105	115	109	8	0	24	142
9:00 AM	57	68	63	63	5	0	29	97
10:00 AM	52	61	62	58	5	0	34	97
11:00 AM	44	51	60	52	4	0	35	91
12:00 PM	49	56	55	53	4	0	35	93
1:00 PM	60	52	53	55	4	0	33	92
2:00 PM	53	45	43	47	4	0	30	80
3:00 PM	66	74	58	66	5	0	30	102
4:00 PM	63	59	58	60	5	0	44	109
5:00 PM	61	69	79	70	5	0	50	125
6:00 PM	57	38	48	48	4	0	50	102
7:00 PM	25	23	38	29	2	0	36	67
8:00 PM	20	16	21	19	1	0	24	45
9:00 PM	24	9	24	19	1	0	18	38
10:00 PM	14	8	13	12	1	0	11	24
11:00 PM	5	6	6	6	0	0	5	11
Total Day	1,196	1,183	1,203	1,194	93	0	555	1,842

Point Ruston

SIGNAL WARRANT ANALYSIS
WARRANT 1, Eight-Hour Vehicular Volume

DATE OF ANALYSIS: 10-Jun-19
DATE OF DATA: 7-Nov-32
PREPARED BY: TSM

MAJOR ROUTE: Ruston Way # OF LANES: 1
MINOR ROUTE: Alder St # OF LANES: 1
LOCATION: City of Tacoma IS AREA'S POPULATION > 10,000? (Y/N): Y
COUNTY: Pierce IS POSTED SPEED OF MAJOR STREET > 40 MPH? (Y/N): N

	MAJOR LEG			MINOR LEG			WARRANT 1							
	Ruston Way	Ruston Way	2032 COND.	Alder St			Condition A		Condition B					
							100%	70%	100%	70%	100%	70%	100%	70%
PERIOD			TOTAL	Total	Total	SUM MAJOR	500	350	750	525	Y	Y	Y	Y
BEGINNING	SB	NB	NB + SB	EB		MAX MINOR	150	105	75	53				
12:00 AM	105	57	162	1										
01:00 AM	90	44	133	3										
02:00 AM	31	30	61	2										
03:00 AM	42	29	71	6										
04:00 AM	125	48	174	31										
05:00 AM	263	85	349	38										
06:00 AM	425	306	731	90										
07:00 AM	658	446	1,105	152			Y		Y					
08:00 AM	458	553	1,011	116					Y					
09:00 AM	398	468	866	75										
10:00 AM	452	482	933	68										
11:00 AM	510	636	1,146	83					Y					
12:00 PM	582	685	1,267	75										
01:00 PM	630	793	1,422	60										
02:00 PM	634	675	1,309	57										
03:00 PM	872	820	1,692	65										
04:00 PM	675	970	1,645	68										
05:00 PM	658	1,115	1,773	78					Y					
06:00 PM	457	846	1,304	61										
07:00 PM	431	556	987	40										
08:00 PM	423	397	820	29										
09:00 PM	471	298	769	20										
10:00 PM	261	188	449	14										
11:00 PM	167	91	258	6										
TOTAL	9,820	10,618	20,438	1,237	0		1	0	4	0				

*****SIGNAL IS NOT WARRANTED*****

MINIMUM VEHICULAR VOLUMES FOR WARRANT 1, Condition A

NUMBER OF LANES FOR MOVING TRAFFIC ON EACH APPROACH		VEHICLES/HOUR ON MAJOR STREET (TOTAL OF BOTH APPROACHES)	VEHICLES/HOUR ON HIGHER-VOLUME MINOR STREET APPROACH (ONE DIRECTION ONLY)
MAJOR STREE	MINOR STREET		
1	1	500	150
2 OR MORE	1	600	150
2 OR MORE	2 OR MORE	600	200
1	2 OR MORE	500	200

MINIMUM VEHICULAR VOLUMES FOR WARRANT 1, Condition B

NUMBER OF LANES FOR MOVING TRAFFIC ON EACH APPROACH		VEHICLES/HOUR ON MAJOR STREET (TOTAL OF BOTH APPROACHES)	VEHICLES/HOUR ON HIGHER-VOLUME MINOR STREET APPROACH (ONE DIRECTION ONLY)
MAJOR STREE	MINOR STREET		
1	1	750	75
2 OR MORE	1	900	75
2 OR MORE	2 OR MORE	900	100
1	2 OR MORE	750	100

SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, U.S. GOVERNMENT PRINTING OFFICE, WASHINGTON D.C., Dec. 2000.

Point Ruston

Volumes on Major Leg - Ruston Way

Sources: Idax Data Solutions Count, 72-hours, November 7-9, 2017.

Ruston Way at Alder Street SE

Ruston Way																
	Northwest bound								Southeast bound							2032
Time Begin	7-Nov	8-Nov	9-Nov	Average	Growth-0.5%/y	Pt. Defiance	Point Ruston	W/Growth	7-Nov	8-Nov	Average	Growth-0.5%/y	Pt. Defiance	Point Ruston	W/Growth	Total NB + SB
12:00 AM	37	52	52	47	4	0	6	57	44	53	49	4	16	36	105	162
1:00 AM	27	49	26	34	3	0	7	44	31	66	49	4	0	37	90	133
2:00 AM	16	24	29	23	2	0	6	30	22	26	24	2	0	5	31	61
3:00 AM	22	23	24	23	2	0	4	29	32	39	36	3	0	4	42	71
4:00 AM	32	31	54	39	3	0	6	48	101	107	104	8	0	13	125	174
5:00 AM	66	48	72	62	5	0	18	85	211	218	215	17	0	32	263	349
6:00 AM	202	212	193	202	16	13	75	306	346	331	339	26	3	57	425	731
7:00 AM	259	257	234	250	19	53	124	446	484	442	463	36	12	147	658	1,105
8:00 AM	259	297	253	270	21	172	90	553	312	340	326	25	14	93	458	1,011
9:00 AM	253	237	287	259	20	81	108	468	228	257	243	19	38	99	398	866
10:00 AM	236	244	234	238	18	100	125	482	220	254	237	18	76	120	452	933
11:00 AM	295	344	415	351	27	126	131	636	277	292	285	22	83	120	510	1,146
12:00 PM	359	344	402	368	29	157	131	685	297	310	304	24	114	141	582	1,267
1:00 PM	352	317	403	357	28	285	123	793	316	309	313	24	157	136	630	1,422
2:00 PM	374	433	444	417	32	115	111	675	353	351	352	27	128	127	634	1,309
3:00 PM	496	703	551	583	45	78	113	820	460	441	451	35	201	186	872	1,692
4:00 PM	588	791	628	669	52	86	163	970	386	326	356	28	151	140	675	1,645
5:00 PM	705	804	799	769	60	101	185	1,115	295	281	288	22	161	187	658	1,773
6:00 PM	523	490	569	527	41	91	187	846	258	189	224	17	118	99	457	1,304
7:00 PM	365	304	356	342	27	54	134	556	211	185	198	15	92	126	431	987
8:00 PM	247	233	312	264	21	22	90	397	228	189	209	16	91	108	423	820
9:00 PM	178	147	300	208	16	8	65	298	259	178	219	17	74	162	471	769
10:00 PM	119	103	175	132	10	5	41	188	140	103	122	9	57	73	261	449
11:00 PM	69	51	86	69	5	0	17	91	91	85	88	7	16	56	167	258
Total Day	6,079	6,538	6,898	6,505	505	1,547	2,061	10,618	5,602	5,372	5,487	426	1,602	2,304	9,820	20,438

0.118267999

Ruston Way count data from Idax Data Solutions collected Nov. 7-9, 2017

Tube failure for soutbound on 11/9/2017

Ruston Way at Alder Way

Alder Way								
	Eastbound							2032
Time Begin	7-Nov	8-Nov	9-Nov	Average	Growth-0.5%/y	Pt. Defiance	Point Ruston	W/Growth
12:00 AM	1	1	0	1	0	0	0	1
1:00 AM	1	2	4	2	0	0	1	3
2:00 AM	3	1	1	2	0	0	0	2
3:00 AM	6	6	4	5	0	0	0	6
4:00 AM	22	33	29	28	2	0	0	31
5:00 AM	33	36	32	34	3	0	1	38
6:00 AM	71	86	77	78	6	0	6	90
7:00 AM	135	134	129	133	10	0	9	152
8:00 AM	107	92	106	102	8	0	7	116
9:00 AM	59	70	56	62	5	0	8	75
10:00 AM	53	65	45	54	4	0	9	68
11:00 AM	57	88	57	67	5	0	10	83
12:00 PM	63	66	52	60	5	0	10	75
1:00 PM	48	43	50	47	4	0	9	60
2:00 PM	44	48	44	45	4	0	8	57
3:00 PM	57	41	58	52	4	0	9	65
4:00 PM	50	54	52	52	4	0	12	68
5:00 PM	57	49	72	59	5	0	14	78
6:00 PM	41	33	56	43	3	0	14	61
7:00 PM	34	28	21	28	2	0	10	40
8:00 PM	20	20	22	21	2	0	7	29
9:00 PM	13	12	16	14	1	0	5	20
10:00 PM	11	11	8	10	1	0	3	14
11:00 PM	3	3	6	4	0	0	1	6
Total Day	989	1,022	997	1,003	78	0	156	1,237