lancaster mobley

Camas Station

Transportation Impact Study

Camas, Washington

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List of Appendices

List of Figures

List of Tables

Executive Summary

1. The property located at the northwest corner of NW Brady Road and NW 16th Street in Camas, Washington has been proposed for development. The proposed project intends to develop the currently undeveloped, approximately 2.02-acre site, with 4,200 square feet of retail, 2,500 square feet of coffee shop, and a 5,000 square foot convenience store with a car wash and 6 vehicle fueling pumps with 12 fueling positions.
2. Access to the site will be provided via two driveways:
    - Driveway #1 will be located 300 feet north of the NW Brady Road & NW 16th Avenue intersection and will serve as right-in/right-out only.
    - Driveway #2 will be located 300 feet west of the NW Brady Road & NW 16th Avenue intersection.
3. The trip generation calculations show that the proposed project is estimated to generate 543 new morning peak hour driveway trips, 408 new evening peak hour driveway trips, and 4,749 new daily driveway trips Accounting for the pass-by trips associated with the various land uses, the project is expected to generate a 111 new morning peak hour primary trips, 107 new evening peak hour primary trips, and 1,131 new daily primary trips.
4. No significant trends or crash patterns were identified at any of the study intersections.
5. A sight distance analysis was conducted at the two site access driveways, the following observations were made:
    - The sight distance is measured to exceed 750 feet north of NW Brady Road & Site Access Driveway #1, exceeding the 475-foot intersection sight distance requirement.
    - The sight distance is measured to exceed 750 feet east of NW 16th Avenue & Site Access Driveway #2 after onsite foliage is removed during construction, exceeding the 335-foot intersection sight distance requirement. Looking west, the sight distance was measured to be approximately 305 feet, which ends at an all-way stop-control intersection. Therefore, the minimum sight distance requirement is met.
6. Left-turn lane warrants were examined for the intersection of Site Access Driveway #2 & NW Brady Road, and were determined to not be warranted. No left turns will be permitted along NW Brady Road; therefore, no left-turn lane into the site access located on NW Brady Road will be warranted. All other unsignalized study intersections have existing left-turn lanes.
7. The proposed development will not trigger the need for any new traffic signals.
8. All study intersections are projected to operate within the City of Camas standards under all analysis scenarios.
9. No mitigation at any study area transportation facilities is recommended as a result of this project.
10. All intersections within the study area are projected to have queue lengths that do not exceed the available storage capacity under buildout conditions.

Project Description

Introduction

The property located at the northwest corner of NW Brady Road and NW 16th Street Camas, Washington has been proposed for development. The proposed project will develop the currently undeveloped land with a mixed-use commercial development, providing increased locally serving retail and commercial activity in this area of Camas.

This report examines the traffic impacts of the proposed development on the transportation system in the vicinity of the project site. Based on correspondence with the Camas city engineer, this report conducts safety and capacity/level of service analyses at the following six (6) intersections including the two site access driveways:

1. NW Brady Road & Site Access Driveway #1
2. Site Access Driveway #2 & NW 16th Avenue
3. NW Brady Road & NW 16th Avenue
4. NW Parker Street & NW Pacific Rim Boulevard/Drive
5. NW Brady Road & NW 12th Avenue
6. NW Klickitat Street & NW 16th Avenue

All supporting data and calculations are included in the appendix of this report.

Location Description

The subject site is a 2.02-acre parcel, Property Identification Number 127357000, on the northwest corner of NW Brady Road and NW 16th Avenue, as shown in Figure 1. The existing zoning is classified as CC (Community Commercial), which is consistent with the proposed development.

The proposed development will develop the currently undeveloped land and construct with 3 buildings, consisting of 4,200 square feet of retail, 2,500 square feet of coffee shop, and a 5,000 square foot convenience store with a car wash and 12 vehicle fueling pumps. Access to the site will be provided via two driveways:

- Driveway #1 will be located 300 feet north of the NW Brady Road & NW 16th Avenue intersection; and
- Driveway #2 will be located 300 feet west of the NW Brady Road & NW 16th Avenue intersection.

Due to the existing southbound left-turn pocket at the intersection of NW Brady & NW 16th Avenue, Site Access Driveway #1 will be restricted to right-in/right-out access only. It is recommended that Site Access Driveway #1 be signed "No Left Turns" (R 3-2) and that a raised median or traffic separator not be implemented. A raised median or traffic separator would restrict left turns for residential driveways on the east side on NW Brady Road, and due to recent improvements to NW Brady Road, retrofitting raised concrete features in the roadway or modifying the street configuration is not recommended.

Figure 1 displays a vicinity map of the project site, with the project site outlined in yellow. A site plan depicting the proposed project is provided in Appendix A.

Figure 1: Project Location (image from Google Earth)

Vicinity Streets

The proposed development is expected to impact seven (7) roadways near the site. Table 1 provides a description of each of the vicinity roadways within the study area near the study intersections.

Table 1: Vicinity Roadway Descriptions

Street Name	Jurisdiction	Functional Classification	Cross-Section	Speed	Curbs & Sidewalks	On-Street Parking	Bicycle Facilities
NW Brady Road	City of Camas	Arterial	2-3	35 mph	Partial Both Sides	Prohibited	Bike Lanes
NW 16th Avenue	City of Camas	Collector	2-3	35 mph	Continuous S Side, Partial N Side	Prohibited	Bike Lanes
NW Parker Street	City of Camas	Arterial	3-4	35 mph	Partial Both Sides	Prohibited	None
NW Pacific Rim Boulevard	City of Camas	Arterial	4	40 mph	Continuous Both Sides	Prohibited	None
NW Pacific Rim Drive	City of Camas	Collector	2	25 mph	Continuous Both Sides	Permitted Both Sides	None
NW 12th Avenue	City of Camas	Local Street	2	25 mph	Continuous NE Side, Partial NW Side	Prohibited NE Side, Permitted NW Side	None

Table 1: Vicinity Roadway Descriptions

Street Name	Jurisdiction	Functional Classification	Cross-Section	Speed	Curbs & Sidewalks	On-Street Parking	Bicycle Facilities
NW Klickitat Street	City of Camas	Local Street	2	25 mph	Partial Both Sides	Partial Both Sides	None

Study Intersections

Based on coordination with the City of Camas staff, six (6) intersections were identified for analysis. A summarized description of the study intersections is provided in Table 2.

Table 2: Study Intersection Descriptions

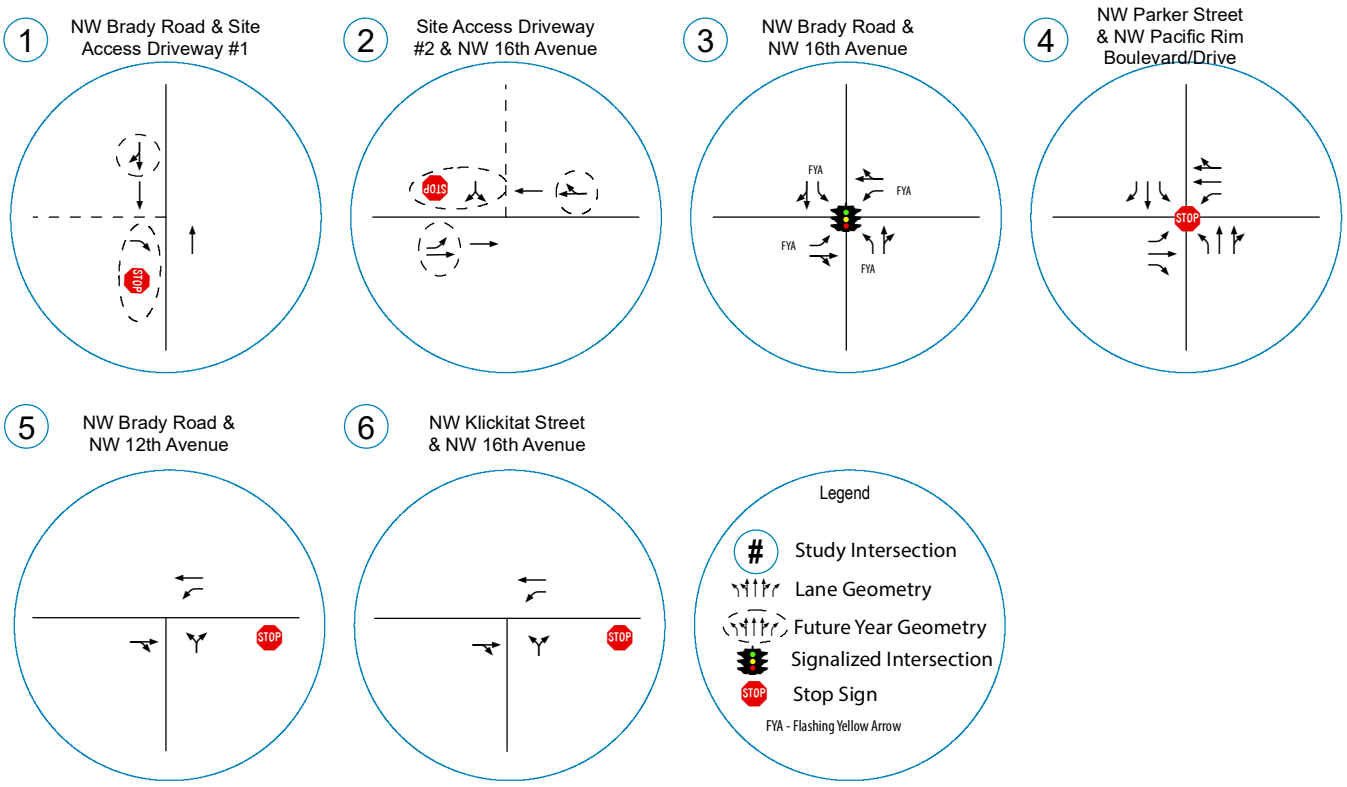
Intersection		Geometry	Traffic Control	Phasing/Stopped Approaches
1	NW Brady Road & Site Access Driveway #1	Three-Leg	Stop-Controlled	EB Stop-Controlled
2	Site Access Driveway #2 & NW 16th Avenue	Three-Leg	Stop-Controlled	SB Stop-Controlled
3	NW Brady Road & NW 16th Avenue	Four-Leg	Traffic Signal	All Approaches Permitted/Protected Left All Approaches FYA
4	NW Parker Street & NW Pacific Rim Boulevard/Drive	Four-Leg	Stop-Controlled	All-Way Stop-Controlled
5	NW Brady Road & NW 12th Avenue	Three-Leg	Stop-Controlled	NB Stop-Controlled
6	NW Klickitat Street & NW 16th Avenue	Three-Leg	Stop-Controlled	NB Stop-Controlled

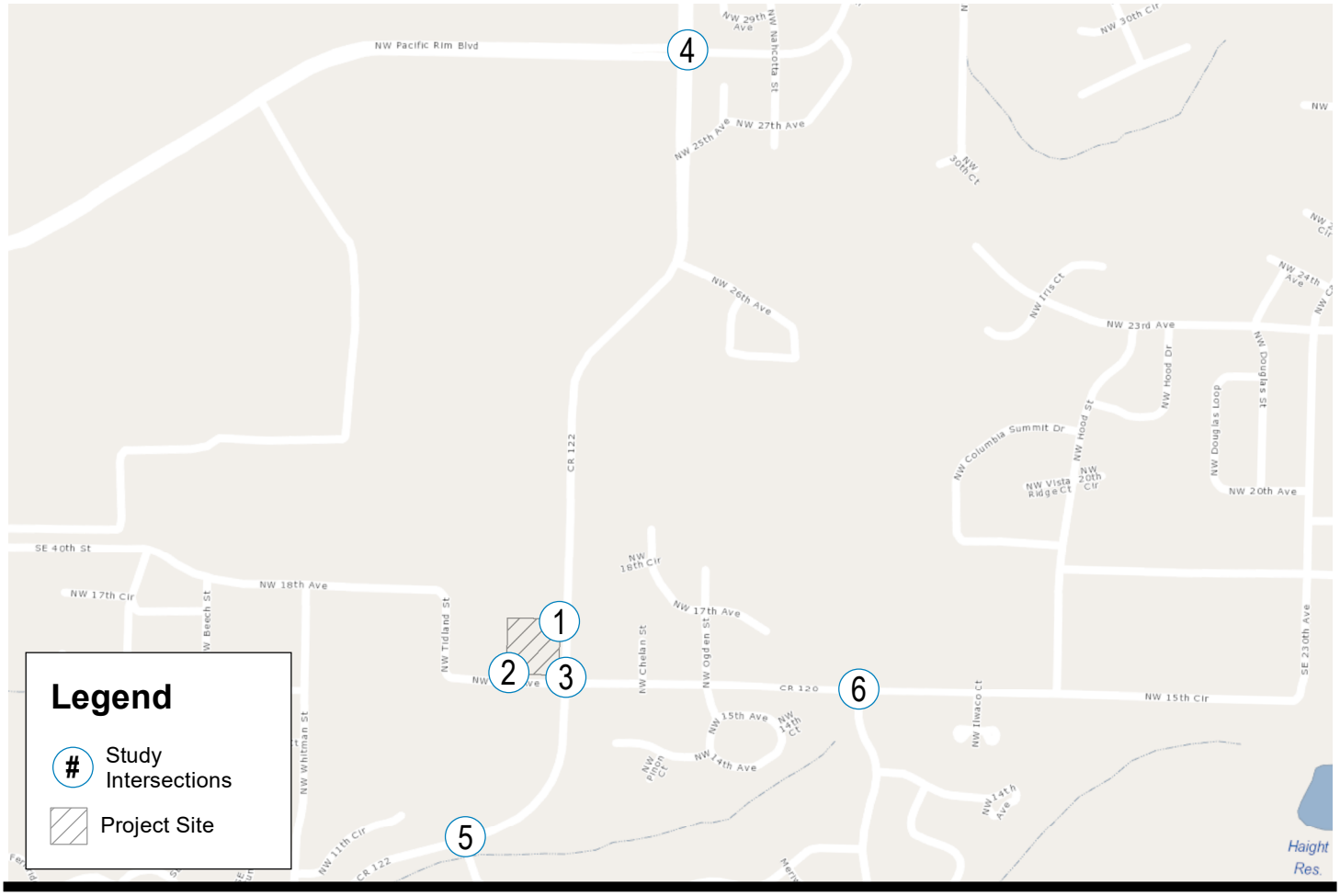
A vicinity map showing the project site, vicinity streets, and study intersection configurations is shown in Figure 2.

Transit

The study area does not have any fixed-route transit service at this time and C-Tran has no long-range plans to extend service. The closest C-Tran fixed service route is Route 92:

- C-Tran Route 92 runs from the Fisher's Landing Transit Center through southern Camas along NW 6th Avenue and NE 3rd Avenue to Washougal. Service is available every day of the week. The closest stop to the study area is at Fisher's Landing Transit Center, approximately four miles from the project site.





Vicinity Map

NOT TO SCALE

Figure 2
Camas Station TIS
2/3/2022

Site Trips

Trip Generation

To estimate the number of trips that are projected to be generated by the development, trip rates from the *Trip Generation Manual*[1] were used. Specifically, data from the following land use codes are used to estimate the proposed development's trip generation based on the respective units:

- 822, Strip Retail Plaza (square footage)
- 937, Coffee Shop with Drive-thru (square footage)
- 945, Convenience Store / Gas Station (vehicle fueling pumps (VFP) and square footage)
- 948, Automated Car Wash (car was tunnels)

The trip generation calculations show that the proposed development is projected to generate an increase of 543 morning peak hour trips, 408 evening peak hour trips, and 4,749 average weekday trips at the site driveways. Accounting for the pass-by trips associated with the various land uses, the project is expected to generate a total of 111 morning peak hour trips, 107 evening peak hour trips, and 1,131 average weekday trips to the local transportation network. A mixed-use internalization credit of approximately 11% was applied to the retail and restaurant trips, using the NCHRP 684 Internalization methodology. Detailed trip generation calculations are shown in Appendix A.

[1] Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition, 2022.

Table 3: Trip Generation Summary

Land Use	ITE Code	Size	Driveway Trips			Driveway Trips			ADT	Pass-by Trip %	Primary Trips			Primary Trips			ADT
			In	Out	AM Peak	In	Out	PM Peak			In	Out	AM Peak	In	Out	PM Peak	
Strip Retail Plaza	822	4,200 SF	6	4	10	14	14	28	229	40%[a]	4	2	6	8	8	16	137
Coffee Shop w/ Drive-thru	937	2,500 SF	109	106	215	48	49	97	1,334	98%[b]	2	2	4	1	1	2	27
Convenience Store / Gas Station	945	12 vfp / 5,000 SF	162	162	324	136	137	273	3,086	75%[c]	41	41	81	34	34	68	772
Automated Car Wash	948	1 Car Wash Tunnel	39	39	78	39	39	78	780	75%[c]	10	10	20	10	10	20	195
SubTotal Site Trips			316	311	627	237	239	476	5,429		57	55	111	53	53	106	1,131
Internalization: (AM: 13%/14% | PM: 14%/14%)			*-42*	*-42*	*-84*	*-34*	*-34*	*-68*	*-680*	*0%*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net Total Site Trips			274	269	543	203	205	408	4,749		57	55	111	53	53	107	1,131

Notes:
a = pass-by rate from LUC 821 (Shopping Plaza (40-150k)) used
b = pass-by rate from LUC 938 (Coffee/Donut Shop with Drive-Through Window and No Indoor Seating) used
c = pass-by rate from LUC 945 (Gasoline/Service Station) used
Note: Uses ITE Trip Generation Manual 11th Edition

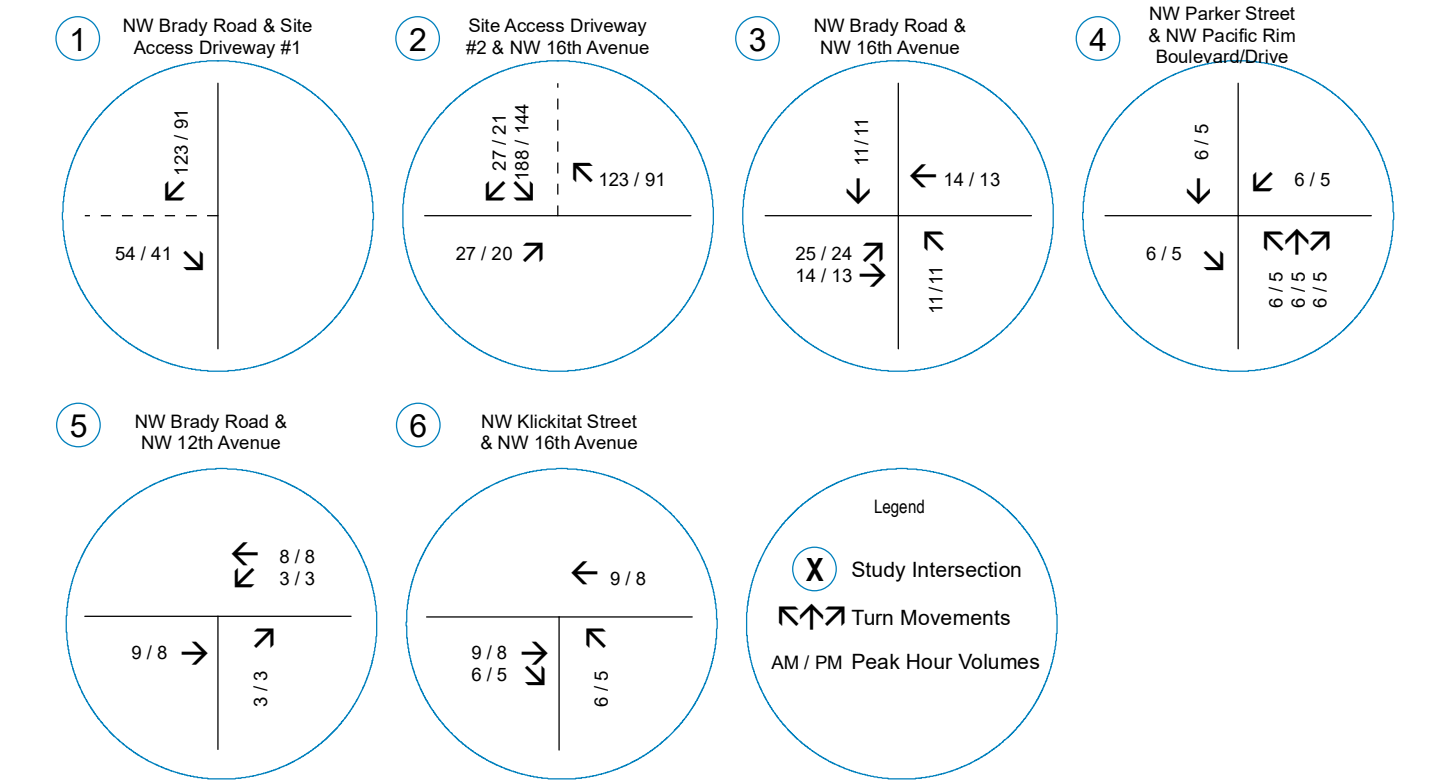
As shown in Table 3, the trip generation calculations show that the proposed project is estimated to have a net increase in trip generation of 111 morning peak hour trips, 107 evening peak hour trips, and 1,131 daily trips.

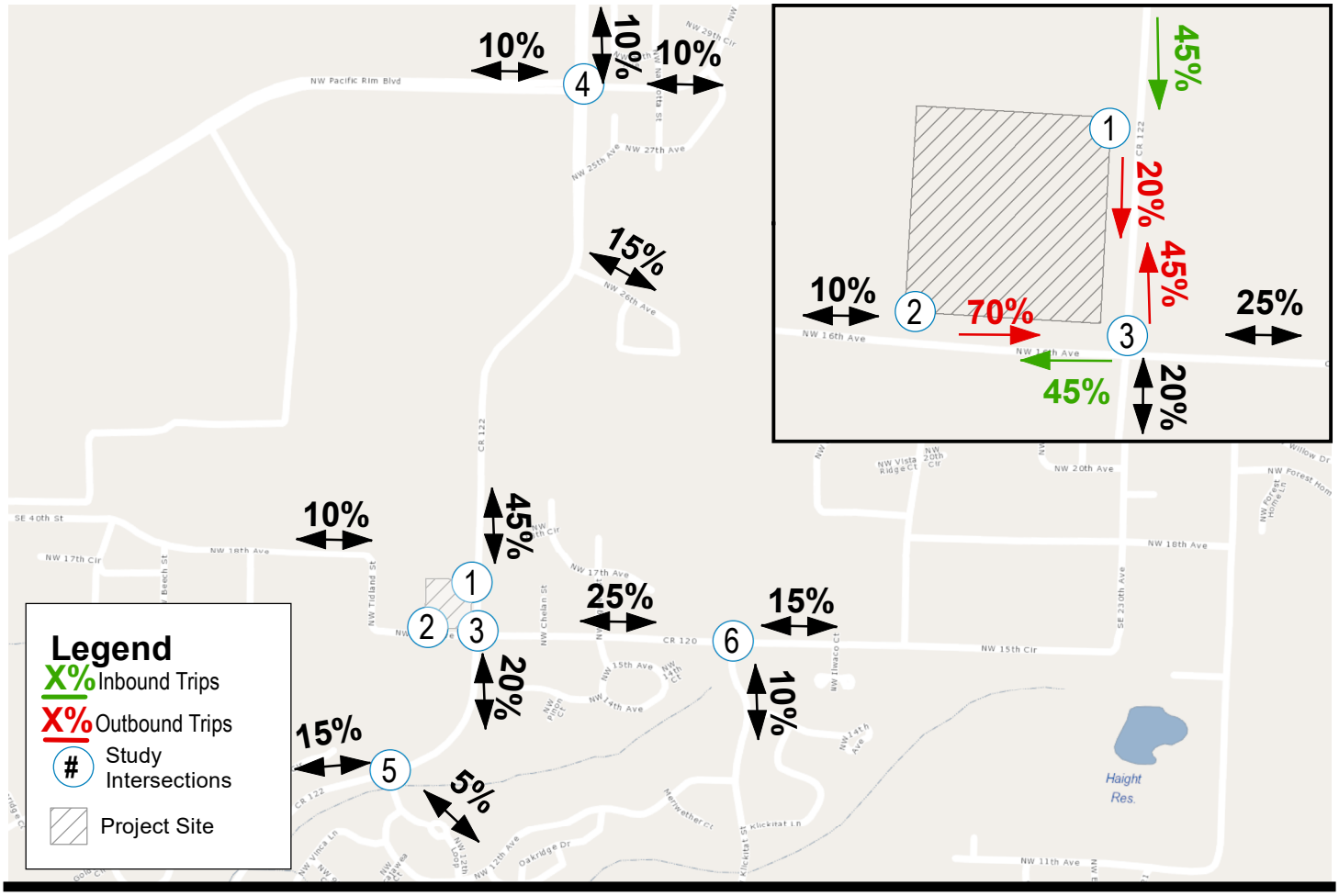
Trip Distribution

The distribution of site trips to and from the proposed development was estimated based on locations of likely trip destinations, locations of major transportation facilities in the site vicinity, and travel patterns at the study area intersections. The following trip distribution is proposed for primary trips:

- Approximately 45 percent of site trips will travel to/from the north on NW Brady Road
    - Approximately 15 percent will travel to/from locations northeast of the site on NW 24th Avenue
    - Approximately 10 percent will travel to/from locations northeast of the site on NW Pacific Rim Boulevard
    - Approximately 10 percent will travel to/from locations northwest of the site on NW Pacific Rim Boulevard
- Approximately 20 percent of site trips will travel to/from the south on NW Brady Road
    - Approximately 5 percent will travel to/from locations southeast of the site on NW 12th Loop
    - Approximately 5 percent will travel to/from locations southeast of the site on NW McIntosh Road
    - Approximately 5 percent will travel to/from locations southwest of the site on NW Grand Ridge Drive
- Approximately 25 percent of site trips will travel to/from the east on NW 16th Avenue
    - Approximately 10 percent will travel to/from locations northeast of the site on NW Klickitat Street
    - Approximately 10 percent will travel to/from locations southeast of the site on NW Klickitat Street
- Approximately 10 percent of site trips will travel to/from the west on NW 16th Avenue

The trip distribution and assignment for the total site trips generated during the morning and evening peak hours is shown in Figure 3.





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TRAFFIC VOLUMES
Trip Distribution & Assignment
AM & PM Peak Hour

Figure 3
Camas Station TIS
2/3/2022

Traffic Volumes

Existing Conditions

Traffic counts were collected at the study intersections on Tuesday, January 25, 2022, between 7:00 AM and 9:00 AM and between 4:00 PM and 6:00 PM. Data from each intersection's respective morning and evening peak hours were used for analysis.

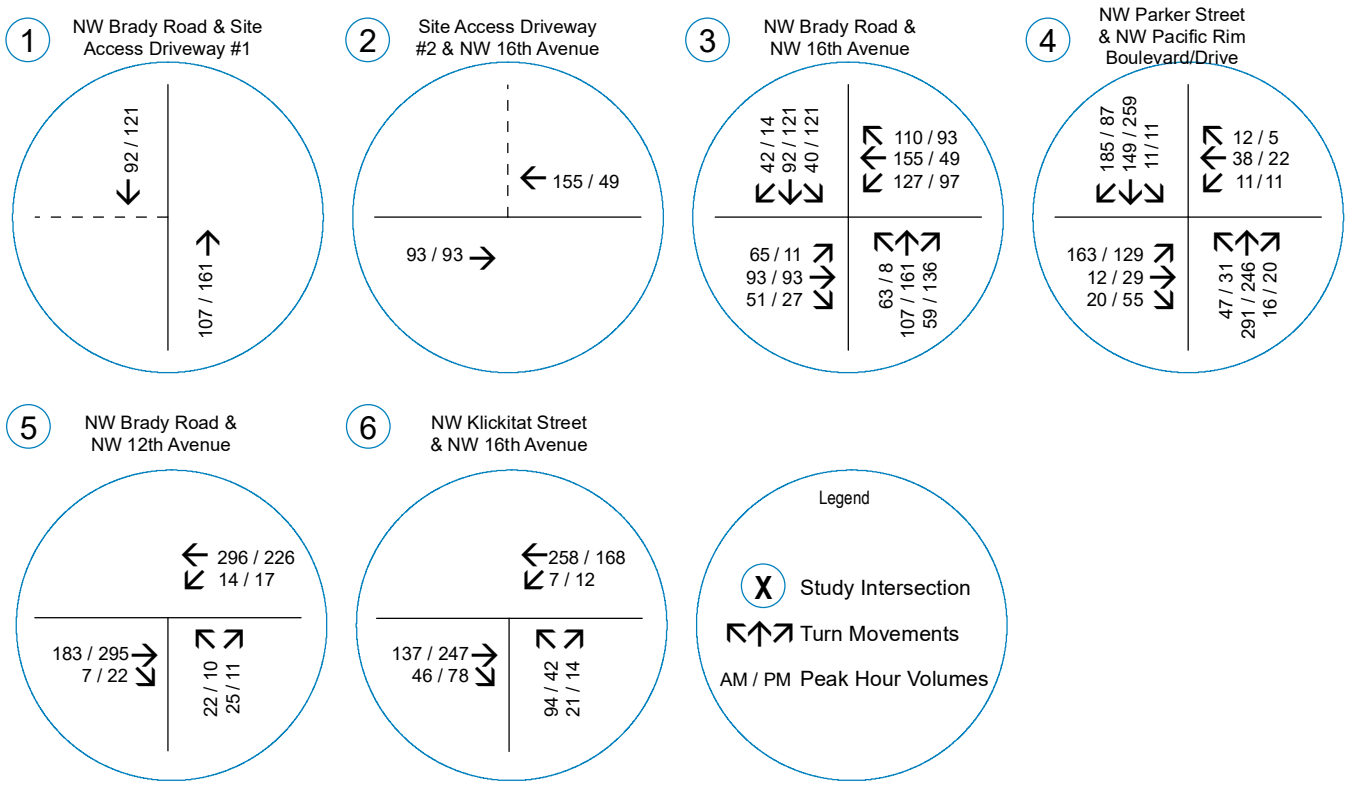
Figure 4 shows the year 2022 existing traffic volumes at the study intersections during the morning and evening peak hours. Traffic counts are provided in Appendix B.

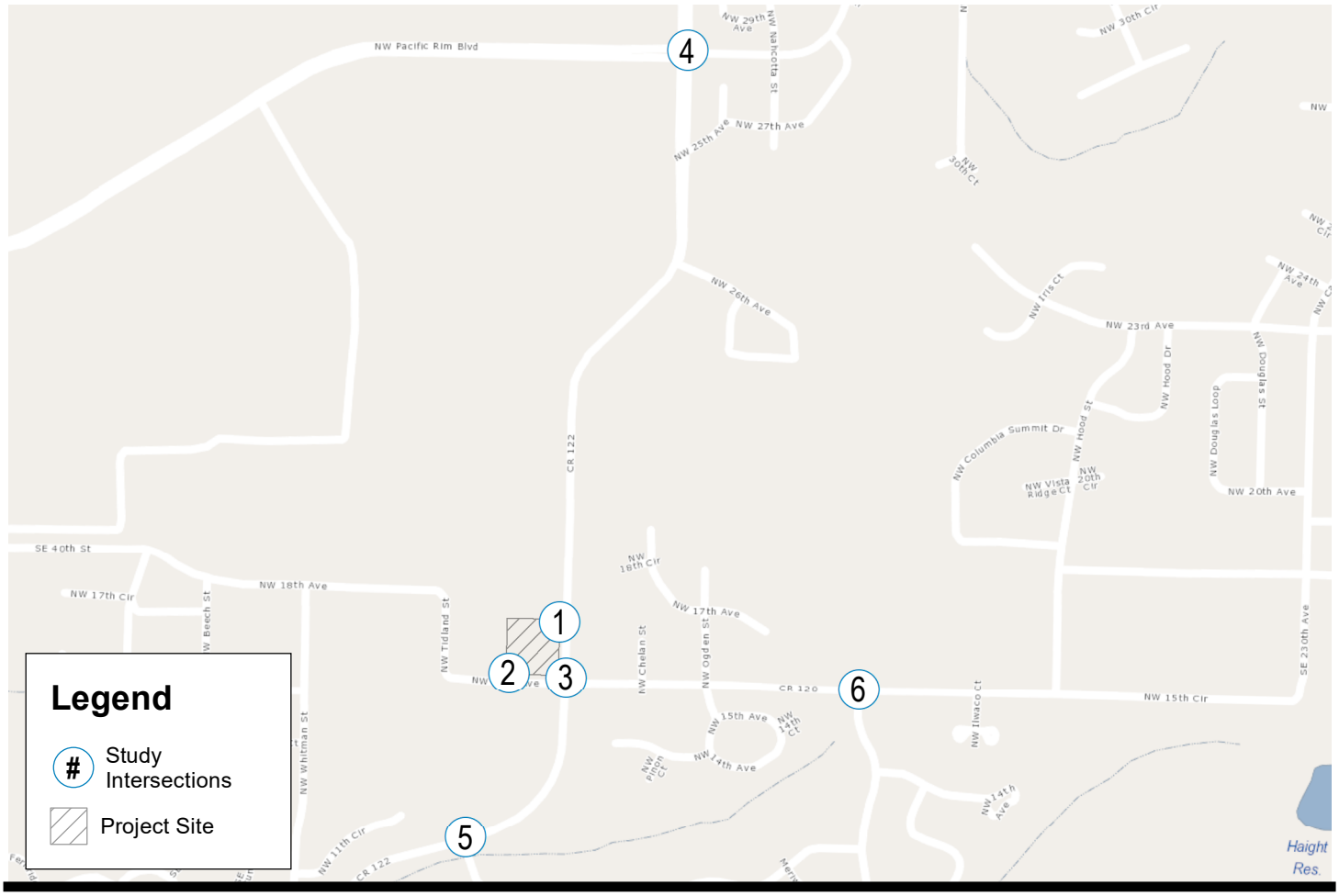
Background Conditions

To provide analysis of the impact of the proposed development on the nearby transportation facilities, an estimate of future traffic volumes is required. For the general background growth, the annual growth rate of 2.0 percent per year was applied to the adjusted year 2022 existing traffic volumes. Although buildout is targeted to be completed prior to 2024, an analysis year of 2024 was evaluated to provide a conservative estimate of traffic conditions. Figure 5 shows the resulting 2024 background traffic volumes for the study intersections during the morning and evening peak hours.

Buildout Conditions

Peak hour trips calculated to be generated by the proposed development, as described earlier within the *Site Trips* section, were added to the year 2024 background volumes to obtain the expected year 2024 buildout conditions. The proposed development will construct full-depth half-width street improvements along the frontage of the property along the NW 16th Avenue frontage, this will include the widening of NW 16th Avenue to accommodate a three-lane cross section. Figure 6 shows the resulting year 2024 buildout traffic volumes at the study intersections during the morning and evening peak hours.





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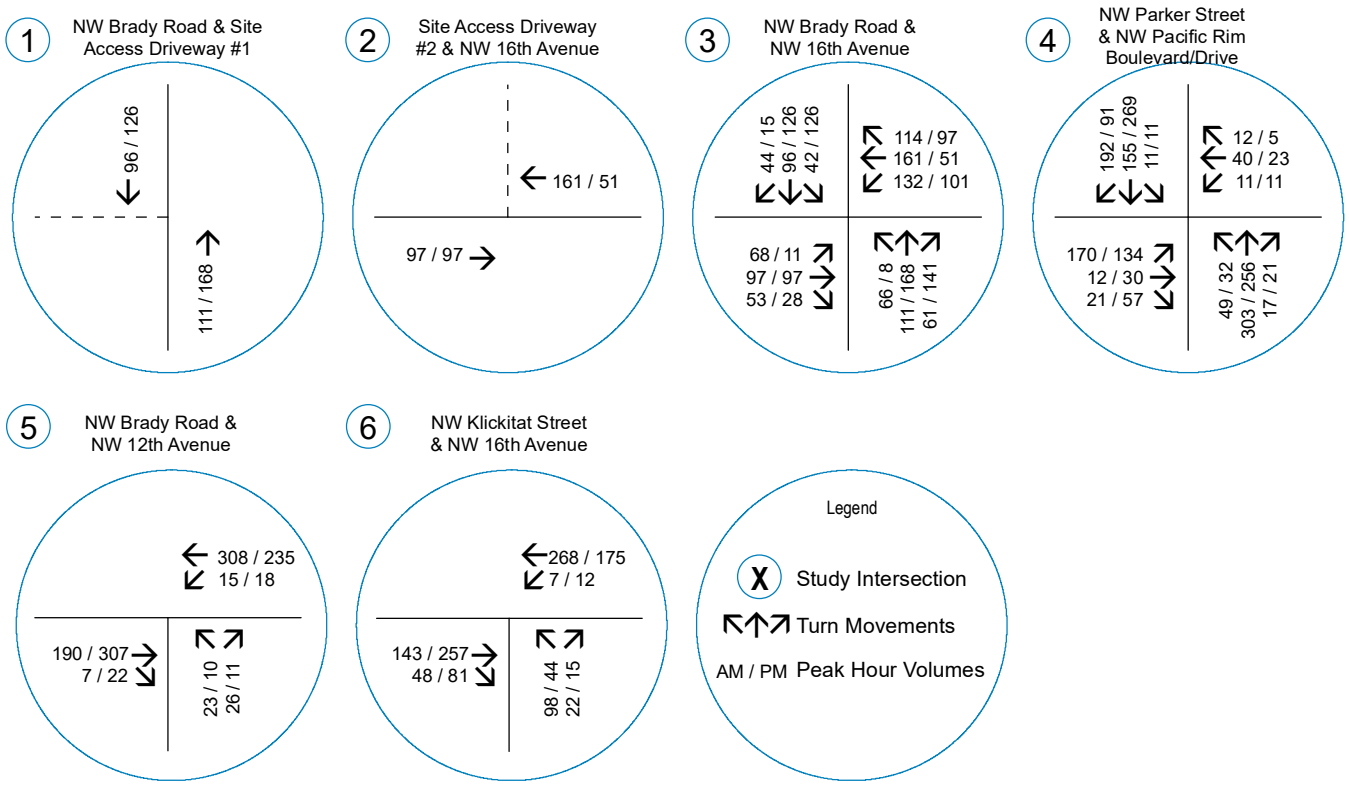
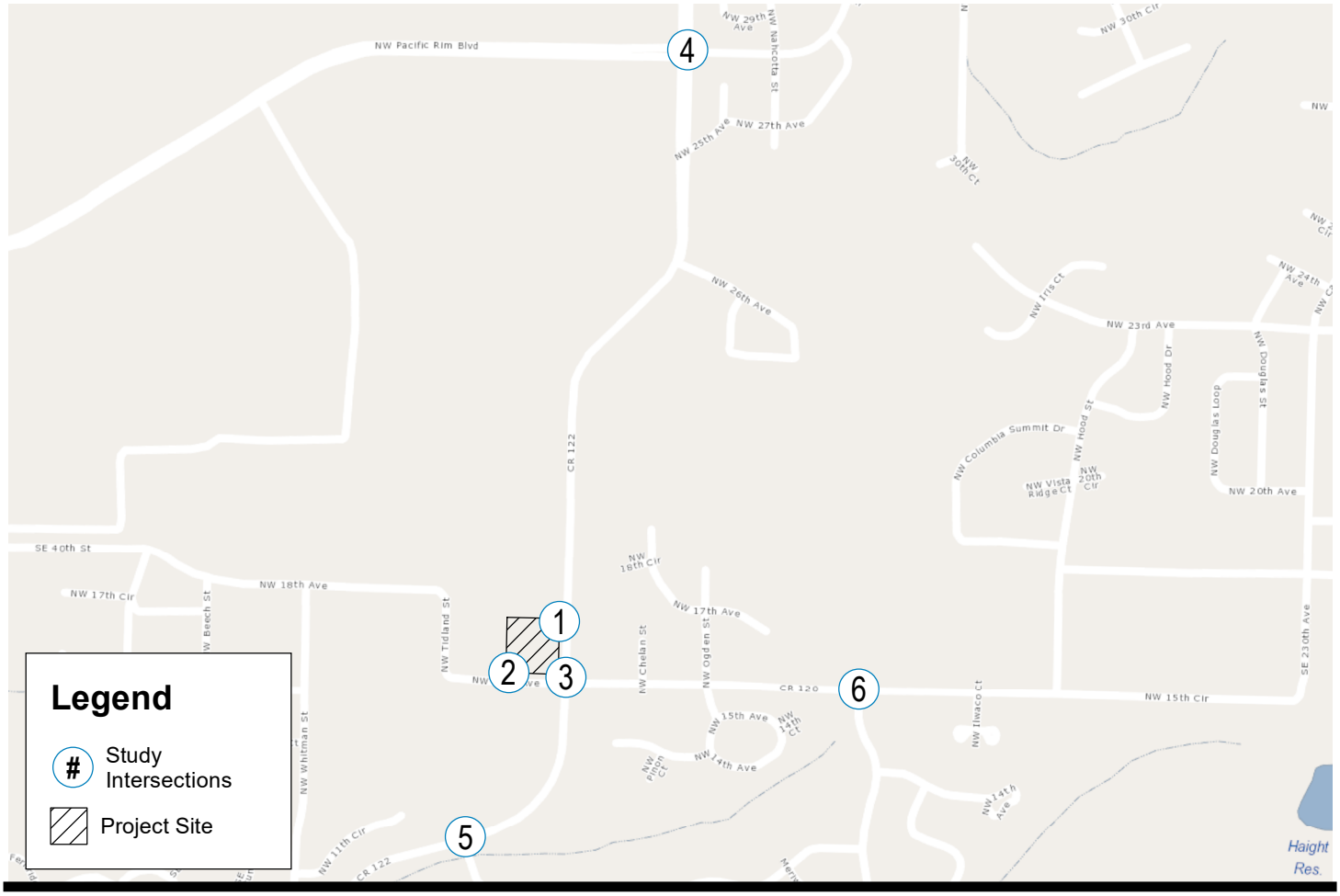
TRAFFIC VOLUMES
Existing Conditions
AM & PM Peak Hour

NOT TO SCALE

Figure 4
Camas Station TIS
2/3/2022





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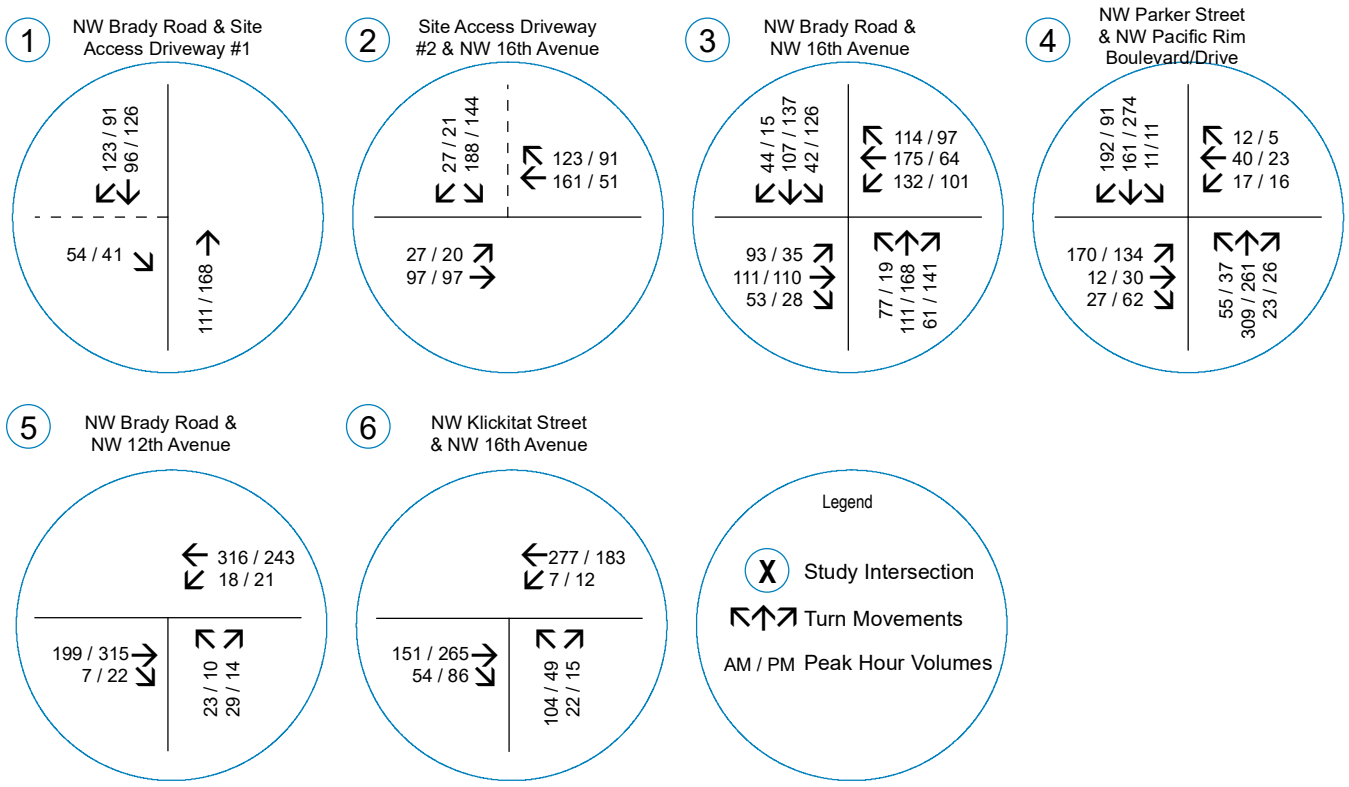
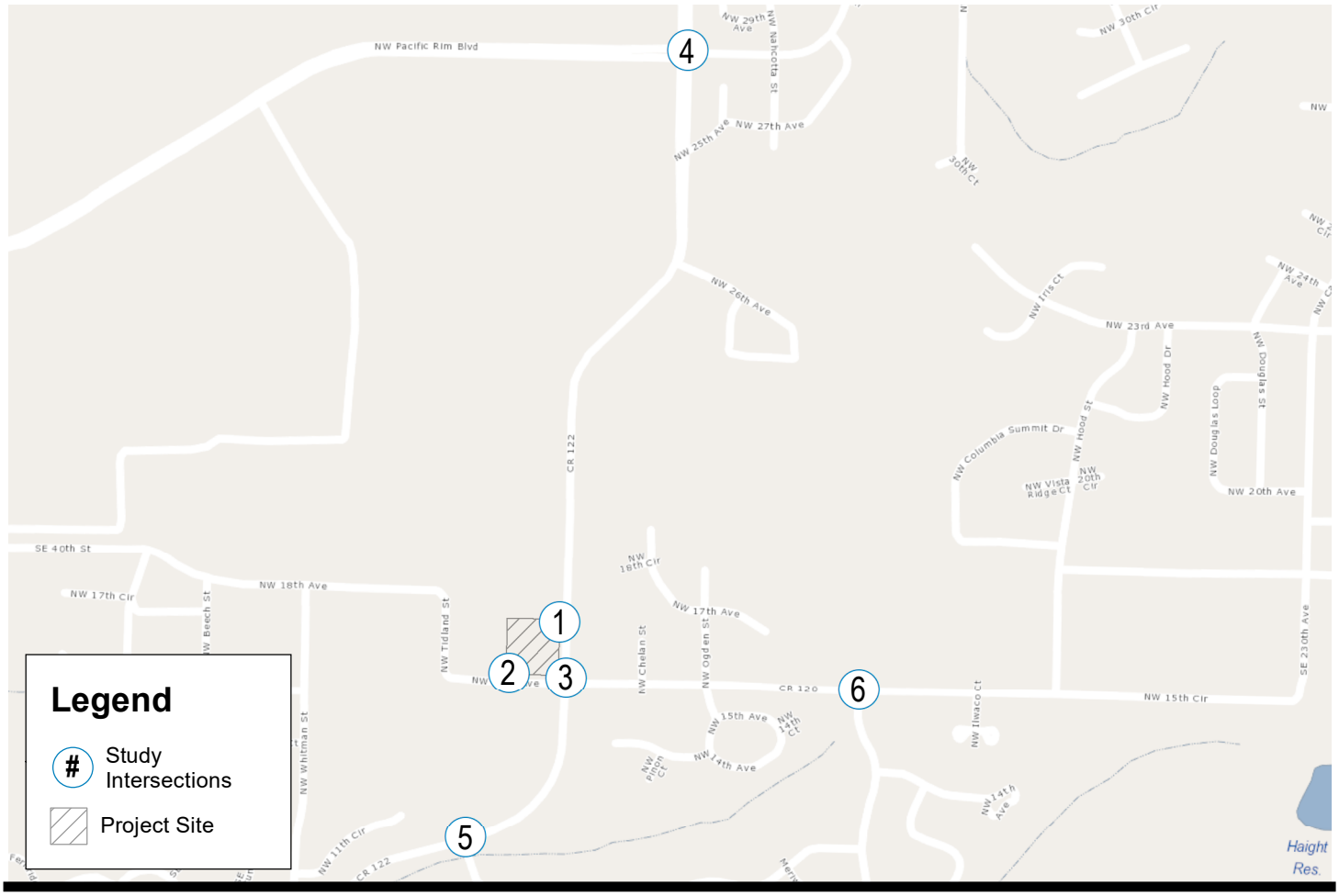
TRAFFIC VOLUMES
Background Conditions
AM & PM Peak Hour

NOT TO SCALE

Figure 5
Camas StationTIS
2/3/2022





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TRAFFIC VOLUMES
Buildout Conditions
AM & PM Peak Hour

NOT TO SCALE

Figure 6
Camas Station TIS
2/3/2022

Safety Analysis

Crash History Review

Using data obtained from the Washington State Patrol Collision Analysis Tool, a review of five years of the most recent available crash history (January 2015 through December 2019) was performed at the study intersections. The crash data was evaluated based on the number of crashes, the type of collisions, and the severity of the collisions. Crash severity is based on injuries sustained by people involved in the crash, and includes five categories:

- *No Injury Collision*
- *Minor (Possible or Evident) Injury Collision*
- *Serious Injury Collision*
- *Fatal Collision*
- *Unknown*

Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the evening peak hour represents approximately 10 percent of the annual average daily traffic (AADT) at the intersection. Crash rates in excess of 1.00 crashes per million entering vehicles (CMEV) may be indicative of design deficiencies and therefore require a need for further investigation and possible mitigation.

Table 4 provides a summary of crash types while Table 5 summarizes crash severities and rates for each of the study intersections. Detailed crash data is provided in Appendix C.

Table 4: Crash Type Summary

Intersection		Crash Type				Total Crashes
		Angle	Turn	Fixed Object	Rear End	
3	NW Brady Road & NW 16th Avenue	2	3	0	1	6
4	NW Parker Street & NW Pacific Rim Boulevard/Drive	1	0	0	0	1
5	NW Brady Road & NW 12th Avenue	0	0	1	0	1
6	NW Klickitat Street & NW 16th Avenue	0	0	1	0	1

Table 5: Crash Severity and Rate Summary

Intersection		Injury Severity					Total Crashes	PHEV	Crash Rate
		None	Minor	Severe	Fatal	Unknown			
3	NW Brady Road & NW 16th Avenue	2	3	0	1	0	6	1,004	0.328
4	NW Parker Street & NW Pacific Rim Boulevard/Drive	1	0	0	0	0	1	955	0.057
5	NW Brady Road & NW 12th Avenue	1	0	0	0	0	1	581	0.094
6	NW Klickitat Street & NW 16th Avenue	1	0	0	0	0	1	563	0.098

Crashes involving vulnerable users or resulting in serious or fatal injuries are discussed further below, organized by intersection.

NW Brady Road & NW 16th Avenue

One collision resulted in an injury severity classified as fatal on July 30th, 2017. The collision occurred when a motorcyclist disregarded a stop sign and collided with a passenger vehicle. It should be noted that the intersection of NW Brady Road & NW 16th Avenue was converted from an all-way stop-controlled intersection to a signalized intersection in 2018. The contributing factors were listed as disregarding the stop sign and exceeding a reasonable safe speed. The motorcyclist sustained fatal injuries, and the driver of the passenger vehicle did not sustain an injury. The collision occurred during daylight under clear conditions.

Crash Rates

All intersections had estimated crash rates well below 1.0.

Conclusion

No significant trends or crash patterns were identified at any of the study intersections. Recent signalization at this intersection is expected to reduce collisions.

Sight Distance Evaluation

A field investigation was conducted on Tuesday afternoon, January 25th, 2022, to measure sight distance of the two site access driveways. To evaluate the sight distance available at these intersections, intersection sight distance was measured and recommended in accordance with the current AASHTO manual[2]. According to AASHTO, the driver's eye is assumed to be 14.5 feet from the near edge of the nearest travel lane of the intersecting street and at a height of 3.5 feet above the minor-street approach pavement. The vehicle driver's eye height along the major-street approach is assumed to be 3.5 feet above the cross-street pavement.

[2] American Association of State Highway and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 7th Edition, 2018.

Both intersection sight distance (ISD) and stopping sight distance (SSD) are assessed. The ISD is an operational measure, intended to provide a sufficient line of sight along the major street so that a driver can turn from the minor street without impeding traffic flow. The SSD is the minimum requirement to ensure safe operation of the roadway. Stopping sight distance allows an oncoming driver to see a hazard in the roadway, react, and come to a complete stop if necessary to avoid a collision. As long as the available intersection sight distance is at least equal to the minimum required stopping sight distance for the design speed of the roadway, adequate sight distance is available for safe operation of the intersection.

Figure 7 displays a sight distance viewpoint from site access driveway #1 for southbound approach. Figure 8 and Figure 9 display sight distance viewpoints from site access driveway #2 for the westbound and eastbound approaches, respectively.

NW Brady Road & Site Access Driveway #1

The site access driveway located on NW Brady Road will be restricted to right-in/right-out access only, due to the existing southbound left-turn pocket at the intersection of NW Brady Road & NW 16th Avenue, therefore, only north of the site access driveway was analyzed for sight distance. NW Brady Road currently has a posted speed of 35 mph and has a three-lane cross-section fronting the proposed development. Based on these factors, the recommended intersection sight distance is 475 feet. Looking to the north, approaching vehicles have an average uphill grade of 8.0 percent. and the required stopping sight distance is 275 feet. The following observations were made:

- Looking north, sight distance was measured to exceed 750 feet; thus, the 475-foot intersection sight distance recommendation is exceeded.

Sufficient sight distance will be maintained by the proposed development by keeping clear sight distance triangles for each approach including structures and planted foliage.

Figure 7: NW Brady Road & Site Access Driveway #1 Looking North

NW 16th Avenue & Site Access Driveway #2

NW 16th Avenue currently has a posted speed limit of 25 mph and a two-lane cross-section fronting the proposed development. Based on these factors, the recommended intersection sight distance is 335 feet. Looking to the east, the required stopping sight distance is 200 feet. Looking to the west, approaching vehicles have an average downhill grade of 5.0 percent, requiring a stopping sight distance of 215 feet. The following observations were made:

- Sight distance was measured to exceed 750 feet east of the site access driveway after onsite foliage is removed during construction; thus, the 335-foot intersection sight distance recommendation is exceeded.
- Sight distance was measured to be approximately 305 feet, which ends at an all-way stop-control intersection. Therefore, the maximum sight distance is met.
- Sufficient sight distance will be maintained by the proposed development by keeping clear sight distance triangles for each approach including structures and planted foliage.

Figure 8: Site Access Driveway #2 & NW 16th Avenue Looking East

Figure 9: Site Access Driveway #2 & NW 16th Avenue Looking West

Warrant Analysis

Left-Turn Lane Warrants

Left-turn lane warrants were examined for the eastbound traffic at the intersection of Site Access Driveway #2 & NW 16th Avenue. No left turns will be permitted along NW Brady Road; therefore, no left-turn lane into the site access located on NW Brady Road will be warranted. All other unsignalized study intersections have existing left-turn lanes.

A left-turn refuge lane is primarily a safety consideration for the major street, removing left-turning vehicles from the through traffic stream. Warrants were based on the methodology outlined in the National Cooperative Highway Research Program (NCHRP) Report Number 457[3]. This methodology evaluates the need for a left-turn lane based on the number of left-turning vehicles, the number of travel lanes, the number of advancing and opposing vehicles, and the roadway travel speed.

Left-turn lane warrants were not met for the eastbound approach of Site Access Driveway #2 & NW 16th Avenue.

Preliminary Traffic Signal Warrants

Preliminary traffic signal warrants were examined for the unsignalized study intersections to determine whether the installation of a new traffic signal will be warranted at the intersections by the 2024 site buildout year. Based on the preliminary analysis following a review of Warrant 1 in the Manual on Uniform Traffic Control Devices, or MUTCD, traffic signal warrants are not projected to be met at the unsignalized study intersections under year 2024 conditions, regardless of whether or not the proposed development is constructed. Therefore, traffic signals are not projected to be warranted under any of the analysis scenarios. Detailed information on the warrant analysis is included in Appendix C.

[3] Bonneson, James A. and Michael D. Fontaine, *NCHRP Report 457: An Engineering Study Guide for Evaluating Intersection Improvements*, Transportation Research Board, 2001.

Operational Analysis

Intersection Capacity Analysis

A capacity and delay analysis were conducted for each of the study intersections per the signalized and unsignalized intersection analysis methodologies in the *Highway Capacity Manual* (HCM)[4]. Intersections are generally evaluated based on the average control delay experienced by vehicles and are assigned a grade according to their operation. The level of service (LOS) of an intersection can range from LOS A, which indicates very little, or no delay experienced by vehicles, to LOS F, which indicates a high degree of congestion and delay. The volume-to-capacity (v/c) ratio is a measure that compares the traffic volumes (demand) against the available capacity of an intersection.

Performance Standards

The study area includes intersections in the City of Camas. According to the Camas Transportation Impact Study Guidelines, a minimum LOS D should be maintained on collector and arterial streets.

Delay & Capacity Analysis

The LOS, delay, and v/c results of the capacity analysis are shown in Table 6 for the morning and evening peak hours. For signalized intersections, the overall intersection operations are reported. For unsignalized intersections, the worst movement is reported.

Table 6: Capacity Analysis Summary

Intersection & Condition	AM Peak Hour			PM Peak Hour		
	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C
1. NW Brady Road & Site Access Driveway #1						
2024 Buildout	A	9.4	0.07	A	9.4	0.06
2. Site Access Driveway #2 & NW 16th Avenue						
2024 Buildout	B	12.4	0.33	B	10.7	0.22
3. NW Brady Road & NW 16th Avenue						
2022 Existing	B	18.7	0.62	B	14.8	0.43
2024 Background	B	19.2	0.64	B	15.1	0.45
2024 Buildout	C	20.6	0.66	B	15.5	0.46
4. NW Parker Street & NW Pacific Rim Boulevard/Drive						
2022 Existing	B	14.3	0.41	C	15.9	0.53
2024 Background	C	15.9	0.43	C	16.8	0.56
2024 Buildout	C	16.2	0.43	C	17.6	0.58

[4] Transportation Research Board, *Highway Capacity Manual 6th Edition*, 2016.

Intersection & Condition	AM Peak Hour			PM Peak Hour		
	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C
5. NW Brady Road & NW 12th Street						
2022 Existing	B	12.4	0.12	B	12.2	0.05
2024 Background	B	12.7	0.12	B	12.5	0.05
2024 Buildout	B	12.9	0.13	B	12.5	0.06
6. NW Klickitat Street & NW 16th Avenue						
2022 Existing	B	13.1	0.25	B	11.6	0.11
2024 Background	B	13.5	0.27	B	11.8	0.11
2024 Buildout	B	13.9	0.29	B	12.0	0.12

BOLDED *results indicate operation above acceptable jurisdictional standards.*

As shown, all study intersections are projected to operate within the City of Camas standards under all analysis scenarios.

Queuing Analysis

An analysis of projected queuing was conducted for the study intersection. To determine the expected queuing which may form at critical study area movements, a Synchro/SimTraffic simulation was conducted and 95th percentile queue lengths were reported. The 95th percentile queue is a statistical measurement that indicates there is a 5 percent chance that the queue may exceed this length during the analysis period; however, given this is a probability, the 95th percentile queue length may theoretically never be met or observed in the field. Reported queue lengths were rounded to the nearest 25 feet or the approximate length of one vehicle. A comparison of the queues under Background and Buildout Year 2024 Conditions is presented in Table 7. Detailed queuing analysis worksheets are included in the appendix to this report.

Table 7: 95th Queuing Analysis Summary

Intersection/Movement	Available Storage (ft)	2024 Background Queue (ft)		2024 Buildout Queue (ft)	
		AM	PM	AM	PM
1. NW Brady Road & Site Access Driveway #1					
EB Right-Turn Lane	110	DNE	DNE	50	50
2. Site Access Driveway #2 & NW 16th Avenue					
EB Left-Turn Lane	100	DNE	DNE	50	25
SB Approach	125	DNE	DNE	100	100
3. NW Brady Road & NW 16th Avenue					
NB Left-Turn Lane	100	75	50	75	50
EB Left-Turn Lane	150	100	25	100	75
SB Left-Turn Lane	100	75	100	75	100
WB Left-Turn Lane	185	125	100	125	75
4. NW Parker Street & NW Pacific Rim Boulevard/Drive					
NB Left-Turn Lane	150	50	50	50	50
EB Left-Turn Lane	125	75	75	75	50
EB Right-Turn Lane	125	50	50	50	50
SB Left-Turn Lane	150	50	50	50	50
SB Right-Turn Lane	150	75	50	75	50
WB Left-Turn Lane	75	50	50	25	50
5. NW Brady Road & NW 16th Avenue					
WB Left-Turn Lane	70	25	25	25	25
NB Approach	200	75	50	75	50
6. NW Klickitat Street & NW 16th Avenue					
NB Approach	425	75	50	100	75

Table Notes: **BOLDED** *text indicates queue length exceeding storage capacity by more than 10 feet.*

Conclusions

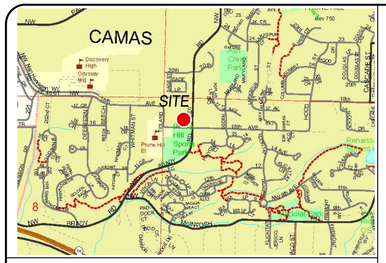
Key findings of this study include:

- The trip generation calculations show that the proposed project is estimated to generate 543 new morning peak hour driveway trips, 408 new evening peak hour driveway trips, and 4,749 new daily driveway trips Accounting for the pass-by trips associated with the various land uses, the project is expected to generate a 111 new morning peak hour primary trips, 107 new evening peak hour primary trips, and 1,131 new daily primary trips
- No significant trends or crash patterns were identified at any of the study intersections.
- A sight distance analysis was conducted at the two site access driveways, the following observations were made:
    - The sight distance is measured to exceed 750 feet north of NW Brady Road & Site Access Driveway #1, exceeding the 475-foot intersection sight distance recommendation
    - The sight distance is measured to exceed 750 feet east of NW 16th Avenue & Site Access Driveway #2 after onsite foliage is removed during construction, exceeding the 335-foot intersection sight distance requirement. Looking west, the sight distance was measured to be approximately 305 feet, which ends at an all-way stop-controlled intersection. Therefore, the maximum sight distance is met.
- Left-turn lane warrants were examined for the intersection of Site Access Driveway #2 & NW Brady Road, and were determined to not be warranted. No left turns will be permitted along NW Brady Road; therefore, no left-turn lane into the site access located on NW Brady Road will be warranted. All other unsignalized study intersections have existing left-turn lanes.
- The proposed development will not trigger the need for any new traffic signals.
- All study intersections are projected to operate within the City of Camas standards under all analysis scenarios.
- No mitigation at any study area transportation facilities is recommended as a result of this project.
- All intersections within the study area are projected to have queue lengths that do not exceed the available storage capacity under buildout conditions.

Appendix A – Site Information

Site Plan

Trip Generation Calculations



VICINITY MAP SEC. 09 T1N R3E W.M.
NTS

SITE PLAN NOTES

EXISTING SITE DATA:

PRESENT USE:	VACANT AND UNUSED
EXISTING ZONING:	COMMUNITY COMMERCIAL (CC)
GROSS SITE AREA:	PARCEL 163804-000 IS 2.16 ACRES (94,090 SF) ACCORDING TO CLARK COUNTY GIS, 2.16 ACRES (94,086 SF) ACCORDING TO SURVEY BY MINISTER & GLAESER SURVEYING, INC.
TRANSIT ROUTES & STOPS:	NONE

SURROUNDING USES WITHIN 100' OF THE SITE:
NORTH: VACANT RC ZONED PROPERTY
SOUTH: (ACROSS NW 16TH AVENUE) PARK ON NP ZONED PROPERTY.
EAST: (ACROSS NE BRADY ROAD) SINGLE-FAMILY RESIDENTIAL USES ON R-12 ZONED PROPERTY.
WEST: COMMERCIAL USE ON RC ZONED PROPERTY.

PROPOSED SITE DATA:

PROPOSED USES:	5,000 SF CONVENIENCE STORE WITH CAR WASH (7,300 SF TOTAL), AND 12-PUMP FUELING ISLAND, 2,800 SF RETAIL BUILDING AND 3,900 SF RETAIL BUILDING WITH 2,500 SF DRIVE THROUGH COFFEE SHOP AND 1,400 SF RETAIL USE
WETLAND, STREAM, STEEP BANK BUFFER AREAS/PROTECTED AREAS, AND PLANNED ENHANCEMENT AREAS:	NONE PROPOSED
PROPOSED PRIVATE ROADS:	NONE PROPOSED
PROPOSED EASEMENTS:	TO BE SHOWN ON FUTURE PLANS
PROPOSED ON-SITE ROAD RIGHTS-OF-WAY:	AS SHOWN
PROPOSED PEDESTRIAN AND BICYCLE FACILITIES:	AS SHOWN
PROPOSED EASEMENTS FOR ACCESS, DRAINAGE, UTILITIES, ETC:	TO BE SHOWN ON FUTURE PLANS
PROPOSED VEHICLE PARKING:	AS SHOWN
PROPOSED BICYCLE PARKING:	NONE PROPOSED
PROPOSED LOADING ZONES:	NONE PROPOSED
PROPOSED SEPTIC SYSTEMS:	NONE PROPOSED
PROPOSED OPEN SPACE/PARK/RECREATIONAL FEATURES:	NONE PROPOSED
PROPOSED TRANSIT FACILITIES:	NONE PROPOSED
ROAD SEGMENTS IN EXCESS OF 15% ON-SITE OR WITHIN 500' OF THE SITE:	NONE KNOWN
PROPOSED SIGNS:	NONE PROPOSED AT THIS TIME
PROPOSED LIGHTING:	AS SHOWN ON LIGHTING PLAN
PROPOSED LOTS, TRACTS, ETC:	3-LOT SHORT PLAT AS SHOWN
EXISTING BUILDINGS TO REMAIN:	NONE
PROPOSED LANDSCAPING (LANDSCAPE PLAN):	AS SHOWN ON THE LANDSCAPE PLAN
PROPOSED BUILDINGS:	AS SHOWN
ABOVE-GROUND UTILITIES:	REFER TO CIVIL ENGINEERING PLANS
PROPOSED FENCES:	NONE PROPOSED

ALL PROPOSED ADA ACCESSIBLE PARKING AND AISLES SHALL HAVE A MAXIMUM SLOPE OF 1:48.
ALL ACCESSIBLE ROUTES OF TRAVEL MEET ACCESSIBILITY STANDARDS.

IF ANY CULTURAL OR HISTORICAL RESOURCES ARE DISCOVERED IN THE COURSE OF UNDERTAKING THE DEVELOPMENT ACTIVITY, THE DEPARTMENT OF ARCHAEOLOGY AND HISTORIC PRESERVATION (DAHP) IN OLYMPIA AND CITY OF CAMAS DEVELOPMENT REVIEW SERVICES MUST BE NOTIFIED. FAILURE TO COMPLY WITH THESE STATE REQUIREMENTS MAY CONSTITUTE A CLASS C FELONY SUBJECT TO IMPRISONMENT AND/OR FINES.

SITE PLAN CALCULATIONS

TOTAL PROJECT SITE AREA (AFTER R.O.W. DEDICATION)	89,393 SF
BUILDING AREA	14,050 SF (15.7%)
LANDSCAPE AREA	15,993 SF (17.9%)
PAVED AREA (INCL. TRASH ENCL.)	59,530 SF (66.4%)

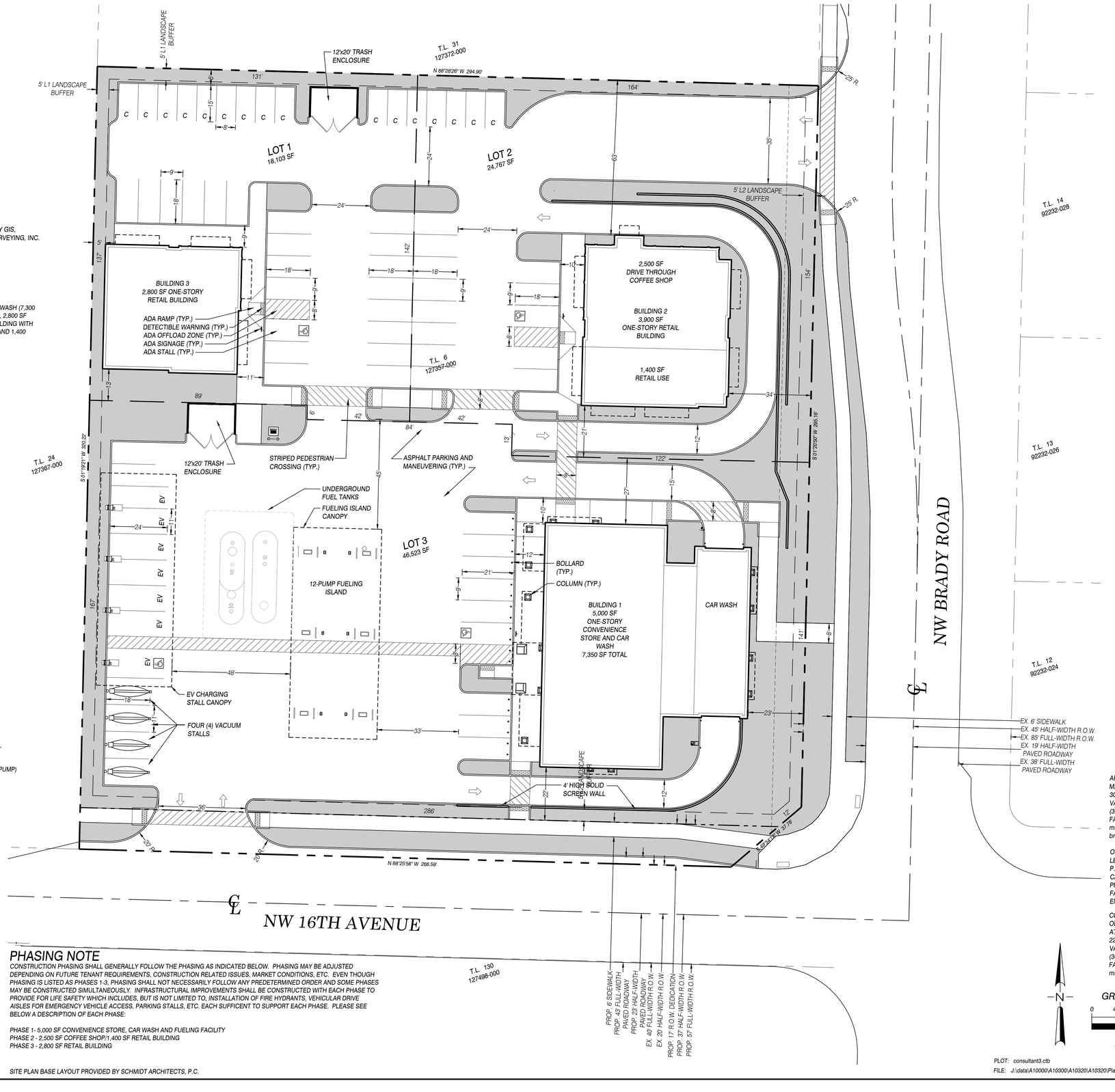
PARKING CALCULATIONS

PARKING REQUIRED	5,000 SF CONVENIENCE STORE USE 5,000 SF / 250 SF (1 STALL PER 250 SF) = 20 STALLS 12-PUMP FUELING ISLAND 1 STALL LOCATED AT EACH NOZZLE = 12 STALLS 2,500 SF DRIVE THROUGH COFFEE SHOP 2,500 SF / 110 SF (1 STALL PER 110 SF) = 23 STALLS 4,200 SF RETAIL USE (2,800 SF AND 1,400 SF) 4,200 SF / 300 SF (1 STALL PER 300 SF) = 14 STALLS TOTAL PARKING REQUIRED - 69 STALLS
PARKING PROVIDED	81 STALLS, WHICH INCLUDES THE FOLLOWING: 53 STANDARD STALLS, WHICH INCLUDES 4 ADA STALL AND 7 EV STALLS 16 COMPACT STALLS 12 STALLS LOCATED AT THE FUELING ISLAND (1 PER PUMP)

PARKING NOTES
ALL PARKING STALLS HAVE A 2-FOOT CONCRETE/LANDSCAPE OVERHANG, UNLESS SHOWN OTHERWISE.
LANDSCAPE AND SIDEWALK WIDTHS HAVE BEEN INCREASED BY AT LEAST 2 FEET TO COMPENSATE.

LEGEND

- PROPOSED BUILDING
- LANDSCAPE BUFFER LINE
- EXISTING EASEMENT
- PROPOSED LOT LINE
- PARKING LOT CURB
- PARKING LOT STRIPING
- PROPERTY LINE
- ASPHALT ROAD/STREET/DRIVEWAY
- ROAD CENTERLINE
- PROPOSED RIGHT-OF-WAY
- SIDEWALK/CONC. PAD/TRAIL
- ADJACENT TAXLOT
- BUILDING/FUELING ISLAND CANOPY
- WALL
- SIGN
- C COMPACT PARKING STALL
- EV ELECTRIC VEHICLE CHARGING STALL
- ℄ CENTERLINE
- LANDSCAPE AREA



PHASING NOTE

CONSTRUCTION PHASING SHALL GENERALLY FOLLOW THE PHASING AS INDICATED BELOW. PHASING MAY BE ADJUSTED DEPENDING ON FUTURE TENANT REQUIREMENTS, CONSTRUCTION RELATED ISSUES, MARKET CONDITIONS, ETC. EVEN THOUGH PHASING IS LISTED AS PHASES 1-3, PHASING SHALL NOT NECESSARILY FOLLOW ANY PREDETERMINED ORDER AND SOME PHASES MAY BE CONSTRUCTED SIMULTANEOUSLY. INFRASTRUCTURAL IMPROVEMENTS SHALL BE CONSTRUCTED WITH EACH PHASE TO PROVIDE FOR LIFE SAFETY WHICH INCLUDES, BUT IS NOT LIMITED TO, INSTALLATION OF FIRE HYDRANTS, VEHICULAR DRIVE AISLES FOR EMERGENCY VEHICLE ACCESS, PARKING STALLS, ETC. EACH SUFFICENT TO SUPPORT EACH PHASE. PLEASE SEE BELOW A DESCRIPTION OF EACH PHASE:

PHASE 1- 5,000 SF CONVENIENCE STORE, CAR WASH AND FUELING FACILITY
PHASE 2 - 2,500 SF COFFEE SHOP/1,400 SF RETAIL BUILDING
PHASE 3 - 2,800 SF RETAIL BUILDING

SITE PLAN BASE LAYOUT PROVIDED BY SCHMIDT ARCHITECTS, P.C.

APPLICANT:
MAJ PASCO, LLC
300 W. 15TH STREET, SUITE 200
VANCOUVER, WA 98660
(360) 823-5125
FAX UNAVAILABLE
mike@majdevelopment.com
brandi@majdevelopment.com

OWNER:
LEONA DEWITT
P.O. BOX 674
CAMAS, WA 98607
PHONE UNAVAILABLE
FAX UNAVAILABLE
EMAIL UNAVAILABLE

CONTACT:
OLSON ENGINEERING, INC.
ATTN: MIKE ODREN
222 E. EVERGREEN BLVD.
VANCOUVER, WA 98660
(360) 695-1385
FAX (360) 695-8117
mikeo@olsonengr.com

GRAPHIC SCALE
0 40 20 10
(IN FEET)
1 inch = 20 ft.

PLOT: consultant3.ctb
FILE: J:\data\A10000\A10300\A10320\A10320\Planning\A10320.p.siteplan.prelim.dwg

PRELIMINARY SITE PLAN AND SHORT PLAT FOR:
CAMAS STATION

OLSON ENGINEERING INC.
LAND SURVEYORS
ENGINEERS
222 E. EVERGREEN BLVD., VANCOUVER, WA 98660
360-695-1385
503-289-9696

HURT F. STONER
STATE OF WASH INGTON
26352
REGISTERED
PROFESSIONAL ENGINEER
01/25/2022

CHANGES / REVISIONS

DESCRIPTION:	DATE:

DESIGNED: TILAND/SCHMIDT
DRAWN: TS/MRO
CHECKED: KFS
DATE: FEBRUARY 2022
SCALE: H: 1" = 20'
V:

CAMAS STATION
JOB NO. A10320.01.01

SHEET
SP1.0

TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition

Land Use:	Strip Retail Plaza (<40k)
Land Use Code:	822
Land Use Subcategory:	All Sites
Setting/Location	General Urban/Suburban
Variable:	1000 SF GFA
Trip Type:	Vehicle
Variable Quantity:	4.2

AM PEAK HOUR

Trip Rate: 2.36

	Enter	Exit	Total
Directional Split	60%	40%	
Trip Ends	6	4	10

PM PEAK HOUR

Trip Rate: 6.59

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	14	14	28

WEEKDAY

Trip Rate: 54.45

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	115	114	229

TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition

Land Use:	Coffee/Donut Shop with Drive-Through Window
Land Use Code:	937
Land Use Subcategory:	All Sites
Setting/Location	General Urban/Suburban
Variable:	1000 SF GFA
Trip Type:	Vehicle
Variable Quantity:	2.5

AM PEAK HOUR

Trip Rate: 85.88

	Enter	Exit	Total
Directional Split	51%	49%	
Trip Ends	110	105	215

PM PEAK HOUR

Trip Rate: 38.99

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	49	48	97

WEEKDAY

Trip Rate: 533.57

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	667	667	1,334

TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition

Land Use:	Convenience Store/Gas Station
Land Use Code:	945
Land Use Subcategory:	GFA (4-5.5k)
Setting/Location	General Urban/Suburban
Variable:	Vehicle Fueling Positions
Trip Type:	Vehicle
Variable Quantity:	12

AM PEAK HOUR

Trip Rate: 27.04

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	162	162	324

PM PEAK HOUR

Trip Rate: 22.76

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	137	136	273

WEEKDAY

Trip Rate: 257.13

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	1,543	1,543	3,086

SATURDAY

Trip Rate: 291.67

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	1,750	1,750	3,500

Caution: Small Sample Size

TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition

Land Use:	Automated Car Wash
Land Use Code:	948
Land Use Subcategory:	All Sites
Setting/Location	General Urban/Suburban
Variable:	Car Wash Tunnels
Trip Type:	Vehicle
Variable Quantity:	1

AM PEAK HOUR

Trip Rate: 77.5

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	39	39	78

PM PEAK HOUR

Trip Rate: 77.5

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	39	39	78

WEEKDAY

Trip Rate: 780

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	390	390	780

Appendix B – Volumes

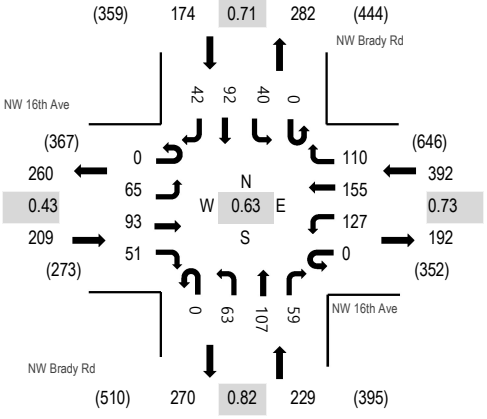
Traffic Counts

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

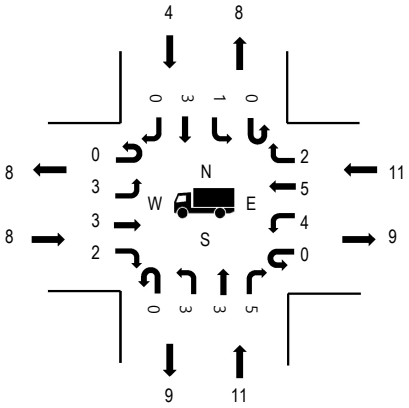
Location: 1 NW Brady Rd & NW 16th Ave AM
Date: Tuesday, January 25, 2022
Peak Hour: 07:40 AM - 08:40 AM
Peak 15-Minutes: 07:50 AM - 08:05 AM

Peak Hour

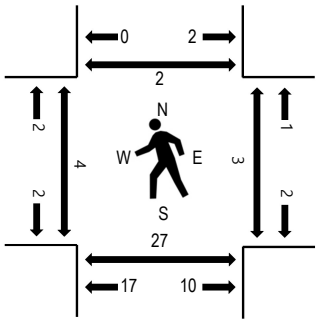
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	3.8%	0.43
WB	2.8%	0.73
NB	4.8%	0.82
SB	2.3%	0.71
All	3.4%	0.63

Traffic Counts - Motorized Vehicles

Interval Start Time	NW 16th Ave Eastbound				NW 16th Ave Westbound				NW Brady Rd Northbound				NW Brady Rd Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	1	0	0	0	8	3	6	0	3	2	3	0	4	5	0	35	821
7:05 AM	0	1	1	0	0	15	5	7	0	5	4	3	0	1	6	2	50	912
7:10 AM	0	2	1	0	0	8	9	5	0	3	7	8	0	3	8	2	56	931
7:15 AM	0	2	2	0	0	8	4	5	0	6	3	3	0	3	12	3	51	933
7:20 AM	0	0	1	0	0	12	7	2	0	1	5	4	0	0	11	1	44	937
7:25 AM	0	0	0	0	0	10	3	2	0	2	5	7	0	3	6	0	38	945
7:30 AM	0	2	1	0	0	10	1	1	0	2	11	4	0	3	8	3	46	966
7:35 AM	0	0	5	1	0	16	5	11	0	1	10	4	0	0	14	0	67	989
7:40 AM	0	0	7	3	0	23	13	6	0	8	9	3	0	2	7	1	82	1,004
7:45 AM	0	7	7	3	0	10	13	6	0	7	5	6	0	1	8	9	82	1,003
7:50 AM	0	6	15	11	0	11	34	11	0	16	10	2	0	4	11	10	141	990
7:55 AM	0	10	17	15	0	15	17	8	0	13	7	4	0	1	10	12	129	921
8:00 AM	0	17	18	15	0	13	9	17	0	6	8	3	0	5	12	3	126	852
8:05 AM	0	9	2	2	0	9	5	9	0	1	10	5	0	8	7	2	69	
8:10 AM	0	8	1	0	0	7	4	10	0	0	11	8	0	3	6	0	58	
8:15 AM	0	0	8	0	0	9	6	7	0	1	11	4	0	2	6	1	55	
8:20 AM	0	1	6	0	0	5	7	8	0	4	10	5	0	2	4	0	52	
8:25 AM	0	0	2	2	0	7	12	8	0	1	6	8	0	4	8	1	59	
8:30 AM	0	3	5	0	0	6	17	11	0	3	11	4	0	3	5	1	69	
8:35 AM	0	4	5	0	0	12	18	9	0	3	9	7	0	5	8	2	82	
8:40 AM	0	1	10	2	0	10	11	11	0	2	10	3	0	8	11	2	81	
8:45 AM	0	4	12	2	0	8	5	8	0	2	7	7	0	5	7	2	69	
8:50 AM	0	2	5	1	0	10	3	11	0	0	7	10	0	14	6	3	72	
8:55 AM	0	0	4	1	0	10	2	2	0	0	5	7	0	11	14	4	60	
Count Total	0	80	135	58	0	252	213	181	0	90	183	122	0	95	200	64	1,673	
Peak Hour	0	65	93	51	0	127	155	110	0	63	107	59	0	40	92	42	1,004	

Location: 1 NW Brady Rd & NW 16th Ave AM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	0	1	0	0	1	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	1	0	1	1	3	7:15 AM	0	0	0	0	0	7:15 AM	0	1	1	1	3
7:20 AM	0	2	1	1	4	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	0	1	0	0	1	7:25 AM	0	0	0	0	0	7:25 AM	2	0	0	0	2
7:30 AM	0	1	0	2	3	7:30 AM	0	0	0	0	0	7:30 AM	0	2	0	0	2
7:35 AM	0	3	0	0	3	7:35 AM	0	0	0	0	0	7:35 AM	0	3	0	0	3
7:40 AM	0	4	1	0	5	7:40 AM	0	1	0	0	1	7:40 AM	2	0	0	0	2
7:45 AM	2	0	0	0	2	7:45 AM	0	0	0	0	0	7:45 AM	1	1	0	1	3
7:50 AM	2	0	1	2	5	7:50 AM	0	0	0	0	0	7:50 AM	0	14	3	0	17
7:55 AM	0	1	1	0	2	7:55 AM	0	0	0	0	0	7:55 AM	0	6	0	0	6
8:00 AM	1	2	1	0	4	8:00 AM	0	0	0	0	0	8:00 AM	0	3	0	0	3
8:05 AM	0	2	0	2	4	8:05 AM	0	0	0	0	0	8:05 AM	0	2	0	0	2
8:10 AM	1	1	1	0	3	8:10 AM	0	0	0	0	0	8:10 AM	1	0	0	0	1
8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0	8:15 AM	0	1	0	1	2
8:20 AM	0	0	2	0	2	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	0	0	1	0	1	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	0	0	3	0	3	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	2	1	0	0	3	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	0	0	0	1	1	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	1	1	0	0	2	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	0	1	0	0	1	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	10	21	13	9	53	Count Total	0	1	0	0	1	Count Total	6	33	4	3	46
Peak Hour	8	11	11	4	34	Peak Hour	0	1	0	0	1	Peak Hour	4	27	3	2	36

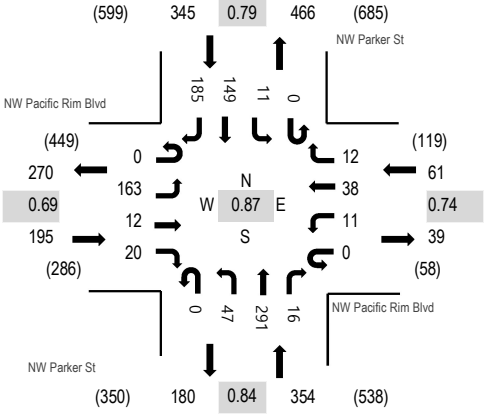
Location: 2 NW Parker St & NW Pacific Rim Blvd AM

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

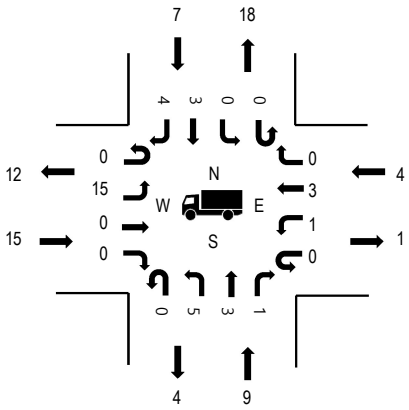
Location: 2 NW Parker St & NW Pacific Rim Blvd AM
Date: Tuesday, January 25, 2022
Peak Hour: 07:50 AM - 08:50 AM
Peak 15-Minutes: 07:50 AM - 08:05 AM

Peak Hour

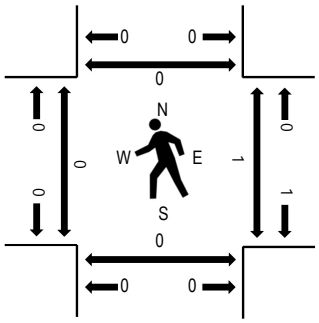
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	7.7%	0.69
WB	6.6%	0.74
NB	2.5%	0.84
SB	2.0%	0.79
All	3.7%	0.87

Traffic Counts - Motorized Vehicles

Interval Start Time	NW Pacific Rim Blvd Eastbound				NW Pacific Rim Blvd Westbound				NW Parker St Northbound				NW Parker St Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	3	1	0	0	2	3	0	0	1	8	1	0	0	8	9	36	614
7:05 AM	0	1	1	1	0	2	1	1	0	2	8	1	0	0	7	2	27	669
7:10 AM	0	3	0	0	0	4	3	0	0	3	13	0	0	0	10	6	42	723
7:15 AM	0	4	1	2	0	2	2	0	0	5	11	0	0	0	8	7	42	744
7:20 AM	0	4	0	0	0	4	2	0	0	2	6	1	0	0	6	7	32	770
7:25 AM	0	7	1	0	0	1	2	0	0	2	3	0	0	0	9	11	36	808
7:30 AM	0	3	0	2	0	2	2	1	0	3	13	1	0	0	9	10	46	844
7:35 AM	0	10	1	0	0	1	4	0	0	3	20	1	0	0	8	6	54	863
7:40 AM	0	12	1	1	0	0	4	4	0	6	10	0	0	0	7	13	58	904
7:45 AM	0	9	1	3	0	2	1	2	0	5	18	0	0	0	9	8	58	940
7:50 AM	0	16	2	1	0	1	9	0	0	6	25	1	0	0	12	14	87	955
7:55 AM	0	20	0	3	0	2	5	2	0	6	25	2	0	2	15	14	96	952
8:00 AM	0	11	1	0	0	1	1	2	0	8	31	1	0	1	19	15	91	928
8:05 AM	0	12	0	1	0	1	2	0	0	6	24	1	0	1	12	21	81	
8:10 AM	0	14	1	0	0	0	1	1	0	2	26	0	0	1	9	8	63	
8:15 AM	0	10	1	1	0	0	1	1	0	2	31	0	0	0	9	12	68	
8:20 AM	0	8	1	1	0	0	1	0	0	1	27	4	0	3	9	15	70	
8:25 AM	0	8	3	1	0	1	5	1	0	5	17	0	0	1	9	21	72	
8:30 AM	0	6	0	2	0	0	3	1	0	5	16	1	0	0	11	20	65	
8:35 AM	0	24	2	4	0	2	4	1	0	1	23	3	0	1	9	21	95	
8:40 AM	0	18	0	4	0	2	3	3	0	3	25	3	0	0	19	14	94	
8:45 AM	0	16	1	2	0	1	3	0	0	2	21	0	0	1	16	10	73	
8:50 AM	0	6	1	4	0	0	2	0	0	2	23	1	0	2	28	15	84	
8:55 AM	0	8	0	0	0	1	2	1	0	2	7	2	0	1	27	21	72	
Count Total	0	233	20	33	0	32	66	21	0	83	431	24	0	14	285	300	1,542	
Peak Hour	0	163	12	20	0	11	38	12	0	47	291	16	0	11	149	185	955	

Location: 2 NW Parker St & NW Pacific Rim Blvd AM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0	7:00 AM	0	0	1	0	1
7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0	7:05 AM	2	0	0	0	2
7:10 AM	0	0	0	1	1	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	0	0	0	1	1	7:20 AM	0	0	0	0	0	7:20 AM	0	0	1	0	1
7:25 AM	0	0	0	1	1	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	0	1	0	2	3	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	2	2	0	0	4	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	1	1	0	0	2	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	1	0	0	1	2	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	0	0	0	1	1	7:50 AM	0	1	0	0	1	7:50 AM	0	0	0	0	0
7:55 AM	0	1	2	1	4	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	0	3	0	1	4	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	2	0	1	0	3	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0	8:10 AM	0	0	1	0	1
8:15 AM	1	0	0	0	1	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	1	2	1	2	6	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	8	1	0	2	11	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	2	1	0	0	3	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	1	1	0	0	2	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	1	0	0	0	1	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	0	0	0	1	1	8:55 AM	0	0	0	0	0	8:55 AM	0	1	0	0	1
Count Total	20	13	4	14	51	Count Total	0	1	0	0	1	Count Total	2	1	3	0	6
Peak Hour	15	9	4	7	35	Peak Hour	0	1	0	0	1	Peak Hour	0	0	1	0	1

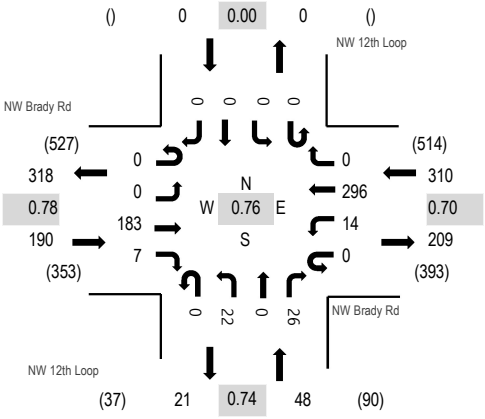
Location: 3 NW 12th Loop & NW Brady Rd AM

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

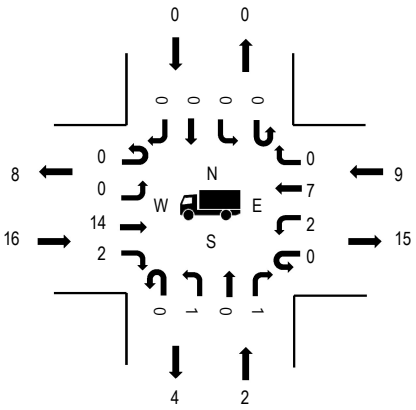
Location: 3 NW 12th Loop & NW Brady Rd AM
Date: Tuesday, January 25, 2022
Peak Hour: 07:10 AM - 08:10 AM
Peak 15-Minutes: 07:50 AM - 08:05 AM

Peak Hour

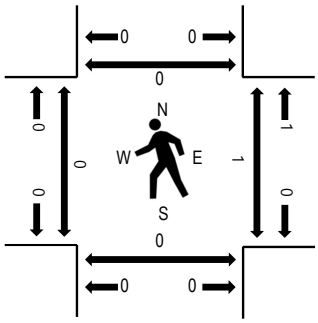
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	8.4%	0.78
WB	2.9%	0.70
NB	4.2%	0.74
SB	0.0%	0.00
All	4.9%	0.76

Traffic Counts - Motorized Vehicles

Interval Start Time	NW Brady Rd Eastbound				NW Brady Rd Westbound				NW 12th Loop Northbound				NW 12th Loop Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	7	0	0	0	14	0	0	2	0	0	0	0	0	0	23	507
7:05 AM	0	0	11	1	0	0	21	0	0	0	0	1	0	0	0	0	34	545
7:10 AM	0	0	16	0	0	0	17	0	0	1	0	3	0	0	0	0	37	548
7:15 AM	0	0	11	0	0	2	19	0	0	3	0	0	0	0	0	0	35	546
7:20 AM	0	0	14	0	0	0	21	0	0	0	0	0	0	0	0	0	35	547
7:25 AM	0	0	10	0	0	0	18	0	0	2	0	0	0	0	0	0	30	542
7:30 AM	0	0	17	0	0	0	16	0	0	4	0	0	0	0	0	0	37	545
7:35 AM	0	0	18	0	0	0	32	0	0	1	0	2	0	0	0	0	53	537
7:40 AM	0	0	13	0	0	1	30	0	0	3	0	2	0	0	0	0	49	525
7:45 AM	0	0	23	1	0	0	25	0	0	2	0	3	0	0	0	0	54	516
7:50 AM	0	0	19	2	0	0	27	0	0	2	0	6	0	0	0	0	56	494
7:55 AM	0	0	18	0	0	4	38	0	0	0	0	4	0	0	0	0	64	474
8:00 AM	0	0	11	2	0	4	39	0	0	2	0	3	0	0	0	0	61	450
8:05 AM	0	0	13	2	0	3	14	0	0	2	0	3	0	0	0	0	37	
8:10 AM	0	0	13	0	0	0	12	0	0	5	0	5	0	0	0	0	35	
8:15 AM	0	0	17	0	0	0	15	0	0	1	0	3	0	0	0	0	36	
8:20 AM	0	0	12	1	0	0	10	0	0	1	0	6	0	0	0	0	30	
8:25 AM	0	0	15	0	0	0	18	0	0	0	0	0	0	0	0	0	33	
8:30 AM	0	0	16	0	0	0	8	0	0	1	0	4	0	0	0	0	29	
8:35 AM	0	0	16	1	0	4	17	0	0	3	0	0	0	0	0	0	41	
8:40 AM	0	0	12	0	0	4	21	0	0	1	0	2	0	0	0	0	40	
8:45 AM	0	0	14	0	0	0	16	0	0	1	0	1	0	0	0	0	32	
8:50 AM	0	0	16	1	0	2	14	0	0	1	0	2	0	0	0	0	36	
8:55 AM	0	0	9	1	0	1	27	0	0	0	0	2	0	0	0	0	40	
Count Total	0	0	341	12	0	25	489	0	0	38	0	52	0	0	0	0	957	
Peak Hour	0	0	183	7	0	14	296	0	0	22	0	26	0	0	0	0	548	

Location: 3 NW 12th Loop & NW Brady Rd AM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	0	0	1	0	1	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	3	0	0	0	3	7:20 AM	0	0	0	0	0	7:20 AM	0	0	1	0	1
7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	1	0	1	0	2	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	5	0	0	0	5	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	1	0	0	0	1	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	0	0	1	0	1	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	1	0	2	0	3	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	2	0	2	0	4	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	1	1	1	0	3	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	2	1	1	0	4	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	0	1	0	0	1	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	0	1	0	0	1	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	1	0	1	0	2	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	1	0	0	0	1	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	1	0	0	0	1	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	1	0	0	0	1	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	20	4	10	0	34	Count Total	0	0	0	0	0	Count Total	0	0	1	0	1
Peak Hour	16	2	9	0	27	Peak Hour	0	0	0	0	0	Peak Hour	0	0	1	0	1

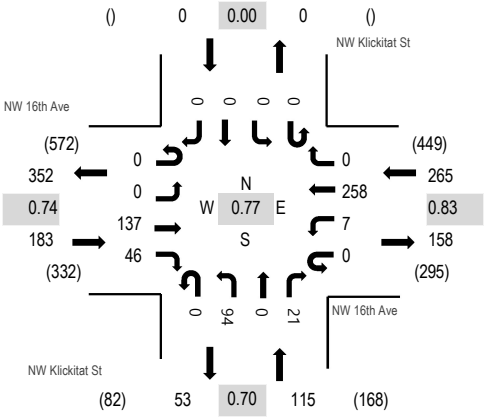
Location: 4 NW Klickitat St & NW 16th Ave AM

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

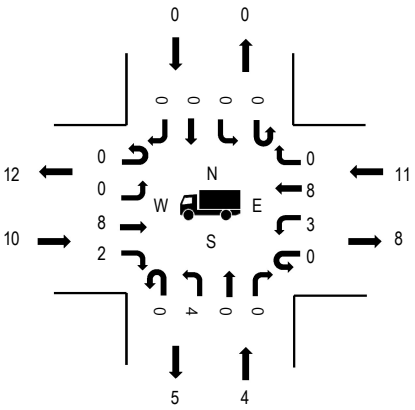
Location: 4 NW Klickitat St & NW 16th Ave AM
Date: Tuesday, January 25, 2022
Peak Hour: 07:40 AM - 08:40 AM
Peak 15-Minutes: 07:50 AM - 08:05 AM

Peak Hour

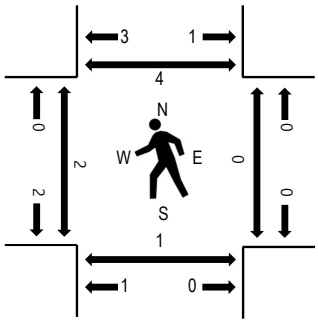
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	5.5%	0.74
WB	4.2%	0.83
NB	3.5%	0.70
SB	0.0%	0.00
All	4.4%	0.77

Traffic Counts - Motorized Vehicles

Interval Start Time	NW 16th Ave Eastbound				NW 16th Ave Westbound				NW Klickitat St Northbound				NW Klickitat St Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	0	7	0	0	0	12	0	0	3	0	2	0	0	0	0	24	431
7:05 AM	0	0	5	0	0	1	19	0	0	1	0	0	0	0	0	0	26	462
7:10 AM	0	0	10	1	0	0	15	0	0	5	0	0	0	0	0	0	31	483
7:15 AM	0	0	7	1	0	1	10	0	0	4	0	1	0	0	0	0	24	482
7:20 AM	0	0	6	1	0	1	17	0	0	2	0	1	0	0	0	0	28	495
7:25 AM	0	0	9	0	0	0	8	0	0	3	0	1	0	0	0	0	21	506
7:30 AM	0	0	5	0	0	0	17	0	0	1	0	2	0	0	0	0	25	523
7:35 AM	0	0	8	0	0	0	21	0	0	9	0	0	0	0	0	0	38	543
7:40 AM	0	0	11	3	0	0	27	0	0	7	0	1	0	0	0	0	49	563
7:45 AM	0	0	8	1	0	0	18	0	0	10	0	1	0	0	0	0	38	561
7:50 AM	0	0	14	10	0	0	27	0	0	16	0	2	0	0	0	0	69	557
7:55 AM	0	0	10	10	0	1	25	0	0	10	0	2	0	0	0	0	58	544
8:00 AM	0	0	11	8	0	1	26	0	0	7	0	2	0	0	0	0	55	518
8:05 AM	0	0	12	3	0	3	22	0	0	4	0	3	0	0	0	0	47	
8:10 AM	0	0	10	1	0	0	13	0	0	4	0	2	0	0	0	0	30	
8:15 AM	0	0	13	3	0	2	14	0	0	2	0	3	0	0	0	0	37	
8:20 AM	0	0	15	1	0	0	14	0	0	5	0	4	0	0	0	0	39	
8:25 AM	0	0	11	2	0	0	15	0	0	10	0	0	0	0	0	0	38	
8:30 AM	0	0	10	2	0	0	24	0	0	9	0	0	0	0	0	0	45	
8:35 AM	0	0	12	2	0	0	33	0	0	10	0	1	0	0	0	0	58	
8:40 AM	0	0	18	4	0	0	19	0	0	5	0	1	0	0	0	0	47	
8:45 AM	0	0	15	2	0	0	13	0	0	2	0	2	0	0	0	0	34	
8:50 AM	0	0	22	8	0	1	19	0	0	5	0	1	0	0	0	0	56	
8:55 AM	0	0	14	6	0	1	9	0	1	1	0	0	0	0	0	0	32	
Count Total	0	0	263	69	0	12	437	0	1	135	0	32	0	0	0	0	949	
Peak Hour	0	0	137	46	0	7	258	0	0	94	0	21	0	0	0	0	563	

Location: 4 NW Klickitat St & NW 16th Ave AM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

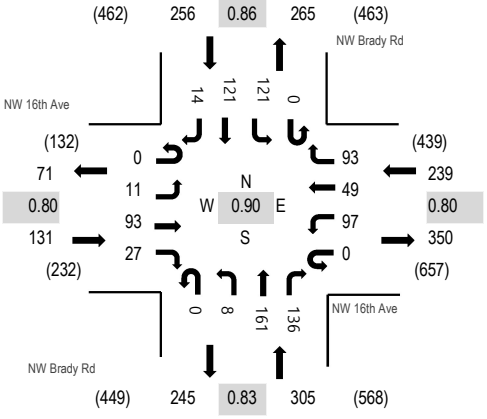
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	0	0	1	0	1	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	0	0	1	0	1	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	3	1	0	0	4	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	1	0	0	0	1	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	1	0	0	0	1	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	1	1
7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0	7:35 AM	2	0	0	1	3
7:40 AM	1	1	0	0	2	7:40 AM	0	0	0	0	0	7:40 AM	1	0	0	2	3
7:45 AM	1	0	0	0	1	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	1	0	2	0	3	7:50 AM	0	0	0	0	0	7:50 AM	1	0	0	1	2
7:55 AM	1	0	2	0	3	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	1	1
8:00 AM	1	1	0	0	2	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	1	1	1	0	3	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	2	0	0	0	2	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	0	0	1	0	1	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	0	1	1	0	2	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	0	0	2	0	2	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	0	0	2	0	2	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	2	0	0	0	2	8:35 AM	0	0	0	0	0	8:35 AM	0	1	0	0	1
8:40 AM	2	0	0	0	2	8:40 AM	0	0	1	0	1	8:40 AM	0	0	0	0	0
8:45 AM	1	0	0	0	1	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	1	0	0	0	1	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	1	0	0	0	1	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	20	5	13	0	38	Count Total	0	0	1	0	1	Count Total	4	1	0	6	11
Peak Hour	10	4	11	0	25	Peak Hour	0	0	0	0	0	Peak Hour	2	1	0	4	7

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

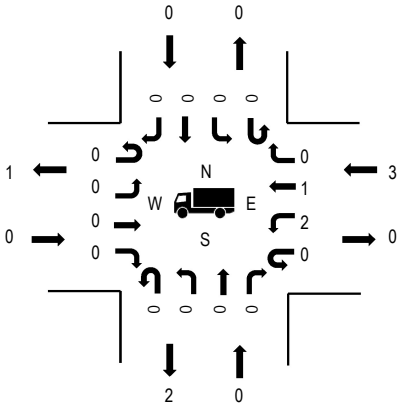
Location: 1 NW Brady Rd & NW 16th Ave PM
Date: Tuesday, January 25, 2022
Peak Hour: 04:55 PM - 05:55 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour

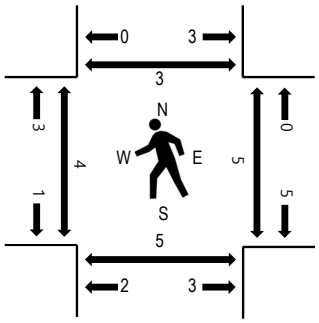
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.80
WB	1.3%	0.80
NB	0.0%	0.83
SB	0.0%	0.86
All	0.3%	0.90

Traffic Counts - Motorized Vehicles

Interval Start Time	NW 16th Ave Eastbound				NW 16th Ave Westbound				NW Brady Rd Northbound				NW Brady Rd Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	2	7	3	0	11	2	3	0	0	6	6	0	12	10	3	65	781
4:05 PM	0	0	6	0	0	10	2	9	0	1	10	16	0	12	13	1	80	795
4:10 PM	0	0	7	1	0	4	3	6	0	1	12	13	0	6	10	0	63	790
4:15 PM	0	1	6	2	0	3	3	6	0	0	12	10	0	5	11	1	60	808
4:20 PM	0	0	8	1	0	9	5	7	0	2	14	12	0	7	7	0	72	837
4:25 PM	0	0	4	4	0	2	6	4	0	1	12	13	0	10	11	0	67	852
4:30 PM	0	2	3	1	0	5	5	11	0	0	8	10	0	6	9	0	60	869
4:35 PM	0	1	6	2	0	9	7	5	0	0	5	14	0	9	5	0	63	898
4:40 PM	0	1	7	1	0	8	1	4	0	2	6	7	0	2	8	0	47	901
4:45 PM	0	1	7	0	0	7	4	7	0	1	13	15	0	8	4	0	67	920
4:50 PM	0	0	7	2	0	7	5	6	0	1	8	11	0	10	6	0	63	923
4:55 PM	0	0	12	2	0	9	5	4	0	1	12	9	0	8	10	2	74	931
5:00 PM	0	1	12	5	0	5	5	7	0	0	14	10	0	5	10	5	79	920
5:05 PM	0	0	4	5	0	9	4	8	0	1	13	12	0	8	10	1	75	
5:10 PM	0	0	10	0	0	5	3	8	0	1	15	10	0	9	20	0	81	
5:15 PM	0	1	5	0	0	12	11	7	0	0	19	15	0	13	5	1	89	
5:20 PM	0	1	8	4	0	7	4	9	0	2	14	12	0	10	16	0	87	
5:25 PM	0	1	5	2	0	5	3	17	0	0	18	14	0	11	7	1	84	
5:30 PM	0	1	12	1	0	6	7	8	0	1	9	17	0	11	13	3	89	
5:35 PM	0	1	8	3	0	10	3	5	0	0	5	13	0	9	9	0	66	
5:40 PM	0	0	7	2	0	6	1	5	0	1	17	8	0	10	8	1	66	
5:45 PM	0	4	3	2	0	15	2	8	0	0	15	6	0	13	2	0	70	
5:50 PM	0	1	7	1	0	8	1	7	0	1	10	10	0	14	11	0	71	
5:55 PM	0	1	6	1	0	7	1	6	0	1	9	11	0	8	10	2	63	
Count Total	0	20	167	45	0	179	93	167	0	18	276	274	0	216	225	21	1,701	
Peak Hour	0	11	93	27	0	97	49	93	0	8	161	136	0	121	121	14	931	

Location: 1 NW Brady Rd & NW 16th Ave PM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	1	2	3	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	1	0	0	0	1	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	1	4	0	5	4:10 PM	0	0	0	0	0	4:10 PM	0	2	0	0	2
4:15 PM	0	1	0	0	1	4:15 PM	1	0	0	0	1	4:15 PM	1	0	0	0	1
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	1	0	0	0	1	4:25 PM	0	0	0	0	0	4:25 PM	0	1	0	0	1
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	0	2	1	0	3
4:35 PM	0	0	1	0	1	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	1	1	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	3	0	0	0	3
4:50 PM	0	0	0	1	1	4:50 PM	0	0	0	0	0	4:50 PM	1	2	1	1	5
4:55 PM	0	0	1	0	1	4:55 PM	0	0	1	0	1	4:55 PM	0	1	0	0	1
5:00 PM	0	0	1	0	1	5:00 PM	0	0	0	0	0	5:00 PM	1	0	0	0	1
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	2	1	1	0	4
5:10 PM	0	0	1	0	1	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	1	2	0	1	4
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	1	1	0	2
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	1	0	1
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	2	2	4
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	2	2	9	4	17	Count Total	1	0	1	0	2	Count Total	9	12	7	4	32
Peak Hour	0	0	3	0	3	Peak Hour	0	0	1	0	1	Peak Hour	4	5	5	3	17

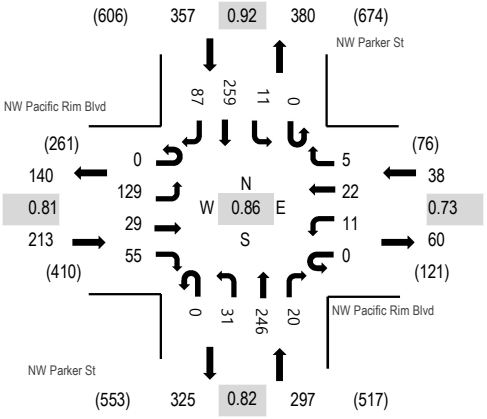
Location: 2 NW Parker St & NW Pacific Rim Blvd PM

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

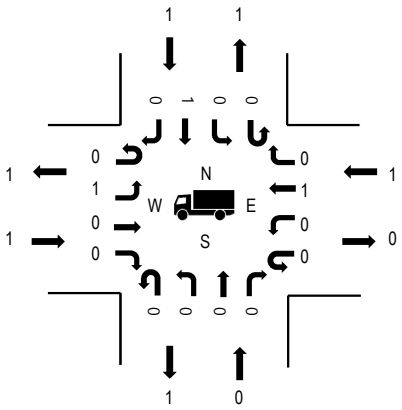
Location: 2 NW Parker St & NW Pacific Rim Blvd PM
Date: Tuesday, January 25, 2022
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:20 PM - 05:35 PM

Peak Hour

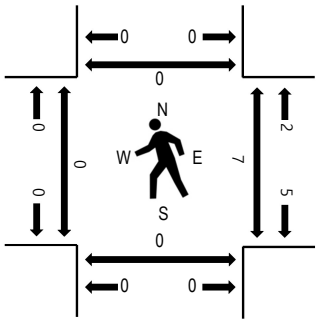
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.5%	0.81
WB	2.6%	0.73
NB	0.0%	0.82
SB	0.3%	0.92
All	0.3%	0.86

Traffic Counts - Motorized Vehicles

Interval Start Time	NW Pacific Rim Blvd Eastbound				NW Pacific Rim Blvd Westbound				NW Parker St Northbound				NW Parker St Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	7	2	4	0	0	1	0	0	0	8	3	0	0	17	6	48	704
4:05 PM	0	12	2	6	0	2	0	2	0	2	16	2	0	0	18	5	67	729
4:10 PM	0	8	4	5	0	4	0	0	0	1	13	3	0	1	13	4	56	735
4:15 PM	0	14	1	0	0	1	1	1	0	3	14	5	0	1	13	8	62	758
4:20 PM	0	12	1	2	0	0	3	2	0	5	12	2	0	2	13	9	63	765
4:25 PM	0	14	3	6	0	1	0	0	0	4	12	0	0	0	14	4	58	804
4:30 PM	0	2	2	7	0	2	2	1	0	0	17	3	0	0	16	6	58	827
4:35 PM	0	9	1	5	0	0	1	1	0	2	16	4	0	0	10	9	58	850
4:40 PM	0	10	4	2	0	2	2	0	0	4	11	0	0	1	10	6	52	859
4:45 PM	0	13	1	1	0	1	2	1	0	4	11	1	0	1	10	5	51	865
4:50 PM	0	7	3	8	0	2	0	1	0	3	19	1	0	0	15	11	70	886
4:55 PM	0	13	5	1	0	0	2	0	0	2	15	2	0	0	17	4	61	903
5:00 PM	0	13	1	5	0	0	1	0	0	1	23	1	0	1	18	9	73	905
5:05 PM	0	7	1	5	0	3	3	0	0	3	17	2	0	1	23	8	73	
5:10 PM	0	8	2	4	0	3	2	0	0	4	18	1	0	3	26	8	79	
5:15 PM	0	5	1	9	0	1	3	0	0	1	25	1	0	0	18	5	69	
5:20 PM	0	21	4	5	0	0	4	1	0	4	25	4	0	0	25	9	102	
5:25 PM	0	11	4	5	0	0	3	0	0	5	24	1	0	0	19	9	81	
5:30 PM	0	12	3	2	0	0	0	2	0	1	24	4	0	1	22	10	81	
5:35 PM	0	9	1	5	0	1	0	0	0	4	13	0	0	3	21	10	67	
5:40 PM	0	13	5	3	0	0	0	0	0	2	13	0	0	0	20	2	58	
5:45 PM	0	8	3	4	0	1	1	0	0	4	24	3	0	1	18	5	72	
5:50 PM	0	11	4	5	0	2	3	1	0	1	25	3	0	1	28	3	87	
5:55 PM	0	11	0	3	0	0	2	1	0	1	15	0	0	0	21	9	63	
Count Total	0	250	58	102	0	26	36	14	0	61	410	46	0	17	425	164	1,609	
Peak Hour	0	129	29	55	0	11	22	5	0	31	246	20	0	11	259	87	905	

Location: 2 NW Parker St & NW Pacific Rim Blvd PM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	1	1	0	2
4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0	4:05 PM	0	0	1	0	1
4:10 PM	0	2	0	0	2	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	3	0	0	3	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	1	1
4:20 PM	1	0	0	1	2	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	1	1	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	1	0	1	0	2	4:40 PM	0	0	0	0	0	4:40 PM	0	1	2	0	3
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	1	1	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	1	1
4:55 PM	1	0	0	0	1	4:55 PM	0	1	0	0	1	4:55 PM	0	0	3	0	3
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	1	0	1
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	2	0	2
5:10 PM	0	0	0	1	1	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	1	0	1	5:15 PM	0	0	0	0	0	5:15 PM	0	0	2	0	2
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	1	0	1
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	1	0	0	0	1	5:45 PM	0	0	0	0	0	5:45 PM	0	0	1	0	1
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	4	5	2	4	15	Count Total	0	1	0	0	1	Count Total	0	2	14	2	18
Peak Hour	1	0	1	1	3	Peak Hour	0	0	0	0	0	Peak Hour	0	0	7	0	7

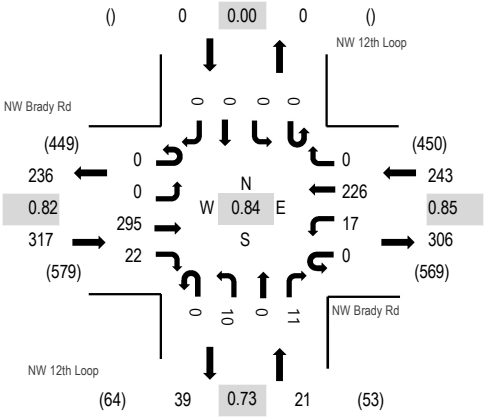
Location: 3 NW 12th Loop & NW Brady Rd PM

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

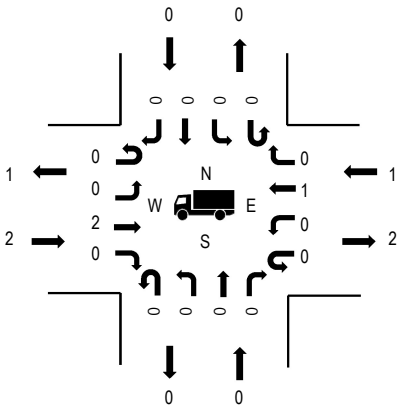
Location: 3 NW 12th Loop & NW Brady Rd PM
Date: Tuesday, January 25, 2022
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:10 PM - 05:25 PM

Peak Hour

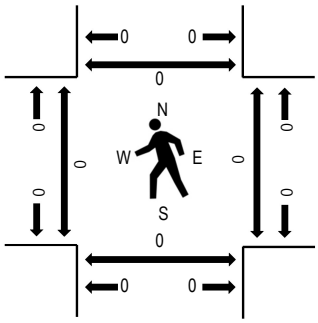
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.6%	0.82
WB	0.4%	0.85
NB	0.0%	0.73
SB	0.0%	0.00
All	0.5%	0.84

Traffic Counts - Motorized Vehicles

Interval Start Time	NW Brady Rd Eastbound				NW Brady Rd Westbound				NW 12th Loop Northbound				NW 12th Loop Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	15	2	0	1	22	0	0	1	0	1	0	0	0	0	42	501
4:05 PM	0	0	26	2	0	1	22	0	0	1	0	0	0	0	0	0	52	508
4:10 PM	0	0	24	3	0	0	19	0	0	2	0	2	0	0	0	0	50	507
4:15 PM	0	0	22	1	0	0	16	0	0	0	0	3	0	0	0	0	42	516
4:20 PM	0	0	21	1	0	0	17	0	0	1	0	2	0	0	0	0	42	524
4:25 PM	0	0	24	2	0	2	15	0	0	1	0	1	0	0	0	0	45	545
4:30 PM	0	0	17	0	0	0	14	0	0	1	0	2	0	0	0	0	34	545
4:35 PM	0	0	15	1	0	2	12	0	0	1	0	1	0	0	0	0	32	562
4:40 PM	0	0	14	1	0	0	19	0	0	3	0	2	0	0	0	0	39	572
4:45 PM	0	0	25	0	0	0	11	0	0	2	0	2	0	0	0	0	40	574
4:50 PM	0	0	21	2	0	1	14	0	0	1	0	0	0	0	0	0	39	577
4:55 PM	0	0	22	1	0	2	17	0	0	1	0	1	0	0	0	0	44	580
5:00 PM	0	0	23	2	0	0	23	0	0	0	0	1	0	0	0	0	49	581
5:05 PM	0	0	21	6	0	3	19	0	0	0	0	2	0	0	0	0	51	
5:10 PM	0	0	27	3	0	3	24	0	0	2	0	0	0	0	0	0	59	
5:15 PM	0	0	35	2	0	0	11	0	0	1	0	1	0	0	0	0	50	
5:20 PM	0	0	30	1	0	2	30	0	0	0	0	0	0	0	0	0	63	
5:25 PM	0	0	26	2	0	1	13	0	0	1	0	2	0	0	0	0	45	
5:30 PM	0	0	26	3	0	1	19	0	0	2	0	0	0	0	0	0	51	
5:35 PM	0	0	19	0	0	0	21	0	0	1	0	1	0	0	0	0	42	
5:40 PM	0	0	25	0	0	0	15	0	0	0	0	1	0	0	0	0	41	
5:45 PM	0	0	19	0	0	3	19	0	0	1	0	1	0	0	0	0	43	
5:50 PM	0	0	21	1	0	1	18	0	0	1	0	0	0	0	0	0	42	
5:55 PM	0	0	23	2	0	3	14	0	0	1	0	2	0	0	0	0	45	
Count Total	0	0	541	38	0	26	424	0	0	25	0	28	0	0	0	0	1,082	
Peak Hour	0	0	295	22	0	17	226	0	0	10	0	11	0	0	0	0	581	

Location: 3 NW 12th Loop & NW Brady Rd PM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	1	0	0	0	1	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	1	0	0	1	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	1	0	0	1	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	2	0	2	4:25 PM	0	0	0	0	0	4:25 PM	1	0	0	0	1
4:30 PM	1	0	0	0	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	1	0	1	4:35 PM	0	0	0	0	0	4:35 PM	0	1	0	0	1
4:40 PM	0	0	1	0	1	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	1	0	0	1	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	1	0	1	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	1	0	1	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	2	0	0	0	2	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	4	3	6	0	13	Count Total	0	0	0	0	0	Count Total	1	1	0	0	2
Peak Hour	2	0	1	0	3	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

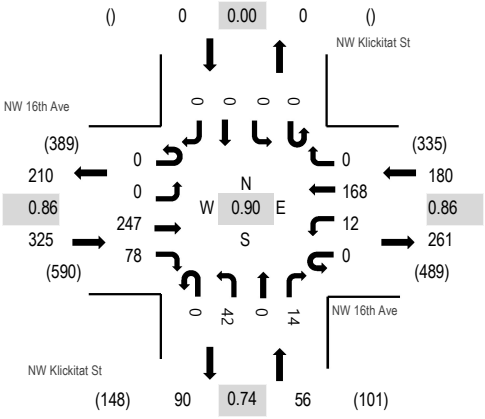
Location: 4 NW Klickitat St & NW 16th Ave PM

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

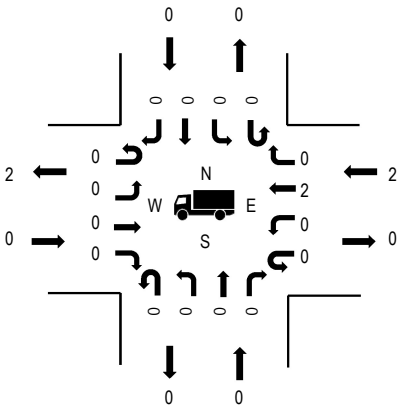
Location: 4 NW Klickitat St & NW 16th Ave PM
Date: Tuesday, January 25, 2022
Peak Hour: 04:55 PM - 05:55 PM
Peak 15-Minutes: 05:10 PM - 05:25 PM

Peak Hour

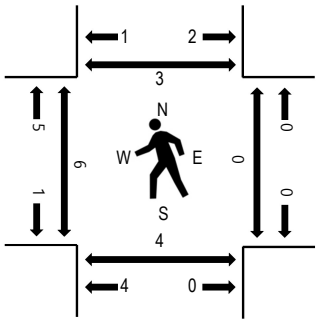
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.86
WB	1.1%	0.86
NB	0.0%	0.74
SB	0.0%	0.00
All	0.4%	0.90

Traffic Counts - Motorized Vehicles

Interval Start Time	NW 16th Ave Eastbound				NW 16th Ave Westbound				NW Klickitat St Northbound				NW Klickitat St Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	0	17	4	0	1	14	0	0	2	0	1	0	0	0	0	39	478
4:05 PM	0	0	28	4	0	2	15	0	0	2	0	0	0	0	0	0	51	483
4:10 PM	0	0	20	2	0	3	9	0	0	4	0	1	0	0	0	0	39	472
4:15 PM	0	0	13	6	0	1	9	0	0	2	0	2	0	0	0	0	33	480
4:20 PM	0	0	18	4	0	0	14	0	0	4	0	1	0	0	0	0	41	502
4:25 PM	0	0	16	6	0	0	9	0	0	2	0	0	0	0	0	0	33	514
4:30 PM	0	0	12	3	0	0	9	0	0	6	0	1	0	0	0	0	31	524
4:35 PM	0	0	27	3	0	0	19	0	0	3	0	1	0	0	0	0	53	552
4:40 PM	0	0	8	3	0	1	9	0	0	3	0	1	0	0	0	0	25	545
4:45 PM	0	0	16	4	0	1	17	0	0	3	0	1	0	0	0	0	42	555
4:50 PM	0	0	23	3	0	0	11	0	0	3	0	1	0	0	0	0	41	558
4:55 PM	0	0	22	12	0	2	11	0	0	2	0	1	0	0	0	0	50	561
5:00 PM	0	0	19	5	0	1	15	0	0	3	0	1	0	0	0	0	44	548
5:05 PM	0	0	19	2	0	2	13	0	0	3	0	1	0	0	0	0	40	
5:10 PM	0	0	21	7	0	1	15	0	0	3	0	0	0	0	0	0	47	
5:15 PM	0	0	19	6	0	3	18	0	0	8	0	1	0	0	0	0	55	
5:20 PM	0	0	20	9	0	1	16	0	0	6	0	1	0	0	0	0	53	
5:25 PM	0	0	18	10	0	0	12	0	0	3	0	0	0	0	0	0	43	
5:30 PM	0	0	29	8	0	1	17	0	0	3	0	1	0	0	0	0	59	
5:35 PM	0	0	25	5	0	1	14	0	0	0	0	1	0	0	0	0	46	
5:40 PM	0	0	15	6	0	0	7	0	0	4	0	3	0	0	0	0	35	
5:45 PM	0	0	15	6	0	0	18	0	0	4	0	2	0	0	0	0	45	
5:50 PM	0	0	25	2	0	0	12	0	0	3	0	2	0	0	0	0	44	
5:55 PM	0	0	19	6	0	1	10	0	0	0	0	1	0	0	0	0	37	
Count Total	0	0	464	126	0	22	313	0	0	76	0	25	0	0	0	0	1,026	
Peak Hour	0	0	247	78	0	12	168	0	0	42	0	14	0	0	0	0	561	

Location: 4 NW Klickitat St & NW 16th Ave PM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	3	0	0	0	3	4:00 PM	0	0	0	0	0	4:00 PM	0	1	0	0	1
4:05 PM	1	0	1	0	2	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	1	2	0	3	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	1	0	0	3	4
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0	4:25 PM	0	1	0	0	1
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	1	1
4:35 PM	1	0	1	0	2	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	1	1
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	1	1	0	1	3
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	1	0	0	1
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	1	0	1	4:55 PM	2	0	0	1	3
5:00 PM	0	0	1	0	1	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	1	1
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	1	0	0	0	1
5:10 PM	0	0	1	0	1	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	1	0	0	0	1
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	2	3	0	0	5
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	1	0	1	2
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	5	1	6	0	12	Count Total	0	0	1	0	1	Count Total	8	8	0	9	25
Peak Hour	0	0	2	0	2	Peak Hour	0	0	1	0	1	Peak Hour	6	4	0	3	13

Appendix C - Safety

Crash History Data

Left-Turn Lane Warrant Analysis

Preliminary Signal Warrant Analysis

Washington State Patrol

Service With Humility

Home Query Reports Help Contact

Query Results - 2 Records Returned

Collision Date Range: 1/1/2015 - 12/31/2019 Export Summary to Excel (CSV) Export Detail to Excel (CSV)

<<First Page <Previous Page Next Page> Last Page>>

Collision Information																							
Collision Report Number	Collision Date/Time	County	City	Jursidiction	Agency	Primary Traffic Way	Secondary Traffic Way	Block Number	Milepost	School Zone	Intersection Related	Weather	Lighting	Injury Severity	Collision Type	Object Struck	Damage Threshold Met	Hit and Run	Motor Vehicles Involved	Passengers Involved	Commercial Carrier Involved	School Bus Involved	Pedestrians Involved	Pedalcyclists Involved
E927909	6/6/2019 5:27:00 PM	Clark	Camas	City Street	Municipal/City Police	NW 16TH AVE	NW BRADY RD			N	Y	Overcast	Daylight	Minor Injury Collision			Y	N	2	Y	N	N	0	0
E927909	6/6/2019 5:27:00 PM	Clark	Camas	City Street	Municipal/City Police	NW 16TH AVE	NW BRADY RD			N	Y	Overcast	Daylight	Minor Injury Collision			N	N	2	Y	N	N	0	0

Rows per Page: 20 50 100 250

Washington State Patrol

Service With Humility

Home Query Reports Help Contact

Query Results - 5 Records Returned

Collision Date Range: 1/1/2015 - 12/31/2019 Export Summary to Excel (CSV) Export Detail to Excel (CSV)

<<First Page <Previous Page Next Page> Last Page>>

Collision Information																							
Collision Report Number	Collision Date/Time	County	City	Jursidiction	Agency	Primary Traffic Way	Secondary Traffic Way	Block Number	Milepost	School Zone	Intersection Related	Weather	Lighting	Injury Severity	Collision Type	Object Struck	Damage Threshold Met	Hit and Run	Motor Vehicles Involved	Passengers Involved	Commercial Carrier Involved	School Bus Involved	Pedestrians Involved	Pedalcyclists Involved
E697830	7/30/2017 7:59:00 PM	Clark	Camas	City Street	Municipal/City Police	NW BRADY RD	NW 16TH AVE	.		N	Y	Clear	Daylight	Fatal Collision			Y	N	2	N	N	N	0	0
E708673	8/29/2017 10:21:00 PM	Clark	Camas	City Street	Municipal/City Police	NW BRADY RD	NW 16TH AVE	.		N	Y	Clear	Dark-Street Lights On	Minor Injury Collision			Y	N	2	N	N	N	0	0
E838168	9/5/2018 7:01:00 AM	Clark	Camas	City Street	Municipal/City Police	NW BRADY RD	NW 16TH AVE	.		N	Y	Clear	Daylight	Minor Injury Collision			Y	N	2	Y	N	N	0	0
E984562	11/11/2019 8:52:00 AM	Clark	Camas	City Street	Municipal/City Police	NW BRADY RD	NW 16TH AVE	1600		N	Y	Clear	Daylight	No Injury Collision			Y	N	3	N	N	N	0	0
EA13244	12/24/2019 9:00:00 PM	Clark	Camas	City Street	Municipal/City Police	NW BRADY RD	NW 16TH AVE	.		N	Y	Raining	Dark-Street Lights On	No Injury Collision			Y	N	2	N	N	N	0	0

Rows per Page: 20 50 100 250

Washington State Patrol

Service With Humility

Home Query Reports Help Contact

Query Results - 1 Records Returned

Collision Date Range: 1/1/2015 - 12/31/2019 Export Summary to Excel (CSV) Export Detail to Excel (CSV)

<<First Page <Previous Page Next Page> Last Page>>

Collision Information																								
Collision Report Number	Collision Date/Time	County	City	Jursidiction	Agency	Primary Traffic Way	Secondary Traffic Way	Block Number	Milepost	School Zone	Intersection Related	Weather	Lighting	Injury Severity	Collision Type	Object Struck	Damage Threshold Met	Hit and Run	Motor Vehicles Involved	Passengers Involved	Commercial Carrier Involved	School Bus Involved	Pedestrians Involved	Pedalcyclists Involved
E750336	12/21/2017 2:55:00 PM	Clark	Camas	City Street	Municipal/City Police	NW PACIFIC RIM BLVD	NW PARKER ST	4000		N	Y	Clear	Daylight	No Injury Collision			Y	N	2	N	N	N	0	0

Rows per Page: 20 50 100 250

Washington State Patrol
Service With Humility

Home Query Reports Help Contact

Query Results - 1 Records Returned

Collision Date Range: 1/1/2015 - 12/31/2019 Export Summary to Excel (CSV) Export Detail to Excel (CSV)

<<First Page <Previous Page Next Page> Last Page>>

Collision Information																								
Collision Report Number	Collision Date/Time	County	City	Jurisdiction	Agency	Primary Traffic Way	Secondary Traffic Way	Block Number	Milepost	School Zone	Intersection Related	Weather	Lighting	Injury Severity	Collision Type	Object Struck	Damage Threshold Met	Hit and Run	Motor Vehicles Involved	Passengers Involved	Commercial Carrier Involved	School Bus Involved	Pedestrians Involved	Pedalcyclists Involved
E664229	4/12/2017 7:18:00 PM	Clark	Camas	City Street	Municipal/City Police	NW BRADY RD	NW 12TH AVE			N	Y	Raining	Daylight	No Injury Collision		Street Light Pole	Y	N	1	Y	N	N	0	0

Rows per Page: 20 50 100 250

Washington State Patrol

Service With Humility

Home Query Reports Help Contact

Query Results - 2 Records Returned

Collision Date Range: 1/1/2015 - 12/31/2019 Export Summary to Excel (CSV) Export Detail to Excel (CSV)

<<First Page <Previous Page Next Page> Last Page>>

Collision Information																							
Collision Report Number	Collision Date/Time	County	City	Jursidiction	Agency	Primary Traffic Way	Secondary Traffic Way	Block Number	Milepost	School Zone	Intersection Related	Weather	Lighting	Injury Severity	Collision Type	Object Struck	Damage Threshold Met	Hit and Run	Motor Vehicles Involved	Passengers Involved	Commercial Carrier Involved	School Bus Involved	Pedestrians Involved	Pedalcyclists Involved
E836219	9/9/2018 5:01:00 PM	Clark	Camas	City Street	Municipal/City Police	NW 16TH AVE	NW KLICKITAT ST	3500		N	Y	Clear	Daylight	No Injury Collision		Fence	N	N	1	N	N	N	0	0
E836219	9/9/2018 5:01:00 PM	Clark	Camas	City Street	Municipal/City Police	NW 16TH AVE	NW KLICKITAT ST	3500		N	Y	Clear	Daylight	No Injury Collision		Fence	Y	N	1	N	N	N	0	0

Rows per Page: 20 50 100 250

Left-Turn Lane Warrant Analysis

Project: 21224 - Camas Station
Intersection: 2. Site Access Driveway #2 & 16th Avenue
Date: 2/3/2022
Scenario: 2023 Buildout - AM Peak Hour (EB)

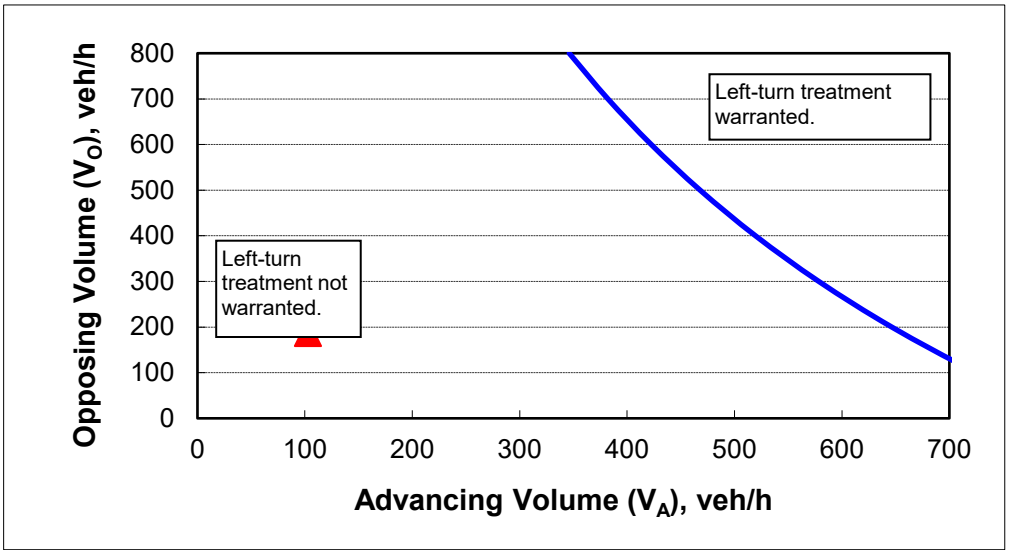
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	30
Percent of left-turns in advancing volume (V_A), %:	6%
Advancing volume (V_A), veh/h:	103
Opposing volume (V_O), veh/h:	187

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	656
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 21224 - Camas Station
Intersection: 2. Site Access Driveway #2 & 16th Avenue
Date: 2/3/2022
Scenario: 2023 Buildout - PM Peak Hour (NB)

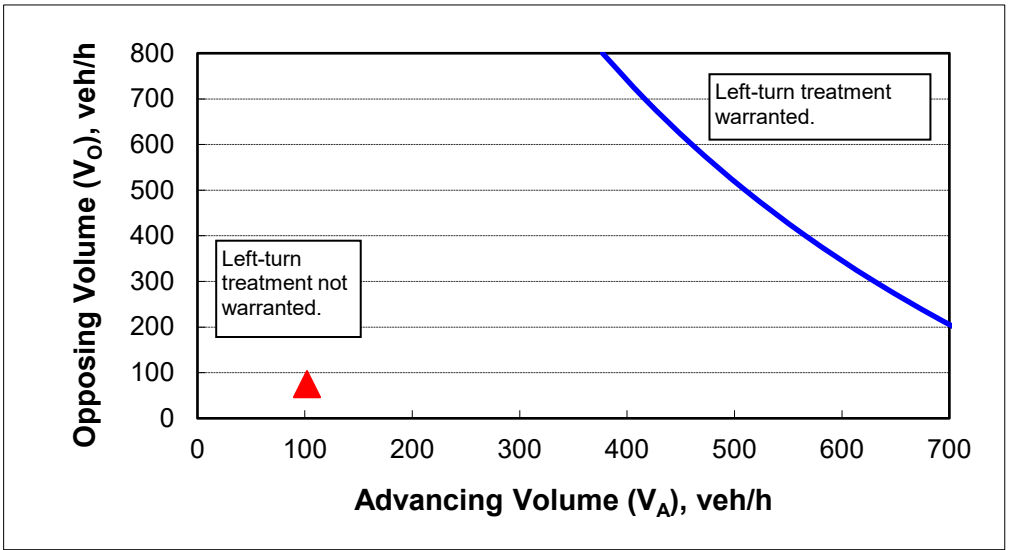
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	30
Percent of left-turns in advancing volume (V_A), %:	5%
Advancing volume (V_A), veh/h:	102
Opposing volume (V_O), veh/h:	75

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	815
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Preliminary Traffic Signal Warrant Analysis

Project: 21224 - Brady Road Development
Date: 1/28/2022
Scenario: 2024 Buildout PM Peak Hour

Major Street:	NW Brady Road	Minor Street:	Site Access Driveway #1
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	385	PM Peak Hour Volumes:	41 Total 41 Rights 0% RT Discount

Warrant Used:

X — 100 percent of standard warrants used

_____ — 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	3,850	8,850	
Minor Street*	410	2,650	No
Condition B: Interruption of Continuous Traffic			
Major Street	3,850	13,300	
Minor Street*	410	1,350	No
Combination Warrant (Not met until after adequate trial of other measures)			
Major Street	3,850	10,640	
Minor Street*	410	2,120	No

* Minor street right-turning traffic volumes reduced by 00%.

Preliminary Traffic Signal Warrant Analysis

Project: 21224 - Brady Road Development
Date: 1/28/2022
Scenario: 2024 Buildout AM Peak Hour

Major Street: NW 16th Avenue
Number of Lanes: 1
AM Peak Hour Volumes: 408

Minor Street: Site Access Driveway #2
Number of Lanes: 1
PM Peak Hour Volumes: 215 Total, 27 Rights, 0% RT Discount

Warrant Used:

X — 100 percent of standard warrants used

_____ — 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	4,080	8,850	
Minor Street*	2,150	2,650	No
Condition B: Interruption of Continuous Traffic			
Major Street	4,080	13,300	
Minor Street*	2,150	1,350	No
Combination Warrant (Not met until after adequate trial of other measures)			
Major Street	4,080	10,640	
Minor Street*	2,150	2,120	No

* Minor street right-turning traffic volumes reduced by 00%.

Preliminary Traffic Signal Warrant Analysis

Project: 21224 - Brady Road Development
Date: 1/28/2022
Scenario: 2024 Buildout PM Peak Hour

Major Street: NW Parker Street
Number of Lanes: 2
PM Peak Hour Volumes: 700

Minor Street: NW Pacfic Rim Boulevard
Number of Lanes: 2
PM Peak Hour Volumes: 226 Total, 62 Rights, 100% RT Discount

Warrant Used:

x 100 percent of standard warrants used

70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	7,000	10,600	
Minor Street*	1,640	3,550	No
Condition B: Interruption of Continuous Traffic			
Major Street	7,000	15,900	
Minor Street*	1,640	1,750	No
Combination Warrant (Not met until after adequate trial of other measures)			
Major Street	7,000	12,720	
Minor Street*	1,640	2,840	No

* Minor street right-turning traffic volumes reduced by 100%.

Preliminary Traffic Signal Warrant Analysis

Project: 21224 - Brady Road Development
Date: 1/28/2022
Scenario: 2024 Buildout PM Peak Hour

Major Street:	NW Brady Road		Minor Street:	NW 12th Avenue	
Number of Lanes:	1		Number of Lanes:	1	
PM Peak Hour Volumes:	602		PM Peak Hour Volumes:	24 14 50%	Total Rights RT Discount

Warrant Used:

x — 100 percent of standard warrants used

_____ — 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	6,020	8,850	
Minor Street*	170	2,650	No
Condition B: Interruption of Continuous Traffic			
Major Street	6,020	13,300	
Minor Street*	170	1,350	No
Combination Warrant (Not met until after adequate trial of other measures)			
Major Street	6,020	10,640	
Minor Street*	170	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.

Preliminary Traffic Signal Warrant Analysis

Project: 21224 - Brady Road Development
Date: 1/28/2022
Scenario: 2024 Buildout PM Peak Hour

Major Street: NW 16th Avenue
Number of Lanes: 1
PM Peak Hour Volumes: 546

Minor Street: NW Klickitat Street
Number of Lanes: 1
PM Peak Hour Volumes: 64 Total, 15 Rights, 50% RT Discount

Warrant Used:

x 100 percent of standard warrants used

70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	5,460	8,850	
Minor Street*	570	2,650	No
Condition B: Interruption of Continuous Traffic			
Major Street	5,460	13,300	
Minor Street*	570	1,350	No
Combination Warrant (Not met until after adequate trial of other measures)			
Major Street	5,460	10,640	
Minor Street*	570	2,120	No

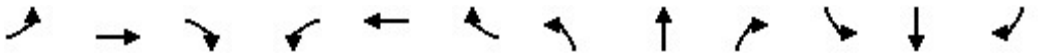
* Minor street right-turning traffic volumes reduced by 50%.

Appendix D - Operations

Synchro Reports

HCM Signalized Intersection Capacity Analysis
3: NW Brady Road & NW 16th Avenue

01/27/2022



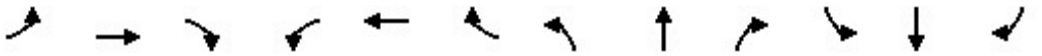
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	93	51	127	155	110	63	107	59	40	92	42
Future Volume (vph)	65	93	51	127	155	110	63	107	59	40	92	42
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	0.99		1.00	0.97		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.94		1.00	0.95		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1569		1599	1582		1558	1538		1610	1604	
Flt Permitted	0.36	1.00		0.50	1.00		0.50	1.00		0.49	1.00	
Satd. Flow (perm)	610	1569		843	1582		818	1538		832	1604	
Peak-hour factor, PHF	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Adj. Flow (vph)	103	148	81	202	246	175	100	170	94	63	146	67
RTOR Reduction (vph)	0	20	0	0	25	0	0	23	0	0	19	0
Lane Group Flow (vph)	103	209	0	202	396	0	100	241	0	63	194	0
Confl. Peds. (#/hr)	6		31	30		5	31		30	5		6
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	5%	5%	5%	3%	3%	3%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)	25.7	21.9		30.3	24.0		21.9	18.1		19.1	16.5	
Effective Green, g (s)	26.9	22.1		30.7	24.2		23.1	18.3		20.3	17.1	
Actuated g/C Ratio	0.41	0.33		0.46	0.37		0.35	0.28		0.31	0.26	
Clearance Time (s)	4.6	4.2		4.2	4.2		4.6	4.2		4.6	4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	313	524		465	579		335	425		293	414	
v/s Ratio Prot	0.02	0.13		c0.04	c0.25		c0.02	c0.16		0.01	0.12	
v/s Ratio Perm	0.11			0.16			0.08			0.06		
v/c Ratio	0.33	0.40		0.43	0.68		0.30	0.57		0.22	0.47	
Uniform Delay, d1	12.8	16.9		11.0	17.7		15.1	20.5		16.6	20.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.5		0.7	3.3		0.5	1.7		0.4	0.8	
Delay (s)	13.4	17.4		11.7	21.1		15.6	22.2		17.0	21.5	
Level of Service	B	B		B	C		B	C		B	C	
Approach Delay (s)		16.2			18.0			20.4			20.5	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	66.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Signalized Intersection Summary
3: NW Brady Road & NW 16th Avenue

01/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	93	51	127	155	110	63	107	59	40	92	42
Future Volume (veh/h)	65	93	51	127	155	110	63	107	59	40	92	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.98		0.97	0.99		0.94	0.97		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1695	1695	1695	1709	1709	1709	1682	1682	1682	1709	1709	1709
Adj Flow Rate, veh/h	103	148	81	202	246	175	100	170	94	63	146	67
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Percent Heavy Veh, %	4	4	4	3	3	3	5	5	5	3	3	3
Cap, veh/h	333	313	171	497	300	214	391	247	136	336	267	122
Arrive On Green	0.08	0.31	0.30	0.10	0.33	0.32	0.08	0.25	0.25	0.06	0.24	0.23
Sat Flow, veh/h	1615	1018	557	1628	917	652	1602	991	548	1628	1104	506
Grp Volume(v), veh/h	103	0	229	202	0	421	100	0	264	63	0	213
Grp Sat Flow(s),veh/h/ln	1615	0	1574	1628	0	1570	1602	0	1539	1628	0	1610
Q Serve(g_s), s	2.4	0.0	6.9	4.9	0.0	14.5	2.7	0.0	9.1	1.6	0.0	6.8
Cycle Q Clear(g_c), s	2.4	0.0	6.9	4.9	0.0	14.5	2.7	0.0	9.1	1.6	0.0	6.8
Prop In Lane	1.00		0.35	1.00		0.42	1.00		0.36	1.00		0.31
Lane Grp Cap(c), veh/h	333	0	485	497	0	514	391	0	383	336	0	389
V/C Ratio(X)	0.31	0.00	0.47	0.41	0.00	0.82	0.26	0.00	0.69	0.19	0.00	0.55
Avail Cap(c_a), veh/h	365	0	939	497	0	936	424	0	981	391	0	1026
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.2	0.0	16.5	12.3	0.0	18.2	14.9	0.0	20.0	15.3	0.0	19.5
Incr Delay (d2), s/veh	0.5	0.0	0.7	0.5	0.0	3.3	0.3	0.0	2.2	0.3	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	2.4	1.6	0.0	5.0	0.9	0.0	3.2	0.6	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.7	0.0	17.2	12.8	0.0	21.5	15.2	0.0	22.2	15.6	0.0	20.7
LnGrp LOS	B	A	B	B	A	C	B	A	C	B	A	C
Approach Vol, veh/h		332			623			364			276	
Approach Delay, s/veh		16.1			18.7			20.3			19.5	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.6	18.2	9.8	22.1	7.8	19.0	8.7	23.2
Change Period (Y+Rc), s	4.6	4.6	* 4.2	* 4.2	4.6	* 4.6	4.6	* 4.2
Max Green Setting (Gmax), s	5.2	36.8	* 5.6	* 35	5.2	* 37	5.2	* 35
Max Q Clear Time (g_c+I1), s	4.7	8.8	6.9	8.9	3.6	11.1	4.4	16.5
Green Ext Time (p_c), s	0.0	1.2	0.0	1.5	0.0	1.6	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	163	12	20	11	38	12	47	291	16	11	149	185
Future Vol, veh/h	163	12	20	11	38	12	47	291	16	11	149	185
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	8	8	8	7	7	7	3	3	3	2	2	2
Mvmt Flow	187	14	23	13	44	14	54	334	18	13	171	213
Number of Lanes	1	1	1	1	2	0	1	2	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	14.3	10.7	12.5	11.9
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	86%	0%	100%	0%	0%	100%	51%	0%	100%	0%
Vol Right, %	0%	0%	14%	0%	0%	100%	0%	0%	49%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	47	194	113	163	12	20	11	25	25	11	149	185
LT Vol	47	0	0	163	0	0	11	0	0	11	0	0
Through Vol	0	194	97	0	12	0	0	25	13	0	149	0
RT Vol	0	0	16	0	0	20	0	0	12	0	0	185
Lane Flow Rate	54	223	130	187	14	23	13	29	28	13	171	213
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.105	0.404	0.232	0.394	0.027	0.041	0.028	0.061	0.056	0.025	0.312	0.346
Departure Headway (Hd)	7.02	6.52	6.421	7.572	7.072	6.372	7.991	7.491	7.151	7.064	6.564	5.864
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	509	551	557	474	504	559	446	476	498	505	545	610
Service Time	4.786	4.286	4.187	5.345	4.845	4.145	5.78	5.28	4.94	4.832	4.332	3.632
HCM Lane V/C Ratio	0.106	0.405	0.233	0.395	0.028	0.041	0.029	0.061	0.056	0.026	0.314	0.349
HCM Control Delay	10.6	13.7	11.1	15.2	10	9.4	11	10.8	10.4	10	12.3	11.7
HCM Lane LOS	B	B	B	C	A	A	B	B	B	A	B	B
HCM 95th-tile Q	0.3	1.9	0.9	1.9	0.1	0.1	0.1	0.2	0.2	0.1	1.3	1.5

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	183	7	14	296	22	25
Future Vol, veh/h	183	7	14	296	22	25
Conflicting Peds, #/hr	0	1	1	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	9	9	3	3	5	5
Mvmt Flow	241	9	18	389	29	33

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	251	0	672	248
Stage 1	-	-	-	-	247	-
Stage 2	-	-	-	-	425	-
Critical Hdwy	-	-	4.13	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.227	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	1309	-	416	783
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	653	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1308	-	410	782
Mov Cap-2 Maneuver	-	-	-	-	410	-
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	644	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	12.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	549	-	-	1308	-
HCM Lane V/C Ratio	0.113	-	-	0.014	-
HCM Control Delay (s)	12.4	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	137	46	7	258	94	21
Future Vol, veh/h	137	46	7	258	94	21
Conflicting Peds, #/hr	0	3	1	0	3	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	6	6	5	5	4	4
Mvmt Flow	178	60	9	335	122	27

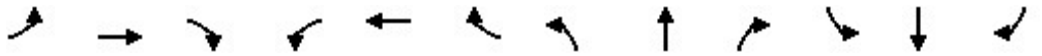
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	241	0	567	212
Stage 1	-	-	-	-	211	-
Stage 2	-	-	-	-	356	-
Critical Hdwy	-	-	4.15	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.245	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1308	-	482	823
Stage 1	-	-	-	-	819	-
Stage 2	-	-	-	-	704	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1304	-	475	820
Mov Cap-2 Maneuver	-	-	-	-	556	-
Stage 1	-	-	-	-	817	-
Stage 2	-	-	-	-	696	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	13.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	591	-	-	1304	-
HCM Lane V/C Ratio	0.253	-	-	0.007	-
HCM Control Delay (s)	13.1	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1	-	-	0	-

HCM Signalized Intersection Capacity Analysis
3: NW Brady Road & NW 16th Avenue

01/27/2022



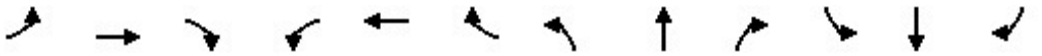
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	93	27	97	49	93	8	161	136	121	121	14
Future Volume (vph)	11	93	27	97	49	93	8	161	136	121	121	14
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.98		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.90		1.00	0.93		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1657	1683		1624	1528		1652	1604		1659	1717	
Flt Permitted	0.66	1.00		0.53	1.00		0.66	1.00		0.41	1.00	
Satd. Flow (perm)	1147	1683		908	1528		1150	1604		712	1717	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	12	103	30	108	54	103	9	179	151	134	134	16
RTOR Reduction (vph)	0	13	0	0	79	0	0	30	0	0	4	0
Lane Group Flow (vph)	12	120	0	108	78	0	9	300	0	134	146	0
Confl. Peds. (#/hr)	7		9	10		8	9		10	8		7
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)	10.8	10.0		16.6	12.7		22.1	21.3		27.5	23.8	
Effective Green, g (s)	12.0	10.2		17.0	12.9		23.3	21.5		28.7	24.4	
Actuated g/C Ratio	0.21	0.18		0.30	0.23		0.42	0.38		0.51	0.43	
Clearance Time (s)	4.6	4.2		4.2	4.2		4.6	4.2		4.6	4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	258	306		327	351		490	614		436	746	
v/s Ratio Prot	0.00	0.07		c0.02	0.05		0.00	c0.19		c0.02	0.09	
v/s Ratio Perm	0.01			c0.08			0.01			0.13		
v/c Ratio	0.05	0.39		0.33	0.22		0.02	0.49		0.31	0.20	
Uniform Delay, d1	17.5	20.2		14.7	17.5		9.6	13.1		7.7	9.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.8		0.6	0.3		0.0	0.6		0.4	0.1	
Delay (s)	17.5	21.0		15.3	17.8		9.7	13.7		8.1	9.9	
Level of Service	B	C		B	B		A	B		A	A	
Approach Delay (s)		20.8			16.8			13.6			9.1	
Approach LOS		C			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	56.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Signalized Intersection Summary
3: NW Brady Road & NW 16th Avenue

01/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	93	27	97	49	93	8	161	136	121	121	14
Future Volume (veh/h)	11	93	27	97	49	93	8	161	136	121	121	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.99	0.99		0.98	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1750	1723	1723	1723	1750	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	12	103	30	108	54	103	9	179	151	134	134	16
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
Percent Heavy Veh, %	0	0	0	2	2	2	0	0	0	0	0	0
Cap, veh/h	392	233	68	426	124	236	563	252	212	439	573	68
Arrive On Green	0.03	0.18	0.18	0.08	0.24	0.23	0.02	0.29	0.29	0.10	0.37	0.36
Sat Flow, veh/h	1667	1297	378	1641	525	1002	1667	869	733	1667	1532	183
Grp Volume(v), veh/h	12	0	133	108	0	157	9	0	330	134	0	150
Grp Sat Flow(s),veh/h/ln	1667	0	1675	1641	0	1527	1667	0	1603	1667	0	1715
Q Serve(g_s), s	0.3	0.0	3.4	2.4	0.0	4.2	0.2	0.0	8.7	2.4	0.0	2.8
Cycle Q Clear(g_c), s	0.3	0.0	3.4	2.4	0.0	4.2	0.2	0.0	8.7	2.4	0.0	2.8
Prop In Lane	1.00		0.23	1.00		0.66	1.00		0.46	1.00		0.11
Lane Grp Cap(c), veh/h	392	0	301	426	0	360	563	0	464	439	0	641
V/C Ratio(X)	0.03	0.00	0.44	0.25	0.00	0.44	0.02	0.00	0.71	0.30	0.00	0.23
Avail Cap(c_a), veh/h	549	0	1237	489	0	1128	727	0	1265	477	0	1353
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.7	0.0	17.3	13.4	0.0	15.5	10.9	0.0	15.1	9.6	0.0	10.2
Incr Delay (d2), s/veh	0.0	0.0	1.0	0.3	0.0	0.8	0.0	0.0	2.0	0.4	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.3	0.8	0.0	1.3	0.1	0.0	2.9	0.7	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.7	0.0	18.4	13.7	0.0	16.3	10.9	0.0	17.1	10.0	0.0	10.4
LnGrp LOS	B	A	B	B	A	B	B	A	B	A	A	B
Approach Vol, veh/h		145			265			339			284	
Approach Delay, s/veh		18.0			15.2			17.0			10.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	21.7	8.0	12.5	8.7	18.1	5.3	15.2
Change Period (Y+Rc), s	4.6	4.6	* 4.2	* 4.2	4.6	* 4.6	4.6	* 4.2
Max Green Setting (Gmax), s	5.2	36.8	* 5.6	* 35	5.2	* 37	5.2	* 35
Max Q Clear Time (g_c+I1), s	2.2	4.8	4.4	5.4	4.4	10.7	2.3	6.2
Green Ext Time (p_c), s	0.0	0.8	0.0	0.8	0.0	2.1	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	14.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	129	29	55	11	22	5	31	246	20	11	259	87
Future Vol, veh/h	129	29	55	11	22	5	31	246	20	11	259	87
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	1	1	1	3	3	3	0	0	0	0	0	0
Mvmt Flow	150	34	64	13	26	6	36	286	23	13	301	101
Number of Lanes	1	1	1	1	2	0	1	2	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	11.8	10.4	11.6	14.1
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	80%	0%	100%	0%	0%	100%	59%	0%	100%	0%
Vol Right, %	0%	0%	20%	0%	0%	100%	0%	0%	41%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	164	102	129	29	55	11	15	12	11	259	87
LT Vol	31	0	0	129	0	0	11	0	0	11	0	0
Through Vol	0	164	82	0	29	0	0	15	7	0	259	0
RT Vol	0	0	20	0	0	55	0	0	5	0	0	87
Lane Flow Rate	36	191	119	150	34	64	13	17	14	13	301	101
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.069	0.341	0.207	0.304	0.064	0.108	0.028	0.035	0.028	0.024	0.527	0.157
Departure Headway (Hd)	6.93	6.43	6.292	7.294	6.794	6.094	7.837	7.337	7.053	6.801	6.301	5.601
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	516	557	568	492	526	586	455	486	505	525	572	638
Service Time	4.688	4.188	4.05	5.056	4.556	3.856	5.614	5.114	4.831	4.555	4.055	3.355
HCM Lane V/C Ratio	0.07	0.343	0.21	0.305	0.065	0.109	0.029	0.035	0.028	0.025	0.526	0.158
HCM Control Delay	10.2	12.5	10.7	13.2	10	9.6	10.8	10.4	10	9.7	15.9	9.4
HCM Lane LOS	B	B	B	B	A	A	B	B	A	A	C	A
HCM 95th-tile Q	0.2	1.5	0.8	1.3	0.2	0.4	0.1	0.1	0.1	0.1	3.1	0.6

HCM 6th TWSC
5: NW 12th Avenue & NW Brady Road 01/27/2022

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	295	22	17	226	10	11
Future Vol, veh/h	295	22	17	226	10	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	351	26	20	269	12	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	377	0	673	364
Stage 1	-	-	-	-	364	-
Stage 2	-	-	-	-	309	-
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	-	-	1187	-	424	685
Stage 1	-	-	-	-	707	-
Stage 2	-	-	-	-	749	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1187	-	417	685
Mov Cap-2 Maneuver	-	-	-	-	417	-
Stage 1	-	-	-	-	707	-
Stage 2	-	-	-	-	736	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	12.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	524	-	-	1187	-
HCM Lane V/C Ratio	0.048	-	-	0.017	-
HCM Control Delay (s)	12.2	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	247	78	12	168	42	14
Future Vol, veh/h	247	78	12	168	42	14
Conflicting Peds, #/hr	0	0	0	0	10	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	274	87	13	187	47	16

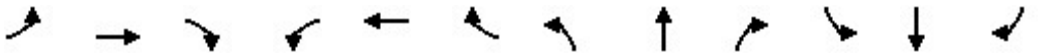
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	361	0	541	322
Stage 1	-	-	-	-	318	-
Stage 2	-	-	-	-	223	-
Critical Hdwy	-	-	4.11	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.209	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1203	-	506	724
Stage 1	-	-	-	-	742	-
Stage 2	-	-	-	-	819	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1203	-	495	721
Mov Cap-2 Maneuver	-	-	-	-	577	-
Stage 1	-	-	-	-	742	-
Stage 2	-	-	-	-	802	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	607	-	-	1203	-
HCM Lane V/C Ratio	0.103	-	-	0.011	-
HCM Control Delay (s)	11.6	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

HCM Signalized Intersection Capacity Analysis
3: NW Brady Road & NW 16th Avenue

01/27/2022



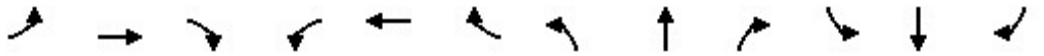
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	97	53	132	161	114	66	111	61	42	96	44
Future Volume (vph)	68	97	53	132	161	114	66	111	61	42	96	44
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	0.99		1.00	0.97		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.94		1.00	0.95		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1569		1599	1582		1557	1537		1611	1604	
Flt Permitted	0.35	1.00		0.50	1.00		0.51	1.00		0.42	1.00	
Satd. Flow (perm)	583	1569		835	1582		842	1537		718	1604	
Peak-hour factor, PHF	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Adj. Flow (vph)	108	154	84	210	256	181	105	176	97	67	152	70
RTOR Reduction (vph)	0	20	0	0	24	0	0	24	0	0	19	0
Lane Group Flow (vph)	108	218	0	210	413	0	105	249	0	67	203	0
Confl. Peds. (#/hr)	6		31	30		5	31		30	5		6
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	5%	5%	5%	3%	3%	3%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)	26.8	23.0		31.2	25.0		21.0	17.2		20.6	16.8	
Effective Green, g (s)	28.0	23.2		31.6	25.2		22.2	17.4		21.8	17.4	
Actuated g/C Ratio	0.42	0.34		0.47	0.37		0.33	0.26		0.32	0.26	
Clearance Time (s)	4.6	4.2		4.2	4.2		4.6	4.2		4.6	4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	308	540		464	591		324	396		290	414	
v/s Ratio Prot	0.02	0.14		c0.04	c0.26		c0.02	c0.16		0.02	0.13	
v/s Ratio Perm	0.12			0.17			0.09			0.06		
v/c Ratio	0.35	0.40		0.45	0.70		0.32	0.63		0.23	0.49	
Uniform Delay, d1	12.8	16.8		11.2	17.9		16.3	22.1		16.3	21.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.5		0.7	3.6		0.6	3.1		0.4	0.9	
Delay (s)	13.5	17.3		11.9	21.5		16.9	25.3		16.7	22.1	
Level of Service	B	B		B	C		B	C		B	C	
Approach Delay (s)		16.1			18.4			22.9			20.9	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	67.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Signalized Intersection Summary
3: NW Brady Road & NW 16th Avenue

01/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	97	53	132	161	114	66	111	61	42	96	44
Future Volume (veh/h)	68	97	53	132	161	114	66	111	61	42	96	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.98		0.97	0.99		0.94	0.97		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1695	1695	1695	1709	1709	1709	1682	1682	1682	1709	1709	1709
Adj Flow Rate, veh/h	108	154	84	210	256	181	105	176	97	67	152	70
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Percent Heavy Veh, %	4	4	4	3	3	3	5	5	5	3	3	3
Cap, veh/h	325	325	177	494	308	218	382	248	137	327	269	124
Arrive On Green	0.08	0.32	0.32	0.10	0.34	0.33	0.08	0.25	0.25	0.07	0.24	0.23
Sat Flow, veh/h	1615	1019	556	1628	920	651	1602	993	547	1628	1102	508
Grp Volume(v), veh/h	108	0	238	210	0	437	105	0	273	67	0	222
Grp Sat Flow(s),veh/h/ln	1615	0	1575	1628	0	1571	1602	0	1540	1628	0	1610
Q Serve(g_s), s	2.6	0.0	7.4	5.3	0.0	15.6	2.9	0.0	9.8	1.8	0.0	7.4
Cycle Q Clear(g_c), s	2.6	0.0	7.4	5.3	0.0	15.6	2.9	0.0	9.8	1.8	0.0	7.4
Prop In Lane	1.00		0.35	1.00		0.41	1.00		0.36	1.00		0.32
Lane Grp Cap(c), veh/h	325	0	502	494	0	526	382	0	385	327	0	393
V/C Ratio(X)	0.33	0.00	0.47	0.43	0.00	0.83	0.27	0.00	0.71	0.21	0.00	0.56
Avail Cap(c_a), veh/h	352	0	908	494	0	906	410	0	949	375	0	992
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.5	0.0	16.6	12.5	0.0	18.6	15.4	0.0	20.8	15.8	0.0	20.2
Incr Delay (d2), s/veh	0.6	0.0	0.7	0.6	0.0	3.5	0.4	0.0	2.4	0.3	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	2.6	1.7	0.0	5.4	1.0	0.0	3.4	0.6	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.1	0.0	17.3	13.1	0.0	22.1	15.8	0.0	23.2	16.1	0.0	21.5
LnGrp LOS	B	A	B	B	A	C	B	A	C	B	A	C
Approach Vol, veh/h		346			647			378			289	
Approach Delay, s/veh		16.3			19.2			21.1			20.2	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	18.8	9.8	23.3	8.0	19.6	8.8	24.3
Change Period (Y+Rc), s	4.6	4.6	* 4.2	* 4.2	4.6	* 4.6	4.6	* 4.2
Max Green Setting (Gmax), s	5.2	36.8	* 5.6	* 35	5.2	* 37	5.2	* 35
Max Q Clear Time (g_c+I1), s	4.9	9.4	7.3	9.4	3.8	11.8	4.6	17.6
Green Ext Time (p_c), s	0.0	1.3	0.0	1.5	0.0	1.7	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th AWSC
4: NW Brady Road/NW Parker Street & NW Pacific Rim Boulevard/NW Pacific Rim Drive 04/27/2022

Intersection	
Intersection Delay, s/veh	13
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	170	12	21	11	40	12	49	303	17	11	155	192
Future Vol, veh/h	170	12	21	11	40	12	49	303	17	11	155	192
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	8	8	8	7	7	7	3	3	3	2	2	2
Mvmt Flow	195	14	24	13	46	14	56	348	20	13	178	221
Number of Lanes	1	1	1	1	2	0	1	2	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	14.9	10.9	12.9	12.4
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	86%	0%	100%	0%	0%	100%	53%	0%	100%	0%
Vol Right, %	0%	0%	14%	0%	0%	100%	0%	0%	47%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	49	202	118	170	12	21	11	27	25	11	155	192
LT Vol	49	0	0	170	0	0	11	0	0	11	0	0
Through Vol	0	202	101	0	12	0	0	27	13	0	155	0
RT Vol	0	0	17	0	0	21	0	0	12	0	0	192
Lane Flow Rate	56	232	136	195	14	24	13	31	29	13	178	221
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.111	0.427	0.245	0.417	0.027	0.043	0.029	0.065	0.059	0.025	0.33	0.365
Departure Headway (Hd)	7.113	6.613	6.512	7.675	7.175	6.475	8.123	7.623	7.291	7.161	6.661	5.961
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	502	541	549	467	496	549	438	467	488	498	536	600
Service Time	4.887	4.387	4.286	5.459	4.959	4.259	5.92	5.42	5.089	4.937	4.437	3.737
HCM Lane V/C Ratio	0.112	0.429	0.248	0.418	0.028	0.044	0.03	0.066	0.059	0.026	0.332	0.368
HCM Control Delay	10.8	14.3	11.4	15.9	10.2	9.6	11.2	11	10.6	10.1	12.7	12.2
HCM Lane LOS	B	B	B	C	B	A	B	B	B	B	B	B
HCM 95th-tile Q	0.4	2.1	1	2	0.1	0.1	0.1	0.2	0.2	0.1	1.4	1.7

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	190	7	15	308	23	26
Future Vol, veh/h	190	7	15	308	23	26
Conflicting Peds, #/hr	0	1	1	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	9	9	3	3	5	5
Mvmt Flow	250	9	20	405	30	34

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	260	0	701	257
Stage 1	-	-	-	-	256	-
Stage 2	-	-	-	-	445	-
Critical Hdwy	-	-	4.13	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.227	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	1299	-	400	774
Stage 1	-	-	-	-	780	-
Stage 2	-	-	-	-	639	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1298	-	394	773
Mov Cap-2 Maneuver	-	-	-	-	394	-
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	629	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	12.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	533	-	-	1298	-
HCM Lane V/C Ratio	0.121	-	-	0.015	-
HCM Control Delay (s)	12.7	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

HCM 6th TWSC
6: NW Klickitat Street & NW 16th Avenue

01/27/2022

Intersection	
Int Delay, s/veh	2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	143	48	7	268	98	22
Future Vol, veh/h	143	48	7	268	98	22
Conflicting Peds, #/hr	0	3	1	0	3	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	6	6	5	5	4	4
Mvmt Flow	186	62	9	348	127	29

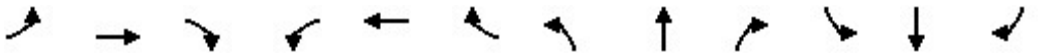
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	251	0	589	221
Stage 1	-	-	-	-	220	-
Stage 2	-	-	-	-	369	-
Critical Hdwy	-	-	4.15	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.245	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1297	-	467	814
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	695	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1293	-	460	811
Mov Cap-2 Maneuver	-	-	-	-	546	-
Stage 1	-	-	-	-	810	-
Stage 2	-	-	-	-	687	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	13.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	581	-	-	1293	-
HCM Lane V/C Ratio	0.268	-	-	0.007	-
HCM Control Delay (s)	13.5	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.1	-	-	0	-

HCM Signalized Intersection Capacity Analysis
3: NW Brady Road & NW 16th Avenue

01/27/2022



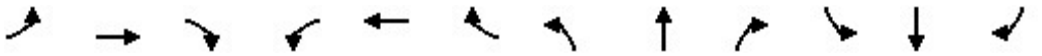
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	97	28	101	51	97	8	168	141	126	126	15
Future Volume (vph)	11	97	28	101	51	97	8	168	141	126	126	15
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.98		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.90		1.00	0.93		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1657	1684		1624	1528		1652	1604		1659	1716	
Flt Permitted	0.65	1.00		0.53	1.00		0.66	1.00		0.40	1.00	
Satd. Flow (perm)	1139	1684		907	1528		1143	1604		696	1716	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	12	108	31	112	57	108	9	187	157	140	140	17
RTOR Reduction (vph)	0	13	0	0	81	0	0	29	0	0	4	0
Lane Group Flow (vph)	12	126	0	112	84	0	9	315	0	140	153	0
Confl. Peds. (#/hr)	7		9	10		8	9		10	8		7
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)	11.0	10.2		16.8	12.9		22.7	21.9		27.9	24.3	
Effective Green, g (s)	12.2	10.4		17.2	13.1		23.9	22.1		29.1	24.9	
Actuated g/C Ratio	0.21	0.18		0.30	0.23		0.42	0.39		0.51	0.44	
Clearance Time (s)	4.6	4.2		4.2	4.2		4.6	4.2		4.6	4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	257	308		326	352		493	624		427	752	
v/s Ratio Prot	0.00	0.07		c0.02	0.06		0.00	c0.20		c0.02	0.09	
v/s Ratio Perm	0.01			c0.08			0.01			0.14		
v/c Ratio	0.05	0.41		0.34	0.24		0.02	0.50		0.33	0.20	
Uniform Delay, d1	17.6	20.5		14.9	17.8		9.6	13.2		7.9	9.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.9		0.6	0.4		0.0	0.6		0.5	0.1	
Delay (s)	17.7	21.4		15.5	18.1		9.6	13.8		8.3	10.0	
Level of Service	B	C		B	B		A	B		A	A	
Approach Delay (s)		21.1			17.1			13.7			9.2	
Approach LOS		C			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	56.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Signalized Intersection Summary
3: NW Brady Road & NW 16th Avenue

01/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	97	28	101	51	97	8	168	141	126	126	15
Future Volume (veh/h)	11	97	28	101	51	97	8	168	141	126	126	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.99	0.99		0.98	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1750	1723	1723	1723	1750	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	12	108	31	112	57	108	9	187	157	140	140	17
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
Percent Heavy Veh, %	0	0	0	2	2	2	0	0	0	0	0	0
Cap, veh/h	380	232	66	417	124	235	567	259	217	435	582	71
Arrive On Green	0.03	0.18	0.17	0.08	0.23	0.23	0.02	0.30	0.29	0.10	0.38	0.37
Sat Flow, veh/h	1667	1302	374	1641	528	1000	1667	872	732	1667	1529	186
Grp Volume(v), veh/h	12	0	139	112	0	165	9	0	344	140	0	157
Grp Sat Flow(s),veh/h/ln	1667	0	1676	1641	0	1527	1667	0	1603	1667	0	1714
Q Serve(g_s), s	0.3	0.0	3.6	2.5	0.0	4.5	0.2	0.0	9.3	2.5	0.0	3.0
Cycle Q Clear(g_c), s	0.3	0.0	3.6	2.5	0.0	4.5	0.2	0.0	9.3	2.5	0.0	3.0
Prop In Lane	1.00		0.22	1.00		0.65	1.00		0.46	1.00		0.11
Lane Grp Cap(c), veh/h	380	0	298	417	0	359	567	0	476	435	0	653
V/C Ratio(X)	0.03	0.00	0.47	0.27	0.00	0.46	0.02	0.00	0.72	0.32	0.00	0.24
Avail Cap(c_a), veh/h	534	0	1217	475	0	1109	727	0	1245	468	0	1331
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.0	0.0	17.8	13.7	0.0	15.9	10.9	0.0	15.2	9.7	0.0	10.2
Incr Delay (d2), s/veh	0.0	0.0	1.1	0.3	0.0	0.9	0.0	0.0	2.1	0.4	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.4	0.8	0.0	1.4	0.1	0.0	3.0	0.7	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.1	0.0	18.9	14.0	0.0	16.8	10.9	0.0	17.3	10.1	0.0	10.4
LnGrp LOS	B	A	B	B	A	B	B	A	B	B	A	B
Approach Vol, veh/h		151			277			353			297	
Approach Delay, s/veh		18.6			15.7			17.2			10.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	22.4	8.1	12.6	8.8	18.7	5.3	15.3
Change Period (Y+Rc), s	4.6	4.6	* 4.2	* 4.2	4.6	* 4.6	4.6	* 4.2
Max Green Setting (Gmax), s	5.2	36.8	* 5.6	* 35	5.2	* 37	5.2	* 35
Max Q Clear Time (g_c+I1), s	2.2	5.0	4.5	5.6	4.5	11.3	2.3	6.5
Green Ext Time (p_c), s	0.0	0.9	0.0	0.8	0.0	2.2	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	15.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th AWSC
4: NW Brady Road/NW Parker Street & NW Pacific Rim Boulevard/NW Pacific Rim Drive 01/27/2022

Intersection	
Intersection Delay, s/veh	13.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	134	30	57	11	23	5	32	256	21	11	269	91
Future Vol, veh/h	134	30	57	11	23	5	32	256	21	11	269	91
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	1	1	1	3	3	3	0	0	0	0	0	0
Mvmt Flow	156	35	66	13	27	6	37	298	24	13	313	106
Number of Lanes	1	1	1	1	2	0	1	2	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	12.2	10.5	11.9	14.8
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	80%	0%	100%	0%	0%	100%	61%	0%	100%	0%
Vol Right, %	0%	0%	20%	0%	0%	100%	0%	0%	39%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	32	171	106	134	30	57	11	15	13	11	269	91
LT Vol	32	0	0	134	0	0	11	0	0	11	0	0
Through Vol	0	171	85	0	30	0	0	15	8	0	269	0
RT Vol	0	0	21	0	0	57	0	0	5	0	0	91
Lane Flow Rate	37	198	124	156	35	66	13	18	15	13	313	106
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.073	0.359	0.219	0.32	0.067	0.114	0.028	0.037	0.029	0.024	0.554	0.167
Departure Headway (Hd)	7.016	6.516	6.378	7.389	6.889	6.189	7.961	7.461	7.185	6.881	6.381	5.681
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	509	550	561	485	518	577	448	477	495	519	563	629
Service Time	4.778	4.278	4.14	5.156	4.656	3.956	5.746	5.246	4.969	4.641	4.141	3.441
HCM Lane V/C Ratio	0.073	0.36	0.221	0.322	0.068	0.114	0.029	0.038	0.03	0.025	0.556	0.169
HCM Control Delay	10.3	12.9	10.9	13.6	10.2	9.8	11	10.5	10.2	9.8	16.8	9.6
HCM Lane LOS	B	B	B	B	B	A	B	B	B	A	C	A
HCM 95th-tile Q	0.2	1.6	0.8	1.4	0.2	0.4	0.1	0.1	0.1	0.1	3.4	0.6

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	307	23	18	235	10	11
Future Vol, veh/h	307	23	18	235	10	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	365	27	21	280	12	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	392	0	701	379
Stage 1	-	-	-	-	379	-
Stage 2	-	-	-	-	322	-
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	-	-	1172	-	408	672
Stage 1	-	-	-	-	696	-
Stage 2	-	-	-	-	739	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1172	-	401	672
Mov Cap-2 Maneuver	-	-	-	-	401	-
Stage 1	-	-	-	-	696	-
Stage 2	-	-	-	-	726	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	508	-	-	1172	-
HCM Lane V/C Ratio	0.049	-	-	0.018	-
HCM Control Delay (s)	12.5	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	257	81	12	175	44	15
Future Vol, veh/h	257	81	12	175	44	15
Conflicting Peds, #/hr	0	0	0	0	10	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	286	90	13	194	49	17

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	376	0	561	335
Stage 1	-	-	-	-	331	-
Stage 2	-	-	-	-	230	-
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	-	-	1188	-	492	712
Stage 1	-	-	-	-	732	-
Stage 2	-	-	-	-	813	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1188	-	481	709
Mov Cap-2 Maneuver	-	-	-	-	567	-
Stage 1	-	-	-	-	732	-
Stage 2	-	-	-	-	796	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	11.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	597	-	-	1188	-
HCM Lane V/C Ratio	0.11	-	-	0.011	-
HCM Control Delay (s)	11.8	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

HCM 6th TWSC
1: NW Brady Road & Site Access Driveway #1

02/02/2022

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	54	0	111	96	123
Future Vol, veh/h	0	54	0	111	96	123
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	5	5	3	3
Mvmt Flow	0	59	0	121	104	134

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	171	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	878	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	878	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	878	-	-
HCM Lane V/C Ratio	-	0.067	-	-
HCM Control Delay (s)	-	9.4	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

HCM 6th TWSC
2: NW 16th Avenue & Site Access Driveway #2

02/02/2022

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	97	161	123	188	27
Future Vol, veh/h	27	97	161	123	188	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	4	4	3	3	0	0
Mvmt Flow	29	105	175	134	204	29

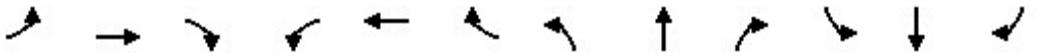
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	309	0	-	0	405	242
Stage 1	-	-	-	-	242	-
Stage 2	-	-	-	-	163	-
Critical Hdwy	4.14	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.236	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1240	-	-	-	606	802
Stage 1	-	-	-	-	803	-
Stage 2	-	-	-	-	871	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1240	-	-	-	592	802
Mov Cap-2 Maneuver	-	-	-	-	705	-
Stage 1	-	-	-	-	785	-
Stage 2	-	-	-	-	871	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1240	-	-	-	716
HCM Lane V/C Ratio	0.024	-	-	-	0.326
HCM Control Delay (s)	8	-	-	-	12.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.4

HCM Signalized Intersection Capacity Analysis
3: NW Brady Road & NW 16th Avenue

02/02/2022



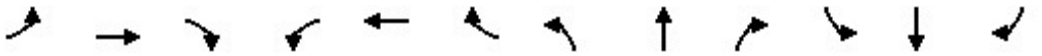
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	111	53	132	175	114	77	111	61	42	107	44
Future Volume (vph)	93	111	53	132	175	114	77	111	61	42	107	44
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.97		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.94		1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1598	1578		1598	1588		1559	1537		1611	1611	
Flt Permitted	0.28	1.00		0.52	1.00		0.48	1.00		0.41	1.00	
Satd. Flow (perm)	470	1578		867	1588		780	1537		703	1611	
Peak-hour factor, PHF	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Adj. Flow (vph)	148	176	84	210	278	181	122	176	97	67	170	70
RTOR Reduction (vph)	0	17	0	0	23	0	0	24	0	0	18	0
Lane Group Flow (vph)	148	243	0	210	436	0	122	249	0	67	222	0
Confl. Peds. (#/hr)	6		31	30		5	31		30	5		6
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	5%	5%	5%	3%	3%	3%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)	30.3	24.7		30.7	24.7		21.2	17.3		20.8	16.9	
Effective Green, g (s)	31.5	24.9		31.1	24.9		22.4	17.5		22.0	17.5	
Actuated g/C Ratio	0.46	0.36		0.45	0.36		0.32	0.25		0.32	0.25	
Clearance Time (s)	4.6	4.2		4.2	4.2		4.6	4.2		4.6	4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	315	568		455	572		303	389		282	407	
v/s Ratio Prot	c0.04	0.15		0.04	c0.27		c0.03	c0.16		0.02	0.14	
v/s Ratio Perm	0.17			0.17			0.10			0.06		
v/c Ratio	0.47	0.43		0.46	0.76		0.40	0.64		0.24	0.55	
Uniform Delay, d1	12.4	16.7		12.1	19.5		17.2	23.0		17.0	22.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	0.5		0.7	6.0		0.9	3.6		0.4	1.5	
Delay (s)	13.5	17.2		12.9	25.5		18.1	26.6		17.4	23.9	
Level of Service	B	B		B	C		B	C		B	C	
Approach Delay (s)		15.9			21.5			24.0			22.4	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	69.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	55.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Signalized Intersection Summary
3: NW Brady Road & NW 16th Avenue

02/02/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	111	53	132	175	114	77	111	61	42	107	44
Future Volume (veh/h)	93	111	53	132	175	114	77	111	61	42	107	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.97	0.99		0.94	0.97		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1695	1695	1695	1709	1709	1709	1682	1682	1682	1709	1709	1709
Adj Flow Rate, veh/h	148	176	84	210	278	181	122	176	97	67	170	70
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Percent Heavy Veh, %	4	4	4	3	3	3	5	5	5	3	3	3
Cap, veh/h	329	369	176	493	328	214	359	248	137	315	267	110
Arrive On Green	0.09	0.34	0.34	0.09	0.34	0.34	0.09	0.25	0.25	0.06	0.23	0.22
Sat Flow, veh/h	1615	1074	512	1628	955	622	1602	993	547	1628	1145	472
Grp Volume(v), veh/h	148	0	260	210	0	459	122	0	273	67	0	240
Grp Sat Flow(s),veh/h/ln	1615	0	1586	1628	0	1577	1602	0	1540	1628	0	1617
Q Serve(g_s), s	3.7	0.0	8.3	5.4	0.0	17.5	3.6	0.0	10.5	2.0	0.0	8.7
Cycle Q Clear(g_c), s	3.7	0.0	8.3	5.4	0.0	17.5	3.6	0.0	10.5	2.0	0.0	8.7
Prop In Lane	1.00		0.32	1.00		0.39	1.00		0.36	1.00		0.29
Lane Grp Cap(c), veh/h	329	0	545	493	0	542	359	0	385	315	0	377
V/C Ratio(X)	0.45	0.00	0.48	0.43	0.00	0.85	0.34	0.00	0.71	0.21	0.00	0.64
Avail Cap(c_a), veh/h	329	0	857	493	0	852	364	0	889	357	0	934
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.0	0.0	16.7	12.6	0.0	19.7	16.9	0.0	22.2	17.4	0.0	22.4
Incr Delay (d2), s/veh	1.0	0.0	0.6	0.6	0.0	4.7	0.6	0.0	2.4	0.3	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	2.9	1.8	0.0	6.3	1.3	0.0	3.7	0.7	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.0	0.0	17.4	13.2	0.0	24.4	17.4	0.0	24.6	17.7	0.0	24.2
LnGrp LOS	B	A	B	B	A	C	B	A	C	B	A	C
Approach Vol, veh/h		408			669			395			307	
Approach Delay, s/veh		16.5			20.9			22.4			22.8	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	19.1	9.8	26.3	8.1	20.6	9.8	26.3
Change Period (Y+Rc), s	4.6	4.6	* 4.2	* 4.2	4.6	* 4.6	4.6	* 4.2
Max Green Setting (Gmax), s	5.2	36.8	* 5.6	* 35	5.2	* 37	5.2	* 35
Max Q Clear Time (g_c+I1), s	5.6	10.7	7.4	10.3	4.0	12.5	5.7	19.5
Green Ext Time (p_c), s	0.0	1.4	0.0	1.7	0.0	1.6	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	20.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th AWSC
4: NW Brady Road/NW Parker Street & NW Pacific Rim Boulevard/NW Pacific Rim Drive 02/02/2022

Intersection	
Intersection Delay, s/veh	13.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	170	12	27	17	40	12	55	309	23	11	161	192
Future Vol, veh/h	170	12	27	17	40	12	55	309	23	11	161	192
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	8	8	8	7	7	7	3	3	3	2	2	2
Mvmt Flow	195	14	31	20	46	14	63	355	26	13	185	221
Number of Lanes	1	1	1	1	2	0	1	2	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	15	11	13.2	12.7
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	82%	0%	100%	0%	0%	100%	53%	0%	100%	0%
Vol Right, %	0%	0%	18%	0%	0%	100%	0%	0%	47%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	206	126	170	12	27	17	27	25	11	161	192
LT Vol	55	0	0	170	0	0	17	0	0	11	0	0
Through Vol	0	206	103	0	12	0	0	27	13	0	161	0
RT Vol	0	0	23	0	0	27	0	0	12	0	0	192
Lane Flow Rate	63	237	145	195	14	31	20	31	29	13	185	221
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.126	0.44	0.264	0.423	0.028	0.057	0.045	0.067	0.061	0.026	0.348	0.372
Departure Headway (Hd)	7.194	6.694	6.566	7.785	7.285	6.585	8.339	7.839	7.507	7.265	6.765	6.065
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	496	535	543	459	488	540	432	460	480	490	527	589
Service Time	4.981	4.481	4.353	5.576	5.076	4.376	6.039	5.539	5.207	5.052	4.552	3.852
HCM Lane V/C Ratio	0.127	0.443	0.267	0.425	0.029	0.057	0.046	0.067	0.06	0.027	0.351	0.375
HCM Control Delay	11	14.7	11.7	16.2	10.3	9.8	11.4	11.1	10.7	10.2	13.2	12.5
HCM Lane LOS	B	B	B	C	B	A	B	B	B	B	B	B
HCM 95th-tile Q	0.4	2.2	1.1	2.1	0.1	0.2	0.1	0.2	0.2	0.1	1.5	1.7

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	199	7	18	316	23	29
Future Vol, veh/h	199	7	18	316	23	29
Conflicting Peds, #/hr	0	1	1	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	9	9	3	3	5	5
Mvmt Flow	262	9	24	416	30	38

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	272	0	732	269
Stage 1	-	-	-	-	268	-
Stage 2	-	-	-	-	464	-
Critical Hdwy	-	-	4.13	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.227	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	1286	-	384	762
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	627	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1285	-	376	761
Mov Cap-2 Maneuver	-	-	-	-	376	-
Stage 1	-	-	-	-	769	-
Stage 2	-	-	-	-	615	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	12.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	524	-	-	1285	-
HCM Lane V/C Ratio	0.131	-	-	0.018	-
HCM Control Delay (s)	12.9	-	-	7.9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

HCM 6th TWSC
6: NW Klickitat Street & NW 16th Avenue

02/02/2022

Intersection	
Int Delay, s/veh	2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	151	54	7	277	104	22
Future Vol, veh/h	151	54	7	277	104	22
Conflicting Peds, #/hr	0	3	1	0	3	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	6	6	5	5	4	4
Mvmt Flow	196	70	9	360	135	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	269	0	615	235
Stage 1	-	-	-	-	234	-
Stage 2	-	-	-	-	381	-
Critical Hdwy	-	-	4.15	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.245	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1277	-	451	799
Stage 1	-	-	-	-	800	-
Stage 2	-	-	-	-	686	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1273	-	444	796
Mov Cap-2 Maneuver	-	-	-	-	534	-
Stage 1	-	-	-	-	798	-
Stage 2	-	-	-	-	678	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	13.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	567	-	-	1273	-
HCM Lane V/C Ratio	0.289	-	-	0.007	-
HCM Control Delay (s)	13.9	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.2	-	-	0	-

HCM 6th TWSC
1: NW Brady Road & Site Access Driveway #1

02/02/2022

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	41	0	168	126	91
Future Vol, veh/h	0	41	0	168	126	91
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	45	0	183	137	99

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	187	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	860	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	860	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	860	-	-
HCM Lane V/C Ratio	-	0.052	-	-
HCM Control Delay (s)	-	9.4	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

HCM 6th TWSC
2: NW 16th Avenue & Site Access Driveway #2

02/02/2022

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	97	51	91	144	21
Future Vol, veh/h	20	97	51	91	144	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	2	0	0
Mvmt Flow	22	105	55	99	157	23

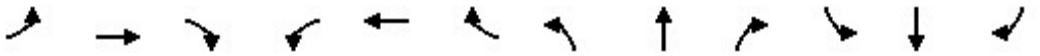
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	154	0	-	0	254	105
Stage 1	-	-	-	-	105	-
Stage 2	-	-	-	-	149	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1439	-	-	-	739	955
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	884	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1439	-	-	-	728	955
Mov Cap-2 Maneuver	-	-	-	-	797	-
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	884	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1439	-	-	-	814
HCM Lane V/C Ratio	0.015	-	-	-	0.22
HCM Control Delay (s)	7.5	-	-	-	10.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.8

HCM Signalized Intersection Capacity Analysis
3: NW Brady Road & NW 16th Avenue

02/02/2022



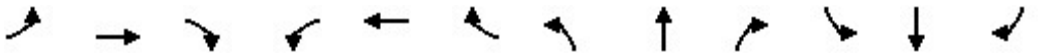
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	110	28	101	64	97	19	168	141	126	137	15
Future Volume (vph)	35	110	28	101	64	97	19	168	141	126	137	15
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.98		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.91		1.00	0.93		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1657	1690		1624	1543		1652	1604		1659	1718	
Flt Permitted	0.64	1.00		0.57	1.00		0.65	1.00		0.36	1.00	
Satd. Flow (perm)	1124	1690		981	1543		1131	1604		626	1718	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	39	122	31	112	71	108	21	187	157	140	152	17
RTOR Reduction (vph)	0	11	0	0	62	0	0	32	0	0	4	0
Lane Group Flow (vph)	39	142	0	112	117	0	21	312	0	140	165	0
Confl. Peds. (#/hr)	7		9	10		8	9		10	8		7
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)	14.6	12.9		18.8	14.8		19.7	18.9		25.1	21.4	
Effective Green, g (s)	15.8	13.1		19.2	15.0		20.9	19.1		26.3	22.0	
Actuated g/C Ratio	0.28	0.23		0.34	0.26		0.37	0.34		0.46	0.39	
Clearance Time (s)	4.6	4.2		4.2	4.2		4.6	4.2		4.6	4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	334	390		379	408		429	540		368	666	
v/s Ratio Prot	0.00	c0.08		c0.02	0.08		0.00	c0.19		c0.03	0.10	
v/s Ratio Perm	0.03			0.08			0.02			0.15		
v/c Ratio	0.12	0.36		0.30	0.29		0.05	0.58		0.38	0.25	
Uniform Delay, d1	15.1	18.3		13.4	16.6		11.4	15.5		9.5	11.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.6		0.4	0.4		0.0	1.5		0.7	0.2	
Delay (s)	15.3	18.9		13.8	17.0		11.5	17.0		10.2	11.9	
Level of Service	B	B		B	B		B	B		B	B	
Approach Delay (s)		18.2			15.8			16.7			11.1	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	56.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Signalized Intersection Summary
3: NW Brady Road & NW 16th Avenue

02/02/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	110	28	101	64	97	19	168	141	126	137	15
Future Volume (veh/h)	35	110	28	101	64	97	19	168	141	126	137	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.99	0.99		0.98	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1750	1723	1723	1723	1750	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	39	122	31	112	71	108	21	187	157	140	152	17
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
Percent Heavy Veh, %	0	0	0	2	2	2	0	0	0	0	0	0
Cap, veh/h	377	240	61	406	127	194	577	258	217	434	567	63
Arrive On Green	0.05	0.18	0.17	0.08	0.21	0.20	0.04	0.30	0.29	0.10	0.37	0.35
Sat Flow, veh/h	1667	1341	341	1641	611	929	1667	872	732	1667	1544	173
Grp Volume(v), veh/h	39	0	153	112	0	179	21	0	344	140	0	169
Grp Sat Flow(s),veh/h/ln	1667	0	1682	1641	0	1539	1667	0	1603	1667	0	1717
Q Serve(g_s), s	0.9	0.0	4.0	2.6	0.0	5.0	0.4	0.0	9.3	2.5	0.0	3.3
Cycle Q Clear(g_c), s	0.9	0.0	4.0	2.6	0.0	5.0	0.4	0.0	9.3	2.5	0.0	3.3
Prop In Lane	1.00		0.20	1.00		0.60	1.00		0.46	1.00		0.10
Lane Grp Cap(c), veh/h	377	0	301	406	0	321	577	0	475	434	0	630
V/C Ratio(X)	0.10	0.00	0.51	0.28	0.00	0.56	0.04	0.00	0.72	0.32	0.00	0.27
Avail Cap(c_a), veh/h	486	0	1220	464	0	1117	714	0	1243	467	0	1331
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.3	0.0	17.9	14.2	0.0	17.1	10.6	0.0	15.2	9.9	0.0	10.7
Incr Delay (d2), s/veh	0.1	0.0	1.3	0.4	0.0	1.5	0.0	0.0	2.1	0.4	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.5	0.8	0.0	1.7	0.1	0.0	3.1	0.7	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	0.0	19.3	14.6	0.0	18.7	10.6	0.0	17.3	10.4	0.0	11.0
LnGrp LOS	B	A	B	B	A	B	B	A	B	B	A	B
Approach Vol, veh/h		192			291			365			309	
Approach Delay, s/veh		18.3			17.1			17.0			10.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	21.7	8.1	12.6	8.8	18.7	6.6	14.1
Change Period (Y+Rc), s	4.6	4.6	* 4.2	* 4.2	4.6	* 4.6	4.6	* 4.2
Max Green Setting (Gmax), s	5.2	36.8	* 5.6	* 35	5.2	* 37	5.2	* 35
Max Q Clear Time (g_c+I1), s	2.4	5.3	4.6	6.0	4.5	11.3	2.9	7.0
Green Ext Time (p_c), s	0.0	0.9	0.0	0.9	0.0	2.2	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	15.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	13.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	134	30	62	16	23	5	37	261	26	11	274	91
Future Vol, veh/h	134	30	62	16	23	5	37	261	26	11	274	91
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	1	1	1	3	3	3	0	0	0	0	0	0
Mvmt Flow	156	35	72	19	27	6	43	303	30	13	319	106
Number of Lanes	1	1	1	1	2	0	1	2	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	12.3	10.7	12.2	15.5
HCM LOS	B	B	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	77%	0%	100%	0%	0%	100%	61%	0%	100%	0%
Vol Right, %	0%	0%	23%	0%	0%	100%	0%	0%	39%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	37	174	113	134	30	62	16	15	13	11	274	91
LT Vol	37	0	0	134	0	0	16	0	0	11	0	0
Through Vol	0	174	87	0	30	0	0	15	8	0	274	0
RT Vol	0	0	26	0	0	62	0	0	5	0	0	91
Lane Flow Rate	43	202	131	156	35	72	19	18	15	13	319	106
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.085	0.37	0.234	0.324	0.068	0.126	0.042	0.037	0.03	0.025	0.572	0.17
Departure Headway (Hd)	7.085	6.585	6.424	7.48	6.98	6.28	8.053	7.553	7.277	6.968	6.468	5.768
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	504	544	556	478	511	567	442	471	489	512	554	619
Service Time	4.856	4.356	4.195	5.255	4.755	4.055	5.847	5.347	5.071	4.735	4.235	3.535
HCM Lane V/C Ratio	0.085	0.371	0.236	0.326	0.068	0.127	0.043	0.038	0.031	0.025	0.576	0.171
HCM Control Delay	10.5	13.2	11.2	13.8	10.3	10	11.2	10.6	10.3	9.9	17.6	9.7
HCM Lane LOS	B	B	B	B	B	A	B	B	B	A	C	A
HCM 95th-tile Q	0.3	1.7	0.9	1.4	0.2	0.4	0.1	0.1	0.1	0.1	3.6	0.6

HCM 6th TWSC
5: NW 12th Avenue & NW Brady Road 02/02/2022

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	315	23	21	243	10	14
Future Vol, veh/h	315	23	21	243	10	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	375	27	25	289	12	17

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	402	0	728	389
Stage 1	-	-	-	-	389	-
Stage 2	-	-	-	-	339	-
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	-	-	1162	-	393	664
Stage 1	-	-	-	-	689	-
Stage 2	-	-	-	-	726	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1162	-	384	664
Mov Cap-2 Maneuver	-	-	-	-	384	-
Stage 1	-	-	-	-	689	-
Stage 2	-	-	-	-	710	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	509	-	-	1162	-
HCM Lane V/C Ratio	0.056	-	-	0.022	-
HCM Control Delay (s)	12.5	-	-	8.2	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	265	86	12	183	49	15
Future Vol, veh/h	265	86	12	183	49	15
Conflicting Peds, #/hr	0	0	0	0	10	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	294	96	13	203	54	17

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	390	0	581	346
Stage 1	-	-	-	-	342	-
Stage 2	-	-	-	-	239	-
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	-	-	1174	-	479	702
Stage 1	-	-	-	-	724	-
Stage 2	-	-	-	-	805	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1174	-	468	699
Mov Cap-2 Maneuver	-	-	-	-	557	-
Stage 1	-	-	-	-	724	-
Stage 2	-	-	-	-	788	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	12
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	585	-	-	1174	-
HCM Lane V/C Ratio	0.122	-	-	0.011	-
HCM Control Delay (s)	12	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Queuing and Blocking Report
Background AM

01/27/2022

Intersection: 3: NW Brady Road & NW 16th Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	135	164	160	262	84	140	89	149
Average Queue (ft)	34	58	54	90	34	55	21	53
95th Queue (ft)	81	118	114	186	73	107	60	111
Link Distance (ft)		228		1474	1092	1092		283
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150		195				100	
Storage Blk Time (%)		0		1				2
Queuing Penalty (veh)		0		2				1

Intersection: 4: NW Brady Road/NW Parker Street & NW Pacific Rim Boulevard/NW Pacific Rim Drive

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	TR	L	T	TR	L	T	R
Maximum Queue (ft)	83	39	47	38	64	37	57	79	85	31	90	76
Average Queue (ft)	39	8	10	9	25	11	24	37	37	7	41	38
95th Queue (ft)	66	29	31	32	53	35	48	62	65	29	66	62
Link Distance (ft)		1520	1520		538			3223	3223		547	547
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			75		75	150			135		
Storage Blk Time (%)					0						0	
Queuing Penalty (veh)					0						0	

Intersection: 5: NW 12th Avenue & NW Brady Road

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	30	30	11	65
Average Queue (ft)	1	2	0	26
95th Queue (ft)	15	13	8	53
Link Distance (ft)	511	1092	1092	225
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
Background AM

01/27/2022

Intersection: 6: NW Klickitat Street & NW 16th Avenue

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	12	11	102
Average Queue (ft)	0	1	43
95th Queue (ft)	6	12	75
Link Distance (ft)	1474	931	582
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 4

Queuing and Blocking Report
Background PM

01/27/2022

Intersection: 3: NW Brady Road & NW 16th Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	31	108	107	138	35	159	102	97
Average Queue (ft)	6	50	41	41	7	76	45	44
95th Queue (ft)	25	85	82	83	29	134	77	85
Link Distance (ft)		228		1474	1092	1092		283
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150		195				100	
Storage Blk Time (%)							0	0
Queuing Penalty (veh)							0	1

Intersection: 4: NW Brady Road/NW Parker Street & NW Pacific Rim Boulevard/NW Pacific Rim Drive

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	TR	L	T	TR	L	T	R
Maximum Queue (ft)	81	34	42	30	54	28	41	57	72	31	111	50
Average Queue (ft)	32	14	14	8	17	5	18	33	32	9	56	29
95th Queue (ft)	57	31	29	29	45	22	42	51	55	31	88	41
Link Distance (ft)		1520	1520		538			3223	3223		547	547
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			75		75	150			135		
Storage Blk Time (%)					0						0	
Queuing Penalty (veh)					0						0	

Intersection: 5: NW 12th Avenue & NW Brady Road

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	31	32
Average Queue (ft)	6	14
95th Queue (ft)	25	36
Link Distance (ft)	1092	225
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report
Background PM

01/27/2022

Intersection: 6: NW Klickitat Street & NW 16th Avenue

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	12	53	54
Average Queue (ft)	1	6	29
95th Queue (ft)	10	31	49
Link Distance (ft)	1474	931	582
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 1

Queuing and Blocking Report
Buildout AM

02/02/2022

Intersection: 1: NW Brady Road & Site Access Driveway #1

Movement	EB
Directions Served	R
Maximum Queue (ft)	44
Average Queue (ft)	26
95th Queue (ft)	44
Link Distance (ft)	463
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: NW 16th Avenue & Site Access Driveway #2

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	40	91
Average Queue (ft)	6	56
95th Queue (ft)	28	88
Link Distance (ft)		77
Upstream Blk Time (%)		2
Queuing Penalty (veh)		0
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: NW Brady Road & NW 16th Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	130	170	188	240	101	180	86	138
Average Queue (ft)	40	65	49	92	37	60	26	56
95th Queue (ft)	90	131	110	180	75	129	66	112
Link Distance (ft)		228		1474	1092	1092		283
Upstream Blk Time (%)		0						
Queuing Penalty (veh)		0						
Storage Bay Dist (ft)	150		195				100	
Storage Blk Time (%)	0	1	0	1			0	3
Queuing Penalty (veh)	0	1	0	1			0	2

Queuing and Blocking Report
Buildout AM

02/02/2022

Intersection: 4: NW Brady Road/NW Parker Street & NW Pacific Rim Boulevard/NW Pacific Rim Drive

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	TR	L	T	TR	L	T	R
Maximum Queue (ft)	87	42	37	34	65	40	55	81	81	31	92	66
Average Queue (ft)	38	7	10	12	25	13	25	37	38	10	43	39
95th Queue (ft)	64	26	26	36	57	37	48	61	66	33	73	59
Link Distance (ft)		1520	1520		538			3223	3223		547	547
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			75		75	150			135		
Storage Blk Time (%)					0						0	
Queuing Penalty (veh)					0						0	

Intersection: 5: NW 12th Avenue & NW Brady Road

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	6	38	61
Average Queue (ft)	0	4	26
95th Queue (ft)	4	21	51
Link Distance (ft)	511	1092	225
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: NW Klickitat Street & NW 16th Avenue

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	28	33	107
Average Queue (ft)	1	2	44
95th Queue (ft)	13	15	76
Link Distance (ft)	1474	931	582
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 4

Queuing and Blocking Report
Buildout PM

02/02/2022

Intersection: 1: NW Brady Road & Site Access Driveway #1

Movement	EB
Directions Served	R
Maximum Queue (ft)	30
Average Queue (ft)	24
95th Queue (ft)	41
Link Distance (ft)	463
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: NW 16th Avenue & Site Access Driveway #2

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	31	81
Average Queue (ft)	3	47
95th Queue (ft)	18	77
Link Distance (ft)		77
Upstream Blk Time (%)		1
Queuing Penalty (veh)		0
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: NW Brady Road & NW 16th Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	98	169	89	109	40	190	103	113
Average Queue (ft)	21	60	40	53	12	85	47	46
95th Queue (ft)	59	110	75	92	36	148	83	90
Link Distance (ft)		228		1474	1092	1092		283
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150		195				100	
Storage Blk Time (%)		0					0	1
Queuing Penalty (veh)		0					0	1

Queuing and Blocking Report
Buildout PM

02/02/2022

Intersection: 4: NW Brady Road/NW Parker Street & NW Pacific Rim Boulevard/NW Pacific Rim Drive

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	TR	L	T	TR	L	T	R
Maximum Queue (ft)	59	30	51	39	50	29	43	52	52	35	122	54
Average Queue (ft)	27	14	18	15	18	4	20	31	34	10	58	28
95th Queue (ft)	45	30	38	41	45	20	44	45	53	33	93	44
Link Distance (ft)		1520	1520		538			3223	3223		547	547
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			75		75	150			135		
Storage Blk Time (%)					0						0	
Queuing Penalty (veh)					0						0	

Intersection: 5: NW 12th Avenue & NW Brady Road

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	31	36
Average Queue (ft)	6	15
95th Queue (ft)	25	39
Link Distance (ft)	1092	225
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: NW Klickitat Street & NW 16th Avenue

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	38	49	62
Average Queue (ft)	3	5	31
95th Queue (ft)	19	26	55
Link Distance (ft)	1474	931	582
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 1