

Chapter 11: Waterfront District Biennial Monitoring Program - 2021

In 2010, Public Works created Concurrency Service Area (CSA) #6 for the Waterfront District in preparation for the adoption of a Waterfront District Master Plan. In 2019, CSA #6 has 1,792 PTA with no credits given yet for pedestrian facilities, bicycle lanes, or transit services, but 860 credits provided for multiuse trails.

- Cornwall Avenue has continuous sidewalks on both sides between Wharf Street and West Laurel Street and from Maple to Chestnut, but lack of sidewalk on the north side of the Cornwall Avenue Bridge requires people to cross to the south side of Cornwall to walk from downtown into the Waterfront.
- Wharf Street is a steep and narrow street without sidewalks or bicycle lanes and construction of either would require major excavation of the hillside, construction of retaining walls, and significant environmental impact mitigation. Sidewalks and bikeways on Wharf are considered cost prohibitive.
- WTA transit service does not exist within the Waterfront District boundary. WTA does not currently have plans to serve the Waterfront, and it is likely to be a very long time before fixed route transit service becomes a viable option to serve the Waterfront District.

From a concurrency standpoint, additional person trip credits were awarded upon completion of new arterials, sidewalks, and bicycle lanes are constructed to increase the PTA to serve new Waterfront development in 2019. Additional person trip credits will also be awarded if and when fixed route WTA transit service becomes available to the public on Granary-Laurel within the Waterfront redevelopment area.

- Public Works constructed the Granary-Laurel arterial street in 2018-2019 in the “Downtown” portion of the Waterfront (Figure 11.1.), with sidewalks on both sides and a two-way bikeway/cycletrack on one side. These improvements added Person Trips Available to CSA #6.
- The historic Granary Building began redevelopment in 2016 as the first major project in the redevelopment of the 200-acre Waterfront District and at the beginning of 2020 is yet to be completed.
- All-American Marine Boats has relocated its manufacturing site from the Fairhaven Shipyards industrial area to the I-J Waterway in the Waterfront District.
- Itek, a major solar panel manufacturer, has relocated its manufacturing site from the Irongate Industrial Area to 800 Cornwall Avenue in the Waterfront District.

Biennial Monitoring Program Report

In December 2013, the City of Bellingham and the Port of Bellingham adopted the Bellingham Waterfront District Master Plan to guide the redevelopment of over 200 acres of industrial waterfront land into a vibrant, new neighborhood filled with a mix of industrial, commercial, institutional, residential, and public uses. The Bellingham Waterfront District Master Plan and Interlocal Agreement between the City and Port of Bellingham is available on the City web site at <http://www.cob.org/services/planning/urban-villages/waterfront.aspx>

Section 20 of the Interlocal Agreement for Facilities within the Waterfront District requires the Port of Bellingham to provide the City with a Biennial Monitoring Program report by December 31, 2015 and every two years after, which will document transportation mobility into and out of the Waterfront District on arterial streets for pedestrians, bicyclists, transit busses, automobiles, and freight trucks. In October 2019, TranspoGroup, Inc. completed the third Biennial Monitoring Report for the Waterfront District. Highlights from this report are included in the following pages. **The Port is required to update the Biennial Monitoring Report again in late 2021 and the results will be included in the 2022 Transportation Report on Annual Mobility.**

Figure 11.1. Bellingham Waterfront District Boundaries

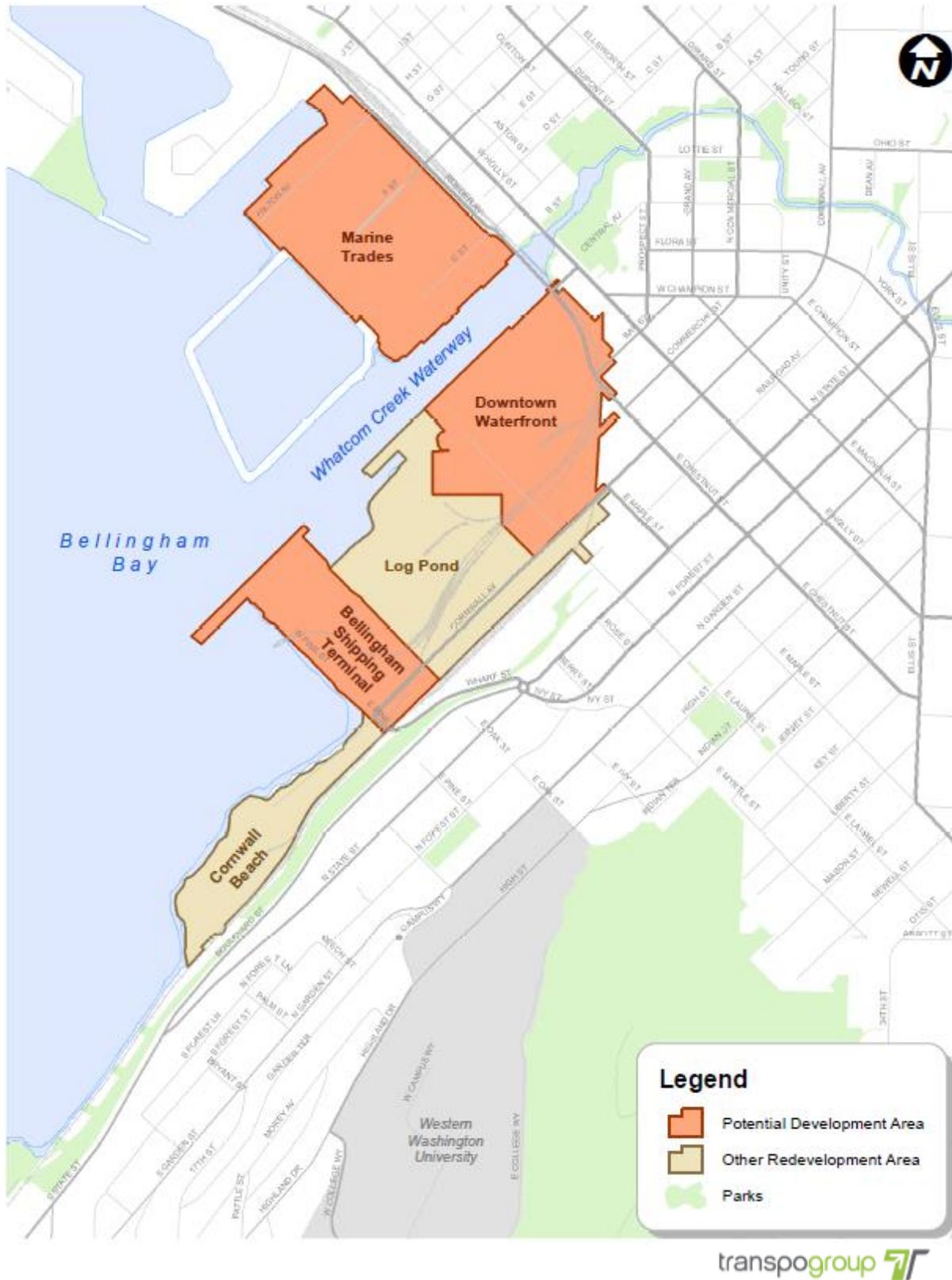


Figure 11.2. Data Collection Locations



Data Collection Locations

Waterfront District Traffic Monitoring - 2019

FIGURE

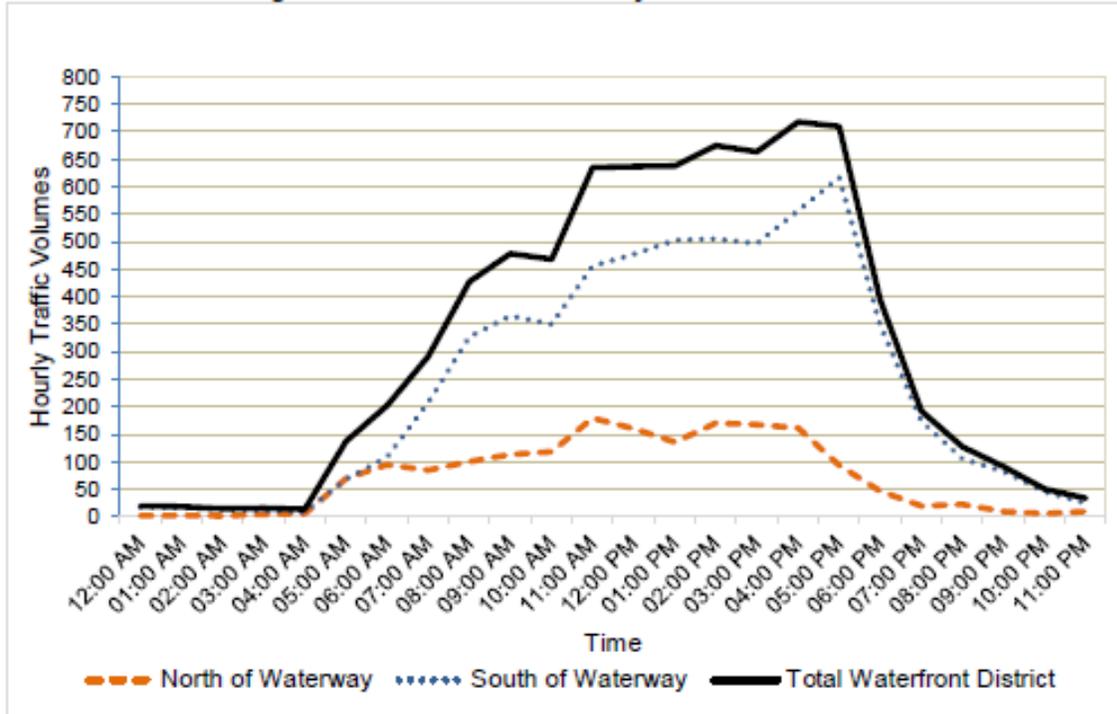
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Current Conditions

Figure 3 illustrates the average hourly distribution of traffic to and from the Waterfront District. This includes all trucks, cars, and bicycles to and from the site. The highest traffic levels for the site occurs in the evening between approximately 4 and 6 p.m. consistent with previous biennial monitoring studies.

Figure 3 Waterfront District Daily Traffic Distribution



Vehicle classifications were also collected at the access points. Similar to previous monitoring studies, a review of the specific data shows travel by car represents the majority of the vehicles to and from the site both north and south of the Waterway. The number of trucks is higher north of the Waterway than south, representing approximately 50 percent of total traffic in the north versus 24 percent to the south. Figure 4 illustrates the average daily vehicle classifications for the Waterfront District. Mode splits are generally consistent with the 2017 monitoring study.

Figure 4 Waterfront District Average Daily Vehicle Classification

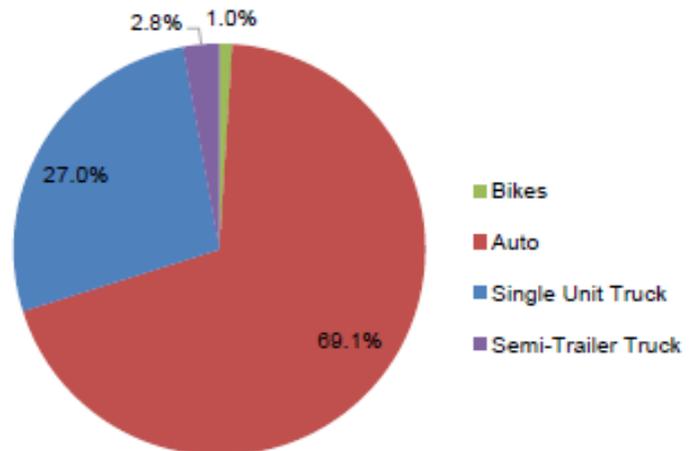


Table 2. Existing (2019) Weekday Vehicular Traffic Volumes¹

	Inbound	Outbound	Total
North of Waterway			
Daily Volumes	860	885	1,745
PM Peak Hour Volumes	40	132	172
<i>PM Peak Hour % of Daily Volumes</i>	5%	15%	10%
South of Waterway			
Daily Volumes	2,920	2,905	5,825
PM Peak Hour Volumes	351	350	701
<i>PM Peak Hour % of Daily Volumes</i>	12%	12%	12%
Waterfront District Total			
Daily Volumes	3,780	3,790	7,570
PM Peak Hour Volumes	391	482	873
<i>PM Peak Hour % of Daily Volumes</i>	10%	13%	12%

1. Based on data collected in October 2019.

Table 3 summarizes vehicle and non-motorized trips as well as the mode splits for north and south of the Waterway.

Table 3. Existing (2019) Weekday PM Peak Hour Trips and Mode Splits

Site Access	Trips ¹				Mode Splits ¹	
	Auto			Non-Motorized	Auto	Non-Motorized
	Inbound	Outbound	Total			
North of Waterway						
Hilton Avenue	12	60	72	3	96%	4%
F Street	11	23	34	5	87%	13%
C Street	17	49	66	1	99%	1%
Subtotal	40	132	172	9	95%	5%
South of Waterway						
Central Avenue ²	0	0	0	39	0%	100%
Granary Avenue	54	53	107	53	67%	33%
Cornwall Avenue	141	137	278	138	67%	33%
Wharf Street	156	160	316	22	93%	7%
Subtotal	351	350	701	252	77%	23%
Waterfront District Total						
Total	391	482	873	261	80%	20%

1. Based on data collected in October 2019.

2. Closed to vehicular traffic.

Table 3 shows the primary mode of travel to the site is currently via auto which is consistent with 2017 monitoring study; however, there has been an increase in non-motorized travel south of the waterway. The non-motorized trips have increased south of the waterway due to the new park on-site and the improvements to trails and bicycle facilities in the area. The resulting higher non-motorized mode split is due to limited development south of waterway besides pedestrian/bike-oriented park. There is also additional bicycle and pedestrian trips along Cornwall Avenue with additional businesses along this corridor. Future monitoring studies should collect data at the new Laurel Street access to better isolate vehicle and non-motorized trips to and from the Port.

The evaluation of mode splits only considers auto and non-motorized (pedestrian and bicycle) trips. There are no WTA bus stops located within the site. The nearest transit route operates along Holly Street. The Downtown Transit Station, which is the closest transit hub, currently has an average daily ridership of approximately 3,300 riders with approximately 640 riders during the weekday PM peak period¹. Existing transit riders are captured as pedestrian or bicycle trips to and from the site; however, with on-site transit routes and bus stops Waterfront District transit ridership could be isolated in future studies.

As more mixed-use (i.e., office, retail, residential, etc.) development occurs on-site and the infrastructure becomes more walkable, it is anticipated that pedestrian, bicycle, and transit activity would continue to increase and be monitored more closely.

Future Development Trip Generation

Future weekday daily and PM peak hour trip generation for the Waterfront District was developed based on the land use assumptions presented in Table 1 and the methodologies described in the Waterfront District EIS. Key assumptions for the trip generation analysis include:

- **Existing Trips:** Existing weekday daily and PM peak hour traffic volumes for the development areas were updated based on the 2019 data collected.
- **Mode Splits:** The future 2023 mode splits were based on the existing 2019 data collected for north and south of the Waterway. It is anticipated as mixed-use development occurs there will be a shift towards non-auto modes; however, the evaluation assumes for the next 4-years mode splits would be consistent with existing conditions with a high use of auto modes.
- **Internal Trips:** Consideration was also given to internal trips that would occur between uses within the site. An internal trip rate of approximately 15 percent was assumed as part of the Waterfront District EIS. While the planned development in the is mixed use, it was unknown if the internal trip rate would be as high as 15 percent. Internal trips were calculated based on the methods described in the Waterfront District EIS and a review of the current Institute of Transportation Engineers (ITE) Trip Generation Handbook, 3rd Edition procedures and data. The internal trip rate was estimated to be approximately 7 percent.

Table 4 provides a summary of the future vehicle trip generation for the Waterfront District. Detailed trip generation calculations are provided in Attachment 2.

Table 4. Estimated Future (2023) Weekday PM Peak Hour Vehicle Trip Generation

	Inbound	Outbound	Total
North of Waterway			
Existing Development ¹	40	132	172
Future Pipeline Development ²	6	33	39
Internal ³	<u>-9</u>	<u>-9</u>	<u>-18</u>
Net Offsite	37	156	193
South of Waterway			
Existing Development	351	350	701
Future Pipeline Development	289	300	589
Internal	<u>-52</u>	<u>-51</u>	<u>-103</u>
Net Offsite	588	599	1,187
Waterfront District Total			
Existing Development	391	482	873
Future Pipeline Development	295	333	628
Internal	61	60	121
Net Offsite	625	755	1,380

1. Based on data collected in October 2019.

2. Calculated based on person trip methodology outlined in the Waterfront District EIS with updates to reflect Transportation Engineers (ITE) Trip Generation Manual, 10th Edition.

3. Based on methods described in Waterfront District EIS with data updated to reflect ITE Trip Generation Handbook, 3rd Edition and consideration of the size of the future 2023 development.

As shown in Table 4, the future total net offsite trip generation for the Waterfront District would be 1,380 vehicles during the weekday PM peak hour with 193 vehicles within the area north of the Waterway and 1,187 vehicles south of the Waterway.

Estimated future net offsite trips are less than shown in the 2017 monitoring study due to the increase in the non-motorized mode split and overall less development projected. The auto mode split south of the waterway was 87 percent in 2017 compared to the current monitoring, which shows 77 percent. If an 87 percent auto mode split was assumed for future development then the net offsite trips would be approximately 1,440 trips, which continues to be less than the 1,530 net offsite trips projected in the 2017 monitoring study.

Future Traffic Volumes and Transportation Infrastructure Phasing Plan

The future trips were distributed to the site access points based on the location of the proposed development as well as consideration of planned infrastructure improvements and offsite travel patterns. The existing trips were not reassigned since there are no new site access points proposed. Table 5 provides a summary of the existing and future outbound PM peak hour trips for each site access point as well as the remaining capacity with the future development over the next 4-years and the planned infrastructure.

Table 5. Future (2023) Infrastructure Capacity Summary

PM Peak Hour Outbound Vehicle Trips			Estimated Vehicle Capacity (Trips) ³	Remaining Capacity	
Existing Trips ¹	Net New Trips ²	Future Trips		Trips	Square-feet ⁴
North of Waterway					
132	24	156	400	244 (61%)	340,000
South of Waterway					
350	249	599	900	301 (67%)	520,000

1. Based on October 2019 traffic counts.
2. Calculated based on person trip methodology outlined in the Waterfront District EIS and assigned based on the location of development with consideration of planned Infrastructure Improvements and offsite travel patterns.
3. Based on the infrastructure phasing analysis as documented in the memorandum subjected *The Waterfront District Subarea Plan Transportation Analysis Update for 2012 SEIS Addendum*, October 2012 with consideration of Improvements that have been completed.
4. Approximate millions of square-feet (sf) of development is provided for reference and is based on the average outbound vehicle trip rate as documented in the memorandum subjected *The Waterfront District Subarea Plan Transportation Analysis Update for 2012 SEIS Addendum*, October 2012.

As shown in Table 5, the proposed infrastructure would accommodate the anticipated development over the next 4-years. North of the Waterway, the proposed development is anticipated to use approximately 39 percent of the infrastructure capacity leaving 61 percent of the capacity available for future development. South of the Waterway, the proposed development is anticipated to use approximately 33 percent of the infrastructure capacity. The remaining capacity would accommodate additional development; however, the location of future development will also need to be considered when determining if it can be accommodated without additional infrastructure improvements. Conducting traffic monitoring study every 2-years will capture changes in development estimates, location of the development and verify infrastructure needs.

Findings

Based on the review presented above, no additional infrastructure improvements are recommended. Plans for development beyond what has been analyzed herein should consider the available capacity for each area. In addition, the evaluation of infrastructure capacity remaining for the site after the projected 2023 development is conservative since all existing site uses are anticipated to remain and as development occurs existing uses would be redeveloped reducing trips from the site.