3.12 TRANSPORTATION

This section describes existing transportation facilities and traffic conditions on the New Whatcom site and in the site vicinity. Potential transportation-related impacts associated with future redevelopment under the EIS Alternatives are analyzed. This section is based on the November 2007, *Transportation Discipline Report* prepared by The Transpo Group and the November 2007, *Boat Traffic/Boat Wake Technical Report* prepared by Anchor Environmental (see **Appendices N** and **I**, respectively, for the full reports).

Study Area

The study area for the transportation analysis was developed in conjunction with the City of Bellingham and Port of Bellingham staff and represents the locations most likely to be impacted by redevelopment of the New Whatcom site. The analysis focuses on the area in the immediate vicinity of the New Whatcom site. However, major corridors in Bellingham outside the immediate vicinity of the site, which would likely serve as access to/from the site area, were also included to illustrate interconnections and evaluate impacts throughout the City. These major corridors include: Roeder Avenue/Chestnut Street, State Street, Forest Street, 12th Street, Broadway Street, Holly Street, and three I-5 interchanges likely to serve New Whatcom traffic.

Methodology

Data Collection

Data was collected and assimilated for each of the major transportation components (street system, non-motorized traffic, transit, rail, parking and marine traffic). The data were provided by several agencies, including the City of Bellingham, Washington State Department of Transportation (WSDOT), Whatcom County Transit Authority and Port of Bellingham. The existing data were supplemented by data collected in the field, such as traffic counts, vehicle classification counts, parking utilization and supply surveys, and general windshield surveys. A summary of the data collection activities for the street system and parking supply and utilization is provided below (see **Appendix N** for additional information on data collection for all of the major transportation components).

Street System

Traffic data were collected for major intersections and arterials in the study area. The turning movement counts (TMC) were collected during the weekday PM peak hour (between 4:00 and 6:00 PM) as well as the weekday AM peak hour (between 7:00 and 9:00 PM) for a subset of the intersections. The TMCs also included heavy vehicle (truck) counts at all intersections and pedestrian counts at a subset of the intersections.

Most of the traffic data collection occurred in April 2007. However, some traffic volumes obtained from the *City of Bellingham City Center Master Plan: Circulation Element* (January 2006) and other recent studies were conducted over the past two to five years. Where applicable, these counts were factored to 2007 volumes, assuming a one percent annual growth rate, based on historical traffic counts.

Daily traffic counts were also conducted along F Street, C Street, Central Avenue, and Pine Street/Wharf Street. These counts were performed to estimate the current traffic onsite. The counts were performed on similar days as the TMCs.

The AM peak hour traffic volumes are less than the PM peak hour traffic volumes by about 40 to 60 percent; therefore, the transportation analysis focuses on the PM peak hour, which presents a conservative estimate of traffic impacts. A detailed comparison of AM and PM peak hour traffic volumes is provided in **Appendix N**.

Parking

On-street and off-street parking supply and utilization for downtown Bellingham was obtained from the *City of Bellingham City Center Master Plan: Parking Element* (January 2006). The data were expanded with an April 2007 mid-day parking survey of on-street supply and utilization within the Lettered Streets Neighborhood and on Cornwall Avenue in the vicinity of the site. The Lettered Streets Neighborhood is located northeast of the site and is bounded by Roeder Avenue to the southwest, Broadway Street to the northwest, North Street to the north, Cornwall Avenue to the east, and downtown to the southeast. The parking analysis considers parking within a ¼-mile on-the-ground walking distance from the site access locations, which includes locations within downtown, the Lettered Streets Neighborhood, and along Cornwall Avenue[1].

Travel Forecasts

The most recent version (2002) of the City of Bellingham's travel demand model was used for the transportation analysis. The City's model includes all of Whatcom County, and has been refined for the City of Bellingham and its Urban Growth Area (UGA).

The City's model has a 2002 base year and a 2022 future horizon year. The model replicates conditions for the base year and estimates future traffic volumes based on the City's 2022 land use projections, its *Six-Year Transportation Improvement Program* (TIP), and the 20-year project list contained in the *2006 Bellingham Comprehensive Plan*. The model forecasts weekday PM peak hour traffic volumes for all major roadways within and outside the City.

Traffic data for the 2016 and 2026 horizon years, evaluated for this Draft EIS, were developed by first decreasing and increasing the number of dwelling units and employment projected by the City of Bellingham in the 2022 transportation model to determine the baseline land use growth applicable to those horizon years. Planned street system improvements outside of the redevelopment area were assumed to be consistent with 2022 conditions for both the 2016 and 2026 horizon years. The 2016 and 2026 land use data were then updated for the EIS Alternatives to evaluate changes in travel behavior resulting from the New Whatcom redevelopment under each alternative.

The model was used to evaluate the Redevelopment Alternatives (Alternatives 1-3) by comparing them to the No Action Alternative. It was also used to develop 2016 and 2026 forecast traffic volumes along major roadways within the study area.

[1] Transportation research shows that ¼-mile is typically considered the furthest distance people are willing to walk from their parked vehicle to their destination.

Performance Measures

Performance measures were identified and evaluated for each of the transportation modes. These measures are used to characterize relative differences in performance among the EIS Alternatives, and establish transportation impacts that could be expected. The performance measures for the street system (motorized transportation) are summarized below; see **Appendix N** for further information on the street system performance measures, as well as the performance measures used to evaluate the other modes of transportation (non-motorized, transit, rail, parking).

Street System

The performance measures used for analyzing the street system are focused on roadway volume-to-capacity (v/c) and intersection delay-based level of service (LOS), as well as traffic safety for major intersections within the study area. Roadway LOS and intersection LOS are a useful measurement to depict traffic conditions at intersections and along corridors. The *Highway Capacity Manual* (HCM) Transportation Research Board, 2000 presents guidelines on quantifying roadway and intersection LOS. Table 1 in **Appendix N** summarizes the HCM roadway and intersection LOS definitions, which range from LOS A – primarily free-flowing operations with motorists traveling at average travel speeds, to LOS F – forced flow or stop-and-go conditions.

The volume-to-capacity (v/c) ratio for roadway segments is calculated and used to determine the operating roadway LOS. Roadway (arterial) segment traffic volumes were based on existing traffic counts and the City's travel demand model. Arterial capacities were assumed consistent with the standard contained in the City's Concurrency Management Program (see **Appendix N** for more information on the City's Concurrency Management Program). The City has adopted LOS E as its arterial standard. This standard is based on the directional PM peak hour v/c ratio. The v/c ratio represents directional PM peak roadway volumes divided by the directional roadway capacity. The calculated v/c ratio shows the general congestion level of the transportation facility. The PM peak hour directional v/c ratio is used to determine the roadway's operating LOS. Table 2 in **Appendix N** relates the v/c ratio to LOS along roadways.

As indicated above, the City's adopted level of service standard is LOS E during the PM peak hour. Where specific circumstances warrant, the City has adopted an Alternative Peak Hour LOS standard of F (volume to capacity ratio of 1.01 – 1.25) for transportation arterials where mitigation is difficult to achieve. The Bellingham City Council may, on a case-by-case basis, consider adopting a peak hour LOS standard of F (v/c 1.01 – 1.25) for other arterials as follows:

1. On local arterials within designated Urban Villages (The New Whatcom site is designated as a Tier 2 Urban Village in the Comprehensive Plan);
2. On local arterials that enter/exit the City; and
3. On local arterials where mitigation is not feasible.

Based on the City's Transportation Element of the Comprehensive Plan, the following arterials within the EIS transportation study area are allowed to function at Alternative Peak Hour LOS F due to difficulties of implementing mitigation measures to maintain LOS E:

- Meridian Street between Broadway and East Maplewood
- King Street between Ohio Street and Iowa Street

- Boulevard Street between State Street and Finnegan Street
- 12th Street between Old Fairhaven Parkway and Hawthorn
- Lincoln Street between Meador and Lakeway Drive
- Lakeway Drive between Lakeway Drive/King Street and Lakeway Drive/Lincoln Street intersections
- Ohio Street at the Ohio Street/James Street intersection
- Northwest Avenue between Bakerview Road and Interstate 5
- Lakeway Drive between Electric Avenue and Birch Street.

In addition, the Comprehensive Plan recommends considering adoption of the Alternative Peak Hour LOS standard at the following locations, if widening the roadway or providing other capacity improvements are not feasible:

- Roeder Avenue between Bay Street and Squalicum Parkway
- Holly Street from Bay Street to Eldridge
- Dupont Street between Broadway and Prospect
- Girard Street between Broadway and Grand
- Lakeway Drive from Ellis Street to Lincoln.

The average delay in vehicles-per-second at intersections is measured against free-flow intersection operations and used to determine the operating intersection LOS. Vehicle delay is a method of quantifying several intangible factors, including driver discomfort, frustration, and lost travel time. The intersection operations are dependent on many variables including intersection traffic control, signal phasing (i.e., progression of movements through the intersection), signal cycle length, and traffic volumes with respect to intersection capacity. Signalized and all-way, stop-controlled intersection operations are defined in terms of the average total vehicle delay of all movements through an intersection. Two-way, stop-controlled intersection LOS is defined in terms of the average vehicle delay of an individual movement(s). This is because the performance of a two-way, stop-controlled intersection is more closely reflected by its individual movements, rather than its overall performance. Table 2 in **Appendix N** relates delay to LOS at intersections.

Intersections were evaluated using the Synchro 6.0 software using the HCM methodology to determine delay and LOS. There are no improvements planned within downtown Bellingham or at the other study intersections that would result in additional capacity or major modifications to the intersections. Therefore, no changes were assumed to the intersection geometrics (see **Appendix N** for information on other inputs that were made to the Syncro software).

Intersection operations were evaluated because they are more reflective of an urban environment than roadway segment operations, as an urban setting generally has closely spaced intersections impacting operations of the street system. The City's adopted LOS standard relates to arterials; however, for this Draft EIS, the LOS E standard was also applied to intersections providing access to/from the site to identify potential operational deficiencies. Per the City's policy, the intersection analysis was used to identify mitigation measures for operational impacts to the site access intersections; however offsite mitigation improvements were primarily based on the roadway segment evaluation.

3.12.1 Affected Environment

This section describes the street system, non-motorized, transit, rail, parking, and boat traffic components of the existing transportation system in the vicinity of the New Whatcom site. On- and offsite transportation conditions are included in this section.

Onsite

This section summarizes the existing onsite conditions. **Figure 3.12-1** shows the existing site, including the redevelopment areas. The site consists of approximately 1.2 million square feet of existing industrial space; however, many of the existing buildings are vacant. Existing traffic is defined as traffic from uses currently operating onsite. Portions of Redevelopment Areas 1, 2, 6, and 9 are currently in use. This analysis includes traffic associated with the existing Georgia Pacific (GP) tissue mill located in Redevelopment Area 2, which will be terminated in the near-term.

Street System

This section summarizes the street facilities on the New Whatcom site and identifies existing traffic generated by the onsite uses. The performance measures related to the street system focus on the evaluation of existing roadway and intersection levels of service (LOS) and safety.

Access and Circulation

Major roadways currently providing access to the site include Roeder Avenue, Chestnut Street, and Cornwall Avenue (see **Figure 3.12-1**). All the access locations are side-street stop-controlled, except the F Street/Roeder Avenue intersection which is signalized. As shown in **Figure 3.12-1**, access to Redevelopment Area 1 is provided by Hilton Avenue, F Street, and C Street via Roeder Avenue, and access to Redevelopment Areas 2 through 10 is provided by Roeder Avenue/Central and Chestnut Street/Cornwall Avenue. Public vehicle access to the site is limited due to past and current industrial uses, including the GP tissue mill, and the existing railroad corridor.

Trip Generation

There are currently approximately 645 employees onsite (see **Section 3.9**, Population, Employment and Housing for details). AM and PM peak hour trip generation for the existing site uses was estimated based on average trip rates for employees published by the Institute of Transportation Engineers (ITE) in *Trip Generation* (7th Edition, 2003) for General Light Industrial (Land Use No. 110), Warehousing (Land Use No. 150), and General Office Building (Land Use No. 710). Existing trip generation estimates are summarized in **Table 3.12-1**. Not all areas within the site are in use, therefore, only Redevelopment Areas 1, 2, 6, and 9 which currently have uses in operation are included (as noted, GP operations are expected to terminate in the near-term). As shown in the **Table 3.12-1**, the existing uses generate approximately 286 AM peak hour trips and 276 PM peak hour trips.

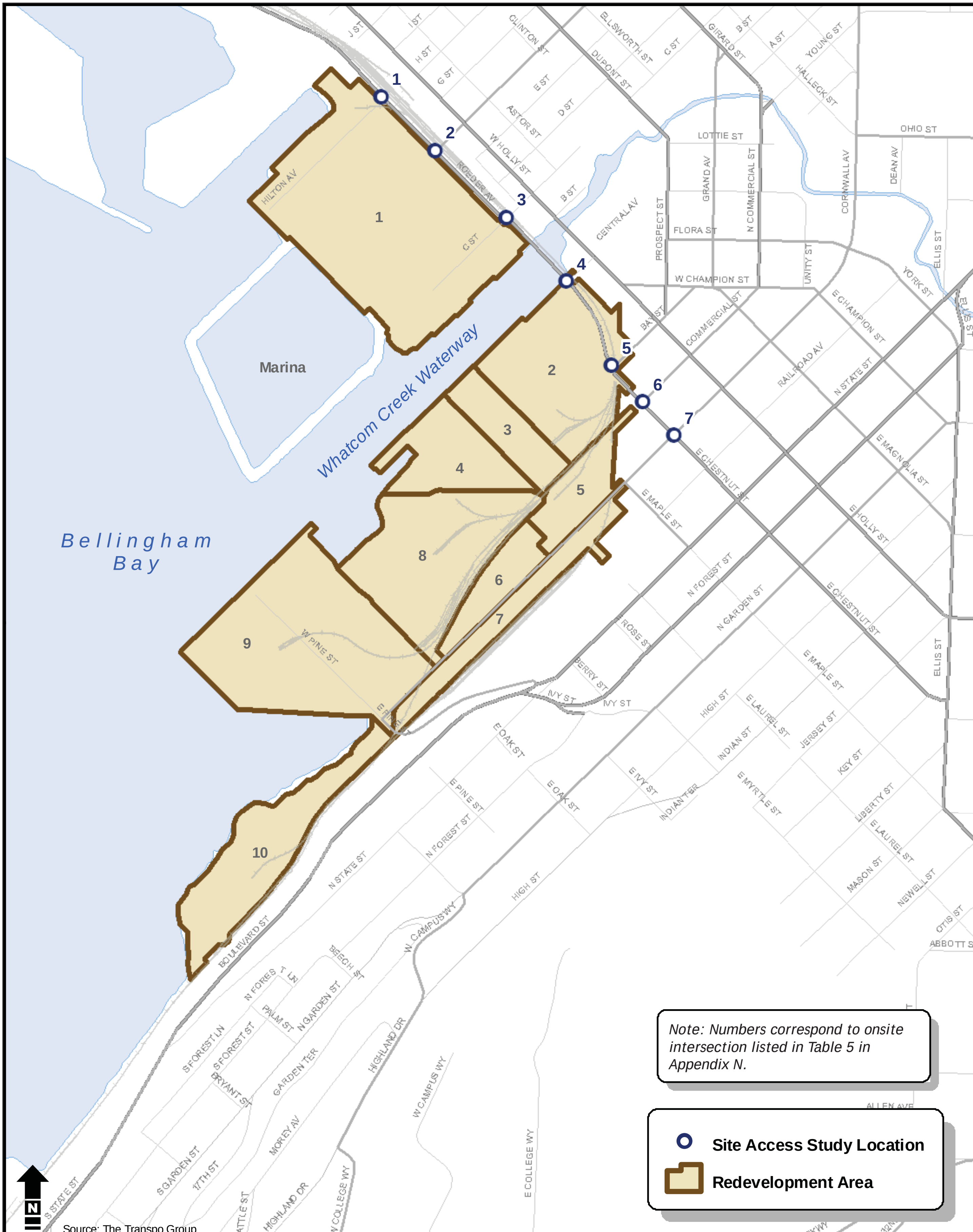

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Figure 3.12-1
Existing Site Area and Site Access Locations

New Whatcom Redevelopment EIS

Operations and Safety

Limited connectivity is provided between the existing industrial uses onsite and many areas of the site are gated and/or have restricted access. In addition, many of the existing roadways have been abandoned and are in disrepair, because a large portion of the site is vacant. Therefore, the onsite operations analysis focuses on the major site access locations.

The onsite roadway and intersection operations for access locations along Roeder Avenue, Chestnut Street, and Cornwall Avenue were evaluated; the results are presented in **Tables 3.12-5 and 3.12-6** in the **Impacts** section. Table 6 in **Appendix N** shows the onsite accident summary for certain intersections along these streets. The Bay Street and Commercial Street intersections do not currently provide access to the site; however, these streets would likely provide access to the site under the Redevelopment Alternatives. Therefore, they are also included in the onsite analysis.

As shown in **Table 3.12-5** in the **Impacts** section, all of the roadways currently operate within the City's LOS E threshold and the site access intersections operate at LOS E or better for both directions during the PM peak hour. The roadway operations analysis shows that there is available capacity onsite to accommodate additional traffic volumes during the PM peak hour. This is consistent with field observations, which show minimal traffic delays in the vicinity of the site. Table 6 in **Appendix N** shows that average accidents per million entering vehicles (MEV) at the intersections are no greater than 1.0 (an accepted threshold), which indicates that no traffic safety issues exist at the onsite intersections.

Non-Motorized and Transit

Public access is limited to the site due to the existing industrial uses. There are currently no formal pedestrian or bicycle facilities onsite. In addition, no transit service is provided onsite. There are transit stops planned along Roeder Avenue which are discussed in more detail in the **Offsite** section below.

Rail

The Burlington Northern Santa Fe (BNSF) Railway runs parallel to Cornwall Avenue and Roeder Avenue along the site frontage. The railroad enters the site at Redevelopment Area 8. The railroad runs at-grade within the site creating at-grade crossings with Laurel Street and Pine Street/Wharf Street. There are also at-grade crossings along the site frontage and at the site-access locations including: F Street, C Street, Cornwall Avenue, and Central Avenue. The rail crossings at F Street, Laurel Street, Central Avenue, Cornwall Avenue, and Wharf Street/Pine Street are controlled by gates; however, no gate is provided at C Street. The railway serves both passenger and freight trains. Most railroad operations occur outside the PM peak hour; therefore, off-peak traffic conditions in the area are subjected to impacts by rail operations. As the railroad passes through the at-grade crossings onsite, vehicles can experience long delays and queues at certain intersections. In addition, access to/from the New Whatcom site can be limited by the rail crossing, which can also cause emergency response delays. Operations of the railway are discussed in more detail in the **Offsite** section below and in **Appendix N**.

Table 3.12-1
EXISTING 2007 TRIP GENERATION

Land Use	Size[1]	AM Peak Hour Site Trips[2]			PM Peak Hour Site Trips[2]		
		Total	In	Out	Total	In	Out
Redevelopment Area 1							
Light Industrial (#110)	353 employees	155	129	26	148	31	117
Redevelopment Area 2							
Light Industrial (#110)	230 employees[3]	101	84	17	97	20	77
Redevelopment Area 6							
Light Industrial (#110)	20 employees	9	7	2	8	2	6
Redevelopment Area 9							
Warehousing (#150)	25 employees	13	9	4	15	5	10
Office (#710)	17 employees	8	7	1	8	1	7
Subtotal		21	16	5	23	6	17
Total Existing Trips		**286**	**236**	**50**	**276**	**59**	**217**

Source: The Transpo, 2007
[1] Current employment at New Whatcom site, Port of Bellingham, May 2007.
[2] Trip rates from ITE *Trip Generation*, 7th Edition.
[3] Employees associated with GP operations are expected to no longer be present at the site after 2007.

Parking

Existing users of the site currently park onsite in surface parking areas near buildings in use, or along Cornwall Avenue where there is on-street parking along the site frontage. There are currently approximately 1,000 parking spaces onsite; however, many of these spaces are not in use, since the site is not fully occupied. The parking supply and utilization for Cornwall Avenue are described in the **Offsite** section below.

Offsite

The offsite study area primarily focuses on the local transportation facilities within six to eight blocks of the New Whatcom site, and also includes the Interstate 5 (I-5) interchanges serving regional traffic. As discussed previously, major corridors evaluated in this study include Roeder Avenue/Chestnut Street, State Street, Forest Street, 12th Street, Broadway Street, Holly Street, and I-5 interchanges likely to serve project traffic. **Figure 3.12-2** shows the offsite study area.

Street System

This section summarizes the street facilities in the offsite study area and includes an inventory of major corridors and existing traffic volumes. The performance measures related to the street system focus on the evaluation of existing roadway and intersection levels of service and safety.

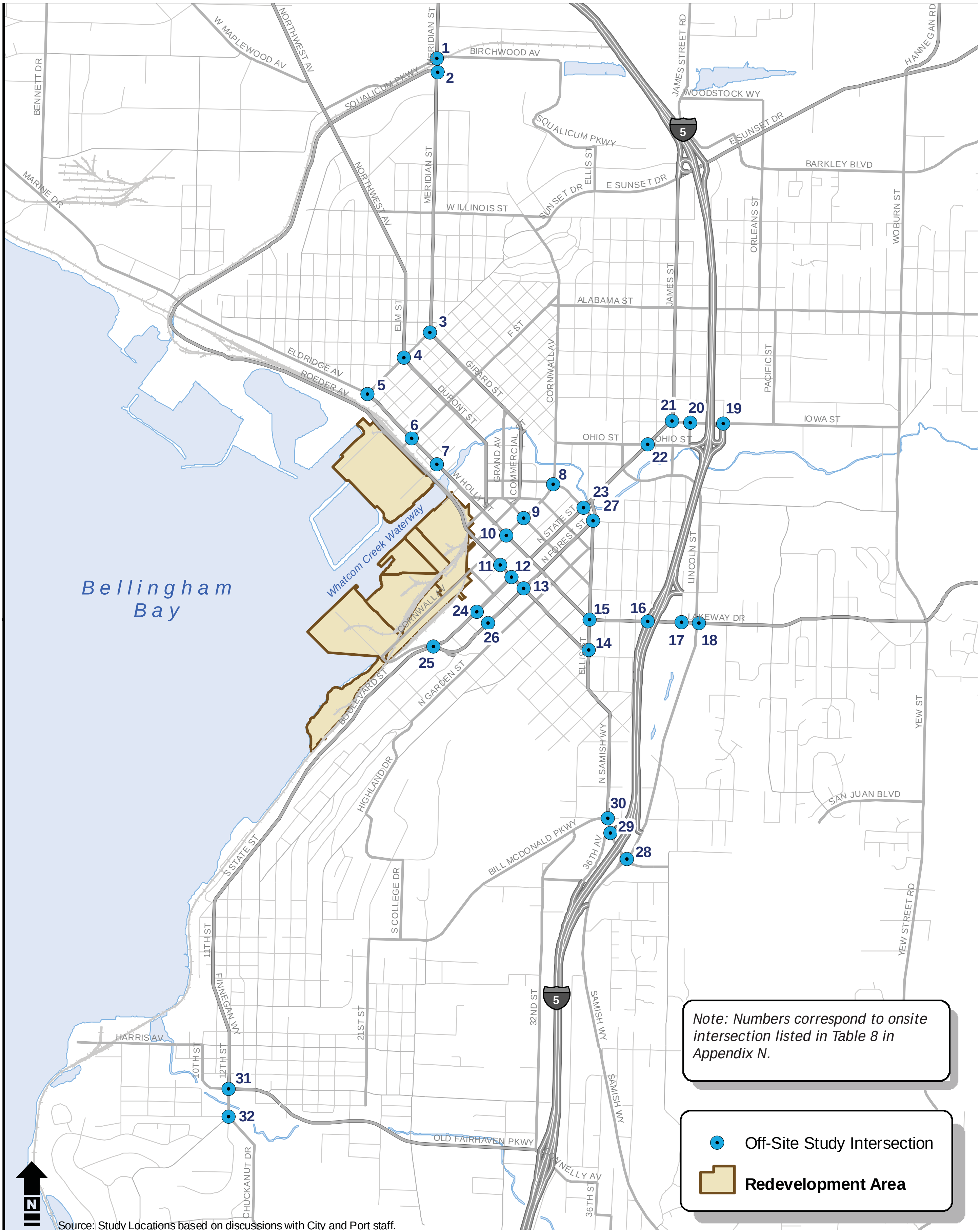

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Figure 3.12-2
Off-Site Study Intersection Locations

New Whatcom Redevelopment EIS

Major Corridors

Figure 4 in **Appendix N** illustrates the street functional classifications and traffic signals within the study area. Descriptions of the major regional and local roadways in the vicinity of the site are also contained in **Appendix N**. These roadways are considered key facilities which the New Whatcom redevelopment would be most likely to impact.

Daily Traffic Volumes

Existing weekday daily traffic volumes are shown in Figure 5 in **Appendix N**, and are based on traffic counts collected during the spring of 2003. These daily traffic counts are used for illustrative purposes only and not for the analysis of street system conditions. Although the traffic counts are from 2003 and additional growth has occurred within the City in the interim, it is likely that the general travel patterns within the City at present are consistent with those observed in 2003, since historical traffic counts indicate a small annual growth in traffic volumes of one percent per year. The corridors shown include Forest Street, Magnolia Street, Holly Street, Chestnut Street, and State Street. The 2003 counts were collected within a two-block vicinity of the Holly Street/State Street intersection.

The highest daily volumes are found along Holly Street, followed by Chestnut Street and Forest Street. In general, most of the corridors had the highest number of vehicles during the PM peak hour. However, for some of the corridors, the mid-day peak hour had nearly the same traffic volumes as the PM peak hour. Forest Street was the only exception with the highest peak in vehicular volumes occurring during the lunch hour. Since the New Whatcom redevelopment would generate fewer trips during the mid-day peak hour than the PM peak hour, the mid-day peak hour was not considered in the analysis of the EIS Alternatives, as it generally does not represent the worst-case traffic conditions.

Peak Hour Traffic Volumes

Traffic volume data were collected for the study area to evaluate existing weekday traffic conditions during the peak hour. The analysis focuses on the peak hour with the highest traffic volumes and levels of congestion in the study area. Both AM and PM peak-hour traffic data were collected to determine which time period would be the focus of this study. Turning movement counts were conducted at the following study locations:

1. Meridian Street/Birchwood Avenue
2. Meridian Street/Squalicum Way
3. Broadway/Meridian Street/Girard Street
4. Broadway/Elm Street/Dupont Street.
5. Broadway/Eldridge Avenue/West Holly Street
6. West Holly Street/F Street
7. West Holly Street/ C Street
8. Cornwall Avenue/Flora Street/York Street
9. Cornwall Avenue/East Magnolia Street
10. East Holly Street/Cornwall Avenue
11. East Chestnut Street/Railroad Avenue
12. East Chestnut Street/North State Street
13. East Chestnut Street/North Forest Street
14. East Chestnut Street/Ellis Street

15. Lakeway Drive/Ellis Street/Jersey Street/East Holly Street
16. Lakeway Drive/I-5 Southbound Ramps
17. Lakeway Drive/King Street
18. Lakeway Drive/Lincoln Street
19. Iowa Street/Moore Street/I-5 Northbound Ramps
20. Iowa Street/King Street
21. North State Street/James Street/Iowa Street
22. North State Street/Ohio Street
23. North State Street/York Street
24. North State Street/East Laurel Street
25. North Forest Street/ North State Street/Boulevard Street/Wharf Street5
26. North Forest Street/East Laurel Street
27. North Forest Street/Ellis Street/York Street
28. South Samish Way/Elwood Avenue/Lincoln Street
29. South Samish Way/I-5 Southbound Off-Ramp/36th Street
30. North Samish Way/Bill McDonald Parkway
31.12th Street/Old Fairhaven Parkway
32.12th Street/Hawthorn Road/Parkridge Road

Morning (7:00 to 9:00 AM) peak-period turning movement counts were conducted at intersections 12 through 15, as well as at onsite intersections F Street/Roeder Avenue and Cornwall Avenue/East Chestnut Street, and evening (4:00 to 6:00 PM) peak-period turning movement counts were conducted at all study intersection. **Appendix N** includes a summary of the traffic counts.

Table 7 in **Appendix N** compares AM and PM peak hour traffic volumes at the study intersections where AM peak hour traffic counts were conducted, as indicated above. The AM peak-hour traffic volumes are about 40 to 60 percent of the PM peak hour traffic volumes. This conclusion is similar to what was found with the daily traffic volume data, where the AM peak-hour volumes were about one-half of the PM peak hour volumes.

The PM peak hour generally occurs between 4:30 and 5:30 PM in the downtown area. During the PM peak hour, the highest traffic volumes were found along Lakeway Drive, which carries more than 2,000 vehicles per hour (vph) between Ellis Street, King Street and Iowa Street. Iowa Street carries more than 1,800 vph between King Street and I-5. Adjacent to the site, during the PM peak hour, Roeder Avenue/Chestnut Street carries approximately 700 to 1,000 vph and Cornwall Avenue carries approximately 400 vph. **Figure 3.12-3** shows the 2007 PM peak hour traffic volumes for locations closest to the site. Detailed traffic volume information can be found in **Appendix N**, which contains the traffic counts for all of the study intersections.

Roadway Operations

Existing v/c ratios were calculated for roadway segments in the vicinity of the site. **Appendix N** contains the resulting v/c ratios for all off-site roadways. The evaluation shows that currently all offsite roadways operate better than the City’s standard for both directions during the PM peak hour. The highest existing v/c ratio in the offsite roadway analysis is 0.73, which is found along Holly Street between F Street and Champion Street. The v/c ratios along all other offsite roadways are lower than 0.73, and are considered acceptable.

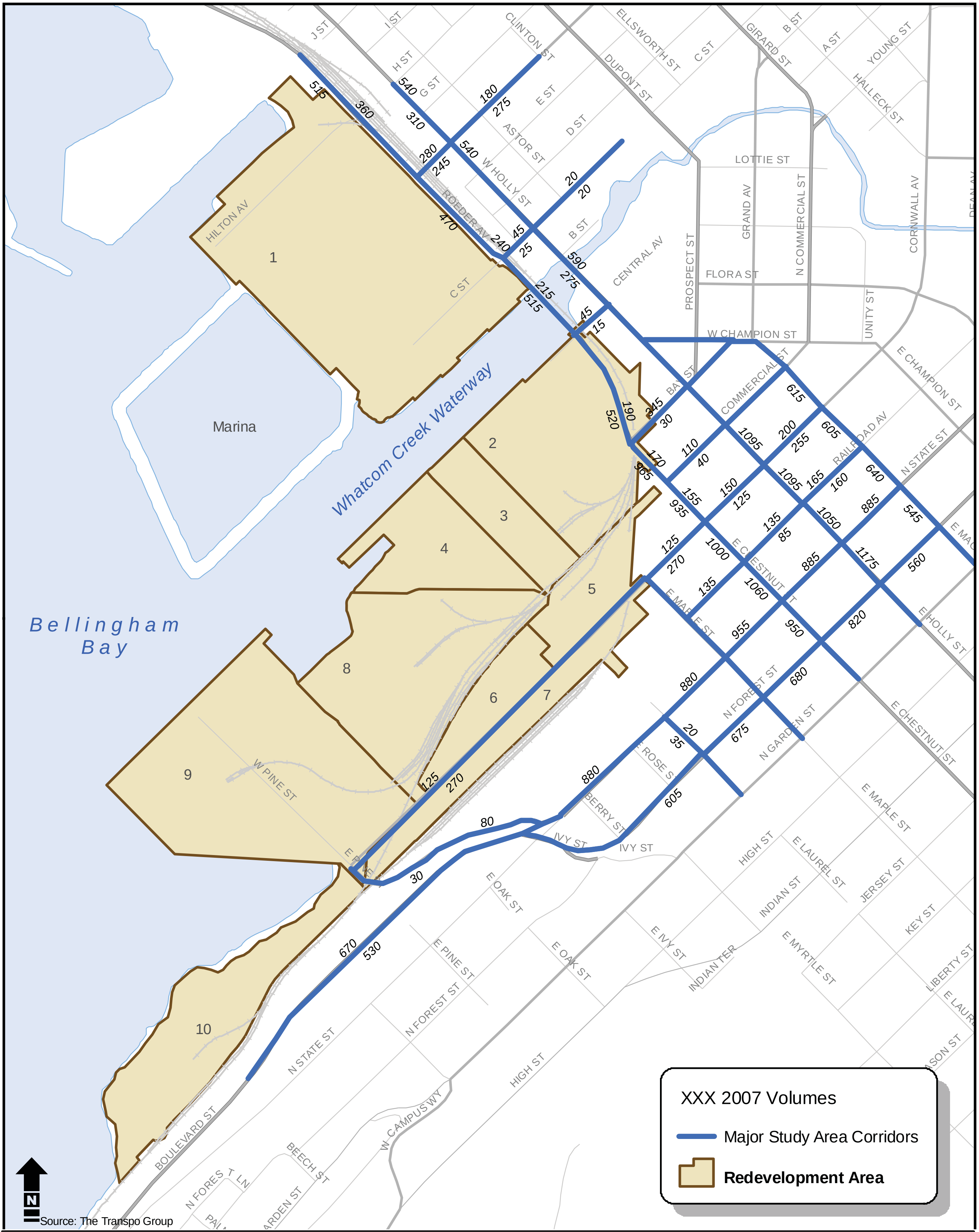

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Figure 3.12-3
2007 PM Peak Hour Traffic Volumes

New Whatcom Redevelopment EIS

Intersection Operations

Based on HCM methodology, existing levels of service, delays, and v/c ratios were calculated at the study intersections. **Table 3.12-5** in the **<u>Impacts</u>** section shows the existing intersection operations for the offsite locations operating only at LOS E or worse. **Appendix N** contains a summary of existing LOS for all study area intersections.

Generally, the study area intersections are operating at LOS E or better. Most of the major intersections are operating at or above LOS C, which suggests there is still available capacity in downtown, as well as in the study area outside of downtown. The only location operating at LOS F is the North State Street/James Street/Iowa Street intersection. This intersection has five legs making it difficult to serve vehicles from two approaches at once. This necessitates the use of split signal phasing, which is generally a much less efficient signal phasing plan than what would ordinarily be used. Split phasing at traffic signals exists when opposite approaches have separate green times and do not travel within the intersection at the same time. Vehicles may have to wait longer at this intersection while each approach is served. With nearly 2,000 PM Peak Hour Traffic Volumes vehicles entering this intersection during the PM peak hour, as well as due to the inefficiency of split signal phasing, the delay per vehicle at this intersection is over 100 seconds and the intersections operates at LOS F.

Intersection Safety

Traffic accident records at the study intersections were obtained from the City of Bellingham for 2004-2006. These records represent the most recent three-year period for which complete accident data are available. Accident records at the study intersections are summarized in Table 9 in **Appendix N**. Seven offsite intersections have more than 1.0 accidents per MEVs (the accepted performance measure for intersection safety):

- East Chestnut Street/North Forest Street
- East Chestnut Street/Railroad Avenue
- East Holly Street/Cornwall Avenue
- Cornwall Avenue/East Magnolia Street
- Lakeway Drive/Ellis Street/Jersey Street/East Holly Street
- Lakeway Drive/Lincoln Drive
- North Samish Way/Bill McDonald Parkway.

In addition to the total number of accidents, the City provided data on accident type (see **Appendix N** for details on the most common types of accidents in the study area).

<u>Non-Motorized</u>

Pedestrian and bicycle facilities were assessed in the study area to determine connectivity and to identify existing issues or deficiencies. With an estimated 7 percent of City of Bellingham workers over 16 walking or using bicycle as their primary source of transportation (based on United States 2005 American Community Survey), non-motorized facilities are in demand within the community. In addition, since 1995 Western Washington University (located southeast of the site) has supported alternative modes to automobile commuting, by encouraging students, faculty and staff to walk and bike to campus. A 2003 student survey and 2005 employee survey indicate about 43 percent of the students and 11 percent of the employees walk or bike to campus.

The New Whatcom site has been primarily used for industrial purposes with limited public access and no formal pedestrian or bicycle facilities. In addition, access between the site and downtown is restricted to a few roads and existing recreational trails. The Bellingham Comprehensive Plan addresses the need for future development of pedestrian and bicycle facilities throughout the City in its 20-year plan (see **Section 3.8**, Relationship to Plans and Policies for details).

The Comprehensive Plan Transportation Element also notes that trips of less than one-half mile were 45 percent pedestrian and 6 percent bicycling within the City. Bicycle use ranged from 4 to 6 percent up to a 3 mile travel distance.

Bicycle Facilities

Figure 7 in **Appendix N** shows the existing bicycle facilities in the site vicinity. According to the Comprehensive Plan, the City has three classifications of bicycle facilities: on-street marked bicycle lanes, on-street unmarked bicycle routes, and off-street marked bicycle trails. Unmarked bicycle routes are provided along Roeder Avenue, Holly Street, and Cornwall Avenue. In addition, North State Street has both marked bicycle lanes and unmarked bicycle routes. Multi-use trails and paths are provided in the vicinity of the waterfront and downtown. These multi-use paths/trails include:

Old Village Trail connects the Lettered Streets Neighborhood to Old Town and Elizabeth Park. It shares the right-of-way with the streets within the Lettered Streets Neighborhood. The trail is ½-mile long with access beginning at Broadway Avenue and ending at Maritime Heritage Park.

Squalicum Harbor Trail is maintained by the Port of Bellingham. It starts at the Bellwether Waterfront area located on Bellwether Way on Bellingham Bay and follows the Squalicum Harbor shoreline for about 1.5 miles.

South Bay Trail runs along Bellingham Bay from Railroad Avenue at Maple Street to the Fairhaven Village Green at Mill Street. The trail is about 2.3 miles long. Access is provided at Boulevard Park, on South State Street, Rail Avenue at Maple Street, and 10th Street at Mill Street.

See **Figure 3.13-2** in the **Public Services** section for the locations of these trails.

Pedestrians

Figure 8 in **Appendix N** shows the existing sidewalks and paths in the vicinity of the site. Sidewalks are provided on both sides of most of the roadways within the off-site study area. Wider sidewalks (10 feet or more) are generally provided in the downtown area and narrower sidewalks (less than 6 feet) are located toward the outer edges of downtown in the residential areas. The Lettered Streets Neighborhood does not have sidewalks. There are some walking paths in downtown, particularly around parks, public buildings, open spaces, and along the waterfront. The multi-use trails in the vicinity of the site described above supplement pedestrian access and mobility.

Transit

Public transit service in the City of Bellingham is provided by Whatcom Transportation Authority (WTA). WTA services include fixed-route, paratransit, dial-a-ride, "flex" service, vanpool, community use vans, rideshare assistance, and park-and-ride lots. In addition, WTA operates a transit center in downtown next to State Street between Magnolia Street and Champion Street. The transit center, major transit corridors, and study area bus stop locations are shown on Figure 9 in **Appendix N**.

There are 32 bus routes serving Bellingham with 24 routes serving the downtown transit center directly. A majority of the routes from all across Whatcom County service downtown Bellingham. A list of weekday bus routes serving downtown Bellingham and the site as well as their typical weekday boarding are shown in Table 10 in **Appendix N**. The four routes directly serving the New Whatcom site are Routes 3, 4, 10 and 401. Additional service to downtown is also provided on weekdays when Western Washington University (WWU) is in session by other routes not listed in Table 10 in **Appendix N**.

No transit service is provided on Roeder Avenue/Chestnut Street and Cornwall Avenue along the site frontage; however, WTA's *Six-Year Strategic Service Plan*, September 2004 and the City's 2006 Comprehensive Plan show future potential service along Roeder Avenue/Chestnut Street in anticipation of the New Whatcom redevelopment.

Each year WTA evaluates existing seating capacity to determine if an increase is needed to accommodate existing and anticipated ridership. In 2008, WTA plans to increase the annual seating capacity to 4.2 million which translates into an 11,500 seating capacity per day or an increase of about a 1,500 seating capacity per day. In the long term the downtown transit system capacity is likely to increase beyond the 2008 capacity. Transit seating capacity has increased consistently by about 7 to 10 percent per year over the last several years; however, as a conservative estimate, WTA expects downtown seating capacity to increase by about 4 percent per year.

The focal point for downtown Bellingham transit service is the Downtown Transit Center. It is about a ¼-mile walking distance from portions of the New Whatcom site closest to downtown. The existing routes into and out of the Transit Center provide good accessibility to the various facilities in the greater downtown area. The Transit Center receives significant activity as a hub between different routes that converge on downtown Bellingham.

Rail

BNSF Railway operations in Bellingham include runs from the Canadian border south to Oregon. As discussed previously, the railway runs along Cornwall Avenue and Roeder Avenue and turns into the site at Redevelopment Area 8. It has at-grade crossings at F Street, C Street, Central Avenue, Laurel Street, Cornwall Avenue, and Wharf Street/Pine Street. The railway serves both freight and passenger trains.

Freight

Freight trains along the BNSF railway serve the local industrial uses onsite, as well as businesses within the City. Table 11 in **Appendix N** shows the daily operations of the trains in the vicinity of the site. There are four daily roundtrips by freight trains to/from Canada, three local freight trains serving businesses within the City of Bellingham, and one night freight train from Bellingham to Everett.

Passenger

Amtrak Cascades is a partnership between WSDOT, Amtrak, and Oregon Department of Transportation. It provides intercity passenger rail service for longer distance travel between cities along the I-5 corridor. The corridor runs 156 miles from Vancouver, British Columbia south to Seattle, Washington, continuing 310 miles south to Portland and Eugene, Oregon. Amtrak Cascades ridership in 2006 was down from 2005, but higher than 2004. In 2007, there were four trips from Bellingham (see **Appendix N** for additional information on riders and train schedules).

Amtrak Cascades in Bellingham is accessed via the Harris Avenue Station which is located south of the site in the Fairhaven district of Bellingham. Harris Avenue Station is an intermodal center which provides connections to Amtrak, as well as to WTA and Greyhound buses, taxis, and the San Juan Island Commuter, a ferry service to San Juan Island. Passengers from the Bellingham station represent 8 to 10 percent of the total Amtrak Cascades ridership.

Parking

Available on- and off-street parking was surveyed within ¼-mile on-the-ground walking distance from the site access locations (see **Figure 3.12-4**). Parking in the vicinity of the site is located within downtown, the Lettered Streets Neighborhood, and along Cornwall Avenue.

On-Street Parking

On-street parking in the study area generally has a low utilization during the weekdays, although certain areas of downtown are highly utilized. On-street parking consists mainly of either unrestricted or hourly parking as described below.

- *Unrestricted Parking* – spaces that the public does not pay for and for which there are no time restrictions. This accounts for the majority of the parking within the site vicinity.
- *Hourly Parking* – public spaces with hourly time restrictions, which may be metered. On-street parking spaces within downtown are mostly metered, while spaces along the site frontage have hourly restrictions of mainly 2 or 8-hours.

There are approximately 1,100 on-street parking spaces within ¼-mile on-the-ground walking distance from the site access locations. Within the downtown area, there are approximately 500 on-street parking spaces. The Lettered Streets Neighborhood contains about 470 on-street parking spaces and Cornwall Avenue has about 110 on-street parking spaces.

Based on an April 2007 field survey, about 50 percent or less of the parking within the Lettered Streets Neighborhood is utilized during the mid-day. The parking in this neighborhood is generally unrestricted. In addition, there was less than 50 percent utilization of the on-street unrestricted parking located along Roeder Avenue in the vicinity of Hilton Avenue and Bellwether Way. The City's *City Center Master Plan: Parking Element* (January 2006) shows that over 50 percent of the on-street parking is utilized during mid-day along portions of Holly Street and Prospect Street. In most of the other areas downtown, over 75 percent of the on-

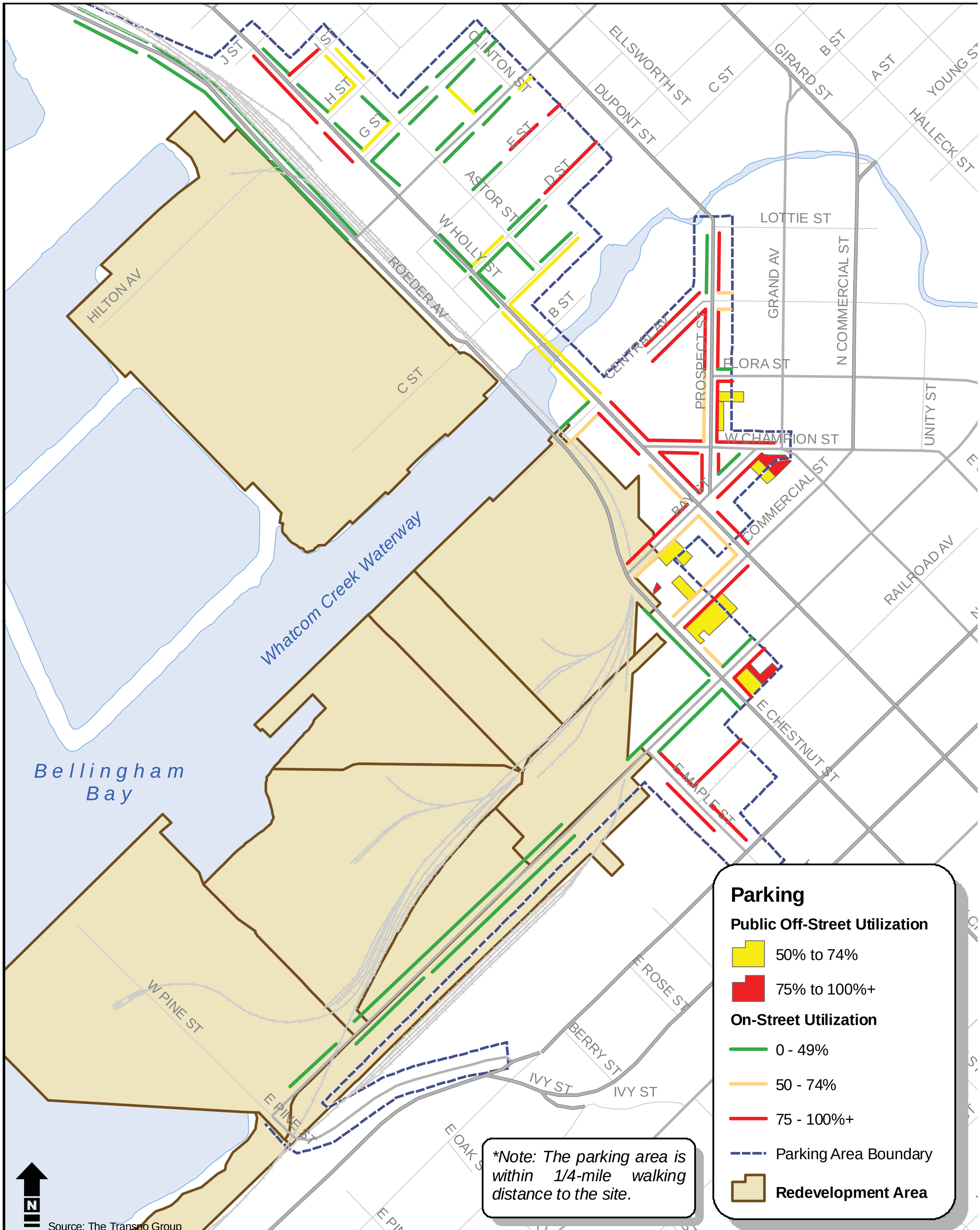

Figure 3.12-4
Parking Utilization

street parking is utilized. The type of parking in this area is mainly hourly parking, with time limitations of one to six hours. The eight-hour parking along Cornwall Avenue is underutilized with less than 50 percent of the spaces occupied during the mid-day.

Off-Street Parking

Off-street parking within the study area is located downtown. There are ten public parking lots within one-quarter mile of the site with a total of 230 parking spaces. The parking lots are located along Bay Street, Commercial Street, Chestnut Street, and Prospect Street. The *City Center Master Plan* shows that 50 percent of the off-street parking spaces are utilized along Bay Street, Commercial Street, Chestnut Street, and Prospect Street during mid-day. In addition, a parking lot south of Champion Street and east of Bay Street has a utilization of over 75 percent during mid-day.

Shipping and Boating Traffic

Industrial navigation uses associated with lumber mills, shipyards, oil terminals and other industrial uses, have predominated along the New Whatcom waterfront since the late 1800s. Over the last few years, this pattern of industrial navigation use has begun to change in response to land use and economic considerations; for example, the U.S. Congress recently deauthorized the federal channel designation in the inner portion of the Whatcom Waterway to create a locally-managed channel. This deauthorization will likely result in less use of the Waterway by deep-water vessels and more use by recreational boats (see **Section 2.2.1** of Chapter 2 for more information on waterfront planning and associated navigation use changes) . Current navigation uses in the site vicinity are described below:

- **I&J Waterway -** Navigation uses within the I&J Waterway are currently a mix of intermediate draft industrial uses, including: fishing vessel operation, and shallow and intermediate draft Coast Guard vessel operation. Small boat traffic predominantly occurs in the outer portion of the waterway and is associated with the adjacent existing Squalicum Marina as well as dry-land boat storage in Area 1 onsite. Current navigation uses within the waterway are less than during historical periods, but with a greater component of small boat traffic entering and exiting the existing inner boat basin.
- **Aerated Stabilization Basin (ASB) Area -** The ASB is currently used for wastewater and stormwater treatment. No navigation uses presently occur in this area.
- **Inner Whatcom Waterway -** Navigation uses in the Inner Waterway currently consist of a mix of intermediate draft industrial navigation uses (i.e. tugs, barges and commercial fishing vessels) and small boat uses associated with the Colony Wharf boatyard. Industrial shoreline infrastructure, including over-water wharves, bulkheads and hardened shorelines, remains along the Whatcom Waterway.
- **Bellingham Shipping Terminal (BST) –** Deep draft navigation uses continue at the BST, including: cargo operations, mooring of research vessels, and/or moorage of Coast Guard or other military vessels.
- **Area 10 and Vicinity –** The area offshore of Area 10 onsite remains within the designated harbor area and is used for industrial uses, consistent with historical navigation patterns. Informal recreational use presently occurs at the south end of Cornwall Avenue where a small pocket beach is located. This area is frequently used as a launching point for kayaks.

(See **Appendix I** for further information on historic and existing shipping and boating traffic in the site vicinity)

3.12.2 Impacts

This section describes future 2016 and 2026 conditions for the transportation systems within the study area under the EIS Alternatives. The future transportation system conditions were established based on local and regional forecasts by the Whatcom Council of Governments and City of Bellingham. The No Action Alternative serves as the baseline against which the other Redevelopment Alternatives (Alternatives 1 through 3) are compared, and is, therefore, discussed and evaluated initially in this section. For each of the Alternatives, a set of new offsite transportation facilities and services were assumed to be in place by 2016 and 2026 and accounted for in the development of the future travel forecasts. Analyses of the EIS Alternatives were based on a set of performance measures for each of the main modal components, as described under **Affected Environment**.

Programmed and Planned Improvements

The evaluation of the EIS Alternatives includes future transportation improvements both onsite and in the offsite study area. This section discusses the improvements that were assumed onsite as part of each of the EIS Alternatives, as well as specific offsite improvements that were included in the forecasting assumptions.

Offsite

The 2016 and 2026 forecasts for the EIS Alternatives assumed a specific set of offsite transportation capital facilities and service improvements that will be completed over the next 11 to 19 years, based on the City of Bellingham's *2006 Comprehensive Plan*. The City's 2022 travel demand model includes those projects identified in the City's Transportation Improvement Plan (TIP) and its *2006 Comprehensive Plan*, which contains a 20-year project list. The new transportation capital facilities and service improvements for the offsite study area are listed in **Table 3.12-2** and shown in **Figure 3.12-5**.

The City's 20-year project list also includes a number of pedestrian, bicycle and transit improvements, and provisions for maintenance and enhancement of existing transportation facilities (see **Appendix N** for details on these improvements and maintenance/enhancements).

Onsite

Infrastructure improvements assumed for each of the EIS Alternatives were developed in coordination with the Port, the City and the master planning team. The street systems assumed under the EIS Alternatives would improve connections to the offsite transportation system, as well as access and circulation to and through the site. These assumed improvements would likely be refined as the master planning process continues and the Master Development Plan and Development Agreement are formulated and adopted. Further, as specific future construction and redevelopment proposals are prepared and permit applications are submitted, the design and engineering details of these improvements would be determined (see **Section 2.8.2** of Chapter 2 for more information on the assumed roadway system).

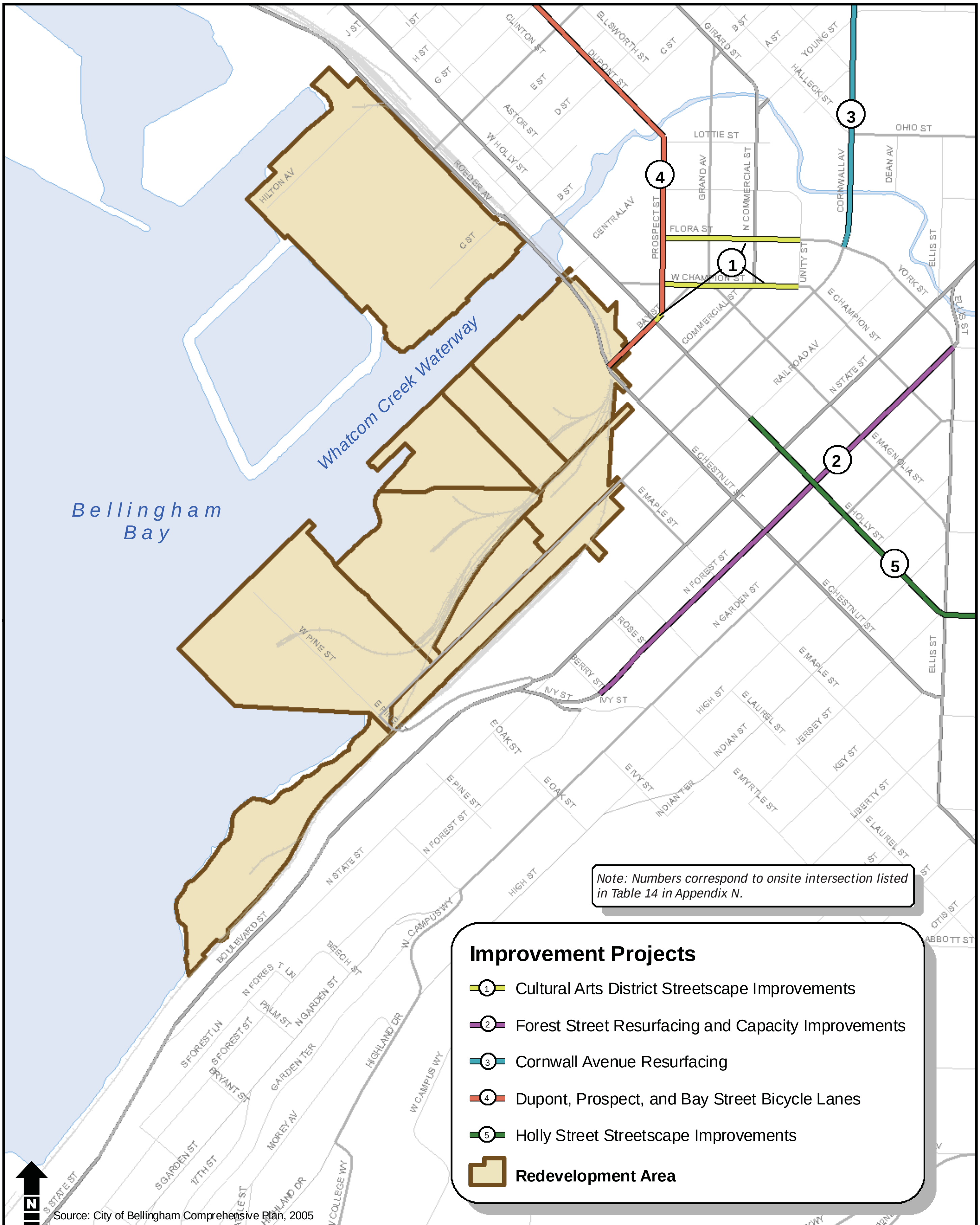

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Figure 3.12-5
Programmed and Planned Improvements to be Completed by 2016 and 2026

Table 3.12-2
PROGRAMMED AND PLANNED TRANSPORTATION IMPROVEMENTS ASSUMED TO BE COMPLETE BY 2016 AND 2026

Map ID[1]	Improvement	Description	Source	Modes Affected
1	Cultural Arts District Streetscape Improvements (West Champion Street, Bay Street/Holly Street, Flora Street)	Spot sidewalk improvements along Flora Street, on the north side of W. Champion Street, and at the intersection of Bay Street & W. Holly Street.	2008-2013 TIP	Pedestrian Bicycle
2	Forest Street Resurfacing and Capacity Improvement	Resurfacing of roadway, capacity changed to two lanes, installation of bicycle lane, and added pedestrian crossing in high-demand locations.	2008-2013 TIP	Vehicle Pedestrian Bicycle
3	Cornwall Avenue Resurfacing	Resurfacing of Cornwall Avenue between York Street and East North Street.	2008-2013 TIP	Vehicle
4	Dupont Street, Prospect Street, Bay Street Bicycle Lanes	Potential bicycle lane on one side of the roadway and pedestrian enhancements.	Comprehensive Plan 20-Year Project List	Pedestrian Bicycle
5	Holly Street Streetscape Improvements	Design and construct streetscape improvements along Holly Street between Lakeway Drive and Railroad Avenue.	Comprehensive Plan 20-Year Project List	Vehicle Pedestrian Bicycle

Source: City of Bellingham 2008 – 2013 Transportation Improvement Plan and 2006 Comprehensive Plan
[1] Numbers correspond to **Figure 3.12-5**.

All of the EIS Alternatives would upgrade existing Hilton Avenue, F Street, and C Street, and provide new connector streets (Maple Street and Chestnut Street) within Area 1. In addition, all of the Redevelopment Alternatives (Alternatives 1 through 3) would upgrade Laurel Street onsite from Central Avenue to Cornwall Avenue, and Cornwall Avenue would be extended into Area 10 under Alternatives 1, 2, and 3. **Figure 3.12-6** illustrates the access and roadway system assumed under the alternatives. The numbers on **Figure 3.12-6** and in the following descriptions correspond to those in Table 15 in **Appendix N**.

Redevelopment Area 1

- **Hilton Avenue, F Street, and C Street (1, 2, 3) –** Under all of the EIS Alternatives these roadways would be assumed to be upgraded to provide 8-foot sidewalks on both sides and an 8-foot parking lane on one side. Two 14-foot travel lanes would be provided in each direction, which would accommodate both vehicular and bicycle travel. The total right-of-way for these roadways would be 60 feet.
- **Maple Street and Chestnut Street (4) –** Under all of the EIS Alternatives these roadways would be built as connector streets within Area 1. Eight-foot sidewalks would be provided on both sides, as well as an 8-foot parking lane on one side of Maple Street. Two 14-foot travel lanes would be provided in each direction, which would accommodate

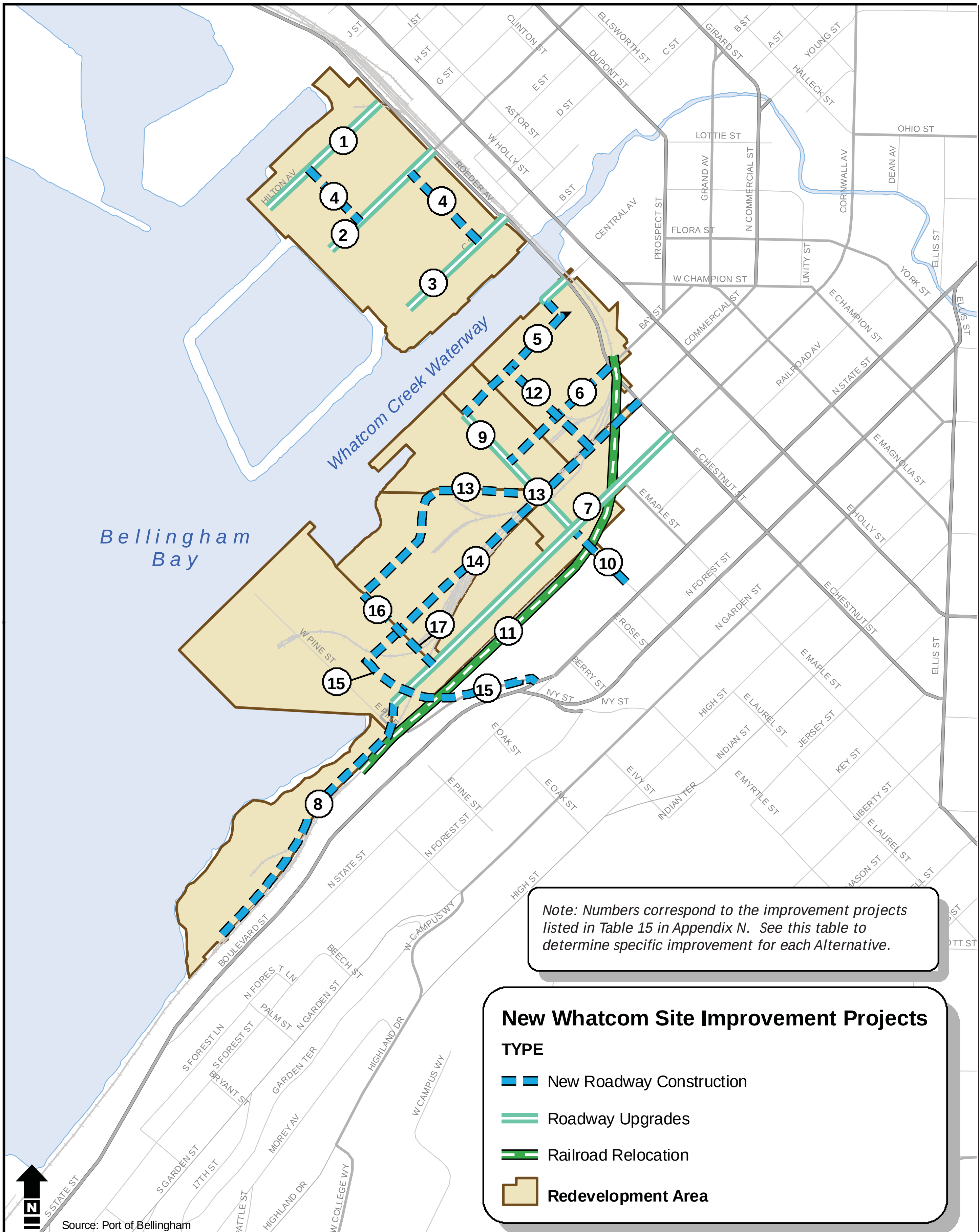

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Figure 3.12-6
On-Site Infrastructure Improvements

New Whatcom Redevelopment EIS

both vehicular and bicycle travel. The total right-of-way for these roadways would be 60 feet.

Redevelopment Area 2 through 10

- **Central Avenue (5) –** Under Alternatives 1 and 2/2A by 2016, and Alternative 3 by 2026, this roadway would be upgraded and extended to Laurel Street. Eight-foot sidewalks would be provided on both sides, as well as an 8-foot parking lane on one side. Two 14-foot travel lanes would be provided in each direction, which would accommodate both vehicular and bicycle travel. The total right-of-way for this roadway would be 60 feet.
- **Bay Street (6) –** Under Alternatives 1 and 2/2A by 2016, and Alternative 3 by 2026, the Bay Street Bridge would be constructed and this roadway would extend to Laurel Street. In addition, under Alternatives 1 through 3 by 2026, Bay Street would be extended from Laurel Street to Oak Street. This extension would be called Log Pond Road. Eight-foot sidewalks would be provided on both sides, as well as an 8-foot parking lane on one side of Bay Street/Log Pond Road. Two 14-foot travel lanes would be provided in each direction, which would accommodate both vehicular and bicycle travel. The total right-of-way for this roadway would be 60 feet.
- **Cornwall Avenue/Cornwall Bridge (7, 8) –** Alternatives 1 through 3 would extend this roadway to Area 10 to provide access. Under Alternative 1 by 2016 and Alternative 2A by 2026, the Cornwall Avenue Bridge would be reconstructed to connect with the Laurel Street Bridge. Alternative 2 would abandon this roadway from Maple Street to Oak Street. The No Action Alternative and Alternative 3 would make no change to this roadway configuration. The ultimate cross-section of Cornwall Avenue under the Redevelopment Alternatives would be four lanes (80-foot right-of-way), with room to accommodate bicyclists and sidewalks on both sides immediately south of Laurel Street, and two-lanes (60-foot right-of-way) with sidewalks and room to accommodate bicyclists from south of Laurel Street to Area 10.
- **Laurel Street/Laurel Street Bridge (9, 10) –** Under Alternatives 1 through 3, this roadway would be upgraded from Cornwall Avenue to Central Avenue to meet City standards. The ultimate cross-section of Laurel Street under the Redevelopment Alternatives would be four lanes (100-foot right-of-way) with room to accommodate bicyclists and sidewalks on both sides. The Laurel Street Bridge would be constructed from Railroad Avenue to the site under Alternative 1 by 2016, Alternative 2 by 2016, and Alternative 2A by 2026. The Laurel Street Bridge would provide two lanes with sidewalks and bicycle lanes on both sides.

  It should be noted that when the Laurel Street bridge is constructed, Laurel Street would be approximately 20 feet above the ground at Cornwall Avenue, which would influence the applicable street standards, roadway costs (i.e. elevated structures are typically more costly than at-grade roadways), the location of the railroad crossing, and roadway connections. In order to provide a connection between Cornwall Avenue and Laurel Street, Cornwall Avenue would need to be reconstructed to connect with Laurel Street at this higher elevation.

- **Maple Street (12) –** By 2026, Maple Street would be constructed as a connector street within Area 2 under the Redevelopment Alternatives. It would extend from Central Avenue to Commercial Street under Alternatives 1 and 2/2A and from Central Avenue to Bay Street under Alternative 3. Eight-foot sidewalks would be provided on both sides, as well as an 8-foot parking lane on one side of Maple Street. Two 14-foot travel lanes would be provided in each direction, which would accommodate both vehicular and bicycle travel. Maple Street will likely feature above-grade connections at the Bay Street and Commercial Street bridges. The total right-of-way for this roadway would be 60 feet.
- **Commercial Street (14) –** This roadway currently terminates at Chestnut Street. Alternatives 1 and 2/2A by 2026 would construct the Commercial Street Bridge into the site and extend this roadway to Oak Street. Eight-foot sidewalks would be provided on both sides, as well as an 8-foot parking lane on one side of Maple Street. Two 14-foot travel lanes would be provided in each direction, which would accommodate both vehicular and bicycle travel. The total right-of-way for this roadway would be 60 feet.
- **Laurel Street/Commercial Street/Long Pond Road Intersection (13)** – Alternatives 1 and 2/2A currently assume a five-legged intersection by 2026 where Laurel Street, Commercial Street, and Long Pond Road intersect. This intersection is assumed to be controlled by a roundabout with one entering lane and one receiving lane on the southbound approach, as well as one circulating lane. Laurel Street would taper on both approaches from two lanes in each direction to one lane in each direction. This intersection configuration is based on the Port's and City's previously formulated *Draft Framework Plan,* which did not take into consideration the railroad relocation and the necessary elevation of Laurel Street relative to the new railroad corridor and this intersection. This above grade section would influence the applicable street standard and roadway costs (i.e. elevated structures are typically more costly than at-grade roadways).
- **Wharf Street/State Street (15)** – Alternative 1 would reconfigure the Wharf Street/State Street intersection, and construct the Wharf Street flyover into the site by 2026. The Wharf Street/State Street intersection currently operates as two intersections; this improvement would create one intersection controlled by a roundabout.
- **Oak Street (16)** – This new connector street would be constructed from Bay Street to Cornwall Avenue under the Redevelopment Alternatives by 2026. Eight-foot sidewalks would be provided on both sides, as well as an 8-foot parking lane on one side of Maple Street. Two 14-foot travel lanes would be provided in each direction, which would accommodate both vehicular and bicycle travel. The total right-of-way for this roadway would be 60 feet.

As indicated above, the conceptual street system assumed under the EIS Alternatives was developed in coordination with the Port and the City. The topography of the site as it relates to road connections was considered at a conceptual level; however, a detailed engineering evaluation was not performed. Therefore, through the ongoing master planning process, concepts for the onsite street system would be refined and ultimately adopted as part of the Master Development Plan. Such concepts will more specifically consider the site's topography redevelopment objectives, and necessary design, engineering and cost factors.

Travel Forecasts

The EIS Alternatives were evaluated for 2016 and 2026 travel conditions. These future conditions assumed an increase in travel as a result of forecasted increases in the number of dwelling units and employment in the study area and throughout the Bellingham area.

Consideration was given to specific planned projects in the New Whatcom study area, including Bellwether Phase 2, Bay View Tower, and the 1010 Morse Square project (see **Section 2.9** of **Chapter 2** for more information on these projects). The background travel forecasts were estimated based on the expected number of vehicle trips during the PM peak hour generated by future forecasted land uses. This information was calculated using the City of Bellingham's travel demand model. The model was used to forecast the number of vehicles trips in the study area with the EIS Alternatives for the 2016 and 2026 horizon years. The resulting forecasts included the improvements listed in **Table 3.12-2**.

The City of Bellingham's model and transportation analysis zones (TAZs) were refined in the downtown area to evaluate the New Whatcom redevelopment. Figure 13 in **Appendix N** shows the approximate boundaries and locations of the respective TAZs. As shown in Figure 13, the TAZ boundaries are similar to the boundaries of the New Whatcom redevelopment areas. The travel forecasts were developed using the City of Bellingham 2022 travel model, with dwelling units and employment projections scaled back 6 years for 2016 and forward 4 years for 2026. The model was then run for the EIS Alternatives. The model was modified for each of the EIS Alternatives to reflect their assumed onsite land uses and roadway systems.

The City's travel demand model was used for forecasting vehicular traffic volumes and is not sensitive to alternative mode splits, including transit, walking and biking. Therefore, trip generation accounting for mode split was developed separately for the City's model and then introduced into the model.

Trip Generation

Trip generation was calculated for both the weekday AM and PM peak hours for each EIS Alternative. Traffic generated by each alternative was distributed and assigned to the study area using the City's travel demand model. The following discusses the process for estimating trip generation for the EIS Alternatives (see **Appendix N** for detailed trip generation calculations).

No Action Alternative

The No Action Alternative would primarily consist of industrial uses with marina uses located in the remediated Aerated Stabilization Area (ASB). The majority of the trips associated with the No Action Alternative would be by vehicle, since industrial uses are not typically supported by pedestrian, bicycle, and transit modes and improvements. AM and PM peak hour trip generation by the No Action Alternative was estimated based on average trip rates published by the ITE in *Trip Generation* (7th Edition, 2003). **Table 3.12-3** shows the estimated No Action Alternative (2016 and 2026) AM and PM peak hour vehicle trip generation (see **Appendix N** for detailed trip generation calculations).

As shown in **Table 3.12-3**, the No Action Alternative would generate approximately 700 net new AM peak hour trips and approximately 800 net new PM peak hour trips by 2016. By 2026, the vehicular trip generation is expected to double with about 1,600 net new AM peak hour trips and about 1,800 net new PM peak hour trips. By both 2016 and 2026, the No Action PM peak hour vehicular trip generation would generate about 200 more net new trips than the AM peak hour.

Table 3.12-3
ESTIMATED NO ACTION ALTERNATIVE VEHICLE TRIP GENERATION SUMMARY

	AM Peak Hour Net New Vehicle Trips[1]			PM Peak Hour Net New Vehicle Trips[1]		
Scenario	**Total**	**In**	**Out**	**Total**	**In**	**Out**
No Action Alternative 2016						
Total Vehicle Trips[1]	**997**	847	150	**1,120**	204	916
Existing Vehicle Trips[2,3]	**286**	236	50	**276**	59	217
Net New No Action Trips	**711**	**611**	**100**	**844**	**145**	**699**
No Action Alternative 2026						
Total Vehicle Trips[1]	**1,933**	1,665	268	**2,115**	338	1,777
Existing Vehicle Trips[2,3]	**286**	236	50	**276**	59	217
Net New No Action Trips	**1,647**	**1,429**	**218**	**1,839**	**279**	**1,560**

Source: The Transpo Group, 2007

1 Trips based on ITE rates from *Trip Generation*, 7th Edition using size of use in 1,000 square feet.

2 Trips based on ITE rates from *Trip Generation*, 7th Edition using employee information provided by the Port of Bellingham.

3 The existing trips include trips associated with Georgia Pacific (GP) operations, which will be terminated in the near future; therefore, the existing site trip generation will decrease after GP termination of its onsite activities.

Redevelopment Alternatives

Trip generation under the Redevelopment Alternatives was based on calculating person trips and then estimating the portion of person trips that would be vehicle trips. Most ITE trip generation rates are for suburban locations and may over-predict the number of vehicle trips in a more dense, urban environment. Typically, in a dense, urban environment a larger portion of trips can be served by other modes, such as walking and transit, given the mix of uses and level of transit service. The Redevelopment Alternatives would include a mix of urban uses and densities; therefore, for purposes of this analysis, the trip generation considered alternative modes. The number of vehicle trips generated by each alternative was calculated by converting daily person trips to peak hour person trips, and person trips were then separated into various modes of travel (auto, transit, and walk/other).

Daily person trip rates were developed based on ITE's *Trip Generation* and average vehicle occupancy. Average vehicle occupancy was also based on ITE's *Trip Generation*, as well as the City of Bellingham's 2000 US Census journey to work data. The census data show an average vehicle occupancy of 1.08 persons per vehicle during the work commute periods. The daily vehicle-trip rate was multiplied by the average vehicle occupancy for each land use to determine the daily person-trip rate. Table 17 in **Appendix N** summarizes the assumptions and daily person-trip rates for each land use category.

Daily person trips for each mode were determined based on the daily person-trip rates shown in Table 17, as well as the assumed level of development for each land use and an estimated mode share. Table 18 in **Appendix N** shows the mode share assumptions for each land use for both 2016 and 2026 conditions. As shown in Table 18, the mode share assumed for each use would be within the range of the existing data and the City's Comprehensive Plan goals.

Evaluation of transit and pedestrian/bicycle operations was based on daily person trips; however, the street system analysis was based on peak hour vehicle trips. Daily person trips were converted to AM and PM peak-hour vehicle trips using the ratio between the ITE daily trip and peak-hour trip rates for each land use. Table 19 in **Appendix N** summarizes the percent of daily trips during the AM and PM peak hours. As shown in Table 19, the AM peak hour comprises about 2 to 15 percent of the daily trips and the PM peak hour comprises about 6 to 14 percent.

Consideration was also given to internal trips that would occur between uses within the New Whatcom site. Due to the configuration of the site and the difficulty of driving between certain onsite areas (i.e. between Area 1 and other onsite areas), it was assumed that a portion of the internal trips would be by walking, bicycling, or other alternative modes that would not generate additional vehicular traffic. The internal non-vehicular trip reduction was based on ITE's *Trip Generation Handbook* (June 2004) and *Trip Generation for Mixed-Use Development* (ITE Journal, February 1987). ITE's *Trip Generation Handbook* shows internal trips would account for approximately 10 percent of the total vehicle traffic generated by each alternative, while the ITE Journal article shows about a 25 percent internal trip rate for mixed uses. Based on this information, an internal trip reduction of 10 percent during the AM peak hour and 15 percent during the PM peak hour was assumed for the Redevelopment Alternatives. This is a conservative estimate, because of the site's proximity to downtown and its overall size. With large, mixed use projects such as New Whatcom, there would likely be more opportunities for people to live/work onsite, as well as opportunities to use many of the other onsite amenities (i.e. restaurants, parks), rather than drive offsite to such amenities.

The street system analysis focused on the weekday peak hour. For the purposes of this analysis, peak hour trips to and from the onsite public parks and trails were assumed to be by walking, bicycling or via other alternative modes that would not generate additional vehicular traffic. It is likely the onsite public parks would have the highest trip generation during weekday off-peak hours or on weekends.

A summary of estimated AM and PM peak hour vehicle trip generation for each of the Redevelopment Alternative is shown in **Table 3.12-4** (see **Appendix N** for detailed trip generation calculations).

As shown in **Table 3.12-4,** the Redevelopment Alternatives would generate between 900 and 2,200 net new peak-hour vehicle trips by 2016 and between 3,400 and 5,700 net new peak-hour vehicle trips by 2026. Trips by 2016 would generate about 20 to 40 percent of the net new peak-hour vehicle trips projected by 2026.

When comparing the AM and PM peak-hour trip generation, all of the Redevelopment Alternatives would generate fewer net new trips during the AM peak hour. The AM peak hour would generate about 85 to 90 percent of the PM peak hour net new vehicle trips. This is different from trips associated with the existing industrial uses onsite under existing conditions; under existing conditions, the AM and PM peak hours generate approximately the same amount of vehicle trips. However, due to the fact that the AM peak-hour traffic generation for all of the EIS Alternatives (i.e., No Action and Alternatives 1 - 3) would be less than the PM peak hour traffic generation, this analysis focuses on the PM peak hour projections, which present a conservative estimate of traffic impacts.

Table 3.12-4
ESTIMATED REDEVELOPMENT ALTERNATIVES' VEHICLE TRIP GENERATION SUMMARY

Scenario	AM Peak Hour Net New Vehicle Trips[1]			PM Peak Hour Net New Vehicle Trips[1]		
	Total	**In**	**Out**	**Total**	**In**	**Out**
Alternative 1 – High Density						
Net New Trips 2016[2]	**1,959**	1,201	758	**2,212**	878	1,334
Net New Trips 2026[2]	**5,033**	3,481	1,551	**5,713**	1,967	3,746
Alternative 2/2A – Medium Density						
Net New Trips 2016[2]	**1,551**	946	604	**1,746**	704	1,042
Net New Trips 2026[2]	**3,940**	2,751	1,188	**4,538**	1,541	2,997
Alternative 3 – Low Density						
Net New Trips 2016[2]	**905**	581	324	**1,055**	390	665
Net New Trips 2026[2]	**3,352**	2,361	991	**3,887**	1,319	2,568

Source: The Transpo Group, 2007

1. Vehicle trips were estimated based on person trips for each land use.
2. The net new trips account for the existing trips onsite, including the Georgia Pacific (GP) Tissue Mill, which will be terminated in the near-term. With the GP closure, the existing site trip generation will decrease.

Trip Distribution and Assignment

The allocation or distribution of trips among the various TAZs in the model was estimated using the destination choice mode (gravity model), which allocates trips based on impedances between the TAZs. The travel characteristics within the study area under 2016 and 2026 conditions would be similar to the 2022 horizon year. For site trips generated during the PM peak hour under 2016 conditions, approximately 35 percent of the trips would head to the north, 20 percent to the south, 5 percent to the east, and 40 percent would remain within the downtown and Western Washington University (WWU) areas. Figure 15 in **Appendix N** shows the general trip distribution pattern for 2016. For site trips generated during the PM peak hour under 2026 conditions, approximately 45 percent of the trips would head to the north, 15 percent to the south, 10 percent to the east, and 30 percent would remain within the downtown and Western Washington University areas. Figure 16 in **Appendix N** shows the general trip distribution pattern for 2026. Travel patterns between 2016 and 2026 would change slightly due to the future growth anticipated in the City of Bellingham and Whatcom County as reflected in the model. Most of the future development within the City is anticipated to occur to the north of the site; therefore, as these areas develop, more vehicle trips would originate from or be destined to areas north of the site.

The trip assignment model estimated the volume of trips on the City's transportation system. Intersection turning movements at the study intersections were extracted from the model, and where necessary, adjustments were made to the traffic volumes to account for balancing and appropriate shifts in traffic volumes.

Parking

New Whatcom redevelopment is intended to be an extension of the City's Central Business District (CBD), in which, based on *City of Bellingham Municipal Code Chapter* (Section 20.12.010)*,* there are no parking requirements. Therefore, this analysis determined the peak parking demand and recommended supply, and then compared it to the assumed parking supply to determine if each alternative would accommodate its expected parking demand (assumed supply for each alternative was provided by the Port and the master planning team). This same procedure was used for all of the EIS Alternatives.

Due to the size of the site, parking was analyzed in parking sub-areas to take into account shared parking that could occur between different redevelopment areas and acknowledge that shared parking may not occur between redevelopment areas that are not easily accessible by walking (i.e. persons might drive to another area of the site and park again). The five parking sub-areas evaluated were Area 1; Areas 2, 3, and 5; Areas 4, 6, 7, and 8; Area 9; and Area 10. Area 1 would include the marina use. It should be noted that these parking sub-areas are artificial boundaries, formulated only for purposes of this Draft EIS, and persons may be willing to walk further between the site and other destinations. Transportation industry research indicates that typically persons are willing to walk up to ¼-mile.

The parking demand and supply calculations are discussed below. The discussion of parking supply focuses on both assumed and recommended supply.

Demand

To determine the weekday parking demand from the five onsite parking sub-areas, the peak hour parking demand was calculated for each land use within the sub-area, and then the hourly (6:00 AM to 12:00 AM) parking demand was first estimated for each assumed land use. Weekday peak parking demand typically occurs mid-day for the assumed land uses, except for the residential uses where peak parking demand would occur at about 6:00 AM and 10:00 PM. The parking analysis focused on the period between 6:00 AM and 12:00 AM, which ensures that the peak parking demand was captured for all land uses. By determining the hourly parking demand for each individual land use within the sub-area, the hour of the day with the highest parking demand for the entire parking sub-area was determined. The highest parking demand for the entire parking sub-area, plus a design safety factor, is considered the recommended parking supply which the site should accommodate. The following section discusses how the peak-hour and hourly parking demand were calculated.

Peak-hour and hourly parking demand were calculated for each alternative using ITE's *Parking Generation* (3rd Edition) and Urban Land Institute's (ULI) *Shared Parking* (2nd Edition). It was assumed that there would be no restrictions and parking would be available to fully share among all uses, except for residential uses. For residential uses, one parking space per residential unit was assumed to be reserved and the remaining spaces per residential unit (i.e., approximately 0.5 spaces per unit) were assumed to be available for sharing. This translates into 70 percent of the residential parking being reserved and 30 percent of the residential parking being available for sharing.

ITE parking rates were used to calculate the peak parking demand for each individual land use. Parking rates for urban locations were used when available. Key assumptions in estimating peak parking demand included:

- The parking rate for institutional use was based on the office land use, because it is assumed that onsite institutional facilities would be used for research. This is a conservative estimate of peak parking demand, because classroom uses would generate less parking demand.
- The restaurant parking rate was based on the average of the quality restaurant and high turnover sit down restaurant parking rates.

The hourly parking demand from 6:00 AM to 12:00 AM was estimated for each land use using ITE's *Parking Generation* 3rd Edition, as well as ULI's *Shared Parking* and site specific surveys when ITE data were not available. These sources typically provide hourly parking demand from about 6:00 AM to 12:00 AM; however, there are cases where ITE does not provide hourly parking demand or only has information for a limited time period. ULI's *Shared Parking* and site-specific surveys were used to supplement the ITE data. Key assumptions for the hourly parking demand are described in **Appendix N**.

Consideration was also given to internal trips, which would not require an additional parking space. Due to the configuration of the site and the assumed mix of uses it is possible that users would park once and walk, bicycle, or use other alternative modes between land uses. For example, an office worker would be likely to park in the morning and walk to the restaurants and retail uses during breaks. As discussed previously, ITE's *Trip Generation Handbook* methodology estimates that about 10 to 15 percent of the site trips would be internal. Therefore, hourly parking demand for the retail and restaurant uses were reduced by 10 percent to account for patrons walking, bicycling, or using other alternative modes. This was a conservative estimate of the potential number of internal trips, since other sources indicate the internal trip rate could be as high as 25 percent.

Using the assumptions above and in **Appendix N**, and the calculated peak hour parking demand, the hourly parking demand from 6:00 AM to 12:00 AM was calculated for each land use. After calculating the hourly parking demand for each individual land use, a total parking demand per hour for the entire sub-area (i.e. Areas 2, 3 and 5) was determined by summing the hourly parking demand for each individual land use. The one-hour between 6:00 AM to 12:00 AM with the highest hourly parking demand was considered the peak hour of the entire sub-area and was assumed to be the parking demand which the assumed parking supply should accommodate (see **Appendix N** for detailed parking calculations).

Supply

This section discusses both the assumed and recommended parking supply. The assumed parking supply is the number of parking spaces that would be assumed to be provided onsite, while the recommended parking supply is the calculated number of parking spaces needed to serve the peak demand. The assumed parking supply is used for analysis purposes only in this Draft EIS; parking supply assumptions could be refined as part of the ongoing master planning process.

Assumed Supply

The assumed supply was calculated by multiplying the size of each assumed land use component by the number of spaces allocated per 1,000 square feet. **Table 22** in **Appendix N** shows assumed parking supply allocation rates by land use type. As shown in the **Table 22** in **Appendix N**, depending on the land use type, 1 to 3 spaces are assumed per 1,000 square feet of development. A total of 368 parking spaces would be provided for the marina, including up to 280 spaces for marina users and 88 spaces for boat trailers.

Recommended Supply

The recommended parking supply or practical capacity is determined by applying a design safety factor to the hour with the highest parking demand. This safety factor allows for some reserve spaces, to ensure vehicles circulating the parking area can find a space. It also accounts for peak surges and vehicles leaving parking spaces. Recommended parking supply was calculated assuming a safety factor of 10 to 15 percent applied to the parking demand for each land use. Ten to 15 percent is the industry standard, based on Robert A. Weant and Herbert S. Levinson, *Parking* (reprinted 2003). Therefore, if the assumed parking supply for each parking sub-area is within the recommended parking supply range, the alternative is considered to have adequate parking. Parking demand and supply for each EIS Alternative are discussed in detail in **Operational Impacts** later in this section.

Construction Impacts

The New Whatcom redevelopment would be constructed over a 20-year period; the analysis assumes an interim phase in 2016 and full buildout by 2026. Fill and other materials, as well as, construction equipment, would be brought to the site via barge and/or truck (likely much of the fill material would be brought via barges). However, as a conservative estimate, the transportation analysis assumes that construction traffic would use the street system and would consist of truck traffic bringing and removing soils, equipment and materials, as well as construction employees commuting to and from the site. As a result, there could be a substantial amount of truck traffic bringing fill material to the site for grading operations during the construction process. Construction traffic could be intermittently heavy during construction activities, but overall would be less than operational traffic generated by buildout of the site.

It is assumed that there would not be a substantial difference in the number of trucks required for hauling fill material under the EIS Alternatives (see Section 3.1, **Earth**, for more information on grading assumptions). Up to 700,000 cubic yards of material could be hauled to and from the site as part of grading operations. Assuming this material would be hauled evenly over the 20-year construction period and site construction operates 5 days per week, about 34 daily truck trips (17 inbound and 17 outbound) are expected. If there are 10-hour construction shifts, and trucks are distributed evenly over the shift, there would be about 3 truck trips during the PM peak hour over the life of construction. If the grading operation is condensed to a shorter time period, more truck trips would likely occur during the PM peak hour.

The number of construction workers is unknown at this time; however, the workers would generate substantially less traffic than the projected 1,800 to 5,700 net new PM peak hour trips expected during operation of the alternatives (by 2016 and 2026). Therefore, impacts of construction traffic would be expected to be less than the operational impacts of the alternatives.

Truck traffic associated with construction would likely use the City's existing truck routes shown in Figure 17 in **Appendix N**. Truck routes are provided along major corridors within the City including: I-5, Squalicum Parkway, State Street, Forest Street, Iowa Street, and Lakeway Drive. Along the site frontage, truck routes are provided on Roeder Avenue, Chestnut Street, and

Cornwall Avenue. Based on the City's existing truck routes, the recommended haul route to the site for grading and other haul activities would be via the I-5/Iowa Street interchange, State Street/Forest Street, and either Roeder Avenue or Cornwall to enter/exit the site. The trucks using these routes would temporarily increase conflicts between truck traffic and other travel modes during the construction period.

It should be noted that the majority of grading activity could occur in the initial stages of construction in order to raise site grades for major infrastructure development; subsequent grading activities would likely be phased with individual building, parking and infrastructure projects onsite. Therefore, it is possible that the number of truck trips could be more intensive than indicated above at the earlier stages of the redevelopment and less intensive in the later stages.

Operational Impacts

This section discusses the operations of the No Action and Redevelopment Alternatives by 2016 and 2026. Both onsite and offsite transportation system operations are evaluated, including the street system, non-motorized facilities, transit, rail, and parking using the methodologies described previously and in **Appendix N**. First, the No Action operations are discussed, and then the Redevelopment Alternative operations are discussed and compared to the No Action Alternative, to determine if there would be any significant operational impacts.

No Action Alternative

The No Action Alternative would feature approximately 1.0 million square feet of industrial and supporting uses by 2016 and an additional 1.1 million square feet of the same types of uses by 2026, for a total of 2.1 million square feet of industrial redevelopment. Improvements to the transportation system under this alternative would mostly be concentrated within Area 1. The No Action Alternative would generate approximately 800 net new PM peak hour vehicle trips by 2016 and an additional 1,000 net new PM peak hour vehicle trips by 2026, for a total of 1,800 vehicle trips. The section below first discusses onsite and offsite operations by 2016 and then onsite and offsite operations by 2026 for the No Action Alternative.

2016

Street System

The No Action Alternative 2016 PM peak hour travel forecasts were used to evaluate potential impacts to intersections and street system operations. **Figure 3.12-7** shows the traffic volumes for the street system onsite and within the surrounding area for the No Action Alternative by 2016 during the PM peak hour. As discussed previously, impacts to the street system were measured by determining roadway and intersection LOS.

Roadway and intersection levels of service were calculated for the No Action Alternative by 2016. These calculations used the same variables (e.g., number of lanes, traffic control) as were used in evaluating existing conditions. **Tables 3.12-5 and 3.12-6** summarize the No Action Alternative onsite and offsite roadway and intersection operations (see **Appendix N** for the evaluation of all locations in the study area and detailed LOS worksheets).

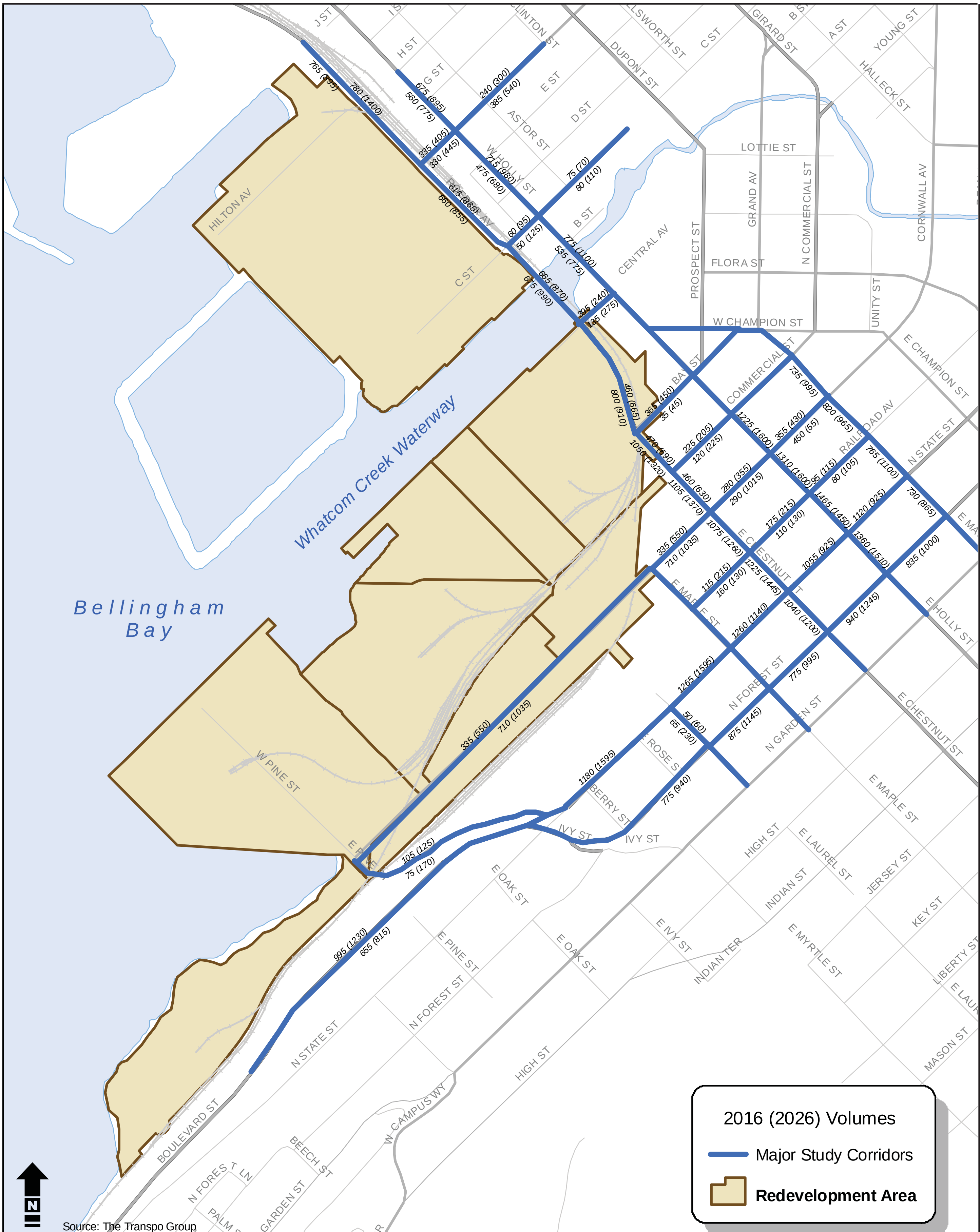


Figure 3.12-7
No Action PM Peak Hour Traffic Volumes

New Whatcom
Redevelopment EIS

Table 3.12-5
ROADWAY OPERATIONS UNDER THE EIS ALTERNATIVES

								Existing			No Action						Alternative 1						Alternative 2						Alternative 2A						Alternative 3					
								2007			2016			2026			2016			2026			2016			2026			2016			2026			2016			2026		
Roadway	X/O	Junction	X/O	Junction	Travel Direction	Roadway Capacity[2]	V/C Std[3]	LOS	Volumes[1]	V/C Ratio	LOS	Volumes	V/C Ratio	LOS	Volumes	V/C Ratio	LOS	Volumes	V/C Ratio	LOS	Volumes	V/C Ratio	LOS	Volumes	V/C Ratio	LOS	Volumes	V/C Ratio	LOS	Volumes	V/C Ratio	LOS	Volumes	V/C Ratio	LOS	Volumes	V/C Ratio	LOS	Volumes	V/C Ratio
On-Site																																								
Roeder Ave	SE/O	Broadway St	NW/O	F St	SEB	938	1.0	A	515	0.55	D	765	0.82	E	895	0.95	C	745	0.79	E	895	0.95	D	800	0.85	E	940	1.00	D	800	0.85	E	940	1.00	C	710	0.76	E	870	0.93
Roeder Ave	SE/O	Broadway St	NW/O	F St	NWB	938	1.0	A	360	0.38	D	780	0.83	F	1400	**1.49**	C	740	0.79	F	1030	**1.10**	C	750	0.80	F	1045	**1.11**	C	750	0.80	F	1045	**1.11**	C	725	0.77	F	985	**1.05**
Roeder Ave	SE/O	F St	NW/O	C St	SEB	938	1.0	A	470	0.50	C	680	0.72	E	855	0.91	C	670	0.71	E	895	0.95	C	695	0.74	E	905	0.96	C	695	0.74	E	905	0.96	B	635	0.68	E	870	0.93
Roeder Ave	SE/O	F St	NW/O	C St	NWB	938	1.0	A	240	0.26	B	615	0.66	E	865	0.92	B	600	0.64	E	885	0.94	B	585	0.62	E	920	0.98	B	585	0.62	E	920	0.98	A	565	0.60	E	860	0.92
Roeder Ave	SE/O	C St	NW/O	Central Ave	SEB	938	1.0	A	515	0.55	C	675	0.72	F	990	**1.06**	D	810	0.86	F	1100	**1.17**	D	815	0.87	F	1070	**1.14**	D	815	0.87	F	1070	**1.14**	B	655	0.70	F	980	**1.04**
Roeder Ave	SE/O	C St	NW/O	Central Ave	NWB	938	1.0	A	215	0.23	B	665	0.71	E	870	0.93	B	645	0.69	F	985	**1.05**	B	580	0.62	F	1005	**1.07**	B	580	0.62	F	1005	**1.07**	A	570	0.61	E	930	0.99
Roeder Ave	SE/O	Central Ave	NW/O	Bay St	SEB	938	1.0	A	520	0.55	D	800	0.85	E	910	0.97	B	630	0.67	E	940	1.00	D	815	0.87	D	810	0.86	B	625	0.67	D	840	0.90	B	625	0.67	E	880	0.94
Roeder Ave	SE/O	Central Ave	NW/O	Bay St	NWB	938	1.0	A	190	0.20	A	460	0.49	B	665	0.71	A	460	0.49	E	925	0.99	A	355	0.38	C	690	0.74	A	490	0.52	C	675	0.72	A	475	0.51	B	650	0.69
Chestnut St	SE/O	Bay St	NW/O	Commercial St	SEB	1875	1.0	A	965	0.51	A	1050	0.56	B	1320	0.70	A	940	0.50	B	1155	0.62	A	1055	0.56	A	1125	0.60	A	1015	0.54	B	1145	0.61	A	995	0.53	B	1265	0.67
Chestnut St	SE/O	Bay St	NW/O	Commercial St	NWB	938	1.0	A	170	0.18	A	170	0.18	C	690	0.74	A	365	0.39	B	660	0.70	A	335	0.36	A	505	0.54	A	460	0.49	A	510	0.54	A	500	0.53	B	595	0.63
Chestnut St	SE/O	Commercial St	NW/O	Cornwall Ave	SEB	1875	1.0	A	935	0.50	A	1105	0.59	C	1370	0.73	A	970	0.52	B	1290	0.69	A	1080	0.58	C	1355	0.72	A	1130	0.60	B	1310	0.70	A	1085	0.58	B	1315	0.70
Chestnut St	SE/O	Commercial St	NW/O	Cornwall Ave	NWB	938	1.0	A	155	0.17	A	460	0.49	B	630	0.67	A	350	0.37	A	505	0.54	A	330	0.35	A	510	0.54	A	400	0.43	A	430	0.46	A	435	0.46	A	525	0.56
Laurel St	SE/O	Central Ave	NW/O	Bay St	SEB	1625	1.0	-	-	-	-	-	-	-	-	-	A	355	0.22	A	435	0.27	A	295	0.18	A	295	0.18	A	135	0.08	A	290	0.18	A	250	0.15	A	285	0.18
Laurel St	SE/O	Central Ave	NW/O	Bay St	NWB	1625	1.0	-	-	-	-	-	-	-	-	-	A	25	0.02	A	180	0.11	A	20	0.01	A	285	0.18	A	15	0.01	A	240	0.15	A	45	0.03	A	145	0.09
Laurel St	SE/O	Bay St	NW/O	Commercial St	SEB	1625	1.0	-	-	-	-	-	-	-	-	-	A	395	0.24	A	470	0.29	-	-	-	A	540	0.33	A	85	0.05	A	345	0.21	A	250	0.15	A	380	0.23
Laurel St	SE/O	Bay St	NW/O	Commercial St	NWB	1625	1.0	-	-	-	-	-	-	-	-	-	A	350	0.22	A	610	0.38	-	-	-	A	730	0.45	A	105	0.06	A	625	0.38	A	45	0.03	A	240	0.15
Laurel St	SE/O	Commercial St	NW/O	Cornwall Ave	SEB	1625	1.0	-	-	-	-	-	-	-	-	-	A	85	0.05	A	620	0.38	-	-	-	A	645	0.40	A	85	0.05	A	575	0.35	A	250	0.15	A	380	0.23
Laurel St	SE/O	Commercial St	NW/O	Cornwall Ave	NWB	1625	1.0	-	-	-	-	-	-	-	-	-	A	210	0.13	A	490	0.30	-	-	-	A	555	0.34	A	105	0.06	A	500	0.31	A	45	0.03	A	240	0.15
F St	NE/O	Chestnut St	SW/O	Roeder Ave	NEB	813	1.0	-	-	-	-	-	-	-	-	-	A	270	0.33	A	255	0.31	A	100	0.12	A	120	0.15	A	100	0.12	A	120	0.15	A	110	0.14	A	150	0.18
F St	NE/O	Chestnut St	SW/O	Roeder Ave	SWB	813	1.0	-	-	-	-	-	-	-	-	-	A	160	0.20	A	255	0.31	A	80	0.10	A	85	0.10	A	80	0.10	A	85	0.10	A	65	0.08	A	100	0.12
Central Ave	NE/O	Laurel St	SW/O	Roeder Ave	NEB	813	1.0	-	-	-	-	-	-	-	-	-	A	245	0.30	E	755	0.93	A	160	0.20	C	630	0.77	A	160	0.20	C	580	0.71	A	20	0.02	A	455	0.56
Central Ave	NE/O	Laurel St	SW/O	Roeder Ave	SWB	813	1.0	-	-	-	-	-	-	-	-	-	A	300	0.37	D	720	0.89	A	250	0.31	B	540	0.66	A	100	0.12	B	530	0.65	A	55	0.07	A	315	0.39
Bay St	NE/O	Laurel St	SW/O	Maple St	NEB	813	1.0	-	-	-	-	-	-	-	-	-	A	365	0.45	B	560	0.69	A	375	0.46	C	580	0.71	A	145	0.18	B	525	0.65	-	-	-	A	475	0.58
Bay St	NE/O	Laurel St	SW/O	Maple St	SWB	813	1.0	-	-	-	-	-	-	-	-	-	A	70	0.09	A	155	0.19	A	105	0.13	A	330	0.41	A	50	0.06	A	170	0.21	-	-	-	A	70	0.09
Bay St	NE/O	Maple St	SW/O	Chestnut St	NEB	813	1.0	-	-	-	-	-	-	-	-	-	A	365	0.45	A	420	0.52	A	375	0.46	C	600	0.74	A	125	0.15	A	495	0.61	-	-	-	A	370	0.46
Bay St	NE/O	Maple St	SW/O	Chestnut St	SWB	813	1.0	-	-	-	-	-	-	-	-	-	A	70	0.09	A	160	0.20	A	105	0.13	A	145	0.18	A	75	0.09	A	150	0.18	-	-	-	A	100	0.12
Commercial St	NE/O	Oak St	SW/O	Laurel St	NEB	813	1.0	-	-	-	-	-	-	-	-	-	-	-	-	B	500	0.62	-	-	-	A	460	0.57	-	-	-	A	260	0.32	-	-	-	-	-	-
Commercial St	NE/O	Oak St	SW/O	Laurel St	SWB	813	1.0	-	-	-	-	-	-	-	-	-	-	-	-	A	280	0.34	-	-	-	A	280	0.34	-	-	-	A	135	0.17	-	-	-	-	-	-
Commercial St	NE/O	Laurel St	SW/O	Maple St	NEB	813	1.0	-	-	-	-	-	-	-	-	-	-	-	-	E	790	0.97	-	-	-	C	585	0.72	-	-	-	B	535	0.66	-	-	-	-	-	-
Commercial St	NE/O	Laurel St	SW/O	Maple St	SWB	813	1.0	-	-	-	-	-	-	-	-	-	-	-	-	A	360	0.44	-	-	-	B	570	0.70	-	-	-	A	370	0.46	-	-	-	-	-	-
Commercial St	NE/O	Maple St	SW/O	Chestnut St	NEB	813	1.0	-	-	-	-	-	-	-	-	-	-	-	-	C	640	0.79	-	-	-	C	585	0.72	-	-	-	A	480	0.59	-	-	-	-	-	-
Commercial St	NE/O	Maple St	SW/O	Chestnut St	SWB	813	1.0	-	-	-	-	-	-	-	-	-	-	-	-	A	320	0.39	-	-	-	B	570	0.70	-	-	-	A	215	0.26	-	-	-	-	-	-
Cornwall Ave	NE/O	Wharf St	SW/O	Maple St	NEB	813	1.0	A	270	0.33	D	710	0.87	F	1035	**1.27**	A	170	0.21	A	220	0.27	A	75	0.09	A	130	0.16	A	155	0.19	A	315	0.39	A	40	0.05	A	225	0.28
Cornwall Ave	NE/O	Wharf St	SW/O	Maple St	SWB	813	1.0	A	125	0.15	A	335	0.41	B	550	0.68	A	125	0.15	A	175	0.22	A	130	0.16	A	110	0.14	A	100	0.12	A	160	0.20	A	85	0.10	A	175	0.22
Cornwall Ave	NE/O	Maple St	SW/O	Chestnut St	NEB	813	1.0	A	270	0.33	D	710	0.87	F	1035	**1.27**	C	610	0.75	E	770	0.95	B	500	0.62	D	680	0.84	C	585	0.72	E	800	0.98	D	680	0.84	F	855	**1.05**
Cornwall Ave	NE/O	Maple St	SW/O	Chestnut St	SWB	813	1.0	A	125	0.15	A	335	0.41	B	550	0.68	A	350	0.43	A	480	0.59	A	290	0.36	A	380	0.47	A	360	0.44	B	550	0.68	A	350	0.43	C	620	0.76
Off-Site																																								
Magnolia St	NW/O	Cornwall Ave	SE/O	Commercial St	SEB	2438	1.0	A	615	0.25	A	735	0.30	A	995	0.41	A	745	0.31	A	870	0.36	A	650	0.27	A	865	0.35	A	755	0.31	A	850	0.35	A	720	0.30	A	920	0.38
Magnolia St	SE/O	Cornwall Ave	NW/O	Railroad Ave	SEB	2438	1.0	A	605	0.25	A	820	0.34	A	965	0.40	A	685	0.28	A	875	0.36	A	650	0.27	A	845	0.35	A	725	0.30	A	850	0.35	A	720	0.30	A	950	0.39
Magnolia St	SE/O	Railroad Ave	NW/O	State St	SEB	2438	1.0	A	640	0.26	A	765	0.31	A	1100	0.45	A	785	0.32	B	1500	0.62	A	725	0.30	A	1430	0.59	A	725	0.30	A	1430	0.59	A	840	0.34	B	1550	0.64
Magnolia St	SE/O	State St	NW/O	Forest St	SEB	2438	1.0	A	545	0.22	A	730	0.30	A	865	0.35	A	845	0.35	A	1410	0.58	A	845	0.35	A	1375	0.56	A	845	0.35	A	1375	0.56	A	755	0.31	A	1280	0.53
Holly St	SE/O	Broadway St	NW/O	F St	SEB	813	1.0	A	310	0.38	B	560	0.69	E	775	0.95	D	695	0.85	E	795	0.98	C	585	0.72	F	900	**1.11**	C	630	0.77	E	795	0.98	C	605	0.74	E	795	0.98
Holly St	SE/O	Broadway St	NW/O	F St	NWB	813	1.0	B	540	0.66	D	675	0.83	F	895	**1.10**	B	565	0.69	F	965	**1.19**	D	710	0.87	E	780	0.96	D	680	0.84	E	810	1.00	D	700	0.86	F	925	**1.14**
Holly St	SE/O	F St	NW/O	Central Ave	SEB	813	1.0	A	275	0.34	A	475	0.58	D	680	0.84	A	475	0.58	D	720	0.89	B	500	0.62	D	690	0.85	B	555	0.68	D	730	0.90	A	315	0.39	D	735	0.90
Holly St	SE/O	F St	NW/O	Central Ave	NWB	813	1.0	C	590	0.73	D	715	0.88	F	980	**1.21**	D	690	0.85	F	1015	**1.25**	E	740	0.91	F	945	**1.16**	D	730	0.90	F	1160	**1.43**	D	730	0.90	F	980	**1.21**
Holly St	SE/O	Central Ave	NW/O	Champion St	SEB	813	1.0	A	275	0.34	B	535	0.66	E	775	0.95	B	545	0.67	F	860	**1.06**	B	570	0.70	E	800	0.98	B	570	0.70	E	800	0.98	B	570	0.70	F	835	**1.03**
Holly St	SE/O	Central Ave	NW/O	Champion St	NWB	813	1.0	C	590	0.73	E	775	0.95	F	1100	**1.35**	E	770	0.95	F	1200	**1.48**	E	810	1.00	F	1115	**1.37**	E	810	1.00	F	1115	**1.37**	E	775	0.95	F	1095	**1.35**
Holly St	SE/O	Commercial St	NW/O	Cornwall Ave	NWB	2250	1.0	A	1095	0.49	A	1225	0.54	C	1600	0.71	A	1115	0.50	A	1315	0.58	A	1140	0.51	A	1275	0.57	A	1140	0.51	A	1275	0.57	A	1250	0.56	B	1445	0.64
Holly St	SE/O	Railroad Ave	NW/O	State St	NWB	2250	1.0	A	1050	0.47	B	1465	0.65	B	1450	0.64	A	1280	0.57	B	1560	0.69	A	1355	0.60	B	1510	0.67	A	1355	0.60	B	1510	0.67	B	1455	0.65	C	1770	0.79
Holly St	SE/O	State St	NW/O	Forest St	NWB	2250	1.0	A	1175	0.52	A	1360	0.60	B	1510	0.67	A	1185	0.53	B	1535	0.68	A	1275	0.57	B	1480	0.66	A	1275	0.57	B	1480	0.66	A	1360	0.60	C	1705	0.76
Chestnut St	SE/O	Cornwall Ave	NW/O	Railroad Ave	SEB	2813	1.0	A	1000	0.36	A	1075	0.38	A	1260	0.45	A	925	0.33	A	1210	0.43	A	975	0.35	A	1255	0.45	A	1085	0.39	A	1250	0.44	A	995	0.35	A	1240	0.44
Chestnut St	SE/O	Railroad Ave	NW/O	State St	SEB	2813	1.0	A	1060	0.38	A	1225	0.44	A	1445	0.51	A	1055	0.38	A	1395	0.50	A	770	0.27	A	1430	0.51	A	1105	0.39	A	1410	0.50	A	975	0.35	A	1415	0.50
Chestnut St	SE/O	State St	NW/O	Forest St	SEB	2813	1.0	A	950	0.34	A	1040	0.37	A	1200	0.43	A	925	0.33	A	1240	0.44	A	910	0.32	A	1275	0.45	A	1010	0.36	A	1230	0.44	A	910	0.32	A	1270	0.45
Laurel St	SE/O	State St	NW/O	Forest St	SEB	813	1.0	A	35	0.04	A	65	0.08	A	230	0.28	A	240	0.30	A	310	0.38	A	255	0.31	B	515	0.63	A	170	0.21	A	405	0.50	A	80	0.10	A	315	0.39
Laurel St	SE/O	State St	NW/O	Forest St	NWB	813	1.0	A	20	0.02	A	50	0.06	A	60	0.07	A	325	0.40	A	445	0.55	A	310	0.38	A	410	0.50	A	105	0.13	A	465	0.57	A	60	0.07	A	80	0.10
F St	NE/O	Roeder Ave	SW/O	Holly St	NEB	938	1.0	A	245	0.26	A	330	0.35	A	445	0.47	A	455	0.49	A	555	0.59	A	370	0.39	A	510	0.54	A	370	0.39	A	510	0.54	A	310	0.33	A	415	0.44
F St	NE/O	Roeder Ave	SW/O	Holly St	SWB	1875	1.0	A	280	0.15	A	335	0.18	A	405	0.22	A	395	0.21	A	510	0.27	A	285	0.15	A	480	0.26	A	285	0.15	A	480	0.26	A	345	0.18	A	430	0.23
F St	NE/O	Holly St	SW/O	Dupont St	NEB	813	1.0	A	275	0.34	A	385	0.47	B	540	0.66	A	480	0.59	C	625	0.77	A	430	0.53	B	575	0.71	A	430	0.53	B	575	0.71	A	380	0.47	B	520	0.64
F St	NE/O	Holly St	SW/O	Dupont St	SWB	813	1.0	A	180	0.22	A	240	0.30	A	300	0.37	A	315	0.39	A	415	0.51	A	300	0.37	A	375	0.46	A	300	0.37	A	375	0.46	A	265	0.33	A	350	0.43
C St	NE/O	Roeder Ave	SW/O	Holly St	NEB	813	1.0	A	25	0.03	A	50	0.06	A	125	0.15	A	100	0.12	A	180	0.22	A	85	0.10	A	140	0.17	A	85	0.10	A	135	0.17	A	55	0.07	A	125	0.15
C St	NE/O	Roeder Ave	SW/O	Holly St	SWB	813	1.0	A	45	0.06	A	60	0.07	A	95	0.12	A	85	0.10	A	155	0.19	A	80	0.10	A	140	0.17	A	80	0.10	A	145	0.18	A	60	0.07	A	110	0.14
C St	NE/O	Holly St	SW/O	Astor St	NEB	813	1.0	A	20	0.02	A	80	0.10	A	110	0.14	A	90	0.11	A	105	0.13	A	85	0.10	A	110	0.14	A	85	0.10	A	115	0.14	A	80	0.10	A	105	0.13
C St	NE/O	Holly St	SW/O	Astor St	SWB	813	1.0	A	20	0.02	A	75	0.09	A	70	0.09	A	70	0.09	A	60	0.07	A	70	0.09	A	75	0.09	A	70	0.09	A	80	0.10	A	75	0.09	A	80	0.10
Central Ave	NE/O	Roeder Ave	SW/O	Holly St	NEB	813	1.0	A	15	0.02	A	125	0.15	A	275	0.34	A	195	0.24	D	730	0.90	A	220	0.27	B	500	0.62	A	160	0.20	A	410	0.50	A	75	0.09	A	330	0.41
Central Ave	NE/O	Roeder Ave	SW/O	Holly St	SWB	813	1.0	A	45	0.06	A	395	0.49	A	240	0.30	B	500	0.62	D	665	0.82	C	585	0.72	C	620	0.76	A	410	0.50	B	550	0.68	A	340	0.42	A	485	0.60
Bay St	NE/O	Chestnut St	SW/O	Holly St	NEB	813	1.0	A	30	0.04	A	35	0.04	A	45	0.06	A	75	0.09	A	290	0.36	A	80	0.10	A	295	0.36	A	90	0.11	A	265	0.33	A	35	0.04	A	250	0.31
Bay St	NE/O	Chestnut St	SW/O	Holly St	SWB	813	1.0	A	345	0.42	A	365	0.45	A	450	0.55	A	445	0.55	A	455	0.56	B	510	0.63	A	390	0.48	A	470	0.58	A	455	0.56	A	430	0.53	A	410	0.50
Commercial St	NE/O	Chestnut St	SW/O	Holly St	NEB	813	1.0	A	40	0.05	A	120	0.15	A	225	0.28	A	120	0.15	A	440	0.54	A	165	0.20	A	495	0.61	A	120	0.15	A	370	0.46	A	115	0.14	A	220	0.27
Commercial St	NE/O	Chestnut St	SW/O	Holly St	SWB	813	1.0	A	110	0.14	A	225	0.28	A	205	0.25	A	215	0.26	A	415	0.51	A	215	0.26	A	405	0.50	A	240	0.30	A	375	0.46	A	245	0.30	A	220	0.27
Cornwall Ave	NE/O	Chestnut St	SW/O	Holly St	NEB	813	1.0	A	125	0.15	A	290	0.36	F	1015	**1.25**	A	280	0.34	A	385	0.47	A	215	0.26	A	335	0.41	A	225	0.28	A	415	0.51	A	280	0.34	A	375	0.46
Cornwall Ave	NE/O	Chestnut St	SW/O	Holly St	SWB	813	1.0	A	150	0.18	A	280	0.34	A	355	0.44	A	285	0.35	A	445	0.55	A	215	0.26	A	340	0.42	A	235	0.29	A	375	0.46	A	235	0.29	A	440	0.54
Cornwall Ave	NE/O	Holly St	SW/O	Magnolia St	NEB	813	1.0	A	255	0.31	A	450	0.55	A	55	0.07	A	480	0.59	B	570	0.70	A	450	0.55	B	560	0.69	A	485	0.60	C	630	0.77	A	455	0.56	B	555	0.68
Cornwall Ave	NE/O	Holly St	SW/O	Magnolia St	SWB	813	1.0	A	200	0.25	A	355	0.44	A	430	0.53	A	360	0.44	A	400	0.49	A	290	0.36	A	330	0.41	A	330	0.41	A	375	0.46	A	290	0.36	A	410	0.50
Railroad Ave	NE/O	Chestnut St	SW/O	Holly St	NEB	315	1.0	A	85	0.27	A	110	0.35	A	130	0.41	A	110	0.35	A	125	0.40	A	130	0.41	A	155	0.49	A	130	0.41	A	155	0.49	A	110	0.35	A	125	0.40
Railroad Ave	NE/O	Chestnut St	SW/O	Holly St	SWB	315	1.0	A	135	0.43	A	175	0.56	B	215	0.68	A	175	0.56	B	215	0.68	A	175	0.56	B	215	0.68	A	175	0.56	B	215	0.68	A	175	0.56	B	215	0.68
Railroad Ave	NE/O	Holly St	SW/O	Magnolia St	NEB	315	1.0	A	160	0.51	A	80	0.25	A	105	0.33	A	80	0.25	B	200	0.63	A	80	0.25	A	155	0.49	A	80	0.25	A	155	0.49	A	80	0.25	A	140	0.44
Railroad Ave	NE/O	Holly St	SW/O	Magnolia St	SWB	315	1.0	A	165	0.52	A	95	0.30	A	115	0.37	A	95	0.30	A	130	0.41	A	100	0.32	A	120	0.38	A	100	0.32	A	120	0.38	A	95	0.30	A	115	0.37
State St	NE/O	Wharf St	SW/O	Laurel St	SWB	1875	1.0	A	880	0.47	B	1180	0.63	D	1595	0.85	B	1165	0.62	B	1220	0.65	B	1180	0.63	B	1325	0.71	B	1210	0.65	C	1345	0.72	B	1230	0.66	D	1545	0.82
State St	NE/O	Laurel St	SW/O	Chestnut St	SWB	1875	1.0	A	955	0.51	B	1265	0.67	A	1140	0.61	B	1305	0.70	B	1220	0.65	B	1280	0.68	B	1215	0.65	B	1220	0.65	B	1215	0.65	B	1240	0.66	A	1135	0.61
State St	NE/O	Chestnut St	SW/O	Holly St	SWB	1875	1.0	A	885	0.47	A	1055	0.56	A	925	0.49	A	1105	0.59	A	975	0.52	A	1110	0.59	A	985	0.53	A	1090	0.58	A	990	0.53	A	1115	0.59	A	995	0.53
Forest St	NE/O	State St	SW/O	Laurel St	NEB	1875	1.0	A	605	0.32	A	775	0.41	A	940	0.50	A	1095	0.58	B	1165	0.62	A	910	0.49	A	1115	0.59	A	805	0.43	A	965	0.51	A	775	0.41	A	905	0.48
Forest St	NE/O	Laurel St	SW/O	Maple St	NEB	1875	1.0	A	675	0.36	A	875	0.47	B	1145	0.61	A	975	0.52	B	1230	0.66	A	975	0.52	B	1300	0.69	A	980	0.52	A	1120	0.60	A	880	0.47	A	1065	0.57
Forest St	NE/O	Maple St	SW/O	Chestnut St	NEB	1875	1.0	A	680	0.36	A	775	0.41	A	995	0.53	A	805	0.43	B	1175	0.63	A	865	0.46	B	1155	0.62	A	850	0.45	A	1120	0.60	A	865	0.46	A	1020	0.54
Forest St	NE/O	Chestnut St	SW/O	Holly St	NEB	1875	1.0	A	820	0.44	A	940	0.50	B	1245	0.66	A	885	0.47	B	1195	0.64	A	995	0.53	B	1220	0.65	A	920	0.49	B	1220	0.65	A	935	0.50	B	1170	0.62
Forest St	NE/O	Holly St	SW/O	Magnolia St	NEB	1875	1.0	A	560	0.30	A	835	0.45	A	1000	0.53	A	795	0.42	B	1110	0.59	A	865	0.46	A	1110	0.59	A	790	0.42	B	1110	0.59	A	865	0.46	A	1060	0.57

Source: The Transpo Group, 2007
NOTE: A highlighted value represents a location exceeding the adopted LOS standard.
1. Based on PM peak hour turning movement volumes collected in 2007.
2. The arterial capacities are consistent with the City of Bellingham's currently adopted Concurrency Tracking Tool.
3. The V/C standard represents the current arterial standard set by the City of Bellingham

Table 3.12-6
INTERSECTION OPERATIONS UNDER THE EIS ALTERNATIVES

	Existing			No Action						Alternative 1						Alternative 2						Alternative 2A[5]						Alternative 3					
	2007			2016			2026			2016			2026			2016			2026			2016			2026			2016			2026		
	LOS[1]	Delay[2]	V/C[3] or WM[4]	LOS	Delay	V/C or WM	LOS	Delay	V/C or WM	LOS	Delay	V/C or WM	LOS	Delay	V/C or WM	LOS	Delay	V/C or WM	LOS	Delay	V/C or WM	LOS	Delay	V/C or WM	LOS	Delay	V/C or WM	LOS	Delay	V/C or WM	LOS	Delay	V/C or WM
On-Site																																	
1. Roeder Avenue/Hilton Avenue	C	16	NB	**F**	**84**	**NB**	**F**	**>200**	**NB**	**F**	**>200**	**NB**	**F**	**>200**	**NB**	**F**	**>200**	**NB**	**F**	**>200**	**NB**	-	-	-	-	-	-	**F**	**86**	**NB**	**F**	**>200**	**NB**
2. Roeder Avenue/F Street	B	17	0.32	D	48	0.69	**F**	**100**	**0.9**	D	50	0.79	**F**	**105**	**1.09**	D	49	0.74	**F**	**100**	**1.01**	-	-	-	-	-	-	D	44	0.66	**F**	**101**	**0.92**
3. Roeder Avenue/C Street	C	16	SB	**F**	**114**	**NB/SB**	**F**	**>200**	**NB/SB**	**F**	**>200**	**SB**	**F**	**>200**	**NB/SB**	**F**	**>200**	**SB**	**F**	**>200**	**NB/SB**	-	-	-	-	-	-	**F**	**174**	**SB**	**F**	**>200**	**NB/SB**
4. Roeder Avenue/Central Avenue	C	16	NB	**F**	**>200**	**NB/SB**	**F**	**>200**	**NB/SB**	**F**	**>200**	**NB**	**F**	**>200**	**NB/SB**	**F**	**>200**	**NB**	**F**	**>200**	**NB/SB**	**F**	**>200**	**NB**	**F**	**>200**	**NB/SB**	**F**	**>200**	**SB**	**F**	**>200**	**NB/SB**
5. West Chestnut Street/Bay Street/Roeder Avenue	E	40	SBL	**F**	**>200**	**SBL**	**F**	**>200**	**SBL**	**F**	**>200**	**SBL**	**F**	**>200**	**NB/SBL**	**F**	**>200**	**SBL**	**F**	**>200**	**NB/SB**	**F**	**>200**	**SBL**	**F**	**>200**	**NBL/ SBL**	**F**	**>200**	**SB**	**F**	**>200**	**SBL**
7. East Chestnut Street/Cornwall Avenue	B	14	0.57	E	57	1.09	**F**	**>200**	**1.47**	C	28	0.93	**F**	**94**	**1.17**	C	21	0.82	E	68	1.1	C	31	0.96	**F**	**92**	**1.21**	D	43	1.03	**F**	**154**	**1.34**
Off-Site																																	
1.Meridian Street/Birchwood Avenue	D	40	0.72	E	65	0.87	**F**	**128**	**1.01**	E	66	0.87	**F**	**132**	**1.03**	E	63	0.87	**F**	**109**	**1.02**	-	-	-	-	-	-	E	63	0.86	**F**	**128**	**1.01**
	C	28	0.49	D	42	0.63	D	53	0.73	D	44	0.65	E	63	0.77	D	40	0.63	E	75	0.79	-	-	-	-	-	-	D	40	0.63	D	53	0.73
6.West Holly Street/F Street	B	13	0.5	C	25	0.67	C	33	0.89	C	52	0.84	E	73	1.09	C	27	0.74	D	54	0.96	-	-	-	-	-	-	C	24	0.69	C	34	0.89
7.West Holly Street/ C Street	C	18	SB	**F**	**127**	**SB**	**F**	**>200**	**NB/SB**	**F**	**198**	**SB**	**F**	**>200**	**NB/SB**	**F**	**>200**	**SB**	**F**	**>200**	**NB/SB**	-	-	-	-	-	-	**F**	**166**	**SB**	**F**	**>200**	**NB/SB**
8.Cornwall Avenue/Flora Street/York Street	B	13	0.68	C	21	0.75	D	41	0.93	C	22	0.78	E	68	1.02	B	20	0.73	D	46	1.01	-	-	-	-	-	-	C	20	0.74	D	40	0.92
11.East Chestnut Street/Railroad Avenue	E	44	SB	**F**	**168**	**SB**	**F**	**>200**	**SB**	**F**	**70**	**SB**	**F**	**>200**	**SB**	**F**	**98**	**SB**	**F**	**>200**	**SB**	-	-	-	-	-	-	**F**	**87**	**SB**	**F**	**>200**	**SB**
15.Lakeway Drive/Ellis Street/Jersey Street/East Holly Street	C	24	0.68	D	37	0.85	D	55	0.96	D	37	0.85	E	64	0.99	D	37	0.85	E	64	0.98	-	-	-	-	-	-	D	37	0.85	E	57	0.97
16.Lakeway Drive/I-5 Southbound Ramps	C	23	0.82	D	38	0.93	**F**	**98**	**1.16**	C	35	0.91	**F**	**108**	**1.2**	D	43	0.96	**F**	**88**	**1.17**	-	-	-	-	-	-	D	46	0.99	**F**	**102**	**1.17**
17.Lakeway Drive/King Street	D	39	0.73	D	47	0.78	E	69	0.84	D	49	0.77	**F**	**85**	**0.84**	D	46	0.77	E	66	0.87	-	-	-	-	-	-	D	46	0.78	E	74	0.81
18.Lakeway Drive/Lincoln Street	D	38	0.91	D	47	0.9	E	68	1.07	D	47	0.91	E	67	1.02	D	46	0.89	E	65	1.04	-	-	-	-	-	-	D	45	0.89	E	63	0.96
19.Iowa Street/Moore Street/I-5 Northbound Ramps	C	33	0.89	D	47	0.99	E	74	1.11	D	46	0.98	E	78	1.11	D	46	0.98	E	79	1.1	-	-	-	-	-	-	D	43	0.96	E	78	1.11
21.North State Street/James Street/Iowa Street	**F**	**114**	**1.63**	**F**	**>200**	**2.59**	**F**	**>200**	**2.98**	**F**	**>200**	**2.78**	**F**	**>200**	**3.21**	**F**	**>200**	**2.79**	**F**	**>200**	**3.12**	-	-	-	-	-	-	**F**	**>200**	**2.81**	**F**	**>200**	**2.92**
22.North State Street/Ohio Street	C	20	0.65	D	37	0.85	E	67	1.03	D	38	0.89	**F**	**94**	**1.13**	D	40	0.91	**F**	**110**	**1.13**	-	-	-	-	-	-	D	37	0.89	E	69	1.04
24.North State Street/East Laurel Street	B	11	WBL	D	27	EB	**F**	**81**	**WB**	**F**	**>200**	**WB**	**F**	**>200**	**WB**	**F**	**>200**	**WB**	**F**	**>200**	**WB**	-	-	-	-	-	-	D	27	EB	**F**	**>200**	**WB**
25.North Forest Street/ North State Street/Boulevard Street/Wharf Street[6]													B	13	NA							-	-	-	-	-	-						
a. North Forest Street/North State Street/Boulevard Street	C	17	SBL	D	28	SBL	**F**	**51**	**SBL**	D	28	SBL	Controlled by a roundabout, see operations above.			D	34	SBL	**F**	**54**	**SBL**	-	-	-	-	-	-	D	28	SBL	D	33	SBL
b. North State Street/Wharf Street	B	14	EB	C	21	EB	E	39	EB	C	22	EB				E	36	EB	**F**	**>200**	**EB**	-	-	-	-	-	-	C	19	EB	**F**	**54**	**EB**
26.North Forest Street/East Laurel Street	B	14	EB	C	20	EB	**F**	**95**	**EB**	**F**	**>200**	**EB**	**F**	**>200**	**EB**	**F**	**>200**	**EB**	**F**	**>200**	**EB**	-	-	-	-	-	-	C	22	EB	**F**	**172**	**EB**
28.South Samish Way/Elwood Avenue/Lincoln Street	B	18	0.64	C	34	0.85	E	64	1.07	D	38	0.89	E	57	1.05	D	38	0.88	E	68	1.1	-	-	-	-	-	-	D	38	0.88	E	66	1.08

Source: The Transpo Group, 2007
Notes: **Bold/Underline:** Indicates locations operating below LOS E.

1. Level of service, based on 2000 *Highway Capacity Manual* methodology.
2. Average delay in seconds per vehicle.
3. Volume-to-capacity ratio reported for signalized intersections.
4. Worst movement for unsignalized intersections. This is not applicable (NA) to all-way stop controlled intersections.
5. The intersection operations for Alternatives 2 and 2A for on-site intersection numbers 1, 2, and 3 and all off-site intersections are the same and therefore not shown.
6. This intersection operates as two separate intersections in the field; therefore, the analysis was conducted as such.

The Bay Street and Commercial Street intersections would not provide direct access to the site under the No Action Alternative by 2016; however, these streets would provide access to the site under the Redevelopment Alternatives. Therefore, they were included in the onsite analysis. As shown in **Table 3.12-5**, all of the study area roadway segments would operate at LOS E or better, and would meet the City's LOS standard during the PM peak hour. **Table 3.12-6** shows that almost all of the site access intersections along Chestnut Street and Roeder Avenue would operate at LOS F under the No Action Alternative by 2016 during the PM peak hour.

Specifically, for the offsite street system, **Table 3.12-5** and **3.12-6** show the following:

- All offsite roadway segments would operate at LOS E or better.
- The Holly Street/C Street and Chestnut Street/Railroad Avenue intersections currently operate at LOS E or better (under existing conditions); however, with future No Action Alternative growth by 2016, these intersections would operate at LOS F in the PM peak hour.
- The State Street/James Street/Iowa Street intersection currently operates at LOS F and would continue to operate poorly under the No Action Alternative PM peak hour by 2016.

Non-motorized

It is assumed that sidewalks would be provided along the site frontage of Roeder Avenue, Chestnut Street, and portions of Cornwall Avenue under the No Action Alternative; these facilities would provide access for pedestrians and bicyclists between the site and the CBD. Onsite, a limited amount of sidewalks, crosswalks, and trails would support pedestrian and bicycle travel within the development. Onsite pedestrian and bicycle facilities would mostly improve access to the proposed marina, and no substantial facilities are assumed within Areas 2 through 10.

Future sidewalk and crossing improvements, as well as bicycle lanes and route enhancements, are planned as part of the City's *2008-2013 TIP* and *2006 Comprehensive Plan*. In the vicinity of the site, these include sidewalk and safety improvements along Roeder Avenue, as well as other pedestrian and bicycle improvements in the CBD. The City is also planning a pedestrian bridge from Area 10 on the New Whatcom site to Boulevard Park as a separate action, which would provide pedestrian access from the site to the South Bay Trail, as well as a "high-speed" bicycle trail along the bluff through the site (see **Chapter 2** of this Draft EIS for more information on these projects).

Redevelopment under the No Action Alternative would not be conducive to pedestrian and bicycle travel, except where limited onsite improvements are provided to improve access to the marina. The industrial uses are not likely to result in pedestrian and bicycle activity to and from the site, except for employees who might access the CBD for shopping and/or lunch.

Transit

This evaluation focuses on the expected growth in transit ridership and impacts on the local bus routes under the No Action Alternative. Transit stops are currently planned along Roeder Avenue in the vicinity of the site as part of the Whatcom Transit Authority (WTA) *Six-Year Strategic Service Plan*. There are no planned transit stops onsite.

It is unknown how much the total ridership and seating capacity of WTA would increase in the future. The City's goal is to encourage the use of alternative transportation modes, where possible. This will help reduce the need for costly capacity improvements to the street system required by high automobile use. According to the City's *2006 Comprehensive Plan,* over the next 20 years the City aims to increase the transit mode share by 4 percent; however, WTA's *Six-Year Strategic Service Plan* anticipates ridership will grow faster than the population. As a conservative estimate, WTA expects downtown seating capacity to increase by about 4 percent per year. This analysis assumed that the growth in transit ridership includes some demand associated with redevelopment under the No Action Alternative, since potential redevelopment of the New Whatcom site was considered as part of the City's *2006 Comprehensive Plan*.

Assuming WTA ridership will increase by 6 percent per year, as it did from 2001-2002, the existing downtown boardings per day of 10,400 per day would increase to about 17,600 boardings per day by 2016, including riders generated by redevelopment under the No Action Alternative. Seating capacity for 2016 was estimated assuming a conservative increase of 4 percent per year. Therefore, by 2016 the seating capacity would be about 15,600 seats per day. The passenger loading ratio would be about 1.13 (17,600 boardings per day divided by 15,600 seats per day) which would meet WTA's current standard of 1.25 for seating capacity.

Rail

The evaluation of rail focuses on at-grade crossings and the safety and operations of these crossings. Currently there are eight freight trains and four passenger trains which use the BNSF railway corridor. These trains currently do not operate during the PM peak hour; however, traffic during the off-peak hours is currently impacted by rail operations. It is likely that the number of trains operating on this corridor would increase as freight and passenger demand increase in the future; however, the number of trains that would operate in the future is unknown. BNSF typically adds one or two trains every five to ten years. Therefore, future increased use of the rail corridor would increase the instances when certain intersections experience long delays and queues as the railroad passes through the area. In addition, access to/from the New Whatcom site could be limited at certain times of the day, potentially causing additional delays to emergency response vehicles.

Under the No Action Alternative by 2016, five at-grade crossings would remain—one would be located internal to the site at Laurel Street and four would be located at the site accesses at F Street, C Street, Central Avenue, Cornwall Avenue and Wharf Street/Pine Street. Currently the C Street crossing does not have a gate, which is a potential safety issue for vehicles, pedestrians, and bicyclists. The No Action Alternative would maintain controlled gates at the Laurel Street rail crossing.

As vehicular, pedestrian, and bicycle traffic crossing the railroad increases with the No Action Alternative, the chances of conflicts and potential safety issues with trains would also increase at both gated and non-gated location. At-grade crossings would also increase delays to vehicular traffic that must stop as trains pass through intersections.

Parking

The assumed parking supply was evaluated to determine if the supply could accommodate the parking demand. It is assumed that the No Action Alternative would provide 1,454 parking spaces onsite by 2016 (see **Appendix N** for detailed parking calculations). **Table 3.12-7** summarizes the parking demand and supply under the No Action Alternative by 2016.

As shown in **Table 3.12-7**, the parking demand for the No Action Alternative by 2016 would be about 1,000 vehicles, which would be accommodated by the 1,454 assumed onsite parking spaces under this alternative. As discussed previously, the hourly parking demand was increased by a safety factor to estimate the recommended supply that would accommodate peak surges and vehicles leaving parking spaces. The recommended parking supply for the No Action Alternative by 2016 would be between approximately 1,100 to 1,200 parking spaces. Therefore, the assumed parking supply would provide about 290 to 340 more spaces than the recommended parking supply.

Under the No Action Alternative, it is assumed that the New Whatcom site would accommodate the site's parking demand. However, some users of the site could park offsite when visiting multiple destinations in the area. Based on the parking utilization survey, there are currently about 570 available offsite parking spaces within ¼-mile of the site. Since a majority of the vehicles would park onsite, there would be minimal impacts to offsite parking.

Table 3.12-7
NO ACTION ALTERNATIVE PARKING DEMAND AND SUPPLY - 2016

Parking Sub-Area	Hourly Parking Demand[1]	Proposed Parking	Recommended Supply Range[2]		Parking Surplus Range	
1	287	547	316	330	232	217
2, 3, 5	292	352	321	336	31	16
4, 6, 7, 8	263	350	289	302	61	48
9	147	174	162	169	12	5
10	23	31	25	26	5	4
Total	**1,012**	**1,454**	**1,113**	**1,164**	**341**	**290**

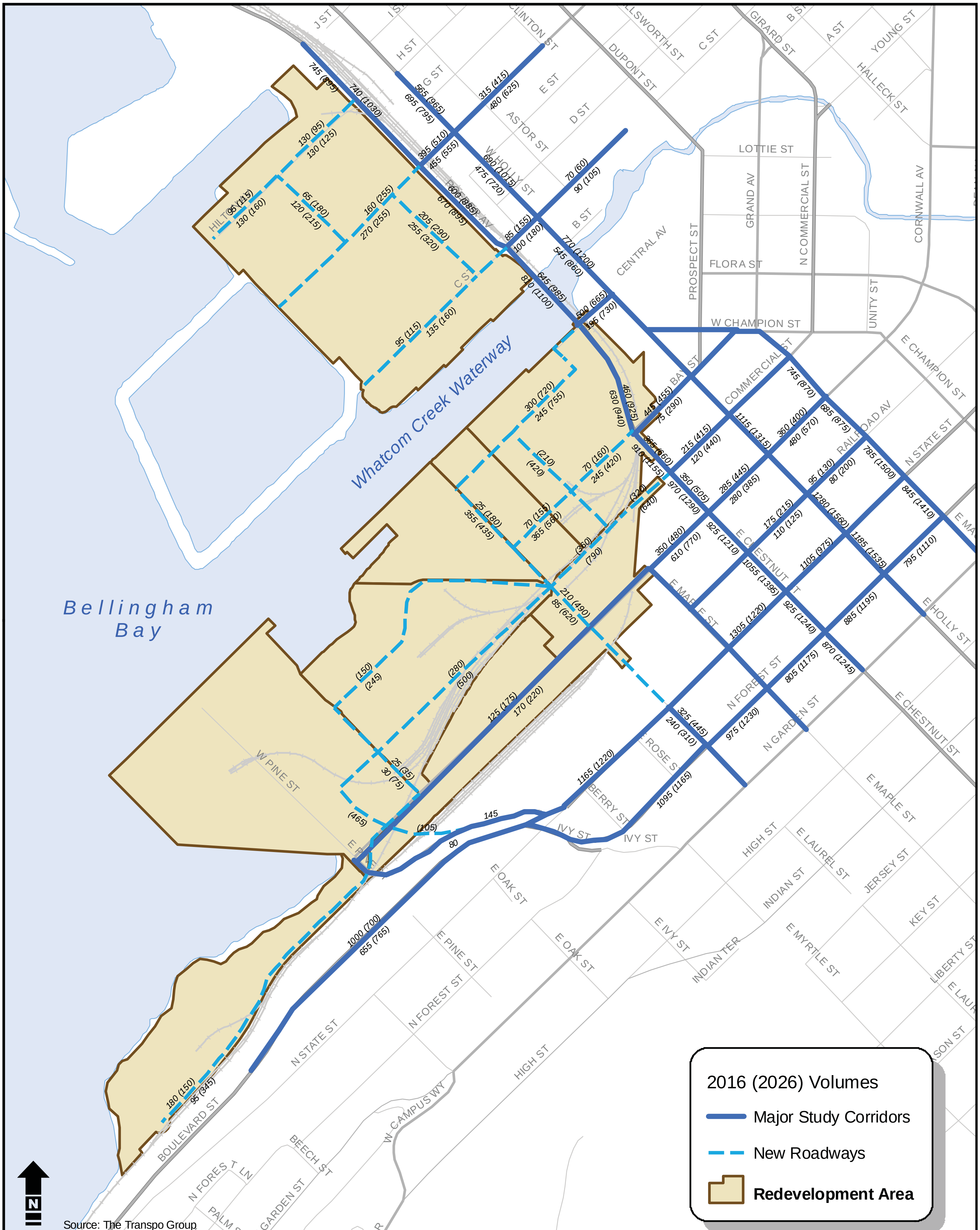
Source: Collins Woerman and The Transpo Group, 2007
1 Hourly parking demand represents the maximum hourly demand within the parking sub-area.
2 Recommended supply is 10 to 15 percent more than the parking demand to reduce vehicles re-circulating through the parking areas.

2026

This section discusses onsite and offsite conditions for the different transportation modes under the No Action Alternative by buildout in 2026. The discussion compares transportation conditions under the No Action Alternative by 2026 to the conditions under this alternative in 2016. The on and offsite transportation systems are assumed to be the same as described under the No Action Alternative in 2016.

Street System

Figure 3.12-8 presents traffic volumes for the street system onsite and in the vicinity of the site under the No Action Alternative by 2026. As discussed previously, impacts to the street system



Source: The Transpo Group

BLUMEN CONSULTING GROUP, INC

Figure 3.12-8
Alternative 1 PM Peak Hour Traffic Volumes

New Whatcom Redevelopment EIS

were measured by determining roadway and intersection LOS. **Tables 3.12-5 and 3.12-6** present a summary of the No Action Alternative roadway and intersection operations by 2026 (see **Appendix N** for detailed LOS worksheets).

With the increase in vehicular trips by 2026, due to future growth in the area and redevelopment of the site, the No Action Alternative would degrade the following locations to LOS F:

- Roeder Avenue between Broadway Street and F Street in the north-westbound direction
- Roeder Avenue between C Street and Central Avenue in the south-eastbound direction
- Cornwall Avenue between Wharf Street and Chestnut Street in the north-eastbound direction
- Holly Street between Broadway Street and Champion Street in the north-westbound direction
- Cornwall Avenue between Chestnut Street and Holly Street in the north-eastbound direction
- Roeder Avenue/F Street
- Chestnut Street/Cornwall Avenue
- Meridian Street/Birchwood Avenue
- Lakeway Drive/I-5 Southbound Ramps
- State Street/Laurel Street
- State Street/Forest Street/Boulevard Street
- Forest Street/Laurel Street

All other locations would have similar operations to the No Action Alternative in 2016.

It should be noted that with or without redevelopment assumed under the No Action Alternative in both 2016 and 2026, some roadways and intersections currently operating at LOS E or better would degrade to LOS F due to future growth in the study area. In addition, the No Action Alternative would degrade some locations to LOS F, due to the assumed industrial redevelopment and that no roadway improvements are assumed.

Non-Motorized

The No Action Alternative would generate additional pedestrian and bicycle travel by 2026. No additional pedestrian or bicycle facilities would be constructed by 2026 beyond those discussed for the No Action Alternative in 2016. Conflicts between pedestrians and bicyclists and vehicle traffic could increase proportionally as vehicular traffic volumes increase, and the ability to walk and bike between the site and the CBD would remain limited.

Transit

Based on the methodology discussed previously to forecast transit ridership and seating capacity, there would be approximately 31,500 boardings per day and 23,100 seats per day by 2026 under the No Action Alternative. The passenger loading ratio would be about 1.36 (31,500 boardings per day divided by 23,100 seats per day) under the No Action by 2026, which would exceed WTA's current standard of 1.25. Therefore, it is likely that WTA would increase the seating capacity to meet the transit demand.

Rail

Rail operations onsite under the No Action Alternative by 2026 would be similar to operations in 2016, because no additional at-grade crossings would be constructed. However, as discussed previously, as vehicular, pedestrian, and bicycle traffic crossing the railroad corridor increases, the potential for conflicts and potential safety issues with trains would also increase.

Parking

It is assumed that the No Action Alternative would provide 2,517 parking spaces by 2026 (see **Appendix N** for detailed parking calculations). **Table 3.12-8** summarizes the parking demand and supply under the No Action Alternative by 2026.

As shown in **Table 3.12-8**, the parking demand for the No Action Alternative by 2026 would be about 1,800 vehicles, which would be accommodated by the assumed parking supply under this alternative. The recommended parking supply for the No Action Alternative would be between about 2,000 to 2,100 parking spaces. The assumed parking supply would provide about 400 to 493 more spaces than required by the recommended parking supply. It is assumed that parking to accommodate the parking demand would be provided onsite, and the impacts to offsite parking would be minimal.

Table 3.12-8
NO ACTION ALTERNATIVE PARKING DEMAND AND SUPPLY – 2026

Parking Sub-Area	Hourly Parking Demand[1]	Proposed Parking	Recommended Supply Range[2]		Parking Surplus Range	
1	433	764	476	498	270	248
2, 3, 5	604	746	664	695	82	52
4, 6, 7, 8	481	641	529	553	111	87
9	260	305	286	299	19	6
10	58	77	64	67	13	11
Total	1,836	2,517	2,020	2,111	493	401

Source: Collins Woerman and The Transpo Group, 2007
[1] Hourly parking demand represents the maximum hourly demand within the parking sub-area.
[2] Recommended supply is 10 to 15 percent more than the parking demand to reduce vehicles re-circulating through the parking areas.

Shipping and Boating Traffic

The No Action Alternative assumes continued industrial use of the site and development of a marina with up to 600 slips within the ASB area. Anticipated navigation uses under this alternative would be as follows:

- **I&J Waterway -** Navigation uses within the I&J Waterway would continue as a mix of intermediate draft industrial uses, including fishing vessel operation and shallow and intermediate draft Coast Guard vessels. Small boat traffic associated with the adjacent

Squalicum Marina, as well as dry-land boat storage, would likely continue. Levels of navigation and vessel traffic within this Waterway would not be significantly changed.

- **ASB Area –** Conversion of the ASB area to a marina would enhance navigation opportunities for recreational, tribal and fishing vessels. Smaller research vessels may also utilize the new moorage provided in the marina. Industrial use of the area offshore of the marina would likely be discontinued to avoid potential navigation conflicts, resulting in improved public and tribal access. Small boat traffic would increase but industrial harbor area uses would decrease offshore of Area 1.
- **Inner Whatcom Waterway –** Navigation uses in the Inner Waterway would continue as a mix of intermediate-draft industrial uses, including barge and tug traffic, and fishing vessel operation. Navigation uses may also be coordinated with operation of the BST, with moorage of deep draft vessels (i.e. cargo vessels) at the terminal and intermediate draft vessels (i.e., barges and tugs) within onsite Areas 2, 3 and 4.
- **BST –** Deep draft navigation uses would continue at the BST, consistent with existing conditions, including cargo operation, moorage of research vessels, and/or moorage of Coast Guard or other military vessels. The extent of vessel traffic is likely to be similar to historic navigation levels in the area.
- **Area 10 and Vicinity -** The area offshore of Area 10 would remain within the harbor area and would likely be used for industrial and water-dependent uses, consistent with historical harbor uses and harbor area designations. Specific navigation uses would depend on the future industrial uses of Area 10.

(See **Appendix I** for further information on impacts to navigation uses under the No Action Alternative.)

<u>Alternative 1</u>

Alternative 1 would feature approximately 3.4 million square feet of mixed uses by 2016 and an additional 4.1 million square feet of mixed uses by 2026, for a total of 7.5 million square feet of redevelopment. Alternative 1 would generate approximately 2,200 net new PM peak hour vehicle trips by 2016 and an additional 3,500 net new PM peak hour vehicle trips by 2026, for a total of 5,700 vehicle trips. This section discusses Alternative 1 onsite and offsite operations by 2016 and 2026. Operations are compared to the No Action Alternative to determine the impacts of Alternative 1.

2016

By 2016, Alternative 1 would generate approximately 2,200 net new PM peak hour vehicle trips, approximately 1,400 more net new PM peak hour vehicle trips than the No Action Alternative.

As discussed previously and shown in Table 15 in **Appendix N**, it is assumed that Alternative 1 would provide substantial improvements to the onsite transportation system within all redevelopment areas to support its expected trip generation by 2016. In addition, Alternative 1 would provide a substantial park and trail system as well as sidewalks, crosswalks, and accommodations for bicyclists within the street right-of-way. The offsite transportation system assumed under Alternative 1 by 2016 would be the same as assumed under the No Action Alternative.

Street System

Figure 3.12-8 presents traffic volumes for the street system onsite and in the vicinity of the site under Alternative 1 by 2016. Alternative 1 PM peak hour travel forecasts were used to evaluate impacts to roadway and intersection operations. The major infrastructure improvements assumed under this alternative would provide additional access to the site to support the increase in vehicle trips.

Tables 3.12-5 and 3.12-6 compare the No Action Alternative and Alternative 1 onsite and offsite roadway and intersection operations by 2016 (see **Appendix N** for detailed LOS worksheets). With the roadway improvements assumed to be provided under Alternative 1 by 2016, there would be new intersections onsite along Laurel Street and Cornwall Avenue which would not be constructed under the No Action Alternative (see the **Programmed and Planned Improvements** section above and **Appendix N** for descriptions of these intersections).

Table 3.12-5 shows that all of the roadway segments would operate better than the City's LOS E standard. Some of the roadway operations would improve slightly as compared to the No Action Alternative, because additional access improvements would be provided with Alternative 1 by 2016. Therefore, travel patterns in the site vicinity would change. As shown in the **Table 3.12-6**, several of the site access intersections along Chestnut Street and Roeder Avenue would continue to operate at LOS F in the PM peak hour with the addition of Alternative 1 traffic by 2016, similar to the No Action Alternative. LOS conditions at the intersections listed below would be impacted by site traffic:

- Roeder Avenue/Hilton Avenue
- Roeder Avenue/C Street
- Roeder Avenue/Central Avenue
- West Chestnut Street/Bay Street/Roeder Avenue

Laurel Street and Cornwall Avenue are assumed to be one lane per direction in 2016. This analysis presents a conservative estimate of Laurel Street and Cornwall Avenue intersection operations, since these roadways would ultimately be planned as two lanes per direction. The onsite intersections along these corridors would operate at LOS B or better in the PM peak hour, which means that two lanes per direction would not be required to support Alternative 1 traffic generation until after 2016.

Similar to the onsite analysis, **Table 3.12-5** shows all of the offsite roadway segments would operate within the City's LOS E standard. Roadway operations would improve at some locations, because additional access is provided to the site under Alternative 1 by 2016, and, therefore, travel patterns in the vicinity of the site would change. **Table 3.12-6** shows that by 2016 under Alternative 1 two additional offsite intersections would operate at LOS F in the PM peak hour, beyond those under the No Action Alternative:

- North Forest Street/Laurel Street would degrade from LOS C to LOS F.
- North State Street/Laurel Street would degrade from LOS D to LOS F.

This change in intersection operations would be due to the newly-built Laurel Street Bridge, which would provide direct access to the site and add more traffic through both the Forest Street and State Street intersections.

In addition, Alternative 1 traffic in the PM peak hour by 2016 would worsen LOS F operations at the following intersections:

- Holly Street/C Street
- Chestnut Street/Railroad Avenue
- State Street/James Street/Iowa Street

It should be noted that implementation of both the Laurel Street and Cornwall Avenue bridges by 2016 may not be possible from a construction and scheduling standpoint if the railroad relocation does not occur by 2016. Therefore, a sensitivity analysis was conducted to determine if impacts would change without the Cornwall Avenue bridge in 2016. This evaluation shows that the onsite and offsite roadway and intersection operations would be similar to operations assuming both the Laurel Street and Cornwall Avenue bridges are completed. Therefore, no additional street system impacts would be expected if the Cornwall Avenue bridge is not constructed by 2016.

Non-Motorized

By 2016, Alternative 1 is projected to generate about 6,800 daily pedestrian/bicycle trips. This would likely be greater than under the No Action Alternative, because the land uses assumed under Alternative 1 (i.e. residential, office, institutional and retail) typically produce more non-motorized traffic than those assumed under the No Action Alternative (i.e. industrial). In addition, Alternative 1 would encourage walking/biking between land uses on- and offsite with development of an extensive sidewalk and trail system and two new connections (i.e., Bay Street and Laurel Street) between the site and CBD.

A substantial trail system including a pedestrian bridge over the Whatcom Waterway from Area 1 to Areas 2 through 10 would be constructed. The pedestrian bridge would connect the proposed onsite trail system within the redevelopment areas and facilitate walking and biking within the site. A pedestrian bridge from Hilton Avenue over Roeder Avenue and the railroad tracks connecting to Broadway Street would be constructed. This pedestrian bridge would complete the connection between the onsite trail system along Hilton Avenue and the existing Squalicum Harbor Trail. As part of a separate project, the City plans to construct an over-water pedestrian bridge between Area 10 and Boulevard Park to the southeast of Area 10. The trail will provide an additional link to the South Bay Trail system (see **Chapter 2** for additional information).

Similar to what currently exists in downtown, redevelopment under Alternative 1 would include wide sidewalks and pedestrian crossings to create a pedestrian-friendly environment. Access to downtown, Western Washington University (WWU), and other offsite locations would be facilitated by five connections: Central Avenue, Bay Street, Cornwall Avenue, Laurel Street, and Wharf Street. All locations would provide sidewalks and pedestrian crossings.

Increases in vehicular traffic volumes could be expected to proportionally increase observed conflicts with pedestrians and bicyclists. While conflicts between motorized and non-motorized trips typically increase where motorized trips increase, the Port and the City envision a redevelopment that strives to minimize these conflicts. The New Whatcom redevelopment would enhance pedestrian and bicycle use on and around the site. The City also has identified planned improvements, such as pedestrian and safety enhancements along Roeder Avenue, and pedestrian and bicycle improvements in the downtown. Therefore, non-motorized impacts under Alternative 1 by 2016 would be expected to be minimal.

Transit

By 2016, Alternative 1 is expected to generate about 1,900 daily transit trips. These transit trips are assumed to be in addition to the transit trips under the No Action Alternative already incorporated into WTA's ridership and seating capacity projections[2]. Therefore, with the addition of Alternative 1 daily transit trips, ridership is projected to be 19,500 boardings per day (i.e. the No Action ridership of 17,600 boardings per day plus Alternative 1 additional ridership of 1,900 boardings per day). The passenger loading ratio would be about 1.25 under Alternative 1, which is WTA's current standard for seating capacity[3]. The transit system would need to be modified to incorporate stops and service onsite to support the redevelopment.

Rail

By 2016, under Alternative 1 the Laurel Street and Cornwall Avenue at-grade crossings would be eliminated, because the railroad would be moved to the eastern boundary of the site. Four at-grade crossings would remain, including Wharf Street/Pine Street and at the site accesses (F Street, C Street, and Central Avenue) where the railway runs parallel to Roeder Avenue. The C Street crossing does not have a gate, which is a potential safety issue for vehicles, pedestrians, and bicyclists.

Alternative 1 would generate more vehicular and non-motorized trips than the No Action Alternative by 2016; therefore, the opportunity for conflicts and potential safety issues with trains at at-grade rail crossings would be greater under Alternative 1. At-grade crossings would also increase delays to vehicular traffic that must stop as trains pass through intersections. The relocation of the BNSF railway onsite would result in safer rail conditions in portions of the site, and would represent an improvement over the No Action Alternative. Further, the provision of the Bay Street and Laurel Street bridges in 2016 would provide emergency access to Areas 2 through 10, as these new intersections would not be blocked by rail operations. Within Area 1, all at-grade crossings would remain, potentially delaying direct emergency response when trains pass through intersections in this area; emergency vehicles would need to access Roeder Avenue at Bay Street or another location without an at-grade railroad crossing.

Parking

The majority of parking for the redevelopment would be located onsite. It is assumed that Alternative 1 would provide 6,671 parking spaces by 2016. **Table 3.12-9** summarizes the parking demand and supply for Alternative 1 by 2016 (see **Appendix N** for detailed parking calculations).

As shown in **Table 3.12-9**, the hourly parking demand by 2016 would be about 5,200 vehicles, which could be accommodated by the overall assumed parking supply. Based on the recommended parking supply for the parking sub-area that includes Redevelopment Areas 4, 6,

[2] This is a conservative estimate of transit ridership. The City's *2006 Comprehensive Plan* and WTA's *Six-Year Strategic Service Plan* assume some level of redevelopment on the New Whatcom site; therefore, this assumption may overestimate a portion of the Redevelopment Alternatives' ridership.

[3] Passenger loading ratio is calculated in the same manner as under the No Action Alternative. Seating capacity, 15,600 seats per day, remains the same for the evaluation of the Redevelopment Alternatives' 2016 conditions.

7, and 8, there would be a deficiency of 140 to 180 parking spaces. However, there would be a surplus in all other onsite parking areas; therefore, this deficiency could be accommodated onsite. It is assumed that adopted standards for future parking supply on the site would require that each future redevelopment project accommodate its parking demand.

Similar to under the No Action Alternative, it is likely that some users of the site would park offsite when visiting multiple destinations in the area. Since a majority of the vehicles would park onsite, there would be minimal impacts to offsite parking conditions.

Table 3.12-9
ALTERNATIVE 1 PARKING DEMAND AND SUPPLY - 2016

Parking Sub-Area	Hourly Parking Demand[1]	Proposed Parking	Recommended Supply Range[2]		Parking Surplus/ Deficiency Range	
1	2,526	3,530	2,779	2,905	751	625
2, 3, 5	852	1,109	937	980	171	129
4, 6, 7, 8	936	894	1,030	1,076	-136	-182
9	283	359	311	325	47	33
10	642	780	706	738	74	42
Total	**5,239**	**6,671**	**5,763**	**6,025**	**908**	**646**

Source: Collins Woerman and The Transpo Group, 2007
1. Hourly parking demand represents the maximum hourly demand within the parking sub-area.
2. Recommended supply is 10 to 15 percent more than the parking demand to reduce vehicles re-circulating through the parking areas.

2026

By 2026, Alternative 1 would generate about 5,700 net new PM peak hour vehicle trips, about 3,900 more net new PM peak hour vehicle trips than the No Action Alternative. See the previous section and **Appendix N** for descriptions of the additional onsite transportation infrastructure improvements that would be completed under Alternative 1 by 2026. The offsite transportation system for Alternative 1 by 2026 would be assumed to be the same as for the No Action Alternative.

Street System

Figure 3.12-8 presents traffic volumes for the street system onsite and in the vicinity of the site in the PM peak hour by 2026. **Tables 3.12-5 and 3.12-6** compare the No Action and Alternative 1 onsite and offsite roadway and intersection operations during the PM peak hour by 2026 (see **Appendix N** for detailed LOS worksheets).

Traffic signals are assumed at the Maple Street/Bay Street and Maple Street/Commercial Street intersections, and all-way stop control is assumed at the Laurel Street/Bay Street intersection.

Table 3.12-5 shows that under Alternative 1 by 2026 during the PM peak hour, the following roadway segments would degrade to LOS F or worsen LOS F operations, below the City's existing LOS E standard:

- Roeder Avenue between Broadway Street and F Street in the north-westbound direction
- Roeder Avenue between C Street and Central Avenue in the south-eastbound and north-westbound direction

Roadway operations would improve at some locations due to additional assumed access improvements provided to the site.

Table 3.12-6 shows that by 2026 during the PM peak hour Alternative 1 would not cause existing site access locations to operate at LOS F, but would worsen LOS F operations at several locations, including:

- Roeder Avenue/Hilton Avenue
- Roeder Avenue/F Street
- Roeder Avenue/C Street
- Roeder Avenue/Central Avenue
- West Chestnut Street/Bay Street/Roeder Avenue
- East Chestnut Street/Cornwall Avenue

Operations of the East Chestnut Street/Cornwall Avenue intersection would improve slightly as compared to the No Action Alternative, due to an additional site access location provided by 2026.

The onsite one-lane roundabout at the Laurel Street/Commercial Street/Log Pond Road intersection would operate at LOS C during the PM peak hour by 2026, and would meet the City's current LOS standard. However, the 95^{th} percentile queue (the standard used for intersection queing analysis) at the Laurel Street/Commercial Street/Log Pond Road is anticipated to be about 775 feet on the northbound Commercial Street approach and 525 feet on the eastbound Laurel Street approach. These long vehicle queues would spillback into adjacent intersections and impact their operations. It should be noted that the intersection analysis was conducted for isolated locations and did not account for the overall interaction of intersections and queue spillback into adjacent intersections. Although the Laurel Street/Bay Street intersection would operate at LOS B during the PM peak hour by 2026 as an isolated intersection, if the queue spillback from the Laurel Street/Commercial Street/Log Pond Road intersection is considered, operations would likely be much worse.

The assumed street network under Alternative 1 would route a majority of the traffic within the redevelopment through the Laurel Street/Commercial Street/Log Pond Road intersection. Because a majority of the site's traffic would use this intersection, the potential conflicts and safety issues between vehicles, pedestrians, and bicyclists would increase. In addition, intersections with five legs typically have the potential for more frequent safety and operational issues than standard intersections, because users are less familiar with five-legged intersections and may have difficulty maneuvering through them.

In terms of offsite roadway operations, **Table 3.12-5** shows that Alternative 1 would improve PM peak hour roadway operations along Cornwall Avenue between Chestnut Street and Holly Street in 2026 (as compared to the No Action Alternative), due to additional site access improvements which would change travel patterns to and from the site. In addition, **Table 3.12-6** shows that Alternative 1 would improve operations at the North Forest Street/North State Street/Boulevard Street/Wharf Street in the PM peak hour with the installation of roundabout control (from LOS F under the No Action Alternative to LOS B).

Alternative 1 traffic would result in LOS F operations in the PM peak hour along the following roadway segments and at two intersections:

- Holly Street between Central Avenue and Champion Street in the south-eastbound direction
- Lakeway Drive/King Street
- North State Street/Ohio Street

In addition, Alternative 1 traffic by 2026 would worsen LOS F operations in the PM peak hour at:

- Holly Street between Broadway Street and Champion Street in the north-westbound direction
- Meridian Street/Birchwood Avenue
- Holly Street/C Street
- Chestnut Street/Railroad Avenue
- Lakeway Drive/I-5 Southbound Ramps
- State Street/James Street/Iowa Street
- State Street/Laurel Street
- Forest Street/Laurel Street

These changes in roadway and intersection operations would be due to the increase in traffic volumes at all intersections with the addition of Alternative 1 traffic by 2026.

Non-Motorized

By 2026, Alternative 1 is projected to generate about 17,500 daily pedestrian/bicycle trips. Alternative 1 would encourage walking/biking within the site and between land uses offsite by providing an extensive sidewalk and trail system, as well as new connections to the existing transportation system, including at Bay Street, Commercial Street, and Laurel Street.

Although non-motorized and vehicular conflicts are expected to be greater than under the No Action Alternative by 2026, a substantial pedestrian and bicycle network would be developed to minimize impacts to non-motorized facilities. The site would be developed as a pedestrian-friendly environment with wide sidewalks and crosswalks, and bicyclists would be accommodated within the street right-of-way. In addition, as discussed for 2016 conditions, pedestrian bridges would be constructed over the Whatcom Waterway and from Hilton Avenue to Broadway Street; further, the City plans additional non-motorized facilities in the CBD.

Transit

Alternative 1 is expected to generate about 5,200 daily transit trips by 2026. With this addition, ridership is projected to be 36,700 boardings per day. The passenger loading ratio would be about 1.59, which would exceed WTA's current 1.25 standard for seating capacity[4]. The passenger loading ratio of 1.59 would be greater than the No Action passenger loading ratio of 1.36 by 2026. An increase in transit service in the vicinity of the site, as well as service and stops onsite, would be required to support future growth and transit demand.

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[4] Passenger loading ratio is calculated in the same manner as the No Action Alternative. Seating capacity, 23,100 seats per day, would remain the same as under the No Action Alternative.

Rail

The number and location of rail crossings by 2026 would be the same as in 2016. By 2026, Alternative 1 would generate more vehicular and non-motorized trips than the No Action Alternative; therefore, the potential for conflicts and potential safety issues with trains at at-grade rail crossings would be greater. At-grade crossings would also increase delays to vehicular traffic that must stop as trains pass through intersections. The relocation of the BNSF railway onsite under this alternative would create safer rail conditions and would represent an improvement over the No Action Alternative. Further, construction of bridges over the railroad would provide emergency access to Areas 2 through 10, as certain intersections would not be blocked by rail operations. Within Area 1, all at-grade crossings would remain and emergency access to the site would be delayed when trains pass through the intersections in this area; emergency vehicles would need to access Roeder Avenue at Bay Street or another location without an at-grade railroad crossing.

Parking

The majority of parking for the New Whatcom redevelopment would be located onsite. By 2026, it is assumed that Alternative 1 would provide 15,563 parking spaces. **Table 3.12-10** summarizes the parking demand and supply under Alternative 1 2026 (see **Appendix N** for detailed parking calculations).

As shown in **Table 3.12-10**, the hourly parking demand by 2026 would be about 12,600 vehicles which could be accommodated by the overall assumed parking supply. Based on the recommended parking supply for the parking sub-area that includes Areas 4, 6, 7 and 8, there would be a deficiency of approximately 140 parking spaces. However, there would be a surplus in all other onsite parking areas; therefore, this deficiency could be accommodated onsite. It is assumed that adopted standards for the future parking supply onsite would require that each future redevelopment project accommodate its parking demand.

Table 3.12-10
ALTERNATIVE 1 PARKING DEMAND AND SUPPLY - 2026

Parking Sub-Area	Hourly Parking Demand[1]	Proposed Parking	Recommended Supply Range[2]		Parking Surplus/ Deficiency Range	
1	3,034	4,153	3,337	3,489	816	664
2, 3, 5	3,743	4,935	4,117	4,304	818	631
4, 6, 7, 8	3,644	4,050	4,008	4,191	42	-141
9	1,542	1,945	1,696	1,773	249	172
10	<u>642</u>	<u>780</u>	<u>706</u>	<u>738</u>	<u>74</u>	<u>42</u>
Total	**12,605**	**15,863**	**13,866**	**14,496**	**1,998**	**1,367**

Source: Collins Woerman and The Transpo Group, 2007
[1] Hourly parking demand represents the maximum hourly demand within the redevelopment area.
[2] Recommended supply is 10 to 15 percent more than the parking demand to reduce vehicles re-circulating through the parking areas.

Similar to under the No Action Alternative, it is likely that some users of the site would park offsite when visiting multiple destinations in the area. Since a majority of the vehicles would park onsite, there would be minimal impacts to offsite parking conditions.

Shipping and Boating Traffic

Alternative 1 assumes mixed use redevelopment of the New Whatcom site and development of a marina with up to 460 slips within the ASB area. Anticipated navigation uses by area under Alternative 1 would be as follows:

- **I&J Waterway –** Navigation uses within the I&J Waterway would continue as a mix of intermediate draft industrial navigation uses. There may be some increase in small, hand-carry boats (i.e. kayaks) associated with the redevelopment of the shoreline park at the head of the waterway. However, this increase would not be expected to adversely impact other public/tribal shoreline access or navigation uses in the Waterway.
- **ASB Area -** The marina proposed under the Redevelopment Alternatives would have fewer boat slips than under the No Action Alternative, with more space within this area devoted to public access, parks and habitat restoration. Conversion of the ASB area to a marina would enhance navigation opportunities for recreational, tribal and fishing vessels. Smaller research vessels may also use the new moorage provided in the ASB area. Industrial use offshore of the ASB would likely be discontinued to avoid potential navigation conflicts.
- **Inner Whatcom Waterway –** The navigation uses in the Inner Waterway would be focused on small boat traffic, consistent with assumed marine trade activities within Area 1 and with transient moorage improvements planned for the Inner Waterway in support of the mixed use redevelopment of Areas 2 through 8. Large and intermediate industrial vessel use would decrease. Public and tribal access to the areas shorelines would be improved. Navigation infrastructure would be reconfigured within the Inner Waterway to support these types of uses, with greater uses of vessel floats and lesser use of over-water industrial wharves and bulkheads.
- **BST:** Deep draft navigation uses would continue at the Shipping Terminal, consistent with existing conditions and with the No Action Alternative. The extent of vessel traffic would likely be less than or equal to historic navigation levels in this area.
- **Areas 10 and Vicinity –** No specific navigation improvements are assumed for this redevelopment area; however, hand-carry boat uses would be likely to increase due to the development of shoreline park and trail facilities in this area. Some seasonal boat moorage may also be conducted in offshore harbor areas using mooring buoys. Industrial uses in the areas offshore of Area 10 would likely be discontinued to avoid/minimize conflicts with shoreline park and trail uses. This would improve public and tribal access to area shorelines relative to existing conditions.

(See **Appendix I** for further information on impacts to navigation uses under the Redevelopment Alternatives.)

Alternative 2

Alternative 2 would feature approximately 2.7 million square feet of mixed uses by 2016 and an additional 3.3 million square feet of mixed uses by 2026, for a total of 6.0 million square feet of redevelopment. Alternative 2 would generate approximately 1,700 net new PM peak hour vehicle trips by 2016 and an additional 2,800 net new PM peak hour vehicle trips by 2026, for a total of about 4,500 trips. This section discusses Alternative 2 onsite and offsite operations by 2016 and by 2026. Operations are compared to the No Action Alternative.

2016

By 2016, Alternative 2 would generate approximately 1,700 net new PM peak hour vehicle trips, approximately 900 more net new PM peak hour vehicle trips than the No Action Alternative.

As discussed previously and shown in Table 15 in **Appendix N**, it is assumed that Alternative 2 would provide substantial improvements to the onsite transportation system within all redevelopment areas to support its expected trip generation by 2016. In addition, Alternative 2 would provide a substantial park and trail system, as well as sidewalks, crosswalks, and accommodations for bicyclists within the street right-of-way. The offsite transportation system assumed under Alternative 2 by 2016 would be the same as assumed under the No Action Alternative.

Street System

Figure 3.12-9 presents traffic volumes for the street system onsite and in the vicinity of the site under Alternative 2 by 2016. Alternative 2 PM peak hour travel forecasts were used to evaluate impacts to roadway and intersection operations. The major infrastructure improvements assumed under this alternative would provide additional access to the site to support the increase in vehicle trips.

Tables 3.12-5 and 3.16-6 compares the No Action Alternative and Alternative 2 onsite and offsite intersection operations by 2016 (see **Appendix N** for detailed LOS worksheets). With the roadway improvements provided under Alternative 2 by 2016, there would be new intersections onsite along Laurel Street and Cornwall Avenue, which would not be constructed under the No Action Alternative (see the **Programmed and Planned Improvements** section above and **Appendix N** for descriptions of these intersections).

As shown in the **Table 3.12-5**, with the addition of Alternative 2 traffic by 2016, all of the onsite roadways would continue to meet the City's LOS E standard. Operations along some of the roadway segments would improve as compared to the No Action Alternative, due to additional access improvements provided under this alternative. **Table 3.12-6 shows** several of the site access intersections along Chestnut Street and Roeder Avenue would continue to operate at LOS F in the PM peak hour with the addition of Alternative 2 traffic by 2016, similar to the No Action Alternative. The intersections include:

- Roeder Avenue/Hilton Avenue
- Roeder Avenue/C Street
- Roeder Avenue/Central Avenue
- West Chestnut Street/Bay Street/Roeder Avenue

Laurel Street and Cornwall Avenue are assumed to be one lane per direction in 2016. This analysis presents a conservative estimate of the Laurel Street and Cornwall Avenue intersection operations, since these roadways would ultimately be two lanes per direction. Onsite intersections along these corridors would operate at LOS B or better in the

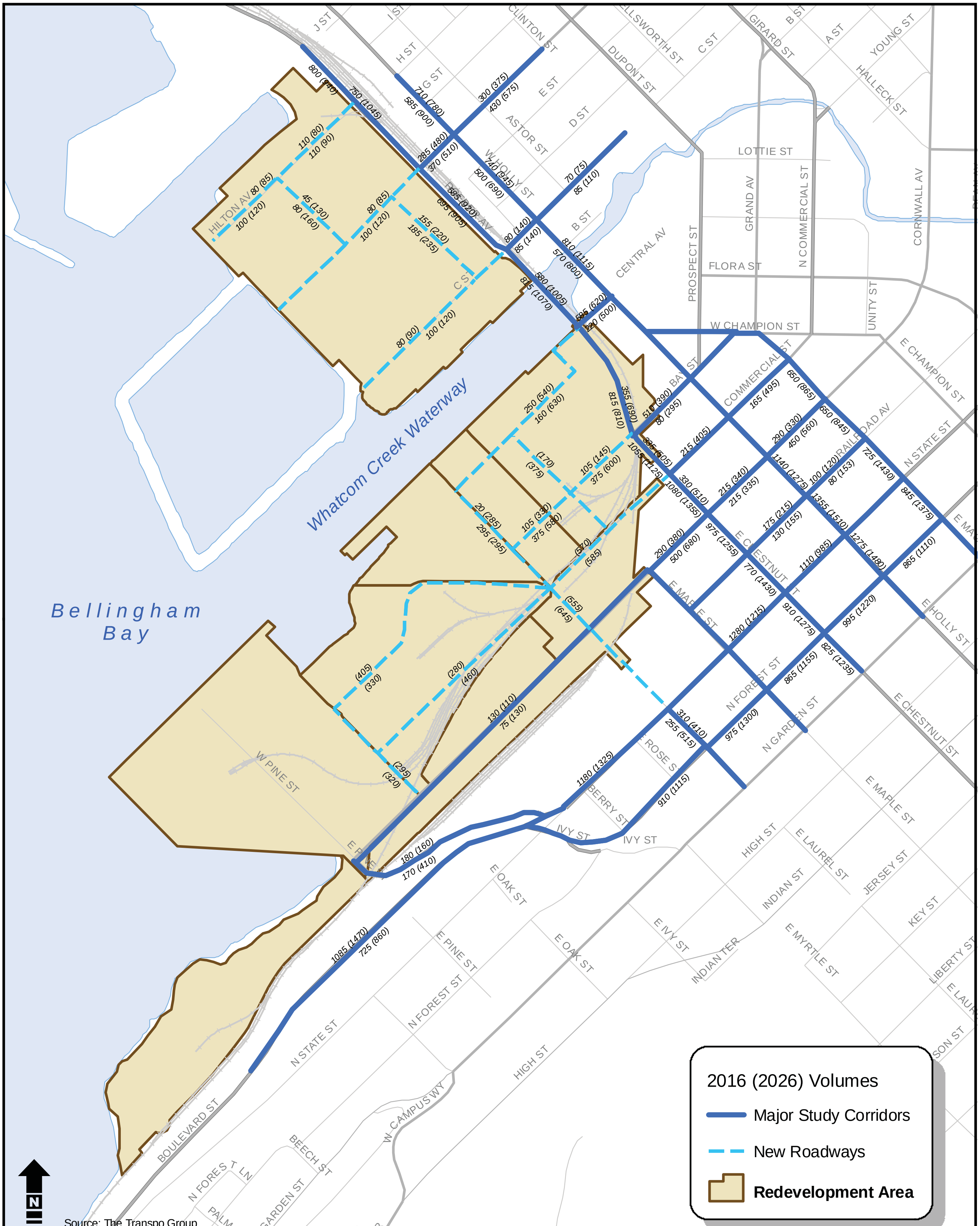

Figure 3.12-9
Alternative 2 PM Peak Hour Traffic Volumes

New Whatcom Redevelopment EIS

PM peak hour, which means that two lanes per direction would not be required to support Alternative 2 traffic generation until after 2016.

The most significant difference between the No Action Alternative and Alternative 2 by 2016 would be that under Alternative 2, operations would improve at the East Chestnut Street/Cornwall Avenue intersection. This would be due to the closure of Cornwall Avenue from Maple Street to Oak Street, which would eliminate the Cornwall Avenue site access and divert traffic to the Bay Street and Laurel Street site access locations.

All of the offsite roadways would continue to meet the City's LOS E standard (see **Table 3.12-5**). **Table 3.12-6** shows that by 2016 two additional offsite intersections would operate at LOS F under Alternative 2:

- North Forest Street/Laurel Street
- North State Street/Laurel Street

This change in intersection operations would be due to the newly-built Laurel Street Bridge, which would provide direct access to the site and add more traffic through both the Forest Street and State Street intersections.

In addition to the two locations discussed above, Alternative 2 PM peak hour traffic would worsen LOS F operations by 2016 at the following locations:

- Holly Street/C Street
- Chestnut Street/Railroad Avenue
- State Street/James Street/Iowa Street

Some roadways and intersections would improve slightly with Alternative 2 traffic during the PM peak hour by 2016, as compared to the No Action Alternative, because travel patterns to and from the site would be different due to the additional site access locations.

Non-Motorized

By 2016, Alternative 2 is projected to generate about 5,600 daily pedestrian/bicycle trips. This would likely be greater than under the No Action Alternative, because the land uses assumed under Alternative 2 (i.e. residential, office, institutional and retail) typically produce more non-motorized traffic than those assumed under the No Action Alternative (i.e. industrial). Similar to Alternative 1, Alternative 2 would encourage walking/biking within the redevelopment and between the site and adjacent uses by providing an extensive sidewalk and trail system and new connections (i.e. Bay Street and Laurel Street) between the site and the CBD.

A substantial trail system would be developed onsite under Alternative 2. Similar to what currently exists downtown, the redevelopment would include wide sidewalks and pedestrian crossings to create a pedestrian-friendly environment. Access to downtown, WWU, and other offsite locations would be facilitated by four connections: Central Avenue, Bay Street, Laurel Street, and Wharf Street. All locations would provide sidewalks and pedestrian crossings. As mentioned previously, as part of a separate project, the City plans to construct a pedestrian bridge between Area 10 and Boulevard Park to the southeast of Area 10. The trail will provide an additional link to the South Bay Trail system; a high-speed bicycle trail along the bluff is also planned by the City.

Increases in vehicular traffic volumes could be expected to proportionally increase observed conflicts with pedestrians and bicyclists. However, Alternative 2 conflicts would be less than those under Alternative 1, because Alternative 2 would generate fewer pedestrian/bicycle trips. While conflicts between motorized and non-motorized trips typically increase where motorized trips increase, the Port and the City envision a redevelopment that strives to minimize these conflicts. New Whatcom redevelopment would enhance pedestrian and bicycle use on and around the site. The City also has identified planned improvements, such as pedestrian and safety enhancements along Roeder Avenue, and pedestrian and bicycle improvements in the downtown. Therefore, non-motorized impacts under Alternative 2 by 2016 would be expected to be minimal.

Transit

By 2016, Alternative 2 is expected to generate about 1,600 daily transit trips. These transit trips are assumed to be in addition to the transit trips under the No Action Alternative already incorporated into WTA's ridership and seating capacity projections. Therefore, with the addition of Alternative 2 daily transit trips, ridership is projected to be 19,200 boardings per day. The passenger loading ratio would be about 1.23 under Alternative 2, which is less than WTA's current standard for seating capacity. The transit system would need to be modified to incorporate stops and service onsite to support the redevelopment.

Rail

By 2016 under Alternative 2, the Laurel Street and Cornwall Avenue at-grade crossings would be eliminated, because the railroad would be moved to the eastern boundary of the site. Four at-grade crossings would remain, including Wharf Street/Pine Street and at the site accesses (F Street, C Street, and Central Avenue) where the railway runs parallel to Roeder Avenue. The C Street crossing does not have a gate, which is a potential safety issue for vehicles, pedestrians, and bicyclists.

Alternative 2 would generate more vehicular and non-motorized trips than the No Action Alternative by 2016; therefore, the opportunity for conflicts and potential safety issues with trains at at-grade rail crossings would be greater than under the No Action Alternative. At-grade crossings also increase delays to vehicular traffic that must stop as trains pass through intersections. Similar to Alternative 1, the relocation of the BNSF railway onsite would result in safer rail conditions in portions of the site, and would represent an improvement over the No Action Alternative. Construction of the Bay Street and Laurel Street bridges over the railroad would provide emergency access to Areas 2 through 10, as these new intersections would not be blocked by rail operations. As discussed previously, within Area 1, all at-grade crossings would remain, potentially delaying emergency access when trains cross through site access intersections; emergency vehicles would need to access Roeder Avenue at Bay Street or another location without an at-grade railroad crossing.

Parking

The majority of parking for the redevelopment would be located onsite. It is assumed that Alternative 2 would provide 5,311 parking spaces by 2016. **Table 3.12-11** summarizes the parking demand and supply for Alternative 2 by 2016 (see **Appendix N** for detailed parking calculations).

As shown in **Table 3.12-11**, the hourly parking demand by 2016 would be about 4,200 vehicles, which could be accommodated by the overall assumed parking supply. Based on the recommended parking supply for the parking sub-area that includes Areas 4, 6, 7, and 8, there would be a deficiency of 150 to 200 parking spaces. However, there would be a surplus in all other onsite parking areas; therefore, this deficiency could be accommodated onsite. It is assumed that adopted standards for the future parking supply onsite would require that each future redevelopment project accommodate its parking demand.

Table 3.12-11
ALTERNATIVE 2 PARKING DEMAND AND SUPPLY – 2016

Parking Sub-Area	Hourly Parking Demand[1]	Proposed Parking	Recommended Supply Range[2]		Parking Surplus/ Deficiency Range	
1	1,996	2,774	2,196	2,295	578	479
2, 3, 5	711	899	782	818	117	82
4, 6, 7, 8	875	812	963	1,006	-151	-195
9	204	265	224	235	41	30
10	455	561	501	523	60	38
Total	**4,241**	**5,311**	**4,665**	**4,877**	**646**	**434**

Source: Collins Woerman and The Transpo Group, 2007
1. Hourly parking demand represents the maximum hourly demand within the parking sub-area.
2. Recommended supply is 10 to 15 percent more than the parking demand to reduce vehicles re-circulating through the parking areas.

Similar to under the No Action Alternative, it is likely that some users of the site would park offsite when visiting multiple destinations in the area. Since a majority of the vehicles would park onsite there would be minimal impacts to offsite parking conditions

2026

By 2026, Alternative 2 would generate about 4,500 net new PM peak hour vehicle trips, about 2,800 more net new PM peak hour vehicle trips than the No Action Alternative. See the previous section and **Appendix N** for descriptions of the additional onsite transportation infrastructure improvements that would be completed under Alternative 2 by 2026. The offsite transportation system for Alternative 2 by 2026 would be assumed to be the same as for the No Action Alternative.

Street System

Figure 3.12-9 presents traffic volumes for the street system onsite and in the vicinity of the site in the PM peak hour by 2026. **Tables 3.12-5** and **3.12-6** compare the No Action and Alternative 2 onsite and offsite roadway and intersection operations during the PM peak hour by 2026 (see **Appendix N** for detailed LOS worksheets).

With the roadway improvements provided under Alternative 2 by 2026, there would be new intersections onsite along Laurel Street, Maple Street, and Cornwall Avenue which would not be constructed under the No Action Alternative. All-way stop control is assumed at the Laurel

Street/Bay Street intersection and a traffic signal is assumed at the Maple Street/Bay Street intersection.

Tables 3.12-5 and 3.12-6 show that by 2026 during the PM peak hour Alternative 2 would worsen LOS operations at several locations, as compared to the No Action Alternative including:

- Roeder Avenue between Broadway Street and F Street in the north-westbound direction
- Roeder Avenue between C Street and Central Avenue in the south-eastbound direction
- Roeder Avenue/Hilton Avenue
- Roeder Avenue/F Street
- Roeder Avenue/C Street
- Roeder Avenue/Central Avenue
- West Chestnut Street/Bay Street/Roeder Avenue

In addition, roadway operations would degrade from LOS E to LOS F along:

- Roeder Avenue between C Street and Central Avenue in the north-westbound direction

Operations of the East Chestnut Street/Cornwall Avenue intersection, as well as roadway operations along Roeder Avenue between Central Avenue and Bay Street south-eastbound and Cornwall Avenue between Wharf Street and Chestnut Street north-eastbound, would improve slightly as compared to the No Action Alternative, due to an additional site access location provided by 2026.

The onsite one-lane roundabout at the Laurel Street/Commercial Street/Log Pond Road intersection would operate at LOS D during the PM peak hour by 2026, and would meet the City's current LOS standard. However, the Commercial Street approach would operate at LOS F, which represents gridlock conditions where drivers would have difficulty entering and moving through the roundabout. In addition, the 95th percentile queue at the Laurel Street/Commercial Street/Log Pond Road intersection would be anticipated to be about 800 feet on the northbound Commercial Street approach and 725 feet on the eastbound Laurel Street approach. These long vehicle queues would spillback into adjacent intersections and impact their operations. It should be noted that the intersection analysis was conducted for isolated locations and did not account for the overall interaction of intersections and queue spillback into adjacent intersections. Although the Laurel Street/Bay Street intersection would operate at LOS C during the PM peak hour as an isolated intersection, if the queue spillback from the Laurel Street/Commercial Street/Log Pond Road intersection is considered, operations would likely be much worse.

The assumed street network under Alternative 2 would route more traffic through the Laurel Street/Commercial Street/Log Pond Road intersection than under Alternative 1, because the Cornwall Avenue access would be closed. With a majority of the site's traffic using one intersection, potential conflicts and safety issues between vehicles, pedestrians, and bicyclists would increase. In addition, intersections with five legs typically have the potential for more frequent safety and operational issues than standard intersections, because users are less familiar with five-legged intersections and may have difficulty maneuvering through them.

In terms of offsite intersection operations, **Tables 3.12-5 and 3.12-6** show that by 2026 during the PM peak hour under Alternative 2 the following locations would degrade from LOS E to LOS F:

- Holly Street between Broadway Street and F Street south-eastbound
- Meridian Street/Birchwood Avenue
- North State Street/Ohio Street
- North State Street/Wharf Street

In addition, LOS F operations would worsen under Alternative 2 in the PM peak hour by 2026 at the following locations:

- Holly Street between F Street and Champion street north-westbound
- West Holly Street/C Street
- East Chestnut Street/Railroad Avenue
- Lakeway Drive/I-5 Southbound Ramps
- North State Street/James Street/Iowa Street
- North State Street/East Laurel Street
- North Forest Street/North Street/Boulevard Street
- North Forest Street/East Laurel Street

These changes in operations would result from the increases in traffic volumes at these study intersections under Alternative 2 by 2026.

Roadway operations would improve at some locations due to additional access provided by Alternative 2 in 2026.

Non-Motorized

By 2026, Alternative 2 is projected to generate about 14,000 daily pedestrian/bicycle trips. Alternative 2 would encourage walking/biking within the redevelopment and between land uses offsite by providing an extensive sidewalk and trail system, as well as four new connections to the existing transportation system, including at Central Avenue, Bay Street, Commercial Street, and Laurel Street. The trail system would include an over-water pedestrian bridge over the Whatcom Waterway from Area 1 to Areas 2 through 10.

Although non-motorized and vehicular conflicts would be expected to be greater than under the No Action Alternative by 2026, a substantial pedestrian and bicycle network would be developed as a pedestrian-friendly environment with wide sidewalks and crosswalks, and bicyclists would be accommodated within the street right-of-way. The City also plans additional non-motorized facilities in the CBD.

Transit

Alternative 2 is expected to generate about 4,200 daily transit trips by 2026. With this addition, ridership is projected to be 35,700 boardings per day. The passenger loading ratio would be about 1.55, which exceeds WTA's current 1.25 standard for seating capacity. The passenger loading ratio of 1.55 would be greater than the No Action Alternative passenger loading ratio of 1.36. An increase in transit service in the vicinity of the site, as well as service and stops onsite, would be required to support future growth and transit demand.

Rail

The number and location of rail crossings by 2026 would be the same as in 2016. By 2026, Alternative 2 would generate more vehicular and non-motorized trips than the No Action Alternative; therefore, the potential for conflicts and potential safety issues with trains at at-grade rail crossings would be greater. At-grade crossings also increase delays to vehicular traffic that must stop as trains pass through intersections. The relocation of the BNSF railway onsite under this alternative would create safer rail conditions in portions of the site, and would represent an improvement over the No Action Alternative. Construction of the bridges over the railroad would provide emergency access to Areas 2 through 10, as certain intersections would not be blocked by rail operations. As discussed previously, within Area 1, all at-grade crossings would remain, potentially delaying entry of emergency vehicles during the passage of trains; emergency vehicles would need to access Roeder Avenue at Bay Street or another location without an at-grade railroad crossing.

Parking

The majority of parking for the proposed project would be located onsite. By 2026, it is assumed that Alternative 2 would provide 12,668 parking spaces. **Table 3.12-12** summarizes the parking demand and supply for Alternative 2 by 2026 (see **Appendix N** for detailed parking calculations).

As shown in **Table 3.12-12**, the hourly parking by 2026 would be approximately 10,100 vehicles, which could be accommodated by the overall assumed parking supply. However, based on the recommended parking supply for the parking subarea that includes Areas 4, 6, 7, and 8, there would be a deficiency of 80 to 240 parking spaces. However, there would be a surplus in all other onsite parking areas; therefore, this deficiency could be accommodated onsite. It is assumed that adopted standards for the future parking supply onsite would require that each future redevelopment project accommodate its parking demand.

Similar to under the No Action Alternative, it is likely that some users of the site would park offsite when visiting multiple destinations in the area. Since a majority of the vehicles would park onsite, there would be minimal impacts to offsite parking conditions.

Shipping and Boating Traffic

Alternative 2 assumes mixed use redevelopment of the New Whatcom site and development of a marina with up to 460 slips within the ASB area, similar to under Alternative 1. Therefore, potential impacts to navigation uses would be the same as described under Alternative 1.

Alternative 2A

Alternative 2A would feature the same medium density mixed redevelopment, and ultimately similar infrastructure improvements, as assumed for Alternative 2. However, the key difference between Alternative 2A and Alternative 2 would be the phasing of onsite infrastructure improvements and the relocation of the railroad within Areas 2 through 10. Therefore, since the land uses would be the same for the two alternatives, and the onsite infrastructure would be the same within Area 1, impacts for all modes of transportation within Area 1 would be expected to be the same. In addition, the non-motorized, transit, and parking impacts, as well as offsite

Table 3.12-12
ALTERNATIVE 2 PARKING DEMAND AND SUPPLY – 2026

Parking Sub-Area	Hourly Parking Demand[1]	Proposed Parking	Recommended Supply Range[2]		Parking Surplus/ Deficiency Range	
1	2,280	3,208	2,508	2,622	700	586
2, 3, 5	2,852	3,795	3,137	3,280	658	515
4, 6, 7, 8	3,282	3,534	3,610	3,774	-76	-240
9	1,238	1,570	1,362	1,424	208	146
10	455	561	501	523	60	38
Total	**10,107**	**12,668**	**11,118**	**11,623**	**1,550**	**1,045**

Source: Collins Woerman and The Transpo Group, 2007

1. Hourly parking demand represents the maximum hourly demand within the redevelopment area.
2. Recommended supply is 10 to 15 percent more than the parking demand to reduce vehicles re-circulating through the parking areas.

impacts for all modes of transportation, would be expected to be the same. Therefore, the evaluation of Alternative 2A impacts focuses on the onsite operations for the street system and rail corridor within Areas 2 through 10. The offsite impacts would be expected to be the same as under Alternative 2.

2016

The evaluation of Alternative 2A operations was compared to the No Action Alternative and Alternative 2 in the PM peak hour by 2016. The roadway infrastructure for Alternative 2A would be similar to Alternative 2 by 2016 with the following exceptions:

- The Cornwall Avenue Bridge would remain open
- The Laurel Street Bridge would not be constructed
- The railroad would not be relocated.

Street System

Alternative 2A PM peak hour travel forecasts for 2016 were used to evaluate onsite roadway and intersection operations. **Figure 3.12-10** presents traffic volumes for the street system onsite under Alternative 2A by 2016. **Tables 3.12-5 and 3.12-6** provide a comparison of the No Action Alternative, Alternative 2, and Alternative 2A onsite roadway and intersection operations by 2016 (see **Appendix N** for detailed LOS worksheets).

As shown in **Tables 3.12-5 and 3.12-6**, onsite roadway and intersection operations would be about the same under the No Action Alternative, Alternative 2, and Alternative 2A in the PM peak hour by 2016. Similar to Alternative 2, Alternative 2A would worsen LOS F conditions at the following intersections, as compared to the No Action Alternative:

- Roeder Avenue/Central Avenue
- West Chestnut Street/Bay Street/Roeder Avenue

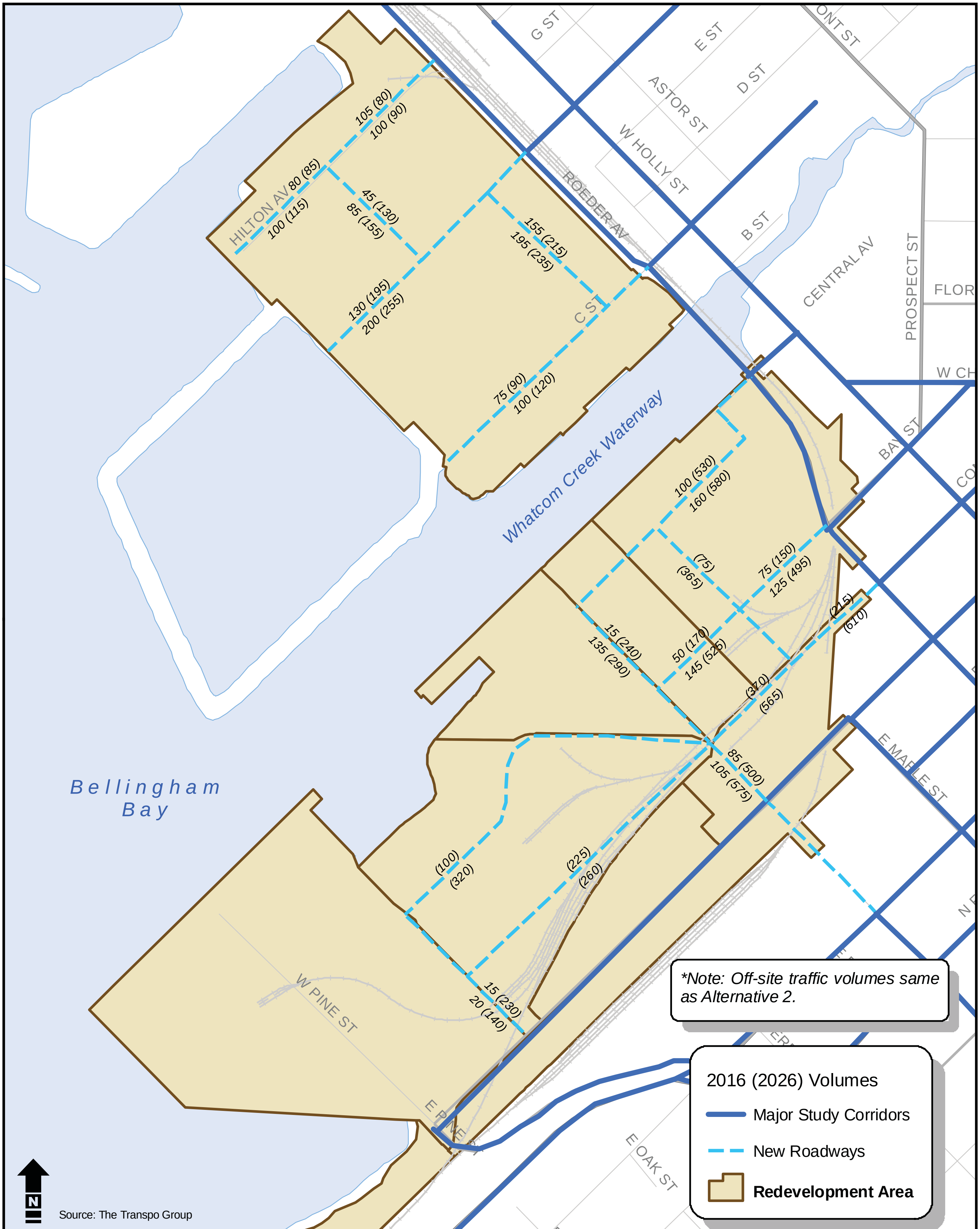

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Figure 3.12-10
Alternative 2A PM Peak Hour Traffic Volumes

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Both Alternative 2 and Alternative 2A would improve operations at the East Chestnut Street/Cornwall Avenue intersection from LOS E to LOS C due to additional access that would be provided to the site. This intersection would operate slightly better under Alternative 2, because that alternative would provide additional access to the site with construction of the Laurel Street Bridge. In addition, traffic volumes along Laurel Street would decrease with Alternative 2A, because the bridge would not be constructed; therefore, travel patterns within the redevelopment would be different. This decrease in traffic volumes would improve intersection operations along Laurel Street within the site.

The onsite street system analysis of Alternative 2A in the PM peak hour by 2016 shows that the new Laurel Street Bridge would not be necessary to support the first phase of redevelopment, since intersection operations would be similar for both Alternative 2 and 2A. Although the Laurel Street Bridge would provide some congestion relief to site access locations along Chestnut Street, improvements would still be required at the Central Avenue and Bay Street site access locations.

Rail

The railroad would not be relocated under Alternative 2A by 2016. Similar to the No Action Alternative, under Alternative 2A six at-grade crossings would remain; one would be located internal to the site at Laurel Street and five would located at the site accesses at F Street, C Street, Central Avenue, Cornwall Avenue and Wharf Street/Pine Street. Currently the C Street crossing does not have a gate, which is a potential safety issue for vehicles, pedestrians, and bicyclists. Since Alternative 2A would have more rail crossings than Alternative 2 by 2016, its impacts would likely be greater.

Alternative 2A would generate more vehicular and non-motorized trips than the No Action Alternative by 2016; therefore, the potential for conflicts and potential safety issues with trains at at-grade rail crossings would be greater. At-grade crossings would also increase delays to vehicular traffic that must stop as trains pass through intersections. Construction of the Bay Street Bridge over the railroad would provide emergency access to Areas 2 through 10, and certain intersections would not be blocked by rail operations. Similar to Alternative 2, by 2016, all at-grade crossings would remain within Area 1 potentially delaying emergency response to this area when trains cross the site access intersections; emergency vehicles would need to access Roeder Avenue at Bay Street or another location without an at-grade railroad crossing.

2026

The roadway infrastructure for Alternative 2A would be similar to Alternative 2 by 2026, with the following exceptions:

- The railroad would be relocated by 2026
- The Laurel Street Bridge would be constructed by 2026
- The Cornwall Avenue Bridge would be reconstructed to connect with the Laurel Street Bridge.

Street System

Alternative 2A PM peak hour travel forecasts were used to evaluate onsite roadway and intersection operations by 2026. **Figure 3.12-10** presents traffic volumes for the street system onsite for Alternative 2A during the PM peak hour by 2026. **Tables 3.12-5 and 3.12-6** compare the No Action Alternative, Alternative 2, and Alternative 2A PM peak hour onsite roadway and intersection operations by 2026 (see **Appendix N** for detailed LOS worksheets).

As shown in **Tables 3.12-5 and 3.12-6**, relative to the No Action Alternative, by 2026 Alternative 2A would worsen LOS F conditions or degrade operations to LOS F at the following locations:

- Roeder Avenue between C Street and Central Avenue in the north-westbound and south-eastbound directions
- Roeder Avenue/Central Avenue
- West Chestnut Street/Bay Street/Roeder Avenue
- East Chestnut Street/Cornwall Avenue

In addition, relative to Alternative 2, Alternative 2A would improve intersection operations at the following locations in the PM peak hour by 2026:

- West Chestnut Street/Commercial Street
- Maple Street/Central Avenue
- Maple Street/Bay Street
- Laurel Street/Bay Street
- Laurel Street/Commercial Street/Log Pond Road

These improvements would be due to the additional access provided with the Cornwall Avenue Bridge.

The onsite one lane roundabout at the Laurel Street/Commercial Street/Log Pond Road intersection would operate at LOS B and would meet the City's current LOS standard. The 95th percentile queue at the Laurel Street/Commercial Street/Log Pond Road intersection would be anticipated to be 400 feet on the eastbound Laurel Street approach. This long vehicle queue would spillback into the adjacent Laurel Street/Bay Street intersection and impact its operation. It should be noted that the intersection analysis is for isolated locations and does not account for the interaction of intersections and queue spillback into adjacent intersections. Although Laurel Street/ Bay Street intersection would operate at LOS B, if the queue spillback from the Laurel Street/Commercial Street/Log Pond Road intersection is considered, operations would likely be much worse.

The roundabout under Alternative 2A would improve traffic operations, because the proposed street network would route less traffic through this intersection than under Alternative 2 (as a result of the Cornwall Avenue Bridge). Even with the Cornwall Avenue Bridge, a majority of the traffic under Alternative 2A would be routed through this intersection, which would increase the potential conflicts and safety issues between vehicles, pedestrians, and bicyclists. In addition, intersections with five legs typically have the potential for more frequent safety and operational issues than standard intersections, because users are less familiar with five-legged intersections and may have difficulty maneuvering through them.

Rail

Alternative 2A would eliminate the Laurel Street and Cornwall Avenue at-grade crossings with relocation of the railroad by 2026. Four at-grade crossings would remain at the site accesses (Hilton Avenue, F Street, C Street, and Central Avenue) where the railway runs parallel to Roeder Avenue. Rail impacts under Alternative 2A by 2026 would be the same as under Alternative 2. Alternative 2/2A would generate more vehicular and non-motorized trips than the No Action Alternative by 2026; therefore, the potential for conflicts and potential safety issues with trains at at-grade rail crossings would be greater. At-grade crossings would also increase delays to vehicular traffic that must stop as trains pass through intersections. The relocation of the BNSF railway onsite would create safer rail conditions in portions of the site, and would be an improvement over the No Action Alternative. Construction of bridges over the railroad would provide emergency access to Areas 2 through 10, as certain intersections would not be blocked by rail operations. As discussed previously, within Area 1, all at-grade crossings would remain, potentially delaying entry of emergency vehicles with the passage of trains; emergency vehicles would need to access Roeder Avenue at Bay Street or another location without an at-grade railroad crossing.

Alternative 3

Alternative 3 would feature approximately 1.7 million square feet of mixed uses by 2016 and an additional 2.3 million square feet of mixed uses by 2026, for a total of 4.0 million square feet of redevelopment. Alternative 3 would generate approximately 1,100 net new PM peak hour vehicle trips by 2016 and an additional 2,000 net new PM peak hour vehicle trips by 2026, for a total of about 3,100 vehicle trips. This section discusses Alternative 3 onsite and offsite operations by 2016 and 2026. Operations are compared to the No Action Alternative.

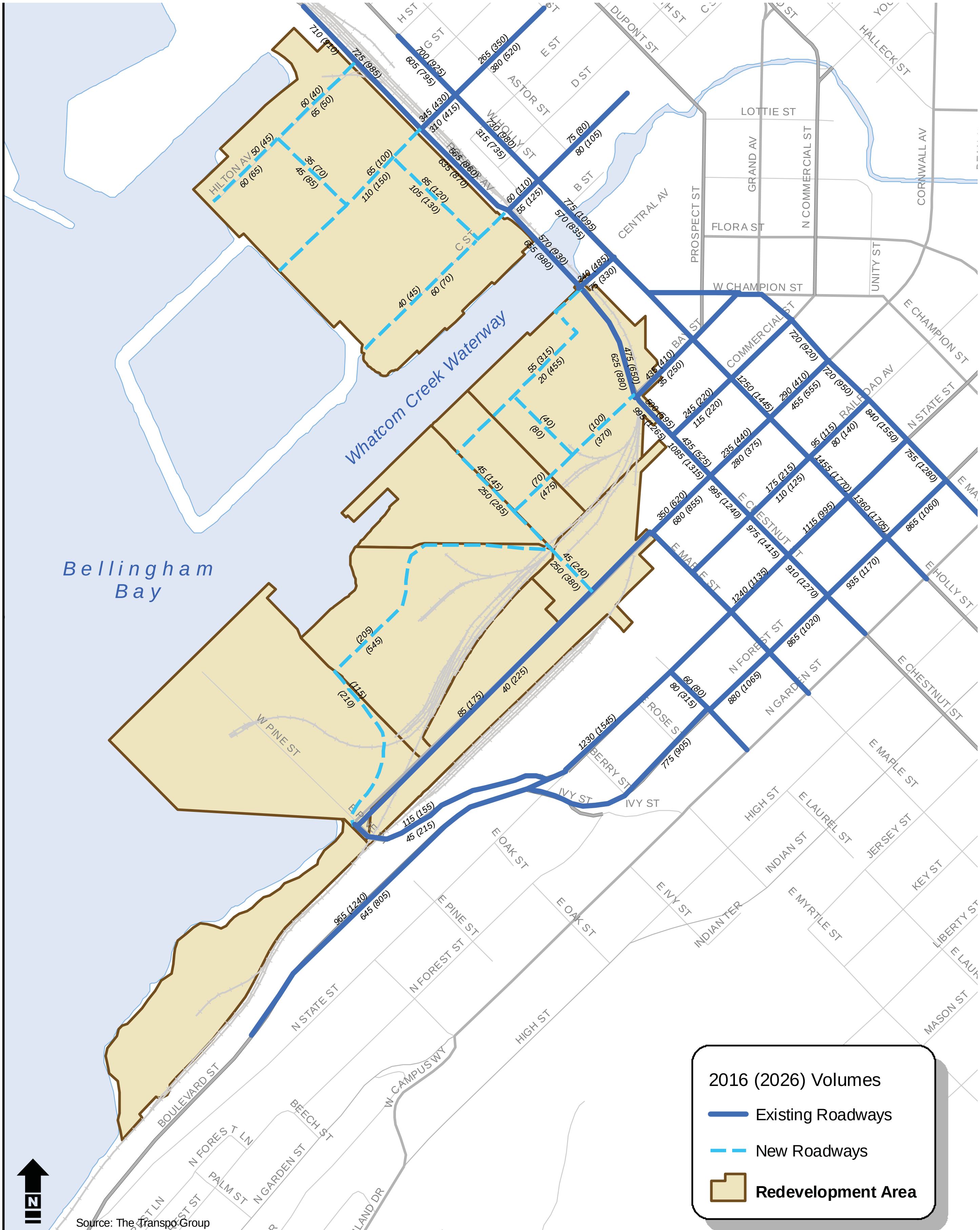
2016

By 2016, Alternative 3 would generate approximately 1,100 net new PM peak hour vehicle trips, approximately 300 more net new PM peak hour vehicle trips than the No Action Alternative.

As discussed previously and shown in Table 15 in **Appendix N**, under Alternative 3 the onsite transportation system would remain the same as under existing conditions, except that Cornwall Avenue would be extended to Redevelopment Area 10 to provide access to that area. In addition, Alternative 3 would provide a park and trail system, as well as sidewalks, crosswalks, and accommodations for bicyclists within the street right-of-way. The offsite transportation system assumed under Alternative 3 by 2016 would be the same as assumed under the No Action Alternative.

Street System

Figure 3.12-11 presents traffic volumes for the street system onsite and in the vicinity of the site for Alternative 3 by 2016. Alternative 3 PM peak hour travel forecast were used to evaluate impacts to roadway and intersection operations. **Tables 3.12-5 and 3.12-6** compare the No Action Alternative and Alternative 3 onsite and offsite roadway and intersection operations by 2016 (see **Appendix N** for detailed LOS worksheets).



BLUMEN CONSULTING GROUP, INC

Figure 3.12-11
Alternative 3 PM Peak Hour Traffic Volumes

New Whatcom Redevelopment EIS

As shown in **Table 3.12-5**, all of the onsite roadway segments would meet the City's existing LOS E standard. **Table 3.12-6** shows that several of the site access intersections along Chestnut Street and Roeder Avenue would continue to operate at LOS F in the PM peak hour with the addition of Alternative 3 traffic by 2016. The intersections include:

- Roeder Avenue/Hilton Avenue
- Roeder Avenue/C Street
- Roeder Avenue/Central Avenue
- West Chestnut Street/Bay Street/Roeder Avenue

The most significant difference by 2016 between the No Action Alternative and Alternative 3 is that under Alternative 3 operations would improve along some of the roadway segments and at the East Chestnut Street/Cornwall Avenue intersection. This would be because the No Action Alternative would generate slightly more vehicle trips than Alternative 3 within Areas 2 through 10 by 2016.

Alternative 3 offsite roadway and intersection operations would be similar to under the No Action Alternative in the PM peak hour by 2016. All offsite roadways would be expected to meet the City's LOS E standard during the PM peak hour with the addition of Alternative 3 traffic by 2016. Alternative 3 would not cause any LOS F conditions at offsite intersections. As shown in **Table 3.12-6**, Alternative 3 traffic in the PM peak hour by 2016 would worsen the LOS F operations at the following intersections:

- West Holly Street/C Street
- North State Street/James Street/Iowa Street

The East Chestnut Street/Railroad Avenue intersection would improve slightly, because Alternative 3 would generate slightly less traffic than the No Action Alternative by 2016.

Non-Motorized

By 2016, Alternative 3 is projected to generate about 3,500 daily pedestrian/bicycle trips. This would likely be greater than under the No Action Alternative, because the land uses under Alternative 3 (i.e., residential, office, institutional and retail) typically produce more non-motorized traffic than industrial uses.

Alternative 3 would provide a more limited sidewalk and trail system onsite, as compared to Alternatives 1 and 2. Similar to what currently exists downtown, redevelopment under Alternative 3 would include wide sidewalks and pedestrian crossings to create a pedestrian-friendly environment. Access to downtown, WWU, and other offsite locations would be limited to the existing connections, including Cornwall Avenue and Central Avenue. As mentioned previously, as part of a separate project, the City plans to construct an over-water pedestrian bridge between Area 10 and Boulevard Park to the southeast of Area 10. The trail will provide an additional link to the South Bay Trail system; the City also plans to construct a high-speed bicycle trail along the bluff through the site.

Increases in vehicular volumes could be expected to proportionally increase observed conflicts with pedestrians and bicyclists. Alternative 3 would enhance pedestrian and bicycle usage on and around the site; however, the enhancements would be less than under the other Redevelopment Alternatives. The City also has identified planned improvements, such as pedestrian and safety enhancements along Roeder Avenue, and pedestrian and bicycle improvements in the downtown. Therefore, non-motorized impacts under Alternative 3 would be expected to be minimal.

Transit

By 2016, Alternative 3 is expected to generate about 1,000 daily transit trips. These transit trips are assumed to be in addition to the transit trips under the No Action Alternative already incorporated into WTA's ridership and seating capacity projections. Therefore, with the addition of Alternative 3 daily transit trips, ridership is projected to be 18,600 boardings per day. The passenger loading ratio would be about 1.19 under Alternative 3, which is less than WTA's current 1.25 standard for seating capacity. The passenger loading ratio of 1.19 under Alternative 3 would be slightly more than the passenger loading ratio of 1.13 under the No Action Alternative. The transit system would need to be modified to incorporate stops and service onsite to support the redevelopment.

Rail

Similar to under the No Action Alternative, by 2016 six at-grade crossings would remain; one would be located internal to the site at Laurel Street and five would be located at the site accesses at F Street, C Street, Central Avenue, Cornwall Avenue and Wharf Street/Pine Street. Currently, the C Street crossing does not have a gate which is a potential safety issue for vehicles, pedestrians, and bicyclists.

Alternative 3 would generate slightly more vehicular and non-motorized trips than the No Action Alternative by 2016; therefore, the potential for conflicts and potential safety issues with trains at at-grade rail crossings would be greater. At-grade crossings would also increase delays to vehicular traffic that must stop as trains pass through intersections. Similar to the No Action Alternative, emergency access to/from the New Whatcom site would potentially be delayed during the passage of trains, since all site access locations would have at-grade crossings.

Parking

The majority of parking for the redevelopment would be located onsite. It is assumed that Alternative 3 would provide 3,461 parking spaces by 2016. **Table 3.12-13** summarizes the parking demand and supply for Alternative 3 by 2016 (see **Appendix N** for detailed parking calculations).

As shown in **Table 3.12-13**, the hourly parking demand by 2016 would be approximately 2,700 vehicles, which could be accommodated by the overall assumed parking supply. Based on the recommended parking supply for the parking subarea that includes Areas 4, 6, 7, and 8, there would be a deficiency of 160 to 200 parking spaces. However, there would be a surplus in all other onsite parking areas; therefore, this deficiency could be accommodated onsite. It is assumed that adopted standards for the future parking supply onsite would require that each future redevelopment project accommodate its parking demand.

Table 3.12-13
ALTERNATIVE 3 PARKING DEMAND AND SUPPLY – 2016

Parking Sub-Area	Hourly Parking Demand[1]	Proposed Parking	Recommended Supply Range[2]		Parking Surplus/ Deficiency Range	
1	1,121	1,682	1,233	1,289	449	393
2, 3, 5	414	533	455	476	78	57
4, 6, 7, 8	815	734	897	937	-162	-203
9	129	171	142	148	29	23
10	276	341	304	317	37	23
Total	**2,755**	**3,461**	**3,031**	**3,168**	**431**	**293**

Source: The Transpo Group, 2007

1. Hourly parking demand represents the maximum hourly demand within the parking sub-area.
2. Recommended supply is 10 to 15 percent more than the parking demand to reduce vehicles re-circulating through the parking areas.

Similar to under the No Action Alternative, it is likely that some users of the site would park off-site when visiting multiple destinations in the area. Since a majority of the vehicles would park onsite there would be minimal impacts to offsite parking.

2026

By 2026, Alternative 3 would generate about 3,100 net new PM peak hour vehicle trips, about 1,300 more net new PM peak hour vehicle trips than under the No Action Alternative. See the previous section and **Appendix N** for descriptions of the additional onsite transportation infrastructure improvements that would be completed under Alternative 3 by 2026. The offsite transportation system for Alternative 3 by 2026 would be assumed to be the same as for the No Action Alternative.

Street System

Figure 3.12-10 presents traffic volumes for the street system onsite and in the vicinity of the site in the PM peak hour by 2026. **Tables 3.12-5 and 3.12-6** compare the No Action Alternative and Alternative 3 onsite and offsite roadway and intersection operations during the PM peak hour by 2026 (see **Appendix N** for detailed LOS worksheets).

Laurel Street is assumed to be two lanes per direction under Alternative 3 by 2026 and all-way stop control is assumed at the Laurel Street/Bay Street intersections.

As shown in **Table 3.12-6,** Alternative 3 roadway operations would slightly improve as compared to the No Action Alternative, because additional site access would be provided with Alternative 3 by 2026, which would change travel patterns. **Table 3.12-5** shows that by 2026 during the PM peak hour several of the site access locations along Chestnut Street and Roeder Avenue would continue to operate at LOS F with the addition of Alternative 3 traffic. The intersections include:

- Roeder Avenue/Hilton Avenue

- Roeder Avenue/F Street
- Roeder Avenue/C Street
- Roeder Avenue/Central Avenue
- West Chestnut Street/Bay Street/Roeder Avenue
- East Chestnut Street/Cornwall Avenue

As shown in **Tables 3.12-5 and 3.12-6**, Alternative 3 traffic would degrade LOS E operations to LOS F in the PM peak hour by 2026 at the following offsite locations:

- Holly Street between F Street and Champion Street in the south-eastbound direction
- North State Street/Wharf Street

In addition, Alternative 3 traffic by 2026 would worsen LOS F operations in the PM peak hour at:

- Holly Street between Broadway Street and Champion Street in the north-westbound direction
- West Holly Street/C Street
- East Chestnut Street/Railroad Avenue
- Lakeway Drive/I-5 Southbound Ramps
- North State Street/James Street/Iowa Street
- North State Street/East Laurel Street
- North Forest Street/East Laurel Street

These changes in roadway and intersection operations would be due to the increase in traffic volumes at all intersections with the addition of Alternative 3 traffic by 2026.

Non-Motorized

By 2026, Alternative 3 is projected to generate about 9,500 daily pedestrian/bicycle trips. This would likely be greater than the No Action Alternative pedestrian/bicycle trips, because the land uses under Alternative 3 (i.e., residential, office, institutional and retail) typically attract more non-motorized traffic than industrial uses. As discussed previously, Alternative 3 would provide a more limited sidewalk and trail system onsite as compared to Alternatives 1 and 2.

Future development and the consequent increases in vehicular volumes would be expected to proportionally increase observed conflicts with pedestrians and bicyclists. The conflicts under Alternative 3 by 2026 would likely be greater than those under the No Action, because pedestrian/bicycle trips under Alternative 3 would likely be greater. The New Whatcom redevelopment would enhance pedestrian and bicycle usage on and around the site; however, Alternative 3 enhancements would be less than under the other Redevelopment Alternatives.

Transit

Alternative 3 is expected to generate about 2,900 daily transit trips by 2026. With this addition, transit ridership is projected to be 34,400 boardings per day. The passenger loading ratio would be about 1.49, which would exceed WTA's current 1.25 standard for seating capacity. The Alternative 3 passenger loading ratio of 1.49 would be greater than the No Action Alternative passenger loading ratio of 1.36. An increase in transit service in the vicinity of the site, as well as service and stops onsite, would be required to support future growth and transit demand.

Rail

Alternative 3 would not relocate the railroad onsite; therefore, rail impacts under Alternative 3 by 2026 would be expected to be the same as 2016 conditions in terms of the number of at-grade crossings.

Alternative 3 would generate more vehicular and non-motorized trips than under the No Action Alternative by 2026; therefore, the potential for conflicts and potential safety issues with trains at at-grade rail crossings would be greater. At-grade crossings would also increase delays to vehicular traffic that must stop as trains pass through intersections.

Construction of the Bay Street Bridge over the railroad would provide emergency access to Areas 2 through 10, as certain intersections would not be blocked by rail operations. As discussed previously, within Area 1, all at-grade crossings would remain, potentially blocking entry of emergency vehicles as trains cross the site access intersections; emergency vehicles would need to access Roeder Avenue at Bay Street or another location without an at-grade railroad crossing.

Parking

The majority of parking for the New Whatcom redevelopment would be located onsite. By 2026, it is assumed that Alternative 3 would provide 8,513 parking spaces. **Table 3.12-14** summarizes the parking demand and supply for Alternative by 2026 (see **Appendix N** for detailed parking calculations).

As shown in the **Table 3.12-14**, the hourly parking demand for Alternative 3 by 2026 would be approximately 7,000 vehicles, which could be accommodated by the overall assumed parking supply. However, based on the recommended parking supply for the parking subarea that includes Areas 4, 6, 7, and 8, there would be a deficiency of 200 to 330 parking spaces. However, there would be a surplus in all other parking areas; therefore, this deficiency could be accommodated onsite. It is assumed that adopted standards for the future parking supply onsite would require that each future redevelopment project accommodate its parking demand.

Similar to under the No Action Alternative, it is likely that some users of the site would park off-site when visiting multiple destinations in the area. Since a majority of the vehicles would park onsite there would be minimal impacts to offsite parking conditions.

Shipping and Boating Traffic

Alternative 3 assumes mixed use redevelopment of the New Whatcom site and development of a marina with up to 460 slips within the ASB area, similar to under Alternative 1. Therefore, potential impacts to navigation uses would be the same as described under Alternative 1.

Table 3.12-14
ALTERNATIVE 3 PARKING DEMAND AND SUPPLY – 2026

Parking Sub-Area	Hourly Parking Demand[1]	Proposed Parking	Recommended Supply Range[2]		Parking Surplus/ Deficiency Range	
1	1,241	1,843	1,365	1,427	478	416
2, 3, 5	1,803	2,363	1,983	2,073	379	289
4, 6, 7, 8	2,699	2,772	2,969	3,104	-197	-332
9	932	1,195	1,025	1,072	170	123
10	276	341	304	317	37	23
Total	6,951	8,513	7,646	7,994	867	519

Source: Collins Woerman and The Transpo Group, 2007

1. Hourly parking demand represents the maximum hourly demand within the redevelopment area.
2. Recommended supply is 10 to 15 percent more than the parking demand to reduce vehicles re-circulating through the parking areas.

Cumulative Impacts

As indicated in the previous **Travel Forecasts** section, future conditions under the EIS Alternatives assumed an increase in traffic volumes as a result of forecasted increases in the number of dwelling units and employment in the study area and throughout the Bellingham area over the next 20 years. Consideration was given to specific planned projects in the New Whatcom study area, including Bellwether Phase 2, Bay View Tower, and the 1010 Morse Square project (see **Section 2.9** of **Chapter 2** for more information on these projects). The background travel forecasts were estimated based on the expected number of vehicle trips during the PM peak hour generated by future land uses. This information was calculated using the City of Bellingham's travel demand model. The model was used to forecast the number of vehicles trips in the study area with the EIS Alternatives for the 2016 and 2026 horizon years. Therefore, the cumulative traffic impacts of these projects were accounted for as part of the assumed background growth; no additional cumulative impacts would result. It is assumed that these projects could also result in increased non-motorized trips, parking demands in the surrounding area and transit-related trips. Given the size and location of these projects, significant cumulative impacts on these other transportation modes would not be anticipated.

The separate projects described in **Chapter 2** include development of additional vessel moorage facilities at the Bellingham Shipping Terminal (BST). These facilities are to be located within areas historically used for deep draft and intermediate draft navigation uses. These uses will be consistent with historical uses in the area; no significant cumulative impacts would result.

3.12.3 Mitigation Measures

As mentioned in the **Impacts** section, it is assumed that Alternatives 1 through 3 would include a range of improvements to the transportation system to provide added capacity for their expected trip generation. This would include an onsite roadway network, as well as at-grade and bridge connections to the offsite network. It is assumed that some of these improvements would be constructed in the initial stages of site redevelopment, and others would be phased in over time as redevelopment continues over the 20-year buildout period.

In addition, the Redevelopment Alternatives would provide an extensive park and trail system, as well as sidewalks, crosswalks, and accommodations for pedestrians and bicyclists within the street rights-of-way. The motorized and non-motorized systems assumed under the Redevelopment Alternatives would improve connections to the offsite road and pedestrian/bicycle system, as well as access and circulation to and through the site. It should be noted that the assumed improvements and their layout were developed as part of the past and ongoing public planning process, and for analysis purposes in this Draft EIS. The layout, extent and features of these assumed improvements would likely be refined as the master planning process continues and the Master Development Plan is defined and adopted. Further, the specific design of these improvements would be formulated as future construction and redevelopment proposals are prepared and permit applications are submitted.

This section presents mitigation measures to eliminate or decrease the potential for impacts from New Whatcom redevelopment, as well as mitigation strategies that the City of Bellingham could implement with or without the New Whatcom redevelopment to better accommodate anticipated growth that is anticipated to occur throughout the downtown area over the next 20 years. These measures are in addition to the assumed improvements described and evaluated under each EIS Alternative earlier in this section. Specific mitigation measures applicable to New Whatcom redevelopment include: roadway and intersection improvements, eliminating gaps in the pedestrian and bicycle network, provision of transit and non-motorized facilities onsite, as well as implementation of strategies to reduce the number of vehicles traveling to and from the site. Long-term mitigation strategies could conceptually include approaches such as: reduction in travel demand, implementation of additional funding mechanisms, construction of physical improvements, and parking management policies.

In addition to the identified mitigation measures, it should also be noted that the City is considering changes to their transportation concurrency methodology standards and management policies to better promote the urban infill land use strategies adopted in the *2006 Bellingham Comprehensive Plan*. Future updates to the City's Transportation Concurrency Management Program may consider revising the LOS methodology and standards to include an average intersection LOS by subarea of the City, to better implement adopted infill land use strategies.

Table 3.12-15 and **Table 3.12-16** summarize mitigation measures and mitigation strategies for each of the EIS Alternatives, respectively. The mitigation measures are divided into the following categories:

- Onsite Access and Circulation Improvements
- Offsite Capital Improvements
- Potential Operation and Management Strategies

Table 3.12-15 also identifies: the location of the mitigation improvement; the mode of transportation that would be impacted by redevelopment; the specific mitigation measures; the EIS Alternative(s) and time period(s) to which the mitigation measures would apply; challenges associated with implementation of the mitigations if any; and, any applicable notes describing the mitigation measure (refer to the **Impacts** analysis earlier in this section for details on transportation impact results). Again the measures identified are in addition to those improvements assumed in each EIS Alternative, as defined earlier in this section and in **Chapter 2**.

It is possible that future developers of the New Whatcom site, as well as developers of other properties in the study area, could be required to participate in the funding and construction of certain improvements (to the extent that other proposed developments trigger the need for offsite improvements over the long-term). Funding and implementation strategies and methods for identified onsite and offsite improvements (potentially including local improvement districts, latecomers agreements or other funding or reimbursement mechanisms) could be addressed in the Development Agreement between the Port and the City; any role in funding and implementation by future developers could be addressed as well.

Below are brief summaries of these mitigation measures and strategies (see **Appendix N** for further detail).

Onsite Access and Circulation Improvements

- Widening of some onsite or adjacent roadways would be required to meet City LOS standards. Improved traffic control and additional turn lanes at some intersections would also be needed to improve access to the site. The major onsite or adjacent improvements are listed in **Table 3.12-15** (see **Appendix N** for further detail). Major improvements include widening of Roeder Avenue, from Hilton Avenue to Cornwall Avenue, to 2 lanes in each direction. Intersection improvements along Roeder Avenue would also be warranted. It should be noted that there are several constraints to this widening, including the railroad corridor, crossing of the Whatcom Waterway and the elevated structure south of Central Avenue. In addition, reconfiguration of the assumed five-legged intersection at Laurel Street/Commercial Street/Log Pond Road onsite would likely be required to improve intersection operations and reduce potential conflicts with pedestrians and bicyclists. One potential improvement strategy would be to extend Bay Street across the site, without it terminating at Laurel Street, as currently assumed.

Table 3.12-15
ONSITE AND OFFSITE TRANSPORTATION MITIGATION MEASURES

Map ID[1]	Location	Impact	Mitigation Measure[2]	No Action		Alternative 1		Alternative 2		Alternative 2A		Alternative 3		Mitigation Challenges	Notes
				2016	2026	2016	2026	2016	2026	2016	2026	2016	2026		
OnSite Access and Circulation[2,3]															
1	**Roeder Avenue/ Chestnut Street**	Street System	Widen and improve roadway to 4/5 lanes to provide additional capacity.	X	X	X	X	X	X	X	X	X	X	The railroad tracks and the Whatcom Waterway make widening Roeder Avenue very difficult and potentially financially challenging.	Provide two-lanes per direction from Hilton Avenue to Cornwall Avenue with turn lanes at major intersections, including sidewalks and bicycle lanes. This improvement is based on the results of the existing City LOS methodology and standards for roadway segment v/c ratios.
2	Roeder Avenue/ Hilton Avenue	Intersection	Intersection improvements to include traffic signal and turn lanes.	X	X	X	X	X	X	X	X	-	-		
3	Roeder Avenue/ F Street	Intersection	Provide an exclusive southbound left-turn lane on the F Street approach.	-	X	-	X	-	X	-	X	-	X	This would likely require additional right-of-way.	
4	Roeder Avenue/ C Street	Intersection	Intersection improvements to include traffic signal and turn lanes on both C Street approaches.	X	X	X	X	X	X	X	X	X	X		
5	Roeder Avenue/ Central Avenue	Intersection	Intersection improvements to include traffic signal and an exclusive left-turn lane on both Central Street approaches.	X	X	X	X	X	X	X	X	X	X		
6	Chestnut Street/ Bay Street	Intersection	Intersection improvements to include traffic signal and an exclusive left-turn lane on both Bay Street approaches.	X	X	X	X	X	X	X	X	-	X	This would require a rebuild of the existing elevated structure.	
7	Chestnut Street/ Cornwall Avenue	Intersection	Provide an additional northbound left-turn lane on Cornwall Avenue from the site.	-	X	-	X	-	X	-	X	-	X	The existing right-of-way does not allow for an additional lane and obtaining additional right-of-way would require building demolition.	This mitigation measure is dependent on widening of Roeder Avenue/Chestnut Street since two receiving lanes would be needed for the left-turn lanes.
8	**C Street**	Rail	Provide railroad crossing gates on C Street between Holly Street and Roeder Avenue.	X	X	X	X	X	X	X	X	X	X		
	Laurel Street														
9	Onsite Street Grid and Laurel Street/ Commercial Street/ Log Pond Road Intersection	Street System	Reconfigure the street system to create a four-leg intersection and consider an alternate internal street system to reduce the amount of traffic through the Laurel Street/ Commercial Street intersection (e.g., extending Bay Street to Oak Street).	-	-	-	X	-	X	-	X	-	-	The 5-leg intersection would be above grade creating construction issues that may make the location of the intersection both physically and financially challenging.	Although the overall LOS of the roundabout for all scenarios would be LOS D or better, vehicle queues would impact adjacent intersections.
10	**Cornwall Avenue**	Non-motorized	Provide a bike path that allows continued access along the Cornwall Avenue corridor or provide an alternative route.	-	-	-	-	X	X	-	-	-	-		Cornwall Avenue would be closed with Alternative 2. This closure would sever an unmarked bicycle route.
11	Cornwall Avenue	Street System	Widen and improve roadway to 4 lanes to provide additional capacity.	-	X	-	-	-	-	-	-	-	X	Would likely require additional right-of-way and/or removal of on-street parking.	Provide two-lanes per direction from Wharf Street to Chestnut Street. This improvement is based on the results of the existing City LOS methodology and standards for roadway segment v/c ratios.

Table 3.12-15 (cont'd)
ONSITE AND OFFSITE TRANSPORTATION MITIGATION MEASURES

Map ID[1]	Location	Impact	Mitigation Measure[2]	No Action		Alternative 1		Alternative 2		Alternative 2A		Alternative 3		Mitigation Challenges	Notes
				2016	2026	2016	2026	2016	2026	2016	2026	2016	2026		
Off-Site Capital Improvements[4]															
12	**Holly Street**	Street System	Widen roadway by an additional lane to provide additional capacity in the northbound direction from Broadway Street to Champion Street.	-	X	-	X	X	X	X	X	-	X	This would require removal of on-street parking.	This improvement is based on the results of the existing City LOS methodology and standards for roadway segment v/c ratios.
13	Holly Street/ F Street	Intersection	Provide a northbound left-turn lane on F Street.	X	X	X	X	X	X	X	X	X	X	This would likely require additional right-of-way.	This is an impact because queues spillback into Roeder Avenue/F Street. Alternatively, C Street could be upgraded to a collector arterial to divert some of the traffic from F Street to C Street and improve operations.
14	Holly Street/ C Street	Intersection	Intersection improvements to include traffic signal and turn lanes.	X	X	X	X	X	X	X	X	X	X	The existing right-of-way does not allow for an additional lane and obtaining additional right-of-way would require building demolition.	
15	Holly Street/ Central Avenue	Intersection	Intersection improvements to include traffic signal and turn lanes.	X	X	X	X	X	X	X	X	X	X	The existing right-of-way does not allow for an additional lane and obtaining additional right-of-way would require building demolition.	
16	Chestnut Street/ Railroad Avenue	Intersection/ Non-motorized	Intersection improvements to include traffic signal.	X	X	X	X	X	X	X	X	X	X		
	State Street/ Forest Street														
17	State Street/ Laurel Street	Intersection	Intersection improvements to include traffic signal and turn lanes	-	-	X	X	X	X	X	X	-	X	This would likely require additional right-of-way.	
18	State Street/ Wharf Street/ Forest Street/ Boulevard Street	Intersection	Realign intersection. Intersection improvements to include traffic signal or roundabout control.	-	X	X	X	-	X	-	X	-	X		Alternative 1 assumes completion of this improvement in the analysis.
19	Forest Street/ Laurel Street	Intersection	Intersection improvements to include traffic signal and turn lanes.	-	-	X	X	X	X	X	X	-	X	This would likely require additional right-of-way.	
20	**Bay Street** between Champion Street and Chestnut Street	Non-motorized	Provide bicycle lanes as well as enhance the pedestrian facilities to facilitate walking and biking between the site and downtown.	-	-	X	X	X	X	X	X	X	X		Bicycle and pedestrian facilities would be provided within the redevelopment area along this roadway as part of the Redevelopment Alternatives.
21	**Central Avenue** between Chestnut Street and Holly Street	Non-motorized	Upgrade bicycle route to provide bicycle lanes to accommodate bicycle travel between the site and downtown.	-	-	X	X	X	X	X	X	X	X		Bicycle and pedestrian facilities would be provided within the redevelopment area along this roadway as part of the Redevelopment Alternatives.
22	**Wharf Street** between Cornwall Avenue and State Street	Non-motorized / Street System	Improve Wharf Street to provide wide shoulders or bicycle lanes and sidewalks.	-	-	X	-	X	X	X	X	X	X		
23	**Laurel Street** between Cornwall Avenue and Garden Street	Non-motorized / Street System	Provide bicycle lanes as well as enhance the pedestrian facilities to facilitate walking and biking between the site and WWU.	-	-	X	X	X	X	-	X	-	-		Bicycle and pedestrian facilities would be provided within the redevelopment area along this roadway as part of the Redevelopment Alternatives.
24	**Maple Street** between Cornwall Avenue and Forest Street	Non-motorized / Street System	Provide bicycle lanes or shoulders as well as enhance the pedestrian facilities to facilitate walking and biking between the site and WWU. Provide turn lanes at intersections.	-	-	-	-	-	-	X	-	X	X		
NA	**Off-Site Street System**	Street system / Construction	Provide designated truck routes to be used by all construction traffic to minimize impacts to the street system.	X	X	X	X	X	X	X	X	X	X		This is a temporary impact during the physical construction of the redevelopment.

Table 3.12-15 (cont'd)
ONSITE AND OFFSITE TRANSPORTATION MITIGATION MEASURES

Source: The Transpo Group, 2007
Note: N/A = Not applicable, location not identified on map

[1] Numbers correspond to Figure 23 in **Appendix N**.
[2] Mitigation measures will be phased over the 20-year buildout period of the redevelopment project. Implementation of the mitigation measures would be determined in the development agreement between the Port and the City.
[3] **X** indicates that the Alternative would create an onsite impact. Onsite access and circulation mitigation measures provide physical improvements to the transportation infrastructure.
[4] - indicates that the Alternative does not impact the location.
[5] **X** indicates that the Alternative creates an offsite impact.

Table 3.12-16
POTENTIAL OPERATION AND MANAGEMENT STRATEGIES[1]

Impact	Mitigation Strategies	Notes
Street System and Parking	Implement a Transportation Demand Management (TDM) Program.	A TDM program would reduce the number of single-occupancy vehicles coming to and from the site and therefore, decrease impacts to the street system as well as parking impacts. Strategies to consider include: • Carpooling, car sharing, vanpools • Discounted transit passes • Increased telecommuting • Encouraging alternative travel modes • Discontinuing parking subsidies • Guaranteed ride home program
Street System	Create and contribute to a Transportation Benefit Area (TBA) for the site.	A TBA could allow for the City to collect additional transportation impact fees from development to pay for improvements needed onsite.
Street System	Upgrade traffic signal equipment at intersections in the vicinity of the site.	Consider replacing pre-timed signals in the area with actuated signals and/or implementing Intelligent Transportation Systems (ITS). Provide coordinated systems along major corridors such as Roeder Avenue. Monitor and update signal timing plans and phasing to improve intersection and overall corridor operations.
Non-motorized	Ensure adequate pedestrian crossings and linkage to transit and land uses onsite, and create a pedestrian friendly environment.	The Redevelopment Alternatives would create a pedestrian friendly environment similar to downtown with wide sidewalks. As part of future redevelopment, the Port should review the overall pedestrian network to eliminate missing gaps and ensure connectivity to transit and other transportation facilities as well as access to recreational and other land uses onsite.
Non-motorized	Provide bicycle amenities to encourage biking to, from, and within the site.	The Redevelopment Alternative would provide bicycle lanes and trails; however, other amenities such as route maps and information to navigate the site, showers and lockers in employment centers, and bicycle parking could be provided.
Transit	Work with WTA to determine the required transit facilities and amenities as well as potential transit routes onsite.	Transit amenities may include bus shelters, bus turnouts, layover areas, and transit kiosks. Potential corridors for transit service and stops include Roeder Avenue/Chestnut Street, Central Avenue, Bay Street, Commercial Street, Laurel Street, and Cornwall Avenue.
Transit	Implement systems and/or facilities to improve transit performance.	Potential transit strategies that improve performance include transit signal priority and bus bulbs.
Rail	Install rail crossing gates and improve rail crossing gates at existing locations.	To increase safety at rail crossings consider long-arm gates, medians, four quadrant gates, and photo enforcement.
Parking	Employ parking demand management strategies.	Parking demand management strategies would reduce the overall parking demand, and therefore, decrease parking impacts on and offsite. Strategies include reducing parking demand, parking management, dynamic parking signage, curb lane management, short-term/time restricted parking, and pay stations

Source: The Transpo Group, 2007
[1] These strategies are not specific to the New Whatcom redevelopment project and could be considered for other developments or City-wide.

Offsite Capital Improvements

- Widening of some offsite roadways would be required to meet City LOS standards. Improved traffic control and additional turn lanes at some offsite intersections would also be needed to improve access/circulation to/from the site. In addition, other roadways providing access to the site would need to be upgraded to handle the level of traffic and number of non-motorized users anticipated under the EIS Alternatives. The major corridors where intersection and roadway improvements would be needed include: Holly Street, State Street and Forest Street. Improvements to pedestrian and bicycle facilities would be needed along corridors such as: Central Avenue, Bay Street, Wharf Street, Laurel Street, and Maple Street to provide effective connections to the site, and to downtown and WWU. The major offsite capital improvements are listed in **Table 3.12-15** (see **Appendix N** for further detail). Truck access routes for construction traffic would need to be designated to minimize impacts to the surrounding street system.

Operation and Management Strategies

- A series of mitigation strategies could be implemented over the long-term as redevelopment occurs, in order to reduce impacts to the transportation system. The possible mitigation strategies are listed in **Table 3.12-16** (see **Appendix N** for further detail). It should be noted that some of these strategies have inherent tradeoffs associated with their effectiveness (i.e. improving streets for pedestrian/bicycle movement may result in slower speeds for vehicle traffic). These measures are included as a possible menu of options for overall consideration. As indicated previously, it is possible that future developers of the New Whatcom site and other properties in the study area could participate in funding and implementation of some of these strategies.

Transportation Impact Fees

In addition to the mitigation measures and strategies listed in **Tables 3.12-15** and **3.12-16**, the City of Bellingham Municipal Code (Chapter 19.06.030) establishes Transportation Impact Fees (TIFs) for new development.

- Future developers of specific redevelopment projects may be responsible for paying the City's Transportation Impact Fee (TIF). The TIF establishes a method to share in the cost of developing system improvements or program enhancements to address the need for increased mobility within the City. The TIF may be reduced if the development decreases PM peak hour traffic volumes as a result of mitigation strategies or other incentives. In addition, credit may be given for any improvements, dedication of right-of-way, or new construction of street system improvements provided by the developer which are part of the City's Six-Year TIP. Any provisions for transportation impact fees related to future New Whatcom redevelopment would be determined as part of the Development Agreement between the Port and the City.

3.12.4 Significant Unavoidable Adverse Impacts

With or without redevelopment of the New Whatcom site, added transportation demands and congestion on the surrounding street system will occur due to forecasted growth in Bellingham over the next 20 years. The EIS Alternatives would feature long-term redevelopment of the site that would contribute to increases in travel demands and congestion along the onsite and offsite street system. Redevelopment would also increase traffic access and circulation to/from the site and through the CBD and surrounding area. This added congestion would contribute to measurably poorer performance of the transportation network in terms of overall delays along several roadways and at some intersections in both 2016 and 2026. Improvements to the transportation network would be required to support both redevelopment of the site and expected growth in the City over the long-term. The increase in traffic and higher volumes of pedestrian and bicycle traffic would result in more conflict points and increased safety hazards as well. With implementation of mitigation measures, significant unavoidable adverse impacts would be prevented or substantially lessened.