

**Final Technical Report
Fremont Bridge
Approach Replacement Project**

Social Elements

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Introduction

The goal of the Fremont Bridge Approach Replacement Project is to replace the existing substandard bridge approaches with approaches that meet current structural standards. This report is an analysis of the social impacts in the project area. Because this project is replacing existing structures, it is expected to only have temporary impacts. This report will examine the impacts of the project on community cohesion, recreation areas, cultural resources, regional and community growth, services, and pedestrian and bicycle facilities. This analysis of social and environmental impacts follows the WSDOT *Environmental Procedures Manual*, Chapters 457 and 458 version March 2004.

Project Description

The Fremont Bridge is located in north Seattle and spans the Lake Washington Ship Canal, providing an important transportation link between the Fremont and Queen Anne neighborhoods (see Figure 1). It is a drawbridge with two lanes in each direction for vehicles, with sidewalks for non-motorized users. In 1998, a condition report completed for the approach structures found them to be structurally deficient and functionally obsolete by Washington State Department of Transportation (WSDOT) standards. The study concluded that replacement of the existing bridge approaches was the prudent course of action.

The purpose of this project is to replace the existing sub-standard bridge approaches (located north and south of the bridge itself) with new approaches that meet current structural design standards (see Figure 2). The bascule bridge portion will not be affected by this project. The approaches are the elevated roadways at each end of the bridge that connect to city streets. Improvements would replace the existing structures for the north and south approaches, and seismically retrofit and strengthen the north approach off-ramp. Sidewalks, railings and lighting on the approach structure would also be replaced. The new bridge approach structures would be located in the same location as the existing structures. The north and south approach structures have average centerline lengths of 534 feet and 124 feet, respectively.

The project also includes five additional components, which are described in more detail below.

Replacement of Operations and Maintenance Shop

The City of Seattle owns and operates the Fremont Bridge Operations and Maintenance Facility. This building is located underneath the southern approach of the bridge. The facility includes a 6,130 square foot building area (gross square footage), ten parking spaces, and a yard area. The existing building includes an electrical shop and administrative offices. The existing two-story concrete structure would be removed prior to the removal of the eastern half of the southern approach structure. It is likely the demolition of the eastern half of the southern approach structure would take place immediately after the demolition of the Operations and Maintenance Building. The building would be deconstructed, and all material would be disposed of according to the City of Seattle Standard Specifications.

The City of Seattle considered four design options for the new Operations and Maintenance Facility. Through the public outreach process, Scheme 4 became the preferred alternative. The City of Seattle presented the two design options to the Citizen Advisory Group (CAG) on March 23, 2004. The CAG was in agreement with the City that Scheme 4 was the preferred alternative. In addition, the City presented the preferred alternative at a public open house on May 12, 2004.

The building areas listed below are maximum estimates that are expected to decrease as the project moves through value engineering. The new building areas will only slightly increase in size in comparison to the existing building. The City of Seattle owns the right of way in which the building will be replaced.

In the Scheme 4 design the majority of the parking area would be underneath the bridge approach with a shop building area that is structurally independent of the approach structure. This design includes a separate building with a maximum of 1,160 gross square feet on the first floor and 2,520 gross square feet on the second floor. This building was designed with a larger top floor to create a more environmental-friendly and aesthetically pleasing building as well to provide some covered parking and yard area. This building would be constructed at the east end of the site adjacent to the bridge and an open paved yard of 4,950 square feet and 1,190 gross square feet of covered shed shop area. With the Scheme 4 design, the loading area is separated from the parking spaces on the north side of the lot to allow free access to the majority of the parking yard area.

Upgrade Mechanical and Electrical System

The project would also upgrade the mechanical/electrical system used to raise and lower the drawbridge. Although this work will take place over the Lake Washington Ship Canal, no material will enter the water. The electrical work would include a number of elements. The major components of this work are listed below:

1. Removal and replacement of all existing electrical equipment, motors, controls, conduit and wire. Work will be sequenced and coordinated with structural and mechanical activities to minimize impact to the roadway and waterway traffic.
2. Installation of new service entrance equipment including: meter sockets, current transformer enclosures, and main disconnect circuit breakers at both North and South bascule piers.
3. Installation of two standby engine generator sets, automatic transfer switches and associated equipment. The generators shall be sized for operation of the bascule leaves and for the house lighting and outlets.

In addition, the mechanical system of the drawbridge would be upgraded with the following work elements:

1. Removal of bridge reduction machinery from the platforms on the bascule piers. Removal of line shafts and reduction machinery on each side of each bascule leaf.
2. Installation of new motors, brakes and enclosed reduction machinery on each side of each bascule leaf.
3. Replacement of bridge center lock system.

4. Installation and removal of a temporary bridge operating system consisting of a City-provided winch system, wire ropes and blocks.

Replacement of Existing Pedestrian/Bicycle Stairs

The project is evaluating a proposal to widen the existing stairs from the Burke-Gilman Trail to the northern bridge approach. These stairs will be either replaced in kind or replaced with wider stairs. The current width of the stairs is approximately 3 feet, and the new stairs would be approximately 6 feet wide. The increased width would allow two people carrying bicycles to use the stairs at the same time. This project is not currently planning to change the existing stairs in the vicinity of the southern approach. During construction of the approaches, the current stairs will need to be removed as they are attached to the approach structures. If the stairs are not replaced, the current stairs will be reused to maintain the connection from the Burke-Gilman Trail to the northern bridge approach. As part of the design process, ramps were evaluated to provide a more accessible option between the bridge deck and the Burke-Gilman Trail. The ramps were rejected due to high costs, and the fact there are ADA accessible routes between the bridge deck and the Burke Gilman Trail. Trail users can access the bridge deck via North 34th Street in the vicinity of Stone Way or Phinney Avenue North.

Non-Motorized Related Improvements

To accommodate bicycle users, SDOT plans to provide the following bicycle related improvements:

Permanent Improvements

- Widen the southbound curb land between Florentia and Nickerson Streets to 14 feet to create a substantially more street space for bicyclists as they transition from the sidewalk to the street.
- Relocate or remove poles and other vertical obstructions to create a clearer pathway for pedestrians/bicyclists and to eliminate double blind zones at the north and south end of the bridge deck.
- Use signs or other lane-markings devices to help warn drivers and bicyclists of potential conflicts.
- Trim back the northeast traffic island at the Nickerson Street and Westlake Avenue intersection to minimize debris collection.
- Provide a bicycle signal for eastbound movements at North 34th Street and Fremont Avenue. The new bicycle signal will be similar to a vehicle signal (with red, green and yellow lights), but it will be slightly smaller in size. A sign will indicate the signal is for bicyclists only.
- Provide a corner mirror at North 34th Street and Quadrant Drive
- Trim back bushes at Florentia Street to improve visibility.

Temporary Improvements

- Provide a temporary six-foot bike lane on the north side of North 34th Street between Stone Way and Fremont Ave North while the Burke-Gilman Trail is closed for construction.
- Place detour signs at locations that will give bicyclists ample opportunity to choose alternative routes during construction.
- Prohibit left turns into and out of the Quadrant complex driveway located beneath the Aurora Bridge during closure of the Burke-Gilman Trail.

To improve bicycle safety and mobility between Florentia and Nickerson Streets the City will acquire a small “sliver” of land on the south side of the Ship Canal. The land is part of a triangle-shaped parcel that is bounded by Florentia Street, Nickerson Street and 4th Avenue North (see Figure 1). The taking of this land may cause the existing espresso stand to be relocated approximately 8 feet to the west. The espresso stand is currently located a few feet into the City of Seattle right of way.

Underwater Cables

Submarine cables currently lay on the bottom of the Ship Canal, which provide power and communications to the north bascule portion of the bridge. These cables have been in place since 1917 when the bridge opened. This project will abandon in place these cables, and it is envisioned the new submarine cable(s) will be laid on the bottom of the Ship Canal and allowed to sink down by its own weight into the mud/silt. It is not expected the original cables will be removed as part of this project. In addition, stormwater facilities for the bridge approaches will be modified to provide oil-water separation and water quality wet vaults as required under the City of Seattle drainage ordinance, Title 22.800 Stormwater, Grading, and Drainage Control Code.

Phasing of Project

The entire project including all the components will take approximately 30 to 34 months beginning in 2005 (see Figure 3). This time period will include approximately 18 months to replace the approaches as well as an additional six months to complete the construction of the new mechanical and electrical system. The bridge maintenance shop construction will follow the mechanical and electrical system work and will take up to nine months to complete. During approach construction, the project would maintain full bridge operations (two lanes each way and both sidewalks) for approximately the first nine months while constructing a new micro-pile substructure beneath the existing approach structure deck, followed by half bridge closure (one lane in each direction and one sidewalk maintained) for an additional nine months while the approach structure deck is replaced one half at a time.

Up to ten bridge closures may be necessary to replace the north and south approaches. If the upgrade of the mechanical and electrical system is done after the approach replacement, up to four additional closures are possible. Although it is expected that full bridge closures would take place on nights and weekends, it is possible some full closures could occur during weekdays. Any full closures of the bridge during weekdays would be

brief. In addition, weekday closures would only take place when it was determined to be more efficient than a weekend or night closure and with community support.

The Burke-Gilman and Ship Canal Trails would be closed in the vicinity of the project due to safety concerns. Users of these trails would be detoured around areas of construction. The City will close the Burke-Gilman Trail for up to approximately 24 months and the Ship Canal Trail for up to approximately 34 months. Once the approaches are replaced and the mechanical and electrical system work is completed, the City will reopen the Burke-Gilman Trail. The City will reopen the Ship Canal Trail once the new bridge maintenance shop is completed.

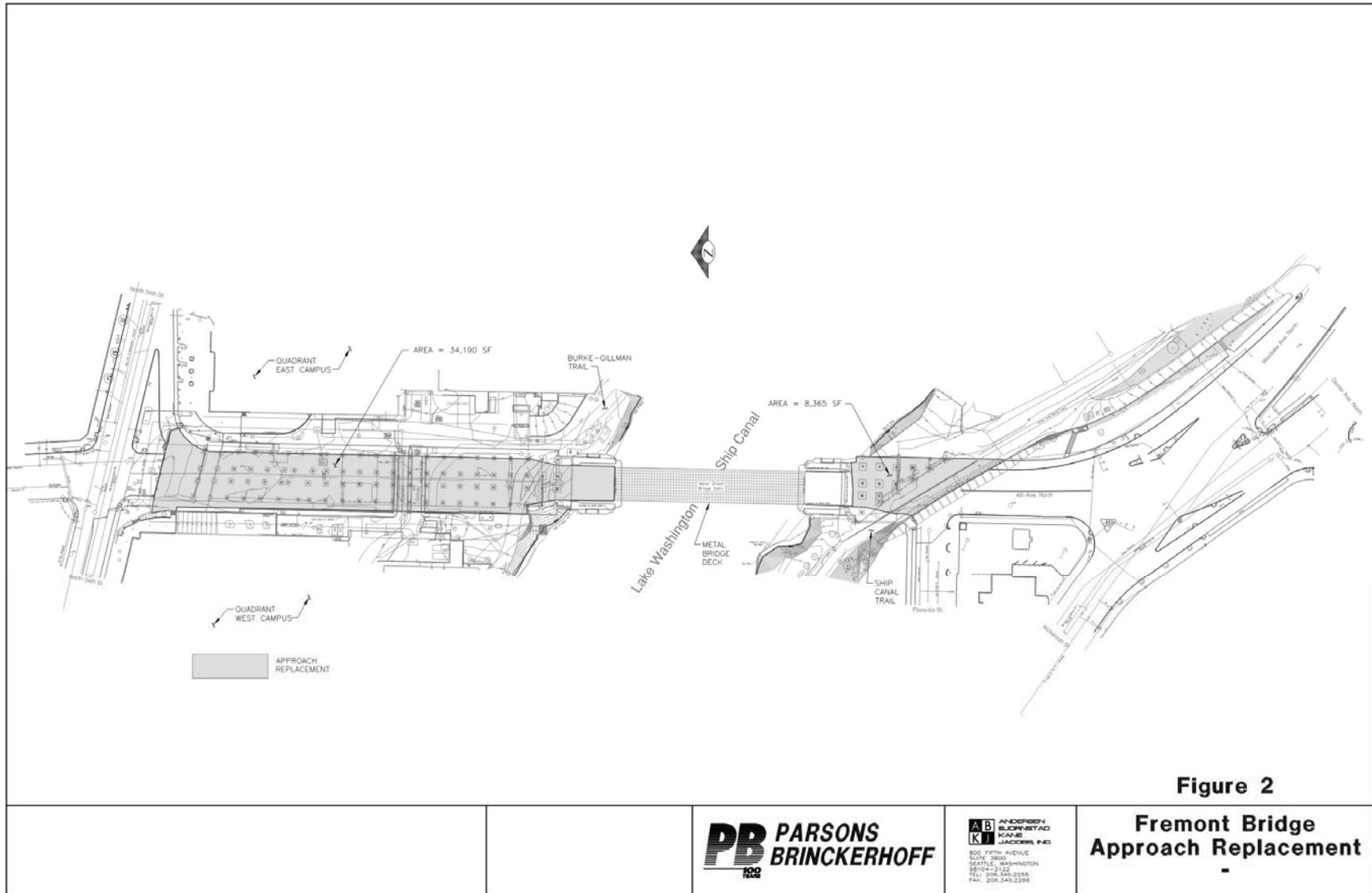
Figure 1: Project

Vicinity



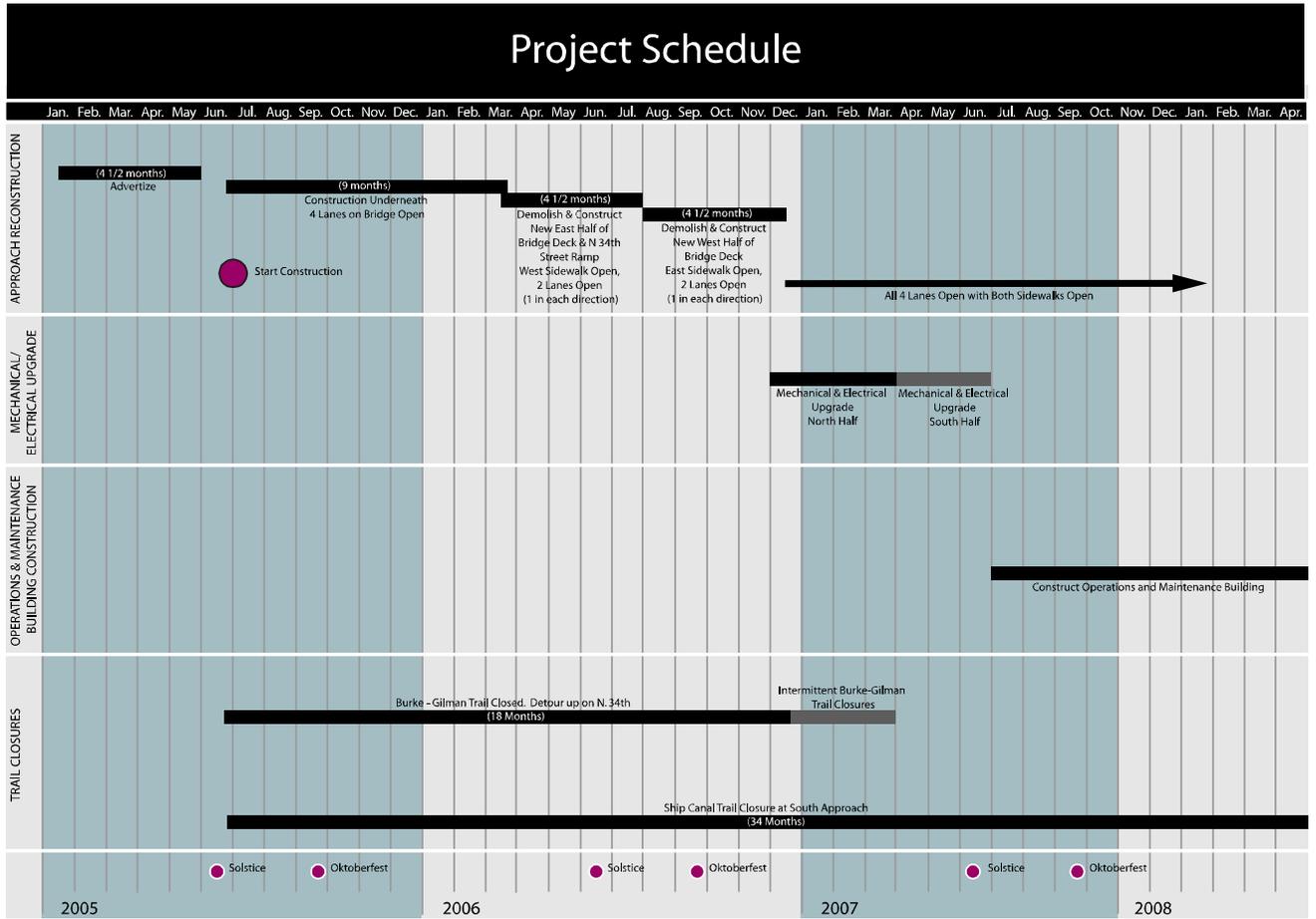
Project Vicinity Map

Figure 2: Fremont Bridge Approach Replacement Project



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Figure 3: Project Schedule



The Project Alternatives for Replacement of Approaches

Five build alternatives have been considered for replacement of the Fremont Bridge approaches. To develop and evaluate these alternatives, a *Type, Size and Location Study* was prepared by Parsons Brinckerhoff in March 2003. The post-construction configuration of the approaches and other bridge improvements are the same for all the alternatives. The alternatives vary only in terms of construction methods, project duration, and pedestrian/vehicle access over the bridge or across the Ship Canal during construction. Construction of the approaches is planned to begin in 2005 and is expected to last 18 to 24 months, depending largely on whether or not traffic is maintained on the bridge during construction. All alternatives would require some full bridge closures on nights and weekends. Although it is expected that full bridge closures would take place on nights and weekends, it is possible that some full closures could occur during weekdays. Any full closures of the bridge during weekdays would be brief, and weekday closures would only take place when it was determined to be more efficient than a weekend or night closure. Each alternative is briefly described in the following section. It is important to note that all references to bridge closures include both the north and south bridge approaches.

Studies, Coordination, and Methodology

This analysis of social impacts follows the WSDOT *Environmental Procedures Manual*, Chapters 457 and 458 version March 2004. Data was collected from a variety of federal, state and local sources. A major portion of the analysis relies on 2000 statistics published by the U.S Census Bureau. Additional information was obtained from local government resource materials published on the Internet. The data and analysis supporting the environmental justice discussion was prepared with consideration of Executive Order 12898, the Civil Rights Act of 1964, and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. Discussions with neighborhood planners, “windshield surveys” of the project area, and the extensive public involvement process provided secondary sources of data for this analysis.

Existing planning documents and reports relevant to historic and current social conditions in the project area were reviewed, including adopted comprehensive plans for the City of Seattle and neighborhood plans for Fremont and Queen Anne. Results from the *Fremont Bridge Approach Replacement Project: Type, Size, and Location Study* was also reviewed and incorporated into this analysis.

Neighborhood planners for Fremont and Queen Anne were contacted to determine if there were any outstanding social issues in the community. In addition, the Fremont Chamber of Commerce provided input on the social impacts. Finally, the City of Seattle has coordinated with WSDOT through the entire process.

Specific community issues were also identified through a public involvement process. Businesses, residents, commuters, schools, transit and emergency service providers have been contacted to engage the public in this project. The outreach has included communication with non-motorized user groups (i.e., Pedestrian and Bicycle Advisory Committees). Communication with the community began with stakeholder interviews to

identify key challenges and the preferred means of communication in August 2002. Next, a Citizen Advisory Group was assembled consisting of large employers, the Fremont Chamber of Commerce, the North Seattle Industrial Association, and neighborhood representatives. In addition, a public workshop and an open house were held to gain community input in the autumn of 2002. A newsletter was also distributed throughout the community and project information has been posted on the City of Seattle website. The initial public outreach suggests community members understand the project need and accept the reduction in bridge capacity during construction. Community members strongly support keeping open one lane of traffic in each direction during construction. An additional newsletter was mailed to businesses and residents in the area surrounding the bridge in early December 2003. In addition, a community open house was held in May 2004. The public did not identify any outstanding social issues at this open house. The public involvement efforts will continue throughout the project. It is expected there will be additional meetings with the public and the Citizen Advisory Group as well as the publication of more newsletters. The continued outreach will result in construction mitigation strategies that offer the most community support.

The Project Alternatives for the Replacement of Approaches

Five build alternatives have been considered for the replacement of the Fremont Bridge approaches. To develop and evaluate these alternatives, a *Type, Size and Location (TS&L) Study* was prepared by Parsons Brinckerhoff in March 2003. The post-construction configuration of the approaches and other bridge improvements are the same for all the alternatives. The alternatives vary only in terms of construction methods, duration of the project, and pedestrian/vehicle access over the bridge or across the Ship Canal during construction. The replacement of the approaches is planned to begin in 2005 and is expected to last 18 to 24 months, depending largely on whether or not traffic is maintained on the bridge during construction. All alternatives would require some full bridge closures on nights and weekends. Although it is expected that full bridge closures would take place on nights and weekends, it is possible some full closures could occur during weekdays. Any full closures of the bridge during weekdays would be brief. In addition, weekday closures would only take place when it was determined to be more efficient than a weekend or night closure. Each alternative is briefly described in the following section. It is important to note any references to bridge closures include both the north and south bridge approaches.

Alternative 1: This alternative would close the entire bridge for 12-24 months while the existing approach structures are completely removed and new approach structures are built on drilled shaft foundations.

Alternative 2: This alternative would consist of one half of the bridge closed for 18-20 months with half the existing approach structures removed and a new half structure built on drilled shaft foundations and then the second half removed and built. During the time period when one half of bridge would be closed, one lane would be open in each direction.

Alternative 3 (The Preferred Alternative): This alternative would support full bridge operations (two lanes each way and both sidewalks) for 9-12 months. Construction of a new micro-pile substructure would take place under the existing approach structure deck.

While the approach structure deck is replaced one half at a time, half the bridge (one lane each way and one sidewalk) would be closed for 9-12 months.

Alternative 4: This alternative would include full bridge operations (two lanes each way and both sidewalks) for 9-12 months during construction of a new drilled shaft substructure beneath the existing approach structure deck. Next half the bridge would be closed (one lane each way and one sidewalk maintained) for 9-12 months while the approach structure deck is replaced one half at a time.

Alternative 5: Full bridge operations (two lanes each way and both sidewalks) for 9-12 months while constructing a new wall substructure beneath the existing approach structure deck, followed by half bridge closure (one lane each way and one sidewalk) for 9-12 months while the approach structure deck is replaced half at a time.

Alternative 6 (No-Action): In this alternative, the bridge approaches would not be replaced. The City of Seattle may need to close the bridge due to safety concerns as the current bridge approaches are deteriorating.

To determine the preferred alternative, the project team used the following evaluation criteria:

- Maintenance of Traffic
- Construction Cost
- Community Impacts
- Constructability
- Environmental Impacts
- Structural Impacts
- Right of Way Requirements
- Amenities and Aesthetics
- Long Term Operations and Maintenance
- Overall Construction Impacts

Based on the evaluation criteria, Alternative 3 became the preferred alternative. Most importantly, it would disrupt traffic the least. The alternatives that disrupted traffic the least were the most heavily supported (over 90%) by the public involvement process to date. Alternatives 1 and 2 would cause the greatest traffic disruptions, thus these alternatives were dropped from further study. The traffic disruptions from Alternatives 3, 4 and 5 would not be as great. However, Alternatives 4 and 5 scored lower in a number of the other evaluation criteria, so they were precluded from further study. The *Type, Size and Location Study* by Parsons Brinckerhoff includes a more detailed discussion on the evaluation of all the alternatives.

As previously discussed, the alternatives differ only in construction methods, duration of the project, and pedestrian/vehicle access over the bridge or across the Ship Canal during construction. Furthermore, a Preferred Build Alternative has already been identified through the Type, Size and Location Study. So, this analysis will compare the preferred Build alternative to a No Action alternative.

Affected Environment

This section describes existing social conditions in the project area for the Fremont Bridge approach replacement project. The following sections address the general community character, population, demographics, public services, recreational amenities, and non-motorized and transit services and facilities.

The project area for this analysis encompasses the boundaries of the urban village/center of Fremont (south of North 40th Street to the water and Ashworth Avenue North to the east and 3rd Avenue Northwest to the west). The memorandum will also discuss impacts to the northern slope of Queen Anne (north of West McGraw Street to the water and Westlake Avenue to the east and 15th Avenue West to the west). The project area is highlighted in Figure 4.

Community Cohesion

History of Project Area

The Fremont neighborhood started in the 1880s as a settlement around a sawmill, bordering a shallow reach of wetlands between Lake Union and Puget Sound. The community grew to a town of 5,000 before it became part of Seattle in 1891. In 1916 the wetlands between Lake Union and Puget Sound were dredged by the federal government to create a deep-water connection, called the Lake Washington Ship Canal. This project created a wide water barrier between Fremont and downtown Seattle. To restore and improve transportation between these two communities, the Fremont Bridge was built and opened in 1917.

By 1919 the Bryant Lumber and Shingle Mill had expanded to both sides of Fremont Avenue North. A rail line to the north was franchised to the Northern Pacific Railroad (Bothell Branch) and a rail spur from North 34th Street accessed both the west and east sides of the lumber mill. Historic maps indicate a sash and door factory, lumber sheds, scattered lumber storage, and an office on the west side of Fremont Avenue North. A planing mill, drying kilns, machine shop, and sawmill were located on the east side. By 1950 much of the lumber mill on each side of Fremont Avenue North had been reconstructed. A new planing and sorting mill was constructed on the east side of Fremont Avenue North, and new work shops and lumber sheds were constructed on the west side. By 1968 the lumber mill had been replaced. The former mill buildings on the west side were converted to steel product manufacturing, housewares, and house trailer construction. On the east side was a building/housing tile and floor covering warehouse and a parts warehouse.

The area on the south approach (Seattle side) of the Fremont Bridge was primarily residential prior to 1917. An operations and maintenance shop was constructed by the City of Seattle under the south approach to the Fremont Bridge and is accessed by the “Lower Roadway.” By 1917 a Shell Oil Company pumping station was constructed immediately

south of Nickerson Street, across the street from the project site. Maps from the 1950s indicate a railroad right-of-way under the south approach.

Today, the junction of Fremont Avenue North at North 34th Street/Fremont Place/North 35th Street is considered “downtown Fremont”, which is a mixed-use commercial district. Through the City of Seattle’s comprehensive planning process, this area of Fremont has been designated as a Hub/Urban Village (see Figure 3). The main land uses in downtown Fremont are commercial with some residential uses (mainly apartments). Restaurants and shops extend north along Fremont Avenue North, and larger commercial businesses are located on North 34th Street. The Fremont neighborhood is known for its unique character, which includes a strong support for art. In addition, Fremont is the sponsor of two major community events: Summer Solstice Parade and Oktoberfest. Fremont also hosts a Sunday Flea Market. Across the bridge on the southern side of the Ship Canal are a number of commercial and light industrial businesses. Given their locations along the Ship Canal, many of these businesses are marine-related. The northern slope of Queen Anne is primarily residential with single-family homes and multi-family dwelling units.

Social Cohesion

In this analysis, the Fremont and north Queen Anne neighborhoods have been defined as the community of the study area. This analysis examines the social cohesion of this community. Social cohesion is defined as the nature and extent of social interactions among members of a community. This interaction may involve regular participation in community social events or neighborly exchanges on the street.

In the Fremont and north Queen Anne area, there are a number of indicators of social cohesion. The Fremont neighborhood is known for its unique character, which includes a strong support for art. The downtown business hub of Fremont supports various community events and general day-to-day business and social activities. In addition, the Fremont neighborhood is the sponsor of two major community events: Summer Solstice Parade and Oktoberfest. Fremont also hosts a Sunday Flea Market. These events provide additional opportunities for social interaction as these events are popular among community members. Both Fremont and Queen Anne also have active neighborhood and business groups. In addition, the public involvement process for this project has revealed a strong cohesiveness with active participation from many community members.

The Fremont Bridge adds to the cohesiveness of the community. The Fremont Bridge is an important transportation link between the Fremont and Queen Anne neighborhoods. The Fremont Bridge adds to the cohesiveness of the community. The Fremont Bridge is an important transportation link between the Fremont and Queen Anne neighborhoods. It is one of five bridges that cross the Ship Canal. The Fremont Bridge also provides access to a number of major destinations including Seattle Pacific University and downtown Seattle.

The Burke-Gilman and Ship Canal Trails also support the cohesiveness by providing non-motorized transportation linkages for community members as well as recreational space for social interactions. These transportation facilities provide opportunities for community members to have regular social interactions.

Demographics of Study Area

The analysis of the social impacts included a review of demographic data to further describe the project area. Information on King County and the City of Seattle was used to compare the project area to the larger community, and identify the proportion of low income and minority populations of the project area. This analysis used demographic data from the City of Seattle's Department of Planning and Development (DPD) demographic profiles for the entire city. The following tables provide further definition to the project area. Much of the information used to develop these tables came from census data. The census tracts for Queen Anne were identical to the boundaries of the project area. The census tracts used for the Fremont area encompassed a slightly larger area than the boundaries of the project area. This slight difference in boundaries should not impact the validity of this analysis. This data was used to identify protected populations in the study area (low-income, minority, elderly, disabled and limited English populations).

Table 1 summarizes the owner versus tenant status of housing units. The project area is characterized by a slightly higher number of renters than owner-occupied housing units. The City of Seattle has an almost even split between owner-occupied housing and renter-occupied housing units. The project area includes just a small percentage of more renter-occupied housing units. King County on the other hand is more weighted towards owner-occupied housing units.

Figure 4: Project Area

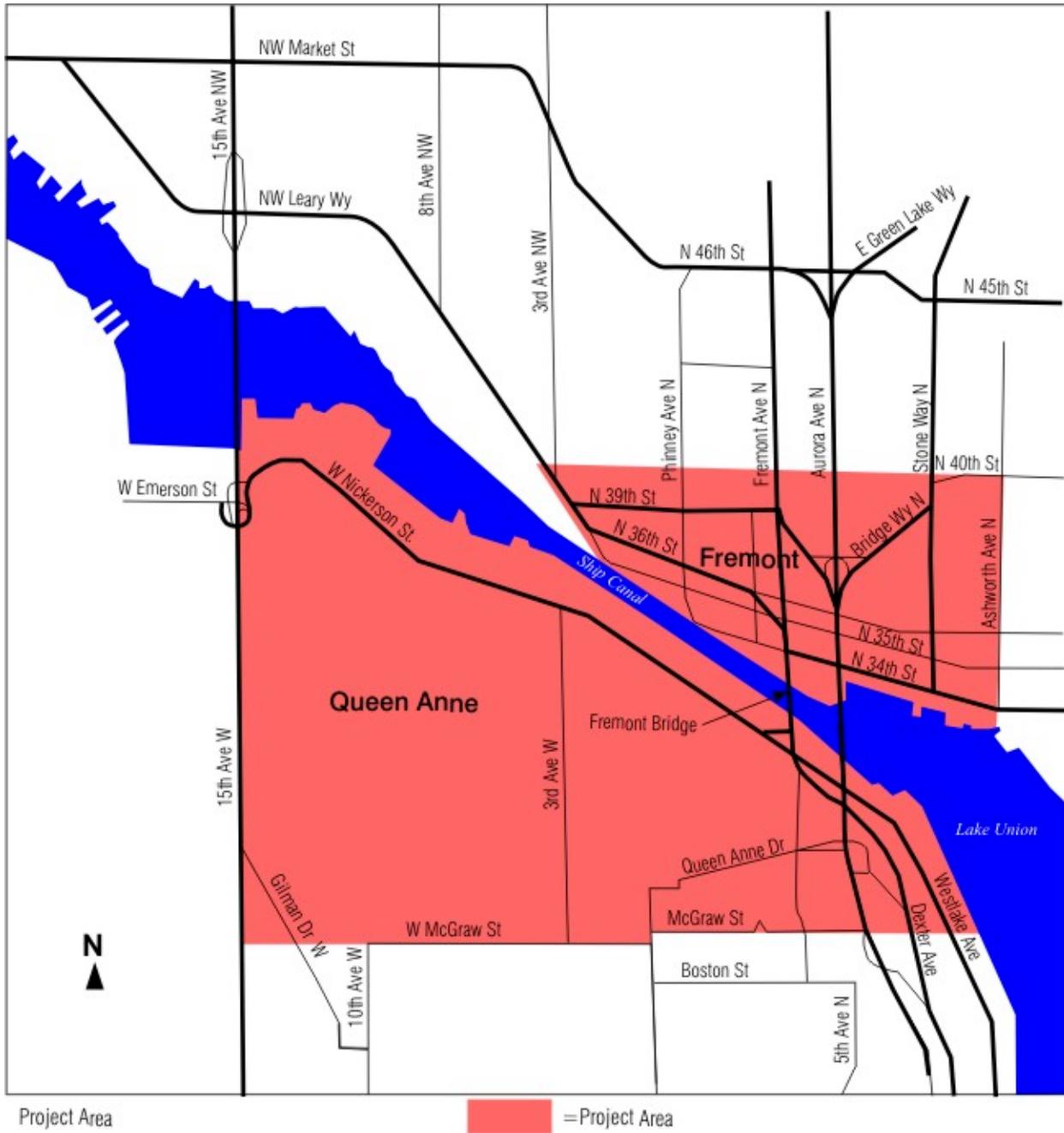


Table 1: Owner-Occupied Housing Units versus Renter-Occupied Housing Units

	Project Area	City of Seattle	King County
Owner-Occupied Housing Units (%)	45.53%	48.40%	59.80%
Renter-Occupied Housing Units (%)	54.48%	51.60%	40.20%

Source: U.S. Census Bureau, 2000, Table DP-1 Profile of General Demographic Characteristics
City of Seattle Census Data from City of Seattle DCLU website, www.cityofseattle.net/dpd
Note: Project Area defined by 2000 Census Tracts (48,49,59, 60).

It is difficult to estimate the number of transit dependent residents in an area. This analysis used the number of households with no vehicle as a surrogate for transit dependency in the project area. It does not appear the project area includes a large number of transit dependent residents. The percentage of households with no vehicle was almost identical for the project area and King County. The City of Seattle on the hand had a greater percentage of households with no vehicle. Table 2 displays these percentages.

Table 2: Percent of Households with No Vehicles

	Project Area	City of Seattle	King County
Percent of Households with No Vehicle	9.24	16.30	9.32

Source: U.S. Census Bureau, 2000, SF-3, Sample Data, Table QT-H11 Vehicles Available and Household Income 1999
Note: Project Area defined by 2000 Census Tracts (48,49,59, 60).

The project area includes a younger population than both the City of Seattle and King County. To estimate the elderly population, this analysis used the percentage of residents over 65 years of age. The median age and percentage of residents over 65 years of age is lower for the project area. This data is summarized in Table 3.

Table 3: Median Age and Percent of Residents Age > 65 Years

	Project Area	City of Seattle	King County
Median Age	32.93	35.40	35.70
Age >65 years (%)	8.53%	12.00%	10.50%

Source: U.S. Census Bureau, 2000, Table DP-1 Profile of General Demographic Characteristics
City of Seattle Census Data from City of Seattle DCLU website, www.cityofseattle.net/dpd
Note: Project Area defined by 2000 Census Tracts (48,49,59, 60).

Table 4 presents the median income and number of family households. The population of the project area appears to have higher income and smaller number of families. The project area has a higher median household income than the City of Seattle, and is slightly under the median income of King County. Just over a third of the households are families in the project area. Both the City of Seattle and King County include a larger percentage of family households. It is important to note the U.S. Census Bureau defines a family household as a household that includes one or more people living in the same household who are related to the householder by birth, marriage, or adoption. A non-family household may comprise a group of unrelated people or one person living alone.

Table 4: Median Household Income and Number of Family Households

	Project Area	City of Seattle	King County
Median Household Income (\$)	52,750	45,736	53,157
Number of Family Households	36.48%	43.90%	59.10%

Source: U.S. Census Bureau 2000, P.56 Median Household Income in 1999 Dollars (By Age of Householder)
City of Seattle Census Data from City of Seattle DCLU website, www.cityofseattle.net/dpd
Note: Project Area defined by 2000 Census Tracts (48,49,59, 60).

Table 5 displays both the number and percentage of residents in poverty in the project area. Both the City of Seattle and King County have higher percentages of families in poverty.

Table 5: Families At or Below Poverty Level

	Project Area	City of Seattle	King County
Total Number of Families	3,844	115,498	423,511
Families Below Poverty Level	104	7,942	22,597
Percent	2.71%	6.88%	5.34%

Source: U.S. Census Bureau, 2000, Table QJ-P35 Poverty Status in 1999 of Families and Nonfamilies Households
 City of Seattle Census Data from City of Seattle DCLU website, www.cityofseattle.net/dpd
 Note: Project Area defined by 2000 Census Tracts (48,49,59, 60).

Table 6 summarizes the racial composition of the project area in comparison to the City of Seattle and King County. The project area has smaller percentages of minority residents in all categories compared to the City and King County.

Table 6: Demographics of Project Area, City of Seattle and King County

Area	Total Population	Race								Hispanic or Latino (of any race)
		One Race								
		Total	White	Black or African American	Indian & Alaska Native	Asian	Native Hawaiian & Pacific Islander	Some other race	Two or more races	
Project Area ¹	21,290	20,513	18,884	314	222	875	41	177	777	703
City of Seattle	563,374	538,226	394,889	47,541	5,659	73,910	2804	13,423	25,148	29,719
King County	1,737,034	1,660,393	1,312,830	91,538	15,728	187,788	8,270	44,239	76,641	95,242
		95.54%	70.09%	8.44%	1.00%	13.12%	0.50%	2.38%	4.46%	5.28%
		95.59%	75.58%	5.27%	0.91%	10.81%	0.48%	2.55%	4.41%	5.48%

Source: U.S. Census Bureau, 2000, Table DP-1 Profile of General Demographic Characteristics
¹ Defined by 2000 Census Tracts (48,49,59, 60).

Census data did reveal a small number of “limited English” and disabled residents in the study area (see following tables). The percentage of residents in the project area with a transportation disability is less than the percentage in both the City of Seattle and King County.

Table 7: Transportation Disability

	Project Area	City of Seattle	King County
Percent of Population with Transportation Disability*	3%	6%	5%

Source: U.S. Census Bureau, 2000, SF-3, P-41, Age by Types of Disability for the Civilian Noninstitutionalized Pop >5 Years

Note: Project Area defined by 2000 Census Tracts (48,49,59, 60).

*Disabilities that affects an individuals ability to "go outside the home alone" is considered a transportation ability.

It is important to note that the project area has less than 5% and fewer than 1,000 residents that are “limited English” proficient (see the following table).

Table 8: Limited English

	Project Area	City of Seattle	King County
Percent of Population with Limited English	2%	5%	5%

Source: U.S. Census Bureau, 2000, SF-3, P-20, Household Language by Linguistic Isolation

Note: Project Area defined by 2000 Census Tracts (48,49,59, 60).

Parks and Recreation

The Seattle Parks and Recreation Department administers recreational facilities throughout the City of Seattle. Four parks are located in the project area, but are not adjacent to the proposed project (see Figure 1). Given the distance from the project, the parks are not subject to Section 4(f) and 6(f) evaluations.

Queen Anne Bowl Playfield/Rogers Park

Queen Anne Bowl Playfield/Rogers Park is located between 3rd Avenue West and 1st Avenue West and Fulton Street to the north and Raye Street to the south. It is 4.80 acres in size, and offers a children's playground, tennis courts and a sport field.

Mayfair Park

Mayfair Park is located off of 2nd Avenue North in the Queen Anne neighborhood. It is 1.0 acre in size and includes play area and picnic benches.

Canal Park

Canal Park is located off Canal Street in Fremont, and is 0.7 acres in size with park benches for enjoying the view of the Ship Canal.

B.F. Day Playground

The B.F. Day Playground is between North 41st and 39th Streets off of Fremont Avenue North and Linden Avenue North. The park is approximately 2.40 acres, and has a play area and athletic field. It is also has a historical shelter house which was built in 1911.

Lake Washington Ship Canal

It is also important to note that the Lake Washington Ship Canal is used by boats for recreation purposes.

Regional and Community Growth

All of the project area lies within the City of Seattle. In 2000, the City of Seattle had a population of 563,374 people. The City has grown about 9 percent since 1990 or has roughly gained 47,000 more people. Seattle is becoming a smaller share of the region's population. The City's share of King County's population declined from 34 percent to 32 percent between 1990 and 2000. Overall growth in both the City of Seattle and King County is expected to continue in future years. The City of Seattle *Comprehensive Plan* from January 2001 includes forecasts for both the neighborhoods in the project area. The *Comprehensive Plan* estimates that Upper Queen Anne will gain 300 more households in twenty years, and Fremont will have 820 more households and 1,700 more jobs. The previous section on community cohesion provides more information on the population and housing characteristics of the project area, community and region. Census data did reveal a small number of "limited English" and disabled residents in the study area. There are fewer than 5% or 1,000 residents in the project area that are "limited English" proficient.

Services

A number of services cross the Ship Canal via the Fremont Bridge or are located in close proximity to the Bridge. Existing service providers and utilities within the project area are described in the following sections.

Schools

There are four schools in the project area: two elementary schools (kindergarten through 5th grade), one private secondary school (kindergarten through 8th grade), and one university (see Figure 1). None of the schools are directly adjacent to the Fremont Bridge. Neither the private secondary school nor the university has attendance boundaries. The Seattle Public School District utilizes a student assignment plan; therefore, students that attend the schools in the project area can come from a variety of neighborhoods. It is likely a number of students and/or parents from the schools use the Fremont Bridge to commute between home and school.

Coe Elementary sits on the top of the Queen Anne hill off 7th Avenue West and is over one-half mile from the Fremont Bridge with an enrollment of approximately 320 children. B.F. Day Elementary with about 280 children is in the Fremont neighborhood on Linden Avenue and is about a quarter of mile from the bridge. Seattle Country Day is located on 4th Avenue North on the north slope of the Queen Anne hill, and has just over 300 students. It is just under one-quarter of a mile from the Fremont Bridge. The 45-acre campus of Seattle Pacific University is just about one-half a mile from the bridge, and its campus is located off of 3rd Avenue West at the bottom of Queen Anne hill. Approximately 3,700 students attend this university with almost half of the students living on the campus. The university includes a staff of 350 people.

Religious Institutions

The Fremont Baptist Church is located on North 36th Street just off Fremont Avenue.

Medical Services

An examination of the project area did not identify any medical services that would be impacted by this project.

Social Institutions

An examination of the project area did not identify any social institutions that would be impacted by this project.

Police

The service boundaries of the City of Seattle Police Department are defined by the city limits. The North Precinct provides emergency response and public safety services to the Fremont neighborhood and the West Precinct does the same for the Queen Anne neighborhood. The Ship Canal actually divides these two precincts. Given the boundaries of the precincts, it is rare for the police to cross the Fremont Bridge.

Fire and Emergency Medical Service

The Seattle Fire Department provides ambulance/medic services to the Fremont and Queen Anne neighborhoods. The Fremont fire station does not have an ambulance assigned to it, so other Seattle Fire Department locations provide ambulance/medic service to Fremont. The Fremont neighborhood is served by the Fire Department's Engine #9, which is located off of Linden Avenue North and North 38th Street. The Queen Anne neighborhood is served by Engine #8 (Lee Street) and Engine #20 (13th and Dravus). The Seattle Fire Department currently utilizes Engine #9 as the primary engine to serve the area along Westlake Avenue on the west side of Lake Union. It is also the second engine listed for the lower Queen Anne area from Seattle Pacific University to Westlake Avenue. Currently, the Fremont neighborhood has an approximate emergency response time of 4.5 minutes, and the Upper Queen Anne neighborhood has a 4.9-minute response time.

Public Transit

King County Metro currently operates four transit routes that cross the Fremont Bridge. According to information by King County Metro staff, these four routes combine for 20 buses across the bridge per hour during the peak period, 16 buses per hour during midday, and 8 buses per hour in the evening. These routes are described in Table 9.

Table 9: Bus Routes in Project Area

Route	Description
26	Greenlake to Downtown Seattle via 35 th and Dexter
28	Broadview to Downtown Seattle via Leary and Dexter
31	U-District to Magnolia via 35 th and Nickerson
74	U-District to Downtown Seattle via 35 th and Westlake

The bus stops in close proximity to the Fremont Bridge are listed in Table 10. None of the bus stops are located on the approaches or on the Fremont Bridge.

Table 10: Bus Stop Locations in Project Area

Bus Stop Location	Distance to Bridge
Westlake Avenue North & Dexter Avenue North	0.07 mile
Nickerson Street & Florentia Street	0.08 mile
Dexter Avenue North & 4 th Avenue North	0.09 mile
Nickerson Street & 3 rd Avenue North	0.10 mile
Dexter Avenue North & 4 th Avenue North	0.10 mile

Utilities and Services

Seattle City Light provides electrical energy while Seattle Public Utilities provides water, sanitary sewer, and storm water service in the City of Seattle. A transfer station is located on North 34th Street about a quarter of a mile from the Fremont Bridge. The transfer station provides an additional collection point for residents to get rid of their garbage and recycling. Puget Sound Energy provides natural gas energy in the project area. Comcast, Qwest, and Cellular One offer telecommunications and cable utility services. Most of these utilities are buried underground or carried by aboveground transmission lines within public right-of-way.

Seattle Public Utilities contracts with private firms for the collection of residential garbage, commercial solid waste, recyclable materials, and yard waste. Waste Management Systems handles all solid waste disposal for the City of Seattle. This project will not impact the collection of any garbage in the project area. Garbage trucks will be able to access all residences and commercial sites for pick-up.

Cemeteries

There is one cemetery in the project area: Mt. Pleasant Cemetery. The cemetery is not directly adjacent to the Fremont Bridge, but is in the Queen Anne neighborhood off Raye Street between 5th Avenue West and 8th Avenue West (see Figure 1). The cemetery is just over a half mile from the bridge.

Environmental Justice

Executive Order 12898

Under Executive Order 12898 (February 1994), all federal actions must consider impacts on minority and low-income populations and provide mitigation where disproportionate adverse impacts would occur to these groups. If there are disproportionate high and adverse impacts to minority or low-income groups, an effort must be made to avoid them, then minimize the impacts and provide mitigation. Under Title VI of the Civil Rights Act of 1964, a proposed federal action cannot create undue hardship on minority populations. In other words, no person may be discriminated against because of race, color, national origin, sex and age under any program or activity receiving federal financial assistance.

Census data was analyzed to identify demographics to determine if low income, minorities, elderly, disabled and limited English populations were present in study area.¹ Population and housing characteristics for the proposed project area were reviewed for information on the area's minority and low-income populations. Information from King County and the City of Seattle was used to discern the proportion of minority, low-income, elderly and disabled populations (see Tables 1-8). Discussions with neighborhood planners, "windshield surveys" of the project area, and the extensive public

¹ Elderly are protected the by Age Discrimination Act of 1975. Minorities are protected by Title VI of the Civil Rights Act of 1964. Disabled are protected by the Americans with Disability Act of 1990.

involvement process provided secondary sources of data for this analysis. In addition, this analysis used demographic data from the City of Seattle's Department of Planning and Development (DPD) demographic profiles for the entire city. Census data did reveal the presence of the minority, low-income, elderly, disabled and limited English residents in the project area.

The extensive public outreach did not reveal any overlooked environmental justice or protected populations. Businesses, residents, commuters, schools, transit and emergency service providers have been contacted to engage the public in this project.

Communication with the community began with stakeholder interviews in August 2002. Next, a Citizen Advisory Group was assembled consisting of large employers, the Fremont Chamber of Commerce, the North Seattle Industrial Association, and neighborhood representatives. In addition, a public workshop and an open house were held to gain community input in the autumn of 2002. A newsletter was also distributed throughout the community and project information has been posted on the City of Seattle website. An additional newsletter was mailed to businesses and residents in the area surrounding the bridge in early December 2003. In addition, a community open house was held in the spring of 2004.

The public involvement efforts will continue throughout the project. It is expected there will be additional meetings with the public and the Citizen Advisory Group as well as the publication of more newsletters. The continued outreach will result in construction mitigation strategies that offer the most community support.

Pedestrian and Bicycle Facilities

Figure 5 displays the pedestrian and bicycle facilities in the project area.

Fremont Bridge

The Fremont Bridge is a significant part of Seattle's bicycle network, providing a direct link between the Burke-Gilman multi-use trail and Dexter Avenue, which is a main artery into downtown Seattle. As many as 100 bicyclists per hour are estimated to cross the bridge during peak periods. The number of cyclists is based on counts on the Burke-Gilman trail by the City of Seattle and estimates by City staff of the percentage of trail users who also use the bridge.

Burke-Gilman Trail

The Burke-Gilman Trail passes under the northern approach of the Fremont Bridge and runs along the Ship Canal. It is a regionally significant trail that begins at 8th Avenue Northwest in Ballard and follows an old railroad right-of-way along the Ship Canal and north along Lake Washington. This multi-use trail extends 27 miles in length. The City of Seattle manages the trail in the city limits and King County is responsible for the remainder of the trail. The Burke-Gilman trail is one of the oldest and most heavily used trails in the region. Cyclists, skaters, runners and walkers utilize the trail for both recreational and commuting purposes.

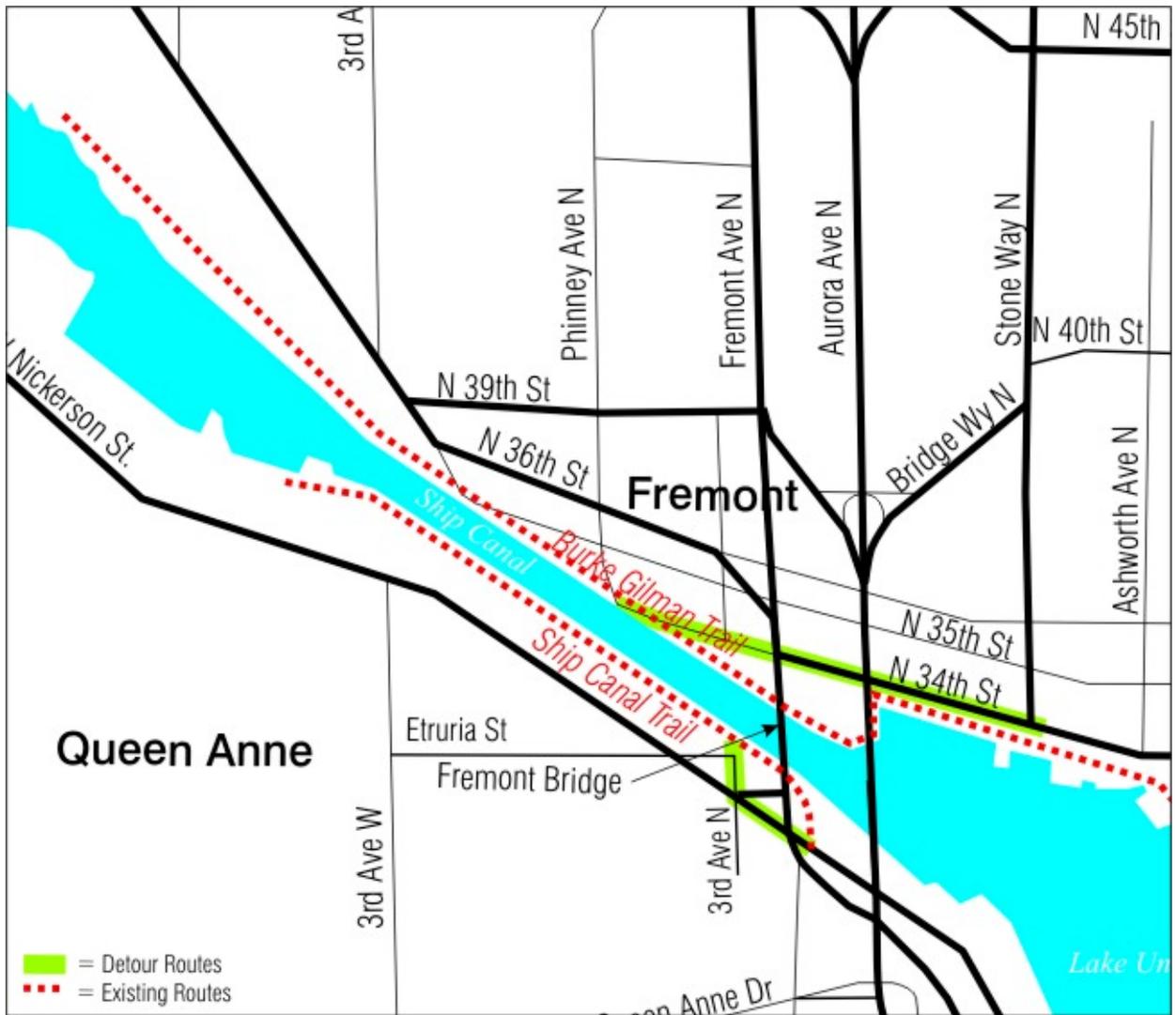
The City of Seattle has two projects that will extend the Burke-Gilman Trail approximately 1.7 miles to Golden Gardens Park (in northwest Seattle). The construction of these projects is scheduled to begin in 2005.

Ship Canal Trail

The Ship Canal Trail runs along the southern shoreline of the Ship Canal and passes under the southern approach structure. This city-managed trail begins at the Fremont Bridge, heads west for about $\frac{3}{4}$ of a mile to 6th Avenue West. Cyclists, runners, walkers and skaters also use this trail for recreation and to a lesser degree for commuting purposes. This trail connects Seattle Pacific University to the Fremont Bridge where users can access the regionally significant Burke-Gilman Trail.

The City of Seattle has plans to extend this trail from 6th Avenue West to West Emerson Street, which is just west of the Ballard Bridge. The trail will then connect to an existing trail that leads to the Fisherman's Terminal and beyond. The City anticipates construction of this $\frac{3}{4}$ mile extension of this trail will take place in 2005.

Figure 5: Bicycle and Pedestrian Facilities in the Project Area



Bicycle and Pedestrian Facilities in the Project Area

Impacts

Two types of impacts have been analyzed for this project: direct and construction-activity impacts. Direct impacts are permanent impacts that are directly attributable to the proposed project. Construction-activity impacts are impacts resulting from construction activities. This section discusses both types of impacts that could result from the Build and No Action alternatives. It is important to note that this project is the replacement of existing structures, and the only impacts from this project should be temporary. The following discussion summarizes these impacts.

Direct Impacts

It is not anticipated that this project will have any permanent, direct impacts to cultural resources-tribal areas, transit services, emergency services, or religious institutions.

Community Cohesion

This project will not result in permanent changes to the community cohesion of the Fremont or Queen Anne neighborhoods. Full closures of the bridge due to construction activities will be minimized to ensure this important transportation link is maintained for the community. Closure of the trails in the project area will be temporary, and alternative routes will be available. The construction schedule is being developed with community events in mind. The unique character of Fremont will not be impacted by the project. The population of the project area will not experience any permanent impacts to community life or social relationships/patterns. Community members will not experience isolation, separation or displacement, influx or loss of population. Furthermore, it is not likely that the project will increase automobile use or impact the availability of affordable and accessible housing supply within the study area. Any aesthetic improvements to the approaches would reflect the unique identity of Fremont and the lower Queen Anne neighborhoods.

A small operations and maintenance facility that is the property of the City of Seattle will be demolished as part of this project. The facility is located under the south approach structure. It is used by City of Seattle, and there will be no permanent, direct impact. Workers will be temporarily displaced for the duration of project construction. The displaced workers will be temporarily relocated to other Seattle Department of Transportation facilities. It is not anticipated that any workers will be permanently displaced to other locations.

Parks and Recreation

Parks and recreation facilities in the project area would be unaffected by the proposed improvements.

Regional and Community Growth

This project will not generate new growth or other notable changes in the community or region. The proposed improvements will accommodate projected levels of regional and

community growth. In addition, the project should not alter the current characteristics of the Fremont and Queen Anne neighborhoods in the project area.

Services and Utilities

No permanent disruption to services or utilities would occur as a result of this project. In addition, service travel times will not change with this project.

Pedestrian and Bicycle Facilities

No permanent changes would occur to pedestrian and bicycle facilities upon completion of construction activities. The replacement of the Fremont Bridge approaches will not impact the extension plans for the Burke-Gilman or Ship Canal Trails.

Environmental Justice

Project activities will replace existing structures. There are no impacts to residences or businesses with the exception of the one City of Seattle structure mentioned. Area populations, including protected ones, will not experience any permanent changes in community cohesion, barriers, isolation or other environmental impacts. No minority or low-income populations have been identified that would be disproportionately adversely impacted by this project as determined above. Therefore, this project has met the provisions of Executive Order 12898, as it is supported by Title VI of the Civil Rights Act.

Determination of Disproportionately High and Adverse Effects

This project will not have any adverse impacts to the identified environmental justice populations in the study area. This project is replacing existing structures, thus there will not be permanent changes upon completion of the construction activities. Environmental justice populations will not experience an increase in community detachment, barriers or isolation over what currently occurs with the existing bridge approaches. Any temporary impacts will be the same for all with the main impact expected to be increased travel time during construction.

This project will not have any disproportionate impacts on environmental justice populations. There are no permanent, negative impacts, so environmental justice populations will not experience any disproportionate impacts. The completed project will benefit the entire project area including the environmental justice populations.

The project will not have disproportionately high and adverse effects on environmental justice populations in the study area.

Mitigation of Direct Impacts

This project is only replacing current infrastructure and improving existing facilities and systems, so no mitigation is necessary for the operation of the bridge approaches. No mitigation has been determined to be necessary for environmental justice populations.

Construction Activity Impacts

Community Cohesion

Construction activities may cause temporary and minor disruptions and detours to local vehicle trips. Community intactness would not be adversely affected by these disruptions. Alternative routes would be available during both full and partial closures of the bridge. The Aurora Bridge (SR-99) is less than a quarter of a mile from the project while the Ballard Bridge (15th Avenue West) is less than a mile from the Fremont Bridge. Both bridges cross the Ship Canal running parallel to the Fremont Bridge. Residents may experience longer travel times when the bridge is partially closed and/or when using alternative routes. If partial bridge closures took place during the Summer Solstice and Oktoberfest events, attendance may be impacted by the loss of capacity and there would likely be more congestion in the project area. The construction schedule has not been finalized at this time, but the schedule will take into account these large festivals.

The population of the project area will not experience any temporary impacts to community life or social relationships/patterns. Community members will not experience isolation, separation or distribution, influx or loss of population. Furthermore, it is not likely that the project will temporarily increase automobile use or impact the availability of affordable and accessible housing supply within the study area. Any aesthetic improvements to the approaches would reflect the unique identity of Fremont and the lower Queen Anne neighborhoods.

A small operations and maintenance facility that is the property of the City of Seattle will be demolished as part of this project. The facility is located under the south approach structure. It is used by City of Seattle, and there will be only temporary, direct impacts when workers are relocated to during construction of the new facility. Workers will be temporarily displaced for the duration of project construction (up to 36 months). Up to 30 staff members work on-site and utilize the facility on a daily basis. It is not anticipated that any workers will be permanently displaced to other locations.

Parks and Recreation

The parks in the project are far enough away from the actual construction that they should not experience any impacts.

During the upgrade of the drawbridge's mechanical/electrical system, there may be restrictions on full usage of the drawbridge. That is, only one side of the drawbridge may be operable, thus boaters in the Lake Washington Ship Canal would need to cross under bridge on one side. This occurrence is expected to happen only briefly, but it may cause boaters to experience an increase in travel time.

Due to safety concerns, all alternatives would require closure of the non-motorized paths under the bridge during the entire 30-34 month construction period.

Regional and Community Growth

Construction activities would have little to no impact on regional and community growth since the majority of the time the bridge would be partially open and alternatives will be available.

Services and Utilities

Schools

The partial closures of the bridge during construction may increase travel time for student and/or parents that are crossing the bridge or using an alternative route. The full closure of the bridge should not impact students and/or parents as most of the closures will be at night or on the weekends.

Religious Institutions

Members of the church may experience greater travel times when the bridge is partially or fully closed.

Emergency Services

In event of the bridge closure, the area along Westlake would be instead served by Engine #2, located at 4th Avenue and Battery Street, and Engine #20 (off of 13th Avenue West and Dravus). This will result in a delay in response time for this area, due to the distance required to travel from these stations. It is difficult to estimate the length of delay as there are numerous factors beyond the project activities that could impact the travel time of emergency services. It is likely delays in reaching Fremont via a partially closed Fremont Bridge are minimal (less than 30 seconds). Delays in reaching Fremont via a fully closed Fremont Bridge (therefore requiring use of the Washington or Ballard Bridges) would average 2-3 minutes.

Public Transit

The transit agency has indicated that they will use alternative routes during construction to minimize disruption and confusion to the riders. The use of alternative routes by buses during construction may increase the travel time for some riders. The transit agency has not finalized the alternative routes at this time.

Utilities and Services

Underground and aboveground utilities may need to be temporarily relocated as a result of this project. Any disruptions to utilities during construction will be minor, and utilities companies and/or residents will be contacted ahead of time. In addition, any garbage trucks crossing the Fremont Bridge during construction time may experience a slight increase in travel time.

Pedestrian and Bicycle Facilities

With partial closure of the Fremont Bridge, pedestrian and bicycle access across the bridge will be maintained at all times. During construction of the approaches on the east half, a 10-foot curbed sidewalk on the west approaches will handle both directions of pedestrians and bicyclists. Once the east side construction is completed, pedestrians and bicyclists will be shifted to the newly constructed (east) half. During this phase of the construction period, pedestrians and bicyclists will have a 6 to 8 foot wide area on the approaches which will be separated from the motorized traffic by a temporary concrete traffic barrier.

When the bridge is fully closed to vehicle traffic, it will also be closed to bicycle and pedestrians. During full bridge closures, pedestrians and bicyclists will use alternative routes to cross the Ship Canal (see Figure 5 for details).

The replacement of the Fremont Bridge approaches will temporarily impact the trails in the project area during construction. The City of Seattle will close the Burke-Gilman Trail from approximately Stone Way North to Phinney Avenue North. The Burke-Gilman Trail will be closed at Stone Way North and detoured up onto North 34th Street where it will join back up to the existing trail in the vicinity of Phinney Avenue North vicinity (see Figure 4). Trail users will be able to use North 34th Street between Stone Way North and Phinney Avenue North. Those traveling eastbound will be able to use the existing bicycle lane on the south side of North 34th Street. Those traveling westbound will use the automobile lane (dedicated to bicyclists during construction) on the north side of North 34th Street between Stone Way North and Aurora Avenue North. Pedestrians would be able to use the sidewalks on these streets.

The Ship Canal Trail will be rerouted up onto the sidewalk/trail next to Westlake Avenue/Nickerson Avenue. This trail will be closed just east of the Fremont Bridge. On the west end it is anticipated that the Ship Canal Trail will be closed at the ramp in the vicinity of 3rd Ave North and Etruria Street (see Figure 4).

Pedestrians and bicycles may experience increased travel times when the bridge is closed, and users will need to use alternative routes to cross the Ship Canal. In addition, users of the Burke-Gilman and Ship Canal Trails will likely experience increased travel time as they use alternative routes when the trails are closed (up to 34 months] under the bridge during construction.

Environmental Justice

No disproportionate impacts would adversely affect minority, low-income or elderly populations. Construction activities will replace existing structures. There are no impacts to residences or businesses with the exception of the one City of Seattle structure mentioned. Area populations, including protected ones, will not experience any permanent changes in community cohesion, barriers, isolation nor other environmental impacts. No minority or low-income populations have been identified that would be disproportionately adversely impacted by this project as determined above. Therefore, this project has met the provisions of Executive Order 12898, as it is supported by Title VI of the Civil Rights Act. Any temporary impacts will be experienced the same by all regardless of income or race with the main impact expected to be increased travel time during construction.

Determination of Disproportionately High and Adverse Effects

This project will not have any adverse impacts to the identified environmental justice populations in the study area. This project is replacing existing structures, thus there will not be permanent changes upon completion of the construction activities. Environmental justice populations will not experience an increase in community detachment, barriers or isolation over what currently occurs with the existing bridge approaches. Any temporary impacts will be the same for all with the main impact expected to be increased travel time

during construction. This temporary impact will not be predominately borne by a minority and/or low-income population. Furthermore, environmental justice populations will not experience an appreciably more severe impact in comparison to non-minority and/or non-low income populations.

This project will not have any disproportionate impacts on environmental justice populations. There are no permanent, negative impacts, so environmental justice populations will not experience any disproportionate impacts. The completed project will benefit the entire project area including the environmental justice populations.

The project will not have disproportionately high and adverse effects on environmental justice populations in the study area.

Cultural Resources

There are no known usual and accustomed tribal areas in the project area at this time, thus there are no anticipated direct or construction related impacts. During the Section 106 (Cultural Resources) process, consultation has been initiated with the tribes. Please see the following report: *Fremont Bridge Approach Replacement Project, Section 106 Technical Documentation* for more information.

No Action

No construction activities would occur under the No Action Alternative. Long-term impacts would include the continued deterioration of the bridge approaches, which could lead to the closure of the bridge. The closure of the bridge would cause residents and commuters to lose an important transportation link for transit users, non-motorized users and vehicles. The closure would likely result in increased congestion on alternative routes.

Mitigation of Preferred Build Alternative

A traffic mitigation plan will be implemented during construction. The potential alternative routes are displayed in Figure 6 (northbound direction) and Figure 7 (southbound direction). The routes highlighted on this figure display the potential alternative routes during full bridge closures. During partial bridge closures, these routes would likely serve as overflow routes. The following list summarizes the planned mitigation that is relevant to the social impacts.

Community Cohesion

- The construction schedule will take into account Fremont’s major events (Summer Solstice Parade and Oktoberfest).
- Aesthetic improvements will consider the unique character of Fremont and Lower Queen Anne.
- Periodic press releases, newsletters, or notices will be distributed to project area residents to advise them of changes in pedestrian, bicycle, or transit routes during construction activities.
- No specific mitigation has been identified for environmental justice populations. There are no impacts to residences or businesses with the exception of the one City of Seattle structure mentioned. Area populations, including protected ones, will not experience any permanent changes in community cohesion, barriers, isolation nor other environmental impacts. No minority or low-income populations have been identified that would be disproportionately adversely impacted by this project.

Recreation

Recreation areas will not be impacted, so no mitigation is planned. For Trails impacts please refer to the Pedestrian and Bicycle Facilities Section below.

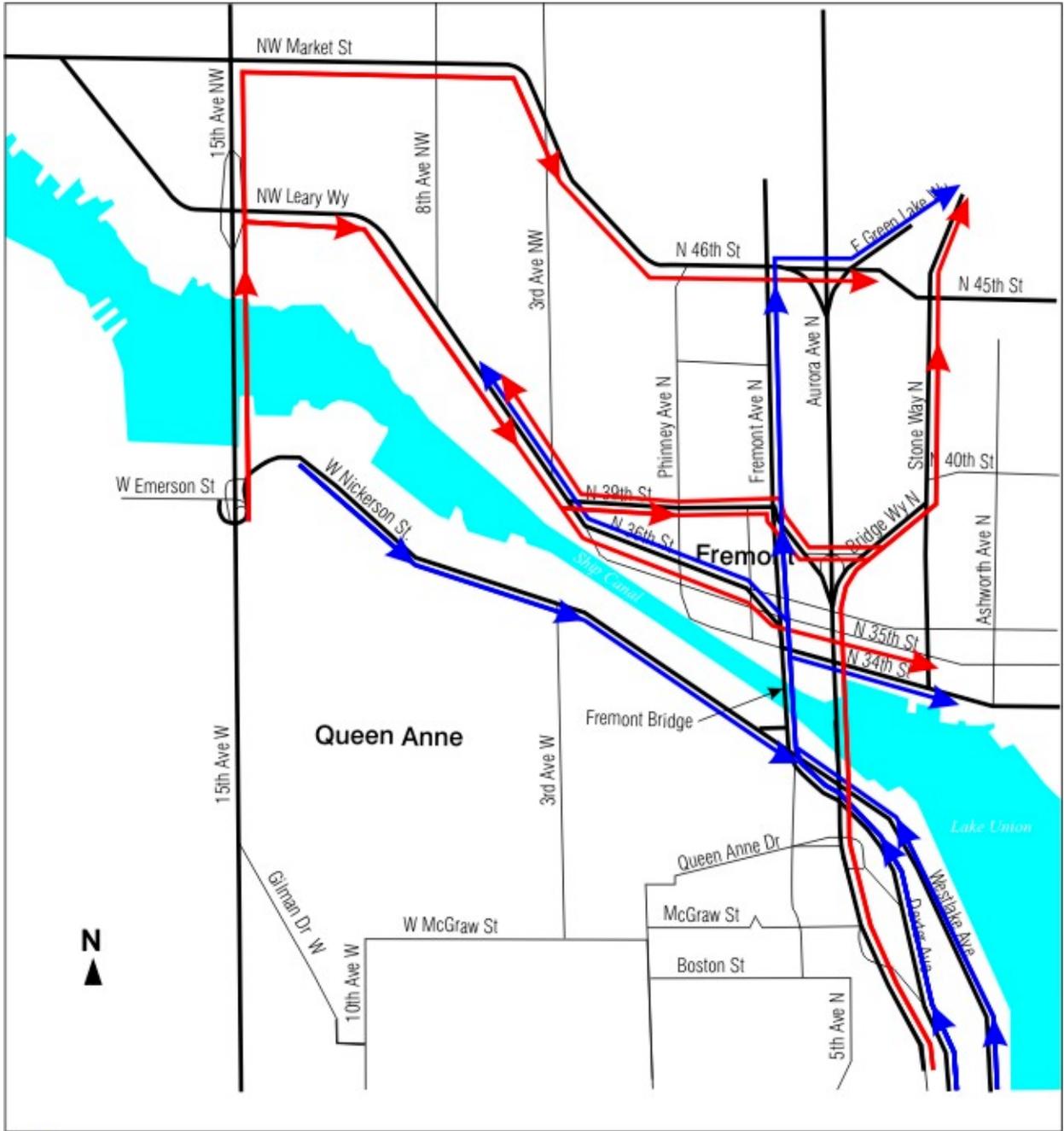
Services

- Construction activities, planned temporary road closures and alternative routes, and the schedule for these activities are being coordinated with the City of Seattle Fire and Police departments and the School District.
- The public outreach will include coordination with disabled and other transit users. When the transit agency changes their routes during construction, these community members will still need to be able access transit service.
- Construction activities are being planned to minimize changes in access to community and social services. The full closure of the bridge is expected to take place on nights and weekends.
- Notices of planned construction activities, planned temporary road closures and alternative routes, changes in other access routes, and the schedule for these activities will be mailed periodically to all public facilities and social services operating in the project area.

Pedestrian and Bicycle Facilities

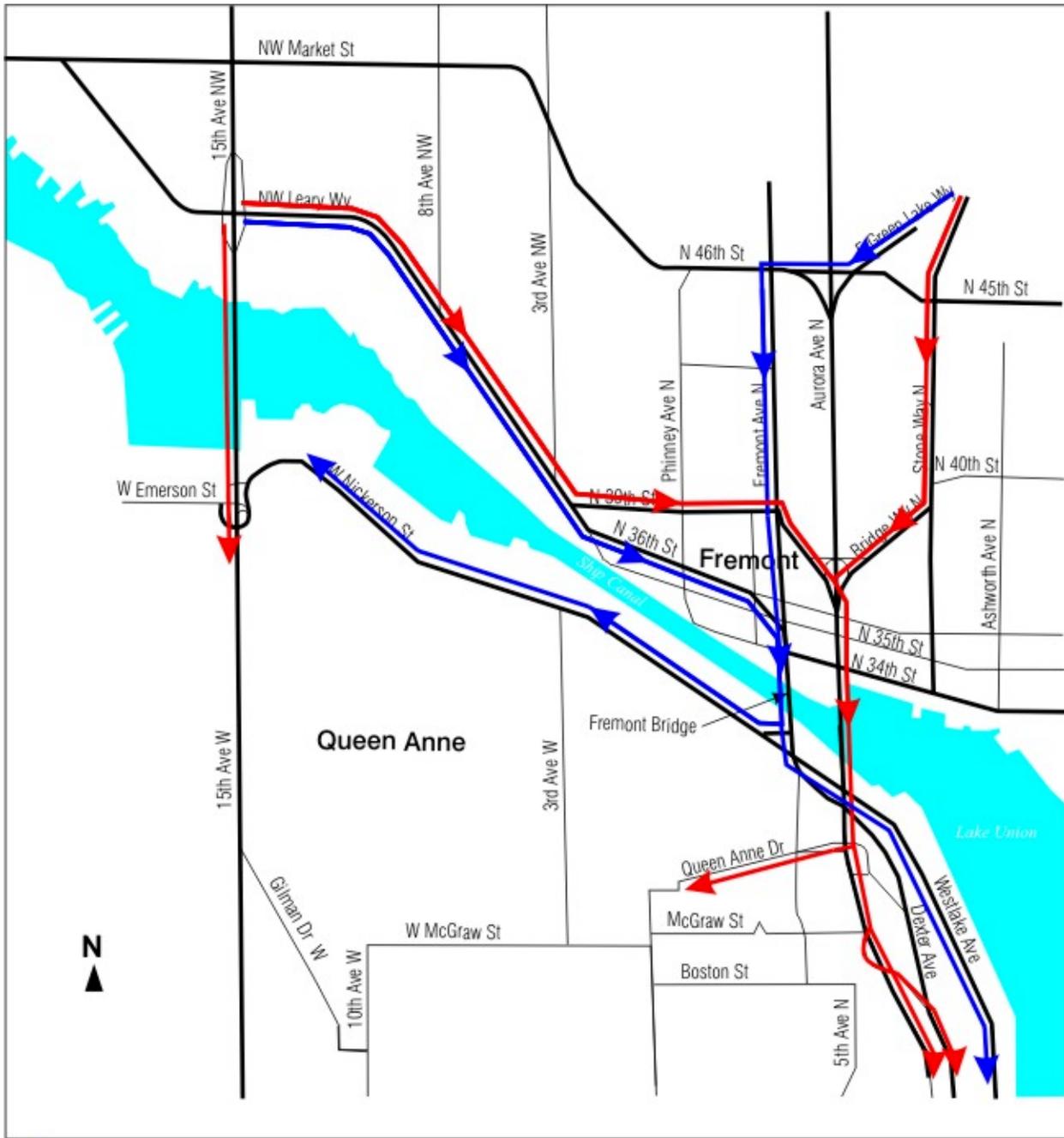
Mitigation for the temporary closure of the Burke-Gilman and Ship Canal Trails would include providing alternative routes and public notification of construction schedules through internet, television, radio as well as street and trail signage in the project area. All alternative routes would be clearly marked and identified to trail users. Upon completion of the project, the trails will be reconnected with the Fremont Bridge.

Figure 6: Potential Alternative Routes in the Northbound Direction



- ➔ = Existing Route
- ➔ = Alternative Route

Figure 7: Potential Alternative Routes in the Southbound Direction



- ➔ = Existing Route
- ➔ = Alternative Route

Summary

The replacement of the Fremont Bridge approaches is necessary to repair the current approaches that are deteriorating. The other five project components will either replace or improve existing bridge related facilities and systems. All impacts from this project will be temporary during construction. The project will only have minor impacts due to noise, vibration, etc., during construction of the preferred alternative. The main impact that is expected is increased travel time for bridge users. The bridge will remain open or partially open the majority of the time with full closures planned for nights and weekends. When the bridge is partially closed, the decrease in capacity will cause users to experience longer travel times across the bridge. Furthermore, the use of alternate routes may cause some travelers to incur longer travel times. Finally, the closure of the Burke-Gilman and Ship Canal Trails will also cause pedestrians and bicyclists to experience increased travel times as they utilize the alternative routes. The construction and completion of the project will not impact current land use patterns.

The impacts and mitigation of this project are summarized in the following table. The Build Alternative is not anticipated to result in adverse impacts to social elements.

Table 11: Summary of Social Impacts and Mitigation

Alternative	Construction Impacts	Operation Impacts	Mitigation Measures
No Action	With the continued deterioration of the Fremont Bridge approaches, the City would close and eventually demolish the existing structures.	Continued deterioration of approaches would lead to potential safety issues for bridge users and the eventual closure of bridge. Residents would lose an important transportation link to services, employment and residences.	None
Build	Possible delays on bridge and use of alternative routes may affect residents, commuters, emergency vehicles, transit providers, pedestrians and bicyclists. Potential relocation of utilities.	None	Notices of planned construction activities to residents, commuters, emergency vehicles, transit providers, pedestrians and bicyclists and public service.

References

City of Seattle, 2003. *Seattle at a Glance: Census 2000*, July 2003.

URL: <http://www.cityofseattle.net/dclu/demographics/glance.asp>

City of Seattle, 2001. *Seattle's Comprehensive Plan*, January 2001.

Parsons Brinckerhoff, 2003. *Fremont Bridge Approach Replacement Project, Type, Size, Location Study*, March 2003.

U.S. Bureau of the Census. *Census of Population and Housing, 2000* (100% and Sample Survey). URL: <http://factfinder.census.gov/servlet/DTGeoSearchByListServlet?>

WSDOT, Environmental Procedures Manual, Chapters 457 and 458 version March 2004.