4.14 SOCIOECONOMIC AND ENVIRONMENTAL JUSTICE EFFECTS

The assessment of socioeconomic and environmental justice (EJ) issues for the Build Alternative addresses potential adverse impacts or benefits to the human environment, such as housing, social resources, community resources, and aesthetics. The EJ analysis was conducted to determine if public involvement has been inclusive of minority and/or low-income persons, and if potential impacts are disproportionately burdensome to those populations. Additionally, this section addresses potential acquisitions of additional right of way to construct the Build Alternative.

4.14.1 What Methods, Assumptions and Resources Were Considered in the Evaluation of Socioeconomic and Environmental Justice Effects?

How Was the Study Area Defined?

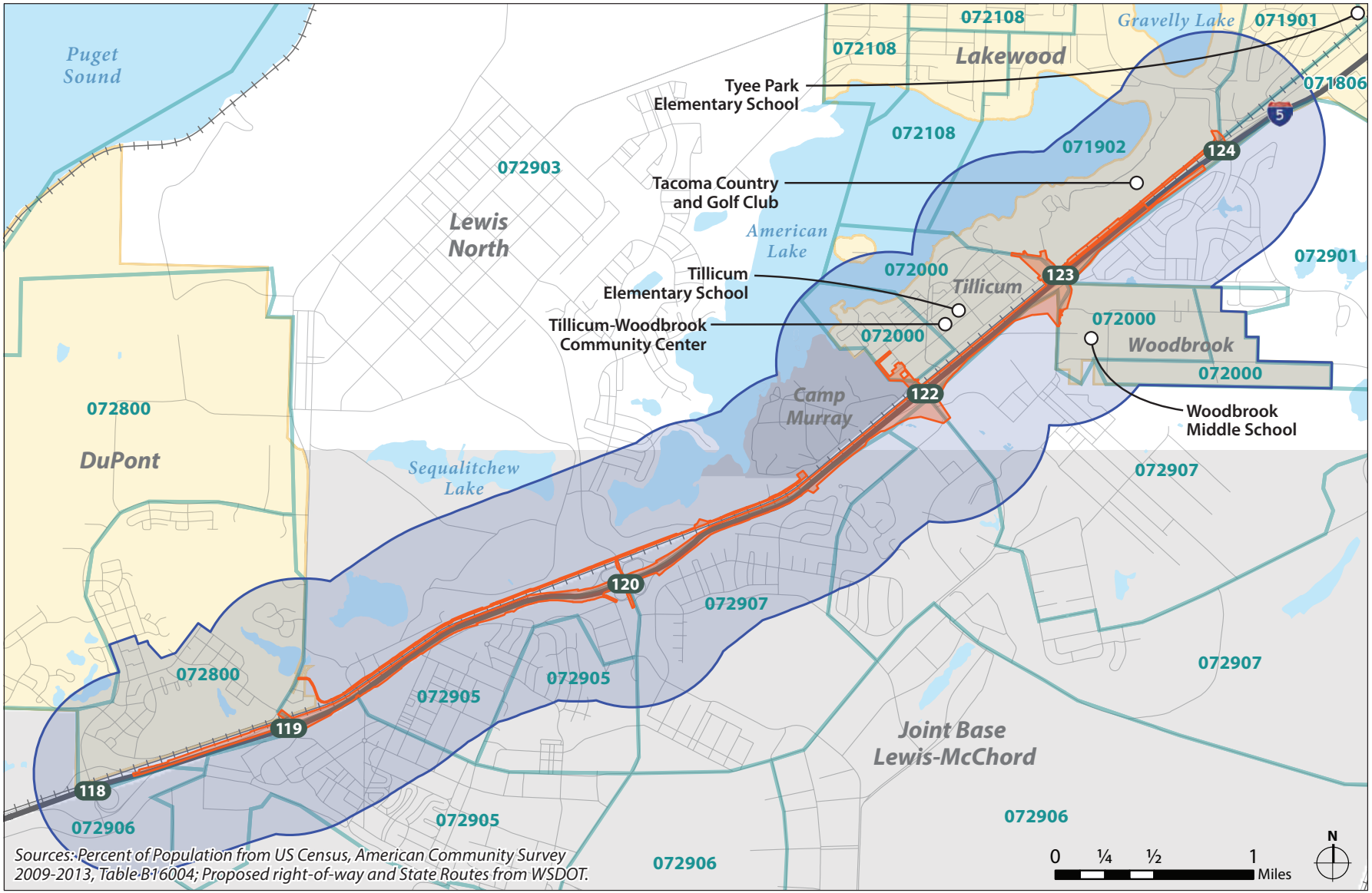
Potential social, economic, and environmental justice effects of the Build Alternative likely extend beyond its physical limits. A study area extending ½ mile in all directions from the Build Alternative footprint encompasses elementary school districts, neighborhoods and commercial areas along I-5, and areas with potential noise, visual and traffic effects. Data for these topics come from the U.S. Census and school districts which overlap each other and the study area. Data evaluated within the study area includes both existing conditions and the long-term 2040 design year. The study area is illustrated in Figure 4.14-1, which also includes Census Block Groups for which data is aggregated. The Build Alternative footprint is also shown in this figure.

NOTE TO READER: *This EA provides a tiered environmental review. Chapter 4 evaluates the project specific environmental impacts associated with construction of the North Study Area Build Alternative (See Section 3.4 for description). Chapter 5 provides a corridor level discussion of the South Study Area (See Section 3.5). Specific project footprint improvements are not currently defined for the South Study Area.*

What Plans, Policies and Regulations Are Applicable to the Analysis Process?

The social and environmental justice analysis was conducted in accordance with the federal and state policies and plans that guide the evaluation of effects on social resources and environmental justice, including:

- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations.
- Executive Order 12898, U.S. Department of Transportation (USDOT), Order to Address Environmental Justice in Minority Populations and Low-income Populations (USDOT Order 5610.2[a]).
- FHWA Actions to Address Environmental Justice in Minority Populations and Low-income Populations (FHWA Order 6640.23[A]).
- Title VI of the Civil Rights Act of 1964.
- National Environmental Policy Act of 1970 (NEPA).
- Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.
- Civil Rights Restoration Act of 1987.
- Transportation Equity Act (TEA-21).



Socioeconomic and Environmental Justice Study Area

Build Alternative Footprint

Census Block Group Boundary

INTERCHANGES

- 118 Center Drive interchange
- 119 Steilacoom-DuPont Road interchange
- 120 Main Gate interchange
- 122 Berkeley Street interchange
- 123 Thorne Lane interchange
- 124 Gravelly Lake Drive interchange

Figure 4.14-1
Socioeconomic and Environmental Justice Study Area and Census Blocks

What Information Was Collected and Evaluated?

To evaluate the affected environment, data from the 2010 U.S. Decennial Census and American Community Survey (ACS) five-year estimates were used to define the demographic characteristics of people in the study area. The U.S. Census Bureau and ACS provide statistics of the following demographic characteristics:

- Minority and poverty status, disability status, age, housing tenure, and employment status for block groups in the study area.
- Estimates on English proficiency for Census tracts in the study area.

Census and ACS findings on students enrolled in schools in the study area for the 2013–2014 school year were verified with National Center for Education Statistics demographic data.

Review was also conducted of the following discipline reports and technical memoranda:

- ***Visual Impact Assessment*** to identify potential benefits and impacts on surrounding communities.
- ***Cultural Resources Assessment*** to identify potential effects on these resources, specifically those that are of particular importance to minority populations, such as Native American tribes.
- ***Air Quality Technical Memorandum*** to identify potential benefits and impacts to air quality in surrounding neighborhoods and in the region as a result of the Build Alternative.
- ***Noise Assessment*** to identify potential benefits and impacts of noise and noise walls to surrounding neighborhoods and businesses.
- The **Transportation Section** (4.3) of this EA to identify potential effects to traffic, access, and mobility for people living and working in the affected area, including environmental justice populations.

Based on preliminary design of the proposed Build Alternative, the need for and location of property acquisitions and easements that could affect residents or businesses were identified.

Meeting summaries from public open houses, one-on-one meetings with affected people and business owners, and briefings to community and neighborhood organizations were also reviewed to identify potential benefits and adverse impacts, as well as potential mitigation measures to avoid or minimize adverse impacts.

What Is Involved in the Assessment of Potential Environmental Justice Effects?

When minority or low-income populations are present within the study area, an EJ analysis is required to determine if public involvement has been inclusive, and if potential impacts are disproportionately burdensome to those populations. If the impact to a minority or low-income populations is disproportionately high and adverse, agencies must attempt to avoid, minimize or mitigate the disproportionate impacts. The population groups affected by EJ analysis include:

- ***Low-income:*** A low-income person is an individual whose household income falls below the federal poverty guidelines as defined by the U.S. Department of Health and Human Services.
- ***Minority:*** A minority person is an individual who identifies his or herself as Black, Hispanic, Asian/Pacific Islander, or American Indian/Alaska Native.

Demographic statistics on race and poverty status are used to evaluate environmental justice effects, as well as overall characteristics of

various parts of the study area. Information on languages spoken and Limited English Proficiency are used to assist with public outreach, indicating where translation of materials may be helpful. Percentages of the population that is over the age of 65, self-reports on having a disability, and on having no vehicle available by the household, indicates a general need for transportation and other support services. Information on population in rented housing, as compared to owned housing, is used to further describe community characteristics.

The demographic data is mapped (see Figures 4.14-2, 4.14-3, 4.14-4, 4.14-5 and 4.14-6) along with the Build Alternative's footprint. This shows the locations that would be impacted along with the general information on language, minority populations, and low-income populations in the study area.

4.14.2 What Are the Existing Socioeconomic and Environmental Justice Conditions in the Study Area?

Review of existing social and economic characteristics of the study area focused on understanding the general community context, community resources, employment opportunities, and demographic characteristics. These are described below.

Community Context

The communities along I-5 have developed with orientation to I-5 since a roadway was constructed in this area between 1913 and 1923. This roadway was originally known as Pacific Highway before being established as I-5 with the interstate highway program in the 1950s. The Pacific Highway route followed old pioneer and military roads, which in turn had followed ancient Native American footpaths. Corresponding to local and regional development, the communities within the study area are currently impacted by the presence of I-5 including traffic noise, air pollution, litter, and traffic congestion. The communities also developed alongside, and are highly influenced by, the military bases now known as Joint Base Lewis-McChord (JBLM) and Camp Murray. Changes in level of activity on the bases are felt by adjacent communities in the demand for housing and services and by heavy traffic volumes on I-5 and local roads.

See the Land Use section (4.15) for more description of existing land uses, as well as zoning designations in the study area. See the Transportation section (4.3) for a description of circulation patterns, transit, rail, and non-motorized facilities.

Community Resources

FREEDOM BRIDGE

A local Lakewood-based effort resulted in the Berkeley Street structure over I-5 being officially named the Freedom Bridge in 2006. The structure has come to symbolize and facilitate the local community's relationship with the military bases and as the site of many organized and spontaneous gatherings and demonstrations. "Banner Wave" and "Lakewood Salutes" events have been held here to show support for military personnel and their families. The visibility from I-5 and the link between the bases and the community are essential features of this community facility. The structure is also a major pinch-point in traffic flow across I-5, and traffic would be further impacted by increased trains crossing at-grade immediately west of I-5 when Amtrak service begins in 2017.

TILLICUM-WOODBROOK COMMUNITY CENTER

The Tillicum and Woodbrook neighborhoods of the city of Lakewood are physically separated from the rest of Lakewood. They are connected with each other across I-5 by one road, named Murray Road SW on the Woodbrook side (east) and N. Thorne Lane SW on the Tillicum side (west). Woodbrook is in the Tillicum Elementary School boundary area. The Tillicum-Woodbrook Community Center that serves both neighborhoods is located in Tillicum. This center provides

a library, food bank, community nutrition program, clothing donation center, and also houses the Sea Mar Medical Clinic.

LIBRARIES

There is a branch of the Pierce County Public Library in DuPont and within the Tillicum-Woodbrook Community Center.

SENIOR SERVICES

The closest senior center is in Lakewood, north of the study area. Aging Services of Washington has an office in DuPont near the southern end of the study area.

Employment

As of 2016, JBLM has over 56,000 military and civilian employees. It is the second largest employer in the state after Boeing, but the largest single-site employer. Other large employers in the vicinity of the study area are Amazon, FedEx, and State Farm Insurance, which are all accessed via one of the DuPont area interchanges. The commercial areas in DuPont are served by two interchanges. At the Steilacoom-DuPont Road interchange, existing land uses include general highway-services, such as gas stations and hotels. Near the Center Drive interchange, highway-service uses are included in a city center type of development, along with a public library, and a collection of general commercial mixed-use buildings.

Within the study area, there is a commercial district in Tillicum focused along portions of Union Avenue and Berkeley Street. Existing commercial establishments are mainly restaurants, laundry and sewing services, and barbershops. Typically, these are businesses that are used by local customers, and they reflect the needs of the military population. There is also a good deal of undeveloped or unused property along the Build Alternative footprint. Union Avenue appears to have potential for infill development.

No certified businesses in the study area were listed on the Washington State Office of Minority and Women's Business Enterprises database. See the *Land Use Technical Memorandum* (for memo access information see Appendix B) for more discussion of existing land uses, as well as zoning and comprehensive plan designations in the study area.

Leased housing is in high demand with the addition of military personnel who live off-base and other employees associated with the bases. Rental properties experience high turnover, and spin-off businesses that would be expected to benefit from this turnover are building repair, remodeling, and cleaning services. WSDOT Olympic Region Real Estate Services is familiar with the study area and anticipates adequate vacant housing to accommodate residential relocations.

Population Characteristics

The following general descriptions are drawn from the demographic data. The statistics used in this analysis provide a general comparison intended to assist WSDOT in providing fair access and public participation opportunities, and in evaluating alternatives and impacts.

RENTED VS. OWNED RESIDENCES

Housing data reflects the nature of a military base and its adjacent communities. Most of the Census Block Groups on JBLM show that 100 percent of the population lives in rented housing. Beyond the land included on JBLM, the highest percentage of population in rented housing is in the Woodbrook community, at 75 percent. In the Tillicum community, the figure is 60 percent. A much lower rate, 44 percent, is found in the city of DuPont, near the Steilacoom-DuPont interchange. At the other end of the scale, the area at the north end of

American Lake, shows that only two percent of the population lives in rented housing.

SENIOR POPULATION

There is a much higher percentage of people over the age of 64 in the Census blocks around Gravelly Lake and the north end of American Lake (19 to 26 percent) than elsewhere in the study area. Senior population in the rest of study area Census blocks range from zero to 11 percent.

DISABLED PERSONS

There is a much higher percentage of people (age 16-64) reporting a disability in the eastern part of Woodbrook (25 percent), the very north end (at Pacific Highway) of the study area (20 percent), and the southern half of Tillicum (18 percent). In the remainder of the study area the percent of disabled population ranges from one to eight percent.

RESIDENCES WITH NO VEHICLE AVAILABLE

The highest percentage of occupied housing with no vehicle available is found in the very northern end of the study area at 29 percent. This is followed closely by the eastern side of Woodbrook at 27 percent. In Tillicum, the share of households with no vehicle available ranges between 13 and 18 percent. The percentage for the rest of the study area is no higher than eight percent. Locations with no auto ownership are illustrated in Figure 4.14-2.

MINORITY POPULATIONS

Demographic data for race identity includes the following classifications: White, Black or African American, American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, Some Other Race, Two or More Races. Hispanic populations are a minority population, but Hispanic origin is an ethnicity, not a race. Hispanic persons may identify themselves as any race, or more than one race. Percentages of minority race populations (all classifications other than White Non-Hispanic) in the study area range from 7.6% around the Tacoma Country and Golf Club to 76.5% at the area north of McChord Drive and east of Pacific Highway. In this Census Block Group, the minority population is 38% Hispanic, 11.4.8% African American or Black, 9.7% American Indian or Alaskan Native, 8.8% Native Hawaiian or Other Pacific Islander, and 7.4% Two or More Races. The corresponding elementary school data shows the most represented minority in the student population Hispanic (46.6%).

Hispanic is overall the most represented minority population in most of the study area Census Block Groups, with the highest percentage (49%) in the southern half of Tillicum. The next most represented minority is African American or Black (including Hispanic, 30.5%; Non-Hispanic 24.4%) in Lewis Main Davis Hill area.

For a discussion of minority populations within each project impact area see Section 4.14.4, Impacts Associated with Property Acquisition.

Limited English Proficiency (LEP)

The highest percentage of population with Limited English Proficiency (those self-reporting in Census as "speak English less than well") is the Spanish-speaking populations in the western part of Woodbrook (17 percent) and the southern half of Tillicum (12 percent). The corresponding elementary

Limited English Proficiency (LEP) populations: *A person over the age of five who self-reports as speaking a language other than English AND speaks English less than well. When statistics show five percent or more of the population of a community as LEP, translated printed materials will be provided in that community, and translators will be available if requested at public meetings.*

school, Tillicum, has the second highest percentage of students in transitional bi-lingual programs at 16 percent, while Tyee Park to the north has 27 percent. Other areas that showed five percent or more Spanish-speaking LEP populations are at JBLM Lewis Main on the east of I-5 near the Main Gate at Exit 120 (seven percent), and in north end of study area adjacent to Pacific Highway (five percent). Printed materials announcing the September 2015 and May 2016 open houses in Tillicum, and describing the Build Alternative, were provided in Spanish and were placed in the community center. Locations with Spanish-speaking and LEP populations are shown in Figure 4.14-5.

Low-Income Populations

The areas with the highest percentage of the population categorized as low-income are the very north end of the study area (46 percent), the western side of Woodbrook (40 percent), the northern side of Tillicum (39 percent), the eastern side of Woodbrook (28 percent), JBLM Lewis North (19 percent), the area near the Gravelly Lake Drive interchange (19 percent), and the southern side of Tillicum (18 percent). The lowest percentage is found in the DuPont area at six percent. The corresponding elementary schools correlate with these findings, with Tillicum Elementary having 92 percent of students and Tyee Park having 90 percent of students enrolled in free or reduced-price meal programs. Locations with low-income populations are shown in Figure 4.14-6.

4.14.3 What Would Be the Impact of the No Build Alternative?

Without capacity improvements, residents and employees in the communities along I-5 through the study area would experience ever-increasing delay and time spent in traffic. Currently, traffic congestion on I-5 heavily affects traffic flow on arterials through Tillicum, and the new ramp metering causes traffic to back up onto Gravelly Lake Drive. These conditions make travel times unpredictable, affecting the quality of life for everyone in the area. The high level of frustration and stress resulting from traffic delay was expressed at community public meetings.

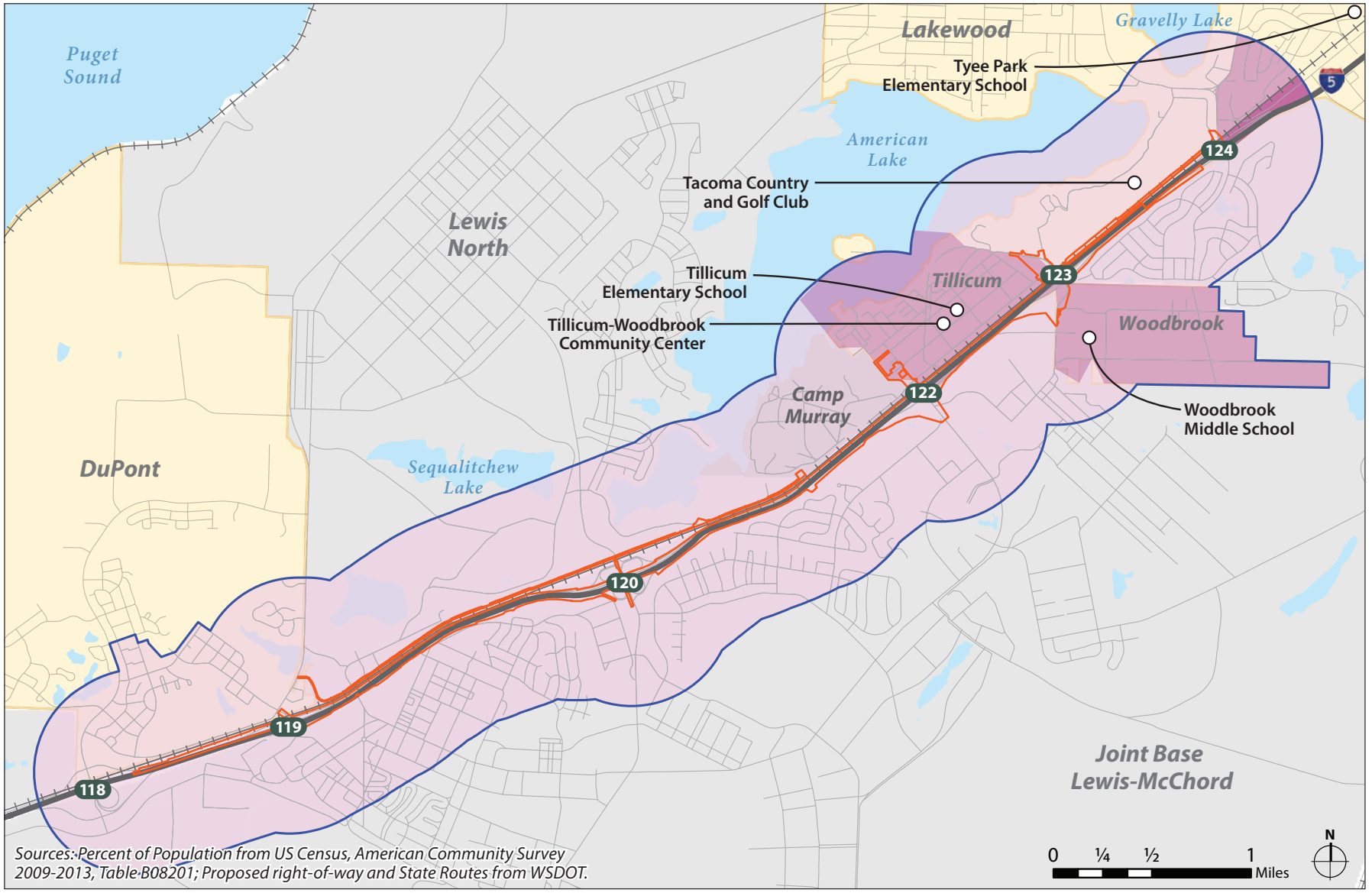
The growing traffic-related stress associated with the No Build Alternative, would have a negative impact on public health. Furthermore, the increase in daily trains on the Sound Transit rail line adjacent to I-5 from two to 15 would result in additional delay for traffic crossing I-5 and using the interchanges without the Build Alternative.

Without the bicycle and pedestrian improvements proposed as part of the Build Alternative, low-income populations with no vehicle available would continue to be at a great disadvantage when traveling in the study area. Without the Gravelly-Thorne connector as proposed in the Build Alternative, the Tillicum community would continue to be isolated from the rest of Lakewood.

The No Build Alternative would result in a lack of both connections and affordable transportation options for study area residents. This would particularly impact low-income populations and negatively affect residents in all neighborhoods in the study area. Lack of transportation options could make the area less attractive for residents and businesses, potentially resulting in a negative effect to the overall economic vitality of the study area.

4.14.4 What Would Be the Long-Term Impact of the Build Alternative?

The Build Alternative would result in beneficial and adverse impacts. The social and economic aspects of reducing the congestion on I-5



Socioeconomic and Environmental Justice Study Area

Build Alternative Footprint

VEHICLE AVAILABILITY
Households with No Vehicle Available

- 0-10%
- 11-20%
- 21-30%

INTERCHANGES

- 118 Center Drive interchange
- 119 Steilacoom-DuPont Road interchange
- 120 Main Gate interchange
- 122 Berkeley Street interchange
- 123 Thorne Lane interchange
- 124 Gravelly Lake Drive interchange

Figure 4.14-2
Percentage of Households with No Vehicles Available by Census Tract

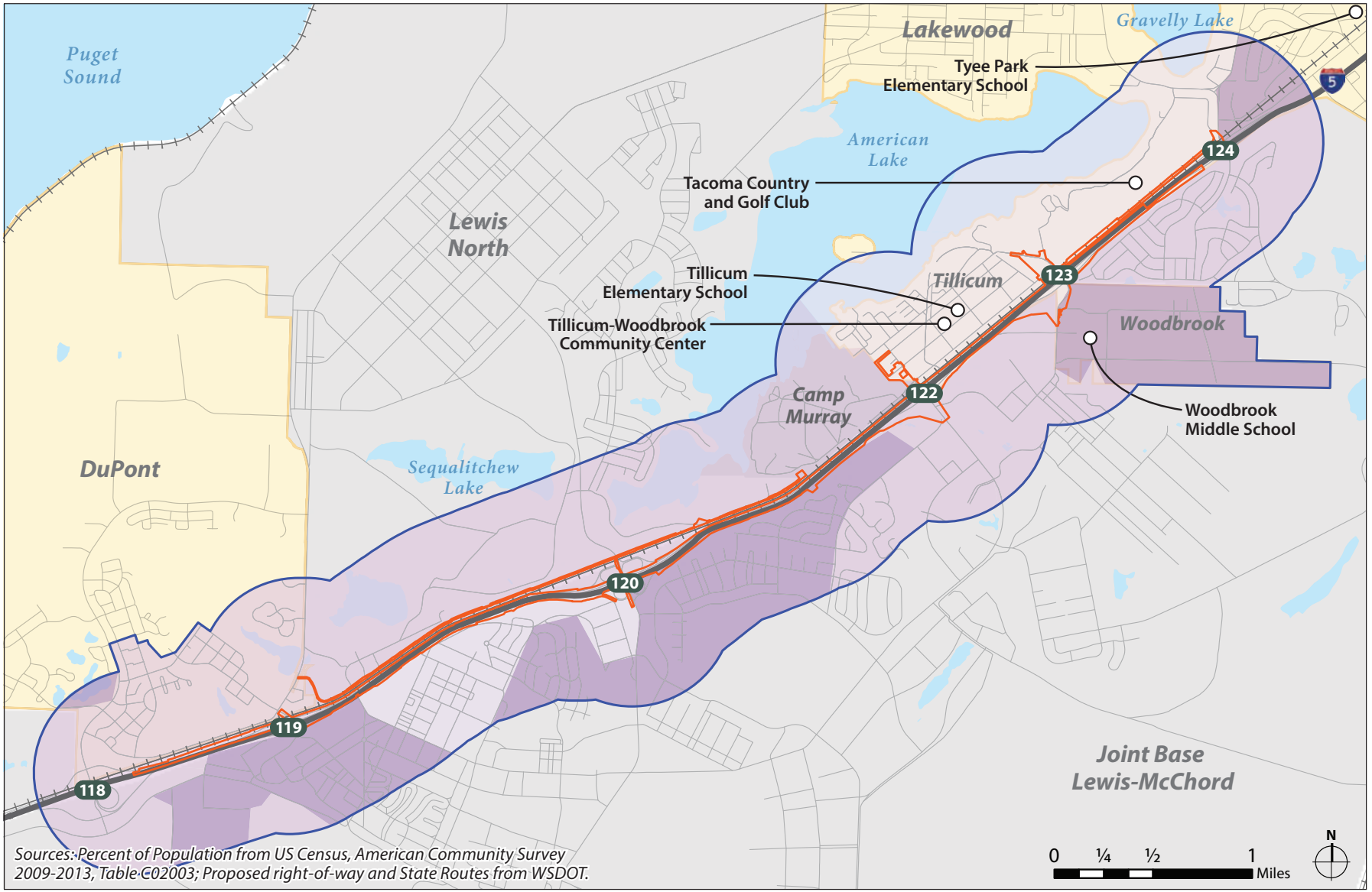
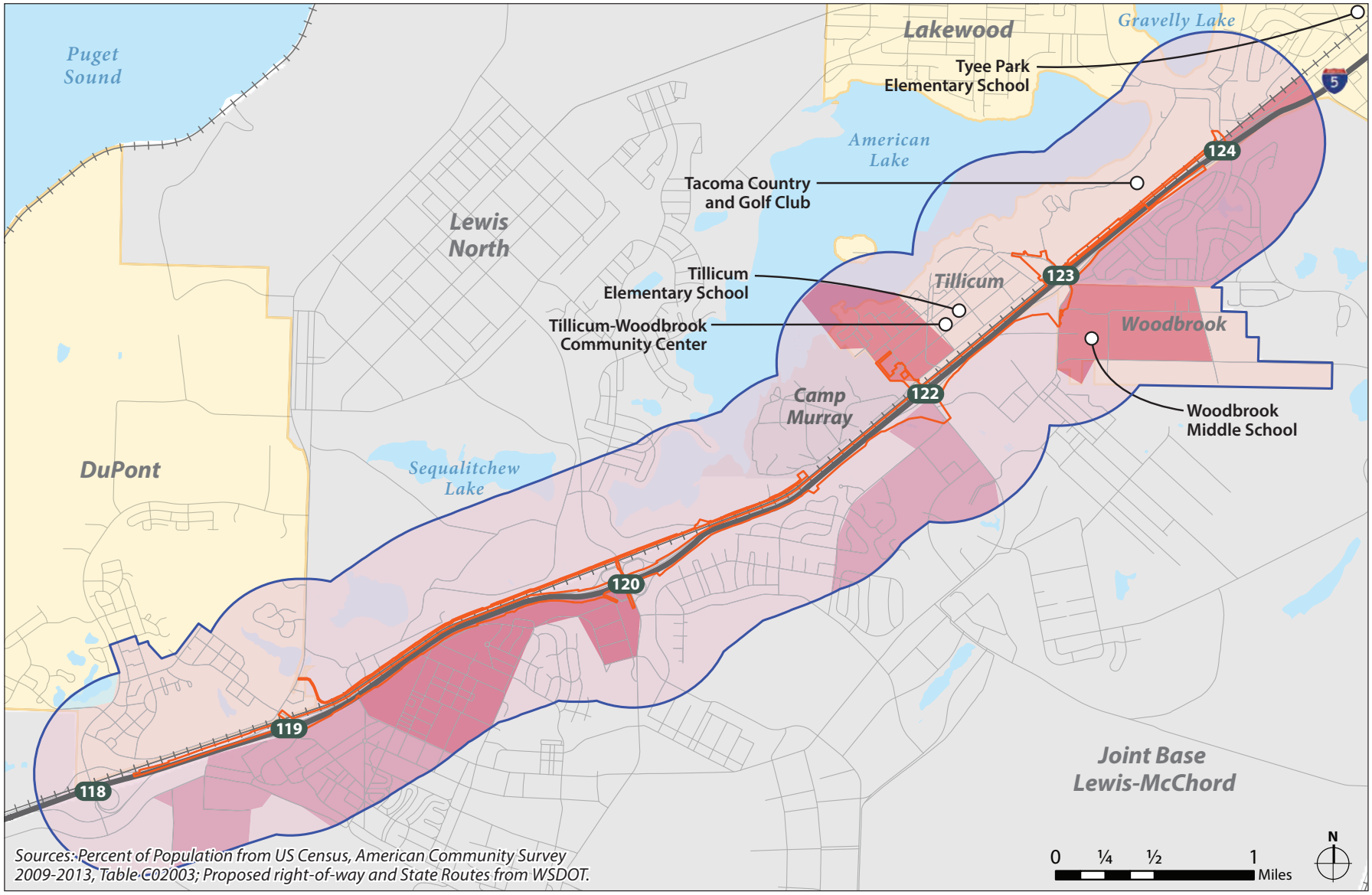


Figure 4.14-3
Percentage of Minority Populations by Census Block Group



Socioeconomic and Environmental Justice Study Area

Build Alternative Footprint

HISPANIC POPULATIONS
Percent Hispanic Populations
- 0-15%
- 16-30%
- 31-55%

INTERCHANGES
- 118 Center Drive interchange
- 119 Steilacoom-DuPont Road interchange
- 120 Main Gate interchange
- 122 Berkeley Street interchange
- 123 Thorne Lane interchange
- 124 Gravelly Lake Drive interchange

Figure 4.14-4
Percentage of Hispanic Populations by Census Block Group

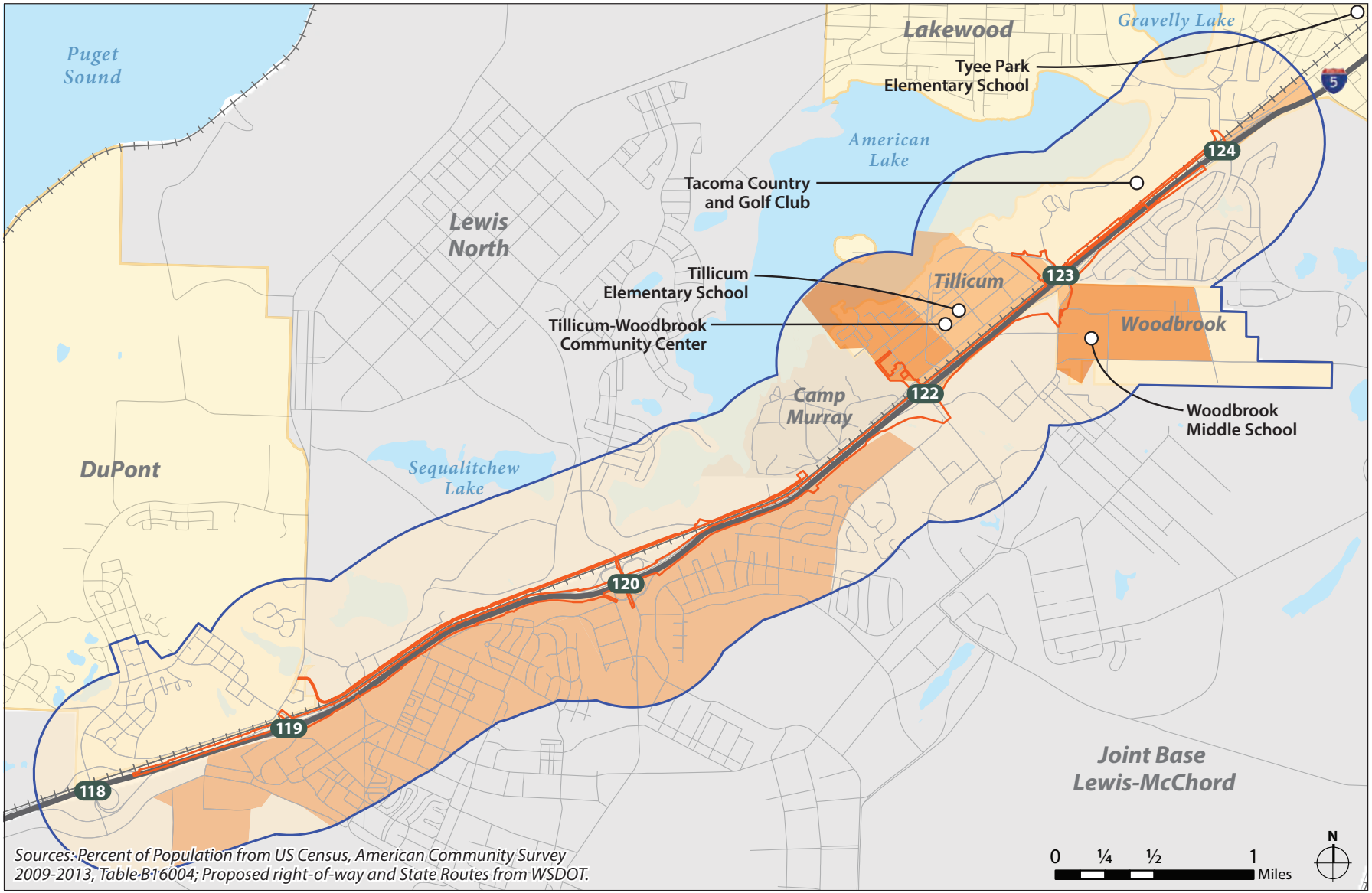
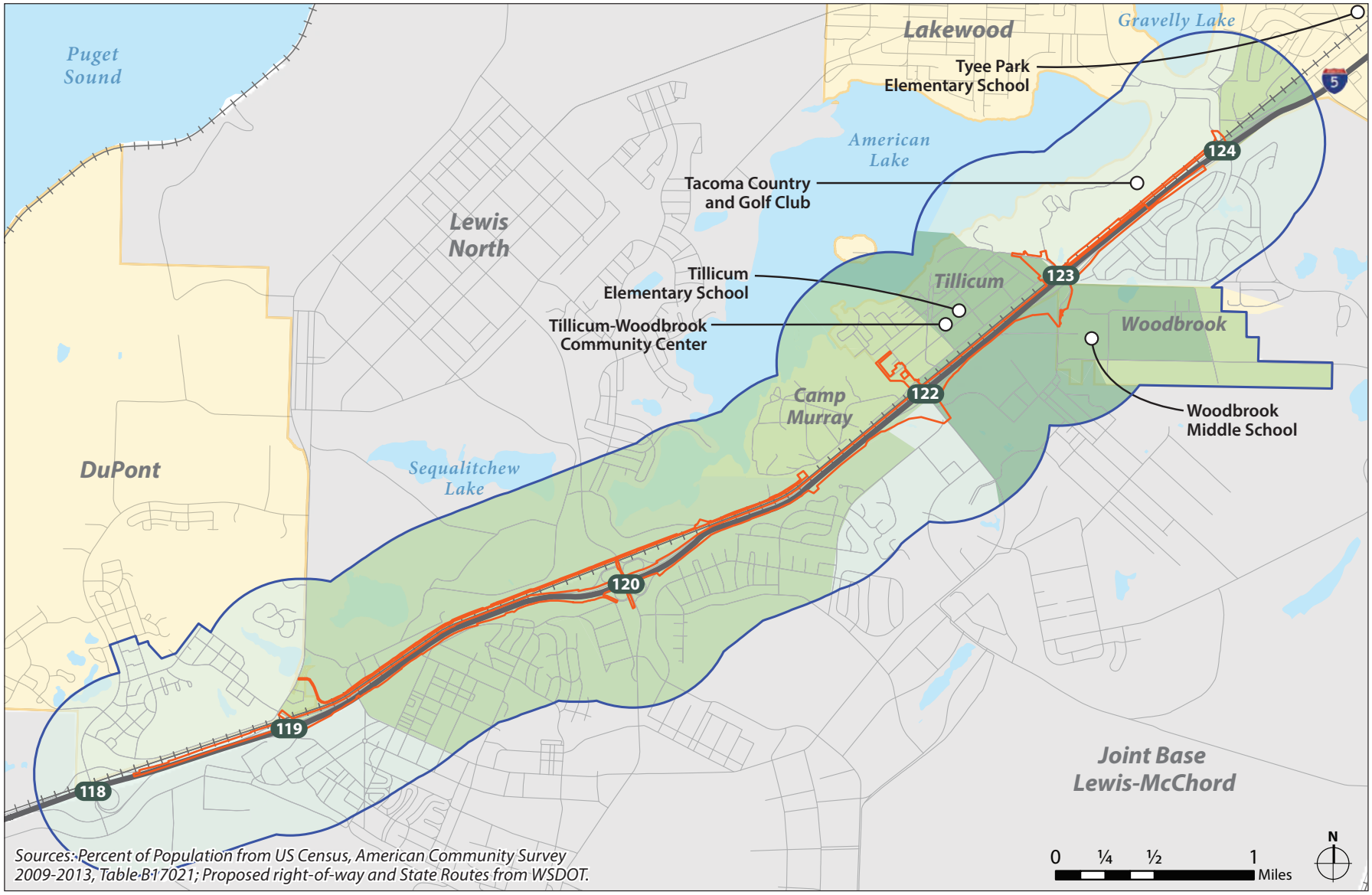


Figure 4.14-5
Percentage of Population that Speaks Spanish and Speaks English Less Than Well



Socioeconomic and Environmental Justice Study Area

Build Alternative Footprint

LOW-INCOME POPULATION

- 0-15%
- 16-30%
- 31-60%

INTERCHANGES

- 118 Center Drive interchange
- 119 Steilacoom-DuPont Road interchange
- 120 Main Gate interchange
- 122 Berkeley Street interchange
- 123 Thorne Lane interchange
- 124 Gravelly Lake Drive interchange

Figure 4.14-6
Percentage of Low-Income Populations by Census Block Group

and connecting roads would generally benefit the entire study area. All area residents and employees who drive or travel along I-5 would benefit from reduced delay, as would those traveling through the area to other destinations. Improved access and mobility would help redevelopment of the Woodbrook area consistent with the city of Lakewood's plans for an industrial business park adjacent to the industrial area on JBLM. This would increase employment opportunities for the entire area.

All new interchange structures would provide improved bicycle and pedestrian facilities. For residents in Woodbrook, improving the non-motorized connection across I-5 into Tillicum would be a benefit, particularly for those with no or limited access to a vehicle. The Woodbrook and Tillicum communities have a higher rate of households with no vehicle than other portions of the study area, and community services are located within Tillicum, requiring Woodbrook residents to cross the freeway.

The Build Alternative provides several potential benefits within Tillicum. The new design for the interchanges at Thorne Lane and Berkeley Street provides the opportunity to establish major gateways into the community – a goal identified in the Tillicum neighborhood plan (See *Land Use Technical Memorandum*; for memo access information see Appendix B.) The reduced congestion resulting from the new interchange configurations and added capacity on I-5 would have a positive impact to Tillicum business revenue. The Build Alternative would also include a new local street, the Gravelly-Thorne connector, linking southbound traffic from Lakewood to Tillicum. Development of this local road is a goal identified by the neighborhood and the city of Lakewood. This local connection would include a non-motorized pathway that would provide an opportunity for outdoor activity and transportation options for those with no vehicle available. This connection would also serve southbound traffic travelling to from Lakewood proper in to Woodbrook.

The raised and expanded interchanges at Berkeley Street and Thorne Lane would provide grade-separation from the Sound Transit rail line immediately adjacent to I-5 on west side. This would have the benefit of eliminating the delay caused by the existing at-grade crossings of the rail line, especially after the frequency of the trains increases with the addition of Amtrak service in 2017.

A more detailed discussion of impacts of the Build Alternative on community resources, along with homes and businesses is presented in the following sections.

Impacts on Community Resources

In order to reconstruct the Berkeley Street interchange, the Freedom Bridge would have to be rebuilt. The reconstruction of this interchange would replace the existing bridge with a longer and wider structure. There is no reason to believe the official name or community use would be affected. The structure would be in the same general location, spanning the freeway between Tillicum and Lewis Main. It is not anticipated that there would be any loss related to this community feature.

Aside from the Freedom Bridge, none of the property acquisitions necessary for the Build Alternative would impact community resources. No schools, parks, community centers, or access to those resources, would be adversely affected by new right of way acquisition.

Property Acquisition Needs

The vast majority of construction associated with the Build Alternative would occur within existing WSDOT right of way. However, some additional right of way would be required. Though designs are not finalized, some likely areas where property acquisition would be necessary are apparent:

- Since all widening would be done on the east side of I-5 to avoid the railroad tracks owned by Sound Transit west of I-5, most of the property acquisition impacts would affect land currently owned by the Department of the Army that is part of JBLM. A linear strip of land up to 24 acres in size may be needed for right of way easements. Discussions regarding new easement needs are underway with JBLM. Some additional acres of privately-owned new right of way would also be needed, the amount of which will be determined during final design.
- The proposed Gravelly-Thorne connector would require acquisition of land currently in residential and open space/recreation uses, as well as an easement over land currently owned by Sound Transit. Additionally, some property currently developed as part of the Tacoma Country and Golf Club's golf course may also be required.
- The Thorne Lane interchange would require some undeveloped property from JBLM.
- In order to elevate the Berkeley Street interchange over the railroad tracks, the interchange would intersect Berkeley Street in Tillicum in the vicinity of Washington Avenue. The reconfigured interchange may require acquisition of some or all of six residential properties and one commercial property. The residential properties include a small apartment building, a duplex and three single family homes.

Important Note Regarding Property Acquisition: *Property acquisition and relocations would occur in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Property owners would receive compensation for their properties at fair market value, and relocation resources would be available to all displaced residents and business owners without discrimination. WSDOT would work closely with all displaced residents and businesses to find suitable properties to accommodate their needs.*

Actual property acquisitions cannot be known until the final design of the Build Alternative is complete. The decision whether to pursue partial acquisitions or the entire parcel would be made on a case-by-case basis and cannot be determined at this time.

Impacts Associated with Property Acquisition

This section further discusses the needed property acquisitions that involve displacing homes or businesses, changes to access, and visual and noise impacts on the adjacent properties. Actual property acquisitions cannot be known until the design of the Build Alternative is complete. Decisions regarding partial versus full parcel acquisitions cannot be determined at this time. However, based on the current design, likely Build Alternative impacts are described, from north to south, in six specific geographical areas (see Figure 4.14-7).

The demographic characteristics of these impact areas are described and noted as being relatively high or low in comparison to the typical range found within the study area. Traffic noise impacts are included in this analysis based on current noise modeling results (see section 4.5 Noise for additional information). However, the decision on whether to construct a noise wall or other traffic noise abatement,

and therefore the determination of final unmitigated noise impacts, cannot be made until focused public outreach on noise mitigation has occurred.

- **Area A:** Construction of the north end of the Gravelly-Thorne connector would not involve displacement of any residences or businesses. Currently there is a solid wood fence and a row of mature Douglas fir trees along the highway side of the golf course, which would need to be removed. According to the Visual Impact Assessment, this would be an adverse visual impact to the adjacent residents.

  Demographic data shows that Area A has the highest percentage of people over the age of 64, and the lowest percentage of minority populations within the study area. There is a relatively low percentage of low-income households in this area (11%).

- **Area B:** Construction of a new Thorne Lane interchange west of I-5 would require acquisition of currently undeveloped land at the north end of the Tillicum neighborhood. The design of this interchange would not require displacing or disrupting any residences or businesses. The proposed noise barrier and the new larger interchange would also visually impact the area.

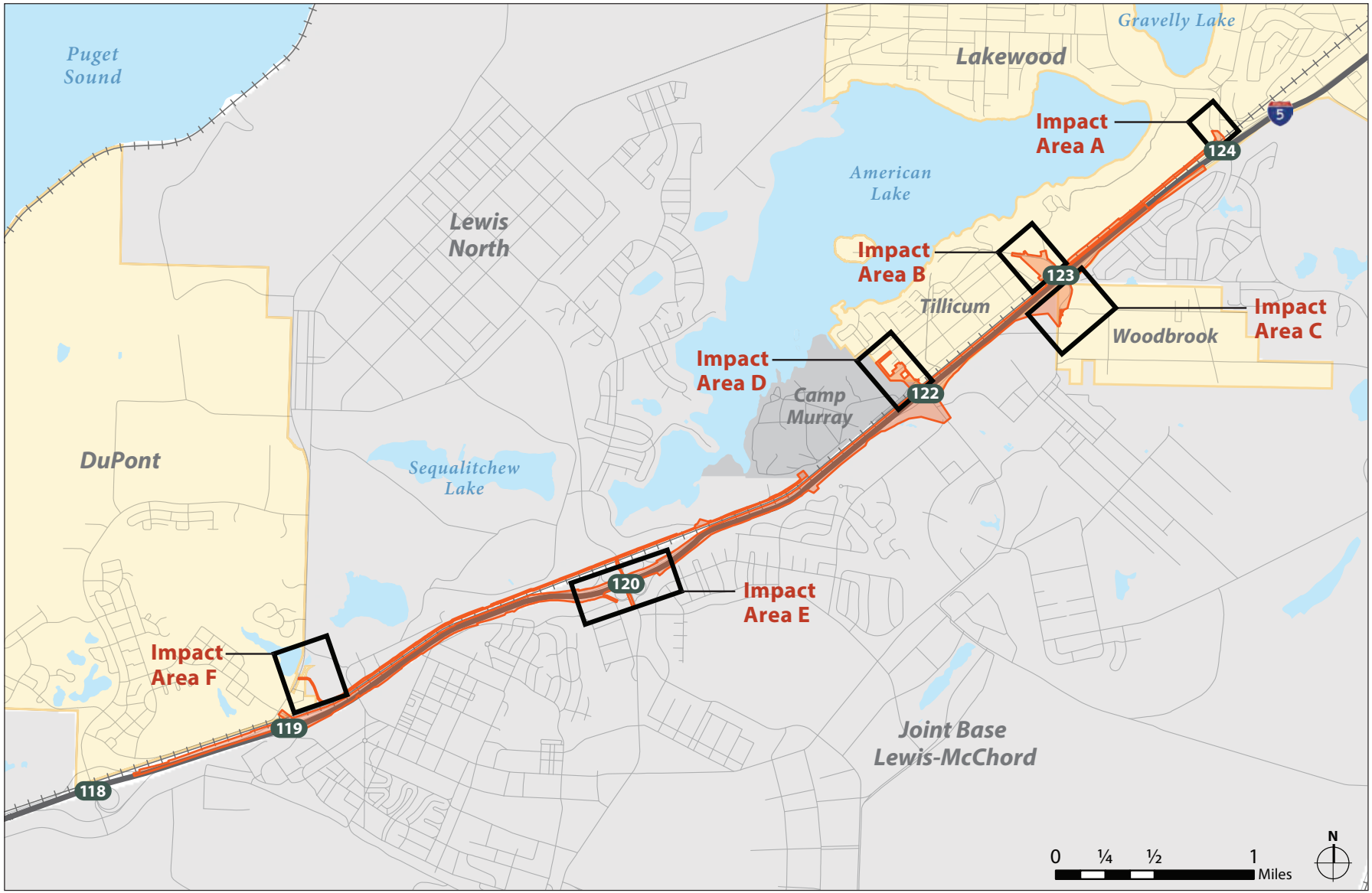
  Demographic data for this area on the north end of Tillicum shows 50.7% minority populations. Hispanic persons of any race make up 30.5% of the population. The next prevalent Non-Hispanic racial categories after White are Two or More Races (12.4%), and Asian (7.5%). This area has one the highest percentages of low-income households in the study area (39.2%).

- **Area C:** Construction of the new Thorne Lane interchange east of I-5 would require acquisition of currently undeveloped land on the east side of I-5 in Woodbrook along Murray Road, immediately adjacent to the freeway. The design of this interchange would not require displacing or disrupting any residences or businesses. The visual character of this area would be modified, due to the additional height of the new interchange structure.

  Demographic data for this part of Woodbrook shows 61.1% minority populations. The main component is Hispanic persons of any race, making up 43.6% of the population. The next prevalent Non-Hispanic racial category after White is African American or Black (9.3%). Area C also has the highest percentage of disabled persons in the study area, and the highest percentage of households with no vehicle available, and one of the highest percentages of low-income households in the study area (39.8%).

- **Area D:** In order to construct the new Berkeley Street interchange it is anticipated that there would be direct property acquisition impacts to one 12-unit apartment building, one duplex, and three single-family homes. The residents of all 17 housing units would be displaced. In addition, conditions would change for the remaining homes that currently front on Washington Avenue southwest of Berkeley Street. This section of roadway is currently a one block long, dead end road. Access to these homes would be provided via a new roadway connected to Grant Street, adjacent to the north property line of Camp Murray.

  Visual impacts in this location would stem from the changed elevation of the interchange structure and ramps. Drivers exiting I-5 at Berkeley Street currently have a view of the businesses along Union Avenue from the off-ramp, and enter Tillicum directly by approaching the Union Avenue intersection. With the Build Alternative, drivers would enter Tillicum one block west at Washington Avenue. However, the effect of this change is not necessarily negative or positive. The specifics of the design and circulation patterns of traffic in this part of Tillicum will be



Build Alternative Footprint

Impact Areas

INTERCHANGES

- 118 Center Drive interchange
- 119 Steilacoom-DuPont Road interchange
- 120 Main Gate interchange
- 122 Berkeley Street interchange
- 123 Thorne Lane interchange
- 124 Gravelly Lake Drive interchange

Figure 4.14-7
Impact Areas Key Map

coordinated with the city of Lakewood and the Tillicum and Woodbrook neighborhoods to minimize impacts.

Demographic data shows this south end of Tillicum has 67.4% minority populations. The main component is Hispanic persons of any race, making up 49% of the population. The next prevalent Non-Hispanic racial category after White is Asian (10.7%). Low-income households make up 18% in this area.

- **Area E:** The additional I-5 lanes would expand the highway toward the eastern side, bringing it closer to residential areas of JBLM both to the north and south of the Main Gate interchange. Existing noise is high for the homes in this area. The noise barriers proposed for the residential areas north and south of Main Gate would mitigate this existing traffic noise. The existing visual buffer of mature trees in much of this area would be reduced for the construction of the additional lane.

  Demographic data for the north side of Main Gate shows 39.2% minority population. The main component is Hispanic persons of any race, making up 18.7% of the population. The next prevalent Non-Hispanic racial categories after White are Native Hawaiian or Other Pacific Islander (8.7%), and African American or Black (5.6%). Low-income households make up 18.3% in this area. On the south side of Main Gate, minority population is 44.2%, Hispanic population for any race is 31.5%. The only Non-Hispanic racial category present is Two or More Races (1.7%). The percentage of low-income households is relatively high, at 33.9%.

- **Area F:** The shared use path would terminate at Steilacoom-DuPont Road near Pendleton Road, approximately 1,000 feet north of the existing Exit 119 interchange. The path would be constructed on JBLM property. No business or residence is directly affected in this location. The design would be a minor change to the commercial area as a whole, and would fulfill some of the priorities identified in the DuPont Comprehensive Plan as noted in the *Land Use Technical Memorandum* (see Appendix B for access information). The shared use path would connect to Steilacoom-DuPont Road just west of the existing sidewalk and bike path network. The Build Alternative also includes restriping and minor shoulder work to create an additional southbound lane on I-5 in area F.

  Demographic data shows this impact area to have relatively low percentages of low-income populations, and Hispanic and other minority populations.

Acquisition for additional right of way necessitates direct purchase of privately-owned property. The purchase of these properties by WSDOT removes them from the property tax rolls, and therefore results in a redistribution of property taxes across the county. The value of the aggregate property tax for the private parcels that would be acquired would be a very small percentage of the county and only one of many factors involved in property tax distribution.

As detailed above, Area D is the one area where the proposed property acquisition includes impacts to occupied residential units and a partial impact to commercial property. Further discussion of the displacement impacts on the residents is found in Section 4.14.8 Environmental Justice Impacts.

4.14.5 What Would Be the Short-Term or Construction Impacts of the Build Alternative?

Construction of the new interchanges, the additional I-5 through lanes, the Gravelly-Thorne connector, and the shared use path as part of the Build Alternative would have unavoidable temporary impacts to the surrounding area, including dust, equipment emissions, noise, and traffic interruptions. Other impacts associated with construction are various staging areas, movement of heavy equipment on local

streets, and night time construction noise. While the Build Alternative is expected to take two to three years to complete, construction would be phased.

With construction at both the Berkeley Street Interchange and the Thorne Lane Interchange, construction impacts would extend through the length of Tillicum, which (combined Census block groups) has one of highest percentages of minority populations (58.5%) and of Hispanic populations (38.5%), and a high percentage of low-income households (29.23%).The Woodbrook community would also experience these impacts during the Thorne Lane Interchange construction. Within the two-thirds of a mile -long commercial area along Union Avenue, six of the 15 restaurants are some variety of Asian food. These restaurants could be reasonably expected to be owned by Asian persons.

Tillicum is already negatively affected by limited access and traffic congestion. This situation would be increased during construction, for up to six months for each of these interchanges. Access would be maintained to all residences and businesses during construction, but there would be unavoidable disruption affecting residents, business owners, employees, and customers in this area. Therefore, the most concentrated short-term impacts would be in the same area as the long-term impacts of land acquisition and residential displacement.

Although a 1% short-term decline in revenue is projected for area businesses during the construction phase, revenue from vehicles that drive to Tillicum from JBLM is expected to increase slightly (See Economic Chapter). While congestion would be worsened with detours and I-5 traffic routed onto local streets, the proximity of these businesses that serve the local population and base personnel is expected to support continued demand. Road construction crews can be expected to generate additional business for these conveniently located businesses. Critical issues to be managed during construction in this area will be maintaining access to all of the affected businesses, advance notice of circulation changes or disruptions, and providing for uninterrupted transit, paratransit, and pedestrian traffic. The scheduling of road closures and detour routes will be closely coordinated with police, fire and emergency services, transit agencies and school districts. WSDOT is in the process of developing a Traffic Management Plan (TMP) to manage work zone impacts for the duration of the construction phase. The TMP will address planned temporary traffic control measures including traffic operations and public information elements. Input from transit providers (Intercity Transit, Pierce Transit and Sound Transit), emergency response providers (Lakewood and DuPont Police and Fire Departments, Washington State Patrol, West Pierce Fire Department, Pierce County Sheriff's Department and JBLM Fire Department), adjacent cities and the Clover Park School District would be incorporated into the TMP. Focused outreach to the general public, JBLM personnel, emergency services providers and transit agencies will provide notice of potential disruptions and enable minimization of short term access impacts.

4.14.6 How Can Impacts of the Build Alternative Be Minimized or Mitigated?

Why Can't These Impacts Be Avoided?

WSDOT strives to avoid acquiring private property, understanding this can be very disruptive to the individuals and businesses that are affected. In addition, acquiring property involves a long process of relocation and associated expenditures of public funds. The proposed Build Alternative is an improvement to the existing interstate highway, and therefore alternative design concepts for the highway and interchanges are limited to the immediate area. With urban land uses developed up to the current right of way in much of the study area, expansion of this heavily-used highway where

improvements are most needed cannot avoid impacting those adjacent communities.

Various design concepts have been explored to minimize property impacts in Area D – the vicinity of Berkeley Street in Tillicum. In order to avoid the property impacts and residential displacements associated with the Build Alternative, the Berkeley Street interchange would have to retain its existing at-grade railroad crossing. This existing railroad crossing currently carries infrequent freight traffic, but by 2017 it is expected to be carrying several high-speed passenger trains each day. At-grade crossings typically have adverse effects on both traffic delay and safety. These are the primary reasons why the current interchange design includes a railroad grade-separation. This preferred design would also allow for roundabouts to be built at the interchange ramp termini intersections in place of signals. This change would greatly improve mobility between Tillicum and JBLM, and would reduce or potentially eliminate the I-5 off-ramp backups. (For more detail on the design comparisons and reasons for selecting the current design, see Policy Point 4 in the *I-5 JBLM Vicinity Interchange Justification Report*.)

Although these constraints limit the general location of the Berkeley Street interchange, design refinements have been made that would reduce the total number of household displacements from 27 to 17.

What Measures Are Proposed to Minimize Social and Economic Impacts?

For those acquisitions that cannot be avoided, direct compensation would be provided to those individuals whose property must be purchased for WSDOT Project use. The Uniform Relocation Assistance and Real Properties Acquisition Policies Act of 1970, as amended, ensures that owners of property acquired and people displaced by federally-funded projects are treated fairly and appropriately compensated. Tenants, as well as homeowners that are displaced, must be compensated, although compensation is different for owners versus tenants. The primary compensation for tenants is relocation to comparable replacement housing meeting defined standards. Additional mitigation such as supplemental payments to adjust mortgage or rent for a period of time, and moving costs can be provided. WSDOT Real Estate Services works closely with each household to determine the conditions and needs of affected individuals. Accommodations for needs, such as disabilities, reliance on transit, proximity to childcare, and distance to work and schools, are included in the relocation process.

Traffic noise impacts to those residential areas that are adjacent to the Build Alternative would be mitigated to the extent allowed by FHWA, as detailed in the noise section of this chapter. The new interchanges and noise walls associated with the Build Alternative would result in the same or lower noise levels adjacent to I-5 in Tillicum (see Section 4.5.4). The visual impacts of the changed roadways, larger interchanges, and noise barriers would be mitigated with landscaping and architectural treatments (Section 4.11).

Community involvement efforts would continue as the final design is developed. It is expected that community input would result in structural design details that relate to the local community. This would be especially important with the replacement of the Freedom Bridge. WSDOT works with affected businesses owners, public services, and the community-at-large to facilitate access, and ensure advanced notice of detour routes to minimize impacts during construction. Focused public outreach would also be essential in final decisions on the locations of noise abatement measures.

4.14.7 Would There Be Any Unavoidable Adverse Impacts from the Build Alternative?

Construction of the new interchanges, along with the additional I-5 through lane, the Gravelly-Thorne connector, and the shared use path would have unavoidable temporary impacts on the surrounding area, including dust, equipment emissions, noise, and traffic interruptions. While the Build Alternative is expected to take two to three years to complete, construction would be phased. The Tillicum community would experience the greatest intrusion and disruption, with duration estimated at three to six months at each interchange.

The environmental justice analysis determined that the Build Alternative would have an unavoidable disproportionately high and adverse impact on an area with low-income populations and minority populations. The EJ assessment describes the public safety reasons for the Build Alternative, the public involvement and focused outreach made to this community, efforts made to design the Build Alternative in a way that would avoid this impact, and measures to mitigate these effects.

The Build Alternative is designed to minimize the need for property acquisition or displacements; however, some or all of several parcels would be needed for the right of way necessary to construct the proposed improvements. When a displacement is unavoidable, the property owner is entitled to relocation assistance in accordance with 49 CFR Part 24 Uniform Relocation and Real Properties Acquisition Policies Act of 1970, as amended. Chapters 8.25 and 8.26 of the Revised Code of Washington govern the right of way acquisition process.

4.14.8 Would the Build Alternative Have a Disproportionate Impact on Environmental Justice Populations?

All of the displacements necessary for the Build Alternative are located in the southern end of the Tillicum neighborhood, in the vicinity of the Berkeley Street Interchange. Tillicum would also experience the greatest intrusion and disruption during construction. Tillicum has a relatively high percentage of low-income and minority populations within the study area. Therefore, the Build Alternative would have a disproportionately high adverse effect on low-income and minority populations. Traffic noise is not considered to be a contributing factor to the disproportionately high and adverse impact on low-income populations and minority populations discussed above. The impact relates to displacements, not an increase in traffic noise. Adherence to FHWA traffic noise regulations and WSDOT policy has resulted in a project where full and fair participation in noise issues from all has been encouraged and low-income populations have been treated fairly. Adverse impacts have been avoided, or will be minimized and/or mitigated. A technical discussion of noise in Tillicum has been included at the end of Section 4.5.4.

An important aspect of environmental justice is providing opportunities for full and fair participation by potentially affected communities. Public involvement for this area included invitations and other printed materials in Spanish, and provided for Spanish translation at community meetings by request. Informational flyers, printed in English and Spanish, were provided for handing out at the Tillicum Community Center and Medical Clinic. Fliers for the meetings were also delivered to each unit of multifamily buildings in the Tillicum area. Digital versions of the fliers were distributed via the local community Facebook page and email list as well. The September 2015 neighborhood meeting was held within the neighborhood, at the Tillicum Community Center, which is served by transit. A second

neighborhood meeting was held in the Tillicum neighborhood on May 4, 2016. This open house was held at the Tillicum Elementary School and provided updated information to attendees regarding the Build Alternative, proposed interchange improvements, and the Gravelly-Thorne connector. The only request for translation at an open house occurred at the May 4, 2016 Tillicum meeting. Both open houses were well attended by a broad cross section of the community.

In order to ensure the public outreach was inclusive of EJ populations, additional outreach efforts were made. Focused outreach to the households within and immediately adjacent to the Berkeley Street interchange footprint started in early April 2016. It was known that a majority of the residents that would be affected were tenants rather than owner-occupants. Landlords of rental housing confirmed that there were no language barriers among their tenants. A letter was mailed to each address, and that was followed up with WSDOT Environmental and Real Estate services personnel going door-to-door. Face-to-face contact was made with someone from a majority of the households. For those where no one was home after two visits, a handout and business cards were left. WSDOT learned about the unique situations of the residents and their concerns. WSDOT was able to ensure residents understood that the design was not yet final, relocation assistance would be available for those in the final footprint, the current schedule of the Build Alternative, and that WSDOT would keep them informed. WSDOT also provided them with direct contacts at the agency in the event they had further comments or questions.

Many of the residents contacted had not yet attended an open house, but most had heard about the Build Alternative through their landlord, WSDOT mailings, or news outlets. None of the residents met in door-to-door visits indicated any difficulty with English. The leased housing is mostly below market rate, and many tenants are on fixed incomes. Of the contacted households that would be displaced, 67 percent of the adult residents are members of minority groups. Of the contacted households that would be adjacent to the proposed improvements, 38 percent of the adult residents are members of minority groups.

The input received included concerns about the difficulty of finding other affordable housing, as well as the difficulty of regular traffic congestion between Berkeley Street, Union Avenue, and I-5. Several residents either worked on JBLM or used Madigan Army Medical Center, and found it difficult and frustrating to travel this short distance. Several residents appreciated being within walking distance of the elementary school, friends in the immediate neighborhood, the community center, or employment.

ENVIRONMENTAL JUSTICE DETERMINATION

The environmental justice analysis determined that the proposed Build Alternative would have an unavoidable disproportionately high and adverse impact on an area with low-income populations and minority populations. It describes the public safety reasons for the Build Alternative, the public involvement and focused outreach made to this community, efforts made to design the Build Alternative in a way that would avoid this impact, and measures to mitigate the effects.