



Social/Environmental Justice/ Economic Discipline Report

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SR 502 CORRIDOR WIDENING

IMPROVING SAFETY • INCREASING CAPACITY • REDUCING CONGESTION

I-5 TO BATTLE GROUND

FINAL

Social/Environmental Justice/Economic Discipline Report

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This Project is also referred to as “SR 502/I-5 to Battle Ground – Add Lanes”.

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Executive Summary

The purpose of this Executive Summary is to summarize the findings of the Final Social/Environmental Justice/Economics Discipline Report for the SR 502 Corridor Widening Project.

What studies, methods, and coordination were used to identify existing social, environmental justice, and economic resources in the project area?

Social resources in the project area include its residents, community facilities and public services, recreation amenities, mobility and access, and community cohesion. Environmental justice populations are minority and low-income persons in the community. Economic resources include local businesses, regional work force, and government tax revenues.

A wide variety of sources were used to identify and evaluate potential effects on social, environmental justice, and economic resources. Descriptive and statistical information was obtained from federal, state, and local agencies including Clark County, Washington State Employment Security Department and Office of Financial Management, the Bureau of Labor Statistics, and the U.S. Census Bureau. A total of six public open house meetings were held in the community to identify concerns about the project. A windshield survey was conducted on August 28, 2007 to assess basic land uses and particular social resources in the community. A field survey was conducted of the businesses located at Dollars Corner and the findings are summarized in the Business and Property Assessment (E.D. Hovee & Company, 2009).

How were effects to social and economic resources determined?

A key factor in determining how social and economic resources would be affected is property acquisition. In some cases, only a small sliver of land may be needed and existing land uses may remain on the property. In other cases, an entire parcel may need to be purchased including residential and commercial buildings. Property acquisitions could result in the displacement of families, businesses, employees, important community facilities, public services, or other community amenities. Therefore, the evaluation



Aerial view of the SR 502/NE 50th Avenue intersection shows the rural community encompassing the project corridor.



The determination of social, economic, and environmental justice effects included data collection and analysis, and multiple opportunities for the public to speak with project staff.

of property acquisitions is an important aspect of the analysis of potential effects on social and economic resources. Analysis to demonstrate compliance with federal and Washington State policies on environmental justice looks at both social and economic effects on minority and low-income populations.

The context and magnitude of property acquisitions and the changes in the community as a result of constructing the transportation project also are important. The height or width of the new transportation facilities could create physical barriers in the community. The change in the transportation system could mean it would be more or less difficult for motorists, bicyclists, pedestrians, or transit-dependent persons to travel within the community. It may be more difficult or easier for residents and businesses to carry-on their daily activities, including commuting to jobs located outside of the community.

Disproportionate adverse effects on minority or low-income populations in the community are a particular concern. Federal and state law specifically call for the assessment of these effects as these members of our communities have historically been under-represented in public decision-making. The analysis assesses the presence of these populations in the project area, demonstrates that public involvement activities have been proactively extended to these members of the community, and that the public involvement activities involved them in identifying effects and developing appropriate mitigation measures.

What are the existing conditions in the project area?

Social Resources

The project area is located in a semi-rural agricultural unincorporated area of Clark County. It straddles the SR 502 highway corridor for most of the distance between the I-5/SR 502 Interchange currently under construction and NE 102nd Avenue. The area was settled by farmers before the turn of the last century, and some of the descendants of these historic settlers still reside in the community. The area has not experienced significant growth since 1990, but Clark County's incorporated cities have seen dramatic increases in both population and employment.

The 2000 census reported that over 93 percent of the population in the study area was White and less than 4 percent were Hispanic. Of the minorities, Asians comprise 1 percent of the



Rural residence along the SR 502 corridor.

Key Point - Some of today's residents in the community are descendants of some of the early settlers of Clark County.

population and almost 4 percent were of some other single race or of two or more races. These demographic characteristics are less diverse than Clark County and the nearby cities of Battle Ground and Vancouver. Recent demographic characteristics for local elementary schools, however, indicate that the population of the project area has likely become more diverse since the 2000 census. There is a substantial Russian community in the area. Household median incomes as reported in the 2000 census exceeded those of nearby cities and the county. Because the project area is semi-rural and access to transit services is limited, it is understandable that the proportion of the population that is transit-dependent is substantially less than found in nearby cities.

Aside from several religious institutions, power lines and a major natural gas transmission facility located along the project corridor, most of the community facilities, services, and gathering places are located at Dollars Corner, at the intersection of SR 502 and NE 72nd Avenue. Here, there are several restaurants, a fraternal organization, a fire station, and a social service agency. There are no hospitals, schools, libraries, or parks located in the project area, though a number of these community facilities are located in nearby Battle Ground. If not located in Battle Ground, travel to community facilities and services can be circuitous due to the rural landscape and limited public roadways. The project area is in a semi-rural community that receives benefits of nearby small cities such as Battle Ground, but the community also is experiencing some of the adverse effects of rapid population and economic growth occurring in Clark County, particularly traffic congestion.

Environmental Justice

The project area has minority and low-income residents, minority-owned businesses, and businesses that employ minority persons. Minority persons most represented in the community are Hispanics, but they only represent a very small percentage of the community's population, business owners, and work force. Moreover, the businesses located in the project area do not particularly cater to the needs of this minority community. For example, there are no food stores that specialize in Hispanic food products. The study area proportion of the population that is minority or low-income is very similar to adjacent communities as well as the entirety of Clark County.



Clark County Fire District 11, Fire Station 11-1 located south of Dollars Corner on NE 72nd Avenue.

Economic Elements

Though there are businesses scattered along the entire project corridor, the vast majority are located at Dollars Corner. Here, there are approximately 50 businesses. The gas stations, barber shop, grocery store, and restaurants cater to the daily needs of community residents. Other businesses such as the floor covering store, landscaping business, auto wrecking yard, and the social service agency provide services to both residents and businesses in the region. Most of these businesses are small family-owned businesses and only have a few employees. Local residents make their living off of their agricultural lands or commute to jobs in nearby cities, Vancouver, or Portland.

What temporary effects would occur?

Temporary effects of construction would similarly affect social and economic resources in the project area. SR 502 is the primary arterial traversing the community. Businesses as well as residents located along the highway would be affected by the noise, dust, light and glare, construction vehicle traffic, and general congestion. Construction related traffic also would travel between the active construction area and the staging and/or laydown areas for equipment and materials. In addition, there would be increased traffic along haul routes for the delivery of construction materials and supplies and along transport routes for excavated materials. The increased level of congestion would increase travel time along SR 502 and decrease the ability of property owners, business owners, employees and customers to make safe left turns to and from SR 502. Congestion and traffic detours may deter business customers from patronizing local businesses and it may require residents to wait longer periods of time before they are able to turn into their driveway. One lane of travel would be maintained in each direction for the duration of the construction period and access to all properties would be guaranteed.

During construction, two-way travel would be maintained on SR 502 whenever feasible. There may be a need to stop traffic or detour traffic for short periods of time. These effects would be primarily during weekday daylight hours, and would avoid peak periods, if possible. It may be necessary to conduct construction during nighttime or weekends from time to time. It may also be necessary to have short-term disruptions to utility services,



SR 502 looking east toward NE 72nd Avenue (Dollars Corner)



A produce store at Dollars Corner



A community pub at Dollars Corner

Dollars Corner

Dollars Corner is located midway along the semi-rural SR 502 corridor and encompasses approximately 50 businesses between NE 67th and NE 82nd Avenues.

but this would occur with coordination of users to minimize adverse effects. Access to adjacent properties would be guaranteed throughout the construction period.

Local businesses may also benefit from construction worker purchases of food and gas. The region's construction workers may be able to obtain new jobs and businesses may be able to sell supplies or materials for the construction activities.

What long-term effects would occur?

Social Resources

The widening of SR 502 would require the full or partial acquisition of a substantial number of properties along the corridor and would result in the displacement of 20-30 residences (Exhibit ES-1). One or more of these residences is a mobile home. Together, the residential displacements represent approximately 25 percent of all of the residences located adjacent to the project corridor.

These displacements would require the relocation of an estimated 60 to 90 residents. For additional residential property owners, the widening of the highway may require modification or relocation of water wells and/or septic systems currently located adjacent to the right of way. Looking at first quarter 2008 Regional Multiple Listing Service (RMLS) data for Clark County and the districts of Battle Ground and North West Clark County, there was a wide price range of residential properties in relatively close proximity to the study area. Several hundred residential properties were offered for sale in the two districts nearest the study area, and more than 4,000 residential properties were for sale county-wide. As such, the 20-30 displaced households would likely be able to find affordable replacement housing.

Exhibit ES-1 Social and Economic Long-Term Displacement Effects

Effects	Residential	Commercial/Industrial
Displacements	<ul style="list-style-type: none"> • 20–30 dwellings (25% of corridor residences) • One or more may be a mobile home 	<ul style="list-style-type: none"> • 16–22 businesses (40% of businesses at Dollars Corner) • Serve both local and regional customers • Several community gathering places

Effects	Residential	Commercial/Industrial
Partial Acquisition Effects	<ul style="list-style-type: none"> Some residences would need septic systems or wells relocated onsite, or need to hookup to new waterlines 	<ul style="list-style-type: none"> Loss of 15–25 parking spaces. Driveway accesses may change or be more limited
Relocation	<ul style="list-style-type: none"> 60–90 persons¹ 	<ul style="list-style-type: none"> 85–115 employees²
Limited English Proficiency	<ul style="list-style-type: none"> Some displaced residents may speak Spanish or Russian 	<ul style="list-style-type: none"> Some displaced business owners and employees may speak Spanish or Russian
Environmental Justice	<ul style="list-style-type: none"> Some residents may be minority or low-income 	<ul style="list-style-type: none"> Some businesses employ minorities or provide services to minority and low-income residents
Benefits	<ul style="list-style-type: none"> Reduced travel time through corridor to access shopping in nearby Ridgefield and Battle Ground as well as jobs in Vancouver Increased pedestrian and bicycle safety Increased vehicle safety 	<ul style="list-style-type: none"> Reduced congestion and improved access Improved safety for all modes of travel Reduced travel time for police, fire, and emergency medical vehicles

Notes:

1. Population estimated assumes 3.0 persons per household (2000 census data).

2. Employment estimate includes both full-time and part-time employment based on findings of the business survey.

Potential effects on the larger community would be mixed. Property acquisition would not displace community facilities, public services, or recreational amenities in the project area. However, one non-profit social service agency would be displaced. Community mobility, including travel for bicyclists and pedestrians in the project area, would generally be improved. In particular, sidewalks, marked crosswalks, pedestrian refuges, and bike lanes would be added at Dollars Corner to substantially increase safety for pedestrians and bicyclists. The construction of a standard shoulder to the roadway would also allow traffic to pass school buses stopping along SR 502 and increase safety for school children. Mobility and access to destinations outside of the community would be greatly improved.

The highway and its high level of traffic volumes, however, would continue to be a barrier in the community. A substantial number of both residences and businesses would be displaced in the community. Many of these residents and business owners have been in the community for decades. Local retail establishments and gath-

ering places would be displaced. These changes would adversely affect community identity, erode the quality of the semi-rural lifestyle, and would substantially weaken community cohesion.

Environmental Justice

To assess compliance with federal and state policy and laws pertaining to environmental justice, analysis was conducted to assess whether the acquisition of property and displacement of residents, businesses, and employees would affect minority and low-income members of the community. Though the number of displaced minority or low-income residents is unknown, it is expected that it would be a small percentage and similar to existing demographic characteristics of the community. Statistics indicate 9.6 percent of the population is minority and 5.1 percent is low-income.

The business survey and real estate related discussions with property owners identified which businesses at Dollars Corner are minority-owned, employ minority persons, and/or may provide services to minority and/or low-income persons. In the project corridor, there is one social service that serves minorities and low-income persons, as well as two minority-owned business. The social service agency would be displaced by property acquisition for the project, but neither of the minority owned businesses would be displaced. As such, adverse effects on minority and low-income populations in the area are not expected to be disproportionate. Community outreach will continue through the environmental review process and will be used to record the concerns of minority and low-income populations in the community.

Economic Elements

A total of 16 to 22 businesses located along the project corridor, most of which are located at Dollars Corner, would be displaced due to property acquisition. These businesses include several auto-care services, personal care businesses, building construction/fabrication companies, restaurants and cafes, and other miscellaneous businesses. Through required land acquisition, 15 to 25 parking spaces at other businesses would be displaced. Most of the affected businesses are located at Dollars Corner. The property purchases would also displace the employees of these businesses – an estimated 85–115 full- and part-time employees, including one or more Asian, African or Hispanic workers.

Key Point - Though minorities and low-income persons reside and work in the project area, there would be no disproportionate adverse effects on these populations.

Due to the rural character of the area, it is unlikely businesses could find available commercial space to relocate their businesses within the community. Some property owners may rebuild on the remaining portion of their commercial lot. It would be unlikely displaced employees could find other jobs in the Dollars Corner area, though the urban growth in the region should provide other employment opportunities. As new jobs may be substantially distanced from their existing place of employment, they may relocate to other small communities or even Vancouver. Due to the relatively small size of the displaced businesses and residences, the displacement of these businesses and residences would not be expected to reduce sales tax revenues to local governments nor affect property tax revenues to local governments.

There would be a substantial loss of businesses to the Dollars Corner rural center. For remaining businesses, the long-term outlook would likely be more optimistic for businesses serving patrons in the region (destination-based businesses) compared to continued operation for those businesses primarily dependent on drive-by traffic. Moreover, the remaining small retail businesses would be located in a smaller cluster of retail businesses that may collectively attract fewer customers than the current larger cluster of Dollars Corner businesses.

What would be the effects to social and economic resources if the project is not built?

If the project is not constructed, adverse effects would include reduced mobility and access in the project area, as well as to and from Battle Ground and regional destinations. Traffic volumes would cause increasing congestion. Travel time would increase for all users on SR 502, including transit users traveling between Battle Ground, Vancouver and/or Portland. Travel to community facilities, public services, and recreation amenities located in the corridor and in the larger region would take more time. Response time of police, fire, and emergency medical vehicles would increase, due to increased congestion along the corridor. The congestion would make it increasingly more difficult for both residential and commercial property owners to access their property, especially if access requires left turns from SR 502 across oncoming traffic. It would also be more difficult for patrons to visit businesses in the project corridor, including the many businesses located at Dollars Corner. Depending on the location and the

Destination-based businesses:

Businesses whose customers make a trip for the specific purpose of visiting that specific business.

Drive-by businesses: Businesses whose customers drive past a business for other purposes (for example, during their commute to work) and stop out of convenience.

type of business, the congestion could add risk to the economic viability of individual businesses. Automobile crashes and accidents would likely increase. In addition, pedestrians and bicyclists would continue to use the roadway and injury incidents would continue due to the lack of marked sidewalks, pedestrian crossings, and bicycle trails. Together, these effects would deteriorate the general quality of life in the semi-rural environment currently enjoyed by residents and business owners alike.

What measures are proposed to minimize or avoid negative effects to social and economic resources?

During construction, there are several recommended activities that would minimize short-term effects on social and economic resources in the project area. These include detailed planning of construction activities with input from key stakeholders in the community, broad notification in the community of the planned construction activities and traffic management, and re-assessment of the effectiveness of mitigation measures during the construction period. Due to the substantial number of businesses located at Dollars Corner, public information campaigns should advertise that businesses will be open during the construction period.

Mitigation measures to avoid, reduce, or minimize long-term effects on social and economic resources include the following:

- Implement provisions as required under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, as well as the Washington Relocation Assistance – Real Property Acquisition Policy for all properties purchased for needed right of way. Compensate all affected property owners at fair market value and provide relocation assistance.
- Provide housing of last resort if needed. The available housing in the vicinity is expected to provide suitable relocation housing for displaced residents. But sufficient numbers of comparable replacement housing may not be available.

Housing of last resort includes various measures to provide housing for displaced persons if replacement housing is not available within a resident's financial ability to afford. Examples include purchasing housing and renting it to displaced persons, renovating existing housing, providing financing for homeowner-occupants, and partnerships with public or private agencies that provide housing for low-income persons.

- Provide relocation assistance to the one displaced social service agency that provides assistance to low-income persons to help assure that the agency will be able to remain in the community they now serve.
- Compensate property owners affected by new access control along SR 502 through the Washington State Department of Transportation access control hearing procedures.

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1.0 Introduction

The SR 502 Corridor Widening Project is located in north Clark County, Washington along SR 502 (NE 219th Street) between NE 15th Avenue and NE 102nd Avenue. The western terminus of the project area is approximately one mile east of Interstate 5 (I-5) and the eastern terminus is NE 102nd Avenue. The project would widen an approximate five-mile segment of SR 502 from two travel lanes to four travel lanes and upgrade several intersections to improve mobility and safety. Currently, SR 502 is a rural, two-lane highway. There is one signalized intersection at SR 502 and NE 72nd Avenue. For a more detailed description of the project, see the separate *Revised Description of Alternatives* document (Parsons Brinckerhoff, 2008e).

The purpose of this document is to describe the existing social, environmental justice, and economic conditions, discuss effects and benefits the project would have on those resources, and recommended mitigation measures to address adverse effects as needed. The information contained in this discipline report will be used to support the project's Environmental Impact Statement (EIS).

2.0 Studies, Coordination, and Methods

This chapter describes the legal foundation for the preparation of this discipline report and key information used in the analysis. The boundaries of the project area and the demographic study area for the analysis of potential effects on social, environmental justice, and economic resources are defined. The definition of key terms and the sources of information used in the analysis are provided. Coordination and outreach to the public are described. Lastly, the methods used to assess these potential effects are outlined.

2.1 Regulatory Overview

The analysis of potential social, environmental justice, and economic effects of the project follows federal, state, and city laws and regulations. They include the following:

- National Environmental Policy Act (NEPA) prohibits federal agencies from taking action without first evaluating potential effects on the environment.
- Title VI of the Civil Rights Act of 1964, as amended, prohibits discrimination based on race, color, national origin, and sex.
- Age Discrimination Act of 1975 prohibits discrimination against the elderly.
- Americans with Disabilities Act of 1990 prohibits discrimination against disabled populations.
- Presidential Executive Order 12898 requires federal agencies to determine whether federal agency actions would have disproportionate adverse effects on minority and low-income populations.
- Executive Order 13166 requires all federal departments and agencies extending financial assistance to develop and make available guidance on how recipients should assess and address the needs of otherwise eligible limited English proficient persons seeking access to the programs and activities of recipients of federal financial assistance.

- Title 49 of the Code of Federal Regulations (CFR) Part 21, Nondiscrimination in Federally Assisted Programs of the Department of Transportation, Effectuation of Title VI of the Civil Rights Act of 1964.
- Title 23 of the United States Code (USC) Section 109(h), Federal Highway Administration Effectuation of Title VI of the Civil Rights Act of 1964.
- Governor's Executive Order 93-07, Affirming Commitment to Diversity and Equity in the Service Delivery and in the Communities of the State [Washington].
- Washington State Environmental Policy Act (SEPA) prohibits state and federal agencies from taking action without evaluating potential effects on the environment.

The federal and state guidelines include the following:

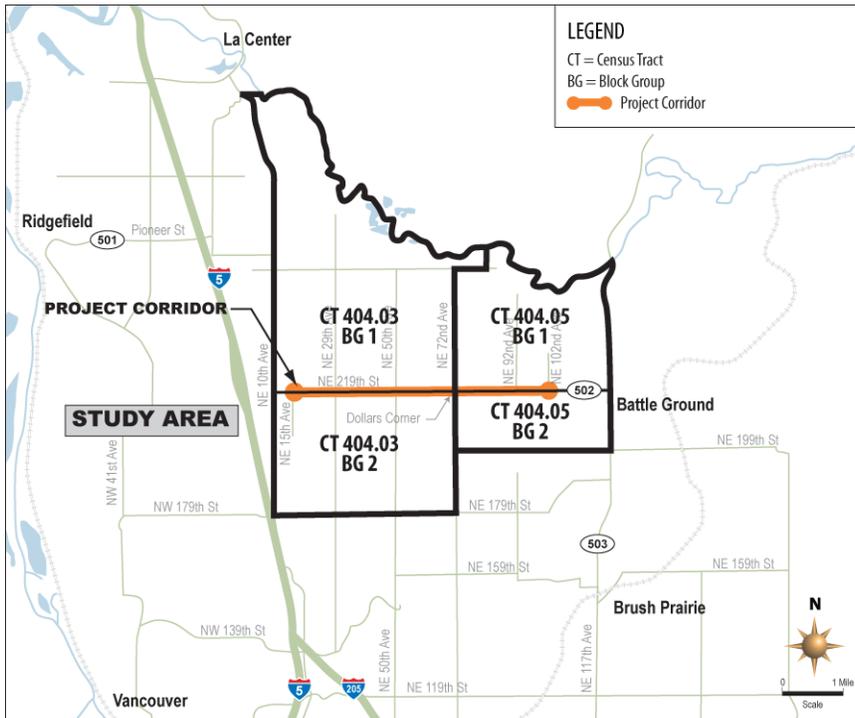
- Federal Highway Administration (FHWA) NEPA Guidelines
- FHWA Technical Advisory T6640.8A, Guidance for Preparing and Processing Environmental and Section 4(f) Documents
- FHWA's Community Impact Assessment: A Quick Reference for Transportation
- Washington State Department of Transportation's (WSDOT) Environmental Procedures Manual, Section 458 Social and Economic (WSDOT 2007)
- WSDOT's Environmental Procedures Manual, Section 470 Public Services and Utilities (WSDOT 2007).

2.2 Boundaries of the Project Area and the Demographic Study Area

The project corridor encompasses SR 502 from NE 15th Avenue to NE 102nd Avenue. The area used for most of the analysis encompasses an area approximately 0.5 miles to the north and south of the corridor. This area is referred to as the project area.

However, much of the analysis in this report, particularly population demographic information is based on statistics published by the U.S. Census Bureau. Census tract block group data is used in the social and environmental justice analysis. There are only four 2000 census tract (CT) block groups (BG) that encompass the project area. These include the following: CT 404.03 BG 1 and BG 2 and CT 404.05 BG 1 and BG 2 (Exhibit 1). For data comparison, the geographic area defined by the 2000 block groups shares the same boundaries with 1990 block groups, though may be identified by different block group numbers. The area defined by the census block groups is referred to as the demographic study area.

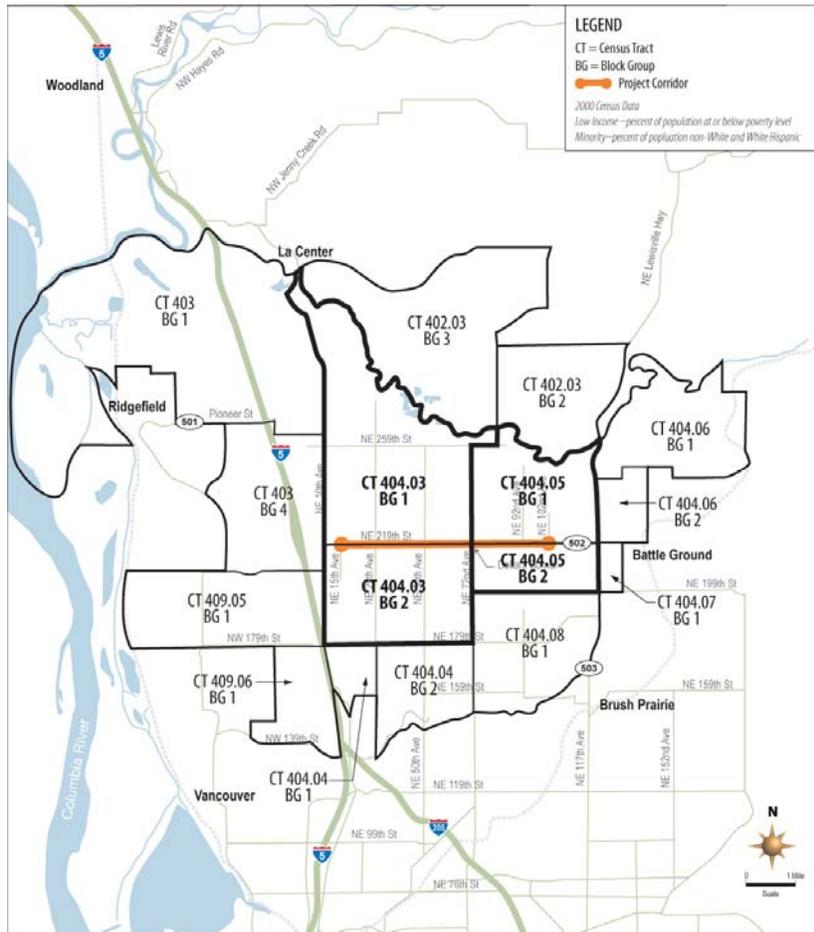
Exhibit 1. Demographic Study Area Census Tract Block Groups, 2000



The demographic study area is located in a semi-rural area and the population density is low. To approximate the Bureau of the Census' target population for census tract block groups (approximately 1,500 persons), the rural census tract block groups are very large. The boundaries of the four census tract block groups that encompass the project area extend one to two miles south of SR 502, two to four miles north of SR 502, and approximately one mile east and west of the highway corridor. This area and the population residing in these four census tract block groups includes both residents affected by property acquisition as well as nearby community residents who would be affected by the adverse community effects resulting from displacement of both residential and commercial land uses. Moreover, including additional census tract block groups as the demographic study area would extend many more miles beyond the project area because of the very large size of census tract block groups in this rural region, and thus would extend the demographic study area boundaries considerably beyond the immediate community affected by the proposed project.

Additional demographic analysis, however, was conducted for the "border area" adjacent to the four census tract block groups encompassing the project area. The border area includes the following 13 census tract block groups: CT 402.03 BG 2 and BG 3, CT 403 BG 1 and BG 4, CT 404.04 BG 1 and BG 2, CT 404.06 BG1 and BG 2, CT 404.07 BG 1, CT 404.08 BG 1 and BG2, CT 409.05 BG 1, and CT 409.06 BG 1. The border area is shown in Exhibit 2.

Exhibit 2. Border Area Census Tract Block Groups, 2000



With respect to analysis presented in this document, social and economic resources were inventoried for the project area and not the demographic study area. The effects on these resources from either construction or long-term operation of the project were evaluated. Information for the demographic study area was used in the analysis of potential environmental justice effects.

2.3 Definition of Key Terms

Key terms used in this discipline report are provided below:

Adverse Effects – These are negative or “bad” effects on the community.

Beneficial Effects – These are positive or “good” effects on the community.

Community Cohesion – The ability of people to communicate and interact with each other in ways that lead to a sense of community, as reflected in the neighborhood’s ability to function and be recognized as a singular unit.

Disproportionate Adverse Effect – These are adverse effects that are predominately borne by a minority or low-income population that would suffer appreciably more than suffered by non-minority and/or non-low-income populations.

Environmental Justice – Refers to the process of identifying and addressing, as appropriate, disproportionately high and adverse human health and/or environmental effects on minority and/or low-income populations.

Low-Income – A person whose median household income is at or below the department of Health and Human Services poverty guidelines (updated annually) for that size of household.

Minority – A person who is: Black (a person having origins in any of the black racial groups of Africa), Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or the Spanish culture or origin, regardless of race), Asian/Pacific Islander (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands), American Indian or Alaskan Native (a person having origins in any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition).

2.4 Data and Information Used in the Analysis

Data were collected from a variety of federal, state, and local sources. A major portion of the social and environmental justice analysis in this report relies on 1990 and 2000 statistics published by the U.S. Census Bureau. Population and economic information was obtained from the Bureau of Economic Analysis, Washington Office of Financial Management, and the Washington Employment Security Department. Information also was obtained from local government agency websites on the Internet, including those for Battle Ground, Vancouver, Clark County, and Portland.

A field survey was conducted on August 28, 2007. The purpose of this field survey was to obtain a general overview of the social and economic context of the project corridor. WSDOT provided more detailed information about land uses, property owners, and assessed property value.. Additional information used in the analysis of potential effects to social, environmental justice, and economic resources was obtained from other discipline reports prepared for this project. In particular, the author consulted project team staff responsible for land use, relocation, water resources, air, noise, traffic, and engineering.

The project team conducted a survey of businesses located in the Dollars Corner area (intersection of SR 502 and NE 72nd Avenue). The purpose of the survey was to obtain detailed information about the number and types of businesses located at Dollars Corner, their employees and customers, property access from SR 502, and on-site circulation. Section 2.6 below provides a discussion of the key findings of this survey. Knowledge of the demographics of business owners was also gained through real estate related discussions with property owners.

Particular community issues and concerns were identified by reviewing agency and public involvement and coordination records. These included the public involvement plan and summaries of the key stakeholder interviews, the scoping meetings, and the open house

meetings. Additional information was obtained from meeting notes documenting the public outreach activities and telephone contact with a local social service non-profit organization. Census demographic characteristics used in the analysis of social effects were used to develop the public involvement plan.

Census data used extensively in the analysis were collected in April 2000 and are now seven years old. Therefore, additional research was conducted to evaluate potential changes in the demographic characteristics in the general area proximate to the project area. Directly comparable data, however, are not available as detailed census information for block groups is not published by the U.S. Census Bureau's American Community Survey annual publications. School district data and anecdotal information from the public involvement activities were used to update the demographic information.

2.5 Public Coordination and Outreach

2.5.1 Key Stakeholder Interviews

In order to get a preview of public concerns about the SR 502 Widening Project prior to the formal start of the public involvement activities, the project team conducted interviews with key stakeholders. Stakeholders were selected to present a cross-section of views and concerns regarding the project and project area. Stakeholders represented local residents, property owners, businesses, and public/government agencies including: Clark County, City of Battle Ground, Battle Ground Police and Fire, Battle Ground Public Schools, U.S. Postal Service, Port of Ridgefield, Southwest Washington Regional Transportation Council, Clark County Public Works, and C-TRAN. In October and November 2006, a total of 42 interviews were conducted using a standard questionnaire. Stakeholders were selected to provide broad representation of the views and concerns of those who have an interest in the project. The interviews also provided information on the overall expectations of the project development activities and future construction activities. Key concerns about the project included the following:

- Most respondents are aware of the corridor traffic congestion, decrease of mobility, effect on public services, and safety issues; and they made suggestions for improvements.
- Property owners want the project development to move forward in a timely manner as they have postponed major changes until the project plans are set.
- Some stakeholders were interested in making the roadway safer for non-motorized traffic.
- Stakeholders expect a financially equitable right of way acquisition process.
- Business owners were concerned about the amount of right of way acquisition that would be required for controlled access (roadway medians and limited left turns) and how changed access could affect their bottom line, especially considering many rely on drive-by traffic for their customers.
- Stakeholders are concerned about property access during and after construction, especially considering the property owners have few (if any) alternative access options.

- Property owners have mail boxes along SR 502 and wish access be maintained during construction.
- Stakeholders are concerned about the many wetlands along the corridor and how they may constrain project design.
- Several persons interviewed also commented that there were Spanish- and Russian-speaking residents in the community.

2.5.2 Public Scoping and Open House Meetings

Early on in the project planning process, a total of seven different alternatives were considered. These included both off-corridor routes to the north and south of SR 502 as well as alternatives that basically followed the existing roadway corridor. These alternatives were compared and contrasted using several selection criteria and consideration of the environmental effects of each. The alternatives, screening criteria, and screening process were presented at four public meetings. At that time, the screening of the alternatives identified the best single alternatives north and south of SR 502 as well as a route following the existing corridor.

A public scoping meeting was held on February 22, 2007. It was a combined scoping meeting and open house event. A total of 90 people attended this first meeting. An agency scoping meeting was held that afternoon. Attendees included representatives from the following agencies: WSDOT, FHWA, Washington Department of Ecology, and the Washington Department of Fish and Wildlife, and Clark County. Issues of concern addressed the following topics: stormwater, water quality, wetland mitigation, new county wetland ordinance, three crossings of Mill Creek, adequacy of existing fish passages, salmon and steelhead habitat, and oak habitat.

An additional three open house meetings were held between March and June 2007 to solicit public input. All of these meetings were held from 4-7 p.m. at the Battle Ground High School, located at 300 W. Main Street. These meetings are listed in Exhibit 3.

Exhibit 3. Public Meetings

Meeting	Date	Time	Place	Attendees	Comments
1	February 22, 2007 (public scoping)	4-7 pm	Battle Ground High School	90	30
2	March 22, 2007	4-7 pm	Battle Ground High School	152	66
3	May 9, 2007	4-7 pm	Battle Ground High School	142	31
4	June 14, 2007	4-7 pm	Battle Ground High School	173	40
5	September 26, 2007	4-7 pm	Battle Ground High School	85	10

Key concerns raised by members of the public who attended the public scoping meeting or one of the open house meetings are summarized below.

- Prefer widening to occur in the existing right of way and not off-corridor
- Changes in roadway design, alignment, increased speed, turn lanes, medians, bike lanes, and sidewalks
- Increased response time for emergency services due to roadway median barrier
- Environmental effects, i.e. wetlands, stormwater, water quality, and birds
- Business effects
- Displacement of long-time residents and elderly residents
- Effect on residential wells and septic systems located adjacent to the highway
- Need for mass transit to reduce congestion
- Affect on future development potential of properties.

Despite WSDOT's presentation of three alternatives from the screening process, public comments overwhelmingly opposed any alternative other than an alternative that followed the existing SR 502 corridor. Based on the community's strong reaction to the alternatives presented at the public meetings, WSDOT decided that only a single on-corridor alternative would be considered for detailed environmental analysis. This decision and the proposed alternative were presented at an open house in September 2007. It is this alternative that is evaluated in detail in this document. A summary of the alternatives development and screening process can be found in the "Final First-Level Alternatives Screening Memorandum" (Parsons Brinckerhoff, 2007).

2.5.3 Informational Newsletters and Post Cards

Since the initiation of the project planning activities, there have been a total of six mailings to residents, property owners, and business owners. These mailings have included both newsletters and informational post cards. Their purposes were to announce upcoming public meetings, review project development, announce the selected alternative, and outline future studies. All five mailings announcing specific public open house meetings included notices in Spanish and Russian as well as contact information for persons requiring additional assistance for the upcoming meeting. Exhibit 4 describes these mailings to the community.

2.5.4 Kiosks

To keep residents and local businesses informed about project activities, project kiosks were established. These kiosks are similar to bulletin boards and information about the project is posted on the kiosk and regularly updated as new information becomes available. Upcoming public open house meetings were announced, public comment and input was summarized, and project activities were advertised. Handouts were also available at the kiosks. Like the public mailings, these publications also included notices in Spanish and Russian and notices compliant

with the American Disabilities Act. The kiosks were placed in the project area at the following locations:

- Albertsons – 2108 W. Main Street
- Battle Ground City Hall – 109 S.W. First Street
- Battle Ground Community Library – 12 W. Main Street
- Battle Ground Public Schools (administrative offices and Summit View High School) – 11104 NE 149th Street

Exhibit 4. Newsletters and Informational Post Cards

Mailing	Type	Date	Key Messages	Foreign Language Notices	ADA Notice
1	Newsletter	February 2007	<ul style="list-style-type: none"> • Announce scoping meeting • Comment period duration • Conceptual planning starting • Planned public involvement 	<ul style="list-style-type: none"> • Spanish • Russian 	Yes
2	Newsletter	March 2007	<ul style="list-style-type: none"> • Announce March 27, 2007 open house meeting • Reported past public involvement • Proposing alternative routes 	<ul style="list-style-type: none"> • Spanish • Russian 	Yes
3	Post Card	April 2007	<ul style="list-style-type: none"> • Announce May 9, 2007 open house meeting • Present alternatives and evaluation scoring • Want comments on alternatives 	<ul style="list-style-type: none"> • Spanish • Russian 	Yes
4	Post Card	May 2007	<ul style="list-style-type: none"> • Announce June 14, 2007 open house meeting • Review selected alternatives • Future studies • Future public meetings 	<ul style="list-style-type: none"> • Spanish • Russian 	Yes
5	Newsletter	August 2007	<ul style="list-style-type: none"> • Alert for fall 2007 public meeting • Report on past public involvement activities and input • Selection of on-corridor alternative • Project schedule 	None	None
6	Post Card	September 2007	<ul style="list-style-type: none"> • Announce September 26, 2007 public open house meeting • Review recent design of selected alternative • Future studies 	<ul style="list-style-type: none"> • Spanish • Russian 	Yes

- Clark County District 11 Station 11-1 and administrative offices – 21609 N.E. 72nd Avenue

- Don & Jo's Drive-In Restaurant – 21903 N.E. 10th Avenue
- Cheery Seeds Coffee – 7101 N.E. 219th Street
- First Independent Bank – 601 W. Main Street
- Fred Meyer – 401 N.W. 12th Avenue.

2.5.5 Website

WSDOT has a project website (<http://www.wsdot.wa.gov/projects/sr502/Widening>) that has been established to provide stakeholders with project information. The website has information regarding the project alignment, engineering and environmental review activities, project quarterly reports, and the project schedule. There are copies of open house display materials, exhibits, handouts, press releases, and newsletters. The WSDOT project engineer and communications manager are listed so people may contact them directly. The site also provides ongoing opportunities for members of the public to submit comments and ask questions. The information posted on the project website is continually updated to keep stakeholders apprised of project activities.

2.5.6 Coordination with Tribes

Coordination with tribes that potentially could be affected by the proposed project began in 2007. The following is a list of outreach activities specific to the Chinook and Cowlitz tribes that could be affected by the project (Mesich 2008).

- Mailed letters to tribes inviting them to June 14, 2006 open house (June 14, 2007).
- Consulted with tribes on Section 106 Area of Potential Effects (September 20, 2007).
- Consulted with tribes on geotechnical exploration (December 9, 2007).
- Held in person meeting with representatives from both tribes (June 2007).
- Invited tribes to be Participating Agencies (per the Safe, Accountable, Flexible, Efficient Transportation Equity Act-A Legacy for Users) (April 2008). Received verbal confirmation that the tribes agree to Participating Agency status on May 1, 2008 and May 9, 2008, respectively.

2.6 Survey of Businesses

As mentioned earlier, WSDOT conducted a survey of businesses at Dollars Corner (SR 502/NE 72nd Avenue intersection). The primary purpose of the survey was to obtain information about the businesses - the type of business, employees, customers, and other information used in the analysis of potential environmental effects. To comply with federal policies and regulations concerning environmental justice, data was also obtained to assess potential high and disproportionate adverse effects on minority and/or low-income populations in the project area.

Examples of businesses located in the project area



Though there are businesses scattered all along the project corridor, the vast majority are located at Dollars Corner. The business survey collected information from about 50 businesses located in close proximity to the intersection of NE 72nd Avenue and SR 502 (E.D. Hovee & Company, 2009). Many of these businesses serve the more everyday needs of locals (e.g. grocery store, restaurant, barber shop, gas station, auto parts, and espresso shop). In addition, some operate businesses that attract customers from the region (e.g. auto wrecking, real estate, floor covering, and auto sales companies).

In particular, the results of the business survey and real estate related discussions with property owners indicate that there are several businesses in the project corridor that are owned by minorities, employ minorities, or serve minority and low-income groups in the project area. There are two businesses that are owned by minority persons. The two minority-owned businesses are a coffee shop and an auto service shop. There are seven businesses that employ minority persons. One of the grocery stores accepts food stamps from low-income persons. And there is a social service agency that primarily provides services to minority and low-income persons. Survey responses indicated that the predominant minority group represented in the community is Hispanics.

2.7 Overview of Methods to Determine Effects

To assess whether or not potential changes to social and economic resources could result in adverse effects, various indicators were identified. Most of these adverse effects would be long-term and result from the acquisition of property for needed right of way. These same indicators, however, were also used to assess potential short-term effects during construction. The indicators include:

Social Elements

Population and Demographics – a change in total population or any demographic group in the demographic study area.

Community Facilities and Public Services – the required acquisition of property on which a community facility or public service is located.

Recreation – the required acquisition of property on which public recreation facilities or amenities are located.

Utilities – the required acquisition of property that would result in either complete or partial displacement of public or private utilities.

Travel Patterns and Public Safety – the change in local highway, pedestrian, bicycle, and/or transit traffic following construction of the project that would result in a permanent and substantial re-routing of this traffic and/or displacement of emergency service facilities.

Community Cohesion – a change in neighborhood boundaries (e.g. division of neighborhoods), street patterns (e.g. primary access routes to services), aesthetic quality, population, demographic characteristics, and/or loss of key businesses, community facilities, public services, or other neighborhood amenities that alone or collectively would be perceived by residents and/or business owners as a substantial change in the community and/or change in quality of life.

Environmental Justice

Minority and Low-Income Populations – a change that would result in a disproportionately high and adverse effect on these populations.

Minority-Owned Businesses or Businesses Serving Minorities – a change that would result in a disproportionately high and adverse effect on these businesses or the community in which they are located.

Economic Elements

Businesses and Employment – a change in the total number of businesses or estimated number of employees due to required acquisition of property.

Government Revenues – the required acquisition of property that would result in a reduction in the property tax, thus affecting government revenues from project taxes.

The determination of whether or not these adverse effects result in unavoidable adverse effects depends on whether or not mitigation measures can be identified to avoid, reduce, or minimize the magnitude of the effect.

3.0 Affected Environment

This section describes the affected environment, or existing conditions, within the study area. Social elements include: population, demographics, community facilities and public services, recreation, utilities, mobility and access, and community cohesion. Environmental justice includes the analysis of effects on minority and/or low-income populations as well as minority-owned businesses or those that serve minority or low-income populations. Economic elements

include the regional economic climate, local economy, employment, local businesses, and government revenues.

3.1 Social Elements

3.1.1 Overview of the Regional Setting and Growth Trends

The project is to widen SR 502 between NE 15th Avenue and NE 102nd Avenue in Clark County, Washington. The five-mile corridor extends nearly the entire distance between the I-5/SR 502 Interchange currently under construction and the small suburban city of Battle Ground. This semi-rural area outside of the designated urban growth area is characterized by agricultural uses, low-density rural residential, open spaces, and a rural center at the SR 502/NE 72nd Avenue intersection. The two-lane roadway generally has a narrow shoulder, no sidewalks, occasional drainage ditches to the side of the roadway, and many driveways.

Though the corridor is located in a semi-rural area, Clark County is generally considered urbanized. The county has six incorporated cities including: Battle Ground, Camas, La Center, Ridgefield, Vancouver, and Washougal. The largest city in southwestern Washington is

Aerial photographs showing the SR 502/NE 50th intersection looking east (left photo) and Dollars Corner (right photo)



Vancouver and this city of over 160,000 is located just nine miles south of the project corridor. Ridgefield is located approximately two miles northwest of the western terminus of the corridor. Moreover, the county is included as part of the Portland, Oregon Consolidated Metropolitan Statistical Area (CMSA), which includes counties in the Portland, Beaverton, and Salem regions. Clark County is included because approximately one-third of the county's work force commutes across the Columbia River for jobs in the Portland area. In 2007, Clark County had a population of 415,000, which was slightly more than 16 percent of the metropolitan region's total population.

Clark County's economy is integrally linked with the Portland metropolitan area. Resource-Based sectors of the economy, particularly associated with the region's timber, food processing, and textile industries, have long been a prime source of jobs. Both Portland and Vancouver have

major West Coast port facilities with transcontinental rail line linkages. High tech industries such as Hewlett-Packard, Sharp, SEH American, and Matsushita Electric have located in the county since the late 1980s, replacing dependence upon the historic resource-based industries. The growth of high tech jobs has contributed markedly to stabilizing and diversifying Clark County's economy. As a result, the county's population has grown dramatically, and so has the development of commercial and retail businesses to serve the growing suburban population.

Over the past two decades, the Portland metropolitan area has experienced substantial growth (Exhibit 5). During the 1990s, the average annual population increase for the region was 5.3 percent. The cities of Vancouver and Battle Ground experienced even faster rates of growth, though a substantial share of the increase in population in Vancouver was due to annexations. With the recession in the early 2000s, growth dramatically slowed and average annual growth rates for the region, including the city of Vancouver, was less than 2 percent. The smaller cities such as Battle Ground and areas of the unincorporated county continued to see strong growth, though the actual rates of increase are not directly comparable to those of the large cities and the region due to the small population base.

Exhibit 5. Population, 1990-2007

Geographic Area	1990 Population	2000 Population	Average Annual Growth 1990 - 2000	2007 Population	Average Annual Growth 2000 - 2007
Demographic Study Area ¹	4,429	6,787	5.3%	7100	0.6%
City of Battle Ground	3,758	9,322	14.8%	16,240	10.6%
City of Vancouver	46,380	143,560	21.0%	160,800	1.7%
Clark County	238,053	345,238	4.5%	415,000	2.9%
Portland Metro Area	1,477,895	2,265,223	5.3%	2,527,595	1.7%

Source: U.S. Census Bureau, 1990 and 2000, SF1 Tables P001 and P1 respectively; OFM, 2007; Portland State University, 2007a.

Note:

1. The demographic study area is defined by: CT 404.03 BG 1 and BG 2, CT 404.05 BG 1 and BG 2.

Determining the current population of the demographic study area can only be estimated based on interpolation of population statistics. Since 2000, Clark County growth rates have averaged 2.9 percent and Battle Ground growth rates have averaged 10.6 percent. For residential properties adjacent to the corridor, tax assessor records indicate four new houses have been constructed since 2000. This is a total increase of about 4 percent considering there are about 100 dwellings along the corridor. Per year, however, this would average about 0.6 percent per year. Using this rate to estimate 2007 population for the demographic study area, the current population of the study area is about 7,100. This is a conservative number, but reasonable considering the demographic study area is located in the unincorporated rural portion of the county and it is more than 15 miles from downtown Vancouver.

The projected population for Clark County in the year 2023 is 534,000 (Clark County Community Development, 2004). This is an average annual growth rate of approximately 1.8 percent, which is a more moderate growth rate than in past years.

3.1.2 Population and Demographics

As described in the text above, demographics for the project area are represented by the four 2000 census tract block groups that intersect the project corridor (Exhibit 1), and referred to as the demographic study area. Washington State, Clark County, Battle Ground, and the 2000 U.S. Census Bureau block group demographic data were analyzed for comparative purposes. The following sections describe the population and demographic characteristics.

Population

The population of the demographic study area increased only very slightly from 5,727 to 6,787 during the 1990s. As it is located in a portion of the unincorporated county, there are no other more recent data sources available to provide current population estimates. Most of the project area, however, is not included in the Battle Ground urban growth area, and as such, the Washington Growth Management Act has discouraged the extension of urban services into the unincorporated county to support new development in this semi-rural agricultural area. In the project area (approximately one-quarter mile north and south of the project corridor), county tax assessor data indicates that only four of the 100 dwellings adjacent to the project corridor were constructed since 2000. This type of data confirms that there has not likely been any substantial change in the population since 2000.

Minorities

The population of the demographic study area has very few minorities, especially compared to the region (Exhibit 6). In 2000, Non-White populations account for 6.4 percent of the total population. Compared to Battle Ground, it had slightly more diversity, but less than either Vancouver or Clark County. Persons of Hispanic origin comprise approximately 3.2 percent of the total population. This is less than the proportion for the population of nearby cities and the county. Together, minorities comprise 9.6 percent of the population. Additional discussion of minorities is contained in the section entitled Environmental Justice. Contact with a local social service agency confirmed that Hispanics are the predominant group represented in the local population (Wooten, 2008).

Exhibit 6. Population Minority Composition, 2000

Area	Total Pop.	One Race						Two or More Races	Hispanic
		White	Black/African Am.	Am. In. & AK Na.	Asian	Native HA & Other Pac. Is.	Some Other Race		
Demographic Study Area ¹	6,787	6,352	41	50	69	6	91	178	218
		93.6% ²	0.6%	0.7%	1.0%	0.1	1.3%	2.6%	3.2%
Border Area ³	21,277	20,061	107	156	261	27	250	415	568
		94.3%	0.5%	0.7%	1.2%	0.1%	1.2%	2.0%	2.7%
City of Battle Ground	9,296	8,721	46	80	67	10	160	212	385
		93.8%	0.5%	0.9%	0.7%	0.1%	1.7%	2.3%	4.1%
City of Vancouver	143,560	121,752	3,593	1,399	6,470	779	4,112	5,455	9,035
		84.8%	2.5%	0.9%	4.5%	0.5%	2.9%	3.8%	6.3%
Clark County	345,238	306,648	5,813	2,910	11,095	1,274	6,857	10,641	16,248
		88.8%	1.7%	0.8%	3.2%	0.4%	2.0%	3.1%	4.7%
WA State	5,894,121	4,821,823	190,267	93,301	322,335	23,953	228,923	212,519	441,509
		81.8%	3.2%	1.6%	5.5%	0.4%	3.9%	3.6%	7.5%

Source: U.S. Census Bureau, 2000, SF1 Tables P3 and P4.

Notes:

1. The demographic study area is defined by: CT 404.03 BG 1 and BG 2, and CT 404.05 BG 1 and BG 2.
2. Percentages may not total due to rounding.
3. The border area is defined by: CT 402.03 BG 2 and BG 3, CT 403 BG 1 and BG 4, CT 404.04 BG 1 and BG 2, CT 404.06 BG1 and BG 2, CT 404.07 BG 1, CT 404.08 BG 1 and BG2, CT 409.05 BG 1, and CT 409.06 BG 1.

Limited English Proficiency

According to FHWA, a limited English proficient (LEP) person is an individual who does not speak English as their primary language and who has a limited ability to read, write, speak, or understand English. According to data collected from the 2000 U.S. Census on language spoken at home by ability to speak English, 1.6 percent of the total population in the study area does not speak English very well or well. Of this 1.6 percent, 1 percent was made up by Spanish-speaking LEP, 0.4 percent was Indo-European language speaking LEP, and 0.2 percent was Asian and Pacific Island language speaking LEP (Exhibit 7). According to language spoken at home data from the 2000 U.S. Census as well as contact with a local social service agency (Wooten, 2008), the primary languages spoken in the study area are Spanish and Russian.

Exhibit 7. Population LEP by Geographic Languages, 2000

Census Tract Block Groups	Total ¹ Population	Spanish LEP ² Population and Percentage	Indo-European Languages ³ LEP Population and Percentage	Asian and Pacific Island Languages ⁴ LEP Population and Percentage	Other Languages ⁵ LEP Population and Percentage
CT 404.03 BG 1	1926	33 1.7%	0 0.0%	0 0.0%	0 0.0%
CT 404.03 BG 2	1548	0 0.0%	16 1.0%	0 0.0%	0 0.0%
CT 404.05 BG 1	1255	10 0.8%	11 0.9%	0 0.0%	0 0.0%
CT 404.05 BG 2	1337	18 1.3%	0 0.0%	11 0.8%	0 0.0%
Demographic Study Area ⁶	6066	61 1.0%	27 0.4%	11 0.2%	0 0.0%

Source: U.S. Census Bureau, 2000, SF3 Table P19.

Notes:

- Total population age 5 years and over.
- LEP =A person who is considered to have Limited English Proficiency is someone who speaks a language other than English and does not speak English very well or well.
- Indo European languages = French, French Creole, Italian, Portuguese, Portuguese Creole, German, Yiddish, Other West Germanic languages, Scandinavian Languages, Greek, Russian, Polish, Serbo-Croatian, Other Slavic languages, Armenian, Persian, Gujarati, Hindi, Urdu, Other Indic languages, Other Indo-European languages.
- Asian and Pacific Island languages = Chinese, Japanese, Korean, Mon-Khmer, Cambodian, Miao Hmong, Thai, Laotian, Vietnamese, Tagalog, Other Asian languages, Other Pacific Island languages.
- All other languages = Navajo, other Native North American languages, Hungarian, Arabic, Hebrew, African languages, Other and unspecified languages.
- The demographic study area is defined by: CT 404.03 BG 1 and BG 2, CT 404.05 BG 1 and BG 2.

Income

Household income and per capita income for the demographic study area are higher than nearby cities and the county (Exhibit 8). Only 5.1 percent of the population lives below the poverty rate – almost half the rate of the nearby cities as well as the county and state. The median household income was \$55,407, which also substantially exceeded household income in the state. At \$21,467, the per capita income was only slightly higher than values for Battle Ground, Vancouver, and Clark County.

Exhibit 8. Income and Poverty Rate, 2000

Geographic Area	Percent of Population Below Poverty Level	Median Household Income (1999)	Per Capita Income (1999)
Demographic Study Area ¹	5.1%	\$55,407	\$21,467
Border Area ²	5.4%	\$58,392	\$23,212
City of Battle Ground	9.3%	\$45,070	\$17,139
City of Vancouver	12.2%	\$41,618	\$20,192
Clark County	9.1%	\$48,376	\$21,448
Washington State	10.6%	\$45,776	\$22,973

Source: U.S. Census Bureau, 2000, SF3 Tables P53, P82, and P87.

Notes:

1. The demographic study area is defined by: CT 404.03 BG 1 and BG 2, and CT 404.05 BG 1 and BG 2.

2. The border area is defined by: CT 402.03 BG 2 and BG 3, CT 403 BG 1 and BG 4, CT 404.04 BG 1 and BG 2, CT 404.06 BG1 and BG 2, CT 404.07 BG 1, CT 404.08 BG 1 and BG2, CT 409.05 BG 1, and CT 409.06 BG 1.

Household Characteristics

The average household size is 3.0 persons per housing unit, slightly higher than Vancouver, the county, and state (Exhibit 9).

Exhibit 9. Average Household Size, 2000

Geographic Area	Average Household Size (persons)
Demographic Study Area ¹	3.0
Border Area ²	2.9
City of Battle Ground	3.0
City of Vancouver	2.5
Clark County	2.7
Washington State	2.5

Source: U.S. Census Bureau, 2000, SF1 Table P17.

Notes:

1. The demographic study area is defined by: CT 404.03 BG 1 and BG 2, and CT 404.05 BG 1 and BG 2.

2. The border area is defined by: CT 402.03 BG 2 and BG 3, CT 403 BG 1 and BG 4, CT 404.04 BG 1 and BG 2, CT 404.06 BG1 and BG 2, CT 404.07 BG 1, CT 404.08 BG 1 and BG2, CT 409.05 BG 1, and CT 409.06 BG 1.

Elderly populations are comprised of people aged 65 years and over. Exhibit 10 presents the data and proportion of elderly people. For the demographic study area, the proportion of elderly

persons is 9.8 percent, which is slightly more than the proportion of elderly persons for the county (9.5 percent), but lower than the percent of elderly population in Washington (11.2 percent).

Exhibit 10. Elderly Population, 2000

Geographic Area	Percent of Population 65 years and over
Demographic Study Area ¹	9.8%
Border Area ²	10.3%
City of Battle Ground	7.3%
City of Vancouver	10.7%
Clark County, WA	9.5%
Washington State	11.2%

Source: U.S. Census Bureau, 2000, SF1 Table P12.

Notes:

1. The demographic study area is defined by: CT 404.03 BG 1 and BG 2, and CT 404.05 BG 1 and BG 2.
2. The border area is defined by: CT 402.03 BG 2 and BG 3, CT 403 BG 1 and BG 4, CT 404.04 BG 1 and BG 2, CT 404.06 BG1 and BG 2, CT 404.07 BG 1, CT 404.08 BG 1 and BG2, CT 409.05 BG 1, and CT 409.06 BG 1.

Disabled is defined by the American Disabilities Act as a person who has a physical or mental impairment that substantially limits one or more major life activities; has a record of such an impairment; or is regarded as having such an impairment. The U.S. Census Bureau 2000 sample survey data asked if people had difficulty going outside of their home by themselves. Persons under the age of 16 would presumably have parents or guardians to assist them, but adults with this disability would have more difficulty.

Exhibit 11 presents the proportion of disabled persons by geographic level. Within the demographic study area, the proportion of such disabled persons is 5.0 percent, which is similar to the proportion for the county and state but higher than for Battle Ground.

Persons who live in a household where there is no personal vehicle available for use are typically dependent upon public transit for their mobility. Within the demographic study area, only 2.6 percent of all households do not have access to a vehicle for personal use (Exhibit 12). This low proportion is expected in such a semi-rural, agricultural area. In contrast, the proportion for the county is 5.7 percent and the rate is even higher for the cities of Battle Ground and Vancouver.

Exhibit 11. Disabled Population, 2000

Geographic Area	Percent of Population with Disability¹
Demographic Study Area ²	5.0%
Border Area ³	3.8%
City of Battle Ground	4.0%
City of Vancouver	6.1%
Clark County, WA	5.0%
Washington State	5.2%

Source: U.S. Census Bureau, 2000, SF3 Tables P41 and P12.

Notes:

1. The percent population is based on total number of persons 16 years of age and older with a go-outside-home alone disability divided by the total population.
2. The demographic study area is defined by: CT 404.03 BG 1 and BG 2, and CT 404.05 BG 1 and BG 2.
3. The border area is defined by: CT 402.03 BG 2 and BG 3, CT 403 BG 1 and BG 4, CT 404.04 BG 1 and BG 2, CT 404.06 BG1 and BG 2, CT 404.07 BG 1, CT 404.08 BG 1 and BG2, CT 409.05 BG 1, and CT 409.06 BG 1.

Exhibit 12. Transit-Dependent Population, 2000

Geographic Area	Percent of Household with No Access to a Personal Vehicle
Demographic Study Area ¹	2.6%
Border Area ²	3.3%
City of Battle Ground	7.5%
City of Vancouver	8.4%
Clark County, WA	5.7%
Washington State	7.4%

Source: U.S. Census Bureau, 2000, SF3 Table H44.

Notes:

1. The demographic study area is defined by: CT 404.03 BG 1 and BG 2, and CT 404.05 BG 1 and BG 2.
2. The border area is defined by: CT 402.03 BG 2 and BG 3, CT 403 BG 1 and BG 4, CT 404.04 BG 1 and BG 2, CT 404.06 BG1 and BG 2, CT 404.07 BG 1, CT 404.08 BG 1 and BG2, CT 409.05 BG 1, and CT 409.06 BG 1.

3.1.3 Community Facilities and Public Services

Because the project area is a semi-rural area, there are limited community facilities and public services available for local residents. Those located in the project area are mostly located on SR 502 or they are located on intersecting roadways immediately south or north of this roadway. Those located in the project area are described in the paragraphs below and are shown in Exhibit 13.

Community facilities and public services not located in the project area include government offices, community centers, libraries, cultural institutions, hospitals, medical clinics, cemeteries, and parks. For the most part, they are found in nearby Battle Ground, Ridgefield, and Vancouver. Others are located in the county, but some distance from the project corridor.

Police and Public Safety Services

The Clark County Sheriff's Office patrols the project area and serves unincorporated Clark County. The Washington State Patrol also patrols the project area, as they have jurisdiction anywhere in the state; however, the Washington State Patrol primarily patrols highways and state routes, including SR 502. The cities and county law enforcement forces cooperate extensively in sharing facilities and providing back-up support in emergency situations. There are no police or public safety service offices located in the project area. But due to semi-rural character of the project area, police and public safety vehicles use SR 502 on a regular basis.

Fire and Emergency Services

The Clark County Fire Marshall's Office serves the project area. The Fire Marshall's main office is located near Ridgefield, approximately two miles from the project area. The project area, however, is located in Fire District 11. Fire Station 11-1 and the administrative offices for the fire district are located at 21609 NE 72nd Avenue. The fire station personnel provide emergency medical services and basic life support and/or advanced life support. The fire trucks and other emergency medical vehicles use SR 502 to access much of the district, especially considering the fire station is located on NE 72nd Avenue just south of Dollars Corner.

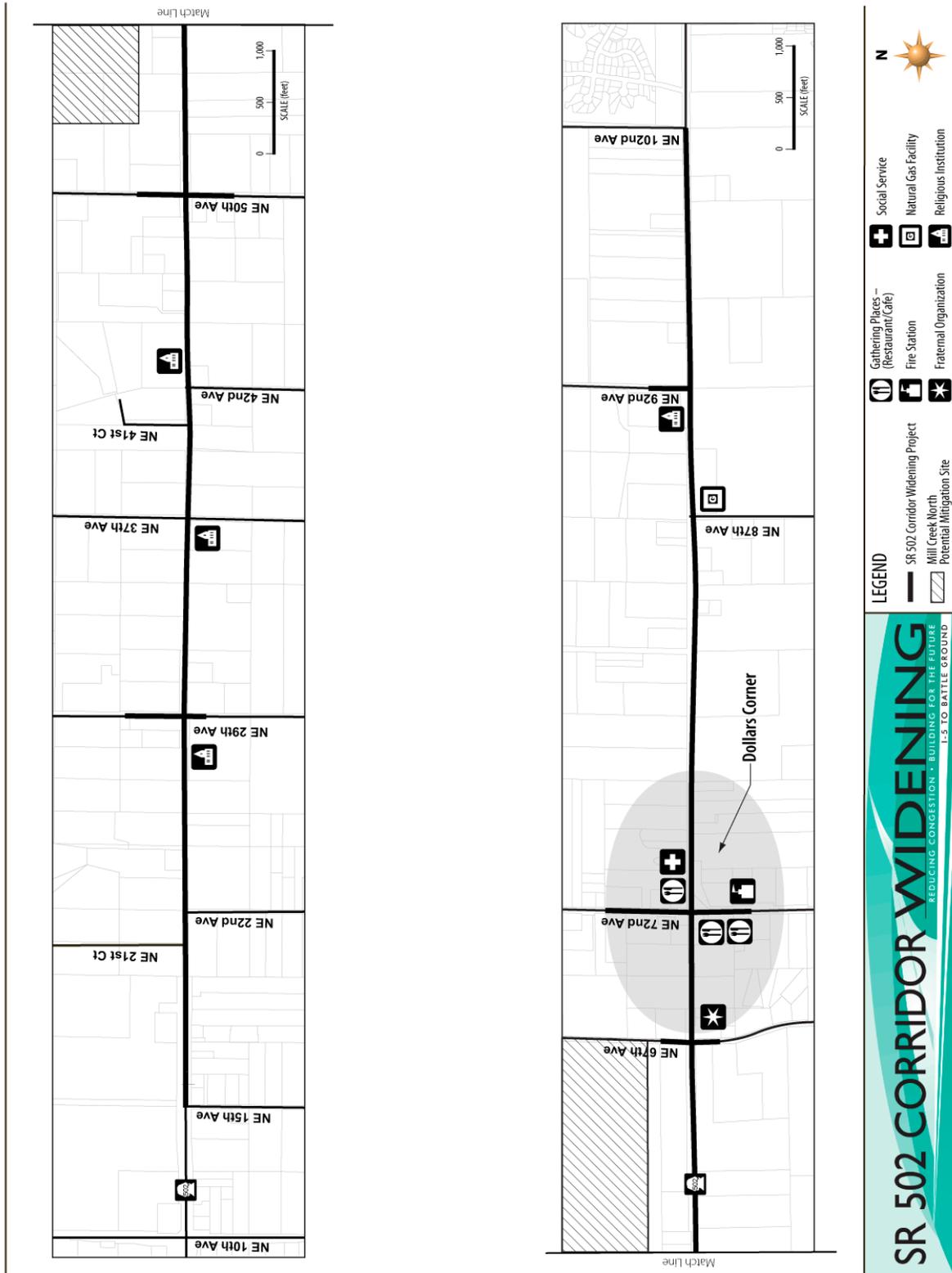
A fire station on NE 72nd Avenue south of SR 502 (Dollars Corner)



Hospitals

There are no hospitals or medical clinics in the project area. A pregnancy resource center and birthing coaching center social service agency is located at Dollars Corner.

Exhibit 13. Community Facilities and Public Services in the Project Area



Schools

The project area is served by two different school districts. The majority of the project area is served by the Battle Ground School District. There are no public schools located within the project area. Portions of the project area are in the attendance boundaries of the following District schools: Pleasant Valley Elementary and Middle School, Maple Grove Elementary and Middle School, Daybreak Elementary and Middle School, Battle Ground High School, and Prairie High School (Clark County Department of Assessment and GIS, 2006).

The portion of the project area west of NE 22nd Avenue is within the Ridgefield School District. These local schools include South Ridge Elementary, Union Ridge Elementary, View Ridge Elementary, View Ridge Middle, and Ridgefield High schools. None of these schools are located in the project area.

Libraries

There are no libraries in the project area. County residents are served by the Fort Vancouver Regional Library District (FVRLD). In Clark County, there are eight FVRLD branches. The library that is most accessible is the Battle Ground Community Library located at 12 W. Main Street.

Religious Institutions

There are three churches in the project area and a fourth is proposed. These include the following:

- Cherry Grove Friends Church is located east of NE 9100 Avenue on SR 502
- Fellowship Bible Church is located west of NE 37th Avenue on SR 502
- Cowboy Church congregation meets regularly for services and a potluck dinner at a residence on SR 502 east of NE 42nd Avenue (though meets elsewhere for Sunday services)
- A Latter-Day Saints church is proposed to be constructed on the southwest corner of NE 29th Avenue and SR 502.

Other Facilities

Other community facilities include the following:

- The Battle Ground Veterinary Hospital is located on SR 502 east of NE 92nd Avenue.

Gathering Places

The project area has a number of local gathering places where local residents can socialize. These include the several churches described above, several restaurants, and a meeting place for a fraternal organization. These include:

- A cafe located at Dollars Corner
- A restaurant located at Dollars Corner

- A fraternal organization located west of Dollars Corner
- The fire station located at 21609 NE 72nd Avenue (has a large meeting room available for use by community groups, i.e. Elks, Lions, neighborhood associations)
- A sport fishing retail store located east of Dollars Corner (parking lot is used for people to meet and carpool for fishing outings).

Examples of gathering places: a restaurant at Dollars Corner and a Moose Lodge



3.1.4 Recreation

Clark County and the City of Vancouver have an agreement to jointly manage the city and county's parks and recreation services. The consolidation of the two agencies is referred to as the Vancouver-Clark Parks and Recreation Department. The Department manages services at approximately eight regional parks, seven special facilities and 2,900 acres of conservation and greenway systems (Clark County Community Development, 2004). There are no parks located in the project area.

There are dispersed open spaces including conservation and greenway areas throughout Clark County. These open spaces provide visual relief between the urbanized city of Battle Ground and I-5 corridor as well as wildlife habitat and critical areas protection. Both the Growth Management Act and the *Clark County 20-Year Comprehensive Growth Management Plan, 2023-2023* list the preservation of open space as primary goals. Within Clark County there are over 76,000 acres of open space under the jurisdiction of various federal, state and local agencies, including the Vancouver-Clark Parks and Recreation Department.

In addition, there is a privately owned 5-acre property east of Dollars Corner that is rented out to family, company, and organizations for outdoor events and functions. It is a popular location for outdoor wedding receptions and family reunions (WSDOT, 2007).

3.1.5 Utilities

Though the project area is semi-rural, most residents and businesses have access to public utilities. These utilities and the name of the providers are presented in Exhibit 14.

Exhibit 14. Providers of Public Utilities

Service	Provider of Service
Electricity	Clark Public Utilities
Natural Gas	Northwest Natural Gas
Water Supply System	Clark Public Utilities & Private Drinking Water Wells
Sanitary Sewer Services	Hazel Dell Sewer District & Private Septic Systems
Sewage Treatment Facilities	Clark County
Solid Waste	Private Hauler

Source: Clark County Community Development, 2004.

Large publicly owned utilities provide electric, gas, and telephone services in Clark County. Electric service to the project area is provided by Clark Public Utilities. Natural gas is provided by Northwest Natural Gas. Qwest Communications, General Telephone, and Lewis River Telephone Company are the three telephone companies that serve the Clark County area. The companies are also integrating fiber optic cables into their current systems.

Major electric and natural gas transmission lines also cross the project corridor. A Williams Company transmission gas pipeline crosses immediately west of the intersection at NE 50th Avenue and a second corridor crossing occurs immediately east of NE 87th Avenue. On the south side of SR 502, there is a Williams Company compressor and odorizer station located at the company's Battle Ground District Offices at 8907 NE 219th Street (SR 502). A major Bonneville Power Administration electrical transmission line also crosses the corridor west of NE 41st Court.

The Clark Public Utilities provides water service to most unincorporated areas of the county. The source of almost all water is from groundwater aquifers (Clark County Community Development, 2004). Public water service is only available to some of the properties in the project area. A number of properties rely on on-site wells for their drinking water.

The project area is within the Hazel Dell Sewer District service area, but there are no sewer lines in the project area. Rather, individual property owners have private on-site septic systems. Septic systems installed since 1974 are regulated by the Clark County Department of Health. Because of the high ground water table and many wetlands in the project area, the siting and monitoring of these septic systems requires careful attention to avoid contamination of nearby wetlands and groundwater. The topography also limits where septic systems can be sited. Along SR 502, most of the septic systems are located in the front yards of residential properties, i.e. in close proximity to the edge of the existing highway pavement.

Clark County regulates and manages stormwater runoff in the project area. Stormwater runoff from the existing project corridor is conveyed to the receiving water bodies through a culvert and ditch system. Inlets, culverts, and ditches convey stormwater runoff from the existing pavement area to the wetland/stream system. Currently there is no treatment of stormwater

runoff from SR 502. Some treatment is occurring as stormwater passes through the vegetated ditches and wetlands; however, there is no engineered diversion of stormwater for infiltration and treatment that would prevent it from reaching the natural watercourses or wetlands. The facilities are concentrated along NE 10th, NE 72nd, and NE 92nd Avenues. They also cross SR 502 and are located on each side of the highway. WSDOT is responsible for all runoff from SR 502 (Clark County Community Development, 2004). The City of Battle Ground also operates discharge and catch basin facilities in the eastern portion of the project area. For additional information, see the *Water Quality/Surface Water/Floodplain/Groundwater Discipline Report* (Parsons Brinckerhoff, 2008c).

Solid waste is collected by a private contractor. The private contractor is under the regulatory authority of the Washington Utilities and Transportation Commission, and Clark County is only authorized to directly contract for the collection of residential recyclable materials. Curbside collection of both recyclable materials and yard debris are provided in the project area. County residents also may drop-off materials at three hazardous waste collection facilities in the county (Clark County Community Development, 2004).

3.1.6 Community Mobility and Access

As a semi-rural area, there are few transportation facilities and services in the project area. The sections below describe the local roadway network, pedestrian and bicycle facilities, and transit services.

Roadway Network

The roadway network in the project area is typical for a semi-rural area. SR 502 is a state highway that bisects the project area. Approximately every mile, there are intersections with major arterials including NE 29th Avenue, NE 50th Avenue, and NE 72nd Avenue. These roadways follow the section lines. Other more minor roadways also intersect SR 502. To the north and south of the highway, however, there are few roadways that traverse the project corridor parallel to SR 502. Except for travel along SR 502 to Battle Ground, travel in the project area is generally indirect due to the size of the rural farm and ranch properties.

Pedestrian Facilities

There are very few sidewalks or crosswalks in the project area. The low population density, distance to services and employment centers, and high travel speeds on SR 502 limit the appropriateness or usefulness of pedestrian facilities.

Marked crosswalks and pedestrian signals exist at only one of the major intersections along SR 502. This signalized intersection is at NE 72nd Avenue – Dollars Corner. At this intersection, there are four crosswalks – one for each leg of the intersection. The crosswalk landings are asphalt, but are not solely designated for pedestrian use.

There are no pedestrian trails in the project area. The nearest trails to the project area are found on I-5 and SR 503 south of the project corridor (Clark County Community Development, 2004).

Bicycle Facilities

Shoulders exist on both sides of SR 502 east of NE 15th Avenue, though in places they are very narrow. According to the *Clark County 20-Year Comprehensive Growth Management Plan*,

2003-2023, SR 502 is a designated on-street bicycle route. In fact, bicycling is allowed on all state routes in the county (Clark County Community Development, 2004). The SR 502 bicycle route, however, is currently not planned to connect to other designated bicycle paths outside the project area.

Transit Service

Clark County's public transit operator is C-TRAN, which primarily serves the Vancouver metropolitan area, including Battle Ground. The transit agency provides urban, rural, and commuter bus routes. It also provides paratransit and vanpool programs. The paratransit service provides curb-to-curb services in much of the county for elderly and disabled persons who cannot use fixed-route services (Clark County Community Development, 2004). But, there are no regular paratransit stops or services in the project area (Wallum, 2007).

However, the C-TRAN Route 47 - Battle Ground Limited travels through the project area on SR 502 as it travels between Battle Ground and the I-5/NE 179th Street Interchange. This express bus has only four stops – Yacolt Town Hall, the Battle Ground park-and-ride lot, downtown Vancouver at NE Broadway Street and NE Evergreen Avenue, and the Portland Delta Park MAX Station, all outside the project area. There is only one southbound and one northbound run per day. As a commuter route, this route does not operate on weekends or holidays.

Other public transit systems operating in the project corridor are the school buses. As stated above, the project corridor extends into both the Battle Ground and Ridgefield school districts. Contact with KWRL Transportation, which provides student bus service to the Ridgefield School District and Laidlaw Education Services, which provides services to the Battle Ground School District, confirmed that both school districts operate school bus routes that use SR 502. Moreover, some of the school bus routes have stops located on SR 502 (Laidlaw Education Services, 2008; KWRL Transportation, 2008). Because the highway does not have sidewalks and it would be dangerous to ask school children to walk along the highway to a nearby bus stop, both of the school districts require the buses to stop in front of each residence with school-aged children.

3.1.7 Community Cohesion

Community cohesion refers to the ability of people to communicate and interact with each other in ways that lead to a sense of community, as reflected in the neighborhood's ability to function and be recognized as a singular unit. Opportunity for interaction depends on physical characteristics of the community, types of land uses, transportation infrastructure, population demographics, linkages with community facilities, and proximity of neighbors.

The project area is a semi-rural area. The physical terrain is relatively flat with rolling low hills. There are wide open clearings of pastureland and isolated forested areas. There is one small residential development that is partially within the project area and two small residential subdivisions that are adjacent to the project area. The urban growth management boundaries for Battle Ground are generally east of the project corridor. As such, the agricultural character of the area has not been greatly affected by development trends in the urbanizing county.

Dollars Corner at NE 72nd Avenue is the community's only commercial area with retail shops and services, though several other businesses are scattered along the highway. This rural center

has approximately 50 businesses located on the four corners of this intersection. In this sense, it is the hub of activity in the community even though a number of major commercial services are not represented among the many businesses in the rural center (e.g. major grocery store, hardware store, pharmacy, bank, etc).

As an agricultural area, there are few roadways that traverse the project area. Vehicular access to shops, businesses, neighbors, and nearby cities may be rather indirect and may involve great distances travelling. The highway is a designated bicycle route, but there are limited sidewalks in the area. It is assumed most residents travel within the community by car. The few pedestrian and bicycle facilities as well as the lack of transit services limit social interaction possibilities and cohesion in the project area. Opportunities to “bump” into one’s neighbors are mainly at community facilities, shops, and gathering places.

Local residents use SR 502 for local travel to Dollars Corner, nearby cities of Battle Ground and Ridgefield, and I-5 for travel south to Vancouver and Portland. In this sense, it is a life-line in the community. But residents living in rapidly growing Battle Ground also use the highway to access community facilities and services in the larger region and to get access to I-5 for travel to major shopping districts as well as the commute to their place of work. An express commuter bus also travels along SR 502. As such, the highway is an important roadway linking the semi-rural agricultural community.

The highway, however, is also becoming a barrier within the community. Traffic volumes have steadily increased in recent years commensurate with urban development in Battle Ground. Pedestrian and bicycle travel, though infrequent, is now less safe than in prior years. The heavier traffic volumes, especially during commute periods, make it difficult for locals to cross the highway on intersecting roadways without traffic signals. It is also more difficult for residents and business patrons to turn in front of on-coming traffic to access homes or businesses and to leave properties by turning onto the highway.

The project area includes some important community facilities and services, many of which are located near Dollars Corner. There are gas stations, several small markets, hair salons, restaurants, car repair shops, businesses that sell feed and tractors, and landscaping businesses. These businesses reflect the influence of the highway corridor passing through the project area, the agricultural character of the area, as well as the service needs of adjacent urbanized areas. There also are some very important gathering places located in the community, which strengthen community cohesion. There are several churches, restaurants/cafes, and a fraternal organization. The community, however, is missing a hospital and medical clinics, a post office, a community/senior center, schools, libraries, and many other important community facilities. Locals must travel outside of the project area to nearby cities of Battle Ground, Ridgefield, and Vancouver for such amenities.

One of the strongest aspects of the community’s cohesion is the relatively homogenous and stable population. The Dollar family for whom the rural center is named still resides in the community. Members of this family and many other residents have lived in the community for decades. The public meetings and open houses held in the community concerning this project were well attended and attendees actively participated and provided information about the community and commented on the project.

In conclusion, aspects of the community's characteristics both strengthen and weaken cohesion. More importantly, suburban development in Battle Ground is increasingly an adverse effect influencing the relatively quiet agricultural lifestyle in the project area.

3.2 Environmental Justice

The objective of environmental justice analysis for transportation projects is to assess the extent to which any adverse human health and or environmental effects of a proposed transportation system change would have on minority and or low-income populations.

Exhibit 15 shows demographic characteristics for the project's demographic study area. The census data from 2000 was used to identify the proportion of minority and low-income populations in the four block groups. A minority is defined as a person who is Black (a person having origins in any of the black racial groups of Africa), Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or the Spanish culture or origin, regardless of race), Asian/Pacific Islander (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands), American Indian or Alaskan Native (a person having origins in any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition). And low-income persons are those living at or below the federal poverty level as defined by the Department of Health and Human Services.

Exhibit 15 and Exhibit 16 summarize the demographic characteristics of the census block groups. Based on this information, the population of the area is 9.6 percent minorities and 5.1 percent low-income households. This is less than surrounding cities and the county. Contact with the Vancouver Housing Authority, which services all of Clark County, also confirmed that there are no low-income housing complexes or individual units in the project area (Hermann, 2008).

Exhibit 15. Minority and Low-Income Populations, 2000

Census Tract Block Groups	Total Population	Percent Minority ¹	Percent Low-Income ²
CT 404.03 BG 1	2076	7.9%	1.9%
CT 404.03 BG 2	1629	7.6%	7.2%
CT 404.05 BG 1	1412	13.0%	5.5%
CT 404.05 BG 2	1670	11.0%	6.8%
Demographic Study Area	6,787	9.6%	5.1%
Border Area	21,277	7.0%	5.4%

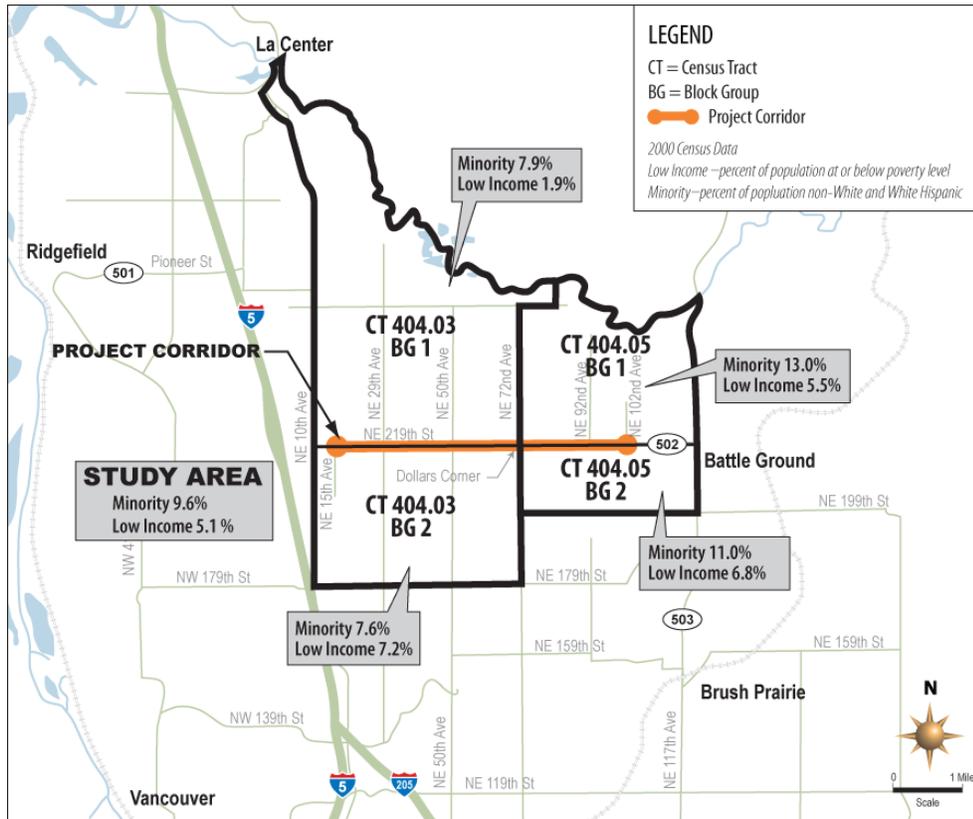
Source: U.S. Census Bureau, 2000, SF1 Tables P1, P3, P4 and SF3 Table P87.

Notes:

1. Minority = A person who is: Black (a person having origins in any of the black racial groups of Africa), Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American or the Spanish culture or origin, regardless of race), Asian/Pacific Islander (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands), American Indian or Alaskan Native (a person having origins in any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition). This definition of minority is not comparable to minority statistics presented elsewhere in the report for student populations.

2. Low-Income = persons whose income is at or below the federal poverty level.

Exhibit 16. Distribution of Minority and Low-Income Populations



Additional sources of information were checked to assess if the proportion of minorities and low-income persons in the demographic study area has changed since 2000. In particular, demographic data was collected for three of the four nearby elementary schools. Data is not available for Daybreak Elementary as it is a new school.

Exhibit 17 presents demographic characteristics for these schools. The published schools data, however, do not breakout White Hispanics, so the classification of minority for the schools data is not directly comparable to the discussion of census data elsewhere in this report, as that classification includes Hispanic persons. Even so, comparable data appears to indicate that the proportion of minorities has likely increased. The local elementary school populations are 13 to 18 percent minority and 5 to 6 percent Hispanic. These are substantially higher proportions than the 2000 census statistics of 6.4 percent minority and 3.2 percent Hispanic. This difference probably indicates that minorities and Hispanics in the project area have increased since 2000. The indicator for low-income population for the schools is student participation in the National School Lunch Program at nearby elementary schools. Considering the participation ranges from 22 to 33 percent compared to the statewide participation rate of 37 percent and the study area's poverty rates were about half of the state's rate in 2000, it is likely the low-income population has increased since 2000.

Exhibit 17. Recent Demographic Statistics, 2007

Elementary School	Minorities¹	Low-Income²
Battle Ground School District		
Maple Grove	13% Minority 6% Hispanic	33%
Pleasant Valley	18% Minority 5% Hispanic	27%
Ridgefield School District		
South Ridge	17% Minority 6% Hispanic	22%

Source: OSPI, 2007.

Notes:

1. The school demographic data are only presented by race and ethnicity, so it is not possible to combine data for non-Whites and all Hispanics. As such, this discussion of minority students is not directly comparable to discussion of minorities elsewhere in this report.
2. The low-income indicator is participation in the National School Lunch Program. For this Program, there are two groups of children who may participate in the National School Lunch Program (NSLP). Those whose family income is 120% of the federal poverty level receive a free lunch; and children whose family income is 185% of poverty receive a reduced-cost lunch.

The survey of approximately 50 businesses at Dollars Corner also confirmed that the business community in the project area includes businesses owned or serving minority and low-income groups (E.D. Hovee & Company, 2009). The survey of businesses and real estate related discussions with property owners identified that two businesses in the project area are owned by persons who consider themselves to be a minority. In addition, there are seven businesses that employ minorities, predominantly Hispanics. There is a social service agency that provides services for both minority as well as low-income persons (Wooten, 2008). No businesses in the project area appear to predominantly serve a minority group either located in the project area or in the region, though a food store at Dollars Corner does accept food stamps from low-income customers (E. D. Hovee & Company, 2009).

3.3 Economic Elements

In this section, the general economic climate is discussed for Clark County and the economic characteristics of the project area are discussed.

3.3.1 General Regional Economic Climate and Local Economy

The Portland-Vancouver Metropolitan Statistical Area (MSA) consists of seven counties on the western edge of and along and near the border of Washington and Oregon, including Clark County. The Portland-Vancouver MSA has experienced robust job growth. Within the MSA, growth has been concentrated in the clusters of high-tech, metals, machinery and transportation equipment manufacturing, apparel and sporting goods, distribution, logistics, and creative services (Portland Development Commission, 2007).

According to the Washington State Employment Security Department, throughout the 1990s, Clark County was the fastest growing county in the state in terms of jobs and population growth. The population growth was attributed to low housing costs in the county and land use policies that favored residential development. The county was also able to attract electronics and telecommunications companies. In 2000, total employment in the county was 116,700 (Exhibit 18). A total of 18.3 percent of all jobs were in the trade, transportation, and utilities sector. Government comprised 16.5 percent and manufacturing comprised 14.8 percent. Clark County's diversified manufacturing sector includes high-tech and other traditional industries. After rapidly peaking at 20,500 employees in 1997, however, the manufacturing sector started to shed jobs when Hewlett-Packard shifted its printer production overseas (Employment Security Department, 2008).

The recession in 2001 led to further job loss in the county, though by 2003 employment started to increase again. By 2006, total employment had increased to 132,600 – an average annual increase of 2.2 percent per year since 2000. The Employment Security Department's Labor Market and Economic Analysis Branch reported that Clark County's employment base also has shifted from manufacturing and government to an employment base dominated by retail trade and services. In 2006, total manufacturing employment had decreased to only 13,900, or 10.5 percent of total employment. Sectors behind the big increase in employment were construction, retail trade, and services (Employment Security Department, 2008). The education and health services sector had increased from 12,400 to 16,600 jobs, or 12.5 percent of total employment. A new hospital in particular contributed to a growth in outpatient health services (Employment Security Department, 2008). In 2006, unemployment in Clark County was 5.8 percent, whereas unemployment in the city of Vancouver was only 4.8 percent – less than the unemployment rate for the entire metropolitan region (5.1 percent) (BLS, 2007). Future employment growth, however, is expected to continue to be strong for Clark County with a forecast 2.5 percent average annual increase in employment through 2014 (OFM, 2007).

The only statistics on employment specific to the area are those from the 2000 census. At that time, total employment was 3,097. As a suburban area in the metropolitan region, its economy is heavily dependent upon the wholesale and retail trade sector (18 percent), the educational, health and social services sector (16 percent), and the construction sector (12 percent). The trade sectors in particular are expected to continue to be strong with continued suburban development.

3.3.2 Businesses

Dollars Corner, located on SR 502 at NE 72nd Avenue, is a rural center with approximately 50 businesses (E.D. Hovee & Company, 2009). These businesses serve local residents as well as residents in the larger region who may either pass by the establishment and make an impulse purchase or may drive from afar to specifically make a purchase from the business. The businesses are heavily concentrated in automotive services. There also are several small restaurants/cafes, a small grocery store and a delicatessen, several social services, a real estate firm, a feed store, two sports stores, as well as a number of businesses serving the construction sector (for example, rental equipment). They are mostly small, locally owned businesses. Based on the names of the businesses and the types of businesses, it does not appear that any particularly serve local minority populations, though several cater to nearby low-income residents. In addition, there are several additional small businesses on SR 502, not located at

Dollars Corner. The closest community with a large commercial district is Battle Ground, which is 2 miles east of the project area.

Exhibit 18. Employment by Industry, 2000 & 2006

Industry Sector	Study Area, 2000 ¹	Clark County, 2000	Clark County, 2006
Total	3,097	116,700	132,600
Agriculture, forestry, fishing and hunting, and mining	75 2.4%	9,800 8.4%	12,900 9.7%
Construction	376 12.1%		
Manufacturing	398 12.9%	17,300 14.8%	13,900 10.5%
Wholesale trade	158 5.1%	21,400 18.3%	24,900 18.8%
Retail trade	403 13.0%		
Transportation, warehousing, and utilities	282 9.1%		
Information	36 1.2%	3,600 3.1%	2,900 2.2%
Finance, insurance, real estate, rental and leasing	137 4.4%	4,900 4.2%	6,500 4.9%
Professional, scientific, management, administrative, and waste management	242 7.8%	12,600 10.8%	14,800 11.2%
Education, health and social services	492 15.9%	12,400 10.6%	16,600 12.5%
Arts, entertainment, recreation, accommodation and food services	206 6.7%	11,800 10.1%	13,000 9.8%
Other services	113 3.6%	3,700 3.2%	4,400 3.3%
Public administration, government	179 5.8%	19,200 16.5%	22,600 17.0%

Source: U.S. Census Bureau, 2000, Table DP-3. Washington Employment Security Department, 2007a.

¹ Census information given for census tracts CT 404.03 and CT 404.05. Data is not available at the block group level.

3.3.3 Government Revenues

The Clark County adopted 2007/2008 *Biennial Budget* reports that the County is in good financial condition due to strong spending controls of the Board of County Commissioners and substantial economic growth related to new construction. Increasing population and urbanization, however, may challenge the county's ability to pay for needed urban services in the years to come.

Property tax is one of the County's single largest sources of revenue. The 2007/2008 adopted revenue budget shows \$165.9 million for property taxes, which accounts for 17.2 percent of the \$965 million total revenue budget. This revenue provides partial funding for the General Fund, Road Fund, Mental Health Fund, Developmental Disability Fund, Veterans Assistance Fund, and the County's two Conservation Futures Funds.

The County also collects revenue from sales and use taxes generated by businesses located in the unincorporated county area. The county also collects an administrative fee equal to 15 percent of the sales tax revenue generated within incorporated cities. The County's sales tax rate is 8.2 percent. The 2007/2008 Biennial Budget projected this revenue to be \$71.2 million or 7.3 percent of the total budget. Approximately 80 percent of this revenue supports the General Fund, but it also goes to the Special Law Enforcement Fund, Children's Justice Alliance Fund, Mental Health, and the Law and Justice Fund.

4.0 Effects and Benefits

This section identifies potential effects and benefits to social, environmental justice, and economic conditions associated with the No Build Alternative and the Build Alternative. Effects and benefits are discussed in terms of temporary effects associated with construction activities, and long-term effects associated with the operation and maintenance of the facility or permanent changes resulting from the project. Indirect and cumulative effects of the project are documented in a separate report, *Indirect Effects and Cumulative Effects Discipline Report* (Parsons Brinckerhoff, 2008d).

4.1 Temporary Effects and Benefits

4.1.1 No Build Alternative

Under the No Build Alternative, no construction would occur. There would be no temporary effects on social resources including: population, demographics, community facilities, public services, recreation, utilities, or community cohesion. There would be no effects on minority and low-income populations, minority-owned businesses, minority or low-income employees, or businesses serving low-income or minority populations in the area. In general, there would be no effects on businesses or employment in the project area or region. And government revenues, such as property tax and sales tax revenues, would not change.

4.1.2 Build Alternative

Social Elements

Population and Demographics

Under the Build Alternative, construction effects would not change population or demographic characteristics in the region. (The effects on population due to property acquisition are discussed under long-term effects below.) The project is small enough that it is expected that the regional labor market would be able to meet the demand for construction workers. Because Clark County is located on the border between Washington and Oregon, it is expected that some workers may come from Oregon. People from outside of the region, however, would not be expected to move to the area and increase population due to the temporary short-term demand for construction workers.

Residents living in close proximity (approximately 500 feet) to SR 502 would be exposed to the increases to noise, light, and dust from the two-years of construction activities starting in 2012. These activities affecting quality of life, however, are anticipated to occur mostly during weekday daytime hours. These effects would not be expected to affect residents' abilities to sleep at night. Local noise ordinances restrict noise levels during nighttime hours. Limited nighttime construction may be required, but this work would not use loud equipment and would comply with local government required noise variance mitigation measures to minimize the effects (see the *Final Noise Discipline Report* (Parsons Brinckerhoff, 2008a)). Residents adjacent to the construction area, laydown area(s), and/or staging area(s) would endure extra nighttime light and glare from the fenced site. Increased dust and particulates would be found along the corridor due to construction excavation work. Mitigation measures such as only using water to wet down the dirt area would minimize these effects. Nighttime lighting for the construction area as well as the laydown and/or staging area(s) would affect adjacent property owners, though using only directional lights would reduce these adverse effects. For more information, please see the *Final Visual and Air Discipline Reports* (Parsons Brinckerhoff, 2008b), respectively. One or more sites for a construction laydown area and/or staging area has not yet been selected, but presumably would be a site adjacent to the project corridor to ensure easy access between the site of the construction activities and the storage of vehicles, equipment, and materials.

Construction related to the project, but offsite at the proposed Sunset Oaks wetland mitigation site would not be expected to substantially affect nearby residents. The scale of construction activities at this site would be minor in comparison to those in the project corridor and would mostly be located in the center of the site (some distance from adjacent residences). The construction would be mostly habitat restoration and enhancement, so would not require substantial use of heavy equipment. Construction duration would be short and construction activities would not occur during nighttime or weekend periods. Effects from noise, dust, light/glare, and construction traffic management would be minimal.

Community Facilities and Public Services

WSDOT's intent during construction is to not deter traffic off of SR 502 onto other east-west roads. However, under the Build Alternative the management of traffic during construction could require the use of temporary detour routes, reduction in traffic lanes on SR 502, and/or

temporary stopping of traffic using the highway. Alternate routes include NE 179th Street and NE 199th to the south of SR 502 and NE 239th to the north of SR 502. These three streets are designated by Clark County as arterial collector roadways and, as such, can accommodate traffic diversions for limited periods of time.

This would increase travel time for people driving to area community facilities. In addition, police, fire, and emergency medical service response times could be delayed, especially considering the limited roadway network in this semi-rural area provides few alternate routes.

During the construction period, noise levels would be elevated above current conditions during weekday daylight hours when most of the construction would occur. From time to time, there may be need for construction work to occur during weekday nighttime hours and/or on weekends. If construction work occurs on Sundays, the increase in noise could affect the ability of people to concentrate during times of prayer or meditation during religious services at places of worship located adjacent to the project corridor.

Any construction activities associated with the stormwater facilities and potential wetland and/or other mitigation site in the project corridor would not be expected to exceed the effects of overall highway construction activities. The construction activities that could be associated with construction activities at the proposed Sunset Oaks wetland mitigation site would occur some distance from the project corridor. The scope of the construction activities, however, would be minor compared to the overall construction program associated with the widening of SR 502. As such, it is not expected that these construction activities would affect community facilities and public services near that site.

Recreation

Under the Build Alternative, there would be no construction effects to public recreational properties in the project area. Access to and enjoyment of the private property used for outdoor events and receptions on SR 502 east of Dollars Corner would be affected during weekday daylight hours, when most of the construction activities would occur. The use of this property for weddings and family reunions and other similar events, however, means that most of these events likely would occur during weekday evenings or on the weekend when there would be very limited adverse effects from noise, dust, light/glare, and traffic congestion associated with construction activities.

Construction activities associated with the stormwater facilities and a potential wetland and/or other mitigation site in the project corridor would generally result in similar adverse effects as the construction associated with widening the highway, e.g. adverse effects to air, noise, traffic congestion, travel patterns, and property access. Construction activities that could occur at the proposed Sunset Oaks wetland mitigation site would not affect public recreation amenities as none exist in close proximity to that site. Because the site is currently unfenced open space surrounded by residential development, informal recreational activities on the WSDOT-owned property would be disrupted.

Utilities

During the construction period, some public utilities would be newly constructed and others would be relocated or modified. In addition, the private utilities provided by onsite wells and

septic systems could require modification and/or relocation. For the most part, the new construction would be completed prior to switching customers from the old utility system to the new system. This would minimize disruption of services to customers – both residential and commercial customers.

Construction at the proposed Sunset Oaks wetland mitigation site currently does not have utilities onsite, and the construction activities would not require the construction of new utilities. Utility customers near the site would not be affected.

Travel Patterns and Public Safety

As mentioned above, vehicular and transit traffic in the project corridor would be temporarily disrupted by construction activities, primarily during weekday daytime periods. For the most part, and when feasible, two-way traffic would be maintained on SR 502 during construction. One lane of flagged or signalized travel, however, would be maintained in each direction throughout the construction period. Access to adjacent properties would be guaranteed. Travel lanes, however, could be reduced in width and/or number, traffic could be temporarily stopped, and/or traffic may be directed to use temporary detours. As such, travel through the corridor and/or in the general region using the corridor would increase in duration. Pedestrian and bicycle use of the corridor would be controlled in the construction zone and directed to use temporary detours, as necessary. Routes may be circuitous. Directional signs and travel routes would be selected to ensure public safety for all users during the construction period. Due to the limited scope of construction activities offsite at the proposed Sunset Oaks wetland mitigation site, it is not expected that travel patterns would be affected there at all.

Community Cohesion

During the construction period, community cohesion would be weakened. The construction zone would traverse the central core of the rural center. The corridor is already a barrier in the community due to the high volume of traffic and width of the highway. The noise, dust, light/glare, and traffic management activities would exacerbate this barrier effect. Moreover, it could reduce business activity in the Dollars Corner area and local residents may not patronize local gathering places.

Offsite, construction activities at the proposed Sunset Oaks wetland mitigation site would not affect community cohesion due to the limited scope and duration of the planned construction activities.

Environmental Justice

Effects on Minority and Low-Income Populations

Under the Build Alternative, construction effects on minority and low-income populations residing in the project corridor would be the same as those experienced by other residents. This would apply to construction associated with highway widening, the new stormwater facilities, and the on-corridor potential mitigation site. Persons living within close proximity to construction activities or the laydown/staging area(s) would experience an increase in traffic congestion, noise, light and glare, and dust. These effects would be expected to occur primarily during weekday daytime hours. The construction activities associated with the proposed establishment of wetland mitigation at the Sunset Oaks wetland mitigation site distant from the

project corridor would be expected to similarly not result in significant adverse disproportionate effects on minority and low-income populations.

Minority-Owned Businesses and Businesses Serving Minorities

Under the Build Alternative, potential construction effects on the two minority-owned businesses in the project corridor as well as businesses that employ minority persons and/or provide services to minority and/or low-income customers would be the same as those experienced by other businesses along the project corridor. There would be no significant adverse disproportionate effects on minority-owned businesses or businesses serving minorities in the community.

Construction related to the stormwater facilities and other potential mitigation in the project corridor would be the same as described above for the highway widening activities. The effects of construction at the proposed Sunset Oaks wetland mitigation site would not result in significant adverse disproportionate effects on minority-owned businesses or businesses serving minorities.

Economic Elements

Businesses and Employment

During the construction period, local workers could obtain jobs with local firms hired for the project. In comparison to the size of the regional construction work force, the demand for construction workers would be very small. It is expected that the size of the regional construction workforce in 2012 when construction begins, would be sufficiently large that the demand for workers could be easily met by the existing regional workforce (Employment Security Department, 2007c). As such, it is not expected that workers from outside of the region would move to the area to obtain work related to the project. The effects on businesses due to property acquisitions are discussed below under long-term effects.

Under the Build Alternative (including the proposed and potential on-corridor stormwater facilities, wetland mitigation, and other mitigation), construction effects on businesses would include traffic congestion from construction vehicles, equipment, and workers within the construction area, adjacent to the laydown/staging area(s), as well as along material and supply haul routes. There would be temporary traffic detours and construction traffic management that would affect travel time and perhaps access routes to businesses by owners, employees, as well as customers. The amount of time for such delays would likely differ substantially between peak periods and non-peak periods. As a result, the duration of heavy traffic associated with the peak period would be expected to lengthen as people attempt to avoid traveling during the most congested periods. Again, one lane of traffic would be maintained in each direction for the duration of the construction period and access to all adjacent properties would be guaranteed. No on-street parking is allowed on SR 502 or intersecting local roads, and parking in adjacent parking lots for local businesses would not be affected. Light, glare, noise, vibration, and dust would be present in the construction area primarily during weekday daytime hours and could deter customers from patronizing local businesses. Some businesses may actually see a slight increase in sales due to the presence of the construction workers who might purchase items from local businesses. All together, some businesses may suffer little or no adverse effects, while others may experience a decline in sales, increase in operation costs, or decreases in operation efficiency during the construction period.

The proposed Sunset Oaks wetland mitigation site is not located in the project corridor and it is surrounded by residential land uses. There are no nearby businesses that would be affected by construction activities on this property.

Government Revenues

During the construction period, there would be no effects on government revenues from property taxes. The acquisition of property for needed right of way for the project and the effects on property taxes is discussed below as a long-term operation effect.

Sales tax revenues would be generated through the purchase of goods and materials related to the construction. The purchase of goods and materials, however, may or may not occur locally or even in Clark County. The proximity of the Portland metropolitan area means some purchases would likely go to Oregon companies. But, typical contracting for construction by WSDOT would result in sales taxes paid on all supplies, no matter where purchased. As such, potential benefits to specific local governments are unknown. It is not expected that the increase in sales tax revenues would be consequential for local or state government revenues.

4.2 Long-Term Effects and Benefits

The following sections discuss the long-term effects and benefits on social resources, minority and low-income populations, and the local economy. Both the No Build and the Build Alternative are discussed.

4.2.1 No Build Alternative

Social Elements

Population and Demographics

Under the No Build Alternative, there would be no long-term effects on the population or its demographic characteristics.

Community Facilities and Public Services

Under the No Build Alternative, there would be no immediate long-term effects on either community facilities or public services. Over time, however, the increased traffic volumes and associated congestion would delay response time for police, fire, and emergency medical services. Access to schools, including student bus service, may take longer. It may be more difficult for vehicles to turn left across traffic, which could reduce attendance at the several religious institutions, popular local gathering places, and a fraternal organization that are currently located on SR 502.

Recreation

Under the No Build Alternative, there would be no long-term effects on recreation amenities in the project area. Travel to regional facilities and amenities that require use of the project corridor could take longer.

Utilities

Under the No Build Alternative, there would be no long-term effects on most utilities in the project area. See the *Water Quality/Surface Water/Floodplain/Groundwater Discipline Report*

(Parsons Brinckerhoff, 2008c) for a discussion of long-term effects particularly related to stormwater.

Travel Patterns and Public Safety

Under the No Build Alternative, there would generally be no long-term effects on travel patterns along the project corridor. However, there would be increasing traffic volume and associated congestion on SR 502. As there are few alternate routes to SR 502 in this semi-rural agricultural area, traffic would continue to use the highway. As such, travel time would increase. The increased congestion also could lead to increased crashes as drivers make riskier decisions to turn left across on-coming traffic or when turning from local roadways or driveways onto the highway. The increased traffic could also increase accidents for bicyclists and pedestrians along SR 502, especially considering the lack of facilities for these roadway users.

Community Cohesion

Under the No Build Alternative, there would generally be no long-term effects on community cohesion. Generally, community cohesion would remain unchanged. The highway is already a barrier in the rural center due to both the width and volume of traffic using the highway. The increase in traffic volume and congestion would not substantially change community cohesion from existing conditions. The increased travel delays, however, would erode public perceptions of the quality of life in the project area and region.

Environmental Justice

Effects on Minority and Low-Income Populations

Under the No Build Alternative, there would be no long-term effects in the project area that would result in disproportionate adverse effects on minority or low-income population groups in the project area.

Minority-Owned Businesses and Businesses Serving Minorities

Under the No Build Alternative, there would be no long-term effects on minority-owned businesses, minority employees, or minority or low-income customers. The increase in traffic volume and congestion, however, would make it more difficult for owners, employees, and customers to access places of business, especially for those who would need to turn left across on-going traffic.

Economic Elements

Businesses and Employment

Under the No Build Alternative, there generally would be no long-term effects on businesses or jobs in the SR 502 corridor. The increasing congestion on SR 502, however, could make it difficult for motorists to access businesses, especially those requiring left turns from SR 502. In addition, the congestion may reduce pedestrian activity due to difficulty or increased time required to cross SR 502 or intersecting roadways. These changes may reduce business activity in the corridor, especially for businesses not located at Dollars Corner.

Government Revenues

Under the No Build Alternative, there would be no long-term effects on government revenues such as property taxes and sales taxes.

4.2.2 Build Alternative

Social Elements

Population and Demographics

Under the Build Alternative, a number of residential properties would be acquired, dwelling units would be displaced, and residents would need to be relocated. Between 20 and 30 residential parcels would be affected due to expected property acquisition (Exhibit 19). Additional residents may be displaced if more property needs to be acquired for the stormwater facilities and/or on-corridor potential mitigation site. Several of the residential parcels have two dwellings (generally a single residence and a mobile home). Most of the dwellings are expected to be owner-occupied, although no household survey data was collected for the study area. One displaced residence would be a mobile home. The anticipated total displacement of residences in the project area would be approximately 25 percent of all residences adjacent to the project corridor. This is a small proportion of the more than 6,000 people living in the study area.

For the four 2000 census tract block groups defining the demographic study area, there is an average of 3.0 persons per household, which means an estimated 60 to 90 persons could be displaced. This is a substantial number of residents in the community, though a small proportion of the more than 6,000 persons living in the study area. Considering the acquisition of one parcel would involve the displacement of two dwellings, it is likely that the occupants of the mobile home are tenants or possibly caretakers of an elderly or ill resident in the single family dwelling, as allowed by county ordinance, i.e. temporary hardship mobile home. It is unknown if residents of other dwellings that would be displaced are owner-occupied or renter-occupied residences; though census data for the study area indicates approximately 85 percent of the dwellings may be owner-occupied. Because of the semi-rural character of the project area and limited choice of properties, it is unlikely that all of the displaced households would be able to find replacement housing in the immediate area. Replacement properties elsewhere in Clark County that would be available, however, would likely be affordable for displaced households.

According to the Regional Multiple Listings Service in Clark County during the period of January 2008 to April 2008 there were 4, 807 new listings, 1, 587 pending sales, and 1,338 closed sales (RMLS, 2008). The average sale price for a home in Clark County was \$292, 500 and the median sale price was \$248,700. The RMLS also publishes data for subdistricts of the county. For the more urbanized Battle Ground district, there were 298 new listings, 101 pending sales and 88 closed sales for the same period. The average sale price was \$274,000 and the median sale price was \$234,500. In the North West district just east of I-5, there were 59 new listings, 12 pending sales, and 10 closed sales. The average sale price in this more rural region of the county was \$586,100 and the median sale price was \$590, 000. The large parcels in the rural unincorporated portion of the county is reflected in these sale prices that are more than double those reported for the Battle Ground district. Thus, there appears to be a wide range of residential property values in relatively close proximity to the study area; and displaced residents would likely be able to find affordable replacement housing.

The quality of life for residents along the corridor, however, would adversely change long-term. Increased traffic would generally increase noise, air pollution, light and glare. Along the corridor, directional lights would be required. The air pollution levels would increase, but would not exceed federal criteria for conformance. Noise levels would be expected to approach or exceed FHWA noise abatement criteria for residential uses along the corridor, but mitigation such as noise walls were determined to be neither feasible (reduction in noise levels) or reasonable (too costly). For additional information, please see the *Air, Noise, and Visual Discipline Reports*.

The proposed Sunset Oaks wetland mitigation site is currently owned by WSDOT and would not require the purchase of additional land or displacement of residents.

Some residences located on the SR 502 corridor

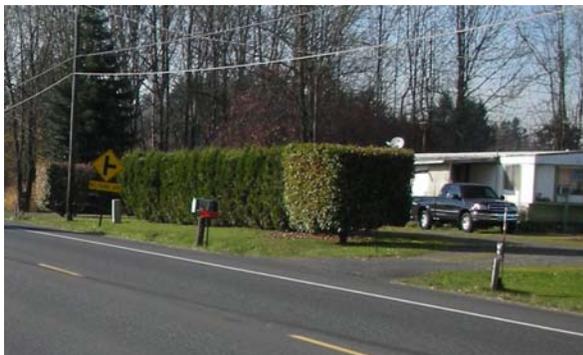
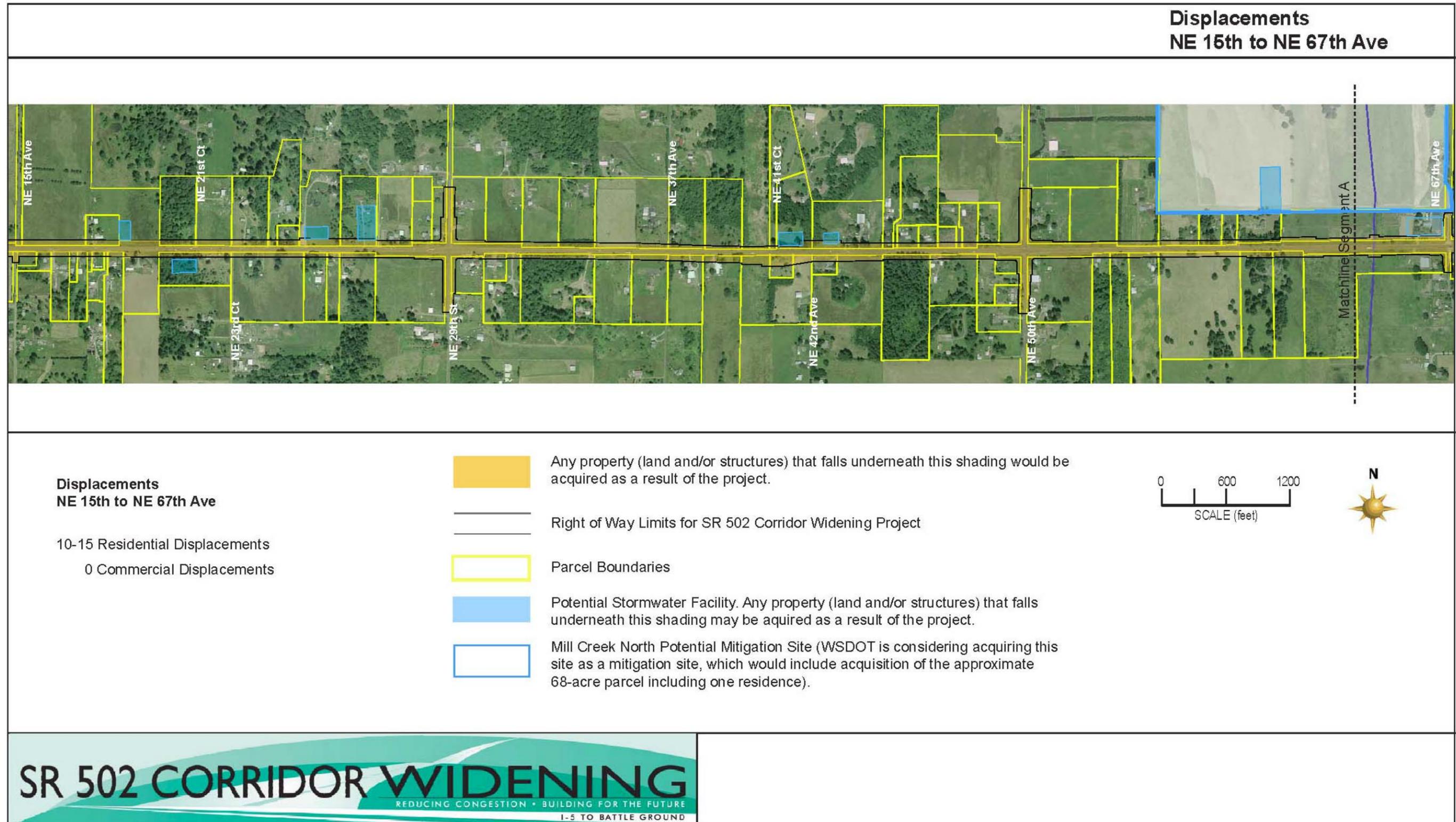


Exhibit 19. Property Acquisition Along the Project Corridor



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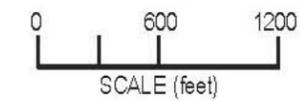
**Displacements
NE 67th to NE 102nd Ave**



**Displacements
NE 67th to NE 102nd Ave**

10-15 Residential Displacements
15-20 Commercial Displacements

-  Any property (land and/or structures) that falls underneath this shading would be acquired as a result of the project.
-  Right of Way Limits for SR 502 Corridor Widening Project
-  Parcel Boundaries
-  Potential Stormwater Facility. Any property (land and/or structures) that falls underneath this shading may be acquired as a result of the project.
-  Mill Creek North Potential Mitigation Site (WSDOT is considering acquiring this site as a mitigation site, which would include acquisition of the approximate 68-acre parcel including one residence).



SR 502 CORRIDOR WIDENING
REDUCING CONGESTION • BUILDING FOR THE FUTURE
I-5 TO BATTLE GROUND

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Community Facilities and Public Services

No community facilities or public services would be affected by property acquisition associated with the highway widening, on-corridor stormwater facilities or other potential mitigation, or the off-corridor proposed Sunset Oaks wetland mitigation. Long-term, travel to and from these community resources would be improved.

Emergency services response times would be improved as a result of the Build Alternative. Under the 2033 No Build Alternative, response time from the fire station to NE 37th Avenue south of SR 502 would be 6-7 minutes. Under the 2033 Build Alternative, the response time would be 3-4 minutes. The 2033 No Build Alternative response time from the fire station to NE 82nd Avenue north of SR 502 would be 3-4 minutes. Under the 2033 Build Alternative the response time would be 1-2 minutes. Additional information can be found in the *Transportation Discipline Report* (Parsons Brinckerhoff, 2008f). The shorter emergency response time under the 2033 Build Alternative is largely due to increased capacity of the roadway, control of access points along the roadway and improved control at intersections.

Recreation

No recreation resources would be adversely affected by property acquisition associated with the highway widening, on-corridor stormwater facilities and wetland or other potential mitigation, or the off-corridor proposed Sunset Oaks wetland mitigation. Long-term access to such resources in the region would be improved by the project.

Utilities

Under the Build Alternative, there would be a number of changes to utilities. There would be no effects on the major electric transmission line or the transmission gas lines that currently cross or run parallel to SR 502. However, there would be changes to other utilities.

Current stormwater facilities are primarily culverts under the highway and deep ditches on either side of the roadway. Essentially none of the stormwater is treated. The new roadway design would include approximately 10 detention ponds to manage stormwater runoff. These ponds would increase the holding capacity of the stormwater system and allow water to percolate into the ground, thus treating the water before pollutants reach streams or groundwater supplies. This would benefit adjacent property owners as localized flooding should be reduced during and immediately after storm events; and there would be a reduction in pollutants entering the groundwater and streams. Additional information can be found in the *Water Quality/Surface Water/Floodplain/Groundwater Discipline Report*.

There would be some changes to private drinking water wells and private septic systems located on both residential and commercial properties adjacent to SR 502. A number of these private utilities are located in the front yards of properties adjacent to the highway right of way. The widening of the roadway would require the relocation of some private drinking water wells, and the modification or relocation of some private septic systems. For a few properties, the configuration of the property and the location of existing building structures do not allow for modification or relocation of the septic systems. For these situations, WSDOT may need to purchase the entire parcel and displace current uses if they cannot continue without a septic system. This determination would be made during right of way acquisition and through one-on-one negotiations with the property owner.

A new water line would also be installed in the public right of way by Clark County Public Utilities. The installation of this pipeline during construction of the roadway project would avoid future disruptions. The water line would also provide water to future uses along the roadway.

Many existing utilities would be slightly relocated during the construction of the roadway. Relocations would be required to ensure adequate access to the utility facilities following roadway widening. In this way, future repair and maintenance work for a number of the existing utilities could be done with minimal effects on roadway travel. Utilities would also be relocated such that above-ground facilities would be further distant from the edge of travel lanes, thus making SR 502 safer.

The wetland mitigation sites – one potential site on the project corridor and one offsite – would be focused on enhancing the quantity and quality of habitat on these large properties. It is not expected that these construction activities would affect utilities. However, if additional properties need to be acquired at either mitigation site, a fresh look at potential effects on utilities may be required.

Travel Patterns and Public Safety

Under the Build Alternative, there would be a number of long-term operation changes to travel patterns and public safety. Travelers on SR 502 would still be able to use the highway to travel to and from Battle Ground. Improvements would be made to SR 502 generally following the existing alignment and additional improvements would be made to all intersecting roads, with greater improvements at the following intersections: NE 29th, NE 50th, NE 72nd, and NE 92nd Avenues. As such, there would be no permanent route detours. The number of travel lanes would generally be increased from two lanes (one in each direction) to four lanes (two lanes in each direction). At the four major intersections, the intersections would be improved to designate through lanes and added turning lanes. Curb, gutter, sidewalks, marked crosswalks, pedestrian refuges and a painted bicycle lane would be added at the Dollars Corner intersection. These improvements would improve mobility in the corridor and accommodate anticipated traffic volumes in 2033. The improvements at Dollars Corner and the construction of a roadway with a standard paved shoulder along the remainder of the corridor would also improve public safety for pedestrians and bicyclists.

Access control, however, would both eliminate and relocate some driveways or accesses in order to reduce crashes and improve overall safety in the corridor. Typically, accesses eliminated would be the second access for a property. For other properties, all access would be closed, but the property owner owns an adjacent parcel and access to the two parcels would be maintained from the adjacent parcel. In total, access to approximately one-third of the approximately 150 parcels in the project corridor would change. Note, access acquisition would be accomplished through an access hearing process and WSDOT would compensate property owners for limiting access to their property. This substantial reduction of access points along the corridor, increased capacity, improved level of service would reduce travel time on the highway, which would particularly benefit police, fire, and emergency medical vehicles. For additional information on emergency response times, see the *Transportation Discipline Report* (Parsons Brinckerhoff, 2008f).

The roadway turning movements would also be different from existing roadway conditions. Currently, vehicles can turn either right or left when leaving adjacent properties and they can make u-turns. The roadway would include the construction of a median barrier along the SR 502 corridor with no breaks to allow for u-turns except at major intersections. In addition, turns to and from SR 502 would be restricted to right-in and right-out turning movements along the corridor between the intersections at NE 29th, NE 50th, NE 72nd, and 92nd Avenues. This additional change would substantially reduce the number of turning movements along the corridor and would greatly improve public safety. This change in permissible turning movements, however, would also make access to some properties more circuitous. Drivers may need to travel to one of the four major intersections, make a legal u-turn, and then travel back the way they have just come in order to make a right-in turn to a property. The average distance one would have to travel out of direction would be approximately one mile.

Travel patterns and public safety would not change as a result of the improvements at the proposed or potential mitigation sites or where stormwater facilities are improved.

Community Cohesion

The long-term operation of the highway widening project would result in mixed effects on community cohesion. Property acquisition would result in the displacement of about 25 percent of the residences adjacent to the project corridor and about 31 to 42 percent of corridor businesses (most of these businesses are located at Dollars Corner). Many of these property owners or business owners have been a part of the local community for decades. Some of the businesses provide everyday shopping needs of local residents or may be local gathering places. There are two minority-owned businesses within the project corridor that have been identified through the business survey and real estate related discussions with property owners, but neither would be displaced under the Build Alternative. The Build Alternative would require property acquisition that would displace the social service agency. The displacement of these residents, businesses, and associated employees would considerably weaken community identity and overall cohesion. For many, these losses would be perceived as critical elements in the semi-rural quality of life characteristic of the project area today.

Because of the displacement of a number of businesses in the project corridor, residents would need to travel further distances to make the same or similar purchases. Existing businesses that would be displaced offer patrons a variety of goods and services including: automotive (sales, parts, wrecking and gasoline); personal care (barber shop, tattoos and body piercings, and family planning); restaurants/cafes; secondhand retail, building/construction supplies (electrical and flooring supplies); recreational supplies (fishing and gun retail); and realty services.

Similar goods and services provided by businesses can generally be found within two to five miles of Dollars Corner and include (Exhibit 20):

Access to family planning services displaced by the proposed project would substantially increase travel time, however. There are no family planning organizations within 5 miles of the one being displaced.

Moreover, of the several businesses that would be displaced, an estimated five of these businesses are considered to be gathering places in the community. The loss of these businesses would adversely affect community cohesion.

Shopping expeditions at a major grocery store, pharmacy, bank, as well as large purchases such as household appliances or visits to regional shopping centers or malls would continue to be made outside of the local community. Travel to make these purchases would be reduced due to the highway improvements. Access to nearby communities, the new I-5 interchange, the C-TRAN Battle Ground express commuter bus to downtown Vancouver and Portland, and the metropolitan region would be greatly enhanced for both residents and local businesses.

The highway improvements would be along the existing corridor, so existing weakness to cohesion due to the barrier effect caused by the highway's high speeds, traffic volumes, noise, and wide right of way would continue into the future. Existing community facilities and public services would remain along the corridor and would maintain existing linkages. The design of the highway improvements would improve both connectivity and safety for both pedestrians and bicyclists.

Exhibit 20. Similar Businesses found outside of Dollars Corner

Type of Business	Number of Similar Businesses found within 2 to 5 miles of Dollars Corner
Auto Dealership	4 (closest 0.3 miles)
Auto Parts	11 (closest 2.2 miles)
Gas Station	17 (closest 2.1 miles)
Auto Wrecking	1 (3.7 miles)
Barber Shop	5 (closest 1.8 miles)
Tattoo Parlor	2 (closest 2.7 miles)
Restaurant	49 (several remaining in project area)
Second Hand Retail	1 (4.8 miles)
Building/Construction Supply	14 (closest 1.9 miles)
Electrical Supply	1 (2.4 miles)
Recreational Supply	2 (closest 2.4 miles)
Realty	14 (closest 1.8 miles)

Environmental Justice

Effects on Minority and Low-Income Populations

It is uncertain whether or not minority or low-income persons either own or rent any of the dwellings that would be purchased. It has been confirmed that none of the residential buildings are designated low-income housing units (Hermann, 2008). As census data indicated a small percent of the population was minority and low-income, it is possible a similar proportion of minority and/or low-income persons may be displaced.

Minority-Owned Businesses and Businesses Serving Minorities

Between 16 and 22 commercial businesses would be displaced due to required property acquisition. Based on the business survey, it appears that one of the businesses that would be acquired serves minority and/or low-income customers. The business survey and real estate related discussions with property owners also identified two minority-owned businesses in the project corridor. Neither of the minority-owned businesses would be displaced, but a social services agency that provides services to minority and/or low-income customers would be displaced by the required purchase of additional right of way.

For the remaining businesses, including the two minority-owned businesses, the long-term outlook for the economic viability of the cluster of businesses at Dollars Corner is uncertain. Some of the businesses are retail stores that serve the community, including a minority-owned espresso stand and an auto service business (E.D. Hovee & Company, 2009). Patronage of local retail shops often is based on casual drop-by or impulse purchases and other nearby retail stores helps to attract customers to the commercial area. Other businesses, however, are highway-oriented or attract patrons from the region, so are considered destination businesses. A good example is the auto wrecking business located on the northeast corner at Dollars Corner. Compared to the retail businesses, these regional businesses are less dependent on adjacent and nearby businesses, and therefore would be more likely to maintain operation even if a number of nearby retail businesses would be displaced. These remaining businesses would continue to be able to serve minorities and their long-term viability does not appear to be dependent upon these customers.

Based on the findings of the business survey, some of the businesses that would be displaced along the project corridor would result in displacement of jobs currently held by minority persons. The number of minority and low-income employees that would be displaced would be very small compared to total employment in Clark County. In addition, it is expected that displaced employees would be able to find new jobs, especially considering most of the displaced jobs are not expected to be highly specialized.

As discussed above, future access to family planning services in the study area would be adversely affected by the proposed project. A single private non-profit business that provides these services and serves minorities and low-income persons would be displaced by the project. There are no family planning organizations within 5 miles of the one being displaced. The closest one (Open Adoptions & Family Services) is located about 7.4 miles away in Vancouver where several others are located. The displacement of this social service would be a hardship for

people due to increased travel time to nearby similar social services. This would be a loss to minority and low-income persons in the community. However, WSDOT will provide relocation assistance to the one displaced social service agency that provides assistance to low-income persons to help assure that the agency, if they choose to, will be able to remain in the community they now serve (see Mitigation for Long-Term Effects section below.)

The improvements at the proposed Sunset Oaks wetland mitigation site, the potential mitigation site on-corridor, or the stormwater facilities would not affect businesses long-term.

Economic Elements

Businesses and Employment

Under the Build Alternative, property acquisitions for the road improvements would involve purchasing property from a number of commercial properties. Along the entire corridor, from NE 15th Avenue to NE 102nd Avenue, there are approximately 50 commercial properties adjacent to either SR 502 or other intersecting arterial roads where improvements would be made. About 15 to 20 would be displaced. Some of these commercial properties also have residences onsite. Most of the commercial properties are located at Dollars Corner at NE 72nd Avenue, which is a rural center. Of the adjacent commercial properties, between three to seven properties would be partially acquired. For the most part, only a very small sliver of land would be required, and as such, 15 to 25 parking spaces may be lost at businesses. Washington State Department of Transportation would compensate business owners for the loss of parking spaces in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, as well as the Washington Relocation Assistance – Real Property Acquisition Policy.

The displacement of businesses would be a substantial loss to the community. About 25 percent of corridor businesses (most of these businesses are located at Dollars Corner) would be displaced. Businesses displaced include automotive-related businesses, building/construction businesses, personal care businesses, restaurants/cafes, and a social service agency that serves low-income residents in the community. Based on responses in the business survey, about five of these businesses are considered community gathering places.

Moreover, based on the survey of businesses in the project area, the loss of 16 to 22 businesses would result in a displacement of 85-115 jobs (includes both full-time and part-time employment) in the community. Though a substantial number of jobs, this would be a very small proportion of jobs in the county. Displaced employees would likely be able to find another similar job without too much difficulty, especially because the region is growing and the displaced jobs are not expected to be highly specialized.

Commercial real estate data in Clark County are fairly limited. According to the Regional Multiple Listings Service, there were only 10 commercial closed sales between January 2008 and April 2008. Of those 10 closed sales, one closed sale happened in Battle Ground while there were no closed sales made in the North West district of Clark County. The average sale price for commercial real estate in Clark County was \$422, 300. These statistics reflect a nation-wide softening in the retail commercial market since fall 2007 despite low commercial vacancy rates (RMLS, 2008). As such, it is uncertain if displaced businesses could find affordable commercial properties.

The semi-rural character of the project area and limited availability of commercial properties also would mean that it would be unlikely all of the displaced businesses would be able to find replacement properties in the community. They may be able to find replacement properties in the region, though the relocation of local businesses serving the commercial needs of project area residents may not be viable or desirable on the part of the existing owner. The relocation of businesses drawing customers from the region would more likely be able to successfully relocate elsewhere. For some, the best alternative would be to rebuild on the remaining portion of their property.

Government Revenues

The acquisition of property adjacent to the project corridor would change the tax status of that portion of the property acquired from taxable property to non-taxable. But at this point in time, the number of full and partial acquisitions based on needed right of way purchase is uncertain. WSDOT's project team is developing detailed right of way plans and assessing likely effects on adjacent properties.

Most of the properties that would be acquired are located in tax district code 119003 and the assessment rate is about 8.6 mills. (Note: One mill is equal to 0.1 percent of the assessed value of a parcel.) The collected property tax revenues support the state school, county government, local school district, fire district, county roads, and other tax districts. The purchase of these properties by WSDOT and removal of these properties from the county tax rolls would result in the redistribution of the property taxes generated from these properties to other properties in the county. Together, the value of the aggregate property tax revenues, however, would be very small and would be expected to be substantially less than 1 percent of the County's total property tax revenues. As such, the redistribution of the tax burden onto remaining properties is not anticipated to be substantial nor should it affect the amount of revenues collected by the County from property taxes and distributed to the tax districts.

5.0 Mitigation

This section discusses potential mitigation measures that could be used to avoid or minimize effects to social, environmental justice, or economic resources. Potential mitigation measures are discussed for the temporary effects and the long-term effects of the Build Alternative only.

5.1 Mitigation for Temporary Effects

The following measures could be taken to avoid and minimize temporary effects to social and economic resources. Measures include:

- Plan construction activities to allow reasonable access to all private properties at all times during the construction period.
- Notify community residents, business owners, property owners, and tenants of planned construction activities, planned temporary road closures and detours, expected congestion and delays, changes in commonly used travel routes, and the schedule for these activities. Notification methods could include press releases, newsletters, mailers, meetings, variable message signs in the project corridor, or fliers. Notification should be given in foreign languages commonly spoken in the community, e.g. Spanish and Russian.

- Plan temporary roadway closures to minimize effects on community gatherings, special celebrations, or other similar events or activities.
- Inform Clark County, City of Battle Ground, public transit agencies, school districts, and other relevant local government agencies as well as community businesses of planned construction activities, temporary road closures and detours, and the schedule for these activities.
- Provide advance notice if utilities would be disrupted, and schedule major utility shut-offs during low use times of the day.
- Develop methods by which residents and business owners can convey their concerns about construction activities and the effectiveness of mitigation measures during the construction period, e.g. advertise a project phone number, address, and email.
- Conduct public information campaigns to encourage patronage of businesses remaining in the project corridor during the construction period.

5.2 Mitigation for Long-Term Effects

The following measures could be taken to avoid and minimize long-term effects to social and economic resources. Measures include:

- Implement provisions as required under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, as well as the Washington Relocation Assistance - Real Property Acquisition Policy Act of 1971, as amended, for all properties purchased for needed right of way. Compensate all affected property owners at fair market value and provide relocation assistance.
- Provide housing of last resort¹ if needed. The available housing in the vicinity is expected to provide suitable relocation housing for displaced residents. But sufficient numbers of comparable replacement housing may not be available.
- Provide relocation assistance to the one displaced social service agency that provides assistance to low-income persons to help assure that the agency, if they choose to, will be able to remain in the community they now serve.
- Compensate property owners affected by new access control along SR 502 through the WSDOT access control hearing procedures.

¹ The Uniform Relocation Assistance and Real Property Acquisition Policies Act requires that comparable decent, safe, and sanitary replacement housing within a person's financial means be made available before that person may be displaced. When such housing cannot be provided by using replacement housing payments, the Act provides for "housing of last resort." This housing may involve the use of replacement housing payments that exceed the Act's maximum amounts. Housing of last resort may also involve the use of other methods of providing comparable decent, safe, and sanitary housing within a person's financial means (WSDOT, 2005).

6.0 Environmental Justice Determination

Right of way acquisitions required for the project would displace both residential and commercial properties. The analysis shows that some minority or low-income residents, business owners, and employees would likely be displaced, just as non-minority or non-low-income residents, business owners and employees would be displaced. It does not, however, appear that residential or commercial displacements would disproportionately affect minority or low-income residents. Other project effects such as noise increases, visual quality effects, and air quality effects would be expected to be the same, both in type and size of the effects, for both minority and non-minority persons and low-income and non-low-income persons.

6.1 Residential Displacements

In the project area, 20 to 30 corridor dwellings would be displaced. None of these dwellings are identified as low-income housing and information indicates that most are owner-occupied. It is uncertain how many of these dwellings are owned or rented by minority or low-income persons, but it is possible some such persons would be displaced as the census data indicated 9.6 percent of the population is minority and 5.1 percent is low-income. None of the public involvement efforts to date have identified any specific concerns about disproportionate effects of residential displacements to minority or low-income residents.

6.2 Business Displacements

A total of 16 to 22 corridor businesses would be displaced and one is a social services agency that serves minority and low-income persons. Neither of the two minority-owned businesses would be displaced. None of the displaced businesses appear to fill a cultural niche for minorities in the community, nor do they appear to be dependent upon these persons for their economic viability. At least three of the businesses that would be displaced are known to employ minority persons. The specific number of minority employees is unknown. Potentially seven percent or more of the total number of employees displaced could be minority employees. The number of minority and low-income employees that would be displaced would be very small compared to total employment in Clark County. In addition, it is expected that displaced employees would be able to find new jobs, especially considering most of the displaced jobs are not expected to be highly specialized. Finally, WSDOT would provide relocation assistance to the one displaced social service agency that provides assistance to low-income persons to help assure that the agency, if they choose to, will be able to remain in the community they now serve (see Mitigation for Long-Term Effects section above). Therefore, displacements effects on minority-owned businesses, those that serve these populations, or employ such persons would not be disproportionate.

Implementation of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and the Washington Relocation Assistance - Real Property Acquisition Policy Act of 1971, as amended, would mitigate for property impacts, including those affecting minority-owned businesses.

6.3 Other Effects

The temporary and long-term effects of the project with respect to noise, light, and air quality would also affect minority and low-income residents living in close proximity (approximately 500 feet) to SR 502. During the construction period, noise levels would be elevated. Residents

adjacent to the construction area, laydown area(s), and/or staging area(s) would endure extra nighttime light and glare from the fenced site, as well as an increase in dust in the air. Long-term effects would include increased noise, air pollution, light and glare as a result of increased traffic along the corridor. It is expected these project effects would affect minorities and low-income persons similar to others in the community. The long-term improvements to transportation mobility and public safety would equally benefit all users of SR 502.

6.4 Outreach to Minority and Low-Income Persons

Outreach to minority and low-income members of the community will be continued through the environmental review process. Minority and low-income members in the community, including business owners, will be given opportunities to voice their comments and concerns on the project as well as their recommendations for mitigation. The Draft Environmental Impact Statement will provide updated information regarding environmental justice compliance.

7.0 References

Age Discrimination Act of 1975.

Americans with Disabilities Act of 1990.

C-TRAN. 2007. About C-TRAN. URL: <http://www.c-tran.com/> (last accessed 14 September 2007).

Clark County. 2007. *2007-2008 Budget, Biennium Financial Plan*. Prepared by the Office of Budget and Information Services. URL: <http://www.clark.wa.gov/budget/2007-2008/5%20-%20Financial/A%20-%202007-08%20Financial.pdf#page=3> (last accessed 14 October 2007). Adopted December 6, 2006.

Clark County Community Development. 2004. *Clark County 20-Year Comprehensive Growth Management Plan 2003-2023*. Prepared by Long Range Planning. Adopted September 2006. URL: <http://www.co.clark.wa.us/longrangeplan/review/documents/CompPlan2004.pdf> (last accessed on 13 September 2007).

Clark County Department of Assessment and GIS. 2003. Clark County Comprehensive Parks and Open Space Plan, Regional Park System (map). URL: <http://www.co.clark.wa.us/longrangeplan/review/documents/cfig25.pdf>. (last accessed 14 September 2007). Printed on August 12, 2003.

Clark County Department of Assessment and GIS. 2004. Maps Online. URL: <http://gis.clark.wa.gov/imf/imf.jsp?site=digitalatlas&CFID> (last accessed on 14 September 2007).

Clark County Department of Assessment and GIS. 2006. Battle Ground School District: 2007 Service Area (map). URL: <http://www.bgsd.k12.wa.us/About/documents/BGSD%20with%20Daybreak%20Schools%207-19-06.pdf> (last accessed 14 September 2007). Map dated June 26, 2006.

E.D. Hovee & Company. 2004. *Memorandum: Assessment of Business & Property Impacts Associated with I-5/SR 502 Interchange Options*. Prepared for Parsons Brinckerhoff and the Washington State Department of Transportation. November 2004.

E.D. Hovee & Company. 2009. SR 502 Corridor Widening Project. *Final Business and Property Assessment Report*. Prepared for Parsons Brinckerhoff and the Washington State Department of Transportation. February 2009.

Executive Order No. 12,898, 59 Fed. (Feb. 11, 1994).

Executive Order No. 13,166, 65 Fed. (Aug. 16, 2000).

FHWA (Federal Highway Administration). NEPA Guidelines, 23 CFR 771.

FHWA (Federal Highway Administration). 1996. *Community Impact Assessment: A Quick Reference for Transportation*. Publication No. FHWA PD-96-036.

- FHWA (Federal Highway Administration). 1987. *Guidance for Preparing and Processing Environmental and Section 4(f) Documents*. Technical Advisory T6640.8A.
- Governor's Executive Order 93-07, Affirming Commitment to Diversity and Equality in the Service Delivery and in the Communities of the State, 1993.
- Hermann, Christine. 2008. Personal communication with Christine Hermann, technical staff, Vancouver Housing Authority concerning the existence of any low-income housing in the project area. February 15, 2008.
- KWRL Transportation. 2008. General telephone call for information concerning bus routes for the Ridgefield School District and receptionist provided answers. January 28, 2008.
- Laidlaw Education Services. 2008. General telephone call for information concerning bus routes for the Battle Ground School District and receptionist provided answers. January 28, 2008.
- Mesich, Katie. 2008. Email to Angela Findley. Subject: SR 502 Corridor Tribal Consultation. March 6, 2008.
- National Environmental Policy Act (NEPA), 42 USC Section 4231.
- Parsons Brinckerhoff. 2005. *SR 502 Interchange Project, Social, Economic, Relocation, and Environmental Justice: Final Technical Report - SR 502 Interchange Project*. February 2005.
- Parsons Brinckerhoff. 2007. *SR 502 Interchange Project, First-Level Alternatives Screening Memorandum*. July 2007.
- Parsons Brinckerhoff. 2008a. SR 502 Corridor Widening Project. *Final Noise Discipline Report*. June 2008.
- Parsons Brinckerhoff. 2008b. SR 502 Corridor Widening Project. *Final Visual Quality Discipline Report*. July 2008.
- Parsons Brinckerhoff. 2008c. SR 502 Corridor Widening Project. *Final Water Quality / Surface Water / Floodplains / Groundwater Discipline Report*. June 2008.
- Parsons Brinckerhoff. 2008d. SR 502 Corridor Widening Project. *Indirect Effects and Cumulative Effects Discipline Report*. July 2008.
- Parsons Brinckerhoff. 2008e. SR 502 Corridor Widening Project. *Revised Description of Alternatives Report*. July 2008.
- Parsons Brinckerhoff. 2008f. SR 502 Corridor Widening Project. *Transportation Discipline Report*. February 2008.
- Portland Development Commission. 2007. *Fact Book: Portland Metropolitan Region Fact Book – 2007*. URL: http://www.pdc.us/pubs/inv_detail.asp?id=94&ty=46.

Portland State University. 2007a. Certified Population Estimates for Oregon and Its Counties. Prepared by Population Research Center. Dec. 15, 2007.

Portland State University. 2007b. Certified Population Estimates for Oregon's Incorporated Cities and Towns. Prepared by Population Research Center. Dec. 15, 2007.

Title VI of the Civil Rights Act of 1964.

Title 49 of the Code of Federal Regulations Part 21, Nondiscrimination in Federally Assisted Programs of the Department of Transportation, Effectuation of title VI of the Civil Rights Act of 1964.

Title 23 of the United States Code Section 109(h), Federal Highway Administration Effectuation of Title VI of the Civil Rights Act of 1964.

Transportation Research Board (TRB). 2004. *NCHRP Report 532: Effective Methods for Environmental Justice Assessment*. Prepared by the National Cooperative Highway Research Program.

U.S. Bureau of Labor Statistics (BLS). 2007. Local Area Unemployment Statistics, 2006 Annual. URL: <http://data.bls.gov/PDQ/outsidejsp?survey=la>.

U.S. Census Bureau. 1990. Census 1990 Data. URL: <http://factfinder.census.gov>.

U.S. Census Bureau. 2000. Census 2000 Data. URL: <http://factfinder.census.gov>.

U.S. Department of Labor, Bureau of Labor Statistics. 2006. Local Area Unemployment Statistics – 2006 Average Annual. URL: <http://www.bls.gov/data/home.htm>.

Vancouver-Clark Parks & Recreation. 2002. *Vancouver Urban Parks, Recreation and Open Space Plan*. April 2002.

Vancouver-Clark Parks & Recreation. 2007. Parks and Trails (website). URL: http://www.ci.vancouver.wa.us/parks-recreation/parks_trails/index.asp (last accessed October 5, 2007).

Wallum, Stephanie. 2007. C-TRAN. Email communication regarding project area vanpool services from Stephanie Wallum, Passenger Service Representative, C-TRAN. September 9, 2007.

Washington State Department of Transportation (WSDOT). 2005. *Residential Relocation Assistance Program* (brochure). Prepared by the Real Estate Services Office. URL: <http://www.wsdot.wa.gov/NR/rdonlyres/3FE57C2E-38F0-4972-9C83-416E755EB8CF/0/Residential.pdf>. July 2005.

Washington State Department of Transportation (WSDOT), 2007. SR 502 Corridor Widening Project Memorandum: Open House Summary #2 – Attachment E. Prepared by Kyle Brown, Normandeau Associates, Inc. April 5, 2007.

Washington State Department of Transportation (WSDOT). 2008. *Environmental Procedures Manual*, M31-11, Sections 458 & 470.

Washington State Employment Security Department. 2007a. Clark County Profile 2006, Non-Farm Employment 1990-2006, Clark County. Prepared by the Labor Market and Economic Analysis Branch.

Washington State Employment Security Department. 2007b. Resident Civilian Labor Force for Washington State and Counties, 2006. Prepared by the Labor Market and Economic Analysis Branch.

Washington State Employment Security Department. 2007c. Annual Average Non-Agricultural Wage and Salary Employment Estimated 2004 and Projected 2014, Clark County. June 2007.

Washington State Employment Security Department. 2008. *Clark County Profile*. Prepared by the Labor Market and Economic Analysis Branch. January 2008.

Washington State Environmental Policy Act (SEPA), WAC 197-11.

Washington Office of Financial Management (OFM). 2007. April 1 Population of Cities, Towns, and Counties, Used for Allocation of Selected State Revenues, 2007 Estimates.

Washington Office of the Superintendent of Public Instruction (OSPI), 2007. School Report Cards, 2006-2007, Student Demographics. URL:
<http://reportcard.ospi.k12.wa.us/summary.aspx?year=2006-2007>.

Wooten, Renee. 2008. Personal communication with Renee Wooten, Executive Director of The Pregnancy Resource Center concerning demographic characteristics of clients. February 14, 2008.

Yahoo! Yellow Pages. Accessed at: <http://yp.yahoo.com>. (last accessed May 30, 2008).

8.0 Glossary

Adverse Effects	These are negative or “bad” effects on the community.
Beneficial Effects	These are positive or “good” effects on the community.
Block Group	A subdivision of a census tract, a block group is the smallest geographic unit for which the U.S. Census Bureau tabulates sample data. Block groups average about 1,500 inhabitants.
Census	The U.S. Census Bureau takes the census of population and housing in years ending in zero. The census includes both a short form (100% survey) and a long form (sample survey of one in six households).
Census Tract	This is a small, relatively permanent statistical subdivision for presenting census data. Census tract boundaries normally follow visible features, but may follow governmental unit boundaries or other non-visible features. Census tracts average about 4,000 inhabitants.
Community Cohesion	The ability of people to communicate and interact with each other in ways that lead to a sense of community, as reflected in the neighborhood’s ability to function and be recognized as a singular unit. Physical attributes of a community, resident demographic characteristics, social values, and shared community activities and daily interaction of residents, business owners, and employees define the strength of the community’s cohesion.
Disproportionate Adverse Effect	An adverse effect that: (a) is predominantly borne by a minority population and/or a low-income population; or (b) is suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population. Cultural differences need to be considered when doing the analysis.
Environmental Justice	Refers to the process of identifying and addressing, as appropriate, disproportionately high and adverse human health and/or environmental effects on minority and/ or low-income populations.

Hispanic/Latino	A self-designated classification for people whose origins are from Spain, the Spanish-speaking countries of Central or South America, the Caribbean, or those identifying themselves generally as Spanish, Spanish-American, etc. Origin is viewed as ancestry, nationality, or country of birth of the person or person's parents or ancestors. Hispanic/Latino persons may be of any race, White and non-White.
Low-Income	Median household income is at or below the Department of Health and Human Services poverty guidelines (updated annually) for different sizes of households.
Median Income	Household income that is in the middle of the range of total household incomes. It is not the average.
Minority	A person who is: <ul style="list-style-type: none">• Black (a person having origins in any of the black racial groups of Africa).• Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or the Spanish culture or origin, regardless of race).• Asian/Pacific Islander (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands).• American Indian or Alaskan Native (a person having origins in any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition).
Race	Race is a self-identification characteristic of population and in 2000 included: White and non-White races. The non-White races included Black or African-American alone, American Indian or Alaska Native alone, Asian alone, Native Hawaiian or other Pacific Islander alone, some other race alone, or a mixture of two or more races.