# Appendix N

## Socioeconomics Tables

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Table N-1. Historic Population in the Study Area, 1990–2012

| State/County | 1990 Population | 2000 Population | Percent Change 1990–2000 | 2012 Population | Percent Change 2000–2012 | Percent Change 1990–2012 |
|---|---|---|---|---|---|---|
| PROPOSED ACTION | | | | | | |
| Washington | | | | | | |
| Clark | 238,053 | 345,238 | 45.0% | 437,871 | 26.8% | 83.9% |
| Cowlitz | 82,119 | 92,948 | 13.2% | 101,827 | 9.6% | 24.0% |
| Skamania | 8,289 | 9,872 | 19.1% | 11,187 | 13.3% | 35.0% |
| Oregon | | | | | | |
| Clackamas | 278,850 | 338,391 | 21.4% | 383,628 | 13.4% | 37.6% |
| Columbia | 37,557 | 43,560 | 16.0% | 49,233 | 13.0% | 31.1% |
| Hood River | 16,903 | 20,411 | 20.8% | 22,597 | 10.7% | 33.7% |
| Marion | 228,483 | 284,834 | 24.7% | 321,397 | 12.8% | 40.7% |
| Multnomah | 583,887 | 660,486 | 13.1% | 758,932 | 14.9% | 30.0% |
| Washington | 311,554 | 445,342 | 42.9% | 547,543 | 22.9% | 75.7% |
| Yamhill | 65,551 | 84,992 | 29.7% | 100,644 | 18.4% | 53.5% |
| TOTAL | 1,851,246 | 2,326,074 | 25.6% | 2,734,859 | 17.6% | 47.7% |
| RAIL CORRIDOR | | | | | | |
| Washington | | | | | | |
| Adams | 13,603 | 16,428 | 20.8% | 18,934 | 15.3% | 39.2% |
| Benton | 112,560 | 142,475 | 26.6% | 182,383 | 28.0% | 62.0% |
| Clark | 238,053 | 345,238 | 45.0% | 437,871 | 26.8% | 83.9% |
| Franklin | 37,473 | 49,347 | 31.7% | 85,777 | 73.8% | 128.9% |
| Klickitat | 16,616 | 19,161 | 15.3% | 20,629 | 7.7% | 24.2% |
| Lincoln | 8,864 | 10,184 | 14.9% | 10,455 | 2.7% | 17.9% |
| Skamania | 8,289 | 9,872 | 19.1% | 11,187 | 13.3% | 35.0% |
| Spokane | 361,364 | 417,939 | 15.7% | 475,957 | 13.9% | 31.7% |
| Walla Walla | 48,439 | 55,180 | 13.9% | 59,400 | 7.6% | 22.6% |
| Oregon | | | | | | |
| Gilliam | 1,717 | 1,915 | 11.5% | 1,948 | 1.7% | 13.5% |
| Hood River | 16,903 | 20,411 | 20.8% | 22,597 | 10.7% | 33.7% |
| Morrow | 7,625 | 10,995 | 44.2% | 11,259 | 2.4% | 47.7% |
| Multnomah | 583,887 | 660,486 | 13.1% | 758,932 | 14.9% | 30.0% |
| Sherman | 1,918 | 1,934 | 0.8% | 1,739 | -10.1% | -9.3% |
| Umatilla | 59,249 | 70,548 | 19.1% | 76,882 | 9.0% | 29.8% |
| Wasco | 21,683 | 23,791 | 9.7% | 25,470 | 7.1% | 17.5% |
| TOTAL | 1,538,243 | 1,855,904 | 20.7% | 2,201,420 | 18.6% | 43.1% |

Table N-1. Historic Population in the Study Area, 1990–2012

| State/County | 1990 Population | 2000 Population | Percent Change 1990–2000 | 2012 Population | Percent Change 2000–2012 | Percent Change 1990–2012 |
|---|---|---|---|---|---|---|
| VESSEL CORRIDOR | | | | | | |
| Washington | | | | | | |
| Clark | 238,053 | 345,238 | 45.0% | 437,871 | 26.8% | 83.9% |
| Cowlitz | 82,119 | 92,948 | 13.2% | 101,827 | 9.6% | 24.0% |
| Pacific | 18,882 | 20,984 | 11.1% | 20,591 | -1.9% | 9.1% |
| Wahkiakum | 3,327 | 3,824 | 14.9% | 3,997 | 4.5% | 20.1% |
| Oregon | | | | | | |
| Clatsop | 33,301 | 35,630 | 7.0% | 37339 | 4.8% | 12.1% |
| Columbia | 37,557 | 43,560 | 16.0% | 49,233 | 13.0% | 31.1% |
| Multnomah | 583,887 | 660,486 | 13.1% | 758,932 | 14.9% | 30.0% |
| TOTAL | 997,126 | 1,202,670 | 20.6% | 1,409,790 | 17.2% | 41.4% |

Sources:

US Census Bureau. 1990 Census. Website (http://www.census.gov/main/www/cen1990.html) accessed January 26, 2015.

US Census Bureau.2000 Census. Website (http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml) accessed January 26, 2015.

US Census Bureau. 2010 Census. Website (http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml) accessed January 26, 2015.

US Census Bureau. 2014. Table PEPANNRES: Annual Estimates of the Resident Population April 1, 2010 to July 1, 2013.

Table N-2. Projected Population Growth in the Study Area, 2012–2030

| State/County | 2012 Population | 2020 Projected Population | Percent Change 2012–2020 | 2030 Projected Population | Percent Change 2012–2030 |
|---|---|---|---|---|---|
| PROPOSED ACTION | | | | | |
| Washington | | | | | |
| Clark | 437,871 | 513,010 | 17.2% | 579,768 | 32.4% |
| Cowlitz | 101,827 | 126,676 | 24.4% | 144,531 | 41.9% |
| Skamania | 11,187 | 12,332 | 10.2% | 13,426 | 20.0% |
| Oregon | | | | | |
| Clackamas | 383,628 | 422,576 | 10.2% | 485,054 | 26.4% |
| Columbia | 49,233 | 54,517 | 10.7% | 61,273 | 24.5% |
| Hood River | 22,597 | 25,628 | 13.4% | 29,979 | 32.7% |
| Marion | 321,397 | 355,189 | 10.5% | 406,612 | 26.5% |
| Multnomah | 758,932 | 807,198 | 6.4% | 879,987 | 16.0% |
| Washington | 547,543 | 622,368 | 13.7% | 731,125 | 33.5% |
| Yamhill | 100,644 | 113,611 | 12.9% | 133,907 | 33.1% |
| TOTAL | 2,734,859 | 3,053,105 | 11.6% | 3,465,662 | 26.7% |

Table N-2. Projected Population Growth in the Study Area, 2012–2030

| State/County | 2012 Population | 2020 Projected Population | Percent Change 2012–2020 | 2030 Projected Population | Percent Change 2012–2030 |
|---|---|---|---|---|---|
| RAIL CORRIDOR | | | | | |
| Washington | | | | | |
| Adams | 18,934 | 20,761 | 9.6% | 22,926 | 21.1% |
| Benton | 182,383 | 184,704 | 1.3% | 198,528 | 8.9% |
| Clark | 437,871 | 513,010 | 17.2% | 579,768 | 32.4% |
| Franklin | 85,777 | 90,654 | 5.7% | 109,861 | 28.1% |
| Klickitat | 20,629 | 24,470 | 18.6% | 27,049 | 31.1% |
| Lincoln | 10,455 | 11,907 | 13.9% | 13,601 | 30.1% |
| Skamania | 11,187 | 12,332 | 10.2% | 13,426 | 20.0% |
| Spokane | 475,957 | 529,451 | 11.2% | 589,623 | 23.9% |
| Walla Walla | 59,400 | 65,593 | 10.4% | 69,828 | 17.6% |
| Oregon | | | | | |
| Gilliam | 1,948 | 2,062 | 5.9% | 2,280 | 17.0% |
| Hood River | 22,597 | 25,628 | 13.4% | 29,979 | 32.7% |
| Morrow | 11,259 | 12,307 | 9.3% | 13,726 | 21.9% |
| Multnomah | 758,932 | 807,198 | 6.4% | 879,987 | 16.0% |
| Sherman | 1,739 | 1,716 | -1.4% | 1,731 | -0.5% |
| Umatilla | 76,882 | 83,359 | 8.4% | 93,673 | 21.8% |
| Wasco | 25,470 | 27,388 | 7.5% | 30,186 | 18.5% |
| TOTAL | 2,201,420 | 2,412,540 | 9.6% | 2,676,170 | 21.6% |
| VESSEL CORRIDOR | | | | | |
| Washington | | | | | |
| Clark | 437,871 | 513,010 | 17.2% | 579,768 | 32.4% |
| Cowlitz | 101,827 | 126,676 | 24.4% | 144,531 | 41.9% |
| Pacific | 20,591 | 22,207 | 7.8% | 22,985 | 11.6% |
| Wahkiakum | 3,997 | 4,740 | 18.6% | 5,366 | 34.3% |
| Oregon | | | | | |
| Clatsop | 37,339 | 38,461 | 3.0% | 40,072 | 7.3% |
| Columbia | 49,233 | 54,517 | 10.7% | 61,273 | 24.5% |
| Multnomah | 758,932 | 807,198 | 6.4% | 879,987 | 16.0% |
| TOTAL | 1,409,790 | 1,566,809 | 11.1% | 1,733,982 | 23.0% |

Sources:

Washington Office of Financial Management. 2007. Washington State Growth Management Population Projections for Counties: 2000 to 2030, 2007 County Projections. Website (http://www.ofm.wa.gov/pop/gma/projections07.asp) accessed January 26, 2015.

Oregon Office of Economic Analysis. 2013. Long-Term Oregon State's County Population Forecast, 2010–2050. Website (http://www.oregon.gov/DAS/oea/Pages/demographic.aspx) accessed January 30, 2015.

Table N-3. Race, Ethnic, and Poverty Characteristics for the Proposed Facility

| Location | Race | | | | | | | Hispanic or Latino | Population Below Two Times the Poverty Level |
|---|---|---|---|---|---|---|---|---|---|
| | White | Black or African American | American Indian and Alaska Native | Asian | Hawaiian and Pacific Islander | Other Race | Two or More Races | | |
| Washington | 78.7% | 3.5% | 1.4% | 7.2% | 0.6% | 4.0% | 4.6% | 11.2% | 29.3% |
| Washington Threshold Criteria[1] | na | 4.2% | 1.7% | 8.6% | 0.7% | 4.8% | 5.5% | 13.4% | 29.3% |
| Clark County | 86.1% | 2.0% | 0.6% | 4.0% | 0.6% | 2.4% | 4.2% | 7.6% | 29.5%* |
| CT 410.05 | 67.8% | 3.3% | 0.8% | 0.0% | 0.0% | 23.9%* | 4.2% | 30.6%* | 60.8%* |
| Oregon | 85.3% | 1.8% | 1.4% | 3.7% | 0.4% | 3.8% | 3.7% | 11.7% | 35.4% |
| Oregon Threshold Criteria[1] | | 2.2% | 1.7% | 4.4% | 0.5% | 4.6% | 4.4% | 14.0% | 35.4% |
| Multnomah County | 78.5% | 5.7%* | 1.0% | 6.6%* | 0.6%* | 3.4% | 4.1% | 10.8% | 35.6%* |
| CT 72.01 | 93.3% | 1.4% | 0.0% | 0.0% | 0.0% | 0.6% | 4.7%* | 2.3% | 37.7%* |
| Total (CTs) | 79.5% | 2.4% | 0.4% | 0.0% | 0.0% | 13.2% | 4.4% | 17.6% | 50.3% |

Sources:

US Census Bureau. 2013. Table DP05: ACS Demographic and Housing Estimates 2008–2012 5-Year Estimates. Website (http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml) accessed January 27, 2015.

US Census Bureau. 2013. Table DP03, Select Economic Characteristics 2008–2012 5-Year Estimates. Website (http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml) accessed January 27, 2015.

US Census Bureau. 2013. ACS 2008–2012 5-Year Data, Table C17002: Ratio of Income to Poverty Level in the Past 12 Months. Website (http://www.census.gov/acs/www/data_documentation/summary_file/) accessed March 11, 2015.

Notes:

1 Statewide exceedance criteria percentages are 1.2 times the actual Environmental Justice group population percentages for each state.

2 The low-income exceedance criterion is the state percentage of persons in households with incomes below 2 times the poverty income level. For example, Washington has 1.94 million people in households with incomes lower than 2 times the poverty income levels established by the US Census Bureau. This amount comprises 29.3 percent of the total sate population for whom poverty status has been determined (6.61 million people). Therefore, the low-income exceedance criteria for study area CTs located within Washington is 29.3 percent.

* Denotes minority and low-income populations that are meaningfully greater than the corresponding minority or low-income population at the state level in the relevant racial/ethnic or low-income category.

Table N-4. Housing Characteristics, 2013

| State/County | Total Housing Units | Occupied Housing Units | Vacant Housing Units | Homeowner Vacancy Rate | Rental Vacancy Rate |
|---|---|---|---|---|---|
| Proposed Action | | | | | |
| Washington | 2,899,538 | 2,629,126 | 270,412 | 2.0% | 5.3% |
| Clark | 168,178 | 158,855 | 9,323 | 5.5% | 4.5% |
| Cowlitz | 43,356 | 39,602 | 3,754 | 8.7% | 5.2% |
| Skamania | 5,614 | 4,452 | 1,162 | 20.7% | 11.3% |
| Oregon | 1,677,363 | 1,516,456 | 160,907 | 2.0% | 5.1% |
| Clackamas | 157,541 | 146,527 | 11,014 | 7.0% | 4.8% |
| Columbia | 20,614 | 19,069 | 1,545 | 7.5% | 4.6% |
| Hood River | 9,314 | 8,144 | 1,170 | 12.6% | 5.7% |
| Marion | 121,245 | 113,285 | 7,960 | 6.6% | 5.1% |
| Multnomah | 325,163 | 305,939 | 19,224 | 5.9% | 3.6% |
| Washington | 213,520 | 201,771 | 11,749 | 5.5% | 4.5% |
| Yamhill | 37,137 | 34,138 | 2,999 | 8.1% | 7.7% |
| Study Area Total | 1,101,682 | 1,031,782 | 69,900 | | |
| Rail Corridor | | | | | |
| Washington | 2,899,538 | 2,629,126 | 270,412 | 2.0% | 5.3% |
| Adams | 6,232 | 5,738 | 494 | 7.9% | 1.6% |
| Benton | 69,638 | 65,675 | 3,963 | 5.7% | 6.9% |
| Clark | 168,178 | 158,855 | 9,323 | 5.5% | 4.5% |
| Franklin | 25,063 | 23,445 | 1,618 | 6.5% | 1.7% |
| Klickitat | 9,797 | 8,019 | 1,778 | 18.1% | 10.1% |
| Lincoln | 5,775 | 4,457 | 1,318 | 22.8% | 5.0% |
| Skamania | 5,614 | 4,452 | 1,162 | 20.7% | 11.3% |
| Spokane | 202,568 | 187,572 | 14,996 | 7.4% | 6.3% |
| Walla Walla | 23,518 | 21,677 | 1,841 | 7.8% | 4.5% |
| Oregon | 1,677,363 | 1,516,456 | 160,907 | 2.0% | 5.1% |
| Gilliam | 1,122 | 883 | 239 | 21.3% | 8.7% |
| Hood River | 9,314 | 8,144 | 1,170 | 12.6% | 5.7% |
| Morrow | 4,426 | 3,741 | 685 | 15.5% | 9.9% |
| Multnomah | 325,163 | 305,939 | 19,224 | 5.9% | 3.6% |
| Sherman | 938 | 827 | 111 | 11.8% | 4.0% |
| Umatilla | 29,638 | 26,744 | 2,894 | 9.8% | 5.3% |
| Wasco | 11,438 | 9,612 | 1,826 | 16.0% | 8.1% |
| Study Area Total | 898,422 | 835,780 | 62,642 | | |

Table N-4. Housing Characteristics, 2013

| State/County | Total Housing Units | Occupied Housing Units | Vacant Housing Units | Homeowner Vacancy Rate | Rental Vacancy Rate |
|---|---|---|---|---|---|
| Vessel Corridor | | | | | |
| Washington | 2,899,538 | 2,629,126 | 270,412 | 2.0% | 5.3% |
| Clark | 168,178 | 158,855 | 9,323 | 5.5% | 4.5% |
| Cowlitz | 43,356 | 39,602 | 3,754 | 8.7% | 5.2% |
| Pacific | 15,575 | 9,366 | 6,209 | 39.9% | 5.4% |
| Wahkiakum | 2,008 | 1,715 | 293 | 14.6% | 2.1% |
| Oregon | 1,677,363 | 1,516,456 | 160,907 | 2.0% | 5.1% |
| Clatsop | 21,601 | 15,749 | 5,852 | 27.1% | 9.8% |
| Columbia | 20,614 | 19,069 | 1,545 | 7.5% | 4.6% |
| Multnomah | 325,163 | 305,939 | 19,224 | 5.9% | 3.6% |
| Study Area Total | 596,495 | 550,295 | 46,200 | | |

Source:

US Census Bureau. 2014e. Table DP04, 2009–2013 Selected Housing Characteristics. Website (http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml) accessed January 26, 2015.

Table N-5. Study Area Unemployment, 2003–2013

| State/Study Area | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Washington | 7.4% | 6.2% | 5.5% | 4.9% | 4.6% | 5.4% | 9.3% | 9.9% | 9.2% | 8.1% | 7.0% |
| Oregon | 8.1% | 7.3% | 6.2% | 5.3% | 5.2% | 6.5% | 11.1% | 10.8% | 9.7% | 8.8% | 7.7% |
| Proposed Action[1] | 8.3% | 7.1% | 6.0% | 5.2% | 5.0% | 6.1% | 10.8% | 10.7% | 9.5% | 8.5% | 7.5% |
| Rail Corridor[2] | 8.4% | 7.1% | 6.2% | 5.4% | 5.1% | 6.0% | 10.2% | 10.4% | 9.5% | 8.7% | 7.9% |
| Vessel Corridor[3] | 8.9% | 7.5% | 6.3% | 5.5% | 5.3% | 6.4% | 11.6% | 11.5% | 10.1% | 8.9% | 8.0% |

Source: Bureau of Labor Statistics. 2014. Labor Force Data by County. 2013 Annual Averages. Website (http://www.bls.gov/lau/) accessed January 28, 2015.

Notes:

1 Proposed Action includes Clark, Cowlitz, and Skamania counties in Washington and Clackamas, Columbia, Hood River, Marion, Multnomah, Washington, and Yamhill counties in Oregon.

2 Rail Corridor includes Adams, Benton, Clark, Franklin, Klickitat, Lincoln, Skamania, Spokane, and Walla Walla counties in Washington, and Gilliam, Hood River, Morrow, Multnomah, Sherman, Umatilla, and Wasco counties in Oregon.

3 Vessel Corridor includes Clark, Cowlitz, Pacific, and Wahkiakum counties in Washington, and Clatsop, Columbia and Multnomah counties in Oregon

Table N-6. Proposed Action Full- and Part-Time Employment by Industry, 2013

| | Clark | Cowlitz | Skamania | Clackamas | Columbia | Hood River | Marion | Multnomah | Washington | Yamhill |
|---|---|---|---|---|---|---|---|---|---|---|
| Total employment | 195,000 | 45,200 | 3,200 | 222,400 | 15,670 | 16,190 | 172,200 | 597,800 | 309,300 | 45,690 |
| Farm employment | 2,100 | 600 | 140 | 8,300 | 900 | 1,790 | 8,500 | 1,500 | 4,300 | 4,410 |
| Nonfarm employment | 192,800 | 44,600 | 3,060 | 214,000 | 14,760 | 14,410 | 163,700 | 596,300 | 305,000 | 41,280 |
| Private nonfarm employment | 167,700 | 38,700 | 2,390 | 198,000 | 12,830 | 13,140 | 130,000 | 524,000 | 282,900 | 36,880 |
| Forestry and fishing | (D) | 1,100 | (D) | 1,900 | 400 | 490 | 3,400 | (D) | 1,400 | (D) |
| Mining | (D) | 200 | (D) | 500 | 170 | 30 | 500 | (D) | 400 | (D) |
| Utilities | (D) | 100 | 0 | 400 | 120 | 40 | (D) | 1,400 | (D) | 40 |
| Construction | 13,200 | 2,800 | 150 | 14,100 | 840 | 570 | 8,600 | 25,500 | 15,500 | 1,930 |
| Manufacturing | 12,800 | 6,500 | 280 | 20,100 | 1,600 | 1,520 | 9,900 | 36,900 | 45,500 | 7,010 |
| Wholesale trade | 7,400 | 1,500 | (D) | 12,600 | 220 | 560 | 3,900 | 25,300 | 14,300 | 780 |
| Retail trade | 21,300 | 5,300 | 210 | 24,200 | 1,910 | 1,560 | 19,100 | 49,300 | 33,000 | 4,290 |
| Transportation and warehousing | (D) | 1,700 | (D) | 6,000 | 560 | 290 | (D) | 23,500 | (D) | 880 |
| Information | 3,400 | 400 | 30 | 3,100 | 120 | 190 | 1,500 | 14,200 | 8,400 | 300 |
| Finance and insurance | 8,900 | 1,400 | 70 | 12,000 | 560 | 270 | 6,700 | 29,100 | 16,000 | 1,410 |
| Real estate and rental and leasing | 10,600 | 1,300 | 90 | 13,900 | 830 | 650 | 6,800 | 26,400 | 8,800 | 1,560 |
| Professional services | 13,300 | 1,400 | 170 | 16,100 | (D) | 1,190 | 7,200 | 55,300 | 19,000 | 1,740 |
| Management of companies | 2,200 | 100 | 0 | 1,800 | (D) | (D) | 1,200 | 16,500 | 11,900 | 240 |
| Administrative and waste management | 10,700 | 1,600 | 50 | 11,800 | 630 | (D) | 8,400 | 28,800 | 26,300 | 1,490 |
| Educational services | 2,700 | 500 | (D) | 4,600 | 180 | 160 | 4,300 | 23,000 | 8,700 | 2,580 |
| Health care and social assistance | 25,500 | 6,300 | (D) | 23,600 | 1,500 | 2,130 | 21,600 | 69,200 | 30,100 | 5,180 |
| Arts, entertainment, and recreation | 4,800 | 800 | 80 | 5,900 | (D) | 840 | 3,000 | 18,900 | 5,700 | 870 |
| Accommodation and food services | 11,700 | 3,000 | 590 | 13,100 | (D) | 1,560 | 11,100 | 48,400 | 18,800 | 2,990 |
| Other services | 11,500 | 2,800 | 220 | 12,400 | 1,070 | 720 | 8,400 | 30,900 | 14,100 | 2,170 |
| Government | 25,200 | 5,900 | 670 | 16,000 | 1,930 | 1,260 | 33,700 | 72,400 | 22,100 | 4,400 |

Source: Bureau of Economic Analysis 2014. Regional Economic Accounts, Total full-time and part-time employment by NAICS industry for 2012. Website (http://www.bea.gov/regional/) accessed January 28, 2015.

Note:
(D) Not shown to avoid disclosure of confidential information, but the estimates for this item are included in the totals.

Table N-7. Study Area Income, 2013

| State/County | Median Household Income | Per Capita Income |
|---|---|---|
| **Proposed Action** | | |
| Washington | $59,480 | $30,740 |
| Clark | $58,230 | $27,680 |
| Cowlitz | $47,600 | $23,560 |
| Skamania | $53,710 | $28,450 |
| Oregon | $50,230 | $26,810 |
| Clackamas | $64,350 | $32,780 |
| Columbia | $54,970 | $26,270 |
| Hood River | $56,730 | $25,180 |
| Marion | $46,890 | $22,000 |
| Multnomah | $52,510 | $30,480 |
| Washington | $64,180 | $31,080 |
| Yamhill | $54,540 | $24,290 |
| **Rail Corridor** | | |
| Washington | $59,480 | $30,740 |
| Adams | $43,930 | $16,940 |
| Benton | $60,490 | $28,580 |
| Clark | $58,230 | $27,680 |
| Franklin | $55,180 | $19,500 |
| Klickitat | $41,690 | $22,230 |
| Lincoln | $47,200 | $25,820 |
| Skamania | $53,710 | $28,450 |
| Spokane | $49,230 | $25,660 |
| Walla Walla | $46,600 | $23,810 |
| Oregon | $50,230 | $26,810 |
| Gilliam | $44,740 | $25,320 |
| Hood River | $56,730 | $25,180 |
| Morrow | $49,940 | $20,660 |
| Multnomah | $52,510 | $30,480 |
| Sherman | $42,640 | $24,310 |
| Umatilla | $48,390 | $20,840 |
| Wasco | $43,770 | $22,840 |
| **Vessel Corridor** | | |
| Washington | $59,480 | $30,740 |
| Clark | $58,230 | $27,680 |

Table N-7. Study Area Income, 2013

| State/County | Median Household Income | Per Capita Income |
|---|---|---|
| Cowlitz | $47,600 | $23,560 |
| Pacific | $39,830 | $23,890 |
| Wahkiakum | $41,820 | $22,330 |
| Oregon | $50,230 | $26,810 |
| Clatsop | $44,680 | $25,680 |
| Columbia | $54,970 | $26,270 |
| Multnomah | $52,510 | $30,480 |

Source: US Census Bureau. 2013c. Table DP03 Select Economic Characteristics 2008–2012 5-Year Estimates. Website (http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml) accessed January 27, 2015.

Table N-8. Study Area Property Value

| State/County | Median Value of Owner-Occupied Homes (2013) | Average Assessed Value of Residential Property (2012) | Average Assessed Value of Real Property (2012) |
|---|---|---|---|
| Proposed Action | | | |
| Washington | $262,100 | $217,300 | $236,100 |
| Clark | $232,500 | $186,700 | $213,500 |
| Cowlitz | $181,500 | $126,800 | $135,200 |
| Skamania | $248,200 | $175,200 | $148,000 |
| Oregon | $238,000 | $168,500 | $176,000 |
| Clackamas | $300,600 | $229,400 | $248,200 |
| Columbia | $213,200 | $136,400 | $138,600 |
| Hood River | $321,700 | $168,000 | $172,900 |
| Marion | $192,200 | $142,500 | $174,500 |
| Multnomah | $271,600 | $168,800 | $212,600 |
| Washington | $282,400 | $208,900 | $271,600 |
| Yamhill | $224,900 | $155,900 | $175,200 |
| Study Area Total | | $182,700 | $215,300 |
| Rail Corridor | | | |
| Washington | $262,100 | $217,300 | $236,100 |
| Adams | $133,600 | $94,300 | $105,100 |
| Benton | $176,700 | $156,200 | $202,100 |
| Clark | $232,500 | $186,700 | $213,500 |
| Franklin | $161,600 | $137,400 | $171,200 |
| Klickitat | $194,700 | $149,400 | $101,300 |
| Lincoln | $155,700 | $61,800 | $56,800 |
| Skamania | $248,200 | $175,200 | $148,000 |

Table N-8. Study Area Property Value

| State/County | Median Value of Owner-Occupied Homes (2013) | Average Assessed Value of Residential Property (2012) | Average Assessed Value of Real Property (2012) |
|---|---|---|---|
| Spokane | $184,700 | $153,100 | $170,500 |
| Walla Walla | $195,200 | $174,400 | $159,900 |
| Oregon | $238,000 | $168,500 | $176,000 |
| Gilliam | $116,400 | $52,800 | $94,500 |
| Hood River | $321,700 | $168,000 | $172,900 |
| Morrow | $119,800 | $64,600 | $138,900 |
| Multnomah | $271,600 | $168,800 | $212,600 |
| Sherman | $135,400 | $37,700 | $55,700 |
| Umatilla | $142,700 | $97,900 | $101,800 |
| Wasco | $181,600 | $117,600 | $113,300 |
| Study Area Total | | $162,700 | $184,000 |
| Vessel Corridor | | | |
| Washington | $262,100 | $217,300 | $236,100 |
| Clark | $232,500 | $186,700 | $213,500 |
| Cowlitz | $181,500 | $126,800 | $135,200 |
| Pacific | $162,000 | $99,100 | $66,600 |
| Wahkiakum | $195,600 | $140,100 | $88,500 |
| Oregon | $238,000 | $168,500 | $176,000 |
| Clatsop | $256,500 | $186,800 | $163,500 |
| Columbia | $213,200 | $136,400 | $138,600 |
| Multnomah | $271,600 | $168,800 | $212,600 |
| Study Area Total | | $167,900 | $190,900 |

Sources: US Census Bureau. 2014e. Table DP04, 2009–2013 Selected Housing Characteristics. Website (http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml) accessed January 26, 2015.

Washington Department of Revenue. 2013. Property Tax Statistics 2013. September. Website (http://dor.wa.gov/docs/reports/2013/Property_Tax_Statistics_2013/PropTx2013.pdf) accessed February 4, 2015.

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Table N-9. Race, Ethnic, and Poverty Characteristics for the Rail Corridor

| Location | Race | | | | | | | Hispanic or Latino | Population Below Two Times the Poverty Level |
|---|---|---|---|---|---|---|---|---|---|
| | White | Black or African American | American Indian and Alaska Native | Asian | Hawaiian and Pacific Islander | Other Race | Two or More Races | | |
| Washington | 78.7% | 3.5% | 1.4% | 7.2% | 0.6% | 4.0% | 4.6% | 11.2% | 29.3% |
| Washington Threshold Criteria[1] | na | 4.2% | 1.7% | 8.6% | 0.7% | 4.8% | 5.5% | 13.4% | 29.3% |
| Adams County | 62.6% | 0.1% | 0.9% | 0.7% | 0.1% | 31.9%* | 3.7% | 59.2%* | 54.1%* |
| CT 9501 | 94.7% | 0.5% | 0.4% | 0.2% | 0.0% | 1.6% | 2.4% | 4.5% | 38.7%* |
| CT 9502 | 85.5% | 0.0% | 0.5% | 0.4% | 0.4% | 10.8%* | 2.3% | 12.8% | 44.1%* |
| Benton County | 81.9% | 1.4% | 1.0% | 2.7% | 0.1% | 9.8%* | 3.1% | 18.5%* | 29.5%* |
| CT 113 | 63.5% | 2.3% | 1.1% | 0.4% | 0.5% | 29.1%* | 3.2% | 46.9%* | 56.0%* |
| CT 114.01 | 78.9% | 1.3% | 0.9% | 0.0% | 0.0% | 16.9%* | 1.9% | 29.0%* | 46.2%* |
| CT 115.01 | 77.1% | 0.8% | 1.4% | 0.3% | 0.0% | 16.5%* | 4.0% | 28.9%* | 32.0%* |
| CT 116 | 51.2% | 0.0% | 19.2%* | 0.0% | 0.0% | 29.6%* | 0.0% | 34.6%* | 64.4%* |
| Clark County | 86.1% | 2.0% | 0.6% | 4.0% | 0.6% | 2.4% | 4.2% | 7.6% | 29.5%* |
| CT 405.07 | 89.8% | 0.0% | 1.3% | 0.3% | 0.0% | 7.3%* | 1.2% | 10.1% | 40.6%* |
| CT 405.08 | 93.6% | 0.7% | 0.8% | 2.1% | 0.4% | 0.3% | 2.1% | 2.9% | 21.4% |
| CT 405.09 | 93.2% | 0.0% | 0.9% | 0.0% | 0.0% | 0.6% | 5.4% | 8.0% | 48.4%* |
| CT 405.10 | 96.3% | 0.0% | 0.4% | 1.4% | 0.0% | 0.2% | 1.7% | 0.8% | 8.4% |
| CT 406.05 | 93.9% | 1.4% | 0.0% | 2.0% | 0.7%* | 0.0% | 2.1% | 2.6% | 14.0% |
| CT 406.09 | 80.2% | 0.0% | 0.3% | 11.1%* | 0.4% | 3.9% | 4.0% | 5.2% | 2.7% |
| CT 410.05 | 67.8% | 3.3% | 0.8% | 0.0% | 0.0% | 23.9%* | 4.2% | 30.6%* | 60.8%* |
| CT 412.01 | 79.9% | 6.7%* | 0.2% | 4.4% | 0.0% | 2.5% | 6.3%* | 5.4% | 27.0% |
| CT 413.09 | 87.7% | 1.8% | 0.3% | 4.8% | 0.2% | 0.5% | 4.7% | 11.0% | 24.5% |
| CT 413.10 | 84.2% | 3.4% | 1.0% | 5.3% | 0.0% | 2.5% | 3.6% | 6.1% | 14.4% |
| CT 413.25 | 76.0% | 2.4% | 0.3% | 16.7%* | 0.0% | 1.0% | 3.6% | 6.5% | 13.9% |

Table N-9. Race, Ethnic, and Poverty Characteristics for the Rail Corridor

| Location | Race | | | | | | | Hispanic or Latino | Population Below Two Times the Poverty Level |
|---|---|---|---|---|---|---|---|---|---|
| | White | Black or African American | American Indian and Alaska Native | Asian | Hawaiian and Pacific Islander | Other Race | Two or More Races | | |
| CT 414 | 93.4% | 1.1% | 0.8% | 1.9% | 0.2% | 0.0% | 2.5% | 3.9% | 23.7% |
| CT 415 | 95.6% | 0.0% | 0.5% | 1.3% | 0.0% | 0.1% | 2.5% | 3.6% | 39.8%* |
| CT 421 | 80.4% | 2.8% | 0.8% | 3.7% | 0.7%* | 1.2% | 10.4%* | 12.9% | 39.6%* |
| CT 423 | 87.4% | 4.1% | 0.0% | 4.0% | 0.0% | 0.6% | 3.9% | 8.9% | 48.2%* |
| CT 424 | 82.6% | 5.2%* | 1.2% | 1.6% | 0.3% | 0.7% | 8.3%* | 8.6% | 40.8%* |
| CT 425 | 86.3% | 10.6%* | 0.0% | 1.0% | 0.0% | 0.0% | 2.1% | 3.2% | 39.0%* |
| CT 426 | 88.7% | 1.9% | 0.6% | 1.7% | 1.5%* | 2.0% | 3.6% | 4.4% | 50.2%* |
| CT 428 | 94.0% | 2.6% | 0.0% | 1.0% | 0.0% | 1.2% | 1.3% | 6.1% | 29.0% |
| CT 429 | 79.8% | 0.7% | 0.0% | 11.0%* | 0.0% | 0.0% | 8.4%* | 6.2% | 33.7%* |
| CT 430 | 80.0% | 6.3%* | 0.7% | 1.3% | 0.0% | 4.8%* | 6.9%* | 6.6% | 37.9%* |
| CT 431 | 89.4% | 1.0% | 0.4% | 4.1% | 0.0% | 2.5% | 2.7% | 6.1% | 25.2% |
| Franklin County | 58.5% | 1.9% | 0.8% | 2.0% | 0.0% | 33.9%* | 3.0% | 51.0%* | 45.5%* |
| CT 201 | 35.1% | 2.4% | 0.4% | 0.0% | 0.1% | 58.3%* | 3.6% | 83.9%* | 65.7%* |
| CT 202 | 39.5% | 1.0% | 0.0% | 4.1% | 0.0% | 53.4%* | 2.0% | 76.8%* | 77.5%* |
| CT 203 | 44.5% | 1.0% | 0.7% | 1.7% | 0.0% | 51.7%* | 0.3% | 76.5%* | 55.6%* |
| CT 204 | 35.1% | 3.4% | 0.8% | 0.2% | 0.0% | 59.5%* | 0.9% | 76.6%* | 70.3%* |
| CT 206.01 | 87.3% | 0.6% | 0.3% | 3.5% | 0.0% | 7.0%* | 1.3% | 20.7%* | 24.4% |
| CT 207 | 83.6% | 0.0% | 6.7%* | 0.3% | 0.0% | 2.7% | 6.6%* | 9.0% | 32.1%* |
| CT 208 | 50.1% | 2.2% | 1.1% | 2.1% | 0.1% | 43.1%* | 1.3% | 53.1%* | 52.2%* |
| CT 9801 | - | - | - | - | - | - | - | - | - |
| Klickitat County | 91.7% | 0.5% | 2.8%* | 0.7% | 0.3% | 2.3% | 1.8% | 10.8% | 44.7%* |
| CT 9501 | 88.3% | 1.0% | 5.1%* | 0.3% | 0.6% | 2.9% | 1.8% | 9.3% | 52.6%* |

Table N-9. Race, Ethnic, and Poverty Characteristics for the Rail Corridor

| Location | Race | | | | | | | Hispanic or Latino | Population Below Two Times the Poverty Level |
|---|---|---|---|---|---|---|---|---|---|
| | White | Black or African American | American Indian and Alaska Native | Asian | Hawaiian and Pacific Islander | Other Race | Two or More Races | | |
| CT 9502 | 95.3% | 0.2% | 1.1% | 0.5% | 0.0% | 0.4% | 2.4% | 3.3% | 42.6%* |
| CT 9503 | 94.0% | 0.0% | 0.6% | 1.3% | 0.0% | 2.6% | 1.5% | 17.6%* | 35.3%* |
| Lincoln County | 94.1% | 0.3% | 1.7%* | 0.4% | 0.0% | 0.9% | 2.6% | 2.4% | 34.5%* |
| CT 9604 | 91.9% | 0.0% | 1.3% | 0.8% | 0.1% | 1.5% | 4.4% | 3.9% | 37.6%* |
| Skamania County | 92.7% | 0.1% | 2.2%* | 1.0% | 0.4% | 2.0% | 1.6% | 5.2% | 26.6% |
| CT 9502 | 93.7% | 0.1% | 1.5% | 1.1% | 0.8%* | 1.2% | 1.7% | 1.9% | 22.7% |
| CT 9503 | 87.8% | 0.4% | 0.8% | 1.1% | 0.0% | 6.5%* | 3.4% | 8.3% | 32.0%* |
| CT 9504 | 96.6% | 0.0% | 1.2% | 0.5% | 0.0% | 0.5% | 1.1% | 7.2% | 28.0% |
| CT 9505 | 90.3% | 0.0% | 6.0%* | 1.5% | 0.2% | 1.4% | 0.6% | 8.0% | 29.8%* |
| Spokane County | 89.4% | 1.8% | 1.3% | 2.3% | 0.4% | 1.1% | 3.7% | 4.5% | 33.5%* |
| CT 23 | 88.2% | 2.3% | 6.1%* | 0.6% | 0.0% | 1.0% | 1.8% | 3.9% | 64.3%* |
| CT 24 | 82.8% | 4.0% | 5.2%* | 0.9% | 0.0% | 0.7% | 6.3%* | 8.5% | 70.3%* |
| CT 25 | 83.0% | 1.8% | 0.6% | 6.1% | 0.1% | 2.8% | 5.6%* | 7.3% | 64.4%* |
| CT 26 | 77.1% | 5.1%* | 4.7%* | 5.0% | 0.0% | 0.7% | 7.4%* | 12.0% | 66.6%* |
| CT 30 | 69.6% | 11.7%* | 1.7%* | 7.1% | 0.4% | 5.7%* | 3.9% | 12.7% | 74.3%% |
| CT 31 | 83.4% | 3.2% | 0.2% | 5.2% | 0.0% | 0.2% | 7.9%* | 6.1% | 46.6%* |
| CT 32 | 89.8% | 0.3% | 1.3% | 2.9% | 0.0% | 1.6% | 4.1% | 3.3% | 51.4%* |
| CT 35 | 90.2% | 2.9% | 3.9%* | 1.3% | 0.0% | 0.5% | 1.1% | 5.5% | 68.2%* |
| CT 36 | 90.9% | 1.9% | 1.2% | 1.9% | 0.0% | 1.3% | 2.7% | 2.7% | 55.4%* |
| CT 38 | 88.6% | 0.0% | 0.0% | 4.4% | 0.0% | 2.6% | 4.4% | 4.5% | 35.8%* |
| CT 39 | 93.6% | 0.8% | 0.4% | 1.2% | 0.0% | 0.0% | 4.1% | 2.2% | 22.9% |
| CT 40 | 89.5% | 3.4% | 1.7%* | 1.4% | 0.0% | 1.4% | 2.6% | 4.4% | 49.7%* |

Table N-9. Race, Ethnic, and Poverty Characteristics for the Rail Corridor

| Location | Race | | | | | | | Hispanic or Latino | Population Below Two Times the Poverty Level |
|---|---|---|---|---|---|---|---|---|---|
| | White | Black or African American | American Indian and Alaska Native | Asian | Hawaiian and Pacific Islander | Other Race | Two or More Races | | |
| CT 42 | 93.7% | 0.0% | 0.5% | 3.0% | 0.0% | 0.0% | 2.8% | 2.3% | 10.7% |
| CT 43 | 88.2% | 1.0% | 6.5%* | 1.4% | 0.0% | 0.5% | 2.3% | 1.9% | 19.9% |
| CT 101 | 96.3% | 0.0% | 0.0% | 1.0% | 0.0% | 0.0% | 2.8% | 1.7% | 24.8% |
| CT 113 | 90.4% | 0.6% | 0.5% | 4.0% | 0.6% | 0.5% | 3.3% | 3.7% | 18.0% |
| CT 114 | 84.3% | 1.1% | 1.6% | 2.1% | 0.8%* | 4.9%* | 5.2% | 8.0% | 22.9% |
| CT 115 | 91.6% | 0.3% | 0.0% | 0.7% | 1.8%* | 0.0% | 5.6%* | 4.1% | 27.5% |
| CT 116 | 94.4% | 1.3% | 0.7% | 1.9% | 0.0% | 0.0% | 1.8% | 2.5% | 33.9%* |
| CT 117.01 | 90.4% | 0.4% | 0.7% | 4.8% | 0.0% | 0.4% | 3.3% | 0.0% | 36.3%* |
| CT 117.02 | 84.6% | 2.8% | 2.4%* | 0.6% | 0.0% | 1.5% | 8.1%* | 10.2% | 58.7%* |
| CT 120 | 94.5% | 0.5% | 0.4% | 0.6% | 0.0% | 0.0% | 4.0% | 3.2% | 31.0%* |
| CT 121 | 87.8% | 1.2% | 4.6%* | 0.5% | 0.0% | 2.0% | 3.9% | 2.2% | 49.7%* |
| CT 122 | 92.0% | 0.3% | 2.3%* | 2.4% | 0.0% | 1.1% | 1.9% | 3.9% | 47.7%* |
| CT 132.01 | 90.3% | 0.0% | 0.9% | 2.2% | 0.0% | 0.8% | 5.9%* | 1.5% | 26.9% |
| CT 135 | 93.2% | 1.0% | 0.9% | 2.1% | 0.0% | 1.1% | 1.6% | 4.1% | 12.4% |
| CT 136 | 83.6% | 2.1% | 3.6%* | 3.3% | 0.9%* | 3.3% | 3.3% | 6.7% | 34.2%* |
| CT 140.01 | 78.7% | 4.4%* | 0.4% | 5.8% | 1.8%* | 3.6% | 5.3% | 6.5% | 57.5%* |
| CT 140.02 | 91.7% | 1.3% | 2.7%* | 0.9% | 0.0% | 1.2% | 2.2% | 3.8% | 45.0%* |
| CT 141 | 95.7% | 0.4% | 1.5% | 1.5% | 0.0% | 0.2% | 0.7% | 1.7% | 25.3% |
| CT 142 | 97.0% | 0.0% | 0.0% | 0.0% | 0.0% | 1.6% | 1.3% | 1.6% | 18.4% |
| CT 145 | 83.2% | 0.8% | 1.7%* | 0.4% | 0.3% | 4.9%* | 8.8%* | 5.9% | 58.2%* |
| Walla Walla County | 87.1% | 1.7% | 1.0% | 1.3% | 0.3% | 6.0%* | 2.6% | 19.8%* | 38.0%* |
| CT 9200 | 85.3% | 1.0% | 0.5% | 0.5% | 0.0% | 10.0%* | 2.6% | 33.1%* | 32.7%* |

Table N-9. Race, Ethnic, and Poverty Characteristics for the Rail Corridor

| Location | Race | | | | | | | Hispanic or Latino | Population Below Two Times the Poverty Level |
|---|---|---|---|---|---|---|---|---|---|
| | White | Black or African American | American Indian and Alaska Native | Asian | Hawaiian and Pacific Islander | Other Race | Two or More Races | | |
| Oregon | 85.3% | 1.8% | 1.4% | 3.7% | 0.4% | 3.8% | 3.7% | 11.7% | 35.4% |
| Oregon Threshold Criteria[1] | | 2.2% | 1.7% | 4.4% | 0.5% | 4.6% | 4.4% | 14.0% | 35.4% |
| Gilliam County | 93.0% | 0.8% | 0.8% | 0.0% | 0.3% | 3.4% | 1.7% | 6.3% | 33.9% |
| CT 9601 | 93.0% | 0.8% | 0.8% | 0.0% | 0.3% | 3.4% | 1.7% | 6.3% | 33.9% |
| Hood River County | 90.0% | 0.5% | 1.2% | 1.4% | 0.2% | 4.5% | 2.1% | 29.5%* | 33.0% |
| CT 9501 | 85.9% | 1.5% | 0.9% | 0.2% | 0.1% | 6.3%* | 5.2%* | 25.1%* | 35.2% |
| CT 9502 | 95.7% | 0.6% | 0.9% | 2.4% | 0.0% | 0.4% | 0.1% | 14.9%* | 21.1% |
| CT 9503 | 90.3% | 0.0% | 0.1% | 1.1% | 0.3% | 6.1%* | 2.2% | 25.0%* | 33.7% |
| CT 9504 | 85.7% | 0.3% | 3.2%* | 1.4% | 0.5%* | 6.4%* | 2.5% | 54.1%* | 44.8%* |
| Morrow County | 89.7% | 0.1% | 0.5% | 0.6% | 0.1% | 4.6%* | 4.4%* | 31.5%* | 43.2%* |
| CT 9701 | 86.8% | 0.2% | 0.6% | 0.6% | 0.0% | 6.2%* | 5.6%* | 42.9%* | 46.1%* |
| Multnomah County | 78.5% | 5.7%* | 1.0% | 6.6%* | 0.6%* | 3.4% | 4.1% | 10.8% | 35.6%* |
| CT 72.01 | 93.3% | 1.4% | 0.0% | 0.0% | 0.0% | 0.6% | 4.7%* | 2.3% | 37.7%* |
| CT 73 | 67.8% | 15.6%* | 3.3%* | 3.3% | 0.1% | 3.0% | 6.9%* | 11.0% | 51.0%* |
| CT 102 | 79.7% | 3.8%* | 0.5% | 10.0%* | 0.0% | 0.0% | 6.1%* | 14.9%* | 26.8% |
| CT 105 | 88.0% | 0.7% | 1.8%* | 3.0% | 0.2% | 0.4% | 5.9%* | 8.5% | 25.3% |
| Sherman County | 94.6% | 0.1% | 1.3% | 0.1% | 0.0% | 1.0% | 2.9% | 6.0% | 38.7% |
| CT 9501 | 94.6% | 0.1% | 1.3% | 0.1% | 0.0% | 1.0% | 2.9% | 6.0% | 38.7%* |
| Umatilla County | 87.9% | 0.7% | 2.1%* | 0.9% | 0.1% | 3.8% | 4.5%* | 23.7%* | 39.0%* |
| CT 9504 | 87.1% | 1.4% | 1.0% | 2.3% | 0.2% | 0.3% | 7.8%* | 4.2% | 29.5% |
| CT 9508 | 87.7% | 1.0% | 1.1% | 0.5% | 0.4% | 3.9% | 5.4%* | 34.3%* | 33.1% |
| CT 9509 | 90.7% | 1.0% | 0.6% | 1.3% | 0.0% | 1.9% | 4.5%* | 38.4%* | 49.8%* |

Table N-9. Race, Ethnic, and Poverty Characteristics for the Rail Corridor

| Location | Race | | | | | | | Hispanic or Latino | Population Below Two Times the Poverty Level |
|---|---|---|---|---|---|---|---|---|---|
| | White | Black or African American | American Indian and Alaska Native | Asian | Hawaiian and Pacific Islander | Other Race | Two or More Races | | |
| Wasco County | 85.2% | 0.5% | 4.9%* | 1.0% | 0.4% | 6.5%* | 1.6% | 15.1%* | 45.0%* |
| CT 9701 | 87.8% | 0.2% | 2.4%* | 0.3% | 1.3%* | 7.1%* | 0.8% | 16.0%* | 33.3% |
| CT 9702 | 92.2% | 0.0% | 3.1%* | 0.0% | 0.0% | 0.0% | 4.7%* | 6.1% | 52.7%* |
| CT 9704 | 83.6% | 0.5% | 4.2%* | 1.7% | 0.0% | 8.5%* | 1.5% | 23.9%* | 52.7%* |
| CT 9705 | 96.0% | 0.0% | 1.4% | 1.8% | 0.0% | 0.4% | 0.4% | 5.6% | 44.6%* |
| CT 9706 | 92.5% | 1.1% | 1.5% | 1.1% | 0.0% | 3.3% | 0.5% | 13.3% | 34.4% |
| CT 9708 | 74.4% | 0.3% | 19.4%* | 1.0% | 1.1%* | 1.3% | 2.4% | 5.3% | 43.9%* |
| Total (CTs) | 83.3% | 1.5% | 1.5% | 2.3% | 0.2% | 7.8% | 3.4% | 18.0% | 38.5% |

Sources:

US Census Bureau. 2013. Table DP05: ACS Demographic and Housing Estimates 2008–2012 5-Year Estimates. Website (http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml) accessed January 27, 2015.

US Census Bureau. 2013. Table DP03, Select Economic Characteristics 2008–2012 5-Year Estimates. Website (http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml) accessed January 27, 2015.

US Census Bureau. 2013. ACS 2008–2012 5-Year Data, Table C17002: Ratio of Income to Poverty Level in the Past 12 Months. Website (http://www.census.gov/acs/www/data_documentation/summary_file/) accessed March 11, 2015.

Notes:

1 Statewide exceedance criteria percentages are 1.2 times the actual Environmental Justice group population percentages for each state.

2 The low-income exceedance criterion is the state percentage of persons in households with incomes below 2 times the poverty income level. For example, Washington has 1.94 million people in households with incomes lower than 2 times the poverty income levels established by the US Census Bureau. This amount comprises 29.3 percent of the total state population for whom poverty status has been determined (6.61 million people). Therefore, the low-income exceedance criteria for study area CTs located within Washington is 29.3 percent.

* Denotes minority and low-income populations that are meaningfully greater than the corresponding minority or low-income population at the state level in the relevant racial/ethnic or low-income category.

Table N-10. Rail Corridor Full- and Part-Time Employment by Industry, 2013

| | Adams | Benton | Clark | Franklin | Lincoln | Skamania | Spokane | Walla Walla | Gilliam | Hood River | Morrow | Multnomah | Sherman | Umatilla | Wasco |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total employment | 9,400 | 98,400 | 195,000 | 38,300 | 5,000 | 3,200 | 272,900 | 34,700 | 1,690 | 16,200 | 7,100 | 597,800 | 1,800 | 38,600 | 14,200 |
| Farm employment | 1,400 | 4,700 | 2,100 | 4,300 | 800 | 100 | 2,500 | 3,400 | 250 | 1,800 | 1,400 | 1,500 | 300 | 3,000 | 1,300 |
| Nonfarm employment | 7,900 | 93,700 | 192,800 | 34,000 | 4,200 | 3,100 | 270,300 | 31,300 | 1,440 | 14,400 | 5,700 | 596,300 | 1,500 | 35,600 | 12,900 |
| Private nonfarm employment | 6,300 | 80,700 | 167,700 | 27,800 | 2,900 | 2,400 | 231,200 | 25,600 | 1,210 | 13,100 | 4,900 | 524,000 | 1,200 | 28,700 | 10,900 |
| Forestry and fishing | 500 | (D) | (D) | (D) | 100 | (D) | 700 | (D) | (D) | 500 | 900 | (D) | (D) | 1,700 | (D) |
| Mining | 100 | (D) | (D) | (D) | 100 | (D) | 700 | (D) | (D) | 0 | (D) | (D) | 0 | 100 | (D) |
| Utilities | (D) | 200 | (D) | (D) | (D) | 0 | 700 | 130 | (D) | 0 | 200 | 1,400 | (D) | 200 | 0 |
| Construction | 200 | 5,600 | 13,200 | 2,200 | 300 | 100 | 14,000 | 1,300 | 70 | 600 | 200 | 25,500 | (D) | 1,400 | 500 |
| Manufacturing | 1,100 | 4,600 | 12,800 | 3,400 | 100 | 300 | 15,400 | 3,890 | (D) | 1,500 | 1,600 | 36,900 | (D) | 3,300 | 800 |
| Wholesale trade | (D) | 1,400 | 7,400 | 2,000 | 300 | (D) | 10,900 | 700 | (D) | 600 | 100 | 25,300 | 100 | 900 | 200 |
| Retail trade | 800 | 10,900 | 21,300 | 3,500 | 400 | 200 | 31,300 | 3,050 | 110 | 1,600 | 300 | 49,300 | (D) | 4,000 | 2,000 |
| Transportation and warehousing | (D) | 1,300 | (D) | (D) | (D) | (D) | 8,200 | 370 | 130 | 300 | 200 | 23,500 | 200 | 2,900 | 200 |
| Information | 0 | 900 | 3,400 | 200 | 0 | 0 | 3,700 | 450 | 20 | 200 | 100 | 14,200 | 0 | 200 | 200 |
| Finance and insurance | 200 | 3,100 | 8,900 | 700 | 100 | 100 | 16,000 | 1,250 | (D) | 300 | 200 | 29,100 | (D) | 900 | 400 |
| Real estate | 300 | 3,300 | 10,600 | 900 | 100 | 100 | 10,700 | 1,000 | (D) | 600 | 100 | 26,400 | 100 | 1,100 | 400 |
| Professional services | 200 | 11,400 | 13,300 | 900 | 200 | 200 | 15,200 | 1.200 | (D) | 1,200 | (D) | 55,300 | (D) | 1,000 | 400 |
| Management of companies | 0 | 400 | 2,200 | 0 | 0 | 0 | 3,300 | (D) | (D) | (D) | (D) | 16,500 | 0 | 100 | 100 |
| Administrative and waste management | 100 | 10,300 | 10,700 | 1,600 | 100 | 0 | 14,100 | (D) | (D) | (D) | 200 | 28,800 | (D) | 1,800 | 400 |
| Educational services | (D) | 900 | 2,700 | 800 | (D) | (D) | 6,600 | 1,550 | (D) | 200 | 0 | 23,000 | 0 | 100 | 200 |

Table N-10. Rail Corridor Full- and Part-Time Employment by Industry, 2013

| | Adams | Benton | Clark | Franklin | Lincoln | Skamania | Spokane | Walla Walla | Gilliam | Hood River | Morrow | Multnomah | Sherman | Umatilla | Wasco |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Health care and social assistance | (D) | 11,200 | 25,500 | 3,400 | (D) | (D) | 42,300 | 5,050 | 90 | 2,100 | 300 | 69,200 | 0 | 4,200 | 2,400 |
| Arts, entertainment, and recreation | (D) | 2,200 | 4,800 | 500 | 100 | 100 | 5,000 | 610 | (D) | 800 | 0 | 18,900 | (D) | 500 | 300 |
| Accommodation and food services | (D) | 6,500 | 11,700 | 1,900 | 200 | 600 | 18,300 | 1,840 | (D) | 1,600 | 200 | 48,400 | (D) | 2,500 | 1,200 |
| Other services | 300 | 4,500 | 11,500 | 1,900 | 200 | 200 | 14,300 | 1,820 | 60 | 700 | 200 | 30,900 | 0 | 1,700 | 700 |
| Government | 1,600 | 13,000 | 25,200 | 6,300 | 1,300 | 700 | 39,200 | 5,660 | 230 | 1,300 | 800 | 72,400 | 300 | 7,000 | 2,000 |

Source: Bureau of Economic Analysis 2014. Regional Economic Accounts, Total full-time and part-time employment by NAICS industry for 2012. Website (http://www.bea.gov/regional/) accessed January 28, 2015.

Note:
(D) Not shown to avoid disclosure of confidential information, but the estimates for this item are included in the totals.

Table N-11. Underlying Costs of Rail Crossing Delays

| Row ID | Length of Delay | Value/Estimate |
|---|---|---|
| A | Train length (feet)[1] | 7,800 |
| B | Average train speed (mph) | 20 |
| C | Gate downtime prior (sec)[1] | 30 |
| D | Gate downtime post (sec)[1] | 12 |
| E | Crossing time (min) | 3.0 |
| F | Total gate downtime (min) | 5.13 |
| G | Average length of delay (min) | 2.57 |
| Value of Lost Time | | |
| H | Year modeled | 2014 |
| I | Passengers per vehicle | 1 |
| J | Hourly earning car - personal ($/hr)[2] | $23.90 |
| K | Hourly earning car - business ($/hr)[2] | $22.90 |
| L | Hourly earnings truck ($/hr)[2] | $24.70 |
| M | Personal % earnings with economic impact[2] | 50% |
| N | Business % earnings with economic impact[2] | 100% |
| O | Local % business travel vs. total travel[2] | 4.60% |
| P | Weighted value of car time ($/hr) | $12.50 |
| Q | Business value of car time ($/hr) | $22.90 |
| R | Value of truck time ($/hr)[2] | $24.70 |
| S | Cost of car delay time, total ($/min) | $0.21 |
| T | Cost of car delay time, business only ($/min) | $0.38 |
| U | Cost of truck delay time ($/min) | $0.41 |

Source: Adapted from Schatzki, Todd and Bruce Strombom. 2014. Assessment of Vancouver Energy Socioeconomic Impacts: Primary Economic Impacts. July.

1 See Section 3.14 (Transportation) for additional information on train and crossing details.

2 USDOT 2011

For [G], it is assumed vehicles arrive at a crossing at a constant rate, so that each vehicle's wait time will be, on average, half of the total gate downtime waiting.

[E] = (([A]/ (5,280 ft. per mile)) / [B]) * 60 min/h

[F] = [E] + (([C] + [D]) / 60 s/min)

[G] = [F] / 2

[P] = ([J] * [M] * (1 - [O])) + ([K] * [N] * [O])

[Q] = [K] * [N]

[R] = [L]

[S] = [P] / 60

[T] = [Q] / 60

[U] = [R] / 60

Table N-12. Race, Ethnic, and Poverty Characteristics for the Vessel Corridor

| Location | Race | | | | | | | Hispanic or Latino | Population Below Two Times the Poverty Level |
|---|---|---|---|---|---|---|---|---|---|
| | White | Black or African American | American Indian and Alaska Native | Asian | Hawaiian and Pacific Islander | Other Race | Two or More Races | | |
| Washington | 78.7% | 3.5% | 1.4% | 7.2% | 0.6% | 4.0% | 4.6% | 11.2% | 29.3% |
| Washington Threshold Criteria[1] | na | 4.2% | 1.7% | 8.6% | 0.7% | 4.8% | 5.5% | 13.4% | 29.3% |
| Clark County | 86.1% | 2.0% | 0.6% | 4.0% | 0.6% | 2.4% | 4.2% | 7.6% | 29.5%* |
| CT 403.02 | 92.8% | 0.0% | 0.1% | 3.2% | 0.0% | 0.7% | 3.2% | 5.3% | 19.0% |
| CT 410.05 | 67.8% | 3.3% | 0.8% | 0.0% | 0.0% | 23.9%* | 4.2% | 30.6%* | 60.8%* |
| CT 424 | 82.6% | 5.2%* | 1.2% | 1.6% | 0.3% | 0.7% | 8.3%* | 8.6% | 40.8%* |
| Cowlitz County | 90.5% | 0.5% | 1.7%* | 1.3% | 0.2% | 1.6% | 4.2% | 7.7% | 39.6%* |
| CT 3 | 95.0% | 0.0% | 0.5% | 0.0% | 0.0% | 0.0% | 4.5% | 15.5%* | 83.9%* |
| CT 15.02 | 85.5% | 0.2% | 6.4%* | 1.4% | 0.0% | 4.9%* | 1.6% | 21.9%* | 38.6%* |
| CT 16 | 94.2% | 0.1% | 0.5% | 1.7% | 0.9%* | 0.3% | 2.1% | 4.7% | 27.9% |
| CT 17 | 93.5% | 0.0% | 1.2% | 0.2% | 0.0% | 0.1% | 4.9% | 3.5% | 31.9%* |
| CT 19 | 97.8% | 0.3% | 0.4% | 0.5% | 0.0% | 0.0% | 1.1% | 1.8% | 27.3% |
| Pacific County | 87.7% | 0.5% | 1.6% | 2.0% | 0.1% | 4.1% | 4.0% | 8.1% | 39.4%* |
| CT 9504 | 95.8% | 0.4% | 1.6% | 0.0% | 0.2% | 0.9% | 1.1% | 2.9% | 30.7%* |
| CT 9505 | 92.7% | 0.5% | 0.0% | 0.0% | 0.0% | 1.3% | 5.5%* | 5.6% | 42.3%* |
| Wahkiakum County | 94.7% | 0.2% | 0.9% | 0.8% | 0.0% | 0.0% | 3.4% | 3.8% | 28.0% |
| CT 9501 | 94.7% | 0.2% | 0.9% | 0.8% | 0.0% | 0.0% | 3.4% | 3.8% | 28.0% |
| Oregon | 85.3% | 1.8% | 1.4% | 3.7% | 0.4% | 3.8% | 3.7% | 11.7% | 35.4% |
| Oregon Threshold Criteria[1] | | 2.2% | 1.7% | 4.4% | 0.5% | 4.6% | 4.4% | 14.0% | 35.4% |
| Clatsop County | 91.6% | 0.6% | 0.4% | 1.3% | 0.1% | 2.2% | 3.9% | 7.6% | 37.6%* |
| CT 9501 | 81.3% | 0.7% | 0.5% | 4.4%* | 0.0% | 4.4% | 8.8%* | 20.6%* | 36.6%* |
| CT 9502 | 88.6% | 1.0% | 0.3% | 3.0% | 0.0% | 1.6% | 5.4%* | 2.3% | 44.8%* |

Table N-12. Race, Ethnic, and Poverty Characteristics for the Vessel Corridor

| Location | Race | | | | | | | Hispanic or Latino | Population Below Two Times the Poverty Level |
|---|---|---|---|---|---|---|---|---|---|
| | White | Black or African American | American Indian and Alaska Native | Asian | Hawaiian and Pacific Islander | Other Race | Two or More Races | | |
| CT 9503 | 86.2% | 1.8% | 0.4% | 1.4% | 0.3% | 8.0%* | 1.8% | 17.4%* | 50.8%* |
| CT 9504 | 96.3% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 3.4% | 5.6% | 24.4% |
| CT 9505 | 93.8% | 0.8% | 0.5% | 1.7% | 0.6%* | 0.0% | 2.5% | 2.3% | 43.4%* |
| CT 9506 | 94.2% | 0.0% | 0.4% | 0.0% | 0.0% | 0.0% | 5.4%* | 2.6% | 35.0% |
| CT 9512 | 94.6% | 0.0% | 1.1% | 0.0% | 0.0% | 2.2% | 2.1% | 5.4% | 35.2% |
| CT 9900 | - | - | - | - | - | - | - | - | - |
| Columbia County | 93.3% | 0.2% | 1.4% | 0.4% | 0.0% | 2.0% | 2.6% | 6.2% | 30.0% |
| CT 9702 | 95.1% | 0.0% | 2.5%* | 0.3% | 0.0% | 0.5% | 1.7% | 2.1% | 35.0% |
| CT 9703 | 92.6% | 1.7% | 2.5%* | 1.0% | 0.0% | 0.1% | 2.0% | 2.9% | 38.0%* |
| CT 9704 | 93.6% | 0.0% | 3.1%* | 0.0% | 0.7%* | 0.0% | 2.6% | 4.8% | 22.0% |
| CT 9705 | 95.3% | 0.1% | 0.9% | 1.0% | 0.1% | 0.2% | 2.3% | 4.2% | 27.5% |
| CT 9707 | 85.4% | 0.3% | 2.5%* | 0.7% | 0.0% | 8.0%* | 3.2% | 10.0% | 46.6%* |
| CT 9709 | 91.0% | 0.0% | 2.0%* | 2.8% | 0.0% | 0.6% | 3.6% | 6.4% | 32.6% |
| Multnomah County | 78.5% | 5.7%* | 1.0% | 6.6%* | 0.6%* | 3.4% | 4.1% | 10.8% | 35.6%* |
| CT 71 | 94.5% | 0.0% | 0.7% | 0.0% | 0.0% | 0.8% | 3.9% | 6.7% | 17.1% |
| CT 72.01 | 93.3% | 1.4% | 0.0% | 0.0% | 0.0% | 0.6% | 4.7%* | 2.3% | 37.7%* |
| CT 72.02 | 67.7% | 11.0%* | 5.6%* | 9.6%* | 0.4% | 0.6% | 5.1%* | 6.6% | 37.3%* |
| Total (CTs) | 91.0% | 0.8% | 1.6% | 1.3% | 0.1% | 2.0% | 3.2% | 7.2% | 34.3% |

Sources:

US Census Bureau. 2013. Table DP05: ACS Demographic and Housing Estimates 2008–2012 5-Year Estimates. Website (http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml) accessed January 27, 2015.

US Census Bureau. 2013. Table DP03, Select Economic Characteristics 2008–2012 5-Year Estimates. Website (http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml) accessed January 27, 2015.

US Census Bureau. 2013. ACS 2008–2012 5-Year Data, Table C17002: Ratio of Income to Poverty Level in the Past 12 Months. Website (http://www.census.gov/acs/www/data_documentation/summary_file/) accessed March 11, 2015.

Notes:

1 Statewide exceedance criteria percentages for minority populations are 1.2 times the actual Environmental Justice group population percentages for each state.

2 The low-income exceedance criterion is the state percentage of persons in households with incomes below 2 times the poverty income level. For example, Washington has 1.94 million people in households with incomes lower than 2 times the poverty income levels established by the US Census Bureau. This amount comprises 29.3 percent of the total state population for whom poverty status has been determined (6.61 million people). Therefore, the low-income exceedance criteria for study area CTs located within Washington is 29.3 percent.

* Denotes minority and low-income populations that are meaningfully greater than the corresponding minority or low-income population at the state level in the relevant racial/ethnic or low-income category.

Table N-13. Vessel Corridor Full- and Part-Time Employment by Industry, 2013

| | Clark | Cowlitz | Pacific | Wahkiakum | Clatsop | Columbia | Multnomah |
|---|---|---|---|---|---|---|---|
| Total employment | 195,000 | 45,200 | 9,700 | 1,730 | 23,700 | 15,700 | 597,800 |
| Wage and salary employment | 144,600 | 38,200 | 6,700 | 790 | 17,800 | 10,400 | 479,800 |
| Proprietors employment | 50,400 | 7,000 | 3,000 | 940 | 5,900 | 5,300 | 118,100 |
| Farm employment | 2,100 | 600 | 500 | 120 | 300 | 900 | 1,500 |
| Nonfarm employment | 192,800 | 44,600 | 9,200 | 1,610 | 23,400 | 14,800 | 596,300 |
| Private nonfarm employment | 167,700 | 38,700 | 7,300 | 1,350 | 20,300 | 12,800 | 524,000 |
| Forestry, fishing, and related activities | (D) | 1,100 | (D) | 270 | (D) | 400 | (D) |
| Mining | (D) | 200 | (D) | 30 | (D) | 200 | (D) |
| Utilities | (D) | 100 | (D) | 0 | 0 | 100 | 1,400 |
| Construction | 13,200 | 2,800 | 500 | 90 | 1,200 | 800 | 25,500 |
| Manufacturing | 12,800 | 6,500 | 900 | 180 | 2,400 | 1,600 | 36,900 |
| Wholesale trade | 7,400 | 1,500 | 100 | (D) | 300 | 200 | 25,300 |
| Retail trade | 21,300 | 5,300 | 900 | (D) | 3,100 | 1,900 | 49,300 |
| Transportation and warehousing | (D) | 1,700 | (D) | (D) | 400 | 600 | 23,500 |
| Information | 3,400 | 400 | 100 | 40 | 200 | 100 | 14,200 |
| Finance and insurance | 8,900 | 1,400 | 300 | 80 | 500 | 600 | 29,100 |
| Real estate and rental and leasing | 10,600 | 1,300 | 500 | 70 | 1,100 | 800 | 26,400 |
| Professional, scientific, and technical services | 13,300 | 1,400 | 300 | 70 | (D) | (D) | 55,300 |
| Management of companies and enterprises | 2,200 | 100 | (D) | 0 | (D) | (D) | 16,500 |
| Administrative and waste management services | 10,700 | 1,600 | (D) | 60 | 800 | 600 | 28,800 |
| Educational services | 2,700 | 500 | (D) | (D) | 100 | 200 | 23,000 |

Table N-13. Vessel Corridor Full- and Part-Time Employment by Industry, 2013

| | Clark | Cowlitz | Pacific | Wahkiakum | Clatsop | Columbia | Multnomah |
|---|---|---|---|---|---|---|---|
| Health care and social assistance | 25,500 | 6,300 | (D) | (D) | 2,600 | 1,500 | 69,200 |
| Arts, entertainment, and recreation | 4,800 | 800 | 200 | 30 | 600 | (D) | 18,900 |
| Accommodation and food services | 11,700 | 3,000 | 900 | 70 | 4,000 | (D) | 48,400 |
| Other services, except public administration | 11,500 | 2,800 | 600 | (D) | 1,200 | 1,100 | 30,900 |
| Government and government enterprises | 25,200 | 5,900 | 1,900 | 270 | 3,100 | 1,900 | 72,400 |

Source:

Bureau of Economic Analysis 2014. Regional Economic Accounts, Total full-time and part-time employment by NAICS industry for 2012. Website (http://www.bea.gov/regional/) accessed January 28, 2015.

Note:

(D) Not shown to avoid disclosure of confidential information, but the estimates for this item are included in the totals.

Table N-14. Economic Impact of Proposed Facility Construction on Study Area

| Impact Type | Employment (full-time) | Income (millions) |
|---|---|---|
| Direct | 320 | $31.4 |
| Indirect & Induced | 1,109 | $55.4 |
| Total | 1,429 | $86.8 |

Source:

Schatzki, Todd and Bruce Strombom. 2014. Assessment of Vancouver Energy Socioeconomic Impacts: Primary Economic Impacts. July.

Note: Labor income is reported in nominal dollars. Employment estimates reflect job-years and are representative of full-time employment.

Table N-15. Economic Impact of Proposed Facility Operations on Study Area

| Impact Type | Employment | | Income | |
|---|---|---|---|---|
| | Startup (2016) | Full Buildout (2017–2030) | Startup (2016) | Full Buildout (2017–2030) |
| Direct | 302 | 616 | $33.5 | $67 -$88 |
| Indirect & Induced | 217 | 465 | $10.6 | $23 - $30 |
| Total | 519 | 1,081 | $44.1 | $90 - $118 |

Source:

Schatzki, Todd and Bruce Strombom. 2014. Assessment of Vancouver Energy Socioeconomic Impacts: Primary Economic Impacts. July.

Note:

Labor income is reported in nominal dollars. Employment estimates reflect job-years and are representative of full-time employment.

Table N-16. Portland-Vancouver MSA and Project Occupational Employment, 2014

| Description | Project Employment[1] | Standard Occupational Classification Code & Description[2] | Regional Employment (2014)[2] | Project-Related Percent Increase |
|---|---|---|---|---|
| Construction (Phase I) | | | | |
| Steel erecting | 32 | 47-2221: Structural Iron & Steel Workers | 262 | 12.2% |
| Laborers | 63 | 47-2061: Construction Laborers | 5,128 | 1.2% |
| Mechanical & piping | 65 | 17-2141: Mechanical Engineers | 2,227 | 2.9% |
| Equipment operators | 29 | 47-2073: Operating Engineers & Construction Equipment Ops | 2,073 | 1.4% |
| Tank erectors | 50 | 51-2041: Structural Metal Fabricators & Fitters | 819 | 6.1% |
| Electrical | 45 | 47-2111: Electricians | 5,375 | 0.8% |
| Concrete | 45 | 47-2051: Cement Masons & Concrete Finishers | 1,120 | 4.0% |
| Ground improvements/pilling | 32 | 17-2051: Civil Engineers and 17-3022: Civil Engineering Technicians | 4,233 | 0.8% |
| Dock seismic upgrades | 30 | 17-2051: Civil Engineers and 17-3022: Civil Engineering Technicians | 4,233 | 0.7% |

Table N-16. Portland-Vancouver MSA and Project Occupational Employment, 2014

| Description | Project Employment[1] | Standard Occupational Classification Code & Description[2] | Regional Employment (2014)[2] | Project-Related Percent Increase |
|---|---|---|---|---|
| Fire system installation | 16 | 49-2098: Security & Fire Alarm Systems Installers | 783 | 2.0% |
| Permitting and engineering support | 35 | 19-2041: Environmental Scientists & Specialists | 749 | 4.7% |
| Operations (onsite full buildout) | | | | |
| Marine (dock, vessel securement, etc.) | 19 | 53-1021: Transportation Helper/Labor & Material Mover and Supervisors | 1,203 | 1.6% |
| Rail (engineers, switchmen, inspectors, etc.) | 40 | 53-4031: Railroad Conductors, Yardmasters and 53-6051: Transportation Inspectors & 49-3043: Rail Car Repairers | 431 | 9.3% |
| Transload (transloaders, tank farm, trainers, etc.) | 79 | 53-7121: Tank Car, Truck & Ship Loaders<br>53-1031: Transportation & Material Moving Vehicle Operator Supervisors | 1,702 | 4.6% |
| Safety health environment & maintenance (mechanics, maintenance, EHS, etc.) | 13 | 29-9011: Occupational Health & Safety Specialists | 521 | 2.5% |
| Office/management | 25 | 43-1011: Office & Administrative Support Worker Supervisors | 11,477 | 0.2% |

Sources:

[1] Schatzki, Todd and Bruce Strombom. 2014. Assessment of Vancouver Energy Socioeconomic Impacts: Primary Economic Impacts. July.

[2] Washington State Employment Security Department. 2014. Occupational employment wage estimates-2014. September. Website (https://fortress.wa.gov/esd/employmentdata/docs/occupational-reports/occupational-employment-wage-estimates-2014.pdf) accessed April 9, 2015.

Note:

The Portland–Vancouver, OR-WA MSA includes Clark, Multnomah, Skamania, Columbia, Washington, Yamhill, and Clackamas counties. Therefore, the data presented do not represent all employment by occupation with respect to the 10-county Proposed Action study area.

Table N-17. Summary of Proposed Action Tax Impacts

| Tax Classification | Construction (Phase I and II) | Annual Operations (Startup) | Annual Operations (Full Buildout) |
|---|---|---|---|
| Sales tax | $17,640,000 | $1,498,000 | $3,225,000 |
| B&O tax | $989,000 | $0[1] | $0[1] |
| Property tax (Facility) | $0 | $2,318,000 | $2,318,000 |
| Property tax (Nonfacility) | $2,573,000 | $752,000 | $1,638,000 |
| Income tax (Oregon)[2] | $334,400 | $86,500 | $332,900 |
| Other taxes | $947,000 | $314,000 | $682,000 |
| Total | $22,483,531 | $4,968,154 | $8,196,943 |

Sources: Unless noted, Schatzki, Todd and Bruce Strombom. 2014. Assessment of Vancouver Energy Socioeconomic Impacts: Primary Economic Impacts. July.

1 Washington Research Council. 2010. B&O Tax Pyramiding in Petroleum Distribution. January 18. Website (https://researchcouncil.files.wordpress.com/2013/08/botaxpyramidinginpetrodist.pdf) accessed February 13, 2015.

2 Port of Vancouver 2011. The Local and Regional Economic Impacts of the Vancouver Harbor. Prepared by Martin Associates. August 10. Website (http://www.portvanusa.com/assets/POVMARINEIMPACTS2010.pdf) accessed April 1, 2015.

Table N-18. Oregon State Income Tax Estimates

| | Direct Onsite Full-time Employees[1] | Direct Onsite Workers[1] | Direct Onsite Oregon Resident Workers[2] | Average Income per Direct Worker | Oregon Income Tax Liability (Per Person )[3] | Oregon State Income Tax Revenue |
|---|---|---|---|---|---|---|
| Construction | | | | | | |
| Phase I | 149 | 298 | 58.4 | $52,700 | $4,600 | $268,900 |
| Phase II | 50 | 100 | 19.6 | $54,400 | $4,800 | $93,200 |
| Total | 199 | 398 | 78.0 | | | $362,100 |
| Operations | | | | | | |
| 2016 | 91 | 91 | 17.8 | $55,500 | $4,900 | $86,500 |
| 2017 | 176 | 176 | 34.5 | $108,800 | $9,600 | $332,900 |
| 2030 | 176 | 176 | 34.5 | $142,900 | $12,900 | $444,200 |

Sources:

1 Schatzki, Todd and Bruce Strombom. 2014. Assessment of Vancouver Energy Socioeconomic Impacts: Primary Economic Impacts. July.

2 Adapted from: Port of Vancouver. 2011. The Local and Regional Economic Impacts of the Vancouver Harbor. Prepared by Martin Associates. August 10. Website (http://www.portvanusa.com/assets/POVMARINEIMPACTS2010.pdf) accessed April 1, 2015.

3 ORS § 316.037

Note:

Phase I Facility construction would result in 298 on-site positions, although it is assumed that only 50 percent would be employed at any given time. Consequently, on-site employment levels would be comparable to 149 full-time on-site positions. Similarly, Phase II is expected to result in 100 on-site workers, which would be comparable to 50 full-time employees (see Appendix M).

Average income per direct worker was based on information provided in Table 2-2, Table 2-3 and Table 2-5 (Proposed Action and Alternatives) and Appendix M, Table 4. For example, as provided in Appendix M, Table 4 it is estimated that Phase I direct construction employees will earn $23.3 million of labor income, while it is estimated that there are a total of 442 workers (407 workers and 35 permitting/engineering employees) directly employed during Phase 1. This translates to an average income of $52,000 for each direct worker employed during Phase 1.

Table N-19. Estimates of Percent Change in Single-Family Residential Property Values from Assumed Incremental Project Traffic (Four Trains per Day) Based on Futch (2011)

| Distance from Corridor | Baseline | With Additional Explanatory Variables | Pre-"Market Crash" Sales Only | Average |
|---|---|---|---|---|
| 0 - 1/3 mile | -0.85% | -0.93% | -1.49% | -1.09% |
| 1/3 - 2/3 mile | -0.69% | -0.59% | -0.62% | -0.63% |
| 2/3 - 1 mile | -0.37% | -0.34% | -0.67% | -0.46% |

Source: Schatzki, Todd and Bruce Strombom. 2014. Assessment of Vancouver Energy Socioeconomic Impacts: Primary Economic Impacts. July. Based on Futch, Michael. 2011. Examining the Spatial Distribution of Externalities: Freight Rail Track and Home Values in Los Angeles. November 11. Website (http://www.coaltrainfacts.org/docs/Freight-Rail-Traffic-and-Home-Values-in-LA.pdf) accessed February 13, 2015

Table N-20. Estimates of Percent Change in Single-Family Residential Property Values from Assumed Incremental Project Traffic (Four Trains per Day) Based on Simons and El Jaouhari (2004)

| Distance from Rail Line | Property Size | | |
|---|---|---|---|
| | Small | Medium | Large |
| Estimated Impact per Freight Trip ($ per trip) | | | |
| Less than 250 feet | -194 | -262 | -264 |
| 250 to 500 feet | -85 | -107 | -4 |
| 500 to 750 feet | -94 | -72 | -1 |
| Percent Change in Property Value per Train/Day | | | |
| Less than 250 feet | -0.21% | -0.27% | -0.19% |
| 250 to 500 feet | -0.09% | -0.11% | 0.00% |
| 500 to 750 feet | -0.10% | -0.07% | 0.00% |
| Mean Sale Price | 91,007 | 97,851 | 138,510 |
| Percent Change in Property Values from Terminal (4 trains/Day) | | | |
| Less than 250 feet | -0.85% | -1.07% | -0.76% |
| 250 to 500 feet | -0.37% | -0.44% | -0.01% |
| 500 to 750 feet | -0.41% | -0.29% | 0.00% |

Source:

Schatzki, Todd and Bruce Strombom. 2014. Assessment of Vancouver Energy Socioeconomic Impacts: Primary Economic Impacts. July, based on Simons, R.A., and A. El Jaouhari, 2004. *The Appraisal Journal.* Website (http://www.rasimons.com/documents/articles/the-effect-of-freight-railroad-tracks-and-train-activity.pdf) accessed February 13, 2015.

Table N-21. Estimated Delay Costs Associated with Increased Rail Traffic, 2014 Dollars

| Crossing | Intersection Characteristics | | | Volume per Delay | | Annual Costs | |
|---|---|---|---|---|---|---|---|
| | Additional Trains | Average Annual Daily Traffic | Percent Truck | Cars | Trucks | All Vehicles | Business Travel |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 077826D | 4 | 100 | 4% | 0.3 | 0.0 | $214 | $33 |
| 090072Y | 4 | 342 | 1% | 1.2 | 0.0 | $712 | $72 |
| 933743C | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 925736W | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 925735P | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 925734H | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 925733B | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 925732U | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 925730F | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 925729L | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 925728E | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 925727X | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 910082W | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 101415M | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 101390U | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 101378M | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 092280G | 4 | 4,400 | 5% | 14.9 | 0.8 | $9,505 | $1,603 |
| 092276S | 4 | 1,000 | 5% | 3.4 | 0.2 | $2,160 | $364 |
| 090186L | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090185E | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090184X | 4 | 20 | 17% | 0.1 | 0.0 | $48 | $17 |
| 090183R | 4 | 50 | 7% | 0.2 | 0.0 | $110 | $22 |
| 090179B | 4 | 5 | 12% | 0.0 | 0.0 | $11 | $3 |
| 090178U | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090175Y | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090171W | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090171W | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090169V | 4 | 330 | 12% | 1.0 | 0.1 | $758 | $209 |
| 090168N | 4 | 850 | 12% | 2.7 | 0.4 | $1,953 | $539 |
| 090164L | 4 | 80 | 60% | 0.1 | 0.2 | $259 | $199 |
| 090162X | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090161R | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090159P | 4 | 70 | 5% | 0.2 | 0.0 | $151 | $26 |

Table N-21. Estimated Delay Costs Associated with Increased Rail Traffic, 2014 Dollars

| Crossing | Intersection Characteristics | | | Volume per Delay | | Annual Costs | |
|---|---|---|---|---|---|---|---|
| | Additional Trains | Average Annual Daily Traffic | Percent Truck | Cars | Trucks | All Vehicles | Business Travel |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 090158H | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090155M | 4 | 50 | 4% | 0.2 | 0.0 | $107 | $16 |
| 090154F | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090153Y | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090151K | 4 | 10 | 1% | 0.0 | 0.0 | $21 | $2 |
| 090148C | 4 | 500 | 12% | 1.6 | 0.2 | $1,149 | $317 |
| 090147V | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090147V | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090145G | 4 | 25 | 12% | 0.1 | 0.0 | $57 | $16 |
| 090139D | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090136H | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090135B | 4 | 100 | 12% | 0.3 | 0.0 | $230 | $63 |
| 090134U | 4 | 100 | 12% | 0.3 | 0.0 | $230 | $63 |
| 090133M | 4 | 50 | 0% | 0.2 | 0.0 | $103 | $9 |
| 090131Y | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090130S | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090129X | 4 | 10 | 12% | 0.0 | 0.0 | $23 | $6 |
| 090127J | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090126C | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090121T | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090120L | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090117D | 4 | 12,629 | 8% | 41.4 | 3.6 | $28,025 | $6,061 |
| 090115P | 4 | 726 | 6% | 2.4 | 0.2 | $1,583 | $292 |
| 090114H | 4 | 1,200 | 7% | 4.0 | 0.3 | $2,639 | $530 |
| 090112U | 4 | 4,262 | 7% | 14.1 | 1.1 | $9,374 | $1,881 |
| 090110F | 4 | 2,651 | 7% | 8.8 | 0.7 | $5,831 | $1,170 |
| 090108E | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090106R | 4 | 1,954 | 10% | 6.3 | 0.7 | $4,413 | $1,088 |
| 090102N | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090100A | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090099H | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090098B | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090097U | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |

Table N-21. Estimated Delay Costs Associated with Increased Rail Traffic, 2014 Dollars

| Crossing | Intersection Characteristics | | | Volume per Delay | | Annual Costs | |
|---|---|---|---|---|---|---|---|
| | Additional Trains | Average Annual Daily Traffic | Percent Truck | Cars | Trucks | All Vehicles | Business Travel |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 090096M | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090095F | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090094Y | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090093S | 4 | 300 | 1% | 1.1 | 0.0 | $624 | $63 |
| 090092K | 4 | 300 | 1% | 1.1 | 0.0 | $624 | $63 |
| 090091D | 4 | 33 | 0% | 0.1 | 0.0 | $68 | $6 |
| 090090W | 4 | 1,250 | 1% | 4.4 | 0.0 | $2,602 | $263 |
| 090089C | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090088V | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090087N | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090086G | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090085A | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090084T | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090083L | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090081X | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090081X | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090080R | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090079W | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090078P | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090076B | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090074M | 4 | 106 | 5% | 0.4 | 0.0 | $229 | $39 |
| 090069R | 4 | 5 | 17% | 0.0 | 0.0 | $12 | $4 |
| 090067C | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090062T | 4 | 10 | 9% | 0.0 | 0.0 | $22 | $5 |
| 090061L | 4 | 35 | 9% | 0.1 | 0.0 | $78 | $18 |
| 090060E | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090058D | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090057W | 4 | 5 | 17% | 0.0 | 0.0 | $12 | $4 |
| 090056P | 4 | 10 | 17% | 0.0 | 0.0 | $24 | $8 |
| 090054B | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090052M | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 090051F | 4 | 10 | 17% | 0.0 | 0.0 | $24 | $8 |
| 090040T | 4 | 1,943 | 19% | 5.6 | 1.3 | $4,731 | $1,756 |

Table N-21. Estimated Delay Costs Associated with Increased Rail Traffic, 2014 Dollars

| Crossing | Intersection Characteristics | | | Volume per Delay | | Annual Costs | |
|---|---|---|---|---|---|---|---|
| | Additional Trains | Average Annual Daily Traffic | Percent Truck | Cars | Trucks | All Vehicles | Business Travel |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 090039Y | 4 | 73 | 17% | 0.2 | 0.0 | $175 | $60 |
| 090038S | 4 | 1,515 | 17% | 4.5 | 0.9 | $3,630 | $1,253 |
| 090037K | 4 | 350 | 17% | 1.0 | 0.2 | $839 | $289 |
| 090036D | 4 | 440 | 17% | 1.3 | 0.3 | $1,054 | $364 |
| 090035W | 4 | 487 | 19% | 1.4 | 0.3 | $1,186 | $440 |
| 090034P | 4 | 100 | 17% | 0.3 | 0.1 | $240 | $83 |
| 090031U | 4 | 1,735 | 17% | 5.1 | 1.1 | $4,157 | $1,435 |
| AG-4 | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| AG-25 | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| AG-29 | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| AG-34 | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| AG-41 | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| AG-44 | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| AG-47 | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| AG-57 | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| AG-52 | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| AG-64 | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| AG-67 | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| AG-69 | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| AG-72 | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 095938A | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 928233N | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 925800T | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 925799B | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 925801A | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 933597Y | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 101351D | 4 | 200 | 3% | 0.7 | 0.0 | $424 | $57 |
| 089707D | 4 | 3,500 | 12% | 11.0 | 1.5 | $8,042 | $2,219 |
| 089702U | 4 | 350 | 15% | 1.1 | 0.2 | $825 | $262 |
| 089700F | 4 | 260 | 15% | 0.8 | 0.1 | $613 | $195 |
| 089699N | 4 | 220 | 15% | 0.7 | 0.1 | $518 | $165 |
| 089697A | 4 | 230 | 15% | 0.7 | 0.1 | $542 | $172 |
| 089696T | 4 | 25 | 15% | 0.1 | 0.0 | $59 | $19 |

Table N-21. Estimated Delay Costs Associated with Increased Rail Traffic, 2014 Dollars

| Crossing | Intersection Characteristics | | | Volume per Delay | | Annual Costs | |
|---|---|---|---|---|---|---|---|
| | Additional Trains | Average Annual Daily Traffic | Percent Truck | Cars | Trucks | All Vehicles | Business Travel |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 089695L | 4 | 320 | 30% | 0.8 | 0.3 | $848 | $425 |
| 089694E | 4 | 33 | 30% | 0.1 | 0.0 | $87 | $44 |
| 089687U | 4 | 660 | 26% | 1.7 | 0.6 | $1,698 | $775 |
| 089686M | 4 | 385 | 26% | 1.0 | 0.4 | $990 | $452 |
| 089683S | 4 | 50 | 16% | 0.1 | 0.0 | $119 | $39 |
| 089682K | 4 | 36 | 16% | 0.1 | 0.0 | $86 | $28 |
| 089680W | 4 | 120 | 14% | 0.4 | 0.1 | $280 | $85 |
| 089679C | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 089677N | 4 | 60 | 14% | 0.2 | 0.0 | $140 | $43 |
| 089676G | 4 | 170 | 14% | 0.5 | 0.1 | $397 | $121 |
| 089673L | 4 | 344 | 19% | 1.0 | 0.2 | $838 | $311 |
| 089672E | 4 | 300 | 19% | 0.9 | 0.2 | $731 | $271 |
| 089670R | 4 | 190 | 14% | 0.6 | 0.1 | $444 | $135 |
| 089670R | 4 | 190 | 14% | 0.6 | 0.1 | $444 | $135 |
| 089667H | 4 | 25 | 20% | 0.1 | 0.0 | $61 | $24 |
| 089665U | 4 | 76 | 20% | 0.2 | 0.1 | $187 | $72 |
| 089663F | 4 | 70 | 20% | 0.2 | 0.0 | $172 | $66 |
| 089660K | 4 | 700 | 12% | 2.2 | 0.3 | $1,608 | $444 |
| 089659R | 4 | 1,900 | 12% | 6.0 | 0.8 | $4,365 | $1,205 |
| 089658J | 4 | 1,200 | 12% | 3.8 | 0.5 | $2,757 | $761 |
| 089657C | 4 | 300 | 12% | 0.9 | 0.1 | $689 | $190 |
| 089656V | 4 | 165 | 15% | 0.5 | 0.1 | $389 | $124 |
| 089655N | 4 | 16 | 15% | 0.0 | 0.0 | $38 | $12 |
| 089654G | 4 | 30 | 0% | 0.1 | 0.0 | $62 | $5 |
| 089653A | 4 | 25 | 15% | 0.1 | 0.0 | $59 | $19 |
| 089652T | 4 | 30 | 15% | 0.1 | 0.0 | $71 | $22 |
| 089651L | 4 | 300 | 15% | 0.9 | 0.2 | $707 | $225 |
| 089650E | 4 | 35 | 15% | 0.1 | 0.0 | $82 | $26 |
| 089647W | 4 | 30 | 15% | 0.1 | 0.0 | $71 | $22 |
| 089646P | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 089645H | 4 | 211 | 16% | 0.6 | 0.1 | $501 | $166 |
| 089644B | 4 | 120 | 14% | 0.4 | 0.1 | $280 | $85 |
| 089642M | 4 | 130 | 14% | 0.4 | 0.1 | $304 | $92 |

Table N-21. Estimated Delay Costs Associated with Increased Rail Traffic, 2014 Dollars

| Crossing | Intersection Characteristics | | | Volume per Delay | | Annual Costs | |
|---|---|---|---|---|---|---|---|
| | Additional Trains | Average Annual Daily Traffic | Percent Truck | Cars | Trucks | All Vehicles | Business Travel |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 089640Y | 4 | 150 | 14% | 0.5 | 0.1 | $351 | $107 |
| 089638X | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 089636J | 4 | 136 | 16% | 0.4 | 0.1 | $323 | $107 |
| 089635C | 4 | 25 | 16% | 0.1 | 0.0 | $59 | $20 |
| 089633N | 4 | 25 | 16% | 0.1 | 0.0 | $59 | $20 |
| 089632G | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 089630T | 4 | 25 | 5% | 0.1 | 0.0 | $54 | $9 |
| 089629Y | 4 | 0 | 0% | 0.0 | 0.0 | $0 | $0 |
| 089628S | 4 | 24 | 5% | 0.1 | 0.0 | $52 | $9 |
| 089627K | 4 | 71 | 5% | 0.2 | 0.0 | $153 | $26 |
| 089625W | 4 | 159 | 5% | 0.5 | 0.0 | $343 | $58 |
| 089624P | 4 | 255 | 5% | 0.9 | 0.0 | $551 | $93 |
| 089545D | 4 | 50 | 14% | 0.2 | 0.0 | $117 | $36 |
| 089541B | 4 | 2,250 | 14% | 6.9 | 1.1 | $5,258 | $1,600 |
| 097206U | 4 | 330 | 14% | 1.0 | 0.2 | $771 | $235 |
| 066378S | 4 | 6,682 | 9% | 21.7 | 2.1 | $14,959 | $3,465 |
| 066377K | 4 | 6,682 | 9% | 21.7 | 2.1 | $14,959 | $3,465 |
| 066376D | 4 | 2,185 | 9% | 7.1 | 0.7 | $4,892 | $1,133 |
| 066375W | 4 | 2,185 | 9% | 7.1 | 0.7 | $4,892 | $1,133 |
| 066372B | 4 | 2,662 | 9% | 8.6 | 0.9 | $5,959 | $1,380 |
| 066371U | 4 | 2,662 | 9% | 8.6 | 0.9 | $5,959 | $1,380 |
| 066367E | 4 | 11,000 | 7% | 36.4 | 2.7 | $24,194 | $4,856 |
| 066315M | 4 | 480 | 5% | 1.6 | 0.1 | $1,037 | $175 |
| 066247N | 4 | 1,258 | 9% | 4.1 | 0.4 | $2,816 | $652 |
| 066245A | 4 | 362 | 9% | 1.2 | 0.1 | $810 | $188 |
| 066244T | 4 | 1,258 | 9% | 4.1 | 0.4 | $2,816 | $652 |
| 066240R | 4 | 540 | 9% | 1.8 | 0.2 | $1,209 | $280 |
| 066239W | 4 | 127 | 9% | 0.4 | 0.0 | $284 | $66 |
| 066236B | 4 | 201 | 9% | 0.7 | 0.1 | $450 | $104 |
| 065971T | 4 | 670 | 5% | 2.3 | 0.1 | $1,447 | $244 |
| 065970L | 4 | 2,300 | 5% | 7.8 | 0.4 | $4,968 | $838 |
| 065969S | 4 | 90 | 11% | 0.3 | 0.0 | $205 | $54 |
| 065968K | 4 | 37 | 11% | 0.1 | 0.0 | $84 | $22 |

Table N-21. Estimated Delay Costs Associated with Increased Rail Traffic, 2014 Dollars

| Crossing | Intersection Characteristics | | | Volume per Delay | | Annual Costs | |
|---|---|---|---|---|---|---|---|
| | Additional Trains | Average Annual Daily Traffic | Percent Truck | Cars | Trucks | All Vehicles | Business Travel |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 065966W | 4 | 45 | 11% | 0.1 | 0.0 | $103 | $27 |
| AG-81 | 4 | | | | | $0 | $0 |
| Total | | | | | | $220,662 | $52,711 |

Sources: Adapted from Schatzki, Todd and Bruce Strombom. 2014. Assessment of the Socioeconomic Impacts of the Vancouver Energy Distribution Project: Secondary Impacts. September.

US Department of Transportation. 2011. Revised Departmental Guidance on Valuation of Travel Time in Economic Analysis. September 28. Website (http://www.dot.gov/sites/dot.dev/files/docs/vot_guidance_092811c.pdf) accessed February 5, 2015.

Federal Railroad Administration, Office of Safety Analysis. 2015. Crossing History. Website (http://safetydata.fra.dot.gov/officeofsafety/publicsite/downloaddbf.aspx?itemno=7.02) accessed February 5, 2015.

Notes: See Section 3.14, Transportation and Table N-11 for additional train and crossing details.

[2] & [3] = Sourced from Federal Railroad Administration, Office of Safety Analysis. 2015. Crossing History. Website (http://safetydata.fra.dot.gov/officeofsafety/publicsite/downloaddbf.aspx?itemno=7.02) accessed February 5, 2015.

[4] = ([2] * (([F])/(24hr * 60 min))) * (1 - [3])

[5] = ([2] * (([F])/(24hr * 60 min))) * [3]

[6] = (1.016^ ([H] - 2011)) * ((([4] * [S]) + ([5] * [U])) * [G]) * [I] * [1] * 365 days

[7] = (1.016^ ([I] - 2011))*((([4] * [T] * [O])+([5] * [U]))* [G]) * [I] * [1] * 365 days