

# Northeast Recycling and Transfer Station Project

Socioeconomic Impact Assessment Report

February 2024

King County Department of Natural Resources and Parks,  
Solid Waste Division

## Northeast Recycling and Transfer Station Project

Project No: 1033498 (SWD), D3379200 (Jacobs)  
Document Title: Socioeconomic Impact Assessment Report  
Document No.: 231107083346\_32fe5a8d  
Revision: Final  
Date: February 2024  
Client Name: King County Department of Natural Resources and Parks,  
Solid Waste Division  
Project Manager: Melissa Wu/Jacobs Engineering Group Inc.  
Author: Fatuma Yusuf/Jacobs Engineering Group Inc.

Jacobs Engineering Group Inc.

1200 112th Avenue Northeast  
Suite 500  
Bellevue, Washington 98004  
United States  
T +1.425.453.5000  
www.jacobs.com

### Document History and Status

Revision	Date	Description	By	Review	Approved
0	11/5/23	Socioeconomic Impact Assessment Report - DRAFT	FY	EG	MW
1	2/26/24	Socioeconomic Impact Assessment Report – FINAL	FY	EG	MW

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## Acronyms and Abbreviations

BEA	U.S. Bureau of Economic Analysis
BLS	U.S. Bureau of Labor Statistics
EIS	Environmental Impact Statement
FIRE	finance and insurance, and real estate, rental, and leasing
FTE	full-time equivalent
GDP	gross domestic product
HHW	household hazardous waste
IMPLAN	IMpact Analysis for PLANning
NERTS	Northeast Recycling and Transfer Station
O&M	operations and maintenance
OFM	Washington State Office of Financial Management
SWD	King County Department of Natural Resources and Parks, Solid Waste Division
USCB	U.S. Census Bureau

# 1. Introduction

The King County Department of Natural Resources and Parks, Solid Waste Division (SWD), is proposing to site, design, and build a modern transfer station in northeastern King County to meet the region's growing demand for environmentally responsible waste management services. The new station will replace the aging Houghton Transfer Station in Kirkland, which has been in service since the mid-1960s and is unable to offer the space and functionality to provide the recycling services customers increasingly need and want.

This Socioeconomic Impact Assessment Report addresses impacts on the social and economic resources associated with the proposed action alternatives compared to the No Action alternative. This assessment describes the social and economic impacts in King County, Washington for the new Northeast Recycling and Transfer Station (NERTS) and evaluates potential impacts that may result from the construction and operation of a new transfer station (Alternative 1 in Kirkland, Washington and Alternative 2 in Woodinville, Washington) (Figure 1-1). This assessment will inform the decision between the action and No Action alternatives.

## 1.1 No Action Alternative

The existing Houghton Transfer Station is located at 11724 NE 60th Street in Kirkland on parcel 1759701890 (Figure 1-1). Under the No Action alternative, SWD would not site a new station in northeast King County. SWD would continue to operate the existing Houghton Transfer Station. If a new transfer station is not built, the existing transfer station would continue to offer recycling services for as long as it operates; however, services would not be modernized or expanded to accommodate a growing population and industry changes. The facility would not be enclosed to control noise and odors. Waste would continue to not be compacted, which affects the number of transit trucks and trailers that use the Houghton Transfer Station, and there would not be space for waste storage in the event of a major regional disaster.

The existing site is 8.4 acres. Access to the site is from NE 60th Street. The site is bordered to the north and northeast by athletic fields and to the south by Bridle Trails State Park. Single-family homes are to the west and the east.

The Houghton Transfer Station was built to codes before King County established sustainability goals for building development. It does not include green building and sustainable design features that are part of the action alternatives.

No permitting is anticipated to be required for the No Action alternative.

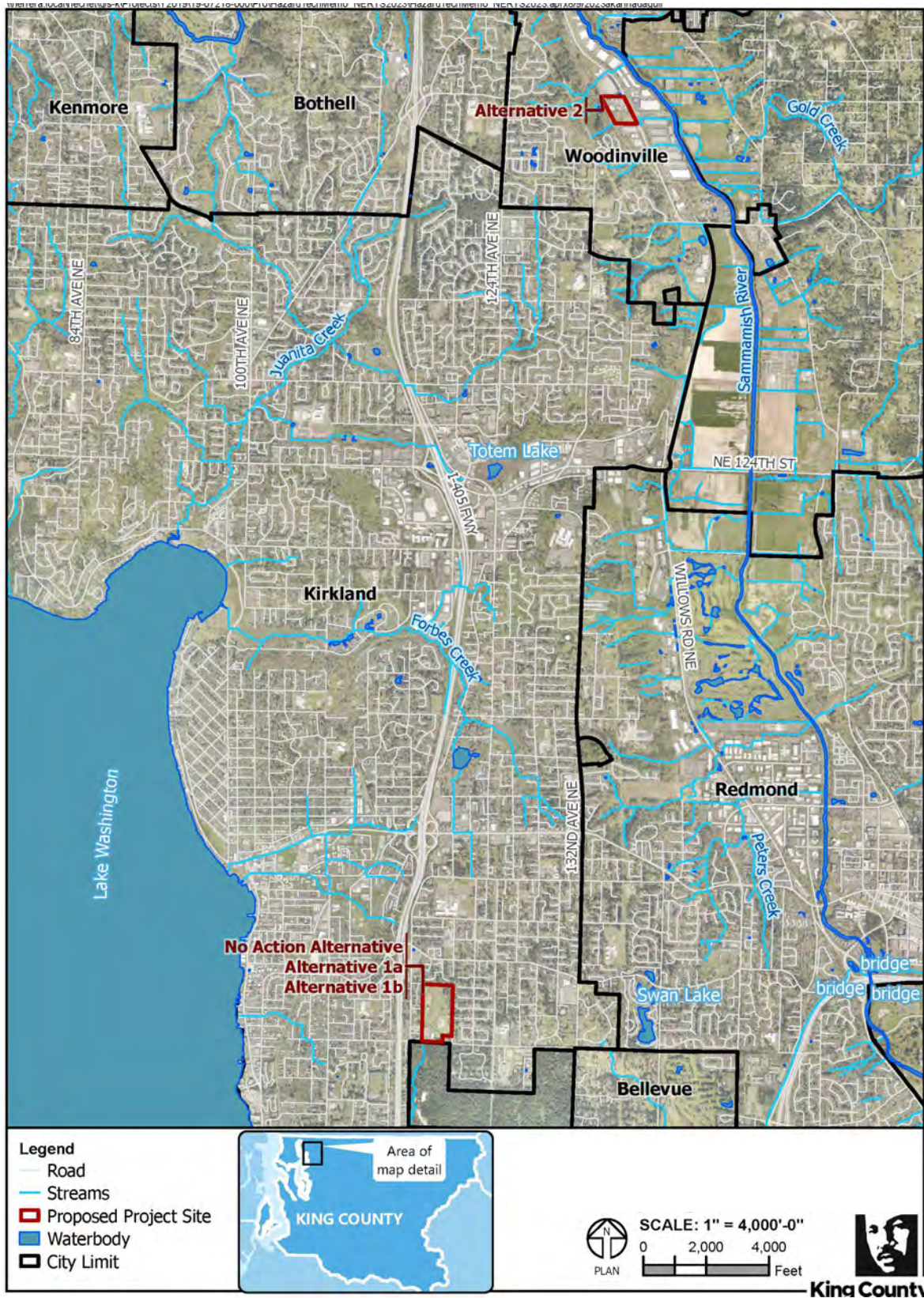


Figure 1-1. Vicinity Map of the Northeast Recycling and Transfer Station Project Alternatives

## 1.2 Alternative 1 – Kirkland

The site for Alternative 1 is located at 11724 NE 60th Street in Kirkland. Alternative 1 has two options:

- Alternative 1A – a facility constructed after the existing transfer station building is closed and demolished.
- Alternative 1B – a facility constructed while the existing transfer station building is open and operating, and then closed and repurposed or replaced after the new station is open.

Alternative 1A includes removal of the existing transfer station building prior to construction of the new station and inclusion of a to-be-determined facility to house future private recycling or reuse operations or service providers. The proposed potential site development area for Alternative 1A is about 10 acres. Full recycling services would be provided with Alternative 1A. Alternative 1A does not provide for a hazardous household waste (HHW) collection facility.

Alternative 1B retains the existing transfer station building during construction of the new station, and then closes and repurposes or replaces it after the new station is open. While a future use has not been determined, the repurposed or rebuilt facility could house future private recycling or reuse operations or service providers. Alternative 1B does not provide for a hazardous household waste (HHW) collection facility. The proposed potential site development area for Alternative 1B is about 12.75 acres. Full recycling services would be provided with Alternative 1B.

Access to the site is from NE 60<sup>th</sup> Street. The area for the development is zoned P, Park/Open Space. The area to the north of the existing transfer station is currently used for recreation and is the site of a closed landfill that is owned and maintained by King County.

The site is bordered to the east, and west by single-family homes and to the south by Bridle Trails State Park. The area north of the existing transfer station, where much of the development would take place, is zoned P – Park/Open Space.

The permitting for Alternatives 1A and 1B is anticipated to include, but not be limited to, a Conditional Use Permit, City of Kirkland permits, and a Public Health Seattle and King County Transfer Station Operating Permit. Figure 1-1 shows the location of both Alternatives 1A and 1B.

## 1.3 Alternative 2 – Woodinville

The site for Alternative 2 – Woodinville is located at 15801 Woodinville-Redmond Road NE in Woodinville on parcels 1526059086, 5711600010, 5711600020, 5711600030, 1526059094, and 1526059095 (Figure 1-1).

The proposed site is 12.9 acres, with an area available for development of about 8 to 10.9 acres. Access to the Woodinville site is from Woodinville-Redmond Road. The site is currently used for commercial uses including construction, portable toilet rental, manufacturing, and automotive businesses, which would be relocated. A portion of the site is vacant and undeveloped and includes a wetland.

Alternative 2 offers service for collection of household hazardous waste, which would be stored in specialized containers on-site. Household hazardous waste includes hazardous waste generated by households and small businesses. Where the division currently provides HHW service, the following materials are accepted: pesticides, glues and adhesives, antifreeze, aerosols, automotive products, fuels, rechargeable batteries, button batteries, pool and spa chemicals, oil-based paints, hobby chemicals, mercury devices, thinners and solvents, fluorescent bulbs, toxic cleaning products, fuel cylinders (under 5 gallons), lithium batteries, and alkaline batteries. Individual loads are limited to 50 gallons and containers greater than 5 gallons are generally not accepted.



The site is bordered to the north, south, and east by commercial and light industrial uses. To the west is a sloped greenspace, an abandoned rail line, and residential properties. The site is zoned Industrial with Tourist District overlay.

Permitting anticipated to be required for this alternative includes, but is not limited to, a new wetland delineation, a Critical Areas Report, a wetland mitigation plan, a Conditional Use Permit, City of Woodinville permits, and a Transfer Station Operating Permit from Public Health-Seattle & King County.

## 2. Socioeconomic Study Area

The socioeconomic study area, as defined in this report, comprises King County, Washington. The rationale for choosing King County instead of the individual cities of Kirkland and Woodinville as the study area is because most economic data is typically available at the county level, and while economic analysis can be done at the subcounty level, the results from such analysis would typically not be as reliable as those obtained from a larger geographic area such as a county. In addition, it is reasonable to assume that resources (labor or materials) required during the construction and operation of the action alternatives would be sourced from somewhere within King County and not specifically from either city.

The socioeconomic characteristics of interest in this report are population, labor force (employment and unemployment), and income (median household income, per capita income, poverty rates). In addition to these socioeconomic characteristics, this report includes employment and income/earnings by industry. All data presented in this report are for King County. Data for the state of Washington and the U.S. are included, where appropriate, for comparison purposes.

Data from the U.S. Census Bureau (USCB) were used to describe historical and current trends in populations, median household incomes, and poverty rates within the study area. Data from the Washington State Office of Financial Management (OFM) were used to characterize the current population estimates for the state and the county. Data from the U.S. Bureau of Labor Statistics (BLS) were used to describe the historical and current trends in labor force characteristics of the study area, and data from the U.S. Bureau of Economic Analysis (BEA) were used to characterize the historical and current trends in per capita income, employment by industry, and earnings by industry in the study area.

Although the population and median household income data used to characterize the socioeconomic environment start in 2000, the employment by industry and income by industry data presented in this chapter start in 2001. This is due to changes in the standard used by federal statistical agencies in classifying business establishments. In 2001, the standard was switched from the Standard Industrial Classification system to the North American Industrial Classification Systems. By using the 2001 instead of the 2000, employment by industry and income by industry data, meaningful comparison with other years can be made. However, for the purposes of characterizing the population and median household incomes, using the U.S. Census data was deemed to be more appropriate.

## 3. Methodology and Approach

The socioeconomic impact analysis of the proposed action alternatives includes modeling of economic impacts of construction and operations as well as community impacts.

### 3.1 Economic Impact Analysis

Regional economics is the study of the economy of a small region. Regional economic impacts result from changes in the economy of the region. The magnitude of the economic impacts is determined by the interactions between linkages within the local and regional economy and the leakages<sup>1</sup> from the regional to the larger economy. Economic linkages are the relationships between industries, businesses, factors of production (labor, capital, etc.), and government created by trade and other exchange, such as taxes, within and among regions. Economic linkages create multiplier effects in a regional economy as money is circulated by trade. The magnitudes of impacts resulting from economic linkages are limited by the amount of leakage that occurs within the region. Economic leakages are a measure of the income shares spent outside of the region. Thus, the more the economic leakage, the less the multiplier effect. Economic leakages are generally higher the smaller the regional economy. For example, the economic leakages for a county are larger than those for the state which are larger than those for the nation. For the analysis presented in this report, the local and regional economy is King County, Washington, while the larger economy is the rest of the state and/or the nation.

Several regional economic analysis modeling systems (consisting of data, as well as analytical software) are available for use in regional economic analysis—for example, REMI (Regional Economic Models Inc.), RIMS II (Regional Industrial Multiplier System II), and IMPLAN (IMpact Analysis for PLANning). This analysis used IMPLAN, a computer database and modeling system used to create input-output models for any U.S. county or combination of U.S. counties.

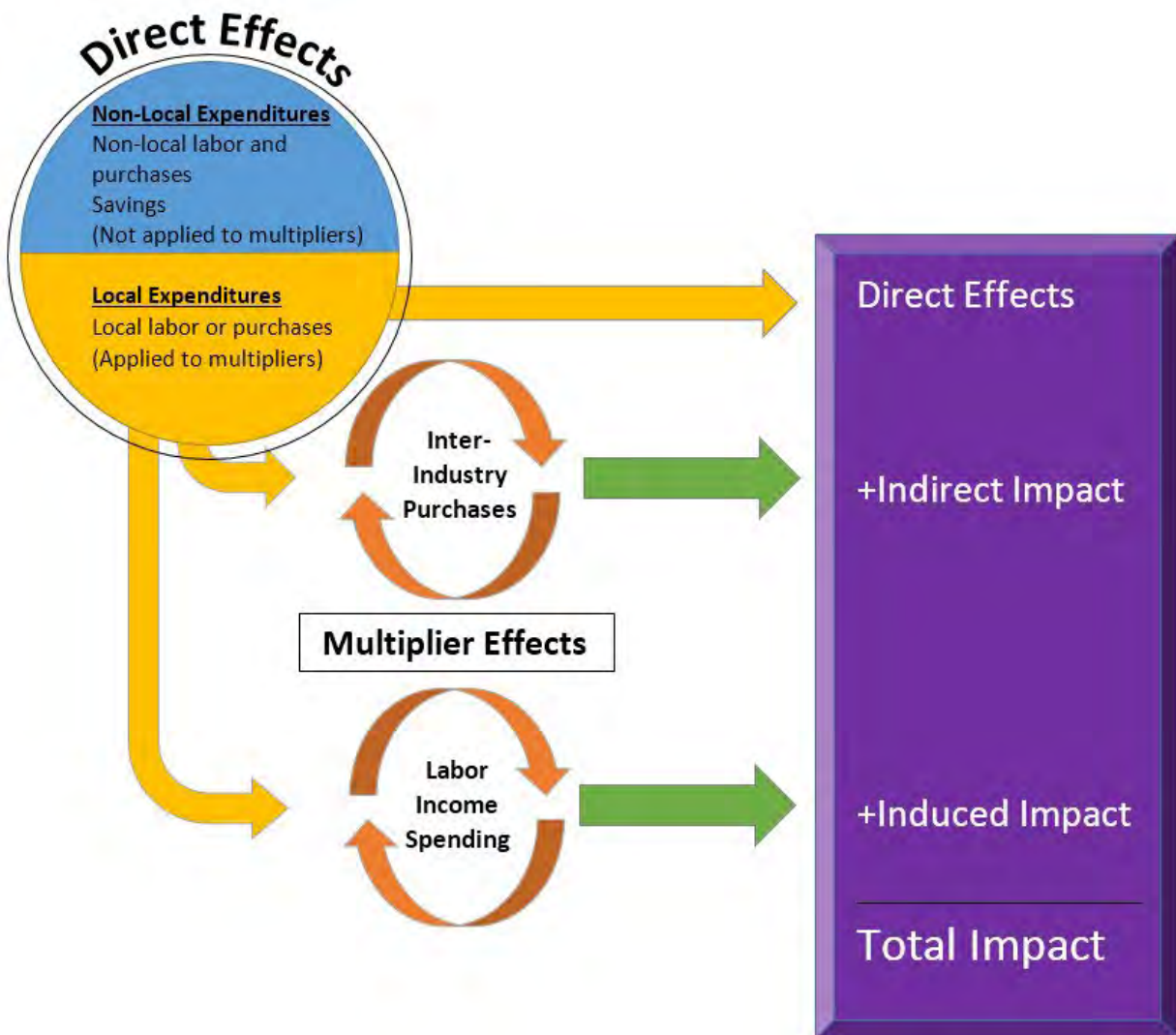
The IMPLAN model is the most widely used input-output impact model system in the U.S. It is much more than a set of multipliers; it provides users with the ability to define industries, economic relationships, and projects to be analyzed. It can be customized for any county, region, or state, and used to assess the “ripple effects” or “multiplier effects” caused by increasing or decreasing spending in various parts of the economy. This is used primarily to assess the economic impacts of facilities or industries, or changes in their level of activity in a given area.

IMPLAN is a static model that estimates impacts for a snapshot in time when the impacts are expected to occur, based on the makeup of the economy at the time of the underlying IMPLAN data. IMPLAN measures the initial impact to the economy but does not consider long-term adjustments as labor and capital move into alternative uses. This approach was used to compare the NERTS project alternatives. Realistically, the structure of the economy will adapt and change; therefore, the IMPLAN results can only be used to compare relative changes between the specific alternative and the No Action alternative and cannot be used to predict or forecast future employment, labor income, or output (sales).

Input-output models measure commodity flows from producers to intermediate and final consumers. Purchases for final use (final demand) drive the model. Industries produce goods and services for final demand and purchase goods and services from other producers. These other producers, in turn, purchase goods and services. This buying of goods and services (indirect purchases) continues until leakages from the analysis area (imports and value added) stop the cycle. These indirect and induced effects (the effects of household spending) can be mathematically derived using a set of multipliers. The multipliers describe the change in output for each regional industry caused by a \$1 change in final demand. Figure 3-1 illustrates the concept of input-output modeling.

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<sup>1</sup> Economic leakage refers to spending being diverted away from a local economy, e.g., when local businesses or consumers choose to make purchases from outside of the community.



**Figure 3-1. Input-Output Modeling Concept**

The IMPLAN model package includes state-level or county-level data to describe the local economy in a given year and an online platform that allows users to input more refined and/or accurate input data reflecting the regional economy.

The economic impacts associated with the construction and operational phase of the NERTS were evaluated using the IMPLAN model of King County. The model uses 2021 IMPLAN data to estimate the secondary (indirect and induced) regional employment and income; this was the most current available at the time of this analysis and represents the economy in King County in 2021.

### 3.2 Community Impact Evaluation

The community impact evaluation presented in this report is based on the analysis conducted in support of the NERTS Environmental Impact Statement (EIS) (King County, 2024), which covers several disciplines, including noise, hazardous materials, transportation, cultural resources, water resources, and public services and utilities. These resource analyses are presented in the EIS. The County also

conducted an Equity Impact Review for the project to gain a fuller understanding of the potential project benefits and impacts to the communities, and the region as a whole. Both the Socioeconomic Impact Assessment and the Equity Impact Review are not required under the SEPA process and thus will not be included in the EIS, nor will it be issued for formal public comment.

## 4. Existing Socioeconomic Conditions

### 4.1 Population

The OFM provides annual estimates of the population of cities and communities within the state of Washington. The April 1, 2023 population estimates for King County and the state of Washington are shown in Table 4-1. The table also shows the 2023 population estimate for the U.S. as well as the decennial 2000, 2010 and 2020 population estimate for the county and the state. The population in King County grew at a higher rate (1.6 percent) between 2010 and 2020 than in the previous decade (1.1 percent) and in the most recent 3 years (1.1 percent).

**Table 4-1. Population**

Area	2000	2010	2020	2023	Average Annual Growth Rate (%)		
					2000-2010	2010-2020	2020-2023
King County	1,737,034	1,931,249	2,269,675	2,347,800	1.1	1.6	1.1
Washington State	5,894,121	6,724,540	7,705,281	7,951,150	1.3	1.4	1.1
United States	281,421,906	308,745,538	331,449,281	334,233,854	0.9	0.7	0.3

Source: USCB 2000, USCB 2010; USCB 2020; USCB 2023a; OFM 2023.

Table 4-2 shows the distribution of the 2020 census population by race and ethnicity in King County, the state of Washington, and the United States. The population identifying as White constituted about 54 percent and 64 percent in King County and the state of Washington, respectively. Hispanics or Latinos accounted for about 11 percent, and 14 percent in King County and Washington state, respectively. Asians accounted for most non-Hispanic minorities, representing about 20 percent of King County's population and about 9 percent of the state's population, and about 6 percent of the country's population.

**Table 4-2. Race and Ethnicity, 2020**

Area	Total Population	Percent of Total							
		White <sup>a</sup>	Hispanic or Latino	Black <sup>a</sup>	American Indian and Alaska Native <sup>a</sup>	Asian alone <sup>a</sup>	Native Hawaiian and Other Pacific Islander alone <sup>a</sup>	Some Other Race <sup>a,b</sup>	Two or More Races <sup>a</sup>
King County	2,269,675	54.2%	10.7%	6.5%	0.5%	19.8%	0.9%	0.6%	6.8%
Washington State	7,705,281	63.8%	13.7%	3.8%	1.2%	9.4%	0.8%	0.6%	6.6%
United States	331,449,281	57.8%	18.7%	12.1%	0.7%	5.9%	0.2%	0.5%	4.1%

Source: USCB 2020

<sup>a</sup> Non-Hispanic only. The federal government considers race and Hispanic/Latino origin to be two separate and distinct concepts. People identifying as Hispanic or Latino origin may be of any race. The data summarized in this table present Hispanic/Latino as a separate category.

<sup>b</sup> The "Other" category presented here includes census respondents identifying as: Black or African American; Asian; Native Hawaiian and Other Pacific Islander; or Some Other Race.

### 4.2 Employment

Two estimates of employment are typically used to describe employment in an area: total civilian labor force and employment by industry. Civilian labor force data reflect the employment status of individuals by "place of

residence” and include people who are self-employed, employees on unpaid leave of absence, unpaid family workers, and household workers. Employment by industry data reflect jobs by “place of work” and exclude the self-employed, unpaid family workers, employees on leave of absence, and household workers. Individuals with more than one job are counted only once in the civilian labor force data, and they are counted in each job in the employment by industry data.

**4.2.1 Civilian Labor Force**

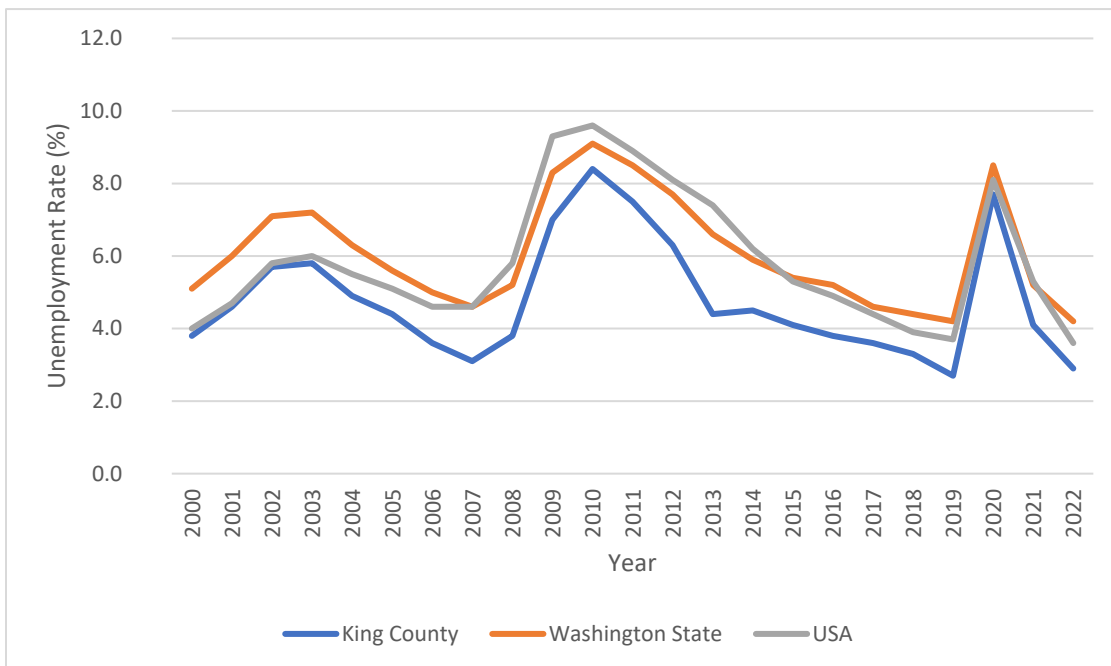
Table 4-3 shows the civilian labor force characteristics for King County, the state of Washington, and the United States for select years. Between 2000 and 2010, the average unemployment rate more than doubled in both King County and the nation while increasing by about 40 percent at the state level.

**Table 4-3. Historical Labor Force Characteristics in King County, State of Washington, and U.S. - 2000, 2010, 2020, and 2022**

Area	Civilian Labor Force				Unemployment Rate (%)			
	2000	2010	2020	2022	2000	2010	2020	2022
King County	993,205	1,097,736	1,284,350	1,319,911	3.8	8.4	7.7	2.9
State of Washington	3,087,680	3,458,451	3,936,084	3,990,343	5.1	9.1	8.5	4.2
United States	142,583,000	153,889,000	163,539,000	263,973,000	4.0	9.6	3.7	3.6

Source: BLS 2023a; 2023b

Trends in annual unemployment rate for the King County, the state of Washington, and the nation are shown in Figure 4-1. The annual unemployment rate peaked in 2010, at the height of the Great Recession before declining continuously for the next nine years, i.e., through 2019 (Federal Reserve Bank, 2013). The unemployment rate peaked again in 2020 following the COVID-19 global pandemic before starting to decline again in 2021 and 2022. King County’s unemployment rates have been lower than those at the state and national levels during the period shown in Table 4-3 and Figure 4-1.



**Figure 4-1. Average Annual Unemployment Rate, 2000-2022**

#### 4.2.2 Employment by Industry

Table 4-4 presents the annual full- and part-time employment by industry in King County for 2001, 2010, and 2021. The services, retail trade, FIRE<sup>2</sup> and government sectors accounted for about 70 percent, 74 percent, and 72 percent of the total industry employment in King County, respectively, in each of the years shown in the table (BEA 2023b). Employment in the local government sector accounted for about 6 percent of total industry employment and slightly more than half of all government sector jobs in each of these years. In terms of average annual growth rates, most sectors have seen growth while others have lost jobs (e.g., mining, quarrying, oil and gas extraction, and manufacturing). Between 2010 and 2021, the transportation, warehousing and utilities sector experienced the highest growth rate (5.7 percent) followed by the information sector (4.9 percent), the retail sector (4.1 percent) and the construction sector (3.6 percent). The remaining sectors either saw a decline or growth rates of less than 2 percent.

**Table 4-4. Full- and Part-time Employment Numbers by Industry, King County, WA – 2001, 2010, and 2021**

Industry Sector	2001	2010	2021	Average Annual Growth Rates (%)	
				2001-2010	2010-2021
Agriculture <sup>a</sup>	6,148	5,513	5,559	-1.2%	0.1%
Mining, Quarrying, and Oil and Gas Extraction	1,411	1,916	1,375	3.5%	-3.0%
Construction	77,827	64,463	94,777	-2.1%	3.6%
Manufacturing	136,368	102,152	93,896	-3.2%	-0.8%
Wholesale Trade	70,859	64,537	64,202	-1.0%	0.0%
Retail Trade	139,833	124,841	194,120	-1.3%	4.1%
Transportation, Warehousing, and Utilities	57,415	51,677	95,256	-1.2%	5.7%
Information	76,818	84,200	142,328	1.0%	4.9%
FIRE <sup>b</sup>	130,420	144,704	175,308	1.2%	1.8%
Services	552,958	620,552	746,757	1.3%	1.7%
Government	164,616	177,276	189,432	0.8%	0.6%
Federal Government	28,447	29,493	26,140	0.4%	-1.1%
Federal Civilian	20,839	21,979	19,697	0.6%	-1.0%
Military	7,608	7,514	6,443	-0.1%	-1.4%
State Government	51,092	58,307	62,572	1.5%	0.6%
Local Government	85,077	89,476	100,720	0.6%	1.1%
<b>Total Industry Employment</b>	<b>1,414,673</b>	<b>1,441,831</b>	<b>1,803,010</b>	<b>0.2%</b>	<b>2.1%</b>

Source: BEA 2023b

<sup>a</sup> Includes earnings in forestry, fishing, and related activities.

<sup>b</sup> FIRE is a combination of two sectors: (1) finance and insurance and (2) real estate, rental, and leasing.

<sup>2</sup> FIRE is a combination of two sectors: (1) finance, insurance and (2) real estate, rental, and leasing.



### 4.3 Income

Three measures of income are presented in this report. These three measures, which are discussed separately in the following subsections, are median household income, per capita income, and income by industry. Poverty rates are also included in this discussion.

#### 4.3.1 Median Household Income

Table 4-5 shows the real median household incomes (in 2022 dollars for King County, the state, and the country). Between 2000 and 2010, real median household incomes grew in both King County (at about 0.4 percent) and the state (at about 0.1 percent) while stagnating nationally. Real median household incomes grew at a faster average annual rate between 2010 and 2021 with King County experiencing median household income growth rates that were about 1.5 times that at the state level and more than three times the national average.

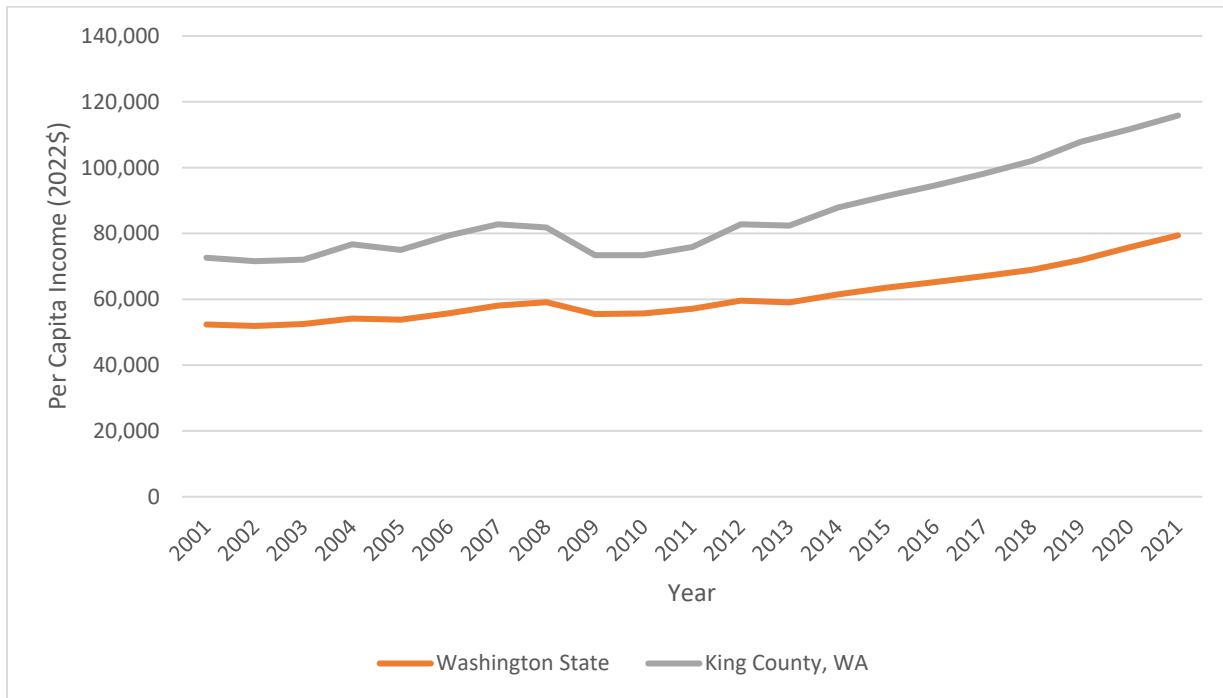
**Table 4-5. Real Median Household Incomes in King County, State of Washington and the U.S. – 2000, 2010, and 2021 (in 2022 dollars)**

Area	2000	2010	2021	Average Annual Growth Rate (%)	
				2000-2010	2010-2021
King County	\$86,234	\$89,587	\$113,812	0.4%	2.2%
State of Washington	\$74,260	\$75,344	\$88,202	0.1%	1.4%
United States	\$68,125	\$68,329	\$73,881	0.0%	0.7%

Source: USCB 2000; USCB 2023b; USCB 2023c; BEA 2023a

#### 4.3.2 Per Capita Income

Figure 4-2 shows the real per capita income (in 2022 dollars for King County and Washington). During the period shown in the figure, real per capita income King County was higher than the state by about 30 percent on average annually.



**Figure 4-2. Real Per Capita Income, King County and State of Washington – 2001 - 2021 (in 2022 dollars)**

Source: BEA 2023a; 2023c, 2023d

### 4.3.3 Poverty Rates

Poverty rates<sup>3</sup> in 2021 for King County, the state, and nation are summarized in Table 4-6. King County had a lower poverty rate than both the state and nation.

**Table 4-6. Poverty Rates in King County, State of Washington, and the U.S. in 2021**

Area	Total Population for Whom Poverty Status is Determined	Population Below Poverty Level	Percent Below Poverty
King County	2,210,498	186,252	8.4%
Washington State	7,478,757	746,904	10.0%
United States	321,897,703	40,661,636	12.6%

Source: USCB 2023d

<sup>3</sup> Poverty statistics in American Community Survey (ACS) products adhere to the standards specified by the Office of Management and Budget in Statistical Policy Directive 14. The Census Bureau uses a set of dollar value thresholds that vary by family size and composition to determine who is in poverty. To determine a person's poverty status, one compares the person's total family income in the last 12 months with the poverty threshold appropriate for that person's family size and composition. The person is considered "below the poverty level," together with every member of his or her family. If a person is not living with anyone related by birth, marriage, or adoption, then the person's own income is compared with his or her poverty threshold. The total number of people below the poverty level is the sum of people in families and the number of unrelated individuals with incomes in the last 12 months below the poverty threshold. (USCB 2023e).

#### 4.3.4 Earnings by Industry

Real annual earnings (in 2022 dollars by industry for King County in 2001, 2010, and 2021) are presented in Table 4-7. The services, information, manufacturing, government, and financial services (FIRE) sectors accounted for about 77 percent, 78 percent, and 76 percent of the real total industry earnings in King County, respectively in each of the years shown in the table (BEA 2023c). Earnings in the local government sector accounted for about 6 percent of real total industry earnings and slightly more than half of all government sector earnings in each of the years shown in the table. Similar and corresponding to the trends observed for employment by industry (Table 4-4), some sectors have seen growth while others have lost earnings (e.g., agriculture; mining, quarrying, and oil & gas extraction; manufacturing). The mining, quarrying, and oil and gas extraction sector and the federal sector experienced negative earnings growth between 2010 and 2021. Between 2010 and 2021, the information sector experienced the highest growth rate (12.1 percent) in real earnings followed by the retail trade sector (11.6 percent), the financial (FIRE) sector (7.6 percent), the construction sector (6.7 percent). By comparison, the services sector, which accounted for about one-third of all industry earnings, had a lower growth rate (4.2 percent) between 2010 and 2021. The remaining sectors either saw an annual decline--almost 20 percent in the case of the mining, quarrying, and oil and gas extraction sector-- or growth rates of between 2 percent and 3 percent.

**Table 4-7. Real Earnings by Industry, King County, WA (thousands in 2022\$)**

Industry Sector	2001	2010	2021	Average Annual Growth Rate (%)	
				2001-2010	2010-2021
Agriculture <sup>a</sup>	266,540	537,344	422,013	8.1%	-2.2%
Mining, Quarrying, and Oil and Gas Extraction	70,414	418,218	36,967	21.9%	-19.8%
Construction	7,090,831	5,350,619	10,877,750	-3.1%	6.7%
Manufacturing	14,486,271	12,293,174	11,724,737	-1.8%	-0.4%
Wholesale Trade	7,716,740	7,336,792	9,249,887	-0.6%	2.1%
Retail Trade	7,489,948	7,941,364	26,429,713	0.7%	11.6%
Transportation, Warehousing, and Utilities	5,552,657	5,361,085	7,856,105	-0.4%	3.5%
Information	17,436,363	13,581,506	47,889,675	-2.7%	12.1%
FIRE <sup>b</sup>	12,109,562	7,022,945	15,706,184	-5.9%	7.6%
Services	36,759,622	46,684,070	73,407,279	2.7%	4.2%
Government	13,433,644	17,498,586	22,301,431	3.0%	2.2%
Federal Government	2,658,609	3,463,879	3,362,407	3.0%	-0.3%
Federal Civilian	2,409,221	2,969,035	2,986,604	2.3%	0.1%
Military	249,389	494,844	375,802	7.9%	-2.5%
State Government	3,796,438	5,105,541	6,478,408	3.3%	2.2%
Local Government	6,978,596	8,929,166	12,460,616	2.8%	3.1%
<b>Total Industry Earnings</b>	<b>122,412,592</b>	<b>124,025,702</b>	<b>225,901,740</b>	<b>0.1%</b>	<b>5.6%</b>

Source: BEA 2023a, 2023c.

<sup>a</sup> Includes earnings in forestry, fishing, and related activities.

<sup>b</sup> FIRE is a combination of two sectors: (1) finance and insurance and (2) real estate, rental, and leasing.

## 5. Economic Impacts of NERTS

This section presents the regional economic impacts of construction and operations of the NERTS using the IMPLAN model and the 2021 IMPLAN data for King County.

### 5.1 Assumptions and Cost Inputs

Construction and operation of the NERTS project would generate a range of short-term and longer-term economic effects during the construction and operation phases, respectively. Because the IMPLAN model is an annual model that evaluates the regional economic effects of changes in local expenditures, it was necessary to identify which of the project's costs were spent on King County sourced material and labor inputs.

Table 5-1 presents the total rough order of magnitude estimates of projects costs in 2023 dollars for each of the three action alternatives. Because the accuracy of the results depends on the accuracy of the inputs, the cost estimates are considered preliminary and could change as the engineering design is developed and refined.

**Table 5-1. Total Project Costs (2023\$)**

Alternative	Class 5 Estimate <sup>a</sup>	
	Low Estimate (-50%)	High Estimate (+100%)
Alternative 1A	\$133,700,000	\$535,000,000
Alternative 1B	\$125,300,000	\$501,100,000
Alternative 2	\$140,800,000	\$563,300,000

<sup>a</sup> Costs are Association for the Advancement of Cost Engineering (AACE) International Class 5 planning level estimates with a - 50 percent to +100 percent accuracy range. Class 5 estimates are generally prepared based on very limited information, and consequently have wide accuracy ranges (AACE 2021).

Based on information derived from similar projects, the following assumptions were used to determine the King County portion of NERTS project cost:

- Between 40 percent and 60 percent of the total costs are assumed to be spent within King County.
- Of these local expenditures, 60 percent are assumed to be labor expenditures while 40 percent are assumed to be expenditures on materials, supplies, services, etc.
- Construction schedule is assumed to be 30 months or 2.5 years.

Table 5-2 shows the breakdown of the costs based on the above assumptions. The lower bound estimate for the portion of the project expenditures within King County are represented as 40 percent of the low (-50%) Class 5 estimates while the upper bound for the local portion of the project expenditures within the county are represented as 60 percent of the high (+100) Class 5 estimate. In addition to showing the lower and higher bounds for the local expenditures, Table 5-2 also shows the proportion of these local costs that are labor and nonlabor (i.e., materials, supplies, services, etc.) expenditures.

**Table 5-2. Breakdown of Total Local Project Costs (in 2023\$)**

Item	Alternative 1A	Alternative 1B	Alternative 2
<b>Lower Bound Estimate</b>			
Local (within King County) Estimate (40%)	\$53,500,000 <sup>a</sup>	\$50,100,000	\$56,300,000
Labor (60%)	\$32,100,000 <sup>b</sup>	\$30,100,000	\$33,800,000
Nonlabor (40%)	\$21,400,000 <sup>c</sup>	\$20,000,000	\$22,500,000
<b>Upper Bound Estimate</b>			
Local (within King County) Estimate (60%)	\$321,000,000 <sup>d</sup>	\$300,700,000	\$338,000,000
Labor (60%)	\$192,600,000 <sup>e</sup>	\$180,400,000	\$202,800,000
Nonlabor (40%)	\$128,400,000 <sup>f</sup>	\$120,300,000	\$135,200,000

Note:

<sup>a</sup> \$53,500,000 = \$133,700,000 x 40%

<sup>b</sup> \$32,100,000 = \$53,500,000 x 60%

<sup>c</sup> \$21,400,000 = \$53,500,000 x 40%

<sup>d</sup> \$321,000,000 = \$535,000,000 x 60%

<sup>e</sup> \$192,600,000 = \$321,600,000 x 60%

<sup>f</sup> \$128,400,000 = \$321,600,000 x 40%

Costs estimates shown for Alternatives 1B and 2 were determined using similar calculations.

The local cost estimates shown in Table 5-2 were divided by the duration of the construction period which was assumed to be 30 months or 2.5 years for all three action alternatives (Alternative 1A, Alternative 1B and Alternative 2) resulting in annual direct local construction costs. Table 5-3 summarizes the annual construction cost estimates in 2023 dollars. These annual construction cost estimates were converted to 2021 dollars using the implicit gross domestic product (GDP) deflator which is necessary for them to be used as the direct input into the 2021 IMPLAN model (BEA, 2023a). Table 5-4 presents these annual direct local expenditures in 2021 dollars.

**Table 5-3. Breakdown of Annual Direct Local Construction Costs (in 2023\$)**

Item	Alternative 1A	Alternative 1B	Alternative 2
<b>Lower Bound Estimate</b>			
Local (within King County) Estimate (40%)	\$21,400,000	\$20,000,000	\$22,500,000
Labor (60%)	\$12,800,000	\$12,000,000	\$13,500,000
Nonlabor (40%)	\$8,600,000	\$8,000,000	\$9,000,000
<b>Upper Bound Estimate</b>			
Local (within King County) Estimate (60%)	\$128,400,000	\$120,300,000	\$135,200,000
Labor (60%)	\$77,000,000	\$72,200,000	\$81,100,000
Nonlabor (40%)	\$51,400,000	\$48,100,000	\$54,100,000

**Table 5-4. Breakdown of Annual Direct Local Construction Costs (in 2021\$)**

Item	Alternative 1A	Alternative 1B	Alternative 2
<b>Lower Bound Estimate</b>			
Local (within King County) Estimate (40%)	\$23,800,000	\$22,300,000	\$25,100,000
Labor (60%)	\$14,300,000	\$13,400,000	\$15,100,000
Nonlabor (40%)	\$9,500,000	\$8,900,000	\$10,000,000
<b>Upper Bound Estimate</b>			
Local (within King County) Estimate (60%)	\$143,000,000	\$134,000,000	\$150,600,000
Labor (60%)	\$85,800,000	\$80,400,000	\$90,400,000
Nonlabor (40%)	\$57,200,000	\$53,600,000	\$60,200,000

The labor and material cost estimates were identified separately and run through the corresponding IMPLAN sector which for this project is IMPLAN sector 56, Construction of Other New Nonresidential Structures. The results of the IMPLAN model runs, which are described in Section 5.2, are the annual indirect and induced employment and income impacts associated with the construction of a new recycling and transfer station. To estimate the annual direct local construction workforce under each of the alternatives, the following assumptions were used:

- Average mean hourly construction wage for all construction occupations in Washington in May 2022 (the most recent available data) of \$36.50 was adjusted to \$37.77 in 2023 dollars using the implicit GDP price deflator (BLS, 2023c, BEA, 2023a).
- Assuming 35 percent in benefits, the average mean hourly construction wage in 2023 dollars including benefits was estimated at about \$51 and the annual construction salary including benefits was estimated at about \$106,100.

Based on the annual construction salary, the annual direct full-time equivalent (FTE) construction jobs in the region are as shown in Table 5-5. This represents the number of workers on average that would be employed during construction of NERTS. These numbers were derived by dividing direct labor costs in 2023 dollars from Table 5-3 by the annual construction salary of \$106,100.

**Table 5-5. Direct Annual Full-Time Equivalent Jobs**

	Alternative 1A	Alternative 1B	Alternative 2
<b>Annual Direct FTE</b>			
Based on lower bound of annual labor costs	121 <sup>a</sup>	113	127
Based on upper bound of annual labor costs	726 <sup>b</sup>	680	765

Note:

<sup>a</sup> Direct FTE = \$12,838,848 divided by \$106,100 = 121

<sup>b</sup> Direct FTE = \$77,033,088 divided by \$106,100 = 726

Costs estimates shown for Alternatives 1B and 2 were determined using similar calculations.

Annual operations and maintenance (O&M) costs for the NERTS project are estimated to be about \$8,534,000 for Alternative 2 and about \$7,534,000 for Alternative 1. Both estimates are in 2023 dollars. About 90 percent of these costs are assumed to be spent within King County. Table 5-6 summarizes net annual full-

time equivalent jobs for each of the alternatives compared to the No Action alternative. The numbers shown in the table are presented as a range of values for both action alternatives.

**Table 5-6. Direct Annual Full-Time Equivalent (FTEs) Jobs**

	Annual FTEs	Net Annual FTEs compared to No Action Alternative
No Action Alternative	7	--
Alternative 1A and 1B	11 – 13	4 - 6
Alternative 2	17 – 19	10 -12

Source: SWD, 2024

The May 2022 Washington state mean hourly wage estimate for all other plant and system operators occupational classification was \$36.38 (BLS, 2023c). Adjusting the 2022 mean hourly wage for inflation using the implicit GDP deflator and adding 35 percent in benefits results in an annual operations and maintenance salary of about \$105,700 (BEA, 2023a). Based on this annual operation and maintenance salary, the annual direct payroll based on the annual FTEs shown in Table 5-6 are summarized in Table 5-7 below. Table 5-7 also summarizes the total annual O&M expenditures, the portion of the total annual O&M expenditures that are assumed to be spent locally within King County, and the corresponding non-payroll expenditures for each of the action alternatives.

**Table 5-7. Breakdown of Annual Operations and Maintenance Costs, 2023 dollars**

Alternative	Total Annual O&M Costs	Total Annual Local O&M Costs <sup>a</sup>	Annual O&M Payroll <sup>b</sup>		Annual Non-Payroll Expenditures <sup>e</sup>	
			Lower Bound Estimate <sup>c</sup>	Upper Bound Estimate <sup>d</sup>	Lower Bound Estimate <sup>f</sup>	Upper Bound Estimate <sup>g</sup>
Alternative 1	\$7,534,000	\$6,781,000	\$423,000	\$634,000	\$6,358,000	\$6,147,000
Alternative 2	\$8,534,000	\$7,681,000	\$1,057,000	\$1,269,000	\$6,624,000	\$6,412,000

Notes:

- <sup>a</sup> Assumed to be 90% of the total annual O&M costs.
- <sup>b</sup> Annual payroll calculated using net FTEs and the calculated annual O&M salary.
- <sup>c</sup> Lower bound annual O&M payroll based on the lower bound for the net FTEs.
- <sup>d</sup> Upper bound annual O&M payroll based on the upper bound for the net FTEs.
- <sup>e</sup> Annual non-payroll calculated using net FTEs and the calculated annual O&M salary.
- <sup>f</sup> Lower bound annual O&M non-payroll based on the lower bound for the net FTEs.
- <sup>g</sup> Upper bound annual O&M non-payroll based on the upper bound for the net FTEs.

All costs are rounded to the nearest \$1,000.

## 5.2 Results

The impacts associated with the construction phase are temporary and thus different from the long-term effects associated with the operational phase of the project. Therefore, the impacts of the different phases are evaluated and presented separately. Because the model was run using a range of values representing a high and a low value based on the rough-order-of-magnitude estimated project cost, the results shown in the

following subsections are presented as a range of values where the lower number corresponds to the lower cost estimate and the higher number corresponds to the higher cost estimate.

**5.2.1 Construction Impacts**

**5.2.1.1 Alternative 1A**

Construction of NERTS Alternative 1A is expected to take 2.5 years. Table 5-8 shows the average direct and secondary (indirect and induced) economic impacts within King County associated with the construction of Alternative 1A. Because the impacts were evaluated for a range of direct cost inputs, the results are presented as a range of values whereby the lower value corresponds to the lower cost input whereas the higher value corresponds to the higher cost input.

**Table 5-8. Regional Employment and Labor Income Associated with Construction, Alternative 1A**

Impact	Employment (FTEs) <sup>a</sup>	Labor Income (millions 2023\$) <sup>b</sup>
Direct	120 - 730	\$12.8 - \$77.0
Indirect	150 - 880	\$13.2 - \$79.1
Induced	30 - 160	\$2.4 - \$14.6
<b>Total</b>	<b>300 - 1,770</b>	<b>\$28.5 - \$170.7</b>

Source: IMPLAN 2023.

<sup>a</sup> FTEs rounded to the nearest 10 jobs.

<sup>b</sup> Labor Income shown here is IMPLAN's Employee Compensation. Employee compensation includes total payroll cost of the employee paid by the employer. It includes wage and salary plus benefits and payroll taxes.

Table 5-8 demonstrates that, in addition to the average direct 120 to 730 FTE jobs, the construction phase of NERTS under Alternative 1A would result in indirect employment of 150 to 880 FTEs and average induced employment of 30 to 160 FTEs within King County. The total average construction employment within King County is estimated to be between 300 and 1,770 FTEs.

As expected, the increase in regional employment would be accompanied by increased levels of labor income within King County (Table 5-8). Construction of Alternative 1A is expected to result in \$12.8 million to \$77 million in average direct labor income. The average indirect labor income is estimated at \$13.2 million to \$79.1 million while the average induced labor income is estimated to be between \$2.4 million and \$14.5 million. The total average labor income within King County is estimated to be between \$28.5 million and \$170.7 million.

**5.2.1.2 Alternative 1B**

Construction of NERTS Alternative 1B is expected to take 2.5 years. Table 5-9 shows the average direct and secondary (indirect and induced) economic impacts within King County associated with the construction of Alternative 1B.

Table 5-9 shows that, in addition to the average direct 110 to 680 FTE jobs, the construction phase of NERTS under Alternative 1B would result in average indirect employment of 140 to 820 FTEs and average induced employment of 30 to 150 FTEs within King County. The total average construction employment within King County is estimated to be between 280 and 1,650 FTEs.



**Table 5-9. Regional Employment and Labor Income Associated with Construction, Alternative 1B**

Impact	Employment (FTEs) <sup>a</sup>	Labor Income (millions 2023\$)
Direct	110 - 680	\$12.0 - \$72.2
Indirect	140 - 820	\$12.4 - \$74.1
Induced	30 - 150	\$2.3 - \$13.6
<b>Total</b>	<b>280 - 1,650</b>	<b>\$26.7 - \$159.9</b>

Source: IMPLAN 2023.

<sup>a</sup> FTEs rounded to the nearest 10 jobs.

<sup>b</sup> Labor Income shown here is IMPLAN's Employee Compensation. Employee compensation includes total payroll cost of the employee paid by the employer. It includes wage and salary plus benefits and payroll taxes.

As expected, the increase in regional employment would be accompanied by increased levels of labor income within King County (Table 5-9). Construction of Alternative 1B is expected to result in \$12 million to \$72.2 million in average direct labor income. The average indirect labor income is estimated at \$12.4 million to \$74.1 million while the induced labor income is estimated to be between \$2.3 million and \$13.6 million, respectively. The total average labor income within King County is estimated to be between \$26.7 million and \$159.9 million.

### 5.2.1.3 Alternative 2

Construction of NERTS Alternative 2 is expected to take 2.5 years. Table 5-10 shows the average direct and secondary (indirect and induced) economic impacts within King County associated with the construction of Alternative 2.

**Table 5-10. Regional Employment and Labor Income Associated with Construction, Alternative 2**

Impact	Employment (FTEs) <sup>a</sup>	Labor Income (millions 2023\$)
Direct	130 - 760	\$13.5 - \$81.1
Indirect	150 - 920	\$13.9 - \$83.3
Induced	30 - 170	\$2.6 - \$15.3
<b>Total</b>	<b>310 - 1,850</b>	<b>\$30.0 - \$179.8</b>

Source: IMPLAN 2023.

<sup>a</sup> FTEs rounded to the nearest 10 jobs.

<sup>b</sup> Labor Income shown here is IMPLAN's Employee Compensation. Employee compensation includes total payroll cost of the employee paid by the employer. It includes wage and salary plus benefits and payroll taxes.

Table 5-10 shows that, in addition to the average direct 130 to 760 FTE jobs, the construction phase of NERTS under Alternative 2 would result in average indirect employment of 150 to 920 FTEs and average induced employment of 30 to 170 FTEs within King County. The total average construction employment within King County is estimated to be between 310 and 1,850 FTEs.

As expected, the increase in regional employment would be accompanied by increased levels of labor income within King County (Table 5-10). Construction of Alternative 2 is expected to result in \$13.5 million to

\$81.1 million in average direct labor income. The average indirect labor income is estimated at \$13.9 million to \$83.3 million while the induced labor income is estimated to be between \$2.6 million and \$15.3 million,. The total average labor income within King County is estimated to be between \$30 million and \$179.8 million.

**5.2.2 Operational Impacts**

In addition to the economic benefits resulting from the construction of the project, there will be ongoing economic benefits from the facility’s operation and maintenance.

**5.2.2.1 Alternative 1**

As estimated under the Assumptions and Cost Inputs section, the O&M expenditures for Alternative 1 (whether 1A and 1B) is assumed to generate between four and six direct net FTE jobs in King County. In addition to the direct employment, the operational phase is expected to result in the creation of permanent annual secondary (indirect and induced) employment and income within King County. Table 5-11 summarizes the annual direct and secondary (indirect and induced) economic impacts within King County associated with the operation of the NERTS project under Alternative 1. Because the impacts were evaluated for a range of direct cost inputs, the results are presented as a range of values whereby the lower value corresponds to the lower cost input whereas the higher value corresponds to the higher cost input.

**Table 5-11. Annual Regional Employment and Labor Income Associated with O&M, Alternative 1**

Impact	Employment (FTEs)	Labor Income (2023\$) <sup>a,b</sup>
Direct	4 – 6	\$422,900 - \$634,300
Indirect	17 – 18	\$1,645,900 - \$1,742,100
Induced	3	\$273,600 - \$293,000
<b>Total</b>	<b>25 – 27</b>	<b>\$2,342,400 - \$2,669,400</b>

Source: IMPLAN 2023.

<sup>a</sup> Labor Income shown here is IMPLAN’s Employee Compensation. Employee compensation includes total payroll cost of the employee paid by the employer. It includes wage and salary plus benefits and payroll taxes.

<sup>b</sup> Labor income is rounded to the nearest \$100.

Table 5-11 illustrates that, in addition to the annual direct four to six net FTE jobs, the operation phase of NERTS under Alternative 1 would result in annual indirect employment of 17 to 18 FTEs and annual induced employment of three FTEs within King County. The total annual employment within King County during operation is estimated to be between 25 and 27 FTEs.

As expected, the increase in regional employment would be accompanied by increased levels of labor income within King County (Table 5-11). Operation and maintenance of NERTS under Alternative 1 is expected to result in \$422,900 to \$634,300 in annual direct labor income. The annual indirect labor income is estimated to be about \$1.6 million to \$1.7 million while the annual induced labor income is estimated to be between \$273,600 and \$293,000. The total annual labor income within King County is estimated to be about \$2.3 million to \$2.7 million.

**5.2.2.2 Alternative 2**

As estimated under the Assumptions and Cost Inputs section, the O&M expenditures for Alternative 2 is assumed to generate between 10 and 12 direct net FTE jobs in King County. In addition to the direct employment, the operational phase is expected to result in the creation of permanent annual secondary (indirect and induced) employment and income within King County. Table 5-12 summarizes the annual direct

and secondary (indirect and induced) economic impacts within King County associated with the operation of the NERTS project under Alternative 2. Because the impacts were evaluated for a range of direct cost inputs, the results are presented as a range of values whereby the lower value corresponds to the lower cost input whereas the higher value corresponds to the higher cost input.

**Table 5-12. Annual Regional Employment and Labor Income Associated with O&M, Alternative 2**

Impact	Employment (FTEs)	Labor Income (2023\$) <sup>a,b</sup>
Direct	10 - 12	\$1,057,200 - \$1,268,700
Indirect	22 - 24	\$2,127,300 - \$2,223,500
Induced	4	\$363,000 - \$382,400
<b>Total</b>	<b>36 - 40</b>	<b>\$3,547,500 - \$3,874,600</b>

Source: IMPLAN 2023.

<sup>a</sup> Labor Income shown here is IMPLAN's Employee Compensation. Employee compensation includes total payroll cost of the employee paid by the employer. It includes wage and salary plus benefits and payroll taxes.

<sup>b</sup> Labor income is rounded to the nearest \$100.

Table 5-12 illustrates that, in addition to the annual direct 10 to 12 net FTE jobs, the operational phase of NERTS would result in 22 to 24 FTEs in annual indirect employment and another four FTEs in annual induced employment within King County. The total annual employment within King County during operation is estimated to be between 36 and 40 FTEs.

The increase in regional employment would be accompanied by increased levels of labor income within King County (Table 5-12). Operation and maintenance of NERTS under Alternative 2 is expected to result in about \$1.1 million to \$1.3 million in annual direct income to the region. The annual indirect labor income is estimated to be about \$2.1 million to \$2.2 million while the annual induced labor income is estimated to be between \$363,000 to \$382,400. The total annual labor income within King County is estimated to be about \$3.5 million to \$3.9 million.

### 5.3 Economy Based Conclusions

The construction of the NERTS project is expected to result in net economic benefits to the economy of King County. These benefits vary in proportion to the estimated project costs of each alternative. Table 5-13 summarizes the direct and total FTEs and labor income for the construction of the three alternatives of the NERTS project.

**Table 5-13. Summary of Annual Direct and Total Employment and Labor Income, Construction**

	Employment (FTEs)		Labor Income (millions 2023\$) <sup>a</sup>	
	Direct	Total	Direct	Total
<b>Construction Phase</b>				
Alternative 1A	120 - 730	300 - 1,770	\$12.8 - \$77.0	\$28.5 - \$170.7
Alternative 1B	110 - 680	280 - 1,650	\$12.0 - \$72.2	\$26.7 - \$159.9
Alternative 2	130 - 760	310 - 1,850	\$13.5 - \$81.1	\$30.0 - \$179.8

Source: IMPLAN 2023.

<sup>a</sup> Labor Income shown here is IMPLAN's Employee Compensation. Employee compensation includes total payroll cost of the employee paid by the employer. It includes wage and salary plus benefits and payroll taxes.

Comparing the direct employment to the construction and total industry jobs for King County (Table 4-4) shows that the lower direct FTE jobs (Table 5-13) constitute, on average, about 0.1 percent of the 2021 construction jobs while the higher direct FTE jobs (Table 5-13), on average, account for about 0.7 percent of the 2021 construction jobs across all three alternatives. When compared to the total industry employment, the lower direct FTE jobs account for less than 0.01 percent while the higher direct FTE jobs account for less than 0.05 percent of the 2021 total industry employment within the county. So, while the construction of the NERTS project under any of the alternatives results in an increase in King County employment opportunities, this change is minimal when compared with the larger county economy. This would be the case even if the comparison were based on the total FTEs rather than the direct FTEs. In addition, because construction is a short-term activity, this benefit is also short-term.

The lower estimate of the direct labor income (Table 5-13) constitutes, on average, less than 0.01 percent of the total wages and salaries income in King County of \$165.7 billion in 2021 (BEA 2023c) while the higher estimate constitutes slightly less than 0.05 percent of the county’s total wages and salaries income in 2021. Using the total labor income results in doubling of these percentages. So, while the construction of the NERTS project under any of the alternatives results in an increase in regional incomes, this change is minimal when compared with the larger county economy. Also, because construction is a short-term activity, this benefit is also short-term.

The operation and maintenance of the NERTS project is expected to result in net economic benefits to the economy of King County. These benefits vary in proportion to the estimated O&M costs associated with each of the action alternatives. Table 5-14 summarizes the direct and total FTEs and labor income for the operation of the two alternatives of the NERTS project.

**Table 5-14. Summary of Annual Direct and Total Employment and Labor Income, Operation**

	Employment (FTEs)		Labor Income (2023\$) <sup>a,b</sup>	
	Direct	Total	Direct	Total
Alternative 1	4 - 6	25 - 27	\$422,900 - \$634,300	\$2,342,400 - \$2,669,400
Alternative 2	10 - 12	36 - 40	\$2,127,300 - \$2,223,500	\$22,958,600 - \$23,043,600

Source: IMPLAN 2023.

<sup>a</sup> Labor Income shown here is IMPLAN’s Employee Compensation. Employee compensation includes total payroll cost of the employee paid by the employer. It includes wage and salary plus benefits and payroll taxes.

<sup>b</sup> Labor income rounded to the nearest \$100.

The direct and total FTEs (Table 5-14) associated with the operation of the NERTS projects constitutes an insignificant fraction: less than 0.005 percent of the county’s service<sup>4</sup> sector employment and less than 0.003 percent of the total industry employment (Table 4). Similarly, the direct and total labor income (Table 5-14) constitutes a small fraction of the county’s wages and salaries income of \$165.7 in 2021 billion (BEA 2023c). The direct and total labor income (Table 5-14) constitutes less than 0.002 percent of the county’s service sector employment and less than 0.02 percent of the county’s total employment. Thus, while the operation of the project is economically beneficial in the long run, its contribution to the local economy is small.

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<sup>4</sup> The Service sector is used for comparison here because the recycling station is captured under the services sector under the North American Industry Classification System (NAICS).

## 6. Community Impacts of NERTS

### 6.1 Introduction

This section looks at the social environment surrounding the two action alternative sites. The social environment is defined as the community amenities, such as the features that residents and visitors use daily and which make up the fabric of their everyday lives, as well as those features that are important to the functioning of the community and which contribute to the safety and wellbeing of its residents.

The following community amenities are discussed in this report as part of the social environment:

- Schools and education facilities
- Emergency services (fire, EMS)
- Recreation areas and facilities
- Institutional facilities (hospitals, care homes)
- Community facilities (community centers, libraries)
- Outdoor spaces (parks, sports fields)
- Places of worship
- Businesses and retailers.

A project can impact the social environment both positively and negatively. Common social effects include nuisance effects, such as those resulting from increased noise, odor, or traffic during construction (short term) or operation (long term). These nuisance effects may be offset by improved facility operations that result in longer term improvements for the local community. Other effects may include changes to the character of the community and effects on community cohesion (e.g., a change in the way the community members interact with each other). Facility construction and operations have the potential to change the way community members use and enjoy both their personal space and outdoor facilities. Increased noise or odor is likely to result in changes in the way individuals and the community enjoy outdoor facilities near the site. Similarly, changes to the visual aspect of the community spaces may have the potential to impact the way individuals and the community enjoy outdoor spaces near the site.

### 6.2 Summary of Existing Social Environment

The following summary was prepared using information contained in resource-area-specific technical memoranda prepared for the NERTS EIS (King County, 2024). The social environment considered are those within approximately 1.5 miles of each alternative site.

#### 6.2.1 Alternative 1

The area around the proposed facility under Alternative 1 has several social or community facilities, including:

- 14 schools
- One fire station
- Several parks and park facilities
- 11 long-term care residential facilities
- One library
- Several places of worship.

The area is also zoned for commercial as well as low, medium and high density residential development. Figure 6-1 shows the existing social features located within approximately 1.5 miles of the proposed site for Alternative 1.

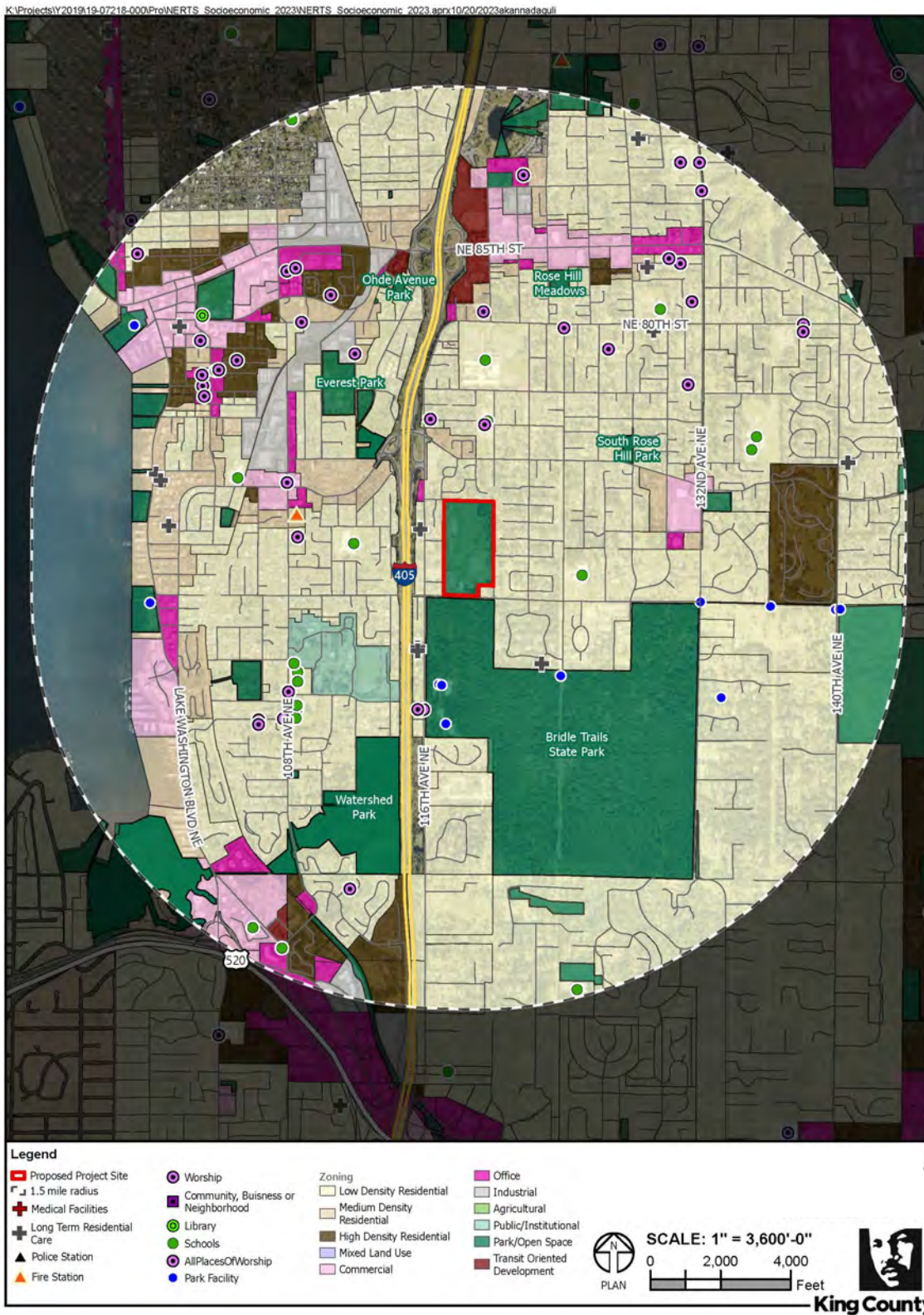


Figure 6-1. Community Facilities and Zoning in the Vicinity of Alternative 1

### 6.2.2 Alternative 2

The area around the proposed facility under Alternative 2 has several social or community facilities, including:

- Nine schools
- Two fire stations
- A medical facility
- Several parks and park facilities
- More than 20 long-term care residential facilities
- One library
- Several places of worship
- Two community/business/neighborhood centers.

The area is also zoned for commercial, industrial, mixed use and low, medium, and high density residential development. The proposed facility site is located within the Tourist District Overlay in the industrial area of the City of Woodinville. The Woodinville connection to the Eastrail Regional Trail Project will convert the existing historic railroad line that runs along the east side of Redmond-Woodinville Road NE between NE 145th Street and NE 175th Street to a multi-use trail, with construction to begin in 2027. Figure 6-2 shows the existing social features located within approximately 1.5 miles of the proposed site for Alternative 2.

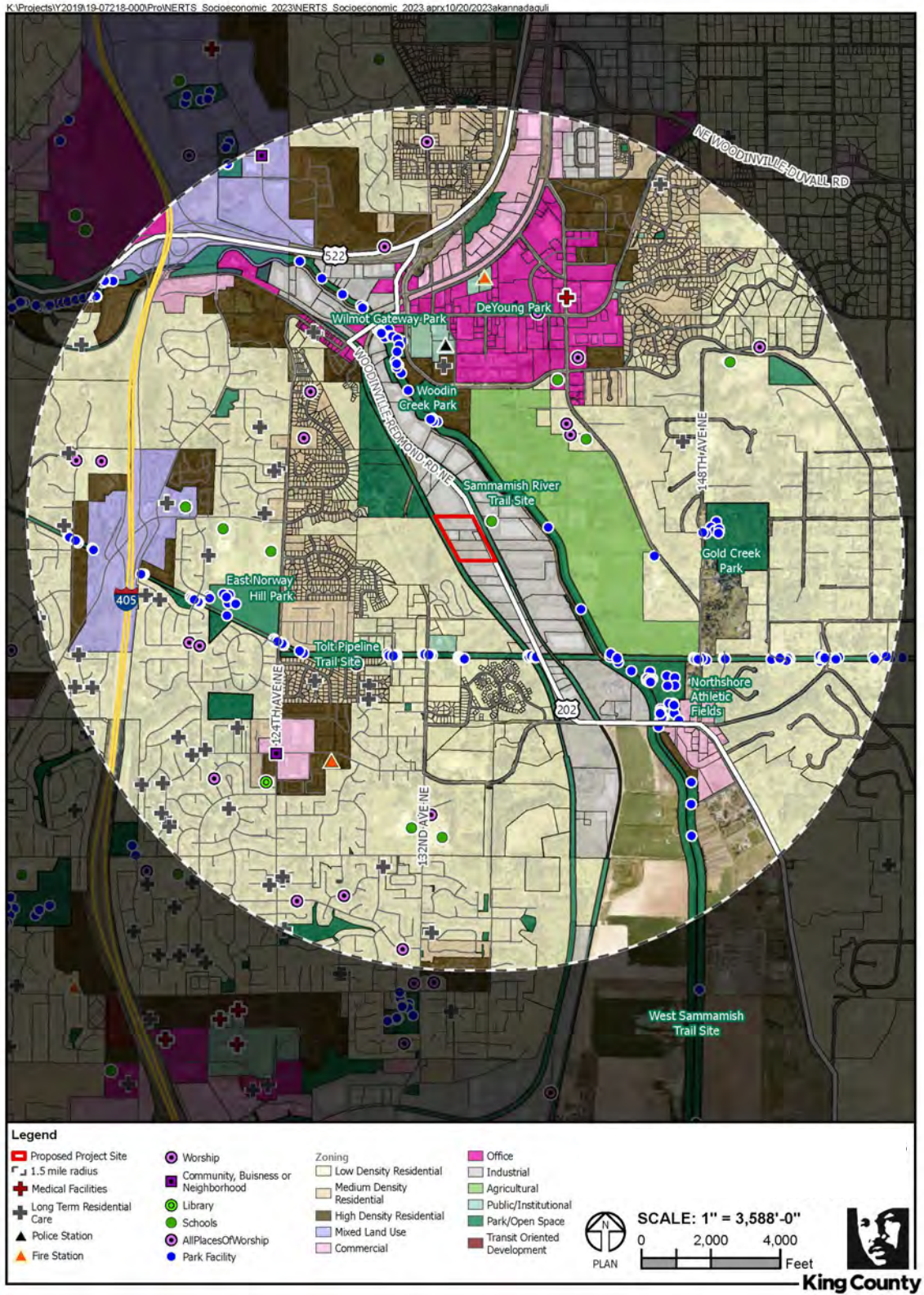


Figure 6-2. Community Facilities and Zoning in the Vicinity of Alternative 2



### 6.3 Summary of Community Impacts

The following summary was prepared using information contained in resource-area-specific technical memoranda prepared for the NERTS EIS (King County, 2024). The social environments considered are those approximately within 1.5 miles of each alternative site.

#### 6.3.1 No Action Alternative

Under the No Action alternative, there would be no changes to the existing social environment from the construction and operation of the NERTS project. For example, there would be no change to the existing conditions related to water resources, noise, odor, transportation, hazardous materials, visual resources, public services and utilities, and historic and cultural resources. Thus, there would no impact (including no beneficial impacts) to the community resources from the construction and operation of the NERTS project under the No Action alternative. The resource-area-specific technical memoranda prepared for the NERTS EIS (King County, 2024) provide the details on these impacts.

#### 6.3.2 Alternative 1

Under (both Alternative 1A and 1B, there would be minimal impact during construction related to transportation, noise, cultural resources, and water resources. Adverse direct impacts related to hazardous materials and visual resources are anticipated during the construction phase of the project, however, with the implementation of the appropriate mitigation measures these impacts will be minimized or eliminated. Thus, with mitigation efforts, short- and long-term impacts are anticipated to be minimal. During operation, potential impacts would be minimized or avoided through design and application of required best management practices for water resources, noise, odor, transportation, hazardous materials, public services and utilities, and historic and cultural resources. This alternative would result in less than significant impacts to the aesthetics in the study area. The resource-area-specific technical memoranda prepared for the NERTS EIS (King County, 2024) provide the details on these impacts.

There will be coordination with fire and police services to ensure that there is no disruption to emergency services during both the construction and operation phases of the project.

#### 6.3.3 Alternative 2

Under Alternative 2, there would be minimal impact during construction related to transportation, noise, cultural resources, and water resources. While adverse direct impacts related to visual resources are anticipated during the construction phase of the project, these impacts will be minimized or eliminated with the implementation of the appropriate mitigation measures. Thus, with mitigation efforts, short- and long-term impacts are anticipated to be minimal. Similar to Alternative 1, during operation, potential impacts of Alternative 2 would be minimized or avoided through design and application of required best management practices for water resources, noise, odor, transportation, hazardous materials, public services and utilities, and historic and cultural resources. Alternative 2 would result in less than significant impacts to the aesthetics in the study area but have slightly greater impact on aesthetics than Alternative 1. The resource-area-specific technical memoranda prepared for the NERTS EIS (King County, 2024) provide the details on these impacts.

There will be coordination with fire and police services to ensure that there is no disruption to emergency services during both construction and operation phases of the project.

### 6.4 Social Environment Conclusion

While the areas surrounding each of the action alternatives contain a significant number of social features, none of the EIS resource areas reviewed identified short-term construction-related impacts or longer-term operation-related impacts that remained after the appropriate mitigation measures were implemented. Most of

these impacts were determined to be minimal after implementation of best practices during construction and with improved operating practices at the new facility. Only minor adverse direct visual impacts are anticipated within 0.5 miles to 0.7 miles of the facility under either Alternative 1 or 2.

A new, modern, and sustainable transfer station will be a benefit to the local community and will encourage increased recycling and waste diversion, and the site itself can be an important educational resource for people and school children in the service area.

## 7. Overall Conclusions

Overall, the benefits of building a new, modern transfer station to replace the existing Houghton transfer station will outweigh any short- or long-term negative socioeconomic effects on the community.

The regional economic benefits of a new facility include:

- Increased employment
- Additional household income
- Increased economic value

The social environment is also not expected to be negatively affected in the long term. The new facility will be designed and built with modern design features and techniques and will operate more efficiently and in a more environmentally friendly way than the existing transfer station. While there may be some temporary nuisance effects such as noise during the construction phase, these are considered to be minor. Building a new, modern transfer station will be a boost for the existing social environment in the area with more efficient waste diversion and educational opportunities.

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