

APPENDIX K

Socioeconomics, Environmental Justice, and Children's Health

Environmental Justice Protocol

References

APPENDIX K

Socioeconomics, Environmental Justice, and Children's Health

Environmental Justice Protocol



Environmental Justice Protocol Seattle-Tacoma International Airport

June 2024

PREPARED FOR
Federal Aviation Administration and
the Port of Seattle

PRESENTED BY
Landrum & Brown, Incorporated



1 Introduction

This document outlines the methodology for determining the potential impacts to Environmental Justice (EJ) populations in the Seattle Tacoma International Airport (SEA) Sustainable Airport Master Plan Near Term Projects (Proposed Action) Environmental Assessment (EA).

2 Regulatory Context and Resources

The following guidance and resources will be used in the EJ analysis:

Title VI of the Civil Rights Act of 1964 as amended, 42 U.S.C. §§ 2000d – 2000d-7, states that, “No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.” Title VI expressly prohibits any discrimination in federally funded programs and projects, including those sponsored by the FAA.

Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*¹ directs each federal agency to identify and address, as appropriate, disproportionately high and adverse² human health or environmental effects of its programs, policies, and activities on minority and low-income populations.

USDOT Order 5610.2(c)³ defines a minority population as any readily identifiable group of minority persons living in geographic proximity to a proposed USDOT program, policy or activity including, if circumstances warrant, geographically dispersed or transient persons (such as migrant workers or Native Americans) who will be similarly affected by the proposed program, policy, or activity.⁴

FAA Order 1050.1F and 1050.1F Desk Reference provide guidance for the preparation of environmental justice analyses in support of an EA document under the National Environmental Policy Act (NEPA). This includes identification of environmental justice populations, and methods for determining if a disproportionate and/or adverse effect would occur to these populations.

Another resource is the Federal Interagency Working Group on Environmental Justice, NEPA Committee's 2016 publication *Promising Practices for EJ Methodologies in NEPA Reviews* (Promising

¹ Executive Order 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations issued February 16, 1994 (59 Federal Register 32).

² Executive Order, Revitalizing Our Nation's Commitment to Environmental Justice for All, uses the term “disproportionate and adverse” as a simpler, modernized version of the phrase “disproportionately high and adverse” used in Executive Order 12898. Per the White House Fact Sheet (<https://www.whitehouse.gov/briefing-room/statements-releases/2023/04/21/fact-sheet-president-biden-signs-executive-order-to-revitalize-our-nations-commitment-to-environmental-justice-for-all/>) the phrases have the same meaning. As a result this protocol is using the phrase disproportionate and adverse.

³ DOT Order 5610.2C U.S. Department of Transportation Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, May 16, 2021.

⁴ EO 14096, "Revitalizing Our Nation's Commitment to Environmental Justice for All", was enacted on April 21, 2023. EO 14096 on environmental justice does not rescind EO 12898 – “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” which has been in effect since February 11, 1994 and is currently implemented through DOT Order 5610.2C. This implementation will continue until further guidance is provided regarding the implementation of the new EO 14096 on environmental justice.

Practices), which was prepared to improve the effective, efficient and consistent consideration of environmental justice issues in the NEPA process through the sharing of best practices, lessons learned, research analysis, training, consultation, and other experiences of federal NEPA practitioners.

3 Identify Environmental Justice Populations

3.1 Study Area

For the purposes of this EA, the environmental justice analysis will use the Study Area specific to the resource categories being evaluated. A narrative and graphic (if applicable) description of the Study Area will be included in the EA. If impacts (direct or indirect) for specific resource categories occur entirely on Airport property, the EA will address the lack of potential for EJ impacts.

3.2 Reference Area

Based on Executive Order 12898, the percentage of low-income and minority populations in the Study Area are compared to that of a reference general community or area in order to identify if a meaningfully greater minority and/or low-income population is present when compared to a general population. According to the *Promising Practices for EJ Methodologies in NEPA Reviews*, a reference area is a larger scale community or area used as a point of comparison to the low-income and minority populations in the Study Area. For the EJ analysis in this EA, King County will be used as the reference area because the Airport is located in King County.

3.3 Data Collection

All relevant and available socioeconomic and population data from within each Study Area and Reference Area will be collected. In addition to being used to determine the percentages of low-income populations within each area, the data will be compiled and analyzed to identify potential concentrations of minority or low-income communities, or environmental justice resources such as community centers, churches, or areas of cultural significance.

Sources of data will include (but will not be limited to) the following:

- 2020 U.S. Census
 - Race and Ethnicity (at Block Group and Block level)
- 2021 U.S. Census American Community Survey⁵
 - Per Capita Income (at Block Group level)
 - Median Household Income (at Block Group level)
 - Below Poverty Level (at Block Group level)
 - Unemployment (at Block Group level)
- 2022 U.S. Health and Human Services data (poverty index data)
- U.S. Department of Labor (transient or temporary worker data)
- The FAA's Aviation Environmental Design Tool (AEDT)
- Washington State data
- King County data

⁵ ACS data is being used for low-income analysis because US Census data does not have this data at the Block Group level as of the date of this protocol.

- Data from local jurisdictions (including public and private school data available for all levels of education and emergency medical services)
- Outreach to local communities and organizations

3.4 Identifying Environmental Justice Communities

Once data has been collected and thoroughly analyzed, the identification of minority and low-income populations can be accomplished in various ways. The following outlines the available methods and the proposed process for identifying minority and low-income populations for this analysis.

Minority Populations

Pursuant to US DOT Order 5610.2(c), minority person is defined as a person who is any of the following:

1. Black (a person having origins in any of the black racial groups of Africa);
2. Hispanic or Latino (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race);
3. Asian American (a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent);
4. American Indian and Alaskan Native (a person having origins in any of the original people of North America, South America (including Central America), and who maintains cultural identification through tribal affiliation or community recognition;); or
5. Native Hawaiian and other Pacific Islanders (people having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands).

A minority population is defined as any readily identifiable group of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed DOT program, policy or activity.

Promising Practices for EJ Methodologies in NEPA Reviews outlines two different approaches for the identification of minority populations, by conducting either: A) No Threshold analysis; or B) both the Fifty Percent analysis and the Meaningfully Greater analysis. The Fifty Percent analysis and the Meaningfully Greater analysis will be utilized to identify minority populations within the resource category Study Area because they can accurately and adequately identify the minority populations in the Study Area. The demographics in the communities in the Study Area are diverse and do not require use of the No Threshold Approach to avoid overlooking a minority population within the Study Area.

The Fifty Percent Analysis includes the following:

1. Determine the total number of individuals residing within the resource category Study Area.
2. Determine the total number of minority individuals (all individuals other than non-Hispanic whites) residing within the resource category Study Area.
3. Select the appropriate geographic unit of analysis within the resource category Study Area.
4. The Census Block Group will be selected for this analysis.
5. Determine the percentage of minority individuals (including Hispanics) residing within each Census Block Group.
6. If the percentage of minorities residing within the Census Block Groups meets or exceeds 50 percent, note the existence of a minority population.

7. Compare the total number of minority individuals residing within the resource category Study Area against the total number of individuals residing within the resource category Study Area, in order to determine the percentage of minority individuals residing within the resource category Study Area.
8. If the percentage of minorities residing in the resource category Study Area exceeds 50 percent, consider noting the need for a heightened focus throughout the entire environmental justice analysis.
9. After completion of the Fifty Percent analysis, conduct the Meaningfully Greater analysis for populations that are below fifty percent.

The Meaningfully Greater analysis has its own set of steps, which are:

1. Select the appropriate geographic unit of analysis for the resource category Study Area.
 - a. The Census Block Group will be selected for this analysis.
2. Select the appropriate reference community. A reference community serves as an aid for determining whether areas of environmental concern are present and where they are situated.
 - a. As previously stated, King County will be used as the reference community.
3. Select the appropriate meaningfully greater threshold for comparison. The Meaningfully Greater analysis requires use of a reasonable, subjective threshold.
 - a. 10 percent greater will be used because it represents a notable increase over the reference area.
4. Compare the percentage of minority individuals residing within the Census Block Group to the percentage of minority individuals residing within King County.
5. If the percentage of minorities residing within the Census Block Group is meaningfully greater (based on application of the threshold) either individually or in the aggregate, than the percentage of minorities residing within King County, the existence of a minority population will be disclosed.

Low-Income Populations

Pursuant to US DOT Order 5610.2(c), low-income person is defined as a person whose median household income is at or below the Department of Health and Human Services poverty guidelines.

Promising Practices for EJ Methodologies in NEPA Reviews outlines two different approaches for the identification of low-income populations, by conducting either: A) the Alternative Criteria analysis; or B) the Low-Income Threshold Criteria analysis. The Alternative Criteria will be used for this analysis because it is based on defined thresholds (such as percentage of population in poverty, or reported incomes), with less reliance on relationships to reference communities (such as King County as a whole, or the State of Washington) which vary greatly from the General Study Area. Under the Alternative Criteria analysis approach, reference communities are still provided, but for context only. The steps of the Alternative Criteria analysis include:

1. Select and disclose the appropriate poverty thresholds.

Based on feedback during outreach with community leaders and other local representatives, the Department of Health and Human Services poverty guidelines will be adjusted by 200 percent to reflect the higher cost of living in the Seattle area. In 2022, this was defined as \$13,590 for an individual or \$27,750 for a family of four. With the adjustment it would be defined as \$20,385 for an individual, or \$41,625 for a family of four.
2. Select an appropriate geographic unit of analysis for identifying low-income populations in the resource category Study Area.

- a. The ACS Block Group will be selected for this analysis.
3. Select an appropriate threshold for determining whether ACS Block Group is identified as a low-income population. The King County percentage plus 10 percent will be used as the threshold for determining if an ACS Block Group is considered low-income (meaning that 50 percent or more individuals reported an income below the poverty level in that year).
4. Determine the total number of low-income individuals (or households) and the percent low-income for each ACS Block Group within the resource category Study Area.
5. Identify the existence of a low-income population for each ACS Block Group in which Step 4 (above) indicates a low-income percentage at or above the selected poverty threshold.

Mathematical calculations will be included in the EA for each step in the Fifty Percent Analysis, the Meaningfully Greater analysis, and the Alternative Criteria to assist the reader in following the steps and understanding the conclusions. In addition, graphics will be included to aid the reader.

4 Identify Beneficial and Adverse Impacts to Environmental Justice Populations

Once environmental justice populations and/or communities have been identified and documented, the next step is to determine if any disproportionate and adverse impacts would result from changes in impacts caused by the action alternatives compared to the No Action alternative. There will be no disproportionate and adverse determination made for the No Action alternative in the EA.

Executive Order 12898 (Section 3-302) mandates that each Federal agency, whenever practicable and appropriate, shall collect, maintain, and analyze information assessing and comparing environmental and human health risks borne by populations identified by race, national origin, or income. To the extent practical and appropriate, Federal agencies shall use this information to determine whether their programs, policies, and activities have disproportionate and adverse human health or environmental effects on minority populations and low-income populations.

The FAA provides further guidance in the 1050.1F Desk Reference providing the following definition of the types of adverse impacts that should be considered when assessing impacts to environmental justice populations:

“Adverse effects means the totality of significant individual or cumulative human health or environmental effects, including interrelated social and economic effects, which may include, but are not limited to: bodily impairment, infirmity, illness, or death; air, noise, and water pollution and soil contamination; destruction or disruption of man-made or natural resources; destruction or diminution of aesthetic values; destruction or disruption of community cohesion or a community’s economic vitality; destruction or disruption of the availability of public and private facilities and services; vibration; adverse employment effects; displacement of persons, businesses, farms, or nonprofit organizations; increased traffic congestion, isolation, exclusion, or separation of minority or low-income individuals within a given community or from the broader community; and denial of, reduction in, or significant delay in the receipt of, benefits of DOT programs, policies, or activities.”

U.S. Department of Transportation Order 5610.2(c) provides the following definition for a “disproportionately high and adverse impact” that should be used when assessing impacts to environmental justice populations:

- Disproportionately high and adverse effect on minority and low-income populations means an adverse effect that:
 1. Is predominately borne by a minority population and/or a low-income population, or
 2. Will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population.

The Port will use the information provided in the Promising Practices report to assess whether the project impacts within each resource category meet FAA’s definition of disproportionate and adverse. Any identified impact to human health or the environment (e.g., impacts on noise, air quality, traffic/congestion, land use, etc.) that potentially affects minority populations and low-income populations in the resource category Study Area may result in disproportionate and adverse impacts. The specific context and intensity of impacts are important factors that will be considered in the determination of whether an impact is disproportionate and adverse. Significance, based on criteria established by the FAA for each resource category, will be a factor in determining disproportionate and adverse impacts, but it is possible that impacts that are not significant within the context of NEPA, may be disproportionate and adverse to environmental justice communities.

All resource categories will be evaluated for potential disproportionate and adverse impacts to environmental justice communities. The following table identifies the impact analysis approach for each resource category.

Resource Category	Impact Analysis Approach
Air Quality	See below
Biological Resources	See below
Climate	See below
Coastal Resources	No impacts, therefore, no disproportionate adverse impacts
DOT 4(f)	If noise impacts on a DOT 4(f) resource are identified, additional analysis will be conducted to determine if a disproportionate adverse impact occurs to an EJ community
Farmlands	No impacts, therefore, no disproportionate adverse impacts
Hazardous Materials, Solid Waste, and Pollution Prevention	All impacts are mitigated, therefore, no disproportionate adverse impacts
Historic, Architectural, Archaeological, and Cultural Resources	No impacts, therefore, no disproportionate adverse impacts
Land Use	No impacts, therefore, no disproportionate adverse impacts
Natural Resources & Energy Supply	No impacts, therefore, no disproportionate adverse impacts
Noise & Noise-Compatible Land Use	See below
Business Relocation	See below
Surface Transportation	See below
Visual & Light	All impacts are mitigated, therefore, no disproportionate adverse impacts
Wetlands & Streams	All impacts are mitigated, therefore, no disproportionate adverse impacts
Wild & Scenic Rivers	No impacts, therefore, no disproportionate adverse impacts
Floodplains	No impacts, therefore, no disproportionate adverse impacts
Groundwater	If impacts on wellhead protection areas are identified, additional analysis will be conducted to determine if a disproportionate adverse impact occurs to an EJ community

Air Quality

The following outlines the approach to determine disproportionate and adverse impacts to environmental justice populations for air quality.

1. Estimate and disclose the potential criteria pollutant emissions due to the construction and operation of the Proposed Action, and the operation of the No Action.
2. Estimate the net emissions to determine if there would be a net increase in emissions due to construction and operation of the Proposed Action compared to the No Action of the same future year.
3. If the Air Quality analysis determines the Proposed Action would result in exceedances of the NAAQS for criteria pollutants, additional analysis will be completed to determine if there is a disproportionate impact to minority and/or low-income populations.
4. If the Proposed Action does not exceed the NAAQS, then the proposed project and alternatives are not expected to cause adverse health effects (including minority or low-income populations).

Climate

1. Estimate and disclose the potential GHG emissions due to the construction and operation of the Proposed Action and operation of the No Action.
2. Estimate the net GHG emissions to determine if there would be a net increase in GHG emissions due to construction and operation of the Proposed Action compared to the No Action.
3. Qualitative discussion on the changes King County is likely to experience due to climate change (increased temperature, (extreme heat events, changes in air quality, glacial melting), changes in volume and timing of precipitation (reduced snowpack, increased erosion, flooding), ecological effects of a changing climate (spread of disease, altered plant and animal habitats, negative impacts on human health and well-being), sea-level rise, coastal erosion, and saltwater intrusion) based on data from King County and NOAA.
4. Qualitative discussion on the potential climate impacts to minority and low-income populations, including vulnerability to climate change impacts.

Noise

The following outlines the approach to determine disproportionate and adverse impacts to environmental justice populations for noise and noise compatible land use. The 65+ DNL area and the DNL 1.5 dB increase area within the 65+ DNL noise contours will be analyzed for potential impacts to environmental justice populations. The 65 DNL is the noise level at which all land uses are considered compatible under federal land use guidelines⁶ and the DNL 1.5 dB increase area within the 65+ DNL noise contour is considered significantly impacted by noise.⁷

65+ DNL Area Analysis

1. Compare the percentage of minority/low-income population in the No Action 65+ DNL contour to the total number & percentage of minority/low-income population in the 65+ DNL contour Proposed Action of the same future year.
 - a. If there is a higher percentage of minority/low-income population that experience the 65+DNL noise levels under the Proposed Action compared to the No Action of the same future year then the noise impact may be disproportionate and adverse for environmental justice populations.
 - b. Final determination concerning whether there is a disproportionate and adverse impact will take into account mitigation measures for the impacted population.

DNL 1.5 dB Noise Increase Areas within the 65+ DNL Noise Contours

1. Compare the percentage of minority/low-income population, located within the DNL 1.5 noise increase areas within the 65+ DNL noise contours, in the No Action to the total percentage of minority/low-income population in the Proposed Action, of the same future year.
2. If there is a higher percentage of minority/low-income population that experience the DNL 1.5 dB increase in the 65+DNL noise levels under the Proposed Action compared to the No Action, of the same future year, then the noise impact may be disproportionate and adverse to environmental justice populations.
3. Final determination concerning whether there is a disproportionate and adverse impact will take into account mitigation measures for the impacted population.

⁶ 14 CFR Part 150, *Airport Noise Compatibility Planning*, Table 1

⁷ FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, Section 4.3-3 Significance Thresholds.

Construction Noise

1. If a construction noise impact is identified, review the census/ACS block groups located within the impact area to identify the presence of environmental justice populations and/or communities. If a Census/ACS block group(s) within the impact area has a majority population of minority or low income residences, the impact will be further evaluated to determine if the impact is disproportionate and adverse to environmental justice populations.
2. Final determination concerning whether there is a disproportionate and adverse impact will take into account mitigation measures for the impacted population.

Socioeconomic – Business Relocation

The following outlines the approach to determine disproportionate and adverse impacts to environmental justice populations for socioeconomic impacts related to business closures/relocations.

The Doug Fox Lot and PACCAR Aviation will be directly impacted by the Proposed Action. The Doug Fox Lot (approximately 25 employees), which is a parking business that leases Port-owned property, would be closed due to the proposed construction of the second terminal and parking garage. PACCAR Aviation (approximately 14 employees), located off Starling Dr., would have to close due to the proposed construction of the ARFF. Both businesses would be approached to determine, if possible, if the business is minority owned and the racial/ethnic and income makeup of the employees. If the business is determined to be minority owned and/or a majority of employees are minority or low-income, the business closure may be considered predominantly borne by environmental justice populations and may be considered a disproportionate and adverse impact unless mitigated.

Surface Transportation

The following outlines the approach to determine disproportionate and adverse impacts to environmental justice populations for surface transportation.

1. If an intersection has a deficient level of service (LOS) with the Proposed Action but not under the No Action, or the intersection has a deficient level of service (LOS) both with and without the Proposed Action, the mitigation status of the intersection will be analyzed.
2. If the intersection was mitigated by mitigation measures in surface transportation, determine that no disproportionate and adverse or significant environmental justice impact would occur.
3. For intersections that are not mitigated (per surface transportation), identify Census/ACS block groups around the intersection.
4. If a Census/ACS block group(s) surrounding or adjacent to the deficient intersection has a majority population of minority or low-income residences, the impact will be further evaluated to determine if it is disproportionate and adverse to environmental justice populations.
5. If mitigated by measures proposed as part of surface transportation, that mitigation will be sufficient to avoid disproportionate or adverse impacts to EJ populations. For any intersections where the Port has not mitigated the impact, evaluate whether the impact is disproportionate and adverse to environmental justice populations
 - a. For highways of statewide or regional significance, assume (with explanation) that impacts would be similar to environmental justice populations and non-environmental justice populations.
 - b. For local intersections, consider impacts to environmental justice communities.
6. Final determination concerning whether there is a disproportionate and adverse impact will take into account mitigation measures for the intersection.

5 Determine Significance

Based on CEQ regulations (40 CFR §1508.27a-b) determining whether an impact is significant requires consideration of both context (i.e., society as a whole, the affected region, the affected interests, and the locality) and intensity (i.e., the severity of the impact). The FAA has not established a significance threshold for environmental justice in FAA Order 1050.1F; however, the FAA has identified factors to consider when evaluating the context and intensity of potential environmental impacts for environmental justice. The factors include, but are not limited, to a situation in which the proposed action or alternative(s) would have the potential to lead to a disproportionate and adverse impact to an environmental justice population due to:

- Significant impacts in other environmental impact categories; or
- Impacts on the physical or natural environment that affect an environmental justice population in a way that is unique to the environmental justice population and significant to that population.

If these factors exist, there is not necessarily a significant impact; rather, further evaluation is required in light of context and intensity to determine if there are significant impacts.

Additional factors related to an impact's intensity that could lead to a finding of significance to minority populations and low-income populations in the resource category Study Area, despite having no significant impact to the general population include:⁸

- The health and safety of the community;
- The community's unique geographic characteristics, including proximity to cultural resources;
- The degree to which the action may establish a precedent for future actions with significant effects;
- Loss of significant cultural or historical resources; and
- The impact's relation to other cumulatively significant impacts.

Other factors that will be considered when determining the significance of impacts to environmental justice populations include the following, as documented in the Promising Practices report:⁹

- Determining whether an impact is significant to environmental justice populations by focusing the analysis on aspects of context and intensity most relevant to the impacted community. In general, this entails focusing on various factors related to an impact's severity as they pertain to the community's affected interests and locality (context).
- Consideration of unique vulnerabilities and/or exposure pathways
- When both positive and adverse impacts have been identified, a significant impact may exist even if an agency believes that on balance the effect will be beneficial. While an action may result in an overall potentially beneficial impact to the general population, the impact may still present an adverse impact to minority populations and low-income populations in the resource category Study Area.
- Mitigation measures developed to address any impacts to communities with EJ concerns

⁸ Promising Practices, page 34 (10)

⁹ Promising Practices, pages 33-34 (7, 8, and 9)

If potential significant impacts to environmental justice populations are identified, a summary of the findings will be provided to the Port of Seattle and FAA.

A table will be created to summarize the EJ impacts for each relevant resource category. Resource categories determined to have no impact will be discussed in the narrative and omitted from the table. The following is the template for the summary table that will be included in the document.

Environmental Resource Category	Impact?	Does the Impact Cause a Disproportionate and Adverse Effect?	Is this a Significant EJ Impact?
Air Quality			
Biological			
Climate			
Noise			
Socioeconomic (Business Relocation)			
Surface Transportation			

6 Develop Environmental Justice Mitigation Strategies

The unique characteristics and conditions of minority populations and low-income populations in the resource category Study Area may require adaptive and innovative mitigation measures to sufficiently address the specific circumstances and impacts presented by the proposed action.

The FAA Order 1050.1F Desk Reference states that any potential adverse impacts that affect minority or low-income populations should be identified early in the planning process so action can be taken to prevent them. Environmental justice impacts should be avoided or minimized through early communication with the public whenever possible, allowing ample time for public coordination and feedback. It is beneficial to include the public in identifying possible mitigation measures, ensuring that efforts reflect the specific needs of affected environmental justice populations.

Should any disproportionate and adverse impacts or significant impacts to environmental justice populations be identified, L&B will work with the Port of Seattle and FAA to develop appropriate mitigation measures.

When developing these mitigation measures the following mitigation methods for each potential impact identified (where possible while still satisfying the purpose and need of the project) will be considered, as documented in the Promising Practices Report:¹⁰

- Avoiding an impact by not taking a certain action or parts of an action.
- Minimizing an impact by limiting the degree or magnitude of the action and its implementation.
- Rectifying an impact by repairing, rehabilitating, or restoring the existing conditions.
- Reducing or eliminating an impact’s frequency over time, such as through preservation and maintenance operations during the life of the action.

¹⁰ Promising Practices, page 49 (4)

- Compensating for an impact by replacing or providing substitute resources or environments.

7 Engagement of the EJ Populations

L&B will work with the Port of Seattle and FAA to ensure that meaningful engagement of the affected environmental justice populations is conducted and to help develop more context specific mitigation measures and actions, if necessary. Any meeting materials will be approved by the FAA prior to dissemination.

If disproportionate and adverse impacts are identified additional outreach will occur prior to the release of the Draft EA with the impacted population to discuss mitigation. If there is not a disproportionate and adverse impact to the EJ populations, no engagement will occur until the Draft EA is published.

Attachment 1

1. Public Outreach with Environmental Justice Communities

Because the GSA, Existing (2022) 65+ DNL noise exposure and surface transportation areas were greater than 50 percent minority, the Port conducted two virtual roundtable discussions with community leaders and other local representatives on September 15 and September 17, 2020, as well as follow-up calls and emails to try to hear from all the leaders invited. The purpose of these discussions was to provide a background and summary of the Proposed Action, gain community input on the location of environmental justice communities and impact methodologies, and to ensure that the concerns of underrepresented communities were considered in the analysis. Input from the outreach meetings included requests to not use the terms minority and low-income because they have negative connotations, increase the annual income threshold for identifying low-income communities, and to provide funding to the communities to support various programs. The first two suggestions were considered for inclusion in the analysis of environmental justice, but it was determined that they could not be incorporated directly into the analysis because they do not conform to the definitions included in the EO. The third suggestion is understood as a request for mitigation.

2.Data By Census Block

Census Block	Total Population	White	Black	American Indian/ Alaskan Native	Asian	Native Hawaiian/ Other Pacific Islander	Some Other Race	Two or More Races	Hispanic	Percent Minority
27300.3001	225	82	38	3	36	0	0	10	56	63.6%
27300.3002	22	8	4	1	0	0	0	0	9	63.6%
27300.3005	0	0	0	0	0	0	0	0	0	0.0%
27300.3006	183	62	30	6	59	0	0	6	20	66.1%
27300.3007	41	19	1	0	7	0	0	7	7	53.7%
27300.3014	130	38	17	0	44	0	0	3	28	70.8%
27300.3015	105	33	12	0	41	0	1	6	12	68.6%
27300.3016	100	25	2	0	39	9	0	7	18	75.0%
27400.2012	260	116	5	0	60	6	0	9	64	55.4%
27400.2014	116	60	5	0	18	0	0	7	26	48.3%
28000.1000	0	0	0	0	0	0	0	0	0	0.0%
28000.1001	19	6	1	0	2	0	0	5	5	68.4%
28000.1002	68	40	2	0	10	3	0	4	9	41.2%
28000.1003	0	0	0	0	0	0	0	0	0	0.0%
28000.1004	0	0	0	0	0	0	0	0	0	0.0%
28000.1005	4	0	0	0	0	1	0	0	3	100.0%
28000.1006	0	0	0	0	0	0	0	0	0	0.0%
28000.1007	0	0	0	0	0	0	0	0	0	0.0%
28000.1008	508	237	68	5	52	34	3	23	86	53.3%
28000.2000	921	280	130	9	148	20	1	31	302	69.6%
28000.3008	0	0	0	0	0	0	0	0	0	0.0%
28000.3010	0	0	0	0	0	0	0	0	0	0.0%
28100.1001	450	118	47	1	147	30	0	20	87	73.8%
28100.1002	0	0	0	0	0	0	0	0	0	0.0%
28100.1003	425	86	188	1	81	0	0	16	53	79.8%
28100.2001	197	61	37	0	27	11	0	11	50	69.0%
28100.2002	219	55	41	1	99	0	0	6	17	74.9%
28100.2003	23	1	2	2	0	1	0	8	9	95.7%
28100.2005	0	0	0	0	0	0	0	0	0	0.0%

Census Block	Total Population	White	Black	American Indian/ Alaskan Native	Asian	Native Hawaiian/ Other Pacific Islander	Some Other Race	Two or More Races	Hispanic	Percent Minority
28100.2006	0	0	0	0	0	0	0	0	0	0.0%
28100.2007	43	16	16	0	0	0	0	1	10	62.8%
28100.2008	213	18	136	1	17	10	0	3	28	91.5%
28100.2009	80	11	12	0	11	18	0	5	23	86.3%
28100.2010	0	0	0	0	0	0	0	0	0	0.0%
28100.2011	0	0	0	0	0	0	0	0	0	0.0%
28100.2012	0	0	0	0	0	0	0	0	0	0.0%
28100.2013	0	0	0	0	0	0	0	0	0	0.0%
28100.2014	316	39	174	0	34	2	0	4	63	87.7%
28100.2015	0	0	0	0	0	0	0	0	0	0.0%
28100.2016	0	0	0	0	0	0	0	0	0	0.0%
28200.2002	265	92	84	0	45	5	0	5	34	65.3%
28200.2004	0	0	0	0	0	0	0	0	0	0.0%
28200.2005	448	118	150	3	69	18	0	9	81	73.7%
28200.2007	112	48	19	1	8	12	0	7	17	57.1%
28200.2008	0	0	0	0	0	0	0	0	0	0.0%
28200.3008	324	90	83	7	57	18	0	6	63	72.2%
28402.1000	387	73	147	2	87	7	2	14	55	81.1%
28402.1001	121	15	66	0	17	0	0	5	18	87.6%
28402.1002	29	7	2	0	7	2	0	1	10	75.9%
28402.1003	108	36	11	0	34	0	0	3	24	66.7%
28402.1004	69	22	2	1	33	0	0	5	6	68.1%
28402.1005	126	53	22	3	32	0	1	0	15	57.9%
28402.1006	119	44	11	1	34	3	4	0	22	63.0%
28402.2005	448	92	210	0	76	4	9	3	54	79.5%
28402.2006	57	14	9	0	11	2	0	5	16	75.4%
28402.3005	42	18	2	0	14	0	0	1	7	57.1%
28402.3006	48	17	3	1	11	0	4	3	9	64.6%
28402.3007	37	12	6	0	6	0	0	0	13	67.6%
28402.3008	45	20	2	0	18	2	0	3	0	55.6%
28402.3014	50	19	2	2	11	0	0	1	15	62.0%
28402.4000	0	0	0	0	0	0	0	0	0	0.0%

Census Block	Total Population	White	Black	American Indian/ Alaskan Native	Asian	Native Hawaiian/ Other Pacific Islander	Some Other Race	Two or More Races	Hispanic	Percent Minority
28402.4001	0	0	0	0	0	0	0	0	0	0.0%
28402.4002	0	0	0	0	0	0	0	0	0	0.0%
28402.4003	0	0	0	0	0	0	0	0	0	0.0%
28402.4004	0	0	0	0	0	0	0	0	0	0.0%
28402.4005	0	0	0	0	0	0	0	0	0	0.0%
28402.4006	0	0	0	0	0	0	0	0	0	0.0%
28402.4007	664	34	507	0	41	5	0	15	62	94.9%
28402.4008	158	2	132	0	8	0	0	9	7	98.7%
28402.4009	266	52	95	0	67	4	1	12	35	80.5%
28402.4010	44	6	3	1	18	0	0	1	15	86.4%
28402.4011	0	0	0	0	0	0	0	0	0	0.0%
28402.4012	0	0	0	0	0	0	0	0	0	0.0%
28402.4013	0	0	0	0	0	0	0	0	0	0.0%
28402.4014	0	0	0	0	0	0	0	0	0	0.0%
28402.4015	0	0	0	0	0	0	0	0	0	0.0%
28402.4016	0	0	0	0	0	0	0	0	0	0.0%
28402.4017	0	0	0	0	0	0	0	0	0	0.0%
28402.4018	0	0	0	0	0	0	0	0	0	0.0%
28402.4019	0	0	0	0	0	0	0	0	0	0.0%
28402.4020	0	0	0	0	0	0	0	0	0	0.0%
28402.4021	53	36	2	0	2	0	0	9	4	32.1%
28402.4022	0	0	0	0	0	0	0	0	0	0.0%
28402.4023	0	0	0	0	0	0	0	0	0	0.0%
28403.1000	550	428	15	13	49	0	0	14	31	22.2%
28403.1001	165	50	27	0	37	14	0	6	31	69.7%
28403.1003	88	24	4	0	20	5	1	2	32	72.7%
28403.2000	1531	238	799	3	210	33	3	21	224	84.5%
28500.1000	0	0	0	0	0	0	0	0	0	0.0%
28500.1001	0	0	0	0	0	0	0	0	0	0.0%
28500.1002	141	41	16	0	39	0	0	7	38	70.9%
28500.1003	0	0	0	0	0	0	0	0	0	0.0%
28500.1004	385	184	31	0	50	11	0	14	95	52.2%

Census Block	Total Population	White	Black	American Indian/ Alaskan Native	Asian	Native Hawaiian/ Other Pacific Islander	Some Other Race	Two or More Races	Hispanic	Percent Minority
28500.1008	67	42	2	0	9	0	0	4	10	37.3%
28500.1009	0	0	0	0	0	0	0	0	0	0.0%
28500.1010	0	0	0	0	0	0	0	0	0	0.0%
28500.1011	0	0	0	0	0	0	0	0	0	0.0%
28500.1012	4	0	0	0	0	0	0	1	3	100.0%
28500.1013	50	28	7	0	0	0	0	3	12	44.0%
28500.1014	21	3	0	0	3	3	1	3	8	85.7%
28500.1018	44	24	0	0	7	2	0	4	7	45.5%
28500.1019	0	0	0	0	0	0	0	0	0	0.0%
28500.2002	140	69	5	1	22	0	0	6	37	50.7%
28500.2005	11	7	0	0	0	0	0	0	4	36.4%
28500.2007	145	66	3	0	21	0	0	27	28	54.5%
28500.2016	0	0	0	0	0	0	0	0	0	0.0%
28500.2017	0	0	0	0	0	0	0	0	0	0.0%
28500.2018	0	0	0	0	0	0	0	0	0	0.0%
28500.2019	0	0	0	0	0	0	0	0	0	0.0%
28700.1000	83	33	12	1	8	4	0	3	22	60.2%
28700.1002	212	92	16	2	56	2	0	14	30	56.6%
28801.2000	0	0	0	0	0	0	0	0	0	0.0%
28801.2001	9	4	2	0	0	0	0	0	3	55.6%
28801.2002	14	9	0	0	1	0	0	3	1	35.7%
28801.2003	0	0	0	0	0	0	0	0	0	0.0%
28801.2004	0	0	0	0	0	0	0	0	0	0.0%
28801.2005	285	108	116	4	32	2	0	3	20	62.1%
28801.2006	0	0	0	0	0	0	0	0	0	0.0%
28801.2007	0	0	0	0	0	0	0	0	0	0.0%
28801.2008	0	0	0	0	0	0	0	0	0	0.0%
28801.2009	0	0	0	0	0	0	0	0	0	0.0%
28801.2010	21	7	0	0	0	0	0	0	14	66.7%
28801.2011	28	13	0	0	0	0	0	0	15	53.6%
28801.2012	797	391	104	75	18	0	2	10	197	50.9%
28801.2013	0	0	0	0	0	0	0	0	0	0.0%

Census Block	Total Population	White	Black	American Indian/ Alaskan Native	Asian	Native Hawaiian/ Other Pacific Islander	Some Other Race	Two or More Races	Hispanic	Percent Minority
28801.2014	82	36	11	0	25	0	0	0	10	56.1%
28801.2018	60	15	3	0	14	1	2	2	23	75.0%
28801.2019	0	0	0	0	0	0	0	0	0	0.0%
28801.2020	11	5	0	0	4	0	0	2	0	54.5%
28802.1001	100	37	11	0	31	1	0	2	18	63.0%
28802.1002	124	11	72	2	11	6	0	2	20	91.1%
28802.1003	873	252	189	1	131	45	1	23	231	71.1%
28802.1005	85	38	2	5	14	0	4	9	13	55.3%
28802.1010	0	0	0	0	0	0	0	0	0	0.0%
28802.2026	29	2	0	0	10	1	0	5	11	93.1%
27300.3001	225	82	38	3	36	0	0	10	56	63.6%
27300.3002	22	8	4	1	0	0	0	0	9	63.6%
27300.3005	0	0	0	0	0	0	0	0	0	0.0%
27300.3006	183	62	30	6	59	0	0	6	20	66.1%
27300.3007	41	19	1	0	7	0	0	7	7	53.7%
27300.3014	130	38	17	0	44	0	0	3	28	70.8%
27300.3015	105	33	12	0	41	0	1	6	12	68.6%
27300.3016	100	25	2	0	39	9	0	7	18	75.0%
27400.2012	260	116	5	0	60	6	0	9	64	55.4%
27400.2014	116	60	5	0	18	0	0	7	26	48.3%
28000.1000	0	0	0	0	0	0	0	0	0	0.0%
28000.1001	19	6	1	0	2	0	0	5	5	68.4%
28000.1002	68	40	2	0	10	3	0	4	9	41.2%
28000.1003	0	0	0	0	0	0	0	0	0	0.0%
28000.1004	0	0	0	0	0	0	0	0	0	0.0%
28000.1005	4	0	0	0	0	1	0	0	3	100.0%
28000.1006	0	0	0	0	0	0	0	0	0	0.0%
28000.1007	0	0	0	0	0	0	0	0	0	0.0%
28000.1008	508	237	68	5	52	34	3	23	86	53.3%
28000.2000	921	280	130	9	148	20	1	31	302	69.6%
28000.3008	0	0	0	0	0	0	0	0	0	0.0%
28000.3010	0	0	0	0	0	0	0	0	0	0.0%

Census Block	Total Population	White	Black	American Indian/ Alaskan Native	Asian	Native Hawaiian/ Other Pacific Islander	Some Other Race	Two or More Races	Hispanic	Percent Minority
28100.1001	450	118	47	1	147	30	0	20	87	73.8%
28100.1002	0	0	0	0	0	0	0	0	0	0.0%
28100.1003	425	86	188	1	81	0	0	16	53	79.8%
28100.2001	197	61	37	0	27	11	0	11	50	69.0%
28100.2002	219	55	41	1	99	0	0	6	17	74.9%
28100.2003	23	1	2	2	0	1	0	8	9	95.7%
28100.2005	0	0	0	0	0	0	0	0	0	0.0%
28100.2006	0	0	0	0	0	0	0	0	0	0.0%
28100.2007	43	16	16	0	0	0	0	1	10	62.8%
28100.2008	213	18	136	1	17	10	0	3	28	91.5%
28100.2009	80	11	12	0	11	18	0	5	23	86.3%
28100.2010	0	0	0	0	0	0	0	0	0	0.0%
28100.2011	0	0	0	0	0	0	0	0	0	0.0%
28100.2012	0	0	0	0	0	0	0	0	0	0.0%
28100.2013	0	0	0	0	0	0	0	0	0	0.0%
28100.2014	316	39	174	0	34	2	0	4	63	87.7%
28100.2015	0	0	0	0	0	0	0	0	0	0.0%
28100.2016	0	0	0	0	0	0	0	0	0	0.0%
28200.2002	265	92	84	0	45	5	0	5	34	65.3%
28200.2004	0	0	0	0	0	0	0	0	0	0.0%
28200.2005	448	118	150	3	69	18	0	9	81	73.7%
28200.2007	112	48	19	1	8	12	0	7	17	57.1%
28200.2008	0	0	0	0	0	0	0	0	0	0.0%
28200.3008	324	90	83	7	57	18	0	6	63	72.2%
28402.1000	387	73	147	2	87	7	2	14	55	81.1%
28402.1001	121	15	66	0	17	0	0	5	18	87.6%
28402.1002	29	7	2	0	7	2	0	1	10	75.9%
28402.1003	108	36	11	0	34	0	0	3	24	66.7%
28402.1004	69	22	2	1	33	0	0	5	6	68.1%
28402.1005	126	53	22	3	32	0	1	0	15	57.9%
28402.1006	119	44	11	1	34	3	4	0	22	63.0%
28402.2005	448	92	210	0	76	4	9	3	54	79.5%

Census Block	Total Population	White	Black	American Indian/ Alaskan Native	Asian	Native Hawaiian/ Other Pacific Islander	Some Other Race	Two or More Races	Hispanic	Percent Minority
28402.2006	57	14	9	0	11	2	0	5	16	75.4%
28402.3005	42	18	2	0	14	0	0	1	7	57.1%
28402.3006	48	17	3	1	11	0	4	3	9	64.6%
28402.3007	37	12	6	0	6	0	0	0	13	67.6%
28402.3008	45	20	2	0	18	2	0	3	0	55.6%
28402.3014	50	19	2	2	11	0	0	1	15	62.0%
28402.4000	0	0	0	0	0	0	0	0	0	0.0%
28402.4001	0	0	0	0	0	0	0	0	0	0.0%
28402.4002	0	0	0	0	0	0	0	0	0	0.0%
28402.4003	0	0	0	0	0	0	0	0	0	0.0%
28402.4004	0	0	0	0	0	0	0	0	0	0.0%
28402.4005	0	0	0	0	0	0	0	0	0	0.0%
28402.4006	0	0	0	0	0	0	0	0	0	0.0%
28402.4007	664	34	507	0	41	5	0	15	62	94.9%
28402.4008	158	2	132	0	8	0	0	9	7	98.7%
28402.4009	266	52	95	0	67	4	1	12	35	80.5%
28402.4010	44	6	3	1	18	0	0	1	15	86.4%
28402.4011	0	0	0	0	0	0	0	0	0	0.0%
28402.4012	0	0	0	0	0	0	0	0	0	0.0%
28402.4013	0	0	0	0	0	0	0	0	0	0.0%
28402.4014	0	0	0	0	0	0	0	0	0	0.0%
28402.4015	0	0	0	0	0	0	0	0	0	0.0%
28402.4016	0	0	0	0	0	0	0	0	0	0.0%
28402.4017	0	0	0	0	0	0	0	0	0	0.0%
28402.4018	0	0	0	0	0	0	0	0	0	0.0%
28402.4019	0	0	0	0	0	0	0	0	0	0.0%
28402.4020	0	0	0	0	0	0	0	0	0	0.0%
28402.4021	53	36	2	0	2	0	0	9	4	32.1%
28402.4022	0	0	0	0	0	0	0	0	0	0.0%
28402.4023	0	0	0	0	0	0	0	0	0	0.0%
28403.1000	550	428	15	13	49	0	0	14	31	22.2%
28403.1001	165	50	27	0	37	14	0	6	31	69.7%

Census Block	Total Population	White	Black	American Indian/ Alaskan Native	Asian	Native Hawaiian/ Other Pacific Islander	Some Other Race	Two or More Races	Hispanic	Percent Minority
28403.1003	88	24	4	0	20	5	1	2	32	72.7%
28403.2000	1531	238	799	3	210	33	3	21	224	84.5%
28500.1000	0	0	0	0	0	0	0	0	0	0.0%
28500.1001	0	0	0	0	0	0	0	0	0	0.0%
28500.1002	141	41	16	0	39	0	0	7	38	70.9%
28500.1003	0	0	0	0	0	0	0	0	0	0.0%
28500.1004	385	184	31	0	50	11	0	14	95	52.2%
28500.1008	67	42	2	0	9	0	0	4	10	37.3%
28500.1009	0	0	0	0	0	0	0	0	0	0.0%
28500.1010	0	0	0	0	0	0	0	0	0	0.0%
28500.1011	0	0	0	0	0	0	0	0	0	0.0%
28500.1012	4	0	0	0	0	0	0	1	3	100.0%
28500.1013	50	28	7	0	0	0	0	3	12	44.0%
28500.1014	21	3	0	0	3	3	1	3	8	85.7%
28500.1018	44	24	0	0	7	2	0	4	7	45.5%
28500.1019	0	0	0	0	0	0	0	0	0	0.0%
28500.2002	140	69	5	1	22	0	0	6	37	50.7%
28500.2005	11	7	0	0	0	0	0	0	4	36.4%
28500.2007	145	66	3	0	21	0	0	27	28	54.5%
28500.2016	0	0	0	0	0	0	0	0	0	0.0%
28500.2017	0	0	0	0	0	0	0	0	0	0.0%
28500.2018	0	0	0	0	0	0	0	0	0	0.0%
28500.2019	0	0	0	0	0	0	0	0	0	0.0%
28700.1000	83	33	12	1	8	4	0	3	22	60.2%
28700.1002	212	92	16	2	56	2	0	14	30	56.6%
28801.2000	0	0	0	0	0	0	0	0	0	0.0%
28801.2001	9	4	2	0	0	0	0	0	3	55.6%
28801.2002	14	9	0	0	1	0	0	3	1	35.7%
28801.2003	0	0	0	0	0	0	0	0	0	0.0%
28801.2004	0	0	0	0	0	0	0	0	0	0.0%
28801.2005	285	108	116	4	32	2	0	3	20	62.1%
28801.2006	0	0	0	0	0	0	0	0	0	0.0%

Census Block	Total Population	White	Black	American Indian/ Alaskan Native	Asian	Native Hawaiian/ Other Pacific Islander	Some Other Race	Two or More Races	Hispanic	Percent Minority
28801.2007	0	0	0	0	0	0	0	0	0	0.0%
28801.2008	0	0	0	0	0	0	0	0	0	0.0%
28801.2009	0	0	0	0	0	0	0	0	0	0.0%
28801.2010	21	7	0	0	0	0	0	0	14	66.7%
28801.2011	28	13	0	0	0	0	0	0	15	53.6%
28801.2012	797	391	104	75	18	0	2	10	197	50.9%
28801.2013	0	0	0	0	0	0	0	0	0	0.0%
28801.2014	82	36	11	0	25	0	0	0	10	56.1%
28801.2018	60	15	3	0	14	1	2	2	23	75.0%
28801.2019	0	0	0	0	0	0	0	0	0	0.0%
28801.2020	11	5	0	0	4	0	0	2	0	54.5%
28802.1001	100	37	11	0	31	1	0	2	18	63.0%
28802.1002	124	11	72	2	11	6	0	2	20	91.1%
28802.1003	873	252	189	1	131	45	1	23	231	71.1%
28802.1005	85	38	2	5	14	0	4	9	13	55.3%
28802.1010	0	0	0	0	0	0	0	0	0	0.0%
28802.2026	29	2	0	0	10	1	0	5	11	93.1%
Total	14,843	4,588	3,985	159	2,460	357	40	499	2,755	69.1%
Total Percent	100%	30.9%	26.8%	1.1%	16.6%	2.4%	0.3%	3.4%	18.6%	69.1%

APPENDIX K

Socioeconomics, Environmental Justice, and Children's Health

References

Sea-Tac International Airport Economic Impacts



Sea-Tac International Airport Economic Impacts

Revised August 2018





*Community Attributes Inc. tells data-rich stories about communities
that are important to decision makers.*

President and CEO:
Chris Mefford

Project Manager:
Michaela Jellicoe

Analysts:
Madalina Calen
Spencer Cohen, PhD
Maeve Edstrom
Maureen McLennon
Doudou Feng
Bryan Lobel
Robert Douglas

Community Attributes Inc.
1411 Fourth Avenue, Suite 1401
Seattle, Washington 98101

www.communityattributes.com

EXECUTIVE SUMMARY

Sea-Tac International Airport serves as the gateway to Seattle, Washington state, and the larger Pacific Northwest for air travelers. It is the 9th busiest airport in the United States (as of 2016), hosting an estimated 46.8 million passengers in 2017.¹ Air cargo volume at Sea-Tac increased by more than 10% between 2015 and 2016,² and is estimated to total nearly 425,860 metric tons in 2017. Sea-Tac offers non-stop flights to more than 90 domestic and 20 international destinations. Sea-Tac connects Washington's businesses, goods and residents throughout the United States and to the world.

Key Asset to Washington Businesses

Firms of all sizes throughout Washington count on the worldwide connections that allow them to conduct business with their customers, vendors, partners, and connect them to the top talent they recruit throughout the globe. Washington's export industries depend on access to global markets, facilitated by the airport. The cherry industry is a prime example of a Washington industry that depends on the airport to transport their goods to global markets.

In 2016, Washington produced over 207,000 tons of cherries,³ of which roughly 21,500 tons (10%) were exported through Sea-Tac.⁴ These exports support jobs, wages, and economic activity in some of Washington's more rural communities in Yakima Valley and Wenatchee area.

Economic Impacts

Sea-Tac International Airport is an important driver for the Washington state economy. The airport's on-site activities directly supported **19,100 jobs** in 2017, and \$1.4 billion in total compensation. The average annual wage for these jobs is \$73,500. In total Sea-Tac International Airport **directly supported \$5.6 billion** in economic activity in 2017.

Overall, both directly and through multiplier effects, Sea-Tac International Airport supported almost **\$22.5 billion in economic activity, 151,400 jobs** throughout Washington and \$7.1 billion in total compensation.

¹ Passenger data provided by the Port of Seattle. Passengers are defined as the total of all enplanements and deplanements at Sea-Tac International Airport, and include all travelers through the airport, including local travelers, transfers, and visitors.

² North American Airports Council International, 2016 North American Airport Traffic Summary.

³ National Agricultural Statistics Service (NASS), Agricultural Statistics Board, United States Department of Agriculture (USDA), June 2017.

⁴ U.S. Census Bureau: Economic Indicators Division USA Trade Online, 2017.

Visitor Impacts

An estimated **8.2 million visitors** traveled to Washington through Sea-Tac in 2017.⁵ These visitors on average spent \$876 per visit in Washington. The spending of visitors traveling to Washington through the airport supported 68,200 jobs, \$2.2 billion in total compensation, and \$5.9 billion in economic activity. This economic activity is generated through visitor spending on lodging, food, transportation, and more.

Community Impacts

Sea-Tac International Airport is also an important driver for local economies. Nearly 7,800 airport employees live in the communities of South King County, including Federal Way, Kent, SeaTac, and Tukwila, each home to more than 1,000 employees. Airport workers also make up a significant portion (more than 3%) of the resident labor force of Tukwila, SeaTac, Des Moines, and Federal Way.

The airport supported an estimated 26,300 jobs, \$1.7 billion in total compensation and \$6.4 billion in economic activity in the City of SeaTac in 2017. In Federal Way the airport supported 3,900 jobs and \$440 million in economic activity. Additionally, the airport supported 4,200 jobs in Tukwila and more than \$483 million in economic activity. Jobs supported by the airport represented 19% of total employment in Des Moines and airport supported economic activity represented 6% of total estimated city GDP. In Burien, Sea-Tac supported 1,400 jobs and almost \$157 million in economic activity. Jobs and economic activity supported by the airport's activities represented 18% of Normandy Park employment and 5% of estimated city GDP.

The Port of Seattle also works to promote economic development to benefit the communities in close proximity to the airport. This includes construction projects on vacant Port-owned land. In Des Moines, the Port is partnering with the City of Des Moines and Panattoni Development to build the Des Moines Creek Business Park, estimated to house more than 6,000 jobs. In Burien, the Port is working with the City of Burien, Panattoni Development and Bridge Development Partners on the Northeast Redevelopment Area Project to transition approximately 450,000 square feet of industrial warehouses to airport-compatible activities that both benefit the Burien economy and tax base as well as advancing the Port of Seattle's air cargo strategy.

⁵ Visitors are a subset of the total passenger count. Visitors exclude all transfers and local residents included within the passenger number. Additionally, passengers include both enplanements and deplanements, while a visitor counts the number of round-trip non-local passengers staying within the region.

Capital Projects to Support Future Growth

Beyond capital projects on vacant Port-owned property, the Port of Seattle is also making significant investments in the airport to ensure that Sea-Tac can continue to serve the residents and businesses of Washington into the future. Between 2017 and 2022 the Port of Seattle is forecasted to spend \$3.2 billion on capital improvements at the airport. These improvements include the International Arrivals Facility, which will expand Sea-Tac's ability to meet demand for access to and from international destinations, and the North Satellite Modernization project, which will expand the North Satellite by eight new gates and will also double the existing square footage for dining and retail services.

This page was intentionally left blank.

CONTENTS

Executive Summary	i
Introduction	1
Airport Activities.....	2
Overview of Definitions and Categories	2
Passenger Airlines and Services	3
Airport Services and Business-to-Business Vendors	6
Ground Transportation	7
Contract Construction and Consulting Services.....	8
Air Cargo	11
Visitor Spending	16
Sea-Tac Economic Impact.....	20
Direct Impacts	20
Total Economic Impacts	23
Sea-Tac Fiscal Impacts.....	25
Community Impacts	27
SeaTac	29
Burien	30
Des Moines	31
Normandy Park	32
Tukwila	33
Federal Way.....	34
Summary and Conclusions	35

This page was intentionally left blank.

INTRODUCTION

Background and Purpose

Sea-Tac International Airport is a critical economic development asset for the Greater Seattle region, facilitating the movement of people and cargo to and from the region. Each year, millions of passengers fly into or out of Sea-Tac, including tourists who spend disposable household income in the region and business travelers, for which direct flights to and from Seattle are essential for commerce. The airport also moves hundreds of thousands of tons of air cargo each year, including seafood, mail, cherries, and medical devices. Air cargo shipments through the airport support both jobs handling these shipments and the industries that rely on close, efficient, and dependable air cargo services, such as the many farmers and agricultural produce companies in Eastern Washington that export to East Asia.

This study presents an updated assessment of the economic impacts of the airport to both Washington state and the surrounding airport communities with profiles for SeaTac, Burien, Des Moines, Normandy Park, Tukwila, and Federal Way. Analytics will assess both the total impact of airport activities and impacts by sub-category of activity.

Methods

Analytics presented in this report use data from a variety of sources, including state and federal employment, wage data, trade data, information and data provided by the Port of Seattle, and information and feedback from key airport stakeholders in the industry and the surrounding communities. Economic impact modeling leverages the Washington State Input-Output Model, with customizations to localize the model to economic conditions within each of the six cities for which detailed profiles were developed.

Organization of Report

The remainder of this report is organized as follows:

- **Airport activities.**
 - **Overview of Definitions and Categories** - Reviews the definitions and categories used to describe the airport.
 - **Passenger airlines and services.** Describes passenger activities, including major employers and jobs, wages, and revenues generated from these activities at the airport and nearby businesses.
 - **Airport services and business-to-business vendors.** Discussion of on and off-site services focused on businesses, such as catering services to the airlines.

- **Ground transportation.** Describes and quantifies the ground transportation sector serving and supported by Sea-Tac, including car rentals and taxis.
- **Contract Construction and Consulting Services.** Profiles the construction and consulting services activities supported by Sea-Tac.
- **Air Cargo.** Quantifies the volume and types of air cargo transported through Sea-Tac.
- **Visitor Impacts.** Illustrates the spending and activities supported by visitors traveling in and out of the region through Sea-Tac.
- **Sea-Tac Economic Impacts.** Summarizes the economic impacts of the airport.
- **Sea-Tac Fiscal Impacts.** Summarizes the fiscal impacts of the airport to the State of Washington.
- **Surrounding Cities.** Profiles the quantitative and qualitative impacts of the airport on each of six surrounding cities.

AIRPORT ACTIVITIES

Sea-Tac International Airport is home to more than 360 businesses, ranging from passenger airlines to ground transportation and air cargo. The airport also works with a variety of construction and consulting firms as part of the airport's long-term planning.

Overview of Definitions and Categories

Airport activities are broken into six major categories. These include passenger airlines and services; airport services and business-to-business vendors; ground transportation; contract construction and consulting services; air cargo; and off-site visitor spending. **Exhibit 1** provides an overview of businesses classified under each category.

A more detailed discussion of these six sectors is provided in the sections that follow, with a description of the major participants in each sector and their direct economic impacts.

Exhibit 1. Airport Activities by Category

Passenger Airlines and Services	Airport Services and Business-to-Business Vendors	Ground Transportation	Contract Construction & Consulting Services	Air Cargo	Visitor Spending (off-site)
Passenger Airlines Skycaps curbside check-in, wheelchair assistance, baggage	Aviation Service Firms FBOs providing fuel, parts Airline Catering Services	Car Rental Firms Buses and Shuttles Limo Services	Construction & Remodeling Services at the Airport Architecture & Engineering Services	Passenger and Air Cargo Airlines Air Cargo Handlers Freight Forwarders	Local Retail, Restaurants & Other Services Entertainment Accommodations Travel Agencies
Bank & Insurance currency exchange, flight insurance	Airline Janitorial Services Port of Seattle Administration	Taxis Uber, Lyft		Trucking Firms Moving Cargo	
Retail/ Concession Tenants	State, City, Federal Govt. TSA, FAA, DHS			Air Couriers	

Source: Community Attributes Inc., 2017.

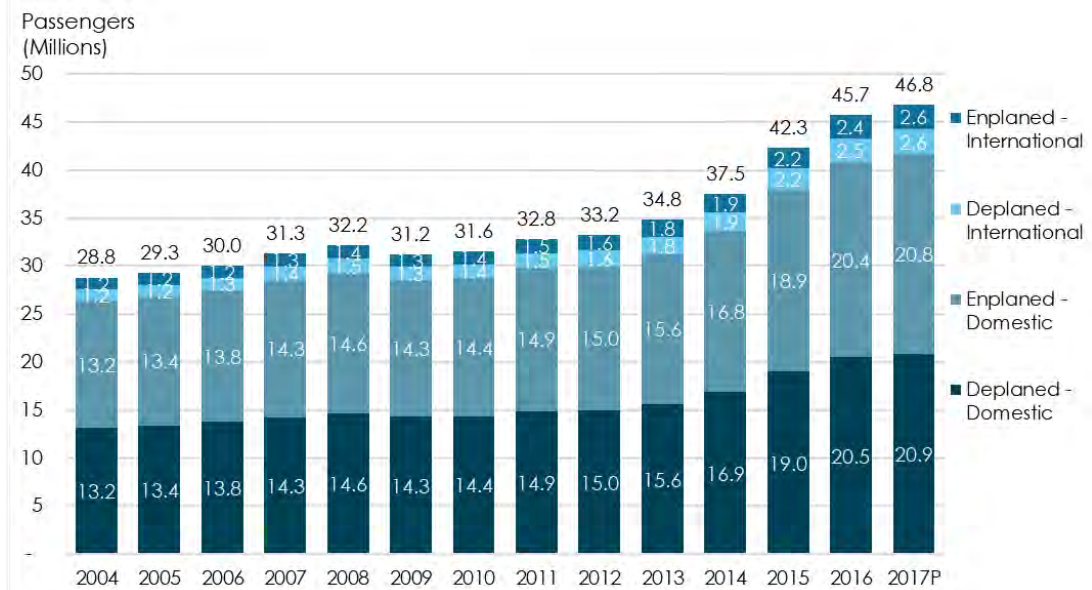
Passenger Airlines and Services

The Passenger Airlines and Services category covers passenger airlines, Skycaps, banks and currency exchange, flight insurance, and airport retail and concession tenants.

The airport is served by 10 U.S.-flagged passenger airlines and 17 foreign-flagged passenger airlines.⁶ Passenger volume (including enplaning and deplaning) is expected to increase from 45.7 million in 2016 to an estimated 46.8 million in 2017 (**Exhibit 2**). Approximately 11% of 23.3 million enplaned passengers in 2017 were on international non-stop flights and 89% were on domestic flights.

⁶ Sources provided by the Port of Seattle.

Exhibit 2. Sea-Tac Airline Traffic, Passengers Emplaned and Deplaned, 2004-2017



Sources: Port of Seattle, *Current and Historic Traffic and Operations Statistics, 2017*; Community Attributes Inc., 2017.

*The 2017 value is projected based on the percentage change in passenger numbers from 2016 year-to-date to 2017 year-to-date.

Exhibit 3 shows the distribution of passenger volumes by airline in 2017. Alaska Airlines and Delta carried an estimated 33 million passengers to and from Sea-Tac, accounting for over 70% of the total passenger volume.

The status of Sea-Tac as a major hub for Alaska Airlines and Delta is important not only for the national and global route connections that it enables, but for the volume of supporting economic activity that occurs at a hub airport facility. An airline “hub” refers to a strategically located airport where a carrier’s major facilities and operations are housed, and where most of its scheduled flights originate from or terminate at. Hub airports are the most efficient way of connecting many destinations and create economies of scale by pooling demand.

Exhibit 3. Airlines at Sea-Tac, Hubs and Headquarters, Sea-Tac International Airport, 2016-2017

Airline Name	Projected Passengers 2017	Passengers 2016	% Change from 2016
Alaska Airlines*	22,624,000	22,734,000	-0.5%
Delta Air Lines*	10,388,000	9,430,000	10.2%
Southwest Airlines	3,118,000	3,451,000	-9.6%
United Airlines*	2,987,000	2,869,000	4.1%
American Airlines	2,597,000	2,707,000	-4.1%
Spirit	577,000	299,000	93.0%
JetBlue Airways	554,000	578,000	-4.2%
Virgin America	537,000	549,000	-2.2%
Hawaiian Airlines	398,000	402,000	-1.0%
Frontier Airlines	291,000	329,000	-11.6%
Emirates	284,000	332,000	-14.5%
Air Canada*	280,000	266,000	5.3%
EVA Air	273,000	214,000	27.6%
British Airways	256,000	270,000	-5.2%
Hainan Airlines	243,000	207,000	17.4%
Lufthansa Airlines	207,000	200,000	3.5%
American Eagle	182,000	67,000	171.6%
Icelandair	159,000	147,000	8.2%
Asiana Airlines	150,000	147,000	2.0%
Korean Air	135,000	128,000	5.5%
All Nippon Airways	133,000	113,000	17.7%
Sun Country Airlines	116,000	128,000	-9.4%
Condor	96,000	60,000	60.0%
Omni Air International	41,000	65,000	-36.9%
Other	196,000	45,000	335.6%
Total	46,822,000	45,737,000	2.4%

Sources: Port of Seattle, *Seattle-Tacoma International Airport Annual Activity Report, 2017*; Community Attributes Inc., 2017.

*Passenger numbers are rollups and include passengers carried by regional partners. The 2017 values are projected based on the percentage change in passenger numbers by airline from 2016 year-to-date to 2017 year-to-date.

Passenger and freight operations require a large number of supporting services at the airport. This contract work within the passenger services category includes: passenger check-in and ticketing, passenger boarding, airline lounge staffing, and baggage assistance. One example is Swissport International. The company operates three lines of business at Sea-Tac: fueling, ground handling, and cargo. Their ground handling division employs an estimated 400 people at Sea-Tac, of which approximately half are passenger service agents.

Concessionaires such as restaurants, bars, specialty shops, newspaper stands, and foreign exchange and travel insurance counters occupy leased

space in Sea-Tac’s terminal buildings. These in-terminal retail businesses capture spending from both visitors to the region and connecting passengers, and accordingly support local employment.

HMS Host is the biggest provider of food and beverage services for travelers at Sea-Tac. The business operates several restaurant brands at the airport, such as Dungeness Bay Seafood, Dish D’Lish, the Great American Bagel, Seattle Taproom, and others. In 2017, HMS Host is expected to generate approximately \$62 million in concession sales at Sea-Tac International Airport.

Passenger Airlines and Services businesses employed an estimated 6,700 workers at Sea-Tac in 2017. These businesses paid \$503 million in total compensation to their employees and generated \$2.4 billion in direct business revenues.

Airport Services and Business-to-Business Vendors

The Airport Services and Business-to-Business Vendors category includes both government operations and private sector businesses. This category represents both government operations and vendor activities that do not involve direct customer engagement. Examples include Port of Seattle Airport Division staff, the Transportation Security Administration (TSA), baggage handling and other “backend” ground-handling activities, and airline catering services. **Exhibit 4** reports major employers under this category by airport employment.

Exhibit 4. Major Airport Services and Business-to-Business Vendors at Sea-Tac, 2017

Employer	Description of services	Jobs
Federal Agencies	Airport Services	1,800
Port of Seattle	Administration	1,700
McGee Air Services*	Ground handling/cargo	700
Swissport*	Passenger/ground handling/cargo	700
Menzies Aviation Group*	Passenger/ground handling/cargo	400
G2 Secure Staff LLC*	Passenger/ground handling	400
DAL Global Services*	Passenger/ground handling/cargo	300

Source: Port of Seattle, 2017; Community Attributes Inc., 2017.

**Some of the total direct jobs at these companies are related to their passenger services and cargo operations at Sea-Tac International Airport. The number of jobs has been distributed between the different lines of business based on interviews with representatives from these businesses and secondary research for the economic impact analysis.*

Sea-Tac Airport is owned and operated by the Port of Seattle (POS) under their Aviation Division. Airport operations are self-sustaining and do not rely on any local tax dollars. Funds are generated through various fees, such as

landing fees and aviation fees, parking revenues, retail revenues, land lease and rental income, passenger facility charges, and federal grants.

The Port of Seattle employs almost 1,700 employees within the Aviation Division and a portion of central support services staff for the airport. In 2017, the Division's operating expenditures are estimated to be \$297 million, of which more than half represented staff wages and benefits.

There are also a number of government agencies operating at Sea-Tac Airport to ensure the safety and security of the facility and its passengers. These include federal agencies such as the Transportation Security Administration (TSA), Customs and Border Protection (CBP), the Federal Aviation Administration (FAA), and the Federal Bureau of Investigation (FBI). Their activity is supplemented by state and local government services like the Washington State Patrol. These government agencies perform essential functions such as screening passengers, directing air traffic, and addressing any border-related issues for international travel.

Business-to-Business vendors provide critical airline services from the point at which an aircraft arrives at a terminal gate and its next departure. This includes cabin service, catering, ramp service, fueling, and baggage handling. Alaska Airlines outsources its ground handling at Sea-Tac Airport to McGee Air Services. Swissport Fueling division provides fueling services for approximately 90% of all airplanes departing from Sea-Tac.

Together, Airport Services and Business-to-Business Vendors directly supported 7,500 direct jobs, paid \$519 million in total compensation, and generated an estimated \$1.6 billion in direct business revenues in 2017.

Ground Transportation

Ground transportation includes car rentals, buses and shuttles, limo and taxi services, and rideshare services such as Uber and Lyft.⁷

The Port of Seattle constructed a five-story, 2.1 million square foot consolidated Rental Car Facility (RCF) in 2012 to meet the current and future demand of the passengers travelling through Sea-Tac. The facility supports airport-related rental car operations at one convenient location near the airport in the City of SeaTac. Construction of the facility supported approximately 3,000 jobs and generated over \$25 million in sales tax for the

⁷ To avoid duplication in the economic impact analysis, only the impact of car rental activity will be considered under the Ground Transportation category while the impact of transportation by other modes will be captured under visitor impacts.

entire program.⁸ RCF is also expected to generate approximately \$45.1 million in revenue for the Port of Seattle Aviation Division in 2017.⁹

Exhibit 5. Estimated Car Rental Gross Sales, Sea-Tac International Airport, 2017

Company	Amount (mils 2017 \$)
EAN Holdings, LLC	\$119.0
Avis Budget Car Rental	\$77.8
Hertz Corporation	\$51.7
CMC Investments Inc	\$19.2
DTG	\$15.3
Fox Rent-a-Car, Inc	\$12.5
Sixt Rent A Car LLC	\$13.0
Payless Car Rental, Inc	\$6.2
E-Z Rent A Car Inc	\$4.1
Total	\$318.8

Sources: Port of Seattle, 2017; Community Attributes Inc., 2017.

*EAN Holdings operates Alamo, Enterprise and National; CMC Investments also operates under the name Dollar Rent a Car; DTG also operates under Thrifty.

In 2017, gross sales of rental car companies located at RCF totaled an estimated \$319 million, with the highest sales achieved by EAN Holdings, LLC. Rental Car Facility activities supported approximately 600 direct jobs at the facility and around \$31.5 million in direct compensation.¹⁰

Contract Construction and Consulting Services

Capital investments by and related to Sea-Tac International Airport provide a significant stimulus to the local construction industry on an annual basis.

The Port of Seattle initiated several major construction projects at Sea-Tac in 2017. The airport contracted Clark Construction Group to design and build the International Arrivals Facility (IAF) on the east side of the current Concourse A. The project will add several new gates, approximately 450,000 square feet of floor space and an “iconic” bridge, which will connect the South Satellite Terminal to the IAF.

Seattle’s business community has expressed enthusiasm about the improvements to the airport through the capital construction activities

⁸ <https://www.portseattle.org/Business/Construction-Projects/Airport-Projects/Pages/Consolidated-Rental-Car-Facility.aspx>

⁹ Sources provided by the Port of Seattle.

¹⁰ Direct jobs and labor income estimates were based on a ratio of output per worker and labor income per worker for the car rental industry. The ratios were derived using data from the Washington State Department of Revenue and Washington State Employment Security Department.

underway. They anticipate that the new International Arrivals Facility, North Satellite Modernization, South Satellite Renovation, Baggage Handling System Optimization, and other major airport capital projects will help increase connections through Sea-Tac, which are essential to their business activities. Businesses noted that Sea-Tac is a gateway to the region, and it is also the first point of contact that their business visitors have with the entire region. The Port of Seattle's investment in expanding and improving the airport are essential to continuing to meet the growing demand for air travel and continually improving the airport experience for travelers.

Major capital projects underway are reported in **Exhibit 6**. These include modernization of the north satellite, a new optimized baggage handling system, and a new holdroom (additional space for passenger seating and departure processing). Sea-Tac is also in the middle of a long-term dining and retail redevelopment program that will increase options for travelers and create new opportunities for small and local businesses at the airport. Dining and retail square footage at Sea-Tac is expected to grow by at least 35% by 2025.

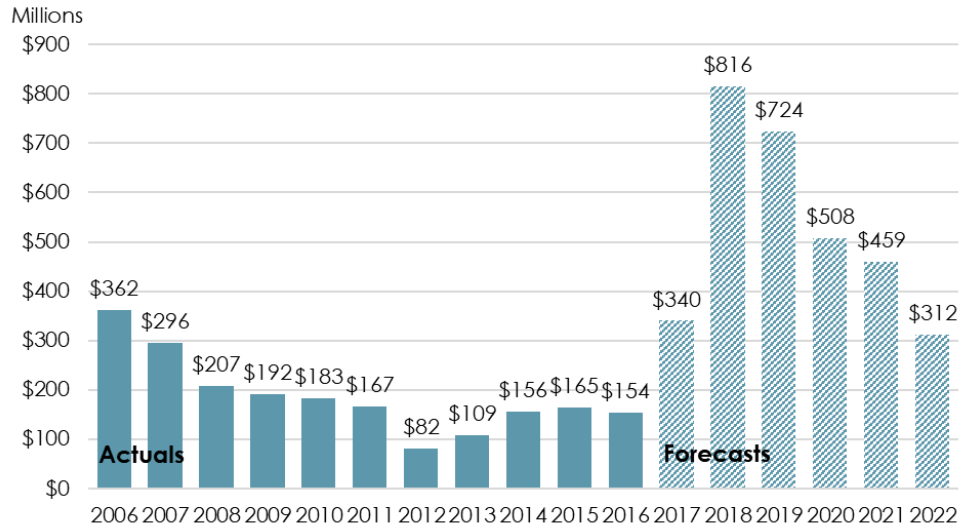
Exhibit 6. Major Capital Projects Under Way, Sea-Tac International Airport, 2017

Project	Description	Estimated Project Costs	Project Construction Timeline
International Arrivals Facility (IAF)	The Port of Seattle is building a new, expanded International Arrivals Facility (IAF) at Sea-Tac Airport to meet growing regional demand for international service, enhance the passenger experience, advance the Puget Sound region as a leading tourism and business gateway, and serve the traveling public well into the future.	\$761 million	2017 - 2020
North Satellite Modernization	In collaboration with Alaska Airlines, the Port of Seattle will invest in the expansion and renovation of the north satellite. This will include adding eight new gates, expanding the footprint by 201,000 square feet, and more than doubling the existing dining and retail square footage.	\$658 million	2017 - 2021
Optimized Baggage Handling System	The Port of Seattle will build an optimized outbound baggage handling system (BHS) in collaboration with TSA. The new system will replace the existing aging conveyor system and allow the airport to meet current and future growth.	\$445 million	2017 - 2025
Concourse D Hardstand Holdroom	The Port of Seattle's Concourse D Hardstand Holdroom project will use space at Sea-Tac more efficiently to provide more space for passengers waiting for flights, reduce the amount of time passengers spend waiting for a plane to arrive at a gate, save greenhouse gas emissions from idling aircraft, and save airlines fuel.	\$38 million	2017 - 2018

Sources: Port of Seattle, 2017; Community Attributes Inc., 2017.

The airport is forecasted to spend approximately \$3.2 billion between 2017 and 2022 on capital projects, which includes major construction projects, smaller projects, and other overhead costs. This represents a 280% increase in spending over the preceding 6 years (from 2011 to 2016).

Exhibit 7. Airport Capital Spending, 2006-2022



Sources: Port of Seattle, 2017; Community Attributes Inc., 2017.

In 2017, capital investments associated with Sea-Tac directly supported an estimated 2,000 jobs, generated \$154 million in total compensation and \$498 million in business revenues.

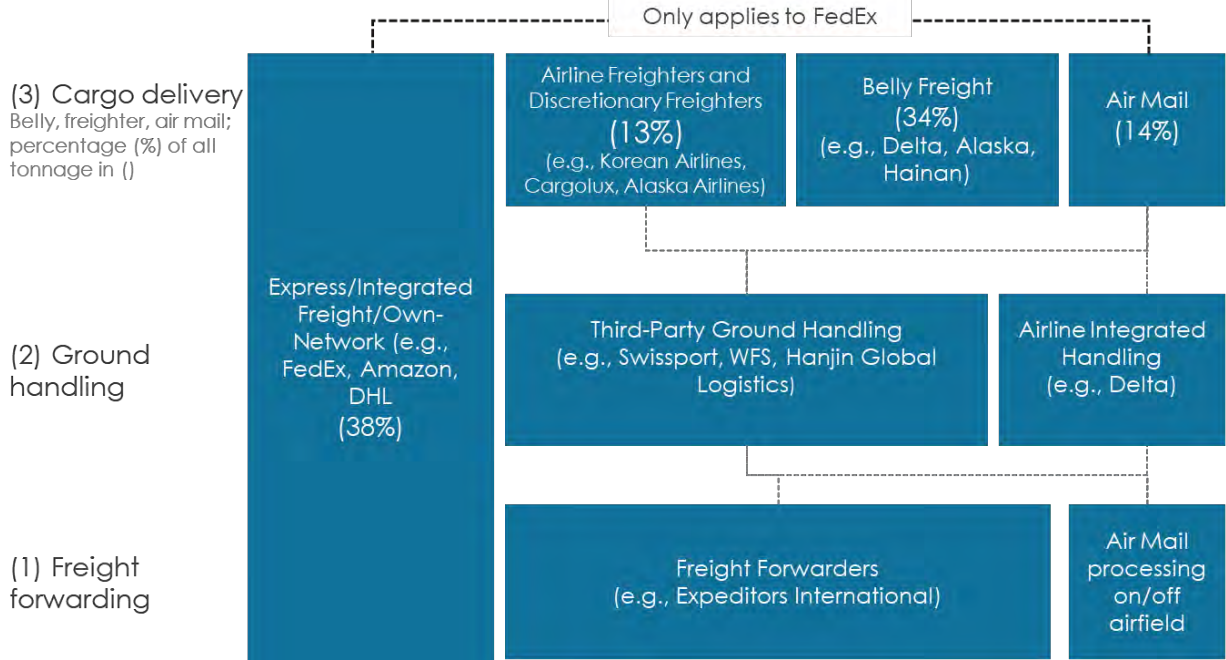
Air Cargo

Air cargo includes both air freight and air mail. Three major stages of service are identified and presented in **Exhibit 8**. Air cargo service begins with freight forwarding, which entails air cargo arrangements, logistics, and reserving of space on a freighter or belly of a passenger aircraft for cargo delivery. Ground handling represents the second stage of air cargo services. This includes the on-site warehousing, movement, and loading and unloading of air cargo from aircraft. The third stage of air cargo service, cargo delivery, can be done via the following:

- **Belly freight**, or air cargo that is loaded onto a passenger aircraft (34% of all air cargo by tonnage);
- **Airline freighters**, i.e., airlines that operate freighter-type aircraft. This category includes both airlines that only operate cargo freighters at Sea-Tac, e.g., China Airlines and Cargolux, and airlines that operate both passenger and separate air cargo aircraft (e.g., Alaska Airlines); and
- **Express/integrated freight operations**. These are vertically integrated operations that include freight forwarding, ground handling, and air cargo delivery services. Examples include FedEx and Amazon (Prime Air).

Air mail is a separate category of air cargo, and can similarly be delivered via air freighters or as belly freight.

Exhibit 8. Air Cargo Logistics Chain

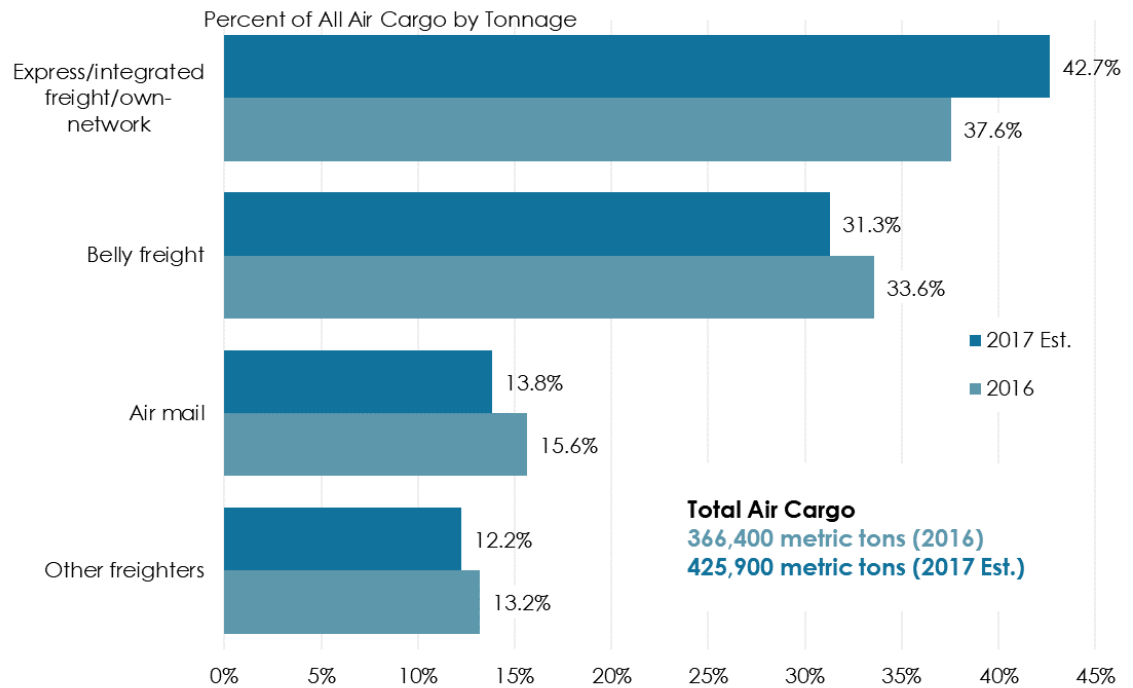


Sources: Interviews with Port of Seattle representatives of cargo operations; Community Attributes Inc., 2017.

A range of businesses provide air cargo services. These include large employers such as Delta (which has its own workforce for air cargo ground handling and delivery), and businesses that provide express services such as FedEx, Amazon’s Prime Air, and DHL. Major third-party ground handling services include Swissport, WFS, and Hanjin Global Logistics. Freight forwarders range from large, multinational operations such as Expeditors International, which deals with both air and marine cargo, to smaller family-run operations that specialize in a product or cargo type. Matheson provides both on and off-airfield air mail processing for the United States Postal Service.

In 2017, an estimated 425,860 metric tons of air cargo was loaded or unloaded at Sea-Tac International Airport, 16% more than in 2016. Of this, 43% by tonnage was delivered via express/integrated freight/own-network operations and 31% was delivered by belly freight. Air mail shipments constituted another 14% by tonnage, followed by other freighters (discretionary and allied freight) at 12% (**Exhibit 9**).

Exhibit 9. Air Cargo by Type, Sea-Tac International Airport, 2016-2017(Est.)



Sources: Port of Seattle, 2017; Community Attributes Inc., 2017.

In 2016, FedEx was the single largest air cargo carrier by tonnage, with more than 102,000 metric tons of cargo (**Exhibit 10**). Alaska Airlines and Delta each handled the delivery of nearly 30,000 metric tons, followed by ABX Air (18,500 metric tons), China Airlines (13,100 metric tons), Korean Air (12,700 metric tons), and Air Transport International (12,400 metric tons).

Exhibit 10. Air Freight Carriers, Sea-Tac International Airport, 2016

Airline	Air Freight Volume (metric tons)
FedEx	102,000
Delta Air Lines	29,900
Alaska Airlines	28,200
ABX Air	18,400
China Airlines	13,100
Korean Air	12,700
Air Transport International	12,400
EVA Air	9,600
Cargolux	9,100
Hainan Airlines	8,900
British Airways	8,600
Asiana Airlines	7,600
All Nippon Airways	7,200
Hawaiian Airlines	5,700
Southwest Airlines	5,600
Emirates	4,800
Atlas Air	4,600
Lufthansa Airlines	4,400
Other	14,600
Total Air Freight	309,100

Sources: Port of Seattle (as reported by airlines), 2017; Community Attributes Inc., 2017.

FedEx was also the largest single provider of air mail delivery services, with 34,300 metric tons (representing roughly a quarter of all FedEx air cargo). In 2016, 57,300 metric tons of air mail was delivered through Sea-Tac International Airport (**Exhibit 11**).

Exhibit 11. Air Mail Carriers, Sea-Tac International Airport, 2016

Airline	Air Mail Volume (metric tons)
FedEx	34,300
Alaska Airlines	9,100
Delta Air Lines	5,500
United Airlines	5,300
American Airlines	2,400
Other	600
Total Air Mail	57,300

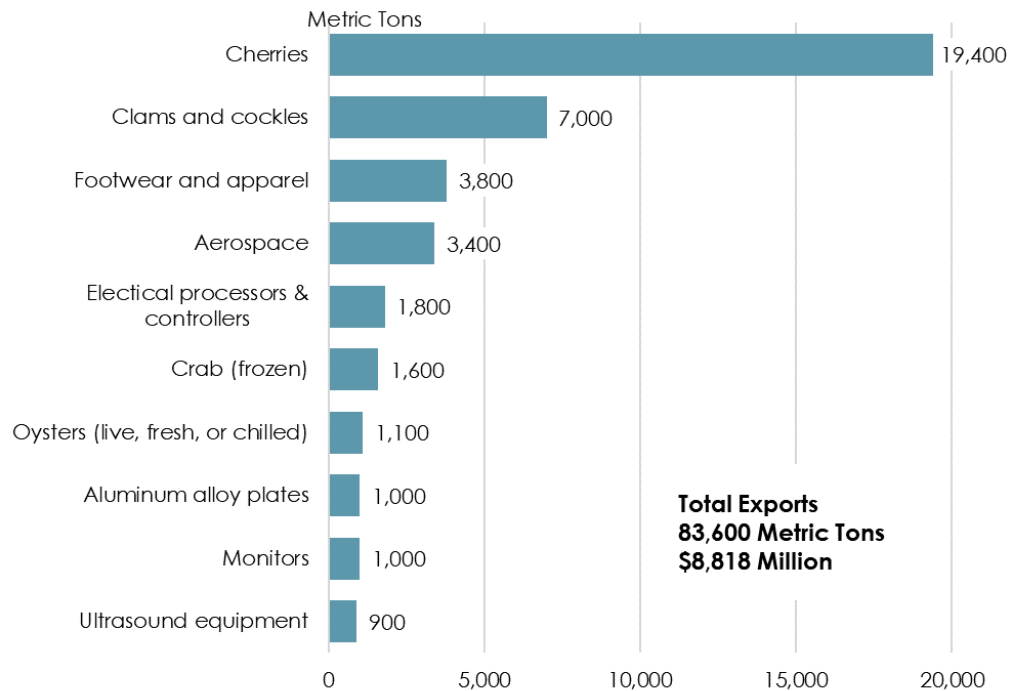
Sources: Port of Seattle (as reported by airlines), 2017; Community Attributes Inc., 2017.

Note: Total may not sum due to rounding.

Air cargo is often the only mode available for perishable and/or time sensitive products, such as cherries, as well as high value electronic instruments and components. Air cargo is thus a critical resource for many Washington businesses selling into global markets, including farmers in Eastern Washington, medical device manufacturers in Bothell, and many other businesses across the state.

Leading international air cargo exports in 2016 included cherries, at more 19,400 metric tons. In total more than 83,600 metric tons in air cargo were shipped internationally out of Sea-Tac International Airport in 2016, at reported export value of \$8.8 billion (**Exhibit 12**).

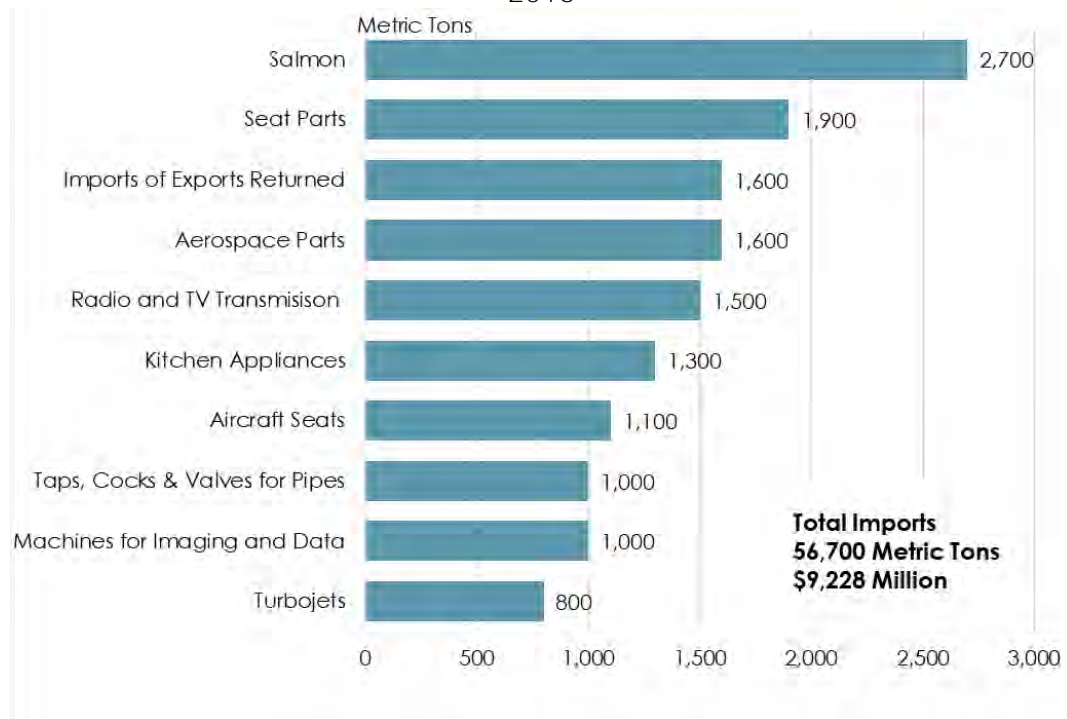
Exhibit 12. Air Cargo Exports by Category, Sea-Tac International Airport, 2016



Sources: WISER Trade, provided by Port of Seattle, 2017; Community Attributes Inc., 2017.

International air cargo imports are similarly often either time sensitive and/or high value products, such as key manufacturing inputs and perishable goods. The nearly 56,700 metric tons of air cargo imports represented a higher value than exports at more than \$9.2 billion in 2016 (**Exhibit 13**). Leading imported goods included salmon, seat parts, returned exports, and aerospace parts.

Exhibit 13. Air Cargo Imports by Category, Sea-Tac International Airport, 2016



Sources: WISER Trade, provided by Port of Seattle, 2017; Community Attributes Inc., 2017.

In 2017, there were approximately 2,300 on-site jobs directly supported by the air cargo activities at Sea-Tac International Airport. These jobs were paid an estimated \$195 million in total compensation. Air cargo activities at Sea-Tac directly generated an estimated \$796 million in economic activity in 2017.

Visitor Spending

Sea-Tac is the primary gateway to the Puget Sound region. Millions of visitors arrive and depart from the airport annually. These visitors are non-residents whose final destination is in Washington state. In this study, visitors do not include passengers who are returning home from a trip to another destination or passengers that are making a connection to another flight.

In 2017, an estimated 8.2 million visitors arrived in Washington state through Sea-Tac International Airport. Over 90% of these visitors were domestic travelers while the rest were international travelers. Approximately 50% of international visitors to the Seattle region came from four countries: Canada, China, Japan, and Mexico (**Exhibit 14**).

Exhibit 14. Countries of Origin of International Visitors to the Seattle Region, Sea-Tac International Airport, 2017

Origin Country	Total Pax (bi-directional)	% Inbound to Seattle	Inbound Pax R/T
Canada	522,200	62%	162,700
China	330,200	52%	86,200
Japan	259,500	62%	80,600
Mexico	561,400	22%	60,300
United Kingdom	247,300	41%	50,800
India	191,800	41%	39,600
South Korea	133,000	59%	39,100
Germany	140,900	32%	22,200
Australia	67,600	61%	20,600
Hong Kong	78,200	46%	18,000
Taiwan	64,000	50%	16,100
Philippines	109,000	18%	10,000
Other	1,327,300	29%	189,800
Total	4,032,400	39%	796,000

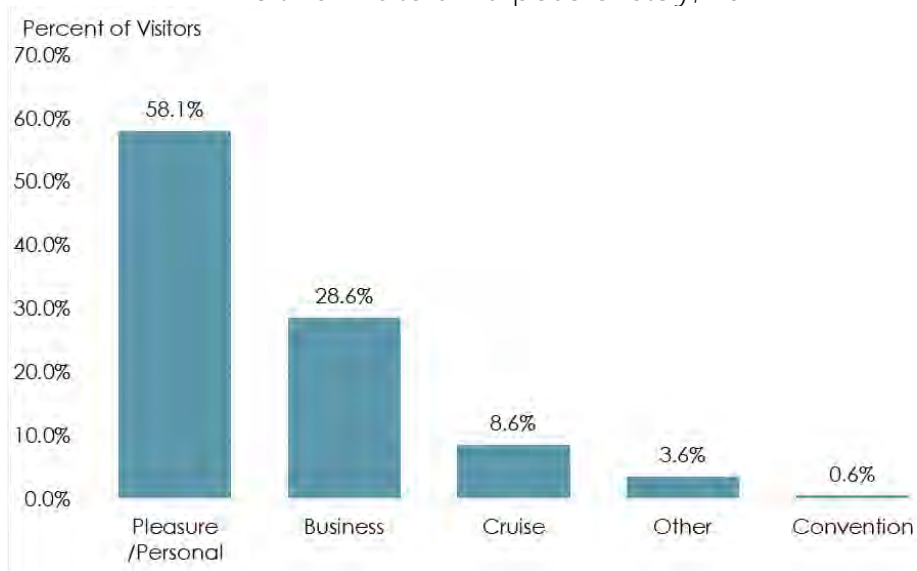
Sources: Diio FMg, provided by Port of Seattle, 2017; Community Attributes Inc., 2017.

Visitor Patterns

The Port of Seattle commissioned an in-terminal survey of passengers at Sea-Tac to estimate the economic impact of domestic and international spending in the region. This in-terminal passenger survey was conducted in the months of August and September 2017 and yielded 1,007 responses.

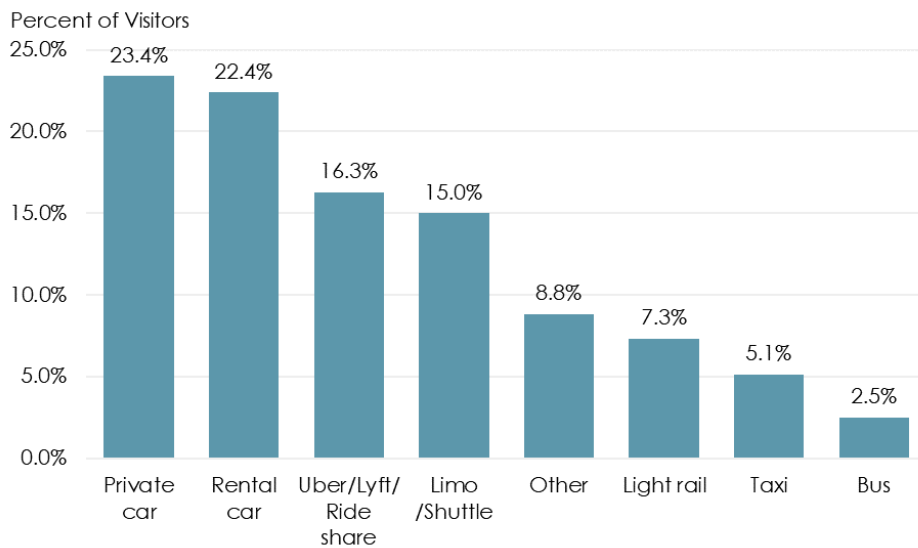
The survey found that most visitors to the area are pleasure travelers (58%), followed by business travelers (29%). The survey also asked visitors how they travelled to Sea-Tac International Airport. Car was the dominant mode of transportation, with 23% of visitors travelling by private car, 22% travelling by rental car, 16% taking Uber or Lyft, and 5% taking a taxi to the airport (**Exhibits 15 and 16**).

Exhibit 15. Visitors' Purpose of Stay, 2017



Sources: Port of Seattle Passenger Survey, 2017; Community Attributes Inc., 2017.

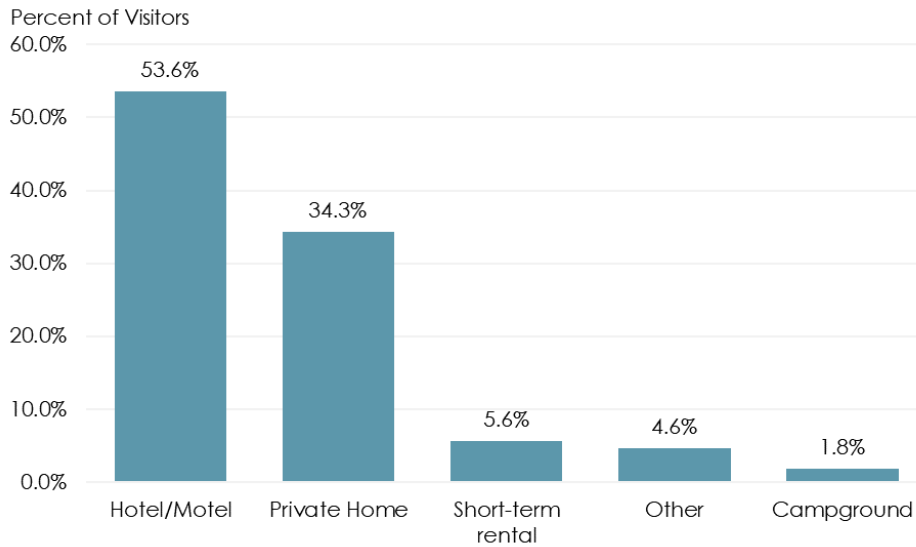
Exhibit 16. Visitor Transportation Mode to Sea-Tac Airport, 2017



Sources: Port of Seattle Passenger Survey, 2017; Community Attributes Inc., 2017.

Based on survey results, 60% of respondents stayed in a hotel or motel during their visit, while 38% of respondents stayed in a private home, either a second residence or the home of family or friends (**Exhibit 17**).

Exhibit 17. Visitor Lodging Type, 2017



Sources: Port of Seattle Passenger Survey, 2017; Community Attributes Inc., 2017.

International visitors tend to spend more than domestic visitors across all categories. On average, an international visitor spent roughly \$1,260 per trip while a domestic visitor spent almost \$836 per trip. Lodging and food and beverage were the categories with the highest spending accounting for approximately half of the total spending per trip.

Exhibit 18. Average Spending per Person Off-Airport by Visitor Type and Expense Category, 2017

Category of Spending	Domestic Visitors (2017 \$)	International Visitors (2017 \$)	All Visitors (2017 \$)
Lodging	\$297	\$357	\$304
Food/Beverage	\$164	\$261	\$173
Rental Car	\$145	\$260	\$154
Entertainment	\$93	\$152	\$99
Retail Purchases	\$96	\$169	\$103
In-town Cabs and/or Ride Share	\$40	\$61	\$42
Total	\$836	\$1,260	\$876

Sources: Port of Seattle Passenger Survey, 2017; Community Attributes Inc., 2017.

Note: Spending is expressed per visitor and per trip. To increase sample size and provide statistically reliable estimates, the results of the 2017 survey were supplemented with the output of the 2014 in-terminal passenger survey.

SEA-TAC ECONOMIC IMPACT

Economic impacts include: 1) activities directly on airport property (direct impacts); 2) business-to-business transactions tied to on-site activities (indirect impacts); and 3) worker income expenditures across other parts of the economy (induced impacts). Moreover, impacts include both on-site airport activities and visitor impacts.

Businesses and government agencies located on airport premises are important generators of economic activity. Airport activities require staff who contribute to the regional economy through their work and personal spending. Construction and maintenance of the facilities contributes additional employment and spending. Visitors to the region spend money on food service, accommodations, entertainment, and shopping.

Businesses at Sea-Tac procure goods and services from supply chains in nearby communities and statewide. Workers at Sea-Tac Airport also spend their wages locally on goods and services, and the same is true of workers employed throughout the supply chain.

Direct Impacts

On-site Airport Activity

Employee counts provided by the Port of Seattle are one method of estimating direct jobs at the airport. The Port of Seattle maintains records of employees who work at the airport, both inside and outside security. This data does not capture ground transportation activities, as well as passenger airline staff and crew who are not based on Seattle.

Port of Seattle employment data show that major employers at Sea-Tac include Alaska Airlines and Delta—Sea-Tac serves as a hub for both airlines—as well as government employers such as the Port of Seattle Aviation Division and federal agencies, and ground handling operations such as McGee Air Services and Swissport (**Exhibit 19**).

Exhibit 19. Major Employers at Sea-Tac International Airport, 2017

Rank	Employer	Jobs
1	Federal Agencies*	1,800
2	Alaska Airlines	1,700
3	Port of Seattle	1,700
4	Delta Air Lines	1,500
5	McGee Air Services	700
6	Swissport*	700
7	HMS Host	600
8	Horizon Air	600
9	Federal Express Corp	500
10	United Airlines	400
11	Menzies Aviation Group	400
12	G2 Secure Staff LLC	400

Sources: Port of Seattle, 2017; Community Attributes Inc., 2017.

*Federal Agencies include jobs with a wide range of federal agencies that work at the airport, including the FAA, USDA, CBP, TSA, US Coast Guard, US Fish & Wildlife, and others. Swissport includes Swissport Cargo Services, Swissport Fueling Inc. and Swissport USA.

The organizations located at Sea-Tac International Airport employed an estimated 19,100 people in 2017 (**Exhibit 20**). Approximately 74% of the jobs directly generated by on-site airport activity are concentrated in the airline/airport categories. The direct economic impact of this employment on the Washington state economy is \$5.6 billion in business revenue and \$1.4 billion in total compensation (including employee benefits).

Exhibit 20. Direct Jobs, Wages, Compensation, and Business Revenues, Washington, 2017

Category	Jobs	Business Revenue (mils 2017 \$)	Wages (mils 2017 \$)	Compensation (incl. Benefits) (mils 2017 \$)
On-site Airport Activity	19,100	\$5,574.8	\$1,109.8	\$1,403.0
Passenger Airlines and Services	6,700	\$2,386.3	\$399.4	\$503.2
Airport Services and Vendors	7,500	\$1,575.4	\$412.5	\$519.4
Ground Transportation*	600	\$318.8	\$25.2	\$31.5
Contract Const. and Consulting	2,000	\$498.3	\$124.1	\$153.7
Air Cargo	2,300	\$796.0	\$148.6	\$195.1
Visitor Impacts	68,200	\$5,906.5	\$1,878.0	\$2,247.8
Total	87,300	\$11,481.3	\$2,987.8	\$3,650.8

Sources: Washington State Employment Security Department, 2017; Washington State Office of Financial Management, 2017; U.S. Bureau of Labor Statistics, 2017; Port of Seattle, 2017; Community Attributes Inc., 2017.

Visitor Impacts

Visitor impacts represent the jobs, total compensation, and business revenues supported through visitor spending on hotel accommodations and retail purchases. The economic impact of visitor spending depends on the amount and category of spending and the length of stay. On average visitors to Washington traveling through Sea-Tac spend \$876 per trip. The 8.2 million visitors to Washington spent nearly \$5.9 billion off-airport in 2017. Visitor spending supported 68,200 jobs in and approximately \$2.2 billion in total compensation in the lodging, food/beverage, recreational and entertainment, transportation, and retail sectors.

Airport Occupations and Wages

Jobs at the airport pay an estimated \$73,500, including both wages and benefits on average. **Exhibit 21** displays the median and average wage of some of the most common occupations in air transportation and supporting sectors in the Seattle-Bellevue-Everett region.

Exhibit 21. Air Transportation and Support Occupations, Median and Average Wage, Seattle-Bellevue-Everett Metropolitan Division, 2017

Occupation	Median Wage	Average Annual Wage
Transportation, Storage & Distribution Managers	\$118,435	\$120,573
Software Developers, Systems Software	\$118,040	\$118,479
Computer Occupations, All Other	\$85,322	\$91,431
Avionics Technicians	\$81,973	\$76,482
Business Operations Specialists, All Other	\$75,670	\$80,930
Mechanics, Installers & Repairers Supervisors	\$72,446	\$73,847
Training & Development Specialists	\$71,656	\$73,389
Accountants & Auditors	\$69,930	\$76,644
Office & Admin Support Worker Supervisors	\$61,381	\$65,279
Painters, Transportation Equipment	\$59,134	\$63,914
Transportation Workers, All Other	\$56,326	\$54,735
Dispatchers (Except Police, Fire & Ambulance)	\$52,458	\$54,782
Cargo & Freight Agents	\$50,107	\$51,259
Production, Planning & Expediting Clerks	\$49,400	\$52,852
Bookkeeping, Accounting & Auditing Clerks	\$44,782	\$46,470
Maintenance & Repair Workers, General	\$43,451	\$46,258
Aircraft Cargo Handling Supervisors	\$42,120	\$50,648
Customer Service Representatives	\$39,104	\$40,895
Reservation/Transp Ticket Agents/Travel Clerks	\$37,898	\$38,710
Security Guards	\$32,427	\$37,132
Stock Clerks & Order Fillers	\$31,013	\$34,411
Laborers/Freight, Stock & Material Movers	\$30,722	\$34,001
Personal Care & Service Workers, All Other	\$27,830	\$30,363
Airline Pilots, Copilots & Flight Engineers	*	\$206,452
Commercial Pilots	*	\$119,831
Flight Attendants	*	\$72,511

Sources: Washington State Employment Security Department, 2017; Community Attributes Inc., 2017.

Total Economic Impacts

The direct economic activities at Sea-Tac and the off-site activities serving visitors lead to upstream impacts through supply chain activities and the spending of worker income. The companies supplying goods and services to businesses at the airport and to businesses serving visitors off-airport make their own purchases, stimulating indirect activity. Workers at the airport, workers at businesses serving visitors and at businesses throughout the supply chain spend their earnings on various goods and services generating induced effects.

The total economic impact of Sea-Tac International Airport represents the sum of direct, indirect, and induced effects. **Exhibit 22** below summarizes impacts to Washington state by category and in total. Aggregate economic

impact totaled \$22.5 billion in business revenues in 2017, 151,400 jobs, and \$7.1 billion in total compensation.

Exhibit 22. Total Economic Impacts of Sea-Tac International Airport, Washington, 2017

	On-site Airport Activity	Visitors	Total
<i>Jobs</i>			
Direct	19,100	68,200	87,300
Indirect	8,800	13,900	22,700
Induced	16,100	25,300	41,400
Total	44,000	107,400	151,400
<i>Total Compensation (mils 2017 \$)</i>			
Direct	\$1,403.0	\$2,247.8	\$3,650.8
Indirect	\$503.0	\$748.5	\$1,251.4
Induced	\$854.3	\$1,343.0	\$2,197.3
Total	\$2,760.2	\$4,339.3	\$7,099.5
<i>Business Revenue (mils 2017 \$)</i>			
Direct	\$5,574.8	\$5,906.5	\$11,481.3
Indirect	\$2,001.1	\$2,450.7	\$4,451.8
Induced	\$2,544.6	\$4,000.3	\$6,544.9
Total	\$10,120.5	\$12,357.5	\$22,477.9

Sources: Washington State Employment Security Department, 2017; Washington State Office of Financial Management, 2017; U.S. Bureau of Labor Statistics, 2017; Port of Seattle, 2017; Community Attributes Inc., 2017.

The bulk of direct economic activity associated with Sea-Tac-based employers occurs in King County, as the jobs on-site at Sea-Tac are located in King County. Secondary impacts to King County in 2017, including indirect and induced effects, amounted to 22,400 jobs, more than \$1.2 billion in total compensation, and \$2.8 billion in business revenues (**Exhibit 23**).

Exhibit 23. Total Economic Impacts of On-Site Airport Activity at Sea-Tac International Airport, King County, 2017

	On-site Airport Activity
<i>Jobs</i>	
Direct	19,100
Indirect	7,600
Induced	14,800
Total	41,500
<i>Labor Income (mils 2017 \$)</i>	
Direct	\$1,403.0
Indirect	\$430.2
Induced	\$782.2
Total	\$2,615.4
<i>Business Revenue (mils 2017 \$)</i>	
Direct	\$5,574.8
Indirect	\$1,306.9
Induced	\$1,512.3
Total	\$8,394.0

Sources: Washington State Employment Security Department, 2017; Washington State Office of Financial Management, 2017; U.S. Bureau of Labor Statistics, 2017; Port of Seattle, 2017; Community Attributes Inc., 2017.

SEA-TAC FISCAL IMPACTS

The economic impacts of Sea-Tac International Airport support various state and local tax bases, which in turn yield tax revenues. Much of the private sector airport-related activity generates taxes directly. The indirect and induced activities generated by both public and private sector expenditures generate additional taxable revenues.

The direct and secondary economic activities related to the airport generate a significant volume of sales and use taxes, business and occupation tax, and other taxes (public utility taxes, quantity taxes etc.). In 2017, the total economic activity attributable to Sea-Tac International Airport generated an estimated \$425 million in state taxes.¹¹ This included \$116 million from on-site airport activity and \$299 million from visitor spending (**Exhibit 24**). Business activities within King County supported—either directly or via secondary impacts—by the airport’s on-site operations supported \$91.2 million in state tax revenues (**Exhibit 25**).

¹¹ Due to limited availability of tax data at the local level, only state tax payments were estimated for Washington state and King county. Local tax payments were estimated for the six cities with detailed profiles in the Community Impacts section of this report.

Exhibit 24. Direct and Secondary State Fiscal Impacts of Sea-Tac International Airport, Washington, 2017

	On-site Airport Activity	Visitors	Total
<i>Direct (mils 2017 \$)</i>			
Sales & Use Taxes	\$10.2	\$20.3	\$30.4
B&O	\$32.8	\$167.7	\$200.5
Other	\$2.7	\$2.7	\$5.4
Total Direct	\$45.7	\$190.6	\$236.3
<i>Secondary (mils 2017 \$)</i>			
Sales & Use Taxes	\$18.6	\$27.7	\$46.2
B&O	\$43.7	\$71.1	\$114.7
Other	\$7.9	\$9.8	\$17.8
Total Secondary	\$70.2	\$108.6	\$178.7
Total Fiscal Impacts (mils 2017 \$)	\$115.9	\$299.1	\$415.0

Sources: Washington State Employment Security Department, 2017; Washington State Office of Financial Management, 2017; U.S. Bureau of Labor Statistics, 2017; Washington State Department of Revenue, 2017; Port of Seattle, 2017; Community Attributes Inc., 2017.

Exhibit 25. Direct and Secondary State Fiscal Impacts of Sea-Tac International Airport, King County, 2017

	On-site Airport Activity
<i>Direct (mils 2017 \$)</i>	
Sales & Use Taxes	\$10.2
B&O	\$32.8
Other	\$2.7
Total Direct	\$45.7
<i>Secondary (mils 2017 \$)</i>	
Sales & Use Taxes	\$11.7
B&O	\$30.3
Other	\$3.6
Total Secondary	\$45.5
Total Fiscal Impacts (mils 2017 \$)	\$91.2

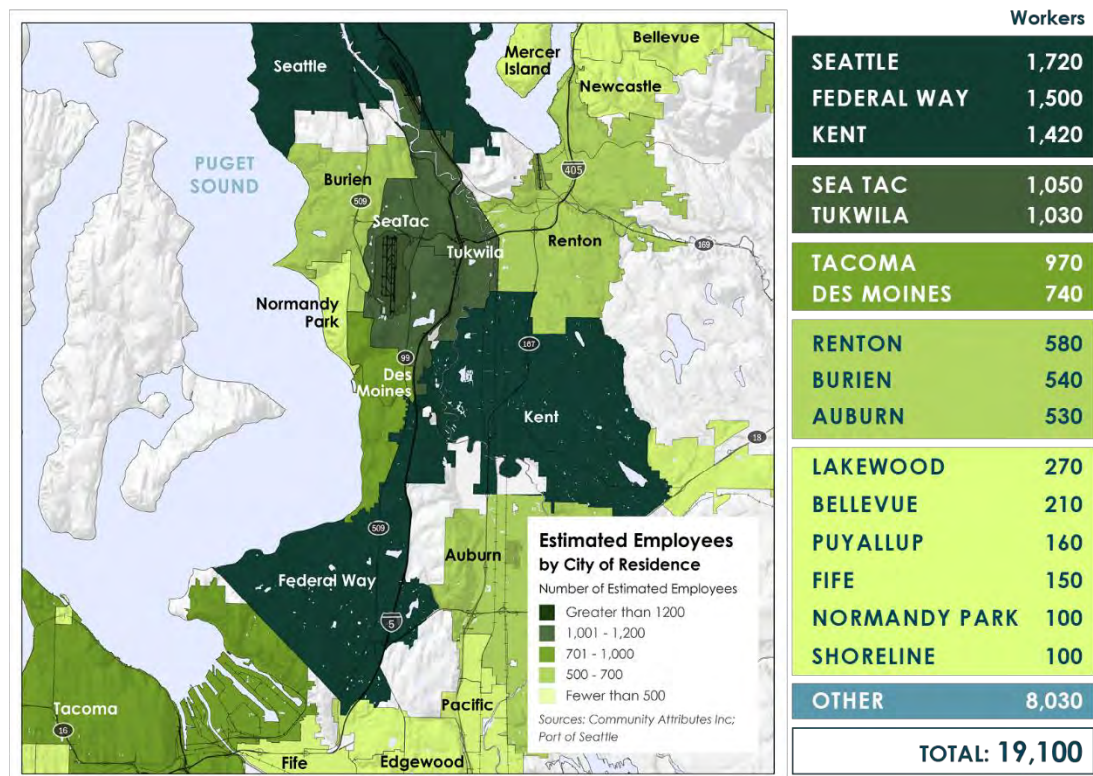
Sources: Washington State Employment Security Department, 2017; Washington State Office of Financial Management, 2017; U.S. Bureau of Labor Statistics, 2017; Washington State Department of Revenue, 2017; Port of Seattle, 2017; Community Attributes Inc., 2017.

COMMUNITY IMPACTS

Sea-Tac International Airport provides real benefits to neighboring communities. Airport activity supports local industries allowing for faster and more cost-effective delivery of goods and services to customers and improving cost-effective access to raw inputs necessary for production. Many businesses who rely on access to regional, national, or international markets will make location decisions that consider the availability and proximity to air services.

The economic activity generated by the Airport creates and supports employment in the surrounding communities. In 2017, of the 19,100 employees who worked at the Airport more than 1,700 lived in Seattle, 1,510 lived in Federal Way and 1,430 were residents of Kent (**Exhibit 26**).

Exhibit 26. Airport Workers by City of Residence, 2017



Sources: Port of Seattle, 2017; Community Attributes Inc., 2017.

Tukwila has the highest share of airport employment as a percentage of total labor force (9.6%), followed by SeaTac (7.1%) and Des Moines (4.4%) (**Exhibit 27**).

Exhibit 27. Airport Employment and Labor Force by City of Residence, 2017

City	Estimated Airport Employment	Labor Force (16 years +)	Share of Labor Force
Seattle	1,720	418,400	0.4%
Federal Way	1,500	49,640	3.0%
Kent	1,420	65,660	2.2%
SeaTac	1,050	14,850	7.1%
Tukwila	1,030	10,730	9.6%
Tacoma	970	106,250	0.9%
Des Moines	740	16,670	4.4%
Renton	580	55,630	1.0%
Burien	540	26,040	2.1%
Auburn	530	38,200	1.4%
Lakewood	270	29,020	0.9%
Bellevue	210	74,660	0.3%
Puyallup	160	20,770	0.8%
Fife	150	5,440	2.8%
Normandy Park	100	3,710	2.7%
Shoreline	100	30,990	0.3%

Sources: Port of Seattle, 2017; Community Attributes Inc., 2017.

Note: Both Airport Employment and Labor Force are based on where they live rather than the location of employment.

Six cities located around the airport have been selected for more detailed one-page profiles: SeaTac, Burien, Des Moines, Normandy Park, Tukwila, and Federal Way. The profiles on subsequent pages summarize key data and metrics describing the economic impact driven by Sea-Tac within each city. The six selected cities are located near the airport and are home to airport workers, who represented more than 2% of the resident labor force in each of the cities in 2017. The profiles include data points on the economic activity within the city driven by Sea-Tac International Airport, including both local economic and fiscal impacts.

Economic activity driven by the airport is significant within each of these six cities. Sea-Tac International Airport supported more than 26,300 jobs within the City of SeaTac through direct, indirect and induced impacts in 2017. Jobs supported by the airport represented 85% of total employment in the city. The airport supported \$157 million in economic activity in Burien in 2017. Economic activity supported by the airport represented 6% of estimated GDP in the City of Des Moines. Of total jobs in Normandy Park, 18% were supported by Sea-Tac. Economic activity driven by the airport in Tukwila totaled \$483 million in 2017. Federal Way was home to 1,500 airport employees in 2017.

SEATAC

Economic Activity

Driven by Sea-Tac International Airport, 2017



26,300

Jobs in SeaTac



\$6.4 billion

Economic Activity



\$1.7 billion

Total Compensation



34%

Estimated SeaTac GDP



1,050

Estimated Airport Employees Live in SeaTac

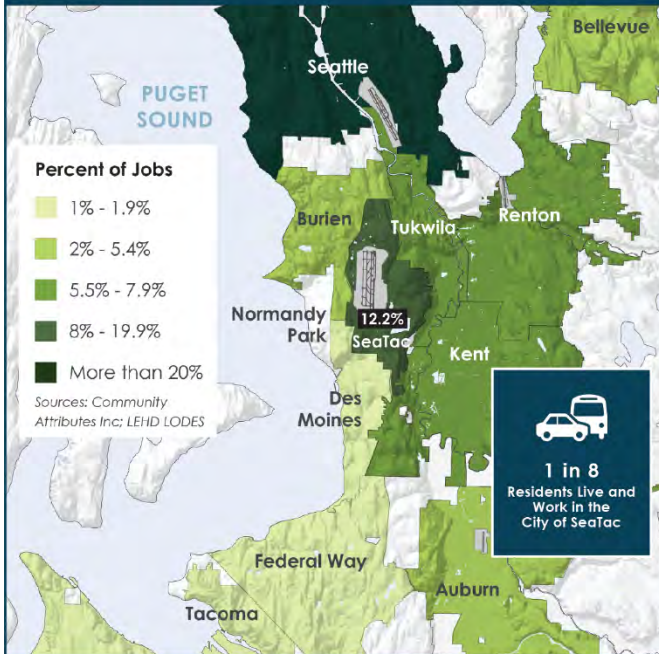


\$26.8 million

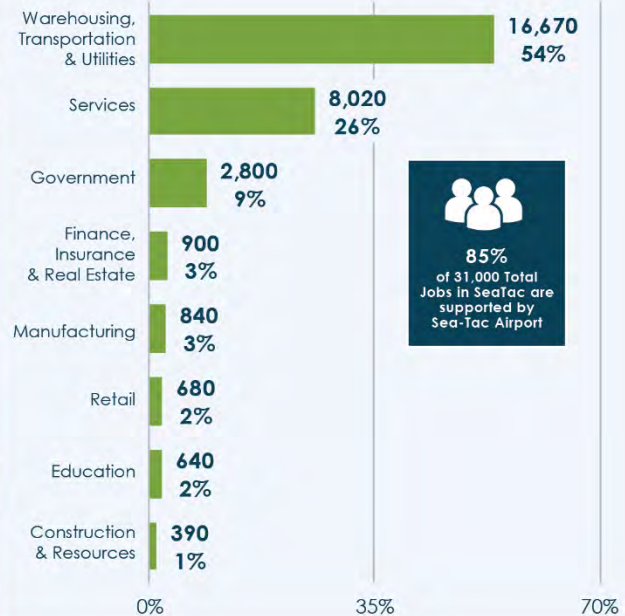
Local Taxes

Located within the City of SeaTac, Seattle-Tacoma International Airport is an economic driver of **private sector growth**. Many airport related businesses are located in SeaTac, including the **corporate headquarters of Alaska Airlines**. More than **5,500 guest rooms** within the City provide a constant stream of visitors that expands the market for local businesses.

Where SeaTac Residents Work



SeaTac Employment by Sector, 2016



Source: Port of Seattle, 2017; Puget Sound Regional Council, 2017; Washington State Office of Financial Management, 2017; U.S. Census Bureau, 2017; Washington State Employment Security Department, 2017; U.S. Bureau of Economic Analysis, 2017; Community Attributes Inc., 2017.

BURIEN

Economic Activity

Driven by Sea-Tac International Airport, 2017



1,400

Jobs in Burien



\$157 million

Economic Activity



\$66 million

Total Compensation



3%

Estimated Burien GDP



540

Estimated Airport
Employees Live in Burien

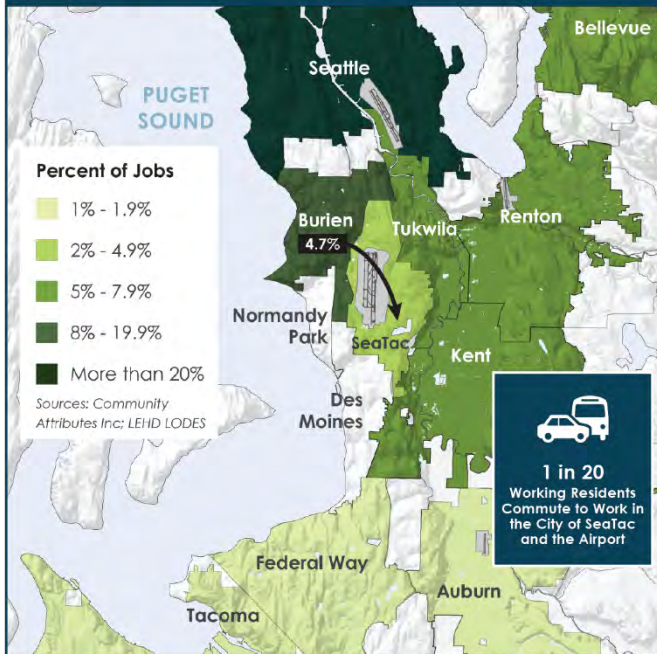


\$1.4 million

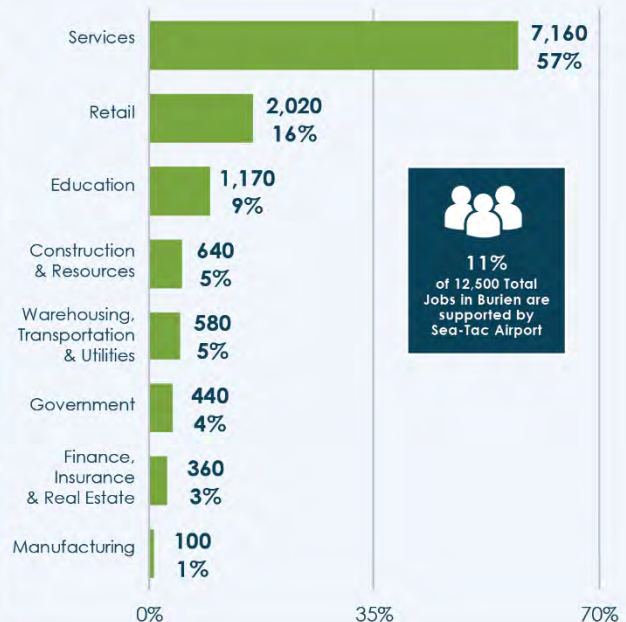
Local Taxes

The Port of Seattle is working with the City of Burien to transition Burien's **Northeast Redevelopment Area** from a mixture of vacant, residential, institutional, and small-scale commercial uses to land uses compatible with airport operations. NERA redevelopment projects will result in **450,000 square feet of new development** and more than **600-800 new jobs**.

Where Burien Residents Work



Burien Employment by Sector, 2016



Source: Port of Seattle, 2017; Puget Sound Regional Council, 2017; Washington State Office of Financial Management, 2017; U.S. Census Bureau, 2017; Washington State Employment Security Department, 2017; U.S. Bureau of Economic Analysis, 2017; Community Attributes Inc., 2017.

DES MOINES

Economic Activity

Driven by Sea-Tac International Airport, 2017



1,200

Jobs in Des Moines



\$126 million

Economic Activity



\$59 million

Total Compensation



6%

Estimated Des Moines GDP



740

Estimated Airport Employees
Live in Des Moines

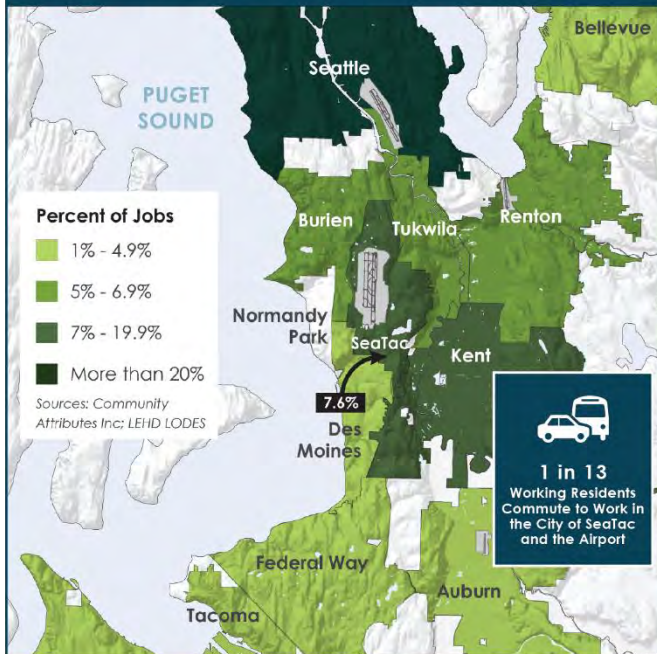


\$1 million

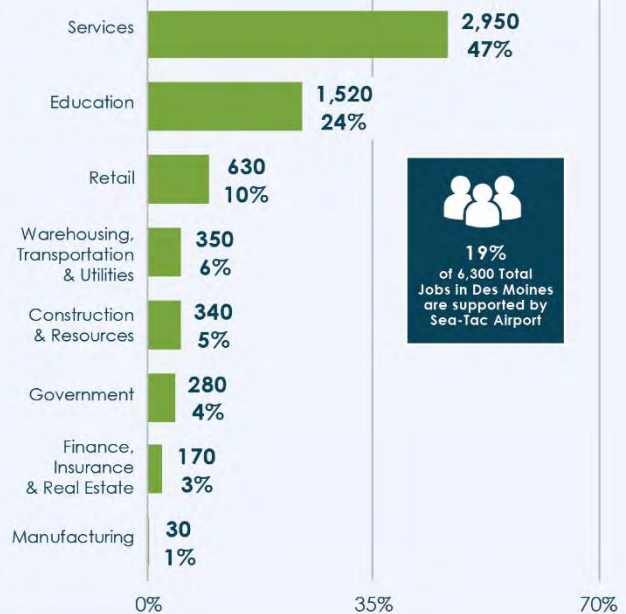
Local Taxes

In Des Moines, the Port is partnering with the City of Des Moines and Panattoni Development to build the **Des Moines Creek Business Park**, resulting in **1.3 million square feet** of airport-related commercial and light industrial space and supporting **3,500 jobs**, diversifying the economic base.

Where Des Moines Residents Work



Des Moines Employment by Sector, 2016



Source: Port of Seattle, 2017; Puget Sound Regional Council, 2017; Washington State Office of Financial Management, 2017; U.S. Census Bureau, 2017; Washington State Employment Security Department, 2017; U.S. Bureau of Economic Analysis, 2017; Community Attributes Inc., 2017.

NORMANDY PARK

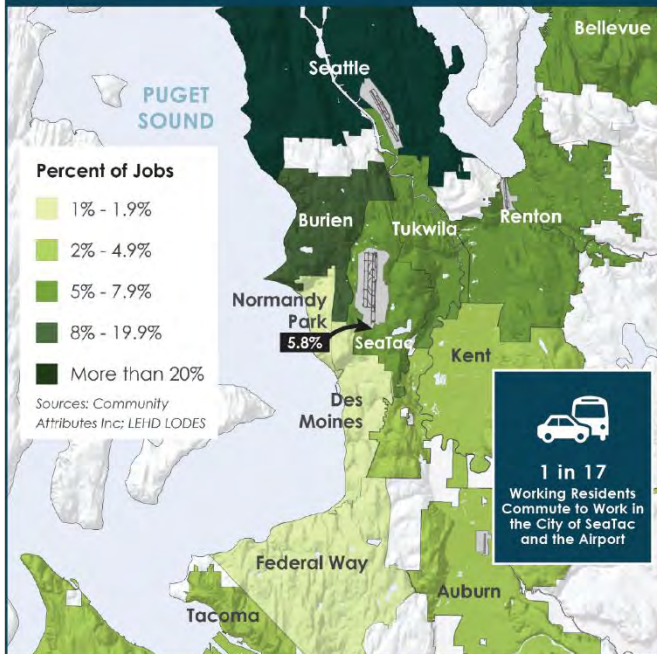
Economic Activity

Driven by Sea-Tac International Airport, 2017

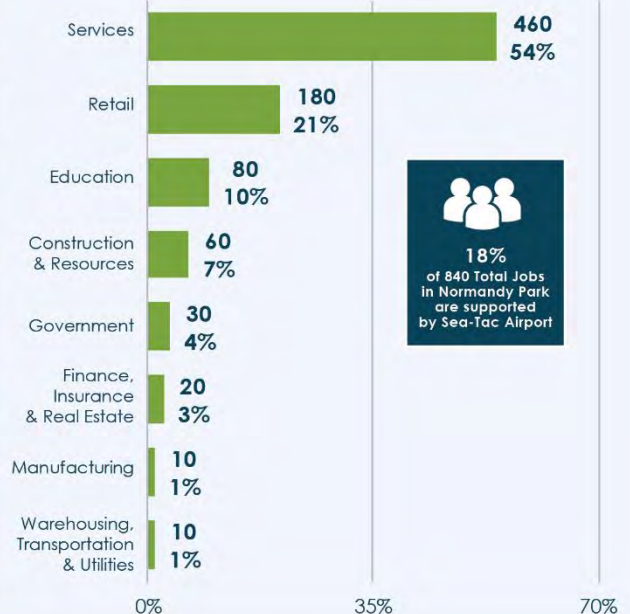


As a part of the Port of Seattle's **Economic Development Partnership**, the City of Normandy Park received a **grant for more than \$6,400** in 2017. The City will use this grant to **attract visitors from the airport** by improving their website and improving signage to recreational attractions.

Where Normandy Park Residents Work



Normandy Park Employment by Sector, 2016



Source: Port of Seattle, 2017; Puget Sound Regional Council, 2017; Washington State Office of Financial Management, 2017; U.S. Census Bureau, 2017; Washington State Employment Security Department, 2017; U.S. Bureau of Economic Analysis, 2017; Community Attributes Inc., 2017.

TUKWILA

Economic Activity

Driven by Sea-Tac International Airport, 2017



4,200

Jobs in Tukwila



\$483 million

Economic Activity



\$188 million

Total Compensation



2%

Estimated Tukwila GDP



1,030

Estimated Airport Employees
Live in Tukwila

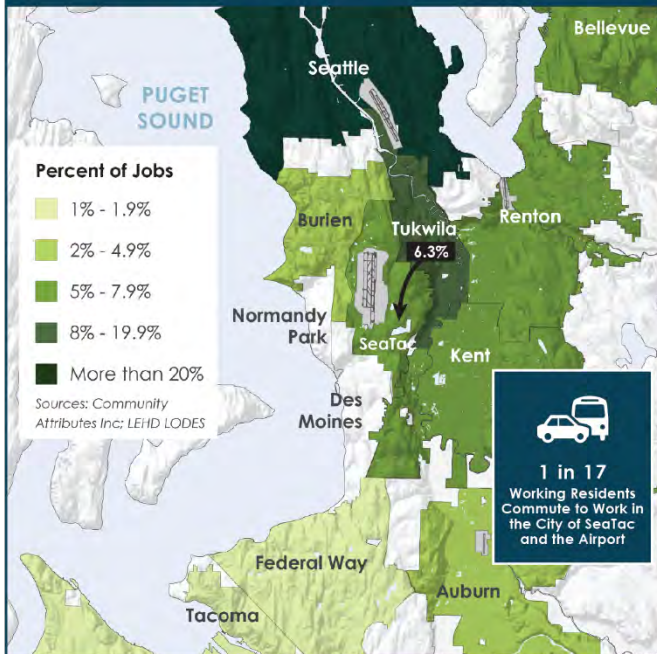


\$4.2 million

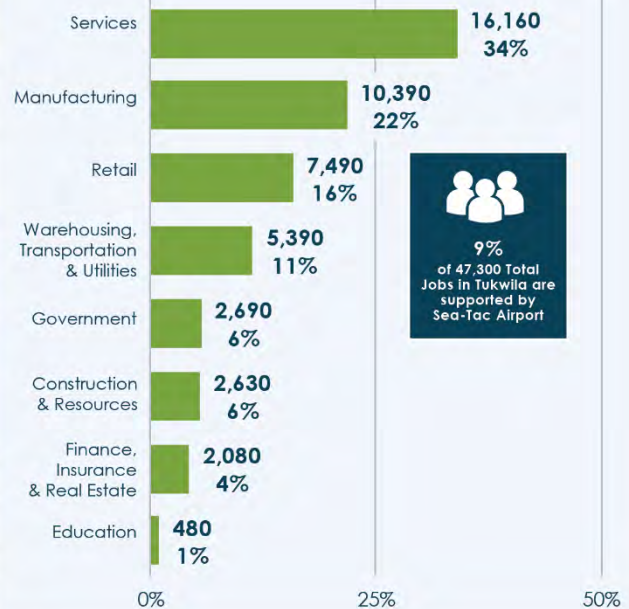
Local Taxes

In 2016, the Port of Seattle authorized a new **Economic Development Partnership Program** to support local community economic development activities. In 2017, Tukwila received around **\$20,000** for development of marketing materials to promote **Southcenter and Tukwila International District redevelopment** plans to real estate developers, non-profits, and public agencies.

Where Tukwila Residents Work



Tukwila Employment by Sector, 2016



Source: Port of Seattle, 2017; Puget Sound Regional Council, 2017; Washington State Office of Financial Management, 2017; U.S. Census Bureau, 2017; Washington State Employment Security Department, 2017; U.S. Bureau of Economic Analysis, 2017; Community Attributes Inc., 2017.

FEDERAL WAY

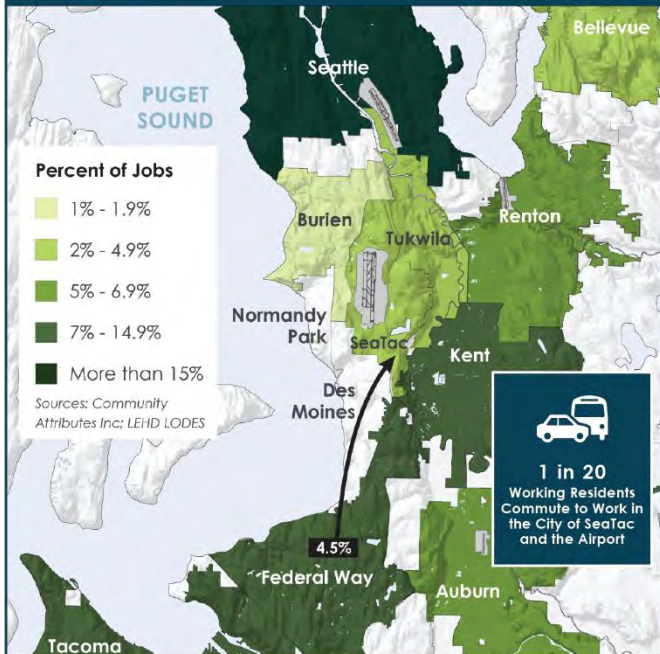
Economic Activity

Driven by Sea-Tac International Airport, 2017

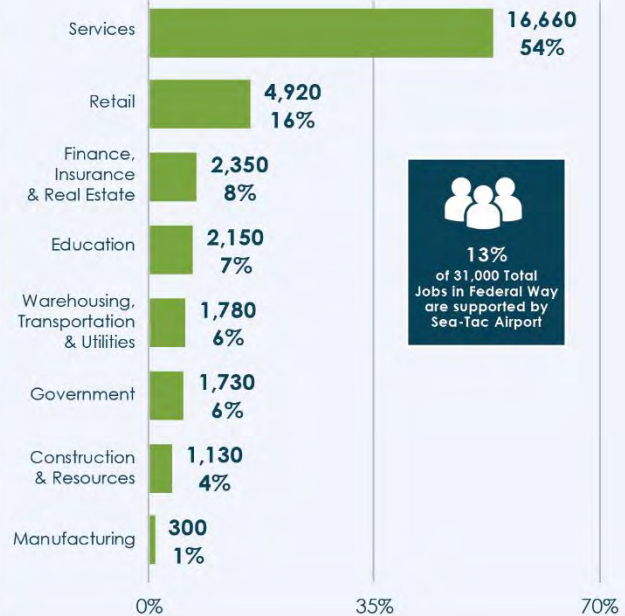


The services industry accounts for the highest number of jobs in Federal Way, with over **54% of total city employment**. Each of the 5,500 direct jobs in the service sector at Sea-Tac International Airport supports more than 3 jobs statewide.

Where Federal Way Residents Work



Federal Way Employment by Sector, 2016



Source: Port of Seattle, 2017; Puget Sound Regional Council, 2017; Washington State Office of Financial Management, 2017; U.S. Census Bureau, 2017; Washington State Employment Security Department, 2017; U.S. Bureau of Economic Analysis, 2017; Community Attributes Inc., 2017.

SUMMARY AND CONCLUSIONS

Sea-Tac International Airport is a significant driver for the Washington state, King County, and local economies. On-site activities at the airport directly supported 19,100 jobs, \$1.4 billion in total compensation, and \$5.6 billion in economic activity in 2017.

These on-site activities at the airport connect Washington's businesses to their customers, partners, vendors, and talent throughout the globe. Washington's export industries in particular rely on access to their global markets. In 2016, nearly 84 thousand metric tons of exports were shipped through Sea-Tac.

The airport is also a vital connection for visitors to the state. An estimated 8.2 million visitors traveled to Washington through Sea-Tac. Spending by these visitors directly supported 68,200 jobs, \$2.2 billion in total compensation, and \$5.9 billion in economic activity.

Sea-Tac is also a driver for surrounding communities. More than 1,000 airport employees live in each Federal Way, Kent, SeaTac, and Tukwila. Sea-Tac International Airport supported 26,300 jobs in the City of SeaTac and over \$6 billion in economic activity in 2017. In Tukwila the airport supported 4,200 jobs and \$483 million in economic activity. Economic activity supported by the airport in 2017 represented 6% of estimated GDP in Des Moines, 5% in Normandy Park and 4% in Federal Way.

Sea-Tac International Airport is the gateway to Washington and the Puget Sound, and is often the first point of contact that many visitors have with the region. In order to continue to improve traveler experience and meet the growing demand for air travel, the Port of Seattle is making significant capital investments at the airport. The Port of Seattle is forecasted to spend \$3.2 billion on capital improvements at the airport between 2017 and 2022, including investments in the International Arrivals Facility and the North Satellite Modernization.

Overall, Sea-Tac supported \$22.5 billion in economic activity in 2017, 151,400 jobs, and \$7.1 billion in total compensation directly and through multiplier effects.