



Washington State Department of
Labor & Industries

Aerospace Apprentice Utilization Report

2024 Report to the Legislature

December 2024

Introduction

In 2020, the Washington State Legislature passed [Engrossed Senate Bill 6690](#) (ESB 6690) concerning the aerospace industry in Washington state. The bill created the Aerospace Workforce Council and identified a conditional 0.357% Business and Occupation (B&O) tax rate for companies manufacturing commercial aircraft or components of commercial aircraft.

As identified under [RCW 82.04.2602](#), the conditions for implementing the 0.357% B&O tax rate include:

1. Resolution of the World Trade Organization (WTO) dispute between the United States and the European Union allowing a B&O tax rate reduction for commercial aircraft manufacturers to 0.357% or less.
(As of October 2024, the WTO dispute has not been resolved.)
2. A “significant commercial airplane manufacturer,” as defined in [RCW 49.04.220](#)(6), has at least a 0.3% aerospace Apprentice Utilization Rate (AUR) of its qualified apprenticeable workforce in Washington.
(Note: One employer in Washington state meets this definition.)

To qualify for the 0.357% B&O tax rate, organizations must achieve an AUR of at least 1.5% of their qualified apprenticeable workforce once the implementation conditions are met.

The Washington State Department of Labor & Industries (L&I) is responsible for calculating the Aerospace AUR and reporting annually to the Washington State Department of Revenue (DOR) and relevant legislative committees. The provisions of the bill are codified under [RCW 49.04.210](#), [RCW 49.04.220](#), [RCW 82.04.260](#), and [RCW 82.04.2602](#).

Registered Apprenticeship in Washington

In Washington state, registered apprenticeship is a work-based learning career pathway that enables apprentices to develop knowledge, skills, and abilities in a career field and earn a wage in the process. In turn, employers can develop and prepare their future workforce.

A registered apprenticeship combines hands-on, on-the-job training with related supplemental instruction, all under the guidance of a journey-level professional. An “apprenticeable occupation” qualifies if it involves the apprentice gaining manual, mechanical, or technical skills that meet industry standards. These standards typically require at least 2,000 hours of on-the-job learning and a minimum of 144 hours of related supplemental instruction each program year. Apprenticeships prepare individuals for well recognized, high-skill careers by offering a structured path of progress skill development. While many jobs may meet some of the criteria, only those that fulfill all requirements qualify as apprenticeable occupations.

Upon completing a registered apprenticeship program, apprentices earn a nationally recognized professional credential.

The Washington State Apprenticeship and Training Council (WSATC) approves registered apprenticeship programs and apprenticeship preparation programs. Council members are appointed by L&I and include representatives from employer and employee organizations within the business and labor communities, and a member of the public.

The L&I Apprenticeship program at L&I offers consultation on developing apprenticeship standards and oversees the management of registered apprenticeship programs and apprentices. L&I also issues journey-level credentials to individuals who successfully complete their training.

Currently, three registered apprenticeship programs in Washington state serve the aerospace industry: AJAC-Advanced Manufacturing Apprenticeships; Northwest Machinists Apprenticeship Committee; and IAM/Boeing Joint Apprenticeship Committee.

Aerospace Industry Apprentice Utilization Rates

The AUR identifies the minimum required labor hours performed by apprentices on a specific jobsite or project. It is calculated by dividing the number of apprentices in a given occupation by the total number of workers in that occupation in an organization.

For the aerospace industry in Washington state, an aerospace employer includes those engaging in "...the business of manufacturing commercial airplanes, or components of such airplanes, or making sales, at retail or wholesale, of commercial airplanes or components of such airplanes..." [RCW 82.04.260(11)].

Under RCW 49.04.220, to qualify for the 0.357% B&O tax rate, aerospace employers must achieve an AUR of at least 1.5% of their qualified apprenticeable workforce. The AUR must be achieved by July 1, 2026, or five years after the effective date of the 0.357% B&O tax rate.

L&I calculates Aerospace AUR based on framework established by the Aerospace Workforce Council (as directed by RCW 49.04.210). The occupational data is compared to the number of workers that are in apprenticeable occupations with the number of apprentices employed by identified aerospace employers.

When the 0.357% B&O aerospace tax rate becomes effective, employers will be required to report relevant occupation data related to qualified apprenticeable workforce. The data will be submitted to L&I. However, the tax rate is not yet in effect because the bill has required implementation conditions that have not been met. As a result, aerospace employers are not yet required to submit the tax rate data to L&I.

Since a specific data set does not currently exist, L&I compiled data from available sources to calculate the Aerospace AUR for the purpose of this report. Data sources, along with any deficiencies, are identified in the following calculation description.

The AUR calculation method is as follows:

1. Identify aerospace manufacturing employers that would be eligible for the 0.357% B&O tax rate.
 - Data source is Washington State Department of Revenue (DOR).

- Identified employers in Washington that meet the definition per RCW 82.04.260(11).
 - The most recent data available is from 2020, which was the final year for the previous preferential tax rate.
2. Total number of employees in apprenticeable occupations.
 - Data source is Washington State Employment Security Department (ESD) (data thru 2023).
 - Employment records include employee name and position for employers identified from DOR’s list.
 - Employee list is based on Standard Occupational Classification (SOC) codes. See Appendix A.
 - The Aerospace Workforce Council identified the SOC code list of qualifying apprenticeable occupations for the aerospace manufacturing industry.
 - There is a data deficiency because not all employers reported based on SOC code.
 3. Number of apprentices in an apprenticeable occupation.
 - The data is sourced from the Washington State Department of Labor & Industries (L&I) Apprenticeship Registration and Tracking System (ARTS), an online searchable database of all registered apprentices and apprenticeship programs in Washington state.

The AUR calculation process:

1. Identify eligible aerospace manufacturing employers using DOR data.
2. Determine the list of apprenticeable occupations based on SOC code.
3. Generate a list of employees for each employer using ESD data.
4. From the employee list, identify those working in an apprenticeable occupation.
5. Cross-reference the list of employees with ARTS to identify registered apprentices.
6. Calculate the AUR by dividing the total number of employees in an apprenticeable occupations at the company (denominator) by the number of registered apprentices at the company (numerator).

The aerospace apprenticeship utilization rate for 2023 is between 0.6% and 0.8%.

There were over 22,800 employees working in apprenticeable occupations for aerospace employers, but nearly 8,800 employee records did not specify an occupation. In 2023, aerospace employers employed 190 apprentices.

Conclusion

RCW 49.04.220(4) directs L&I to report the AUR annually to the Washington State Department of Revenue and appropriate legislative committees starting in 2024. This report marks the first aerospace AUR report. However, due to the unresolved WTO dispute and unmet implementation conditions under RCW 82.04.2602, annual reporting may be delayed until conditions are met and the 0.357% B&O tax rate can be applied.

While current apprenticeship utilization in the aerospace industry is relatively low, if the WTO dispute is resolved, recent investments in Aerospace Registered Apprenticeship should enable rapid growth to meet the 1.5% apprenticeship utilization. To reach this rate, Washington’s aerospace

workforce would have needed between 343 and 475 apprentices in 2023.

Appendix A

The Aerospace Workforce Council identified the following list of qualifying apprenticeable occupations for the aerospace manufacturing industry.

Standard Occupational Code (SOC)	Occupation
43-5011	Cargo and Freight Agents
43-5061	Production, Planning, and Expediting Clerks
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment
49-3011	Aircraft Mechanics and Service Technicians
49-9041	Industrial Machinery Mechanics
49-9043	Maintenance Workers, Machinery
49-9071	Maintenance and Repair Workers, General
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders
51-4041	Machinists
51-4061	Model Makers, Metal and Plastic
51-4081	Multiple Machine Tool Setters, Operators, and Tenders
51-4111	Tool and Die Makers
51-4121	Welders, Cutters, Solderers, and Brazers
51-4194	Tool Grinders, Filers, and Sharpeners
51-4199	Metal Workers and Plastic Workers, All Other
51-7031	Model Makers, Wood
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers
51-9111	Packaging and Filling Machine Operators and Tenders
51-9161	Computer Numerically Controlled Tool Operators
51-9162	Computer Numerically Controlled Tool Programmers
51-9198	Helpers—Production Workers
51-9199	Production Workers, All Other