

2024 Tax Preference Review:

Aerospace

24-05 FINAL REPORT | DECEMBER 2024

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Legislative Auditor's conclusion

The preferences continue to meet legislative goals to lower costs, maintain the industry's presence, and encourage strong wages. Employment has decreased since 2019, and it remains unclear if job growth meets expectations.

Key points

- The Legislature enacted nine tax preferences that benefit the aerospace industry. It repealed one preferential tax rate to comply with a World Trade Organization ruling.
- The preferences lower costs and improve competitiveness by reducing the industry's effective tax rate. However, the reduction is smaller than it was in 2019.
- Washington's aerospace industry is still among the largest in the country and pays wages that are above industry and statewide averages.
- Aerospace industry employment has declined since 2019. It is above 2003 levels, so it continues to be unclear if employment levels meet legislative expectations.
- Legislative Auditor recommends the Legislature clarify the employment objective and consider reviewing the preferences every 10 years, rather than the current five-year cycle.

Earlier JLARC reviews

The 2013 Legislature directed JLARC to review the aerospace tax preferences every five years. JLARC previously reviewed the preferences in 2014 and 2019. These reports are available at the following links:

- [2014 Review](#)
- [2019 Review](#)

About these preferences

Estimated savings: \$205.4 million (CY 2028-29)

Expiration date: July 1, 2040

Tax type: Multiple taxes

Applicable statute(s): **Multiple**

Executive summary

Between 2003 and 2020, the Legislature created nine tax preferences that benefit Washington's aerospace industry. The aerospace tax preferences include:

- 3 preferential business and occupation (B&O) tax rates.
- 2 B&O tax credits.
- 2 sales and use tax exemptions.
- 1 property tax exemption.
- 1 leasehold excise tax exemption.



Currently, businesses can claim eight of nine preferences. The 2020 Legislature repealed one preferential tax rate to comply with a World Trade Organization ruling.

Preferences continue to meet three of four legislative objectives

This is consistent with the Joint Legislative Audit and Review Committee (JLARC) reviews in 2014 and 2019.

| Objective | Results | | |
|--|-------------|-------------|-------------|
| | 2014 review | 2019 review | 2024 review |
| Reduce the cost of doing business in Washington for the aerospace industry compared to other states | Met | Met | Met |
| Encourage the continued presence of the aerospace industry | Met | Met | Met |
| Provide jobs with good wages and benefits | Met | Met | Met |
| Maintain and grow Washington's aerospace industry workforce | Unclear | Unclear | Unclear |

Preferences reduce costs for beneficiaries

JLARC's 2019 report found that the preferences lower costs for Washington aerospace businesses through tax savings and a lower effective tax rate.

The current review finds that the preferences still reduce costs, but the impact is lower than in the 2019 JLARC review. The changes are due in large part to the 2020 repeal of one preference.

- Beneficiaries currently save about \$100 million per year. However, between 2018 and 2022, savings declined from \$261 million to \$95 million. At the same time, the number of businesses claiming preferences fell by 62%.
- The available tax preferences reduce effective tax rates for aerospace manufacturers. However, the reduction in the tax rate is now smaller. For example, in 2019, the preferences reduced the rate for a hypothetical large business from 21% to 10%. In 2024, they reduced it from 21% to 13%.

Figure 1: Preferences now have less impact on the effective tax rate for a hypothetical large business



Note: In this analysis, a large business means one with 10,000 employees.

Source: JLARC staff analysis of 2019 EY estimates for a hypothetical large business

Washington's aerospace industry is still among the largest in the country and pays good wages

JLARC's 2019 report found that aerospace continued to be a major industry in Washington, noting factors such as its contribution to the nation's gross domestic product (GDP), size of the workforce, and Boeing airplane deliveries.

This review finds that despite declines, the industry remains strong in Washington.

- In 2022, Washington's aerospace and other transportation equipment manufacturing industries contributed \$27.4 billion to the nation's GDP. This is more than any other state for this industry category.
- In 2022, the industry's 234 Washington business establishments employed 73,852 workers. This is 14.3% of the national aerospace industry total. Washington has the second-largest industry workforce behind California. The average wage for Washington's aerospace workforce is about \$128,000, higher than the aerospace industry in general or Washington's statewide average.
- Boeing delivered 528 airplanes in 2023. While this is lower than its peak in 2018, it marks a recovery since its recent low in 2020.

Aerospace industry employment has declined since JLARC's 2019 review. It's unclear whether it meets legislative expectations.

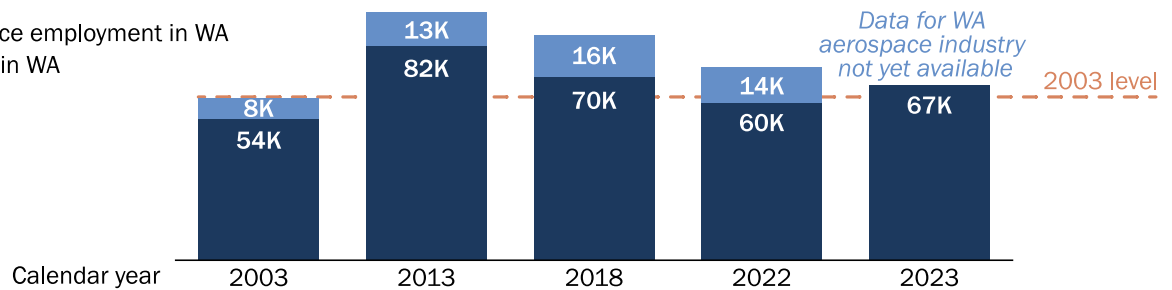
Aerospace industry employment has risen and fallen over the last two decades. In 2022, there were:

- 19% more jobs than in 2003.
- 22% fewer jobs than in 2013, the year the preferences were extended and expanded.
- 14% fewer jobs than in 2018, the last year covered in our previous review.

Boeing reported an employment increase in 2023 but industry figures are not yet available for the same period.

While the Legislature stated that the preferences should maintain and grow the workforce, it has not set a target or measure. Compared to 2003, the workforce has grown. Compared to 2013 and other years, it has not. As noted in earlier reports, JLARC staff cannot conclude whether the preferences meet this objective without a measurable target from the Legislature.

Figure 2: Jobs remain above 2003 levels but below levels noted in previous JLARC reviews



Source: JLARC analysis of aerospace employment in Washington and at Boeing

Legislative Auditor's recommendations

1. The Legislature should clarify its expectations for the level of aerospace industry employment.
2. The Legislature should consider eliminating the requirement that JLARC review these preferences every five years. The preferences would then revert to the standard 10-year review cycle for tax preferences.

You can find additional information in the [Recommendations section](#).

Commissioner's Recommendation

The commission endorses the Legislative Auditor's recommendations without comment.

Committee action to distribute report

On December 4, 2024 this report was approved for distribution by the Joint Legislative Audit and Review Committee. Action to distribute this report does not imply the Committee agrees or disagrees with Legislative Auditor recommendations.

Part 1.

Aerospace tax preferences

Between 2003 and 2020, the Legislature enacted nine tax preferences that benefit the aerospace industry. **Appendix A** details the legislative action.

The preferences include a variety of preferential tax rates, credits, and exemptions. They are scheduled to expire July 1, 2040. **Appendix B** offers more information about each preference.

| Preference type | Preference | Learn more |
|--|---|----------------------|
| Preferential B&O tax rates | Commercial airplane manufacturing, retailing, and wholesaling, including parts & tooling RCW 82.04.260(11) <i>Repealed and replaced with higher rate.</i> <i>Regular rate: 0.484% Preferential rate: 0.357% (inactive)</i> | Link |
| | Aerospace product development RCW 82.04.290(3) <i>Regular rate: 1.5% or 1.75% Preferential rate: 0.9%</i> | Link |
| | Certified aircraft repair firms RCW 82.04.250(3) <i>Regular rate: 0.484% Preferential rate: 0.2904%</i> | Link |
| B&O tax credits | Aerospace product development expenditures RCW 82.04.4461 | Link |
| | Commercial airplane manufacturing – property/leasehold excise taxes paid RCW 82.04.4463 | Link |
| Sales and use tax exemptions | Aerospace product development computer expenditures RCW 82.08.975 & 82.12.975 | Link |
| | Commercial airplane development facilities RCW 82.08.980 & 82.12.980 | Link |
| Leasehold excise tax exemption* | Superefficient airplane production facilities RCW 82.29A.137 | Link |

| Preference type | Preference | Learn more |
|--------------------------------|---|----------------------|
| Property tax exemption* | Superefficient airplane production facilities RCW 84.36.655 | Link |

*The two preferences for superefficient airplane production have never been claimed

Preferences are available to businesses in aerospace and related industries

A business may claim one or more preferences. To claim a preference, the business must perform certain aerospace-related activities such as:

- Earning income from developing aerospace products.
- Buying certain computer equipment.
- Repairing aircraft.
- Building commercial airline production facilities.

Businesses in the aerospace industry are the preferences' primary beneficiaries. Firms in related industries also claim the preferences.

- **Aerospace industry** includes businesses that file taxes under North American Industry Classification System (NAICS) code 3364--Aerospace Product and Parts Manufacturing. Boeing is the largest aerospace business in Washington and the state's largest private employer.
- **Related industries** include architectural and engineering services, durable goods wholesaling, and fabricated metal product manufacturing.

Preferences share the same four objectives

The Legislature established three objectives when enacting the preferences in 2003. The fourth objective was added in 2013 when the expiration date for the preferences was extended.

1. Reduce the cost of doing business in Washington for the aerospace industry compared with other states.
2. Encourage the continued presence of the aerospace industry in Washington.
3. Provide jobs with good wages and benefits.
4. Maintain and grow Washington's aerospace industry workforce.

Legislature repealed the preferential B&O tax rate for manufacturing commercial airplanes in 2020

In April 2019, the World Trade Organization (WTO) ruled that Washington's preferential B&O tax rate for commercial airplane manufacturers violated WTO rules.

In April 2020, the Legislature responded by repealing the preferential B&O tax rate (0.2904%) for manufacturers of commercial airplanes.

Legislature set a new rate, subject to three conditions that have not been met

The Legislature created a new preferential B&O tax rate (0.357%) for these activities. This new rate is higher than the one repealed but still lower than the regular rate (0.484%).

The new rate will take effect only if three conditions are met:

1. The United States and European Union reach an agreement that resolves their WTO disputes about large civil airplanes and expressly allows preferential tax rates.
 - **Not met.**
2. The Department of Commerce (Commerce) notifies the Department of Revenue (DOR) in writing that such an agreement has been reached and includes a copy of the notice to Commerce from the U.S. Trade Representative about the agreement.
 - **Not met.**
3. The Department of Labor and Industries (L&I) notifies DOR that a significant commercial airplane manufacturer has at least a 0.3% aerospace apprenticeship utilization rate of its qualified apprenticeable workforce.
 - **Met.** A January 2024 L&I report notes that a significant airplane manufacturer has an apprenticeship utilization rate of 2.3% as of September 2023. L&I has not officially notified DOR.

Part 2.

Savings

Beneficiaries currently save about \$100 million per year. Savings declined 63% from 2018 to 2022.

In calendar years 2018 through 2022, beneficiaries saved \$780.4 million by claiming the preferences. The two preferences for superefficient airplane production have never been claimed.

However, total beneficiary savings declined from \$261 million (2018) to \$95 million (2022). This is a \$166 million (63%) decline.

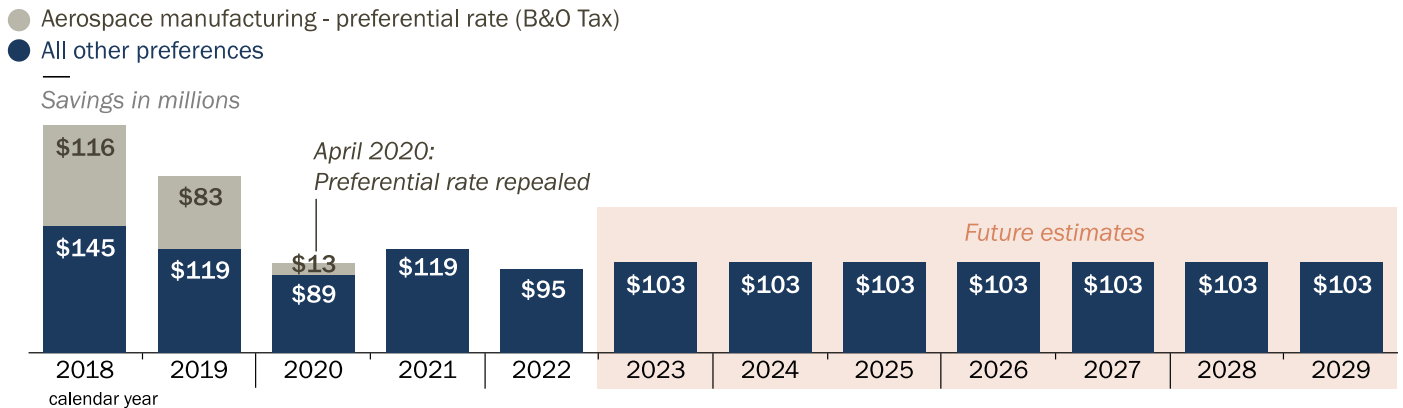
- The repeal of the commercial airplane manufacturing preferential B&O tax rate explains \$116 million of the difference.
- The remaining \$50 million is attributable to declines in savings for other preferences.

JLARC staff estimated savings for 2023 through 2029. The estimated total savings for the two-year period 2028 and 2029 is \$205 million. The estimates assume that:

- Beneficiaries will continue to use six preferences.
- Beneficiaries will not claim the two preferences for superefficient airplane production.
- The preferential rate for manufacturing commercial airplanes will not take effect.

Beneficiary savings for each preference are in **Appendix B**.

Figure 3: Beneficiaries saved more than \$780 million from 2018-2022. Savings dropped \$166 million (63%) from 2018 to 2022.



Savings detail for two-year periods

| 2018-19 | 2020-21 | 2022-23 (est) | 2024-25 (est) | 2026-27 (est) | 2028-29 (est) |
|----------|----------|---------------|---------------|---------------|---------------|
| \$463.3M | \$221.8M | \$198.1M | \$205.4M | \$205.4M | \$205.4M |

Note: Estimated future annual use based on JLARC calculation of average historical preference use (See Appendix B for details).

Source: JLARC staff analysis of DOR tax return data, 2018-2022

Fewer businesses are claiming the preferences

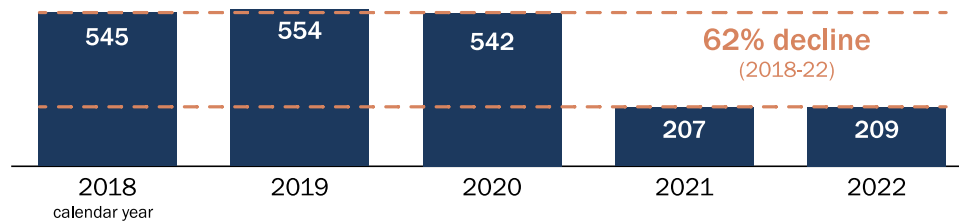
The number of distinct businesses claiming the preferences has declined since 2018.

- In 2018, 545 distinct businesses claimed one or more of the aerospace tax preferences.

- In 2022, the count was 209, a drop of 336 businesses (62%).

The change appears due in large part to the repeal of the commercial airplane manufacturing preference. In the years before repeal, at least 360 businesses claimed the preference each year. Because each business can claim more than one preference, some of these businesses may still benefit from one or more of the remaining preferences.

Figure 4: The number of distinct businesses using the preferences declined by 62% from 2018-2022, largely due to the repeal of one preference



Source: JLARC staff analysis DOR tax return data, 2018 through 2022

The preferences continue to reduce the effective tax rate, but the effect is less than in 2019

As part of its 2019 review, JLARC staff hired EY (Ernst & Young) to evaluate the business tax climate for the aerospace industry across Washington and 13 other comparison states.

- The 13 comparison states included those with a significant aerospace presence, such as California, Missouri, and North Carolina.
- EY developed two hypothetical businesses: one with more than 10,000 employees and one with 50 employees. These reflected the makeup of Washington beneficiaries.
- For the study, the effective tax rate considered all state and local taxes a hypothetical aerospace business might pay. This included sales and use taxes, property taxes, and an income or B&O tax, as applicable for all 14 states.

Effective Tax Rate

Effective tax rate (ETR) analysis estimates what a hypothetical firm might owe in business taxes. It expresses the impact of these taxes as a reduction in the business's rate of return over time.

Performing this analysis with and without available tax preferences and other incentives can illustrate the impact of incentives.

The analysis allows a comparison of what an identical business might pay in taxes if it were in different states.

EY's 2019 analysis found that Washington's aerospace tax preferences lowered the cost of doing business in Washington compared with the 13 other states and improved competitiveness.

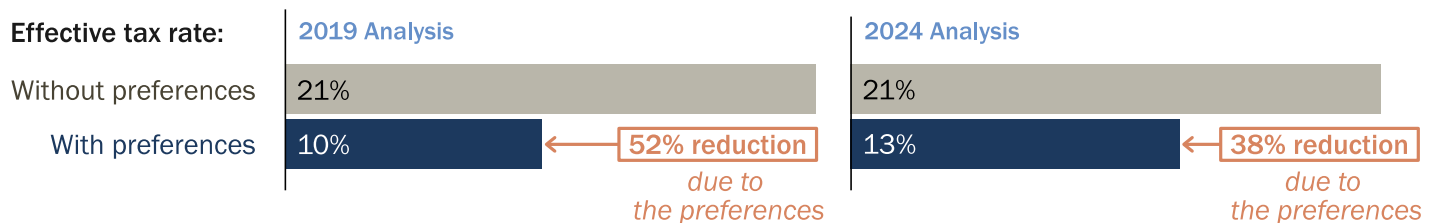
2024 JLARC staff update

For the 2024 review, JLARC staff updated the data for Washington so that it reflects the impact of repealing the commercial airplane manufacturing preference. JLARC staff did not adjust the effective tax rates for other comparison states.

The analysis found that the remaining preferences still reduce the effective tax rates for both large and small hypothetical aerospace businesses. However, the effect is less than in 2019.

- For a hypothetical large firm (10,000 employees): In 2019, the preferences reduced the effective tax rate by 52%. In 2024, it reduced the rate by 38% (Figure 5).
- For a hypothetical small firm (50 employees): In 2019, the preferences reduced the effective tax rate by 61%. In 2024, it reduced the rate by 53% (Figure 6).

Figure 5: Preferences have less impact on the effective tax rate for a hypothetical large firm in 2024 compared to 2019



Source: JLARC staff analysis of 2019 EY estimates for a hypothetical large firm with 10,000 employees

Figure 6: Preferences have less impact on the effective tax rate for a hypothetical small firm in 2024 compared to 2019



Source: JLARC staff analysis of 2019 EY estimates for a hypothetical small firm with 50 employees

Part 3.

WA aerospace industry

Washington's aerospace industry contributes more to national GDP than any other state

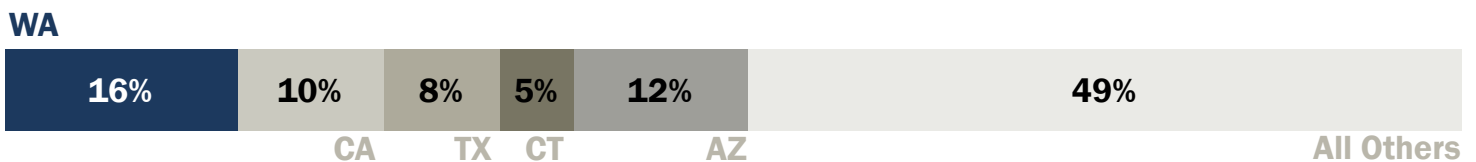
JLARC staff used Bureau of Economic Analysis (BEA) data to determine how much Washington's aerospace industry contributes to the nation's gross domestic product (GDP). GDP is the total market value of the final goods and services produced within the United States each year.

- BEA reports GDP by aggregating multiple transportation equipment manufacturing industries under the *Other Transportation Equipment Manufacturing* classification.
- This classification includes aerospace and three other industry groups related to manufacturing railroad rolling stock, ships and boats, and other transportation equipment. It does not include motor vehicle manufacturing.

Nationally, the *Other Transportation Equipment Manufacturing* industry classification contributed \$173 billion to the gross domestic product in 2022.

- Washington's contribution – \$27.4 billion – was 16% of the national total. This is more than the contribution from the industry in any other state.
- The value and the share of Washington's contribution to GDP is lower than in 2018 when Washington contributed \$36.9 billion (23.2%) of the national total (\$159.4 billion).

Figure 7: State contribution to GDP, *Other Transportation Equipment Manufacturing*, 2022



Source: JLARC staff analysis of BEA GDP by State data

Boeing airplane deliveries declined and began to recover after 2018 peak

Boeing's airplane deliveries reached a record of 806 in 2018. Deliveries declined sharply in 2019 and 2020. They began to recover in 2021. In 2023, deliveries exceeded 500 for the first time since 2018. It assembled most of the airplanes in Washington.

Boeing told JLARC staff that the decline is due in part to the 737 MAX grounding (March 2019-November 2020) and the COVID pandemic.

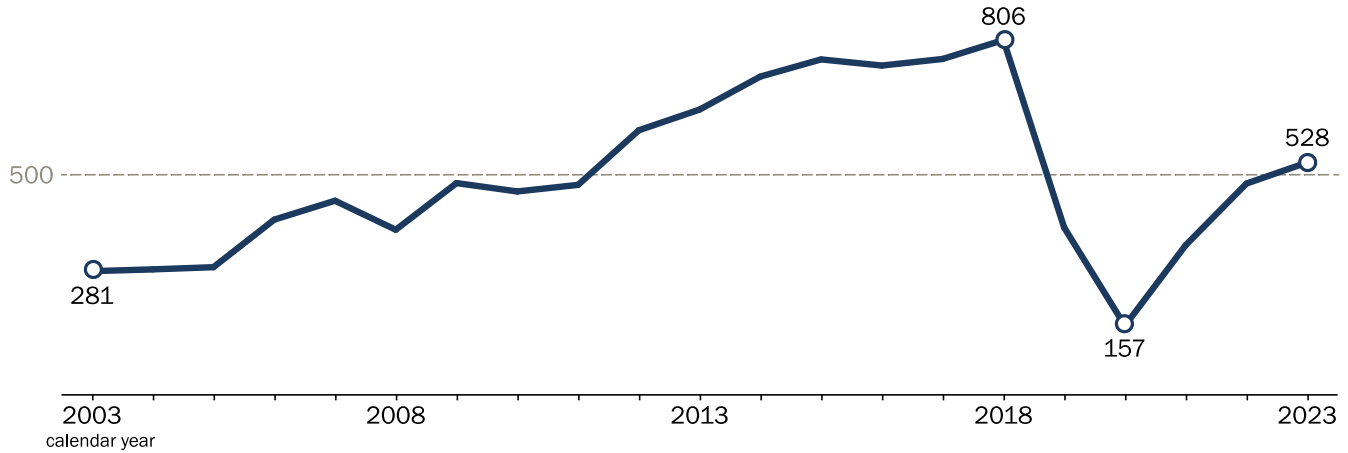
Between 2020 and 2021, Boeing consolidated its 787 production in South Carolina, ending its assembly of these airplanes in Everett. The delivery data below includes the 787 model.

The company told JLARC staff it expects airplane deliveries to continue recovering.

- Boeing reported plans to set up a fourth 737 assembly line in Washington, the first 737 assembly at the Everett facility. It expects the assembly line to increase its 737-assembly rate from 31 per month in 2023 to 50 per month by 2025 or 2026.

- Boeing reports its order backlog in December 2023 was 5,626 airplanes. The company estimates that this backlog represents seven years of airplane production.

Figure 8: Boeing airplane deliveries, 2003-2023



Source: Boeing public airplane delivery data

The number of Washington aerospace establishments has grown

In 2022, Washington had 234 aerospace business establishments, an increase from 198 in 2018. Only three states (California, Florida, and Texas) have more aerospace business establishments.

From 2018 to 2022, Washington's location quotient for aerospace business establishments increased from 2.42 to 2.83. Washington's location quotient for aerospace establishments is third highest in the nation, behind Kansas and Connecticut.

Business establishments

JLARC staff reviewed establishment-level data from the Bureau of Labor Statistics (BLS) to compare Washington's aerospace industry to other states.

A business establishment is one physical location. Most businesses have only one establishment, but they can have more.

- Location quotient is a way to measure a state's share of an industry compared to a larger region such as the nation. Location quotients can help illustrate a state's relative concentration of measures such as business establishments or employment.
- A location quotient of 1 means the industry has the same share as the nation. A location quotient greater than 1 indicates a greater share than the nation.

Part 4. Jobs and wages

Washington is the nation's second largest aerospace industry employer

The aerospace industry employed 73,852 workers in 2022. This is 14.3% of the national industry total, making Washington the second largest industry employer. California is first with 79,727 industry employees (15.5% of the national total).

However, Washington's aerospace industry represents a larger share of total state employment than any other state. Washington's location quotient for aerospace employment was 6.1 in 2022. While it has fallen from 7.2 in 2018, it remains the largest of any state, ahead of second-place Kansas, at 6.0.

Unclear whether industry employment meets legislative expectations

One of the Legislature's objectives is to maintain and grow Washington's aerospace industry workforce. The Legislature has not set a measurable performance metric to evaluate maintenance or growth.

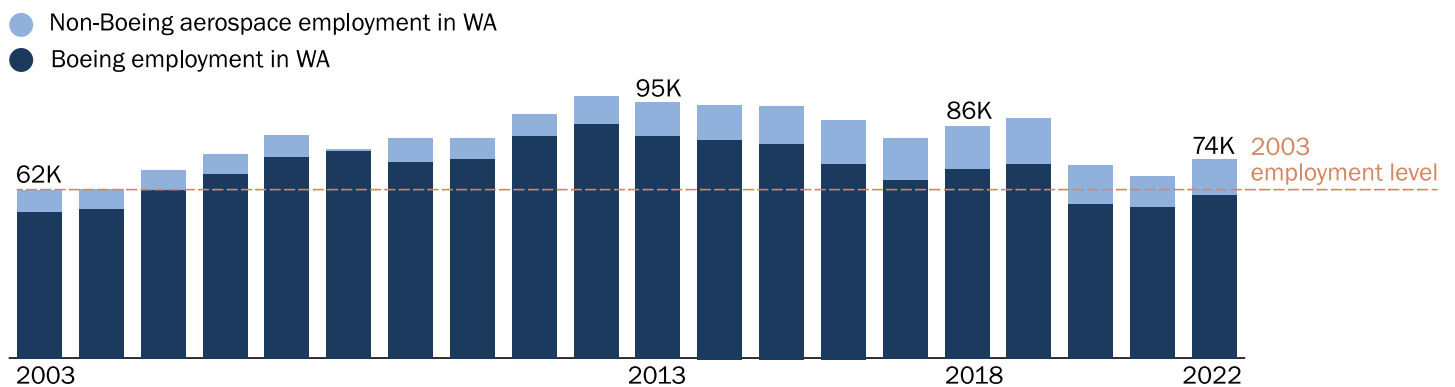
Aerospace industry employment has risen and fallen since the Legislature enacted the preferences in 2003. Employment in 2022 was:

- 11,600 jobs (19%) higher than in 2003.
- 20,900 jobs (22%) lower than in 2013, when the Legislature extended the preferences.
- 12,100 jobs (14%) lower than in 2018, which is the last year included in JLARC's previous review.

Boeing's Washington employment has followed similar trends. In December 2023, Boeing publicly reported that it employed 66,797 people. This is an 11% increase from the prior year and 4% decrease from 2018.

Industry-level data for 2023 was not available at the time this report was produced. However, because Boeing represents the majority of Washington's aerospace industry employment, JLARC staff expect that it is likely industry employment data for 2023 will show a similar increase.

Figure 9: 2022 aerospace industry employment is above 2003 levels but below 2013 levels



Source: JLARC analysis of WA statewide and Boeing employment

Washington's aerospace workforce has become more diverse. Its composition differs from the broader manufacturing industry and statewide workforce.

Since 2003, the aerospace workforce has become more diverse.

- The share of Asian, Black, Hispanic, or multiracial employees increased from 2003 to 2022.
- The share of workers identifying as white alone decreased by 20 percentage points.

Figure 10: The share of Asian, Black, Hispanic, or multiracial employees has increased in the aerospace industry since 2003

| | 2003 | 2022 | Direction |
|--|-------|-------|-----------|
| American Indian or Alaska Native | 0.5% | 0.4% | ▼ |
| Asian | 7.7% | 19.9% | ▲ |
| Black or African American | 3.0% | 4.4% | ▲ |
| Hispanic or Latino of Any Race | 2.6% | 7.3% | ▲ |
| Native Hawaiian or Other Pacific Islander | 0.2% | 0.5% | ▲ |
| Two or More Race Groups | 1.7% | 3.1% | ▲ |
| White | 84.2% | 64.4% | ▼ |

Note: To illustrate the race and ethnicity of the aerospace industry workforce, JLARC staff referred to data from the U.S. Census' Local Employer-Household Dynamics (LEHD) program. Its Quarterly Workforce Indicators (QWI) include local labor market statistics by worker demographics.

Source: JLARC staff analysis of LEHD data

Compared to both the manufacturing industry and the statewide workforce, the 2022 aerospace industry workforce has:

- A higher proportion of Asian employees.
- A lower proportion of Hispanic or Latino employees.
- Similar proportions of employees from all other races or ethnicities.

Figure 11: The racial and ethnic characteristics of the aerospace workforce in WA is somewhat different than manufacturing and the statewide workforce

Source: JLARC staff analysis of LEHD Data

Race and ethnicity data on annual tax performance reports was insufficient for analysis

Statute requires Aerospace tax preference beneficiaries to file an annual tax performance report. The report includes optional questions about the race and ethnicity of their employees.

For 2022, 179 beneficiaries completed a report.

- 71 answered questions about their employees' race and 108 declined or left answers blank. Those who answered noted that they did not know the race of 68% of their employees.
- 70 answered the questions about employees' ethnicity and 109 declined or left answers blank. Those who answered reported that they did not know the ethnicity of 72% of their employees.
- Due to the limitations of these responses, JLARC staff instead reported the industrywide estimates from the U.S. Census, as described above.

Aerospace industry pays above-average wages

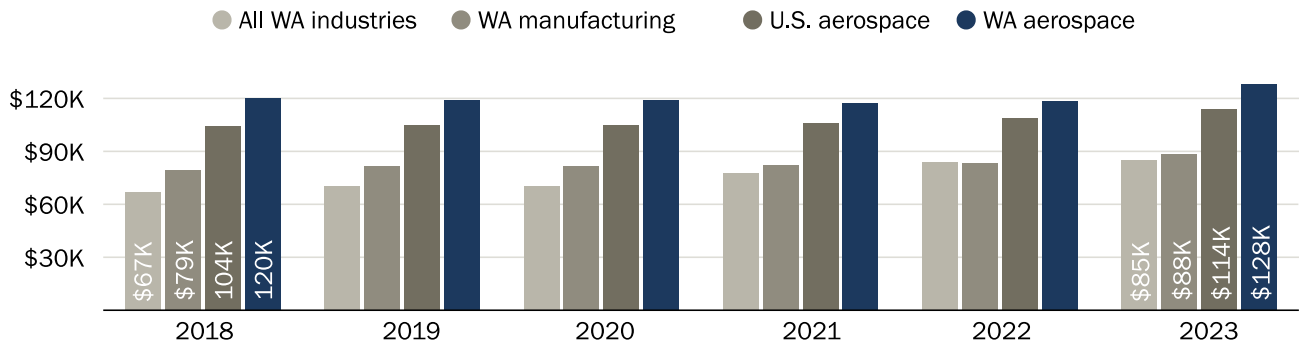
Since the previous JLARC review, the average wage paid to Washington employees of aerospace businesses grew 7% to \$127,875.

- It is higher than the average for the aerospace industry in general or Washington statewide average.
- It is the fourth highest in the nation, behind Colorado, Massachusetts, and Connecticut.

From 2018 to 2022:

- The average wage of all Washington industries grew 28% to \$85,228.
- The average wage for all Washington manufacturers grew 11% to \$88,449.
- The national average aerospace industry wage grew 9% to \$113,844.

Figure 12: Average wages in Washington's aerospace industry exceed those in comparable industries



Note: The Quarterly Census of Employment and Wages (QCEW) program publishes a quarterly count of employment and wages reported by employers covering more than 95 percent of U.S. jobs

Source: JLARC staff analysis of BLS QCEW data

Beneficiaries of the aerospace tax preferences must submit employment and wage data to DOR on annual tax performance reports. In 2022, 179 businesses claiming one or more of the aerospace tax preferences gave data on wages.

Their responses indicate that:

- 45% of employees earned wages between \$63,000 and \$104,000 per year.
- 40% of employees earned wages greater than \$104,000 per year.

Figure 13: 85% of employees earned wages greater than \$63,000 per year

| Annual wages | Under \$31K | \$31-42K | \$42-53K | \$52-63K | \$63K-\$104K | More than \$104K |
|----------------------|-------------|----------|----------|----------|--------------|------------------|
| Percent of employees | 0% | 3% | 6% | 6% | 45% | 40% |

Note: The annual report includes hourly wages in certain wage bands. JLARC staff converted them to annual wages by multiplying by 2,088

Source: JLARC staff analysis of DOR annual tax performance report data

Recommendations

1. The Legislature should clarify its expectations for the level of aerospace industry employment.
 - a. Providing additional detail in the tax preference performance statement, such as a baseline level of employment, would provide the Legislature with more useful information in the next review. This is consistent with the Legislative Auditor's recommendations in 2014 and 2019.
2. The Legislature should consider eliminating the requirement that JLARC review these preferences every 5 years. The preferences would then revert to the standard 10-year review cycle for tax preferences.

Legislation Required: Yes.

Fiscal Impact: None.

Implementation Date: Depends on legislative action.

Commissioners' Recommendation

The commission endorses the Legislative Auditor's recommendations without comment.

Agency Response

The Office of Financial Management (OFM) and the Department of Revenue (DOR) were given an opportunity to comment on this report. They responded that they do not have any comments. See [attached letter \(PDF\)](#).

Current Recommendation Status

JLARC staff follow up on the status of Legislative Auditor recommendations to agencies and the Legislature for four years. The most recent responses from agencies and status of the recommendations in this report can be viewed on our [Legislative Auditor Recommendations page](#).

Appendices

Appendix A: Legislative action on aerospace preferences | **Appendix B: Tax preference details** | **Appendix C: Applicable statutes** | **Appendix D: Study questions & methods** | **Appendix E: Audit authority** | **Appendix F: Study process**

Appendix A: Legislative action on aerospace preferences

The Legislature initially enacted a set of tax preferences directed to the aerospace industry in 2003. Over the years, the Legislature has extended and expanded the preferences.

- **2003:** The original set of preferences benefited manufacturers or processors for hire of commercial airplanes and their components, as well as retailing and wholesaling activities of the manufacturer. The Legislature set a July 1, 2024, expiration date for the preferences.
- **2008:** The Legislature expanded the pool of beneficiaries to include non-manufacturers that research, design, or engineer aerospace products for others to manufacture.
- **2008:** The Legislature expanded the pool of beneficiaries to include manufacturers that supplied aerospace tooling and businesses that provide services at federally certified aviation repair stations.
- **2013:** The Legislature extended the expiration date for the aerospace preferences from July 1, 2024, to July 1, 2040. The extension was contingent on a significant commercial airplane manufacturing program being sited in Washington by June 30, 2017. That contingency was met.
- **2020:** The Legislature last changed the preferences in 2020 to comply with a World Trade Organization (WTO) ruling that Washington's preferential B&O tax rate for commercial airplane manufacturing violated WTO rules. The preferential rate for commercial airplane manufacturing was repealed. The Legislature established a set of three conditions that must be met after March 31, 2021. If they are met, a higher, but still preferential, rate of 0.357 percent will apply to commercial airplane manufacturing activities. This rate is not currently available.

Appendix B: Tax preference details

The nine tax preferences include preferential tax rates, credits, and exemptions. They affect four tax programs: the business and occupation (B&O) tax, the sales and use tax, the property tax, and the leasehold excise tax. This appendix provides additional detail about each preference's public policy objectives, statutory provisions, and the estimated beneficiary savings.

The preferences share common definitions

Statute defines a "commercial airplane" as an airplane certified by the Federal Aviation Administration for transporting persons or property, and any military derivative of a commercial airplane. Private airplanes, helicopters, and military fighter aircraft do not qualify for the preferences.

Qualifying components must be federally certified for installation or assembly into a commercial airplane.

The statute defines a "superefficient airplane" as a twin aisle airplane that uses 15% to 20% less fuel than similar airplanes on the market. The statute also includes specifications that uniquely describe Boeing's 787 line of commercial airplanes.

Statute defines "aerospace products" as:

- Commercial airplanes and their components.
- Machinery and equipment designed and used primarily for the maintenance, repair, overhaul, or refurbishing of commercial airplanes or their components by federally certified aviation repair stations.
- Tooling specifically designed for use in manufacturing commercial airplanes or their components.

Generally, the preferences that apply to airplane manufacturers also apply to "processors for hire." A processor for hire is a business that manufactures products from materials owned by another business.

The preferences share a common expiration date

The aerospace preferences are scheduled to expire on July 1, 2040.

Most of the preferences were enacted in the same legislation in 2003, contingent on the location of a facility for assembling a superefficient airplane in Washington. On December 19, 2003, Governor Locke signed an agreement with The Boeing Company to build the 787 airplane in Everett, which met the conditions for the preferences to become effective. The certified aircraft repair firms preferential B&O tax rate was also enacted in 2003, through different legislation.

In 2013, the Legislature extended the expiration dates for the preferences from July 1, 2024, to July 1, 2040, if a new commercial airplane manufacturing program was sited in Washington by June 30, 2017. This contingency was satisfied when the Department of Revenue certified that Boeing had selected Everett as the location of final assembly of the 777X as well as the company's composite wing center.

The preferences share common accountability reporting

Beneficiaries of the aerospace tax preferences must file an annual tax performance report with the Department of Revenue (DOR). The report requires information detailing the amount of the tax preference claimed, and employment and wages for positions in Washington. Taxpayers may authorize DOR to obtain this information directly from the Employment Security Department. Most information contained in the annual tax performance report is subject to public disclosure, including:

- Employment and wage information for employment positions in Washington.
- Total number of full-time, part-time, and temporary positions.
- Amount of tax preference claimed.

Preferential B&O tax rates

Three of the preferences provide reduced business and occupation (B&O) tax rates for businesses that manufacture qualifying aerospace products and provide qualifying aerospace services.

Commercial Airplane Manufacturing - Preferential B&O Tax Rate (RCW 82.04.260) –

After March 31, 2021, a preferential rate of 0.357% could be implemented if the following conditions are met:

- The United States and European Union reach an agreement resolving their World Trade Organization disputes regarding large civil airplanes that expressly allows preferential tax rates.
- The Washington State Department of Commerce notifies DOR in writing that such agreement has been reached and includes a copy of the notice to the Department of Commerce from the United States Trade Representative regarding the agreement.
- The Department of Labor and Industries notifies DOR that a significant commercial airplane manufacturer has at least a 0.3 percent aerospace apprenticeship utilization rate of its qualified

Aerospace Product Development – Preferential B&O Tax Rate (RCW 82.04.290) –

Businesses that research, design, or engineer aerospace products for commercial airplanes for others to manufacture are taxed at 0.9%. Firms providing research, design, and engineering services for others are generally taxed at the rate of 1.5% or 1.75%.

Figure 14: Beneficiary savings estimate, Aerospace product development, preferential B&O Tax Rate

| Calendar Year | Estimated Beneficiary Savings |
|----------------------|--------------------------------------|
| 2024 | \$2,190,000 |
| 2025 | \$2,190,000 |
| 2026 | \$2,190,000 |
| 2027 | \$2,190,000 |
| 2028 | \$2,190,000 |
| 2029 | \$2,190,000 |

Certified Aircraft Repair Firms – Preferential B&O Tax Rate (RCW 82.04.250) –

Federally certified aviation repair stations are taxed at a preferential B&O tax rate of 0.2904% on sales of repair services and component parts. Other interstate transportation equipment repair services are taxed at the B&O rate of 0.484%.

Figure 15: Beneficiary savings estimate, Certified aircraft repair firms, preferential B&O tax rate

| Calendar Year | Estimated Beneficiary Savings |
|----------------------|--------------------------------------|
| 2024 | \$510,000 |
| 2025 | \$510,000 |
| 2026 | \$520,000 |
| 2027 | \$510,000 |
| 2028 | \$510,000 |
| 2029 | \$510,000 |

B&O tax credits

Two preferences provide credits against a taxpayer's B&O tax liability. The amount of each credit that may be claimed depends on the level of certain business expenditures or taxes.

Aerospace Product Development Expenditures – B&O Tax Credit (RCW 82.04.4461) –

This B&O tax credit is equal to 1.5% of qualifying expenditures for businesses that develop aerospace products. Qualifying expenditures include wages and benefits, supplies, and computer expenses, but not capital costs and overhead, such as expenses for land, structures, or depreciable property. The credit must be taken in the year in which the qualifying expenditures occur, except for credits earned before July 1, 2005, which can be carried over and used at a later date. If the amount of credit exceeds tax liability, the credit cannot be carried over to reduce tax liability in later years and cannot be refunded.

Figure 16: Beneficiary savings estimate, Aerospace product development expenditures, B&O tax credit

| Calendar Year | Estimated Beneficiary Savings |
|----------------------|--------------------------------------|
| 2024 | \$51,450,000 |
| 2025 | \$51,450,000 |

| | |
|-------------|--------------|
| 2026 | \$51,450,000 |
| 2027 | \$51,450,000 |
| 2028 | \$51,450,000 |

Commercial Airplane Manufacturing - B&O Tax Credit for Property/Leasehold Excise Taxes Paid (RCW 82.04.4463)

This preference provides a B&O tax credit for property taxes or leasehold excise taxes paid on property used exclusively in manufacturing aerospace products, aerospace product development, or in providing aerospace services at certified aviation repair stations. The credit applies to new buildings, the land on which the buildings are located, and on the increase in assessed value from renovations and expansions. The credit is also available for property taxes paid on certain personal property.

To receive the B&O tax credit, buildings must be used exclusively in manufacturing commercial airplanes or their components, or tooling specifically designed for use in manufacturing. The credit may also be claimed for new buildings and land, renovations, and expansion for facilities used for aerospace product development and for maintenance, repair, overhaul, or refurbishing commercial airplanes or their components by federally certified aviation repair stations.

The B&O tax credit provided to aerospace businesses applies to manufacturing machinery and equipment, computer hardware, computer peripherals, and software if these items are exempt from sales and use taxes. The B&O tax credit for manufacturing machinery and equipment is calculated based on a firm's aerospace product income as a percentage of its total manufactured goods income.

The B&O tax credit cannot be claimed until the real and personal property taxes have been paid. If the credit exceeds B&O tax owed, it may be carried forward one year. Unused credits are not refundable.

Figure 17: Beneficiary savings estimate, Commercial airplane manufacturing, B&O tax credit for property/leasehold excise taxes paid

| Calendar Year | Estimated Beneficiary Savings |
|----------------------|--------------------------------------|
| 2024 | \$38,590,000 |
| 2025 | \$38,590,000 |
| 2026 | \$38,590,000 |
| 2027 | \$38,590,000 |

Sales and Use Tax Exemptions

Two preferences exempt certain purchases from sales and use tax (SUT).

Aerospace Product Development Computer Expenditures – SUT Exemption (RCW 82.08.975)

A sales and use tax exemption for sales of computer hardware, computer peripherals, and software used primarily in developing, designing, and engineering aerospace products and providing aerospace services. Aerospace services are defined in statute as maintenance, repair, overhaul, or refurbishing of commercial airplanes or their components by federally certified repair stations. Sales of or charges made for labor and services for installing the computer hardware, computer peripherals, and software are also exempt.

Figure 18: Beneficiary savings estimate, Aerospace product development computer expenditures, SUT exemption

| Calendar Year | Estimated Beneficiary Savings |
|----------------------|--------------------------------------|
| 2024 | \$8,560,000 |
| 2025 | \$8,560,000 |
| 2026 | \$8,560,000 |
| 2027 | \$8,560,000 |
| 2028 | \$8,560,000 |

Commercial Airplane Production Facilities – SUT Exemptions (RCW 82.08.980)

An exemption from sales and use taxes on labor, services, and materials to construct new buildings used for manufacturing commercial airplanes. The exemption also includes labor and services for installation of fixtures during construction of the new building. The exemption applies to either a manufacturer of commercial airplanes, fuselages, or wings, or to a port district, political subdivision, or municipal corporation leasing property to a manufacturer of those products.

Figure 19: Beneficiary savings estimate, Commercial airplane production facilities, SUT exemption

| Calendar Year | Estimated Beneficiary Savings |
|----------------------|--------------------------------------|
| 2024 | \$1,420,000 |
| 2025 | \$1,420,000 |
| 2026 | \$1,420,000 |
| 2027 | \$1,420,000 |

2028 \$1,420,000

2029 \$1,420,000

Property and Leasehold Excise Tax Exemptions

Two preferences would exempt certain superefficient airplane (Boeing 787) manufacturing facilities from leasehold excise and property taxes if they were built on port property. Boeing chose to build its 787 final assembly facility on private property rather than property leased from a port. As such, no superefficient airplane manufacturing takes place on port district property, and these preferences have not been claimed.

Superefficient Airplane Production Facilities – Leasehold Excise Tax Exemption (RCW 82.29A.137)

–

Provides a leasehold excise tax exemption to the manufacturer of a "superefficient airplane" (Boeing 787) for a facility located on port district property.

This preference has not been claimed and beneficiary savings are \$0.

Superefficient Airplane Production Facilities – Property Tax Exemption (RCW 84.36.655)

–

Provides a property tax exemption for all personal property such as equipment and computers to the manufacturer of a "superefficient airplane" (Boeing 787) at a facility located on port district property.

This preference has not been claimed and beneficiary savings are \$0.

Appendix C: Applicable statutes

This appendix provides the current statutes that govern the tax preferences that comprise this review. For sections that contain statutory provisions not related to the tax preferences, the relevant language is highlighted.

Certified Aircraft Repair Firms - Preferential Rate (B&O Tax)

RCW 82.04.250(3)

+

Commercial Airplane Manufacturing - Preferential Rate (B&O Tax)

RCW 82.04.260(11)

+

Aerospace Product Development - Preferential Rate (B&O Tax)

RCW 82.04.290(3)

+

Aerospace Product Development Expenditures - Credit (B&O Tax)

RCW 82.04.4461

+

| | |
|---|---|
| Commercial Airplane Manufacturing - Credit for Taxes Paid (B&O Tax) RCW 82.04.4463 | + |
| Aerospace Product Development Computer Expenditures (Sales Tax) RCW 82.08.975 | + |
| Aerospace Product Development Computer Expenditures (Use Tax) RCW 82.12.975 | + |
| Commercial Airplane Production Facilities (Sales Tax) RCW 82.08.980 | + |
| Commercial Airplane Production Facilities (Use Tax) RCW 82.12.980 | + |
| Superefficient Airplane Production Facilities (Leasehold Excise Tax) RCW 82.29A.137 | + |
| Superefficient Airplane Production Facilities (Property Tax) RCW 84.36.655 | + |
| Tax on commercial airplane activities—Conditions for rate reduction RCW 82.04.2602 | + |

Appendix D: Study questions

This study aimed to answer the following questions, which were presented to JLARC in September 2023 ([view here](#)).

1. Have the preferences and their use changed since JLARC reviewed them in 2019?
2. Is the Legislative Auditor's 2019 recommendation applicable to current circumstances?
3. What are the racial and ethnic characteristics of those that benefit from the tax preferences and their employees?

Methods

The methodology JLARC staff use when conducting analyses is tailored to the scope of each study, but generally includes the following:

- **Interviews** with stakeholders, agency representatives, and other relevant organizations or individuals.
- **Site visits** to entities that are under review.

- **Document reviews**, including applicable laws and regulations, agency policies and procedures pertaining to study objectives, and published reports, audits or studies on relevant topics.
- **Data analysis**, which may include data collected by agencies and/or data compiled by JLARC staff. Data collection sometimes involves surveys or focus groups.
- **Consultation with experts** when warranted. JLARC staff consult with technical experts when necessary to plan our work, to obtain specialized analysis from experts in the field, and to verify results.

The methods used in this study were conducted in accordance with Generally Accepted Government Auditing Standards.

More details about specific methods related to individual study objectives are described in the body of the report under the report details tab or in technical appendices.

Appendix E: Audit authority

The Joint Legislative Audit and Review Committee (JLARC) works to make state government operations more efficient and effective. The Committee is comprised of an equal number of House members and Senators, Democrats and Republicans.

JLARC's nonpartisan staff auditors, under the direction of the Legislative Auditor, conduct performance audits, program evaluations, sunset reviews, and other analyses assigned by the Legislature and the Committee.

The statutory authority for JLARC, established in **Chapter 44.28 RCW**, requires the Legislative Auditor to ensure that JLARC studies are conducted in accordance with Generally Accepted Government Auditing Standards, as applicable to the scope of the audit. This study was conducted in accordance with those applicable standards. Those standards require auditors to plan and perform audits to obtain sufficient, appropriate evidence to provide a reasonable basis for findings and conclusions based on the audit objectives. The evidence obtained for this JLARC report provides a reasonable basis for the enclosed findings and conclusions, and any exceptions to the application of audit standards have been explicitly disclosed in the body of this report.

Appendix F: Study process

View guide to JLARC Tax Preference Reviews [here](#).

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