Approaches to Methodology: JLARC Review of Aerospace Tax Preferences

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Joint Legislative Audit and Review Committee

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WASHINGTON JLARC

JLARC: The Legislature's Auditor

We give the Legislature accurate and unbiased answers to their questions

- Reports prepared independently by nonpartisan staff, in accordance with professional audit standards.
- The Citizen Commission (five citizens appointed by each caucus and the Governor) determines which preferences will be reviewed each year.

Tax preference reviews since 2007

- JLARC has reviewed 296 tax preferences, nearly half of all the state's tax preferences. Reviews cover many policy areas, including agriculture, economic development, and aerospace.

Approach to Tax Preference Reviews

- **Public policy objectives:** Is there documented purpose or intent for the preference? What evidence exists to show the preference has achieved the goals?
- **Beneficiaries:** What entities are affected directly and indirectly by the preference? What are the estimated beneficiary savings?
- **Revenue and economic impacts:** What are the impacts of the tax preference, including to the taxpayers and to the government?
- **Other States:** Do other states have a similar tax preference?
- **Recommendations:** The Legislative Auditor must recommend legislative action, such as continue, clarify the objective, or allow to expire.

Aerospace Tax Preferences

Enacted: 2003 / Expires 2040

2021-23 Biennial estimated beneficiary savings: $569 million

- **Nine tax preferences** created in 2003, extended and expanded in 2013.
- JLARC must review every 5 years.
- Citizen Commission allowed JLARC nearly two years to review these large preferences.

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Preferences have 4 stated public policy objectives

Reduce the cost of doing business in Washington for the aerospace industry compared to other states.

Encourage the continued presence of the aerospace industry in Washington.

Provide jobs with good wages and benefits.

Maintain and grow Washington's aerospace industry workforce.

These multiple objectives required multiple approaches.

Objective 1: Reduce cost of doing business in Washington compared to other states.

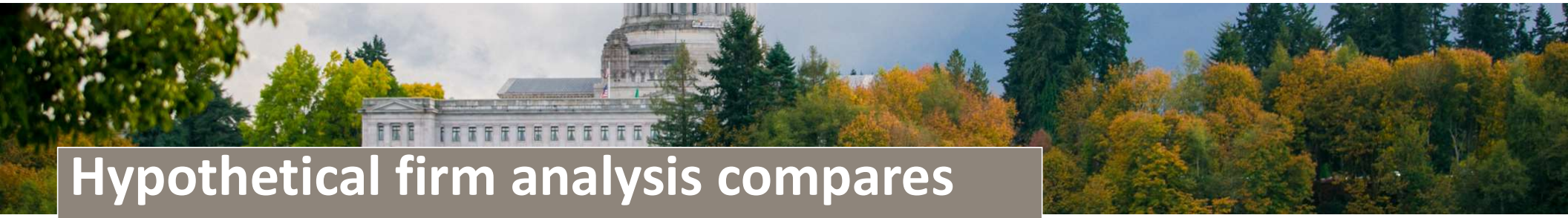
- **Unanswered question from 2014:** We knew tax savings reduced cost, but not how WA tax rates compared to other states.
- **Tax return data:** Identified savings, number of beneficiaries, industry classifications.
- **Engaged experts:** Tax accountants conducted multi-state tax rate review.
- **Peer states:** Selection based on aerospace employment concentration, status as "competitive" for aerospace investment.

Objective 1: Preferences reduce the cost of doing business for beneficiaries

Over 600 beneficiaries claimed seven of nine preferences from FY 2014-17.

Beneficiaries saved $1.1 billion by claiming the preferences from FY 2014-17.

Beneficiaries in the aerospace industry claimed 93% of the savings.



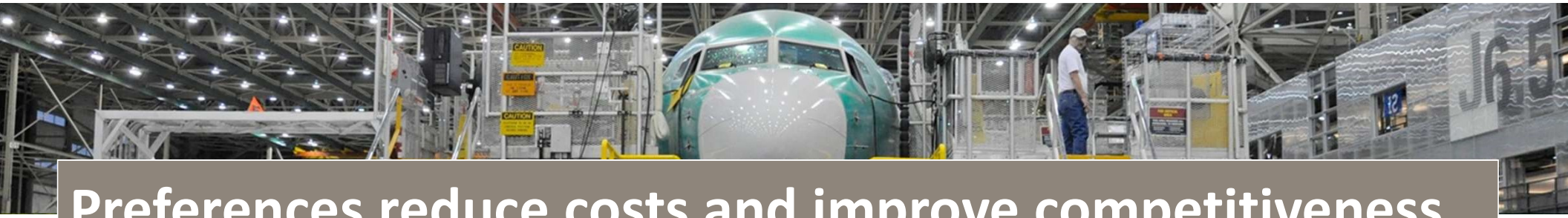
Hypothetical firm analysis compares Washington to other states

Model details:

- Two hypothetical firm sizes
- Relevant tax system parameters
- Estimates state & local taxes over 30-year period on new facility investment

State	City (for local taxes)
Alabama	Huntsville
Arizona	Phoenix
California	Los Angeles
Colorado	Littleton
Connecticut	East Hartford
Georgia	Atlanta
Kansas	Wichita
Missouri	St Charles
North Carolina	Raleigh
Ohio	Cincinnati
South Carolina	North Charleston
Texas	Fort Worth
Utah	Salt Lake City
Washington	Seattle & Everett

Source: Ernst & Young.

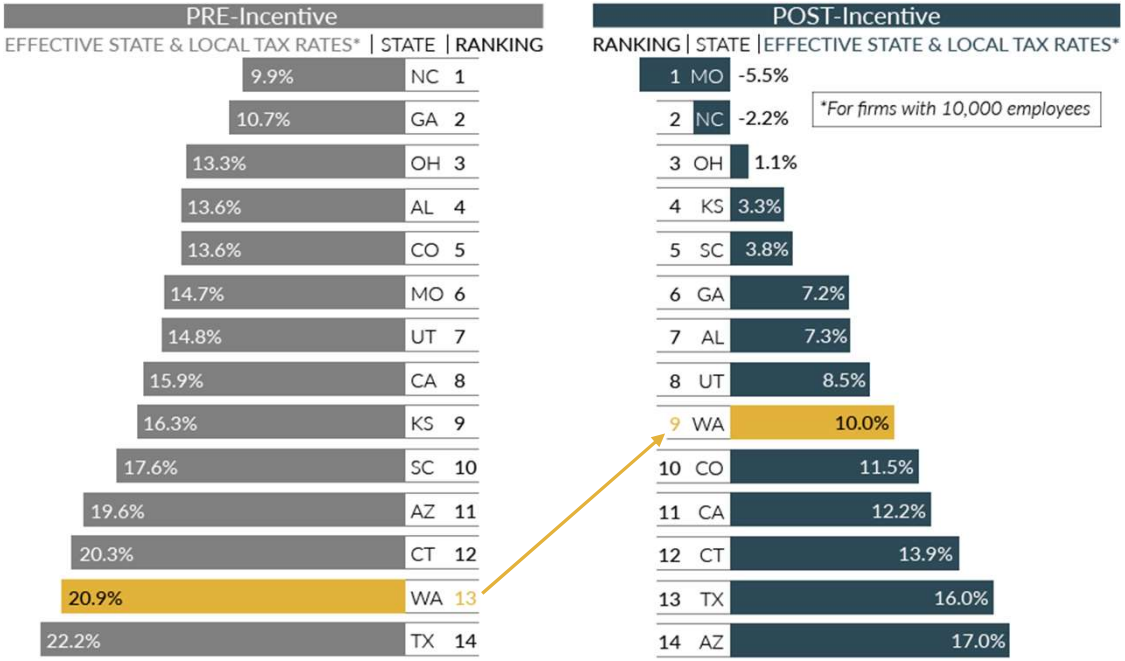


Preferences reduce costs and improve competitiveness

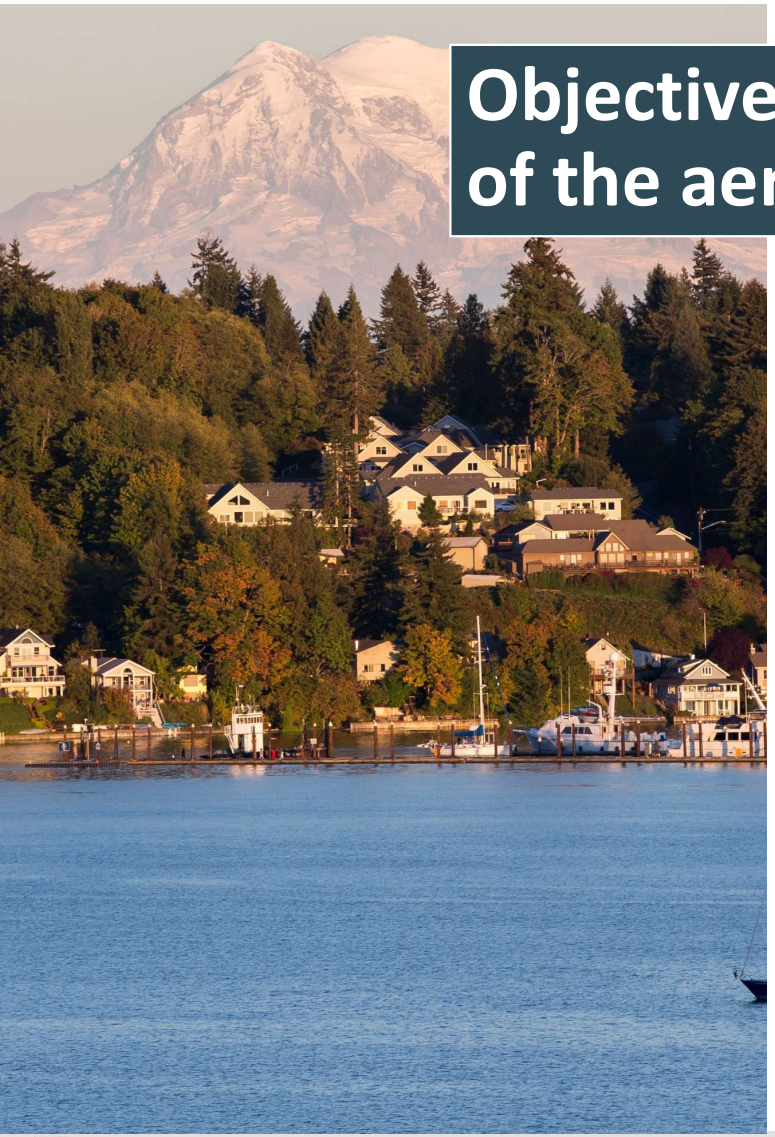
Calculate effective tax rates (ETR) for hypothetical firm

Apply applicable incentives:

- Statutory incentives
- Negotiated incentives



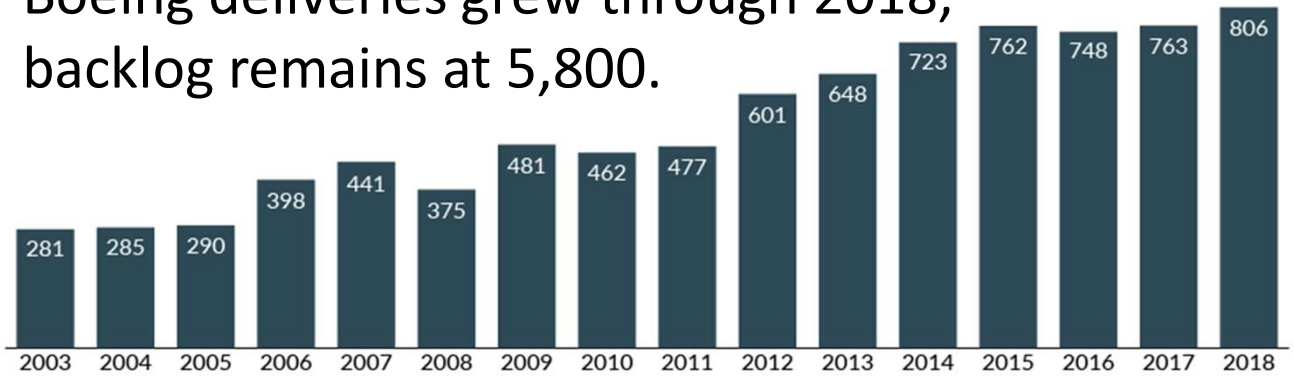
Source: Ernst & Young analysis.



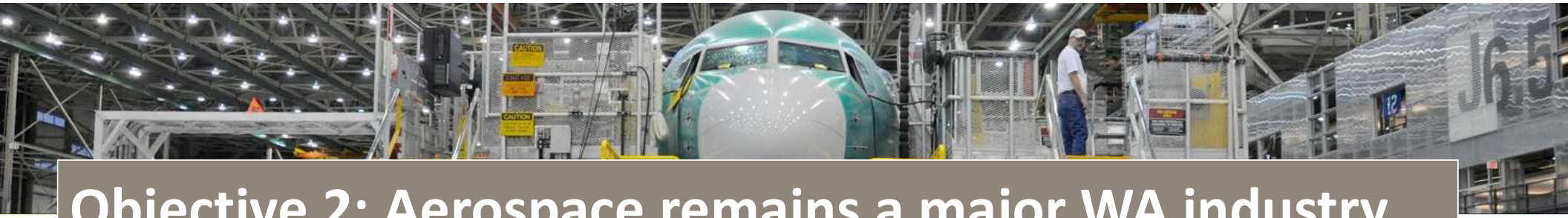
Objective 2: Encourage the continued presence of the aerospace industry in Washington.

- **No specific metric** for this objective.
- **Descriptive statistics** used to illustrate industry presence, compared with other states.
- **Data sources**: Boeing, DOR, BLS, BEA

Boeing deliveries grew through 2018, backlog remains at 5,800.



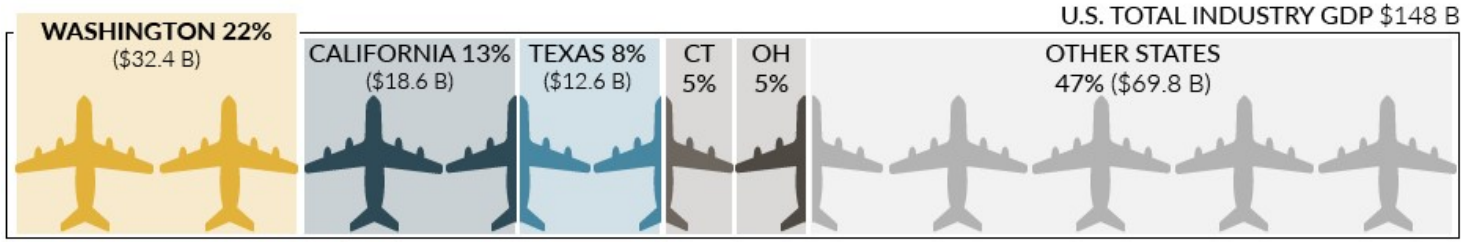
Source: JLARC analysis of Boeing data.



Objective 2: Aerospace remains a major WA industry

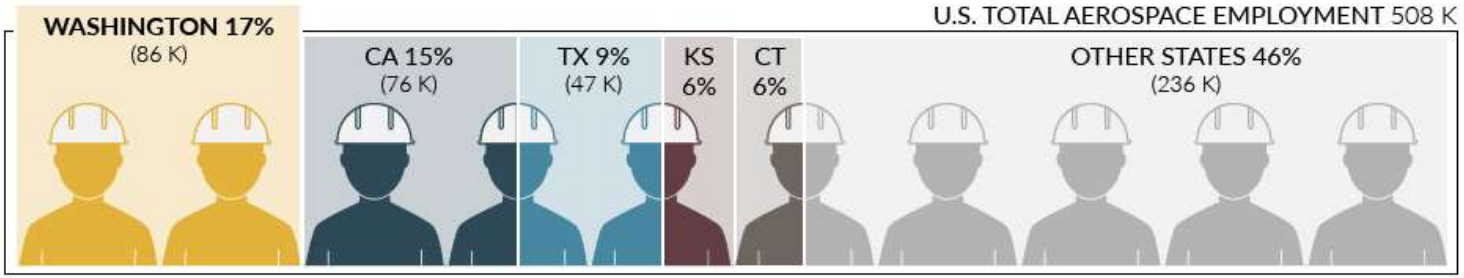
Industry met two statutory contingencies to locate a manufacturing program in Washington

WA contribution to GDP leads nation



Note: "Other transportation equipment manufacturing" includes transportation equipment manufacturing excluding motor vehicles.

WA aerospace employment also largest in nation



Source: Bureau of Economic Analysis (top) and Bureau of Labor Statistics.

Objective 3: Provide jobs with good wages and benefits.

- **No specific target** for this objective.
- **Descriptive statistics** used to illustrate job quality (wages and availability of benefits).
- **Data sources:** DOR (accountability reporting), ESD (wage record).

Beneficiary wages are higher than average manufacturing jobs.

Source: JLARC analysis of ESD Data, DOR Tax Return Data, BLS QCEW Data.

Objective 4: Maintain and grow Washington's aerospace industry workforce.

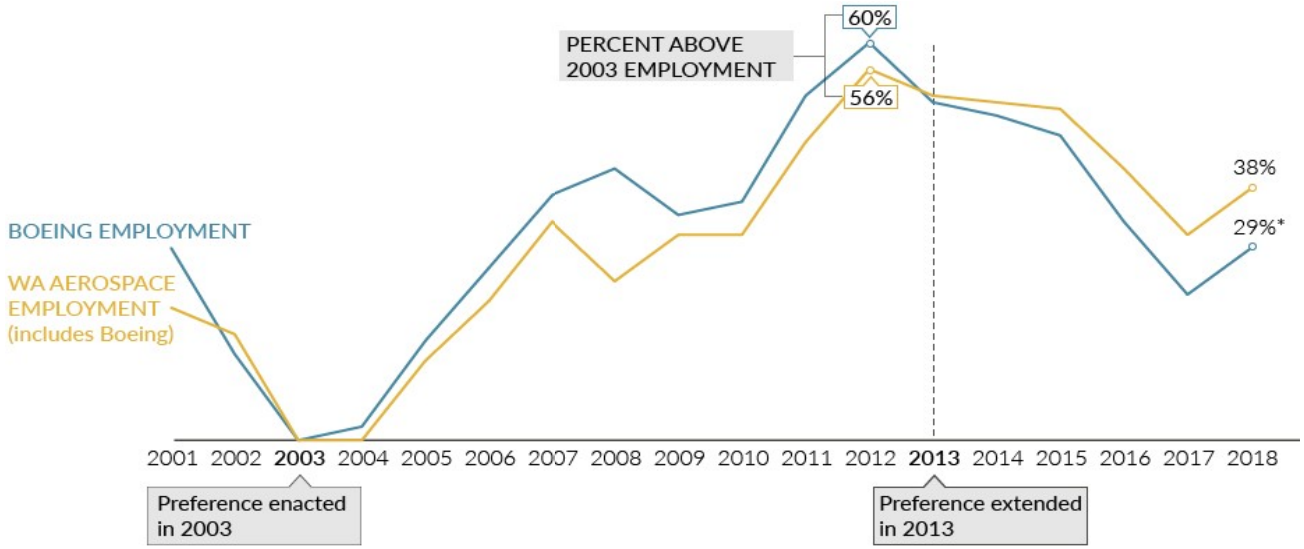
- **No specific target** for this objective.
- **BLS and Boeing data** show industry/employer employment history.
- **Major challenge** was attributing employment changes to the preferences.
- **Advisory panel** confirmed causal analysis not feasible.
  - Developed range of scenarios.
  - Reviewed research on effectiveness of tax incentives.

Objective 4: Aerospace jobs above 2003 level, but have trended down since 2012

Since 2003, when preferences enacted, aerospace employment followed 2 trends:

1) Employment **grew** from 2003-2012.

2) Employment **declined** from 2012-2018 .



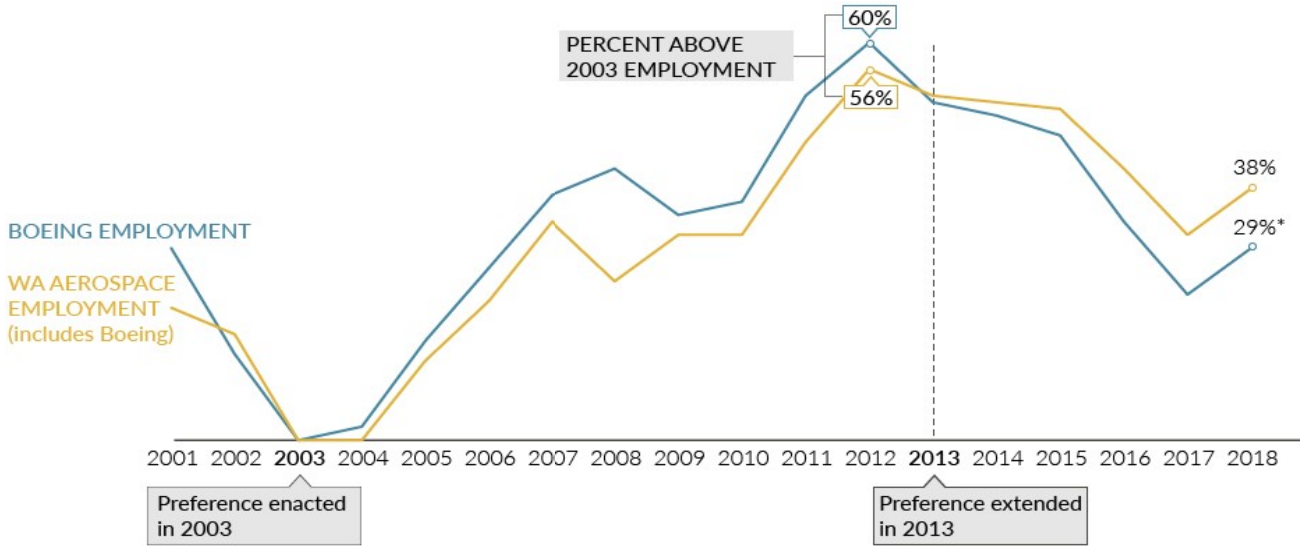
Source: Bureau of Labor Statistics and Boeing.

Objective 4: Washington aerospace employment losses since 2013 lead the nation

WA's 8,800 job decline in 2013-18 was largest in the U.S.

9% decline - 2nd largest among 14 states with at least 10,000 aerospace jobs.

Aerospace employment in rest of nation grew 7% over same period.



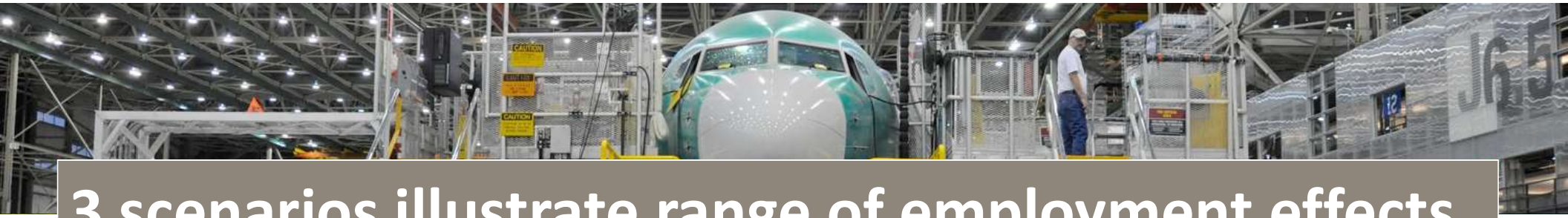
Source: Bureau of Labor Statistics and Boeing.

Objective 4: Effectiveness of tax incentives

- Difficult to determine whether a single factor—e.g., tax incentives—led a single firm to make a location decision.
- Boeing located its new facility in WA, but unclear whether it would have if the preferences were not extended.
- Research highlights several factors that influence location decisions:
  - Transportation infrastructure
  - Workforce quality
  - Labor costs
  - Regulatory environment

Objective 4: Economist Panel

- Staff convened panel familiar with the industry, tax structure, and legislative history of the preferences.
- Panel agreed**: causal analysis** of the preference on that location decision was **not possible**.
- Shifted focus to possible location decisions Boeing could have made absent the preferences; assumptions for these scenarios.



3 scenarios illustrate range of employment effects

JLARC staff used REMI to model 3 hypothetical scenarios of what could have happened if the preferences ***had not been*** extended in 2013:

1

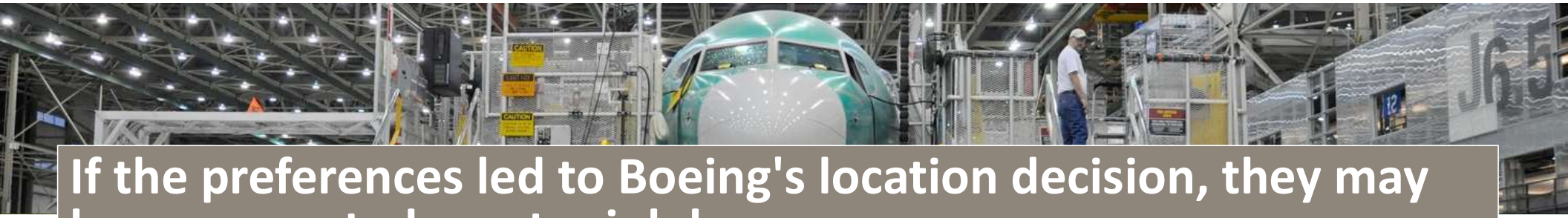
Boeing locates 777X production outside WA.

2

Boeing locates 777X production and future airplane lines outside WA.

3

Boeing sites 777X production in Washington.



If the preferences led to Boeing's location decision, they may have prevented greater job losses

Scenarios 1 and 2 simulate a hypothetical decision to move airplane production out of state.

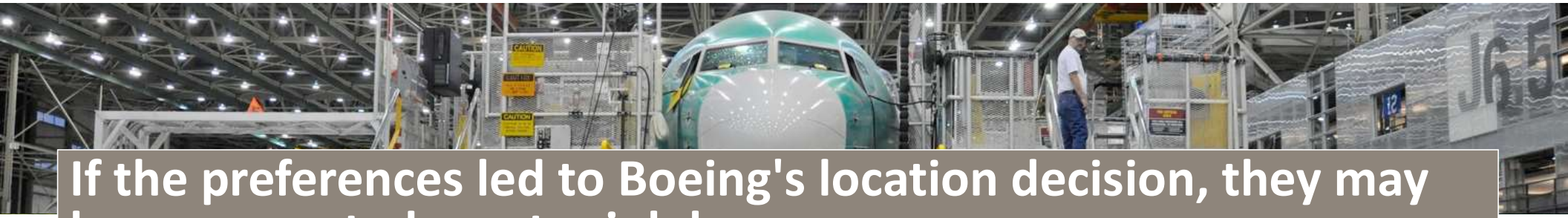
1

Boeing moves 12,100 777X production jobs outside WA.

Economic model estimates

By the year 2040…

Aerospace industry	**-13,800 jobs**
State & local gov't	-8,700 jobs
Other private sector	-49,100 jobs
Total	**-71,600 jobs**



If the preferences led to Boeing's location decision, they may have prevented greater job losses

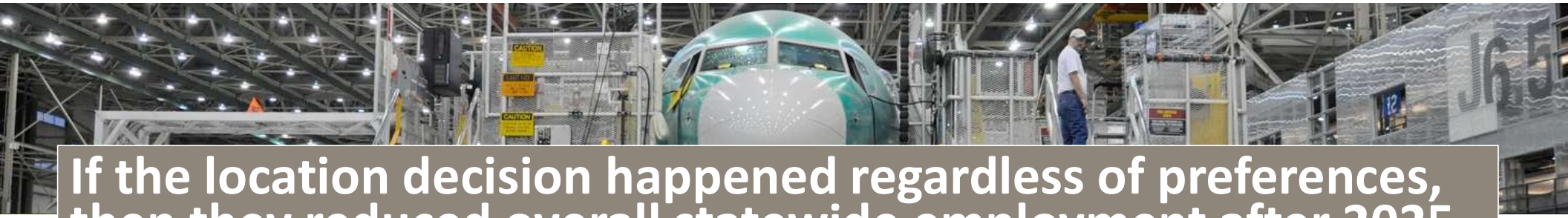
Scenarios 1 and 2 simulate a hypothetical decision to move airplane production out of state.

2

Boeing locates 777X production and future generations of airplanes outside WA.

Economic model estimates
By the year 2040…

Aerospace industry	**-68,500 jobs**
State & local gov't	-54,400 jobs
Other private sector	-241,600 jobs
Total	**-364,500 jobs**



If the location decision happened regardless of preferences, then they reduced overall statewide employment after 2025

Scenario 3 simulates if preferences were not extended and Boeing still built the 777X and composite wing facility in Washington

3

Boeing sites 777X production in Washington.

Economic model estimates

By the year 2040…

Aerospace industry	**-200 jobs**
State & local gov't	+3,100 jobs
Other private sector	+1,700 jobs
Total*	**+4,700 jobs**

*Numbers do not add to total due to rounding

Effect of preferences on jobs unclear

Results of 3 hypothetical scenarios show wide range of possible employment impacts of preferences.

1

Boeing locates 777X production outside WA.

Total **-71,600 jobs**

2

Boeing locates 777X production and future airplane lines outside WA.

Total **-364,500 jobs**

3

Boeing sites 777X production in Washington.

Total **+4,700 jobs**

The Legislative Auditor cannot determine if the preferences maintained or grew aerospace employment

Uncertainty about how the preferences influenced Boeing's location decision means JLARC staff cannot make a definitive conclusion about this objective

- WA aerospace employment is lower than it was in 2013, but higher than when the preferences were first enacted in 2003.
- The preferences may have prevented greater job losses if they caused a major Boeing location decision.

Legislative Auditor's Recommendation

The Legislature should <u>clarify</u> its expectations for the level of aerospace industry employment

Providing additional detail in the tax preference performance statement such as a baseline level of employment would facilitate future reviews of these preferences.

Full Report:
http://leg.wa.gov/jlarc/taxReports/2019/Aerospace/p_a/default.html