

Regional Aviation Baseline Study



Puget Sound Regional Council

Today's Briefing

- Scenario Development & Assessment
- Analysis of Region's Airports
- Public Engagement & Next Step



Near-Term Challenges

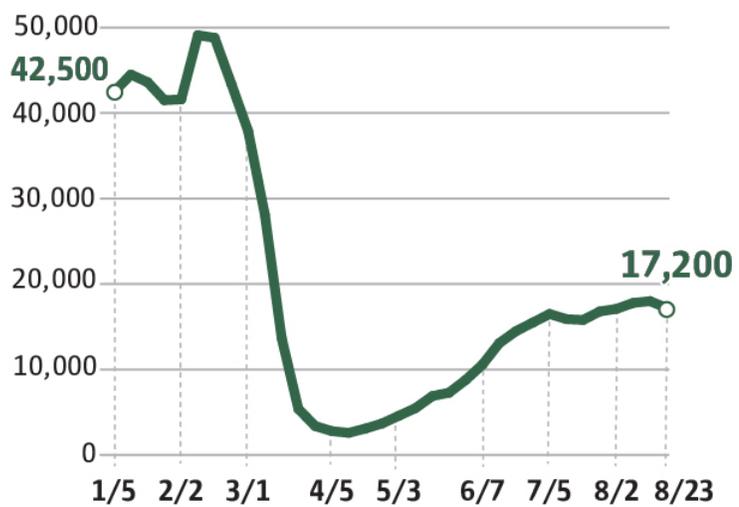
CORONAVIRUS ECONOMY DAILY CHART

Fewer travelers pass through Sea-Tac Airport

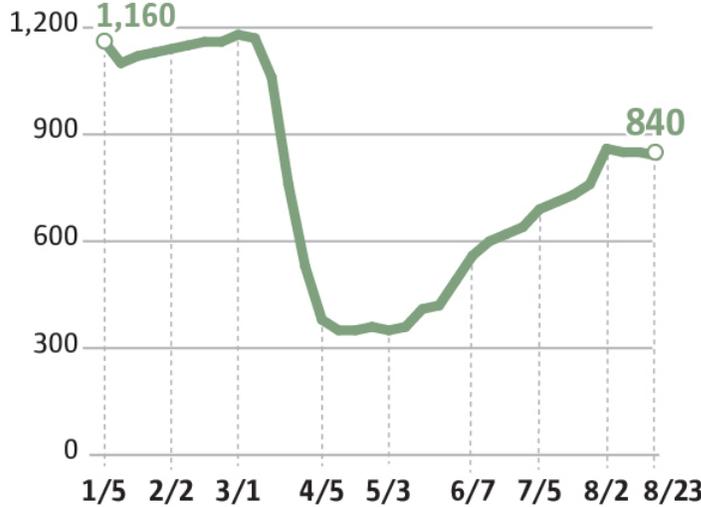
The average daily number of travelers passing through Seattle-Tacoma International Airport last week fell to 17,200, down 800, or 4%, from the prior week. That represents just 27% of the passenger volume in the comparable week last year.

Week's daily average, for Sunday through Saturday

TSA-screened passenger volume

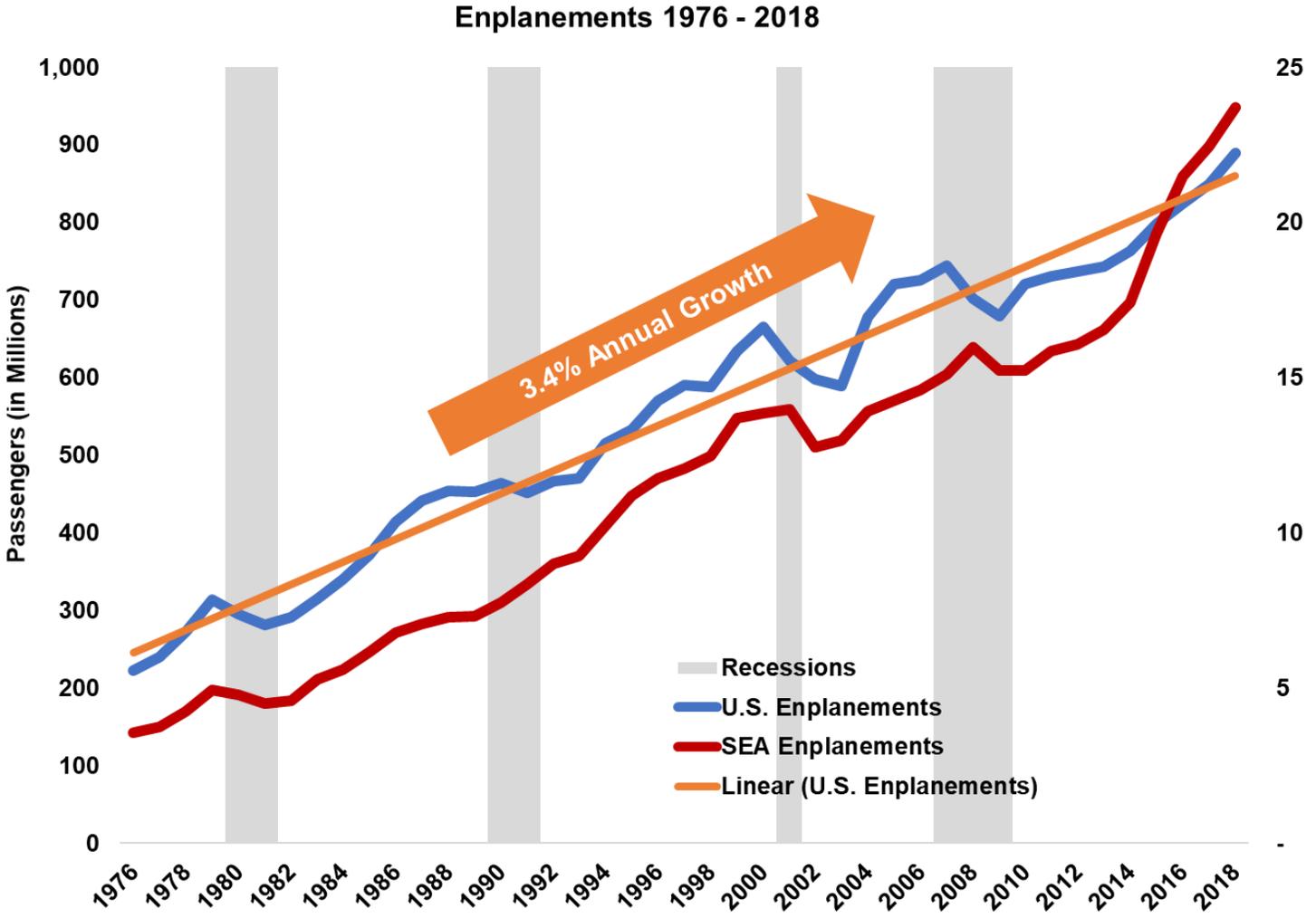


Aircraft takeoffs and landings



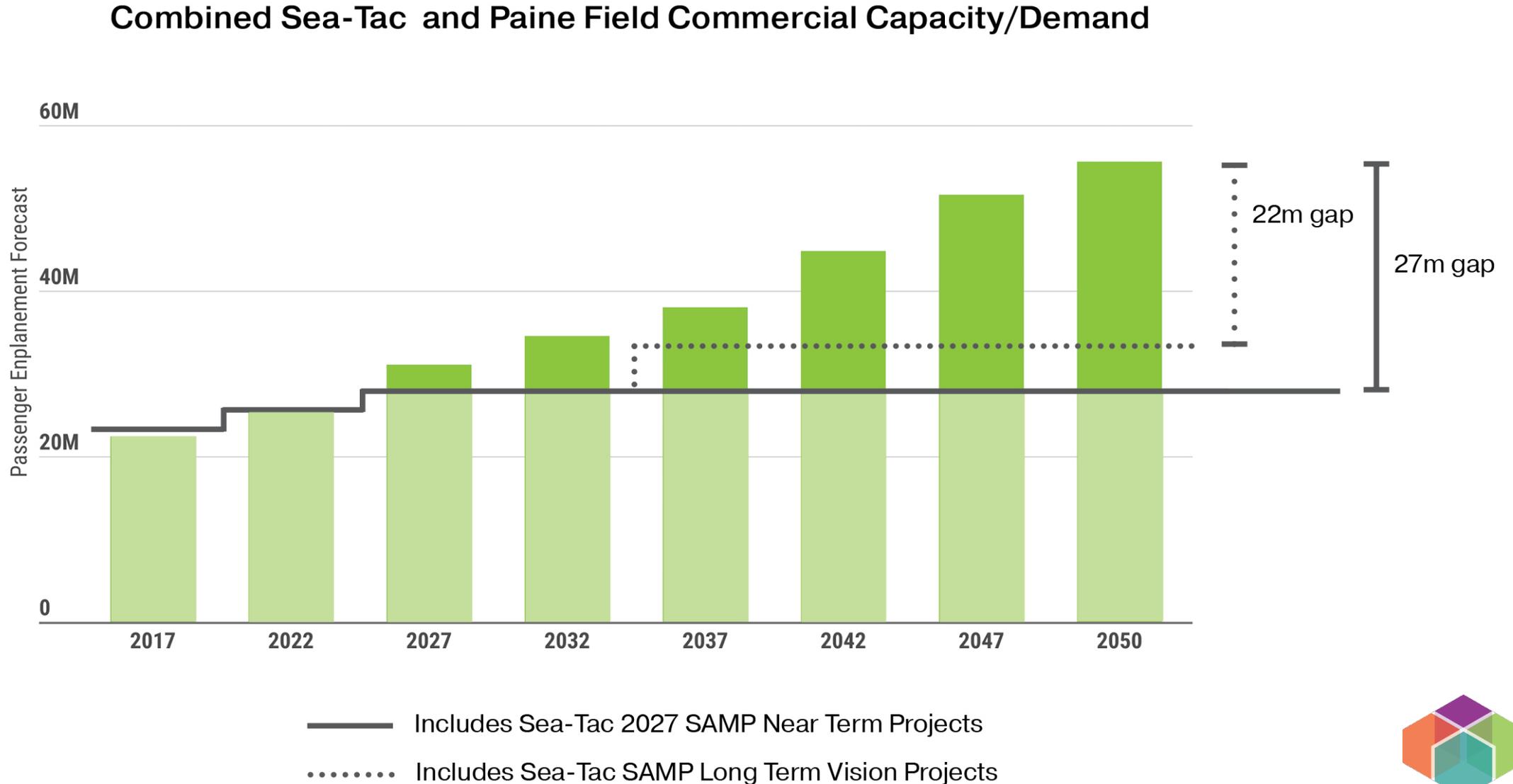
Source: Port of Seattle

Long-Term Commercial Aviation Trends



Source: International Civil Aviation Organization (ICAO) for the U.S. Total, FAA Terminal Area Forecast (TAF) for SEA.

Commercial Service Forecast & Gap Analysis



Scenarios Analyzed to Address 2050 Demand

Scenario 3: Meet 100% of demand

55 million

Scenario 2: Meet 80% of demand

44 million

Scenario 1: Baseline (50-60% of demand)

33 million

28 million

2050 Passenger Enplanement Forecast



Scenario 1: Baseline (50-60% of Demand)

Existing Commercial Facilities

Sea-Tac: Implements range of near-term and long-term projects

Paine Field: Maintains current capacity

New Commercial Capacity Required

No additional facilities

Scenario 2: Meet 80% of Demand

Existing Commercial Facilities

Sea-Tac: Implements near-term and long-term projects

Paine Field: Maintains current capacity

New Commercial Capacity Required

1 airport with 2 runways

2 single-runway airports



San Jose Intl.



Sacramento Intl.



John Wayne



Bellingham Intl.

Scenario 3: Meet 100% of Demand

Existing Commercial Facilities

Sea-Tac: Implements near-term and long-term projects

Paine Field: Maintains current capacity

New Commercial Capacity Required

1 airport with 3 runways



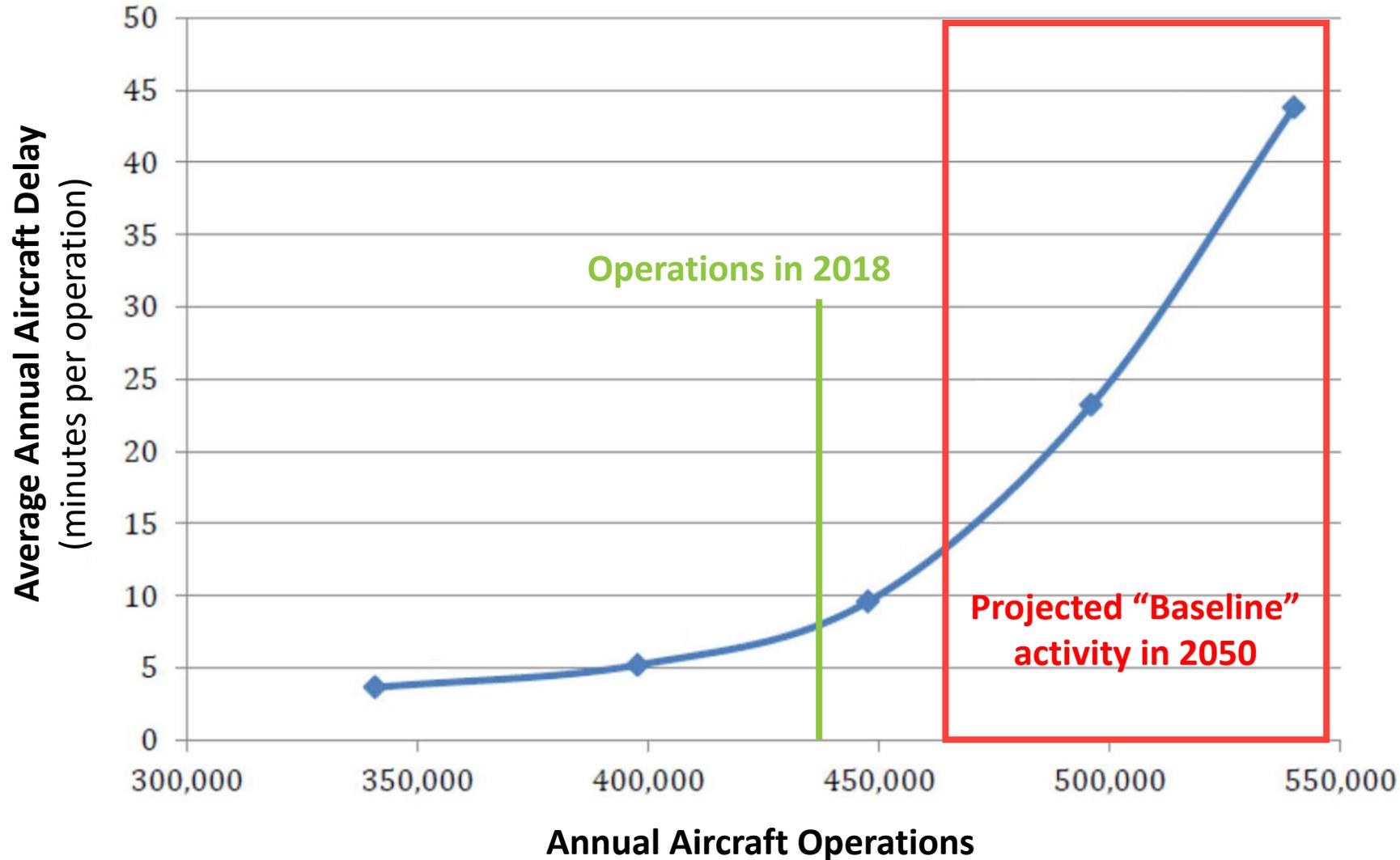
Sea-Tac International

Multiple airports totaling 3 runways



Impacts of Delay

Projected Sea-Tac Commercial Service Delay



- Based on airfield capacity: airspace, runways, taxiways
- Not impacted by increase in gates
- Activity levels higher than 490,000 would likely involve FAA management of operations and/or “slot controls” like JFK, LGA and DCA

Demand Factors

Increasing population and jobs

- The region is expected to grow by 1.8m people by 2050, reaching a total population of 5.8m
- An anticipated 1.2 million more jobs are forecast by 2050

Personal versus business travel

- Survey results: Respondents use airports more for personal travel than business travel
- More than 50% of respondents reported traveling 1-4 times/year for personal reasons
- Most do not travel for business or do <1 per year

Regional travel

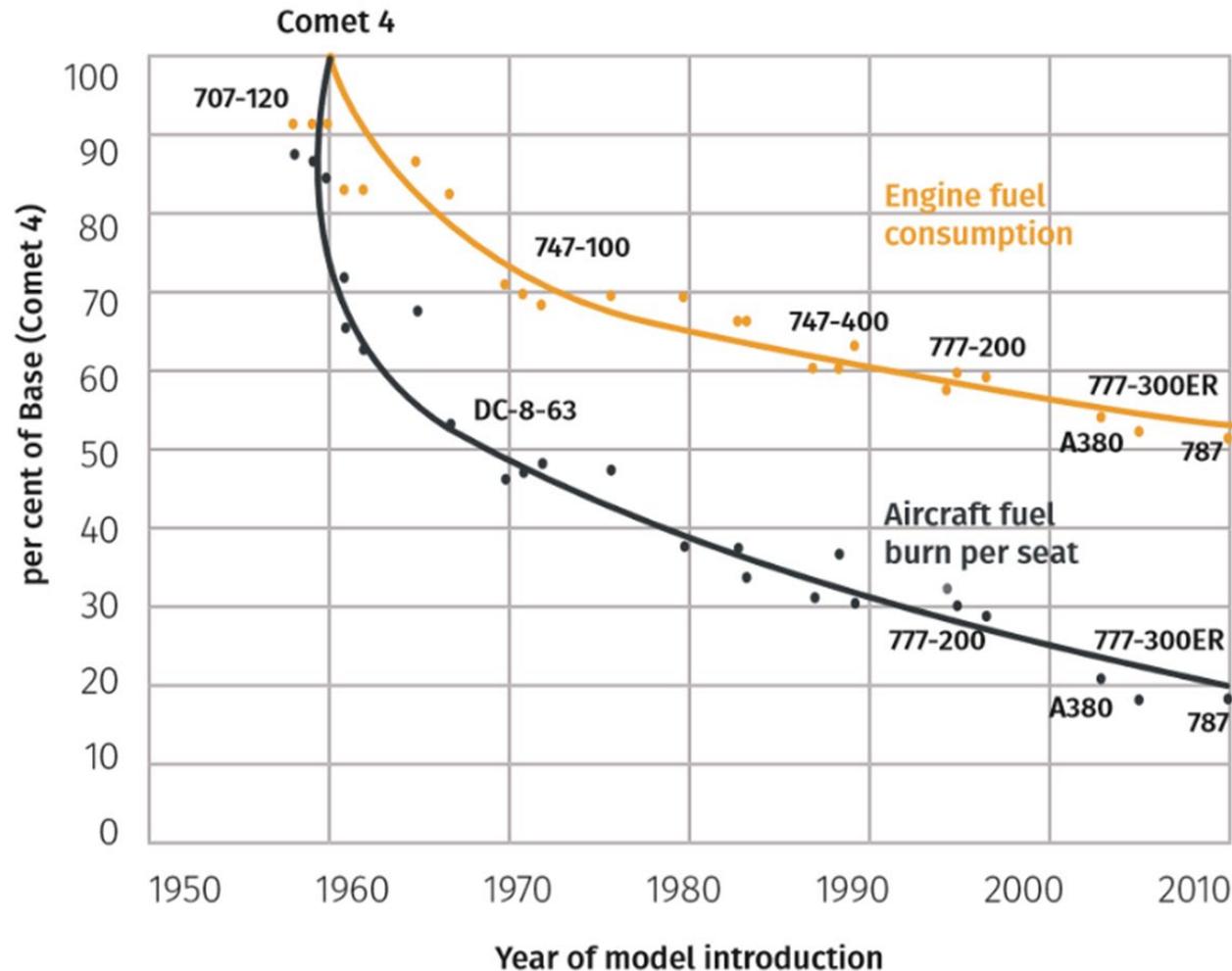
- Regional high-speed rail estimated 1.7 - 3 million annual intercity trips by 2040
- Could replace regional air trips for estimated 68,000 to 124,000 passengers

Connecting traffic

- Approximately 1/3 of passengers are connecting to other destinations

Fuel Consumption

FUEL EFFICIENCY GAIN SINCE 1960



Since 1960:

- Engine fuel consumption has decreased by 49%
- Future fuel types and efficiency should reduce fuel consumption

2015 estimated regional GHG aviation emissions*:

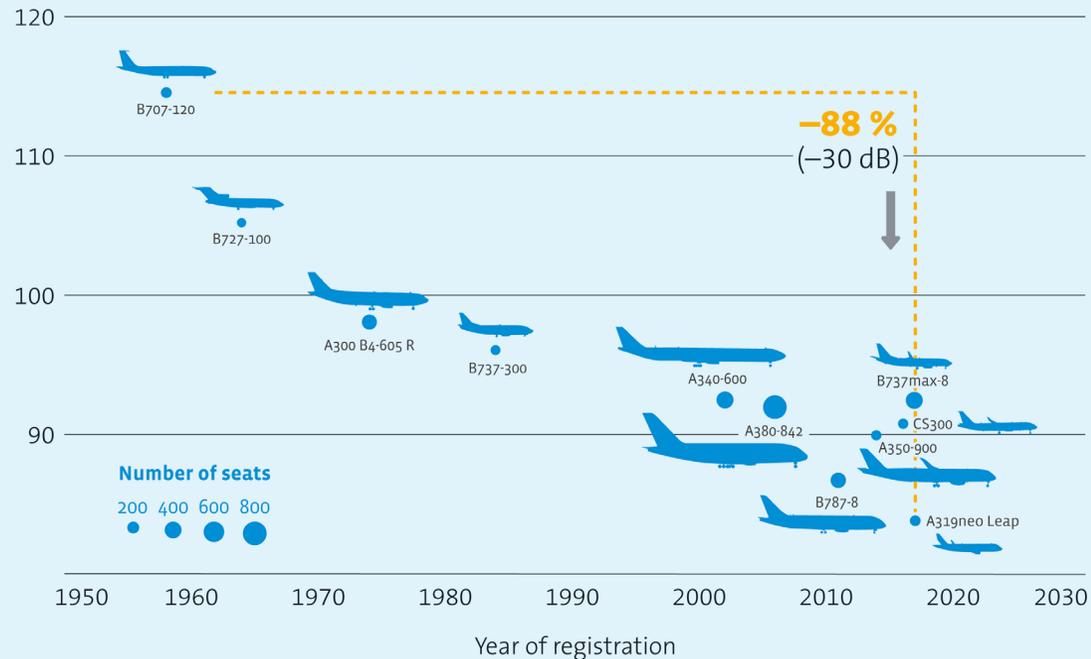
- 654,600 metric tons
- Reflects approximately 2% of total regional emissions and 5% of regional transportation emissions

* Source: Puget Sound Clean Air Agency
Greenhouse Gas Emissions Inventory

Commercial Aircraft Noise

Development of aircraft noise emissions

Lateral noise level standardized to 500 kN EPNdB



* EPNdB: Effective perceived noise in decibels
Source: CFD Software E + F GmbH Berlin

www.bdl.aero

- Newer aircraft models have lower noise emissions
- Higher volume of operations mean that airport impacted communities experience more consistent noise at lower decibel levels
- Scale of impacts are location dependent

Economic Impact

- Scenario 1:** Would support an additional **\$4 - \$9 billion** in economic activity and **27,000 – 61,000 added jobs**.
- Scenario 2:** Would support an additional **\$20 billion** in economic activity and **135,000 added jobs**.
- Scenario 3:** Would support an additional **\$31 billion** in economic activity and **209,000 added jobs**.

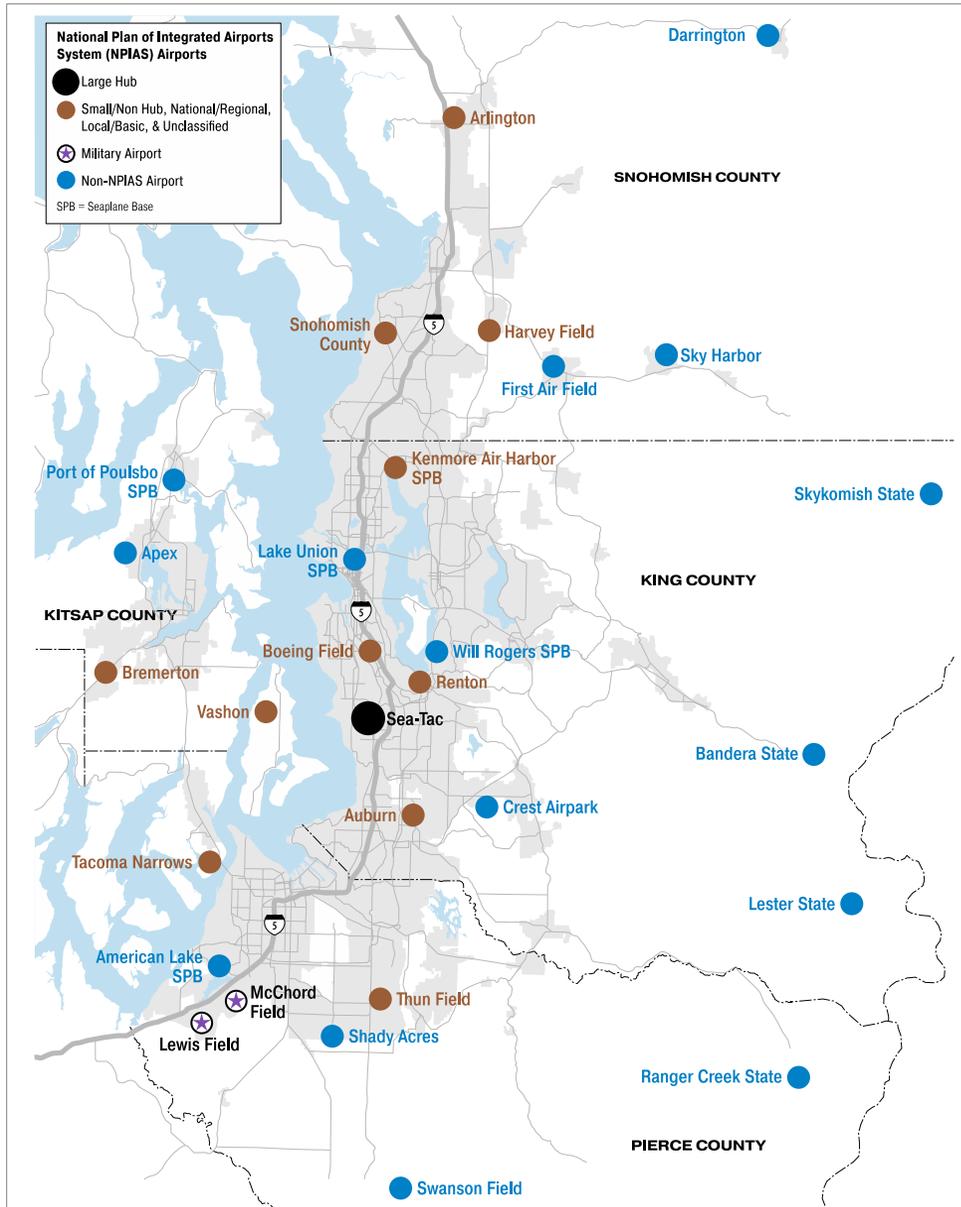
Economic benefit of airport activity includes direct and indirect jobs and labor and business income.

Comparison of Scenarios

Scenario 1: Baseline 50-60% of 2050 demand met	Scenario 2 80% of 2050 demand met	Scenario 3 100% of 2050 demand met
<p>460-540k annual operations 2 commercial airports 0 additional runways</p> <hr/> <p>5%-24% increase in activity</p> <hr/> <p>28-33 million enplanements 22-27 million unmet enplanements</p> <hr/> <p>\$4-9 billion added annual benefit 27-61k added jobs</p>	<p>720k annual operations 2-4 commercial airports 2 additional runways</p> <hr/> <p>65% increase in activity</p> <hr/> <p>44m enplanements 11 million unmet enplanements</p> <hr/> <p>\$20 billion added annual benefit 135k added jobs</p>	<p>900k total operations 2-5 commercial airports 3 additional runways</p> <hr/> <p>106% increase in activity</p> <hr/> <p>55m enplanements 0 unmet enplanements</p> <hr/> <p>\$31 billion added annual benefit 209k added jobs</p>

Comparisons are to 2018

29 Regional Airports



Airport Evaluation Criteria

All 29 regional airports were analyzed for their technical ability to potentially accommodate additional commercial air service.

Evaluation criteria included:

- Ability to accommodate at minimum one 7,000 ft. runway
- Adjacent development
- Airspace analysis
- Flood zone constraints
- Impact to aerospace manufacturing
- Transportation infrastructure
- Proximity to population and jobs
- Ownership considerations

Airport Screening Results

No regional airports demonstrated the ability to support a three-runway airport.

Airports that could meet technical requirements for providing additional commercial capacity:

- **Paine Field**
- **Arlington Municipal**
- **Bremerton National**
- **Tacoma Narrows**

Note: First step for any current airport to provide commercial air service is for the airport owner to conduct an FAA Airport Master Plan with a commitment from at least one airline to serve the airport.

Airport System Proximity to Population & Jobs (2050)

Airports	Population <60 mins. drive time		Employment <60 mins. drive time	
	#	% of total	#	# of total
Sea-Tac + Paine Field	4,090,000	70%	2,682,000	80%
+ Arlington Municipal	4,134,000	71%	2,689,000	80%
+ Bremerton Municipal	4,904,000	84%	3,088,000	92%
+ Tacoma Narrows	5,333,000	92%	3,179,000	95%

What's Next?

Regional Public Survey
Results in October

Virtual Public Meetings
September 23, 5 – 6:30 p.m.
September 29, 11:30 a.m. – 1 p.m.
September 30, 8 – 9:30 a.m.

Online Open House
September 21 - October 19

Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020
Technical Analysis				Scenario Evaluation			Project Completion
<u>Airport & Aviation Activity</u> <ul style="list-style-type: none">Existing conditionsAviation sector analysisRegional forecasts		<u>Aviation Issues Analysis</u> <ul style="list-style-type: none">Airspace flow analysisFuture capacity needsEconomic analysis		<ul style="list-style-type: none">Identify & evaluate future scenariosAnalysis of existing airports			<ul style="list-style-type: none">Community perspectivesPublish Final Report

<https://www.psrc.org/aviation-baseline-study>

Thank you

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