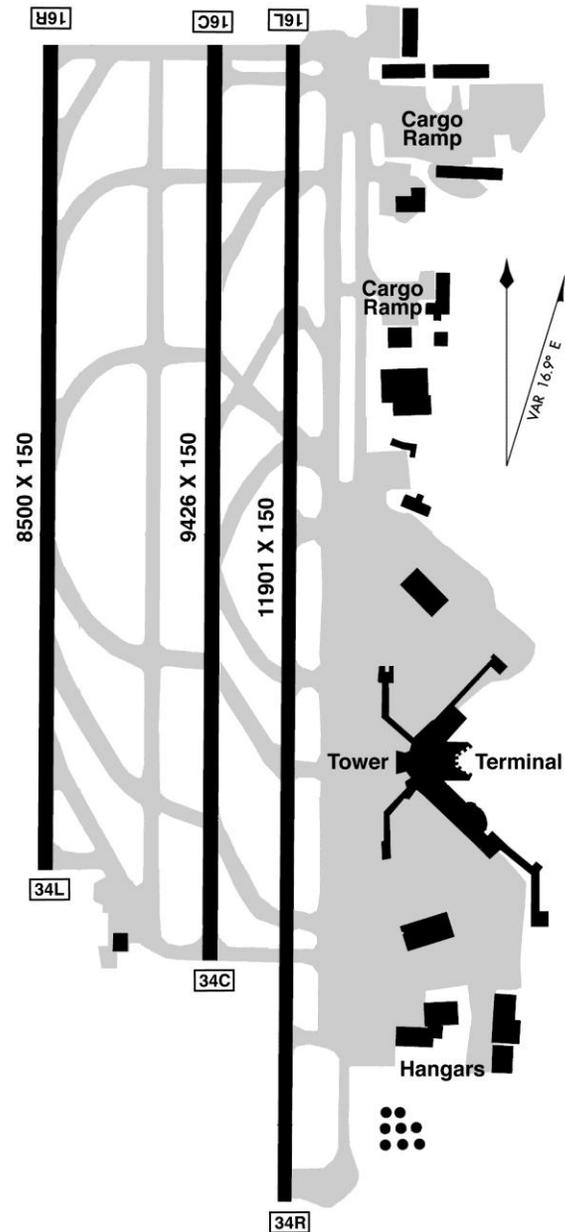


SEATTLE-TACOMA INTERNATIONAL



Airport capacity profile estimates were created using a standard set of performance characteristics and do not take into account non-runway constraints, unless otherwise noted. The capacity estimates developed for this report are not intended to replace the results of any detailed analysis that would precede an environmental, investment, or policy decision.

The list of Future Improvements and their expected effects on capacity does not imply FAA commitment to, or approval of, any item on the list.

DEFINITION

- The capacity profile shows the hourly throughput that an airport is able to sustain during periods of high demand, represented as the range between the model-estimated capacity and the ATC facility reported rate (called rate). Each weather condition has a unique capacity rate range.
- The following charts compare actual hourly traffic with the estimated capacity curves for SEA.

RECENT CAPACITY IMPROVEMENTS AT SEA

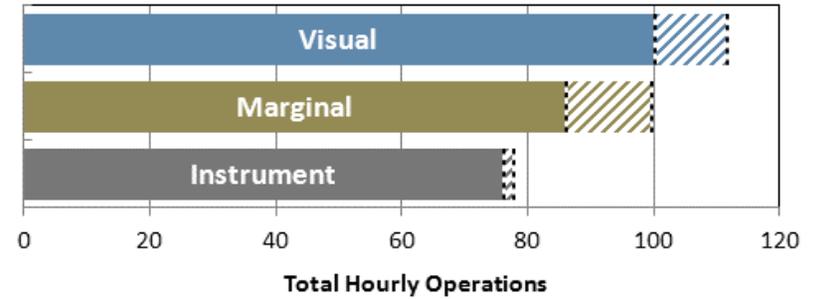
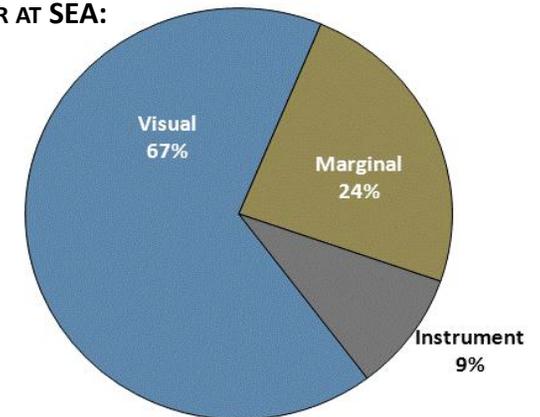
- In 2008, SEA commissioned a new parallel runway, 16R/34L, which is typically used for arrivals. It is spaced far enough from Runway 16L/34R that a second arrival stream can be conducted in poor weather conditions for additional arrival capacity.
- SEA was recently approved for a new procedure (FAA Order 7110.308), which reduces spacing requirements between certain aircraft pairs for dependent approaches between Runways 34C and 34L, and Runways 16C and 16R. However this procedure does not apply to the profiled configuration.
- Implementation of Traffic Management Advisor (TMA) helps to improve the flow of arrivals to the runways.

FUTURE IMPROVEMENTS AT SEA

- *Wake Turbulence Mitigation for Departures (WTMD)* is anticipated to be available at SEA by 2020. WTMD will eliminate the need for wake vortex separation behind a B757 or Heavy aircraft departing on the adjacent closely-spaced runway when specific wind conditions exist that reduce the vortex hazard.
- *Improved Runway Delivery Accuracy:* The combined effects of several new capabilities, including ADS-B Out, CDTI, and TBM in the terminal area, will improve the ability of controllers by 2020 to deliver aircraft to the runway with the desired separation from the preceding aircraft. This will reduce the average spacing between arrivals and boost arrival capacity.
- *Wake Turbulence Mitigation for Arrivals – System (WTMA-5)* is anticipated to be available at SEA by 2020. WTMA-5 will employ a wind forecasting algorithm to allow reduced separation between SEA's closely-spaced parallel arrivals under specific wind conditions. However this procedure does not apply to the profiled configurations.
- Additional information on these improvements may be found in this report under "Future Operation Assumptions."

DATA SOURCES

- Actual hourly SEA operations, weather and configuration data were obtained from the FAA ASPM database, and represent operational hours from 7am to 11pm local time for all of Fiscal Years 2009 and 2010. Actual configuration usage is determined by multiple operational factors, including weather conditions.
- Facility reported rates were provided by ATC personnel at SEA.
- Model-estimated rates are derived from operational information provided by ATC.

CURRENT OPERATIONS CAPACITY RATE RANGE**ANNUAL WEATHER AT SEA:****VISUAL CONDITIONS:**

- Ceiling and visibility allow for visual approaches: at least 4000 feet ceiling and 3 miles visibility

MARGINAL CONDITIONS:

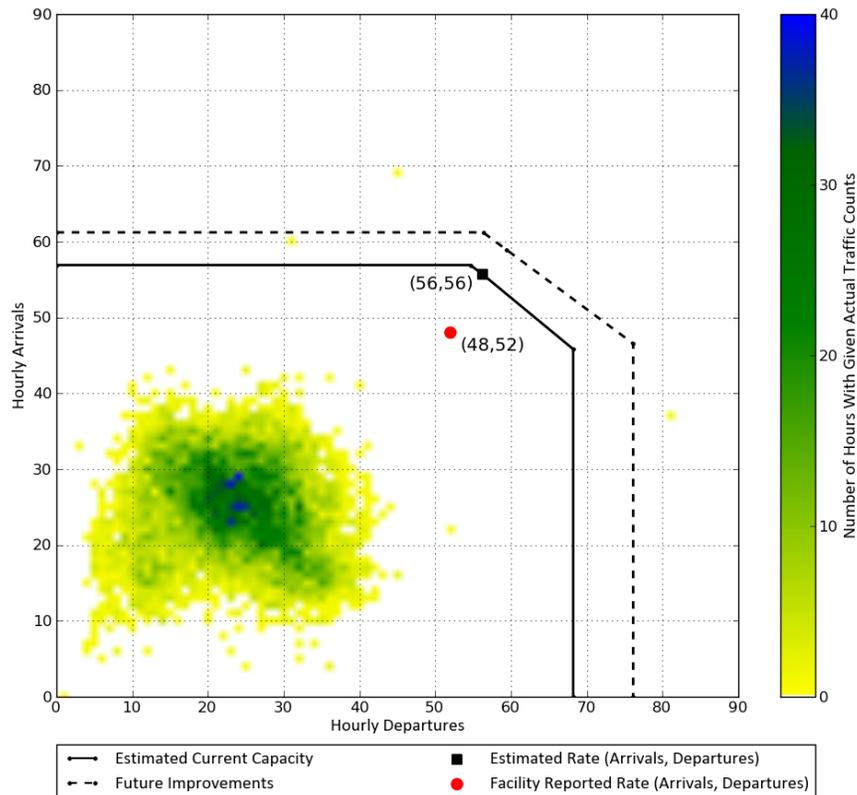
- Ceiling and visibility below visual approach minima but better than Instrument conditions

INSTRUMENT CONDITIONS:

- Ceiling and visibility below 1000 feet ceiling or 3 miles visibility

SEA Scenario	Arrival Runways	Departure Runways	Procedures	Hourly Rate	
				ATC Facility Reported	Model-Estimated
CURRENT OPERATIONS	16L, 16R	16L, 16C	Visual Approaches, Visual Separation	100	112
FUTURE IMPROVEMENTS Improved Runway Delivery Accuracy WTMD	16L, 16R	16L, 16C		N/A	118

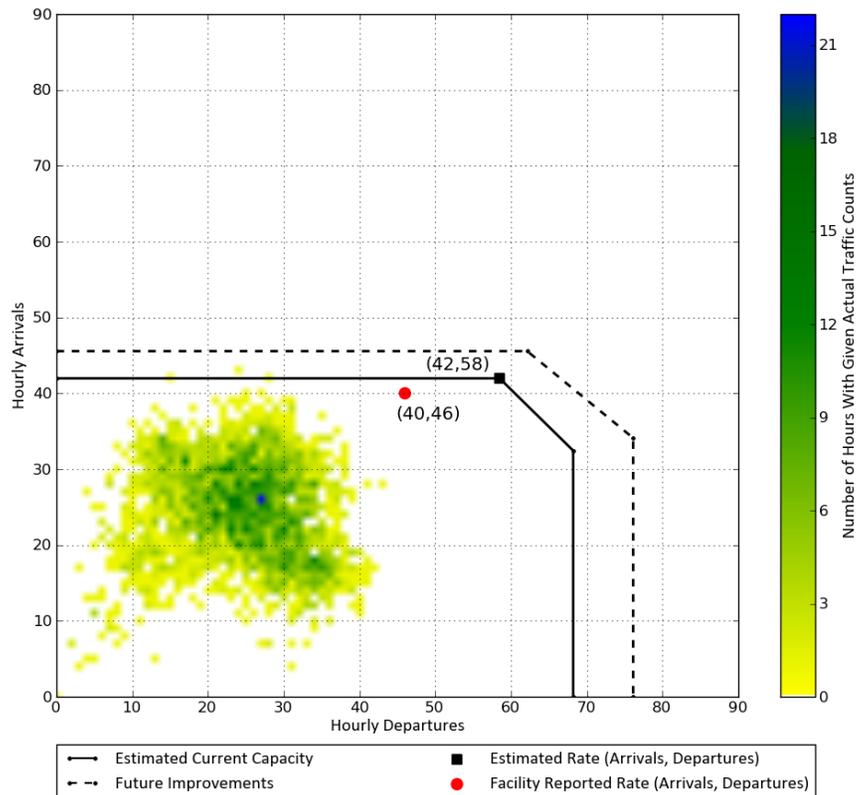
VISUAL WEATHER CONDITIONS



- The capacity rate range in Visual conditions is currently 100-112 operations per hour.
- SEA has two primary directional traffic flows. The airport operates in variations of profiled configuration approximately 25% of the time in Visual weather conditions (totaling 16% annually). [Note: Runway 16L/34R was closed from April through September of 2009, so the percentages cited above include hours during which this configuration was not available.]
- Additional in-trail spacing between arrivals to Runway 16L typically is employed in order to enable taxiing aircraft to cross Runway 16L.

SEA Scenario	Arrival Runways	Departure Runways	Procedures	Hourly Rate	
				ATC Facility Reported	Model-Estimated
CURRENT OPERATIONS	16L, 16R	16L, 16C	Dependent Instrument Approaches, Visual Separation	86	100
FUTURE IMPROVEMENTS Improved Runway Delivery Accuracy WTMD	16L, 16R	16L, 16C		N/A	108

MARGINAL WEATHER CONDITIONS



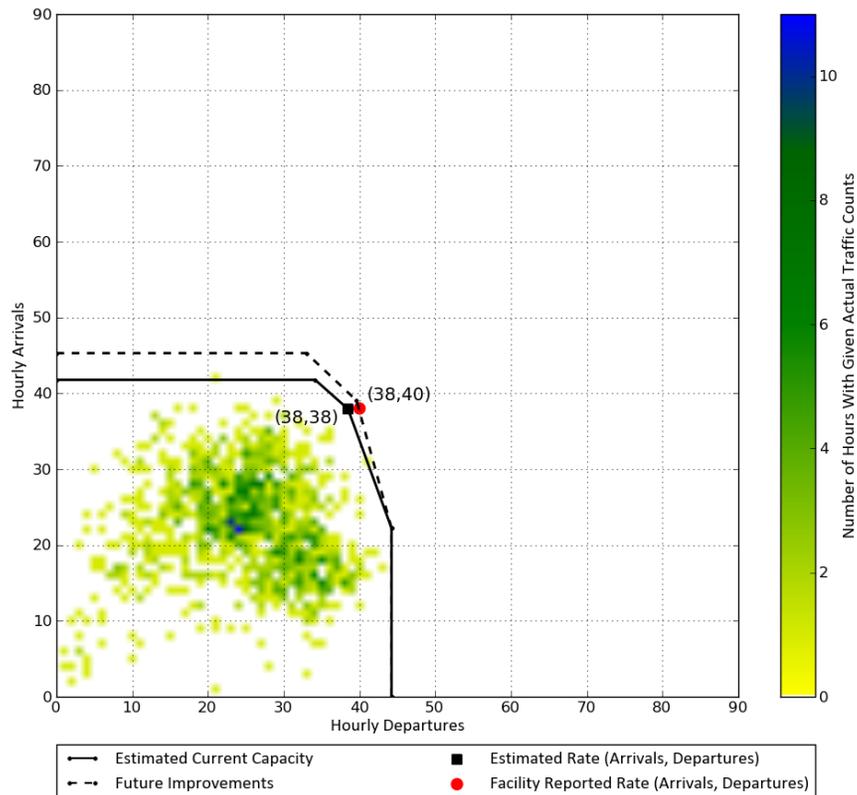
- The capacity rate range in Marginal conditions is currently 86-100 operations per hour.
- SEA has two primary directional traffic flows. The airport operates in variations of this configuration approximately 46% of the time in Marginal weather conditions (totaling 11% annually). [Note: Runway 16L/34R was closed from April through September of 2009, so the percentages cited above include hours during which this configuration was not available.]
- Additional in-trail spacing between arrivals to Runway 16L typically is employed in order to enable taxiing aircraft to cross Runway 16L.
- Reduced separation (2.5 NM) between arrivals is authorized for approaches to Runway 16R at SEA.

INSTRUMENT

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SEA Scenario	Arrival Runways	Departure Runways	Procedures	Hourly Rate	
				ATC Facility Reported	Model-Estimated
CURRENT OPERATIONS	16L, 16R	16L, 16C	Dependent Instrument Approaches, Radar Separation	78	76
FUTURE IMPROVEMENTS Improved Runway Delivery Accuracy	16L, 16R	16L, 16C		N/A	79

INSTRUMENT WEATHER CONDITIONS



- The capacity rate range in Instrument conditions is currently 76-78 operations per hour.
- SEA has two primary directional traffic flows. The airport operates in variations of this configuration approximately 53% of the time in Instrument weather conditions (totaling 5% annually). [Note: Runway 16L/34R was closed from April through September of 2009, so the percentages cited above include hours during which this configuration was not available.]
- Additional in-trail spacing between arrivals to Runway 16L typically is employed in order to enable taxiing aircraft to cross Runway 16L.
- Reduced separation (2.5 NM) between arrivals is authorized for approaches to Runway 16R at SEA.