





Table 2 presents the air carrier operations with the included nighttime operations as presented in the Draft EA and as projected in the FAA's 2012 TAF, along with what actually occurred in 2011. The nighttime operations (those operations occurring between 10 p.m. and 7 a.m.) are important because of the 10 dB "penalty" assigned each operation occurring during this time period, essentially resulting in greater modeled noise levels.

The difference between the Draft EA forecast of 2,663 air carrier operations and the 4,780 air carrier operations that actually occurred was a function of several factors. Aviation Technical Services (ATS) related maintenance flights were significantly higher than expected as their customer mix changed, resulting in a higher percentage of short term project aircraft (a shorter time being serviced) vs. long term project aircraft (a longer time being serviced) thereby increasing the number of overall operations. Many of these involved nighttime swaps of Southwest Airlines B-737 aircraft, resulting in greater nighttime operations.

During this same time, the Boeing Company experienced delays in the development of both the B-787 and the B-747-8 aircraft and there were a number of certification flight tests associated with those aircraft that were not anticipated during the development of the forecasts used in the Draft EA. Also, the number of test flights at Paine Field associated with Boeing's Renton built B-737 aircraft was higher than had been forecast.

A significant reduction in general aviation operations also occurred from 2008 to 2011 and was primarily driven by substantially higher fuel costs and the economic recession which reduced discretionary spending on leisure activities such as recreational flying.

Table 2  
**DISTRIBUTION OF AIR CARRIER OPERATIONS BY YEAR AND OPERATIONS OCCURING BETWEEN 10 PM AND 7 AM IN BRACKETS ADJUSTED FOR TOWER CLOSURE HOURS**  
*Snohomish County Airport Environmental Assessment*

| Year | Draft EA***   | 2012 TAF<br>Adjusted** | Actual ***    |
|------|---------------|------------------------|---------------|
|      | Total [Night] | Total [Night]          | Total [Night] |
| 2008 | 3,132 [362]   | ---                    | 3,132 [362]   |
| 2010 | 2,663 [308]*  | 4,601 [708]            | 4,780 [736]   |
| 2011 | ---           | 5,591 [754]            | 5,669 [764]   |
| 2016 | 3,358 [388]*  | 5,591 [754]            | ---           |

**Source:** Snohomish County Airport/Paine Field Records, Draft EA and 2012 FAA TAF

\*Forecast without Proposed Action

\*\*Fiscal Year, adjusted to include nighttime operations

\*\*\*Calendar Year

We are requesting FAA approval of this forecast approach for use in the Final EA.

## Revised Appendix G Forecasts

### EXISTING YEAR ACTIVITY

#### Existing Year 2008

|     | Tower Count (14 hours) | Adjusted (24 hours) |
|-----|------------------------|---------------------|
| AC* | 2,730                  | 3,132               |
| AT  | 2,683                  | 2,782               |
| GA  | 131,439                | 136,900             |
| MIL | 869                    | 908                 |

\* (Aug 2007-July 2008)

### FUTURE YEARS ACTIVITY

#### Initial Year 2013

|                   | Without Proposed Action |                     | With Proposed Action |
|-------------------|-------------------------|---------------------|----------------------|
|                   | TAF (14 hours)          | Adjusted (24 hours) | Adjusted (24 hours)  |
| AC                | 4,710                   | 5,591               | 10,179               |
| AT                | 2,345                   | 2,464               | 2,464                |
| GA                | 100,602                 | 103,425             | 103,425              |
| MIL               | <u>1,200</u>            | <u>1,253</u>        | <u>1,253</u>         |
| Total             | 108,857                 | 112,733             | 117,321              |
| % change from TAF |                         | + 3.6%              | + 7.8%               |

#### Initial Year 2016

|                   | Without Proposed Action |                     | With Proposed Action |
|-------------------|-------------------------|---------------------|----------------------|
|                   | TAF (14 hours)          | Adjusted (24 hours) | Adjusted (24 hours)  |
| AC                | 4,710                   | 5,591               | 12,055               |
| AT                | 2,345                   | 2,464               | 2,464                |
| GA                | 101,196                 | 104,067             | 103,425              |
| MIL               | <u>1,200</u>            | <u>1,253</u>        | <u>1,253</u>         |
| Total             | 109,451                 | 113,372             | 119,197              |
| % change from TAF |                         | + 3.6%              | + 8.9%               |

#### Future year 2018

|                   | Without Proposed Action |                     | With Proposed Action |
|-------------------|-------------------------|---------------------|----------------------|
|                   | TAF (14 hours)          | Adjusted (24 hours) | Adjusted (24 hours)  |
| AC                | 4,710                   | 5,591               | 13,931               |
| AT                | 2,345                   | 2,464               | 2,464                |
| GA                | 101,596                 | 104,479             | 104,479              |
| MIL               | <u>1,200</u>            | <u>1,253</u>        | <u>1,253</u>         |
| Total             | 109,851                 | 113,787             | 122,127              |
| % change from TAF |                         | + 3.6%              | + 11.1%              |



U.S. Department  
of Transportation  
Federal Aviation  
Administration

Northwest Mountain Region  
Seattle Airports District Office  
1601 Lind Avenue S.W., Suite 250  
Renton, Washington 98055-4056

November 2, 2009

Mr. Dave Waggoner  
Airport Director  
Snohomish County (Paine Field) Airport  
3220 100<sup>th</sup> Street, S.W.  
Everett, Washington 98204

Dear Mr. Waggoner:

Snohomish County (Paine Field) Airport, Everett, Washington  
Operations Forecast Methodology - Environmental Assessment

The Federal Aviation Administration (FAA) has completed our review of the revised Operations Forecast Methodology for the Environmental Assessment (EA) for the initiation of commercial service at Paine Field as submitted by e-mail on November 2, 2009. We find the methodology and forecast operations to be reasonable. Accordingly, these forecasts are acceptable for analysis in the EA.

If you have any further questions, please call me at 425-227-2657.

Sincerely,

A handwritten signature in black ink that reads "Carol A. Suomi". The signature is written in a cursive style.

Carol A. Suomi, Manager  
Seattle Airports District Office

## **Snohomish County Airport EA Operations Forecast Methodology**

The Environmental Assessment (EA) will utilize a forecast of aircraft operations (ops) utilizing the four categories of users counted by the FAA at Paine Field -General Aviation (GA), Air Taxi (AT), Air Carrier (AC) and Military (MIL). The forecast will utilize three time periods, an existing year based on 2008 actual operations, 2010 as the proposed Initial year of Commercial airline service and 2016 as the future year, which is the required year for air quality conformity in the State Implementation Plan. Both future years are based on the Terminal Area Forecasts, with adjustments as noted below.

FAA counts operations at Paine Field during the 14 hours daily (7am-9pm) when the Air Traffic Control Tower is open. The forecast for GA and AT is based on the FAA Terminal Area Forecast (TAF) with adjustments for nighttime operations. This adjustment will be the % of nighttime instrument operations that occurred during the Existing year as identified by the airport's Flight Explorer tracking system. Military night ops are estimated by airport staff. In order to avoid affects from the Boeing Company work stoppage which reduced AC flights in late 2008 the existing year data for AC ops will be August 2007-July 2008. The forecast of AC ops in 2010 and 2016 will reflect Boeing wide body aircraft production rates and growth projected by Aviation Technical Services (ATS). The forecast of MIL ops will also reflect the ATS growth projection. The key difference between AC ops in the TAF and this forecast is that this forecast includes 787 production and associated flights of the Large Cargo Freighter delivering 787 parts which were not contemplated in the TAF.

Horizon Air has proposed 4,300 operations of Dash 8 Q400 aircraft at Paine Field in 2010 growing to 7,300 operations in 2016. Allegiant Air has proposed 208 operations of MD83 aircraft at Paine Field in 2010 growing to 1,040 ops in 2016. The addition of these airline operations is the proposed action and will be added to the other AC forecast operations for the two "with action" future project years.

The Environmental Assessment will review the affects in 2010 and in 2016 without the proposed action and with the proposed action. The following tables present the operations by user category for the existing year and the two future years, with and without the proposed project. The FAA approved the Forecast on May 26, 2009. Boeing announced on October 28, 2009 that they will build three of the ten 787's per month in Charleston, South Carolina so this forecast has been updated accordingly.

Final revised 10-29-09

## EXISTING YEAR ACTIVITY

### Existing Year 2008

|                        | Tower Count (14 hours) | Adjusted (24 hours) |
|------------------------|------------------------|---------------------|
| AC*                    | 2,730                  | 3,132               |
| AT                     | 2,683                  | 2,782               |
| GA                     | 131,439                | 136,900             |
| MIL                    | <u>869</u>             | <u>908</u>          |
| Total                  | 137,721                | 143,722             |
| * (Aug 2007-July 2008) |                        |                     |

## FUTURE YEARS ACTIVITY

### Initial Year 2010

|                   | Without Proposed Action |                       | With Proposed Action |                       |
|-------------------|-------------------------|-----------------------|----------------------|-----------------------|
|                   | TAF (14 hours)          | Adjusted (24 hours)** |                      | Adjusted (24 hours)** |
| AC                | 2,652                   | 2,663                 | 7,251                |                       |
| AT                | 2,732                   | 2,833                 | 2,833                |                       |
| GA                | 138,741                 |                       | 144,505              | 144,505               |
| MIL               | <u>787</u>              |                       | <u>865</u>           | <u>865</u>            |
| Total             | 144,912                 | 150,866               |                      | 155,454               |
| % change from TAF |                         | + 4.1%                |                      | + 7.3%                |

### Future year 2016

|                   | Without Proposed Action |                       | With Proposed Action |                       |
|-------------------|-------------------------|-----------------------|----------------------|-----------------------|
|                   | TAF (14 hours)          | Adjusted (24 hours)** |                      | Adjusted (24 hours)** |
| AC                | 2,652                   | 3,358                 | 11,698               |                       |
| AT                | 2,732                   | 2,883                 |                      | 2,833                 |
| GA                | 149,137                 |                       | 155,333              | 155,333               |
| MIL               | <u>787</u>              |                       | <u>894</u>           | <u>894</u>            |
| Total             | 155,308                 | 162,418               |                      | 170,758               |
| % change from TAF |                         | + 4.6%                |                      | + 9.9%                |

\*\* includes projections of Boeing wide body aircraft production and ATS projected 15% growth by 2010 and 25% growth by 2016



U.S. Department  
of Transportation  
Federal Aviation  
Administration

Northwest Mountain Region  
Seattle Airports District Office  
1601 Lind Avenue S.W., Suite 250  
Renton, Washington 98055-4056

May 26, 2009

Mr. Dave Waggoner  
Airport Director  
Snohomish County (Paine Field) Airport  
3220 100<sup>th</sup> Street, S.W.  
Everett, Washington 98204

RECEIVED

MAY 29 2009

BY SNOHOMISH COUNTY AIRPORT

Dear Mr. Waggoner:

Snohomish County (Paine Field) Airport, Everett, Washington  
Operations Forecast Methodology - Environmental Assessment

The Federal Aviation Administration (FAA) has completed our review of the Operations Forecast Methodology for the Environmental Assessment (EA) for the initiation of commercial service at Paine Field. We find the methodology and forecast operations to be reasonable. Accordingly, these forecasts are acceptable for analysis in the EA.

If you have any further questions, please call me at 425-227-2657.

Sincerely,

Carol A. Suomi, Manager  
Seattle Airports District Office



## **Snohomish County Airport Environmental Assessment Operations Forecast Methodology**

The Paine Field Environmental Assessment (EA) will be based on a forecast of aircraft operations (ops) utilizing the four categories used by the FAA in the Terminal Area Forecast -- General Aviation (GA), Air Taxi (AT), Air Carrier (AC) and Military (MIL). The forecast will include three time periods

- 2008 as the Existing year based on actual operations,
- 2010 as the proposed Initial year of Commercial airline service and
- 2016 as the Future year, which is the required year for air quality conformity in the State Implementation Plan.

The forecasts for 2010 and 2016 are based on the FAA Terminal Area Forecast (TAF), with adjustments as noted below.

The FAA operates the Paine Field Airport Traffic Control Tower daily from 7am until 9pm (14 hours/day) and provides traffic counts for the Existing year for GA, AT, AC and MIL. These traffic counts will be adjusted to include the traffic when the Tower is closed from 9:00pm until 7:00 am by using the % of nighttime instrument operations that occurred during the Existing year as identified by the airport tracking system.

The 2010 and 2016 forecasts for GA and AT are based on the FAA Terminal Area Forecast (TAF) with adjustments for nighttime operations.

Military flights are counted by the FAA tower for the 14 hours/day when the tower is open but not reported by the airport tracking system so night ops are estimated by airport staff. The MIL forecast is based on the TAF plus the nighttime adjustment for 2010 and 2016. The forecast of MIL ops will also reflect the Aviation Technical Services growth projection for MIL aircraft.

Existing year data for AC ops will be a combined twelve months, August 2007-July 2008, to avoid affects from the Boeing Company work stoppage which reduced AC flights in late 2008. This is representative of current annual AC operations. The forecast of AC ops in 2010 and 2016 without the project will reflect Boeing wide body aircraft production rates and growth projected by Aviation Technical Services (ATS). The key difference between AC ops in the TAF and this forecast is that this forecast includes Boeing 787 production and associated flights of the Large Cargo Freighter which were not contemplated in the TAF.

Horizon Air has proposed 4,380 operations of Dash 8 Q400 aircraft at Paine Field in 2010 growing to 7,300 operations in 2016. Allegiant Air has proposed 208 operations of MD83 aircraft at Paine Field in 2010 growing to 1,040 ops in 2016. The addition of these airline operations is the proposed action and will be added to the other AC forecast operations for the two "with action" future project years.

The Environmental Assessment will review the affects in 2010 and in 2016 without the proposed action and with the proposed action. The following tables present the operations by operator category for the existing year and the two future years, with and without the proposed project.

Final

## EXISTING YEAR ACTIVITY

### Existing Year 2008

|              | <b>Tower Count</b> (14 hours) | <b>Adjusted</b> (24 hours) |
|--------------|-------------------------------|----------------------------|
| AC*          | 2,730                         | 3,132                      |
| AT           | 2,683                         | 2,782                      |
| GA           | 131,439                       | 136,900                    |
| MIL          | <u>869</u>                    | <u>908</u>                 |
| <b>Total</b> | <b>134,991</b>                | <b>140,590</b>             |

\* (Aug 2007-July 2008)

## FUTURE YEARS ACTIVITY

### Initial Year 2010

|                   | <b>Without Proposed Action</b> |                              | <b>With Proposed Action</b>  |
|-------------------|--------------------------------|------------------------------|------------------------------|
|                   | <b>TAF</b> (14 hours)          | <b>Adjusted</b> (24 hours)** | <b>Adjusted</b> (24 hours)** |
| AC                | 2,652                          | 3,071                        | 7,659                        |
| AT                | 2,732                          | 2,833                        | 2,833                        |
| GA                | 138,741                        | 144,505                      | 144,505                      |
| MIL               | <u>787</u>                     | <u>865</u>                   | <u>865</u>                   |
| <b>Total</b>      | <b>144,912</b>                 | <b>151,274</b>               | <b>155,862</b>               |
| % change from TAF |                                | + 4.4%                       | + 7.6%                       |

### Future Year 2016

|                   | <b>Without Proposed Action</b> |                              | <b>With Proposed Action</b>  |
|-------------------|--------------------------------|------------------------------|------------------------------|
|                   | <b>TAF</b> (14 hours)          | <b>Adjusted</b> (24 hours)** | <b>Adjusted</b> (24 hours)** |
| AC                | 2,652                          | 3,970                        | 12,310                       |
| AT                | 2,732                          | 2,833                        | 2,833                        |
| GA                | 149,137                        | 155,333                      | 155,333                      |
| MIL               | <u>787</u>                     | <u>894</u>                   | <u>894</u>                   |
| <b>Total</b>      | <b>155,308</b>                 | <b>163,030</b>               | <b>171,370</b>               |
| % change from TAF |                                | + 5%                         | + 10.3%                      |

\*\* includes projections of Boeing wide body aircraft production and ATS projected 15% growth by 2010 and 25% growth by 2016