

# **BOS Runway Use Plan Test Period #1 – 10-01-2014**

## **1. Definitions (for the purposes of these tests)**

- a. Configuration – Any combination of two or more runways with a defined primary arrival runway end and primary departure runway end. There may be secondary arrival runway ends and secondary departure runway ends utilized as traffic and operational conditions require. For the purposes of the tests, a configuration change would be defined as a change in the primary arrival runway end and/or primary departure runway end.
- b. Runway End – Acknowledges that each runway has two operating ends based on direction of flow.

## **2. Test Period 1 Definition**

- a. Address one of the most common complaints from the community, which is anecdotally described as 'going to bed and waking up with aircraft noise'. The following provides more details on this element:
  - i. The complaint is generally referring to experiencing the same runway end use between 8:30 pm and Midnight and then again between 6:00 am and 9:30 am the following day.
  - ii. If more than one configuration is used during the 8:30 – Midnight period, the latest configuration used for at least one hour will be identified as the configuration to change from in the morning.
  - iii. It is acknowledged that wind, weather, and other operational conditions may require the same primary arrival runway end and primary departure runway end during both of these periods.
  - iv. When feasible, in order of preference, the instructions for addressing this situation are as follows:
    1. At 6:00 am, utilize a configuration that has a different primary arrival runway end and a different primary departure runway end than was being utilized for the 8:30 to Midnight period the night prior.
    2. If wind, weather, or operational conditions do not allow for #1 to occur, the second preference is to utilize a configuration that has a different primary departure runway end than was being utilized for the 8:30 to Midnight period the night prior.
    3. If wind, weather, or operational conditions do not allow for #1 and #2 to occur, the third preference is to utilize a configuration that has a different primary arrival runway end than was being utilized for the 8:30 to Midnight period the night prior.

### 3. Approach to Implementation

- a. Test Periods – Suggest employing four 3-month test periods of the runway use program instructions. [*Note: any additional tests will be 3-6 months each as clarified by FAA 10/29/14*]
  - i. Develop ATCT language
  - ii. Provide instruction/training of ATCT staff
  - iii. Implement runway use program test
  - iv. Monitor ability to implement
  - v. Monitor effectiveness of changes in runway end use
  - vi. Identify problems/opportunities
  - vii. Make adjustments for next test period

### 4. Metrics/Monitoring

- a. ATCT Performance – These metrics are designed to specifically measure ATCT’s ability to implement the test program and would be produced daily:
  - i. *Configuration Changes* – How many days did the configuration change? How many days did just the departure runway end change? How many days did just the primary arrival runway end change? How many days were there no changes in either primary departure or primary arrival runway ends.
  - ii. *Documentation* –Provide detailed operational conditions (wind, weather, airfield closures, etc.) for the test period.
    - At Midnight, ATCT to note the previous configuration and primary arrival and departure runway ends in use during the previous 3 hours
    - At 6:00 am, ATCT to note the configuration and primary arrival and departure runway ends being utilized for the morning push period. ATCT to provide notation of operating conditions if changes in configuration or runway end selection is not feasible. These notations should be informative but not over burdensome. For example they may include:
      - a. Winds (direction) at (speed)

- b. Weather/visibility
- c. Traffic volume
- d. Runway xxx closure
- e. Airfield maintenance

b. Operational Performance – These metrics are designed to measure the operational results of implementing the program:

i. *Runway End Use Percentages* – At the end of each month, Massport to provide daily reports of runway end use percentages to include:

Runway End Use by Day (24 hours)

Detailed Runway End Use for 8:30 pm to 9:30 am

ii. *Configuration Use Percentages* – At the end of each month, Massport to provide daily reports of configuration use percentages to include:

Configuration Use by Day (24 hours)

Configuration Use for 8:30 pm to 9:30 am

iii. *Hourly Operational Data* – At the end of each month, Massport/FAA to provide hourly reports (taken from available sources) of wind, weather, traffic volumes, airfield closures

c. Noise Performance – These metrics are designed to measure the noise results of implementing the program:

i. *Baseline Preparation* – Prior to implementation of the runway use program tests, Massport to prepare baseline noise data for comparison purposes to include:

DNL noise contours for 65, 60, 55, and 50 dB increments

Number of people residing within each 5 dB DNL increment

DNL for the evaluation points identified in previous phases of BLANS

Noise-level weighted population data for the evaluation points (*CAC will calculate this from noise data prepared by Massport*)

*\* Note: These would be prepared for a similar 3-month period for each test and an annual period for the full program.*

ii. *Test Period* – At the end of the test period (specific dates to be determined), Massport to provide a noise analysis to include:

DNL noise contours for 65, 60, 55, and 50 dB increments

Number of people residing within each 5 dB DNL increment

DNL for the evaluation points identified in previous phases of BLANS

Noise-level weighted population data for the evaluation points (*CAC will calculate this from noise data prepared by Massport*)

- iii. *Annual Analysis* – At the end of the calendar year, Massport to provide an annual noise analysis to include:

DNL noise contours for 65, 60, 55, and 50 dB increments

Number of people residing within each 5 dB DNL increment

DNL for the evaluation points identified in previous phases of BLANS

Noise-level weighted population data for the evaluation points (*CAC will calculate this from noise data prepared by Massport*)

- d. Percentage-Based Goals – For the first year (test period) there would not be percentage-based goals for runway end utilization or configuration utilization. After the end of the test periods, the feasibility of percentage-based goals would be determined and if determined to be valuable those goals established.

Massport Table of Runway Use Recommendations for BLANS Phase 3 Test

	Configuration	Configuration	Configuration	Configuration	Configuration	Configuration
Night	<b>4/9</b>	<b>33/27</b>	<b>27/33</b>	<b>27/22</b>	<b>22/22</b>	<b>15/9</b>
Morning 1	33/27	22/22	22/22	4/9	15/9	22/22
Morning 2	27/33	4/9	4/9	15/9	4/9	27/22
Morning 3	15/9	27/22	33/27	33/27	27/33	33/27
Morning 4	27/22	27/33	27/22	22/22	33/27	4/9

Night = The last configuration that the Airport was in place for at least one hour prior to midnight.

Morning 1 and Morning 2 = Potential configurations representing full configuration change (first preference from CAC)

Morning 3 = Potential primary departure runway change (second preference from CAC)

Morning 4 = Potential primary arrival runway change (third preference from CAC)

Configuration selection is dependent on wind/weather/volume/runway availability and other operational factors

	Configuration	Arrivals	Departures
1	4/9*	4R,4L	9, 4R, 4L (props)
2	33/27*	33L, 33R (props)	27, 33L
3	27/33*	27/32	33L
4	27/22*	27, 22L	22R, 22L
5	22/22	22L/22R (props)	22R/22L
6	15/9*	15R/15L	9

Note\* - all runways in configuration may not be used due to weather/closures

Revised 10/9/2014

Massport Table of Runway Use Recommendations for BLANS Phase 3 Test -- Revised and Effective 12/12/2014

	Configuration	Configuration	Configuration	Configuration	Configuration	Configuration
Night	<b>4/9</b>	<b>33/27</b>	<b>27/33</b>	<b>27/22</b>	<b>22/22</b>	<b>15/9</b>
Morning 1	33/27	22/22	22/22	4/9	15/9	22/22
Morning 2	27/33	4/9	4/9	15/9	4/9	27/22
Morning 3	27/22	27/22	27/22	33/27	27/33	33/27
Morning 4	15/9	27/33	33/27	22/22	33/27	4/9

Night = The last configuration in use at the Airport for at least one hour prior to midnight.

Morning 1 and Morning 2 = Potential configurations representing full configuration change (first preference from CAC)

Morning 3 = Potential primary departure runway change (second preference from CAC)

Morning 4 = Potential primary arrival runway change (third preference from CAC)

NOTE: Some choices for Morning 3 or Morning 4 represent full configuration changes.

Configuration selection is dependent on wind/weather/volume/runway availability and other operational factors

	Configuration	Arrivals	Departures
1	4/9*	4R,4L	9, 4R, 4L (props)
2	33/27*	33L, 33R (props)	27, 33L
3	27/33*	27/32	33L
4	27/22*	27, 22L	22R, 22L
5	22/22	22L/22R (props)	22R/22L
6	15/9*	15R/15L	9

Note\* - all runways in configuration may not be used due to weather/closures

Effective 12/12/2014

Morning 3 and Morning 4 choices for 4/9 and 27/33  
night configurations switched from original matrix  
dated 10/9/2014