

**NY/NJ/PHL METROPOLITAN AREA AIRSPACE REDESIGN
OPERATIONAL ASSESSMENT REPORT**



**Federal Aviation
Administration**

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Operational Assessment Report**

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Background:

The Federal Aviation Administration (FAA) proposed to redesign the airspace in the New York/New Jersey/Philadelphia (NY/NJ/PHL) Metropolitan area to enhance the efficiency and reliability of the airspace structure and the Air Traffic Control (ATC) system for pilots, airlines, and the traveling public.

The Final Environmental Impact Statement (FEIS) was published in the Federal Register on August 3, 2007. This presented an evaluation of the environmental impacts of the NY/NJ/PHL Metropolitan Area Airspace Redesign in accordance with the National Environmental Policy Act of 1969 (NEPA). On September 5, 2007 the FAA issued a Record of Decision (ROD) on the NY/NJ/PHL Metropolitan Area Airspace Redesign project. In the ROD one of the elements of Stage 1 was the implementation of departure dispersal headings at Newark Liberty International Airport (EWR) and Philadelphia International Airport (PHL).

The term dispersal heading (diverging courses) comes from Order 7110.65, Chapter 5, Section 8 which allows Air Traffic Controllers to use one mile separation on successive departures off the same runway. The aircraft involved must diverge by 15 degrees or greater immediately after departure. Diverging course headings allow for reduced separation on departures, better runway utilization, and greater departure efficiency.

The FAA in accordance with the Airspace Management Handbook, Version 2.2, completed an Operational Assessment on the effectiveness of the use of Dispersal Headings at EWR and PHL that were initiated on December 19, 2007 on a limited basis. The data for EWR Airport was collected from approximately 07:30 AM – 09:30 AM. The data from PHL Airport was collected from 09:00 AM – 11:00 AM. All data was collected in local times and was compiled after a year of dispersal heading use which ended on December 18, 2008.

Newark Liberty International Airport (EWR) Runway 22L/R

- Light Demand Use: single 190 heading as in current conditions.
- Moderate Demand Use: 2 departure headings of 215 and 239
- Heavy Demand Use: 3 departure headings of 215, 239, and 263
 - The 263 heading will be implemented when additional airspace changes are made in later stages
- At night use 190 heading

Philadelphia International Airport (PHL) Runway 9L/R

- PHL 9L/R Departures use 4 departure headings of 081, 096, 112, and 127.
- The 112 & 127 headings will be implemented when additional airspace changes are made in later stages.
- Headings 096 and 081 were used 12/19/07 thru 8/31/08 from 9:00AM to 11:00AM and then 2:00PM to 7:00PM. After 9/1/08 times were changed to 8:00AM to 11:00AM and then 2:00PM to 8:00pm.
- At night use departure heading of 085.

Note: PHL 9L/R Departure data was not sufficient to provide a detailed analysis.

Philadelphia International Airport (PHL) Runway 27L/R

- PHL 27L/R Departures use 3 departure headings of 230, 245, and 268.
 - Heading 245 and 268 were used 12/19/07 thru 8/31/08 from 9:00AM to 11:00AM and then 2:00PM to 7:00PM. After 9/1/08 the times were changed to 8:00AM – 11:00AM and then 2:00PM -8:00PM.
- The 230 heading will be implemented when additional airspace changes are made in Stage 4.
- At night use departure heading of 255.

Conclusion:

FAA Operations and Performance Data provide access to historical traffic counts, forecasts of aviation activity, and delay statistics. Many of the databases contain proprietary information and require a registered user name and password. You may request a login from FAA.

All information used for statistics were gathered from the Airport Efficiency Daily Configuration Report found at <http://aspm.faa.gov>.

EWR Runway 22L/R over a period from 12/19/07 through 12/18/08 with the use of dispersal headings averaged a release rate of 45 aircraft per hour. From 12/19/06 thru 12/18/07 without the use of dispersal headings the average release was 42 aircraft per hour. This is an increase of 3 aircraft per hour. With the use of dispersal headings the average taxi time went from 32 minutes to 30.5, a decrease of 1.5 minutes. The efficiency rate increased from 88% to 107%.

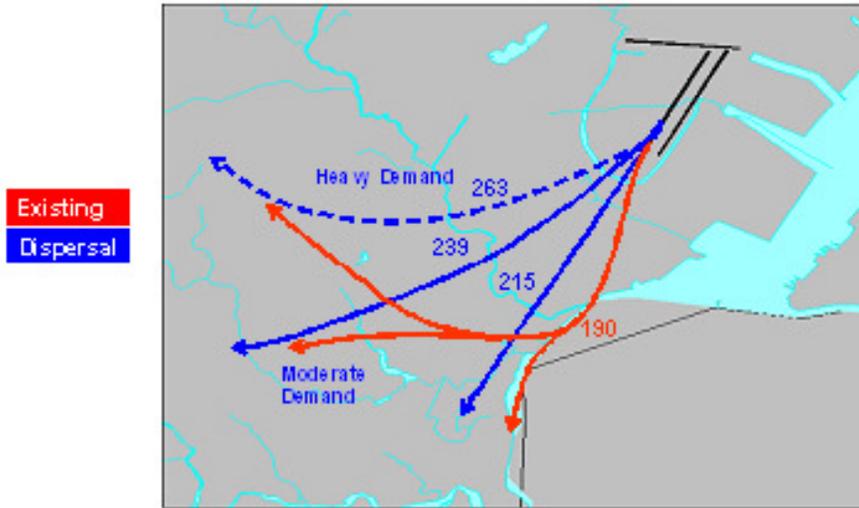
PHL Runway 27L/R over a period from 12/19/07 thru 12/18/08 with the use of dispersal headings averaged a departure rate of 45 aircraft per hour. From 12/19/06 thru 12/18/08 without the use of dispersal headings the average departure rate was 44 aircraft per hour. This is an increase of 1 aircraft per hour. With the use of dispersal headings the average taxi time went down from 24 minutes to 21 minutes, a decrease of 3 minutes. The efficiency rate increased from 107% to 110%.

Note: Efficiency rates greater than 100% were achieved when the number of departures was greater than the number of scheduled departures for that hour due to the aircraft taxiing from the previous hour.

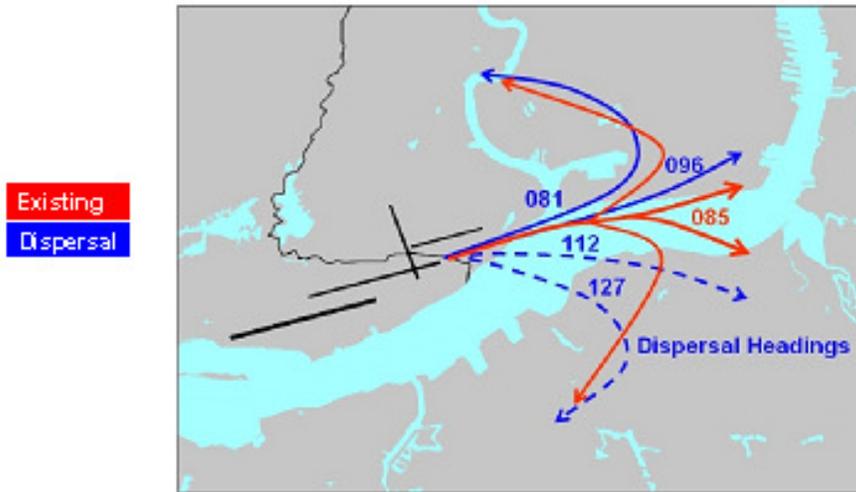
Time Restrictions at PHL Airport were imposed to assure that the departure fixes were not overloaded for environmental reasons. The restrictions will be removed when all three (3) headings are in use.

Overall the use of dispersal headings at EWR and PHL Airports led to an increase in runway efficiency and shorter taxi times.

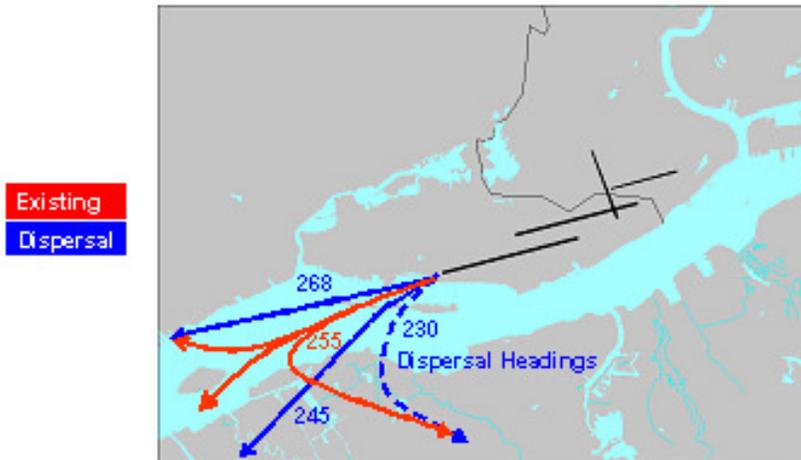
Stage 1: Newark Departure Headings Runway 22L/R



Stage 1: Philadelphia Departure Headings Runway 09R/L



Stage 1: Philadelphia Departure Headings Runway 27L/R



Dispersal Headings Summation Report

12/18/08

	12/19/06-12/18/07 Average	12/19/07-12/18/08 Average
EWR RWY 22R	Non-Dispersal Headings	Dispersal Headings
Scheduled Departures (Demand/Hr)	48	42
Actual Departures Rate (/Hr)	42	45
Average Taxi Time (minutes)	32	30.5
Efficiency Rate	88%	107%
PHL RWY 27L	Non-Dispersal Headings	Dispersal Headings
Scheduled Departures (Demand/Hr)	41	42
Actual Departures Rate (/Hr)	44	45
Average Taxi Time (minutes)	24	21
Efficiency Rate	107%	110%

