

FORUM25

Implementation of NEXTGEN at BWI Marshall Airport



K. Royce Bassarab, AICP
HNTB
Noise Program Manager, MAA

 MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND AVIATION ADMINISTRATION



Maryland Aviation Administration & BWI Marshall Airport



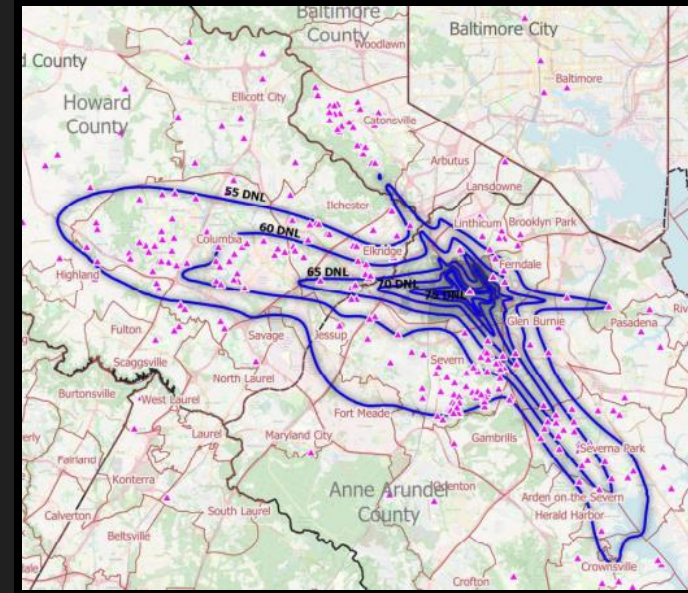
- MAA fosters the vitality of aviation statewide and promotes safe and efficient operations, economic viability and environmental stewardship.
- MAA operates Baltimore/Washington International Thurgood Marshall Airport and Martin State Airport, and licenses and supports 32 other public use airports throughout the state.

- 22nd Busiest Airport in the U.S.
- 27 Million Total Passengers in 2024, including 1.4 Million International Passengers
- 667 Daily Flights to 87 domestic & international markets from 14 airlines



MAA's History of Aircraft Noise Management

- First State-mandated Airport Noise Zone (ANZ) study in 1977
- One of the industry's first Sound Insulation Programs
- First comprehensive Part 150 Study completed in 1988
- NOMS system includes 24 Permanent Noise Monitors and three portable NMTs used for temporary monitoring
- DC Metroplex BWI Community Roundtable – active since 2017



NextGen Implementation

2013: DC OAPM – FAA Environmental Review of new PBN Procedures for BWI Marshall, DCA, IAD and other regional airports

2014-2016: Implementation of OAPM procedures

2017: DC Metroplex BWI Community Roundtable Formed

2018: FAA presents potential revised procedures

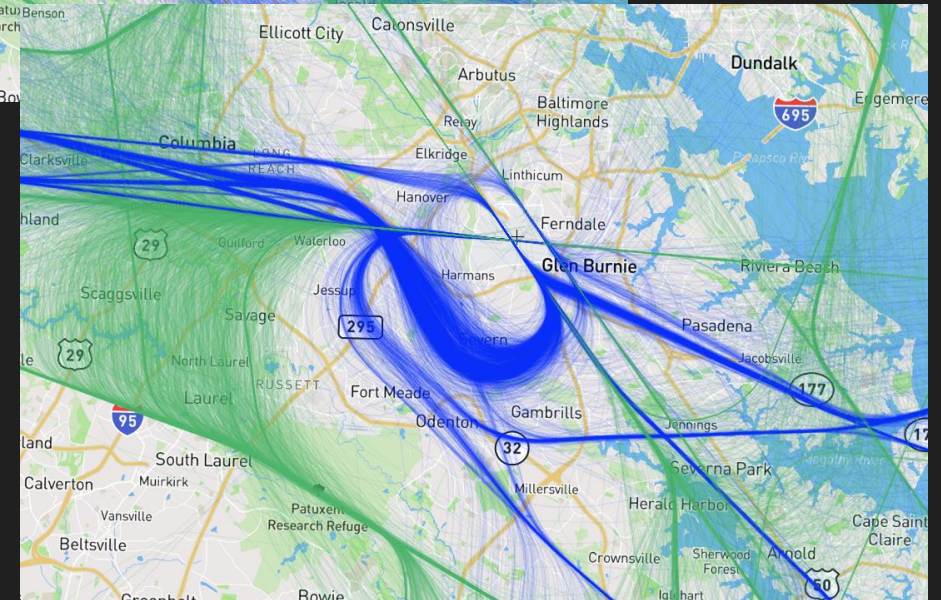
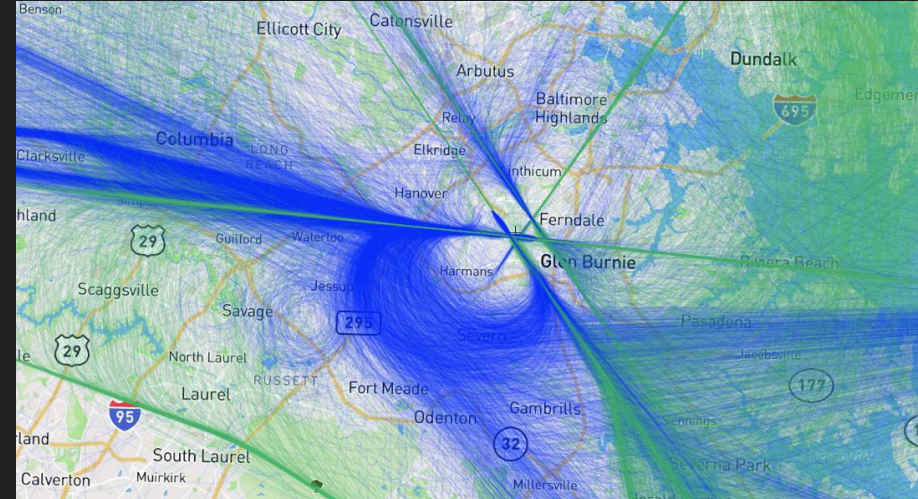
2019: Roundtable Technical Committee develops and proposes additional procedures

2020-2024: Stakeholder consultation & FAA PBN Working Group

2024: Implementation of new departure, arrival and instrument approach procedures

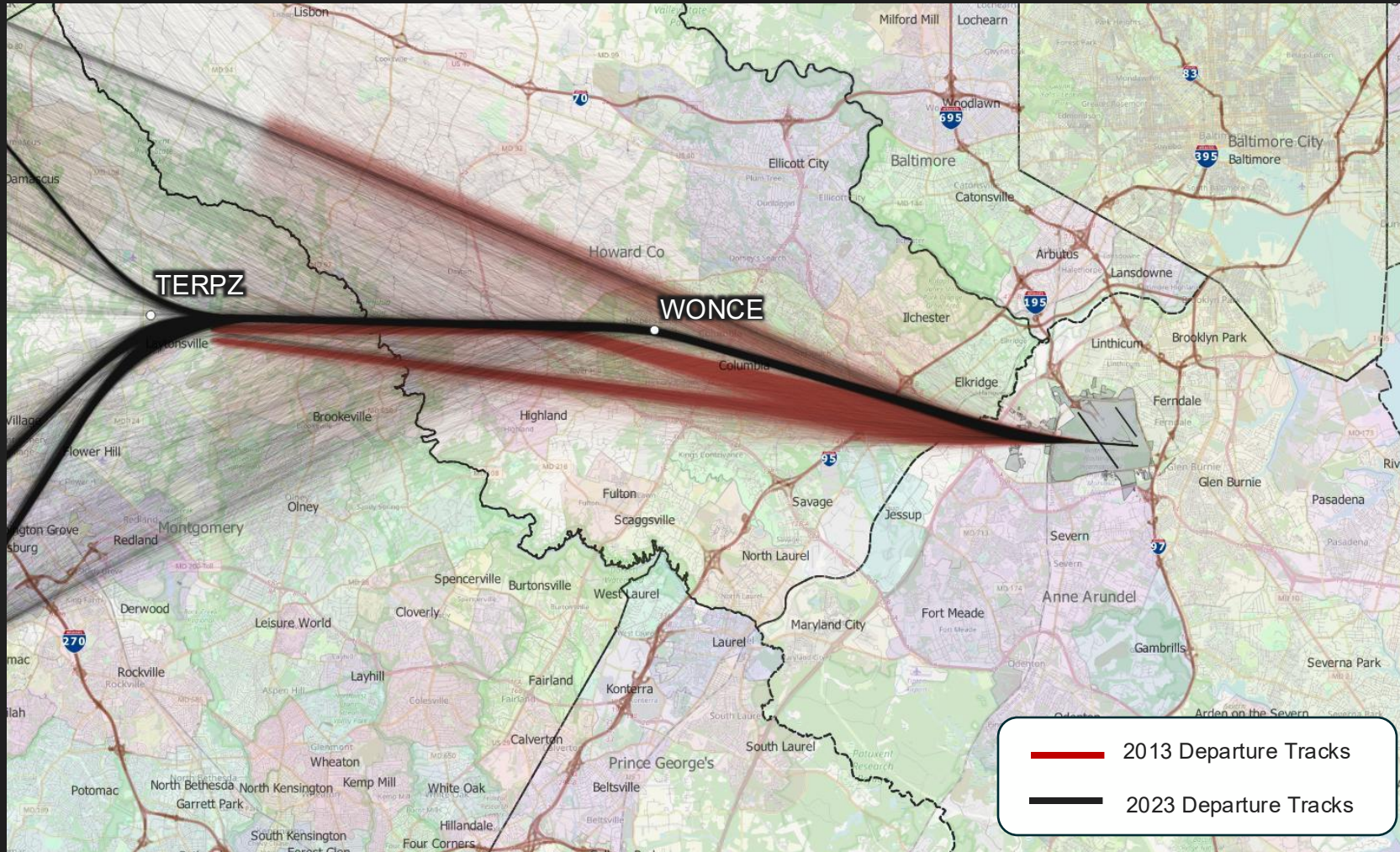
2025: MAA Post-Implementation Review

Example of 2012 Operations



Example of 2025 Operations

NextGen Implementation – Rwy 28 Departures

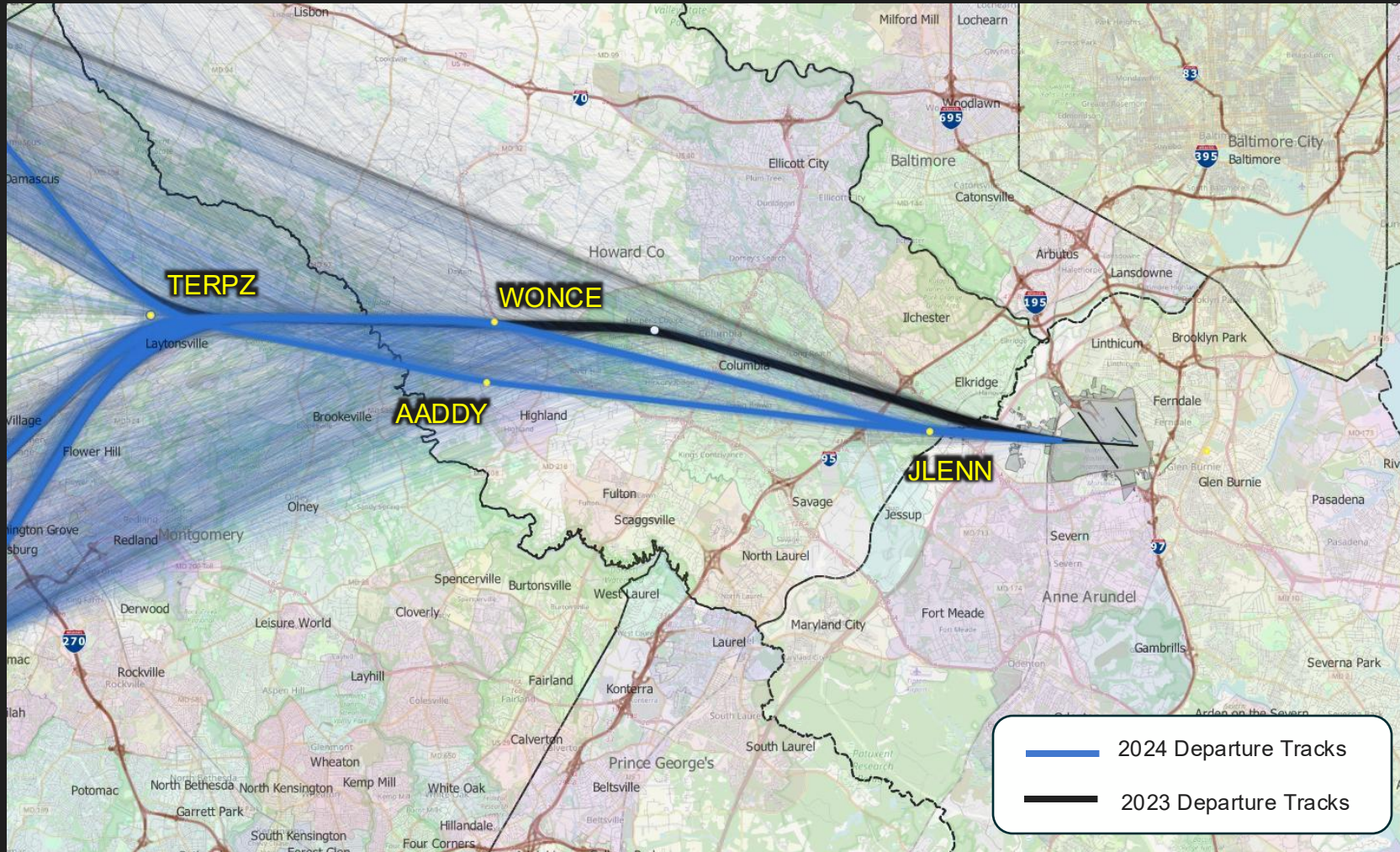


Westbound departures from Runway 28 are the most common operation at BWI Marshall

FAA's modified TERPZ SID consolidated operations and resulted in significant public concern

FAA proposed new and modified procedures to attempt to mimic pre-NextGen dispersion

NextGen Implementation – Rwy 28 Departures

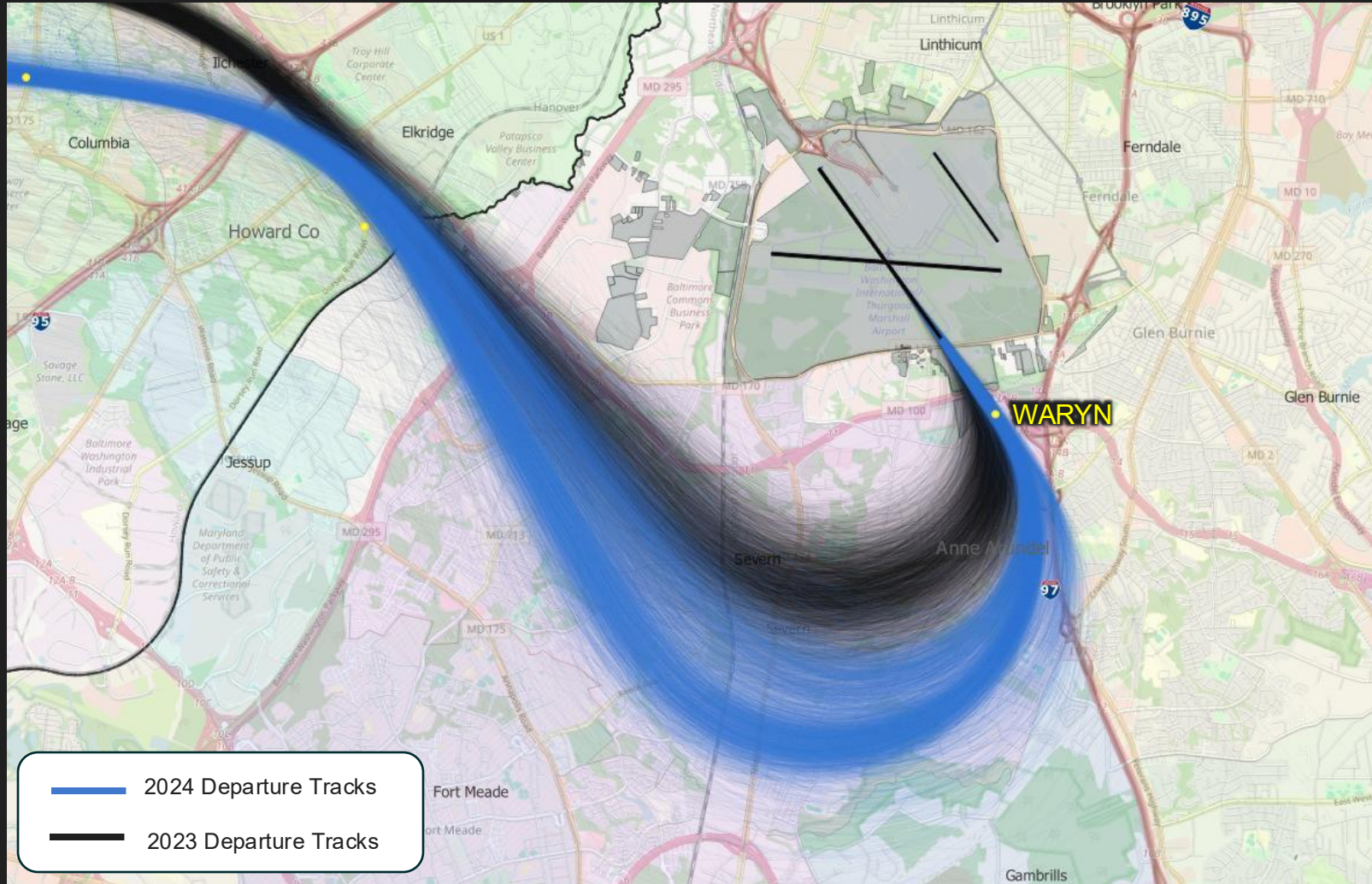


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NextGen Implementation – Rwy 15R Westbound Departures



BWI has had a noise abatement procedure directing westbound Rwy 15R traffic to fly 1 DME (0.7 nm from runway end) prior to initiating a turn

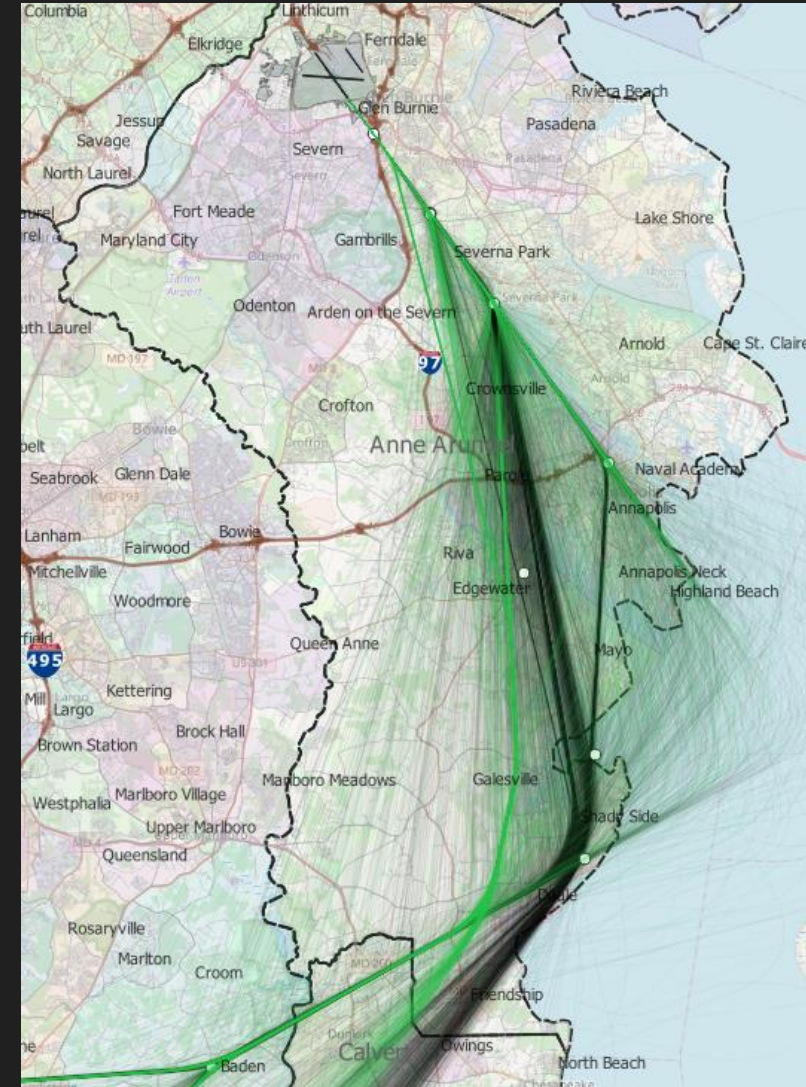
Initial procedures resulted in aircraft turning early

FAA proposed a waypoint consistent with the noise abatement procedure in 2024.

NextGen Implementation – Rwy 33L Arrivals

Runway 33L is the most frequently used runway for arrivals

The Roundtable Technical Committee developed a series of proposed procedures that would shift waypoints and promote the use of RNP procedures – all to increase the distribution of arrivals



Post Implementation Analysis

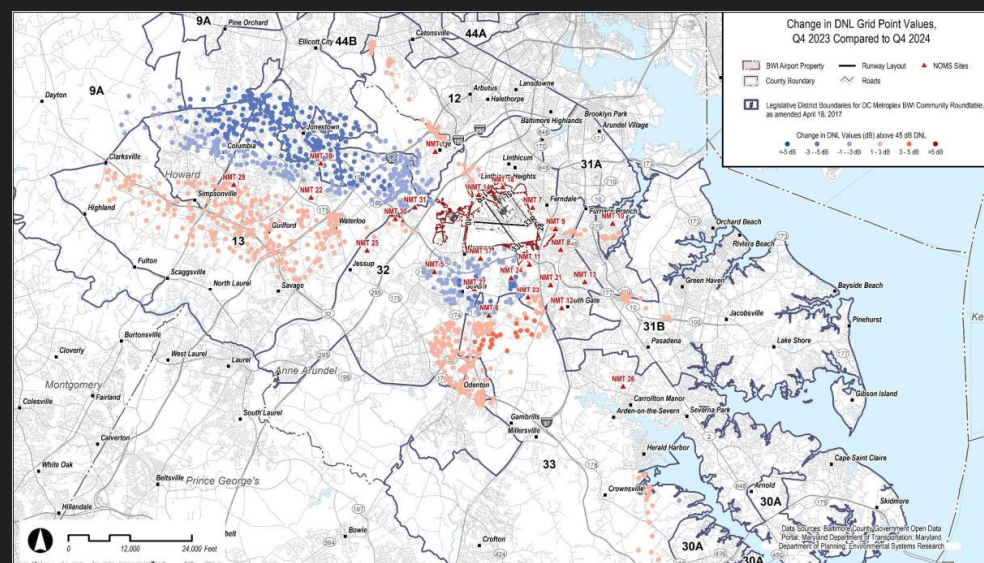
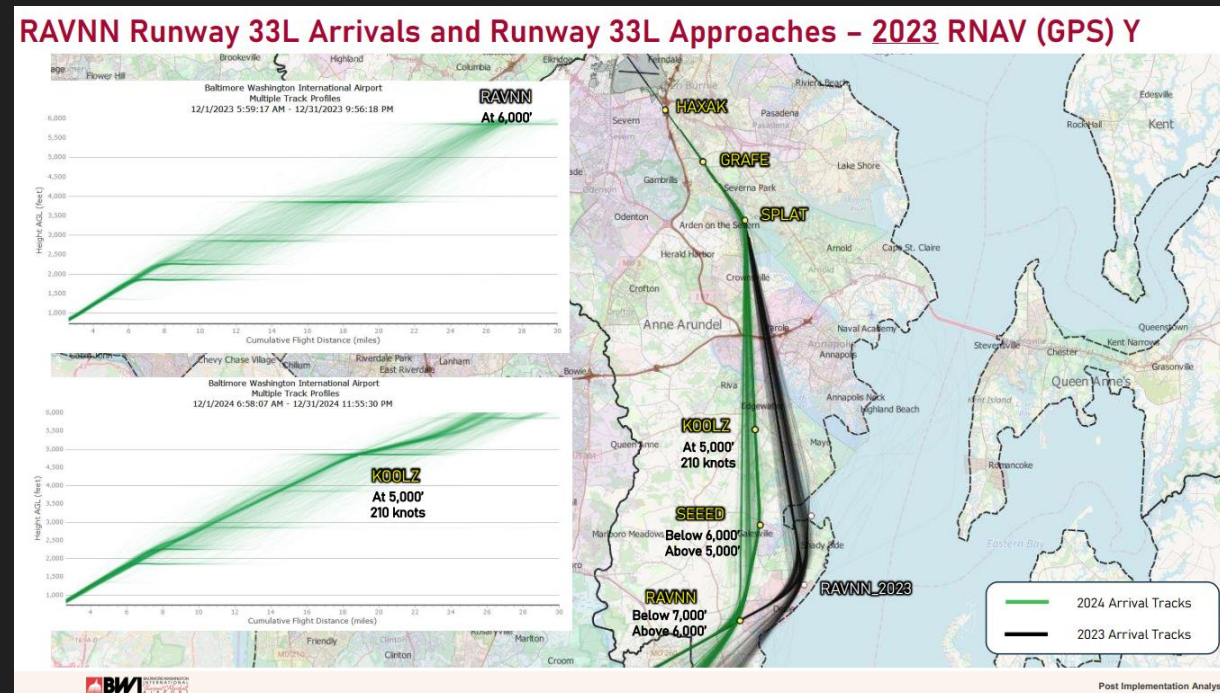
Procedures have been implemented

MAA prepared a comprehensive post-implementation analysis including the lateral distribution of tracks compared to pre-NextGen and NextGen conditions

MAA evaluated changes in noise exposure using both DNL and Number of Events Above analysis

Post-Implementation Review has resulted in the development of new tracking tools in ANOMS:

- Usage of New RNP procedures via Gates
- Flight tracks by altitude
- Flight track profile analysis
- Correlating tracks and noise levels



Next Steps

New procedures have not solved our “noise problem”

The Technical Committee is setting up a working group to evaluate potential changes to Runway 15R westbound departures

Any potential alternatives will likely carry forward into MAA’s upcoming Part 150 study

We expect to continue to use ANOMS to explore new ways of analyzing and reporting on procedure usage

