

# Federal Aviation Administration Proposed Procedures

Proposed Modification of Arrival and Departure Flight Procedures at  
Baltimore/Washington International Thurgood Marshall Airport



**Federal Aviation  
Administration**

August 2022

# Team Effort

- The development of the procedures was done as a Team
- Comprised of FAA, Air Traffic Control facility Subject Matter Experts, Industry (SWA, UAL, DAL), and the MAA Technical Working Group that included HMMH
- The Goals
  - Disperse the Operations
  - Keep aircraft higher longer
  - Relieve populated areas by relocation of tracks



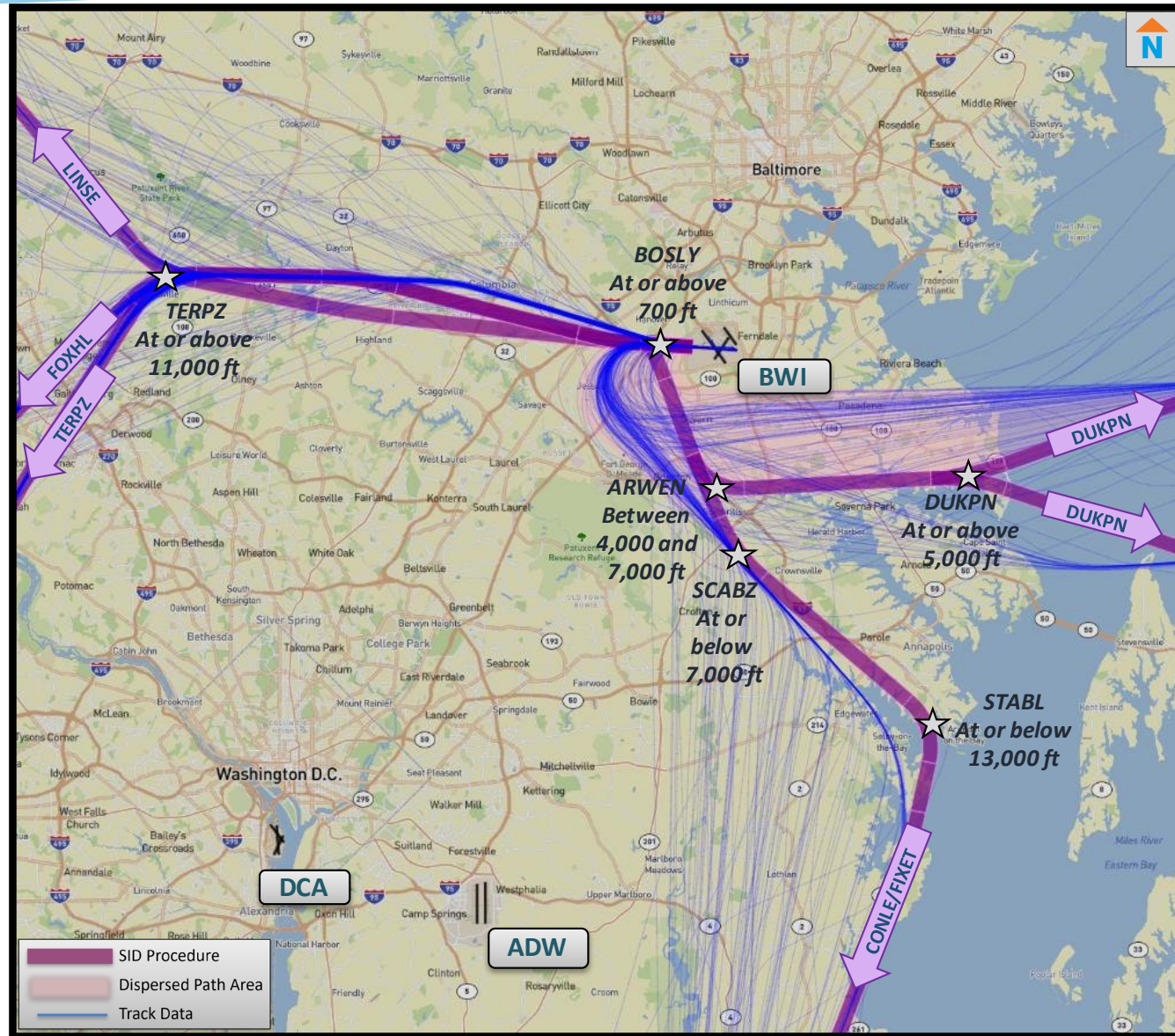
# Agenda

- Overview
- Proposed flight procedures
- Environmental process and next steps
- Discussion and Questions



# Overview





# Procedure Board Overview

**DUKPN** Procedure – All procedures use a five-letter designation. This procedure is pronounced “Duckpin”

**Waypoint** – Represents a latitude/longitude point aircraft fly to while on a procedure. Waypoints also use five-letter designations. This waypoint is pronounced “Stable”

**PBN Procedure** – Represents proposed procedures that use satellite navigation.

**Dispersed Path Area** – Represents the area that aircraft will fly in the future when Air Traffic Controllers give pilots headings to follow, called vectors.

**Approach Procedure** – Represents proposed approaches that use satellite navigation.

STAR Standard Terminal Arrival Route  
 SID Standard Instrument Departure  
 ATC Air Traffic Control  
 RNP Required Navigation Performance

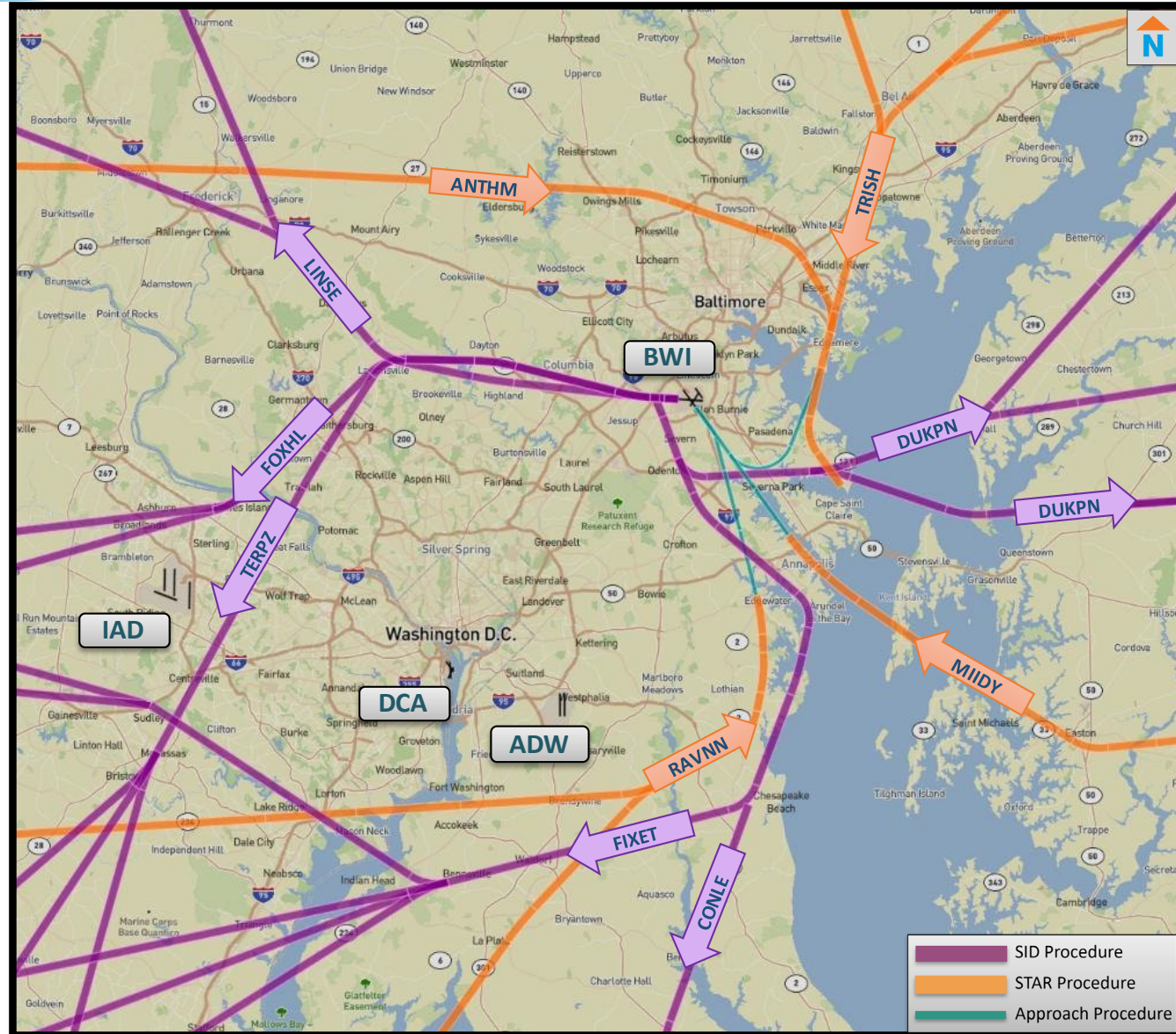


# Proposed Flight Procedures





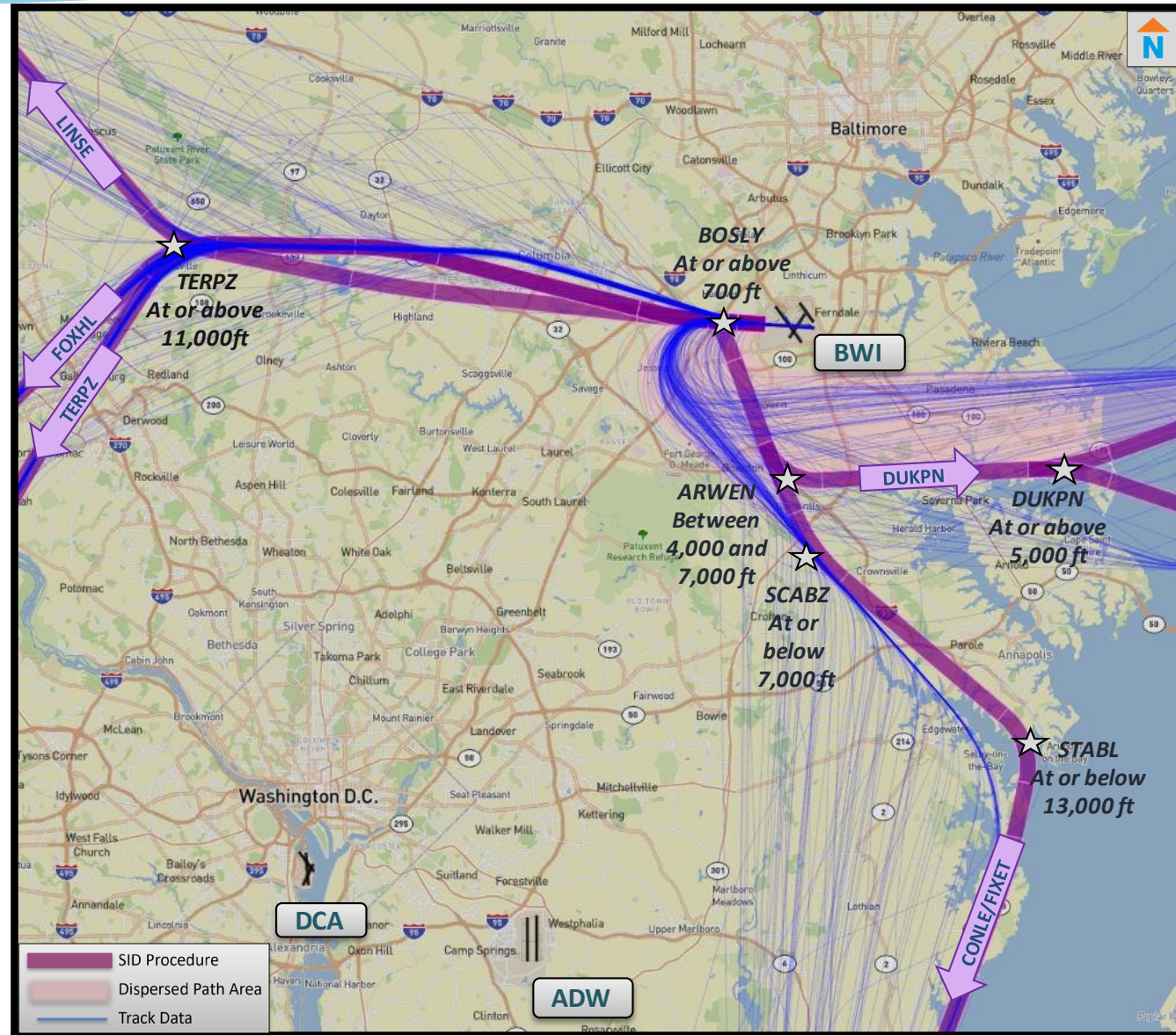
## Overview Map Proposed Departure Procedures Runway 28 and Proposed Arrival Procedures Runway 33L



- This board shows a common runway configuration at BWI, landing on Runway 33L and depart on Runway 28.
- The prevailing winds at BWI are from the west-northwest.
- It is safest for aircraft to takeoff and land into the wind.

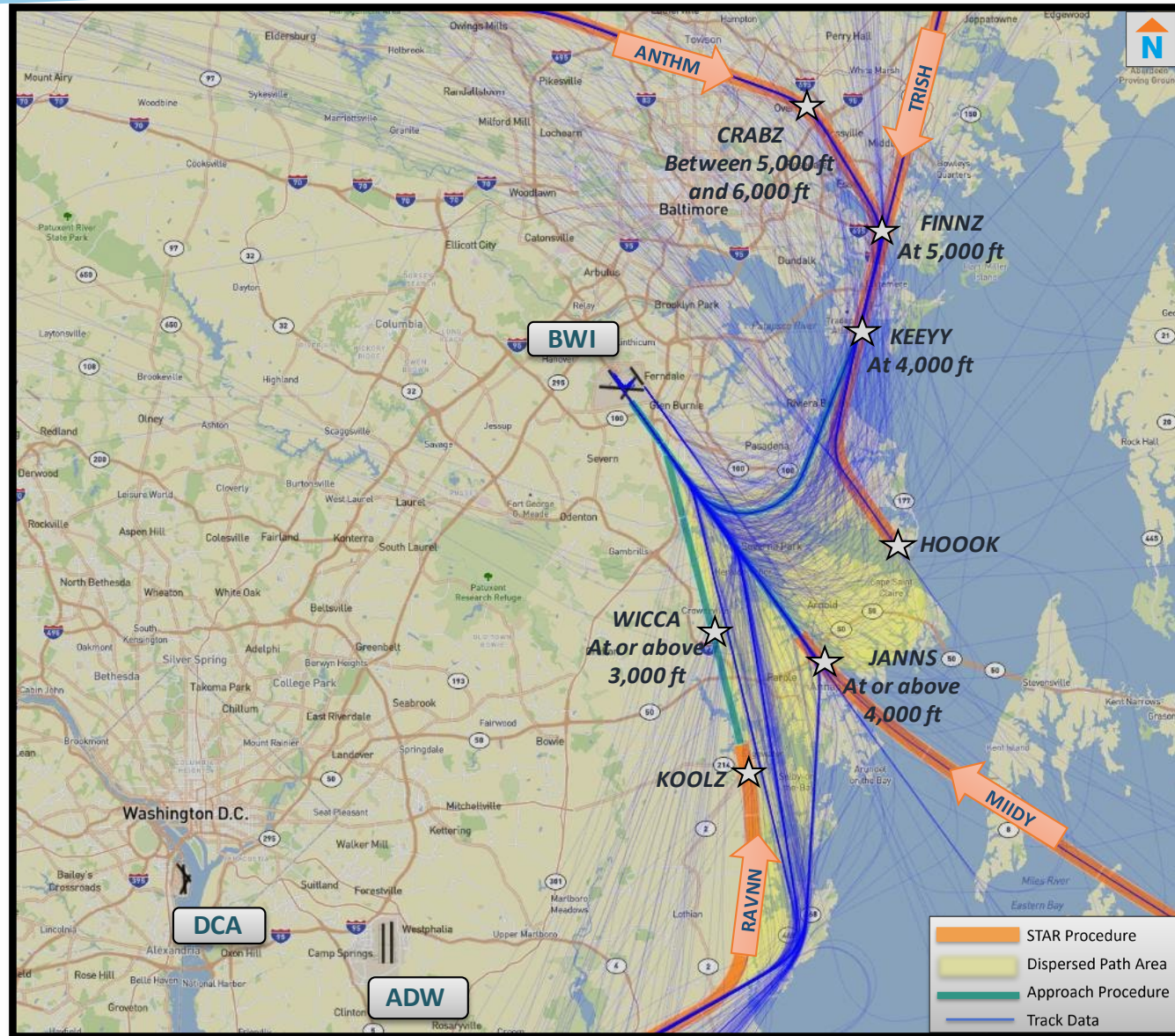


## Close-In View Proposed Departure Procedures Runway 28



- This board shows all proposed SIDs for aircraft departing from Runway 28 from a close view.
- Proposed SIDs were designed utilizing pre-Metroplex flight tracks and existing noise abatement procedures.
- ARWEN waypoint is used for aircraft flying the DUKPN departure procedure.
- Radar data shown is a sample of jet traffic from Summer 2019.

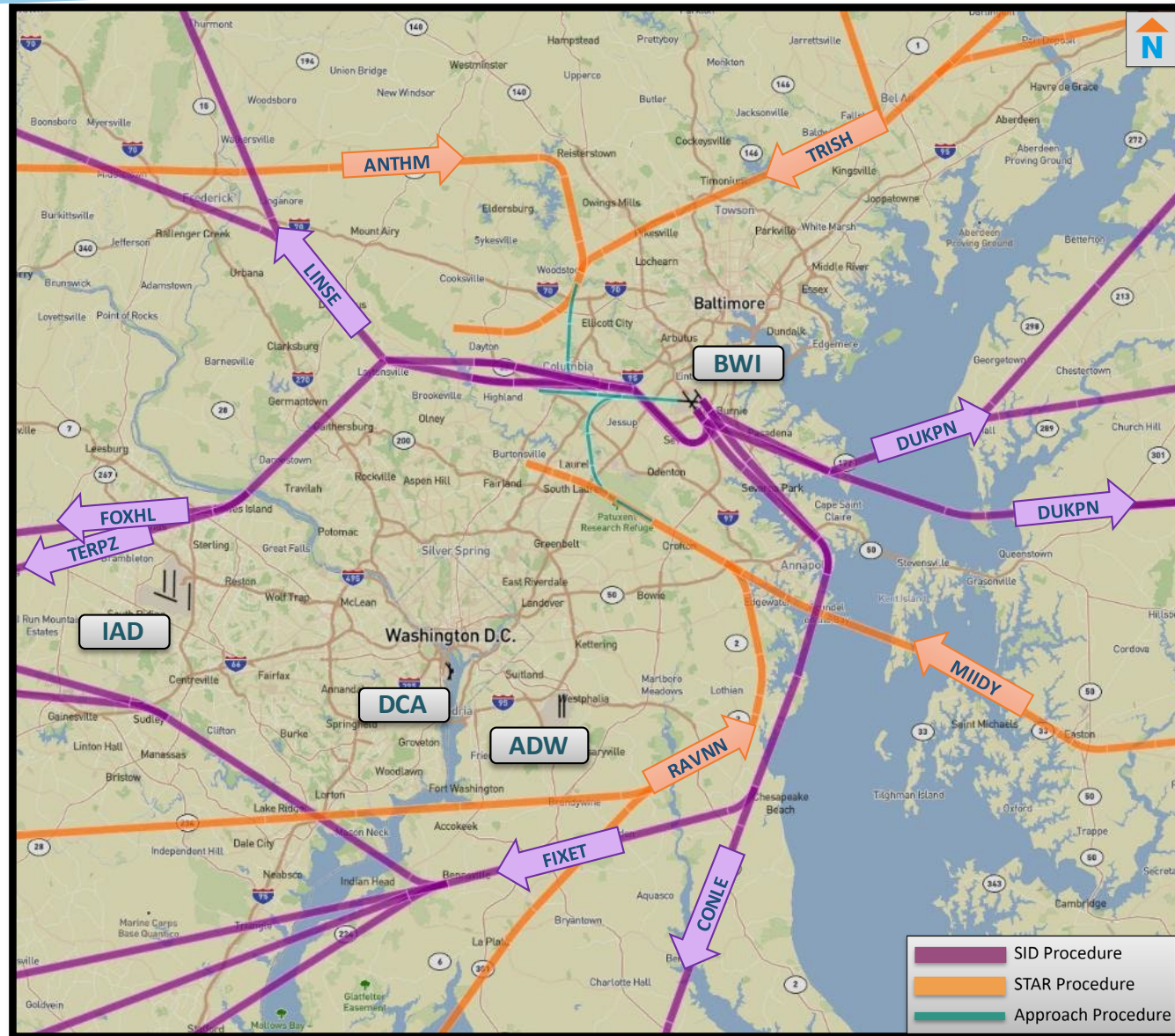




## Close-In View Proposed Arrival Procedures Runway 33L and Runway 33R

- This board shows all proposed STARs for aircraft arriving on Runway 33L and Runway 33R from a close view.
- Aircraft are given direction from ATC for landing, either using vectors or an RNP procedure.
- For aircraft that are guided to land using vectors, they fly to a waypoint along the STAR and are then given a heading to land.
- Aircraft assigned the RNP procedure will fly a continuous path to the runway.
- Proposed ANTHM STAR updated to meet procedure design criteria.
- Radar data shown is a sample of jet traffic from Summer 2019.

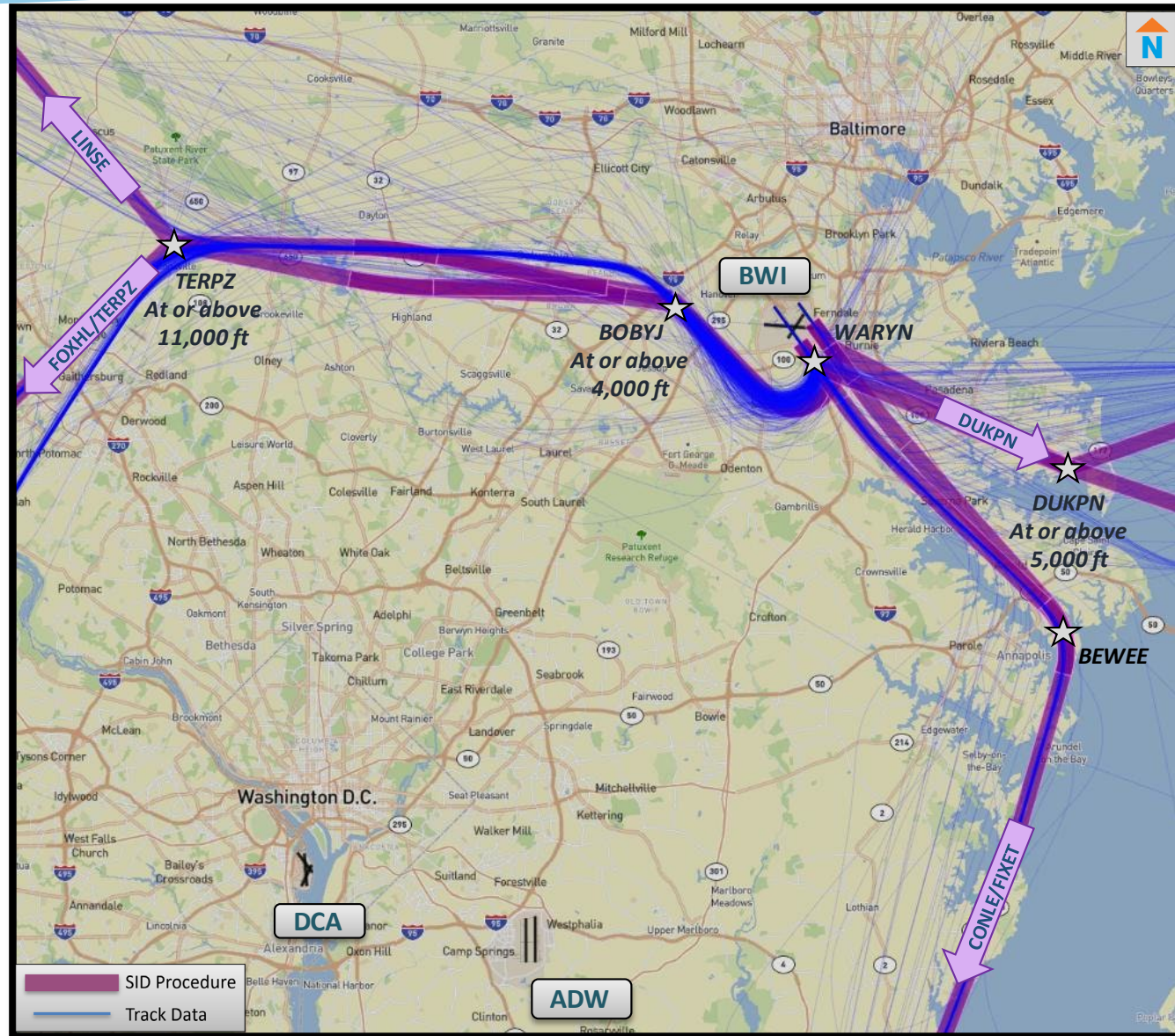




## Overview Map Proposed Departure Procedures Runway 15L and Runway 15R and Proposed Arrival Procedures Runway 10

- This board shows a common runway configuration at BWI, landing on Runway 10 and departing on Runway 15L and Runway 15R.
- Aircraft use this configuration most often when winds are from the south and southeast.
- Aircraft fly to a waypoint along the STAR and are then given a heading to land, called a vector.
- Departing aircraft follow a published SID to guide them out of the Baltimore area.



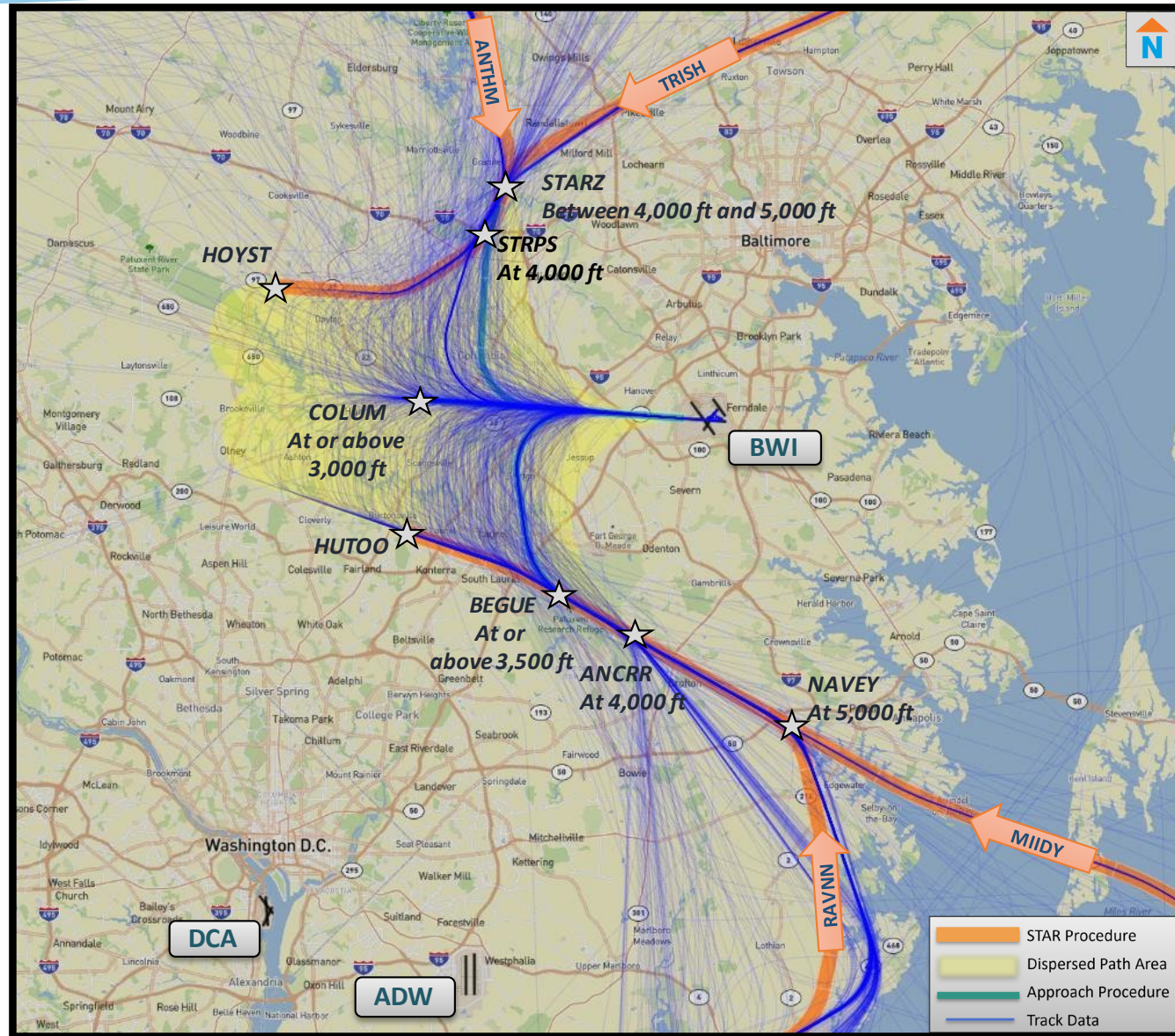


## Close-In View Proposed Departure Procedures Runway 15L and Runway 15R

- This board shows all proposed SIDs for aircraft departing from Runway 15R and Runway 15L from a close view.
- Proposed SIDs were designed utilizing pre-Metroplex flight tracks and existing noise abatement procedures.
- The WARYN waypoint was included for adherence to voluntary noise abatement procedures.
- Aircraft fly over WARYN before turning.
- Radar data shown is a sample of jet traffic from Summer 2019.



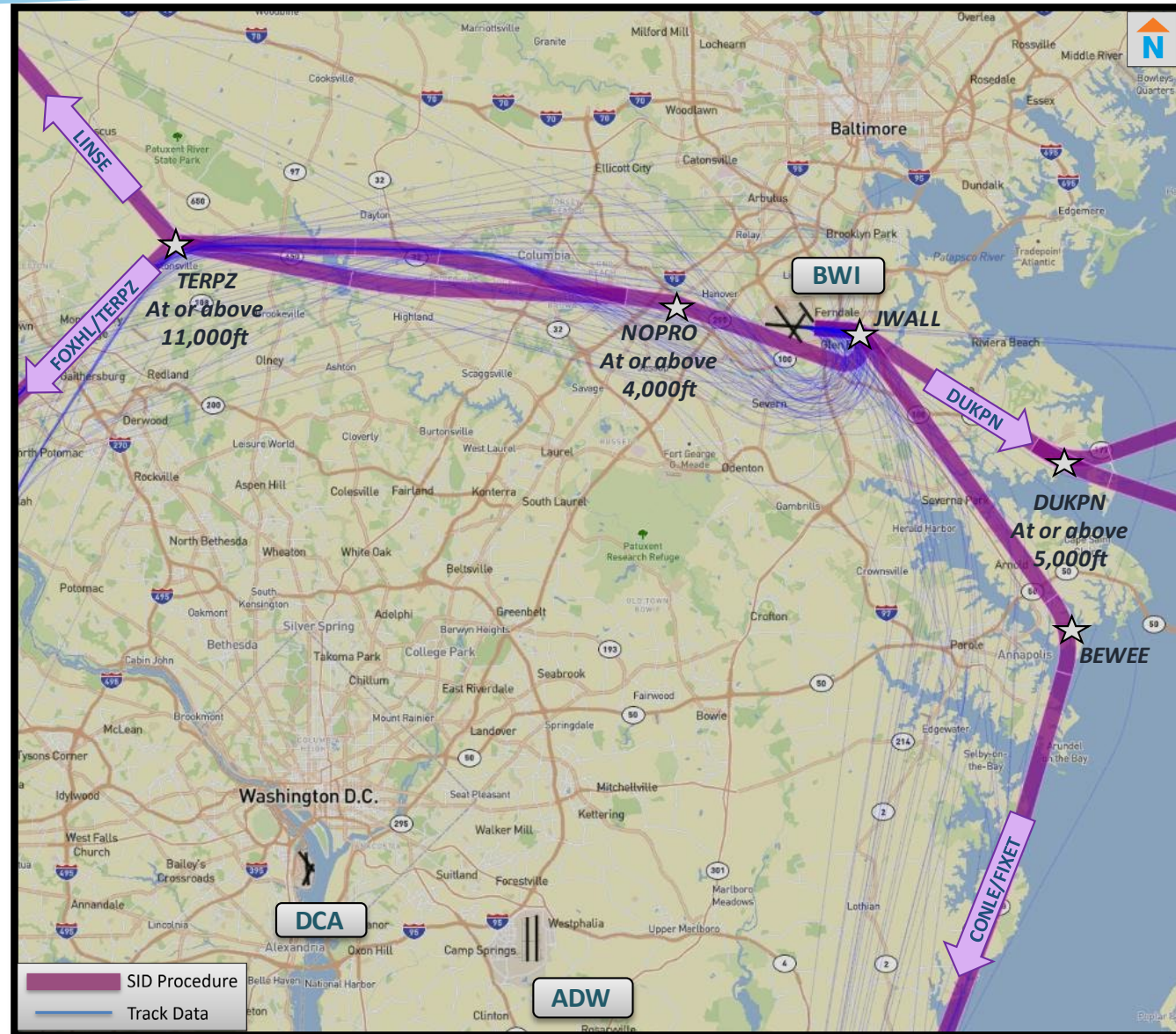
## Overview Map Proposed Arrival Procedures Runway 10



- This board shows all proposed STARs for aircraft arriving on Runway 10 from a close view.
- Aircraft are given direction from ATC for landing, either using vectors or an RNP procedure.
- For aircraft that are guided to land using vectors, they fly to a waypoint along the STAR and are then given a heading to land.
- Aircraft assigned the RNP procedure will fly a continuous path to the runway.
- Radar data shown is a sample of jet traffic from Summer 2019.



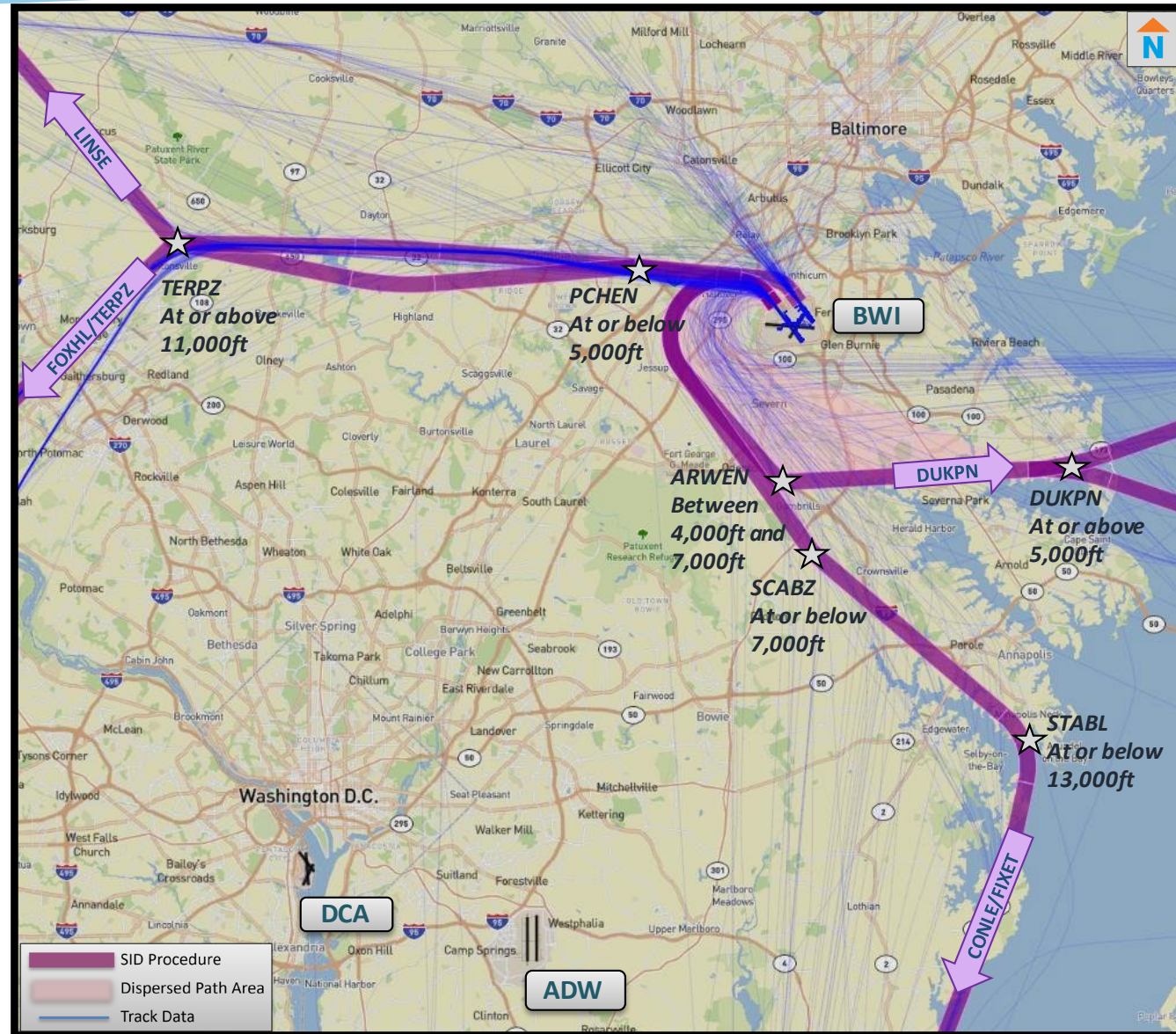
## Overview Map Proposed Departure Procedures Runway 10



- This board shows all proposed SIDs for aircraft departing from Runway 10 from a close view.
- The JWALL waypoint was included for adherence to voluntary noise abatement procedures which allows aircraft to “climb via”, reducing aircraft level-offs along the departure path.
- Aircraft fly over JWALL before turning.
- Runway 10 departures are infrequent and used during times of other runway construction, weather or operational need.
- Radar data shown is a sample of jet traffic from Summer 2019.

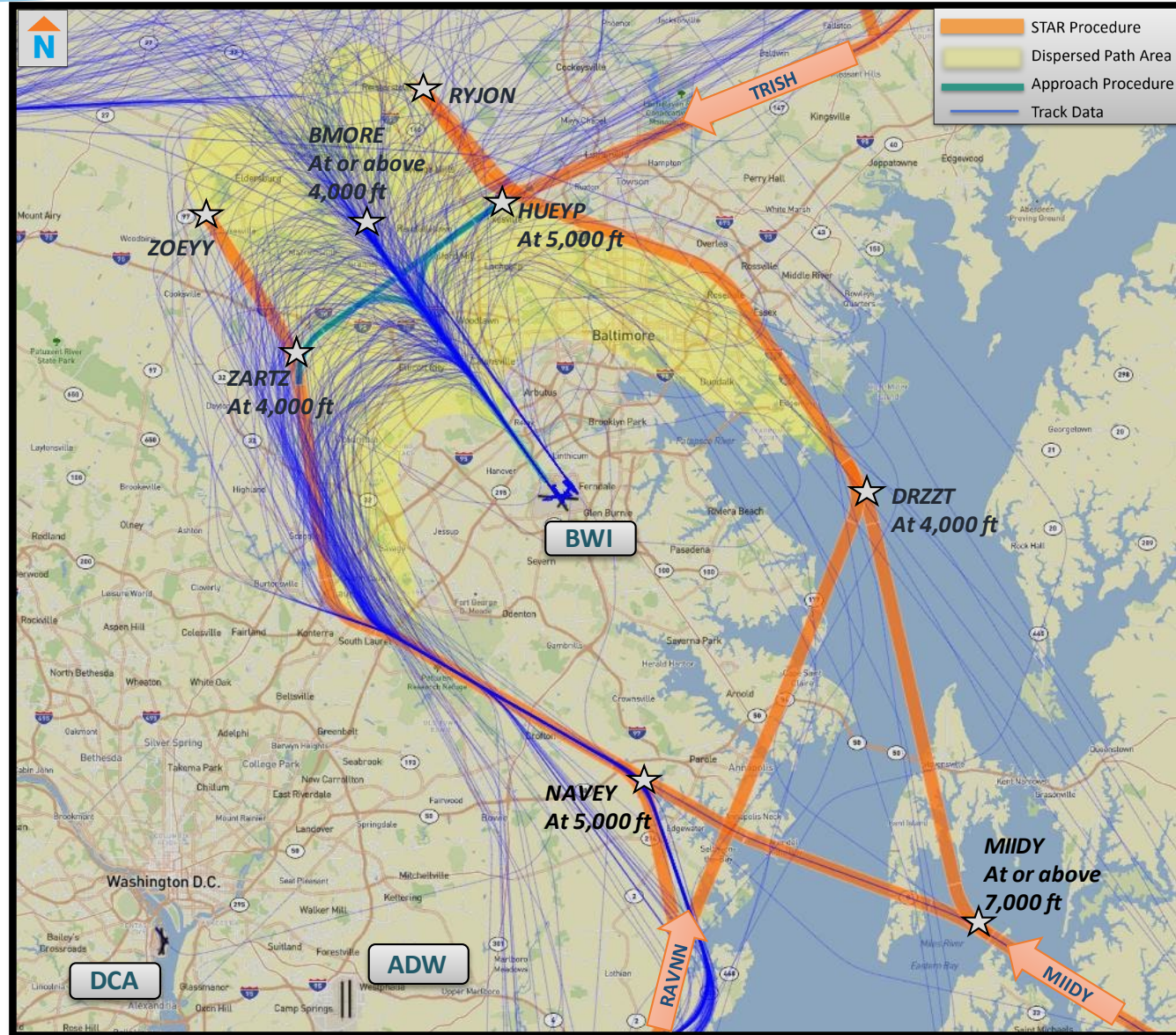


## Overview Map Proposed Departure Procedures Runway 33L and Runway 33R



- This board shows all proposed SIDs for aircraft departing from Runway 33L and Runway 33R from a close view.
- “Climb-via” added to departure procedures to reduce level-offs.
- The waypoint STABL moved to meet procedure design criteria.
- Radar data shown is a sample of jet traffic from Summer 2019.

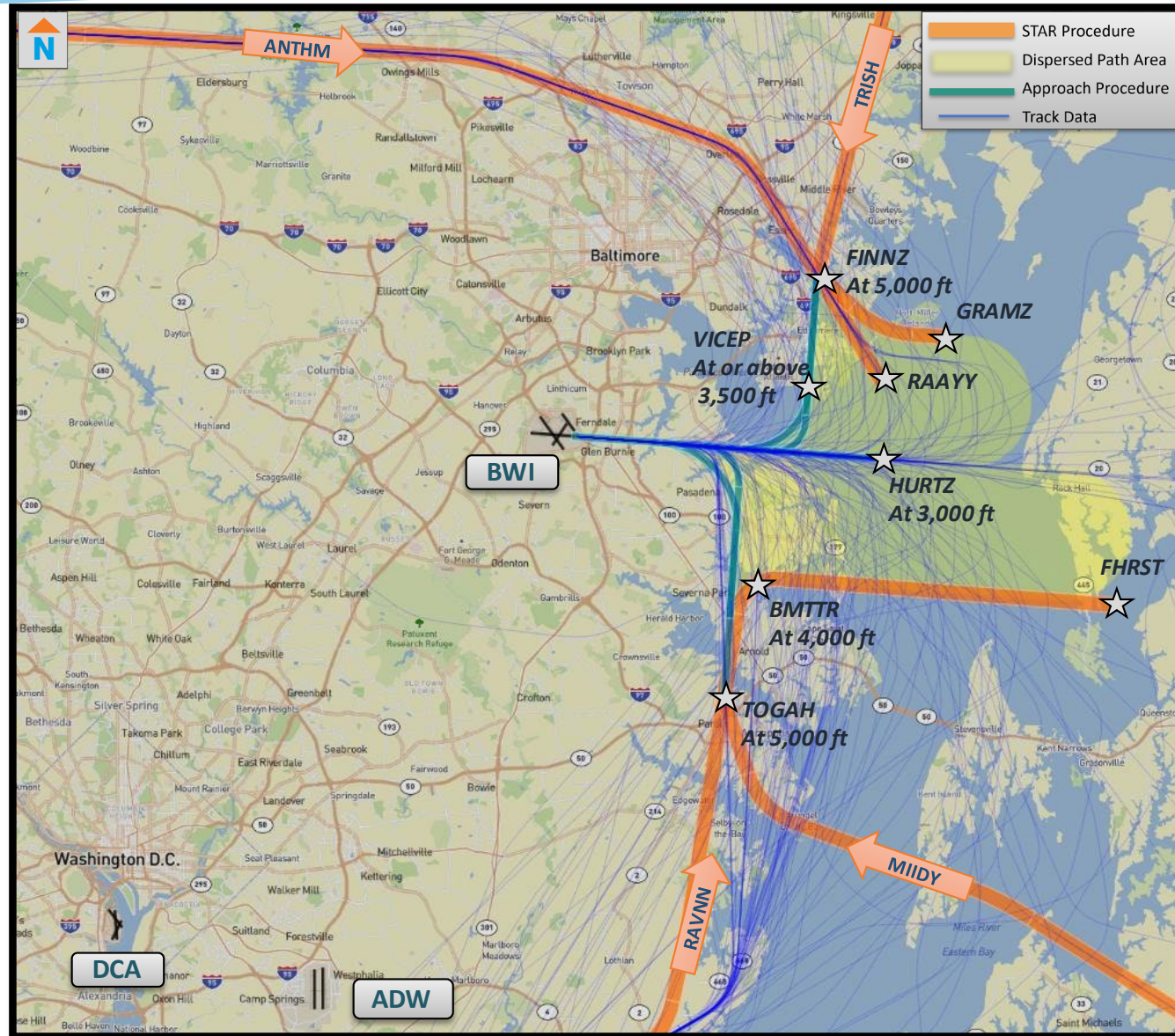




## Overview Map Proposed Arrival Procedures Runway 15L and Runway 15R

- This board shows all proposed STARs for aircraft arriving on Runway 15L and Runway 15R from a close view.
- Aircraft are given direction from ATC for landing, either using vectors or an RNP procedure.
- For aircraft that are guided to land using vectors, they fly to a waypoint along the STAR and are then given a heading to land.
- Aircraft assigned the RNP procedure will fly a continuous path to the runway.
- Radar data shown is a sample of jet traffic from Fall 2019.



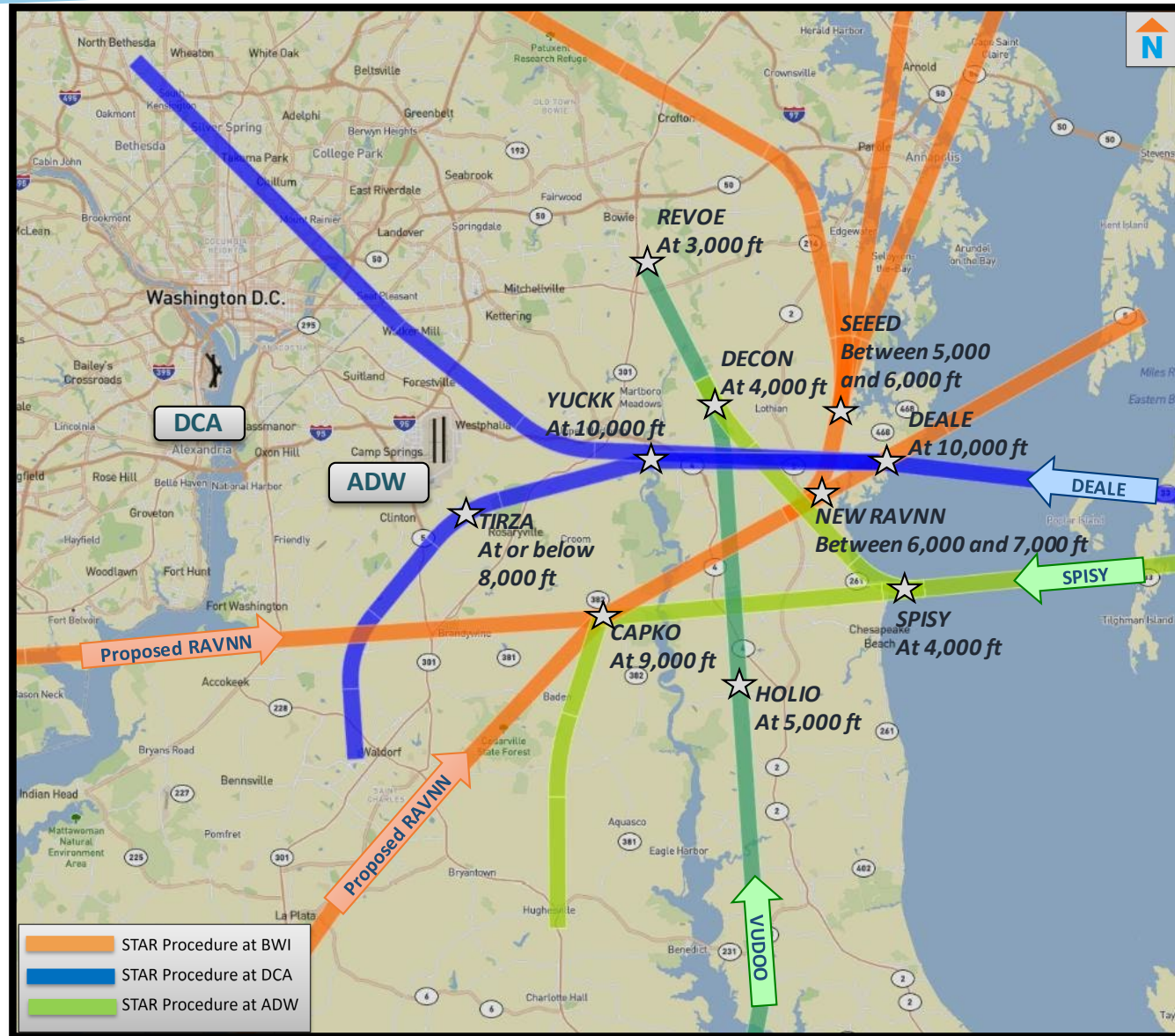


## Close-In View Proposed Arrival Procedures Runway 28

- This board shows all proposed STARs for aircraft arriving on Runway 28 from a close view.
- Aircraft are given direction from ATC for landing, either using vectors or an RNP procedure.
- For aircraft that are guided to land using vectors, they fly to a waypoint along the STAR and are then given a heading to land.
- Aircraft assigned the RNP procedure will fly a continuous path to the runway.
- Waypoint altitudes adjusted to meet design criteria.
- Radar data shown is a sample of jet traffic from Summer 2019.



## Overview Map Proposed RAVNN Arrival Procedure

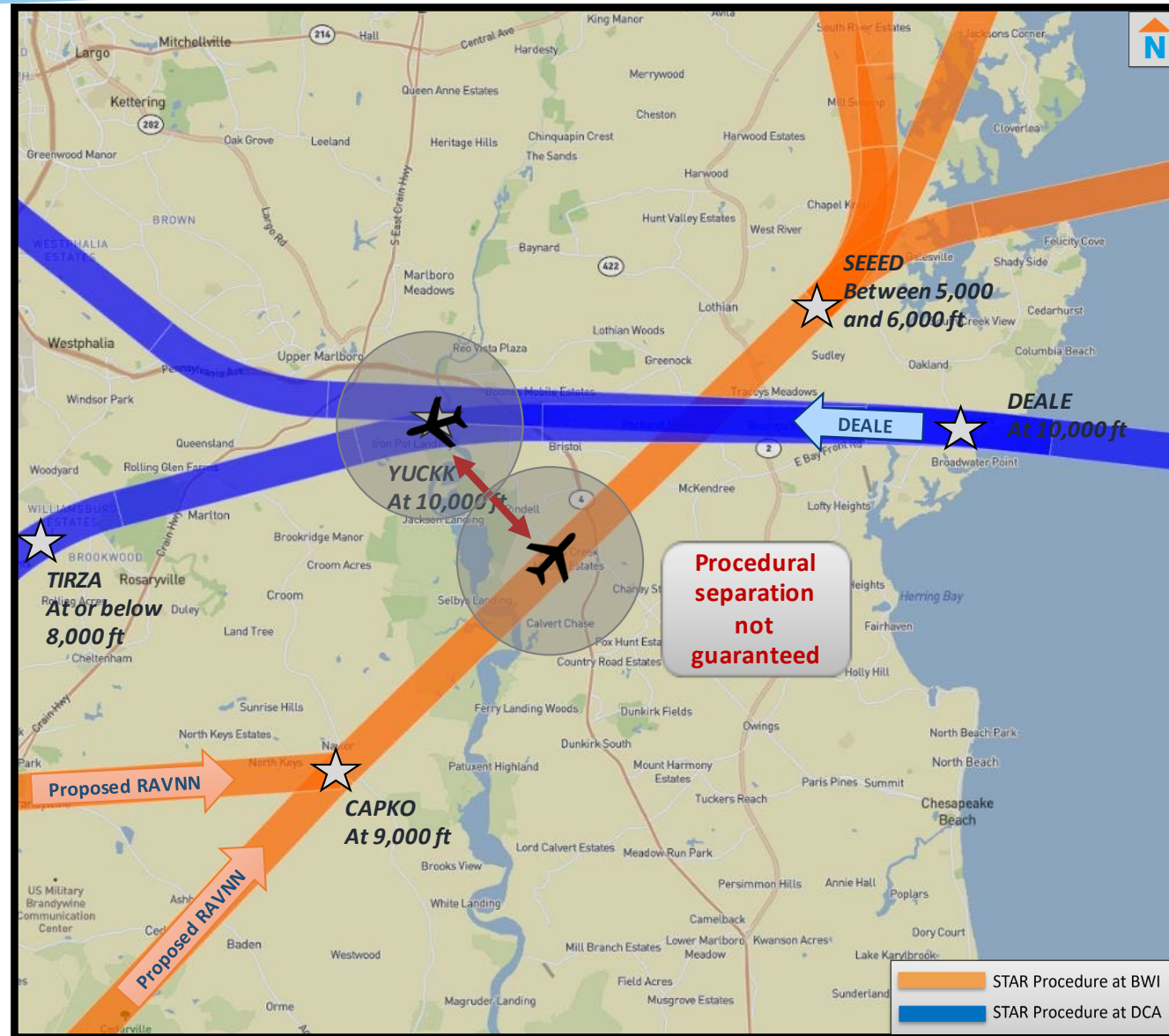


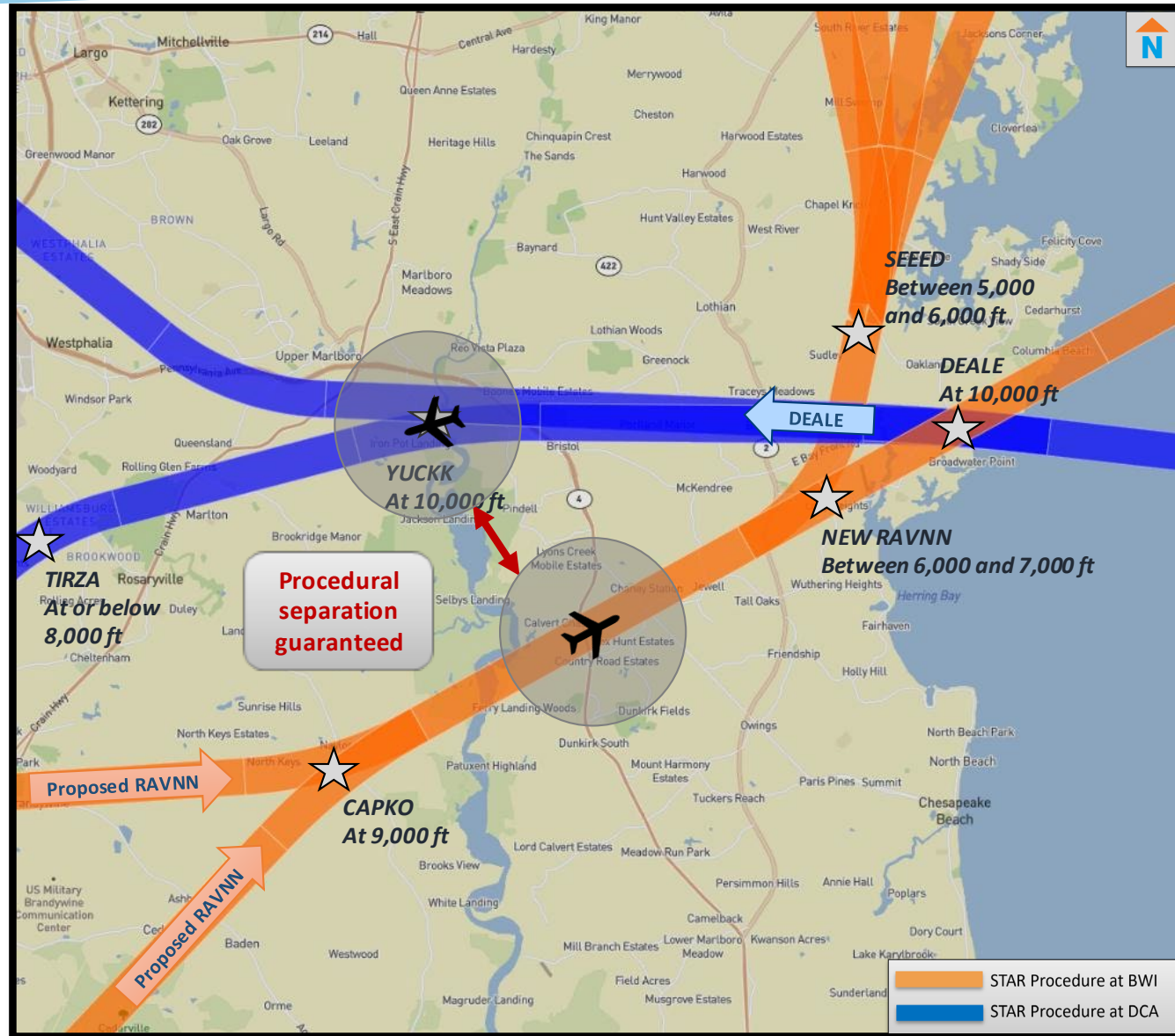
- This board shows STARs for three airports; Washington Dulles, Andrews Airforce Base, and BWI. Note: BWI airport is not visible on this board.
- The STARs for these airports operate in the same vicinity; changing one STAR influences the other STARs due to their proximity.
- The proposed RAVNN STAR includes updates to deconflict it from aircraft on the DEALE procedure.
- Aircraft on the RAVNN and DEALE procedures will be separated vertically where the procedures cross.
- The HOLIO waypoint on the VUDOO flight procedure helps deconflict by having aircraft fly under the RAVNN procedure.
- Air traffic controllers may vector arrivals to ADW off of the procedure prior to the REVOE waypoint.



## Overview Map Proposed RAVNN Arrival Procedure - BWI Roundtable Proposal

- This board shows the proposed BWI Roundtable RAVNN procedure.
- This board shows a close in view of the DEALE and RAVNN STARs
- The proposed location of the RAVNN STAR to DEALE does not meet procedure design requirements.
- The location of RAVNN and DEALE in this configuration does not guarantee aircraft on each procedure will meet the required separation.
- The grey cylinder represents the lateral separation required between aircraft, which is three nautical miles from each wing, nose and tail.

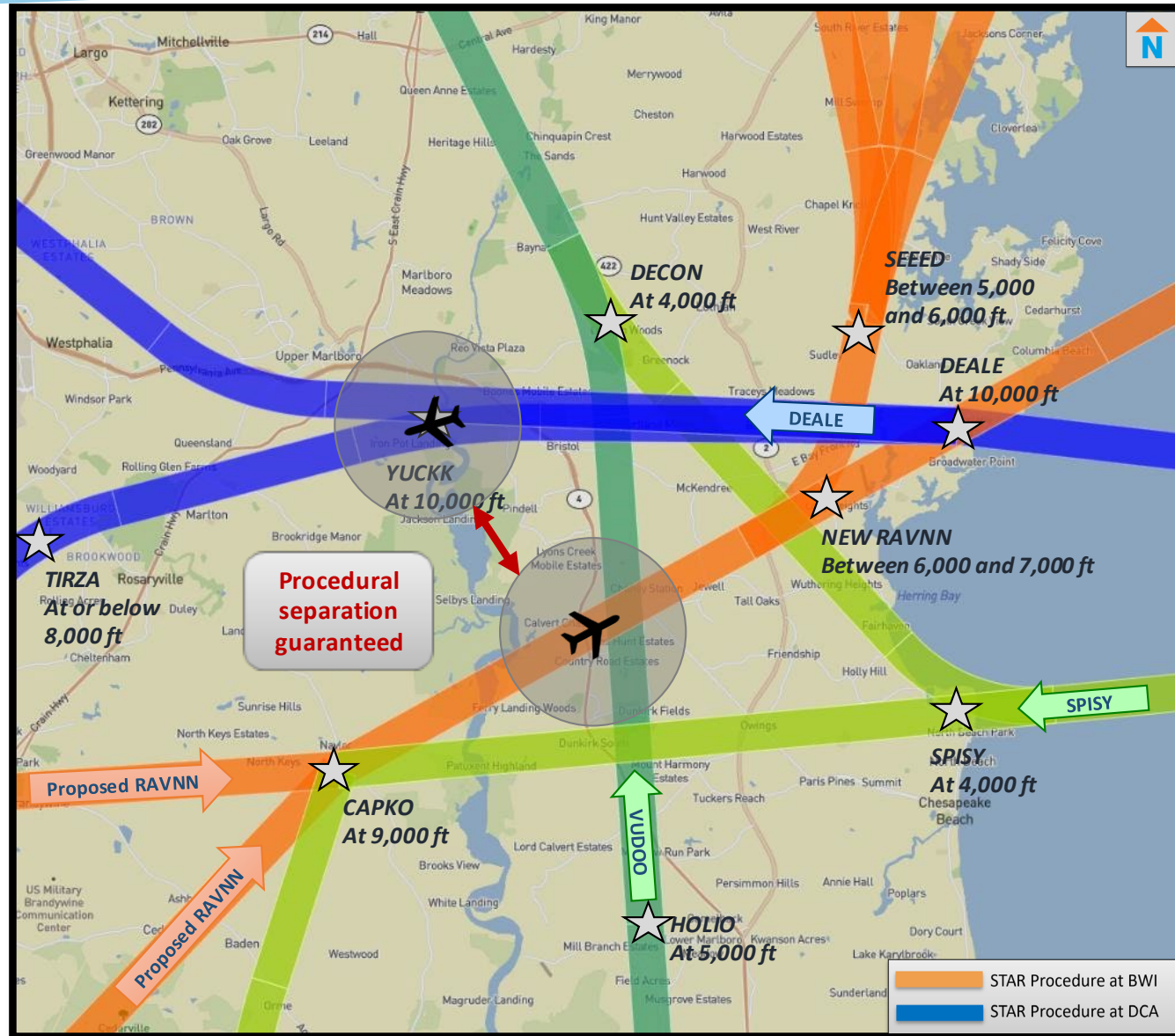




## Overview Map Proposed RAVNN Arrival Procedure - FAA Proposal

- This board shows the proposed FAA-designed RAVNN procedure with the existing DEALE STAR.
- Moving RAVNN south of the BWI Roundtable proposal ensures procedure design criteria are met for separation of aircraft on the DEALE arrival.
- The grey cylinder represents the lateral separation required between aircraft, which is three nautical miles from each wing, nose and tail.
- At the two locations where these procedures cross, aircraft are separated vertically to ensure separation requirements are met.





## Overview Map Proposed RAVNN Arrival Procedure - FAA Proposal

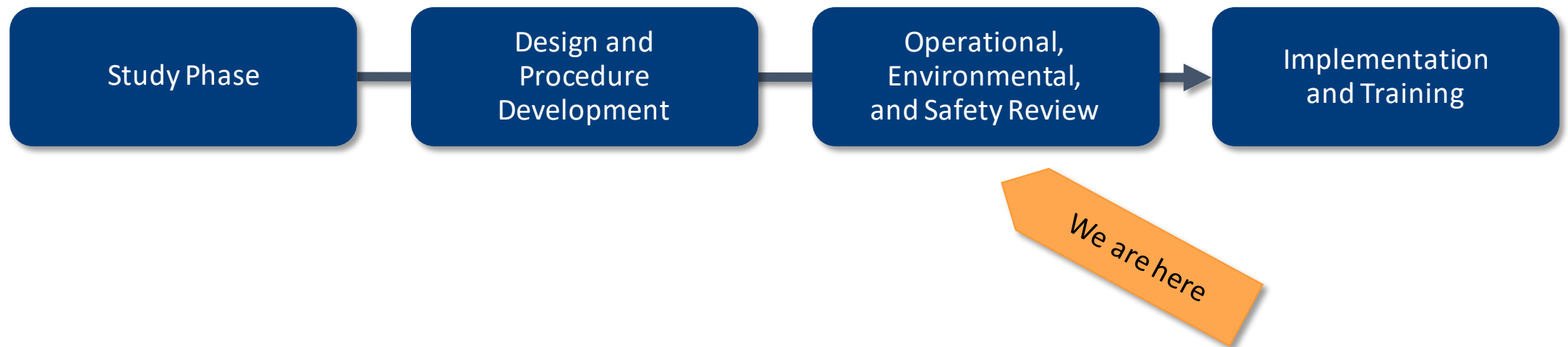
- This board shows the proposed FAA-designed RAVNN procedure with the existing DEALE STAR.
- Moving RAVNN south of the BWI Roundtable proposal ensures procedure design criteria are met for separation of aircraft on the DEALE arrival.
- The grey cylinder represents the lateral separation required between aircraft, which is three nautical miles from each wing, nose and tail.
- At the two locations where these procedures cross, aircraft are separated vertically to ensure separation requirements are met.
- Air traffic controllers may vector arrivals to ADW off of the procedure prior to the REVOE waypoint.
- The area shown on the map includes air traffic sectors controlled by 5 separate air traffic controllers.



# FAA Environmental Process and Next Steps



# Study Process





# Environmental Process

- NEPA requires that the FAA evaluate environmental and related social and economic effects of a proposed action.
- The review includes a Preliminary Technical Review, a Preliminary Environmental Review, an Internal Review, and choice of appropriate NEPA review, which could include Extraordinary Circumstances and Significant Impacts.

## Consideration of a Proposed Action under the National Environmental Policy Act (NEPA)

NEPA requires that the FAA evaluate the environmental and related social and economic effects of a proposed action.

### Preliminary Technical Review

FAA conducts an internal technical review before deciding to consider moving forward with an environmental review.

### Preliminary Environmental Review

FAA conducts an internal environmental review to evaluate any potential environmental concerns.

### Internal Review and choice of appropriate level of NEPA review

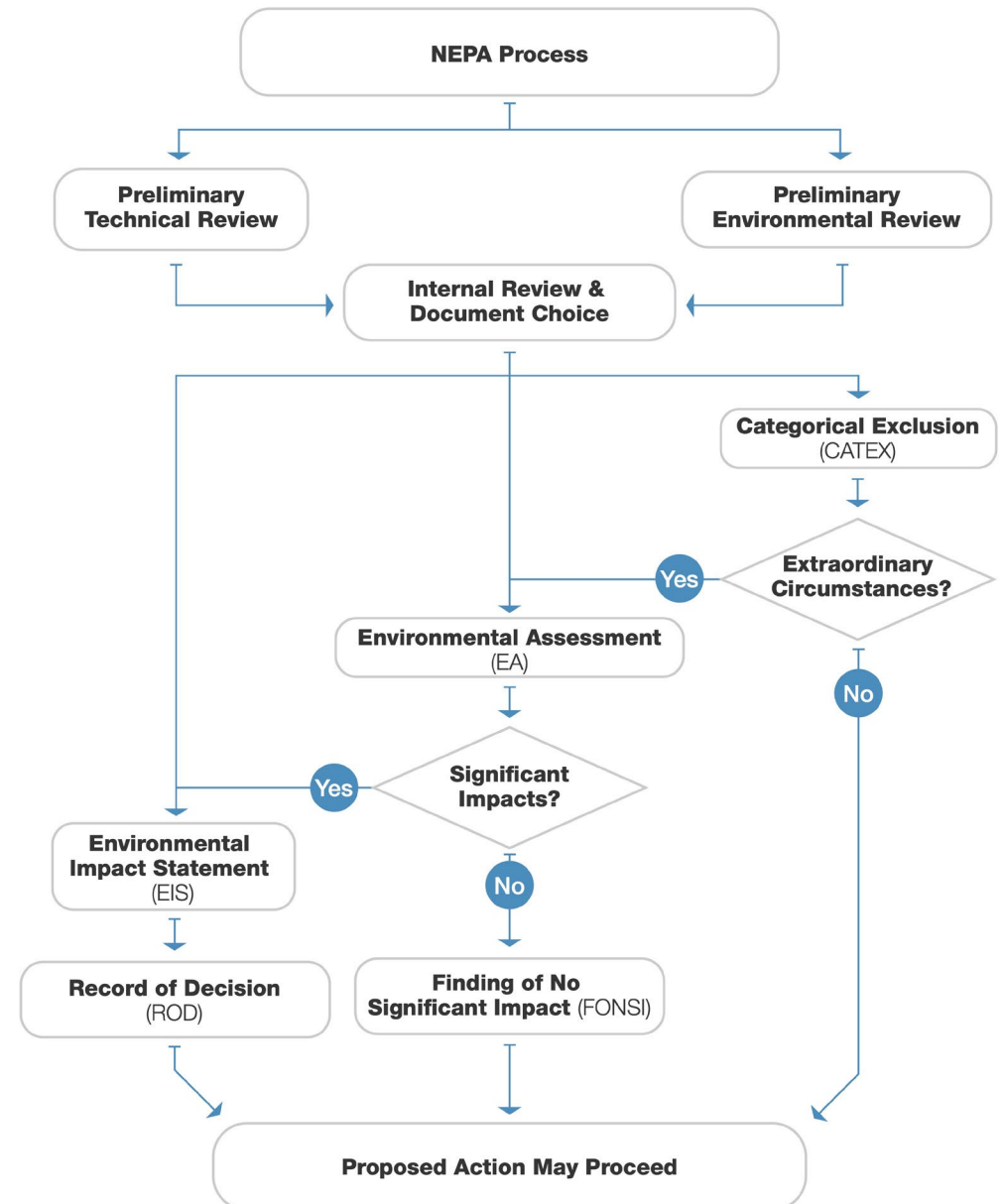
Internal analysis such as the noise screening reports as well as input from the public are used to assist the FAA in determining the appropriate level of NEPA review to conduct.

### Extraordinary Circumstances

Paragraph 5-2 of FAA Order 1050.1F identifies the range of factors which define Extraordinary Circumstances.

### Significant Impacts

The FAA uses thresholds that serve as specific indicators of significant impact for some environmental impact categories. FAA proposed actions that would result in impacts at or above these thresholds require the preparation of an EIS, unless impacts can be reduced below threshold levels.



# Next Steps

- Environmental analysis needs to be completed
- FAA will update the Roundtable on progress of the environmental analysis





# Discussion and Questions

