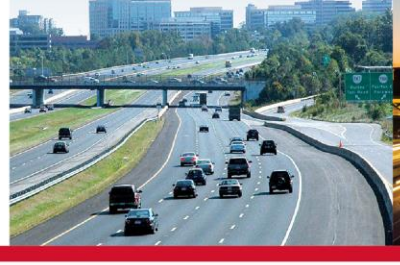
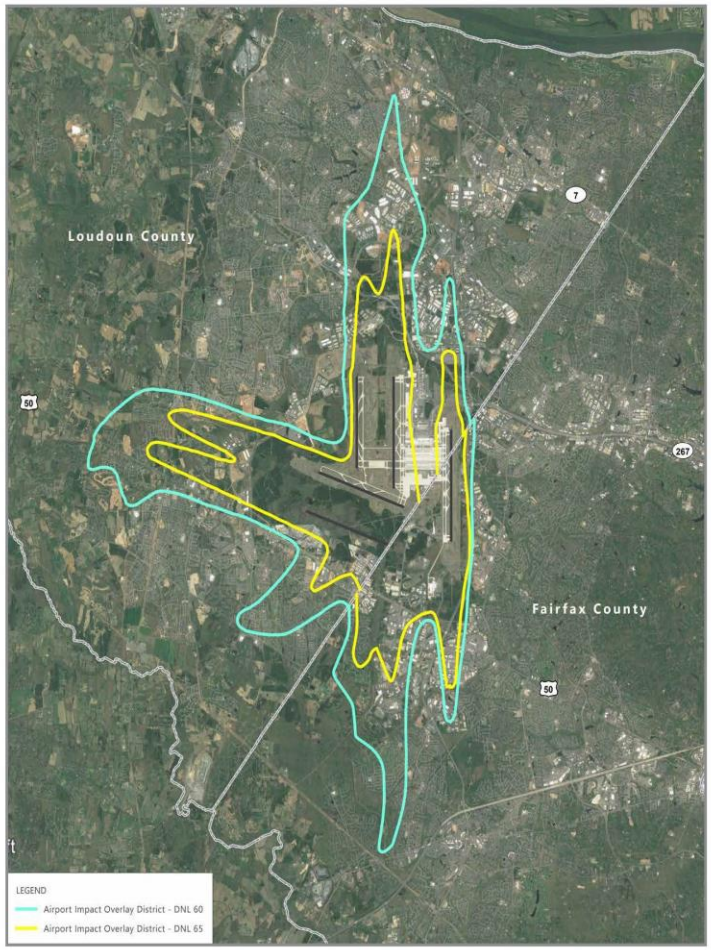



Washington Dulles International Airport
Aircraft Noise Contour Map Update

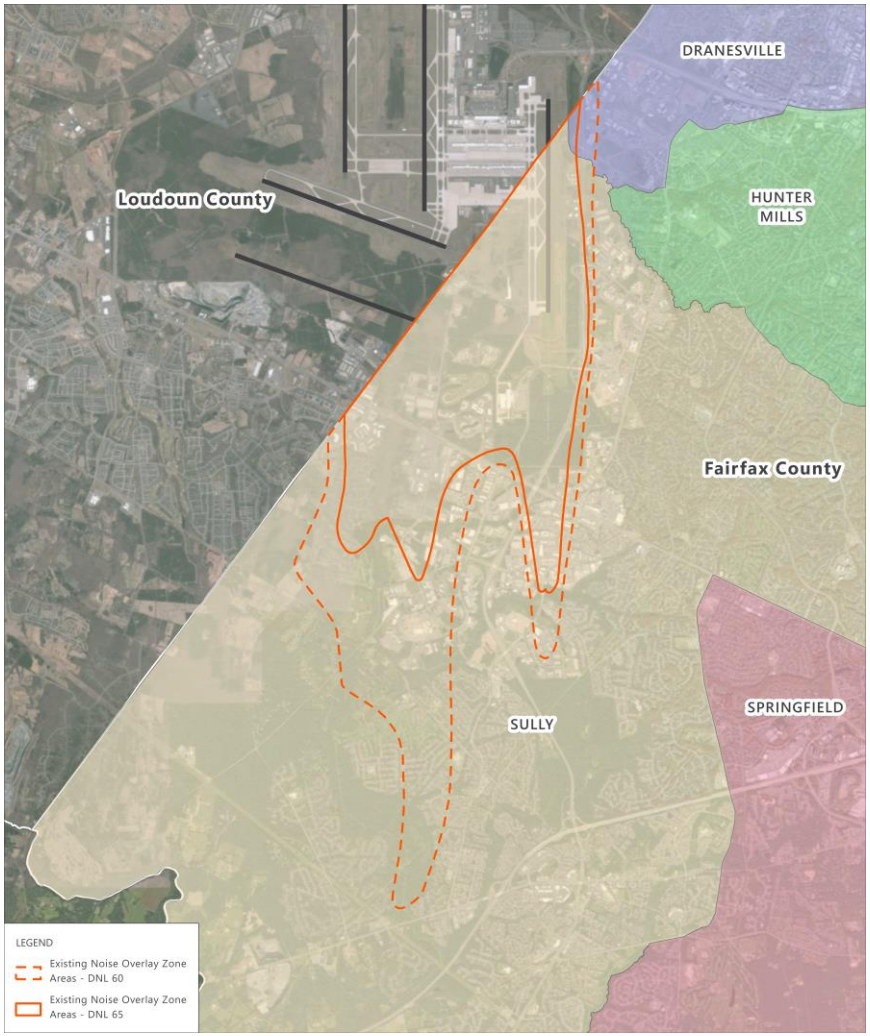
Metropolitan Washington Airports Authority
Presentation to the
Fairfax County Board of Supervisors
3/26/19

Existing Airport Noise Impact Overlay Districts for Loudoun and Fairfax

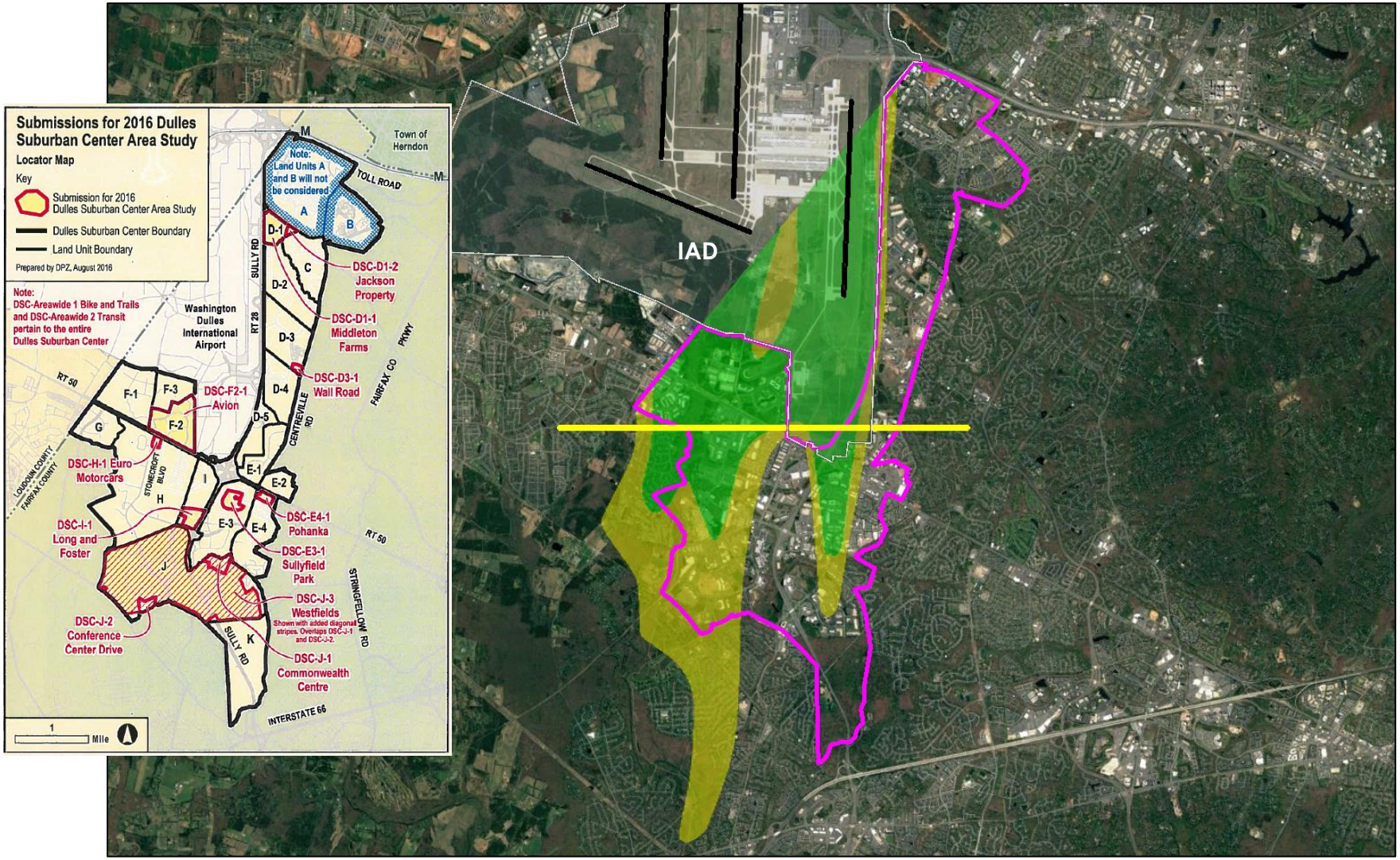


SOURCES: Google Earth Pro, Image Landsat/Copernicus, Data SIO, NOAA, U.S. Navy, NGA, GEBCO, 2010 (aerial photography); Loudoun County Open Geospatial Data, March 2018 (noise overlay contours); Fairfax County Open Geospatial Data, March 2018 (noise overlay contours).

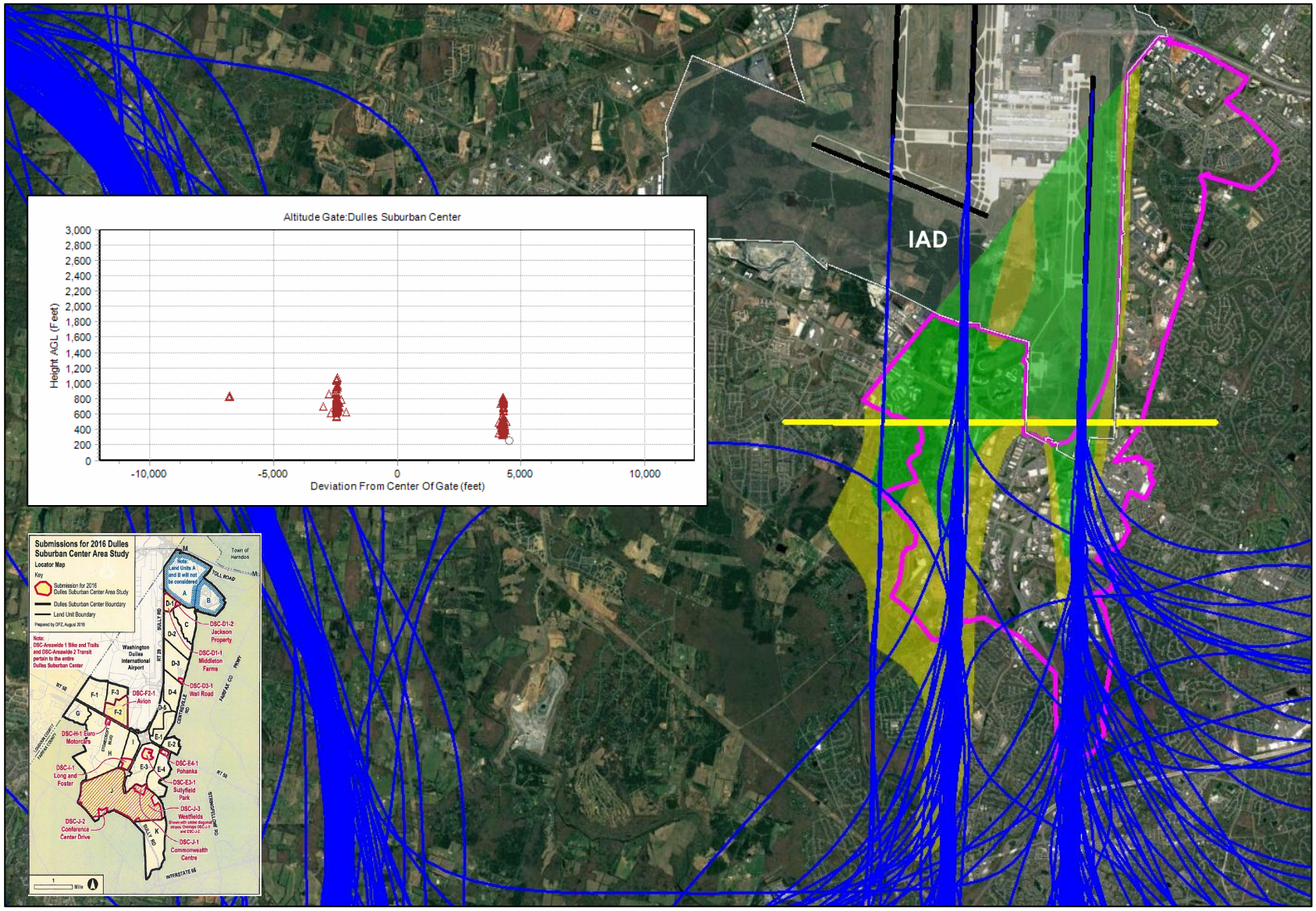
Fairfax County Board of Supervisor Districts – Current Airport Noise Overlay District



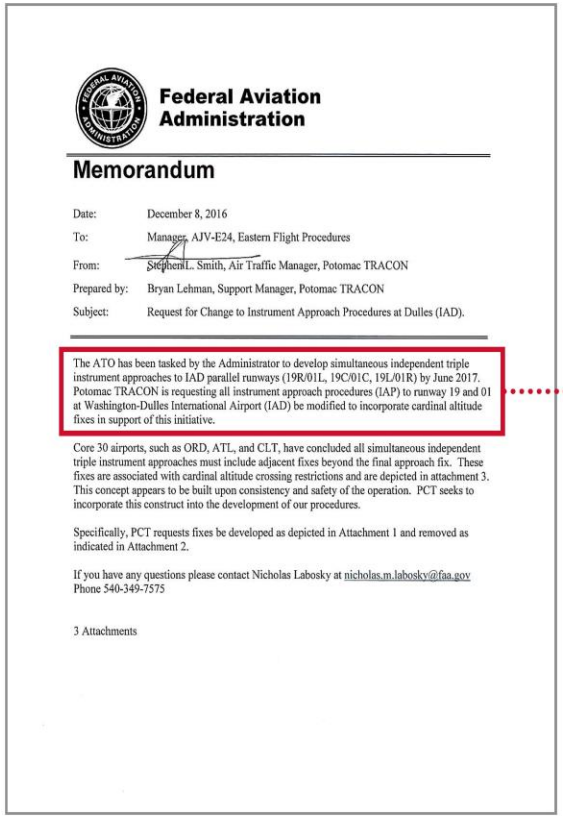
Dulles & Fairfax County DNL 60 and 65 Contours and Dulles Suburban Center Area (Present)



Dulles: Typical North Flow Arrivals over Fairfax County



Why Update Now?



Federal Aviation Administration

Memorandum

Date: December 8, 2016

To: Manager, AJV-E24, Eastern Flight Procedures

From: Stephen L. Smith, Air Traffic Manager, Potomac TRACON

Prepared by: Bryan Lehman, Support Manager, Potomac TRACON

Subject: Request for Change to Instrument Approach Procedures at Dulles (IAD).

The ATO has been tasked by the Administrator to develop simultaneous independent triple instrument approaches to IAD parallel runways (19R/01L, 19C/01C, 19L/01R) by June 2017. Potomac TRACON is requesting all instrument approach procedures (IAP) to runway 19 and 01 at Washington-Dulles International Airport (IAD) be modified to incorporate cardinal altitude fixes in support of this initiative.

Core 30 airports, such as ORD, ATL, and CLT, have concluded all simultaneous independent triple instrument approaches must include adjacent fixes beyond the final approach fix. These fixes are associated with cardinal altitude crossing restrictions and are depicted in attachment 3. This concept appears to be built upon consistency and safety of the operation. PCT seeks to incorporate this construct into the development of our procedures.

Specifically, PCT requests fixes be developed as depicted in Attachment 1 and removed as indicated in Attachment 2.

If you have any questions please contact Nicholas Labosky at nicholas.m.labosky@faa.gov Phone 540-349-7575

3 Attachments

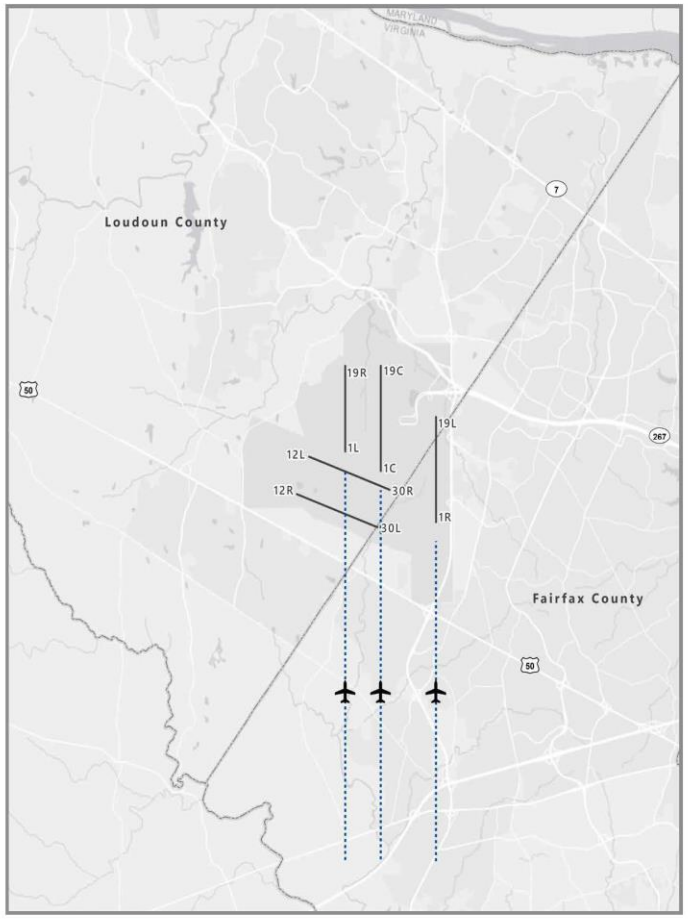
Aug. 9, 2017 – FAA Announces Triple Simultaneous Approaches at Washington Dulles (*)

The ATO has been tasked by the Administrator to develop simultaneous independent triple instrument approaches to IAD parallel runways (19R/01L, 19C/01C, 19L/01R) by June 2017. Potomac TRACON is requesting all instrument approach procedures (IAP) to runway 19 and 01 at Washington-Dulles International Airport (IAD) be modified to incorporate cardinal altitude fixes in support of this initiative.

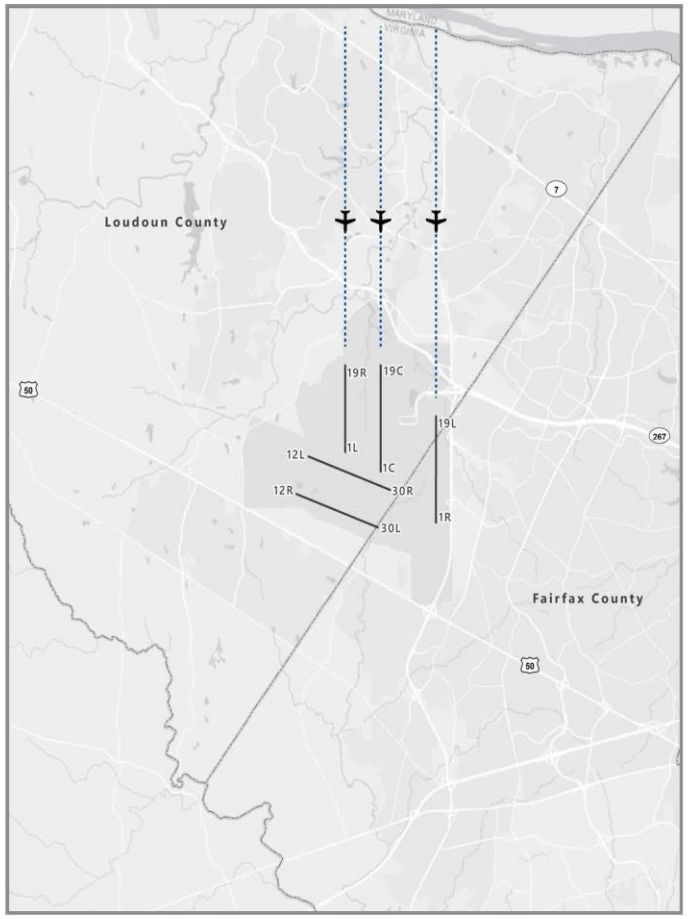
(*) With the implementation of FAA's NextGen across the national airspace, Washington Dulles' flight procedures will soon allow for triple simultaneous runway operations in North Flow and/or in South Flow during low visibility conditions.

Triple Simultaneous Approaches

North Flow Triple Approach



South Flow Triple Approach



SOURCES: Esri, HERE, DeLorme, MapmyIndia, OpenStreetMap Contributors, and the GIS User Community, January 2019 (basemap); U.S. Census Bureau, Geography Division, TIGER/Line Shapefiles, 2017 (place, county boundaries); Ricondo & Associates, Inc., February 2019 (approach, runways).

Changes To Be Addressed

Update the Dulles Airport noise contour map with stakeholder collaboration to reflect future changes in the aviation environment including:

Long-term FAA NextGen implementation

- Flight paths
- Runway use
- Airfield capacity

FAA air traffic control procedures

- Triple simultaneous operations
- Restricted airspace

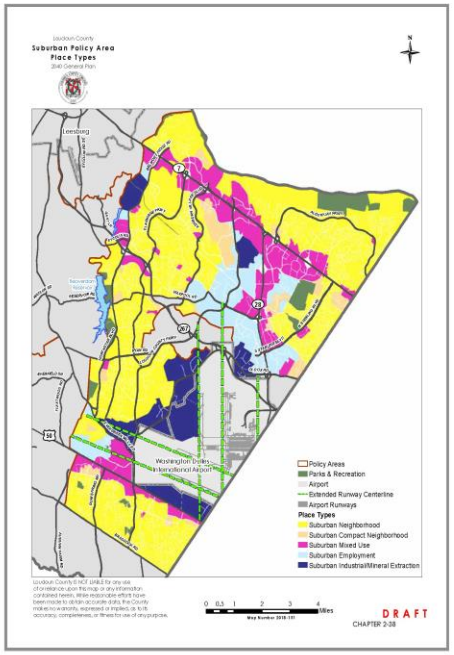
Airline operations

- Fleet mix

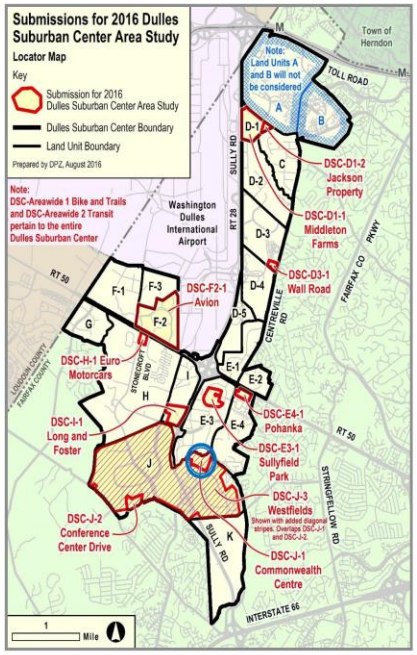
Airfield development

- Terminal
- Cargo

Objective



SOURCES: Loudoun County, Envision Loudoun, *DRAFT Loudoun 2040 General Plan*. October 23, 2018.



SOURCES: Johnson, Clara. Fairfax County, Department of Planning and Zoning. DSC-J-1 *Commonwealth Centre*, November 7, 2016. Retrieved at https://www.fairfaxcounty.gov/planning-zoning/sites/planning-zoning/files/assets/documents/compplanamend/dullessuburbancenter/presentations/advisorygroup/november%207,%202016/dsc-j-1_staff_presentation.pdf on February 11, 2019.

- Provide accurate information to local jurisdictions to guide effective land use decisions for today and in the future
- Provide local jurisdictions with a land use compatibility planning tool to inform:
  - Loudoun County: Envision Loudoun
  - Fairfax County: Dulles Suburban Area Plan

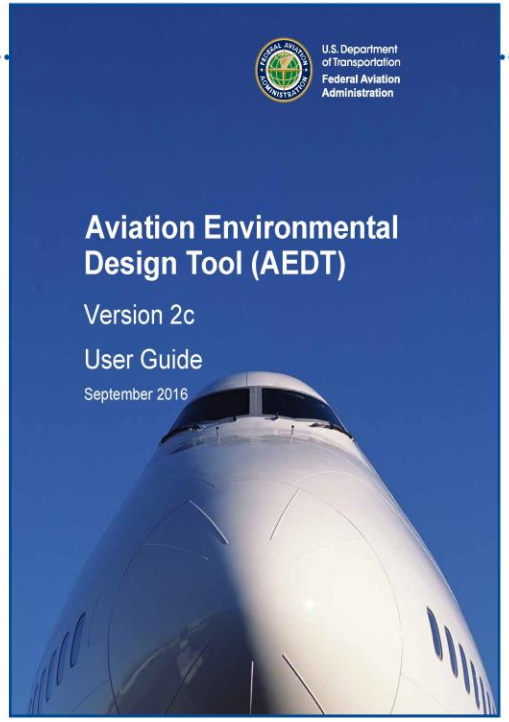
FAA's Airport Environmental Decision Tool (AEDT)

- FAA-developed and adopted software tool for computation of noise contours
- Accurately computes noise contours based on many operational characteristics

INPUT

PHYSICAL
For example:
- Runway layouts
- Airfield elevation
- Atmospheric conditions
- Flight tracks

OPERATIONAL
For example:
- Aircraft types
- Aircraft operation numbers
- Airport use by runway
- Flight track



OUTPUT

- Noise exposure contours
- Location-specific detailed reports
- Emissions and fuel consumption

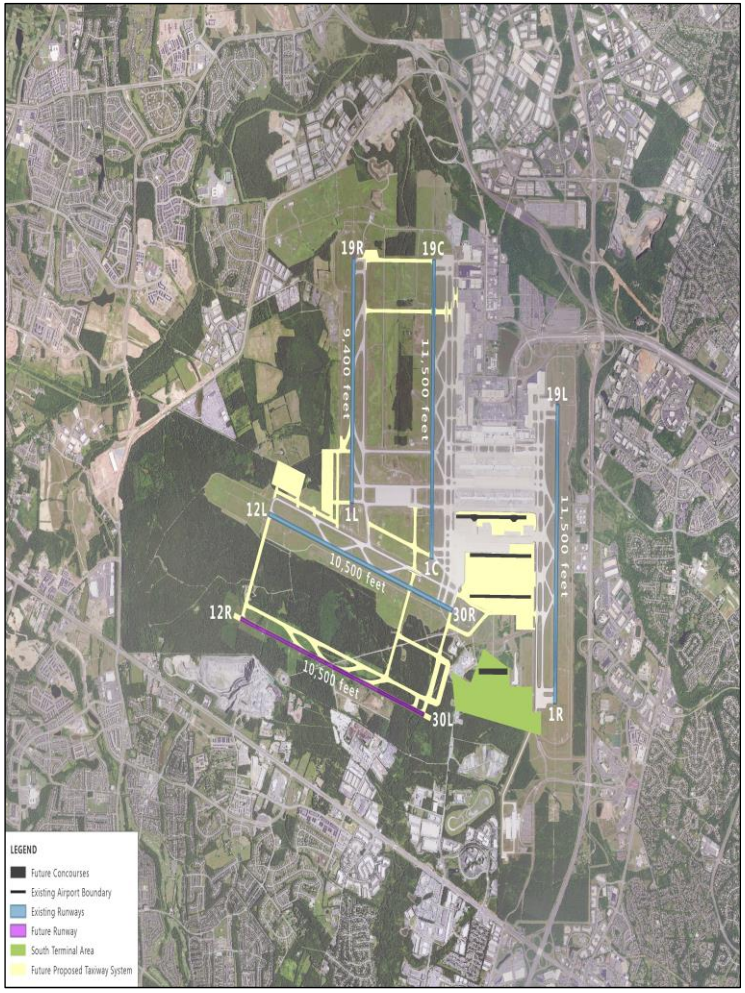
Stakeholder & Public Input

APRIL 4, 2018	Working Group Kick-off Meeting
APRIL 20, 2018	Working Group Airfield Configurations, Annual Service Volume Methodology Discussion
JUNE 6, 2018	Working Group Inventory and Existing Condition Operations Discussion
JUNE 27 & 28, 2018	Public Information Workshops #1 and #2
AUGUST 13, 2018	Working Group Preliminary Annual Service Volume and Ultimate Conditions Runway Use/Flight Path Patterns Discussion
SEPTEMBER 25, 2018	Working Group Preliminary Ultimate Condition Operation Levels Discussion
JANUARY 7, 2019	Working Group Draft Composite Noise Contour Review
FEBRUARY 28, 2019	**Final Public Information Workshop #3** Sharing Ultimate Conditions Noise Contours and Recommended Noise Overlay

Dulles' Airfield

Current: 4-Runway Configuration

Future: 5-Runway Configuration



Source: aerial photograph: USDA-FSA-APFO Aerial Photography Field Office, Virginia 1m NAIP Imagery, 2016

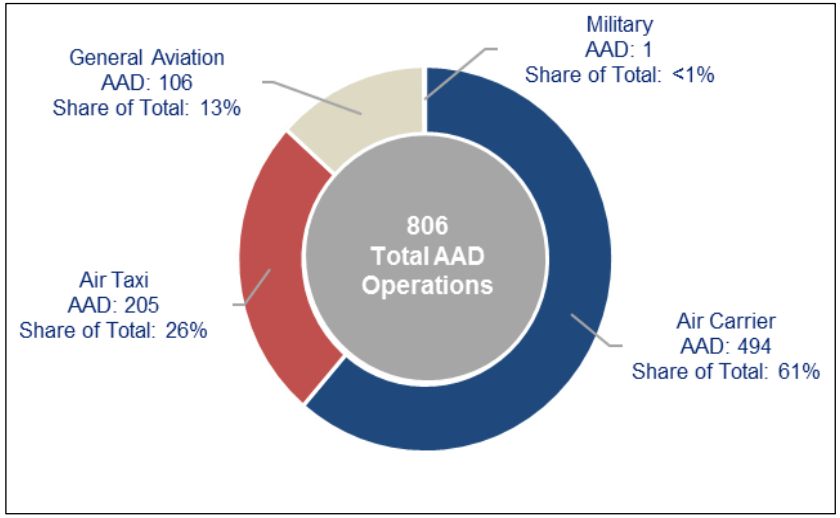
Ultimate Conditions

- Five-Runway Airfield
- Growth in Passenger and Cargo Operations
- Evolution of Aircraft
- Long-Term FAA NextGen Improvements
- FAA's Triple Simultaneous Parallel Approaches

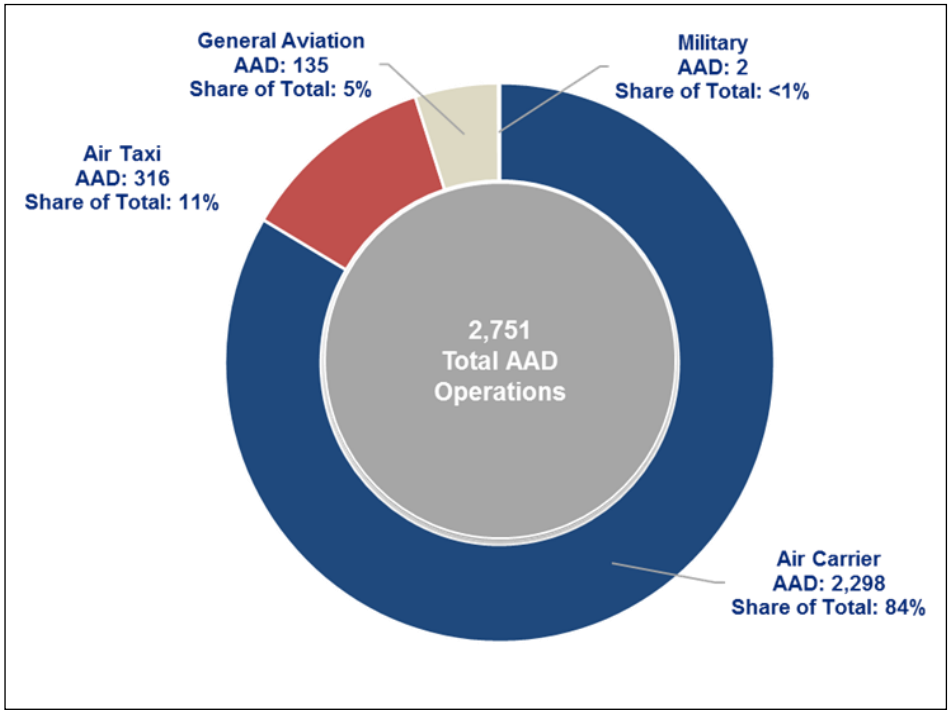
Average Annual Day Operations (AAD)

Actual 2017 vs. Future 5-Runway Ultimate Operations

Actual 2017: 4-Runway Configuration



Future: 5-Runway Configuration



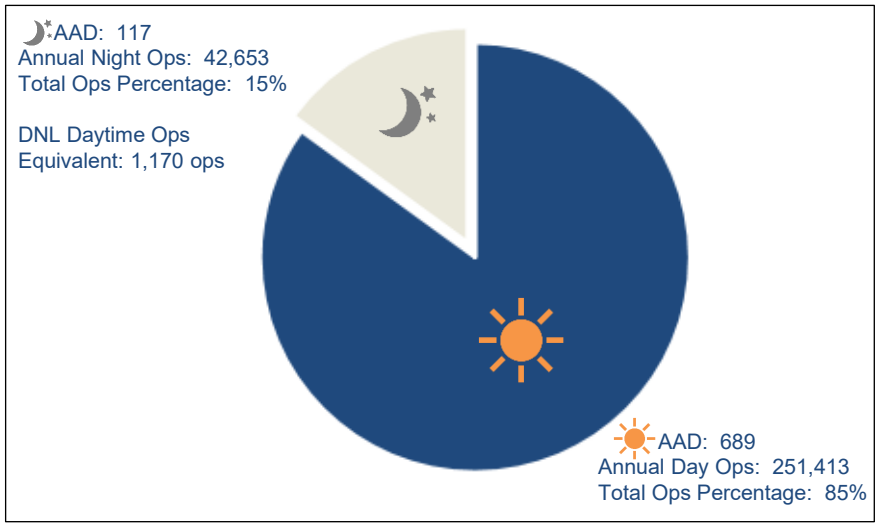
Source: 2017 Average Annual Day operations Based on full year of 2017 flight operations from MWAA's Airport Noise and Operations Monitoring System and FAA OPSNET 2017 Dulles Airport Traffic Control Tower counts

Average Annual Day Operations (AAD)

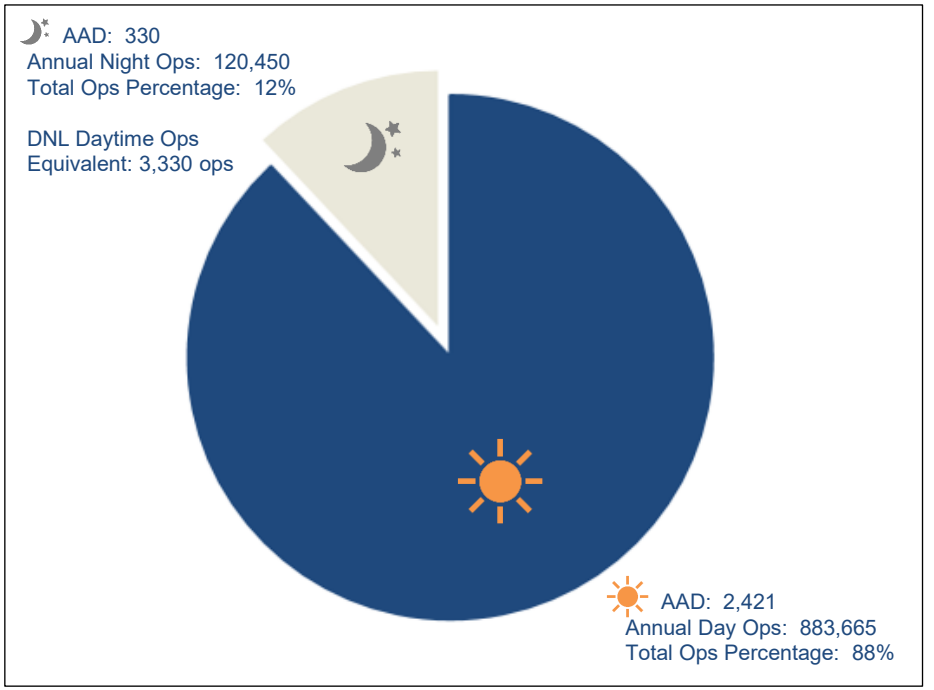
Actual 2017 vs. Future 5-Runway

Time of Day

Actual 2017: 4-Runway Configuration



Future: 5-Runway Configuration



= Daytime hours (7:00 a.m. to 9:59 p.m.)

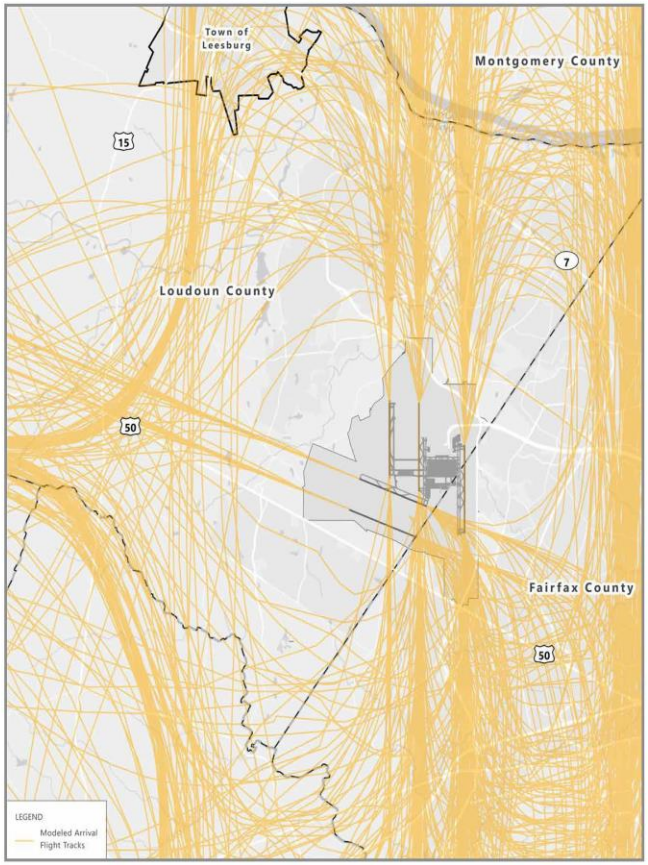
= Nighttime hours (10:00 p.m.. to 6:59 a.m.)

Source: 2017 Annual/Average Annual Day operations by day/night based on full year of 2017 flight operations from MWAA's Airport Noise and Operations Monitoring System

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

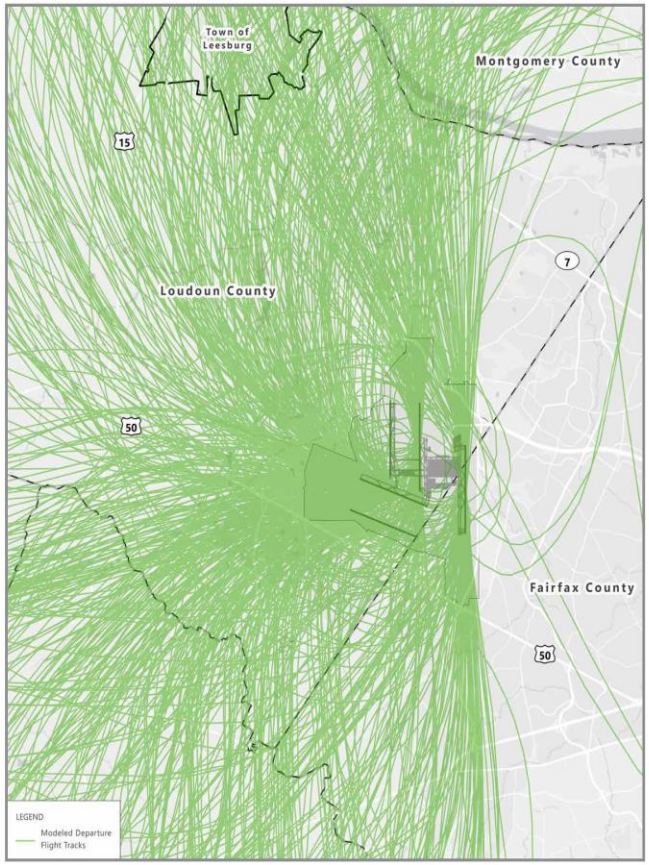
Five-Runway Airfield Noise Model Tracks

Arrival Flight Paths



SOURCES: Esri, HERE, DeLorme, MapmyIndia, OpenStreetMap Contributors, and the GIS User Community, January 2019 (basemap); U.S. Census Bureau, Geography Division, TIGER/Line Shapefiles, 2017 (place, county boundaries); Harris Miller Miller and Hanson, December 2018 (five-runway noise model tracks).

Departure Flight Paths



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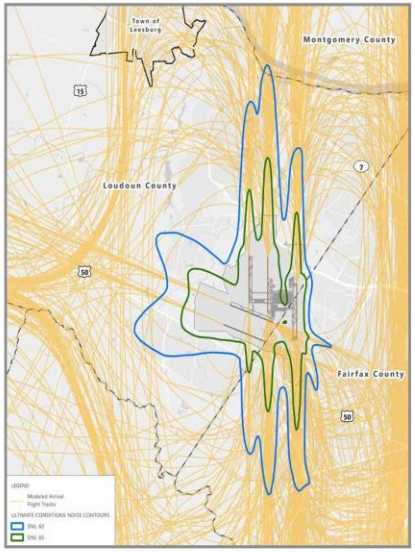
Ultimate Conditions Noise Contours DNL 60 and DNL 65

Arrival Flight Paths



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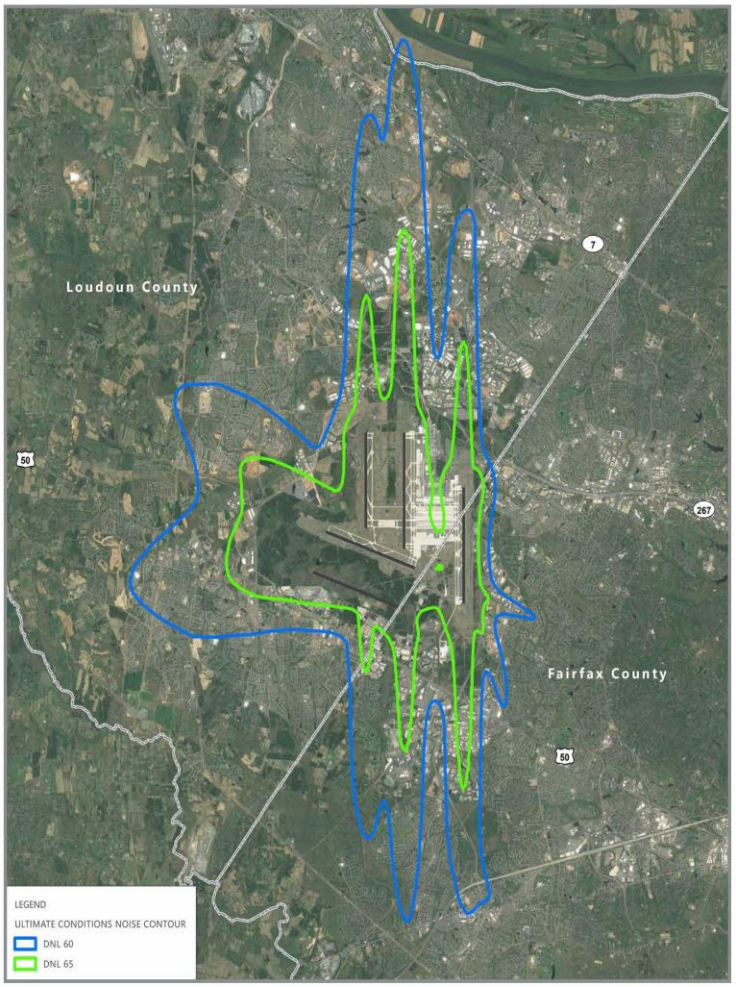
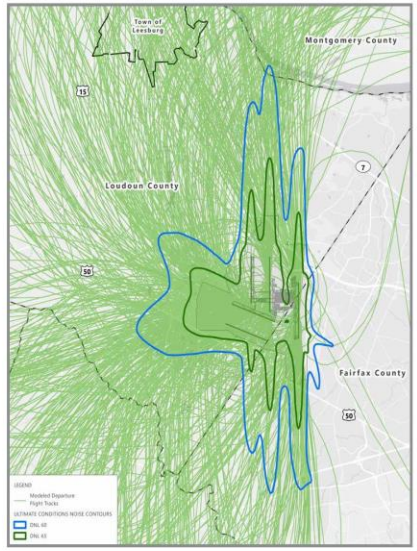


SOURCES: Google Earth Pro, Image Landsat/Copernicus, Data SIO, NOAA, U.S. Navy, NGA, GEBCO, 2010 (aerial photography); Harris Miller Miller and Hanson, February 2019 (Ultimate Conditions contours).

Departure Flight Paths



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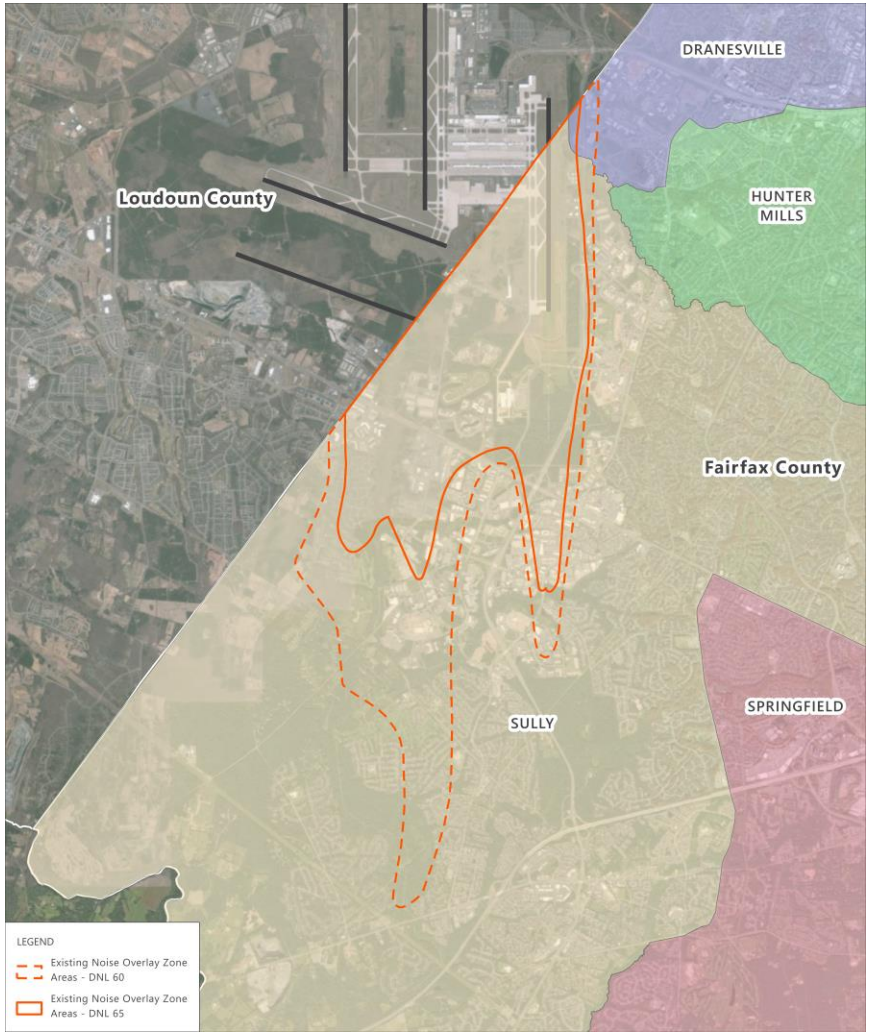
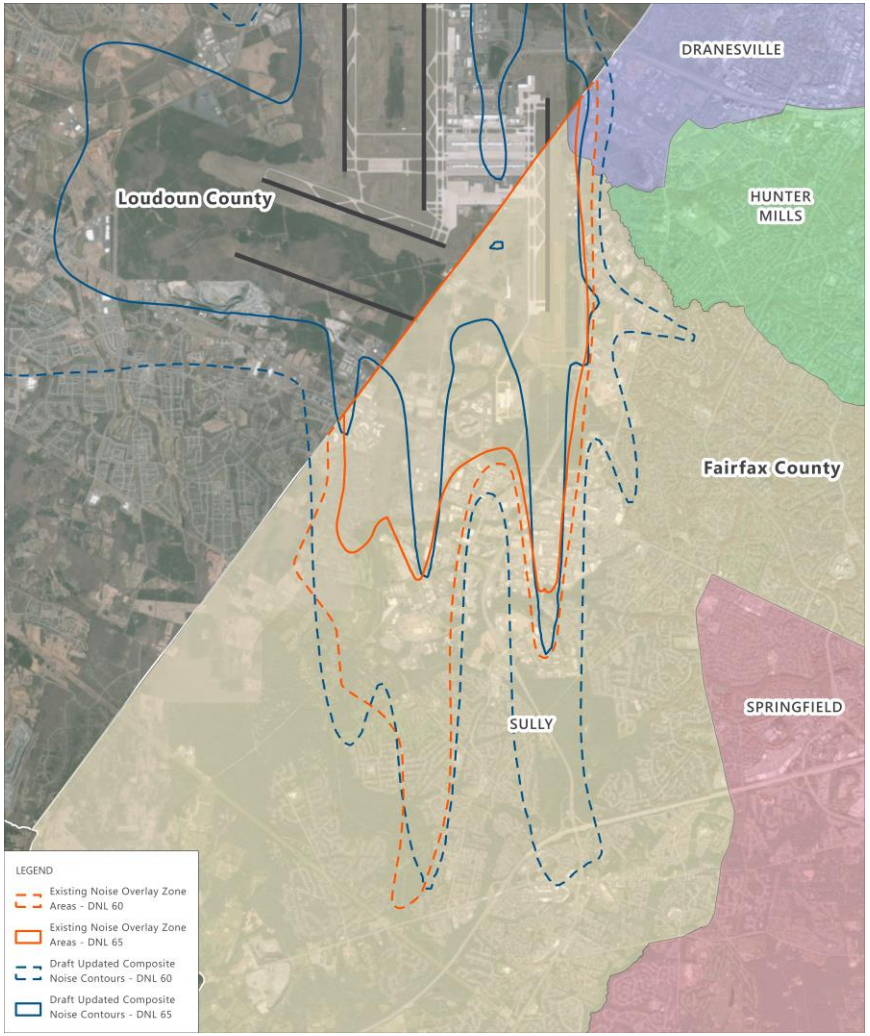
Fairfax County Board of Supervisor Districts – Current Airport Noise Overlay District & Ultimate Build Contours



Current Airport Noise Overlay District



Ultimate Build Contours

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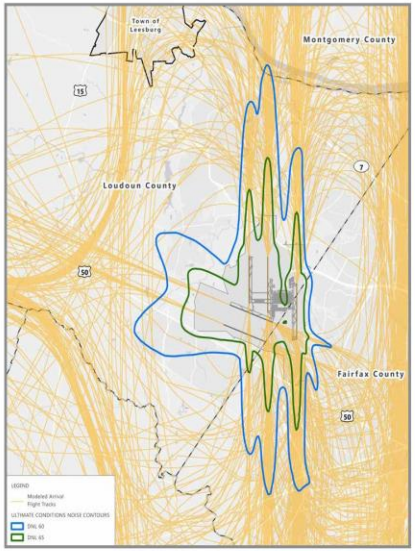
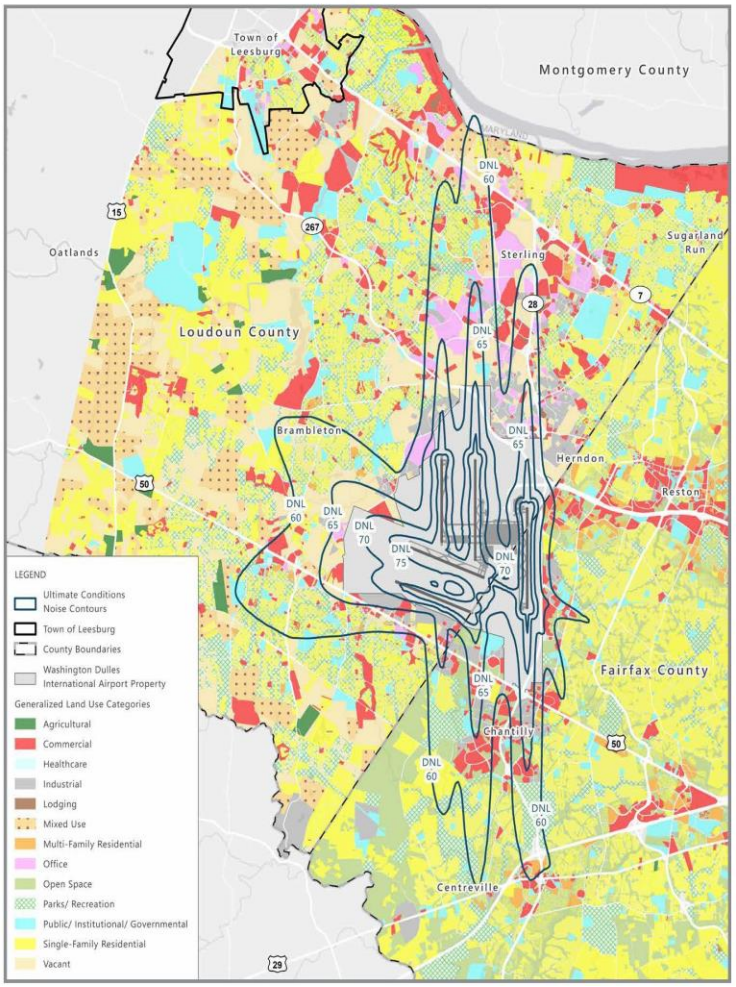
Ultimate Conditions Noise Contours & Existing Land Use

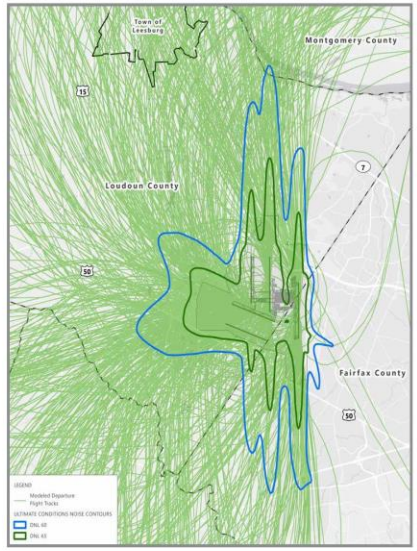
Arrival Flight Paths



SOURCES: Esri, HERE, DeLorme, MapmyIndia, OpenStreetMap Contributors, and the GIS User Community, January 2019 (basemap); U.S. Census Bureau, Geography Division, TIGER/Line Shapefiles, 2017 (place, county boundaries); Harris MIller Miller and Hanson, December 2018 (five-runway noise model tracks); Harris Miller Miller and Hanson, February 2019 (Ultimate Conditions DNL 60 and DNL 65 contours).



Departure Flight Paths



SOURCES: Esri, HERE, DeLorme, MapmyIndia, OpenStreetMap Contributors, and the GIS User Community, January 2019 (basemap); U.S. Census Bureau, Geography Division, TIGER/Line Shapefiles, 2017 (place, county boundaries); Harris MIller Miller and Hanson, December 2018 (five-runway noise model tracks); Harris Miller Miller and Hanson, February 2019 (Ultimate Conditions DNL 60 and DNL 65 contours).

SOURCES: Esri, HERE, DeLorme, MapmyIndia, OpenStreetMap Contributors, and the GIS User Community, January 2019 (basemap); U.S. Census Bureau, Geography Division, TIGER/Line Shapefiles, 2017 (place, county boundaries); Fairfax County, 2017, https://data-fairfaxcountygis.opendata.arcgis.com/ (accessed 12, 2018) (land use); Loudoun County, 2018, https://data-loudoungis.opendata.arcgis.com/ (accessed 12, 2018) (land use); Harris Miller Miller and Hanson, February 2019 (Ultimate Conditions contours).

Long-Term Land Use Compatibility Considerations

- **Consider today's airport use and protect for tomorrow's growth**

- **Maintain** current protections
  - Existing overlays have served the Counties well
  - Protect for transition over time from current to Ultimate conditions

- **Plan** for Ultimate Conditions
  - Five-Runway Airfield
  - NextGen implementation
  - Triple Simultaneous Parallel Approach
  - Aviation operations growth (passenger and cargo)

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

Recommendation for Local Land Use Compatibility

(Consider Today's Airport Use and Tomorrow's Growth)

Loudoun County and Fairfax County maintain their existing Airport Noise Impact Overlay Districts (DNL 60 and DNL 65) and also protect for the Ultimate Conditions Noise Contours (DNL 60 and DNL 65)

MWAA Economic Contribution to Fairfax County, Commonwealth of Virginia & the Region - FY 2017 (1)

As Dulles Grows to Ultimate Build, What's at Stake?

	Economic Output	GDP (2)	Wages	Employment	Local Taxes
Fairfax County (Millions)	$ 3,951,266,637	$2,419,292,023	$1,364,342,100	34,922	$125,730,194
Virginia (Millions) INCLUDES FAIRFAX	$16,316,644,306	$9,718,281,010	$5,522,149,760	124,153	$336,060,037
Region (3) (Millions)	$23,616,377,395	$14,376,106,077	$8,451,379,509	187,206	$424,156,895

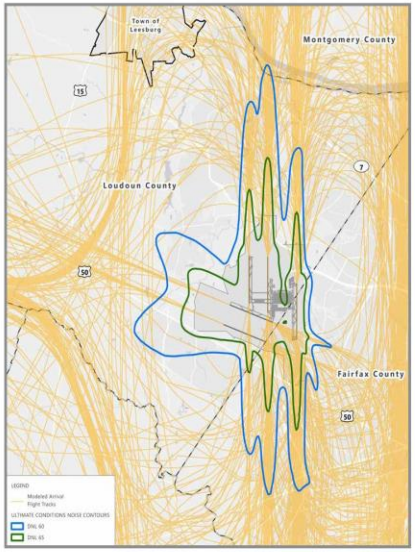
(Source: Metropolitan Washington Airports Authority (based on FY 2017) [Pre-Decisional DRAFT as of February 8, 2019])

(1) - Total economic contribution is the sum of Direct, Indirect and Induced economic impacts of two Airports, Dulles Toll Road and Dulles Corridor Metrorail Project.
(2) - GDP is used in this Report to encompass value-added contributions at either the county, state or regional level.
(3) - "Total" includes the Region -- Maryland, Virginia and Washington, DC.

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

Ultimate Conditions Noise Contours DNL 60 and DNL 65

Arrival Flight Paths



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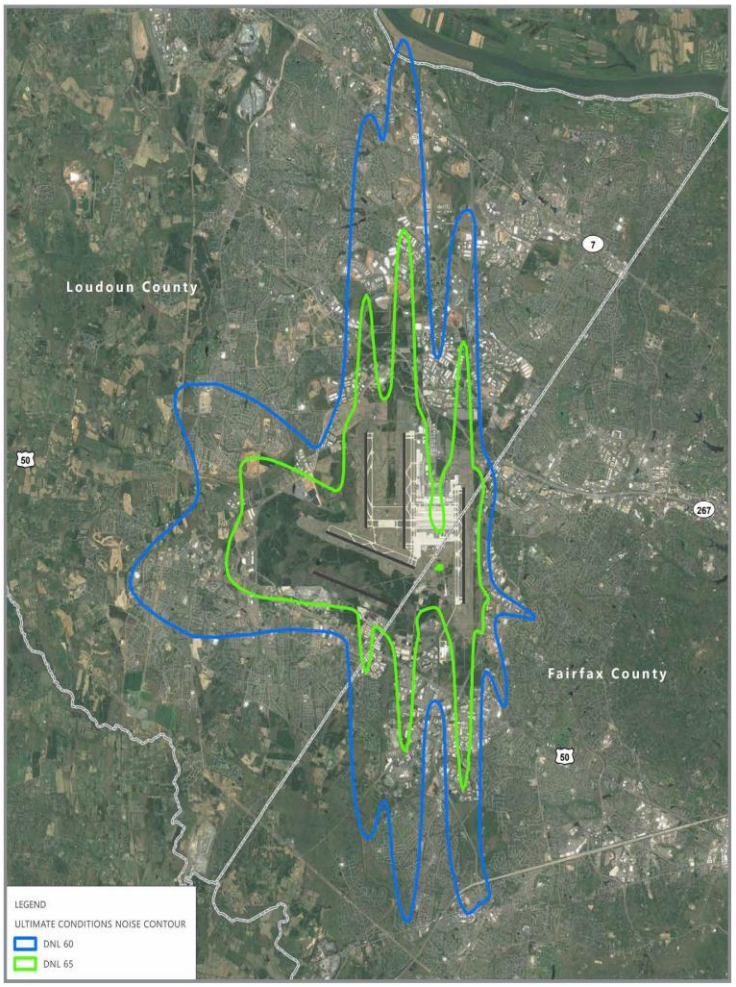

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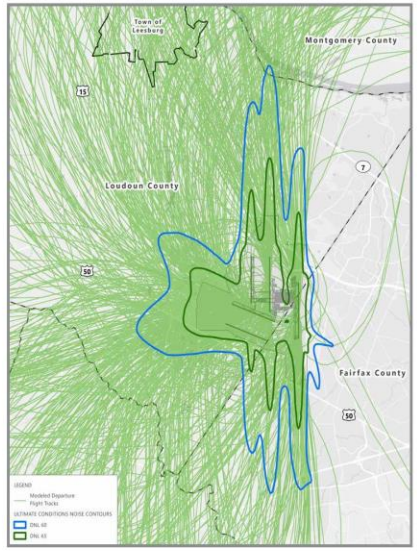
Departure Flight Paths



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