

Background on Noise Issues at Baltimore/Washington International Thurgood Marshall Airport

Presented to the BWI DC Metroplex Community
Roundtable

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July 18, 2017



Agenda

- Operations and Fleet Mix
- Runway Use
- Flight tracks, pre- and post- Metroplex
- Regulatory framework, federal and state



Operations and Fleet Mix

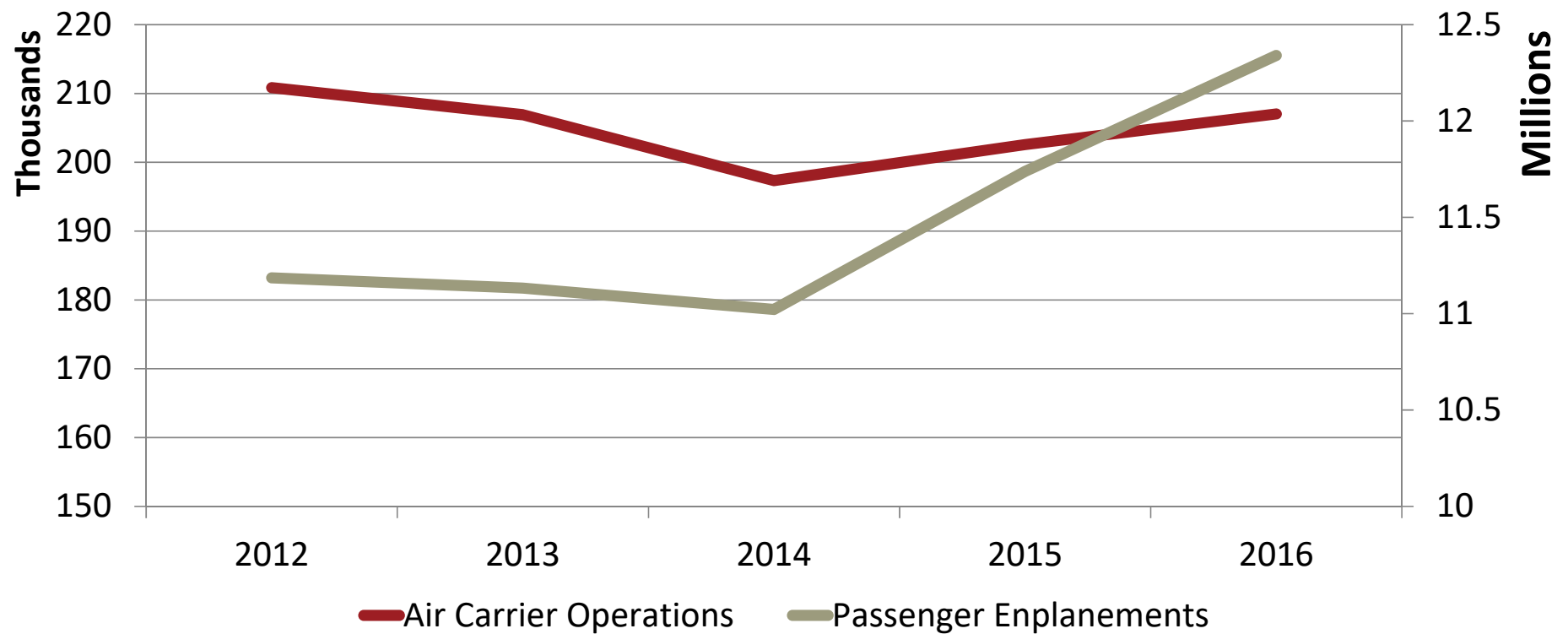
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Trends in Operations and Passengers



Trends in Operations

Year	2012	2013	2014	2015	2016
Passenger*	231,084	224,851	209,996	213,992	219,108
Cargo	5,852	5,217	4,331	4,276	4,968
General Aviation	27,353	21,766	21,216	20,173	19,096
Helicopter	51	50	71	120	59
Military	182	109	132	132	229
Unknown	324	309	165	194	214
Grand Total	264,846	252,302	235,911	238,887	243,674

* Includes Air Carrier and Air Taxi

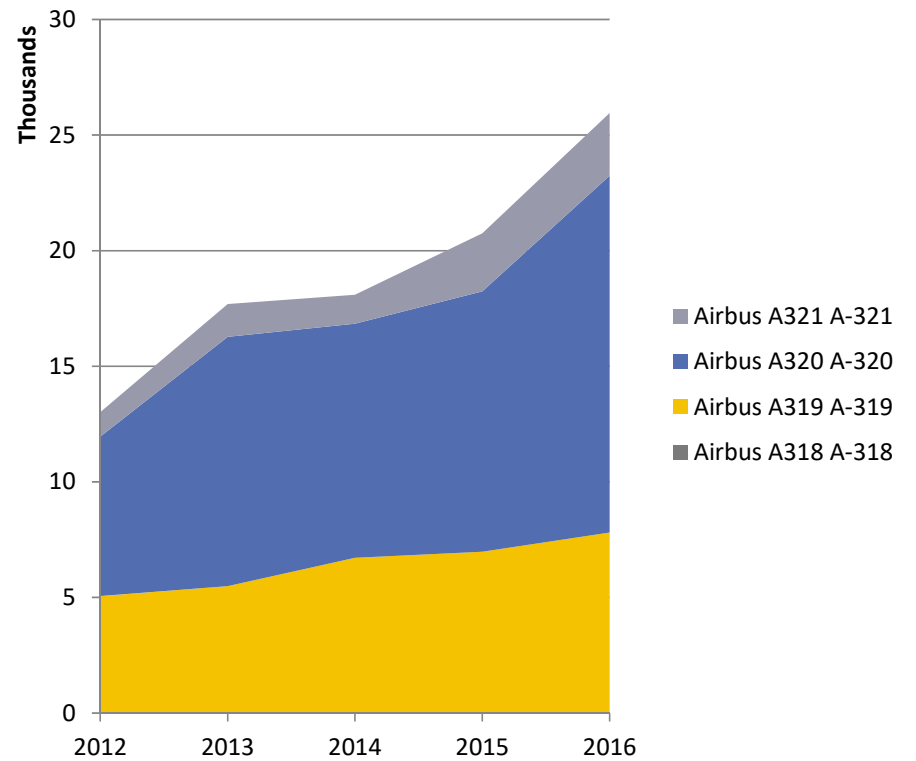
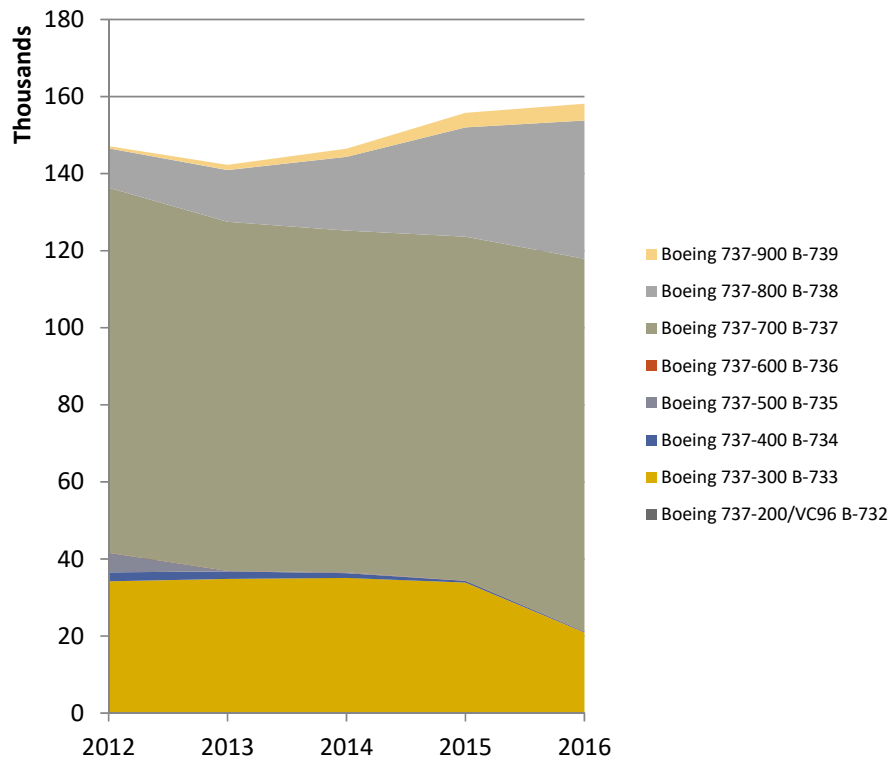


Source: Landrum and Brown, 2017

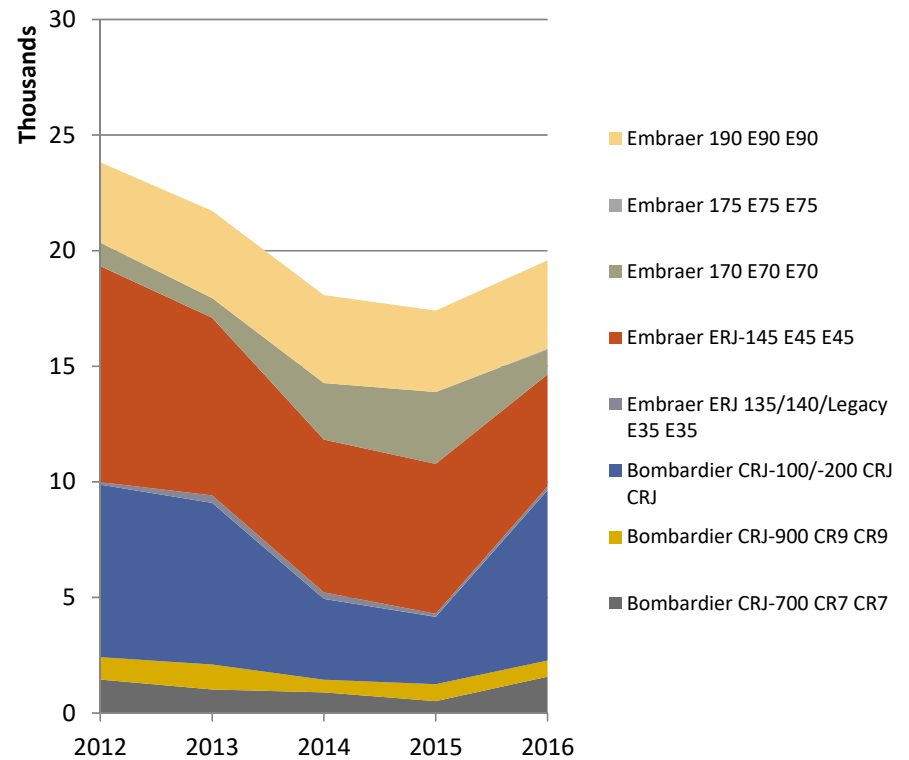
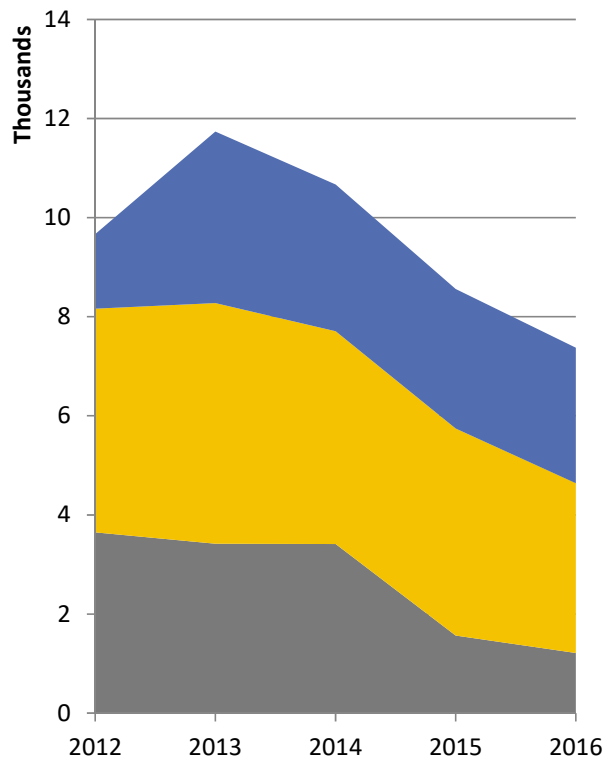
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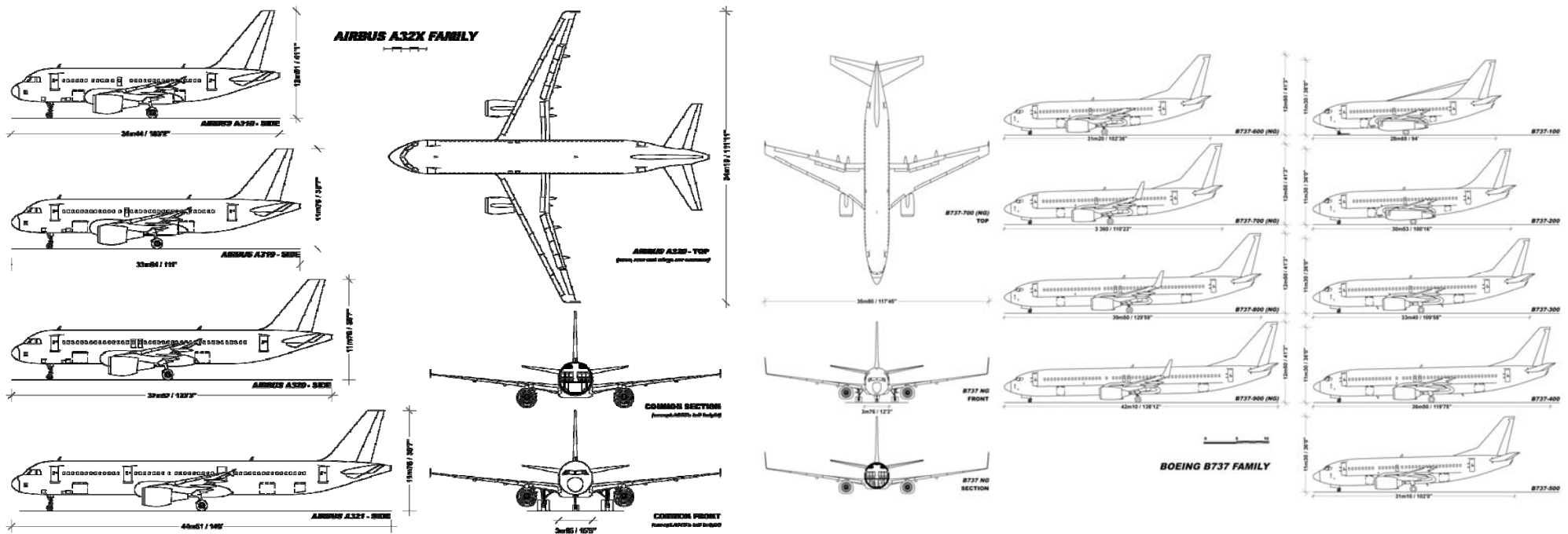
Fleet Mix Changes



Fleet Mix Changes (cont)



Changes in Aircraft Size



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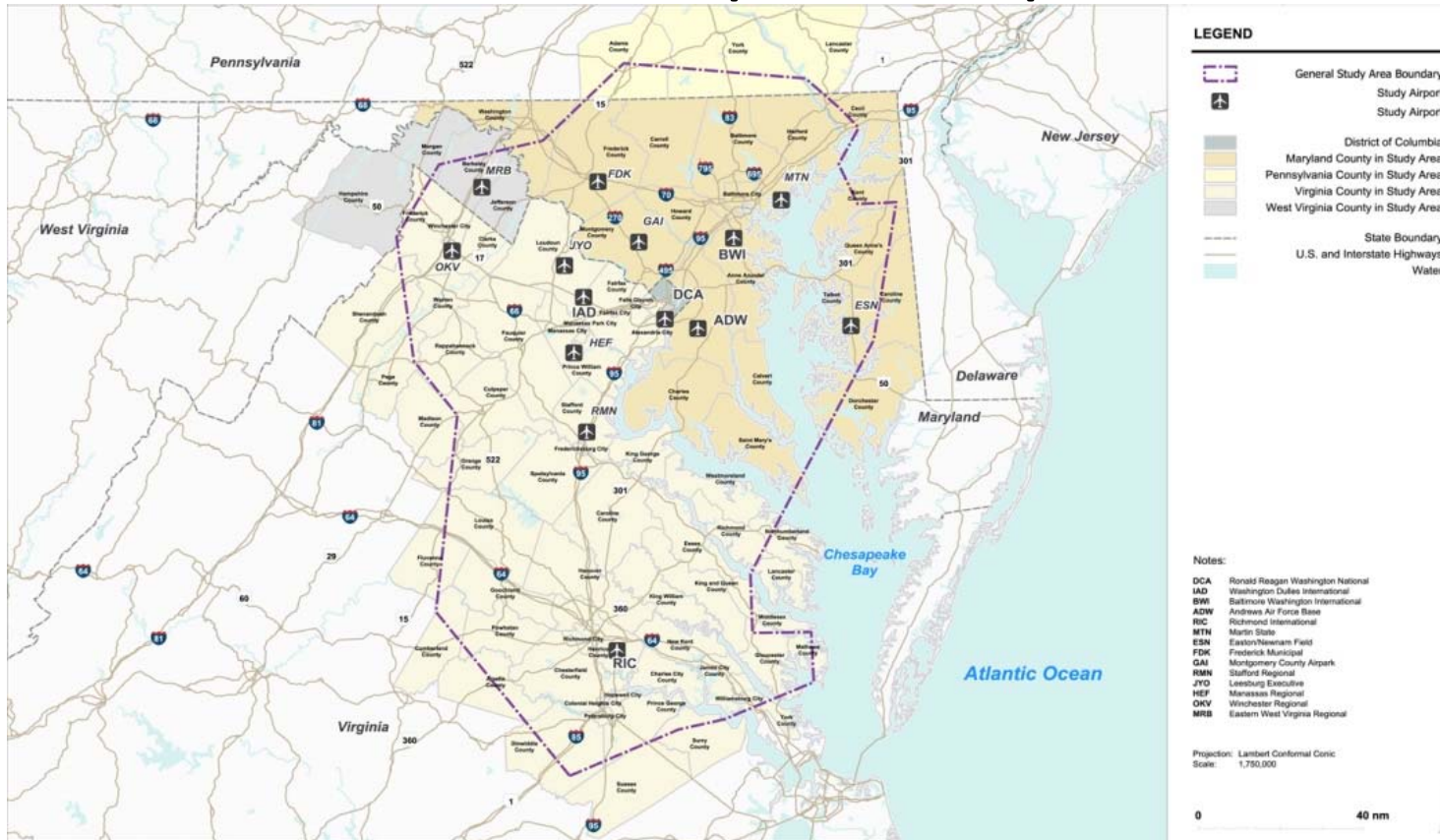
Runway Use



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DC Metroplex Airspace

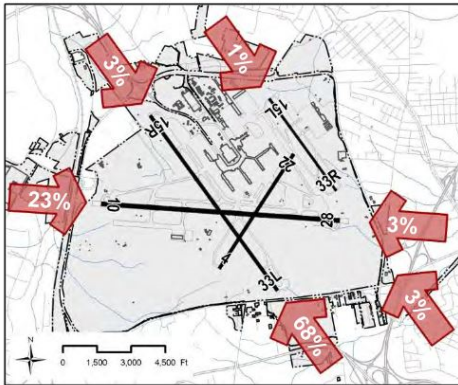


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Source: DC Metroplex EA



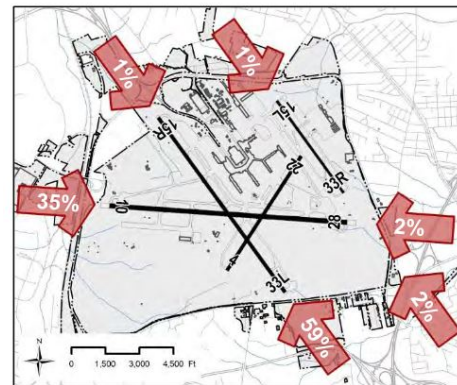
Runway Use 2016



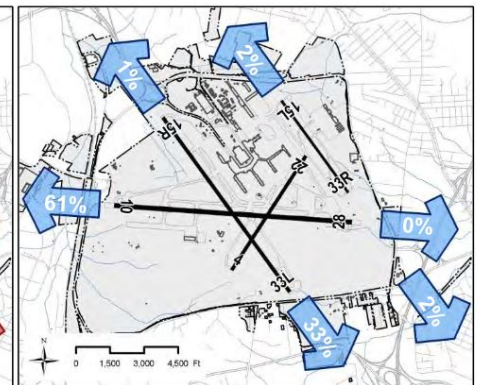
All Jet Arrival Runway Use, 1st Quarter of 2016



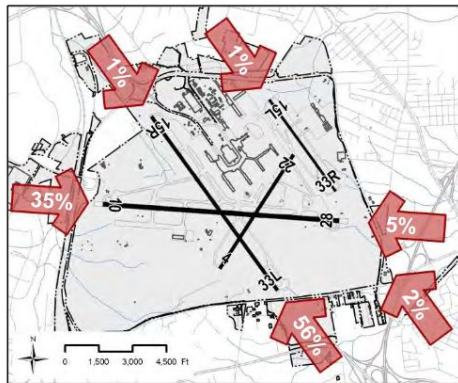
All Jet Departure Runway Use, 1st Quarter of 2016



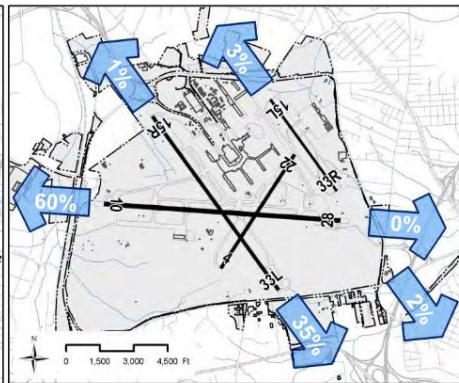
All Jet Arrival Runway Use, 3rd Quarter of 2016



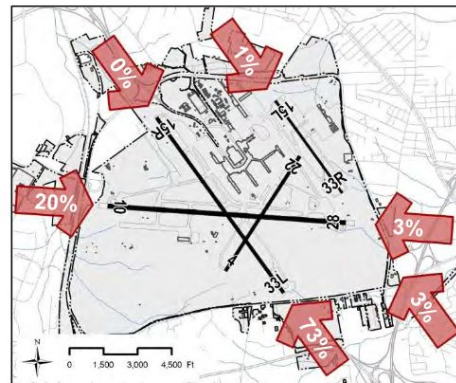
All Jet Departure Runway Use, 3rd Quarter of 2016



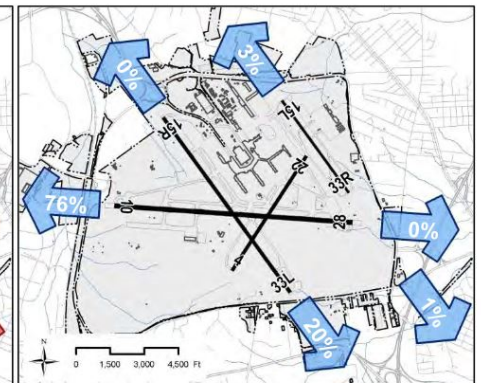
All Jet Arrival Runway Use, 2nd Quarter of 2016



All Jet Departure Runway Use, 2nd Quarter of 2016



All Jet Arrival Runway Use, 4th Quarter of 2016



All Jet Departure Runway Use, 4th Quarter of 2016



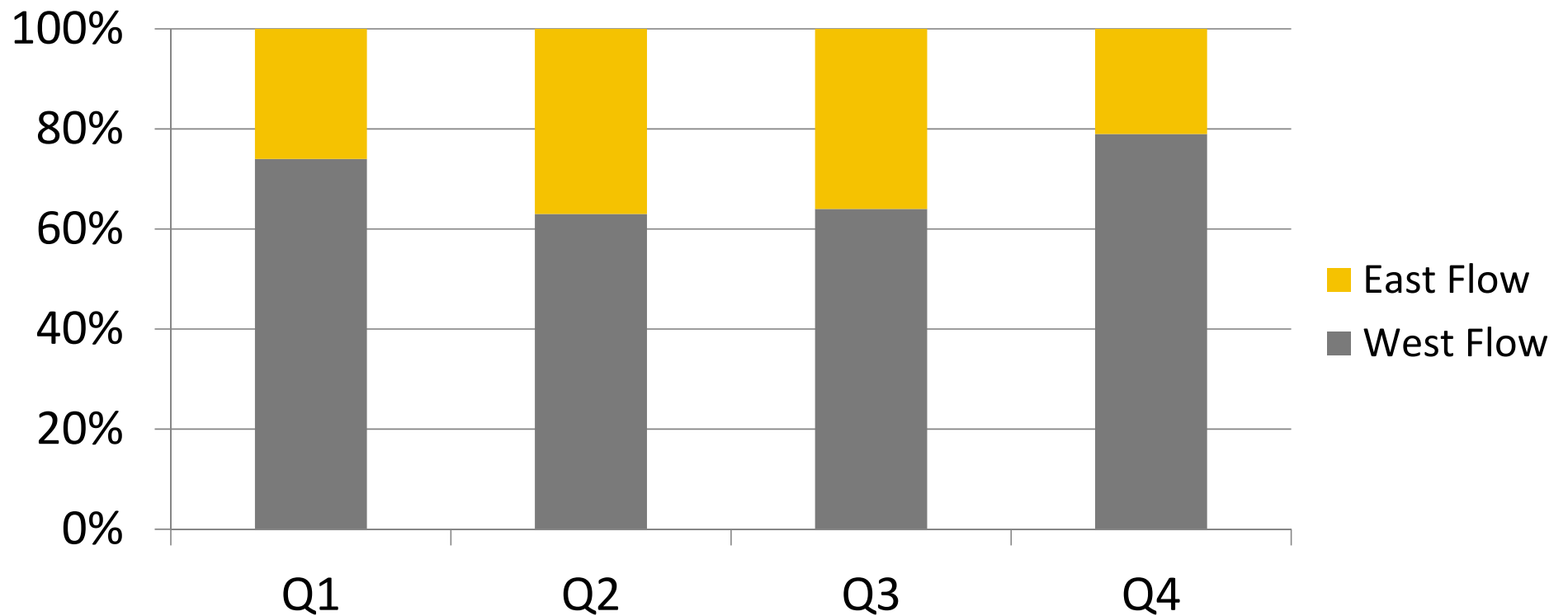
Source: MAA Quarterly Noise Reports



Source: MAA Quarterly Reports, 2016



Flow variability by season, 2016



Historical Runway Use

Total Annual Hours in Runway Configuration

	10 10	15R 15R	28 28	33L 33L	East	Other	West
2012*	68	980	185	1634	1620	184	4,082
2013	60	106	291	129	2179	112	5,883
2014*	221	44	3,738	12	1751	453	2,541
2015*	19	533	371	1,504	1,958	50	4,325
2016	19	103	211	93	2,523	28	5,807

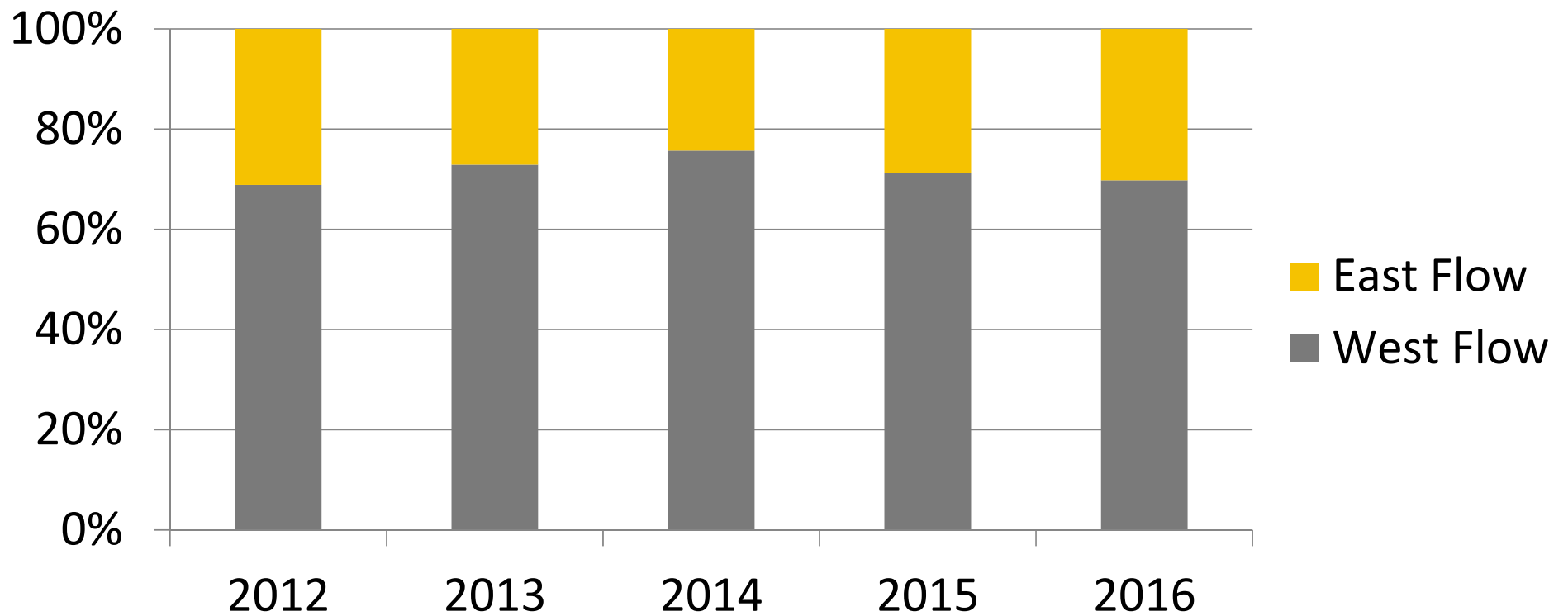
* Runway closures due to construction



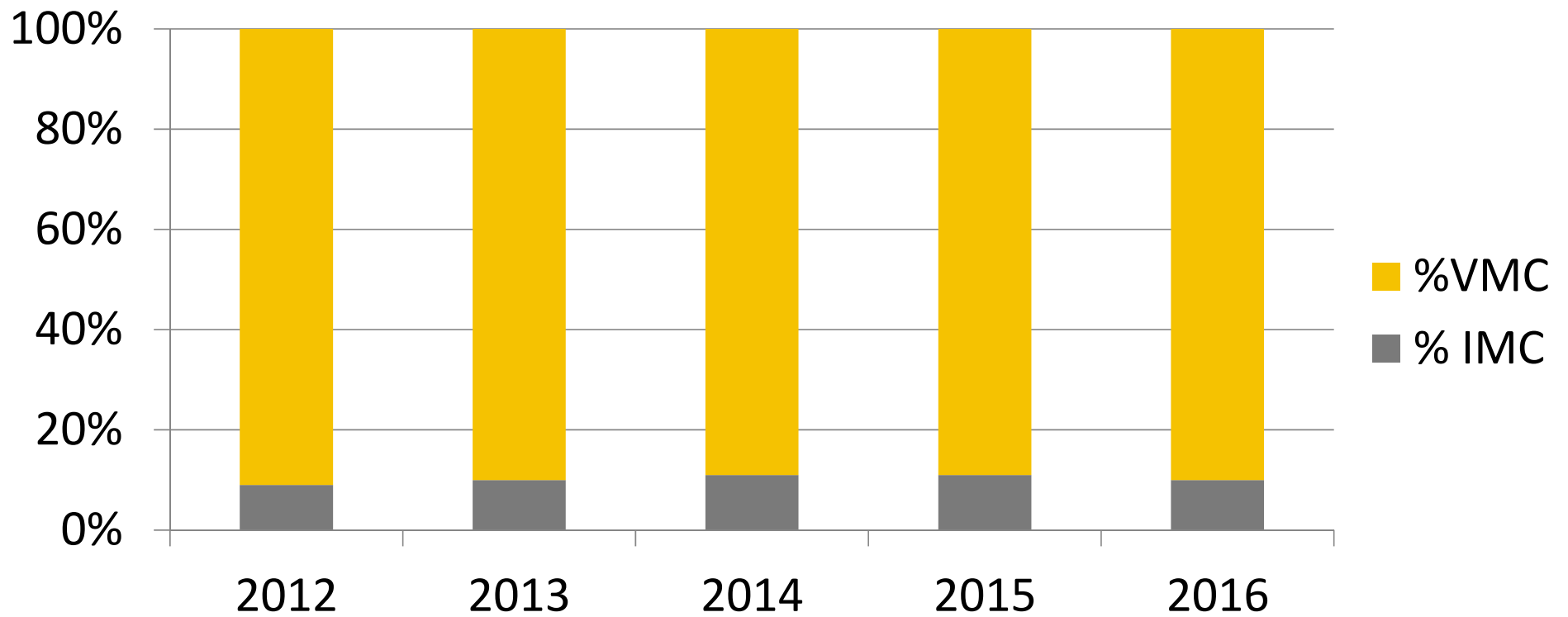
Source: Landrum and Brown, 2017



Historical Operational Flow



Instrument vs. Visual Conditions





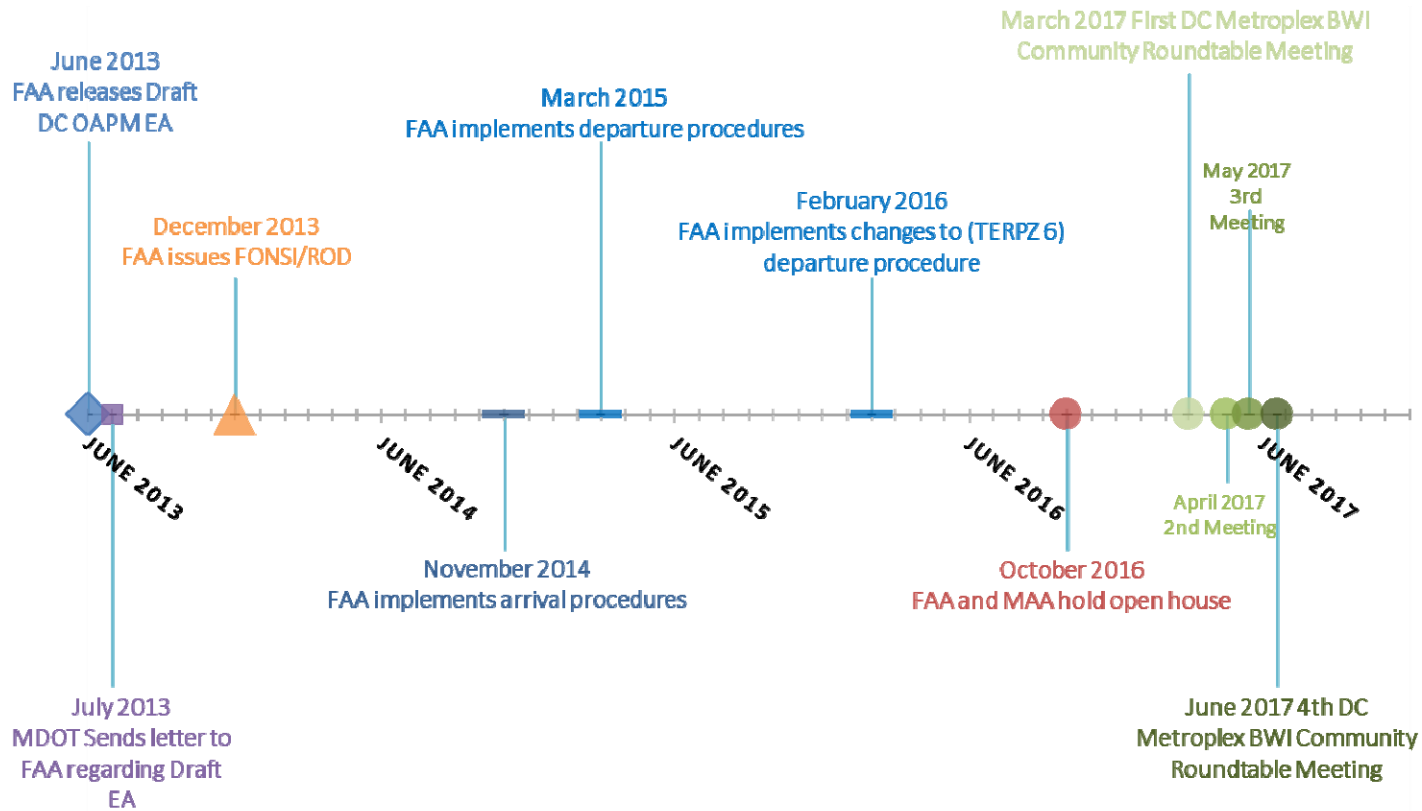
Historical Flight Tracks



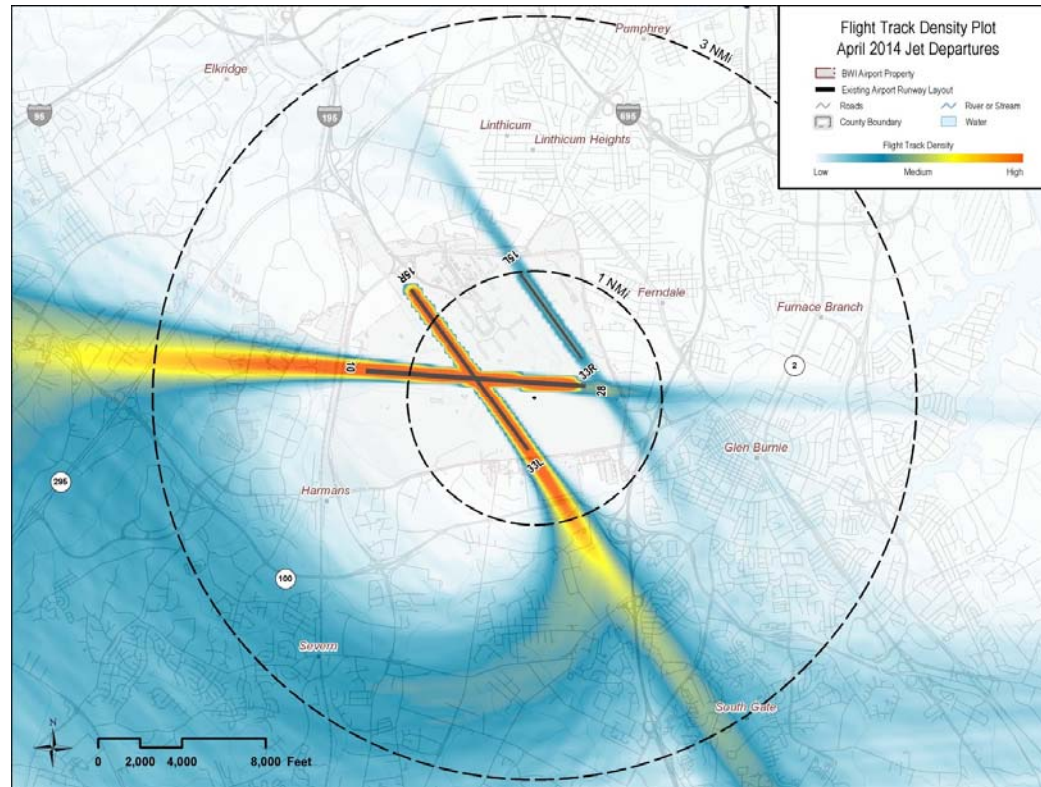
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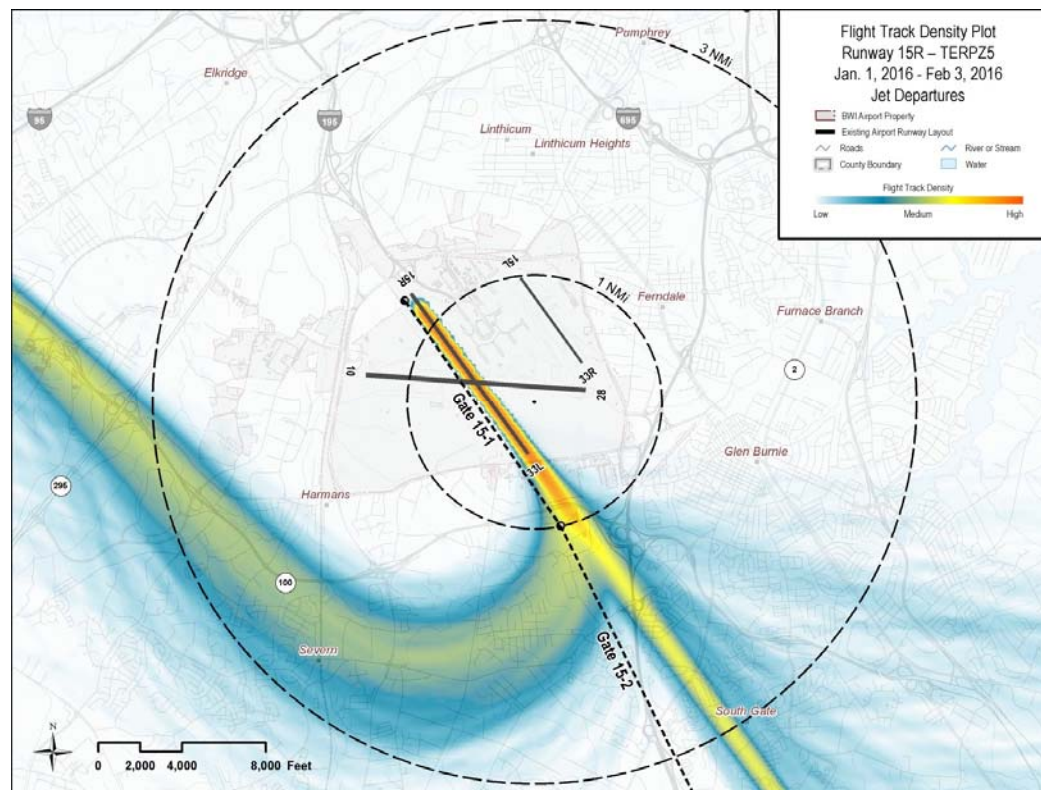
DC Metroplex Timeline



Jet Departures, April 2014

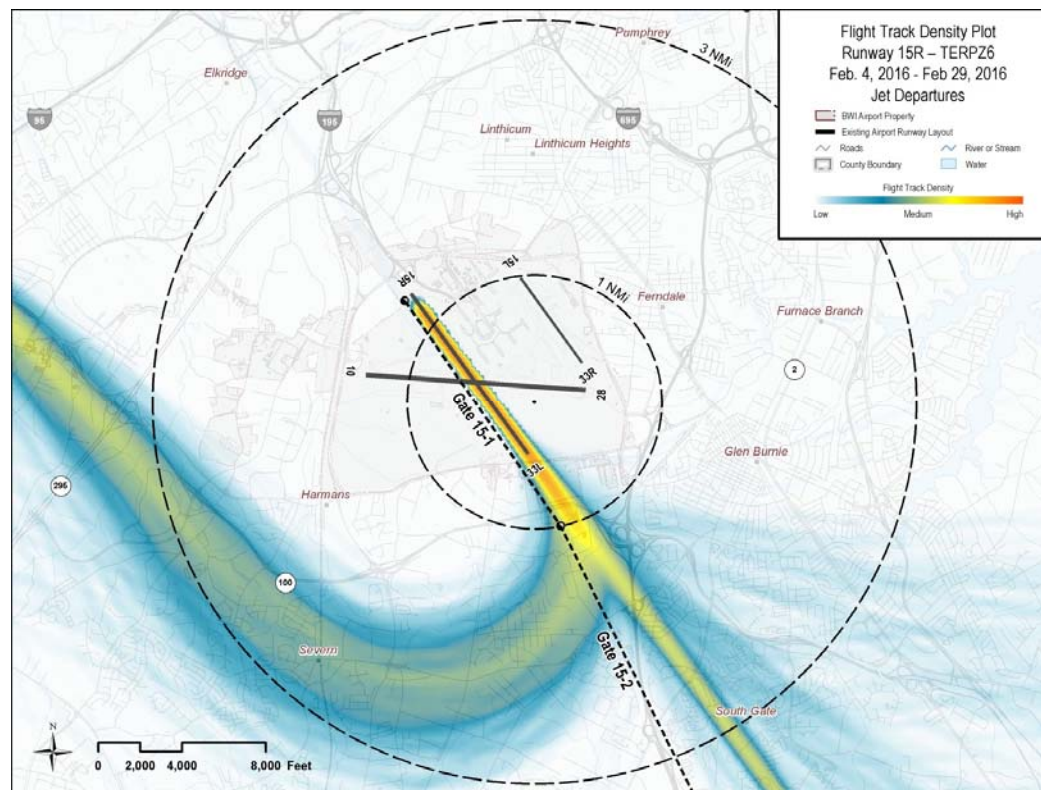


TERPZ5 Runway 15R



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TERPZ6 Runway 15R

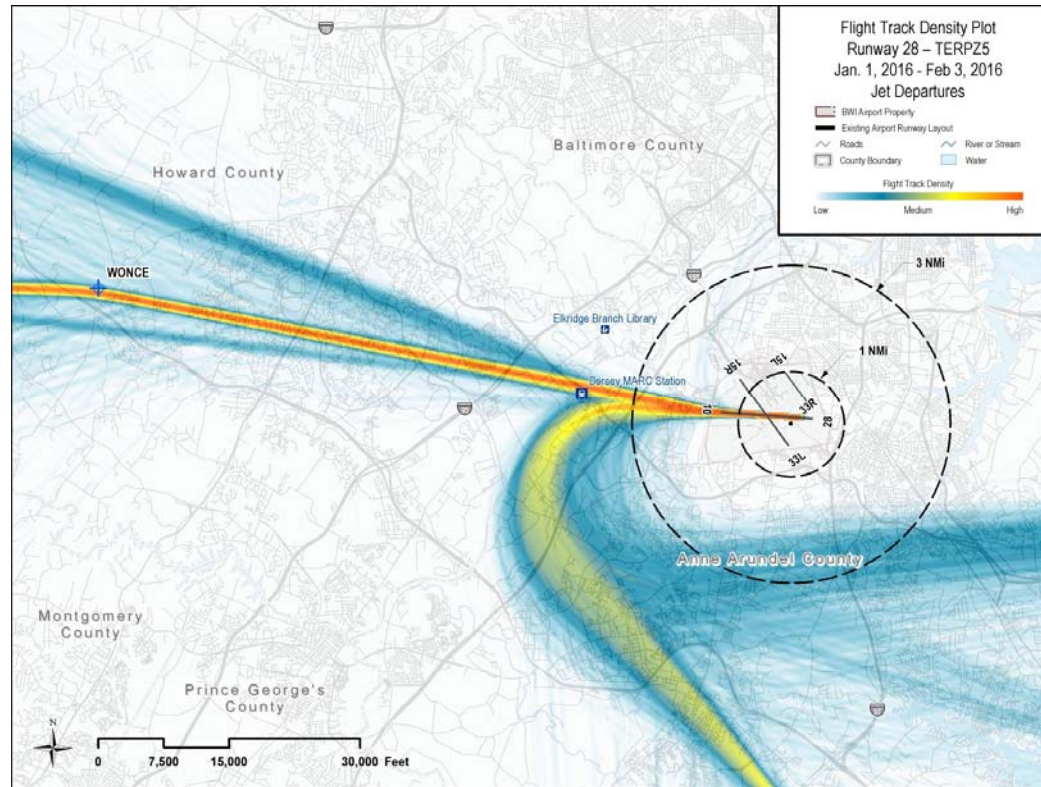


Source: MAA, 2016

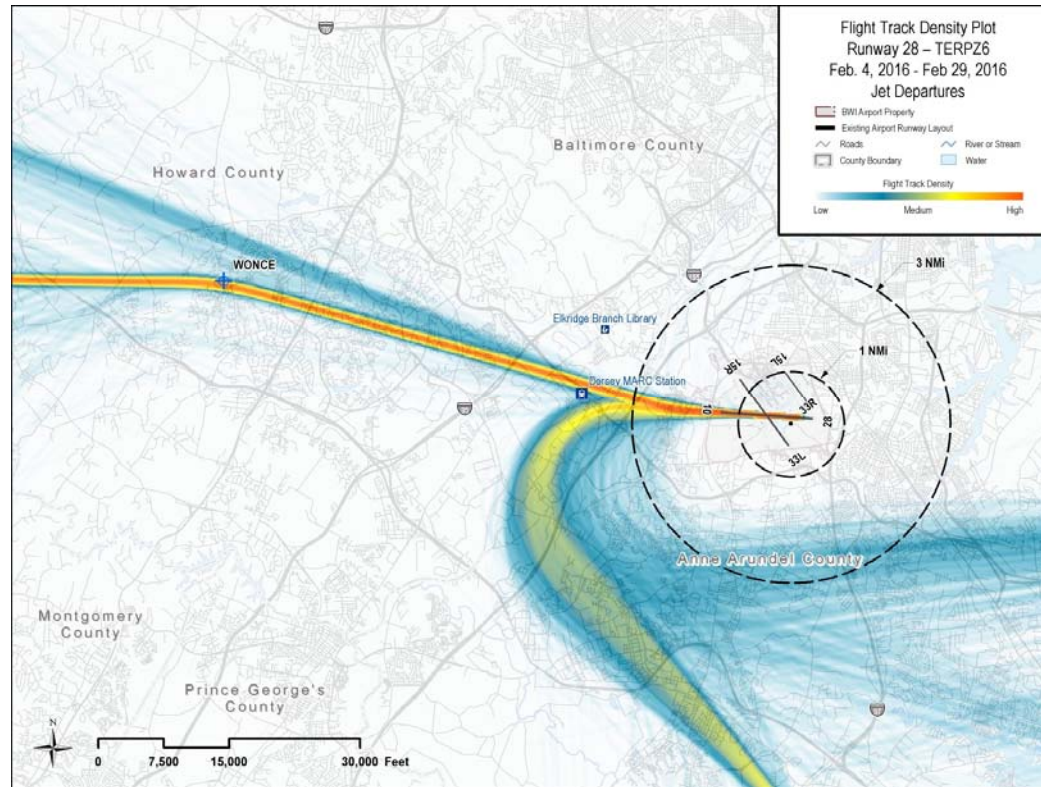
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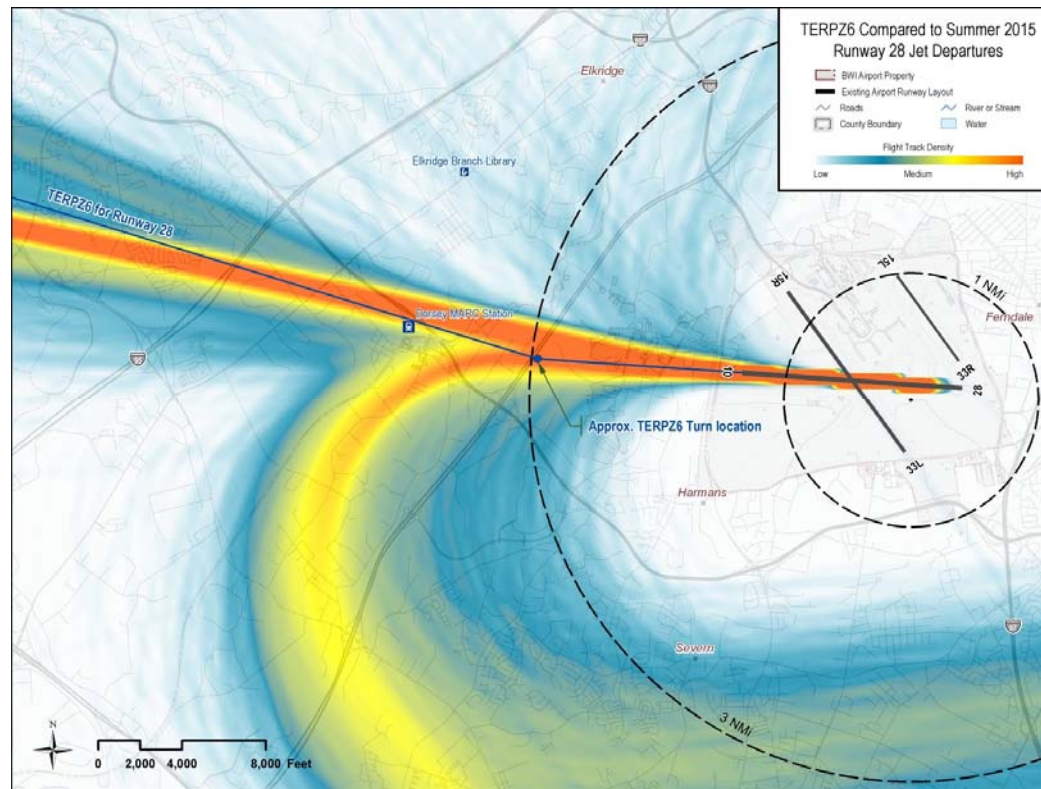
TERPZ5, Runway 28



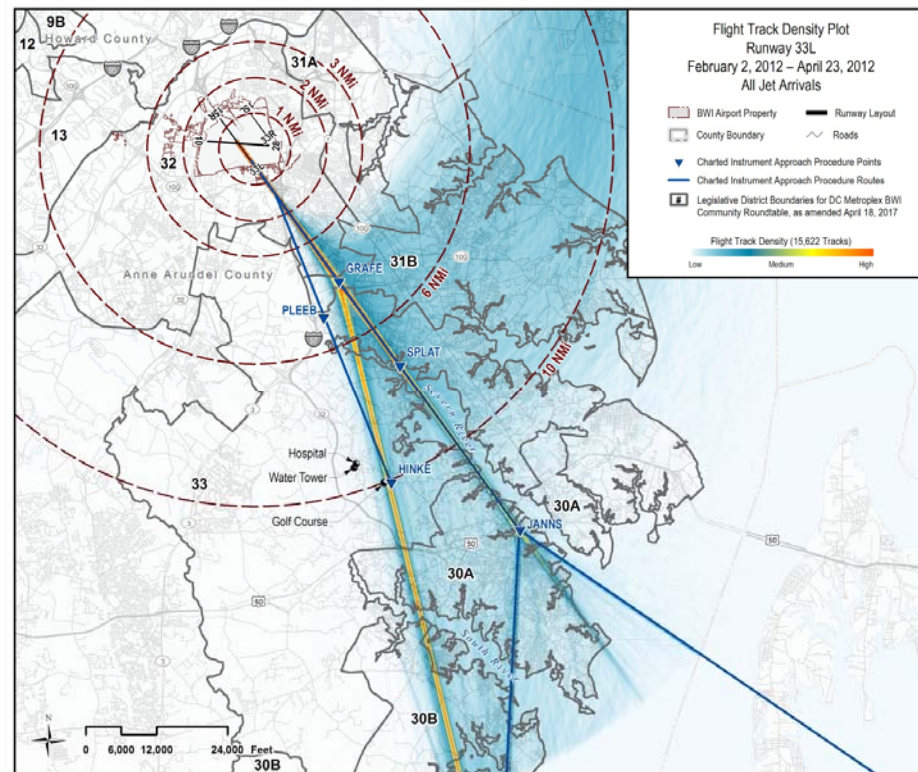
TERPZ6, Runway 28



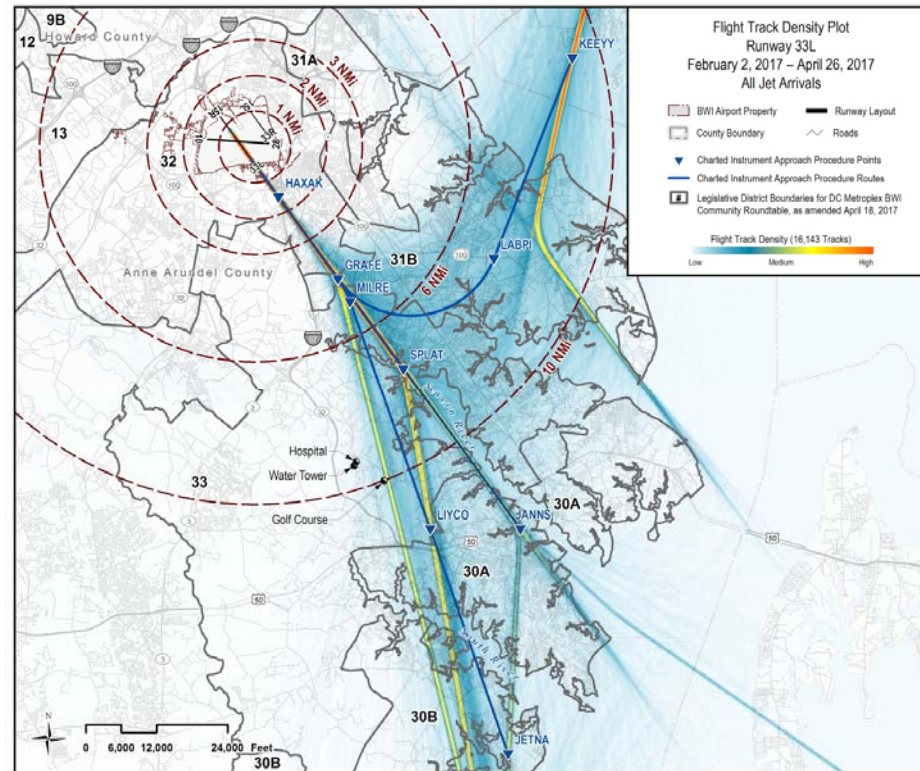
TERPZ6 Runway 15R, compared to 2015



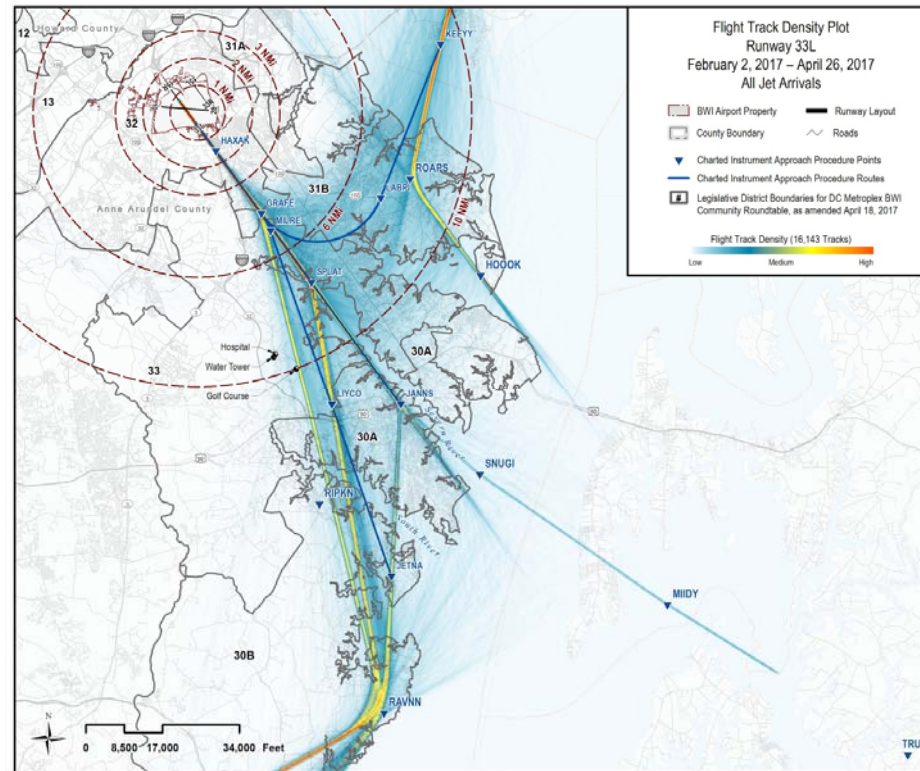
Runway 33L Arrivals, 2012



Runway 33L Arrivals, 2017



Runway 33L Arrivals, 2017





Regulatory framework



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State and federal regulations

State of Maryland

- Environmental Noise Act 1974
 - Defines Airport Noise Zone as composite of three contours: base year with five and ten year forecasts
 - Provides the State the ability to control land use around BWI and MTN state airports
 - Identifies Noise Abatement Plan
- The Code of Maryland Regulations (COMAR) requires MAA to update the ANZ approximately every five years to account for changes in total annual aircraft operations, aircraft types, and aircraft flight paths that may result in changes to the overall aircraft noise levels.

Federal Statutes

Statute	Aircraft Noise Related Purpose	Relevant FAA Regulation(s)
National Environmental Policy Act of 1969 (NEPA)	Directs all federal executive agencies to assess <i>all</i> environmental effects of proposed federal agency actions.	FAA Orders 1050.1F, 5050.4B
The Noise Control Act of 1972 (Noise Act)	Amends 1968 act to add consideration of public health and welfare and to add EPA to the rulemaking process for aircraft noise and sonic boom standards.	None directly; EPA responsibility
Aviation Safety and Noise Abatement Act of 1979 (ASNA)	Directs FAA to establish single system to measure noise and determine exposure of people to noise, and identify land uses normally compatible with various noise levels	14 CFR part 150
Airport and Airway Improvement Act of 1982	Authorizes FAA funding for noise mitigation/compatibility planning and projects, and establishes noise compatibility requirements for FAA-funded airport development.	FAA Airport Improvement Program (AIP)
Airport Noise and Capacity Act of 1990 (ANCA)	Mandates phase out of Stage 2 jet aircraft over 75,000 pounds, and established requirements regarding airport noise and access restrictions for Stage 2 and 3 aircraft.	14 CFR part 161

Part 150 and Airport Noise Zone Documents

Airport Noise Zone

- 1976: First Airport Noise (ANZ) certified
- ANZ Updates 1982, 1988, 1993, 1998, 2007, and 2014
 - The 2014 Airport Noise Zone “ANZ” includes a 2014 base year and 2019 and 2024 forecast contours
 - The 2014 ANZ is available at http://www.maacommunityrelations.com/content/anznoiseupdate/anz_update_2014.php

Part 150

- 1989: FAA accepted BWI’s first NEM
- 1990: FAA approved BWI’s first NCP
- NEM updates accepted in 1995, 2006, and 2016
 - 2014 and 2019 NEM maps available at http://www.maacommunityrelations.com/content/anznoiseupdate/far_update_2014.php
 - NCP update approved in 2008



Discussion



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