

# **Appendix N**

## Comments and Responses

**Updated Draft Environmental Assessment and Draft Section 4(f) Determination  
ALP Phase I Improvements at BWI Marshall Airport**

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# APPENDIX N:

## Comments and Responses

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The Draft EA and Draft Section 4(f) Determination was made available for public and agency review and comment from January 5, 2018 through February 5, 2018. This appendix contains a matrix detailing the comments received and the responses thereto (Attachment 1) as well as the original comment letters and e-mails received (Attachment 2). Comments were received from Howard County on March 9, 2018 and the DC Metroplex BWI Community Roundtable on June 4, 2018, and MDOT MAA and FAA have considered and responded to these comments herein, as detailed in Attachment 1. It should be noted that both comments and responses contained herein identify the years of analysis included in the January 2018 Draft EA and Draft Section 4(f) Determination for Proposed Improvements 2016-2020 at BWI Marshall Airport. For this Updated Draft EA and Draft Section 4(f) Determination the years of analysis have been revised to 2022 and 2027, however the responses provided previously remain valid.

- Attachment 1: Draft EA and Draft Section 4(f) Determination Comment Response Matrix
- Attachment 2: Comment Letters and E-mails

## **Attachment 1:**

### **Draft EA and Draft Section 4(f) Determination Comment Response Matrix**

August 2018

**Draft Environmental Assessment and Draft Section 4(f) Determination Proposed Improvements 2016-2020 at BWI Marshall Airport**  
**Public and Agency Comments**

#	Reviewer	Date	Page/Section	Comment	Response	Status
<b>AGENCY COMMENTS</b>						
1	Maryland Department of Planning	02/06/18	General	<p>In accordance with Presidential Executive Order 12372 and Code of Maryland Regulation 34.02.01.04-.06, the State Clearinghouse has coordinated the intergovernmental review of the referenced project. This letter constitutes the State process review and recommendation. This recommendation is valid for a period of three years from the date of this letter.</p> <p>Review comments were requested from the Maryland Department(s) of Natural Resources, the Environment; Anne Arundel County; and the Maryland Department of Planning including the Maryland Historical Trust. As of this date, the Maryland Department of Natural Resources and Anne Arundel County have not submitted comments.</p> <p>The Maryland Department of Planning, including the Maryland Historical Trust found this project to be consistent with their plans, programs, and objectives.</p>	Comment noted.	No change.
2	Maryland Department of Planning	02/06/18	General	<p>Our Department (Planning) "supports the proposed safety-related and minor capacity-related improvements made to landside facilities at the BWI Marshall Airport. The modifications will help reduce traffic congestion and improve access and egress within the airport terminal roadways. Existing runways were recently upgraded and will not be extended or widened during the life of this plan. Several existing taxiways and ramps will be resurfaced and/or relocated due to FAA mandated minimum separation. Several parking facilities will also be resurfaced. Obstructions will be identified and removed within and around the airport property. We are encouraged to see the MAA consider leveraging mobile applications which will help passengers arrange pick-up along a greater area in the lower terminal roadway, helping to reduce the bunching of cars along the road adjacent to Terminal A and B."</p>	Comment noted.	No change.
3	Maryland Department of Planning	02/06/18	General	<p>The Maryland Historical Trust has determined that the project will have "no effect" on historic properties and that the federal and/or State historic preservation requirements have been met.</p>	Comment noted.	No change.
4	Maryland Department of Planning	02/06/18	General	<p>The Maryland Department of Environment (MDE) found this project to be generally consistent with their plans, programs, and objectives, but included certain qualifying comments summarized below.</p> <ol style="list-style-type: none"> <li>1. If the applicant suspects that asbestos is present in any portion of the structure that will be renovated/demolished, then the applicant should contact the Community Environmental Services Program at (410) 537-3215 to learn about the State's requirements.</li> <li>2. Construction, renovation and/or demolition of buildings and roadways must be performed in conformance with State regulations pertaining to</li> </ol>	Comment noted, MAA will comply with all applicable state and local laws and regulations for design and construction of proposed improvements.	No change.

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				<p>"Particulate Matter from Materials Handling and Construction" requiring that during any construction and/or demolition work, reasonable precaution must be taken to prevent particulate matter, such as fugitive dust, from becoming airborne.</p> <p>3. If a project receives federal funding, approvals and/or permits, and will be located in a nonattainment area or maintenance area for ozone or carbon monoxide, the applicant needs to determine whether emissions from the project will exceed the thresholds identified in the federal rule on general conformity. If the project emissions will be greater than 25 tons per year, contact Brian Hug at (410) 537-4125 for further information regarding threshold limits.</p> <p>4. Any above ground or underground petroleum storage tanks, which may be utilized, must be installed and maintained in accordance with applicable State and federal laws and regulations. Underground storage tanks must be registered and the installation must be conducted and performed by a contractor certified to install underground storage tanks by the Land Management Administration in accordance with COMAR 26.10. Contact the Oil Control Program at (410) 537-3442 for additional information.</p> <p>5. If the proposed project involves demolition -Any above ground or underground petroleum storage tanks that may be on site must have contents and tanks along with any contamination removed. Please contact the Oil Control Program at (410) 537-3442 for additional information.</p> <p>6. Any solid waste including construction, demolition and land clearing debris, generated from the subject project, must be properly disposed of at a permitted solid waste acceptance facility, or recycled if possible. Contact the Solid Waste Program at (410) 537-3315 for additional information regarding solid waste activities and contact the Waste Diversion and Utilization Program at (410) 537-3314 for additional information regarding recycling activities.</p> <p>7. The Waste Diversion and Utilization Program should be contacted directly at (410) 537-3314 by those facilities which generate or propose to generate or handle hazardous wastes to ensure these activities are being conducted in compliance with applicable State and federal laws and regulations. The Program should also be contacted prior to construction activities to ensure that the treatment, storage or disposal of hazardous wastes and low-level radioactive wastes at the facility will be conducted in compliance with applicable State and federal laws and regulations.</p> <p>8. Any contract specifying "lead paint abatement" must comply with Code of Maryland Regulations. If a property was built before 1950 and will be used as rental housing, then compliance with COMAR 26.16.02 is required. Additional guidance regarding projects where lead paint may be encountered can be obtained by contacting the Environmental Lead Division at (410) 537-3825.</p> <p>9. The proposed project may involve rehabilitation, redevelopment, revitalization, or property acquisition of commercial, industrial property. For specific information about these programs and eligibility, please contact the Land Restoration Program at (410) 537-3437.</p> <p>Any statement of consideration given to the comments should be submitted to the approving authority, with a copy to the State Clearinghouse. The State Application</p>		

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				<p>Identifier Number must be placed on any correspondence pertaining to this project. The State Clearinghouse must be kept informed if the approving authority cannot accommodate the recommendation.</p> <p>Please remember, you must comply with all applicable state and local laws and regulations. If you need assistance or have questions, contact the State Clearinghouse staff person noted above at 410-767-4490 or through e-mail at myra.barnes@maryland.gov. Also, please complete the attached form and return it to the State Clearinghouse as soon as the status of the project is known. Any substitutions of this form must include the State Application Identifier Number. This will ensure that our files are complete.</p>		
5	Maryland Department of Natural Resources			<i>No comments submitted (as of 2/6/18).</i>		
6	Anne Arundel County Recreation and Parks			<i>No comments submitted (as of 2/6/18).</i>		
7	Maryland Federal Consistency Coordinator, Wetlands and Waterways Program, Water and Science Administration, Maryland Department of the Environment	2/8/18	Forest, Water Resources, Coastal Resources	<p>The EA notes that the proposed improvements will result in 135.7 acres of forest clearing, and will impact 5.73 acres of nontidal wetlands, 6.84 acres of State-regulated nontidal wetlands buffer, 7.07 acres of floodplain, and 1,042 linear feet of stream. To meet the Forest Conservation Act requirements, MAA will mitigate the forest impacts through the placement of DNR Forest Conservation Easements on MAA property. As you know, the nontidal wetlands, waterways, and floodplain impacts will require authorization from the Wetlands and Waterways Program. Appropriate mitigation for these impacts will be determined as part of the permit application review process.</p> <p>Based on the information presented in the EA, the proposed improvements are consistent with the Maryland Coastal Zone Management Program, as required by Section 307 of the CZMA, contingent upon the issuance of the required authorization(s) for the proposed impacts to nontidal wetlands, waterways, and the 100-year nontidal floodplain. Please note that this determination does not obviate MAA's responsibility to obtain any other State approval that may be necessary for the proposed activities.</p>	Comment noted.	No change.
8	Howard County Office of Law	3/9/18	General	The Draft EA is legally insufficient in several respects and is not based on sufficient evidence.	The EA was developed in accordance with the Council on Environmental Quality implementing regulations [(CEQ); 40 Code of Federal Regulations (CFR) 1500-1508]; FAA Order 1050.1F, <i>Environmental Impacts: Policies and Procedures</i> ; and FAA Order 5050.4B, <i>National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions</i> . The technical analysis conducted to develop the Draft EA provides sufficient information to support the findings included.	No change.
9	Howard County Office of Law	3/9/18	Noise	The Draft EA is based on non-representative and outdated noise data that MAA has acknowledged does not reflect actual conditions. Additionally, because FAA unilaterally abandoned the 14 CFR Part 150 Noise Compatibility Planning process, which is nowhere addressed in the Draft EA, all of the assumptions about harmful impacts due to noise, based on FAA compliance with Part 150 Planning and the outdated data, are false.	The BWI Marshall EA models noise as generated by both aircraft and maintenance operations as indicated in Section 4.12 and Appendix K. Since noise model data is based on actual operations, runway use and flight track location and use, the status of compliance with the Noise Abatement Plan and Noise Compatibility Program is immaterial – the noise model used for the EA models how aircraft actually fly. Section 4.12.1 and Appendix K provide information about noise model input data used for the development of the Existing Conditions. Aircraft operations were based on actual 2016	No change.

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					<p>EnvironmentalVue data adjusted to match FAA Terminal Area Forecast data. Runway utilization was calculated from EnvironmentalVue radar data from May 2015 to August 2015, and December 2015 to April 2016 with days of extended runway closures removed. Flight track location and utilization were based on a five-week EnvironmentalVue radar data sample. This aircraft operational data reflects aircraft use of recent FAA flight track changes, including the TERPZ 6 route. None of the MAA correspondence identified by the comments suggest or state that the data used for the EA noise analysis does not reflect actual conditions.</p> <p>The five weeks of radar data were selected to include spring, fall, and winter plus two weeks in summer (peak operation season for BWI Marshall Airport). The selected representative weeks cover all of the top 12 runway configurations in a manner consistent with the overall runway configuration usage. The FAA had implemented the original Metroplex procedures by June of 2015 with some post implementation changes made between October 2015 and March 2016. All five weeks of radar used to define flight tracks and track use included the FAA Metroplex procedures, with the third week including some post implementation changes, and the last two weeks including all post implementation changes.</p> <p>In response to concerns that the noise analysis relies on outdated noise data, an addendum was prepared to consider any subsequent changes. See Appendix K-4, <i>NextGen DC Metroplex Post-Implementation Revisions and Potential Impacts on BWI Marshall EA Noise Contours</i>, for an analysis of FAA revisions to procedures after June 2015. One procedure change made post implementation is within the 65 DNL, but would be expected to have only minor impacts on the contour (and not within Howard County). See <i>Appendix K-4</i> for details.</p> <p>The Proposed Action and No Action Alternative noise exposure contours for both 2020 and 2025 include use of the air traffic procedures in place through June 18, 2016. Both TERPZ 5 and TERPZ 6, related to departures off of Runway 28 were modeled in the Existing Condition, and TERPZ 6 was modeled in the future No Action and Proposed Action Alternatives. <b>Figures 1 and 2</b> illustrate the modeled tracks used for departures off of Runway 28 and 15R, respectively, in the noise analysis for both 2020 and 2025 No Action and Proposed Action Alternatives, highlighting the shift in track location associated with the TERPZ 6 procedure. <b>Tables 1 and 2</b> provide the change in track use between 2016 (annualized track use), and 2020 and 2025 illustrating the use of TERPZ 6 beginning in February of 2016, clearly indicating that the future use of the TERPZ 6 procedure is included in the noise analysis.</p> <p>In conclusion, the noise modeling completed for the EA incorporated procedures associated with the FAA DC Metroplex OAPM project in both the Action and No Action alternatives. The Proposed Action considered within the EA does not induce additional arrival and departure operations for BWI Marshall, which is reflected in the identical number of flight operations being presented for both the future No Action and Proposed Action Alternatives.</p>	
10	Howard County Office of Law	3/9/18	Noise	Moreover, the Draft EA completely fails to acknowledge the highly controversial and significant harmful impacts that aircraft noise has had on Maryland citizens,	The BWI Marshall EA's direct impact analysis is focused on the potential environmental impacts of the Proposed Action, which was the proposed improvements for BWI	No change.

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				including Howard County residents, as a result of FAA's implementation of NextGen.	Marshall Airport through 2020 that are considered necessary to meet FAA design standards, enhance airfield safety and efficiency, accommodate demand, and/or improve customer service. The Proposed Action analyzed in the BWI Marshall EA does not influence fleet mix, flight tracks, track use, or runway use. The FAA's decision to implement Performance Based Navigation flight procedures is unrelated to the proposed improvements included in the EA and Section 4(f) Determination and therefore is not the focus of the EA or the Proposed Action.	
11	Howard County Office of Law	3/9/18	Air Quality, Climate, Land Use, Historic Preservation, Forest	Furthermore, the Draft EA is deficient in its failure to include sufficient analysis of other environmental impacts related to air quality, climate change, land use, historic preservation, and deforestation, and its almost complete failure to consider impacts in Howard County.	The BWI Marshall EA includes an appropriate level of analysis of air quality and greenhouse gas (GHG) emissions from the construction of the Proposed Action improvements, as well as future aircraft operations. Construction emissions were determined to be well below <i>de minimis</i> levels. Aircraft emissions are identical between the No Action and Proposed Action as the Proposed Action has no impact on the forecasted operations at BWI Marshall Airport. The analysis of land use impacts included potential impacts of the Proposed Action related to noise, socioeconomics, natural resources and wildlife hazards. The Proposed Action is consistent with local land use plans, as the majority of the projects are located within Airport property, with the exception of off-airport vegetation removal. The analysis of noise-compatible land use determined that no additional housing units or residents, or noise sensitive sites (including historic sites) exist between the No Action and Proposed Action Alternatives. Howard County land use data was included in the noise-compatible land use analysis (Section 5.11.4.4). The tree removal included as part of the Proposed Action is not deforestation, rather select trees on private properties must be removed to address safety concerns. The tree removal included on MAA property will be mitigated appropriately through a forest management plan to ensure that trees that can remain or that are planted in replacement for trees that are deemed to be obstructions are appropriate for the area. Further, the analysis of impacts to biological resources included a detailed summary of forest and tree clearing resulting from each improvement project, as well as the application of appropriate mitigation as agreed to by the responsible resource agencies (i.e. Maryland Department of Environment and Maryland Department of Natural Resources).	No change.
12	Howard County Office of Law	3/9/18	General	For all these reasons, FAA must deny the request for approval of the Proposed Action. Relying on the Draft EA would be arbitrary and capricious and would violate several State and federal statutes. Given the significant, and unexamined, harmful effects of the Proposed action on the quality of the human environment, FAA should order MAA to perform a full Environmental Impact Study pursuant to NEPA, NHPA, and Section 4(f) that includes Howard County, and is based on relevant and reliable noise data.	The FAA will make the decision as to perform an EIS or not based on the information in the EA and public comments. The FAA will determine whether environmental impacts associated with the Proposed Action (e.g., wetlands and forest impacts) in the BWI Marshall EA are significant with the application of appropriate mitigation measures as agreed to by the responsible resource agencies (i.e., U.S. Army Corps of Engineers, Maryland Department of Environment and Maryland Department of Natural Resources). The analysis is neither arbitrary nor capricious as it was completed using the regulations included in FAA Order 1050.1F, <i>Environmental Impacts: Policies and Procedures</i> ; and FAA Order 5050.4B, <i>National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions</i> .	No change.
13	Howard County Office of Law	3/9/18	General	The Draft EA contains numerous deficiencies that render it non-compliant with the mandates of Maryland State law, NEPA, NHPA, and Section 4(f). Perhaps most significantly, it excludes any meaningful consideration of Howard County.	Applicable Maryland State law, NEPA, NHPA, and Section 4(f) regulations were followed in the development of the Draft EA. Impacts were considered with the defined study areas for each resource category. The study area was developed considering the geographic area where the alternatives being considered would potentially be impacted directly or indirectly using significance thresholds defined by the FAA or in consultation	No change.

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					with the specific resources agency if a FAA significance threshold was not defined. In accordance with the significance thresholds observed, Howard County resources were not impacted by the Proposed Action. None of the proposed improvements associated with the Proposed Action are located in Howard County. The noise analysis for both the No Action and Proposed Action Alternatives indicates that the 65 dB DNL will cross into Howard County in only one small undeveloped area near Coca Cola Drive by 2025 using Howard County GIS data to define the county boundary. Aerial photography (Google Earth 2018) shows that the area that would be included in the 65 dB DNL in 2025 is presently wooded. Land use mapping for this area indicates Commercial use and Manufacturing and Production uses are approved for this area, making the noise levels expected by 2025 compatible with future development under both State and FAA noise compatibility guidance.	
14	Howard County Office of Law	3/9/18	Noise	But it also proffers inaccurate data to support its noise analysis. This is because FAA's unilateral abandonment of State and federal noise abatement programs and FAA's implementation of new flight procedures have created significantly different noise contours than those depicted and relied upon in the Draft EA. The vast majority of noise data underlying the Draft EA is from before 2015.	See Comment Response #9.	No change.
15	Howard County Office of Law	3/9/18	Noise	Because the Proposed Action is dedicated to "improving efficiency," "increasing operations," and accommodating "anticipated demand" it will have the direct and cumulative impact of significantly increasing harmful noise impacts on Maryland citizens, including the citizens of Howard County.	The commenter incorrectly states the need for the Proposed Action. The Proposed Action is needed to: meet FAA design standards; accommodate existing and anticipated demand; improve customer service; and provide NEPA review of previously acquired property. The BWI Marshall EA does not propose or foresee an increase in the number of flights due to the improvements that are considered necessary for BWI Marshall through 2020. None of the proposed improvements will materially affect BWI Marshall Airport's ability to accommodate overall aircraft operations demand that would occur regardless of the improvements; BWI Marshall Airport can accommodate the forecasted levels of demand for both enplanements and operations without the Proposed Action, albeit not at the same level of safety and efficiency. The Proposed Action defines improvements necessary to safely and efficiently accommodate the level of operations and passengers that are anticipated to use BWI Marshall Airport through 2020. The EA does not evaluate the growth in operations that is expected to occur due to demand to fly for business, personal and recreational reasons because none of the proposed actions unto themselves drive the forecasted growth in air carrier operations. The forecasted growth in operations is not induced by the improvements that are proposed for BWI Marshall through 2020 and reviewed in the EA, which is reflected in the identical number of flight operations being presented for both the future No Action and Proposed Action Alternatives.	No change.
16	Howard County Office of Law	3/9/18	Noise	Additionally, because the noise analysis is based on inaccurate information, the Draft EA land use analysis has also been subverted and is insufficient. Compounding these errors, the Draft EA's analysis of air quality, climate change, land use, historic preservation, and deforestation is also deficient.	See Comment Response #9 related to the accuracy of the noise analysis.  As a result of the use of actual flight track data to develop noise contours, the Draft EA also appropriately addressed air quality, climate change, land use, and historic preservation associated with aircraft operations. Tree removal to meet part 77 obstructions is appropriately addressed in Sections 5.2, <i>Biological Resources</i> and 5.14, <i>Water Resources</i> . The tree removal included as part of the Proposed Action is not deforestation. Select trees on private properties must be removed to address safety concerns. The tree removal included on MAA property will be mitigated appropriately through a forest management plan to ensure that trees that are allowed to remain or	No change.

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					that are planted in replacement for trees that are deemed to be obstructions are appropriate for the area.	
17	Howard County Office of Law	3/9/18	Noise	<p><b>Header: The Proposed Action Will Cause Significant Harms to the Human Environment</b></p> <p>The Proposed Action involves massive development of the Airport in an effort to increase "activity levels through 2020." (Draft EA at 2.1.2). The result of this development will increase the harmful impacts of NextGen aircraft noise. The Draft EA makes clear that the proposed development is intended to increase runway system efficiency. Draft EA at 2-4 and 3-11. The Proposed Action is also directed to address "anticipated demand." Draft EA 2-5 and 3-14. The Draft EA acknowledges that noise impacts will increase because of increased operations due to the Proposed Action. Draft EA K-3-7.</p>	The BWI Marshall EA does not propose or foresee an increase in the number of flights due to the improvements that are considered necessary for BWI Marshall through 2020. The Proposed Action is not a massive development but one needed to meet the purpose and need: meet FAA design standards; accommodate existing and anticipated demand; improve customer service; and provide NEPA review of previously acquired property. None of the proposed improvements will materially affect BWI Marshall Airport's ability to accommodate overall aircraft operations demand that would occur regardless of the improvements. The Proposed Action defines improvements necessary to accommodate the level of operations and passengers that are anticipated to use BWI Marshall Airport through 2020 efficiently and safely. The BWI Marshall EA does not evaluate the growth in operations that is expected to occur due to demand to fly for business, personal and recreational reasons because none of the proposed actions unto themselves drive the forecasted growth in air carrier operations. The forecasted growth in operations is not induced by the improvements that are proposed for BWI Marshall through 2020 and reviewed in the EA, which is reflected in the identical number of flight operations being presented for both the future No Action and Proposed Action Alternatives.	No change.
18	Howard County Office of Law	3/9/18	Noise	<p><b>Header: The Proposed Action Will Cause Significant Harms to the Human Environment</b></p> <p>There is voluminous evidence of harmful impacts already. See Exhibit C. These impacts were not properly addressed in the DC Metroplex OAPM EA (see note). Approving the Draft EA would add to the cumulative impacts by continuing to ignore the significant effects caused by federal action at BWI. Because of the direct and cumulative impacts that will result from the Proposed Action, and for the reasons stated below, the Draft EA is not an adequate evaluation of impacts to the environment, nor is it a detailed review of the Proposed Action, as required by FAA Orders 5050.4B and 1050.1F.</p> <p><i>Note: The DC Metroplex was an early inductee to NextGen and so got the worst of FAA's unlawful implementation, but FAA's actions in implementing NextGen flight procedure changes that were not in accordance with federal law has been documented in City of Phoenix and Georgetown. In the DC Metroplex, FAA actively mischaracterized its activities as having little to no effect below 3,000 feet altitude. FAA Finding of No Significant Impact for the DC OAPM (2013). In fact, there have been significant changes below 3,000 feet that FAA failed to disclose and which are adversely affecting thousands of Maryland residents, including in Howard County. FAA acknowledged this by creating the BWI Community Roundtable but, its interactions with the Roundtable have continued the misrepresentations and mischaracterizations by FAA.</i></p>	<p>This comment contains a number of issues outside the scope of the Proposed Action responses are provided for comments relevant and germane to the Proposed Action, which is specifically improvements needed at BWI Marshall between 2016-2020.</p> <p>The BWI Marshall EA analysis is independent from the DC Metroplex OAPM project. However, the Proposed Action and No Action Alternative noise exposure contours for both 2020 and 2025 include use of the air traffic procedures implemented as part of the DC Metroplex OAPM project. The Proposed Action would not result in significant noise impacts, as the forecasted operations are identical between the No Action and Proposed Action Alternatives. The EA was developed in accordance with the Council on Environmental Quality implementing regulations [(CEQ); 40 Code of Federal Regulations (CFR) 1500-1508]; FAA Order 1050.1F, <i>Environmental Impacts: Policies and Procedures</i>; and FAA Order 5050.4B, <i>National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions</i>.</p>	No change.
19	Howard County Office of Law	3/9/18	Noise	<p><b>Header: The Draft EA Relies On Outdated and Inaccurate Noise Data</b></p> <p>Old noise data was used in the Draft EA despite significant changes to air traffic. MAA's analysis in the Draft EA is based almost exclusively on data that is from 2014 or earlier. MAA has admitted this data is invalid because the 2014 Noise Contour Maps do not reflect real flight conditions due to FAA's implementation of NextGen flight procedures at BWI beginning in 2015. MAA attempted to partially address</p>	See Comment Response #9.	No change.

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				this by presenting "Existing Noise Contour Maps" based on only five weeks of data, three weeks of which were in 2015, before significant flight path changes occurred in February of 2016. The Existing Noise Contour Maps are not representative of noise resulting from BWI departures and MAA's existing noise exposure maps remain inaccurate. The real, existing, and future noise contours are indisputably different from what MAA relies upon because FAA significantly changed flight procedures without notice and the MAA noise monitoring system has been largely non-operational over the last 18 months.		
20	Howard County Office of Law	3/9/18	Noise	<p><b>Header: The Draft EA Relies On Outdated and Inaccurate Noise Data</b></p> <p>The noise data relied on in the Draft EA does not represent real-life conditions because the majority of noise data was collected in 2014 and earlier (See Note). However, in 2015, 2016, and 2017, FAA implemented new navigation waypoints and flight procedure changes that were not consistent with the federally approved and State required BWI Noise Abatement Plan ("NAP"). MD CODE ANN., TRANSP. § 5-805. In particular, the implementation of the TERPZ6 waypoint and the relocation of the WONCE waypoint contributed to a shift that had already begun of Runway 28 departures further to the north. [Exhibit References] But MAA fails to adequately acknowledge any of this in the Draft EA. Instead, MAA relies on old noise data that MAA admits is no longer valid and a very limited set of new data, derived from computer models, that is not representative of current flight paths.</p> <p><i>Note: FAA approved the BWI noise exposure maps in 2016. 81 FR 59714-01 (August 30, 2016). This was based on the Airport Noise Zone Update prepared by MAA in 2014; revisions to the 2014 Update in 2016 did not affect noise contours, land use inventory, or population estimates.</i></p>	See Comment Response #9.	No change.
21	Howard County Office of Law	3/9/18	Noise	<p><b>Header: The Draft EA Relies On Outdated and Inaccurate Noise Data</b></p> <p>A review of flight track imagery produced by FAA and MAA shows clearly that noise contour maps created in 2014 bear no relation to current noise contours, which have moved as a result of FAA's flight procedure changes, and which include areas of Howard County. [Exhibit G] It is telling that even incorporating only two weeks of 2016 flight track data, the Existing Noise Contours moved significantly to the north. Accurate data from flight tracks that are currently being flown would show a further movement north over areas of Howard County, including schools, that have not historically experienced 65dB DNL noise impacts.</p>	See Comment Response #9.	No change.
22	Howard County Office of Law	3/9/18	Noise	<p><b>Header: The Draft EA Relies On Outdated and Inaccurate Noise Data</b></p> <p>The noise model inputs used to develop noise contours are supposed to rely on "representative flight track descriptions." BWI Airport Noise Zone Update ("ANZ Update") at 5. Because the flight tracks have changed, the old data is not a sufficient basis upon which to base the Draft EA noise analysis. FAA cannot continue to ignore the significant flight path changes that will increase under the Proposed Action, and which have caused harms to the people of Howard County. A full EIS must be performed that includes current flight track information and noise monitoring data.</p>	See Comment Response #9.	No change.
23	Howard County Office of Law	3/9/18	Noise	<p><b>Header: The Draft EA Relies On Outdated and Inaccurate Noise Data</b></p> <p>It is clear from Figure K-2-4, that even the <i>de minimus</i> analysis of two weeks from 2016 significantly moved the noise contours to the north. An accurate noise exposure map would show them even further north. Figure 2-29 in Appendix K-2</p>	See Comment Response #9.	No change.

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				shows the inaccuracy of the modeled efforts. Many radar flight tracks lie far outside the modeled paths.		
24	Howard County Office of Law	3/9/18	Noise	<b>Header: The Draft EA Relies On Outdated and Inaccurate Noise Data</b> Moreover, because Runway 15R was also affected by the flight procedure changes and that traffic travels over the same areas of Howard County as Runway 28 departures, the noise levels in those areas have not been properly modeled.	Figure 2 illustrates the modeled tracks used for departures off Runway 15R in the noise analysis for both 2020 and 2025 No Action and Proposed Action Alternatives, highlighting the shift in track location associated with the TERPZ 6 procedure. Table 2 provides the change in track use between 2016 (annualized track use), and 2020 and 2025 illustrating the use of TERPZ 6 beginning in February of 2016, clearly indicating that the future use of the TERPZ 6 procedure is included in the noise analysis.	No change.
25	Howard County Office of Law	3/9/18		<b>Header: The Draft EA Relies On Outdated and Inaccurate Noise Data</b> The Draft EA indicates that the Proposed Action will increase 65dB DNL noise contours by 8.3%, particularly off of Runway 28. Draft EA K-3-8. Confusingly, the Draft EA states elsewhere that the Proposed Action noise contours are expected to increase 1.3% over the No Action alternative. Draft EA at 5-32. Based on the increase in traffic that is the purported need for the Proposed Action, it makes no sense that the No Action alternative would result in the same noise impacts as the Proposed Action. An EIS should be performed based on real data so that a genuine alternatives analysis can occur, and real impacts evaluated.	The Proposed Action and No Action Alternatives include an identical number of flight operations in future years. The noise analysis for the Proposed Action shows noise increases only around the proposed Airline Maintenance Facility due to engine maintenance run-ups. This area is the only notable change in the noise contours when compared to the No Action Alternative. This change in noise occurs within areas that are compatible with the Proposed Action (i.e. commercial and manufacturing and production). No residential, educational, park, church or other sensitive uses are included in this area. The Draft EA states that compared with the Part 150 Study 2019 noise contours, the areas within the 65+DNL of the BWI EA 2020 Proposed Action noise contours are projected to increase by 8.3%, and that a direct comparison between the No Action and Proposed Action 65+ DNL contour areas indicates that the Proposed Action is expected to increase the contour area by approximately 1.3% in both 2020 and 2025.	No change.
26	Howard County Office of Law	3/9/18	Noise	<b>Header: The Draft EA Relies On Outdated and Inaccurate Noise Data</b> It is important to note that throughout this time the MAA Noise Monitoring System has been barely functional. Throughout 2015 and 2016, only 7 out of 23 noise monitoring stations were operational. See Exhibit H. There are no results from 2015 for Columbia or the two Hanover locations. MAA acknowledged in 2014 that the noise monitoring systems was "outdated" and that "several pieces of equipment have failed." ANZ Update at 59. The paucity of real data available means that an EIS must be performed. It is also noteworthy that MAA has conducted several noise studies in the last two years, due to massive increase in complaints, yet none of them were utilized or even mentioned in the Draft EA.	Noise contours and the ANZ are developed using predictive modeling based on existing and forecast operations, as well as any new airport construction, if applicable. Consistent with applicable FAA guidance and orders, noise contours are not developed using noise monitoring data. Accordingly, the status of Airport noise monitors does not affect the predictive accuracy of FAA noise models. Further, it is not possible to use noise monitors to predict future noise contours. Section 4.12.1 and Appendix K provide information about noise model input data used for the development of the Existing Conditions. Aircraft operations were based on actual 2016 EnvironmentalVue data adjusted to match FAA Terminal Area Forecast data. Runway utilization was calculated from EnvironmentalVue radar data from May 2015 to August 2015, and December 2015 to April 2016 with days of extended runway closures removed. Flight track location and utilization were based on a five-week EnvironmentalVue radar data sample. It is unclear which studies the commenter is referencing, however, the modeling completed for the Draft EA is appropriate. No studies developed by the State or the FAA are inconsistent with this noise analysis.	No change.
27	Howard County Office of Law	3/9/18	Noise	<b>Header: The Draft EA Relies On Outdated and Inaccurate Noise Data</b> Increases in night operations, increases in stage-length, and the introduction of a new maintenance facility and de-icing pad, that will increase noise producing run-up operations are additional factors that contribute to expanding noise contours that are not sufficiently captured or analyzed in the Draft EA.	The number of operations occurring during nighttime hours and the assumptions of stage length remain consistent between the No Action and Proposed Action Alternatives. The noise analysis for the Proposed Action shows noise increases only around the proposed Airline Maintenance Facility due to engine maintenance run-ups. This area is the only notable change in the noise contours when compared to the No Action Alternative. This change in noise occurs within areas that are compatible with the Proposed Action (i.e. commercial and manufacturing and production). The	No change.

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					remaining improvements do not result in noise increases in the Proposed Action as compared to the No Action Alternative.	
28	Howard County Office of Law	3/9/18	Noise	<b>Header: The Draft EA Relies On Outdated and Inaccurate Noise Data</b> Compounding the failure of MAA's noise analysis, is the fact that the BWI NAP and Airport Noise Zone ("ANZ") are currently in violation of State law because they do not reflect the significant flight procedure changes implemented by FAA. State law requires that the largest of the three contours (65dB+) in any area around the Airport determines the ANZ thereby offering protection within the largest of the existing or future noise exposure contours. ANZ Update at 53. Although the new procedures were implemented in 2015 and 2016, MAA has not updated the ANZ as required by law. TRANSP. §§ 5-805(b), 5-806, and 5-819. Given MAA's ongoing non-compliance with State law regarding noise abatement, and the fact that new areas of Howard County are now in the 65dB DNL, which constitutes a significant change, approval of the Draft EA would be arbitrary and capricious.	The current ANZ was developed in 2014 and represents the largest of the three contours around the Airport (between existing and future years). No areas of Howard County are within the current ANZ. As required by TRANSP. §§ 5-805(c), "Unless required earlier as part of an environmental impact study or by the Executive Director, an assessment of the noise environment for each airport and any noise abatement plan required by this section shall be submitted to the Executive Director for approval by July 1 of each fifth year after July, 1976." It would be expected that the ANZ will be updated in 2019 to represent any changes in the noise environment around the Airport. Regardless, the status of the ANZ is a separate matter from and has no bearing on the Proposed Actions considered in the EA.	No change.
29	Howard County Office of Law	3/9/18	Noise Compatible Land Use	<b>Header: The Draft EA Land Use Analysis is Insufficient</b> MAA unreasonably relies on a land use analysis that ignores FAA's abandonment of a huge land use program that is imbedded in State law, the ANZ. State law requires NAP be established where an impacted land use area lies within a noise zone and where adjustments are necessary due to operational changes. TRANSP. § 5-805(b). MAA has failed to comply with both statutory mandates (See Note). Howard County lies within a noise zone and operational changes require adjustment to existing plans. See COMAR 11.03.01.02B(3), which requires that Howard County be included in the BWI Noise Zone.  <i>Note: MAA's failure to pursue a NAP is subject to a Writ of Mandamus. MAA has admitted that Howard County lies with 65dB DNL noise contours. See, e.g. Draft EA Table 4.12.2.</i>	This comment is not relevant to the BWI Marshall EA. The Proposed Action within the BWI Marshall EA does not induce or change aircraft operations. Operational changes at BWI Marshall Airport are independent of the Proposed Action and would result in identical impacts to the BWI Noise Zone under both the No Action and Proposed Action Alternatives. No portion of the 2014 ANZ encroaches upon Howard County property. It would be expected that the ANZ will be updated in 2019 to reflect existing and future conditions. Further, FAA is not subject to the ANZ provisions, which apply only to the Airport.	No change.
30	Howard County Office of Law	3/9/18	Noise Compatible Land Use	<b>Header: The Draft EA Land Use Analysis is Insufficient</b> Instead of addressing these issues, MAA relies on the 2014 noise contour maps, not the Existing Noise Contour maps, in its land use analysis. Draft EA 4-39, Fig. 4-10-2. Consequently, while the Draft EA discusses the Anne Arundel County General Development Plan, there is no discussion at all of Howard County land use planning. Draft EA section 4.13 also fails to discuss Howard County. Additionally, the land-use analysis relies on 2014 forecasts of noise levels in 2019 and 2024, Draft EA 4-39, which are demonstrably wrong due to the new flight procedure changes. Thus, the land use analysis is insufficient, whether it includes Howard County or not.	The commenter describes the materials used for describing the affected environment which correctly cites the existing ANZ. The base condition for the BWI Marshall EA is 2016, which is depicted on Figures 4.12-1 and 4.12-2, neither of which show the 65 dB DNL contours extending into Howard County. However, Howard County GIS information was used to show land uses beyond the extent of the 65 dB DNL contour. The analysis of potential impact due to the Proposed Action is described in Chapter Five, Environmental Consequences.	No change.
31	Howard County Office of Law	3/9/18	Noise Compatible Land Use	<b>Header: The Draft EA Land Use Analysis is Insufficient</b> NEPA regulations require discussion of inconsistency with existing plans. 40 CFR 1506.2. But the Draft EA does not even mention that FAA has abandoned the Part 150 planning process. Draft EA 5-26, 5-30; see also Exhibit E. MAA cannot continue expansion plans while ignoring the fact that land use planning around the airport has been totally upended and failing to include Howard County in its land use analysis.	The Part 150 Noise Compatibility Plan for BWI Marshall has no bearing on the noise analysis completed for the BWI Marshall EA, as the EA used actual radar tracks to define the 2016 existing conditions. Because the Proposed Action does not influence runway use, track location or use, the only difference in the noise contours is in the area of the proposed Airline Maintenance Facility where engine maintenance run-up operations are expected to be conducted. This change in noise occurs within areas that are compatible with the Proposed Action (i.e. commercial and manufacturing and production) within Anne Arundel County. The Proposed Action is not and does not	No change.

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					cause any inconsistency with the Part 150 Noise Compatibility Plan, which could be updated in the future.																																																			
32	Howard County Office of Law	3/9/18	General	<p><b>Header: Other Draft EA Deficiencies</b> There are several other ways in which the Draft EA fails to meet statutory requirements. The Draft EA must be based on valid data. It must also include information sufficient to inform the general public of the impacts that will be imposed on them. Because the significant flight procedure changes are not addressed in the EA, the analysis of multiple environmental impacts fails.</p>	The Draft EA was developed based on reasonable planning data as detailed within the technical appendices of the document. The details provided within the main document and technical appendices provide adequate information for the public and resource agencies to validate significance determinations included in the Draft EA. The Draft EA included a sample of flight tracks representative of the air traffic procedures in place for the year 2016. Similarly, the Proposed Action and No Action Alternative noise exposure contours for both 2020 and 2025 include use of the air traffic procedures in place through June 2016. Both TERPZ 5 and TERPZ 6, related to departures off of Runway 28 and 15R were modeled in the Existing Condition, and TERPZ 6 was modeled in the future No Action and Proposed Action Alternatives. Use of projected noise contours for 2020 and 2025 is the required method to analyze potential impacts associated with the Proposed Action.	No change.																																																		
33	Howard County Office of Law	3/9/18	Air Quality, Climate	<p><b>Header: Other Draft EA Deficiencies</b> The air quality and climate change analysis did not take into consideration the dramatic flight procedure changes imposed by FAA, which has resulted in significant air quality impacts. Incredibly, there was no air quality monitoring conducted in Howard County. Draft EA Table 4.2.7. This is totally unacceptable, particularly as Howard County is in a NAAQS non-attainment area and it receives the vast majority of departure traffic from BWI and a substantial amount of arrival traffic, all of which are now occurring at lower altitudes, which means less geographic dispersion of pollutants and pollutant precursors and thus greater impacts on Howard County citizens, including school children. Because the aircraft emissions data was based on the 2014 ANZ Update, it does not incorporate any of the considerable changes that have taken place since 2015. Draft EA Appendix G, 1-1. These changes include, among other things, increased thrust for low altitude turns. Increased thrust means increased emissions. The climate and GHG analysis also failed to consider these increased emissions. There is actually little climate analysis at all, with MAA apparently relying on the fact that there are no airport-related federal standards for GHG emissions. Draft EA 5-13. NEPA requires more. The Draft EA's failure to address all this means that a full EIS must be performed.</p>	<ul style="list-style-type: none"> <li>The air quality monitoring data provided in Table 4.2.7 are obtained from the U.S. Environmental Protection Agency (EPA) and Maryland Department of the Environment (MDE). These data are collected as part of the ongoing and in-place air monitoring station network of the Greater-Baltimore area. In other words, these existing data published and collected by the U.S. EPA and MDE provided a means for describing current air quality conditions in the region. There is one air monitoring station located in Howard County, located approximately 9.8 miles southwest of BWI Marshall Airport. As shown, these values are within the NAAQS.</li> </ul> <p><b>Air Monitoring Data from Howard County Monitoring Station</b></p> <table border="1"> <thead> <tr> <th rowspan="2">Site Name, Address and ID</th> <th rowspan="2">Pollutant</th> <th rowspan="2">Primary/Secondary Standard</th> <th rowspan="2">Averaging Time</th> <th rowspan="2">NAAQS</th> <th colspan="3">Year &amp; Values</th> </tr> <tr> <th>2014</th> <th>2015</th> <th>2016</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Howard County Near Road Interstate 95</td> <td rowspan="2">CO</td> <td rowspan="2">Primary</td> <td>8 hours</td> <td>9 ppm</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>1 hour</td> <td>35 ppm</td> <td>2</td> <td>1</td> <td>1</td> </tr> <tr> <td rowspan="3">South Welcome Center North Laurel, MD 24-027-0006 (9.8 miles southwest of BWI Marshall Airport)</td> <td rowspan="2">NO<sub>2</sub></td> <td rowspan="2">Primary and Secondary</td> <td>1 hour</td> <td>100 ppb</td> <td>51*</td> <td>45**</td> <td>51</td> </tr> <tr> <td>1 year</td> <td>53 ppb</td> <td>18</td> <td>18</td> <td>17</td> </tr> <tr> <td rowspan="2">PM<sub>2.5</sub></td> <td rowspan="2">Primary</td> <td>1 year</td> <td>12 µg/m<sup>3</sup></td> <td>12*</td> <td>11**</td> <td>10</td> </tr> <tr> <td>Secondary</td> <td>1 year</td> <td>15 µg/m<sup>3</sup></td> <td>12*</td> <td>11**</td> <td>10</td> </tr> </tbody> </table>	Site Name, Address and ID	Pollutant	Primary/Secondary Standard	Averaging Time	NAAQS	Year & Values			2014	2015	2016	Howard County Near Road Interstate 95	CO	Primary	8 hours	9 ppm	1	1	1	1 hour	35 ppm	2	1	1	South Welcome Center North Laurel, MD 24-027-0006 (9.8 miles southwest of BWI Marshall Airport)	NO <sub>2</sub>	Primary and Secondary	1 hour	100 ppb	51*	45**	51	1 year	53 ppb	18	18	17	PM <sub>2.5</sub>	Primary	1 year	12 µg/m <sup>3</sup>	12*	11**	10	Secondary	1 year	15 µg/m <sup>3</sup>	12*	11**	10	No change.
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							Primary and Secondary	24 hours	35 µg/m <sup>3</sup>	21*	22**	22	
					<p>Notes: ppm: parts per million; ppb: parts per billion; µg/m<sup>3</sup>: micrograms per meters cubed.</p> <p>NAAQS – National Ambient Air Quality Standards CO – carbon monoxide, NO<sub>2</sub> – Nitrogen dioxide, PM<sub>2.5</sub> – particulate matter less than or equal to 2.5 microns Air Data Downloaded at <a href="https://www.epa.gov/outdoor-air-quality-data/interactive-map-air-quality-monitors">https://www.epa.gov/outdoor-air-quality-data/interactive-map-air-quality-monitors</a> in March 2018. *Data limited to a single year. ** Data limited to two years.</p> <p>The air quality section included an emissions inventory using FAA’s AEDT model, replicating operations that were modeled for the noise analysis. The model addresses climb profiles and thrust according to the stage length (distance to the destination airport). The commenter incorrectly states that the operations modeled are based on the 2014 ANZ. As with the noise analysis, the air quality analysis was based on 2016 runway and track use, and 2016 operations for existing conditions inclusive of the TERPZ 5 and TERPZ 6 procedures. The future conditions were based on operational levels projected for 2020 and 2025 also inclusive of the TERPZ 6 procedure. This analysis accounts for total airport-related emissions on an annual basis and is expressed in tons/year. Based on the results, it is estimated that there are minimal (&lt;1 percent) changes in total emissions between the No Action and Proposed Action Alternatives. This outcome can be translated into a corresponding minimal change in ground level air pollutant concentrations and impacts.</p> <p>Airport-related GHG emissions were estimated for current (2016) and future years (2020 and 2025) with and without the proposed projects at BWI Marshall. The results are provided in Table 4.4.1 (Current), 5.3.1 (Operational Emissions) and 5.3.2. (Construction Emissions). As shown, there is an estimated increase in CO<sub>2</sub>e emissions from current to future years, but no expected changes in CO<sub>2</sub>e emissions between the future No Action and Proposed Action Alternatives. However, these emissions associated with BWI Marshall Airport remain a very small fraction of State, National and World emissions. Insofar as there are no criteria or thresholds that apply to airport GHG emissions, it is important to note that the proposed projects will not cause an increase in CO<sub>2</sub>e emissions when compared to the No Action Alternative.</p>								
34	Howard County Office of Law	3/9/18	Noise, Air Quality, Tree Removal	<p><b>Header: Other Draft EA Deficiencies</b> The Draft EA proposes significant tree removal but fails to consider how this will affect air quality, climate, or noise. Draft EA 3-10, Figure 3.2.8. The important noise buffering and air quality impacts associated with tree removal should be considered in a full EIS.</p>	<p>The Final EA includes a discussion of the potential noise impacts associated with tree removal. Proposed obstruction removal off the Runway 15L end under the ALP Alternative includes removal of 1,147 individual trees on private properties, as well as the selective clearing of 384 trees on a parcel of Airport-owned property adjacent to the residential properties. Vegetation is often considered a noise barrier to reduce the noise associated with airport and roadway traffic. It should be noted that vegetation as</p>								No change.

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					<p>a noise barrier generally affects surface noise and not airborne noise from aircraft landing or taking off (See Note 1).</p> <p>Studies vary, but it has been shown that dense vegetation can be useful in reducing surface noise. However, the use of vegetation as a surface noise barrier varies greatly dependent on variables such as tree species and heights, and branch and leaf densities (See Note 2). The majority of trees within and nearby the Airport are mixed deciduous species, with smaller areas of pine species. The forest stands and specimen trees identified on private properties off the Runway 15L end consist almost entirely of deciduous species: poplars, oaks, and maples. Deciduous tree species lose their leaves seasonally, and therefore are not ideal species to be used for noise attenuation. For this reason alone, the selective tree clearing off the Runway 15L end would not be expected to impact noise attenuation in the residential areas. Additionally, the use of vegetation as a noise barrier is often psychological, in that removing a noise source from view will reduce annoyance to noise whether or not the noise actually remains (See Note 3). While the selective tree clearing would reduce the density of forest stands in some areas, the existing visual vegetation barriers would remain in place between residential properties and the Airport.</p> <p>The Sponsor's Preferred Alternative includes removal of 1,102 individual trees on private properties off the Runway 15L end, as well as the selective clearing of 384 trees on a parcel of Airport owned property adjacent to the residential properties. The proposed obstruction removal is similar to the ALP Alternative with the exception of 45 individual trees that will remain due to a 2016 tree survey that determined they were no longer considered to be obstructions. The proposed tree removal is comparable to that proposed in the ALP Alternative, and thus the potential impacts on noise attenuation would be the same.</p> <p>The tree removal included as part of the Proposed Action includes select trees on private properties that must be removed to address safety concerns and the tree removal included on MAA property will be mitigated appropriately through a forest management plan to ensure that trees that are allowed to remain or that are planted in replacement for trees that are deemed to be obstructions are appropriate for the area. The removal of the isolated trees on private property will have minimal impact to local air quality.</p> <p><i>Note 1: Air Transport Research Institute, Airport Noise, February 13, 2012, <a href="https://atrisa.wordpress.com/tag/noise-barriers/">https://atrisa.wordpress.com/tag/noise-barriers/</a></i></p> <p><i>Note 2: VDOT, Highway Noise Reduction Experiment, Appropriation Act Item 442 C. (2007), Executive Summary, December 2008, <a href="http://www.virginiadot.org/projects/resources/4_09_highway_noise_final_report.pdf">http://www.virginiadot.org/projects/resources/4_09_highway_noise_final_report.pdf</a></i></p> <p><i>Note 3: USDOT FHWA, Noise, The Audible Landscape: A Manual for Highway Noise and Land Use, 4.4C) Plantings, <a href="https://www.fhwa.dot.gov/ENVIRONMENT/noise/noise_compatible_planning/federal_approach/audible_landscape/al04.cfm">https://www.fhwa.dot.gov/ENVIRONMENT/noise/noise_compatible_planning/federal_approach/audible_landscape/al04.cfm</a></i></p>	
35	Howard County Office of Law	3/9/18	Historic Resources	<b>Header: Historical Resource Impacts and Section 4(f)</b>	As discussed above, the noise contours were generated based on accurate and representative data that reflects FAA's most recent airspace changes. The noise	No change.

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				The Draft EA seeks to address FAA's responsibilities under NHPA Section 106 in sections 4.9 and 5.8, but the analysis is inadequate. This is partly due to the fact that the noise exposure maps are wrong. It is also due to the fact that MAA has used an area of potential effects ("APE") that does not meet statutory criteria. The APE is supposed to be the "geographic area within which an undertaking may directly or indirectly cause alterations in the character of use of historic properties." Draft EA 4-33. But MAA used an APE with the same boundaries as the Study Area. This is inadequate because of the significant adverse effects aircraft noise has on historic properties outside of MAA's designated APE. The APE should extend at least through accurate 65dB DNL noise contours and possibly further depending on the historic properties involved.	analysis for the Proposed Action shows noise increases only around the proposed Airline Maintenance Facility due to engine maintenance run-ups. This area is the only notable change in the noise contours when compared to the No Action Alternative. This change in noise occurs within areas that are compatible with the Proposed Action (i.e. commercial and manufacturing and production). Therefore, noise contours were not taken into consideration for development of the Indirect APE. The FAA's Metroplex OAPM airspace changes are not part of the Proposed Action evaluated in this EA. The MAA initiated Section 106 (NHPA) consultation with the Maryland Historical Trust, State Historic Preservation Office on 6/26/2016 and received their concurrence on 7/27/2016. Additionally, the APE was coordinated with MHT and their concurrence received on 3/8/2017. Furthermore, all other studies and evaluations were coordinated with the MHT for their review and comment, including their formal review of the Draft EA document.  Criteria to determine Adverse Effect on Historic Properties are listed in 36 CFR § 800.5(a)(1). Because the proposed projects are not anticipated to introduce a "visual, atmospheric or audible element that diminishes the integrity" of any historic properties, of the FAA and MHT concluded that there would be no adverse effect associated with the proposed undertaking. Additionally, in a letter dated 2/6/2018, MHT indicated that they "found this project to be consistent with their plans, programs, and objectives."	
36	Howard County Office of Law	3/9/18		<b>Header: Historical Resource Impacts and Section 4(f)</b> The impact of noise on the character and settings of historic properties constitutes an adverse impact that MAA must study further. Attached as Exhibit I is a sample of the many historic properties in Howard County that are potentially threatened by the Proposed Action. None of these properties is discussed, or even mentioned in the Draft EA.	See Response #28. There are no Howard County Historic Sites located within the APE; nothing about the Proposed Action would cause any direct or indirect effects on these Sites. The MAA initiated Section 106 (NHPA) consultation with the Maryland Historical Trust, State Historic Preservation Office on 6/26/2016 and received their concurrence on 7/27/2016. Additionally, the APE was coordinated with MHT and their concurrence received on 3/8/2017. Lastly, all other studies and evaluations were coordinated with the MHT for their review and comment, including their formal review of the Draft BWI Marshall EA document.	No change.
37	Howard County Office of Law	3/9/18	Historic Resources	<b>Header: Historical Resource Impacts and Section 4(f)</b> The Section 4(f) analysis is similarly impaired as no Howard County properties were considered, despite the fact that there are many publicly owned lands, including parks and historic sites of significance that will be constructively used due to the noise and visual impact of the Proposed Action.	There are no noise impacts associated with the Proposed Action in Howard County and there would be no constructive use due to noise or visual impacts for any properties, historic or otherwise, in Howard County.	No change.
38	Howard County Office of Law	3/9/18	Alternatives	<b>Header: The Alternatives Analysis is Inadequate</b> The alternatives analysis is generally inadequate because of the contradictory nature of the claims made by MAA. MAA claims that the Proposed Action is needed to increase operations and efficiency, reduce runway occupancy times, and to meet anticipated demand. But MAA claims both that the several No Action alternatives will not address the need to expand operations, but will result in the same level of air traffic. This is clearly an arbitrary conclusion.	The commenter incorrectly states the need for the Proposed Action. The Proposed Action is needed to: meet FAA design standards; accommodate existing and anticipated demand; improve customer service; and provide NEPA review of previously acquired property. The Proposed Action is not intended to and does not induce (increase) operations. Six improvements are listed as intended to accommodate existing and anticipated demand safely and efficiently. It should be noted, however, that none of the improvements will materially affect BWI Marshall Airport's ability to accommodate overall forecast aircraft operations demand. For example:  - The Runway 15R Deicing Pad will increase BWI Marshall Airport's ability to deice aircraft so they can take off with less delay. Airlines, however, do not schedule flights assuming adverse weather. If the Deicing Pad is not built, the	No change.

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					<p>same number of aircraft takeoffs will occur, but they will be delayed and some daytime operations may become nighttime operations.</p> <ul style="list-style-type: none"> <li>- The <i>General Aviation Facility Improvements</i> consist of additional hangars and automobile parking. These are primarily service improvements, and if the projects were not built, the prospective hangar occupants would park their aircraft on the apron and their automobiles elsewhere at the Airport during peak periods.</li> <li>- Since Northrop Grumman performs very few aircraft operations at BWI Marshall Airport, the expanded <i>Northrop Grumman Hangar</i> will not materially increase the number of operations that can be accommodated at the Airport.</li> <li>- The <i>New Airline Maintenance Facility</i> will not materially affect the number of operations accommodated at BWI Marshall Airport. Airlines incorporate maintenance into their regular airline schedules, thereby avoiding the cost of additional flights solely for maintenance. If the facility is not built, some aircraft maintenance will occur elsewhere but the airline schedules will not be changed.</li> <li>- The <i>Building 113 Demolition</i> will not increase capacity. The demolition of the building will make airfield pavement near the cargo area available for use.</li> <li>- The <i>Deicing Chemical Storage Project</i>, like the <i>Runway 15R Deicing Pad</i> will increase BWI Marshall Airport's ability to deice aircraft efficiently and reduce delay, but will not affect airline schedules or BWI Marshall Airport's ability to accommodate total airline operations.</li> </ul>	
39	Howard County Office of Law	3/9/18	Alternatives	<p><b>Header: The Alternatives Analysis is Inadequate</b> This conclusion is further undermined because the Proposed Action is not accurately evaluated based on the flight procedure changes that have taken place. Accordingly, the impacts of the Proposed Action are underestimated, while the No Action impacts are over estimated. One example of this is Draft EA figure K-7, which purports to show that the noise contours under the Proposed Action and No Action alternatives would be virtually the same. This obviously cannot be true given the 10 degree low altitude right turn Runway 28 departures make, which was not adequately analyzed in the Draft EA. The noise contours rely on old data, which is demonstrated by the fact that the Draft EA No Action and Proposed Action contours would be the same. This shows that the Existing Noise Contours are based on unreliable information. Otherwise, they would show a deviation to the north. A full EIS with a genuine alternatives analysis must be conducted.</p>	<p>See Comment Response #9 related to the accuracy of the noise analysis.</p> <p>The alternatives analysis completed within the BWI Marshall EA is appropriate for the Proposed Action. In accordance with 1050.1F, "An EA may limit the range of alternatives to the proposed action and no action when there are no unresolved conflicts concerning alternative uses of available resources. Alternatives are to be considered to the degree commensurate with the nature of the proposed action and agency experience with the environmental issues involved." Alternatives were appropriately considered where natural resources (i.e. biological and water resources) would be potentially impacted.</p>	No change.
40	Howard County Office of Law	3/9/18	General	<p><b>Header: Conclusion</b> Relying on the Draft EA for compliance with NEPA, NHPA, and Section 4(f) would be not only be arbitrary and capricious, it would also be incredibly unfair to the citizens of Howard County.</p>	<p>The purpose of the EA for the <i>Proposed Improvements 2016-2020 at Baltimore/Washington International Thurgood Marshall Airport</i> is to allow the FAA to meet the requirements of this order [FAA Order 5050.4B] and NEPA as the basis for recommending the issuance of a Finding of No Significant Impact (FONSI) or the preparation of an Environmental Impact Statement (EIS)." The FAA will make the decision as to perform an EIS or not, based in part on its assessment of whether the environmental impacts associated with the Proposed Action (e.g., wetlands and forest impacts) in the BWI Marshall EA are significant with the application of appropriate mitigation measures as agreed to by the responsible resource agencies (i.e., U.S. Army Corps of Engineers, Maryland Department of Environment and Maryland Department of Natural Resources). FAA Order 5050.4B identifies all "special purpose laws" to be taken into consideration in the EA, including, but not limited to, the NHPA and 49 USC</p>	No change.

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					Subchapter I, Section 303 c (formerly Section 4(f) of the Department of Transportation Act).	
41	Howard County Office of Law	3/9/18	Noise	<p><b>Header: Conclusion</b>                      The failure of the Draft EA to adequately consider the significant flight procedure changes that have occurred since 2015 means that it is legally insufficient. For the same reasons, the Draft EA does not satisfy the requirements of the Maryland Environmental Policy Act. NAT. RES. § 1-301, <i>et seq.</i> A full EIS must be prepared that adequately addresses the impacts and effects associated with the Proposed Action.</p>	<p>See Comment Response #9 related to the consideration of flight procedure changes.</p> <p>The Draft EA was provided to the Maryland Department of Planning and reviewed through Maryland’s Clearinghouse Review Process with no state agencies indicating opposition to the proposed improvements.</p> <p>The FAA makes the decision as to perform an EIS or not, based on whether the environmental impacts associated with the Proposed Action (e.g., wetlands and forest impacts) in the BWI Marshall EA are significant with the application of appropriate mitigation measures as agreed to by the responsible resource agencies (i.e., U.S. Army Corps of Engineers, Maryland Department of Environment and Maryland Department of Natural Resources).</p>	No change.
<b>PUBLIC COMMENTS</b>						
1	Drew Roth	01/6/18	Noise	<p>The noise appendix is very relevant.</p> <p>While the intro states that this does not affect flight paths and is independent of Nextgen, the proposed program most definitely increases airport capacity and therefore increases noise.</p> <p>We should consider asking this EA to be coupled to the NextGen EA, and that a full environmental impact statement be performed for the combined effort due to the noise increase.</p>	<p>None of the proposed improvements will materially affect BWI Marshall Airport’s ability to accommodate overall aircraft operations demand. The Proposed Action defines improvements to enhance the safety and efficiency of the levels of operations and passengers that are anticipated to use BWI Marshall Airport through 2020 regardless of whether the improvements are made.</p> <p>The 2011 Master Plan indicated that BWI Marshall Airport’s current airfield facilities can accommodate up to 360,000 aircraft operations annually. The most recent forecast for BWI Marshall Airport, the FAA’s Terminal Area Forecast (TAF) projects that BWI Marshall Airport will not reach the 360,000 operations level until 2038. Therefore, current airfield facilities are more than adequate to accommodate aircraft operations, albeit at reduced efficiency and service levels, during the 2016-2020 period.</p> <p>Most of the projects in the Proposed Action are intended to meet FAA standards, enhance airfield safety and efficiency, and improve customer service. Six projects are listed as intended to accommodate existing and anticipated demand. For example:</p> <ul style="list-style-type: none"> <li>- The <i>Runway 15R Deicing Pad</i> will increase BWI Marshall Airport’s ability to deice aircraft so they can take off with less delay. Airlines, however, do not schedule flights assuming adverse weather. If the Deicing Pad is not built, the same number of aircraft takeoffs will occur, but they will be delayed and some daytime operations may become nighttime operations.</li> <li>- The <i>General Aviation Facility Improvements</i> consist of additional hangars and automobile parking. These are primarily service improvements, and if the projects were not built the prospective hangar occupants would have to park their aircraft on the apron and their automobiles elsewhere at the Airport during peak periods.</li> <li>- Since Northrup Grumman performs very few aircraft operations at BWI Marshall Airport, the expanded <i>Northrup Grumman Hangar</i> will not materially increase the number of operations that can be accommodated at the Airport.</li> </ul>	No change.

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					<ul style="list-style-type: none"> <li>- The <i>New Airline Maintenance Facility</i> will not materially affect the number of operations accommodated at BWI Marshall Airport. Airlines incorporate maintenance into their regular airline schedules, thereby avoiding the cost of additional flights flown solely for maintenance. If the facility is not built, some aircraft maintenance will occur elsewhere but the airline schedules will not be changed.</li> <li>- The <i>Building 113 Demolition</i> will not increase capacity. The demolition of the building will make airfield pavement near the cargo area available for use.</li> <li>- The <i>Deicing Chemical Storage project</i>, like the <i>Runway 15R Deicing Pad</i> will increase BWI Marshall Airport's ability to deice aircraft efficiently and reduce delay but will not affect airline schedules or BWI Marshall Airport's ability to accommodate total airline operations.</li> </ul> <p>Lastly, it is important to note, generally airports accommodate demand, they do not induce demand. Passengers fly because they want or need to get from point A to point B for business, personal, or recreational reasons. They do not fly because their local airport has built a new runway or other capacity enhancing facility. Likewise, airlines fly their aircraft because they can fill them with passengers who are willing to pay to fly from Point A to Point B. If the passengers are not there, the airlines will move aircraft to serve a different route. There are many airports throughout the country that have underused runways and terminals; this excess capacity has not induced demand at those airports.</p> <p>The FAA's decision to implement Performance Based Navigation flight procedures is unrelated to the proposed improvements included in this Draft EA and Draft Section 4(f) Determination and therefore is not discussed in detail. The proposed improvements included in this Draft EA and Draft Section 4(f) Determination and anticipated environmental impacts and concerns do not meet the thresholds or criteria that would require an Environmental Impact Statement be prepared.</p>	
2	Barbara Deckert	01/23/18	Noise	<p><b>I object to the entire Draft EA because the existing and proposed Noise Zone contours as established by this EA are inaccurate and do not reflect the current extent of noise pollution and community complaints from the neighborhoods surrounding BWI Airport.</b></p>	<p>The existing conditions noise exposure contour was developed using, among other sources, actual flight track data as stated in Appendix K. The representative sample of flight tracks include use of the air traffic procedures in place at the time, including FAA's NextGen flight procedures. Similarly, the Proposed Action and No Action noise exposure contours for both 2020 and 2025 include use of the air traffic procedures in place through June 2016, capturing all the FAA's implemented NextGen flight procedures at BWI Marshall.</p> <p>The increases in noise complaints are not tied to the relatively modest changes in the noise contours because the vast majority of complaints come from areas beyond the DNL 65 dB noise contour of BWI. Thus, the complaints do not provide any information about the accuracy of the noise contours prepared according to FAA requirements and standards.</p>	No change.
3	Barbara Deckert	01/23/18	Noise	<p><u>Noise Zone Maps Contradict Noise Complaints, by Location and Numbers</u></p> <p>At a glance, the differences in geographic area, among various MAA Noise Exposure Maps from 2003 through 2016 and the proposed 2020 Noise Zone</p>	<p>The evaluation of potential noise impact due to a proposed action is completed using predicted aircraft operations with and without the proposed action and does not incorporate noise complaint data.</p>	No change.

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				<p>contours in this Draft EA are minuscule, with barely an eighth or quarter of a mile variation here and there.</p> <p>Nonetheless, complaints about airport noise have skyrocketed since the implementation of NextGen. In 2013 there were 266 complaints, about 22.16 per month. In 2014 there were 771 complaints, or about 64.25<sup>1</sup> a month . NextGen was fully implemented in Fall of 2015. As of October 2017, BWI was receiving about 2,000 noise complaints a month<sup>2</sup>. That’s an astronomical <b>8,925% increase in noise complaints as compared to 2013 and a 3,013% increase over 2014.</b></p> <p>Moreover, as documented on the MAA’s Noise Complaint Form, the addresses cited by complainants in “Contact Information” indicate that noise pollution has become a community concern in what is now about a 20-25 mile radius around BWI<sup>3</sup>.</p>																														
4	Barbara Deckert	01/23/18	Noise	<p><u>DNL is an Inadequate Measure of Human Suffering, Especially at BWI</u></p> <p>At the January 16, 2018 BWI Roundtable meeting, a young woman testified, with tears running down her face, that she was recently hospitalized for five days and was in danger of losing her job because of sleep deprivation caused by aircraft noise from BWI; she does not live in a Noise Zone.</p> <p>Much ado is made of DNL as an ideal metric for measuring community annoyance in the Draft EA’s <i>Appendix K Noise</i>. It makes a circular and therefore specious argument that a DNL of 65 dB is used by the FAA and other agencies, so it adequately gauges community sensitivities to noise. That’s not good enough, as numerous scholarly studies have asserted.</p> <p>In the communities around BWI, DNL is decidedly not an accurate reflection of community annoyance. A review of data published in BWI’s Quarterly Noise Reports and Supplemental Permanent Noise Monitoring Data for 2012-2017 documents otherwise. There are very few incidences of DNL numbers over 65 caused by noise from aircraft operations, as recorded and calculated from all working permanent noise monitors, counted here by quarters:</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Number Working Monitors</th> <th>Total Number Quarterly Noise Measurements posted</th> <th>Total Number DNL readings &gt;65 (readings)</th> </tr> </thead> <tbody> <tr> <td>2012</td> <td>14</td> <td>52</td> <td>2 (74, 72)</td> </tr> <tr> <td>2013</td> <td>11</td> <td>40</td> <td>1 (67)</td> </tr> <tr> <td>2014</td> <td>10</td> <td>32</td> <td>2 (68, 67)</td> </tr> <tr> <td>2015</td> <td>7</td> <td>28</td> <td>2 (66, 74)</td> </tr> <tr> <td>2016</td> <td>7</td> <td>26</td> <td>1 (66)</td> </tr> <tr> <td>2017 (Q1/Q2/Q3)</td> <td>6/6/6</td> <td>6/12/18</td> <td>0</td> </tr> </tbody> </table>	Year	Number Working Monitors	Total Number Quarterly Noise Measurements posted	Total Number DNL readings >65 (readings)	2012	14	52	2 (74, 72)	2013	11	40	1 (67)	2014	10	32	2 (68, 67)	2015	7	28	2 (66, 74)	2016	7	26	1 (66)	2017 (Q1/Q2/Q3)	6/6/6	6/12/18	0	<p>The FAA is the federal agency responsible for evaluation under the National Environmental Policy Act of the potential environmental impacts associated with of the Proposed Action reviewed in the BWI Marshall EA. MDOT MAA was required to prepare the Draft EA following FAA Orders 1050.1F <i>Environmental Impacts: Policies and Procedures</i> and 5050.4B <i>National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions</i> and associated desk references to comply with the Council on Environmental Quality Implementing regulations 40 Code of Federal Regulations 1500-1508. These FAA Orders detail the use of the DNL metric to determine potential significance for noise impacts. DNL is the metric FAA uses to determine significant noise impacts. The commenter does not identify scholarly studies that have identified a better metric than the DNL metric.</p> <p>The noise analysis contained in the BWI Marshall EA compares the future noise exposure expected with and without the Proposed Action to determine the potential for a significant impact, it does not incorporate noise monitor results nor complaints. The modeled noise contours provide a valid depiction of the noise levels expected around the Airport in 2020 and 2025 based on reasonable planning assumptions for fleet mix and runway and track use.</p> <p>Further, the readings of the monitors do not demonstrate a problem with the metric or DNL 65 dB threshold. Greater than 65 decibel readings are less common than they were in the past due to the phase out of the noisiest aircraft, starting with the phase out of Stage 2 aircraft in 2000 and noisier Stage 3 aircraft since then.</p>	No change.
Year	Number Working Monitors	Total Number Quarterly Noise Measurements posted	Total Number DNL readings >65 (readings)																															
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				<p>How can that be? For 2017, through Q3, there are no DNL numbers over 65 posted in these reports for any of the remaining working permanent monitors. (In actuality, as of March 2017 there were only five out of an original 23 working permanent noise monitors, with one of those uncalibrated<sup>4</sup>). Yet, BWI's neighbors are filing noise complaints at the rate of 2,000 a month. Obviously, <b>DNL does not reflect community annoyance in the counties surrounding BWI.</b></p> <p>When a new permanent noise monitoring system is operational in the future, does the MAA expect the incidence of aircraft related noise levels over 65 DNL to increase, commensurate to the number and location of noise complaints? It should. Because of the MAA's malfeasance in failing to maintain a working noise monitoring system for over five years, as required by MD law, it has at present no idea where its real noise zones are now, much less where they will be in 2020, based on scientifically collected and analyzed noise data.</p>		
5	Barbara Deckert	01/23/18	Noise	<p><u>Noise Modeling Software is Inadequate to Establish Noise Zones</u></p> <p><i>Appendix K Noise</i> summarizes the FAA's and MAA's use of noise modeling software (AEDT 2b) as a substitute for noise data to establish noise zones. It cites the use of stage length as a "surrogate for aircraft weight."</p> <p>However, there is no information in this Draft EA on the accuracy or appropriateness of this modeling. Specifically, there is no information on whether stage lengths accurately reflect increasing trends in Passenger Load Factors. As pointed out in one of the letters of objection to the FONSI<sup>5</sup>, stage length calculations assume a 1970's standard of a 65% payload factor, which is inadequate for today's payloads. Since most flights now are at or near passenger capacity, those numbers may be far closer to 100%. Greater Take Off Weights require more thrust, which produces more noise for farther out from the airport. An increase of 10% in Take Off Weight causes a noise increase of 3-7 dB. The use of stage length underestimates calculated DNL's. Since Take Off Weights are calculated for every departure for the sake of safety, MAA should use that actual data to calculate DNL's and to establish its Noise Zones around BWI.</p> <p>Note that while the FAA's Order 1050.1F assumes the use of AEDT 2b noise modeling, it does allow the use of data from noise monitors and perhaps the use of Take Off Weights with prior written approval for more accurate noise analysis<sup>6</sup>.</p>	<p>Noise contours and the Airport Noise Zone (ANZ) are developed using predictive modeling based on existing and forecast operations, as well as any new airport construction, if applicable. Noise contours are not developed using noise monitoring data. Further, it is not possible to use noise monitors to predict future noise contours. MDOT MAA is required to create an ANZ to control incompatible land development around BWI Marshall and a Noise Abatement Plan (NAP) to minimize the impact of aircraft noise on people living near the Airport. An ANZ and NAP were first established for BWI Marshall in 1976; the most recent ANZ became effective December 22, 2014. The ANZ is determined by a composite of three noise contours: a base year contour, a five-year forecast, and a ten-year forecast. The largest of the three contours in any area around the Airport determines the Noise Zone, thereby offering protection within the largest of the existing or future noise exposure contours. MDOT MAA uses the ANZ to control incompatible land development around the Airport. MDOT MAA is required to update the ANZ every 5 years. Information about the ANZ can be found at <a href="http://www.maacommunityrelations.com/content/anznoiseupdate/bwianz.php">http://www.maacommunityrelations.com/content/anznoiseupdate/bwianz.php</a> and <a href="http://www.maacommunityrelations.com/content/anznoiseupdate/anz_update_2014.php">http://www.maacommunityrelations.com/content/anznoiseupdate/anz_update_2014.php</a>.</p> <p>The AEDT is the FAA required model for noise impact evaluation for use in environmental documentation. The commenter contends that stage lengths do not accurately reflect increasing trends in Passenger Load Factors, that the use of stage length underestimates noise levels, and that actual take off weights should be used to develop noise exposure contours. The average weight calculation includes more than the passenger load factor. It also includes the weight of the aircraft, cargo, and fuel. Noise calculations are sensitive to many noise modeling input variables. It is not technically sound to look at one variable, e.g., takeoff weight, in isolation. For example, the noise model uses a conservative value of 100% thrust for departure procedures, although airlines typically do not use 100% power in takeoff. Thrust reduction at takeoff varies. Therefore, the 100% thrust assumption will result in higher noise calculations than may occur for particular departures. The existing condition stage length and load factors were obtained from the actual commercial flight statistics reported in the U.S. Department of Transportation database – Air Carrier Statistics. The future scenarios</p>	No change.

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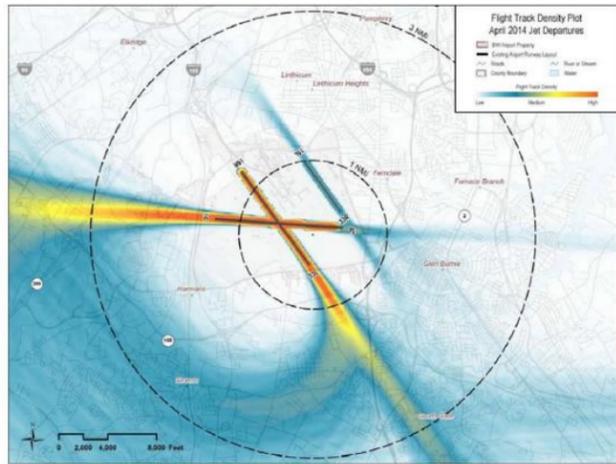
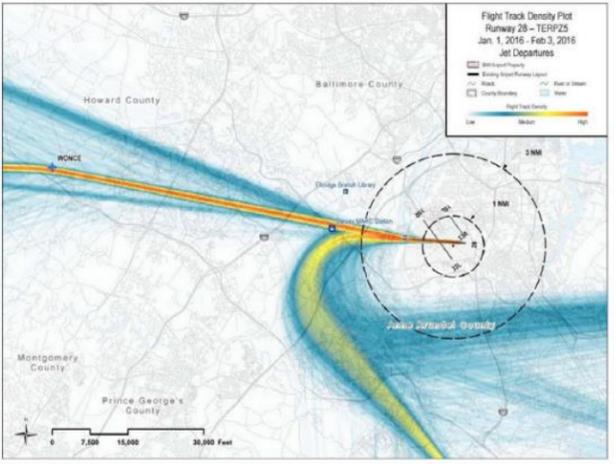
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					stage length and load factors were consistent with the airline's fleet replacement plans and FAA's forecast on growth factors. The goal of the noise analysis is to capture the average annual conditions at the airport, and the use of stage length is reasonable to model average conditions at BWI Marshall as shown in this Draft EA. The commenter references the methodology apparently used in the DC OAPM DEA, which is not relevant to the BWI Marshall EA because the DC OAPM DEA is not related to this BWI Marshall EA.	
6	Barbara Deckert	01/23/18	Noise	<p>In addition, the <i>Appendix K Noise</i> makes no mention of the altitude problem that has plagued the communities surrounding BWI. Since the implementation of NextGen, aircraft are arriving and departing at much lower altitudes than previously, which causes greater perceived noise. These lower altitudes, in addition to increased payloads that require greater thrust, also have the effect of pushing noise zones farther out from the airport. If the noise models used by the MAA do not accurately include the newer, lower altitudes associated with changes from NextGen, then accurate altitude numbers should also be used to calculate DNL in order to establish Noise Zones around BWI.</p> <p>In its present form, it is not possible for the Draft EA to assist the FAA in evaluating potential environmental effects from proposed improvements. The MAA must use accurate noise data for the entire area around BWI that is now affected by NextGen related noise pollution, and/or modeling that incorporates accurately calculated Take Off Weights plus actual aircraft altitudes to determine its real Noise Zone contours.</p> <p>May I remind the MAA that the 2013 Maryland Code TRANSPORTATION § 5-804 - Limits for Cumulative Noise Exposure ensures that Maryland citizens are protected from noise pollution:</p> <p style="padding-left: 40px;"><i>(a) . . . shall adopt regulations that establish limits for cumulative noise exposure for residential and other land uses on the basis of the noise sensitivity of a given land use.</i></p> <p style="padding-left: 40px;"><i>(b) In adopting limits under this section, the Executive Director shall:</i></p> <p style="padding-left: 80px;"><i>(1) Consider:</i></p> <p style="padding-left: 120px;"><i>(i) The general health and welfare;</i></p> <p style="padding-left: 120px;"><i>(ii) The rights of property owners;</i></p> <p style="padding-left: 120px;"><i>(iii) Accepted scientific and professional standards; and</i></p> <p style="padding-left: 120px;"><i>(iv) The recommendations of the Federal Aviation Administration and Environmental Protection Agency; and</i></p> <p style="padding-left: 80px;"><i>(2) Set the limits at the most restrictive level that, through the application of the best available technology at a reasonable cost and without impairing the safety of flight, is consistent with attaining the environmental noise standards adopted by the Department of Health and Mental Hygiene.</i></p>	<p>The BWI Marshall EA used the FAA's required noise model for evaluating potential noise impacts due to the Proposed Action. Radar data from 2016, which incorporated procedural changes implemented as part of the DC OAPM project, was used to develop modeled flight tracks, as well as flight track location and use and runway use. AEDT standard profiles were used, which have been compared to radar data and were found to reasonably represent altitudes flown by aircraft into and out of BWI Marshall.</p> <p>The Proposed Action reviewed in the BWI Marshall EA does not result in a significant increase in noise exposure. The additional engine maintenance operations do increase noise exposure compared to the No Action Alternative, however that increase in noise exposure remains over land that is considered compatible (by both federal guidelines and Maryland regulations) with the proposed action (i.e. commercial and manufacturing and production).</p> <p>Lastly, MDOT MAA uses the ANZ to control incompatible land development around the Airport. MDOT MAA is required to update the ANZ every 5 years. The state of Maryland's regulations for considering land use compatibility with aviation generated noise are the same levels as the federal Part 150 thresholds.</p>	No change.
7	Barbara Deckert	01/23/18	Noise	This Draft EA should be rejected because its Noise Zone Contours do not accurately, by use of <i>best scientific and professional standards, in order to protect the health and welfare, and rights of property owners</i> , document the extent and location of noise pollution caused by BWI Airport.	The noise contours developed as part of the BWI Marshall EA were developed using AEDT, FAA's required model and thus the civil aviation industry standard for noise contour development.	No change.

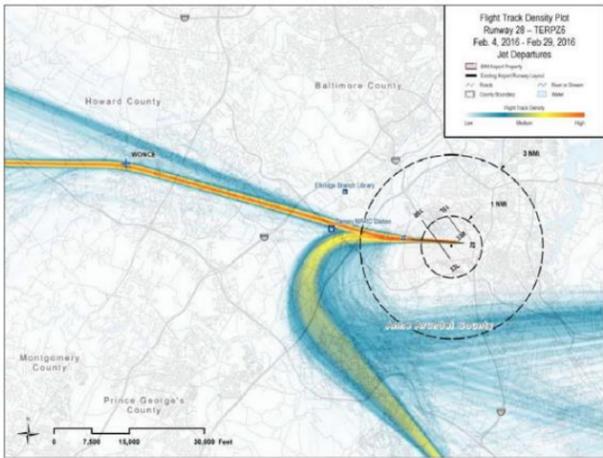
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				<p><u>Citations from Barbara Deckert's comments:</u></p> <p><sup>1</sup> Quarterly Noise Reports.</p> <p><sup>2</sup> BWI Roundtable Minutes, October 2017.</p> <p><sup>3</sup> Map presented to BWI Roundtable by MAA in June, "Location of Complaints."</p> <p><sup>4</sup> March 14, 2017 memo from Michael Coleman, Field Technician at Harris, to Randy Dickinson, obtained by PIA request.</p> <p><sup>5</sup> Comments on DC OAPM DEA, Michael G. Kroposki, 7/18/2013</p> <p><sup>6</sup> Order 1050 1F, Appendix B. FAA Requirements for Assessing Impacts Related to Noise and Noise-Compatible Land use and Section 4(f) of the Department of Transportation Act (49 U.S.C. § 303), p. B-2.</p>		
8	Drew Roth	1/30/18	Noise	<p>I ask that the EPA deny a Finding of No Significant Impact (FONSI) for this proposal, and that the EPA perform a full Environmental Impact Study for the combined noise impacts on surrounding communities for both this proposal and the FAA DC Metroplex Nextgen program.</p> <p>1. The proposal increases noise in the vicinity of the airport. According to Appendix K-3.2.1 "On an Average Annual Day (AAD) basis, the total number of operations is projected to increase from 683.88 in 2016 to 737.31 in 2020 and 800.90 in 2025. Table K-3.1 summarizes the number of operations by operating categories." This increase in flights will necessarily increase noise in the communities surrounding the airport. This is reflected in Figure K7.</p> <div data-bbox="926 1014 1681 1612" data-label="Figure"> </div> <p>Future Scenarios Noise Analysis K-3-15 Appendix K-3</p> <p>However, Figure K-7 shows the noise contour for the proposed action and the no action alternative to be nearly identical. This cannot be reconciled with the Statement of Purpose and Need, which clearly states "The Proposed Action</p>	<p>The Proposed Action defines improvements necessary to improve the safety and efficiency of operations and passengers that are anticipated to use BWI Marshall Airport through 2020 regardless of whether the proposed operations are undertaken. Both the Proposed Action and No Action noise contours were based on FAA's operation projection for 2020 and 2025. Operations are expected to increase between 2020 and 2025 with or without the Proposed Action. Fleet mixes in both the Proposed Action and No Action Alternatives were assumed to be identical as projects included in this Draft EA are needed to meet current FAA design standards and enhance airfield safety and efficiency. They are not expected to increase operations nor change fleet mix as airports accommodate demand: they do not induce demand. Passengers fly because they want or need to get from point A to point B for business, personal, or recreational reasons. They do not fly because their local airport has built a new runway or other capacity enhancing facility. Likewise, airlines fly their aircraft because they can fill them with passengers who are willing to pay to fly from Point A to Point B. If the passengers are not there, the airlines will move aircraft to serve a different route. There are many airports throughout the country that have underused runways and terminals; this excess capacity has not induced demand at those airports.</p> <p>Specific to BWI Marshall Airport, the 2011 Master Plan indicated that BWI Marshall Airport's current airfield facilities can accommodate up to 360,000 aircraft operations annually. The most recent forecast for BWI Marshall Airport, the FAA's Terminal Area Forecast (TAF) projects that BWI Marshall Airport will not reach the 360,000 operations level until 2038. Therefore, current airfield facilities are more than adequate to accommodate aircraft operations, albeit at reduced efficiency and service levels, during the 2016-2020 period.</p> <p>Most of the projects in the Proposed Action are intended to meet FAA standards, enhance airfield safety and efficiency, and improve customer service. Six projects are listed as intended to accommodate existing and anticipated demand. It should be noted, however, that none of the projects will materially affect BWI Marshall Airport's ability to accommodate overall aircraft operations demand. For example:</p> <ul style="list-style-type: none"> <li>- The <i>Runway 15R Deicing Pad</i> will increase BWI Marshall Airport's ability to deice aircraft so they can take off with less delay. Airlines, however, do not schedule flights assuming adverse weather. If the Deicing Pad is not built, the same number of aircraft takeoffs will occur, but they will be delayed and some daytime operations may become nighttime operations.</li> </ul>	No change.

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				<p>includes those improvements required to accommodate the projected activity levels through 2020.”</p> <p>If the proposed action is required to accommodate projected activity levels, there should be a difference in the noise contour between the proposed action and the no action alternative.</p>	<ul style="list-style-type: none"> <li>- The <i>General Aviation Facility Improvements</i> consist of additional hangars and automobile parking. These are primarily service improvements, and if the projects were not built the prospective hangar occupants would have to park their aircraft on the apron and their automobiles elsewhere at the Airport during peak periods.</li> <li>- Since Northrup Grumman performs very few aircraft operations at BWI Marshall Airport, the expanded <i>Northrup Grumman Hangar</i> will not materially increase the number of operations that can be accommodated at the Airport.</li> <li>- The <i>New Airline Maintenance Facility</i> will not materially affect the number of operations accommodated at BWI Marshall Airport. Airlines incorporate maintenance into their regular airline schedules, thereby avoiding the cost of additional flights flown solely for maintenance. If the facility is not built, some aircraft maintenance will occur elsewhere but the airline schedules will not be changed.</li> <li>- The <i>Building 113 Demolition</i> will not increase capacity. The demolition of the building will make airfield pavement near the cargo area available for use.</li> </ul> <p>The <i>Deicing Chemical Storage project</i>, like the <i>Runway 15R Deicing Pad</i> will increase BWI Marshall Airport’s ability to deice aircraft efficiently and reduce delay but will not affect airline schedules or BWI Marshall Airport’s ability to accommodate total airline operations.</p>	
9	Drew Roth	1/30/18	Noise	<p>2. The noise contours in Appendix K do not reflect the actual flight paths under Nextgen.</p> <p>Prior to Nextgen, departures from Runway 28 proceeded straight on a line with the runway.<sup>1</sup></p> <p>(<sup>1</sup> Presentation to FAA Roundtable July 2017  <a href="http://maacommunityrelations.com/_media/client/anznoiseupdate/2017/20170718_Roundtable_Presentation_HMMH.pdf">http://maacommunityrelations.com/_media/client/anznoiseupdate/2017/20170718_Roundtable_Presentation_HMMH.pdf</a>)</p>	<p>Both TERPZ 5 and TERPZ 6 were modeled in the Existing Condition, No Action, and Proposed Action Alternatives, which result in the noise contours turning slightly to the north. Specifically, on February 4th, 2016, departure procedure TERPZ5 was changed to TERPZ6 by the FAA. This change affected jet departure flight tracks from Runway 15R making right turns to the west and northwest as well as Runway 28 making a slight right turn towards west and northwest. For future conditions, tracks reflective of the TERPZ6 procedure were applied to the noise analysis. Figure K-1, in Appendix K of the BWI Marshall EA illustrates the TERPZ flight tracks before and after the procedure change.</p> <p>Additionally, Appendix K provides a comparison of the BWI EA 2020 Proposed Action noise contours and the Part 150 Study 2019 noise contours, see specifically Figure K-8. The most significant increase is expected to occur to the northwest of the airport between Runway 10 and Runway 15R. Areas to the southeast of the airport along the Runway 15R/33L extended centerline are also expected to experience an increase of noise level. This comparison provides clear evidence that procedural changes brought about by FAA change to the TERPZ procedure were included in the noise analysis for the BWI Marshall EA.</p>	No change.

#	Reviewer	Date	Page/Section	Comment	Response	Status
				<p style="text-align: center;"><b>Jet Departures, April 2014</b></p>  <p style="text-align: center;"><b>TERPZ5, Runway 28</b></p>  <p style="text-align: center;">'be better'</p> <p>This pre-Nextgen flight path is consistent with the noise contours in the proposal. Specifically, note that the westernmost point of the noise contours are on a straight line from Runway 28. However, under the Nextgen TERPZ 5 and TERPZ 6 procedures, there is a right turn soon after departure.</p> <p style="text-align: center;">'be better'</p>		

#	Reviewer	Date	Page/Section	Comment	Response	Status
				<p style="text-align: center;"><b>TERPZ6, Runway 28</b></p>  <p style="text-align: center;">Source: MAA, 2016</p> <p>It appears that the noise contours in the subject EA are based on the pre-Nextgen flight patterns. If they were based on the current Nextgen flight patterns, one would expect the westernmost point of the noise contour to be to the north of a straight line from Runway 28. The difference is readily apparent if one compares the point at which the flight paths intersect MD 100.</p>		
10	Drew Roth	1/30/18	Noise	<p>3. The difference between the flight paths shown in this EA and in the DC Metroplex EA is significant.</p> <p>If the noise contours were aligned with the Nextgen flight patterns, the Oxford Square development of 1400 residences, Thomas Viaduct Middle School, and Hanover Hills Elementary School would be within the 65 DNL contour. If the Purpose and Need Statement for the subject EA is correct, and the proposal is required to meet anticipated demand, one would expect the noise contour to increase over these communities, resulting in an increased significant impact.</p> <p>Furthermore, the DC Metroplex EA clearly states there will be no significant impacts due to flight path changes under 3000 feet AGL. This EA received a FONSI based on this assertion. However, it is apparent that the rightward turn has created a significant impact on the Oxford Square residences, which are likely now within the 65 DNL contour, and where aircraft routinely fly directly overhead at an altitude of approximately 1200 feet AGL.</p>	<p>TERPZ 5 and TERPZ 6 were included in the noise model (see Figure K-1). Projects evaluated in the Draft EA are needed to meet current FAA design standards, enhance airfield safety and efficiency, and accommodate existing and anticipated demand. The implementation of the NextGen flight procedures and any associated revisions to noise contours are unrelated to the proposed improvements included in this Draft EA and Draft Section 4(f) Determination and therefore are not discussed in detail. Nonetheless, they are included in the noise modeling for both No Action and action alternatives.</p> <p>This Draft EA focuses on ground infrastructure improvements whereas the NextGen DC Metroplex EA focused on the flight path changes. The implementation of the NextGen flight procedures and any associated revisions to noise contours are unrelated to the proposed improvements included in this Draft EA and Draft Section 4(f) Determination. However, procedural changes implemented as part of the DC OAPM are incorporated into the noise analysis for all alternatives through the review of radar tracks actually flown by aircraft using the procedures. The noise analysis for the Proposed Action shows noise increases only around the proposed Airline Maintenance Facility due to engine maintenance run-ups, this area is the only notable change in the noise contours when compared to the No Action Alternative. This change in noise occurs within areas that are compatible with the proposed action (i.e. commercial and manufacturing and production).</p>	No change.

Draft Environmental Assessment and Draft Section 4(f) Determination Proposed Improvements 2016-2020 at BWI Marshall Airport  
Public and Agency Comments

#	Reviewer	Date	Page/Section	Comment	Response	Status
11	Drew Roth	1/30/18	Noise	<p>4. The Nextgen DC Metroplex program implementation has created significant public controversy, which will only be increased by the subject proposal.</p> <p>As a result of the DC Metroplex program at BWI</p> <ul style="list-style-type: none"> <li>Noise complaints to the MAA have skyrocketed.</li> <li>The FAA has created a community Roundtable to respond to community complaints.</li> <li>The FAA has received letters from the Governor of Maryland, and our Congressional Delegation demanding that they address the noise impacts on the surrounding communities.</li> <li>Howard County, Maryland, has passed legislation authorizing legal action against the FAA, and has hired external counsel.</li> <li>The Governor of Maryland has directed the Maryland State's Attorney to pursue legal action against the FAA, and the State's Attorney's office has hired external counsel.</li> </ul> <p>The correspondence of the FAA Roundtable and local elective representatives is archived at <a href="http://www.maacommunityrelations.com/content/anznoiseupdate/dcroundtable.php">http://www.maacommunityrelations.com/content/anznoiseupdate/dcroundtable.php</a>.</p>	The BWI Marshall EA is separate from the DC (OAPM) Metroplex program and comments relevant to the implementation of the DC OAPM are not subject to response for this EA. The Proposed Action within the BWI Marshall EA does not induce operations and therefore is not expected to increase noise concerns.	No change.
12	Drew Roth	1/30/18	Noise	<p>5. Proposed actions</p> <p>I ask the Environmental Protection Agency to take the following actions:</p> <ol style="list-style-type: none"> <li>Perform a comprehensive Environmental Impact Study on aircraft noise in the vicinity of BWI airport, to specifically include the impacts of the subject EA and the FAA Nextgen Program.</li> <li>Evaluate the compliance of the DC Metroplex Program at BWI with respect to the EA and FONSI which authorized the program.</li> <li>Until the EIS is complete, require BWI flight paths to revert to what they were prior to the implementation of the Nextgen program, as defined by the DC Metroplex EA.</li> </ol>	The FAA is the agency responsible for the review and approval of the BWI Marshall EA which is the subject of this response. The FAA's implementation of the NextGen (performance based navigation) flight procedures and any associated revisions to noise contours are unrelated to the proposed improvements included in this Draft EA and Draft Section 4(f) Determination. However, procedural changes implemented as part of the DC OAPM were incorporated into the noise analysis for all alternatives.	No change.
	DC Metroplex BWI Community Roundtable	6/4/18	Operations/Noise	<p>The DC Metroplex BWI Community Roundtable (RT) was formed by the Maryland Aviation Administration (MAA) at the insistence of the Federal Aviation Administration (FAA) to act as the vehicle for addressing the harmful noise issues associated with the NextGen/DC Metroplex project. The RT has gained valuable knowledge from the FAA and MAA over the past year related to the technical components associated with the NextGen implementation. We believe this information will be important as we move forward and continue to grapple with this issue.</p> <p>With that understanding, and keeping consistent with the RT's purpose, we agree with the comments made to you by the Howard County Office of Law in a letter dated March 9, 2018. Their comments are in reference to the Draft Environmental Assessment at Baltimore/Washington International Thurgood Marshall Airport (BWI) dated January 5, 2018. It was prepared by the MAA for approval by the FAA</p>	See Response to Howard County Office of Law Comments (Agency Comments #8 through 41).	No change.

**Draft Environmental Assessment and Draft Section 4(f) Determination Proposed Improvements 2016-2020 at BWI Marshall Airport  
Public and Agency Comments**

#	Reviewer	Date	Page/Section	Comment	Response	Status
				and in support of the proposed expansion of BWI thru 2020. Massive development of BWI is proposed which would result in increased aircraft operations and therefore airplane noise. Community outreach by both the MAA and FAA has been substantially nonexistent.		
	DC Metroplex BWI Community Roundtable	6/4/18	Noise	The Howard County Office of Law pointed out the Draft EA is legally insufficient in several respects: <ul style="list-style-type: none"> <li>• It is not based on sufficient evidence.</li> <li>• It is based on non-representative and outdated noise data that the MAA has acknowledged does not reflect actual conditions.</li> <li>• The FAA 14 CFR Part 150 Noise Compatibility Planning process is not addressed in the Draft EA. This invalidates all of the assumptions about harmful impacts due to noise based on FAA compliance with Part 1 50 Planning and the outdated data.</li> <li>• It completely fails to acknowledge the highly controversial and significant harmful impacts that aircraft noise has had on Maryland citizens as a result of the FAA's implementation of NextGen.</li> </ul>	See Response to Howard County Office of Law Comments (Agency Comments #9 and 31).	No change.
				<ul style="list-style-type: none"> <li>• It fails to include sufficient analysis of other environmental impacts related to air quality, climate change, land use, historic preservation, and deforestation, and its almost complete failure to consider impacts in Howard and Anne Arundel Counties.</li> </ul>	See Response to Howard County Office of Law Comment (Agency Comment #11).	No change.
	DC Metroplex BWI Community Roundtable	6/4/18	Operations	In addition, the RT is including an attachment which shows the number of aircraft operations that have taken place on an annual basis at BWI since 2006. Operations totaled 266,790 in 2006, reached a low of 245,121 in 2014 and in 2017 reached 261,707. Airport expansion is not needed when operations have not exceeded or even reached the levels seen in 2006. Any projections made by the MAA are therefore suspect and unsupported by actual operations.	See Response to Howard County Office of Law Comment (Agency Comment #15).	No change.
	DC Metroplex BWI Community Roundtable	6/4/18	General	We will request that the FAA deny approval of the Proposed Action. We will also request that the FAA order the MAA to perform a full Environmental Impact Statement pursuant to NEPA, NHPA, and Section 4(f). Additionally, we will request the FAA include the RT in this action. We strongly believe the RTs current involvement at the insistence of the FAA should include participation in the Environmental Impact Statement process.	See Response to Howard County Office of Law Comments (Agency Comments #40 and 41).	No change.

**Attachment 2:**  
**Comment Letters and E-mails**



Larry Hogan, Governor  
Boyd Rutherford, Lt. Governor

Robert S. McCord, Acting Secretary

February 6, 2018

Ms. Robin Bowie  
Director, Environmental Planning  
Maryland Aviation Administration  
Baltimore/Washington International Thurgood Marshall Airport  
P.O. Box 8766  
BWI Airport, MD 21240

**STATE CLEARINGHOUSE RECOMMENDATION**

**State Application Identifier:** MD20180108-0001

**Applicant:** Maryland Aviation Administration

**Project Description:** Draft Environmental Assessment and Draft Section 4(f) Determination for Proposed Improvement 2016 - 2020(Pavement rehabilitation, Obstruction at removal, Terminal improvements, Taxiway Construction/Relocation...) Baltimore/Washington International Thurgood Marshall Airport Linthicum, Maryland

**Project Location:** County(ies) of Anne Arundel

**Approving Authority:** U.S. Department of Transportation/Federal Aviation Administration DOT/FAA

Dear Ms. Bowie:

In accordance with Presidential Executive Order 12372 and Code of Maryland Regulation 34.02.01.04-.06, the State Clearinghouse has coordinated the intergovernmental review of the referenced project. This letter constitutes the State process review and recommendation. This recommendation is valid for a period of three years from the date of this letter.

Review comments were requested from the Maryland Department(s) of Natural Resources, the Environment; Anne Arundel County; and the Maryland Department of Planning, including the Maryland Historical Trust. As of this date, the Maryland Department of Natural Resources and Anne Arundel County have not submitted comments.

The Maryland Department of Planning, including the Maryland Historical Trust found this project to be consistent with their plans, programs, and objectives.

Our Department (Planning) "supports the proposed safety-related and minor capacity-related improvements made to landside facilities at the BWI Marshal Airport. The modifications will help reduce traffic congestion and improve access and egress within the airport terminal roadways. Existing runways were recently upgraded and will not be extended or widened during the life of this plan. Several existing taxiways and ramps will be resurfaced and/or relocated due to FAA mandated minimum separation. Several parking facilities will also be resurfaced. Obstructions will be identified and removed within and around the airport property. We are encouraged to see the MAA consider leveraging mobile applications which will help passengers arrange pick-up along a greater area in the lower terminal roadway, helping to reduce the bunching of cars along the road adjacent to Terminal A and B."

The Maryland Historical Trust has determined that the project will have "no effect" on historic properties and that the federal and/or State historic preservation requirements have been met.

The Maryland Department of Environment (MDE) found this project to be generally consistent with their plans, programs, and objectives, but included certain qualifying comments summarized below.

1. If the applicant suspects that asbestos is present in any portion of the structure that will be renovated/demolished, then the applicant should contact the Community Environmental Services Program at (410) 537-3215 to learn about the State's requirements.
2. Construction, renovation and/or demolition of buildings and roadways must be performed in conformance with State regulations pertaining to "Particulate Matter from Materials Handling and Construction" requiring that during any construction and/or demolition work, reasonable precaution must be taken to prevent particulate matter, such as fugitive dust, from becoming airborne.
3. If a project receives federal funding, approvals and/or permits, and will be located in a nonattainment area or maintenance area for ozone or carbon monoxide, the applicant needs to determine whether emissions from the project will exceed the thresholds identified in the federal rule on general conformity. If the project emissions will be greater than 25 tons per year, contact Brian Hug at (410) 537-4125 for further information regarding threshold limits.
4. Any above ground or underground petroleum storage tanks, which may be utilized, must be installed and maintained in accordance with applicable State and federal laws and regulations. Underground storage tanks must be registered and the installation must be conducted and performed by a contractor certified to install underground storage tanks by the Land Management Administration in accordance with COMAR 26.10. Contact the Oil Control Program at (410) 537-3442 for additional information.
5. If the proposed project involves demolition – Any above ground or underground petroleum storage tanks that may be on site must have contents and tanks along with any contamination removed. Please contact the Oil Control Program at (410) 537-3442 for additional information.
6. Any solid waste including construction, demolition and land clearing debris, generated from the subject project, must be properly disposed of at a permitted solid waste acceptance facility, or recycled if possible. Contact the Solid Waste Program at (410) 537-3315 for additional information regarding solid waste activities and contact the Waste Diversion and Utilization Program at (410) 537-3314 for additional information regarding recycling activities.
7. The Waste Diversion and Utilization Program should be contacted directly at (410) 537-3314 by those facilities which generate or propose to generate or handle hazardous wastes to ensure these activities are being conducted in compliance with applicable State and federal laws and regulations. The Program should also be contacted prior to construction activities to ensure that the treatment, storage or disposal of hazardous wastes and low-level radioactive wastes at the facility will be conducted in compliance with applicable State and federal laws and regulations.

Ms. Robin Bowie

February 6, 2018

Page 3

State Application Identifier: **MD20180108-0001**

8. Any contract specifying "lead paint abatement" must comply with Code of Maryland Regulations. If a property was built before 1950 and will be used as rental housing, then compliance with COMAR 26.16.02 is required. Additional guidance regarding projects where lead paint may be encountered can be obtained by contacting the Environmental Lead Division at (410) 537-3825.

9. The proposed project may involve rehabilitation, redevelopment, revitalization, or property acquisition of commercial, industrial property. For specific information about these programs and eligibility, please contact the Land Restoration Program at (410) 537-3437.

**Any statement of consideration given to the comments should be submitted to the approving authority, with a copy to the State Clearinghouse.** The State Application Identifier Number must be placed on any correspondence pertaining to this project. The State Clearinghouse must be kept informed if the approving authority cannot accommodate the recommendation.

Please remember, you must comply with all applicable state and local laws and regulations. If you need assistance or have questions, contact the State Clearinghouse staff person noted above at 410-767-4490 or through e-mail at [myra.barnes@maryland.gov](mailto:myra.barnes@maryland.gov). **Also, please complete the attached form and return it to the State Clearinghouse as soon as the status of the project is known. Any substitutions of this form must include the State Application Identifier Number. This will ensure that our files are complete.**

Thank you for your cooperation with the MIRC process.

Sincerely,



Myra Barnes, Lead Clearinghouse Coordinator

MB:MB

Enclosure(s)

cc: Kim Hughes

Greg Golden - DNR

Amanda Degen - MDE

Samantha Harris - ANAR

Bihui Xu - MDPI-T

Joseph Griffiths - MDPL

Beth Cole - MHT

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Larry Hogan, Governor  
Boyd Rutherford, Lt. Governor

Robert S. McCord, Acting Secretary

**PROJECT STATUS FORM**

Please complete this form and return it to the State Clearinghouse upon receipt of notification that the project has been approved or not approved by the approving authority.

**TO:** Maryland State Clearinghouse  
Maryland Department of Planning  
301 West Preston Street  
Room 1104  
Baltimore, MD 21201-2305

**DATE:** \_\_\_\_\_  
(Please fill in the date form completed)

**FROM:** \_\_\_\_\_  
(Name of person completing this form.)

**PHONE:** \_\_\_\_\_  
(Area Code & Phone number)

**RE: State Application Identifier:** MD20180108-0001  
**Project Description:** Draft Environmental Assessment and Draft Section 4(f) Determination for Proposed Improvement 2016 - 2020(Pavement rehabilitation, Obstruction at removal, Terminal improvements, Taxiway Construction/Relocation...) Baltimore/Washington International Thurgood Marshall Airport Linthicum, Maryland

<b>PROJECT APPROVAL</b>			
This project/plan was:	<input type="checkbox"/> Approved	<input type="checkbox"/> Approved with Modification	<input type="checkbox"/> Disapproved
Name of Approving Authority:	Date Approved:		
_____	_____		

<b>FUNDING APPROVAL</b>			
<i>The funding (if applicable) has been approved for the period of:</i>			
_____, 201__ to _____, 201__ as follows:			
Federal \$:	Local \$:	State \$:	Other \$:
_____	_____	_____	_____

<b>OTHER</b>
<input type="checkbox"/> Further comment or explanation is attached

---

----- Original message -----

From: Elder Ghigiarelli -MDE- <[elder.ghigiarelli@maryland.gov](mailto:elder.ghigiarelli@maryland.gov)>

Date: 2/9/18 11:05 AM (GMT-05:00)

To: Robin Bowie <[rbowie@bwiairport.com](mailto:rbowie@bwiairport.com)>

Subject: Re: Coastal Zone Determination Request

Robin,

I am responding to your request for a Federal Consistency determination, pursuant to Section 307 of the Federal Coastal Zone Management Act of 1972, as amended (CZMA), for proposed improvements to several taxiways, apron areas, and terminal roadways, as well as several proposed new and relocated structures, at BWI Marshall Airport during the 5-year period 2016-2020. These projects are listed in in your January 29, 2018 email and are evaluated in the Environment Assessment (EA) prepared by the Maryland Aviation Administration (MAA) for the proposed activities for the 5-year period.

The EA notes that the proposed improvements will result in 135.7 acres of forest clearing, and will impact 5.73 acres of nontidal wetlands, 6.84 acres of State-regulated nontidal wetlands buffer, 7.07 acres of floodplain, and 1,042 linear feet of stream. To meet the Forest Conservation Act requirements, MAA will mitigate the forest impacts through the placement of DNR Forest Conservation Easements on MAA property. As you know, the nontidal wetlands, waterways, and floodplain impacts will require authorization from the Wetlands and Waterways Program. Appropriate mitigation for these impacts will be determined as part of the permit application review process.

Based on the information presented in the EA, the proposed improvements are consistent with the Maryland Coastal Zone Management Program, as required by Section 307 of the CZMA, contingent upon the issuance of the required authorization(s) for the proposed impacts to nontidal wetlands, waterways, and the 100-year nontidal floodplain. Please note that this determination does not obviate MAA's responsibility to obtain any other State approval that may be necessary for the proposed activities.

If you have any questions, please contact me.

Elder

Elder Ghigiarelli, Jr.  
Deputy Program Administrator  
Maryland Federal Consistency Coordinator  
Wetlands and Waterways Program  
Water and Science Administration  
Maryland Department of the Environment  
Phone: (410) 537-3763  
[elder.ghigiarelli@maryland.gov](mailto:elder.ghigiarelli@maryland.gov)

On Mon, Jan 29, 2018 at 1:14 PM, Robin Bowie <[rbowie@bwiairport.com](mailto:rbowie@bwiairport.com)> wrote:

Elder:

It was a pleasure talking to you on Friday! As discussed in our phone call, MAA prepared an Environmental Assessment for proposed improvements to several taxiways, apron areas, and terminal roadways as well as several proposed new and relocated structures at BWI Marshall Airport in the near term (2016-2020). The list below and the attached **Figure 3.7-3** from the EA show the proposed improvements.

Airfield Pavement Improvements

1. Relocate Taxiways R and F
2. Construct Taxiway U3
3. International Terminal Area Taxiway Fillets and Shoulders
4. New Infill Pavement near Taxiways T, P, and Future P
5. Relocate Taxiways K and L
6. Isolation / Remain Overnight Apron Construction
7. Runway 28 Deicing Pad Expansion
8. Relocate Taxiway H
9. Taxiway V Relocation
10. Runway 15R Deicing Pad Expansion

New and/or Relocated Structures and Associated Pavement

11. Second FBO
12. Northrop Grumman Hangar
13. Existing Aircraft Rescue and Firefighting Facility Expansion Bays
14. New Airline Maintenance Facility
15. Runway Deicing Chemical Storage and Access Road
16. Airport Maintenance Complex Relocation and Consolidation
17. Relocate Fire Training Facility
18. New Sky Bridge C

Roadway Improvements

19. Terminal Roadway Widening and Access Improvements
20. Northwest Quadrant Perimeter Road Construction
21. Upper Level Roadway Widening at Concourse E
22. Vehicle Service Roadway Connector

Building and Pavement Demolition

23. Building 113 Demolition
24. Various pavement removal associated with relocated and/or new pavement projects

Other Projects

25. Pole/Sign/Obstruction Lights to be Relocated or Removed
26. Property Acquisition for NEPA Review

Additionally, there are selected trees proposed to be removed as they are obstructions to navigable airspace (see attached **Figure 3.7-4** from the EA).

MAA is seeking a Coastal Zone Consistency determination from MDE for this project.

This project will result in impacts to wetlands, waterways, surface waters, and forests, however the level of impact can be reduced to non-significant as shown below:

<b>Biological Resources:</b>	135.7 acres of forest clearing 1,102 individual trees removed off Airport 1,303 individual trees removed on Airport
<i>Mitigation: Placement of MDNR Forest Conservation Easements on MDOT MAA-owned land.</i>	
<b>Water Resources:</b>	
Wetlands	5.73 acres of wetland impacts 6.84 acres of wetland buffer impacts

Floodplains	7.07 acres of floodplain impacts
Surface Waters	1,042 linear feet of stream impact

*Mitigation: Compensatory mitigation for wetland (including waters of the US) impacts through placement of Deed of Restrictive Covenants on MDOT MAA-owned parcels within the Stony Run Wetlands of Special State Concern. Stormwater management techniques will be employed for impacts to water quality (surface waters). Erosion and Sediment Control Plans will be developed in accordance with MDE guidelines.*

Water quality and quantity will be addressed during design to meet the Maryland Department of Environment's Stormwater Management requirements for environmental site design to the maximum extent practicable.

Let me know if you need any additional information. Thanks!

Ms. Robin M. Bowie  
Director, Office of Environmental Services  
Maryland Department of Transportation Maryland Aviation Administration  
[410-859-7103](tel:410-859-7103) (office)  
[410-859-7082](tel:410-859-7082) (fax)  
[rbowie@bwairport.com](mailto:rbowie@bwairport.com)

**Mailing Address**

P.O. Box 8766  
BWI Airport, MD 21240

**Overnight Shipping Address**

991 Corporate Boulevard  
Linthicum, MD 21090

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## ***Howard County, Maryland***

*Howard County Office of Law  
3450 Court House Drive  
Ellicott City, Maryland 21043  
(410) 313-2100*

March 9, 2018

Ms. Robin M. Bowie  
Director, Office of Environmental Services  
Maryland Department of Transportation  
Maryland Aviation Administration  
P.O. Box 8766  
BWI Airport, MD 21240

RE: Howard County, Maryland Comments on MAA  
Draft Environmental Assessment

Dear Ms. Bowie:

Pursuant to my responsibilities under Howard County law, CB8-2017, please find enclosed Howard County's comments on the *Draft Environmental Assessment and Draft Section 4(f) Determination for the Proposed Improvements 2016-2020 at Baltimore/Washington International Thurgood Marshal Airport* (January 5, 2018) ("Draft EA"), prepared by the Maryland Aviation Administration ("MAA") for approval by the Federal Aviation Administration ("FAA").

The Draft EA is legally insufficient in several respects and is not based on sufficient evidence. The Draft EA is based on non-representative and outdated noise data that MAA has acknowledged does not reflect actual conditions. Additionally, because FAA unilaterally abandoned the 14 CFR Part 150 Noise Compatibility Planning process, which is nowhere addressed in the Draft EA, all of the assumptions about harmful impacts due to noise, based on FAA compliance with Part 150 Planning and the outdated data, are false. Moreover, the Draft EA completely fails to acknowledge the highly controversial and significant harmful impacts that aircraft noise has had on Maryland citizens, including Howard County residents, as a result of FAA's implementation of NextGen. FAA has already recognized this by establishing the BWI Community Roundtable. Furthermore, the Draft EA is deficient in its failure to include sufficient analysis of other environmental impacts related to air quality, climate change, land use, historic

Ms. Robin M. Bowie  
March 9, 2018  
Page 2 of 2

preservation, and deforestation, and its almost complete failure to consider impacts in Howard County.

For all these reasons, FAA must deny the request for approval of the Proposed Action. Relying on the Draft EA would be arbitrary and capricious and would violate several State and federal statutes. Given the significant, and unexamined, harmful effects of the Proposed action on the quality of the human environment, FAA should order MAA to perform a full Environmental Impact Study pursuant to NEPA, NHPA, and Section 4(f) that includes Howard County, and is based on relevant and reliable noise data. Howard County looks forward to working with MAA to complete a legally sufficient Environmental Impact Statement (“EIS”).

Sincerely,

HOWARD COUNTY OFFICE OF LAW



Gary W. Kuc  
County Solicitor

GK:hst  
Enclosures

cc: The Honorable Allan H. Kittleman, County Executive  
The Honorable Mary Kay Sigaty, County Council Member & Council Chairperson  
The Honorable Calvin Ball, County Council Member & Council Vice Chairperson  
The Honorable Greg Fox, County Council Member  
The Honorable Jennifer Terrasa, County Council Member  
The Honorable Jon Weinstein, County Council Member  
Lewis Taylor, Senior Assistant County Solicitor

**Howard County Comments on the MAA Draft EA for Airport Expansion (2018)**

The Draft EA contains numerous deficiencies that render it non-compliant with the mandates of Maryland State law, NEPA, NHPA, and Section 4(f). Perhaps most significantly, it excludes any meaningful consideration of Howard County. But it also proffers inaccurate data to support its noise analysis. This is because FAA’s unilateral abandonment of State and federal noise abatement programs and FAA’s implementation of new flight procedures have created significantly different noise contours than those depicted and relied upon in the Draft EA. The vast majority of noise data underlying the Draft EA is from before 2015. The flight procedure changes, including those that began to be flown in 2016, have resulted in highly controversial noise impacts. See BWI Community Roundtable letter to FAA dated March 31, 2017, attached as Exhibit A. MAA is on record stating that BWI did not have a noise problem before the final Metroplex procedural changes but that there was a noise problem after implementation of those changes. BWI Community Roundtable minutes, June 20, 2017 (in the first 20 days of June 2017, MAA received over noise 1,000 complaints); see also Exhibit B.

Because the Proposed Action is dedicated to “improving efficiency,” “increasing operations,” and accommodating “anticipated demand” it will have the direct and cumulative impact of significantly increasing harmful noise impacts on Maryland citizens, including the citizens of Howard County. Additionally, because the noise analysis is based on inaccurate information, the Draft EA land use analysis has also been subverted and is insufficient. Compounding these errors, the Draft EA’s analysis of air quality, climate change, land use, historic preservation, and deforestation is also deficient.

**The Proposed Action Will Cause Significant Harms to the Human Environment**

The Proposed Action involves massive development of the Airport in an effort to increase “activity levels through 2020.” (Draft EA at 2.1.2). The result of this development will increase the harmful impacts of NextGen aircraft noise. The Draft EA makes clear that the proposed development is intended to increase runway system efficiency. Draft EA at 2-4 and 3-11. The Proposed Action is also directed to address “anticipated demand.” Draft EA 2-5 and 3-14. The Draft EA acknowledges that noise impacts will increase because of increased operations due to the Proposed Action. Draft EA K-3-7.

There is voluminous evidence of harmful impacts already. See Exhibit C. These impacts were not properly addressed in the DC Metroplex OAPM EA.<sup>1</sup> Approving the Draft EA would add to the cumulative impacts by continuing to ignore the significant effects caused by federal action at BWI. Because of the direct and cumulative impacts that will result from the Proposed Action, and for the reasons stated below, the Draft EA is not an adequate evaluation of impacts to the environment, nor is it a detailed review of the Proposed Action, as required by FAA Orders 5050.4B and 1050.1F.

### **The Draft EA Relies On Outdated and Inaccurate Noise Data**

Old noise data was used in the Draft EA despite significant changes to air traffic. MAA's analysis in the Draft EA is based almost exclusively on data that is from 2014 or earlier. MAA has admitted this data is invalid because the 2014 Noise Contour Maps do not reflect real flight conditions due to FAA's implementation of NextGen flight procedures at BWI beginning in 2015. MAA attempted to partially address this by presenting "Existing Noise Contour Maps" based on only five weeks of data, three weeks of which were in 2015, before significant flight path changes occurred in February of 2016. The Existing Noise Contour Maps are not representative of noise resulting from BWI departures and MAA's existing noise exposure maps remain inaccurate. The real, existing, and future noise contours are indisputably different from what MAA relies upon because FAA significantly changed flight procedures without notice and the MAA noise monitoring system has been largely non-operational over the last 18 months.

The noise data relied on in the Draft EA does not represent real-life conditions because the majority of noise data was collected in 2014 and earlier.<sup>2</sup> However, in 2015, 2016, and 2017, FAA implemented new navigation waypoints and flight procedure changes that were not consistent with the federally approved and State required BWI Noise Abatement Plan ("NAP"). MD CODE ANN.,

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<sup>1</sup> The DC Metroplex was an early inductee to NextGen and so got the worst of FAA's unlawful implementation, but FAA's actions in implementing NextGen flight procedure changes that were not in accordance with federal law has been documented in *City of Phoenix* and *Georgetown*. In the DC Metroplex, FAA actively mischaracterized its activities as having little to no effect below 3,000 feet altitude. FAA Finding of No Significant Impact for the DC OAPM (2013). In fact, there have been significant changes below 3,000 feet that FAA failed to disclose and which are adversely affecting thousands of Maryland residents, including in Howard County. FAA acknowledged this by creating the BWI Community Roundtable but, its interactions with the Roundtable have continued the misrepresentations and mischaracterizations by FAA.

<sup>2</sup> FAA approved the BWI noise exposure maps in 2016. 81 FR 59714-01 (August 30, 2016). This was based on the Airport Noise Zone Update prepared by MAA in 2014; revisions to the 2014 Update in 2016 did not affect noise contours, land use inventory, or population estimates.

TRANSP. § 5-805. In particular, the implementation of the TERPZ6 waypoint and the relocation of the WONCE waypoint contributed to a shift that had already begun of Runway 28 departures further to the north. This can be seen in Exhibit D. Consequently, as FAA has stated, the existing Noise Abatement Procedures “do not exist anymore.” Exhibit E.

The flight path changes included a quick right turn on departures from Runway 28 moving traffic to the north of areas that had been used since 1990 and concentrating traffic so that noise impacts are magnified. FAA has stated that the turn to the right was at least 10 degrees. BWI Community RoundTable minutes July 18, 2017. The turn takes place approximately 800 feet above ground level. FAA has noted that turns made at lower altitude require more power and therefore generate more noise. See Exhibit E.

MAA wrote to FAA as early as October of 2015, that the new procedures did not comply with the Noise Compatibility Program (“NCP”) or the NAP. MAA specifically informed FAA that the “NextGen departure procedures differ from the previous procedures in both flight track and altitude requirements for all runway departures below 3,000 feet AGL.” Exhibit F. MAA noted in the letter that these were the first meaningful changes that had occurred in the procedures since the NCP was approved by FAA in 1990.

MAA reiterated the same position in a April 25, 2016, letter to FAA, stating that the “new flight procedures place departing aircraft at lower altitudes and indifferent flight paths over long established residential communities” and “the Runway 28 departure procedures place departing aircraft along different flight paths and different altitudes than those specified in BWI Marshall’s NAP.” Exhibit F.

But MAA fails to adequately acknowledge any of this in the Draft EA. Instead, MAA relies on old noise data that MAA admits is no longer valid and a very limited set of new data, derived from computer models, that is not representative of current flight paths. A review of flight track imagery produced by FAA and MAA shows clearly that noise contour maps created in 2014 bear no relation to current noise contours, which have moved as a result of FAA’s flight procedure changes, and which include areas of Howard County. Exhibit G. It is telling that even incorporating only two weeks of 2016 flight track data, the Existing Noise Contours moved significantly to the north. Accurate data from flight tracks that are currently being flown would show a further movement north over areas of Howard County, including schools, that have not historically experienced 65dB DNL noise impacts.

The noise model inputs used to develop noise contours are supposed to rely on “representative flight track descriptions.” BWI Airport Noise Zone Update (“ANZ Update”) at 5. Because the flight tracks have changed, the old data is not a sufficient basis upon which to base the Draft EA noise analysis. FAA cannot continue to ignore the significant flight path changes that will increase under the Proposed Action, and which have caused harms to the people of Howard County. A full EIS must be performed that includes current flight track information and noise monitoring data.

It is clear from Figure K-2-4, that even the *de minimus* analysis of two weeks from 2016 significantly moved the noise contours to the north. An accurate noise exposure map would show them even further north. Figure 2-29 in Appendix K-2 shows the inaccuracy of the modeled efforts. Many radar flight tracks lie far outside the modeled paths. Moreover, because Runway 15R was also affected by the flight procedure changes and that traffic travels over the same areas of Howard County as Runway 28 departures, the noise levels in those areas have not been properly modeled. The Draft EA indicates that the Proposed Action will increase 65dB DNL noise contours by 8.3%, particularly off of Runway 28. Draft EA K-3-8. Confusingly, the Draft EA states elsewhere that the Proposed Action noise contours are expected to increase 1.3% over the No Action alternative. Draft EA at 5-32. Based on the increase in traffic that is the purported need for the Proposed Action, it makes no sense that the No Action alternative would result in the same noise impacts as the Proposed Action. An EIS should be performed based on real data so that a genuine alternatives analysis can occur, and real impacts evaluated.

It is important to note that throughout this time the MAA Noise Monitoring System has been barely functional. Throughout 2015 and 2016, only 7 out of 23 noise monitoring stations were operational. See Exhibit H. There are no results from 2015 for Columbia or the two Hanover locations. MAA acknowledged in 2014 that the noise monitoring systems was “outdated” and that “several pieces of equipment have failed.” ANZ Update at 59. The paucity of real data available means that an EIS must be performed. It is also noteworthy that MAA has conducted several noise studies in the last two years, due to massive increase in complaints, yet none of them were utilized or even mentioned in the Draft EA.

Increases in night operations, increases in stage-length, and the introduction of a new maintenance facility and de-icing pad, that will increase noise producing run-up operations are

additional factors that contribute to expanding noise contours that are not sufficiently captured or analyzed in the Draft EA.

Compounding the failure of MAA's noise analysis, is the fact that the BWI NAP and Airport Noise Zone ("ANZ") are currently in violation of State law because they do not reflect the significant flight procedure changes implemented by FAA. State law requires that the largest of the three contours (65dB+) in any area around the Airport determines the ANZ thereby offering protection within the largest of the existing or future noise exposure contours. ANZ Update at 53. Although the new procedures were implemented in 2015 and 2016, MAA has not updated the ANZ as required by law. TRANSP. §§ 5-805(b), 5-806, and 5-819. Given MAA's ongoing non-compliance with State law regarding noise abatement, and the fact that new areas of Howard County are now in the 65dB DNL, which constitutes a significant change, approval of the Draft EA would be arbitrary and capricious.

#### **The Draft EA Land Use Analysis is Insufficient**

Like the outdated noise data, MAA unreasonably relies on a land use analysis that ignores FAA's abandonment of a huge land use program that is imbedded in State law, the ANZ. State law requires NAP be established where an impacted land use area lies within a noise zone and where adjustments are necessary due to operational changes. TRANSP. § 5-805(b). MAA has failed to comply with both statutory mandates.<sup>3</sup> Howard County lies within a noise zone and operational changes require adjustment to existing plans. See COMAR 11.03.01.02B(3), which requires that Howard County be included in the BWI Noise Zone.

Instead of addressing these issues, MAA relies on the 2014 noise contour maps, not the Existing Noise Contour maps, in its land use analysis. Draft EA 4-39, Fig. 4-10-2. Consequently, while the Draft EA discusses the Anne Arundel County General Development Plan, there is no discussion at all of Howard County land use planning. Draft EA section 4.13 also fails to discuss Howard County. Additionally, the land-use analysis relies on 2014 forecasts of noise levels in 2019 and 2024, Draft EA 4-39, which are demonstrably wrong due to the new flight procedure changes. Thus, the land use analysis is insufficient, whether it includes Howard County or not.

NEPA regulations require discussion of inconsistency with existing plans. 40 CFR 1506.2. But the Draft EA does not even mention that FAA has abandoned the Part 150 planning process.

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<sup>3</sup> MAA's failure to pursue a NAP is subject to a Writ of Mandamus. MAA has admitted that Howard County lies with 65dB DNL noise contours. See, e.g., Draft EA Table 4.12.2.

Draft EA 5-26, 5-30; see also Exhibit E. MAA cannot continue expansion plans while ignoring the fact that land use planning around the airport has been totally upended and failing to include Howard County in its land use analysis.

**Other Draft EA Deficiencies**

There are several other ways in which the Draft EA fails to meet statutory requirements. The Draft EA must be based on valid data. It must also include information sufficient to inform the general public of the impacts that will be imposed on them. Because the significant flight procedure changes are not addressed in the EA, the analysis of multiple environmental impacts fails.

The air quality and climate change analysis did not take into consideration the dramatic flight procedure changes imposed by FAA, which has resulted in significant air quality impacts. Incredibly, there was no air quality monitoring conducted in Howard County. Draft EA Table 4.2.7. This is totally unacceptable, particularly as Howard County is in a NAAQS non-attainment area and it receives the vast majority of departure traffic from BWI and a substantial amount of arrival traffic, all of which are now occurring at lower altitudes, which means less geographic dispersion of pollutants and pollutant precursors and thus greater impacts on Howard County citizens, including school children. Because the aircraft emissions data was based on the 2014 ANZ Update, it does not incorporate any of the considerable changes that have taken place since 2015. Draft EA Appendix G, 1-1. These changes include, among other things, increased thrust for low altitude turns. Increased thrust means increased emissions. The climate and GHG analysis also failed to consider these increased emissions. There is actually little climate analysis at all, with MAA apparently relying on the fact that there are no airport-related federal standards for GHG emissions. Draft EA 5-13. NEPA requires more. The Draft EA's failure to address all this means that a full EIS must be performed.

Closely connected to air quality and climate change are the impacts associated with deforestation. The Draft EA proposes significant tree removal but fails to consider how this will affect air quality, climate, or noise. Draft EA 3-10, Figure 3.2.8. The important noise buffering and air quality impacts associated with tree removal should be considered in a full EIS.

### **Historical Resource Impacts and Section 4(f)**

The Draft EA seeks to address FAA's responsibilities under NHPA Section 106 in sections 4.9 and 5.8, but the analysis is inadequate. This is partly due to the fact that the noise exposure maps are wrong. It is also due to the fact that MAA has used an area of potential effects ("APE") that does not meet statutory criteria. The APE is supposed to be the "geographic area within which an undertaking may directly or indirectly cause alterations in the character of use of historic properties." Draft EA 4-33. But MAA used an APE with the same boundaries as the Study Area. This is inadequate because of the significant adverse effects aircraft noise has on historic properties outside of MAA's designated APE. The APE should extend at least through accurate 65dB DNL noise contours and possibly further depending on the historic properties involved.

The impact of noise on the character and settings of historic properties constitutes an adverse impact that MAA must study further. Attached as Exhibit I is a sample of the many historic properties in Howard County that are potentially threatened by the Proposed Action. None of these properties is discussed, or even mentioned in the Draft EA.

The Section 4(f) analysis is similarly impaired as no Howard County properties were considered, despite the fact that there are many publicly owned lands, including parks and historic sites of significance that will be constructively used due to the noise and visual impact of the Proposed Action.

### **The Alternatives Analysis is Inadequate**

The alternatives analysis is generally inadequate because of the contradictory nature of the claims made by MAA. MAA claims that the Proposed Action is needed to increase operations and efficiency, reduce runway occupancy times, and to meet anticipated demand. But MAA claims both that the several No Action alternatives will not address the need to expand operations, but will result in the same level of air traffic. This is clearly an arbitrary conclusion. This conclusion is further undermined because the Proposed Action is not accurately evaluated based on the flight procedure changes that have taken place. Accordingly, the impacts of the Proposed Action are underestimated, while the No Action impacts are over estimated. One example of this is Draft EA figure K-7, which purports to show that the noise contours under the Proposed Action and No Action alternatives would be virtually the same. This obviously cannot be true given the 10 degree low altitude right turn Runway 28 departures make, which was not adequately analyzed in the Draft EA. The noise contours rely on old data, which is demonstrated by the fact that the

Draft EA No Action and Proposed Action contours would be the same. This shows that the Existing Noise Contours are based on unreliable information. Otherwise, they would show a deviation to the north. A full EIS with a genuine alternatives analysis must be conducted.

**Conclusion**

Relying on the Draft EA for compliance with NEPA, NHPA, and Section 4(f) would be not only be arbitrary and capricious, it would also be incredibly unfair to the citizens of Howard County. FAA and MAA have ostensibly been “engaged” with the community to solve the problems of NextGen, but there has been obfuscation and misdirection at every step. The failure of the Draft EA to adequately consider the significant flight procedure changes that have occurred since 2015 means that it is legally insufficient. For the same reasons, the Draft EA does not satisfy the requirements of the Maryland Environmental Policy Act. NAT. RES. § 1-301, *et seq.* A full EIS must be prepared that adequately addresses the impacts and effects associated with the Proposed Action.

# EXHIBIT A

**DC METROPLEX BWI COMMUNITY ROUNDTABLE**  
c/o Maryland Department of Transportation Aviation Administration  
991 Corporate Boulevard  
Linthicum, Maryland 21090

March 31, 2017

Mr. Michael P. Huerta  
Administrator  
Federal Aviation Administration  
800 Independence Ave SW  
Washington DC 20591

Re: Roundtable Resolution to Revert to Pre-DC Metroplex/NextGen Procedures

Dear Mr. Huerta:

As requested by the Federal Aviation Administration (FAA), the Maryland Department of Transportation Aviation Administration (MAA) worked with State and County elected officials to form a roundtable made up of community representatives impacted by the implementation of DC Metroplex/NextGen plan.

Now formed, we are identified as the DC Metroplex BWI Community Roundtable (Roundtable), and our first meeting was held on March 21, 2017. During that meeting, we approved the Charter, elected a Chairman and Vice Chairman, and established ourselves as a group of community representatives with the goal of mitigating noise and other harmful impacts and seeking alternatives for populations impacted by DC Metroplex/NextGen implementation. The MAA will provide you with the DC Metroplex BWI Community Roundtable Charter (approved at the meeting) and the Roundtable membership as of March 24, 2017.

We have been advised that the MAA has discussed with the FAA on multiple occasions that the MAA has received thousands of complaints from residents in the vicinity of BWI Marshall following the implementation of the DC Metroplex/NextGen flight paths and procedures. In general, the complainants assert that many aircraft are now flying nearer their homes, whether due to new flight paths, frequency, low altitude or otherwise. The aircraft produce unwanted and unacceptable noise, vibration and other undesirable effects that are traumatic and oppressive, and deprive affected residents of the quiet and peaceful enjoyment of their homes they had prior to the implementation of the procedures. Some residents report that it has become intolerable to stay in their homes due to DC Metroplex/NextGen.

At our March 21 meeting, our Roundtable unanimously adopted the following resolution on an urgent basis:

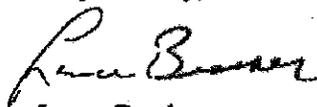
The DC Metroplex BWI Community Roundtable requests and recommends that the FAA immediately revert to flight paths and procedures that were in place prior to implementation of NextGen and the DC Metroplex plan (*i.e.*, the *status quo ante*) in order to provide urgent relief to residents adversely affected by these new flight paths and procedures, while a more deliberate and public-facing process to develop and implement NextGen and a DC Metroplex plan is undertaken.

The Roundtable also requests that you and other senior officials of the FAA participate in our next meeting on April 18, 2017 to (1) respond to this urgent resolution and (2) provide a review of stakeholder feedback from the October 27, 2016 open house sponsored by the MAA and FAA.

This is a matter that is of the utmost importance to the residents and communities harmed by the FAA's development and implementation of DC Metroplex/NextGen flight paths and procedures. While we welcomed the sincere acknowledgement by the FAA representative at our March 21 meeting that the FAA erred in the development and implementation of DC Metroplex/NextGen and his assurances that the FAA is committed to addressing the harm it has created, we have yet to see evidence of that commitment. We need for the FAA to make resolving this issue a top priority. We need for the FAA to take responsibility for the harm it has caused and is causing the BWI communities and residents and lead the efforts to correct this harm urgently.

The Roundtable has requested the MAA to transmit this letter to you. I would be pleased to meet with you and can be reached at any time on my mobile phone 443-995-0259 to discuss.

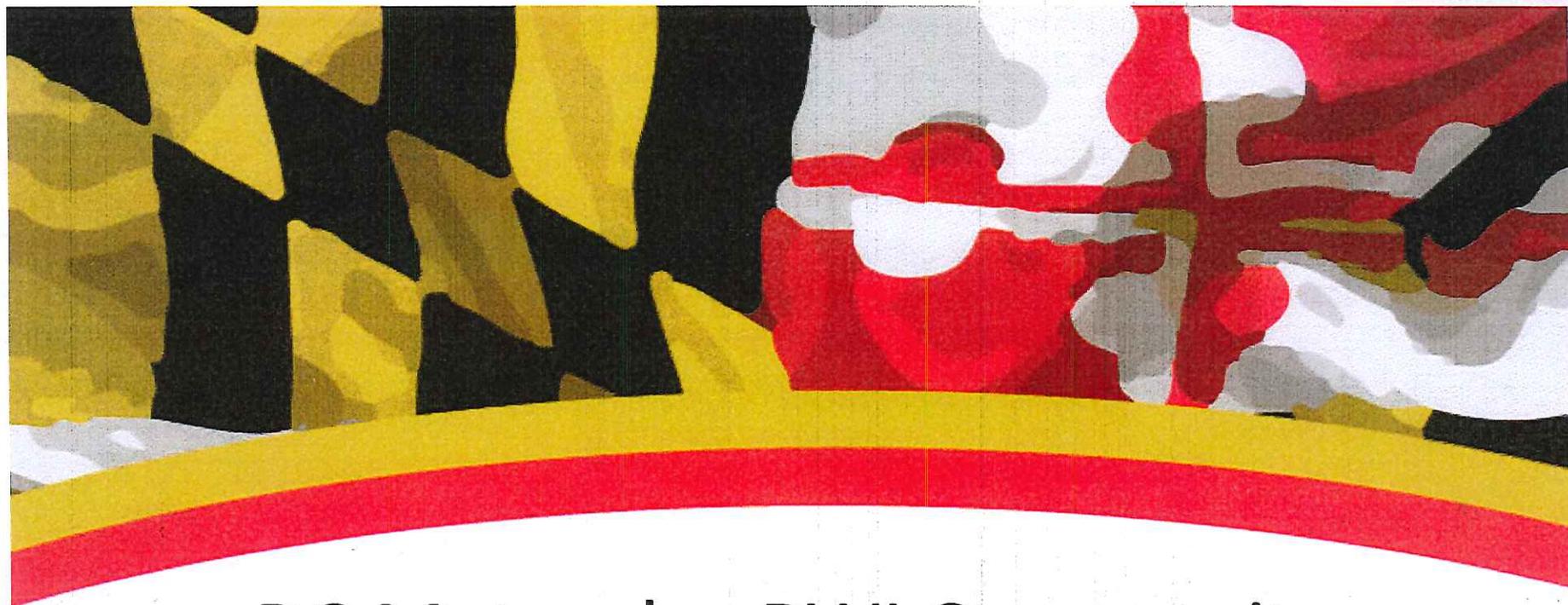
Very sincerely,



Lance Brasher  
Chairman,  
DC Metroplex BWI Community Roundtable

cc: Mr. Christopher Yates, DC Metroplex BWI Community Roundtable Vice  
Chair  
Mr. Carmine Gallo, Regional Administrator, Eastern Region, FAA  
Ms. Elizabeth Ray, Vice President, Mission Support Services, FAA  
Mr. Ricky Smith, Executive Director/CEO MAA  
Mr. Paul Shank, P.E., Chief Engineer, Div. of Planning & Engineering, MAA  
Ms. Ellen Sample, Director, Office of Real Estate & Noise Abatement, MAA

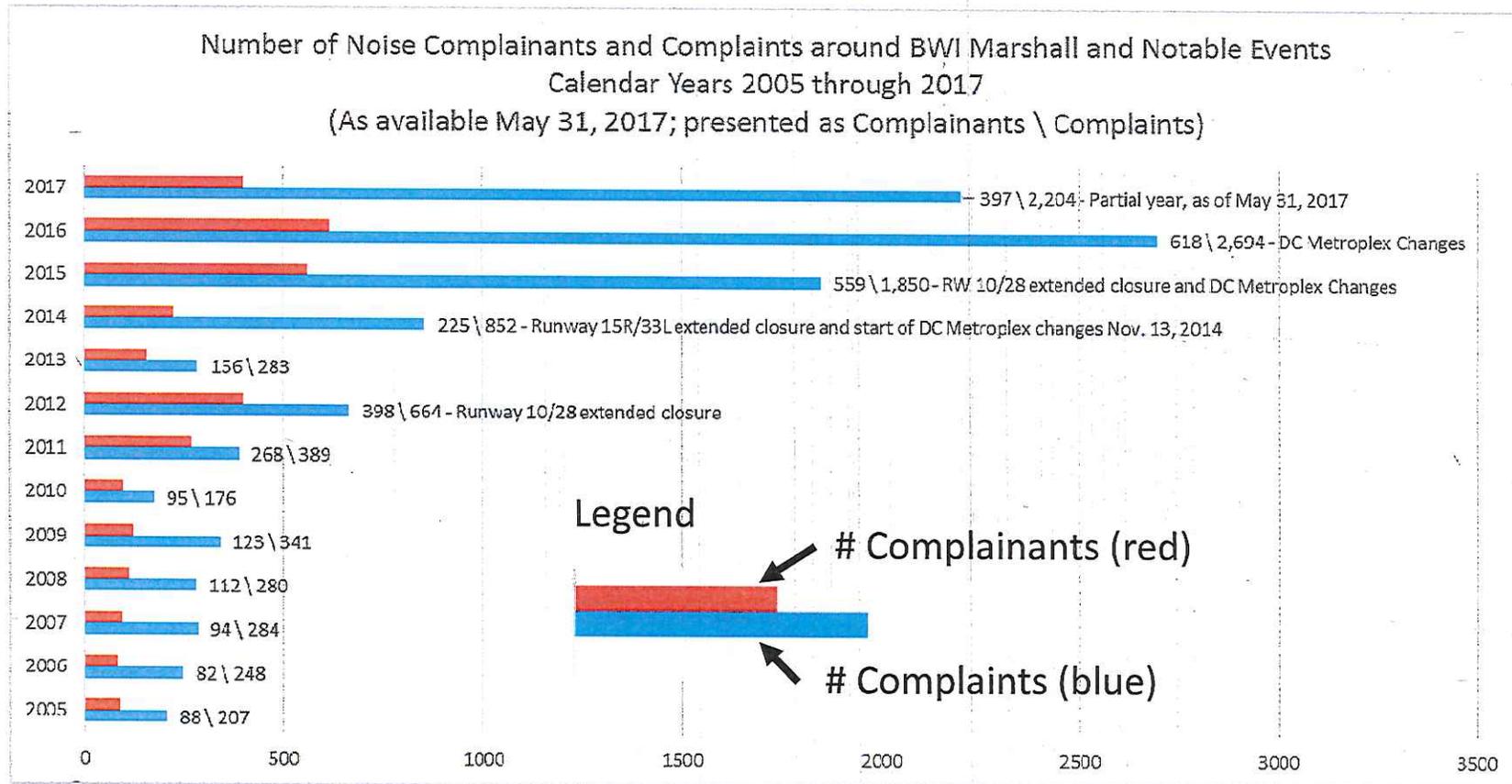
**EXHIBIT B**



DC Metroplex BWI Community  
Roundtable  
Complaint History and Runway Use  
presented June 20, 2017



# Number of Noise Complainants and Complaints around BWI Marshall and Notable Events



# **EXHIBIT C**

DC METROPLEX BWI COMMUNITY ROUNDTABLE  
c/o Maryland Aviation Administration  
P.O. Box 8766  
BWI Airport, MD 21240-0766

September 8, 2017

Michael P. Huerta  
Administrator  
U.S. Department of Transportation  
Federal Aviation Administration  
800 Independence Avenue, SW  
Washington, DC 20591

Dear Administrator Huerta,

In an effort to procure relief to thousands of residents in the vicinity of BWI Thurgood Marshall Airport suffering substantial mental and physical trauma, loss of quiet enjoyment of their homes and a destruction of property values due to changed arriving and departing aircraft flight paths and procedures arising out of or in connection with the DC Metroplex/NextGen scheme, on March 20, 2017, the newly formed DC Metroplex BWI Community Roundtable unanimously adopted a resolution to request that the FAA revert to flight paths and procedures in place prior to DC Metroplex/NextGen (the "*Status Quo Ante* Resolution"). See attachment 1 to this letter, prepared by the FAA, containing representative examples of pre-DC Metroplex/NextGen BWI departure and arrival flight paths. The Roundtable's request was submitted to you in a letter from the Roundtable, dated March 31, 2017. On April 18, 2017, the Maryland Congressional Delegation collectively sent a letter to the FAA in support of the *Status Quo Ante* Resolution. Subsequently, Maryland Governor Hogan made a similar request to the FAA on May 11, 2017 and to the Secretary of the U.S. Department of Transportation on August 1, 2017. These letters are attached as attachments 2, 3, 4 and 5. The governments of Anne Arundel, Baltimore and Howard Counties have also expressed support for the *Status Quo Ante* Resolution.

On May 12, 2017, Elizabeth Ray responded on behalf of the FAA to the Roundtable's letter stating the FAA's commitment on a high-priority basis to address *Status Quo Ante* Resolution. The Roundtable is appreciative of the commitment stated in Ms. Ray's letter and other communications and the efforts of the FAA team to date, including those of Bennie Hutto, Robert Owens and others. To be clear, however, we believe FAA leadership has full responsibility for and should take ownership for correcting the intuitively apparent and terribly harmful design defects in the DC Metroplex/NextGen scheme. Further, the reliance placed by the FAA on arcane measures for assessing significant environmental impact of the DC Metroplex/NextGen scheme was inexcusable and the implementation of the scheme following experience in Phoenix and other jurisdictions without correcting these obvious design defects,

such as the low altitude concentration of flight paths on departures and arrivals, was made in knowing disregard for the harm they would inflict on affected residents.

As the FAA PBN Implementation Working Group begins to address the *Status Quo Ante* Resolution, Ms. Ray has asked us to provide further guidance about what the Roundtable requires. As we have explained in Roundtable meetings as well as my discussions with Ms. Ray, the Roundtable believes that the FAA is singularly positioned to know what is needed to revert to the *status quo ante* and must take action to do so. The Roundtable comprises a group of concerned citizens, most of whom have little information about airport and FAA operations and procedures. Consequently, the Roundtable's views, certain of which we describe below, are based on limited information and observed harms communicated. Our response to FAA remedial proposals and our other requests for consideration are necessarily preliminary, they are not intended exclusive and they are guided by the principle of the *Status Quo Ante* Resolution.

Subject to the forgoing reservation, and as we have communicated to the FAA in our meetings or otherwise repeatedly, we have observed at least three main sources of problems with BWI flight paths and procedures arising out of or in connection with DC Metroplex/NextGen.

- The use of new flight paths
- The concentration of aircraft in narrow flight paths
- Lower aircraft altitudes

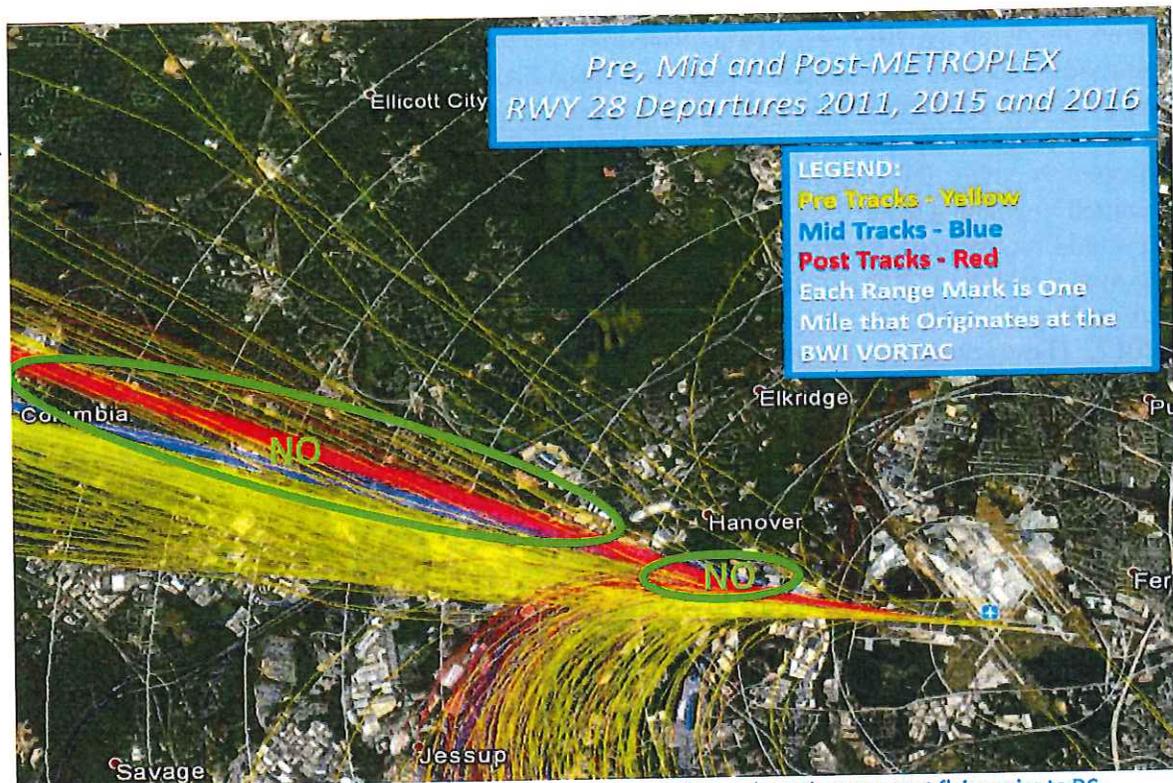


Figure 1A Runway 28 Departures - shows specific examples of aircraft flying where they were not flying prior to DC Metroplex/NextGen.

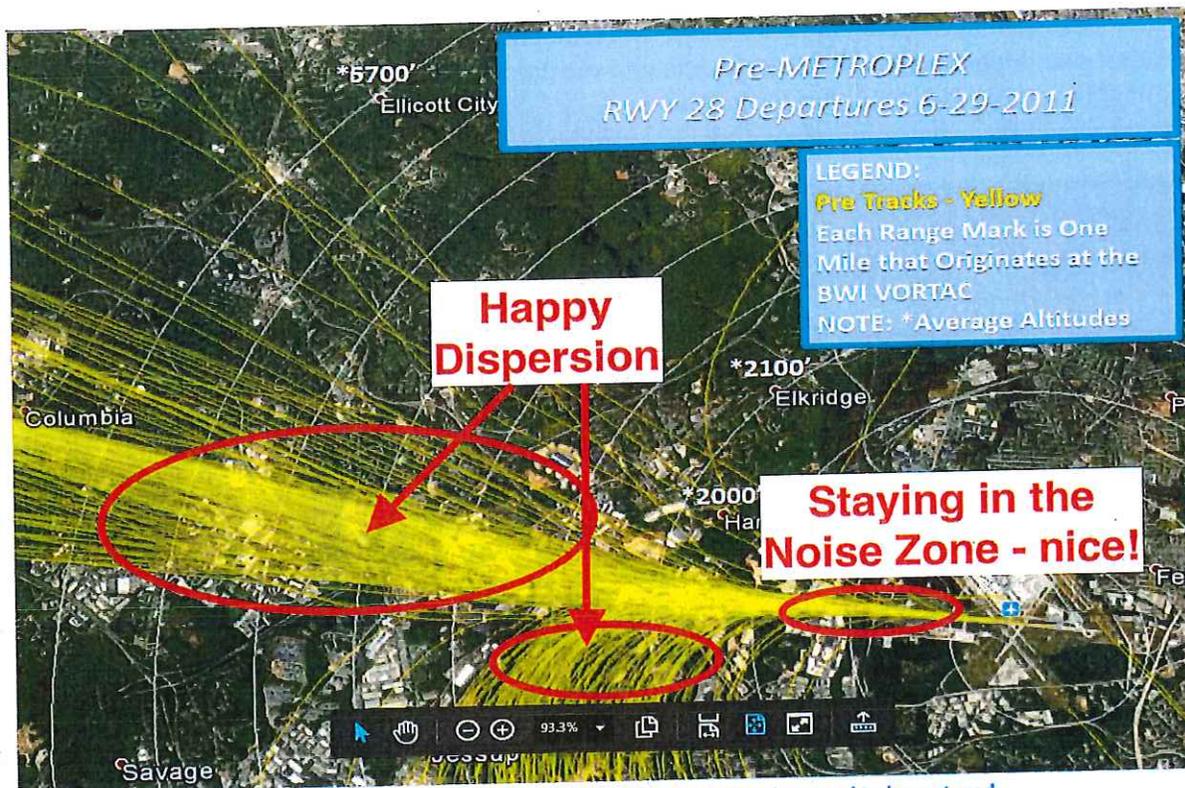


Figure 1B Runway 28 Departures – shows pre-DC Metroplex/NextGen features that need to be restored.

1. New flight paths have been created by DC Metroplex/NextGen; FAA must revert to old flight paths. Thousands of community residents have observed aircraft flying along flight paths that were not being flown previously. See Figures 1A, 2A and 3A and FAA flight path diagrams in Attachments 1 and 6 for comparison and as representative examples. These new flight paths include, among others:

- Runway 28 departure – early turn and path shift to the north and flying south at low altitude
- Runway 15 departure – earlier and lower turn
- Runway 33L and 10 arrivals – flights cleared direct to any waypoints from the RAVNN arrival (including waypoints GRAFE, SPLAT, JANNNS)

We have been advised by Ms. Ray and other FAA representatives that the FAA will be working to revert on the turns and flight paths for runway 28 and 15 departures.

Regarding runway 33L, as discussed at the Roundtable’s July 18, 2017 meeting and requested in the Roundtable’s letter to the FAA, dated July 25, 2017 (see Attachment 7), aircraft would not be “cleared direct” to GRAFE, SPLAT or JANNNS but would be vectored to the final approach course with the objective of achieving dispersion consistent with that illustrated in Attachment 1. Runway 10 arrivals, the ANTHM3 and TRISH2, also have resulted in concentrated flights upstream and at lower altitudes which are unacceptable.

As discussed below, the post-NextGen lack of controller vectoring has concentrated aircraft onto highly geographically specific and repetitive tracks over affected areas of Anne Arundel County. The result has been an increase in aircraft density and frequency in the same airspace over the same populations and any such increase is unacceptable.

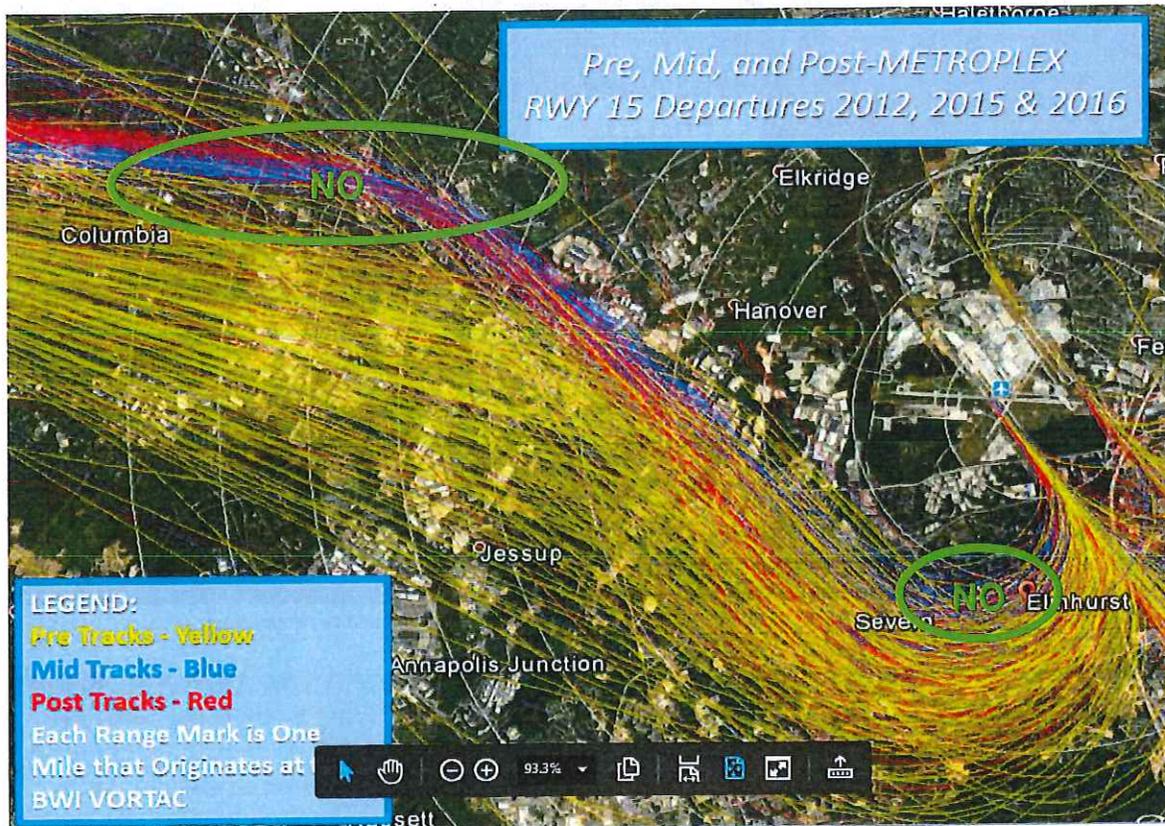


Figure 2A Runway 15 Departures - shows specific examples of planes flying where they were not flying prior to DC Metroplex/NextGen.



Figure 2B Runway 15 Departures – shows pre-DC Metroplex/NextGen features that need to be restored.

2. DC Metroplex/NextGen has resulted in a concentration of flight paths in narrow corridors; FAA must revert to old procedures that were effective in achieving dispersion. The concentration of low flying aircraft along the departure and arrival flight paths has been disastrous for residents underneath them. Numerous studies have demonstrated the harmful effect on mental and physical health due to aircraft and low frequency noise. In addition to the health effects, there is a questionably constitutional taking by the FAA of the residents' quiet and peaceful enjoyment of their homes and attendant economic loss due to lower property values. A comparison of pre- and post-DC Metroplex/NextGen flight paths as shown on Attachments 1 and 6 clearly shows the concentration of flight paths post-DC Metroplex/NextGen and that those under the flight paths would be significantly impacted is intuitive.

We understand from the FAA's presentation at the June 20, 2017, meeting of the Roundtable that for departures, the notional zones identified are intended to revert flight paths, not only to the location as mentioned above, but to achieve dispersion within the zones back to historical dispersion. We are concerned, however, that that the slides from the June 20 presentation do not adequately specify geographic boundaries. The notional zones identified on the June 20 presentation are based on a data set of 150 flights and time period of two months in 2014 that may be too small or not representative of historical dispersion. Additional data and time periods, such as those included in Attachment 1, should be considered in formulating a solution without delay. The PBN Working Group should continue its work while this additional

data is reviewed in order to maintain the timetable for published procedures described by the FAA in its June 20 presentation.

The June 20 presentation did not provide for notional zones to deal for dispersion on arrivals, but notwithstanding the presentation, Ms. Ray communicated at the meeting and in subsequent communications that the FAA understands the problem of concentration and the request for dispersion (examples of which are shown on Attachment 1) and would undertake efforts to recreate that dispersion on arrivals.

As you know, the Roundtable has requested in its letter dated July 25, 2017 to the FAA (Robert Owens) in that (i) for departures from BWI, the FAA seek the waiver that would allow air traffic controllers to vector aircraft to create dispersion as Robert Owens described during his presentation at the July 18 Roundtable meeting and (ii) for arrivals to BWI, air traffic controllers would revert to vectoring aircraft to the final approach course and would stop all direct clearances to waypoints in order to achieve spacing and dispersion and to eliminate concentrated flight paths. We request these remedial measures to be implemented immediately and made permanent or until such time it is demonstrated with certainty that NextGen as implemented will maintain dispersion at historical levels and avoid the current concentration of departures and arrivals.

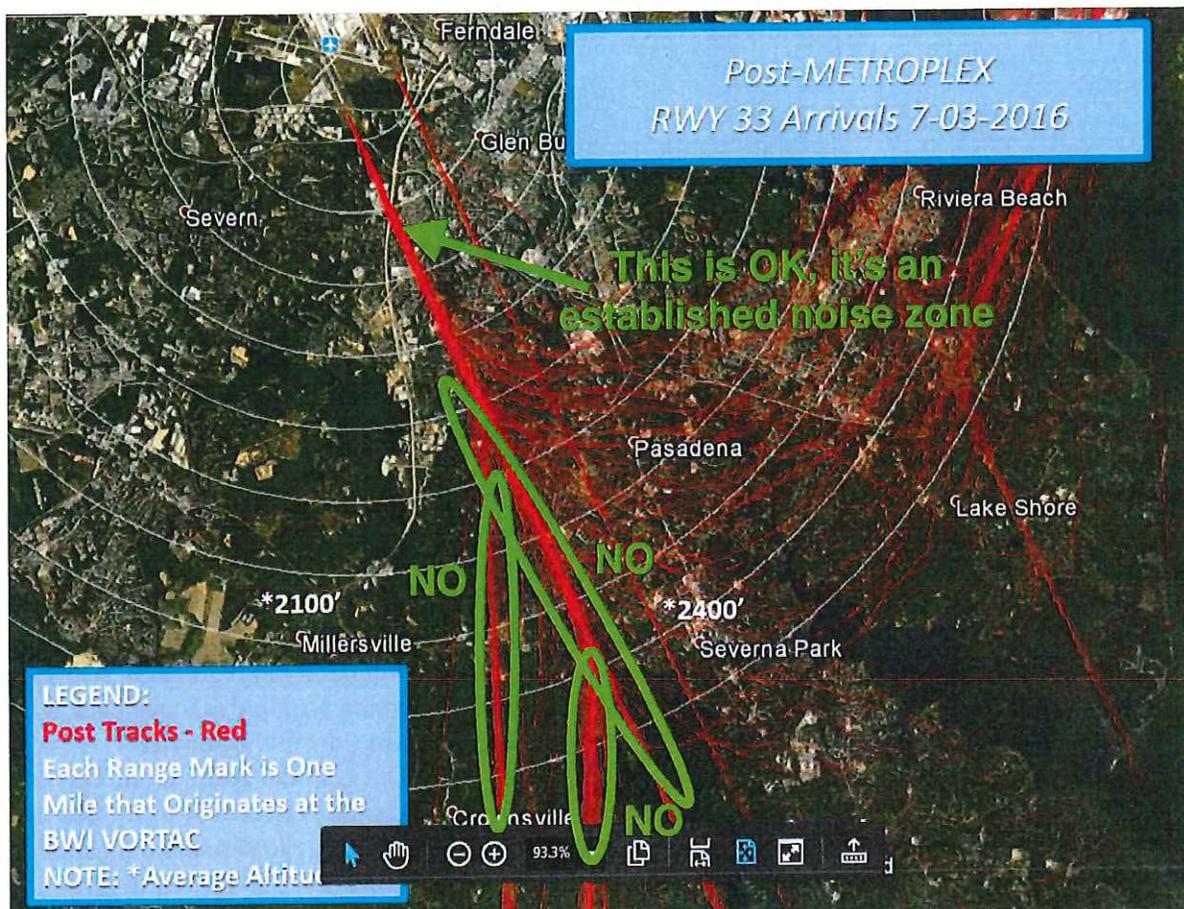


Figure 3A Runway 33L Arrivals - as well as figures 1 and 2 above, show examples of how planes are now concentrated into narrow corridors so that plane after plane are destructive for the residents beneath.

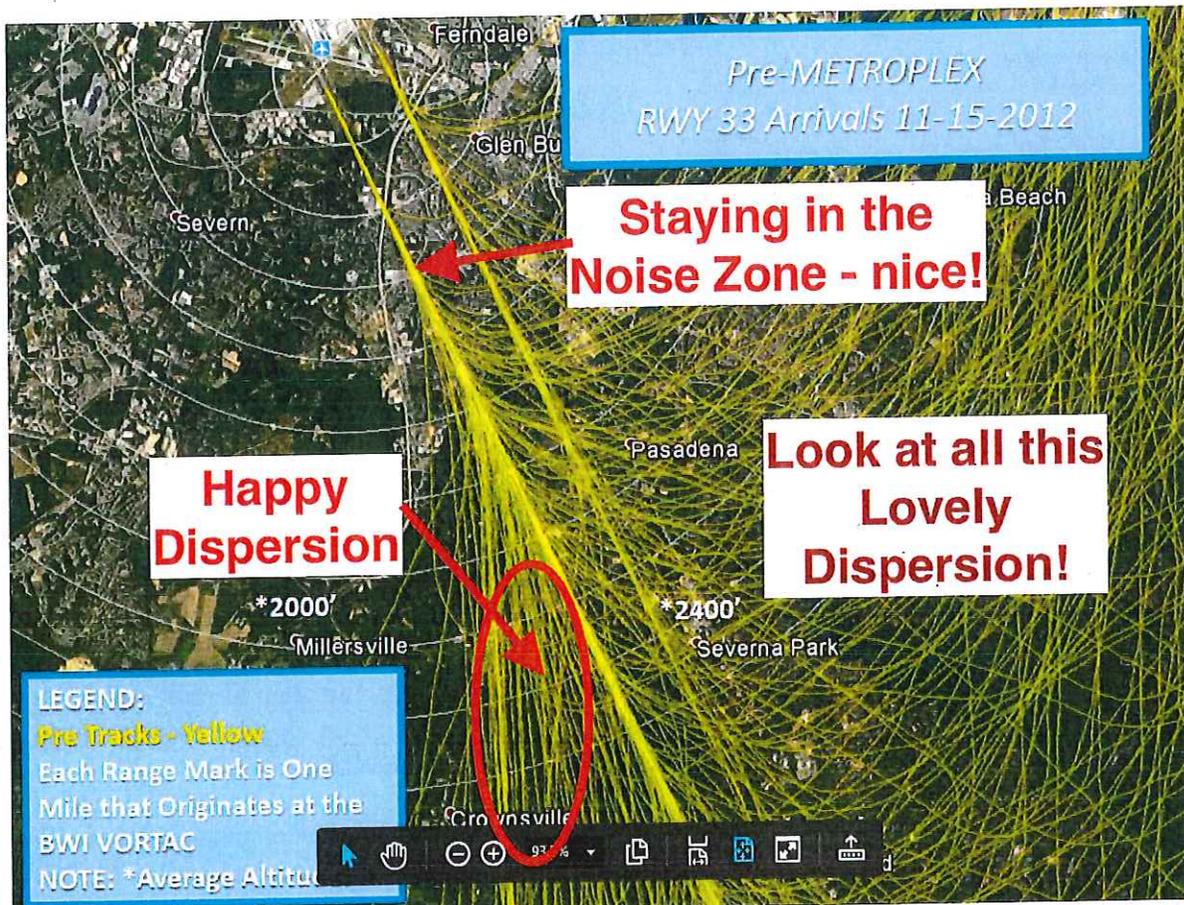


Figure 3B Runway 33L Arrivals - shows dispersion and features of pre-DC Metroplex/NextGen arrivals that must be restored.

3. FAA procedures permit aircraft to fly at altitudes too low; procedures must be modified to require aircraft to fly at the highest safe altitude at all times during departures and arrivals. Residents universally state that aircraft are flying lower under the DC Metroplex/NextGen scheme than previously. We understand there is conflicting data about how low aircraft are flying and issues regarding whether representations regarding aircraft altitude in DC Metroplex environmental assessment were accurate. As stated by FAA operations representatives for BWI approach control, the frequent ATC procedure of clearing aircraft for visual approaches has had the effect of alleviating an aircraft's obligation to comply with published arrival and approach procedure altitudes resulting in much lower flying aircraft. This has directly translated into an unacceptably lower altitude for regular flight operations. For arrival aircraft this has affected flights from as far out as the RAVNN waypoint on the RAVNN arrival and their joining of the final approach corridor into 33L at lower than IFR standard glideslope intercept altitudes. For 15R departures this has resulted in aircraft turning at lower altitudes; altitudes should be restored to previously established altitudes and the turn should be restored to 1 DME.

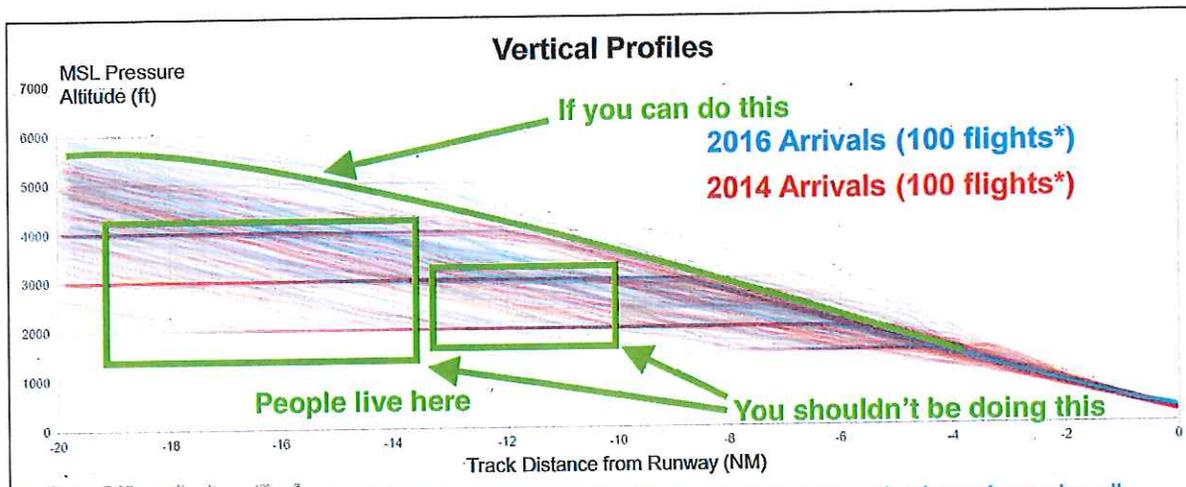


Figure 4 Vertical Profiles – shows how planes are flying at lower altitudes than necessary, as has been observed on all arrivals, particularly bothersome with arrivals on Runway 33L and Runway 10.

Also in our July 25 letter to the FAA, we have requested that the FAA implement the cooperation and training as proposed by Robert Owens at the July 18 meeting as soon as possible. We further request that FAA and airport procedures and rules be changed so that achieving and maintaining the highest safe altitude for departing and arriving aircraft is a requirement, rather than only a voluntary undertaking. All flights given visual clearances must not descend below published altitudes for the entire arrival and approach procedure.

In addition, we ask the FAA to look at procedural changes, including shifting flight paths for aircraft transiting the region, such as flights from DCA, away from the area to allow for BWI departures and arriving aircraft to achieve or maintain higher altitudes.

It is imperative that the FAA develop effective solutions expeditiously and on the first try. Also, any solution must be one that (i) is demonstrated to achieve the reversion to historical flight paths, the historical dispersion of aircraft and the higher aircraft altitudes described above, (ii) includes procedures with which controllers and others as applicable are mandated to comply, (iii) is a legal, valid and binding obligation of the FAA enforceable in accordance with its terms and (iv) is subject to monitoring and frequent and regular reporting to demonstrate compliance.

We believe there is the greatest possibility for this if the Roundtable is fully engaged in the FAA processes and kept frequently and timely apprised of developments with opportunity to review and comment on plans as they are developed. We look forward to working with the FAA and MAA collaboratively.

The mental and physical trauma, loss of peaceful enjoyment of homes and destruction of property values being suffered by thousands of residents are real. We look forward to the speedy development and implementation of solutions that correct the failings of the new flight paths and procedures. Time is of the essence.

Sincerely,



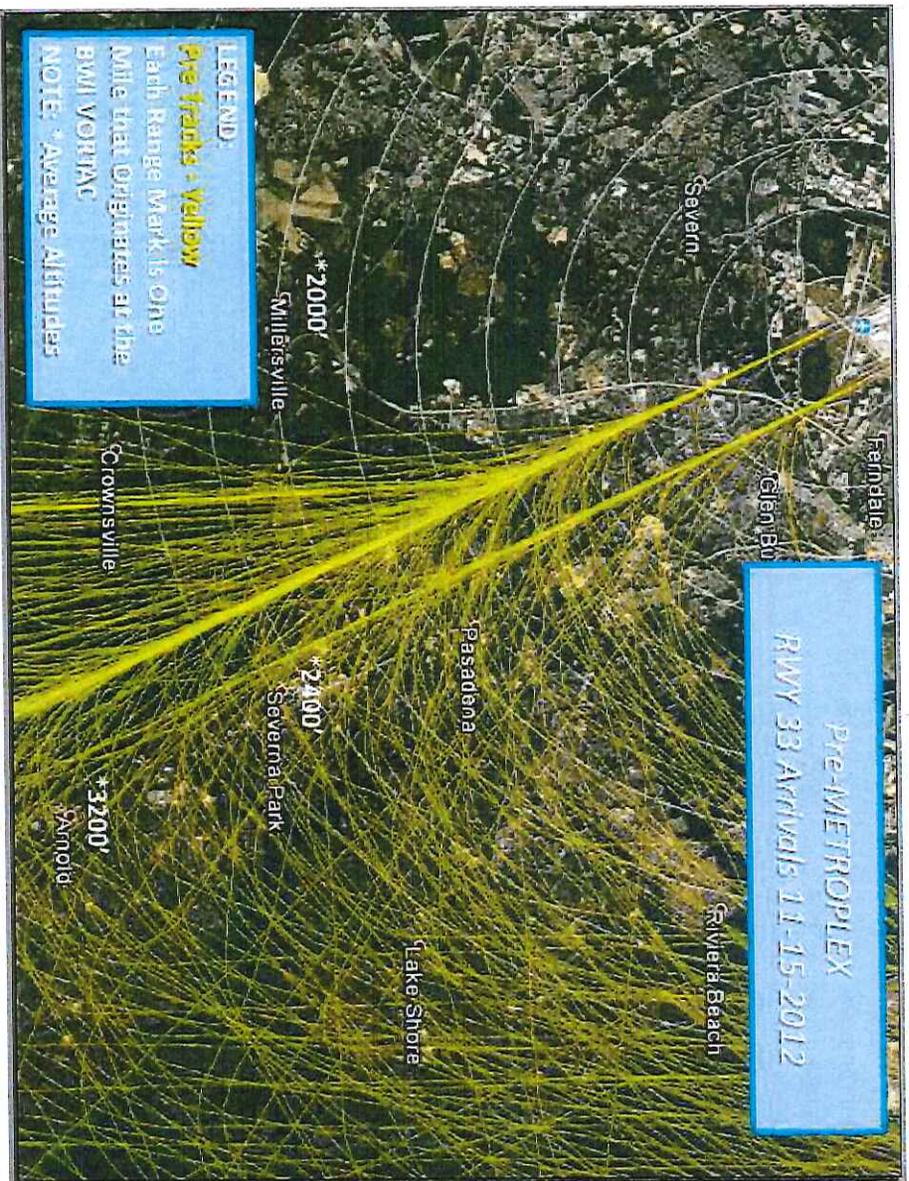
Lance Brasher  
Chair

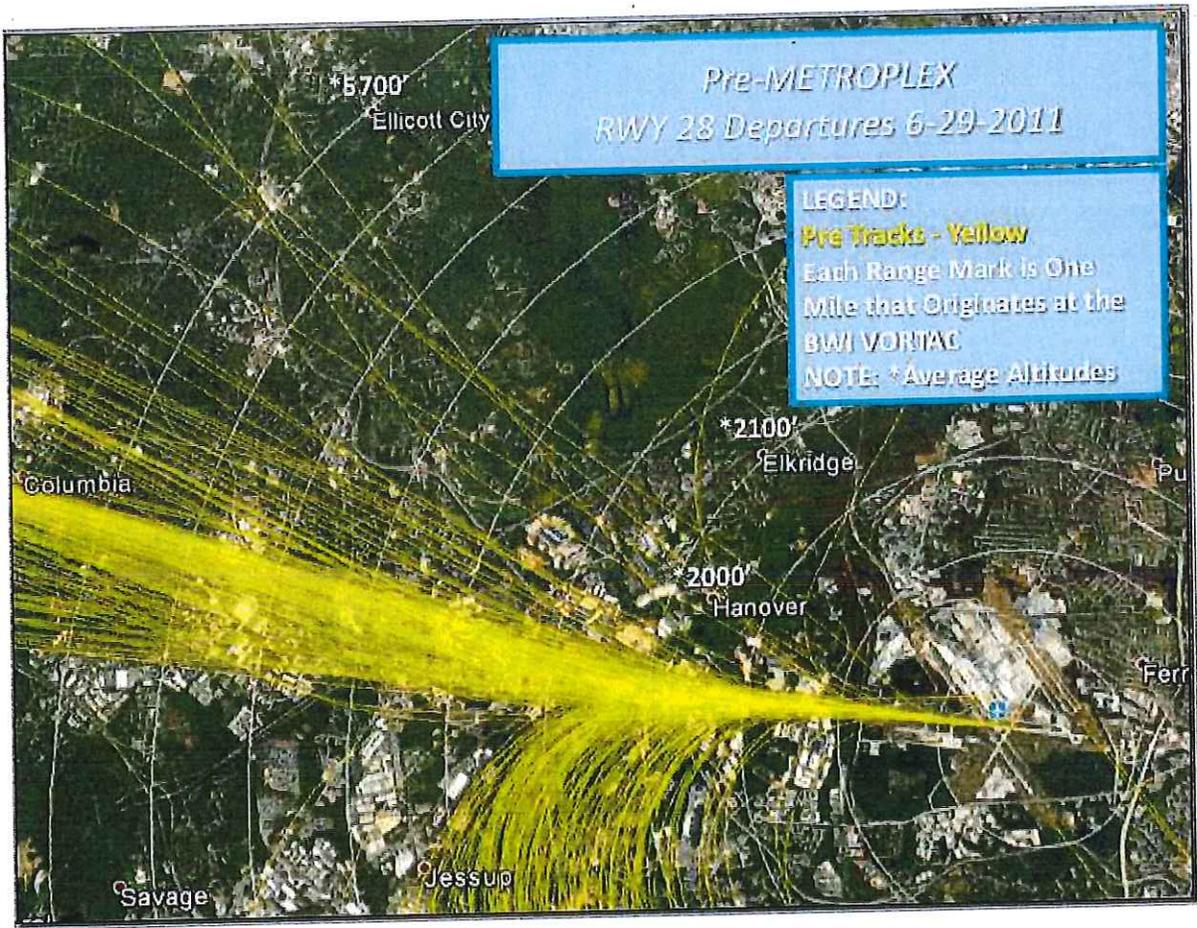
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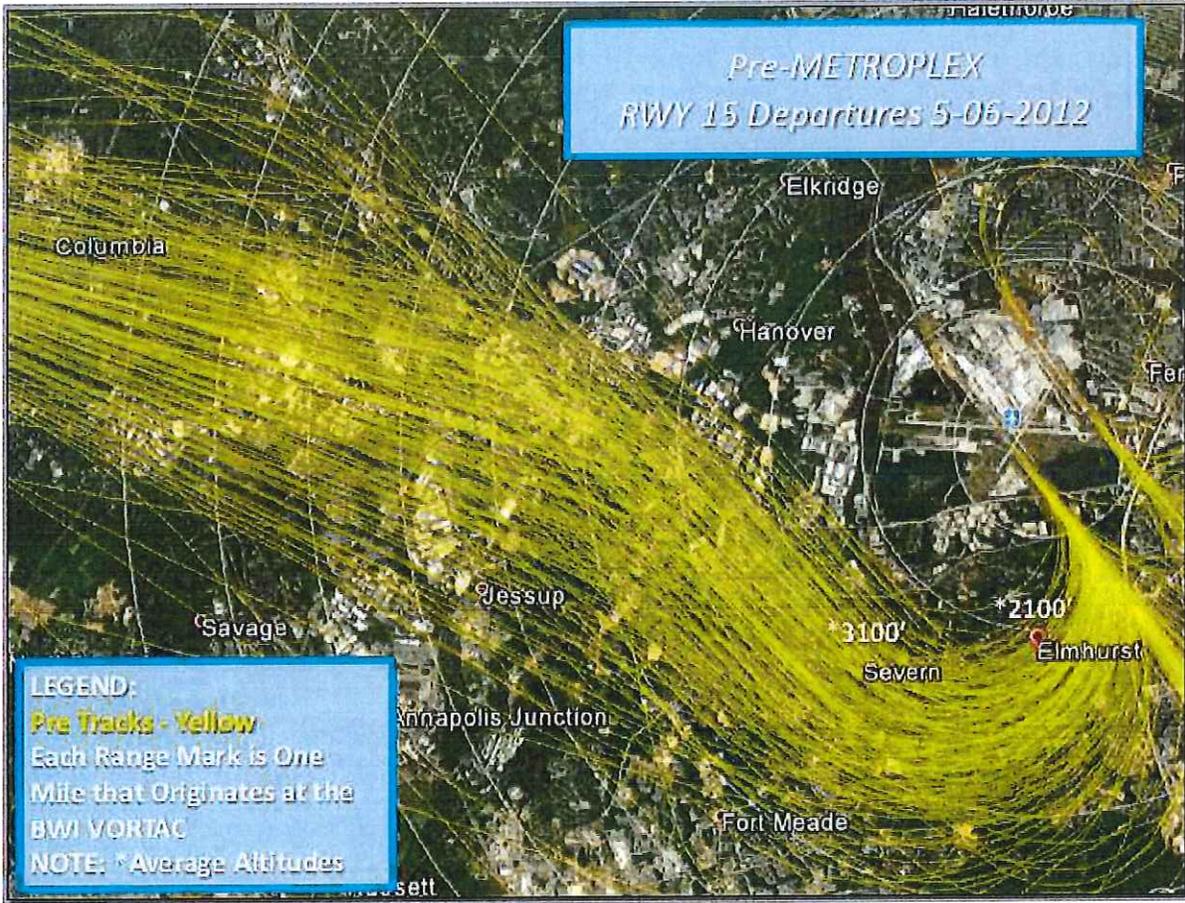
The Honorable Larry Hogan  
The Honorable Benjamin L. Cardin  
The Honorable Christopher Van Hollen, Jr.  
The Honorable Andrew P. Harris, M.D.  
The Honorable C.A. Dutch Ruppersberger  
The Honorable John P. Sarbanes  
The Honorable Anthony G. Brown  
The Honorable Steny H. Hoyer  
The Honorable John K. Delaney  
The Honorable Elijah E. Cummings  
The Honorable Jamie B. Raskin  
Mr. Christopher Yates, DC Metroplex BWI Community Roundtable Vice Chair  
Ms. Elizabeth Ray, Vice President, Mission Support Services, FAA  
Mr. Paul Shank, P.E., Chief Engineer, Div. of Planning & Engineering, MAA

Attachment 1: FAA pre-DC Metroplex/NextGen flight path diagrams  
Attachment 2: Roundtable letter to the FAA, dated March 31, 2017  
Attachment 3: Congressional Delegation letter to the FAA, dated April 18, 2017  
Attachment 4: Maryland Governor letter to the FAA, dated May 11, 2017  
Attachment 5: Maryland Governor letter to the DOT, dated August 1, 2017  
Attachment 6: FAA Post-DC Metroplex flight path diagrams  
Attachment 7: Roundtable letter to the FAA, dated July 25, 2017

Attachment I







Attachment 2

**DC METROPLEX BWI COMMUNITY ROUNDTABLE**  
c/o Maryland Department of Transportation Aviation Administration  
991 Corporate Boulevard  
Linthicum, Maryland 21090

March 31, 2017

Mr. Michael P. Huerta  
Administrator  
Federal Aviation Administration  
800 Independence Ave SW  
Washington DC 20591

Re: Roundtable Resolution to Revert to Pre-DC Metroplex/NextGen Procedures

Dear Mr. Huerta:

As requested by the Federal Aviation Administration (FAA), the Maryland Department of Transportation Aviation Administration (MAA) worked with State and County elected officials to form a roundtable made up of community representatives impacted by the implementation of DC Metroplex/NextGen plan.

Now formed, we are identified as the DC Metroplex BWI Community Roundtable (Roundtable), and our first meeting was held on March 21, 2017. During that meeting, we approved the Charter, elected a Chairman and Vice Chairman, and established ourselves as a group of community representatives with the goal of mitigating noise and other harmful impacts and seeking alternatives for populations impacted by DC Metroplex/NextGen implementation. The MAA will provide you with the DC Metroplex BWI Community Roundtable Charter (approved at the meeting) and the Roundtable membership as of March 24, 2017.

We have been advised that the MAA has discussed with the FAA on multiple occasions that the MAA has received thousands of complaints from residents in the vicinity of BWI Marshall following the implementation of the DC Metroplex/NextGen flight paths and procedures. In general, the complainants assert that many aircraft are now flying nearer their homes, whether due to new flight paths, frequency, low altitude or otherwise. The aircraft produce unwanted and unacceptable noise, vibration and other undesirable effects that are traumatic and oppressive, and deprive affected residents of the quiet and peaceful enjoyment of their homes they had prior to the implementation of the procedures. Some residents report that it has become intolerable to stay in their homes due to DC Metroplex/NextGen.

At our March 21 meeting, our Roundtable unanimously adopted the following resolution on an urgent basis:

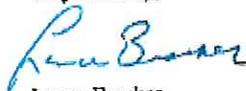
The DC Metroplex BWI Community Roundtable requests and recommends that the FAA immediately revert to flight paths and procedures that were in place prior to implementation of NextGen and the DC Metroplex plan (*i.e.*, the *status quo ante*) in order to provide urgent relief to residents adversely affected by these new flight paths and procedures, while a more deliberate and public-facing process to develop and implement NextGen and a DC Metroplex plan is undertaken.

The Roundtable also requests that you and other senior officials of the FAA participate in our next meeting on April 18, 2017 to (1) respond to this urgent resolution and (2) provide a review of stakeholder feedback from the October 27, 2016 open house sponsored by the MAA and FAA.

This is a matter that is of the utmost importance to the residents and communities harmed by the FAA's development and implementation of DC Metroplex/NextGen flight paths and procedures. While we welcomed the sincere acknowledgement by the FAA representative at our March 21 meeting that the FAA erred in the development and implementation of DC Metroplex/NextGen and his assurances that the FAA is committed to addressing the harm it has created, we have yet to see evidence of that commitment. We need for the FAA to make resolving this issue a top priority. We need for the FAA to take responsibility for the harm it has caused and is causing the BWI communities and residents and lead the efforts to correct this harm urgently.

The Roundtable has requested the MAA to transmit this letter to you. I would be pleased to meet with you and can be reached at any time on my mobile phone 443-995-0259 to discuss.

Very sincerely,



Lance Brasher  
Chairman,  
DC Metroplex BWI Community Roundtable

cc: Mr. Christopher Yates, DC Metroplex BWI Community Roundtable Vice  
Chair  
Mr. Carmine Gallo, Regional Administrator, Eastern Region, FAA  
Ms. Elizabeth Ray, Vice President, Mission Support Services, FAA  
Mr. Ricky Smith, Executive Director/CEO MAA  
Mr. Paul Shank, P.E., Chief Engineer, Div. of Planning & Engineering, MAA  
Ms. Ellen Sample, Director, Office of Real Estate & Noise Abatement, MAA

Attachment 3

**Congress of the United States**  
Washington, DC 20510

April 18, 2017

Hon. Michael P. Huerta  
Administrator  
Federal Aviation Administration  
800 Independence Avenue SW  
Washington, DC 20591-0004

Dear Administrator Huerta:

We are writing to you in support of the DC Metroplex BWI Community Roundtable's "Resolution to Revert to Pre-DC Metroplex/NextGen Procedures" that the Roundtable sent to you on March 31, 2017, a copy of which is attached.

As you know, the implementation of NextGen flights in 2015 has created an intolerable situation for those living under the flight paths. These residents cannot work or study at home, converse in a normal tone of voice, sleep well, or simply have the quiet enjoyment of their property. This is an unacceptable and unsustainable situation.

The DC Metroplex BWI Community Roundtable was formed by the Maryland Aviation Administration in response to the Federal Aviation Administration's request for a BWI community consensus before taking steps to change the NextGen flight paths. In its letter to Senator Benjamin Cardin dated December 12, 2016, the FAA stated that it is "committed to giving full and fair consideration to any formal CR [Community Roundtable] endorsed changes, which could include returning to previous flight paths if that is a consensus position after getting input from affected communities."

The Roundtable is comprised of representatives from each of the affected communities around BWI Thurgood Marshall Airport, as well as representatives from the aviation industry. Two appointed representatives from each legislative district in Anne Arundel and Howard Counties are included, as well as representatives from the offices of the Anne Arundel County Council President and the County Executives of Anne Arundel, Howard, and Baltimore Counties.

At its meeting on March 21, 2017, the members of the Roundtable voted unanimously to adopt the following Resolution:

The DC Metroplex BWI Community Roundtable requests and recommends that the FAA immediately revert to flight paths and procedures that were in place prior to implementation of NextGen and the DC Metroplex plan (i.e.,

the *status quo ante*) in order to provide urgent relief to residents adversely affected by these new flight paths and procedures, while a more deliberate and public-facing process to develop and implement NextGen and a DC Metroplex plan is undertaken.

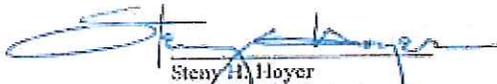
This Resolution satisfies the FAA's request that a Community Roundtable reach a consensus position before the FAA will consider returning to previous flight paths. Now that the Roundtable has acted, we call upon you to accept the Roundtable's Resolution and take swift action to revert to pre-NextGen flight paths. It is essential to provide relief to the affected residents until an acceptable solution can be devised.

We look forward to your prompt response.

Sincerely,

  
Benjamin L. Cardin  
United States Senator

  
Chris Van Hollen  
United States Senator

  
Steny H. Hoyer  
Member of Congress

  
Elijah Cummings  
Member of Congress

  
C.A. Dutch Ruppersberger  
Member of Congress

  
John Sarbanes  
Member of Congress

  
John K. Delaney  
Member of Congress

  
Anthony Brown  
Member of Congress

  
Janice Raskin  
Member of Congress

Attachment 4



LARRY HOGAN  
GOVERNOR

May 11, 2017

STATE OF MARYLAND  
OFFICE OF THE GOVERNOR

Michael P. Huerta, Administrator  
U.S. Department of Transportation  
Federal Aviation Administration  
800 Independence Avenue, SW  
Washington, DC 20591

Re: NextGen Flight Path

Dear Mr. Huerta:

As you are aware, the Next Generation Air Transportation System (NextGen) at Baltimore/Washington International Thurgood Marshall Airport and Ronald Reagan Washington National Airport in November 2014 has dramatically increased the noise levels in several populous Maryland jurisdictions. To date, there has been little to no action taken to mitigate this noise pollution. In fact, the problem has only metastasized into the National Capital Region and beyond.

When the Maryland State Highway Administration designs and constructs new highways and bridges, we work hard to minimize the impact of traffic noise on our citizens. While vehicular noise is to be expected, we strive to provide reasonable actions. We do not willfully ignore the local communities and circumvent their input.

You advised the Maryland Aviation Administration to create a Community Roundtable of residents and industry representatives, indicating that the FAA requires a consensus prior to developing, testing and implementing any significant air space procedural changes. The Community Roundtable unanimously adopted the following resolution:

"The DC Metroplex BWI Community Roundtable requests and recommends that the FAA immediately revert to flight paths and procedures that were in place prior to implementation of NextGen and the DC Metroplex plan (i.e., the status quo ante) in order to provide urgent relief to residents adversely affected by these new flight paths and procedures, while a more deliberate and public-facing process to develop and implement NextGen and a DC Metroplex plan is undertaken."

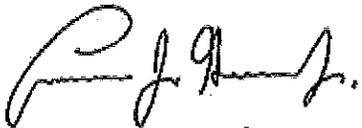
STATE HOUSE, ANNAPOLIS, MARYLAND 21401  
(410) 974-3000 1-800-811-8338  
TTY USERS CALL VIA MD RELAY

Regardless, your agency has refused to make any meaningful adjustments. In fact, your agency stated at the April 18th meeting that the FAA would not return to the pre-NextGen flight paths, and would only make minor modifications. This is completely unacceptable. The FAA has a duty to listen and work with the communities it impacts. I am asking for the FAA to reconsider these procedures.

There is certainly merit to transitioning into a satellite-based air traffic control system. However, while the NextGEN system will provide savings for the airline industry, I will not have the citizens of Anne Arundel, Baltimore, Howard, and Montgomery Counties pay a human cost with their health and emotional well-being.

Therefore, I ask the FAA to immediately return to the pre-NextGEN flight patterns for a period of time while state and local stakeholders are engaged. I sincerely hope that we are able to find common ground and an amicable resolution. I welcome the opportunity to continue this discussion as soon as possible - please contact my Chief of Staff, Sam Malhotra, at [sam.malhotra@maryland.gov](mailto:sam.malhotra@maryland.gov), or at 410-974-5154, for arrangements. Thank you,

Sincerely,



Lawrence J. Hogan, Jr.  
Governor

Cc:

The Honorable Kevin Kamenetz  
The Honorable Allan Kittleman  
The Honorable Ike Leggett  
The Honorable Steven Schuh

Attachment 5



LARRY HOGAN  
GOVERNOR

STATE OF MARYLAND  
OFFICE OF THE GOVERNOR

August 01, 2017

The Honorable Elaine L. Chao, Secretary  
U.S. Department of Transportation  
1200 New Jersey Ave, SE - 9th Floor  
Washington, DC 20590

Re: Next Generation Air Transportation System (NextGen)

Dear Secretary Chao:

Two months ago, I wrote a letter to Federal Aviation Administration (FAA) Administrator Michael Huerta expressing my deep concern about increased noise levels in several populous Maryland jurisdictions as a direct result of implementing the FAA's Next Generation Air Transportation System (NextGen). I also shared my strong displeasure that the FAA had not provided immediate and meaningful reform to date.

Following this recurring theme of little to no action by the FAA, I have yet to receive a reply to my May 11, 2017 letter (enclosed). The Administrator does not seem to understand that chronic aircraft noise exposes otherwise healthy people to stress and potential medical conditions, as well as directly negatively impacting property values for Maryland homeowners.

Baltimore Washington International Thurgood Marshall (BWI) Airport is the number one airport in the Mid-Atlantic region. With travel on the East Coast rapidly growing, this noise issue has been adversely affecting citizens in Anne Arundel, Baltimore, and Howard Counties for the past three years.

In addition the noise issues generated at BWI, our Montgomery County residents have been adversely affected by flight path changes at Ronald Reagan Washington National Airport. Montgomery County citizens are experiencing a growing sense of disenfranchisement when attempting to voice their concerns to the appropriate authorities.

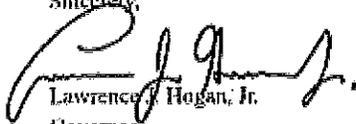
I respectfully request a review and path forward to address our citizens' concerns, and ask that the Administrator address these issues via a written response to my letter no later than August 15,

STATE HOUSE, ANNAPOLIS, MARYLAND 21401  
14101 574-3801 1-800-811-8336  
TTY USERS CALL VIA MD RELAY

2017. Our administration is committed to seeking sincere resolution on this important matter, and we intend to maintain an open dialog with your office as we work to achieve a mutually acceptable solution.

I thank you for your time and attention to this matter. The Maryland Secretary of Transportation, Pete Rahn, is available to discuss further at 410-865-1800 or [prahn@mdot.state.md.us](mailto:prahn@mdot.state.md.us), and of course, you may always contact me directly.

Sincerely,



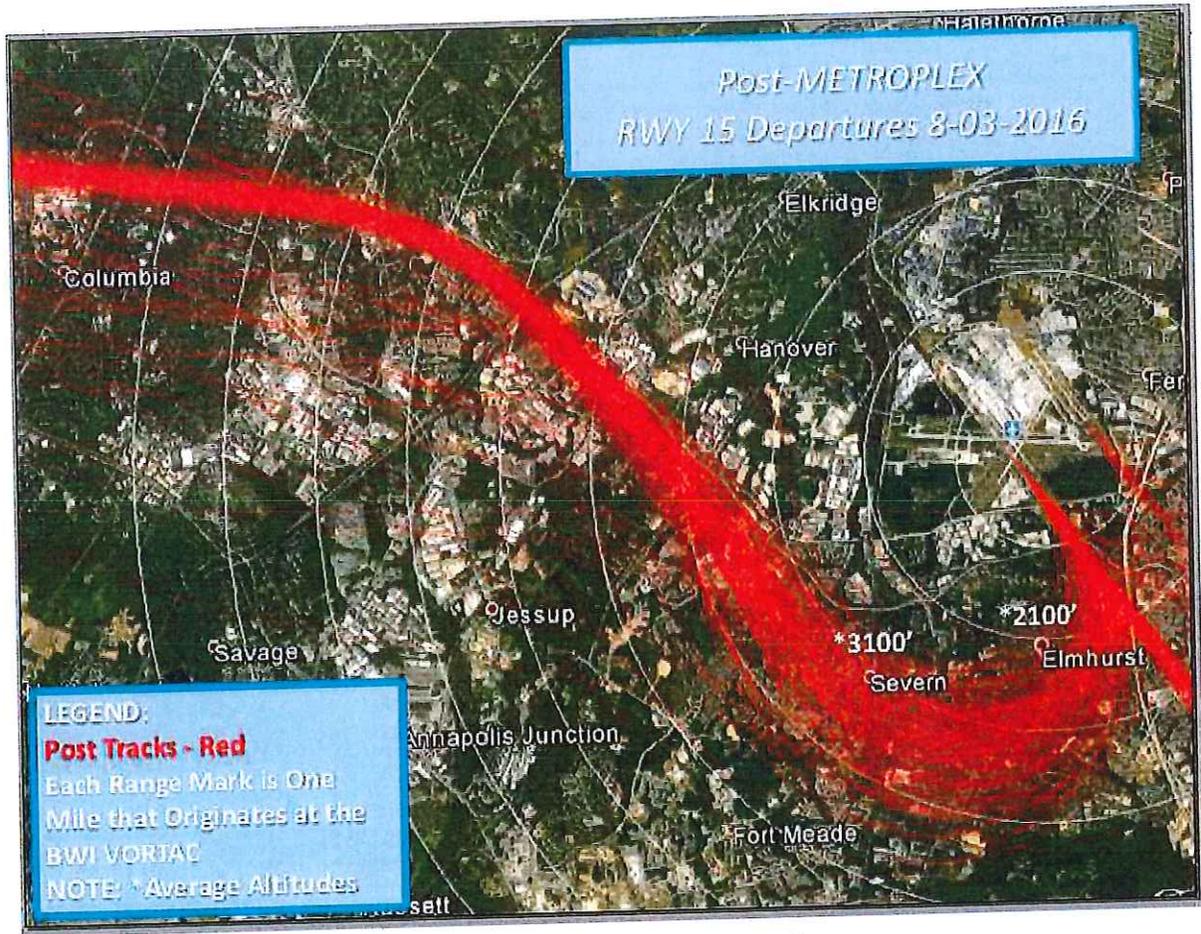
Lawrence Hogan, Jr.  
Governor

Encl: 2017.05.11 Governor Hogan Letter to Huerta Re NextGen





Post-METROPLEX  
RWY 15 Departures 8-03-2016



LEGEND:  
**Post Tracks - Red**  
Each Range Mark is One  
Mile that Originates at the  
BWI VORTAC  
NOTE: \*Average Altitudes

## Attachment 7

**DC METROPLEX BWI COMMUNITY ROUNDTABLE**  
c/o Maryland Department of Transportation Aviation Administration  
991 Corporate Boulevard  
Linthicum, Maryland 21090

July 25, 2017

Mr. Robert A. Owens  
Terminal Assistant District Manager  
Capital District  
Federal Aviation Administration  
800 Independence Ave SW  
Washington DC 20591

Re: Operational Remedial Measures Related to BWI Community Roundtable  
Status Quo Ante Resolution

Dear Robert:

Thank you and Scott Proudfoot for your presentation on behalf of the FAA at the BWI Community Roundtable meeting on July 18, 2017. At the meeting, three remedial actions were discussed that the FAA could pursue while the FAA PBN Working Group develops changes in instrument flight procedures and other remedial actions are considered in response to the Roundtable's *status quo ante* resolution and request submitted to the FAA on March 31, 2017:

(a) On departures from BWI Airport, seek the waiver you described during your presentation to the Roundtable that would allow air traffic controllers to vector aircraft to recreate some of the flight path dispersion indicated on the attached FAA diagrams, and train and instruct controllers to do so;

(b) On arrivals to BWI Airport, revert to air traffic controllers vectoring aircraft on a course to the line of intercept (i.e., final approach course) rather than vectoring to a fixed way point, with the objective of recreating flight path dispersion of which the attached FAA diagrams are indicative. Controllers would not vector aircraft to fixed way points on arrivals;

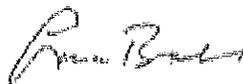
(c) With respect to aircraft altitudes, FAA would train controllers and coordinate with airlines, making them aware of the noise, vibration and other harmful effects thrust upon BWI community residents by low-flying aircraft, and request controllers and airlines maintain aircraft on the glide slope intercept altitudes out to 10 DME and, beyond 10 DME, maintain altitudes of at least 4000 feet, absent a compelling reason to the contrary (e.g., maintaining separation).

As we discussed, the Roundtable hereby requests that the FAA implement these measures as soon as possible. The Roundtable also inquires whether it is possible for controllers to instruct and require aircraft to achieve and maintain specified altitudes during takeoff and descent and, if so, include that as a measure to be implemented.

We are hopeful that implementing these steps as soon as possible will bring relief to hamed BWI Community residents which is badly needed. The efficacy of these measures can be evaluated while changes to instrument flight procedures are being developed by the FAA PBN Working Group and may factor into required instrument flight procedure changes.

We look forward to the expeditious implementation of these measures.

Very sincerely,

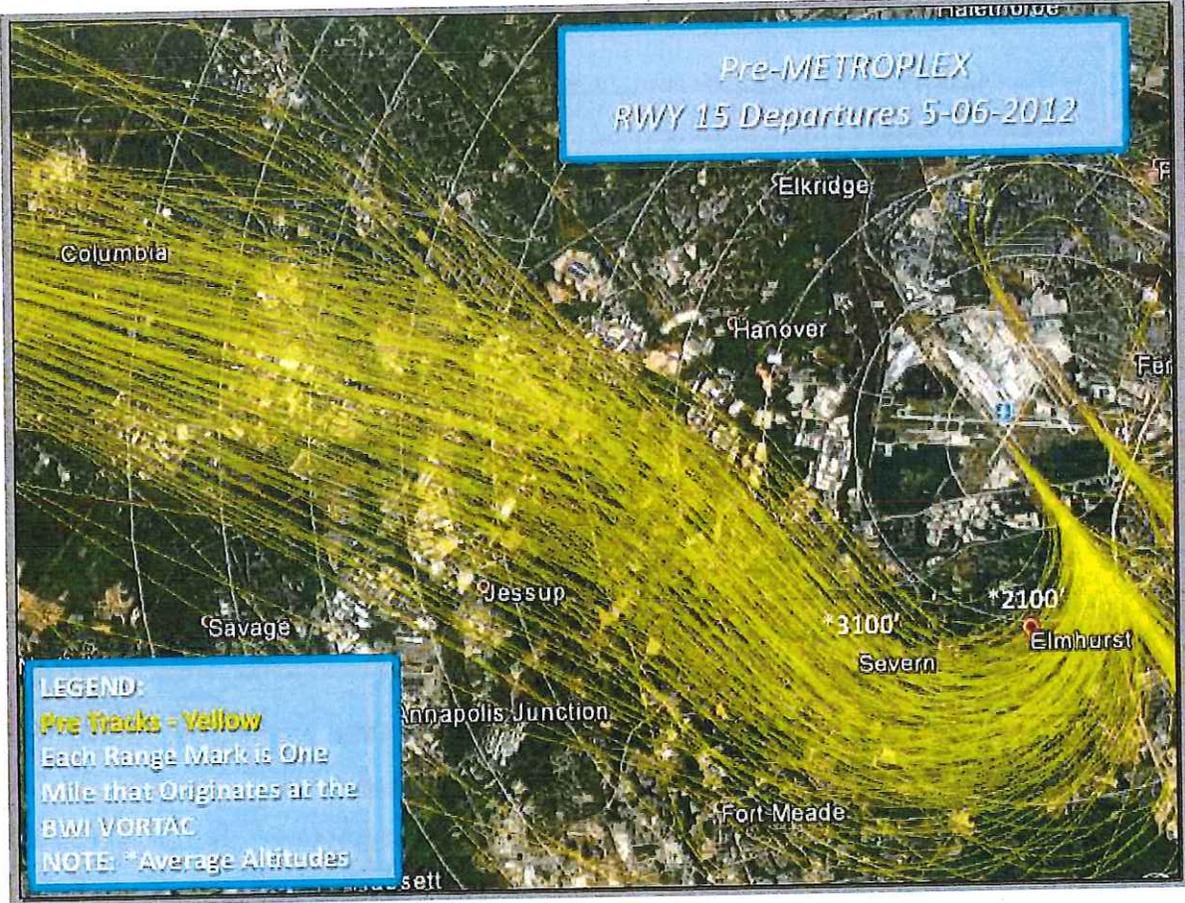


Lance Brasher  
Chairman  
DC Metroplex BWI Community Roundtable

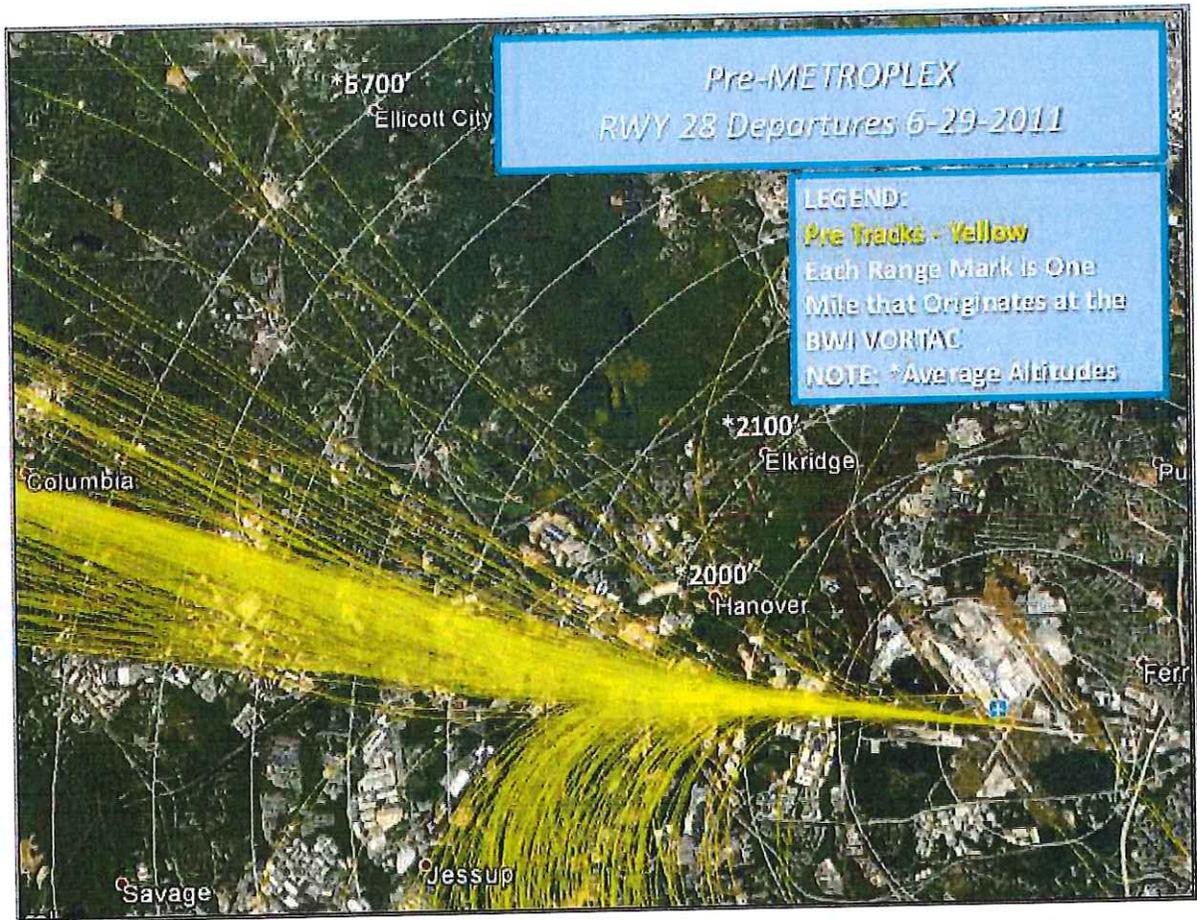
Attachments: FAA Diagrams from FAA BWI Workshop October 27, 2016

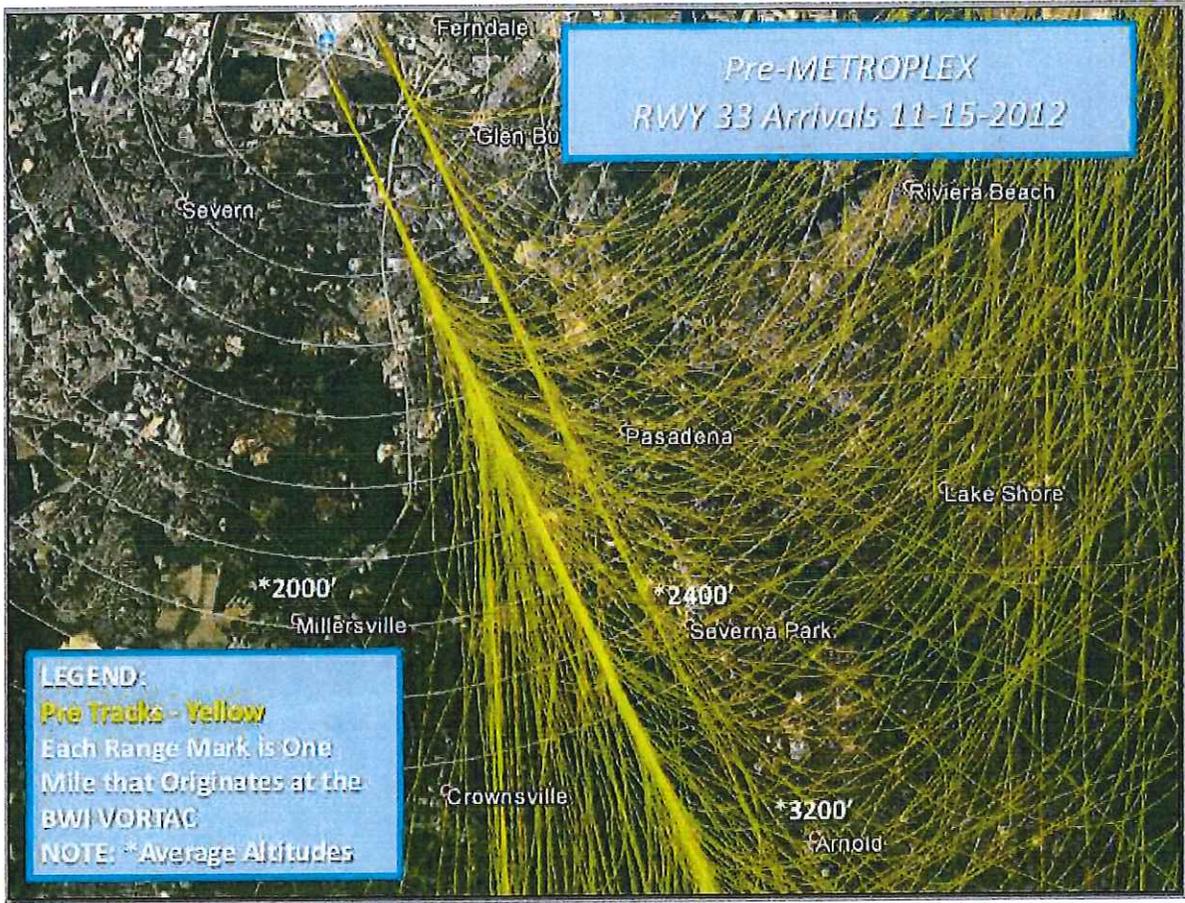
cc: Mr. Christopher Yates, DC Metroplex BWI Community Roundtable Vice  
Chair  
Ms. Marie Kennington-Gardiner, Regional Administrator, Eastern Region, FAA  
Ms. Elizabeth Ray, Vice President, Mission Support Services, FAA  
Mr. Paul Shank, P.E., Chief Engineer, Div. of Planning & Engineering, MAA  
Ms. Ellen Sample, Director, Office of Real Estate & Noise Abatement, MAA

Pre-METROPLEX  
RWY 15 Departures 5-06-2012



LEGEND:  
**Pre Tracks - Yellow**  
Each Range Mark is One  
Mile that Originates at the  
BWI VORTAC  
NOTE: \* Average Altitudes





DC METROPLEX BWI COMMUNITY ROUNDTABLE  
c/o Maryland Department of Transportation Aviation Administration  
P.O. Box 8766  
BWI Airport, Maryland 21240-0766  
January 31, 2018

**SUBJECT: 2017 Annual Report of the DC Metroplex BWI Community Roundtable**

## **INTRODUCTION**

The DC Metroplex BWI Community Roundtable members (RT) hereby submit our first Annual Report. This report is required by our charter with the Maryland Department of Transportation Aviation Administration (MAA). It includes the following topics: history, 2017 Roundtable meeting dates, current BWI operations – understanding the problem, RT request to date and the Federal Aviation Administration's (FAA) responses, RT's challenges in carrying out its obligations, possible solutions and conclusion.

## **HISTORY**

The BWI Roundtable was requested by the FAA and formed by the MAA. In monthly meetings with the FAA, the Roundtable has sought solutions for the harmful effects brought about by the implementation of the DC Metroplex/ NEXTGEN scheme.

During our first meeting, held on March 21st, 2017, our Roundtable unanimously adopted the following resolution on an urgent basis:

The DC Metroplex BWI Community Roundtable requests and recommends that the FAA immediately revert to flight paths and procedures that were in place prior to the implementation of NEXTGEN and the DC Metroplex plan. They will provide urgent relief to residents adversely affected by these new flight paths and procedures. While a more deliberate and public-facing process to develop and implement NEXTGEN and a DC Metroplex plan is undertaken.

We have not wavered from this request to the FAA. Although, we have acknowledged that reversion may be "mimicked" using current or new technology.

The Roundtable meetings have consistently given FAA and MAA representatives a concise picture of the crushing impact that the NEXTGEN/DC Metroplex plan has had on Maryland residents living under current flight paths. Each meeting of the Roundtable involves technical discussions, presentations, as well as a public comment section. Individual homeowners have often given poignant and arresting descriptions of the damage being done to their lives, health, and properties. Not to mention their belief in government has changed as a result of how the federal and state governments allowed NEXTGEN to be implemented without any warning of, or protection from, the far reaching and life changing nature of it all. Many believe they are ambushed, abused, and abandoned by their government(s).

## **2017 ROUNDTABLE MEETINGS DATES**

The Roundtable has met as a working body on the following dates: March 21, 2017, April 18, May 16, 2017, June 20, 2017, July 18, 2017, August 22, 2017, September 19, 2017, October 17, 2017, November 7, 2017, December 5, 2017, January 16, 2018

The full agenda and presentations are on the MAA website:

<http://maacommunityrelations.com/content/anznoiseupdate/dcroundtablecalendar.php>

Two Roundtable members attended the initial Technical Interchange Meeting of the FAA's PBN Working Group in Linthicum on August 10<sup>th</sup>, one in person and one by conference call. The PBN Working Group had been announced by the FAA at our June 20<sup>th</sup> meeting as the primary interdisciplinary vehicle within the FAA for addressing NEXTGEN design/redesign issues in the DC Metroplex.

Additionally, three Roundtable members visited the FAA's Potomac TRACON facility, which is responsible for air traffic operations in the DC Metroplex, in Virginia on December 7<sup>th</sup>, 2017,

## **CURRENT BWI OPERATIONS – UNDERSTANDING THE PROBLEM**

The Roundtable has spent a large amount of time understanding the nature of the problem and has had to push very hard to get the FAA and MAA to describe what is happening in the BWI airspace. It is clear to residents that since the implementation of the NEXTGEN Performance Based Navigation (PBN) Air Traffic Control (ATC) system at BWI Marshall International Airport (BWI) there has been a drastic and unacceptable increase in the frequency, density and concentration of aircraft and noise over limited geography. Previously unaffected communities are now experiencing high volumes of aircrafts flying new and concentrated paths. We believe that this has a direct detriment on public health, the environment, and individual property values of residents under these new flight paths.

Prior to NEXTGEN, the ATC model utilized "vectoring" to allow for proper spacing and safety buffers between aircraft. Locally, this resulted in the dispersed, and noncontroversial, airplane operations at BWI. With the introduction of NEXTGEN vectoring, although still available, is no longer used in routine practice. Rather, Global Positioning System (GPS) aligned "waypoints" are used to create replicable procedures and standardized flight paths. This approach increases the predictability of operations and reduces pilot/ATC interaction; thereby potentially increasing safety. It also results in a continuous and disturbing number of planes traversing the exact same geography day-in and day out. Which is creating a nuisance for some and a painful, unbearable burden for others.

During the course of our education in the causes of the new noise problem, we have recognized that issues can be grouped into two main categories: departures and arrivals.

**Departures** (Image 1 provides a BWI runway map):

Issues have been identified for the two departure runways as follows:

#### Runway 28:

Flights departing from RWY 28, represent approximately 70% of all annual BWI westbound departures these all turn right immediately after takeoff which causes a significant increase in noise over Hanover, Elkridge, Columbia and Ellicott City. Prior to NextGen these areas had not previously experienced noticeable levels of plane noise. The turn takes place at approximately 800 ft. above ground level, which appears to be in contradiction of the FAA's Environmental Assessment required for the implementation of NEXTGEN in the DC Metroplex. The assessment states that NEXTGEN would result in no changes to flight patterns under 3000 ft. above ground level. Flights leaving RWY 28 heading south, approximately 30% of all departures, have been moved further west, concentrating noise over Odenton.

#### Runway 15R:

PBN procedures have led to much tighter turns off of RWY 15R, concentrating noise from low flying planes over Severn, Maryland. These planes continue along the path previously described for RWY 28 departures, concentrating noise over the previously mentioned Howard County communities.

#### **Arrivals** (Attachment 1 provides a BWI runway map):

We have been told that ATC is issuing a greater number of visual approach clearances to pilots and that approaching aircraft are being cleared directly to PBN waypoints. Both of these ATC procedures were enabled by the implementation of the NEXGEN system and have resulted in destructive noise in communities that previously were not impacted by aircraft noise. Aircraft are flying too low and too loud along the entire Annapolis peninsula and population centers of Anne Arundel County. These issues also affect Baltimore and Howard Counties but to a lesser degree due to the dominant wind direction-based nature of arrival and departure air operations at BWI.

Issues have been identified for the two main arrival runways as follows:

#### Runway 33L:

RWY 33L is used for approximately 70% of BWI arrivals. As stated by FAA operations representatives for BWI approach control, aircraft are being cleared direct to the PBN waypoints to RWY 33L as opposed to vectored sequencing along the entire final approach course. The lack of vectoring has concentrated these aircraft onto specific areas and caused repetitive paths over major population centers along the Annapolis peninsula. Resulting in the introduction of unacceptable aircraft density and frequency in the same airspace over the same populations. In the case of at least one of the waypoints over Crownsville, titled SPLAT by the FAA, there were very few planes using this waypoint prior to the implementation of the DC Metroplex/ NEXTGEN project, but is now a major "highway" for BWI arrivals.

As further stated by FAA operations representatives for BWI approach control, the frequent ATC procedure of clearing aircraft for visual approaches has had the effect of alleviating pilots' obligation to comply with published arrival and approach procedure altitudes. Which results in much lower flying aircraft from as far out on arrival as the RAVNN waypoint to the northeast of

Deale. This has directly translated into an unacceptably lower altitude for regular flight operations across the entire Annapolis peninsula and the final approach corridor into 33L. Not to mention these approaches are lower than IFR standard glideslope intercept altitudes. In many instances the MAA has catalogued of planes flying far below 3,000 ft. above ground level in both Anne Arundel and Howard Counties.

#### Runway 10:

RWY 10 is used for approximately 30% of BWI arrivals, primarily for the airport's "East Flow" operations. All of the detrimental issues identified for RWY 33L also exist for RWY10, with high concentrations of loud, low flying planes over Ellicott City and Columbia, where few if any existed before.

### **ROUNDTABLE REQUESTS TO DATE AND FAA RESPONSES**

The BWI Roundtable has made the following three major requests of the FAA and received the corresponding responses:

1. *March 31, 2017 request:* To the FAA Administrator following our March 21st, 2017 resolution for the FAA to revert to pre-DC Metroplex/NEXTGEN flights and procedures.

*FAA response:* The FAA responded in a letter dated May 12th, 2017 from Lynn Ray, VP Mission Support Services, that reversion could not happen immediately because the procedures no longer existed. But that the FAA was committed to giving full consideration to our request. At the June 20<sup>th</sup> meeting the FAA presented its preliminary plan for moving both RWY 28 and RWY 15R departure flight paths to notional zones. But they offered nothing with respect to dispersion, altitude, or arrivals.

2. *July 25, 2017 request:* To Robert Owen, Assistant District Manager, for the FAA to implement near-term procedures to increase altitude and, by re-instating vectoring, recreate dispersion. Robert Owen stated at our July 18<sup>th</sup> meeting that these procedures were feasible and could be implemented readily upon receipt of FAA authorization. Lynn Ray repeatedly stated that these operational procedures were within Robert Owen's area of authority because they did not involve changes in instrument flight procedures.

*FAA response:* Despite repeated requests, we never received a written response to our July 25th, 2017 letter. However, shortly following the letter on a conference call with Lynn Ray and Robert Owen, Robert Owen explained to the chair of the RT, that he planned to meet with controllers and other relevant persons to raise awareness of altitude and dispersion issues. Essentially implementing operational procedures on an informal basis. Robert Owen later communicated that such informal steps would first require formal steps be taken to comply with the National Environmental Protection Act (NEPA). At a planning meeting with the MAA for the PBN Working Group meetings, the FAA provided slides that identified the Roundtable's concerns about altitude and dispersion while also setting tentative plans for shifting RWY 28 and RWY 15R departures to notional zones.

3. *September 8, 2017 request:* Reversion on flight paths and vectoring to recreate dispersion and requesting procedures be implemented so that arriving, departing, and crossing aircraft fly at the highest safe altitude. We also listed all of our concerns to give the PBN Working Group necessary information to guide their work. We were subsequently unofficially told by various PBN Working Group members that our letter had not been shared with them and that they were therefore unaware of the totality of our concerns.

*FAA response:* Jodi McCarthy, new VP mission support services, wrote in a letter on November 21<sup>st</sup> letter. That the FAA is pleased to consider community concerns and proposed solutions. Yet there was no explanation as to why the FAA cannot go back to the “conventional system”. Additionally, the PBN Working Group stated that the FAA would consider ways to increase dispersion while making no informative comment on altitude. They claim the FAA was committed to transparency.

Finally, at our January 16<sup>th</sup>, 2017 meeting we were informed by Paul Shank, Chief Engineer for the MAA, that the PBN Working Group work was nearly complete. Done without any additional changes to design of procedures for the BWI airspace aside from the shifts of departing flights from RWY 28 and RWY15R into the previously described notional zones.

### **RT'S CHALLENGES IN CARRYING OUT ITS OBLIGATIONS**

The RT has been unable to effect significant change to the NEXTGEN/DC Metroplex plan. While the FAA’s proposed changes to departures from RWY 28 and RWY 10 are expected to be an improvement over the current paths. We have made no progress on arrivals, raising altitudes, or restoring dispersion. We have recently identified certain challenges in carrying out our obligations. They are as follows:

- The FAA essentially disowns responsibility for the noise and other environmental harm it causes by its decisions and refers these matters to the local airport operator. There is no federal legislative mandate requiring the FAA to consider or address the “complete” noise effect of its NEXTGEN plan or even to work “in good faith” with affected communities to reduce the noise to levels that are compatible with established residential development.
- The Noise Standards used by the FAA, which were adopted in 1971, are outdated and do not reflect the precise and unremitting effects of concentrated flight paths over limited geography created by modern technology. The FAA asserts that it is in compliance with all noise and other environmental requirements, yet thousands of airport community residents around the country are harmed by the adverse environmental effects of NEXTGEN. Clearly the legal standards are inadequate to protect citizens from the FAA’s actions.
- The FAA’s decision-making and reasoning are opaque and remote.
- The timeframes for taking effective action to alter the NEXTGEN system, even in small ways, are quite short.

- The RT was not created until 2 years into the NEXTGEN implementation process at BWI, after the initial designs and studies had been completed.
- The FAA has refused to redesign the current flight paths to increase airplane dispersion or raise altitudes.
- The RT has been unable to get clear information on the NEXTGEN flight paths that is understandable to regular citizens, such as RT members. For instance, maps given to the RT continually have no recognizable geographic or topographical features on them. This makes it difficult to ascertain the effects of the paths on the residents of the legislative districts represented by the RT members.
- Other requests to the MAA and FAA have been ignored or only partially addressed. The RT has made an effort to organize and prioritize the many requests for information to both the FAA and MAA, with very limited success in getting useful information.
- The RT's ability to influence the FAA is extremely limited and consists largely of "imploing" the FAA to solve the problem it created.

## POTENTIAL SOLUTIONS

The following are possible actions that the RT could take to partially meet the challenges identified:

- *Specific requests of the FAA.* While the FAA has denied key elements of our general request for reversion and appears to have shown little initiative in developing solutions to solve problems that the RT has identified, Jodi McCarthy states in her letter that the FAA will consider community requests. This may put the RT in the unenviable and politically untenable position of making proposals that benefit certain communities, while harming others. This pitting of communities against one another in order to push the noise around is abhorrent.
- *Greater political support; remedial legislation.* Seek legislation and other political support at the federal, state and local levels to compel the FAA to act. The FAA reauthorization bill may be the vehicle for a new federal law. The BWI RT has drafted proposed legislation; it is being reviewed by RT members and members of other affected communities near NEXTGEN airports, including DCA, Logan, LaGuardia, as well as Senator Van Hollen's office.
- *Maryland action to compel the FAA.* Encourage the state of Maryland to proceed vigorously with a lawsuit to compel the FAA to correct the harm that Maryland residents who live under or near the concentrated flight paths are suffering from and give the RT's full support however we can.
- *FAA processes.* Complain vigorously to the FAA regarding the harms we are suffering from and comment on any procedures/rulemakings wherever possible.

- *New PBN Working Group.* The RT should work with the FAA to convene another version of the PBN Working Group to address issues such as dispersion, altitudes, and arrivals that were left unaddressed by the current group. We have been told that the FAA is out of budget for a new effort; perhaps our federal delegation can assist.
- *MAA and airport support.* Given that the FAA has largely not addressed the problems we are facing, consider petitioning the MAA, state, and local governments to require BWI airport to among other things (i) refrain from expanding facilities or operations that could lead to an increase in frequency of aircraft flights or noisier flights, (ii) reduce and restrict hours of operations to mitigate the adverse effect of the FAA's actions, (iii) demonstrate national leadership by applying a "best practices" approach and take all actions to reduce noise from departing and arriving aircraft and (iv) when conducting environmental reviews, not rely on outdated and ineffective noise and other legal standards; but apply more stringent standards relevant to the BWI communities and the nature of air traffic at BWI.
- *Airline help.* Petition the airlines to take actions within their control to reduce noise, whether through operational steps, fleet mix, or otherwise.

## CONCLUSION

The DC Metroplex BWI Community Roundtable was created at the insistence of the FAA to act as the vehicle for addressing the harmful noise issues associated with the NEXTGEN/DC Metroplex project. Unfortunately, it appears to be a largely unsatisfactory approach. At this time, we believe there must be a change in approach in order to achieve broader results.

*Without a major change in federal legislation, or a successful lawsuit, that creates mandatory incentives for the FAA to act mitigate the situation. The RT will fail in its goal of returning to a reasonable facsimile of the noncontroversial airport operations that existed at BWI prior to the implementation of the NEXTGEN/DC Metroplex project.*

Despite the very limited positive outcome of the RT to date, the RT still has important work to do. The FAA will return to our March 2018 meeting with a full description of the changes that they are making to the departures from RWY 28 and RWY15R as a result of the PBN Working Group process. The RT will be the primary vehicle for community reaction to those proposed changes, and will be required to monitor progress well into final implementation of the new procedures, expected sometime in mid-2019.

It is also foreseeable that the RT will continue to work with the MAA and the airlines on operational changes within their control that may mitigate the noise effects of NEXTGEN at BWI.

The RT has gained valuable knowledge of the technical components of the new noise problem at the airport caused by NEXTGEN's implementation per the FAA. We believe that knowledge will be important as federal, state and local decision makers take the lead and continue to grapple with this issue. We hope that the RT can play a key supporting role in that effort.

Finally, we wish to conclude this report by reiterating that, at the BWI Roundtable meetings, numerous community residents harmed by the situation at BWI speak out publicly about their sorry predicament, the substantial negative impact on their health and mental wellbeing, their rest, their family, their ability to function at work, their use and enjoyment of their homes, the value of their single largest personal investment and their communities. This situation at BWI is not one where the harm is a potential one or one that may occur in the future. The harm is real and Maryland residents are bearing this harm now. Our government must act urgently to protect its citizens and resolve this harm.

Attachments

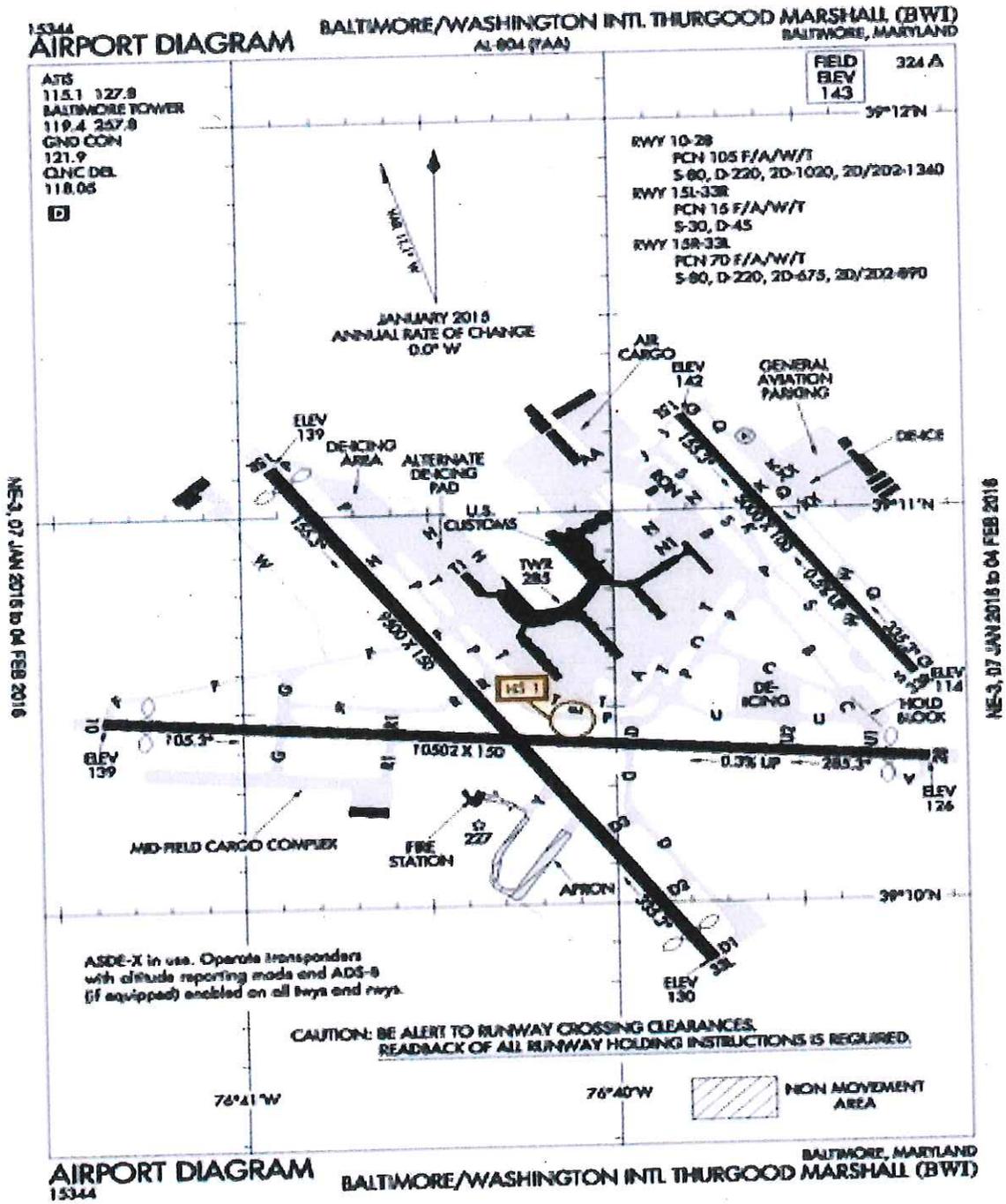
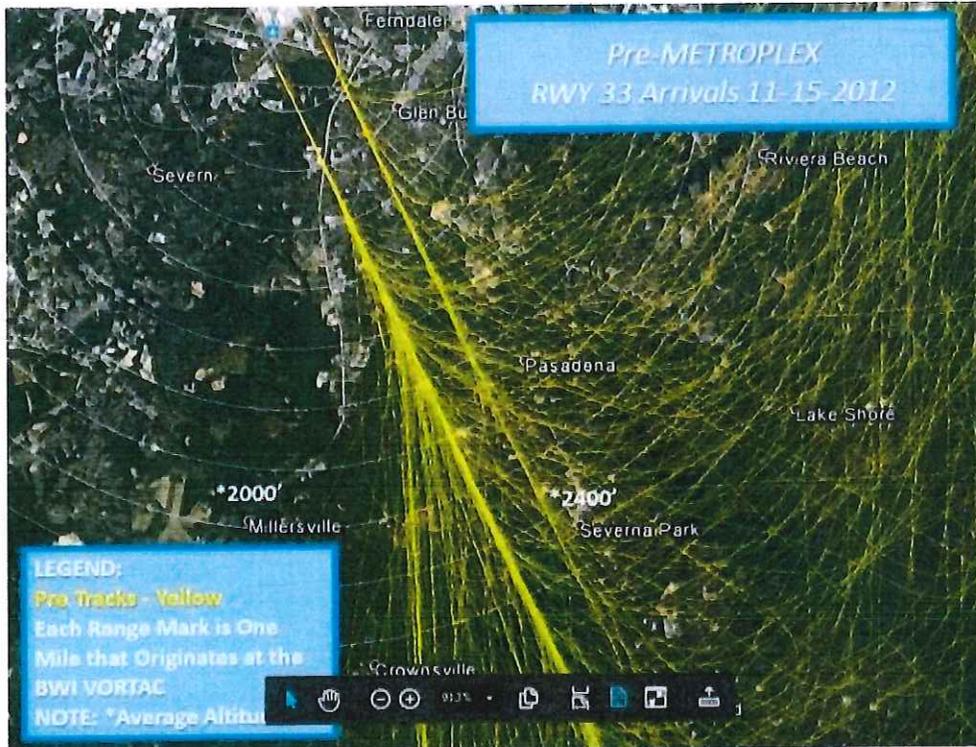


Image 1: BWI THURGOOD MARSHALL AIRPORT DIAGRAM

## Arrivals into RWY 33L (Pre)



BWI Roundtable  
April 18, 2017

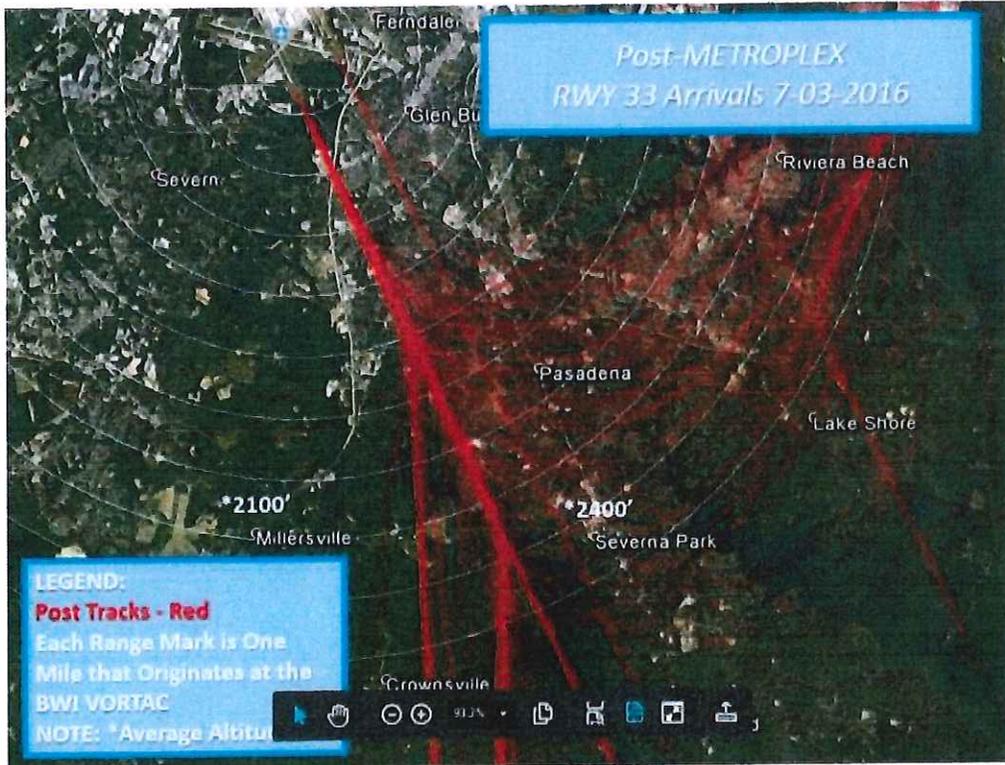


Federal Aviation  
Administration

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Image 2: BWI ARRIVAL 33L PRE-NEXTGEN

## Arrivals into RWY 33L (Post)



BWI Roundtable  
April 18, 2017



Federal Aviation  
Administration

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Image 3: BWI ARRIVAL 33L POST-NEXTGEN

## TERPZ SID - RWY 28 (Pre)



BWI Roundtable  
April 18, 2017



Federal Aviation  
Administration

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Image 4: BWI DEPARTURE 28 PRE-NEXTGEN

## TERPZ SID - RWY 28 (Post)



BWI Roundtable  
April 18, 2017

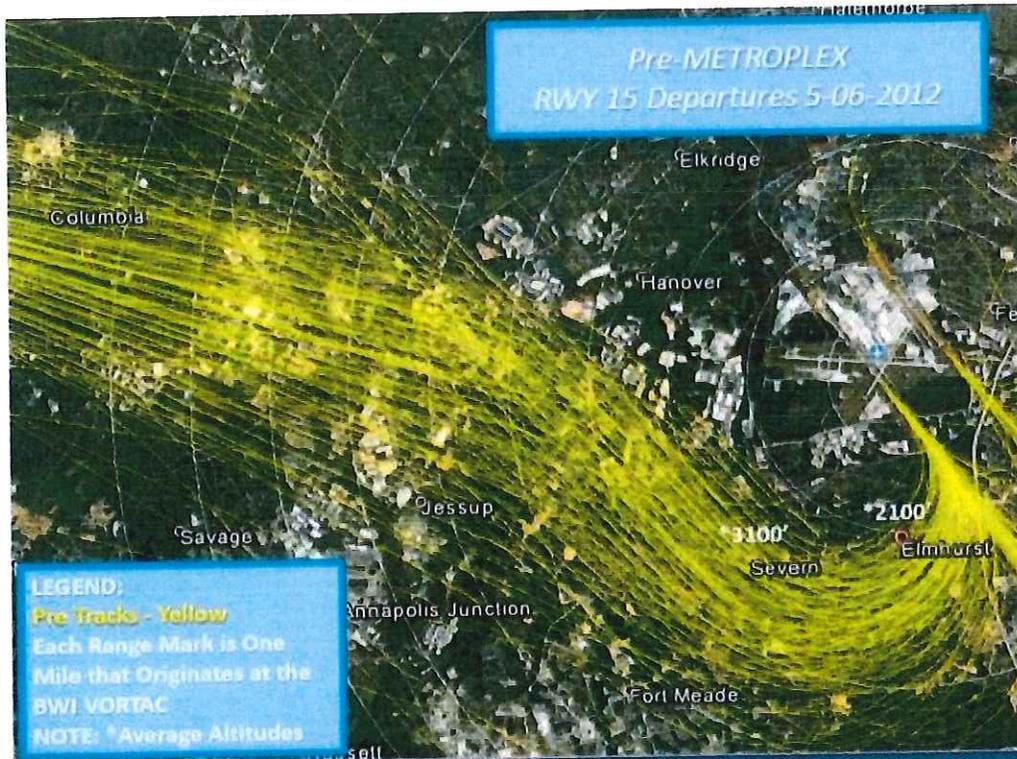


Federal Aviation  
Administration

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Image 5: BWI DEPARTURE 28 POST-NEXTGEN

# TERPZ SID - RWY 15R (Pre)



BWI Roundtable  
April 18, 2017

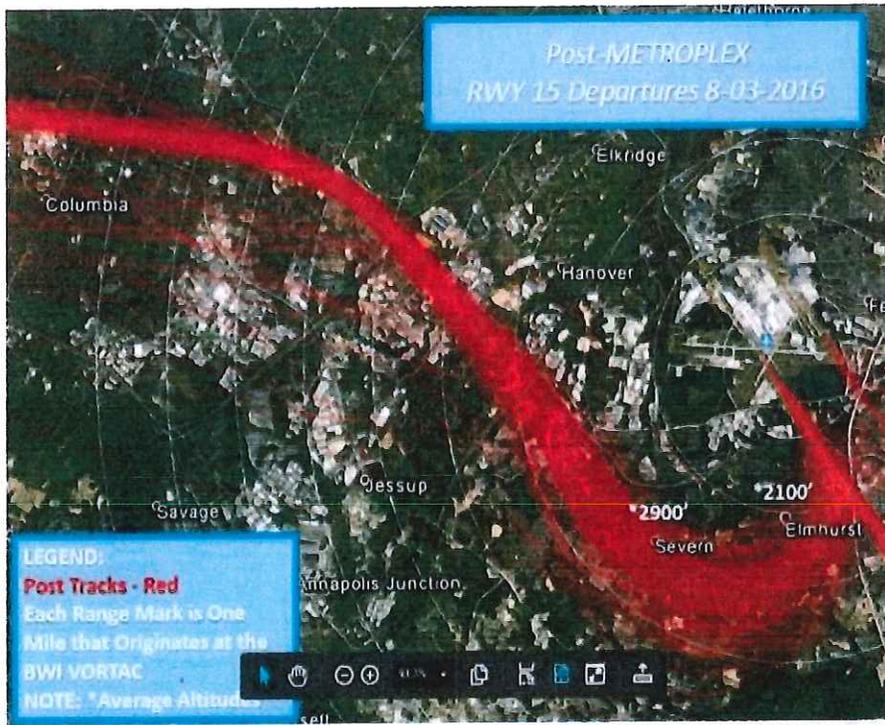


Federal Aviation  
Administration

15

Image 6: BWI DEPARTURE 15R PRE-NEXTGEN

## TERPZ SID - RWY 15R (Post)



BWI Roundtable  
April 18, 2017



Federal Aviation  
Administration

17

Image 7: BWI DEPARTURE 15R POST-NEXTGEN

# **EXHIBIT D**

# BWI Traffic Analysis and Notional Paths

To: DC Metroplex BWI Community  
Roundtable Working Group

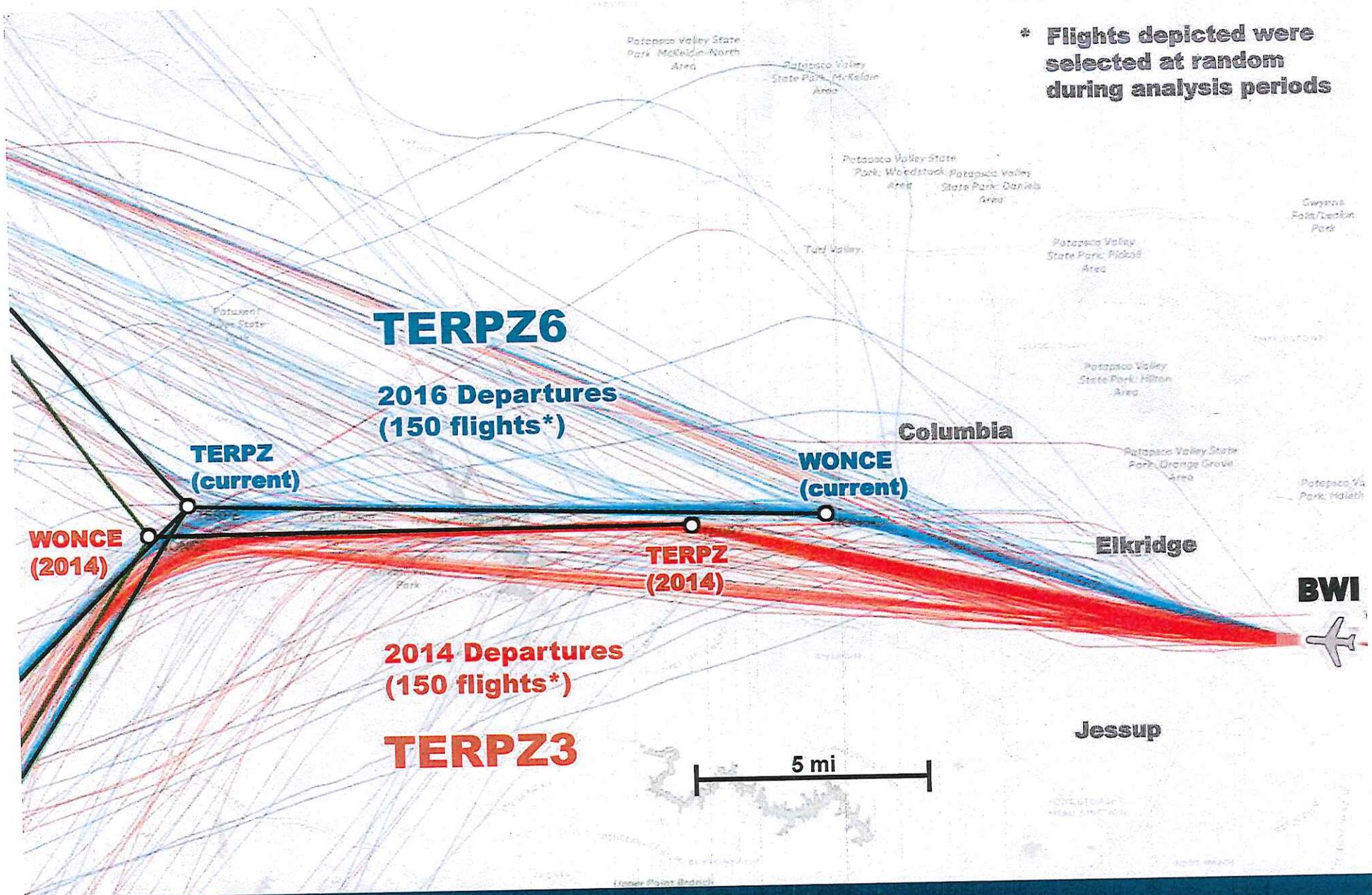
Date: June 20, 2017

Briefers: John Belk (FAA)  
Bennie Hutto (NATCA)



Federal Aviation  
Administration

\* Flights depicted were selected at random during analysis periods



# TERPZ6

2016 Departures  
(150 flights\*)

TERPZ  
(current)

WONCE  
(2014)

WONCE  
(current)

TERPZ  
(2014)

2014 Departures  
(150 flights\*)

# TERPZ3

5 mi

# TERPZ Rwy 28



Federal Aviation  
Administration

**EXHIBIT E**



# Maryland Aviation Administration

Larry Hogan  
Governor

Boyd K. Rutherford  
Lt. Governor

Pete K. Rahn  
Secretary

Ricky D. Smith, Sr.  
Executive Director / CEO

## CONFERENCE CALL MINUTES

**DATE:** August 31, 2016

**SUBJECT:** Conference call with the Federal Aviation Administration (FAA) August 30, 2016 regarding the September 12, 2016 community meeting on the DC Area Metroplex

### Participants

- Carmine Gallo - Eastern Regional Administrator, FAA
- Elizabeth (Lynn) Ray - Vice President, Mission Support Services, FAA
- Paul Shank - MAA
- Ellen Sample - MAA

The FAA stated they were not prepared to address the agenda items proposed by the MAA and they do not have the available staff to attend the meeting. The FAA advised they **do** want to support and address the issues and proposed using the September 12<sup>th</sup> date for a technical exchange between the FAA and MAA. They requested the community meeting be moved to the week of October 24-28, 2016. This additional time would allow the FAA to complete an initial feasibility and have more facts and possibilities to share with the residents.

Our exchange on September 12<sup>th</sup> would be to review the primary community concerns which are:

- Runway 15 Right departure turns
- Runway 28 departure turns
- Runway 33L arrivals
- Lower altitude arrivals in general

FAA advised that our Noise Abatement Procedures do not exist anymore and the new procedures put in place have interdependent segments so it cannot be just changed back without detailed study.

The FAA will form a Technical Working Group that will include technical personnel from the FAA and would also include technical representatives (pilots) from the Airlines. They did not see the MAA as being a member of the Technical Committee.

Concurrent with preparation for the October community meeting, the FAA advised MAA to begin setting up a Working Group/Roundtable of community representatives. They suggested the representatives be appointed by elected officials representing the impacted communities. They also suggested the airlines and any other "user groups" (e.g. Tenants/AOPA/NBAA) be invited to join as voting members. The FAA would participate in a supporting role as "Subject Matter Experts" and would not be voting members of the Roundtable. The Roundtable may propose other alternatives besides the ones currently under evaluation. Carmine Gallo noted that one option worth considering was using a "straight climb out to a higher altitude with lower takeoff thrust" before turning on course as any turns made at lower altitudes require more power and therefore generate more noise. The FAA noted that once the conversation starts it generally does not stop there so the Roundtable would need to prioritize the issues to be studied by the FAA. Ms. Ray recommended we contact Ms. Margaret McKeough, Metropolitan Washington Airports Authority (MWAA) COO for a copy of the Bylaws for their Working Group.

Recommendations agreed upon by the Roundtable would then be forwarded to the FAA's Procedures Process Technical Working Group for analysis. The analysis may address DC Area Metroplex issues and could possibly lead to an environmental process depending upon the changes.

They recommended the October meeting be hosted by the MAA, scheduled for a three hour period and set up as a workshop with stations for each of the specific issue. The intent is to provide information and gather feedback. Residents may drop in at any time during that three hour period.



# **EXHIBIT F**



## Maryland Aviation Administration

Larry Hogan  
Governor

Boyd K. Rutherford  
Lt. Governor

Pete K. Rahn  
Secretary

Ricky D. Smith, Sr.  
Executive Director/CEO

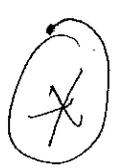
October 22, 2015

Mr. Michael P. Huerta  
Administrator  
Federal Aviation Administration Administrator  
800 Independence Ave SW  
Washington DC 20591

Dear Mr. Huerta:

Subject: NextGen Procedures at Baltimore/Washington International Thurgood Marshall Airport (BWI Marshall)

In recent months, the Maryland Aviation Administration (MAA) has attended local neighborhood association meetings to report on the status of our runway construction activities being completed as part of the U. S. Congressional mandate for Runway Safety Area (RSA) compliance at commercial service airports. At those meetings, MAA heard citizen complaints about air carrier aircraft noise associated with the closure of Runway 10-18 because of the aforementioned construction. MAA also learned that citizens were upset about the noise associated with the changes in aircraft departure paths and lower altitudes being flown in accordance with the Federal Aviation Administration's (FAA) phased implementation of NextGen. Primarily citizens are troubled by the noise associated with NextGen departure procedures below 3,000 feet Above Ground Level (AGL). They assert that these NextGen changes in departure procedures were not addressed in sufficient detail in the FAA's June 2013 Metroplex Airspace Environmental Assessment and therefore the FAA's subsequent December 2013 Finding of No Significant Impact was improperly issued and not representative of the actual implementation.

In the course of MAA's review of the FAA's phased implementation of the NextGen departure procedures at BWI Marshall since March of 2015, the MAA also learned that these new procedures do not comply with the MAA prepared, and FAA approved, Noise Compatibility Program (NCP), or our state mandated Noise Abatement Plan (NAP). The NextGen departure procedures differ from the previous procedures in both flight track and altitude requirements for all runway departures below 3,000 feet AGL at BWI Marshall. The FAA approved the flight procedures for BWI Marshall in June of 1990 as part of the NCP and no meaningful changes to those procedures has occurred until now. See FAA's Record of Approval of NCP for BWI Marshall dated June 21, 1990. 

Mr. Michael P. Huerta  
Page Two

Based upon the foregoing, the MAA requests that the FAA revise the NextGen departure procedures to comply with MAA's NCP and NAP departure procedures. Given the gravity of the present situation, the MAA respectfully requests to be included in the review, and approval, of any further changes in NextGen procedures at BWI Marshall. We look forward to working with you to expeditiously resolve this matter.

Sincerely,



Ricky D. Smith, Sr.  
Executive Director/CEO

Mr. Michael P. Huerta  
Page Three

bcc: Louisa H. Goldstein, Counsel, MAA  
Dale Hilliard, Chief of Staff, MAA  
Robert J. Sager, Assistant Attorney General, MAA  
D. Ellen Sample, Director, Office of Noise and Land Use Compatibility, MAA  
Paul L. Shank, P. E., C. M., Chief Engineer, MAA



Ricky D. Smith, Sr.  
Executive Director/CEO

April 25, 2016

Mr. Michael P. Huerta  
Administrator  
Federal Aviation Administration  
800 Independence Avenue SW  
Washington DC 20591

Dear Mr. Huerta:

Subject: NextGen Procedures at Baltimore/Washington International  
Thurgood Marshall Airport (BWI Marshall)

This will acknowledge receipt of your letter dated March 9, 2016 written in response to the Maryland Aviation Administration's (MAA) letter of October 22, 2015. The MAA has shared your letter with representatives of the neighboring communities. MAA's understanding of the issues that continue to concern the residents of the neighboring communities are the noise and visual impacts resulting from the changes in flight paths and altitudes now being flown by aircraft utilizing BWI Marshall. The impacts mentioned in your letter associated with BWI Marshall's on-going construction program are not the issue. The source of the residents' concerns are the changes in the departure paths directly associated with the implementation of the Federal Aviation Administration's (FAA) NextGen departure procedures for Runway 28 and Runway 15R.

Simply put, the FAA's NextGen procedures depart from the long established flight procedures jointly developed by the FAA, the MAA and the communities in June of 1990, as delineated in BWI Marshall's published Noise Abatement Program (NAP) and Federal Aviation Regulation Noise Compatibility Program (NCP). The recently implemented NextGen Terpz 6 departure procedures do not adequately address the communities' request that the FAA respect the NCP and NAP departure procedures. Moreover, it is clear that these changes were not adequately addressed in the FAA's Environmental Assessment (EA).

Specifically, on Runway 15R for departures the recent increase in aircraft altitude from 667' to 850' before turning does not utilize the altitudes previously specified in the NAP. Previously the departure aircraft maintained the runway heading for 1 nautical mile while climbing before turning (per the NAP). The new flight procedures place departing aircraft at lower altitudes and in different flight paths over long established residential communities. Similarly, the Runway 28 departure procedures place departing aircraft along different flight paths and different altitudes than those specified in BWI Marshall's NAP.

P.O. Box 8766  
BWI Airport  
Maryland 21240-0766

TOLL-FREE  
1 800 FLY BWI

FACSIMILE  
410-850-4729

WEBSITE  
www.bwiairport.com

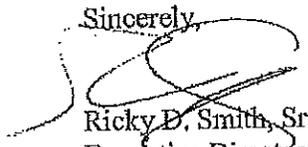


Mr. Michael P. Huerta  
Page Two

The communities also assert the environmental impacts associated with these changes in departure paths and altitudes were not addressed in the FAA's EA/FONSI as the EA scope of work was to only study impacts above 3,000 feet. It is important to note that All of the issues associated with the implementation of the NextGen at BWI Marshall relate to impacts occurring below 3,000 feet.

We greatly appreciate your expression of commitment to work with the MAA to reduce aviation noise impacts and have shared your statement with the residents of the affected communities. We too are committed to working with the FAA to resolve this matter. We again reiterate MAA's request that the FAA restore the departure procedures delineated in BWI Marshall's NAP.

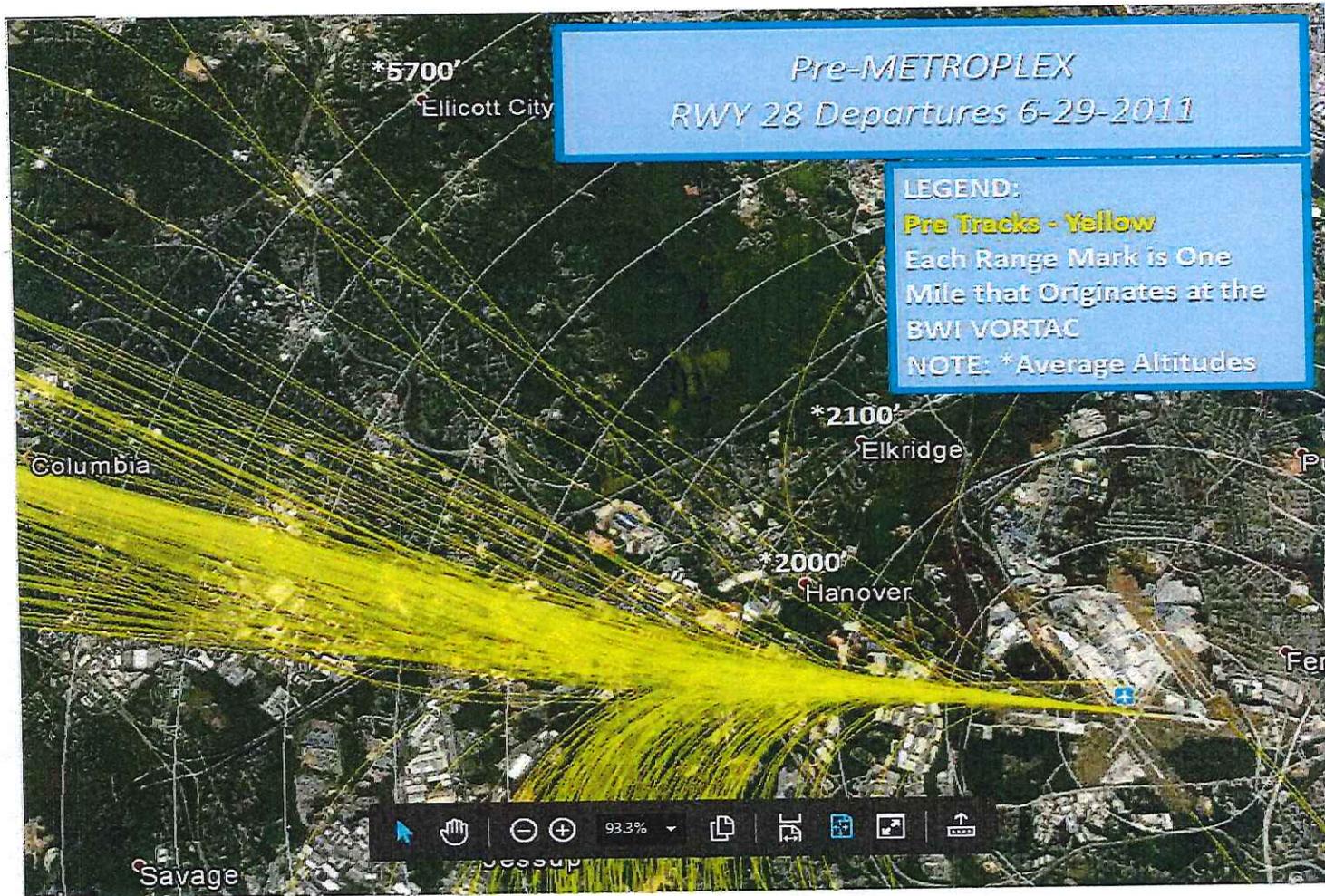
Sincerely,



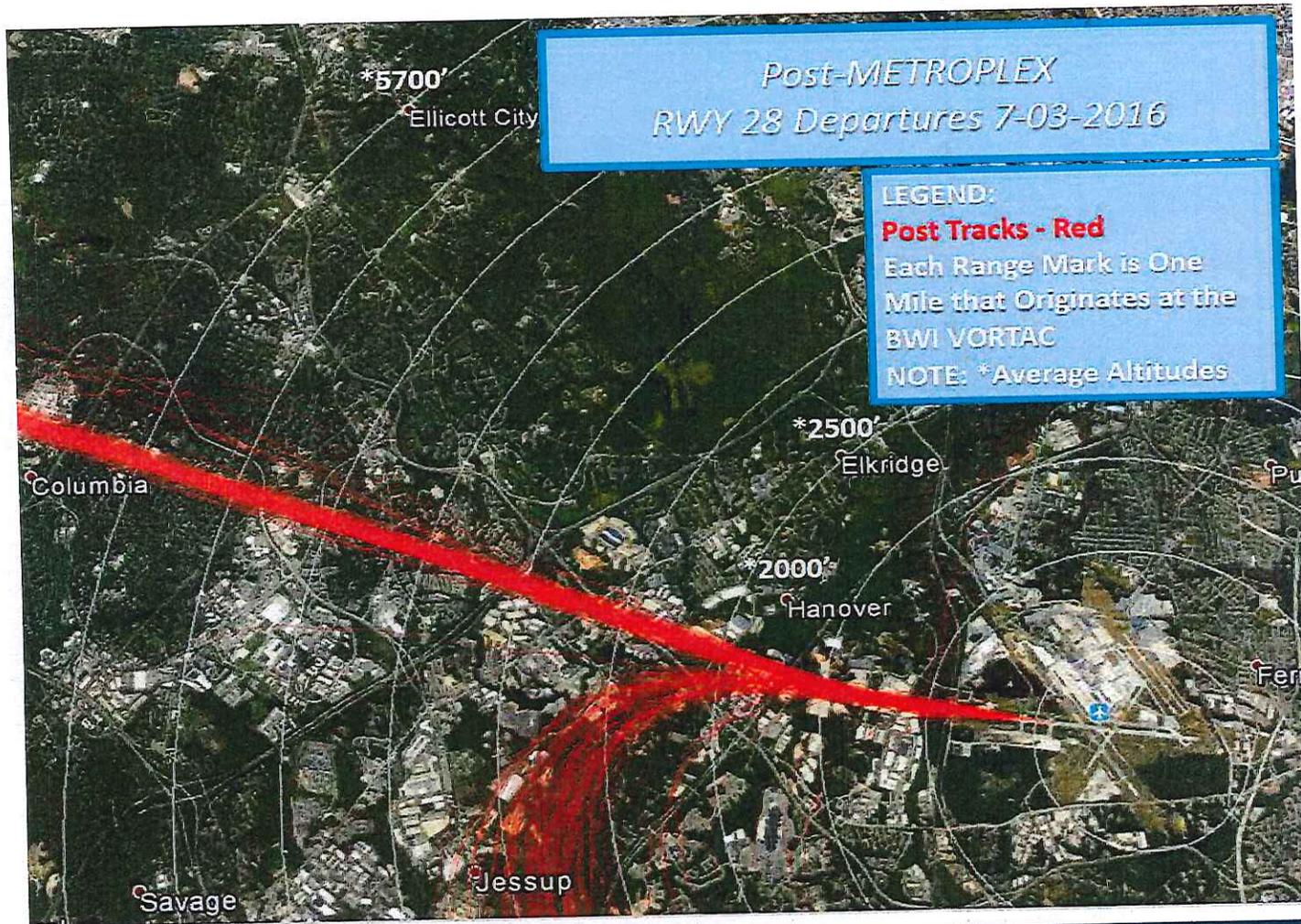
Ricky D. Smith, Sr.  
Executive Director/CEO

# **EXHIBIT G**

# TERPZ SID - RWY 28 (Pre)

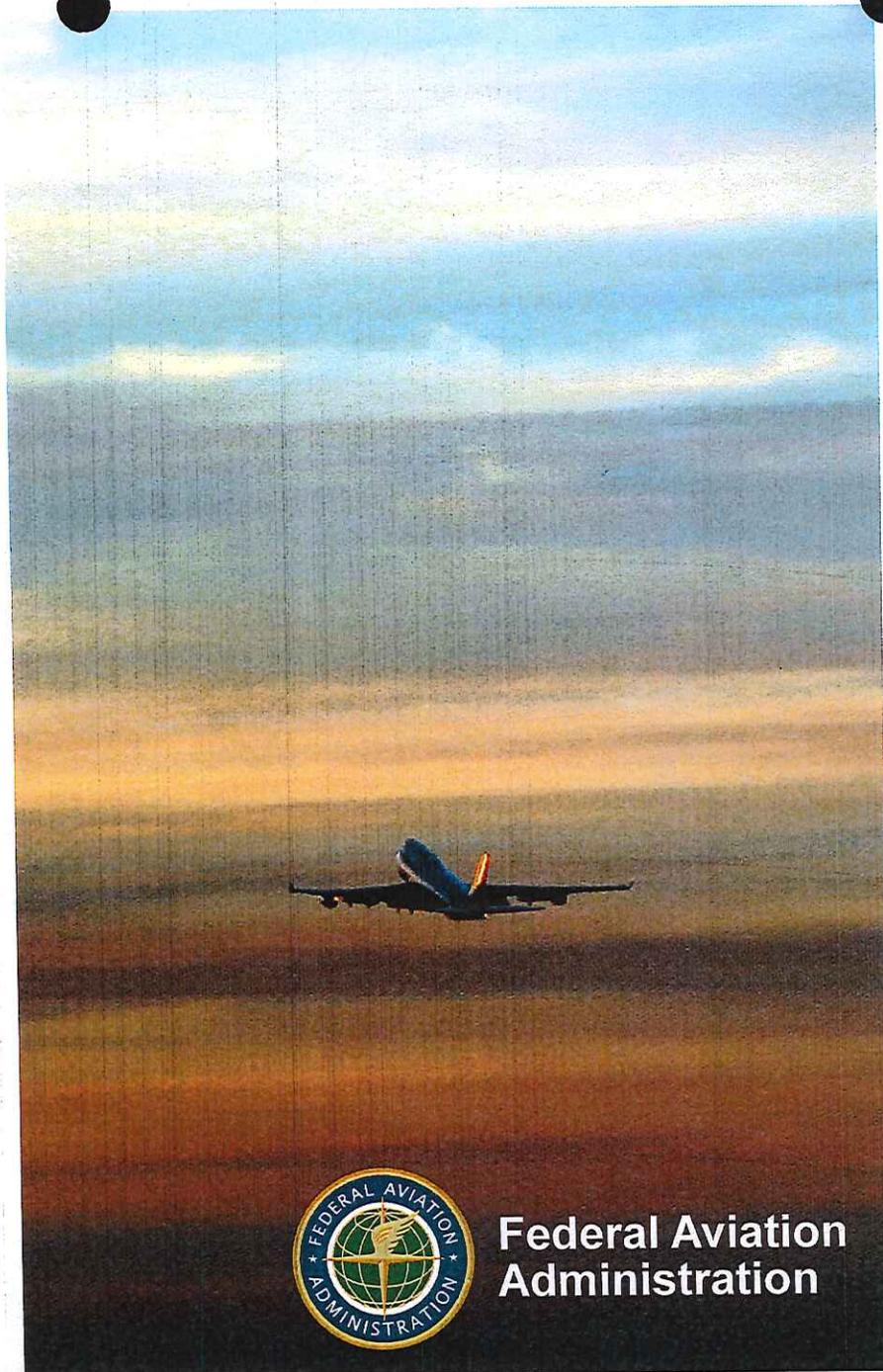


# TERPZ SID - RWY 28 (Post)



# FAA Updates to BWI Roundtable

May 16, 2017



*Pre-METROPLEX  
RWY 28 Departures 6-29-2011*

**LEGEND:**

**Pre Tracks - Yellow**

Each Range Mark is One  
Mile that Originates at the  
BWI VORTAC

NOTE: \*Average Altitudes

\*5700'

Ellicott City

\*2100'

ElkrIDGE

Columbia

\*2000'

Hanover

Pu

Ferr

Savage

Jessup

\*5700'

Ellicott City

*Mid-METROPLEX TERPZ4-5 / CONLE  
RWY 28 Departures 5-15-2015*

**LEGEND:**

**Mid Tracks - Blue**

Each Range Mark is One  
Mile that Originates at the  
BWI VORTAC

NOTE: \*Average Altitudes

ONCE

Columbia

Elkridge

\*2000'

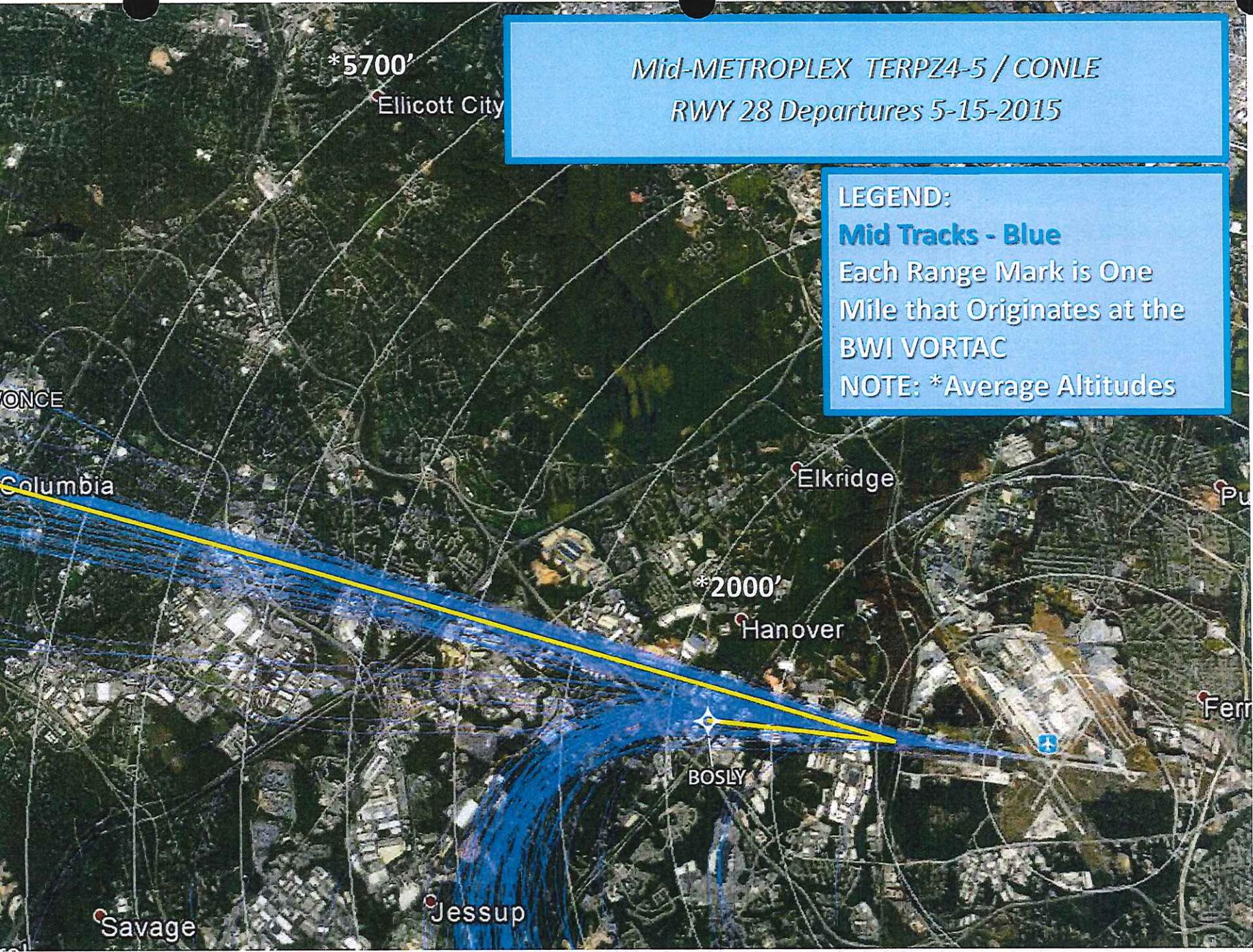
Hanover

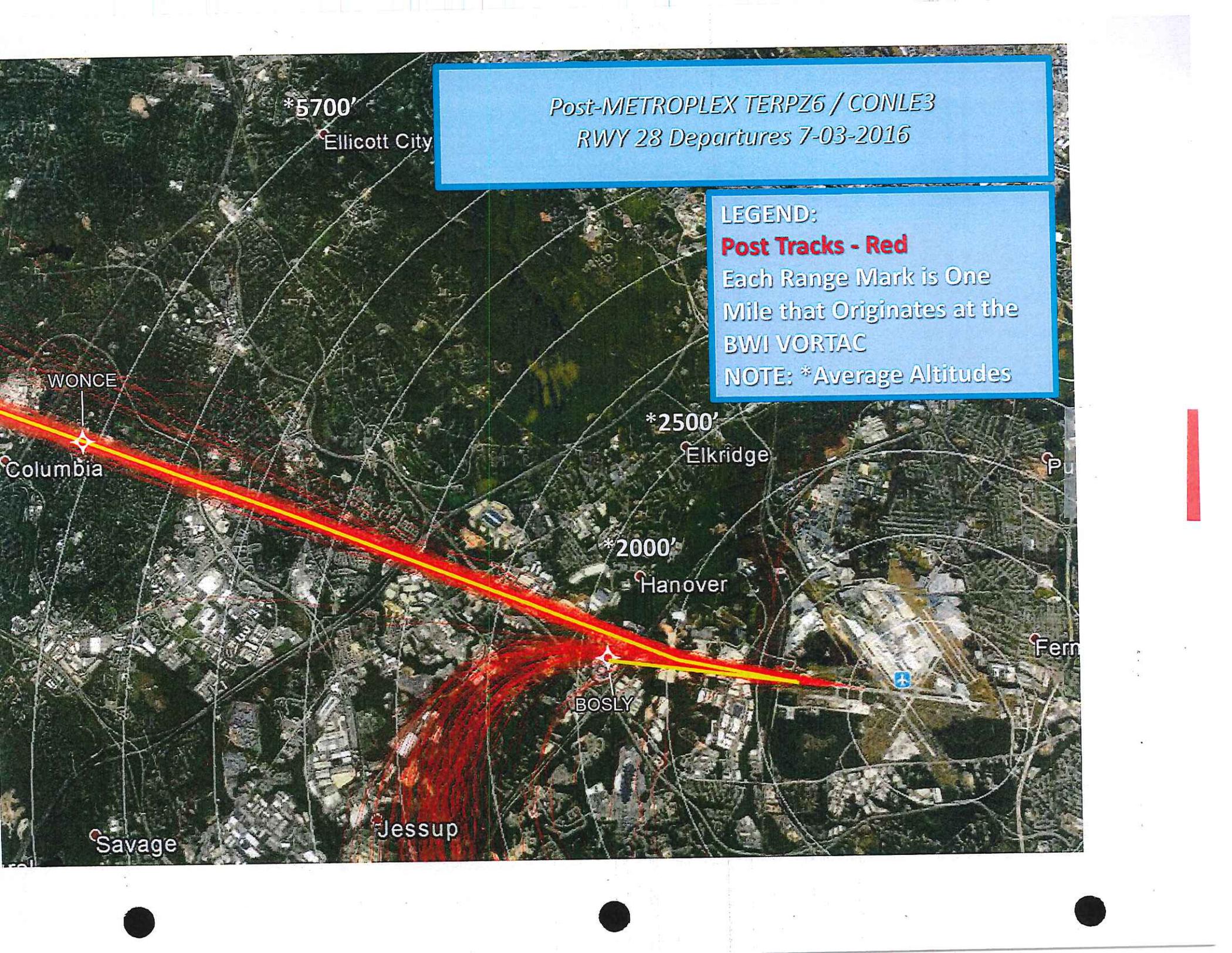
BOSLY

Savage

Jessup

Ferr





\*5700'

Ellicott City

Post-METROPLEX TERPZ6 / CONLE3  
RWY 28 Departures 7-03-2016

LEGEND:

**Post Tracks - Red**

Each Range Mark is One  
Mile that Originates at the  
BWI VORTAC

NOTE: \*Average Altitudes

WONCE

Columbia

\*2500'

Elkridge

\*2000'

Hanover

BOSLY

Savage

Jessup

Fern

*Pre, Mid and Post-METROPLEX  
RWY 28 Departures 2011, 2015 and 2016*

**LEGEND:**

**Pre Tracks - Yellow**

**Mid Tracks - Blue**

**Post Tracks - Red**

Each Range Mark is One  
Mile that Originates at the  
BWI VORTAC

Columbia

Ellicott City

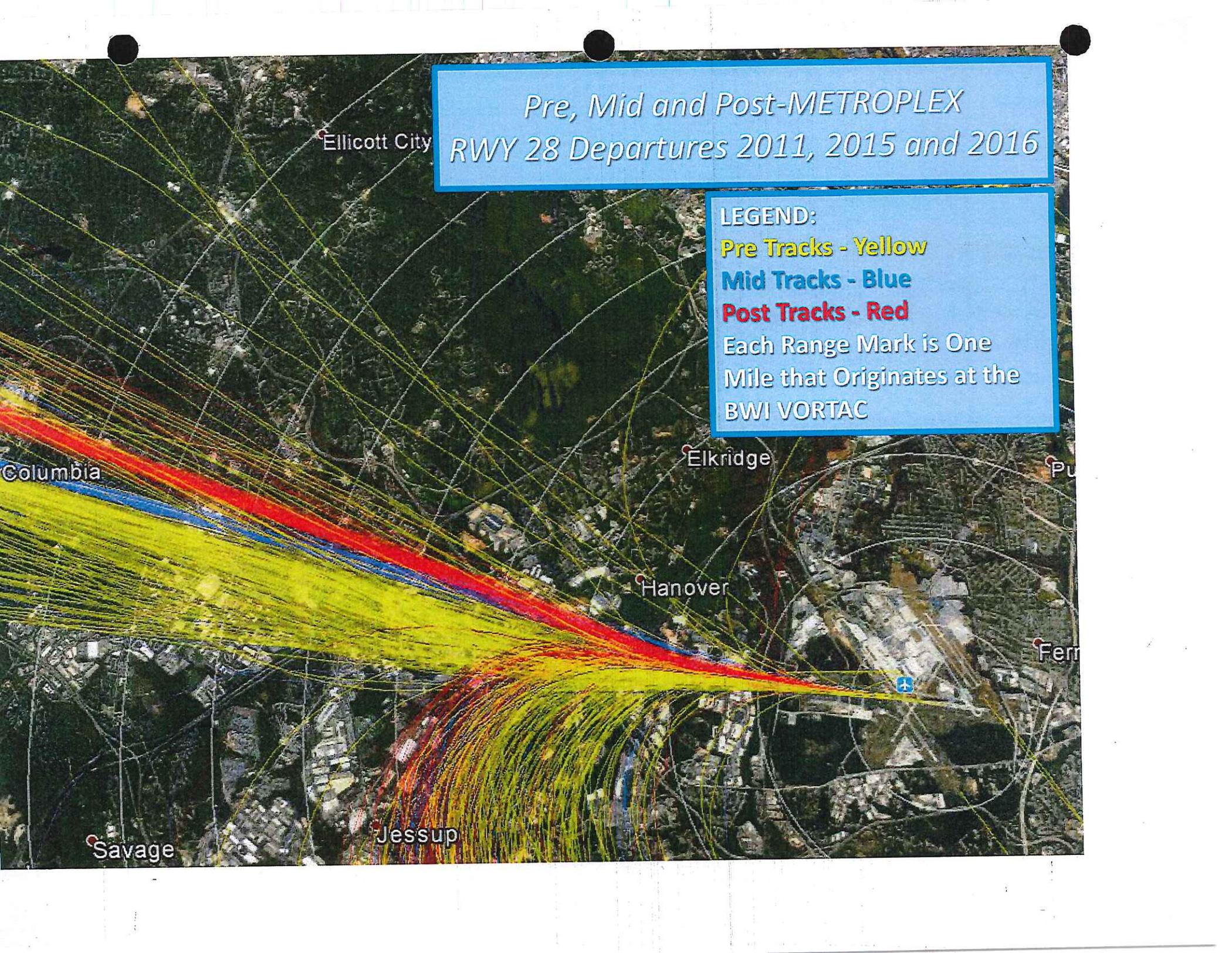
Elkridge

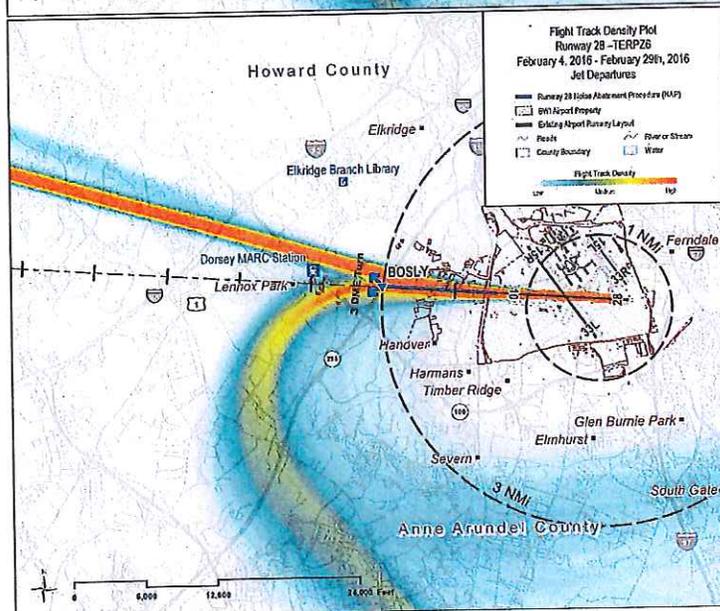
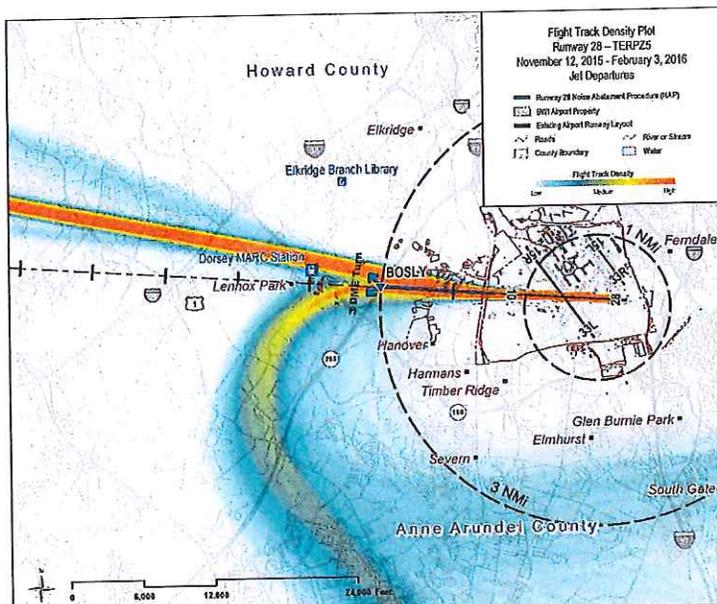
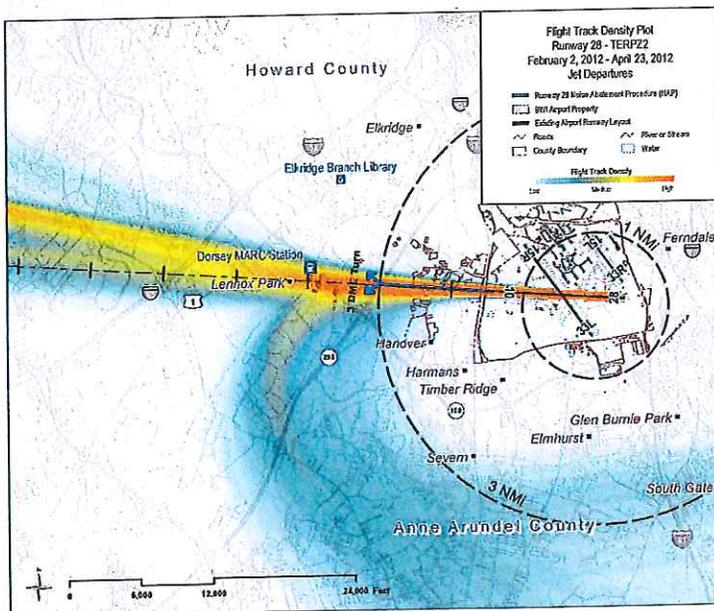
Hanover

Ferr

Savage

Jessup

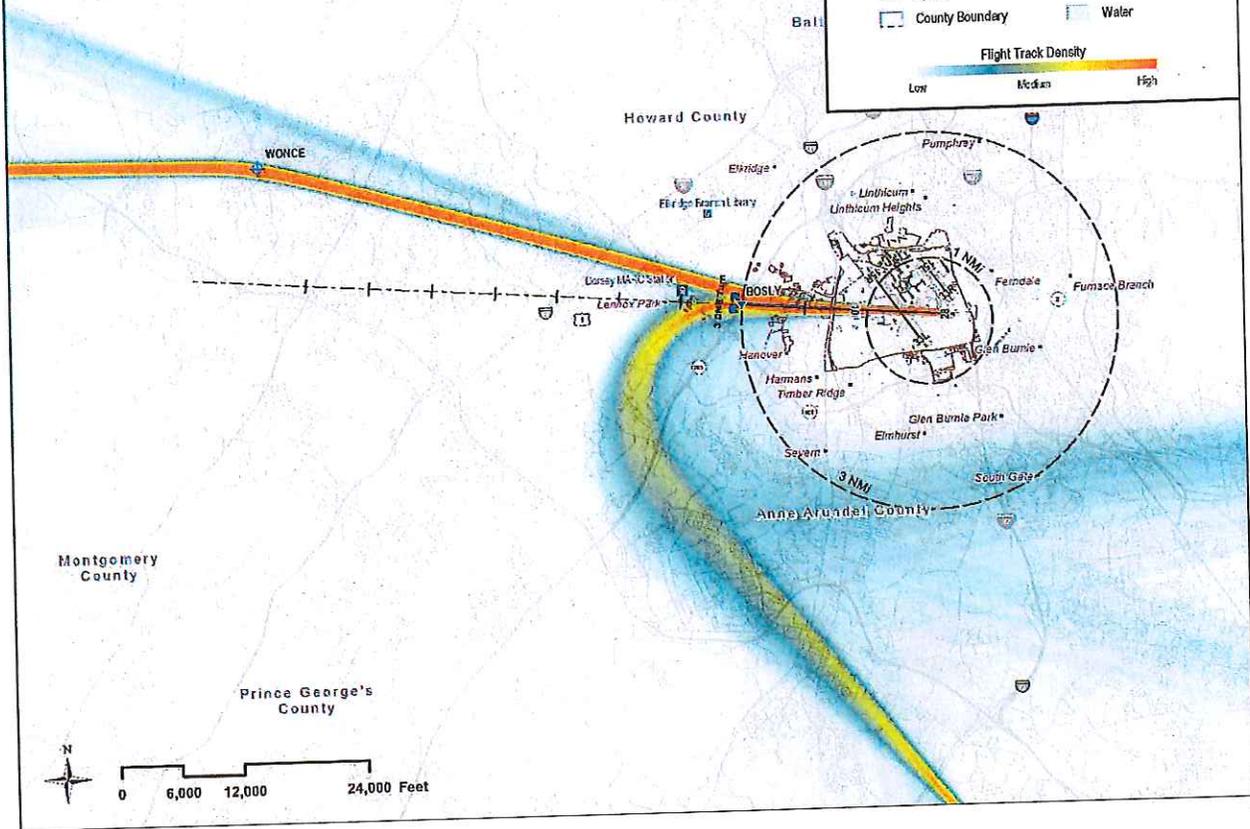


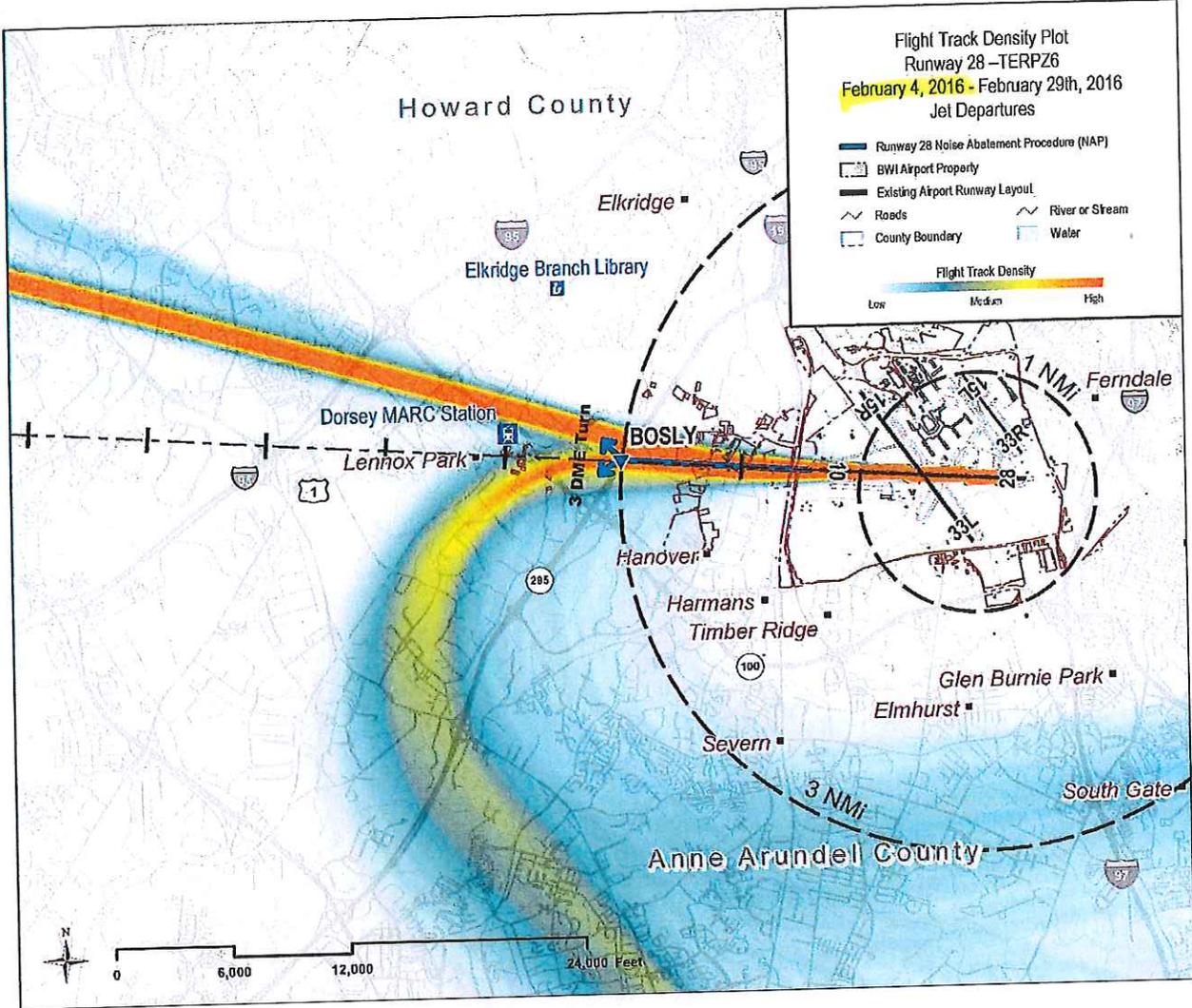


Initially Prepared for presentation at the Greater Elkridge Community Association (GECA) General Meeting, March 24, 2016  
Modified track figures to density plots with additional references, and two plot range, September 12, 2016

Flight Track Density Plot  
 Runway 28 - TERPZ6  
 February 4, 2016 - February 29th, 2016  
 Jet Departures

-  Runway 28 Noise Abatement Procedure (NAP)
-  BWI Airport Property
-  Existing Airport Runway Layout
-  Roads
-  County Boundary
-  River or Stream
-  Water





# **EXHIBIT H**



Maryland Aviation Administration  
Division of Noise, Real Estate and Land Use Compatibility  
Quarterly Noise Report

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**Supplemental Permanent Noise Monitoring Data for the  
2015 and 2016 Quarterly Noise Reports  
Prepared April 2017**

The Noise and Operations Monitoring System (NOMS) equipment in place at Baltimore/Washington International Thurgood Marshall Airport was installed in the late 1980's and early 1990's and is at the end of its useful life due to the age of the equipment and inability to obtain replacement parts. Additionally, five sites have been dismantled. The Maryland Aviation Administration is currently near completion of the procurement process for a new NOMS system with Notice to Proceed expected summer 2017. The attached tables present aircraft and community noise levels at the permanent noise monitors for 2015 and 2016 from the NOMS. A map of the noise monitoring locations is presented on the last page of this document.

The term DNL (symbolized as "Ldn" in mathematical equations) means Day-Night Average Sound Level, and is used to report aircraft, community and total noise levels. DNL is defined as the cumulative sound energy averaged over a twenty-four hour period, with ten-decibels (dB) added to noise events which occur between the hours of 10 p.m. and 7 a.m. This penalty accounts for the greater impact of noise events which occur at night. DNL is measured from midnight to midnight.

The tables show the quarterly Aircraft (A), Community (C), and Total (T) DNL values at each site, where data is available. At some sites community or environmental noise levels (street traffic and other neighborhood noises) exceed aircraft noise levels. Additional tables show the Aircraft (A) DNL by month. The tables also include the NOMS-reported percentage of time that each monitor was on (or has data) for the respective time period.

## 2015 Quarterly Noise Measurements

SITE/ RMS#	Location	Aircraft DNL (dBA)				Community DNL (dBA)				Total DNL (dBA)				Percent Time On			
		1QTR	2QTR	3QTR	4QTR	1QTR	2QTR	3QTR	4QTR	1QTR	2QTR	3QTR	4QTR	1QTR	2QTR	3QTR	4QTR
1	St. Augustine Church, Elkridge	42	44	55	64	78	65	65	70*	78	65	66	71*	100	97	94	91
2	Melrose Ave., Harwood Park	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Lennox Ave., Dorsey	61	64	62	61	60	61	63	69	64	66	65	69	100	100	100	100
4	Ridge Rd, Hanover	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	Harmans Elementary School	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Delmont United Methodist Church	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Wicklow Woods, Ferndale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	Glen Burnie Heights	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	Army National Guard Armory	58	59	54	61	64	74	75	70	65	74	75	70	84	98	100	100
10	Pumping Station, Margate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Jones Rd., Queenstown	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	Rippling Woods Elementary	61	63	64	63	59	67	66	63	63	68	68	66	100	99	100	100
13	Oakwood Park, Glen Burnie	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	Outer Approach End Rwy 15R	55	61	66	74	64	68	67	66	64	69	69	74	92	56	48	69
15	Inner Approach End Rwy 15R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	Stoney Run, Hanover	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	Timber Ridge Rd., Timber Ridge	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Approach End Rwy 15L	59	59	60	65	59	59	61	60	62	62	63	67	100	97	98	100
19	Hollins Ferry, Glen Burnie	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	Friendship Park, Glen Burnie	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	Glen Burnie Park Elementary	0	63	63	63	89	68	64	74	89	69	67	74	0	23	51	90
22	Columbia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	Quarterfield Elementary School	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\* Due to an equipment malfunction, the Community DNL on 10/3/2015 was recorded as 137 dB. These values reflect the removal of this day from the quarterly totals.



## 2016 Quarterly Noise Measurements

SITE/ RMS#	Location	Aircraft DNL (dBA)				Community DNL (dBA)				Total DNL (dBA)				Percent Time On			
		1QTR	2QTR	3QTR	4QTR	1QTR	2QTR	3QTR	4QTR	1QTR	2QTR	3QTR	4QTR	1QTR	2QTR	3QTR	4QTR
1	St. Augustine Church, Elkridge	48	48	46	44	61	68	66	66	61	68	66	66	98	95	89	98
2	Melrose Ave., Harwood Park	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Lennox Ave., Dorsey	62	64	64	63	60	66	62	61	64	68	66	65	100	99	94	100
4	Ridge Rd, Hanover	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	Harmans Elementary School	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Delmont United Methodist Church	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Wicklow Woods, Ferndale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8 *	Glen Burnie Heights	-	-	55	53	-	-	66	74	-	-	67	74	-	-	94	88
9	Army National Guard Armory	52	65	52	63	64	65	70	69	64	68	70	70	94	96	100	99
10	Pumping Station, Margate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Jones Rd., Queenstown	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 **	Rippling Woods Elementary	62	63	63	63	59	60	63	60	64	64	66	65	99	97	97	97
13	Oakwood Park, Glen Burnie	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	Outer Approach End Rwy 15R	65	63	64	-	66	67	68	-	68	68	69	-	80	57	64	-
15	Inner Approach End Rwy 15R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	Stoney Run, Hanover	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	Timber Ridge Rd., Timber Ridge	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Approach End Rwy 15L	58	59	59	63	60	63	62	60	62	64	64	65	99	98	98	100
19	Hollins Ferry, Glen Burnie	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	Friendship Park, Glen Burnie	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	Glen Burnie Park Elementary	62	66	63	62	61	67	63	64	65	69	66	66	100	100	100	98
22	Columbia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	Quarterfield Elementary School	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\* Site 8: Due to tree growth near the monitor, the unit was not able to be calibrated during the two maintenance visits in 2016.

\*\* Site 12: Reported values for June 15, 2016 and November 15, 2016 for Aircraft, Community and Total DNL were high for unknown reasons.  
Both days have been removed from the Quarterly results

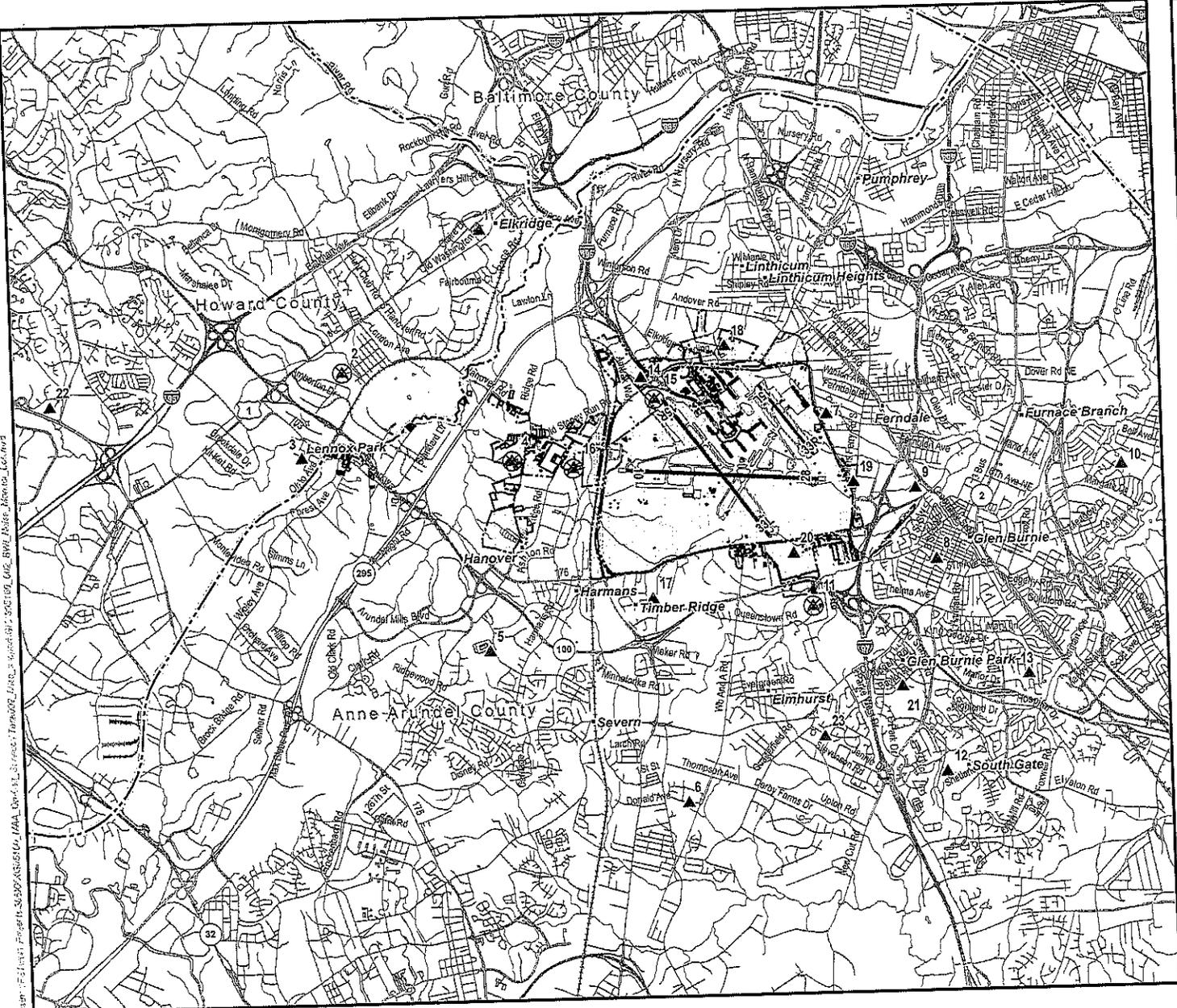
## 2016 Monthly Noise Measurements

RMS#	Location	Monthly Aircraft DNL and (Percent Time On)											
		Jan 16	Feb 16	Mar 16	Apr 16	May 16	Jun 16	Jul 16	Aug 16	Sep 16	Oct 16	Nov 16	Dec 16
1	St. Augustine Church, Elkridge	45 (100)	47 (99)	51 (97)	46 (97)	50 (95)	45 (94)	46 (94)	49 (78)	43 (93)	44 (99)	46 (99)	43 (98)
2	Melrose Ave., Harwood Park	-	-	-	-	-	-	-	-	-	-	-	-
3	Lennox Ave., Dorsey	61 (99)	62 (100)	62 (100)	63 (100)	64 (100)	64 (96)	63 (97)	63 (96)	64 (90)	63 (100)	63 (100)	63 (100)
4	Ridge Rd, Hanover	-	-	-	-	-	-	-	-	-	-	-	-
5	Harmans Elementary School	-	-	-	-	-	-	-	-	-	-	-	-
6	Delmont United Methodist Church	-	-	-	-	-	-	-	-	-	-	-	-
7	Wicklow Woods, Ferndale	-	-	-	-	-	-	-	-	-	-	-	-
8 *	Glen Burnie Heights	-	-	-	-	-	-	32 (40)	-	55 (96)	54 (94)	53 (79)	50 (88)
9	Army National Guard Armory	52 (89)	49 (94)	54 (100)	59 (95)	53 (96)	69 (96)	54 (100)	51 (100)	52 (100)	54 (100)	67 (99)	56 (98)
10	Pumping Station, Margate	-	-	-	-	-	-	-	-	-	-	-	-
11	Jones Rd., Queenstown	-	-	-	-	-	-	-	-	-	-	-	-
12 **	Rippling Woods Elementary	61 (100)	62 (100)	63 (99)	62 (100)	63 (100)	63 (97)	64 (100)	63 (100)	61 (100)	63 (100)	63 (97)	63 (100)
13	Oakwood Park, Glen Burnie	-	-	-	-	-	-	-	-	-	-	-	-
14	Outer Approach End Rwy 15R	-	60 (85)	66 (78)	60 (61)	64 (60)	63 (43)	-	64 (65)	37 (50)	-	-	-
15	Inner Approach End Rwy 15R	-	-	-	-	-	-	-	-	-	-	-	-
16	Stoney Run, Hanover	-	-	-	-	-	-	-	-	-	-	-	-
17	Timber Ridge Rd., Timber Ridge	-	-	-	-	-	-	-	-	-	-	-	-
18	Approach End Rwy 15L	58 (100)	58 (97)	59 (99)	59 (100)	59 (97)	59 (97)	59 (98)	60 (98)	58 (100)	59 (100)	67 (100)	59 (100)
19	Hollins Ferry, Glen Burnie	-	-	-	-	-	-	-	-	-	-	-	-
20	Friendship Park, Glen Burnie	-	-	-	-	-	-	-	-	-	-	-	-
21	Glen Burnie Park Elementary	61 (100)	62 (100)	63 (100)	63 (100)	64 (100)	69 (100)	63 (100)	63 (100)	61 (100)	62 (98)	-	-
22	Columbia	-	-	-	-	-	-	-	-	-	-	-	-
23	Quarterfield Elementary School	-	-	-	-	-	-	-	-	-	-	-	-

\* Site 8: Due to tree growth near the monitor, the unit was not able to be calibrated during the two maintenance visits in 2016.

\*\* Site 12: Reported values for June 15, 2016 and November 15, 2016 for Aircraft, Community and Total DNL were high for unknown reasons.

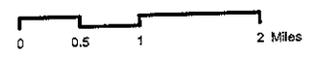
Both days have been removed from the monthly results



Permanent Noise Monitor Locations

- RMS# Noise Monitor Location
- RMS# Former Noise Monitor Location; Equipment has been dismantled.
- BWI Airport Property
- Existing Airport Runways
- Roads
- River or Stream
- County Boundary
- Water

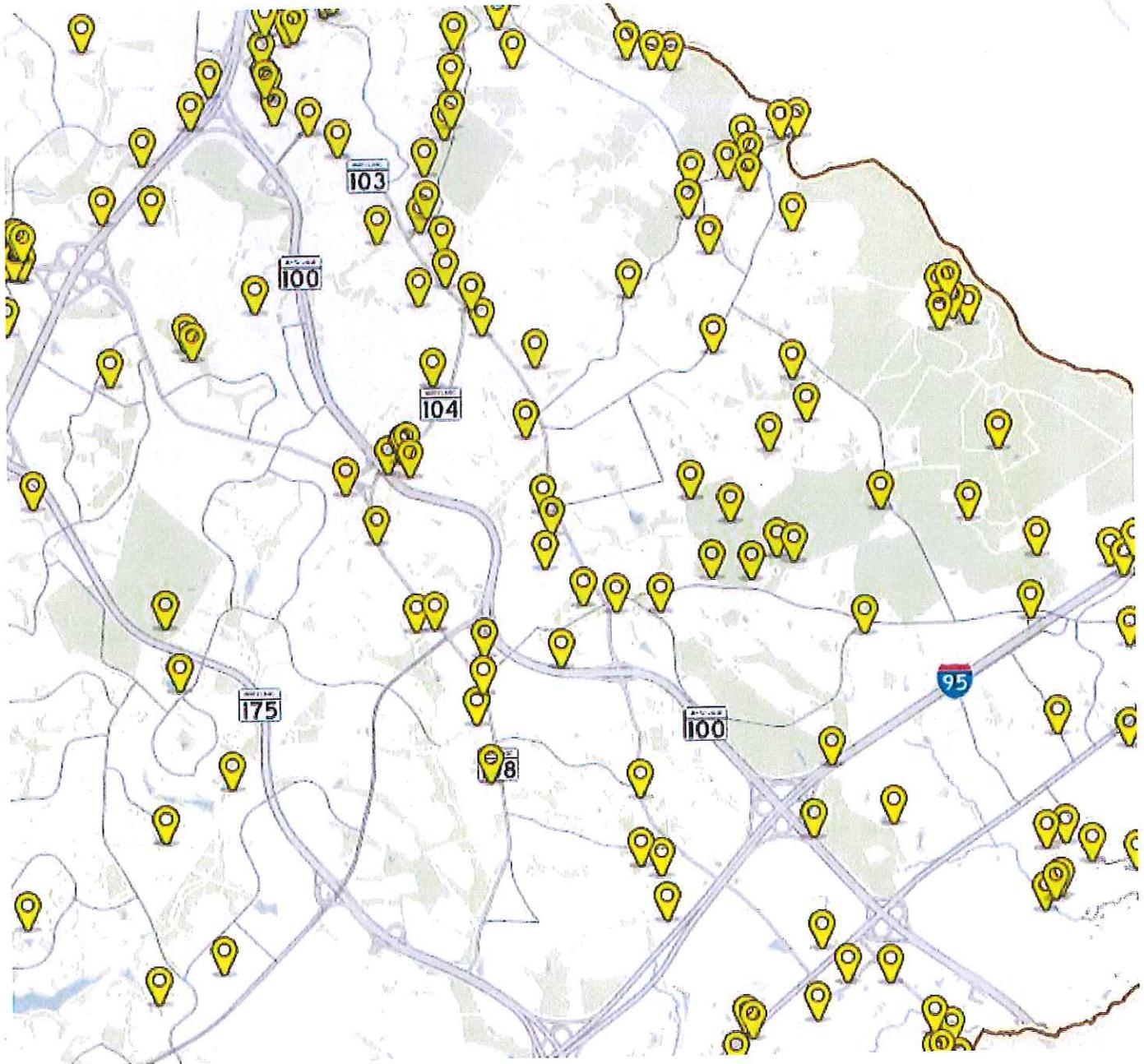
Data Sources: Maryland Aviation Administration; Maryland State Highway Administration; Anne Arundel & Howard County; Maryland Department of Planning; Environmental System Research Group, Inc.



Page: 1 of 1 Date: 11/11/2010 10:54:11 AM Job: 11/11/2010 10:54:11 AM Project: 11/11/2010 10:54:11 AM Section: 11/11/2010 10:54:11 AM

# **EXHIBIT I**

Yellow pins show the location of a historic site that is on the Howard County Historic Sites Inventory. There is an abundance of historic structures in this area; there are about 100 in the below map. Each house has an HO # and inventory information. This is the general location of the aviation concern.



**From:** [Kim Hughes](#)  
**To:** [Stacy Talmadge](#); [Ryan Lombardi](#)  
**Subject:** FW: New MAA Draft Environmental Assessment for BWI Improvements  
**Date:** Sunday, January 07, 2018 11:27:25 AM

---

Please start the comment file and matrix for responses.

-----Original Message-----

From: Robin Bowie [<mailto:rbowie@bwiairport.com>]  
Sent: Saturday, January 06, 2018 2:22 PM  
To: Kim Hughes <[KHUGHES@HNTB.com](mailto:KHUGHES@HNTB.com)>  
Subject: FW: New MAA Draft Environmental Assessment for BWI Improvements

Kim,

A comment on the EA for our records.

---

From: Mr. Drew [[mrdrew@gmail.com](mailto:mrdrew@gmail.com)]  
Sent: Saturday, January 6, 2018 10:39 AM  
To: Karen Harrell  
Cc: David Richardson; kevans116@gmail.com; Steve Alterman; Paul Harrell; Dan Klosterman; Marcus Parker; gcm@prestonsp.com; Howard L. Johnson; Gail Sigel; Paul Verchinski; Rusty Toler; Erica Wilemon; Linda Curry; Lance Brasher; Christopher Yates; Jesse Chancellor; Mary Reese; Evan Reese; Scott Proudfoot; Steve.Batchelder@faa.gov; Bennie Huto; Marie Kennington-Gardiner; Robert A Owens; Patrick Daly, Jr.; Ramon Robinson; David Lee; gfielhauer@howardcountymd.gov; bryan sheppard; Gary Smith; Ellen Moss; Paul Shank; Sherry Varner; Simon Taylor; Louisa Goldstein; Robert Sager; Robin Bowie; Darline Terrell-Tyson; Royce Bassarab; Roberta Walker; Jonathan Dean; Mary Ellen Eagan; Kurt Hellauer; Katherine B. Preston; Adam R. Scholten; Alverna Durham, Jr  
Subject: New MAA Draft Environmental Assessment for BWI Improvements

<http://www.marylandaviation.com/.../en.../environmentaldocs.html><[https://l.facebook.com/l.php?u=http%3A%2F%2Fwww.marylandaviation.com%2Fcontent%2Fenvironmental%2Fenvironmentaldocs.html&h=ATOygyOr4RKidetcKaznE85jv96orWfUv-SmfoCZ15YvZJESZsI1PBjp998UijqCO4JdXWV280wrdeLnRjPMpuqylqwrhh1Sj8QCZMcBE3RbfQKkaBsa-gRg0tb\\_nYZSmDpd4F-gfMH71hrJlqj6dq4EvYTIaVoiX3lv1AHKkv8RveBOLjuJbz01DP9CKcjX5-iWgePECA17JemF5Tobg4s0-Ve-s8aBuHdLWUm8tzOIHBahA0p1XunPG\\_YY7pMzSUWaQYZVVICfwIdutRQ15yVWj1ZiYBjMaWHPIHCzSq](https://l.facebook.com/l.php?u=http%3A%2F%2Fwww.marylandaviation.com%2Fcontent%2Fenvironmental%2Fenvironmentaldocs.html&h=ATOygyOr4RKidetcKaznE85jv96orWfUv-SmfoCZ15YvZJESZsI1PBjp998UijqCO4JdXWV280wrdeLnRjPMpuqylqwrhh1Sj8QCZMcBE3RbfQKkaBsa-gRg0tb_nYZSmDpd4F-gfMH71hrJlqj6dq4EvYTIaVoiX3lv1AHKkv8RveBOLjuJbz01DP9CKcjX5-iWgePECA17JemF5Tobg4s0-Ve-s8aBuHdLWUm8tzOIHBahA0p1XunPG_YY7pMzSUWaQYZVVICfwIdutRQ15yVWj1ZiYBjMaWHPIHCzSq)>

Scroll down a bit to read it.

The noise appendix is very relevant.

While the intro states that this does not affect flight paths and is independent of Nextgen, the proposed program most definitely increases airport capacity and therefore increases noise.

We should consider asking this EA to be coupled to the NextGen EA, and that a full environmental impact statement be performed for the combined effort due to the noise increase.

Drew.

Barbara Deckert  
6075 Claire Drive  
Elkridge, MD 21075  
[bdcouture@aol.com](mailto:bdcouture@aol.com)

January 23, 2018

Ms. Robin Bowie Director, Office of Environmental Services, MDOT, MAA  
PO Box 8766  
BWI Airport, MD 21240  
[rbowie@bwiairport.com](mailto:rbowie@bwiairport.com)

Dear Ms. Bowie:

RE: Draft Environmental Assessment and Draft Section 4(f) Determination for Proposed Improvements 2016-2020.

**I object to the entire Draft EA because the existing and proposed Noise Zone contours as established by this EA are inaccurate and do not reflect the current extent of noise pollution and community complaints from the neighborhoods surrounding BWI Airport.**

Noise Zone Maps Contradict Noise Complaints, by Location and Numbers

At a glance, the differences in geographic area, among various MAA Noise Exposure Maps from 2003 through 2016 and the proposed 2020 Noise Zone contours in this Draft EA are minuscule, with barely an eighth or quarter of a mile variation here and there.

Nonetheless, complaints about airport noise have skyrocketed since the implementation of NextGen. In 2013 there were 266 complaints, about 22.16 per month. In 2014 there were 771 complaints, or about 64.25 a month<sup>1</sup>. NextGen was fully implemented in Fall of 2015. As of October 2017, BWI was receiving about 2,000 noise complaints a month.<sup>2</sup> That's an astronomical **8,925% increase in noise complaints as compared to 2013 and a 3,013% increase over 2014.**

Moreover, as documented on the MAA's Noise Complaint Form, the addresses cited by complainants in "Contact Information" indicate that noise pollution has become a community concern in what is now about a 20-25 mile radius around BWI.<sup>3</sup>

DNL is an Inadequate Measure of Human Suffering, Especially at BWI

At the January 16, 2018 BWI Roundtable meeting, a young woman testified, with tears running down her face, that she was recently hospitalized for five days and was in danger of losing her job because of sleep deprivation caused by aircraft noise from BWI; she does not live in a Noise Zone.

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<sup>1</sup> Quarterly Noise Reports.

<sup>2</sup> BWI Roundtable Minutes, October 2017.

<sup>3</sup> Map presented to BWI Roundtable by MAA in June, "Location of Complaints."

Much ado is made of DNL as an ideal metric for measuring community annoyance in the Draft EA's *Appendix K Noise*. It makes a circular and therefore specious argument that a DNL of 65 dB is used by the FAA and other agencies, so it adequately gauges community sensitivities to noise. That's not good enough, as numerous scholarly studies have asserted.

In the communities around BWI, DNL is decidedly not an accurate reflection of community annoyance. A review of data published in BWI's Quarterly Noise Reports and Supplemental Permanent Noise Monitoring Data for 2012-2017 documents otherwise. There are very few incidences of DNL numbers over 65 caused by noise from aircraft operations, as recorded and calculated from all working permanent noise monitors, counted here by quarters:

Year	Number Working Monitors	Total Number Quarterly Noise Measurements posted	Total Number DNL readings >65 (readings)
2012	14	52	2 (74, 72)
2013	11	40	1 (67)
2014	10	32	2 (68, 67)
2015	7	28	2 (66, 74)
2016	7	26	1 (66)
2017 (Q1/Q2/Q3)	6/6/6	6/12/18	0

How can that be? For 2017, through Q3, there are *no* DNL numbers over 65 posted in these reports for any of the remaining working permanent monitors. (In actuality, as of March 2017 there were only five out of an original 23 working permanent noise monitors, with one of those uncalibrated.<sup>4</sup>) Yet, BWI's neighbors are filing noise complaints at the rate of 2,000 a month. Obviously, **DNL does *not* reflect community annoyance in the counties surrounding BWI.**

When a new permanent noise monitoring system is operational in the future, does the MAA expect the incidence of aircraft related noise levels over 65 DNL to increase, commensurate to the number and location of noise complaints? It should. Because of the MAA's malfeasance in failing to maintain a working noise monitoring system for over five years, as required by MD law, it has at present no idea where its real noise zones are now, much less where they will be in 2020, based on scientifically collected and analyzed noise data.

#### Noise Modeling Software is Inadequate to Establish Noise Zones

*Appendix K Noise* summarizes the FAA's and MAA's use of noise modeling software (AEDT 2b) as a substitute for noise data to establish noise zones. It cites the use of *stage length* as a "surrogate for aircraft weight."

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<sup>4</sup> March 14, 2017 memo from Michael Coleman, Field Technician at Harris, to Randy Dickinson, obtained by PIA request.

However, there is no information in this *Draft EA* on the accuracy or appropriateness of this modeling. Specifically, there is no information on whether stage lengths accurately reflect increasing trends in Passenger Load Factors. As pointed out in one of the letters of objection to the FONSI<sup>5</sup>, stage length calculations assume a 1970's standard of a 65% payload factor, which is inadequate for today's payloads. Since most flights now are at or near passenger capacity, those numbers may be far closer to 100%. Greater Take Off Weights require more thrust, which produces more noise for farther out from the airport. An increase of 10% in Take Off Weight causes a noise increase of 3-7 dB. The use of stage length underestimates calculated DNL's. Since Take Off Weights are calculated for every departure for the sake of safety, MAA should use that actual data to calculate DNL's and to establish its Noise Zones around BWI.

Note that while the FAA's Order 1050.1F assumes the use of AEDT 2b noise modeling, it does allow the use of data from noise monitors and perhaps the use of Take Off Weights with prior written approval for more accurate noise analysis.<sup>6</sup>

In addition, the *Appendix K Noise* makes no mention of the altitude problem that has plagued the communities surrounding BWI. Since the implementation of NextGen, aircraft are arriving and departing at much lower altitudes than previously, which causes greater perceived noise. These lower altitudes, in addition to increased payloads that require greater thrust, also have the effect of pushing noise zones farther out from the airport. If the noise models used by the MAA do not accurately include the newer, lower altitudes associated with changes from NextGen, then accurate altitude numbers should also be used to calculate DNL in order to establish Noise Zones around BWI.

In its present form, it is not possible for the Draft EA to assist the FAA in evaluating potential environmental effects from proposed improvements. The MAA must use accurate noise data for the entire area around BWI that is now affected by NextGen related noise pollution, and/or modeling that incorporates accurately calculated Take Off Weights plus actual aircraft altitudes to determine its real Noise Zone contours.

May I remind the MAA that the 2013 Maryland Code TRANSPORTATION § 5-804 - Limits for Cumulative Noise Exposure ensures that Maryland citizens are protected from noise pollution:

- (a) . . . shall adopt regulations that establish limits for cumulative noise exposure for residential and other land uses on the basis of the noise sensitivity of a given land use.*
- (b) In adopting limits under this section, the Executive Director shall:*
  - (1) Consider:*
    - (i) The general health and welfare;*
    - (ii) The rights of property owners;*
    - (iii) Accepted scientific and professional standards; and*
    - (iv) The recommendations of the Federal Aviation Administration and Environmental Protection Agency; and*

---

<sup>5</sup> Comments on DC OAPM DEA, Michael G. Kroposki, 7/18/2013

<sup>6</sup> Order 1050 1F, Appendix B. FAA Requirements for Assessing Impacts Related to Noise and Noise-Compatible Land use and Section 4(f) of the Department of Transportation Act (49 U.S.C. § 303), p. B-2.

*(2) Set the limits at the most restrictive level that, through the application of the best available technology at a reasonable cost and without impairing the safety of flight, is consistent with attaining the environmental noise standards adopted by the Department of Health and Mental Hygiene.*

This Draft EA should be rejected because its Noise Zone contours do not accurately, by use of *best scientific and professional standards*, in order to protect *the health and welfare, and rights of property owners*, document the extent and location of noise pollution caused by BWI Airport.

Sincerely,

Barbara Deckert

cc: Governor Larry Hogan, 100 State Circle, Annapolis, MD 21401-1925  
MDOT Secretary Pete K. Rahn, [secretary@mdot.state.md.us](mailto:secretary@mdot.state.md.us)  
AG Brian Frosh, [oag@oag.state.md.us](mailto:oag@oag.state.md.us)  
FAA, Washington Airports District Office, 23723 Air Freight Ln., Suite 210, Dulles, VA 20166  
BWI Roundtable: Chair: Lance Brasher [Lance.Brasher@skadden.com](mailto:Lance.Brasher@skadden.com)  
District 12: Howard Johnson, [hj@comcast.net](mailto:hj@comcast.net)  
Drew Roth, [mrdrew@gmail.com](mailto:mrdrew@gmail.com)

Drew Roth  
6117 Lawyers Hill Road  
Elkridge, MD 21075  
mrdrew@gmail.com

Ms. Robin Bowie Director, Office of Environmental Services, MDOT, MAA  
PO Box 8766  
BWI Airport, MD 21240  
[rbowie@bwiairport.com](mailto:rbowie@bwiairport.com)

January 30, 2018

Dear Ms. Bowie:

RE: Draft Environmental Assessment and Draft Section 4(f) Determination for Proposed Improvements 2016-2020.

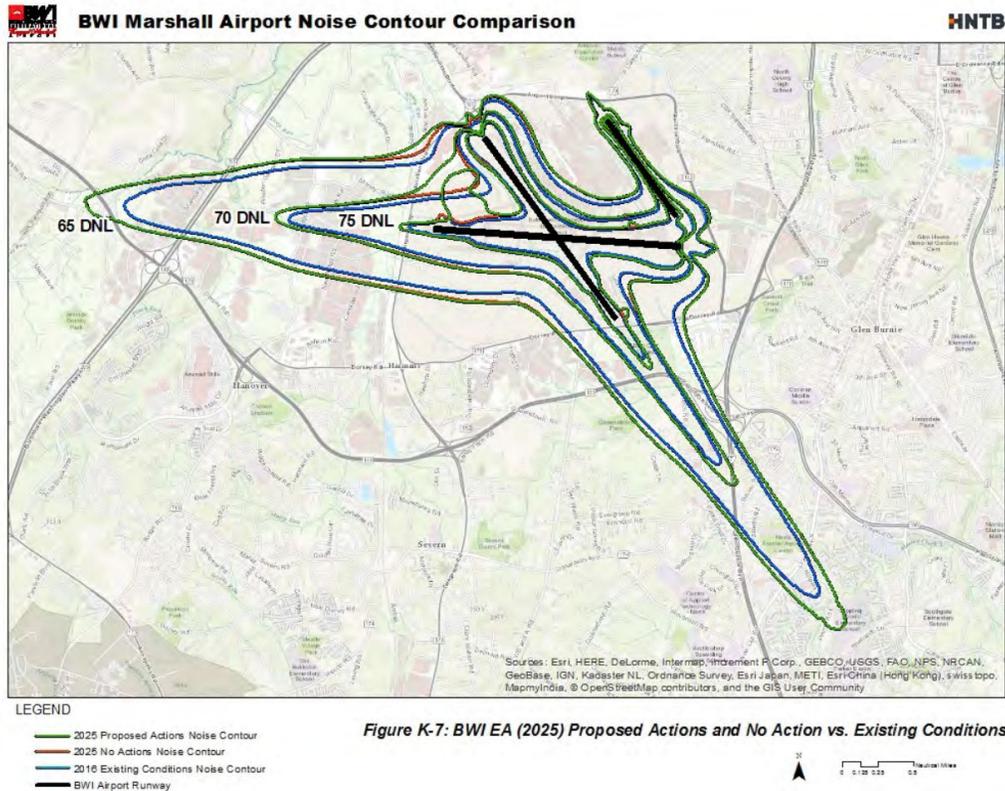
I ask that the EPA deny a Finding of No Significant Impact (FONSI) for this proposal, and that the EPA perform a full Environmental Impact Study for the combined noise impacts on surrounding communities for both this proposal and the FAA DC Metroplex Nextgen program.

1. The proposal increases noise in the vicinity of the airport.

According to Appendix K-3.2.1

“On an Average Annual Day (AAD) basis, the total number of operations is projected to increase from 683.88 in 2016 to 737.31 in 2020 and 800.90 in 2025. Table K-3.1 summarizes the number of operations by operating categories.”

This increase in flights will necessarily increase noise in the communities surrounding the airport. This is reflected in Figure K7.



However, Figure K-7 shows the noise contour for the proposed action and the no action alternative to be nearly identical. This cannot be reconciled with the Statement of Purpose and Need, which clearly states “The Proposed Action includes those improvements required to accommodate the projected activity levels through 2020.”

If the proposed action is required to accommodate projected activity levels, there should be a difference in the noise contour between the proposed action and the no action alternative.

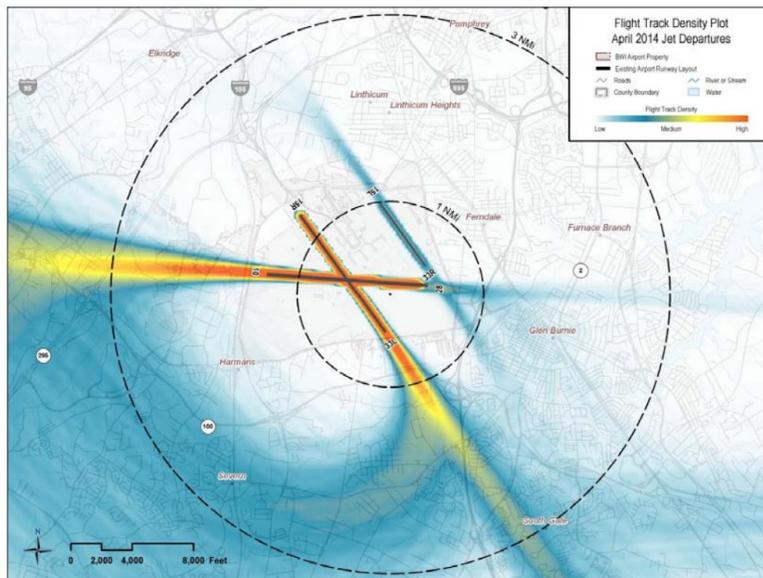
2. The noise contours in Appendix K do not reflect the actual flight paths under Nextgen.

Prior to Nextgen, departures from Runway 28 proceeded straight on a line with the runway.<sup>1</sup>

<sup>1</sup> Presentation to FAA Roundtable July 2017

[http://maacommunityrelations.com/\\_media/client/anznoiseupdate/2017/20170718\\_Roundtable\\_Presentation\\_HMM H.pdf](http://maacommunityrelations.com/_media/client/anznoiseupdate/2017/20170718_Roundtable_Presentation_HMM_H.pdf)

# Jet Departures, April 2014



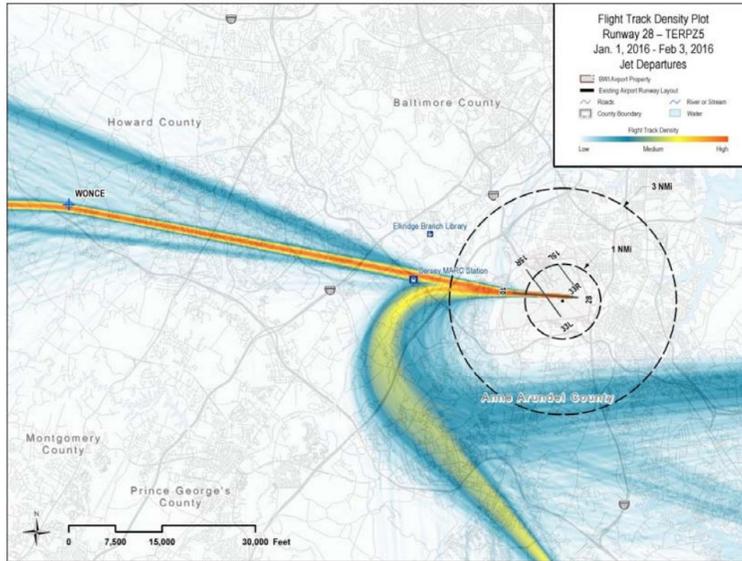
Source: MAA, 2016

'be better'

This pre-Nextgen flight path is consistent with the noise contours in the proposal. Specifically, note that the westernmost point of the noise contours are on a straight line from Runway 28.

However, under the Nextgen TERPZ 5 and TERPZ 6 procedures, there is a right turn soon after departure.

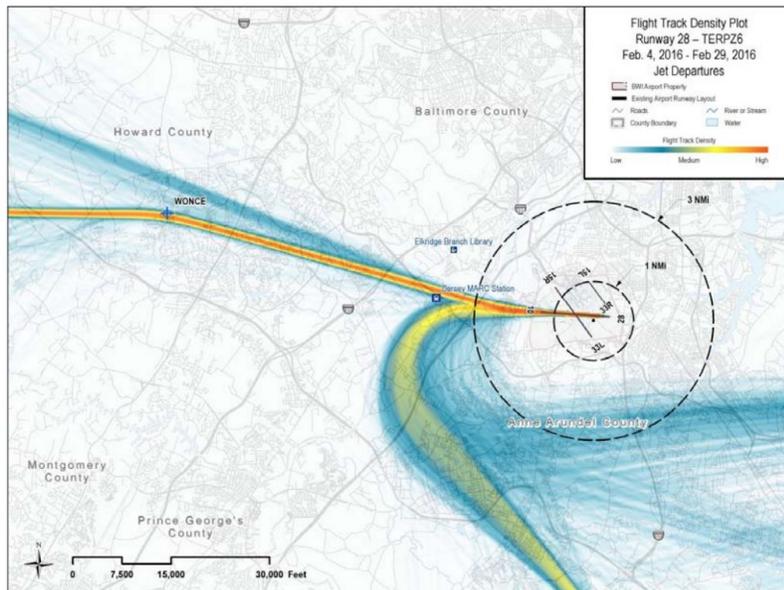
# TERPZ5, Runway 28



Source: MAA, 2016

'be better'

# TERPZ6, Runway 28



Source: MAA, 2016

'be better'

It appears that the noise contours in the subject EA are based on the pre-Nextgen flight

patterns. If they were based on the current Nextgen flight patterns, one would expect the westernmost point of the noise contour to be to the north of a straight line from Runway 28. The difference is readily apparent if one compares the point at which the flight paths intersect MD 100.

3. The difference between the flight paths shown in this EA and in the DC Metroplex EA is significant.

If the noise contours were aligned with the Nextgen flight patterns, the Oxford Square development of 1400 residences, Thomas Viaduct Middle School, and Hanover Hills Elementary School would be within the 65 DNL contour. If the Purpose and Need Statement for the subject EA is correct, and the proposal is required to meet anticipated demand, one would expect the noise contour to increase over these communities, resulting in an increased significant impact.

Furthermore, the DC Metroplex EA clearly states there will be no significant impacts due to flight path changes under 3000 feet AGL. This EA received a FONSI based on this assertion. However, it is apparent that the rightward turn has created a significant impact on the Oxford Square residences, which are likely now within the 65 DNL contour, and where aircraft routinely fly directly overhead at an altitude of approximately 1200 feet AGL.

4. The Nextgen DC Metroplex program implementation has created significant public controversy, which will only be increased by the subject proposal.

As a result of the DC Metroplex program at BWI

- \* Noise complaints to the MAA have skyrocketed.

- \* The FAA has created a community Roundtable to respond to community complaints.

- \* The FAA has received letters from the Governor of Maryland, and our Congressional Delegation demanding that they address the noise impacts on the surrounding communities.

- \* Howard County, Maryland, has passed legislation authorizing legal action against the FAA, and has hired external counsel.

- \* The Governor of Maryland has directed the Maryland State's Attorney to pursue legal action against the FAA, and the State's Attorney's office has hired external counsel.

The correspondence of the FAA Roundtable and local elective representatives is archived at <http://www.maacommunityrelations.com/content/anznoiseupdate/dcroundtable.php>.

## 5. Proposed actions

I ask the Environmental Protection Agency to take the following actions:

A. Perform a comprehensive Environmental Impact Study on aircraft noise in the vicinity of BWI airport, to specifically include the impacts of the subject EA and the FAA Nextgen Program.

B. Evaluate the compliance of the DC Metroplex Program at BWI with respect to the EA and FONSI which authorized the program.

C. Until the EIS is complete, require BWI flight paths to revert to what they were prior to the

implementation of the Nextgen program, as defined by the DC Metroplex EA.

Sincerely,

Drew Roth

cc: Governor Larry Hogan, 100 State Circle, Annapolis, MD 21401-1925

MDOT Secretary Pete K. Rahn, [secretary@mdot.state.md.us](mailto:secretary@mdot.state.md.us)

AG Brian Frosh, [oag@oag.state.md.us](mailto:oag@oag.state.md.us)

FAA, Washington Airports District Office, 23723 Air Freight Ln., Suite 210, Dulles, VA 20166

BWI Roundtable: Chair: Lance Brasher [Lance.Brasher@skadden.com](mailto:Lance.Brasher@skadden.com)

DC METROPLEX BWI COMMUNITY ROUNDTABLE

c/o Maryland Aviation Administration

P.O. Box 8766

BWI Airport, MD 21240-0766

June 4, 2018

Ms. Robin M. Bowie  
Director, Office of Environmental Services  
Maryland Department of Transportation  
Maryland Aviation Administration  
P.O. Box 8766  
BWI Airport, MD 21240

RE. Faulty MAA Draft Environmental Assessment for the Proposed Expansion of BWI

Dear Ms. Bowie:

The DC Metroplex BWI Community Roundtable (RT) was formed by the Maryland Aviation Administration (MAA) at the insistence of the Federal Aviation Administration (FAA) to act as the vehicle for addressing the harmful noise issues associated with the NextGen/DC Metroplex project. The RT has gained valuable knowledge from the FAA and MAA over the past year related to the technical components associated with the NextGen implementation. We believe this information will be important as we move forward and continue to grapple with this issue.

With that understanding, and keeping consistent with the RT's purpose, we agree with the comments made to you by the Howard County Office of Law in a letter dated March 9, 2018. Their comments are in reference to the Draft Environmental Assessment at Baltimore/Washington International Thurgood Marshall Airport (BWI) dated January 5, 2018. It was prepared by the MAA for approval by the FAA and in support of the proposed expansion of BWI thru 2020. Massive development of BWI is proposed which would result in increased aircraft operations and therefore airplane noise. Community outreach by both the MAA and FAA has been substantially nonexistent.

The Howard County Office of Law pointed out the Draft EA is legally insufficient in several respects:

- It is not based on sufficient evidence.
- It is based on non-representative and outdated noise data that the MAA has acknowledged does not reflect actual conditions.
- The FAA 14 CFR Part 150 Noise Compatibility Planning process is not addressed in the Draft EA. This invalidates all of the assumptions about harmful impacts due to noise based on FAA compliance with Part 150 Planning and the outdated data.
- It completely fails to acknowledge the highly controversial and significant harmful impacts that aircraft noise has had on Maryland citizens as a result of the FAA's implementation of NextGen.
- It fails to include sufficient analysis of other environmental impacts related to air quality, climate change, land use, historic preservation, and deforestation, and its almost complete failure to consider impacts in Howard and Anne Arundel Counties.

In addition, the RT is including an attachment which shows the number of aircraft operations that have taken place on an annual basis at BWI since 2006. Operations totaled 266,790 in 2006, reached a low of 245,121 in 2014 and in 2017 reached 261,707. Airport expansion is not needed when operations have not exceeded or even reached the levels seen in 2006. Any projections made by the MAA are therefore suspect and unsupported by actual operations.

We will request that the FAA deny approval of the Proposed Action. We will also request that the FAA order the MAA to perform a full Environmental Impact Statement pursuant to NEPA, NHPA, and Section 4(f). Additionally, we will request the FAA include the RT in this action. We strongly believe the RTs current involvement at the insistence of the FAA should include participation in the Environmental Impact Statement process.

Very sincerely,

Lance Brasher  
Chairman  
DC Metroplex BWI Community Roundtable

CC:

The Honorable Lawrence J. Hogan, Governor, State of Maryland  
The Honorable Brian H. Frosh, Attorney General, State of Maryland  
The Honorable Andrew P. Harris, MD  
The Honorable C.A. Dutch Ruppertsberger  
The Honorable Anthony G. Brown  
The Honorable John P. Sarbanes  
The Honorable Steny H. Hoyer  
The Honorable John K. Delaney  
The Honorable Elijah E. Cummings  
The Honorable Jamie B. Raskin  
The Honorable Benjamin L. Cardin  
The Honorable Christopher Van Hollen, Jr.  
The Honorable Allan H. Kittleman, County Executive  
The Honorable Steven R. Schuh, County Executive  
The Honorable Jonathan S. Weinstein, County Council Member & Council Chairperson  
The Honorable Michael A. Puroutka, County Council Member & Council Chairperson  
The Honorable. James E. De Grange  
The Honorable Edward J. Kasemeyer  
The Honorable Guy J. Guzzone  
The Honorable Edward R. Reilly  
The Honorable Bryan W. Simonaire  
The Honorable Gail H. Bates  
The Honorable Shirley Nathan-Pulliam  
The Honorable John C. Astle

## Attachment (1)

# Annual Traffic

### Traffic by calendar year

	Passengers	Change from previous year	Aircraft operations	Cargo (pounds) <sup>[84]</sup>
<b>2006</b>	20,698,967		266,790	252,413,171
<b>2007</b>	21,044,384	▲1.67%	265,424	254,701,295
<b>2008</b>	20,488,881	▼2.64%	249,456	225,275,286
<b>2009</b>	20,953,615	▲2.27%	245,522	221,302,348
<b>2010</b>	21,936,461	▲4.69%	253,165	225,706,183
<b>2011</b>	22,391,785	▲2.08%	258,475	237,568,354
<b>2012</b>	22,679,987	▲1.29%	268,186	246,366,867
<b>2013</b>	22,498,353	▼0.80%	259,793	240,295,725
<b>2014</b>	22,312,676	▼0.83%	245,121	231,862,614
<b>2015</b>	23,823,532	▲6.77%	246,464	257,266,277
<b>2016</b>	25,122,651	▲5.45%	248,585	260,309,358
<b>2017</b>	26,369,411	▲4.96%	261,707	370,098,296