

Executive Summary

Introduction

Baltimore/Washington International Thurgood Marshall Airport (BWI Marshall) is owned by the State of Maryland and operated by the Maryland Department of Transportation Maryland Aviation Administration (MAA). BWI Marshall is located 9 miles south of downtown Baltimore, Maryland, 32 miles northeast of Washington, DC in Linthicum, Maryland, and within unincorporated Anne Arundel County southeast of MD-295, north of MD-100, and west of Interstate 97. The Airport has three runways: Runway 10/28, Runway 15L/33R and Runway 15R/33L.

Maryland law (the Maryland Environmental Noise Act of 1974) requires the protection of citizens from the impact of transportation related noise. The Code of Maryland Regulations (COMAR) requires the MAA to control incompatible land development in areas where noise levels are Day-Night Average Sound Level (DNL)¹ 65 dBA or more. Therefore, the MAA is required to develop and certify an Airport Noise Zone (ANZ) that controls incompatible land development around BWI Marshall.

Maryland law also requires the MAA to regularly update the ANZ for BWI Marshall to ensure it remains an accurate representation of noise conditions at the Airport. Updating the ANZ is necessary because factors such as the total number of aircraft, operations, aircraft types, and flight paths may change over time, potentially altering overall noise exposure. Updating the ANZ involves modeling airport noise and developing noise contours for both existing and future conditions at BWI Marshall necessary for land use planning.

The ANZ update also includes a review of the BWI Marshall Noise Abatement Plan (NAP). If incompatible land uses exist within a noise zone, the MAA is required to develop an NAP. The NAP prescribes measures to monitor and reduce or eliminate impacted land use areas to the extent feasible, while maintaining efficient airport operations.

The ANZ update provides the MAA and BWI Marshall stakeholders, including surrounding communities, with improved understanding of current and future noise conditions at the airport. The ANZ provides a means for the MAA to identify, control, and prevent incompatible land development around the airport.

Public Engagement

The ANZ update process includes multiple public consultation efforts to ensure that BWI Marshall stakeholder input is reflected in the resulting ANZ contour and NAP documentation. This public involvement component includes two major initiatives: (1) voluntarily forming and convening a Stakeholder Advisory Committee (SAC) and (2) conducting a public workshop and hearing.

¹ For the purposes of this document Day-Night Average Sound Level is referred to as DNL. DNL describes 24-hour exposure, noise from 10 pm to 7 a.m. is considered nighttime, and is factored up by 10 dB, this “penalty” is equal to counting each nighttime event 10 times.

The SAC was formed to include representatives of community and industry stakeholder groups with an interest in airport activities to ensure they were kept informed of the 2025 BWI Marshall ANZ update process and methodology. The SAC is composed of stakeholders representing significant interests at BWI Marshall, including representatives from:

- Local government planning staff
- Community organizations
- DC Metroplex BWI Community Roundtable
- Federal Aviation Administration (FAA) Air Traffic Control Tower (ATCT) at BWI Marshall
- BWI Marshall tenants, including aircraft operators and airlines

Members of the SAC were asked to review study inputs, assumptions, analyses, and documentation, and were encouraged to provide input, advice, and guidance related to the ANZ and NAP. SAC members were expected to share pertinent BWI Marshall ANZ update information with the groups or any interested citizens that they represent. The SAC convened three times to discuss major milestones in the ANZ update process. SAC members served in an advisory role to the MAA solely to support the BWI Marshall ANZ update.

As required by Maryland law, a public workshop and hearing regarding the 2025 BWI Marshall ANZ will be held on March 19, 2026. The public workshop and hearing will allow all interested people an opportunity to comment on the proposed update to the BWI Marshall ANZ and NAP.

Airport Noise Zone

The ANZ is an area specified by noise contours in terms of DNL and is a composite of three different contours. The ANZ study process considered the existing conditions in 2025 (also referred to as the base year) and two forecast years (2030 and 2035). These forecasts were developed using FAA-accepted forecasting methods and the most current data available at the time.

The 2025 BWI Marshall ANZ document includes the DNL noise contours for the following three conditions:

1. Base year 2025 conditions with the current airfield layout
2. Five-year 2030 forecast conditions with the current airfield layout
3. Ten-year 2035 forecast conditions including the Phase II and Phase III improvements to the airfield as depicted in the BWI Marshall Airport Layout Plan²

The ANZ, as shown in Figure ES-1, is a composite of the three contours described above. The 2025 ANZ represents the largest extent of the DNL contours for each of the three study years (2025, 2030, and 2035) and is defined to provide the largest area of the existing or future noise exposure contours. The noise contours are presented in 5-decibel increments for DNL from 65 dB to 75 dB. In conjunction with development of the 2025 ANZ DNL contour, population and households within the ANZ were estimated. The 2025 ANZ 65 dB DNL contour covers 3,802 acres, of which approximately 2,381 acres (63 percent) are

² BWI Marshall Airport Planning Documents, *BWI Marshall Airport Future Airport Layout Plan*, Draft, November 2022, https://marylandaviation.com/wp-content/uploads/2024/04/Draft_BWI_ATCT_EA_Appendix_A_Planning_Docs.pdf

located on MAA property and 1,420 acres (37 percent) are located off airport property. Based on the 2020 Census data, this area includes an estimated 1,704 residents living in approximately 636 households.

The 2025 ANZ is smaller than the 2020 ANZ by approximately 31 percent. The 2025 ANZ also contains an approximate 57 percent decrease in estimated population based on the 2020 US Census, and 59 percent decrease in the number of estimated households exposed to noise levels greater than 65 dB DNL relative to the 2020 ANZ.

The decrease in ANZ size is due to several factors, including changes in the aircraft fleet mix and differences in number of operations.

Noise Abatement Plan

The NAP fulfills State requirements under the provisions of Sections 5-805, 5-806, and 5-819 of the Transportation Article, Annotated Code of Maryland.³ These sections require airport operators to develop an NAP, in conjunction with an ANZ, to reduce or eliminate the impacted land use area. In general, impacted land use areas are residential areas, schools, hospitals, rest homes, homes for the aged, nursing homes, libraries, and churches within the ANZ 65 dB DNL contour.

The NAP is designed to minimize the noise of aircraft operations within the constraints of the Federal Air Traffic Control System and ensure aircraft safety. BWI Marshall has an extensive NAP, which the MAA staff have developed over several decades through extensive cooperative efforts with the FAA, aviation stakeholders and the community. The NAP was reviewed with the cooperation of SAC members, the FAA ATCT at BWI Marshall, and industry stakeholders. The goal of the NAP is to minimize noise disturbance to neighboring communities while maintaining safe and efficient airport operations.

The NAP was most recently updated as part of the 2020 ANZ update and was reviewed and updated as part of the 2025 BWI Marshall ANZ update process to accurately reflect current operating conditions at BWI Marshall.

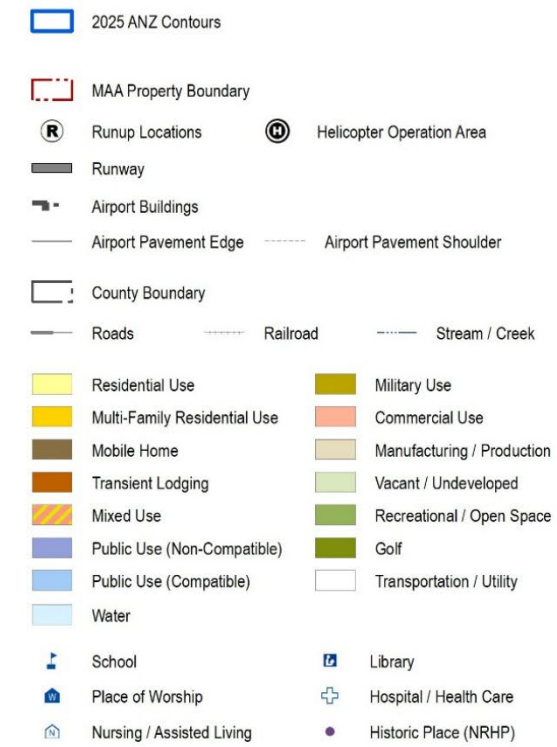
The NAP is comprised of two parts: (1) aircraft operating procedures and (2) the efforts the MAA is taking to mitigate noise in the areas surrounding BWI Marshall. While operational measures receive the most public attention, the program includes compatible land use measures and other measures that focus on program implementation, communication, monitoring, and updating. Notable changes to the NAP identified in this update include removing references to the Interstate Visual procedure, adding references to maintenance run-ups at the midfield cargo facility, and adding a discussion of the MAA's Annual Report.

³ The BWI Marshall NAP is established pursuant to the Maryland Environmental Noise Act of 1974 (Transportation Article, §§ 5-805, 5-806, and 5-819, Annotated Code of Maryland) and COMAR Section 11.03.02.10. <http://mdrules.elaws.us/comar/11.03.02.10>.

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Airport Noise Zone Update

Figure ES-1
 2025 ANZ Contours



Data Sources: Maryland Aviation Administration; Anne Arundel County Open Data Portal (<https://opendata.aacounty.org/>); Howard County MD (<https://data.howardcountymd.gov/>); Baltimore County Government Open Data Portal (<https://opendata.baltimorecountymd.gov/>); MDDOT (<https://data-maryland.opendata.arcgis.com/pages/mdot-data>); Environmental Systems Research Institute (ESRI); AirNav.com; HMMH Inc.

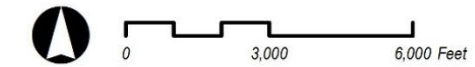


Figure ES-1. 2025 ANZ Contours

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