

Baltimore/Washington International Thurgood Marshall Airport

Part 150 Update/Noise Exposure Maps

Executive Summary



Introduction

The Maryland Aviation Administration (MAA) has prepared this Executive Summary to provide an overview of the Title 14 of the Code of Federal Regulations, Part 150 (14 CFR Part 150, or Part 150) Study for Baltimore/Washington International Thurgood Marshall Airport (BWI Marshall). A more detailed discussion of the study is available in the document *Baltimore/Washington International Thurgood Marshall Airport Part 150 Update, 2014 and 2019 Noise Exposure Maps, September 2014*.

The complete September 2014 document is available at the following locations for review:

- Division of Noise, Real Estate and Land Use Compatibility, Maryland Aviation Administration 991 Corporate Blvd., Linthicum, MD, 21090; and
- MAA's website <http://www.maacommunityrelations.com/>

Large scale maps are available at the libraries listed on the last page of this Executive Summary.

A public workshop for the proposed 2014 Noise Exposure Map (NEM) Update will be held on October 21, 2014 starting at 5:30 p.m. in the Assembly Room at the Maryland Aviation Administration, 991 Corporate Boulevard, Linthicum, MD 21090.

14 CFR Part 150 "Airport Noise Compatibility Planning" sets forth standards for airport operators to use in documenting noise exposure in the airport environs and establishing programs to minimize noise-related land use incompatibilities. The MAA completed its first Part 150 Study for BWI Marshall in 1989. This most recent effort was initiated in 2013 and presents the updated NEM submission with noise contours and related documentation for 2014 existing conditions and 2019 forecast conditions.

Part 150 Overview

Part 150 sets forth a process for airport operators to follow in developing and obtaining FAA approval of programs to reduce or eliminate incompatibilities between aircraft noise and surrounding land uses. Part 150 prescribes specific standards and systems for:

- Measuring noise;
- Estimating cumulative noise exposure;
- Describing other means to assess the impacts of noise;
- Coordinating Noise Compatibility Program (NCP) development with local land use officials and other interested parties;
- Documenting the analytical process and development of the NCP;
- Submitting documentation to the FAA; and
- Providing for FAA and public review processes.

A formal submission to the Federal Aviation Administration (FAA) under 14 CFR Part 150 includes two principal elements: (1) Noise Exposure Maps (NEMs) and (2) a Noise Compatibility Program (NCP). This project presents an updated NEM only.

Project Roles and Responsibilities

Several groups have been involved in the Part 150 Update, including the MAA, the consulting team, the Part 150 Update Community Advisory Committee, and the FAA.

- **Maryland Aviation Administration (MAA):** As the "airport operator", the MAA has authority over all Part 150 related actions at BWI Marshall. The MAA is responsible for preparation of the NEM.
- **Community Advisory Committee:** The MAA established a Part 150 Update Community Advisory Committee to ensure that the appropriate outside entities and groups are given official representation in the study process. The Advisory Committee includes government agencies with aviation and land use responsibilities, private sector interests, particularly in the aviation industry, and representatives of the affected communities in the airport's environs.
- **Federal Aviation Administration (FAA):** The FAA has ultimate review authority over the Part 150 program. Their review encompasses the details of technical documentation as well as broader issues of safety and constitutionality of recommended noise abatement alternatives.

Noise Exposure Map (NEM)

The NEM document describes the airport layout and operation, aircraft-related noise exposure, land uses in the airport environs and the resulting noise/land use compatibility situation. The NEM must address two time frames: (1) the year of submission (the “existing conditions”) and (2) a year at least five years from the year of submission (the “forecast conditions”). Part 150 requires more than a simple “map” to provide all the necessary information in an NEM. In addition to the graphics, requirements include extensive tabular information, narrative and analysis.

Figure 12 of the NEM document, which is shown in this Executive Summary, presents the draft Existing (2014) and Forecast (2019) NEMs for BWI Marshall compared to the previous 2010 NEM. The 2014 and 2019 NEMs are based on the activity levels shown in the following table:

Annual Operational Levels

Aircraft Category	2014 (Existing)	2019 (Forecast)
Air Carrier	208,969	240,831
Commuter	38,329	34,359
General Aviation	15,272	16,103
Military	960	960
<i>Total</i>	263,530	292,253

Noise contours were prepared using the Integrated Noise Model (INM), a computer model developed by the FAA for use in Part 150 and other airport noise studies. The inputs to model were developed from actual flight track data from MAA’s noise and operations monitoring system. The estimated residential population residing in the contours, based on 2010 US Census data, Anne Arundel County, and Maryland state data, is shown in the table below.

Estimated Residential Population within Day-Night Average Sound Level (DNL) Contours

Noise Level, DNL, dB	2014		2019	
	Estimated Population	Estimated Housing Units	Estimated Population	Estimated Housing Units
65-70	1,547	615	2,613	1,058
70-75	38	14	46	17
75+	0	0	0	0
Total	1,585	629	2,659	1,075

The table below summarizes the number of properties that already have been mitigated through one of MAA’s homeowner assistance or other land use programs, and those properties that are potentially eligible upon completion of this NEM update.

Number of Single and Multi-Family Homes Eligible for Mitigation

Noise Level, DNL, dB	2014		2019	
	Previously Mitigated	Eligible for Mitigation	Previously Mitigated	Eligible for Mitigation
65-70	295	320	366	692
70-75	0	14	0	17
75+	0	0	0	0
Total	295	334	366	709

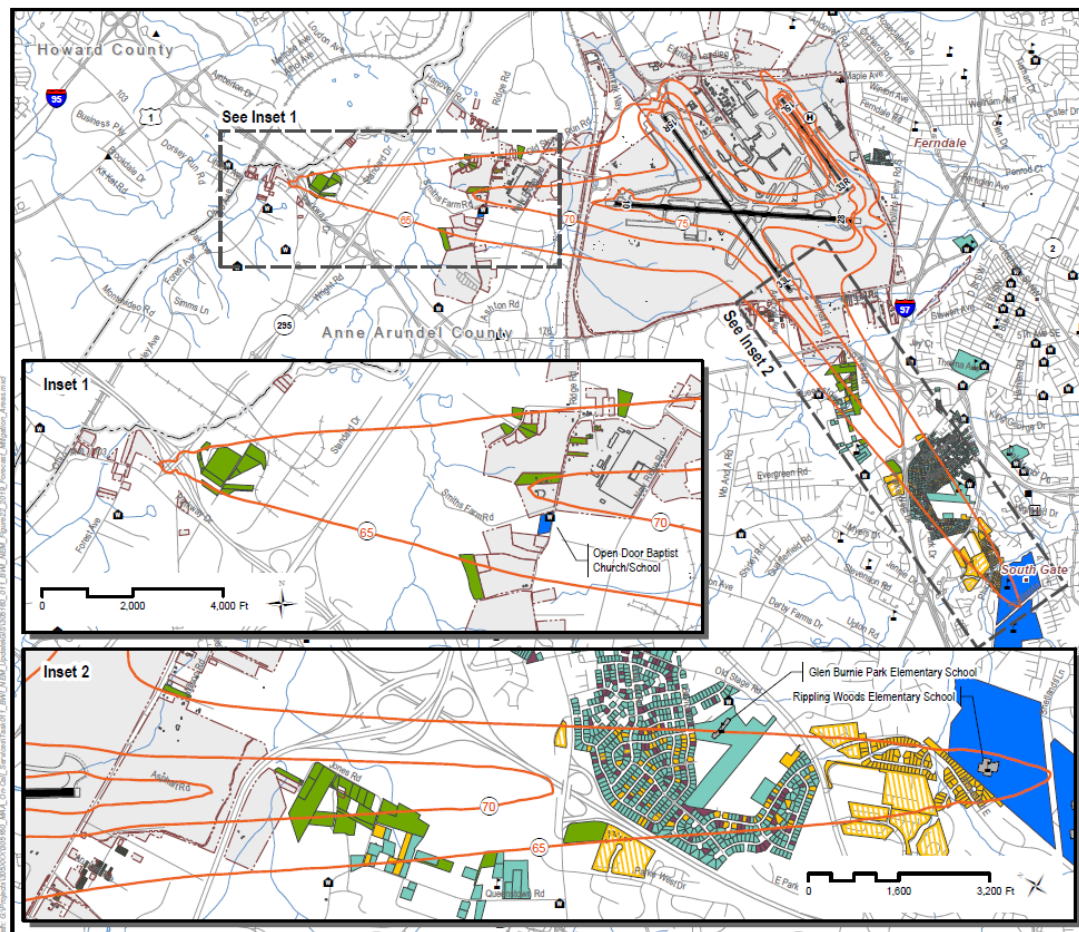
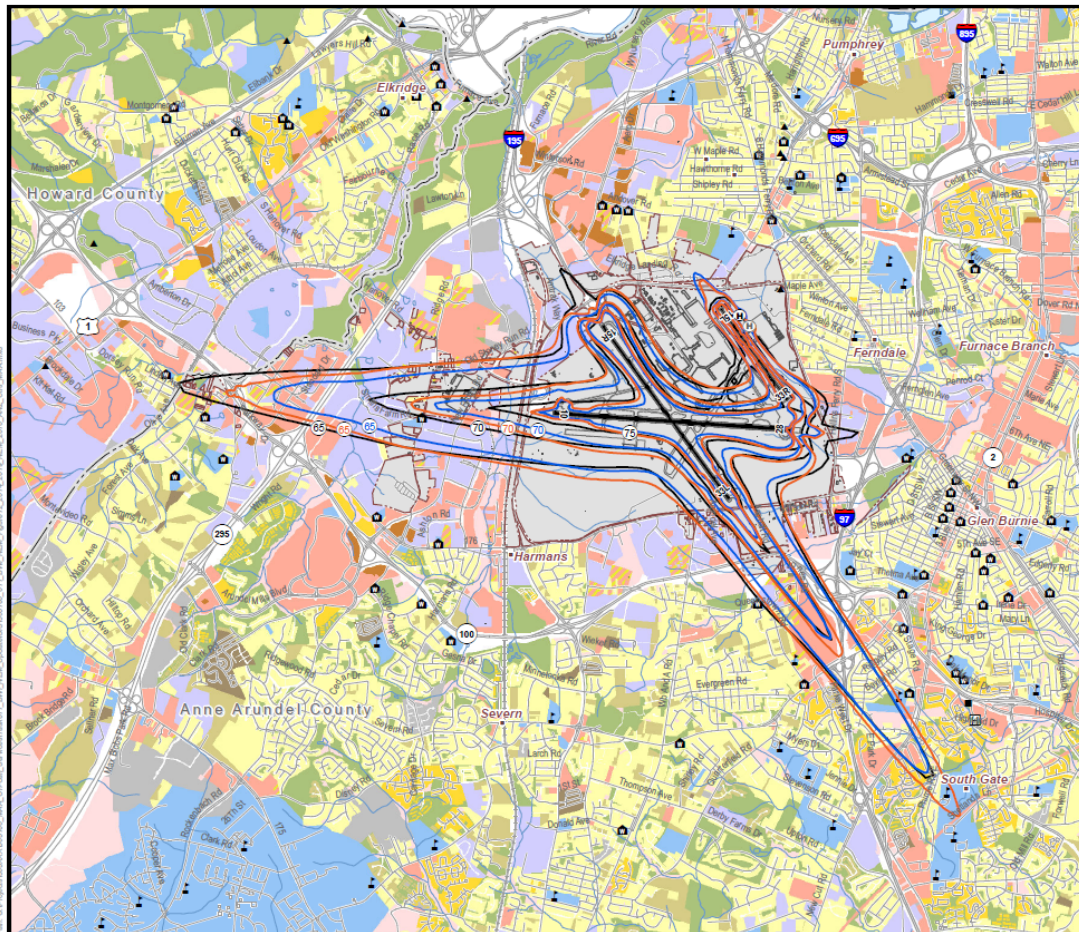
Figure 22 of the NEM document, also shown in this Executive Summary, graphically depicts the locations of these properties, which are considered noise sensitive and incompatible with the 2019 forecast noise levels. The NEM document provides addresses of the individual properties that are eligible for mitigation. These properties have not been examined fully to determine additional federal and state eligibility requirements; that process will be done as property owners inquire on participating in the mitigation program. Note that this table presents the inventory of properties identified during the course of this study. If additional noise sensitive properties are discovered within the noise contours at a later date, they would still be considered a candidate for mitigation.

Noise Compatibility Program (NCP)

The BWI Marshall NCP includes a broad range of implementation-related continuing program elements. Following FAA acceptance of this NEM update, MAA intends to request the use of federal funds, or state funds subject to federal requirements, to continue in the near term the following elements of the NCP. Other approved elements of the NCP would continue as stated in the NEM Update but do not require the use of federal funds.

Voluntary Residential Property Acquisition Program

As part of this program, property owners are paid full market value for their property at its highest and best use, as well as provided relocation assistance in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.



Participation in the program is voluntary. To date, 49 single family properties have been identified for consideration in this program using the criteria discussed in the NEM document.

Homeowners Assistance Program

The Homeowners Assistance Program offers financial assistance to homeowners residing in the 65 dB DNL contour as defined by the NEM, and who are not eligible for the Voluntary Residential Property Acquisition Program. MAA intends to continue this program, in particular, the soundproofing option.

The MAA will assist eligible homeowners in making modifications to their houses, with a goal of reducing interior noise levels to an average of 45 L_{dn} (or 45 DNL). The type and extent of the improvements are dependent upon the noise reduction capabilities of the existing structure. The homeowner enters into a contract with the MAA, committing the MAA to: 1) pay for the agreed upon noise reduction modifications; and 2) monitor the construction and assure its quality. The homeowner is then required to sign an avigation easement.

To date, 172 single family properties and 488 multi-family units (located in five complexes) have been identified for consideration for this program using the criteria discussed in the NEM document and not eligible for the Voluntary Residential Property Acquisition Program.

School Soundproofing Program

Two schools have been identified as potentially incompatible with BWI Marshall noise exposure as they are within the 2019 NEM 65 dB DNL contour and could be candidates for sound insulation.

Following the completion and FAA acceptance of this NEM update, MAA will approach respective property owners potentially eligible for noise mitigation to determine their interest in participating in the appropriate

program. For properties containing educational facilities (e.g., schools), MAA will offer sound insulation in accordance with the latest FAA guidelines.

Noise Monitoring System

Following completion of this NEM update, MAA would like to replace the current monitoring system with a modern system. Contemporary noise monitors and their associated software now have significantly greater flexibility and memory capacity including expanded Geographic Information System capabilities and access to contemporary graphical and reporting capabilities.

In addition to replacing monitoring equipment in the 18 existing monitoring sites, the addition of seven more sites and refurbishment of one defunct site is also suggested to better sample the noise impact in the surrounding community.

Map Review Locations

The large scale draft 2014 NEM and 2019 NEM maps, along with this Executive Summary, are available at the following public libraries.

Anne Arundel County

Linthicum Branch
Severn Community Branch
(formerly Provinces)
Brooklyn Park Branch
Riviera Beach Branch
Glen Burnie Branch
(formerly North County)
Severna Park Branch

Howard County

East Columbia Branch
Central Branch
Elkridge Branch
Miller Branch
Savage Branch

Baltimore County

Arbutus Branch

For additional information, please contact:

Ms. Ellen Sample
Director, Division of Noise, Real Estate & Land Use Compatibility Planning
Maryland Aviation Administration
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or visit our website at: <http://www.maacommunityrelations.com/>