Westfield-Barnes Regional Airport

Title 14 Code of Federal Regulations (CFR) Part 150

Noise Compatibility Program Report

May 2023

Prepared for:
The City of Westfield

By:
The Jones Payne Group Inc.
Harris Miller Miller & Hanson Inc.

This page intentionally left blank

Sponsor's Certification

The Noise Compatibility Program (NCP) for Westfield-Barnes Regional Airport is hereby submitted in accordance with 14 CFR Part 150. The Program was prepared with the best available information and is certified as true and complete to the best of my knowledge and belief.

The Noise Exposure Map (NEM) was prepared and submitted prior to the COVID-19 pandemic under separate cover in May 2019 and accepted by the FAA on June 13, 2019. The NCP is submitted in two volumes – the NCP document and the appendices with background and supporting material.

The NCP Report was prepared in consultation with local public and planning agencies whose area or any portion of whose area of jurisdiction is within the 65 Day-Night Average Sound Level (DNL) contour depicted on the NEM and might be affected by any City of Westfield-recommended measures. The consultation also included federal and local officials having oversight responsibility and regular aeronautic users of the airport. The proposed NCP measures are recommended by the City.

It is further certified that adequate opportunity has been afforded to interested persons to submit their views, data, and comments concerning the formulation and adequacy of the NCP Report and the supporting documentation. The required public hearing was held on February 1, 2023, to obtain public comments related to the City-recommended NCP measures.

By:	
Title:	Airport Manager
Date:	05/23/2023

Airport name:	Westfield-Barnes Regional Airport
Airport Owner/Operator:	City of Westfield
Address:	110 Airport Road, Westfield, MA 01085

This page intentionally left blank

FAA Part 150 Checklist

The FAA has developed checklists for their internal use in reviewing NEM and NCP submissions. For ease of review the City has included the FAA's NCP checklist with appropriate page numbers or other references and other notes and comments to assist in the document's review, as presented below.

Source: FAA/APP, Washington, DC, March 1989; updated December 2007 and published February 2008 (confirmed August 2022)

14 CFR Part 150 Noise Compatibility Program Checklist: Part I		
Airport Name: Westfield-Barnes Regional Airport REVIEWER:		
	Yes/No/N/A	**Supporting Pages/Review Comments**
I. SUBMITTING AND IDENTIFYING THE NCP:		
A. Submission is properly identified:		
1. 14 C.F.R. Part 150 NCP?	Y	Chapter 1, page 1
2. NEMs and NCP together?	N	NEM submitted in May 2019
3. Program revision? (To what extent has it been revised?)	Y	See pages 31, 48 and 54
B. Airport and Airport Sponsor's name are identified?	Y	Sponsor's Certification, page iii
C. NCP is transmitted by airport sponsor's cover letter?	Y	Sponsor's Certification, page iii
II. CONSULTATION (INCLUDING PUBLIC PARTICIPATION): [150.23]		
A. Documentation includes narrative of public participation and consultation process?	Y	Chapter 5 and Appendix B
B. Identification of consulted parties:	Y	
1. All parties in 150.23(c) consulted?	Y	Chapter 1 and Chapter 5
2. Public and planning agencies identified?	Y	Chapter 5
3. Agencies in 2. above correspond to those affected by the NEM noise contours?	Y	Chapter 5
C. Satisfies 150.23(d) requirements by:		
1. Documentation shows active and direct participation of parties in B. above?	Y	Chapter 5 and Appendix C
2. Active and direct participation of general public and opportunity to submit their views, data, and comments on the formulation and adequacy of the NCP?	Y	Chapter 5 and Appendix C
3. Participation was prior to and during development of NCP and prior to submittal to FAA?	Y	Chapter 5 and Appendix C
4. Indicates adequate opportunity afforded to all consulted parties to submit views, data, etc.?	Y	Chapter 5 and Appendix C
D. Evidence is included there was notice and opportunity for a public hearing on the final NCP?	Y	Chapter 5 and Appendix C
E. Documentation of comments:		
1. Includes summary of public hearing comments, if hearing was held?	Y	Appendix D
2. Includes copy of all written material submitted to operator?	Y	Appendix B & D
3. Includes operator's response/disposition of written and verbal comments?	Y	Appendix D
F. Is there written evidence from the appropriate office within the FAA that the sponsor received informal agreement to carry out proposed flight procedures?	N/A	Chapter 2, section 2.2.3
III. NOISE EXPOSURE MAPS: [150.23, B150.3; 150.35(f)] (This section of the checklist is not a substitute for the Noise Exposure Map checklist. It deals with maps in the context of the Noise Compatibility Program submission.)		
A. Inclusion of NEMs and supporting documentation:		
1. Map documentation either included or incorporated by reference?	Y	Chapter 1, Appendix A
2. Maps previously found in compliance by FAA?	Y	Appendix A
3. FAA's compliance determination still valid?		
(a) Existing condition NEM represents conditions at the	Y	Chapter 1

airport at the time of submittal of the NCP for FAA approval?		
(b) Forecast condition NEM represents conditions at the airport at least 5 years into the future from the date of submittal of the NCP to the FAA for approval?	Y	Chapter 1
(c) Sponsor letter confirming elements (a) and (b), above, if date of submission is either different than the year of submittal of the previously approved NEMs or over 12 months from the date shown on the face of the NEM?	Y	Sponsor's Certification, page iii
(d) If (a) through (c) cannot be validated, the NEMs must be redone and resubmitted as per 150.21.	N/A	N/A
4. Does 180-day period have to wait for map compliance finding?	N	Acceptance of the NEM by FAA occurred on June 13, 2019.
B. Revised NEMs submitted with program: (Review using NEM checklist if map revisions included in NCP submittal. Report the applicable findings in the spaces below after a full review using the NEM checklist and narrative.)		
1. Revised NEMs included with program?	N	N/A
2. Has airport sponsor requested in writing that FAA make a determination on the NEM(s), showing NCP measures in place, when NCP approval is made?	N	N/A
C. If program analysis uses noise modeling:		
1. INM, HNM, or FAA-approved equivalent?	Y	INM7.0d
2. Monitoring in accordance with A150.5?	N/A	N/A
D. One existing condition and one forecast-year map clearly identified as the official NEMs?	Y	Chapter 1
IV. CONSIDERATION OF ALTERNATIVES: [B150.7, 150.23(E)(2)]		
A. At a minimum, were the alternatives below considered, or if they were rejected was the reason for rejection reasonable and based on accurate technical information and local circumstances?		
1. Land acquisition and interests therein, including air rights, easements, and developmental rights?	Y	Chapter 3
2. Barriers, acoustical shielding, public building soundproofing	Y	Chapters 2 and 3
3. Preferential runway system	Y	Chapter 2
4. Voluntary flight procedures	Y	Chapter 2
5. Restrictions described in B150.7 (taking into account Part 161 requirements)	Y	Chapter 2
6. Other actions with beneficial impact not listed in the regulation	Y	Chapters 2, 3 and 4
7. Other FAA recommendations (see D, below)	N/A	N/A
B. Responsible implementing authority identified for each considered alternative?	Y	Chapters 2, 3 and 4
C. Analysis of alternative measures:		
1. Measures clearly described?	Y	Chapters 2, 3 and 4
2. Measures adequately analyzed?	Y	Chapters 2, 3 and 4
3. Adequate reasoning for rejecting alternatives?	Y	Chapters 2, 3 and 4
D. Other actions recommended by the FAA: As the FAA staff person familiar with the local airport circumstances, determine whether other actions should be added? (list separately, or on back, actions and describe discussions with airport sponsor to have them included prior to the start of the 180-day cycle. New measures recommended by the airport sponsor must meet applicable public participation and consultation with officials before they can be submitted to the FAA for action. See E. below.)	N/A	N/A
V. ALTERNATIVES RECOMMENDED FOR IMPLEMENTATION: [150.23(E), B150.7(C); 150.35(B), B150.5]		
A. Document clearly indicates:		
1. Alternatives that are recommended for implementation?	Y	Chapters 2, 3 and 4
2. Final recommendations are airport sponsor's, not those of consultant or third party?	Y	Sponsor's Certification, page iii
B. Do all program recommendations:		
1. Relate directly or indirectly to reduction of noise and non-	Y	Chapters 2, 3 and 4

	compatible land uses? (Note: All program recommendations, regardless of whether previously approved by the FAA in an earlier Part 150 study, must demonstrate a noise benefit if the airport sponsor wants FAA to consider the measure for approval in a program update. See E. below.)		
2.	Contain description of each measure's relative contribution to overall effectiveness of the program?	Y	Chapters 2, 3 and 4
3.	Noise/land use benefits quantified to extent possible to be quantified? (Note: some program management measures cannot be readily quantified and should be described in other terms to show their implementation contributes to overall effectiveness of the program.)	Y	Chapters 2, 3 and 4
4.	Does each alternative include actual/anticipated effect on reducing noise exposure within non-compatible area shown on NEM?	Y	Chapters 2, 3 and 4
5.	Effects based on relevant and reasonable expressed assumptions?	Y	Chapters 2, 3 and 4
6.	Does the document have adequate supporting data that the measure contributes to noise/land use compatibility?	Y	Chapters 2, 3 and 4
C.	Analysis appears to support program standards set forth in 150.35(b) and B150.5?	Y	Chapters 2, 3 and 4
D. When use restrictions are recommended for approval by the FAA:			
1.	Does (or could) the restriction affect Stage 2 or Stage 3 aircraft operations (regardless of whether they presently operate at the airport)? (If the restriction affects Stage 2 helicopters, Part 161 also applies.)	N/A	N/A
2.	If the answer to D.1 is yes, has the airport sponsor completed the Part 161 process and received FAA Part 161 approval for a restriction affecting Stage 3 aircraft? Is the FAA's approval documented? For restrictions affecting only Stage 2 aircraft, has the airport sponsor successfully completed the Stage 2 analysis and consultation process required by Part 161 and met the regulatory requirements, and is there evidenced by letter from FAA stating this fact?	N/A	N/A
3.	Are non-restrictive alternatives with potentially significant noise/compatible land use benefits thoroughly analyzed so that appropriate comparisons and conclusions among all alternatives can be made?	N/A	N/A
4.	Did the FAA regional or ADO reviewer coordinate the use restriction with APP-400 prior to making determination on start of 180-days?	N/A	N/A
E.	Do the following also meet Part 150 analytical standards?		
1.	Recommendations that continue existing practices and that are submitted for FAA re-approval? (Note: An airport sponsor does not have to request FAA re-approval if noise compatibility measures are in place from previously approved Part 150 studies. If the airport has implemented the measures as approved in the previous NCP, the measures may be reported and modeled as baseline conditions at the airport.)	N/A	N/A
2.	New recommendations or changes proposed at the end of the Part 150 process?	N/A	N/A
F.	Documentation indicates how recommendations may change previously adopted noise compatibility plans, programs, or measures?	Y	Chapters 2, 3 and 4
G.	Documentation also:		Chapters 2, 3 and 4
1.	Identifies agencies that are responsible for implementing each recommendation?	Y	Chapters 2, 3 and 4
2.	Indicates whether those agencies have agreed to	Y	Chapters 2, 3 and 4

implement?		
3. Indicates essential government actions necessary to implement recommendations?	Y	Chapters 2, 3 and 4
H. Timeframe:		
1. Includes agreed-upon schedule to implement alternatives?	Y	Chapters 2, 3 and 4
2. Indicates period covered by the program?	Y	Chapters 2, 3 and 4
I. Funding/Costs:		
1. Includes costs to implement alternatives?	Y	Chapters 2, 3 and 4
2. Includes anticipated funding sources?	Y	Chapters 2, 3 and 4
VI. PROGRAM REVISION: [150.23(E)(9)**]** Supporting documentation includes provision for revision? (Note: Revision should occur when it is likely a change has taken place at the airport that will cause a significant increase or decrease in the DNL noise contour of 1.5 dB or greater over non-compatible land uses. See §150.21(d))	N	N/A

Contents

Figures

Tables

This page intentionally left blank

1 Noise Compatibility Program – Introduction

This Noise Compatibility Program (NCP) Report documents the update to the City's "Airport Noise Compatibility Planning Study" (the Study) in accordance with Title 14 Code of Federal Regulations Part 150 (14 CFR Part 150), for Westfield-Barnes Regional Airport (BAF). This NCP Report was prepared in accordance with the requirements of 14 CFR Part 150. The Federal Aviation Administration (FAA) checklist that outlines the requirements for NCP documentation is included in this report just prior to Chapter 1. The associated supporting references in this document are identified within the footnotes and/or appendices.

This NCP Report presents the results of the City's study of airport-related noise exposure in the airport environs and potential measures to minimize land uses surrounding BAF that are not compatible with aircraft-related noise exposure as identified in the Noise Exposure Map (NEM). The most recent NEM was prepared and submitted to the FAA in 2019. While airport participation in Part 150 is voluntary, airport sponsors must have a current FAA-accepted NEM along with NCP measures approved by the FAA for the Airport to be eligible for potential federal funding from the Airport Improvement Program (AIP) to implement the FAA-approved NCP measures.

From a national historical perspective, the emphasis on land use compatibility planning in regard to aircraft noise began with the passage of the Airport Safety and Noise Abatement Act of 1979. In response to this Act, the FAA developed "Airport Noise and Compatibility Planning" as Part 150 under Title 14 of the Code of Federal Regulations. In 1982 Congress passed the Airport and Airway Improvement Act, which provided the FAA with the means to use federal funding for airport projects, including those dedicated to improving "non-compatible" land uses around an airport. In 1990, the passage of the Airport Noise and Capacity Act (ANCA), which mandated the phase out of the noisy Stage 2 jet aircraft over 75,000 pounds, and established requirements regarding airport noise and access restrictions for Stage 2 and 3 (quieter) aircraft. The FAA responded to this Act with Part 161 under Title 14 of the Code of Federal Regulations that greatly limits the airport's ability to restrict aircraft operations.

1.1 How to Use this Document

This NCP Report represents steps undertaken in accordance with requirements found in 14 CFR Part 150; and provides the City-recommended updates to the previous 2016 NCP for BAF. A checklist is provided beginning on page v, which enumerates specific FAA requirements and the location of text addressing those requirements in the document and its appendices.

This NCP Report is organized as follows:

- **Chapter 1** introduces BAF, the Part 150 Study process, the NCP phase of Part 150 and the stakeholders in the NCP process, and summarizes the FAA-accepted Noise Exposure Map submitted in 2019
- **Chapter 2** provides the City's recommended ***noise abatement measures***
- **Chapter 3** provides the City's recommended ***land use measures***
- **Chapter 4** provides the City's recommended ***program management measures***

- **Chapter 5** describes ***stakeholder engagement*** efforts undertaken during the NCP phase of the Part 150 process
- **The Appendices**, a separate volume to this document, provide technical information, supporting documentation, and public outreach meeting materials referenced in the NCP Report

Each individual measure contains the necessary information for compliance with 14 CFR 150.23(e)(8), namely: The period covered by the program, the schedule for implementation of the program, the persons responsible for implementation of each measure in the program, and, for each measure, documentation supporting the feasibility of implementation, including any essential governmental actions, costs, and anticipated sources of funding, that will demonstrate that the program is reasonably consistent with achieving the goals of airport noise compatibility planning under this part.

Part 150 sets forth standards for airport operators to use in documenting noise exposure in the airport environs and establishing programs, subject to FAA approval, to reduce noise-related non-compatible land use. While participation in the Part 150 program by an airport is voluntary, more than 250 airports have participated. Participation may provide eligibility for federal funds for implementation of FAA-approved NCP measures.

This chapter provides:

- A brief summary of the location and setting of BAF (Section 1.2)
- An introduction to Part 150 (Section 1.3)
- A summary of roles and responsibilities (Section 1.4)
- The FAA-accepted NEM (Section 1.7)

1.2 Project Location and Airport Setting

This section provides introductory information on BAF, including its historical context, its location and purpose, and a basic level of information on noise terminology to inform the reader for the remainder of the document.

1.2.1 Airport History

In 1923 citizens of Westfield set out to build an airport. The 27-acre (110,000 m2) plot was named Westfield Aviation Field and was dedicated on October 12, 1923. In 1939-40 the administration building, hangar, and the beacon light were built with grant money. On October 28, 1937, a 10-passenger tri-motor Stinson began weekly flights between Westfield and Newark, New Jersey. In the last 50 years the airport has expanded to 1,200 acres and added navigational aids. In 1974, the Air Traffic Control Tower opened. A construction project started in April 2020 to rebuild Runway 15–33.

1.2.2 Airport Location and Purpose

Westfield-Barnes Airport is in the City of Westfield, Hampden County, Massachusetts. Westfield is in the southwestern quadrant of the state, near the Connecticut border, and encompasses approximately 47 square miles. With a population of over 43,000, the City of Westfield is bordered by Southwick and Granville to the south, Russell and Montgomery to the west, Southampton and Holyoke to the north, and West Springfield and Agawam to the east. Hartford, Connecticut is approximately 40 miles away,

while Boston is slightly less than 100 miles from the airport. The airport is situated to the north of Interstate 90 and the central business district of the City of Westfield. The nearest airfield, Westover Air Reserve Base, is located approximately eight miles from BAF. **Figure 1** depicts the local setting of BAF.

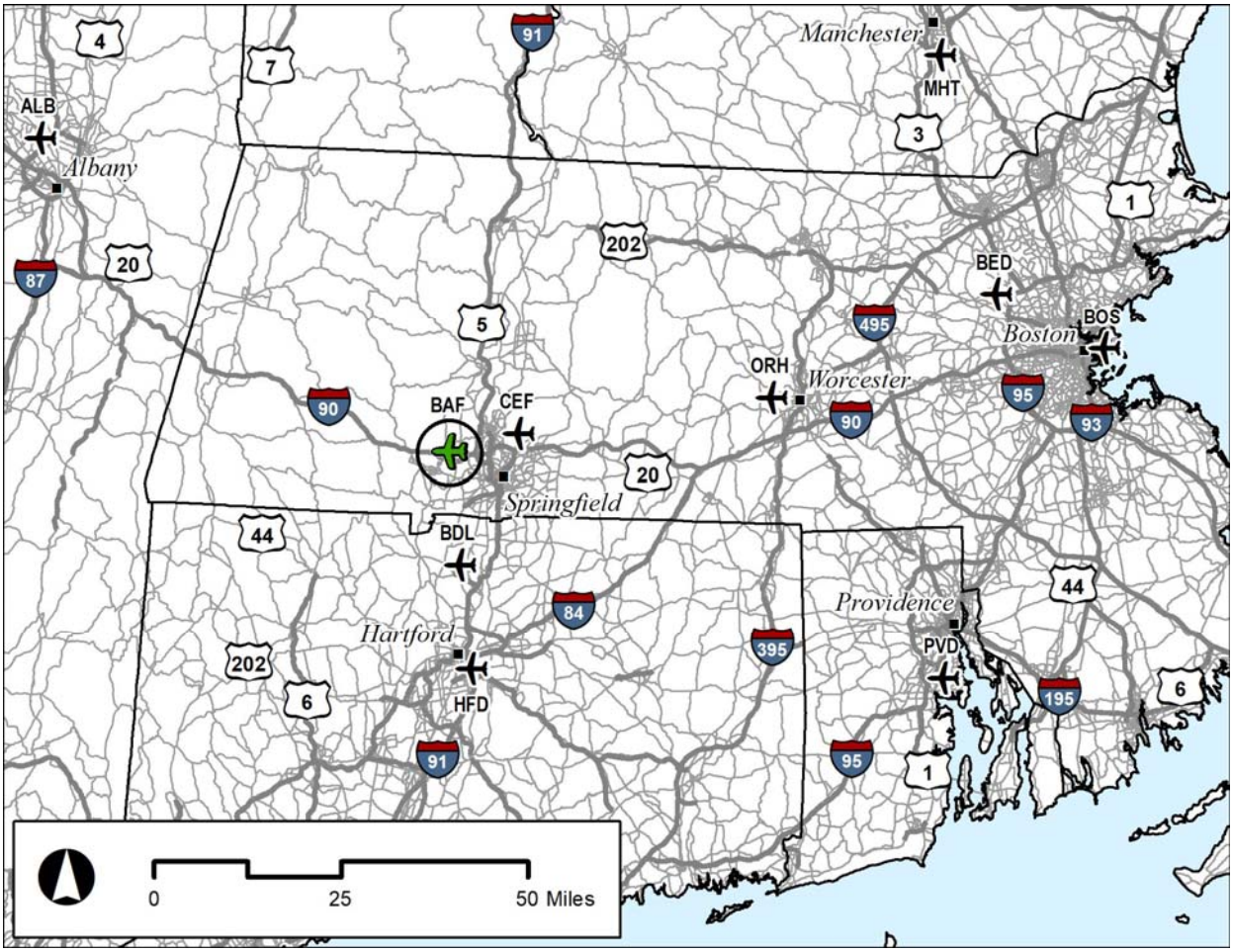


Figure 1: Setting of Westfield-Barnes Regional Airport
Source: https://www.weather-forecast.com/weather-stations/Westfield-Airport

The Airport covers 1,200 acres at an elevation of 270 feet above mean sea level. It has two paved runways, with a primary instrument runway and a secondary crosswind runway. The airport is located three miles from the central business district of Westfield along the Massachusetts Turnpike (Interstate 90). Airport Road bounds the airport to the north and west, and Massachusetts Route 10 (State Route 202) to the north and south. The airport's primary (public entrance) is via Airport Road and Apremont Way. The airport has one fixed-base operator, Atlantic Aviation, providing aircraft fueling, aircraft management, and aircraft maintenance. Gulfstream Aerospace Corporation is the airport's largest and most active tenant, providing certified Gulfstream aircraft maintenance. Military operations comprise a significant amount of airport activity and include the Massachusetts Air National Guard 104th Fighter Wing and the Army National Guard 226th Division Army Aviation Support Battalion. A considerable portion of the airport's general aviation traffic is related to corporate activity, recreational flying, and business charters. The airport also serves as an important gateway to area attractions and recreational venues.

1.3 Part 150 Overview

"Airport Noise Compatibility Planning" is codified in 14 CFR Part 150 or Part 150[1]. Part 150 sets forth standards for airport operators to use when documenting noise exposure around airports and for establishing programs, subject to FAA approval, to reduce noise-related non-compatible land use. Specifically, Part 150 prescribes standards and systems for the following:

- Measuring noise
- Estimating cumulative noise exposure
- Describing noise exposure (including instantaneous, single event and cumulative levels)
- Coordinating NCP development with local land use officials and other interested parties
- Documenting the analytical process and development of the compatibility program
- Submitting documentation to the FAA
- FAA and public review processes
- FAA approval or disapproval of the submission

A Part 150 Study includes two principal elements:

(1) A Noise Exposure Map (NEM)
(2) A Noise Compatibility Program (NCP)

Acceptance of an NEM by the FAA is a pre-requisite to their subsequent review of recommended NCP measures.

1.3.1 Noise Exposure Map

The NEM describes the airport layout and operation, aircraft-related noise exposure, land uses in the airport environs, and the resulting land use compatibility with BAF aircraft operations. Aircraft noise exposure is expressed in terms of the annual-average Day-Night Average Sound Level (DNL). DNL[2] represents noise as it occurs over a 24-hour period, with 10 dB added to noise events occurring at night (10 p.m. to 7 a.m.). A brief summary of noise terminology is provided in **Section 1.5**.

The NEM must address two periods; existing conditions for the year of submittal of the NEM to the FAA and forecast conditions at least five years following the year of submission. Contours of equal DNL values, similar to terrain contours of equal elevation, form the basis for evaluating the aircraft noise exposure, as well as land use compatibility, based on FAA designations (presented in the **Table 1**) for both the existing and forecast conditions.

[1] 14 CFR (FAR) Part 150, "Airport Noise Compatibility Planning".
https://www.ecfr.gov/current/title-14/chapter-I/subchapter-I/part-150#150.1

[2] For the regulatory definition of DNL see 14 CFR Part 150 §150.7 Definitions
https://www.ecfr.gov/current/title-14/chapter-I/subchapter-I/part-150#150.7

The City submitted the most recent NEM to the FAA in 2019. The FAA accepted the NEM in a letter dated July 22, 2019. The 2019 and 2024 FAA-accepted NEMs and respective land use compatibility summaries are provided in Section 1.7 for reference.

1.3.2 Noise Compatibility Program

This NCP Report provides a framework for evaluating aircraft noise exposure and the costs and benefits of the City-recommended measures aimed at improving land use compatibility. The NCP also addresses the results of the City's engagement with local planning authorities in the communities around BAF regarding potential policies and measures to manage existing and future non-compatible land uses. While the City maintains ultimate responsibility for the NCP, it is a culmination of efforts by local jurisdictions, agencies, other stakeholders, and the FAA.

The NCP development process focused on the following three strategies to improve land use compatibility[3]:

- Noise Abatement (NA) – noise reduction at the noise source
- Land Use (LU) – noise mitigation for the receivers
- Program Management (PM) – means to implement, monitor and/or report on NCP measures

This NCP Report describes all noise compatibility measures considered by the City, the effectiveness of the measures, the reasons that individual measures were or were not recommended for inclusion in this NCP by the City, implementation of the measures and funding required to implement. The City continued the precedent set in the 2019 NEM to provide ample opportunity for public and stakeholder input during the development of the NCP, including, but not limited to:

- Regular briefings to the Technical Advisory Committee (TAC) established at the outset of the project
- Consultation with agencies with land use jurisdiction and responsibility within the Study Area[4]
- Opportunities for public review and comment during NCP development
- Project-specific materials available on the City's Part 150 website
- Public workshop to present the Part 150 Study process and resulting NCP
- Public hearing, in conjunction with the public workshop, to gather public comments related to the City's recommended measures as described in the draft NCP

Chapter 5 details the stakeholder engagement process, including specific information regarding the City's strategies, opportunities for comment, and the documentation of these efforts.

Upon completion of the analyses and coordination, the City will submit the NCP Report to the FAA for review to determine it meets Part 150 requirements and approval of the individual City-recommended NCP measures. Upon receipt of the FAA's Record of Approval (ROA) for this NCP, the City may begin

[3] 14 CFR Part 150, Sec. B150.5(a).
[4] See Section 2.2 of the Westfield-Barnes Regional Airport Final Noise Exposure Map Report, located here: Noise Exposure Map | Westfield, MA - Official Website (cityofwestfield.org)

implementation of FAA-approved program measures and apply for federal grants to support implementation of AIP[5]-eligible FAA-approved NCP measures at BAF.

1.3.3 Airport Part 150 History

The City began participating in the FAA's voluntary Part 150 program in the late 1980's culminating in the first Noise Exposure Map being accepted by the FAA and the first Noise Compatibility Program measures getting FAA approval in 1990 for BAF. The City has continued to update the BAF Part 150 documents as shown in **Figure 2**.

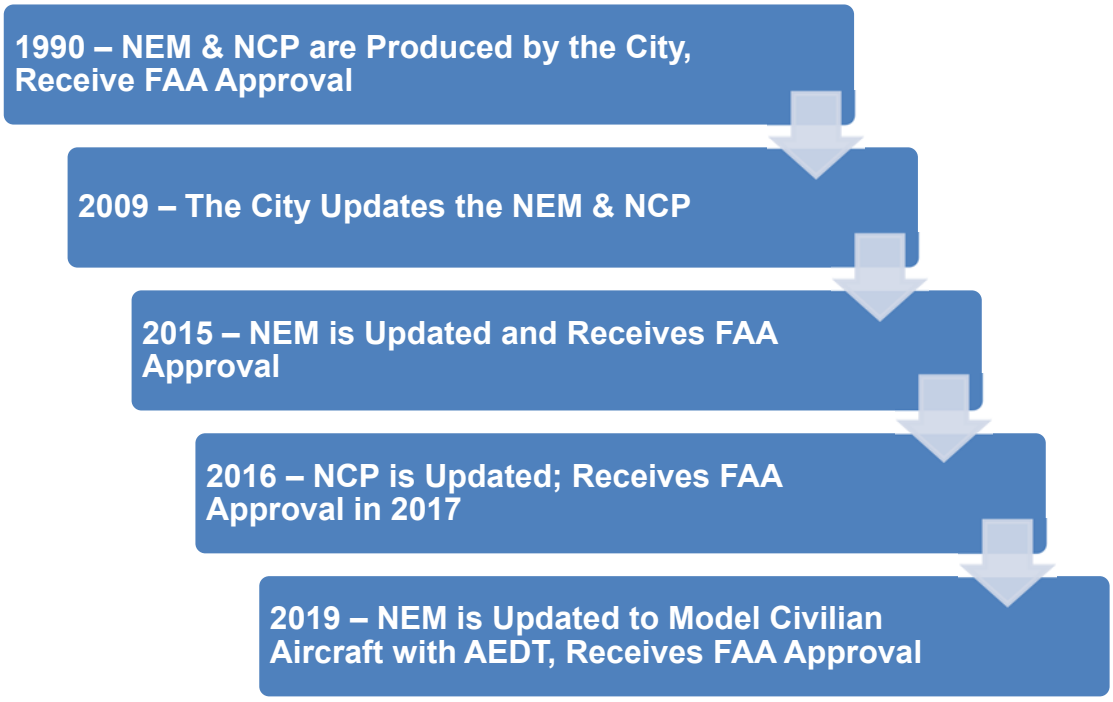


Figure 2: Westfield-Barnes Regional Airport Part 150 History
Source: The City, Jones Payne Group and HMMH, 2023

1.4 Roles and Responsibilities

Several groups are involved in the preparation of BAF's Part 150 Study. The three primary groups involved are the City, including its staff and consultant team; the BAF Part 150 Study Technical Advisory Committee (TAC) chartered to advise the City throughout the process; and the FAA.

[5] Airport Improvement Program Handbook, FAA Order 5100.38D, Change 1, dated February 26, 2019.

1.4.1 The City of Westfield

As the "airport operator", the City is responsible for initiating the implementation of FAA-approved measures and may apply for grant funding for AIP-eligible measures. A City-recommended and FAA-approved measure does not require the implementation of the measure, but merely demonstrates that the measure is in compliance with 14 CFR Part 150 and allows the City to apply for federal grants for measures that are AIP eligible. Additionally, if a measure requires subsequent FAA action, implementation may require environmental review under the National Environmental Policy Act of 1969 (NEPA).

The City has retained a team of consultants led by The Jones Payne Group (JPG) to assist with the technical tasks required to fulfill Part 150 analysis and documentation requirements. The Study Team, consisting of The Jones Payne Group (JPG) and Harris Miller Miller & Hanson Inc (HMMH), in close consultation with the City, has conducted the NCP review and analysis of potential NCP measures, and developed the NCP Report. The City alone is responsible for recommending the NCP measures provided in this document.

1.4.2 Part 150 Technical Advisory Committee

The City's establishment of the BAF Part 150 Technical Advisory Committee (TAC) ensures that a wide range of stakeholders are given official representation in the study process. The goal of the TAC is to create an atmosphere of understanding, awareness, and collaboration to derive solutions that potentially improve noise compatibility with BAF aircraft operations. Through an invitation from the City and a voluntary participation process, the TAC brings together representatives from a broad spectrum of entities with interest in the Part 150 process and its outcome. These entities include representatives of the local communities and jurisdictions in the airport's noise-affected environs; government agencies with aviation and land use responsibilities; and private sector interests, particularly in the aviation industry.

TAC members are responsible for representing their constituents throughout the study process, including commenting on the adequacy and accuracy of collected data, simplifying assumptions and technical analyses, and reporting to their constituents. The TAC also serves as a forum for stakeholders to discuss complex issues and share their differing perspectives on aircraft noise and land use compatibility issues. **Section 5.1** summarizes the TAC involvement during the development of the BAF NCP Report.

1.4.3 Federal Aviation Administration

The Federal Aviation Administration (FAA), as the regulator of 14 CFR Part 150, is responsible for the review and acceptance of the NCP Report to determine whether the technical work, consultation, and documentation comply with Part 150 requirements. In addition, the FAA is responsible for reviewing the details of technical documentation as well as broader issues of safety and consistency of recommended noise abatement measures with applicable federal law. The final role of the FAA is to approve or disapprove each City-recommended NCP measure – the main focus of this report. The FAA will evaluate recommended measures individually with respect to a criteria framework and determine whether each measure merits approval, disapproval, or further review for the purposes of Part 150. Following this determination, the FAA will issue the Record of Approval (ROA). According to Part 150, Appendix B §B150.5 Program standards, the following are requirements of the Noise Compatibility Program:

(a) Reduces existing non-compatible uses and prevents or reduces the probability of the establishment of additional non-compatible uses

(b) Does not impose undue burden on interstate and foreign commerce

(c) Provides for revision in accordance with [Part 150]

(d) Is not unjustly discriminatory

(e) Does not derogate safety or adversely affect the safe and efficient use of airspace

(f) To the extent practicable, meets both local needs and needs of the national air transportation system, considering trade-offs between economic benefits derived from the airport and the noise impact

(g) Can be implemented in a manner consistent with all of the powers and duties of the Administrator of FAA

FAA involvement includes participation by staff from at least three parts of the agency:

- The FAA's **Office of Environment and Energy** (at FAA headquarters) reviews complex technical, regulatory, and legal matters of national environmental policy significance.
- The **Air Traffic Organization** is responsible for providing safe and efficient air navigation services to the entire U.S. airspace. **BAF's Airport Traffic Control Tower** (ATCT) provides significant input to the NCP in several areas, including operational data, judgment regarding safety and capacity effects of alternative noise abatement measures, and implementation requirements. The **Yankee TRACON** (Terminal Radar Approach Control) also provides input on air traffic issues to the extent that they might affect operational procedures and airspace issues at BAF and other nearby airports, including the Bradford International Airport (BDL) in Hartford, Connecticut.
- Two groups in the FAA's **Airports Division** are involved in the review: (1) the **Office of Airport Planning and Programming** ensures that the national airport system is safe, efficient, and environmentally responsible and meets the needs of the traveling public; and (2) the FAA's **New England Region Office** is responsible for determining if the NCP satisfies all Part 150 requirements and has final review of the NCP Report for adequacy in satisfying technical and legal requirements.

1.5 Noise Terminology

Information presented in this NCP Report relies upon a reader's understanding of the characteristics of noise (unwanted sound), the effects noise has on persons and communities, and the metrics or descriptors most commonly used to quantify aircraft noise.

Sound is a physical phenomenon consisting of minute vibrations (waveforms) that travel through a medium such as air.

Noise is sound that is unwelcome because of its undesirable effects on persons (e.g., speech interference, sleep disturbance) or on entire communities (annoyance).

1.5.1 Aviation Noise Metrics

Noise metrics are essentially measures of noise levels or noise exposure. There are two main categories of metrics to describe noise: (1) noise events (single-event noise metrics) and (2) noise experienced over

durations (cumulative noise metrics). Single-event noise metrics are indicators of the intrusiveness, loudness, or noisiness of individual aircraft events. Cumulative noise metrics consider the frequency of noise events as well as the time of day in which they occur. Unless otherwise noted, all noise metrics presented in Part 150 documentation are reported in terms of the A-weighted decibel (dB). **Figure 3** displays common environmental sound levels in decibels (dB).

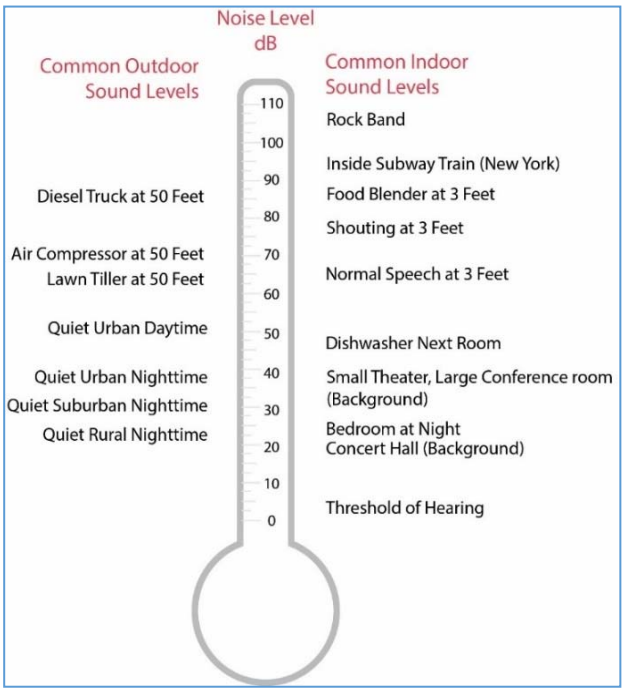


Figure 3: Common Outdoor and Indoor Sound Levels, in dB
Source: HMMH, 2023

The **Day-Night Average Sound Level (DNL)**[6] (also referred to as L_{dn}) represents a weighted average of the noise energy present during a 24-hour period. As shown in **Figure 4**, weighting is applied to noise events occurring at night (10:00 p.m. to 7:00 a.m.), with 10 dB added to the actual nighttime sound level. This 10 dB weighting accounts for greater sensitivity to nighttime noise, and the fact that events at night are often perceived to be more intrusive than daytime events.

For purposes of Part 150, DNL reported herein represents the annual-average day of aircraft operations at BAF. For more information regarding noise terminology and noise metrics, please see Appendix A of this document.

[6] For the regulatory definition of DNL see 14CFR Part 150 §150.7 Definitions.
https://www.ecfr.gov/current/title-14/chapter-I/subchapter-I/part-150

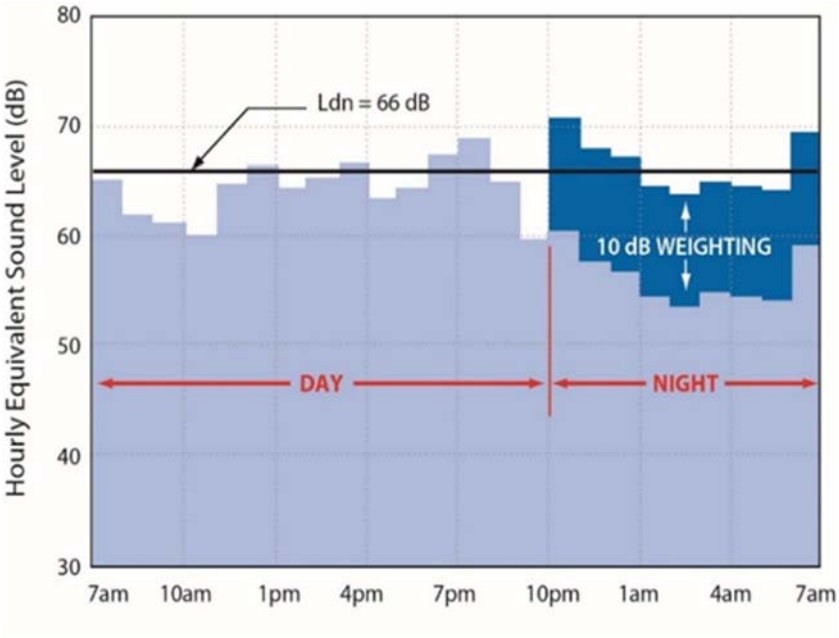


Figure 4: Example of a Day-Night Average Sound Level Calculation
Source: HMMH, 2023

1.6 Aircraft Noise and Land Use Compatibility

The objective of airport noise compatibility planning is to promote compatible land use in communities surrounding airports. Part 150 requires the review of existing land uses surrounding an airport to determine land use compatibility associated with aircraft activity at the airport.

The FAA has published land use compatibility designations, as set forth in 14 CFR Part 150, Appendix A, Table 1 (reproduced here as **Table 1**). As the table indicates, the FAA generally considers all land uses to be compatible with aircraft-related DNL below 65 dB, including hotels, retirement homes, intermediate care facilities, hospitals, nursing homes, schools, preschools, and libraries. These categories will be referenced throughout the Part 150 process.

The City established a study area during the 2019 NEM study and collected detailed land use information from municipalities throughout the study area. The collected land use and zoning information was summarized to match the Part 150 land use categories. The Noise Exposure Maps reproduced in **Section 1.7** from the 2019 BAF NEM include the results of the aircraft noise and land use analysis pursuant to FAA-provided land use compatibility designations.

Table 1: 14 CFR Part 150 Land Use Compatibility with Yearly Day-Night Average Sound Levels

Source: Part 150, Appendix A, Table 1

Land Use	Yearly Day-Night Average Sound Level, Ldn [DNL], in Decibels (Key and notes on following page)					
	<65	65-70	70-75	75-80	80-85	>85
Residential Use						
Residential other than mobile homes and transient lodgings	Y	N(1)	N(1)	N	N	N
Mobile home park	Y	N	N	N	N	N
Transient lodgings	Y	N(1)	N(1)	N(1)	N	N
Public Use						
Schools	Y	N(1)	N(1)	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Governmental services	Y	Y	25	30	N	N
Transportation	Y	Y	Y(2)	Y(3)	Y(4)	Y(4)
Parking	Y	Y	Y(2)	Y(3)	Y(4)	N
Commercial Use						
Offices, business and professional	Y	Y	25	30	N	N
Wholesale and retail--building materials, hardware and farm equipment	Y	Y	Y(2)	Y(3)	Y(4)	N
Retail trade—general	Y	Y	25	30	N	N
Utilities	Y	Y	Y(2)	Y(3)	Y(4)	N
Communication	Y	Y	25	30	N	N
Manufacturing and Production						
Manufacturing general	Y	Y	Y(2)	Y(3)	Y(4)	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y(6)	Y(7)	Y(8)	Y(8)	Y(8)
Livestock farming and breeding	Y	Y(6)	Y(7)	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
Recreational						
Outdoor sports arenas and spectator sports	Y	Y(5)	Y(5)	N	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts and camps	Y	Y	Y	N	N	N
Golf courses, riding stables, and water recreation	Y	Y	25	30	N	N

Key to Table 1

SLUCM: Standard Land Use Coding Manual.
Y(Yes): Land use and related structures compatible without restrictions.
N(No): Land use and related structures are not compatible and should be prohibited.
NLR: Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.
25, 30, or 35: Land use and related structures generally compatible; measures to achieve NLR of 25, 30, or 35 dBA must be incorporated into design and construction of structure.

Notes for Table 1

The designations contained in this table do not constitute a Federal determination that any use of land covered by the program is acceptable or unacceptable under Federal, State, or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.

(1) Where the community determines that residential or school uses must be allowed, measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dBA and 30 dBA should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20 dBA, thus, the reduction requirements are often stated as 5, 10, or 15 dBA over standard construction and normally assume mechanical ventilation and closed windows year-round. However, the use of NLR criteria will not eliminate outdoor noise problems.

(2) Measures to achieve NLR of 25 dBA must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.

(3) Measures to achieve NLR of 30 dBA must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.

(4) Measures to achieve NLR of 35 dBA must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.

(5) Land use compatible provided special sound reinforcement systems are installed.

(6) Residential buildings require an NLR of 25

(7) Residential buildings require an NLR of 30

(8) Residential buildings not permitted

1.7 FAA-Accepted 2019 and 2024 Noise Exposure Maps

This section provides a summary of the current FAA-accepted 2019 NEM. On July 22, 2019, the FAA accepted the most recent (2019) NEM update for BAF as summarized here for reference. The fundamental noise elements of NEM are DNL contours for existing and five-year forecast conditions (i.e., 2019 and 2024) for the current FAA-accepted NEM. **Table 2** shows population within the 2019 and 2024 reported DNL 5-dB contour intervals.[7] **Figure 5** presents the Noise Exposure Map for the existing conditions (2019). In consultation with the FAA the 2019 existing conditions contour is the basis of the benefit analyses conducted for the NCP measures evaluated as part of this project. The 2024 future condition contour does not reflect an anticipated change of aircraft for the Massachusetts Air National Guard 104th Fighter Wing. The Department of Air Force is currently conducting an Environmental Impact Study for a proposed bed down of the F35A fighter aircraft at the airport. The Record of Decision is expected to be completed in the summer 2024.[8][9]

The noise contours for this study were prepared using the FAA's computer model Aviation Environmental Design Tool (AEDT), which was used for the modelling of civilian aircraft, and the Department of Defense's computer model NoiseMAP was used for the modeling of military aircraft. Both models use airport-specific information (e.g., runway data); flight track information; aircraft operation levels distributed by time of day, aircraft fleet mix, and aircraft altitude profiles to develop noise exposure contours.

Table 2: Population within the 2019 and 2024 BAF NEM 65 DNL Contours

Source: 2019 BAF Noise Exposure Map Report

NEM Year	Estimated Population			
	65-70 dB DNL	70-75 dB DNL	>75 dB DNL	Total
2019	415	13	-	428
2024	415	13	-	428

[7] Day-Night Average Sound Level (DNL) noise contours represent lines of equal noise exposure as it occurs over a 24-hour period, with the assumption that noise events occurring at night (10 p.m. to 7 a.m.) are 10 dB louder than actual.

[8] Once the change of aircraft is approved, the Airport's NEM will be updated to reflect the anticipated operations.

[9] The Department of Air Force announced on April 18, 2023, the 104th Fighter Wing located at Westfield Barnes Regional Airport was the preferred location to receive the F-35A Lightning II which will replace the F-15C aircraft.

Figure 5: Existing Conditions (2019) Noise Exposure Map
Source: 2019 BAF Noise Exposure Map Report

2 Noise Compatibility Program – Noise Abatement Measures

Noise abatement measures are those that control noise at the source, which is the aircraft for this study. Such measures include aircraft flight procedures, airport layout, preferential runway use and arrival and departure procedures. The intention of noise abatement measures in the NCP is to reduce the number of people and noise-sensitive sites exposed to aircraft noise of 65 DNL and higher.[10]

The Part 150 process requires a complete review of existing and potential measures that may reduce the number of people exposed to 65 DNL and higher aircraft noise exposure. The review includes analysis of departure procedures and preferential runway use measures like those already in place at BAF. In addition, Part 150 requires the following types of noise abatement measures be assessed:

- Flight tracks
- Preferential runway use
- Arrival/departure procedures
- Airport layout modifications
- Use restrictions

Section 2.1 of this chapter identifies all existing noise abatement measures at BAF. **Section 2.2** describes each of the City-recommended noise abatement measures for inclusion in this NCP Update and includes summaries of noise benefit analyses where applicable. **Section 2.3** discusses the evaluated measures that the City is not recommending in this NCP.

The FAA's computer model AEDT, version 3e, and the Department of Defense's computer model NoiseMAP, version 7.3, were used for the modeling of potential NCP noise abatement measures and their potential benefits analyses. The AEDT is used for modeling civilian aircraft, while NoiseMAP is used for military aircraft. Both models use airport-specific information (e.g., runway data); flight track information; aircraft operation levels distributed by time of day, aircraft fleet mix, and aircraft altitude profiles to develop noise exposure contours. During an annual average 24-hour period, referred to as "annual average day" (AAD), the models account for each aircraft flight along flight tracks departing from, or arriving to, an airport. The flight tracks are coupled with information in the model's database relating to noise levels at varying distances and flight performance data for each type of aircraft. In general, the model computes and sums noise levels at grid locations at ground level around the airport. The cumulative values of noise exposure at each grid location are used to develop contours of equal noise exposure. Both the AEDT and NoiseMAP can also compute noise levels at user-defined points.

[10] 14 CFR Part 150, Appendix A, Table 1.

2.1 Existing Noise Abatement Measures

In the previous BAF NCP, completed in 2016, the City recommended four noise abatement measures. In the course of this NCP update, the TAC identified other existing noise abatement procedures at BAF; these are also each considered here as existing measures although they were not formally recommended (thus not approved by the FAA as part of the Part 150 process) in the 2016 BAF NCP. The numbering and names of the measures in this section are taken from the previous (2016) NCP documentation, where applicable; the measures are re-numbered later in this chapter and descriptions modified as needed to form the updated City-recommended measures for this NCP update.

2.1.1 NA1: Noise Abatement Departure Procedures for Runway 15 and 33

Visual Flight Rules (VFR) departures from Runway 15 are directed to maintain runway heading until crossing the East Mountain Ridgeline. Intersection takeoffs from Runway 33 are prohibited to maximize the altitude of aircraft as they overfly the Arbor Mobile Home Park, which is located along the extended runway centerline.

Implementation Status: ***Implemented***

The FAA did not approve this measure due to lack of evidence of benefit to non-compatible land uses exposed to 65 dB and higher DNL. The analysis completed as part of the review of these measures indicated that 80% of jet aircraft and 60% of non-jet aircraft maintain runway heading until crossing the East Mountain Ridgeline. The BAF Air Traffic Control Tower (ATC) representative on the TAC confirmed that intersection takeoffs are not allowed on Runway 33.

Recommendation: ***Continue with these procedures as written but separate into two distinct City-recommended NCP measures.***

2.1.2 NA2: Noise Abatement Departure Procedures for Runway 02 and 20

Departures from Runway 02 are directed to turn left to a 360-degree heading upon crossing the Airport boundary until clear of noise-sensitive facilities. Departures from Runway 20 are directed to maintain runway heading until 3 miles south of the Airport boundary.

Implementation Status: ***Not Implemented***

Analysis of civilian flight track data indicates that less than 5% of aircraft make that turn to 360-degrees after departing Runway 02 and that about one-third of civilian aircraft maintain runway heading after departing Runway 20. The 104th Fighter Wing of the Massachusetts Air National Guard (Barnes ANG) representative on the TAC indicated that the fighter aircraft could implement the prescribed Runway 02 noise abatement departure turn for routine (non-scramble) departures. The noise benefit analysis of implementing that procedure is presented in **Section 2.2.3**.

Recommendation: ***Implement Runway 02 departure procedure with minor implementation modifications from 2016 NCP. Do not continue with the Runway 20 departure procedure.***

2.1.3 NA3: Continue to Encourage the use of GPS, RNAV, WAAS and FMS Equipment to Enhance Noise Abatement Navigation

As a policy, the Airport encourages the creation and continued use of advanced navigation techniques such as Global Positioning System (GPS), Area Navigation (RNAV), Wide Area Augmentation System (WAAS) and Flight Management Systems (FMS). The collective use of RNAV, GPS, FMS, and WAAS allows the better utilization of noise abatement departure procedures as well as more accurate approaches, with the benefit of reducing noise exposure over noise-sensitive land uses around the Airport.

Implementation Status: ***Implemented***

The City has implemented this measure as a policy statement even though the FAA disapproved this measure due to lack of evidence of benefit to non-compatible land uses exposed to 65 dB and higher DNL.

Recommendation: ***Remove from the City-recommended NCP measures.***

2.1.4 Site Selection/Feasibility Study for a Noise Barrier south of Runway 02

Construction of a noise barrier on the south side of the Airport near the Runway 02 threshold was considered as it was included as a City-recommended measure in the 2009 BAF NCP (and approved for study by the FAA) but not included in the 2016 NCP. The idea was to provide relief to Airport neighbors from noise created by aircraft during on the ground operations, such as the use of reverse thrust upon arrival and the start-of-takeoff roll during initial departure.

Implementation Status: ***Not Implemented***

Several potential sites for such a barrier were evaluated previous to this NCP update but no site was deemed appropriate.

Recommendation: ***Do not include as a City-recommended NCP measure.***

2.1.5 Helicopter Noise Abatement Measures

As shown below in Figure 6, noise abatement measures for helicopter operations are currently in place at BAF though not implemented as City-recommended measures through the NCP process.

Westfield-Barnes Regional Airport

Rotary Wing Aircraft - Noise Abatement Procedures

Helicopter noise abatement procedures are in effect. Helicopter operations over residential areas below 1,300' MSL (1,000' AGL) should be avoided at all times unless directed by Air Traffic Control. Preferred helicopter pattern is RIGHT TRAFFIC to Runway 02. Helicopter traffic pattern altitude (military and civilian) 1,300 MSL (1,000' AGL).

Runway 02

Arrival

- Enter DOWNWIND leg 1,300' MSL (1,000' AGL) remain 2 miles east of airport runway intersection.
- Remain east of East Mountain ridgeline unless otherwise directed by Air Traffic Control.
- Turn RIGHT BASE leg 2 miles south of approach end Runway 02.
- Avoid residential areas.
- Maintain 1,300' MSL (1,000' AGL) until crossing approach end Runway 02.

Departure

- Fly runway heading.
- Expedite climb to 1,300' MSL (1,000' AGL) prior to turning CROSSWIND leg within 1/2 mile from departure end Runway 02.
- Remain south of Route 202 (east-west two-lane paved road) on airport boundary.

Runway 15-33

Arrival

- Helicopter traffic pattern must remain within 1/2 mile of airport runway intersection at all times unless otherwise directed by Air Traffic Control.
- Helicopter traffic pattern altitude 1,300' MSL (1,000' AGL)
- **No STRAIGHT IN ARRIVALS to RWY 33** unless otherwise directed by Air Traffic Control.

Departure

- **No STRAIGHT OUT DEPARTURE from Runway 15** unless otherwise directed by Air Traffic Control.
- Fly runway heading. Expedite climb to 1,300' MSL (1,000' AGL) prior to turning CROSSWIND leg within 1/2 mile of runway intersection.
- Remain west of East Mountain ridgeline at all times unless otherwise directed by Air Traffic Control.

Figure 6: Helicopter Noise Abatement Procedures

Source: Westfield Barnes Regional Airport, 2023

Implementation Status: ***Implemented***

Recommendation: ***Continue with these procedures as written and incorporate into the NCP.***

2.1.6 Air National Guard Noise Abatement Measures

As shown below in Figure 7, the Barnes ANG has implemented noise abatement procedures at BAF though through the NCP process.

8.27.4. (Added) Noise Abatement during daily flying operations. These procedures are established in the interest of community relations to reduce flight disturbances as much as practical and will be in accordance with the following:

8.27.4.1. (Added) Runway 02 is the preferred runway for takeoff at Barnes ANGB and will be used when the tailwind is 10kts or less on a dry runway (RCR = 23).

8.27.4.2. (Added) Takeoffs will normally be made at Military power. Max power (afterburner) takeoffs will be made when TOLD requires Max power.

8.27.4.3. (Added) Afterburner will be terminated prior to the end of the airfield border. Climb at 350kts in Mil power and accomplish a normal tech order climb.

8.27.4.4. (Added) Aircraft will climb straight ahead to 1,300' MSL prior to turnout of traffic.

8.27.4.5. (Added) Unrestricted climbs will only be accomplished with SOF approval and prior coordination with Westfield Tower.

AFI11-2F-15V3 BANG SUP 15 JUNE 2015 **16**

8.27.4.6. (Added) Noise abatement procedures do not apply for Radar Trail Departures.

Figure 7: Barnes ANG Noise Abatement Procedures

Source: 104th Fighter Wing F-15 Local Operating Procedures, dated 15 June 2015, excerpt from pages 15 and 16

Implementation Status: ***Implemented***

Recommendation: ***Continue with these procedures as written and incorporate into the NCP.***

2.2 Recommended Noise Abatement Measures

This section describes noise abatement measures recommended by the City; the potential benefits and implementation requirements (e.g., the party responsible for implementing a measure) for each measure, the estimated cost to implement, funding sources for the cost of implementation, and requirements to implement such measures (such as potential environmental review requirements). While many parties were involved in arriving at these recommendations, the recommendations are solely the City's and not those of the TAC, consultants, or other stakeholders.

Each recommended noise abatement measure in this NCP is a notional design that was developed to determine potential noise benefits. Any approved noise abatement measures may need to be developed in detail by the FAA and/or other stakeholders, such as the Barnes ANG. Precise implementation details, such as flight track locations and altitudes, developed by the FAA may differ from the notional noise abatement measure designs presented in this NCP, to adequately address safety, efficiency, and aircraft performance considerations. Detailed noise abatement measure designs may require environmental review under NEPA, which may yield different noise results than the results presented in this NCP. Contradictory results arising from subsequent environmental review efforts may be due to differences in approaches to noise abatement measure design or noise modeling methodology. Any NEM updates performed by the City in the future, in accordance with BAF Program Management Measure 4 (presented in **Section 4.2.4**), would reflect actual implementation of the NCP measures as of the date of those NEM updates.

The FAA-accepted existing condition 2019 Noise Exposure Map contours (as described in **Section 1.7** and shown in **Figure 5**) provide the baseline for the noise evaluations of noise abatement measures NA-3 and NA-5 below. Each measure compares the DNL contours, dwelling units and population counts to the baseline noise contours. Detailed descriptions and analysis results for those City-recommended measures are provided below. No noise modeling was required for noise abatement measures NA-1, NA-2, NA-4, or NA-6 through NA-10, which are recommended for continuation as currently implemented.

2.2.1 NA-1: Maintain Runway Heading to East Mountain Ridge after Departing Runway 15

The City recommends continuing with the existing noise abatement departure procedure from Runway 15, which directs aircraft on Visual Flight Rules (VFR) departures from Runway 15 to maintain runway heading until crossing the East Mountain Ridgeline.

Conclusions: *BAF Noise Abatement Measure NA-1: Maintain Runway Heading to East Mountain Ridge after Departing Runway 15* continues a policy that is already in place to avoid low overflights of noise-sensitive areas.

Table 3 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Noise Abatement Measure NA-1.

Table 3: Implementation Summary for BAF NCP Measure NA-1
Source: JPG, HMMH 2023

Implementation Item	Discussion
Benefits	This existing measure has been a successful part of the BAF noise abatement program meant to route aircraft over less noise-sensitive areas.
Rationale	The City is recommending the continuation of BAF Noise Abatement Measure NA-1 because it continues to be an effective noise abatement procedure by reducing the overflight of noise-sensitive land use.
Responsible Parties	Aircraft operators.
Estimated Costs	No federal funding will be requested for implementation.
Funding Sources	Not applicable.
Requirements	Existing measure-No requirements to implement.
Estimated Schedule	Not applicable as this measure is currently implemented.

2.2.2 NA-2: Prohibit the Use of Intersection Departures on Runway 33

The City recommends continuing with the existing noise abatement departure procedure from Runway 33, which prohibits intersection takeoffs to maximize the altitude of aircraft as they overfly the Arbor Mobile Home Park located along the extended runway centerline.

Conclusions: *BAF Noise Abatement Measure NA-2: Prohibit the Use of Intersection Departures on Runway 33* continues a policy that is already in place to avoid low overflights of noise-sensitive areas.

Table 4 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Noise Abatement Measure NA-2.

Table 4: Implementation Summary for BAF NCP Measure NA-2
Source: JPG, HMMH 2023

Implementation Item	Discussion
Benefits	This existing measure has been a successful part of the BAF noise abatement program meant to maximize the aircraft altitude when overflying noise-sensitive areas, specifically Arbor Mobile Home Park.
Rationale	The City is recommending the continuation of BAF Noise Abatement Measure NA-2 because it continues to be an effective noise abatement procedure by reducing aircraft noise at a noise-sensitive land use.
Responsible Parties	Air Traffic Control.
Estimated Costs	No federal funding will be requested for implementation.
Funding Sources	Not applicable.
Requirements	Existing measure-No requirements to implement.
Estimated Schedule	Not applicable as this measure is currently implemented.

2.2.3 NA-3: Turn to 360-degrees Heading after Departing Runway 02

The City recommends implementing the previously FAA-approved noise abatement departure procedure from Runway 02, which would have aircraft turn to a magnetic heading of 360 degrees (essentially north) upon crossing the Airport's northern boundary. Aircraft would remain on the 360-degree heading until clear of noise-sensitive facilities and then proceed to their destination waypoints.

In the TAC discussion of noise abatement measures, Col. Jacob, Commander of the Barnes ANG unit, indicated that military aircraft could adopt the 360-degree heading procedure for routine (non-scramble) flights. As shown in **Figure 8**, the noise abatement departure from Runway 02 turns left to a 360° heading immediately upon crossing airport's northern boundary around North Road (US Rt. 202) and then start their next turns around Valley Road. The blue tracks include the initial turn to 360 degrees, the black tracks show the existing flight paths.

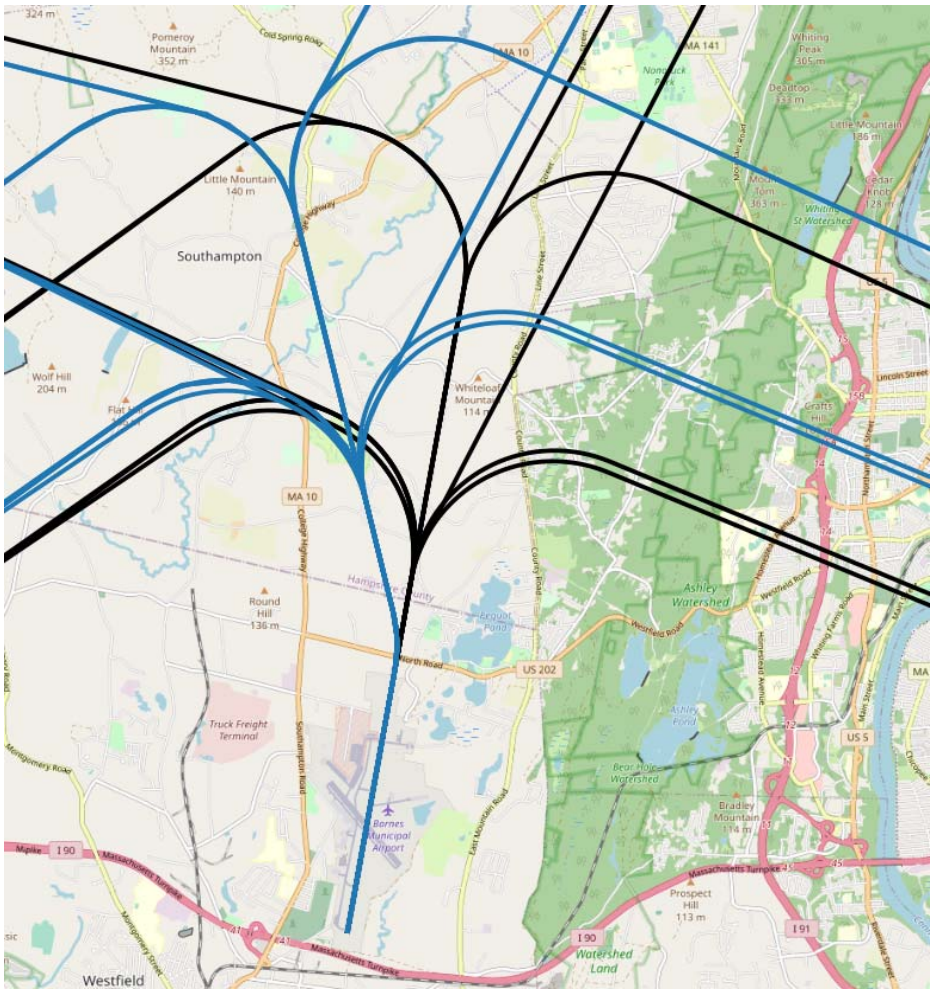


Figure 8: Modeled Flight Tracks for Runway 02 Departures
Source: 2019 Noise Exposure Map model inputs by Wyle Laboratories, and HMMH, 2023

Figure 9 shows the effect on the DNL contours with the proposed flight paths (turn to 360 degrees) to both civilian and military aircraft on the proposed procedure. The land use analysis determined 35 residential properties could potentially be removed from the 65 dB DNL contour with two residential properties being added for a potential net gain of 33 residential properties becoming compatible land uses.

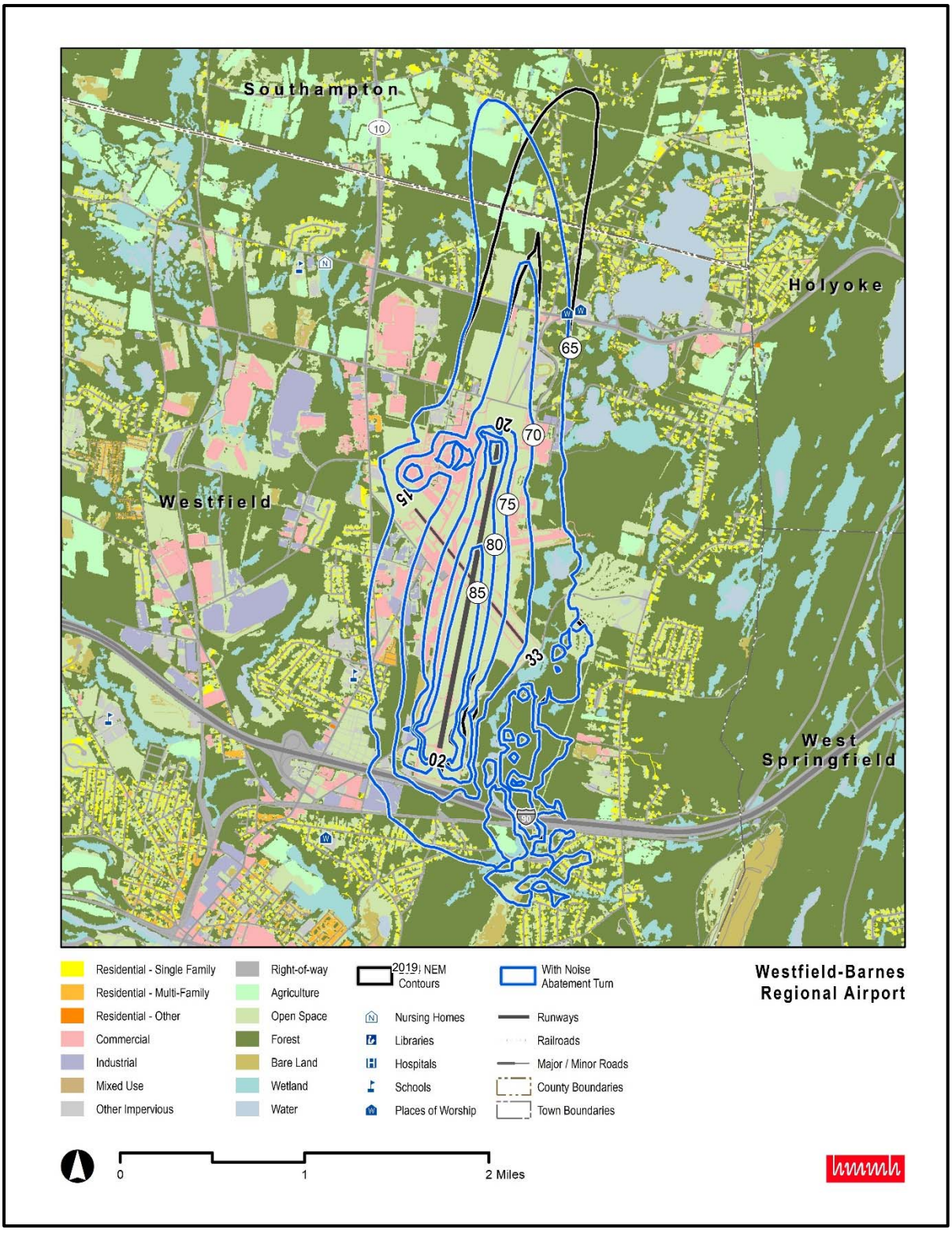


Figure 9: Noise Exposure Contours with and without the Turn to 360 Degrees after Departing Runway 02
Source:2019 Noise Exposure Map model inputs by Wyle Laboratories, and HMMH, 2023

Conclusions: *BAF Noise Abatement Measure NA-3: Turn to 360-degrees Heading after Departing Runway 02* would change the DNL contours north of the airport. The result would be moving the noise (not reducing the noise) to eliminate a net 33 non-compatible land uses. The turn to 360-degrees results in aircraft overflying more compatible land uses.

Table 5 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Noise Abatement Measure NA-3.

Table 5: Implementation Summary for BAF NCP Measure NA-3

Source: JPG, HMMH 2023

Implementation Item	Discussion
Benefits	If all aircraft used the proposed measure, net 33 non-compatible land uses (residential properties) would be removed from within the 65 dB DNL contour.
Rationale	The City is recommending to implement BAF Noise Abatement Measure NA-3 beginning with the Barnes ANG, and then potentially all aircraft, because it may reduce overflight of non-compatible land uses.
Responsible Parties	The FAA and BAF users.
Estimated Costs	All costs internal to the FAA to develop and implement flight procedure.
Funding Sources	All internal to the FAA.
Requirements	FAA approval of this measure.
Estimated Schedule	The City would ask the FAA to begin designing the procedure upon approval of the measure by entering the proposed procedure into the FAA's IFP Gateway. New procedures can take 18 months or longer to implement.

2.2.4 NA-4: Barnes ANG Preferential Runway Use Program

The City recommends formally accepting the Barnes ANG preferential runway use program as a measure of the BAF NCP. The Barnes ANG aircraft will depart Runway 02 as the preferred runway for departures when the tailwind is 10 knots or less on a dry runway.

Conclusions: *BAF Noise Abatement Measure NA-4: Barnes ANG Preferential Runway Use Program* continues a policy that is already in place, designed to avoid noise sensitive land uses.

Table 6 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Noise Abatement Measure NA-4.

Table 6: Implementation Summary for BAF NCP Measure NA-4

Source: JPG, HMMH 2023

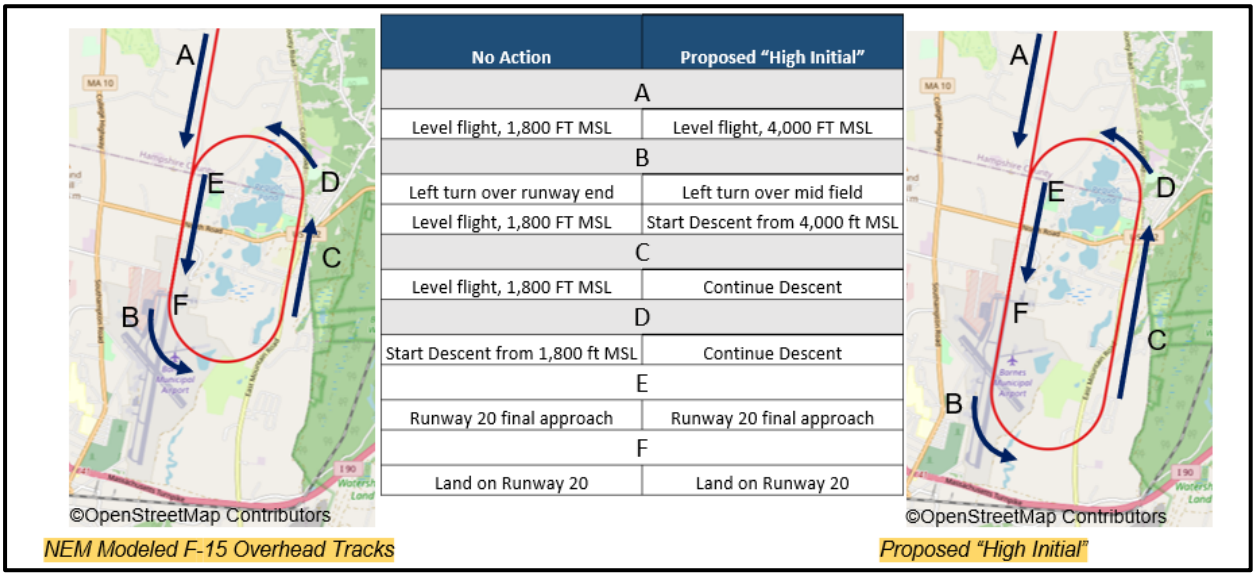
Implementation Item	Discussion
Benefits	This existing measure has been a successful part of the BAF noise abatement program by reduction of people and dwelling units exposed to 65 DNL and higher.
Rationale	The City is recommending the continuation of BAF Noise Abatement Measure NA-9 because it continues to be an effective noise abatement procedure by reducing the overflight of non-compatible land use.
Responsible Parties	The ANG.
Estimated Costs	Costs internal to the ANG. No federal funding will be requested for implementation.
Funding Sources	Not applicable.
Requirements	Existing measure-No requirements to implement.
Estimated Schedule	Not applicable as this measure is currently implemented.

2.2.5 NA-5: Barnes ANG Fighter Aircraft "High Initial" Approach Procedures

As suggested by the Barnes ANG, the City recommends fighter aircraft use a "high initial" approach procedure to arrive at BAF that increases the standard pattern overhead break landing altitude from 1,800 feet AGL (above ground (airfield) level) to 4,000 feet MSL (mean sea level).

In the TAC meeting, Col. Jacob suggested that a "high initial" overhead approach for F-15 arrivals could provide a noise benefit as compared to the standard pattern altitude in overhead break landing maneuvers. The current approach procedure has the aircraft maintaining an altitude of 1,800 ft. AGL over the runway on the initial arrival pass before circling the airfield to complete the landing. In the proposed alternative approach, aircraft would maintain an altitude of 4,000 ft. MSL over the runway and would turn the aircraft at mid-field. The aircraft would maintain a low power setting as it descends to the airport on final approach. This could reduce the noise by as much as 3 dB, on a single-event basis, which is generally noticeable to people on the ground.

To determine the potential noise/land use benefits of implementing this proposed procedure change, NoiseMAP was used to compare the existing and proposed procedures as shown in **Figure 10**. **Figure 11** shows the expected change in altitude based on the model inputs. The modeling results showed no change to the 65 dB DNL contour since the contour is dominated by the final stages of arrival into the Airport and initial stages of departures out of the Airport.



	No Action	Proposed "High Initial"
A		
	Level flight, 1,800 FT MSL	Level flight, 4,000 FT MSL
B		
	Left turn over runway end	Left turn over mid field
	Level flight, 1,800 FT MSL	Start Descent from 4,000 ft MSL
C		
	Level flight, 1,800 FT MSL	Continue Descent
D		
	Start Descent from 1,800 ft MSL	Continue Descent
E		
	Runway 20 final approach	Runway 20 final approach
F		
	Land on Runway 20	Land on Runway 20

Figure 10: Fighter Aircraft Overhead Break Modeled Arrival Flight Tracks
Sources: USAF 104th Operations Group and HMMH, 2023

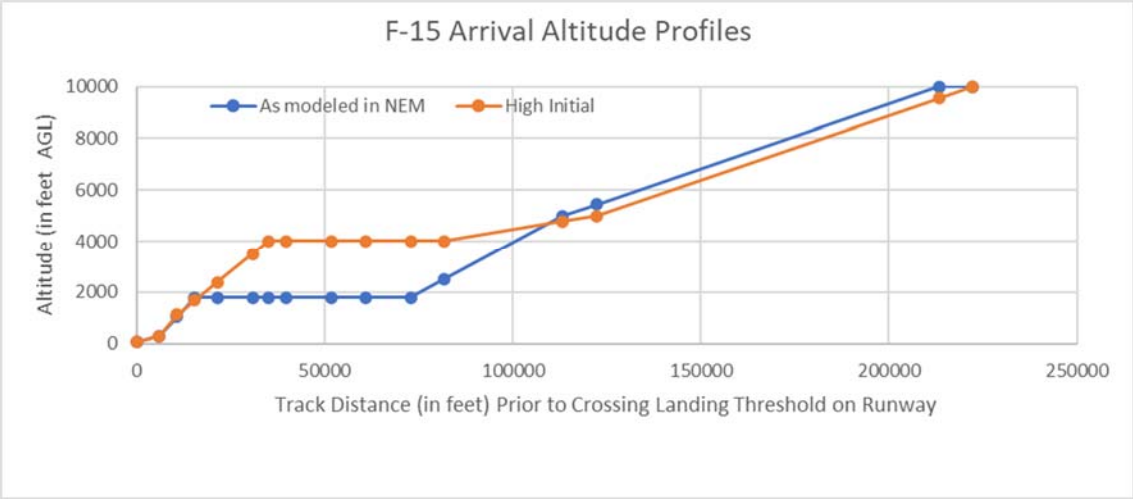


Figure 11: Fighter Aircraft Overhead Break Modeled Altitude Profiles
Sources: Noise Exposure Map model inputs by Wyle Laboratories, 2019, and HMMH, 2023

Conclusions: *BAF Noise Abatement Measure NA-5: Barnes ANG Fighter Aircraft "High Initial" Approach Procedures* would have aircraft over the runway at higher altitude, but at the same position on final approach. There is no discernible difference to DNL 65, but the procedure is likely to reduce the noise by a noticeable amount on a single-event basis.

Table 7 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Noise Abatement Measure NA-5.

Table 7: Implementation Summary for BAF NCP Measure NA-5
Source: JPG, HMMH 2023

Implementation Item	Discussion
Benefits	Up to a 3-dB reduction in single-event noise levels (under sections A through D of the procedure.
Rationale	The City is recommending BAF Noise Abatement Measure NA-4 because it could be an effective way to reduce noise on a single-event basis.
Responsible Parties	The ANG.
Estimated Costs	Costs internal to the ANG. No federal funding will be requested for implementation.
Funding Sources	Not applicable.
Requirements	ANG to test and implement the new arrival procedures in coordination with the local Air Traffic Control.
Estimated Schedule	The City will request the ANG begin to implement the new arrival procedures upon City submittal of the NCP to the FAA.

2.2.6 NA-6: Barnes ANG Noise Abatement Departure Procedures

The City recommends formally accepting the Barnes ANG noise abatement departure procedures as a measure of the BAF NCP. The Barnes ANG noise abatement departure procedures are described in the following directives:

- Takeoffs will normally be made at Military power. Max power (afterburner) takeoffs will be made when TOLD (Take Off and Landing Data) requires Max power.
- Afterburner will be terminated prior to the end of the airfield border. Climb at 350 knots in Military power and accomplish a normal tech order climb.

- Aircraft will climb straight ahead to 1,300’ MSL (mean sea level) prior to turnout of traffic.
- Unrestricted climbs will only be accomplished with safety of flight (SOF) approval and prior coordination with Airport Traffic Control Tower.

Conclusions: *BAF Noise Abatement Measure NA-6: Barnes ANG Noise Abatement Departure Procedures* continues a policy that is already in place, designed to provide noise reduction to noise-sensitive properties.

Table 8 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Noise Abatement Measure NA-6.

Table 8: Implementation Summary for BAF NCP Measure NA-6

Source: JPG, HMMH 2023

Implementation Item	Discussion
Benefits	This existing measure has been a successful part of the BAF noise abatement program by reduction of noise on departure.
Rationale	The City is recommending the continuation of BAF Noise Abatement Measure NA-6 because it continues to be an effective noise abatement procedure by reducing noise on departure.
Responsible Parties	The ANG.
Estimated Costs	Costs internal to the ANG. No federal funding will be requested for implementation.
Funding Sources	Not applicable.
Requirements	Existing measure-No requirements to implement.
Estimated Schedule	Not applicable as this measure is currently implemented.

2.2.7 NA-7: Helicopter Noise Abatement Approach Procedures to Runway 02

The city recommends that the existing helicopter noise abatement approach to Runway 02 continue as is and become a formal part of the airport’s NCP. The procedure is described in the following steps, with the key features of maintaining altitude of at least 1,300 feet MSL until crossing the approach end of the runway and avoiding overflight of residential areas.

- Enter downwind leg 1,300' MSL (1,000' AGL) remain 2 miles east of airport runway intersection.
- Remain east of East Mountain ridgeline unless otherwise directed by Airport Traffic Control.
- Turn right base leg 2 miles south of approach end Runway 02.
- Avoid residential areas.
- Maintain 1,300' MSL (1,000' AGL) until crossing approach end Runway 02.

Conclusions: *BAF Noise Abatement Measure NA-7: Helicopter Noise Abatement Approach Procedures to Runway 02* continues a policy that is already in place, designed to avoid low overflights of noise-sensitive areas.

Table 9 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Noise Abatement Measure NA-7.

Table 9: Implementation Summary for BAF NCP Measure NA-7

Source: JPG, HMMH 2023

Implementation Item	Discussion
Benefits	This existing measure has been a successful part of the BAF noise abatement program by avoiding noise-sensitive areas with helicopter operations.
Rationale	The City is recommending the continuation of BAF Noise Abatement Measure NA-5 because it continues to be an effective noise abatement procedure by reducing the overflight of noise-sensitive land uses.
Responsible Parties	Helicopter operators.
Estimated Costs	No federal funding will be requested for implementation.
Funding Sources	Not applicable.
Requirements	Existing measure-No requirements to implement.
Estimated Schedule	Not applicable as this measure is currently implemented.

2.2.8 NA-8: Helicopter Noise Abatement Departure Procedures from Runway 02

The city recommends that the existing helicopter noise abatement departure from Runway 2 continue as is and become a formal part of the airport's NCP. The procedure is described in the following steps, with the key features of reaching an altitude of at least 1,300 feet MSL as soon as possible and avoiding overflight of residential areas.

- Fly runway heading.
- Expedite climb to 1,300' MSL (1,000' AGL) prior to turning crosswind leg within 1/2 mile from departure end Runway 02.
- Remain south of Route 202 (east-west two-lane paved road) on airport boundary.

Conclusions: *BAF Noise Abatement Measure NA-8: Helicopter Noise Abatement Departure Procedures from Runway 02* continues a policy that is already in place, designed to avoid low overflights of noise-sensitive areas.

Table 10 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Noise Abatement Measure NA-8.

Table 10: Implementation Summary for BAF NCP Measure NA-8

Source: JPG, HMMH 2023

Implementation Item	Discussion
Benefits	This existing measure has been a successful part of the BAF noise abatement program by avoiding noise-sensitive areas with helicopter operations.
Rationale	The City is recommending the continuation of BAF Noise Abatement Measure NA-6 because it continues to be an effective noise abatement procedure by reducing the overflight of noise-sensitive land uses.
Responsible Parties	Helicopter operators.
Estimated Costs	No federal funding will be requested for implementation.
Funding Sources	Not applicable.
Requirements	Existing measure-No requirements to implement.
Estimated Schedule	Not applicable as this measure is currently implemented.

2.2.9 NA-9: Helicopter Noise Abatement Approach Procedures to Runways 15 and 33

The city recommends that the existing helicopter noise abatement approach to Runway 15-33 continue as is and become a formal part of the airport's NCP. The procedure is described in the following steps, with the key features of maintaining altitude of at least 1,300 feet MSL and avoiding overflight of residential areas.

- Helicopter traffic pattern must remain within 1/2 mile of airport runway intersection at all times unless otherwise directed by Airport Traffic Control.
- Helicopter traffic pattern altitude 1,300' MSL (1,000' AGL)
- No straight in arrivals to Runway 33 unless otherwise directed by Air Traffic Control.

Conclusions: *BAF Noise Abatement Measure NA-9: Helicopter Noise Abatement Approach Procedures to Runways 15 and 33* continues a policy that is already in place, designed to avoid low overflights of noise-sensitive areas.

Table 11 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Noise Abatement Measure NA-9.

Table 11: Implementation Summary for BAF NCP Measure NA-9

Source: JPG, HMMH 2023

Implementation Item	Discussion
Benefits	This existing measure has been a successful part of the BAF noise abatement program by avoiding noise-sensitive areas with helicopter operations.
Rationale	The City is recommending the continuation of BAF Noise Abatement Measure NA-7 because it continues to be an effective noise abatement procedure by reducing the overflight of noise-sensitive land uses.
Responsible Parties	Helicopter operators.
Estimated Costs	No federal funding will be requested for implementation.
Funding Sources	Not applicable.
Requirements	Existing measure-No requirements to implement.
Estimated Schedule	Not applicable as this measure is currently implemented.

2.2.10 NA-10: Helicopter Noise Abatement Departure Procedures to Runways 15 and 33

The city recommends that the existing helicopter noise abatement departure from Runway 15-33 continue as is and become a formal part of the airport's NCP. The procedure is described in the following steps, with the key features of reaching an altitude of at least 1,300 feet MSL as soon as possible and avoiding overflight of residential areas.

- No straight-out departure from Runway 15 unless otherwise directed by Air Traffic Control.
- Fly runway heading. Expedite climb to 1,300' MSL (1,000' AGL) prior to turning onto the crosswind leg within 1/2 mile of runway intersection.
- Remain west of East Mountain ridgeline at all times unless otherwise directed by Air Traffic Control.

Conclusions: *BAF Noise Abatement Measure NA-10: Helicopter Noise Abatement Departure Procedures to Runways 15 and 33* continues a policy that is already in place, designed to avoid low overflights of noise-sensitive areas.

Table 12 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Noise Abatement Measure NA-10.

Table 12: Implementation Summary for BAF NCP Measure NA-10

Source: JPG, HMMH 2023

Implementation Item	Discussion
Benefits	This existing measure has been a successful part of the BAF noise abatement program by avoiding noise-sensitive areas with helicopter operations.
Rationale	The City is recommending the continuation of BAF Noise Abatement Measure NA-7 because it continues to be an effective noise abatement procedure by reducing the overflight of noise-sensitive land uses.
Responsible Parties	Helicopter operators.
Estimated Costs	No federal funding will be requested for implementation.
Funding Sources	Not applicable.
Requirements	Existing measure-No requirements to implement.
Estimated Schedule	Not applicable as this measure is currently implemented.

2.3 Noise Abatement Measures Considered but Not Recommended

As required under 14 CFR Part 150, this section discusses the noise abatement measures the City considered but is not recommending for inclusion in the BAF Noise Compatibility Program. The only such measures are those currently in the existing BAF NCP that the City no longer wishes to continue, as reported in **Section 2.1**. These three measures are the following:

Maintain Runway Heading for Runway 20 Departures

Part of the current NCP measure NA2 includes departures from Runway 20 directed to maintain runway heading until 3 miles south of the Airport boundary.

Reason for not recommending in this NCP:

Based on TAC discussions, the City concluded that this procedure conflicts with other airspace in the area, particularly the flight procedures associated with Bradley International Airport to the south.

Continue to Encourage Aircraft Navigation Equipment

This measure was intended to encourage aircraft owners to install the required navigation equipment on their aircraft so they could fly the satellite-based aircraft procedures, such as Required Navigation Performance (RNP).

Reason for not recommending in this NCP:

Current NCP measure NA3 "Continue to Encourage the use of GPS, RNAV, WAAS and FMS Equipment to Enhance Noise Abatement Navigation" has been incorporated by policy. The City therefore no longer recommends including this as a measure in the BAF NCP.

Construct a Noise Barrier South of Runway 02

This measure considered the construction of a noise barrier on the south side of the Airport near the Runway 02 threshold as it was included as a City-recommended measure in the 2009 BAF NCP (and approved for study by the FAA) but not included in the 2016 NCP.

Reason for not recommending in this NCP:

Several potential sites for such a barrier were evaluated previous to this NCP update but no site was deemed appropriate. The City therefore no longer recommends considering noise barrier construction in the BAF NCP.

2.4 Summary of Recommended Noise Abatement Measures

Table 13 summarizes the full list of City-recommended noise abatement measures for the 2023 BAF NCP.

Table 13: Summary of Recommended Noise Abatement Measures

Source: JPG, HMMH 2023

NCP Measure No.		Noise Abatement Measure	Existing / New	Implementation Status
2023	2016			
NA-1	**NA1**	Maintain Runway Heading to East Mountain Ridge after Departing Runway 15	Existing	Implemented
NA-2	**NA1**	Prohibit the Use of Intersection Departures on Runway 33	Existing	Implemented
NA-3	**NA2**	Turn to 360-degrees Heading after Departing Runway 02	Existing	Not Implemented
NA-4	**N/A**	Barnes ANG Preferential Runway Use Program	Existing	Implemented
NA-5	**N/A**	**Barnes ANG Fighter Aircraft "High Initial" Approach Procedures**	**NEW**	**N/A**
NA-6	**N/A**	Barnes ANG Noise Abatement Departure Procedures	Existing	Implemented
NA-7	**N/A**	Helicopter Noise Abatement Approach Procedures to Runway 02	Existing	Implemented
NA-8	**N/A**	Helicopter Noise Abatement Departure Procedures from Runway 02	Existing	Implemented
NA-9	**N/A**	Helicopter Noise Abatement Approach Procedures to Runways 15 and 33	Existing	Implemented
NA-10	**N/A**	Helicopter Noise Abatement Departure Procedures to Runways 15 and 33	Existing	Implemented

3 Noise Compatibility Program – Land Use Measures

Land use management measures address aircraft noise in areas of high noise exposure that cannot be eliminated through the implementation of noise abatement measures as described in Chapter 2. Pursuant to the requirements of 14 CFR Part 150, this chapter evaluates corrective and preventive land use measures. Corrective land use measures, which are typically implemented by an airport operator, include land acquisition and sound insulation treatments of structures. In contrast, preventive measures prohibit the introduction of new non-compatible land uses and/or notifying potential buyers of properties affected by aircraft noise; such measures are typically implemented by the local planning and zoning jurisdictions.

The FAA and City have no regulatory authority to control land uses around airports and recognize that state and local governments are responsible for land use planning, zoning, and regulation. However, as a condition of receipt of FAA funding for airport development projects, an airport operator must provide the FAA with written assurances that "appropriate action, including the adoption of zoning laws, have been or will be taken, to the extent reasonable, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations including the landing and takeoff of aircraft . . ." In response to this FAA requirement, this NCP Report discusses preventive land use management measures in **Section 3.3** and **Section 3.4**.

Table 1 in Appendix A of 14 CFR Part 150 (presented in this NCP Report as **Table 1**) identifies categories of land use surrounding an airport that are acceptable within the 65, 70, and 75 DNL contours (compatible land uses). The table implies that virtually all land uses outside of the 65 DNL contour are compatible with aircraft noise.

Non-compatible land uses within the 2019 Existing Conditions NEM provided the basis for the cost and schedule estimates for implementation of each recommended land use measure. However, per FAA guidance, the NEM will be updated regularly to ensure the land use measures address current or forecast aircraft noise exposure. Eligibility to implement the land use measures will be dependent on the FAA-accepted NEM at the time of implementation.

3.1 Existing Land Use Measures

This section describes the existing land use measures as documented in the 2016 BAF NCP and identifies their current implementation status. The numbering and names of each measure in this section are taken from the previous NCP documentation; of these, some of the measures are re-numbered later in this chapter and descriptions modified as needed to form the updated City-recommended land use measures for the 2023 BAF NCP.

3.1.1 LU1: Voluntary Acquisition of Eligible Residential Structures

Homeowners of property within the 65 dB DNL contour of the current FAA-accepted BAF NEM are provided the opportunity to sell their residence to the City. The City would then convert the property to a compatible use and resell the property if it is no longer needed for noise purposes.

Implementation Status: ***Implemented***

The City has acquired 24 residential properties to date, with an additional 198 properties currently eligible for acquisition.

Recommendation: ***Continue with this measure as written.***

The City prefers to limit acquisition of properties going forward. The City's preference is to provide sound insulation to homeowners in an attempt to preserve neighborhood continuity and to retain the taxable property as residential.

3.1.2 LU2: Residential Sound Insulation Program

Voluntary sound insulation is provided for eligible residential structures between the 65 and 70 dB DNL contours.

Implementation Status: ***Implemented***

The City has sound-insulated 49 residential properties to date with an additional 198 properties potentially eligible, according to the current FAA-accepted 2019 Existing Condition NEM.

Recommendation: ***This measure is recommended to continue and will be combined with LU4 -Sound Insulate Places of Worship.***

Moving forward with the 2023 NCP, the City prefers this measure as the primary method of noise mitigation to preserve the neighborhoods.

3.1.3 LU3: Remedial Easement Acquisition

The City offers to purchase an avigation easement from a homeowner in lieu of other forms of noise mitigation options in the BAF NCP.

Implementation Status: ***Implemented***

The City has purchased six (6) avigation easements to date, with an additional 198 properties potentially eligible, according to the current FAA-accepted 2019 Existing Condition NEM.

Recommendation: ***Continue and combine with LU5 Preventive Easement Acquisition.***

Moving forward with the 2023 NCP, the City will assign this option with a low priority given the preference for sound insulation. An easement provides no improvement to noise levels from aircraft operations and future owners of the property do not benefit from the easement purchase.

3.1.4 LU4: Sound Insulate Places of Worship

Voluntary sound insulation is provided for eligible places of worship within the 65 dB DNL contour. One place of worship, the Word of Grace Church located to the north of BAF along North Road, is within the 65 DNL contour of the FAA-accepted NEM and is potentially eligible for sound insulation.

Implementation Status: ***Not Implemented***

The City implemented the sound insulation program with the priority of the funding going towards the residential properties within the 65 dB DNL contour. As a result, no places of worship have been sound insulated to date.

Recommendation: ***Continue measure and combine with LU4 -Sound Insulate Places of Worship.***

The City will continue with the preference of residential structures over places of worship for the BAF noise mitigation program.

3.1.5 LU5: Preventive Easement Acquisition

Voluntary acquisition of easements is provided for undeveloped land to prevent future non-compatible land use.

Implementation Status: ***Not Implemented***

The City did not implement this measure because funding was prioritized for other mitigation measures.

Recommendation: ***Continue with this measure as written.***

An analysis of the undeveloped land within the FAA-accepted NEM indicates 350 undeveloped acres. These land uses are categorized as open and agricultural land uses.

3.1.6 LU6: Modify Existing Zoning

The City of Westfield would evaluate undeveloped land with zoning classifications that are non-compatible with the airport noise. Additionally, the City may explore zoning requirements of a Rural Residential (RR) District in order to address the potential effect of aircraft overflights and noise.

Implementation Status: ***Not Implemented***

The Airport staff reviews all development applications for properties located within the noise contour boundaries and provides comment regarding the potential conflict regarding noise from aircraft operations. Due to lack of development in the area around the airport, there was not a need to prioritize this measure.

Recommendation: ***Continue with this measure as written.***

The City will conduct a review of the 350 acres of undeveloped land and determine whether any potential zoning modifications should be pursued.

3.1.7 LU7: Voluntary Acquisition of Undeveloped Land

The City of Westfield would undertake the acquisition of non-compatible undeveloped land to prevent future non-compatible development. The land could be rezoned to compatible land use and resold by the City.

Implementation Status: ***Not Implemented***

The City did not recommend this measure in the 2016 BAF NCP.

Recommendation: ***Include this measure as written.***

While not previously recommended in 2016 NCP due to cost, acquiring land adjacent to the Airport would allow for compatible aviation use of the property.

3.1.8 LU8: Airport Noise Overlay District

The City would develop and implement a comprehensive zoning overlay district known as the "Airport Noise Overlay District" (ANOD) as part of the City's zoning ordinance. The ANOD would be comprised of the 65 DNL contour and could include elements such as buffer zones between compatible and non-compatible areas, permitted uses and development, and noise level reduction requirements for new residential buildings and buildings for other noise-sensitive uses.

Implementation Status: ***Not Implemented***

The City did not implement this measure and does not currently view it as a feasible opportunity.

Recommendation: ***Do not continue with this measure.***

The City believes that implementing an ANOD is no longer desirable. The City follows Massachusetts state building codes regarding development within the city limits. Implementation of this measure would require the City to develop a new local building code. Additionally, other measures contained in this document address the non-compatible land uses within the 65 dB DNL noise contour.

3.1.9 LU9: Environmental Review

Airport staff will continue participating in the administrative review of proposed land use development within the 65 dB and higher DNL contours.

Implementation Status: ***Implemented***

The City has implemented an environmental review program. As part of the City's administrative review of development applications, the airport manager reviews each potential development application to determine whether there could be any new non-compatible land uses. The 65 dB DNL and higher contours are the basis for determining the area of administrative reviews.

Recommendation: ***Include this measure as written.***

3.1.10 LU10: Real Estate Disclosure

The City of Westfield would require real estate disclosures to prospective buyers of noise-sensitive parcels within the 65 DNL and higher contours, or other areas as agreed upon between the City of Westfield, State of Massachusetts, or other responsible entity and the Airport.

Implementation Status: ***Not Implemented***

The City has not implemented this measure due to the level of effort involved to try to change the real estate disclosure requirements and the unlikely passage of new legislation allowing for modified real estate disclosure rules in the areas surrounding BAF; the City follows Massachusetts state regulations regarding disclosures.

Recommendation: ***Continue this measure as voluntary.***

3.1.11 LU11: Modify Subdivision Regulations

The City would pursue the inclusion of noise disclosures, sound attenuation building standards, and/or avigation easements to prevent new non-compatible land use when a new subdivision is approved in proximity to the Airport.

Implementation Status: ***Not Implemented***

Similar to LU10, the City has not implemented this measure due to the level of effort involved in changing the building code requirements. However, should a new subdivision be proposed within the City limits, the City may decide to pursue this option to prevent a non-compatible land use.

Recommendation: ***Include this measure as written.***

3.1.12 LU12: Building Code Modifications

The City would work with the appropriate entities to modify building codes, such as requiring the inclusion of sound insulation materials, to prevent the introduction of new non-compatible land uses. These code modifications would apply to new construction or to major changes in existing structures.

Implementation Status: ***Not Implemented***

The City follows Massachusetts state building code with regard to development within the city limits. The City has not implemented this measure as other measures contained in this document address the non-compatible land uses within the 65 dB DNL noise contour.

Recommendation: ***Do not continue with this measure.***

The City does not recommend this measure due to the unlikelihood of obtaining a legislative change to state building codes.

3.1.13 LU13: Acquire the Arbor Mobile Home Park and Relocate the Residents

To relieve the mobile home park residents from aircraft noise, the City would acquire the mobile home park and relocate the residents. Since mobile homes cannot be adequately sound insulated, acquisition would be an option to mitigate the non-compatible land use.

Implementation Status: ***Not Implemented***

The City did not recommend implementation of this measure in the 2016 NCP. At the time, the landowner and mobile homeowners were not interested in selling or relocating.

Recommendation: ***Include this measure as written.***

The City remains interested in continuing to engage with the mobile home park owners and are prepared to acquire the property if and when the park ownership is interested in such a sale. The Arbor Mobile Home Park Association has recently expressed interest in determining whether acquisition is an appropriate and feasible option.

3.2 Recommended Land Use Measures

This section describes land use measures that are recommended as part of the 2023 BAF NCP. Corrective land use measures are applicable to off-airport land within the 65 DNL contour. Based on the experience of other airports and according to the FAA, the preventive land use measures discussed in this NCP Report can be effective in preventing the development of new non-compatible land uses. It is up to state and local governments to decide whether to pursue preventative land use management measures to reduce non-compatible land use that are consistent with the requirements of 14 CFR Part 150, Appendix A, Sec. 150.123.

The City acknowledges that it does not intend to pursue changes to zoning and building codes to prevent future non-compatible land uses. To the extent the town of Southampton would like to evaluate preventive land use measures sometime in the future, the City would make itself available to assist in any such evaluation.

3.2.1 LU-1: Sound Insulate Noise-Sensitive Structures

The City recommends sound insulation as its preferred corrective mitigation measure for non-compatible residential properties. Sound-insulated residences are considered compatible with aircraft noise. The other measures included in this NCP may be used if sound insulation is not feasible.

Types of dwelling units that could be sound-insulated include, but are not limited to, single-family units, multi-family units, and multi-use structures (such as those with retail on the ground floor and dwelling units above). Multi-use structures with a mix of noise-sensitive and non-noise-sensitive uses (such as an apartment over a store) are not eligible for sound insulation if the zoning of the parcel is compatible with aircraft noise, such as commercial, retail or industrial zoning. Non-residential noise-sensitive structures, according to current FAA land use compatibility designations, include public use facilities such as schools, places of worship, libraries, daycares, and transient lodging.

Sound insulation programs mitigate aircraft noise exposure by providing compatible noise environments inside structures. Sound insulation treatments may include window and door replacement, caulking, weather stripping, and positive air ventilation. The purpose of the positive air ventilation is to allow for replacement windows and doors to remain closed to provide the full benefit of the sound insulation treatment to residents. Positive ventilation systems use a fan to draw outside air into an indoor space,

pressurizing the space. Indoor air is exhausted out of the building through sound-insulated exterior openings.[11]

Sound insulation does not change the outdoor noise environment (e.g., backyards, patios, and courtyards). The goal of sound insulation under 14 CFR Part 150 is to provide an average interior noise level of 45 dB DNL or below and to provide at least a 5-dB improvement to the structure. Based on the experience of other airports' residential sound insulation programs, sound insulation is effective in reducing interior noise exposure and has a high level of satisfaction among recipients.

Noise attenuating windows and doors are most effective at reducing interior noise levels when they are closed. Keeping them closed can reduce interior air circulation, which in turn can increase moisture levels. To address such ventilation issues and allow for air circulation inside structures, installation of positive air ventilation systems is commonly included as part of sound insulation programs at airports. The FAA has determined that positive ventilation systems are an eligible mitigation option for both private dwelling units and non-residential noise-sensitive structures, provided that all other eligibility requirements in FAA's AIP Handbook[12] are met.

In sound insulation programs funded in part by FAA AIP grants, a noise-sensitive structure is only eligible for sound insulation if it meets all the criteria set forth in Appendix R of the AIP Handbook.[13] A noise-sensitive structure is not eligible for federally funded sound insulation just by virtue of its location inside the 65 dB DNL contour. Rather, to be eligible, the dwelling unit must meet, at a minimum, the following criteria:

(1) Located within the 65 dB DNL contour of an FAA-accepted NEM.

(2) Constructed before the first publication of FAA-accepted DNL contours.

(3) Adherence with the local building code.[14]

(4) An average noise level in eligible rooms at or above 45 dB DNL with windows closed.

The following noise-sensitive structures may be eligible for federally funded positive ventilation systems: (1) structures that qualify for sound insulation and do not have existing positive ventilation systems, and (2) structures that do not qualify for sound insulation and require positive ventilation so that exterior doors and windows can be kept closed to obtain the noise-level reduction required for compatibility.

Noise-sensitive structures that do not have positive ventilation systems and are determined to be eligible for federally funded positive ventilation systems would be divided into two groups:

[11] National Academies of Sciences, Engineering, and Medicine. 2013. Guidelines for Airport Sound Insulation Programs. Washington, DC: The National Academies Press. https://doi.org/10.17226/22519. Section 7.5.3.
[12] FAA Order 5100.38D, Change 1, Airport Improvement Program Handbook, dated February 26, 2019.
[13] Determination of eligibility would be made when the BAF Noise Compatibility Program has been approved, program protocols have been established, and the NCP implementation phase has been initiated.
[14] Areas within a structure that do not meet the local building codes are not "habitable" under FAA requirements and, therefore, are not eligible for AIP funding for sound insulation."

(1) Existing interior noise exposure of at least 45 dB DNL

(2) Existing interior noise exposure below 45 dB DNL, but only with having all exterior doors and windows closed

Mobile dwelling units are not eligible because FAA has determined that there are no effective sound insulation methods or materials for mobile homes.

According to 14 CFR Part 150, Appendix A, Sec. 101, a noise-sensitive land use is considered compatible and, therefore, not eligible for sound insulation funded by FAA AIP grants "if the self-generated noise from a given use and/or the ambient noise from other non-aircraft and non-airport uses is equal to or greater than the noise from aircraft and airport sources." Ambient noise exposure generally increases as intensity of development increases, ranging from rural to suburban to urban to dense urban environment. Areas in proximity to BAF generally fall within the rural to suburban classification.

In addition, pursuant to Appendix R, Section R-10 of the AIP Handbook, an airport sponsor may "consider the use of neighborhood equity when a few dwelling units in the eligible noise contour (pursuant to Paragraph R-6) that do not meet the interior noise level requirements are scattered among dwelling units that meet the interior noise level criteria." The FAA has the option, but is not obligated, to approve such requests for consideration of neighborhood equity. The dwelling units in consideration would have to meet all other eligibility requirements, such as having an average sound level above 45 dB DNL in habitable rooms and having been constructed prior to the publication of BAF's 1990 Noise Exposure Map.

The FAA also has discretion to fund sound insulation for noise-sensitive uses located in structures that contain a mix of residential and commercial uses (e.g., buildings with retail on the first floor and apartments in upper floors).[15]

For a noise-sensitive structure to be eligible for positive ventilation as part of a treatment package, it cannot have an existing positive ventilation system. A full list of eligibility requirements for positive ventilation is provided in Table R-6 and other relevant parts in Appendix R of the AIP Handbook.

In exchange for accepting sound insulation under BAF Land Use Measure 1, the City will require the property owner to provide an avigation easement. An avigation easement is a conveyance of airspace over another property for use by the airport. The property owner has restricted use of their property subject to the airport sponsor's easement for overflight and other applicable restrictions on the use and development of the parcel. Avigation easements run with the land (i.e., are attached to the property for so long as the easement is in effect). Therefore, an avigation easement binds future property owners and informs them of the property's exposure to aircraft noise while also restricting use of the parcel as described in the avigation easement. The specific language of the avigation easement will be developed by the City prior to implementation of the sound insulation program.

[15] 14 CFR Part 150, Appendix A, Table 1 (included in this NCP Report as Table 1) indicates that residential land uses are not compatible with aircraft noise exposure of 65 dB DNL or higher.

Positive ventilation is paid for by the FAA only on a discretionary basis. Positive ventilation will not automatically be provided to noise-sensitive structures. In addition, an avigation easement would be required to receive positive ventilation in cases that sound insulation treatments are not eligible.

The City would offer positive ventilation systems to the following categories of structures within the 65 dB DNL contour (subject to meeting all eligibility requirements): (1) structures that qualify for sound insulation and do not have existing positive ventilation systems, and (2) structures that do not qualify for sound insulation and require positive ventilation so that exterior doors and windows can be kept closed to obtain the noise-level reduction required for compatibility. These structures may be offered positive ventilation as a means of obtaining noise level reduction with doors and windows closed.

Additional factors evaluated for each site include:

- Existence of air conditioning/positive ventilation
- The existence of a significant number of windows (including stained glass windows)
- Overall condition of the structure (good, fair, or poor)

The ultimate pace of the sound insulation program is due to a combination of availability of City funds, FAA AIP grants, and State of Massachusetts Department of Transportation grants[16], the length of the construction season, potential limitation of construction materials and resources, and other factors. As a result of inflation, the costs per dwelling unit will increase over time. Therefore, total program costs may be higher than what is projected below. The City intends to fund 90 percent of eligible costs for residential sound insulation with FAA AIP grants, five percent with State of Massachusetts Department of Transportation grants and the remaining five percent with airport revenue.

According to the 2019 BAF NEM, there are 198 residential properties[17] and one (1) place of worship[18] potentially eligible for sound insulation treatments to become compatible with aircraft operations. The number of identified properties potentially eligible for sound insulation may change in the future with the periodic update of the BAF NEM, since the FAA-accepted NEM determines the potentially eligible properties.

Conclusions: *BAF Land Use Measure LU-1: Sound Insulate Noise-Sensitive Structures* provides property owners mitigation to adequately reduce the interior noise levels in noise-sensitive areas to be compatible with noise from aircraft operations.

[16] The City intends to fund the cost of this measure with FAA AIP grants (90%), State of Massachusetts Department of Transportation grants (5%) and Airport revenues (5%). Not all contingencies and soft costs may be eligible for AIP funding.
[17] The 2019 NEM identified 202 residential properties located in the 65 DNL and higher contours. Since FAA approval of the NEM, the City has acquired four of those parcels. There are currently 198 residential parcels remaining.
[18] Word of Grace Church at 848 North Road in the City of Westfield is identified in the 2019 BAF Existing Condition (2019) NEM.

Table 14 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Land Use Measure LU-1.

Table 14: Implementation Summary for BAF NCP Measure LU-1

Source: JPG, HMMH 2023

Implementation Item	Discussion
Benefits	Installation of sound insulation and positive ventilation treatments provides adequate noise reduction inside noise-sensitive structures for compatibility with indoor activities. Once treated, a property is considered compatible with aircraft noise.
Rationale	The City is recommending BAF Land Use Measure 1 because it could be an effective way to provide appropriate noise level reduction inside eligible noise-sensitive structures and provide land use compatibility.
Responsible Parties	The City.
Estimated Costs	There are 198 residential properties and one (1) place of worship currently within the 2019 65 and 70 dB DNL contours. There are three (3) homes located in the 70-75 DNL noise contour and 195 homes located in the 65 – 70 DNL noise contours. The estimated average cost to sound-insulate a single-family home is: • 65 – 70 DNL: $125,000 • 70 – 75 DNL: $175,000[19] The estimated cost to sound-insulate the residences is $23 million assuming 90% of potentially eligible property owners obtain treatments.
Funding Sources	The City and federal and state grants.
Requirements	FAA approval of this measure.
Estimated Schedule	The City plans to apply for a sound insulation grant in 2023, following FAA approval of the NCP. The estimate time to complete all currently potentially eligible noise-sensitive structures is 10 years.

3.2.2 LU-2: Acquire Non-Compatible Residential Property

The City recommends the potential acquisition of three residential properties within the 65 dB DNL and higher contours as a corrective mitigation measure to make the properties compatible. The program is voluntary, but any acquisitions must follow the provisions set forth in the Uniform Relocation Assistance and Real Property Acquisition Policies Act (49 CFR Part 24) (Uniform Act). There are currently 198 properties potentially eligible for acquisition. However, the City intends to first provide sound insulation as the preferred mitigation method, followed by easement acquisition, to maintain the neighborhoods.

Following the acquisition of property, a Land Use Inventory and Reuse Plan is conducted to determine how the land can be reused in a manner that would render the properties compatible with aircraft operations. A study is forthcoming to determine the appropriate use for the acquired properties depicted on the Airport's Exhibit A, Airport Property Inventory Map.

The City strongly prefers sound insulation over land acquisition because sound insulation allows for neighborhood continuity and the retainment of taxable property. Including voluntary land acquisition in the NCP would provide program flexibility and the possibility of block rounding in the previous

[19] Sound insulation costs were estimated using bid prices for the Tweed-New Haven Regional Airport (CT) and Burlington International Airport (VT) Sound Insulation Programs and are inclusive of the estimated professional services associated with implementing this program.

acquisition area of Holyoke Road and Dry Bridge Road. Following discussions with the TAC, it is recommended that future land acquisition be approved by the Airport Commission as the properties located at 31 Cara Lane, 800 North Road and 796 North Road become available for purchase. These properties are located within the 70 dB DNL contour of the 2019 Noise Exposure Map.

Conclusions: *BAF Land Use Measure LU-2: Acquire Non-Compatible Residential Property* could provide program flexibility and the possibility of block rounding in the previous acquisition area. In addition, the properties could potentially be reused in a manner that would render the properties compatible with aircraft operations.

Table 15 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Land Use Measure LU-2.

Table 15: Implementation Summary for BAF NCP Measure LU-2

Source: JPG, HMMH 2023

Implementation Item	Discussion
Benefits	Acquisition of residential properties within the 65 dB DNL and higher contours dB DNL contour would decrease non-compatible land use.
Rationale	The City is recommending BAF Land Use Measure 2 because it would reduce residential land use where sound insulation was declined by the homeowner.
Responsible Parties	The City.
Estimated Costs	The appraised value for the three properties in the current 70 DNL contour (31 Cara Lane, 800 North Road, and 796 North Road) in the City of Westfield are $296,100; $220,900; and $212,800 respectively. An estimated total cost to acquire these residential properties is $1,000,000. The cost to acquire these homes includes $730,000 for the acquisition of the properties, $100,000 for relocation and $150,000 for professional services associated with this program.
Funding Sources	The City and federal and state grants.
Requirements	FAA approval of this measure.
Estimated Schedule	The City plans to apply grants as the properties become available for acquisition. The estimate time to acquire all as they become available is within the 10 years of the sound insulation program.

3.2.3 LU-3: Acquire Avigation Easements

The City recommends the acquisition of avigation easements from the owners of residential properties within the 65 dB DNL and higher contours as a corrective mitigation measure. Acquiring avigation easements from the owners of undeveloped land is a preventive measure against future incompatible land use, such as the development of new residential structures within the 65 dB DNL and higher contours. An avigation easement grants airspace rights to the City. If/when a property with an easement is sold, the easement is maintained on the property deed and would be applicable to any future owners. While it is preferred that an easement be combined with other forms of noise mitigation, it can be effective in eliminating non-compatible land uses if a homeowner declines other forms of program participation. There are 198 non-compatible residential properties within the current 65 dB DNL and higher contours. Given the City's preference for sound insulation, it is anticipated that the number of avigation easements acquired (that are not associated with soundproofing) will be low.

Conclusions: *BAF Land Use Measure LU-3: Acquire Avigation Easements* can be effective in eliminating non-compatible land uses whether with undeveloped land or if a homeowner declines other forms of program participation.

Table 16 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Land Use Measure LU-3.

Table 16: Implementation Summary for BAF NCP Measure LU-3

Source: JPG, HMMH 2023

Implementation Item	Discussion
Benefits	As a measure of last resort, acquisition of avigation easements can provide for land use compatibility and at a lower cost than other more beneficial mitigation measures.
Rationale	The City is recommending BAF Land Use Measure 3 because it may result in all land uses around BAF becoming compatible with noise from aircraft operations.
Responsible Parties	The City.
Estimated Costs	The estimated average appraised value for avigation easements in the City of Westfield are $5,000. An estimated total cost at today's dollars to acquire avigation easements as a last resort of noise mitigation is $60,000 assuming few (two estimated) undeveloped landowners and only 10% of homeowners decline other forms of mitigation and accepts the avigation easement.
Funding Sources	The City and federal and state grants.
Requirements	FAA approval of this measure.
Estimated Schedule	The City plans to apply for federal grants near the end of the 10 years of the sound insulation program.

3.2.4 LU-4: Modify Local Land Use Zoning

The City recommends exploring the potential modification of zoning requirements for Rural Residential (RR) District to address land use incompatibility resulting from the noise of aircraft operations. Under this measure, the City would evaluate undeveloped land with zoning classifications that are non-compatible with aircraft noise and propose compatible zoning.

Conclusions: *BAF Land Use Measure LU-4: Modify Local Land Use Zoning* may encourage compatible land use with noise from aircraft operations.

Table 17 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Land Use Measure LU-4.

Table 17: Implementation Summary for BAF NCP Measure LU-4

Source: JPG, HMMH 2023

Implementation Item	Discussion
Benefits	Modifying land use zoning would encourage compatible land uses in the Airport area.
Rationale	The City is recommending BAF Land Use Measure 4 because it may provide a long-term, cost-effective way to prevent future non-compatible land uses.
Responsible Parties	The City.
Estimated Costs	No hard costs estimated for this measure. The primary costs would come from City time and effort to pursue the zoning modifications with the local jurisdictions.
Funding Sources	The City.
Requirements	FAA approval of this measure.
Estimated Schedule	The City will begin to explore possible zoning changes upon FAA approval.

3.2.5 LU-5: Modify Local Subdivision Regulations

The City recommends this measure as a means to pursue the inclusion of noise disclosures and/or avigation easements to prevent new non-compatible land use when a new subdivision is approved in proximity to the Airport.

A noise disclosure would ensure that prospective buyers are aware of BAF airport operations and identify the estimated noise exposure level at that property. As previously discussed, an avigation easement renders a property compatible with airport operations.

Conclusions: *BAF Land Use Measure LU-5: Modify Local Subdivision Regulations* may encourage compatible land use with noise from aircraft operations.

Table 18 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Land Use Measure LU-5.

Table 18: Implementation Summary for BAF NCP Measure LU-5

Source: JPG, HMMH 2023

Implementation Item	Discussion
Benefits	Modifying subdivision regulations would increase awareness of airport operations and potentially provide for adequate noise exposure within the home.
Rationale	The City is recommending BAF Land Use Measure 5 because it may prevent future non-compatible land use, and at minimum could increase public awareness.
Responsible Parties	The City.
Estimated Costs	No hard costs estimated for this measure. The primary costs would come from City time and effort to pursue the zoning modifications with the local jurisdictions.
Funding Sources	The City.
Requirements	FAA approval of this measure.
Estimated Schedule	The City will begin to explore possible subdivision regulation changes upon FAA approval.

3.2.6 LU-6: Review Proposed Land Use Development within the 65 dB DNL Contour and Higher Contours

The City recommends that Airport staff participate in the administrative review of proposed land use development within the 65 dB and higher DNL contours to ensure that future land use is compatible with aircraft noise. While this measure is only advisory in nature, at a minimum it allows Airport staff to be aware of potential non-compatible land use and propose alternatives.

Conclusions: *BAF Land Use Measure LU-6: Review Proposed Land Use Development within the 65+ dB DNL Contours* may encourage compatible land use with noise from aircraft operations.

Table 19 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Land Use Measure LU-6.

Table 19: Implementation Summary for BAF NCP Measure LU-6

Source: JPG, HMMH 2023

Implementation Item	Discussion
Benefits	Reviewing proposed land use development may encourage compatible land use and increase awareness of airport and associated aircraft operations.
Rationale	The City is recommending BAF Land Use Measure 6 because it may prevent future non-compatible land use, and at minimum could increase local awareness.
Responsible Parties	The City.
Estimated Costs	No hard costs estimated for this measure. The primary costs would come from City time and effort to review proposals.
Funding Sources	The City.
Requirements	FAA approval of this measure.
Estimated Schedule	The City will continue to review proposed land development upon FAA approval.

3.2.7 LU-7: Voluntary Acquisition of Undeveloped Land

The City recommends the potential acquisition of undeveloped land within the 65 dB DNL and higher contours, to prevent future non-compatible development in areas where the land could be rezoned and utilized for a compatible aviation use.

The City would pursue this option if it appears a parcel of undeveloped land may be developed for non-compatible purposes.

Conclusions: *BAF Land Use Measure LU-7: Voluntary Acquisition of Undeveloped Land* may prevent the development of non-compatible land uses within the 65 dB DNL and higher contours.

Table 20 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Land Use Measure LU-7.

Table 20: Implementation Summary for BAF NCP Measure LU-7
Source: JPG, HMMH 2023

Implementation Item	Discussion
Benefits	This will prevent the development of non-compatible land uses (i.e., residential) on parcels that are located outside the City of Westfield's zoning authority.
Rationale	The City is recommending BAF Land Use Measure 7 because it may help prevent future non-compatible land use.
Responsible Parties	The City.
Estimated Costs	No hard costs estimated for this measure. Costs will be identified should this situation occur in the future.
Funding Sources	The City and federal and state grants.
Requirements	FAA approval of this measure.
Estimated Schedule	The City will monitor the real estate market for the sale of undeveloped land upon FAA approval of this measure.

3.2.8 LU-8: Voluntary Real Estate Disclosures

The City recommends pursuing a policy of providing real estate disclosures to prospective buyers of noise-sensitive properties within the 65 dB DNL and higher contours, or within other area boundaries as agreed upon between the City of Westfield, the State of Massachusetts, or another responsible entity and the Airport.

Understanding that it may be difficult to legally require real estate disclosures, the City would pursue a voluntary disclosure program by meeting with the local real estate brokers and salespersons, and discussing the NCP and general land use compatibility concerns in the Airport area.

Conclusions: *BAF Land Use Measure LU-8: Voluntary Real Estate Disclosures* may increase awareness of the noise from aircraft operations to prospective buyers of noise-sensitive properties.

Table 20 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Land Use Measure LU-8.

Table 20: Implementation Summary for BAF NCP Measure LU-8
Source: JPG, HMMH 2023

Implementation Item	Discussion
Benefits	Requiring real estate disclosures may increase awareness of the noise from aircraft operations to prospective buyers of noise-sensitive properties.
Rationale	The City is recommending BAF Land Use Measure 8 because it may increase awareness of the noise from aircraft operations to prospective buyers of noise-sensitive properties; and encourage compatible land use.
Responsible Parties	The City.
Estimated Costs	No hard costs estimated for this measure. The primary costs would come from City time and effort to pursue the disclosures.
Funding Sources	The City.
Requirements	FAA approval of this measure.
Estimated Schedule	The City will begin to explore voluntary disclosures upon FAA approval.

3.2.9 LU-9: Acquire the Arbor Mobile Home Park

The City recommends acquiring the Arbor Mobile Home Park located at 68 Klondike Ave and relocating the residents of the 60 mobile homes to relieve the residents from aircraft noise[20]. Mobile homes cannot be adequately sound insulated, so those homes are not eligible for inclusion under LU-1.

Conclusions: *BAF Land Use Measure LU-9: Acquire the Arbor Mobile Home Park* would eliminate a non-compatible land use where sound insulation treatments cannot be applied to such structures.

Table 21 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Land Use Measure LU-9.

Table 21: Implementation Summary for BAF NCP Measure LU-9

Source: JPG, HMMH 2023

Implementation Item	Discussion
Benefits	Acquiring the Park and relocating the residents followed by completing a subsequent land reuse study, the land would become compatible with aircraft operations.
Rationale	The City is recommending BAF Land Use Measure 9 because the mobile homes cannot be sound insulation, acquisition provides the best avenue to mitigate noise exposure.
Responsible Parties	The City.
Estimated Costs	The estimated cost of $3.6 million[21] includes the acquisition of the property based on current appraised value, the estimated cost of a land reuse study, and the disposal of the land making it compatible.
Funding Sources	The City and federal and state grants.
Requirements	FAA approval of this measure.
Estimated Schedule	The City will discuss the possibility of acquisition with the Park upon FAA approval.

[20] The acquisition of the mobile home park and the relocation of the residents will be in accordance with FAA Advisory Circular 150/5100-17 Land Acquisition and Relocation Assistance for Airport Improvement Program Assisted Projects and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (the "Uniform Act") and implementation of Department of Transportation regulations.

[21] The estimate cost to acquire the mobile home park is based upon the acquisition of the park valued at $1,733,000 based on the 2019 sale date and the relocation of the residents at $31,000 per mobile home ($1,860,000).

3.3 Land Use Measures Considered but not Recommended

As required under 14 CFR Part 150, this section discusses the land use measures the City considered but is not recommending for inclusion in the BAF Noise Compatibility Program. Those two measures are the following:

Sales Assistance Program

The objective of a Sales Assistance Program is to provide eligible property owners who wish to relocate outside the noise impact area with technical and financial assistance in the sale of their home on the open market. The Airport sponsor does not acquire the property and would be responsible for closing costs. The property owner is not eligible for relocation benefits. There would not be any change to the underlying land use zoning.

Reason for not recommending in this NCP:

The City does not recommend the Sales Assistance Program for approval due to high cost, risk, long program timeline, and anticipated low participation. The City may reconsider this measure during a future update of the NCP.

Purchase Assurance Program

The objective of a purchase assurance program is to provide property owners who wish to relocate outside the noise impact area with the option to sell their property directly to the Airport sponsor in exchange for an avigation easement. Homeowners would not be eligible for relocation benefits. After the Airport resells the property, funds received from the sale of the property must be reinvested in the noise mitigation program. There would be no change to the underlying land use.

Reason for not recommending in this NCP:

The City does not recommend the Purchase Assurance Program for approval due to high cost, risk, long program timeline, and anticipated low participation. The City may reconsider this measure during a future update of the NCP.

3.4 Summary of Recommended Land Use Measures

Table 22 summarizes the full list of City-recommended land use measures for the 2023 BAF NCP.

Table 22: Summary of Recommended Land Use Measures

Source: JPG, HMMH 2023

NCP Measure No.		Land Use Measure	Existing / New	Implementation Status
2023	2016			
LU-1	**LU2,4**	Sound Insulate Noise-Sensitive Structures	Existing	Partially Implemented Measure
LU-2	**LU1**	Acquire Non-Compatible Residential Property	Existing	Partially Implemented Measure
LU-3	**LU3,5**	Acquire Avigation Easements	Existing	Partially Implemented Measure
LU-4	**LU6**	Modify Local Land Use Zoning	Existing	Not Implemented
LU-5	**LU11**	Modify Local Subdivision Regulations	Existing	Not Implemented
LU-6	**LU9**	Review Proposed Land Use Development w/in the 65 dB and higher contours	Existing	Implemented
LU-7	**LU7**	Voluntary Acquisition of Undeveloped Land	Existing	Not Implemented
LU-8	**LU10**	Voluntary Real Estate Disclosures	Existing	Not Implemented
LU-9	**LU13**	Acquire the Arbor Mobile Home Park	Existing	Not Implemented

4 Noise Compatibility Program - Program Management Measures

Program management measures enable the City to monitor the implementation and compliance of the recommended noise abatement and land use management measures in Chapters 2 and 3 of this NCP Report, as well as enhance stakeholders' understanding of aircraft noise. Program management measures are critical to the success of the NCP.

4.1 Existing Program Management Measures

The City has been proactive in establishing program management measures to address aircraft noise concerns. The City currently has four program management measures in place to monitor aircraft noise exposure and engage local communities in understanding aircraft noise. This section describes the existing program management measures at BAF and the current implementation status of each.

4.1.1 PM1: Re-Establish a Noise Mitigation Advisory Committee

A Noise Mitigation Advisory Committee (NMAC) would advise and assist with the management of aircraft noise-related issues. The previous NMAC was disbanded due to lack of interest by the public.

Implementation Status: ***Implemented and subsequently disbanded***

The previous NMAC was disbanded due to lack of interest by the public.

Recommendation: ***Include this measure as written.***

The City is interested in re-establishing the NMAC as a means to keep interested stakeholders abreast of aircraft noise and operations at BAF.

4.1.2 PM2: Community Awareness Program (CAP)

The Community Awareness Program (CAP) provides two types of education. The first is to educate pilots on aircraft noise, noise abatement and mitigation, with the goal of increasing operators' awareness of noise effects of aircraft operations on the surrounding community. The second is to provide an educational tool for the community to learn about the noise abatement efforts undertaken by the Airport and its users.

Implementation Status: ***Implemented***

The Airport currently maintains its Community Awareness Program via its website (www.barnesairport.com) and its Facebook page (https://www.facebook.com/westfieldairport/).

Recommendation: ***Include this measure as written.***

4.1.3 PM3: Institute a Fly Quiet Program

The Fly Quiet Program would be a pilot awareness program including the use of the NBAA noise abatement profile procedures and AOPA Noise Awareness Steps.

Implementation Status: ***Partially Implemented***

The City has partially implemented and continues to work on the implementation of the program. The Airport continues to recommend the use of NBAA noise abatement procedures and AOPA Noise Awareness Steps.

Recommendation: ***Include this measure with minor modifications.***

The City will enhance the Fly Quiet Program to include the results of the 2023 NCP update.

4.1.4 PM4: Periodic Evaluation of Noise Exposure

The Airport's operations are regularly monitored to assess noise exposure and to update the Noise Exposure Map every five years or when a change of 1.5 dB DNL or greater occurs to noise-sensitive land uses.

Implementation Status: ***Implemented***

The evaluation of noise exposure at the Airport is ongoing. The City of Westfield first generated an NEM in 1990. The NEM was subsequently updated in 2009 and 2015. The most recent NEM Update was conducted in 2018, to model civilian aircraft using the FAA's new Aviation Environmental Design Tool (AEDT). The most recent NEM update was approved by the FAA in 2019 for the years 2019 and 2024.

Recommendation: ***Include this measure as written.***

4.2 Recommended Program Management Measures

The City has considered and is recommending the following program management measures for inclusion in the NCP.

4.2.1 PM-1: Re-establish and Maintain a Noise Mitigation Advisory Committee

The City recommends re-establishing the Noise Mitigation Advisory Committee (NMAC) to assist the City and Airport with the management of aircraft noise-related issues on a regular basis. The committee may serve as a vital link between the airport and communities on aircraft noise concerns. After FAA's approval of the recommended NCP measures, the City's NMAC responsibilities would expand to include implementation of the recommended NCP measures and monitoring adherence with the implemented noise abatement measures. It is possible that the City may need additional staff resources in the NMAC to adequately address the increased responsibilities that come with the implementation and monitoring of NCP measures at BAF.

Conclusions: *BAF Program Management Measure 1: Re-establish and Maintain a Noise Mitigation Advisory Committee (NMAC)* will enable the City to continue to understand, respond to, and address community concerns associated with aircraft noise from BAF operations. In the future, the NMAC will facilitate the implementation of the new measures recommended for inclusion in the BAF 14 CFR Part 150 NCP Report, as approved by the FAA.

Table 23 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Program Management Measure PM-1.

Table 23: Implementation Summary for BAF NCP Measure PM-1

Source: JPG, HMMH 2023

Implementation Item	Discussion
Benefits	The NMAC provides a mechanism for the City to understand, respond to, and address community concerns associated with aircraft noise from BAF operations. In the future, the NMAC will continue to maintain the existing program management measures, facilitate the implementation of the new approved NCP measures, and monitor compliance with the NCP measures.
Rationale	The City is recommending BAF Program Management Measure 1 because it will create a mechanism for the City to interact with the community on the implementation of the noise compatibility program and provide a forum for the public to express their concerns regarding the noise program.
Responsible Parties	The City.
Estimated Costs	No hard costs estimated for this measure. The primary costs would come from City time and effort to prepare for and attend NMAC meetings.
Funding Sources	The City.
Requirements	FAA approval of this measure.
Estimated Schedule	The City expects to re-establish the NMAC shortly after submittal of the NCP to the FAA.

4.2.2 PM-2: Continue the Community Awareness Program

The City recommends continuation of the Community Awareness Program (CAP) for BAF, which was developed in collaboration with the FAA and representatives of nearby communities. The CAP will provide ongoing communication with the City and the FAA, seeking mutual and feasible ways to communicate changes in aircraft operations and noise.

The goal of this measure is to provide a forum for neighboring communities to be made aware of airport changes and activities at BAF. Increasing the awareness of airport-related information and land use projects reduces the likelihood that new non-compatible land uses will be introduced in the future.

Conclusions: *BAF Program Management Measure 2: Continue the Community Awareness Program* will enable the City to communicate information about the airport that could affect the public, such as changes in operations and updates to land use projects.

Table 24 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Program Management Measure PM-2.

Table 24: Implementation Summary for BAF NCP Measure PM-2

Source: JPG, HMMH 2023

Implementation Item	Discussion
Benefits	The CAP will be maintained to communicate Airport and aircraft noise to land use jurisdictions.
Rationale	The City is recommending BAF Program Management Measure 2 so that there can be a collaboration and sharing of information, with various communities in the airport vicinity, pertaining to changes in operations and updates to land use projects.
Responsible Parties	The City.
Estimated Costs	No hard costs estimated for this measure. The primary costs would come from City time and effort to prepare and distribute communications.
Funding Sources	The City.
Requirements	FAA approval of this measure.
Estimated Schedule	Ongoing.

4.2.3 PM-3: Expand the Fly Quiet Program

The City recommends expanding the voluntary Fly Quiet Program for BAF, which is a collaboration among aircraft operators (pilots) and air traffic controllers that encourages the use of noise abatement flight procedures and preferential runways. A Fly Quiet Program also typically includes a pilot awareness campaign with promotional materials (e.g., handouts/flyers, signage, and other educational materials) to ensure pilots' awareness of the recommended noise abatement procedures at the Airport.

The Fly Quiet Program is used to facilitate implementation of recommended noise abatement measures approved by the FAA. The Fly Quiet Program would also be used as a forum for developing and discussing noise abatement measures that may provide benefits outside of the 14 CFR Part 150 process. The Fly Quiet Program expansion would educate general aviation pilots on aircraft noise, with the goal of increasing awareness of noise effects on the surrounding community.

Conclusions: *BAF Program Management Measure 3: Expand the Fly Quiet Program* will enable the development of pilot awareness of noise effects on the surrounding community to potentially fly quieter.

Table 25 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Program Management Measure PM-3.

Table 25: Implementation Summary for BAF NCP Measure PM-3

Source: JPG, HMMH 2023

Implementation Item	Discussion
Benefits	Expansion of a Fly Quiet Program will enable the education of pilots on the effect of aircraft noise in the community to promote ways to fly quieter.
Rationale	The City is recommending BAF Program Management Measure 3 to encourage pilots to "fly neighborly".
Responsible Parties	The City.
Estimated Costs	Estimated costs to expand the Fly Quiet Program at BAF is $125,000.
Funding Sources	The City and federal grants (AIP).
Requirements	FAA approval of this measure.
Estimated Schedule	The City expects to expand the Fly Quiet Program upon FAA approval of the measure.

4.2.4 PM-4: Periodically Evaluate Noise Exposure

The City recommends the periodic evaluation of aircraft noise exposure at BAF. The FAA requires that an airport operator maintain NEMs that reflect current or reasonably projected conditions in order to obtain FAA funding for noise programs. Specifically, 14 CFR Part 150, Section 150.21(d), states that an airport operator shall "promptly prepare and submit a revised noise exposure map" if any change in the operation of the airport creates a "substantial, new non-compatible use" or a "significant reduction in noise over existing non-compatible uses" that is not reflected on the FAA-accepted noise exposure map on record. The former condition reflects an increase of 1.5 dB DNL over non-compatible land uses exposed to DNL 65 or greater, while the latter condition reflects a reduction of 1.5 dB over non-compatible land uses that were formerly exposed to DNL 65 or greater.

Under this measure, the Airport's operations are regularly monitored to assess noise exposure and the Noise Exposure Map is updated every five years (or more frequently, if a potential change of 1.5 dB DNL or greater has occurred over noise-sensitive land uses).

Conclusions: *BAF Program Management Measure 4: Periodically Evaluate Noise Exposure* will continue periodic evaluation of Noise Exposure and enable the City to meet the requirements of 14 CFR Part 150, Section 150.21(d), if applicable changes in the noise environment occur at BAF.

Table 26 provides a summary of implementation requirements along with the benefits and rationale for the recommendation of BAF Program Management Measure PM-4.

Table 26: Implementation Summary for BAF NCP Measure PM-4
Source: JPG, HMMH 2023

Implementation Item	Discussion
Benefits	Updating the Noise Exposure Map will enable the City to meet the requirements of 14 CFR Part 150 if applicable changes in the noise environment occur at BAF.
Rationale	The City is recommending BAF Program Management Measure 4 to ensure they are using the most updated noise exposure contours to implement their NCP measures; and to meet requirements of 14 CFR Part 150, Section 150.21(d).
Responsible Parties	The City.
Estimated Costs	Estimated costs to update the Noise Exposure Map is $500,000.
Funding Sources	The City and federal grants (AIP).
Requirements	FAA approval of this measure.
Estimated Schedule	The DoD is nearing final decision on the Barnes ANG replacement aircraft. Therefore, the City will begin the next NEM update shortly after the FAA approval of this measure to assess the noise exposure expected with the new Barnes ANG aircraft. The City will likely continue to update the NEM every five years (or sooner if a known change at the Airport occurs, resulting in a significant change in noise exposure at noise-sensitive parcels). The NCP updates are expected to be much less frequent and only when the Airport determines the need for new or updated measures to address non-compatible land uses from aircraft operations.

4.3 Program Management Measures Considered but Not Recommended

As required under 14 CFR Part 150, this section discusses the noise abatement measures the City considered but is not recommending for inclusion in the BAF Noise Compatibility Program. The only such measure is the measurement of aircraft noise as described below.

Noise Monitoring and Periodic Noise Measurements

A noise monitoring system receives flight tracking and aircraft identification data from vendors of the FAA's System Wide Information Management (SWIM) system; and the noise monitoring system can link noise events (periodic or continuous measurement) and complaints to specific aircraft operations.

Reason for not recommending in this NCP:

Measurement data from a noise monitoring system has no influence on the noise contour or on program eligibility, which could cause confusion in the community. In addition, operation and maintenance of a system is cost prohibitive. The City does not recommend a noise monitoring system or periodic noise measurements at BAF.

4.4 Summary of Recommended Program Management Measures

Table 27 summarizes the full list of City-recommended program management measures for the 2023 BAF NCP.

Table 27: Summary of Recommended Program Management Measures
Source: JPG, HMMH 2023

NCP Measure No.		Noise Abatement Measure	Existing / New	Implementation Status
2023	2016			
PM-1	**PM1**	Re-establish and Maintain a Noise Mitigation Advisory Committee	Existing	Implemented and subsequently disbanded
PM-2	**PM2**	Continue the Community Awareness Program	Existing	Implemented
PM-3	**PM3**	Expand the Fly Quiet Program	Existing	Partially Implemented
PM-4	**PM4**	Periodically Evaluate Noise Exposure	Existing	Implemented

5 Stakeholder Engagement

A critical element of the 14 CFR Part 150 Study (Part 150) is stakeholder engagement. This chapter describes outreach efforts conducted as part of the development of this Noise Compatibility Program (NCP) Report. The Part 150 Study is an ongoing process that includes several efforts to engage a wide range of stakeholders. The most prominent of these is the Technical Advisory Committee. As of the release of this document, the TAC has met five (5) times. In addition, the City hosted two public workshops: the first held as an introduction to the Part 150 Study on March 2, 2022, and the second on February 1, 2023, to present the City-recommended measures to address the non-compatible land use as described by the 2019 BAF NEM.

Part 150 Guidance on Public Participation for the NCP

FAA's approval of the NCP will be contingent on an FAA finding that § 150.23 (c) consultation requirements have been met, i.e.:

§ 150.23 (c) [For Noise Compatibility Programs]: Each noise compatibility program must be developed and prepared … in consultation with FAA regional officials, the officials of the state and of any public agencies and planning agencies whose area, or any portion or whose area, of jurisdiction within the Ldn [DNL] 65 dB noise contours as depicted on the noise exposure map, and other Federal officials having local responsibility of land uses depicted on the map. Consultation with FAA regional officials shall include, to the extent practicable, informal agreement from FAA on proposed new or modified flight procedures. For air carrier airports, consultation must include any air carriers and, to the extent practicable, other aircraft operators using the airport.

5.1 Technical Advisory Committee

The Part 150 Study benefits from the creation and participation of a Technical Advisory Committee (TAC). The TAC serves several important functions, such as:

- Representing a broad range of stakeholder groups
- Receiving information about the Study and sharing it with their constituencies
- Reviewing information and providing timely input to the Study
- In some cases, providing technical advice to the Study Team

For the TAC to be representative of all of the key perspectives within the vicinity of BAF, the City invited a diverse group of key stakeholders including, but not limited to, aircraft operators/airlines; aviation industry experts; affected jurisdictions; land use planners; chambers of commerce and other regional

business organizations; and other local aircraft noise interest/advocacy groups. While broad representation is critical, the TAC must remain a reasonable size so that deliberations are efficient. While the City did not officially invite the public to be members of the TAC, all TAC meetings were open to the public.

5.1.1 Membership

TAC meetings are open to the public. **Table 28** identifies member organizations represented in the TAC.

Table 28 provides the full list of TAC membership for the 2023 BAF NCP.

Table 28: Technical Advisory Committee Members
Source: JPG, HMMH 2023

Member Organization	TAC Representative
Westfield-Barnes Regional Airport	Christopher Willenborg, Airport Manager
Westfield-Barnes Regional Airport	William Gonet, Commission Chairman
City of Westfield	William Onyski, City Council President
City of Westfield	Jay Vinskey, Westfield Principal Planner
Town of Southampton	Paul Diemand, Planning Board Chairman
MA Air National Guard 104th Fighter Wing	Colonel Andrew Jacob, Operations Group Commander
MA Army National Guard	Major Geoffrey Leonard, AASF #2 Commander
FAA Federal Contract Tower	Brian Mitchell, BAF Tower Manager
Atlantic Aviation, FBO	Kevin Bradley, General Manager
FAA New England Region Airports Division	Richard Doucette, Environmental Manager
FAA New England Region Airports Division	Cheryl Quaine, Environmental Protection Specialist
MassDOT Aeronautics Division	Denise Garcia, Aeronautics Deputy Administrator

The TAC is “advisory only” to the Study, this means that the TAC can offer opinions, advice, and guidance to the Study, but the City has the sole discretion to accept or reject the TAC recommendations in accordance with 14 CFR Part 150.

The City is the sponsor of the Part 150 Study, the owner and operator of BAF, and a member of the TAC. The FAA, as the primary funding agency for the Study and as the approval authority, is a key advisor of the TAC.

5.1.2 Summary of TAC Meetings

The Study Team handles all aspects of TAC meeting logistics including preparing meeting invitations, reminders, agendas, and presentations, as well as contacting TAC members in advance of meetings to confirm attendance. The Study Team also identifies specific meeting goals and objectives prior to each meeting, recommends the appropriate meeting format, and serves as the facilitator for each TAC meeting. The first TAC meeting focused on the existing NEM, Land Use Compatibility Guidelines, and the existing NCP. Exploration of existing and potential new NCP measures continued throughout the remainder of the Study.

Table 29 displays the topics discussed at the TAC meetings involved in the development of the NCP for this Part 150 Study.

Table 29: Technical Advisory Committee Meeting Topics

Source: JPG, HMMH 2023

TAC Meeting No.	Date	Topics Covered
1	March 16, 2022	Existing NEM, existing NCP, and land use compatibility guidelines.
2	April 27, 2022	NCP overview, 2016 NCP measures, and Noise Abatement Strategies.
3	May 25, 2022	Land Use Measures from 2016 NCP, additional land use measures, and program management measures from 2016 NCP.
4	July 27, 2022	Review of NCP measures, potential analyses, and finalizing NCP update elements.
5	September 13, 2022	Confirmation of TAC recommendations for the NCP update.

5.2 Public Information Meetings

Members of the general public have been and continue to be encouraged to stay informed of the Study's progress by visiting the Study's website, attending TAC meetings, participating in public workshops and hearings, and submitting comments on the draft documents prepared for submittal to the FAA over the course of the Study. Details for each of these meetings, resources, and opportunity for public participation in the NCP study are the focus of the remainder of this section.

The Study Team works with the City to keep interested parties informed of the public workshops and hearing by:

- Creating and distributing press releases about the location, time, and format of the public workshops and hearing;
- Informing media and elected officials about the public workshops and public hearing; and,
- Developing supporting media materials for each meeting, including presentation boards.

The City's initial public information meeting introduced the public to the Study and the development of the NCP. Following the City's decisions on measures to include in its updated NCP, a second public information meeting was held to provide information and collect comments via a public hearing component.

Table 30 lists the dates and purposes of the public information meetings.

Table 30: Part 150 Public Information Meetings

Source: JPG, HMMH 2023

Public Meeting	Purpose	Date
Public Information Meeting	Introduce Part 150 Study	March 16, 2022
Public Information Meeting and Public Hearing	Provide Opportunity for NCP Draft Review	February 1, 2023

Appendix C contains all materials presented at the public information meeting and public hearing. Appendix D includes the public comments received during the course of the study, all public comments that the City received during the public comment period for the NCP, and the City's responses to those comments.