



# BTV Noise Compatibility Program Update – Technical Advisory Committee

March 22, 2018

 **The Jones Payne Group, Inc.**  
*Architects, Planners, and Information Managers*



**HARRIS MILLER MILLER & HANSON INC.**

# Purpose of TAC

- The TAC is advisory to the City solely for purposes of the BTV Part 150 Study, including:
  - Review of study inputs, assumptions, analyses, documentation, etc.
  - Input, advice, and guidance related to Noise Compatibility Plan (NCP) development
- The City shall respect and consider TAC input, but must retain overall responsibility for the Part 150 Study and NCP recommendations
- The TAC and City recognize FAA is responsible for accepting Noise Exposure Map (NEM) and NCP submissions and for approving NCP measures
- TAC members represent the interests of their organization and/or constituents
- TAC members are expected to provide two-way communication between the City and their organizations / constituents

# Agenda

Public forum and comment period

Noise Exposure Map Update

Chapter 4 - Recommended NCP Revisions (**PART 2**)

- Review Land Use Measures

TAC questions and comments period

# Public Forum and Comment Period

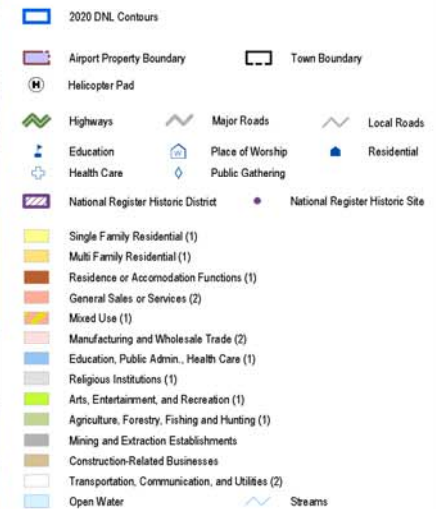
# Noise Exposure Map Update

# Existing FAA Approved 2020 NEM



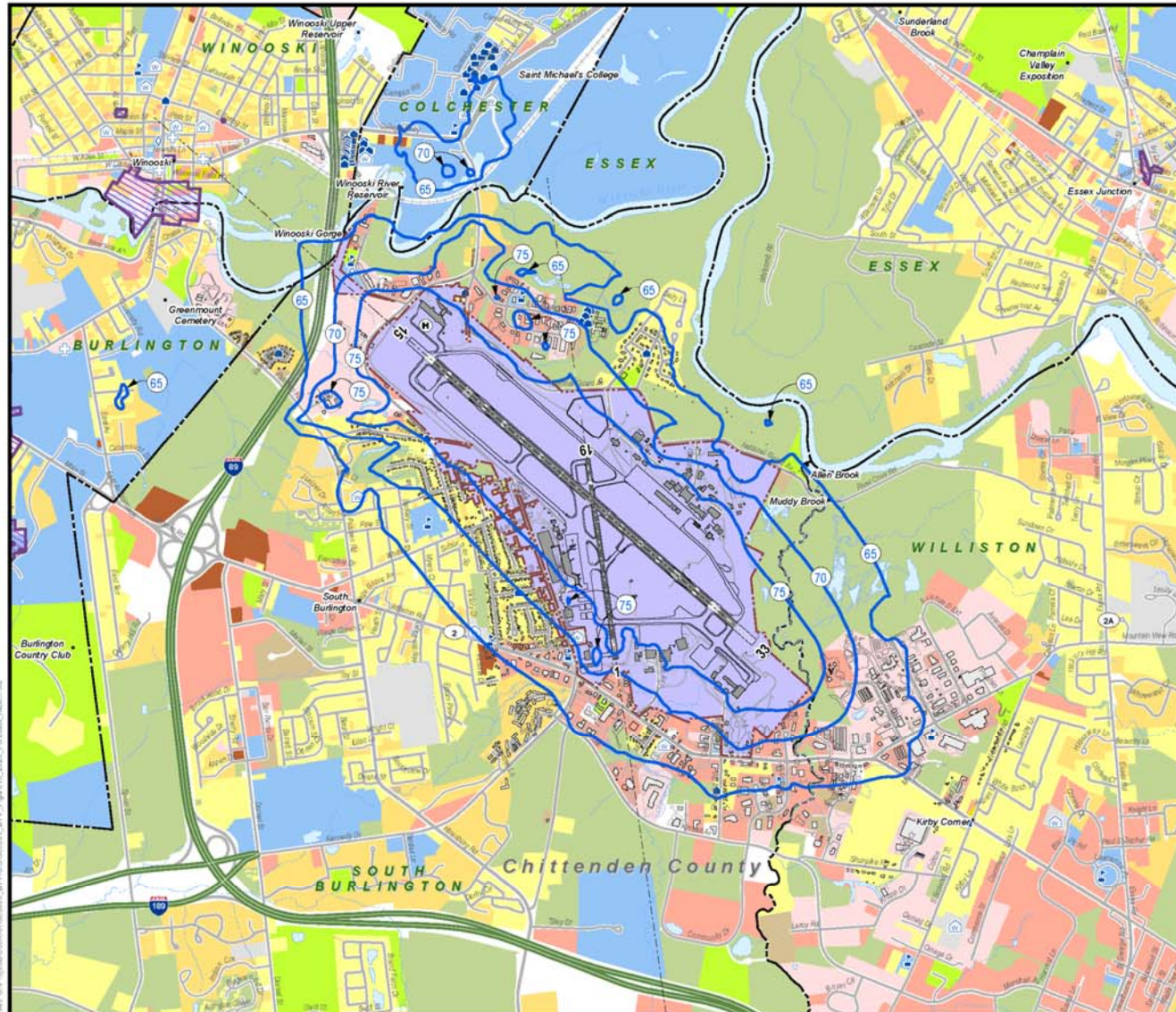
PART 150 - NOISE EXPOSURE MAP UPDATE

Figure 13  
2020 Forecast Conditions Noise Exposure Map



(1) Potentially non-compatible within 65 dB DNL contour as discussed in Section 3.3.  
(2) Potentially non-compatible within 70 dB DNL contour as discussed in Section 3.3.

Data Sources:  
Chittenden County Regional Planning Commission, Vermont Center for Geographic Information, Inc. (VCGI),  
United States Census Bureau, Burlington International Airport, Campbell & Paris Engineers P.C.,  
Harris Miller & Hanson Inc.



Path: G:\Projects\320000320982\_BTV\GIS\205981\_BTV\_Fig13\_2020\_Forecast\_NEI.mxd

December 2015



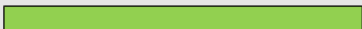


# Noise Exposure Map (NEM) Update

- FAA has approved funding for the NEM Update
- The NEM documents the airport layout and operation, aircraft related noise exposure and land uses surrounding the airport
- Creates 2 maps
  - 2018: Current year - w/ F-16C operations
  - 2023: Forecast year - w/ F-35A operations
- The NCP process will be put on hold until the contours are developed for the NEM
- This will allow jurisdictions to understand how the noise exposure may affect their residents

# Noise Exposure Map - Schedule

		2018											
		Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
1	Data collection; approval of military aircraft modeling; development of operational forecasts												
2	Development of draft contours; land use analysis												
3	Draft NEM document for public review; public meetings; public comment period												
4	Finalize and submit final NEM to FAA for approval												

Legend:		
		
Consultant Task	Stakeholder Involvement	Agency Review



# Sound Barriers and Buffers

## Sound Barriers and Buffers

- Commonly used along roadways and at stationary noise sources
- Can be effective at airports at run-up locations. Airport buildings can offer some shielding from gate and taxiing operations



# Sound Barriers and Buffers - Effectiveness

- Barriers must be **high** relative to both the noise source (aircraft engines) and the receiver location (building windows/doors).
  - As such, barriers can only be effective for blocking ground noise, and are ineffective for airborne aircraft.
- Barriers must be **close** to either the source or the receiver.
- The barrier must be high relative to the wavelength of sound. For a broadband noise like aircraft, a barrier will be more effective at higher frequencies and less effective at lower frequencies.

# Sound Barriers and Buffers - Constraints

- 14 CFR Part 77 defines imaginary surfaces that restrict the height of objects near runways. Airspace obstruction considerations typically prevent barriers of an effective height from being constructed adjacent a runway.
- Constructing an effective barrier close to the buildings requiring shielding may be impractical or infeasible.
  - A nearby, high wall could be visually obtrusive
  - Neighborhood orientation relative to the runway may not allow for a sufficiently long barrier
  - Property considerations can be complicated by multiple property owners

# Sound Barriers and Buffers

## AIP Program Funding and Requirements

- The noise barrier must be shown to reduce aircraft noise by at least 5 dB in noncompatible areas (65+ dB DNL).
- Residences experiencing a 5 dB DNL reduction from the barrier would not be considered eligible for other mitigation measures such as sound insulation or sales assistance.

# Sound Barriers and Buffers

## Advantages

- Provides noise relief to those adjacent to wall
- Provides a visible barrier between the residential area and the airport property

## Disadvantages

- Properties which benefit from barrier are not eligible for other types of mitigation
- Expensive measure which benefits a few and will delay implementation of other programs

# Sales Assistance

## Sales Assistance

- Assists owners who wish to sell their property and relocate
- Airport will assist with the sale on the open real estate market for Fair Market Value (FMV)
- Airport does not acquire the property
- Avigation easement is required
- Owner is not eligible for relocation benefits
- No change to the underlying land use



# Sales Assistance - Implementation

## Property owner:

- Enter a participation agreement with Airport
- Market and sell their home through licensed real estate agent
- Listing price is based on fair market value (FMV), established by appraisal following federal appraisal guidelines
- Records avigation easement prior to sale of property

## Airport sponsor:

- Pays differential payment if property doesn't sell at FMV
- Pays closing costs and realtor's commission
- Conducts a market absorption study to determine the expected rate at which homes can be sold to maintain neighborhood stability

# Sales Assistance

## Advantages

- Allows the owner to relocate outside the project area
- Maintains the neighborhood
- Stabilizes market by limiting sales to market absorption
- Airport sponsor obtains an easement which makes property Part 150 land use compatible
- Owner is guaranteed fair market value for property
- Avoids vacant properties
- Maintains the jurisdiction's tax base
- Is an alternative for properties which do not qualify for sound insulation

## Disadvantages

- Does not guarantee sale of home
- Depending on market conditions process can be slow

# Purchase Assurance

## Purchase Assurance

- Assists owners who wish to sell their property and relocate
- Sale is made directly to Airport for Fair Market Value (FMV)
- Avigation easement is required
- Owner is not be eligible for relocation benefits
- No change to the underlying land use

# Purchase Assurance - Implementation

## Property owners:

- Airport purchases eligible property for FMV in exchange for an aviation easement
- Upon sale and recording of easement, the Airport sound insulates the home and sells it on the open market

## Airport Sponsor

- Responsible for closing costs associated with the acquisition of the property
- Maintains property during 18 month purchase/ sale process
- Conducts a market absorption study to determine the expected rate at which homes can be sold to maintain neighborhood stability

## Purchase Assurance

### Advantages

- Allows property owners to sell to the sponsor immediately, pending available funding
- Allows for sound insulation of property

### Disadvantages

- Maintenance and protection costs can be excessive due to length of process
- The jurisdiction will lose property tax revenue during Airport ownership of property
- Pace of program will be determined by market absorption and funding availability
- Cost of program will limit number of homes that can participate

# Purchase of Avigation Easements

## Avigation Easements

- Provides eligible property owners who wish to remain in their home and do not qualify for sound insulation the ability to obtain a cash payment.
- Avigation easement is required
- Easement values are under \$10,000 per property based upon an appraisal
- There is no change to the underlying land use



# Avigation Easement- Implementation

- Airport retains an appraiser who determines the “measure and effect of the easement conveyance on the subsequent market sale”
- A nominal easement value is determined for a given neighborhood
- Owner conveys easement in exchange for cash payment

# Avigation Easements

## Advantages

- Allows the property owner to remain in their home
- Maintains the residential neighborhood
- Owner is guaranteed a cash payment in exchange for the easement
- Maintains the jurisdiction's tax base
- Is an alternative for individuals who do not qualify for sound insulation

## Disadvantages

- Typically low participation in this type of program

# Land Acquisition and Relocation

## Land Acquisition and Relocation

- Provides eligible property owners located in areas of high noise exposure (75+ dB DNL), where other mitigation programs are not feasible, the ability to sell their property and relocate outside the noise impact area
- Airport will purchase property at FMV from owner
- Occupants will be provided relocation benefits to move outside of the noise impact area
- Airport will raze the structure upon acquisition and work with local jurisdiction to rezone the land into a compatible land use

## Land Acquisition and Relocation - Implementation

- Program consists of two transactions:
  - Purchase of the property from owner
  - Relocation of the occupants
- Purchase is based on the FMV of the property
- Relocation benefits are designed to provide new housing in a manner that is similar size and function
- Following the Airport taking possession of the property, they will arrange for the structure to be razed
- Acquired land will be included on the noise land inventory map and noise land reuse plan
- Airport will care for and manage property until such time that it can be rezoned or designated for compatible use
- Process takes 12-18 months depending on relocation needs

# Land Acquisition and Relocation

## Advantages

- Allows property owners to sell to the sponsor immediately, pending available funding
- There are no other viable mitigation options for homes located in the highest noise levels

## Disadvantages

- Jurisdictions will not receive property taxes
- The Airport obtains ownership of the property, which would result in costly maintenance to prevent deterioration including: lawn maintenance, securing from vandalism and theft, which increases administrative costs to the project

## Summary Comparison of Programs & Costs

Below are the estimated average cost for each program per home and the number of properties that would be eligible based upon a \$5 million grant

<b>Program</b>	<b>Cost Per Home</b>	<b># of Homes</b>
Sound Insulation	\$ 54,000	93
Sales Assistance	\$ 35,520	141
Purchase Assurance	\$ 355,200	14
Avigation Easement	\$ 2,500	2000
Acquisition & Relocation	\$ 407,000	12

Note: Cost per home is based upon actual costs from BTV Airport programs or the New England Region plus 20% administration costs

# TAC Discussion

Knowing there are new noise maps coming out later this year

- Does this affect your input on which measures should be included in the NCP?
- Should the final NCP recommendations be delayed until the new maps are published?
  - If yes, it will delay the approval of the NCP and the funding for noise mitigation programs such as sound insulation
  - If not, is their agreement to finalize the NCP to get FAA approvals so that funding can commence next year.



## NEM and NCP Schedules

- Next TAC meeting TBD
- Reinstating sound committee meetings (Q2)
- NEM commencing immediately
  - Public meeting and comment period Fall 2018
- NCP on hold until NEM contours developed

# TAC questions and comments

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