

Burlington International Airport 14 CFR Part 150 Update 2015 and 2020 Noise Exposure Map

Presented to BTV Sound Mitigation Committee

December 5, 2016 Update of November 9, 2015 Public Workshop





- What is 14 CFR Part 150?
- 2015 and 2020 Noise Exposure Map (NEM) Purpose
- Sound Terminology
- Burlington International Airport Part 150 History
- 2015 NEM and 2020 NEM
- Schedule
- Locations to Review the NEM document
- Questions

What is "14 C.F.R Part 150" or "Part 150"? "Airport Noise Compatibility Planning"



- Title 14 of the Code of Federal Regulations Part 150 (Part 150) "Airport Noise Compatibility Planning" sets forth standards for airport operators to use in documenting noise exposure around airports and establishing programs to minimize noise-related land use incompatibilities.
 - Provides airports with technical and procedural guidance
 - One component of determining eligibility for federal noise abatement funds
- The FAA oversees the Part 150 process on behalf of the federal government.

What is "14 C.F.R Part 150" or "Part 150"? "Airport Noise Compatibility Planning"



- Voluntary FAA-defined process for airport noise studies
- Two major components
 - Noise Exposure Map (NEM) FAA "accepts"
 - Detailed description of airport layout, operations, noise exposure, land uses, and noise/land use compatibility for at least two years
 - Noise Compatibility Program FAA "approves" individual measures
 - Noise abatement measures to reduce noise exposure
 - Land use mitigation measures to address existing non-compatible uses
 - Land use control measures to prevent new non-compatible uses
 - Study completed in 2015 was a Noise Exposure Map update only
- Public involvement is a critical consideration
 - Consultation is required with users and land use control jurisdictions
 - Input is sought from all interested parties



 One of the principal reasons for preparation of the 2015/2020 update was the City of Burlington's (as the airport operator) interest in continuing implementation of the federally supported noise mitigation strategies.

 The City/Airport wanted to update the NEM to reflect existing operations, an updated forecast, and current land uses.

 In addition, the FAA requested that the City/Airport update the NEM to continue federally supported noise mitigation.



 The 2015/2020 noise exposure map update led to changes regarding FAA recognized aircraft noise exposure and allowed BTV to continue to have access to federal dollars for noise mitigation projects around the airport.

 The airport expects to update the NEM when there are significant changes to airport operations, consistent with federal guidelines.

Sound Terminology

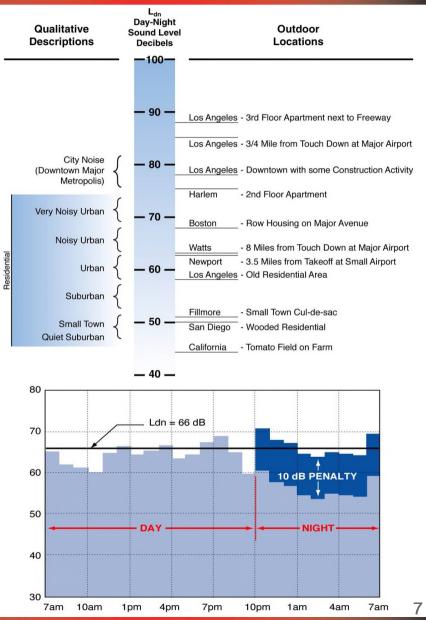


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- A-weighted decibel (dBA)
 - Reflects the manner humans hear different pitches of sound
 - All federal agencies have adopted dBA for environmental studies
- dBA can be used for different units of measure, like maximum and average
- Day–Night Average Sound Level (DNL or Ldn)
 - Cumulative sound measure

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- Equal to steady level that contains same energy as the actual time-varying sound
- Increases sounds from 10 p.m. to 7 a.m. 10-fold
- Used by all federal agencies that deal with aviation noise



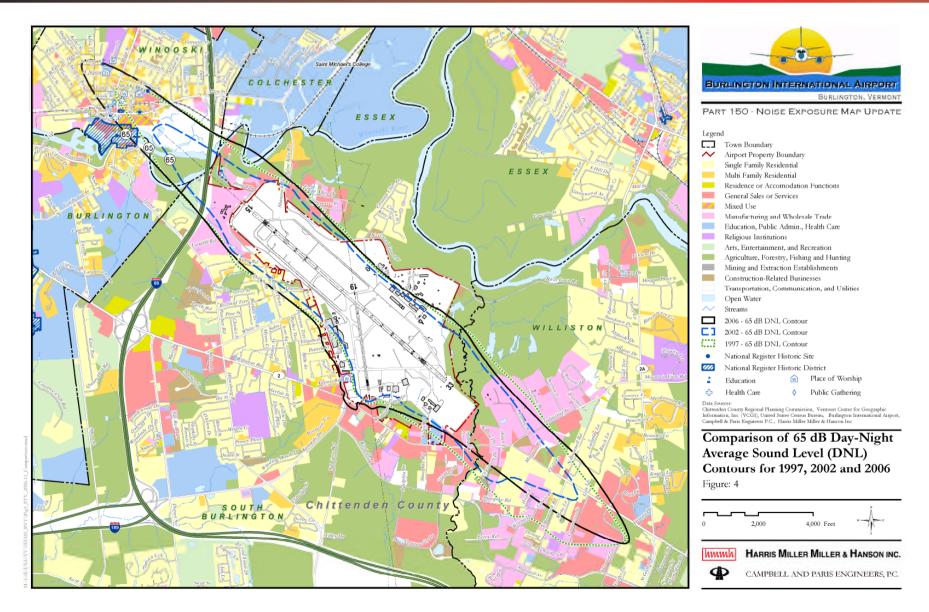
Burlington International Airport (BTV) Part 150 History



- FAA accepted NEM for 1989 and 1993 conditions in March 1990
- FAA approved NCP in July 1990
- FAA accepted NEM update (for 1997 and 2002) in June 1997
- FAA accepted NEM update (for 2006 and 2011) in November 2006
- FAA approved NCP revision in June 2008
 - This has been one of the BTV documents and FAA approvals that has allowed the airport to continue acquisitions
- FAA accepted NEM update (for 2015 and 2020) in December 2015
- The Nov. 9, 2015 meeting presented the draft 2015/2020 NEMs and started the public comment period, before submittal to the FAA

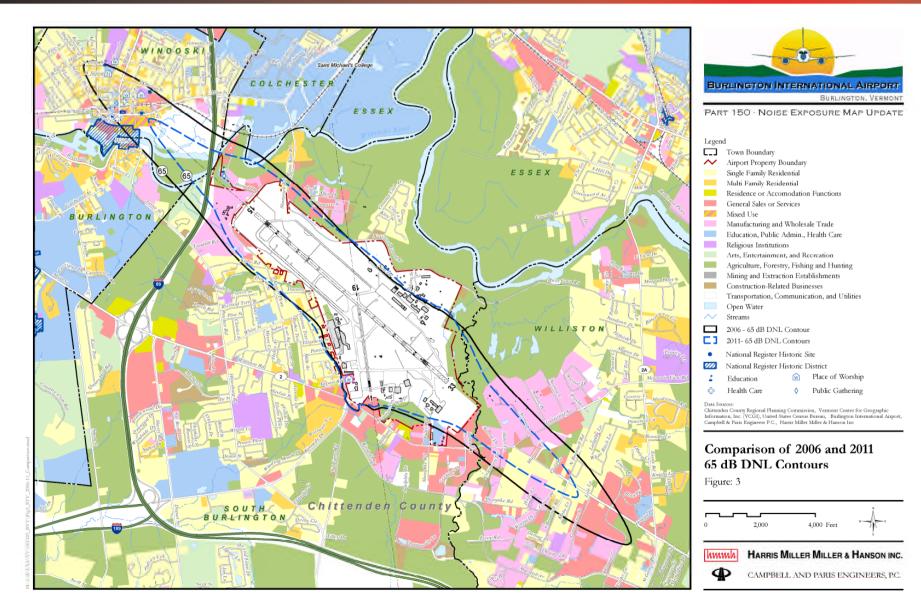
BTV Part 150 History NEM contours for 1997, 2002 and 2006 (from 2006)





BTV Part 150 History NEM contours for 2006 and 2011







- Existing conditions are the year of submittal 2015 (per regulation)
 - Based on data collected from 2012 through 2014
 - F-16 operations modeled with data provided by the USAF using an FAA approved method
 - Adjusted for Part 150 regulatory requirements
 - USAF data for BTV use 228 operational days
 - NEM assumes 365 operational days (per FAA regulations)
 - Both the NEM and the USAF data reflect same number of F-16 annual operations (8,099);
 - "typical year" of operations, as opposed to the VTANG summer 2015 deployment
 - FAA approved method included a combination of USAF and FAA noise models

2015 NEM and 2020 NEM Assumptions and Data



- Forecast conditions are 2020
 - Regulations require a forecast representing 5 or more years
 - Includes expected Taxiway G (southeast side of airfield)
 - Continued F-16 operations at constant levels
- Note related to 2020 NEM forecast
 - The airport expects to update the NEM when there are significant changes to airport operations, consistent with federal guidelines

2015 NEM and 2020 NEM Assumptions and Data



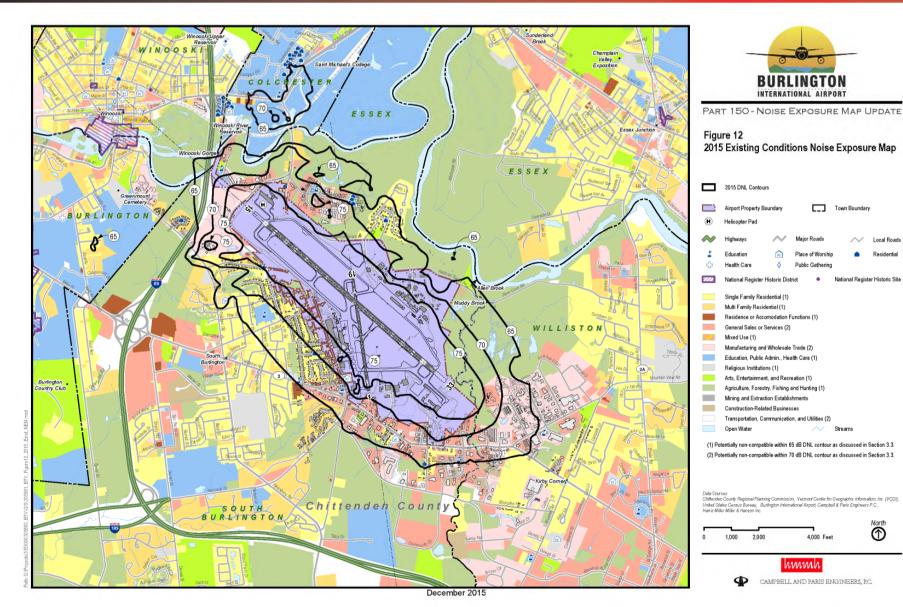
- Land use data
 - Provided by Chittenden County Regional Planning Commission
 - Updated based on aerial photography, airport staff data and various internet searches
 - Maps display land use, color coded by the categories noted in the FAA regulation
 - Dwelling inventories were prepared to the parcel/dwelling level.
 - Population per dwelling estimated by U.S. Census data.

2015 NEM FAA found in compliance with Part 150, eff. Dec 2015 BURLINGTON



Residentia

North







- Residential dwellings and population within the 2015 65 dB DNL noise contours
 - 622 Single family houses
 - 354 Multi-family units (individual apartments/condominium units)
 - 2,267 estimated population
 - In addition: St. Michael's College: 3 dormitories; approx. 264 student residents
- List of non-residential noise sensitive locations
 - 6 education facilities
 - Only public is Chamberlain Elementary School
 - 8 places of worship (3 churches, 5 cemeteries)
 - 1 Public gathering place



- City of South Burlington
 - Estimated dwelling units within 65 dB or greater DNL: 948
 - 663 dwelling units are south of the airport and west of Kennedy Dr.
 - Some of these have been acquired since the 2015 NEM
 - 38 dwelling units are south of the airport and east of Kennedy Dr.
 - 247 dwelling units are north of the airport
- Town of Williston
 - None, although there are two parcels zoned as residential

2015 NEM Land Use Analysis Summary as Documented in December 2015 NEM Submission



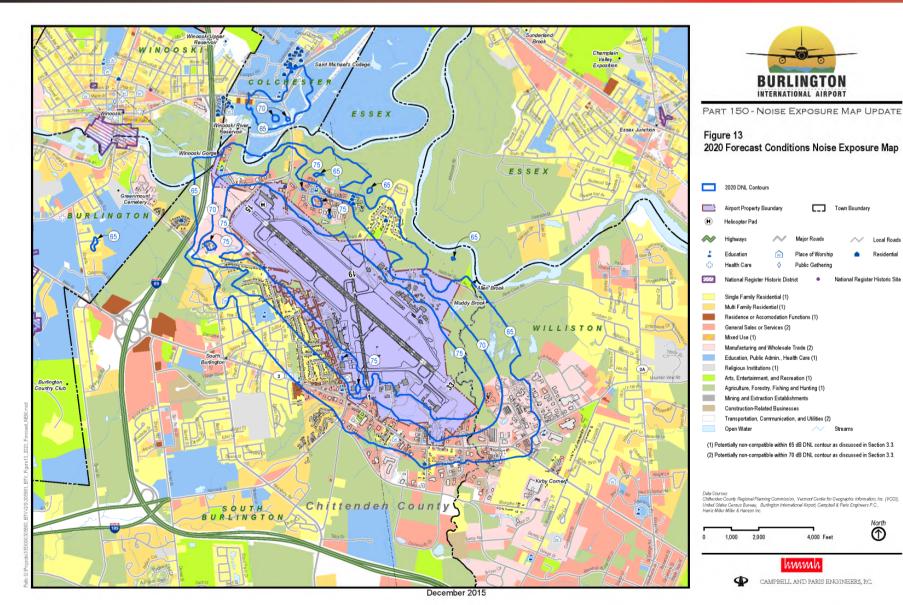
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City of Burlington

- Estimated dwelling units within 65 dB or greater DNL: 9
 - These seven are single-family units along Bilodeau Ct.
 - Two are multi-family units in a complex along East Ave.
- City of Winooski
 - Estimated dwelling units within 65 dB or greater DNL: 11
 - All of these are single-family units on the southern end of Roland Ct.
- Town of Colchester
 - Estimated dwelling units within 65 dB or greater DNL: 8 plus 3 dormitories
 - This includes a four unit building along College Ave and four individual houses on Gorge Rd.

2020 NEM FAA found in compliance with Part 150, eff. Dec 2015 BURLINGTON





2020 NEM Land Use Analysis Summary as Documented in December 2015 NEM Submission

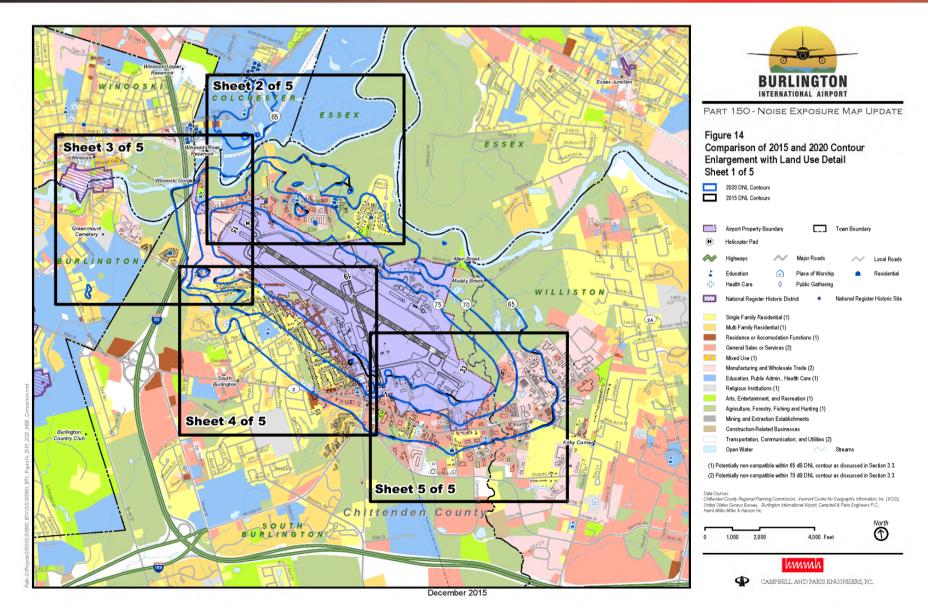


- Residential dwellings and population within the 2020 65 dB DNL noise contours
 - 618 Single family houses
 - 354 Multi-family (individual apartments/condominium units)
 - Same as 2015 NEM
 - 2,258 estimated population
 - In addition: St. Michael's College: 2 dormitories; approx. 136 student residents
- List of non-residential noise sensitive locations
 - Same as 2015 NEM

2015 NEM and 2020 NEM Enlargements Available



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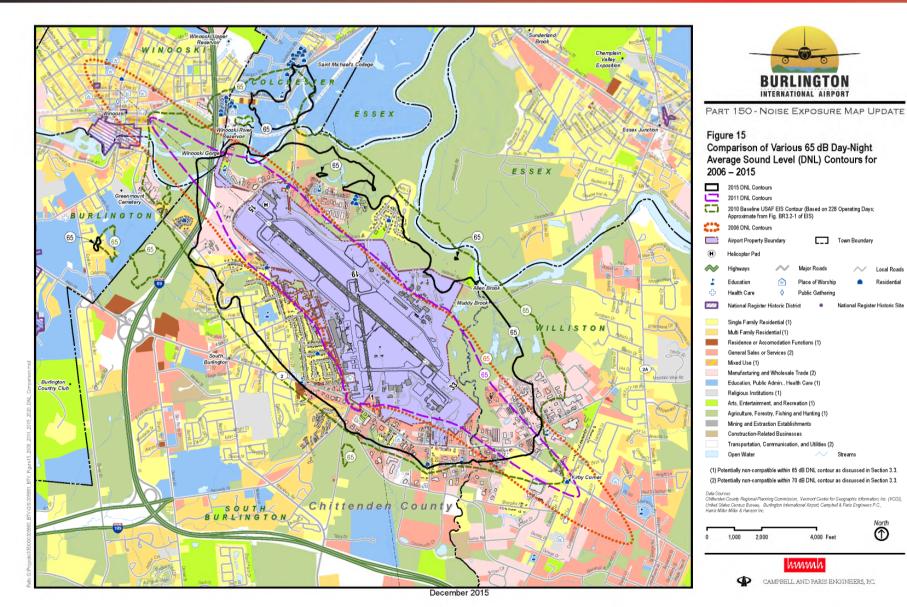
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- 2015 NEM compared to prior 2006/2011 NEM contours
 - Wider contours perpendicular to the runway
 - Includes some residential areas in Colchester for the first time
 - Shorter contours parallel to the runway compared to the 2006 and 2011 Noise Exposure Map
 - Less overlap in Winooski and Williston
- 2015 NEM compared to USAF's most recent noise contours that represent existing F-16 operations
 - Both existing F-16 operations
 - NEM not as wide EIS existing/baseline conditions
 - Primary difference is the use of USAF 228 days versus FAA's 365 days

2015 NEM Comparison to various contours 2006-2015









Schedule	Event
November 9, 2015	Public Workshop and Start of Comment Period
December 10, 2015	End of Comment Period -125 total written comments from 69 people
December 21, 2015	City of Burlington submitted the document to the FAA
January 11, 2016	The FAA announced its determination, in the Federal Register, that the noise exposure maps for Burlington International Airport, are in compliance with applicable requirements. The effective date of the FAA's determination on the noise exposure maps is December 22, 2015.

Locations to Review the NEM document



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- Hardcopies, are available for review during business hours at
 - The airport offices
- Electronic, available at
 - The airport's website

Thank you for attending!

