Appendices

Noise Exposure Map Update

Pursuant to Title 14 of the Code of Federal Regulations Part 150

Patrick Leahy Burlington International Airport

FINAL DRAFT

December 2024

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Appendix A: Noise Terminology

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A.1 Aircraft Noise Terminology

Noise is a complex physical quantity. The properties, measurement, and presentation of noise involve specialized terminology that can be difficult to understand. To provide a basic reference on these technical issues, this section introduces fundamentals of noise terminology, the effects of noise on human activity, and noise propagation.

A.1.1 Introduction to Noise Terminology

Analyses of potential impacts from changes in aircraft noise levels rely largely on a measure of cumulative noise exposure over an entire calendar year, expressed in terms of a metric called the day-night average sound level (DNL). However, DNL does not provide an adequate description of noise for many purposes. A variety of measures, which are further described in subsequent subsections, are available to address essentially any issue of concern, including:

- Sound Pressure Level (SPL) and the decibel (dB)
- A-Weighted Decibel (dBA)
- Maximum A-Weighted Sound Level (L_{max})
- Time Above (TA)
- Sound Exposure Level (SEL)
- Equivalent A-Weighted Sound Level (L_{eq})
- Day-Night Average Sound Level (DNL)

A.1.2 Sound Pressure Level, SPL, and the Decibel, dB

All sounds come from a sound source—a musical instrument, a voice speaking, an airplane passing overhead. It takes energy to produce sound. The sound energy produced by any sound source travels through the air in sound waves—tiny, quick oscillations of pressure just above and just below atmospheric pressure. The ear senses these pressure variations and, with much processing in our brain, translates them into "sound."

Our ears are sensitive to a wide range of sound pressures. The loudest sounds that we can hear without pain contain about one million times more energy than the quietest sounds we can detect. To allow us to perceive sound over this very wide range, our ear/brain "auditory system" compresses our response in a complex manner, represented by a term called sound pressure level (SPL), which we express in units called decibels (dB).

Mathematically, SPL is a logarithmic quantity based on the ratio of two sound pressures, the numerator being the pressure of the sound source of interest (P_{source}), and the denominator being a reference pressure ($P_{reference}$).[1]

$$\textit{Sound Pressure Level (SPL)} = 20 * Log\left(\frac{P_{source}}{P_{reference}}\right) dB$$

[1] The reference pressure is approximately the quietest sound that a healthy young adult can hear.

The logarithmic conversion of sound pressure to SPL means that the quietest sound that we can hear (the reference pressure) has a sound pressure level of about 0 dB, while the loudest sounds that we hear without pain have sound pressure levels of about 120 dB. Most sounds in our day-to-day environment have sound pressure levels from about 40 to 100 dB[2].

Because decibels are logarithmic quantities, we cannot use common arithmetic to combine them. For example, if two sound sources each produce 100 dB operating individually, when they operate simultaneously, they produce 103 dB, not the 200 dB we might expect. Increasing to four equal sources operating simultaneously will add another 3 dB of noise, resulting in a total SPL of 106 dB. For every doubling of the number of equal sources, the SPL goes up another 3 dB.

If one noise source is much louder than another is, the louder source "masks" the quieter one and the two sources together produce virtually the same SPL as the louder source alone. For example, a 100 dB and 80 dB sources produce approximately 100 dB of noise when operating together.

Two useful “rules of thumb” related to SPL are worth noting: (1) humans generally perceive a six to 10 dB increase in SPL to be about a doubling of loudness,[3] and (2) changes in SPL of less than about 3 dB for any particular sound are not readily detectable outside of a laboratory environment.

A.1.3 A-Weighted Decibel

An important characteristic of sound is its frequency, or "pitch.” This is the per-second oscillation rate of the sound pressure variation at our ear, expressed in units known as Hertz (Hz).

When analyzing the total noise of any source, acousticians often break the noise into frequency components (or bands) to consider the “low,” “medium,” and “high” frequency components. This breakdown is important for two reasons:

- Our ear is better equipped to hear mid and high frequencies and is least sensitive to lower frequencies. Thus, we find mid- and high-frequency noise more annoying.
- Engineering solutions to noise problems differ with frequency content. Low-frequency noise is generally harder to control.

The normal frequency range of hearing for most people extends from a low of about 20 Hz to a high of about 10,000 to 15,000 Hz. Most people respond to sound most readily when the predominant frequency is in the range of normal conversation, typically around 1,000 to 2,000 Hz. The acoustical community has defined several “filters,” which approximate this sensitivity of our ear and thus, help us to judge the relative loudness of various sounds made up of many different frequencies.

The so-called "A" filter (“A weighting”) generally does the best job of matching human response to most environmental noise sources, including natural sounds and sound from common transportation sources. A-weighted decibels are abbreviated dBA. Because of the correlation with our hearing, the U. S. Environmental Protection Agency (EPA) and nearly every other federal and state agency have adopted

[2] The logarithmic ratio used in its calculation means that SPL changes relatively quickly at low sound pressures and more slowly at high pressures. This relationship matches human detection of changes in pressure. We are much more sensitive to changes in level when the SPL is low (for example, hearing a baby crying in a distant bedroom), than we are to changes in level when the SPL is high (for example, when listening to highly amplified music).

[3] A “10 dB per doubling” rule of thumb is the most often used approximation.

A-weighted decibels as the metric for use in describing environmental and transportation noise. **Figure A-1** depicts A-weighting adjustments to sound from approximately 20 Hz to 10,000 Hz.

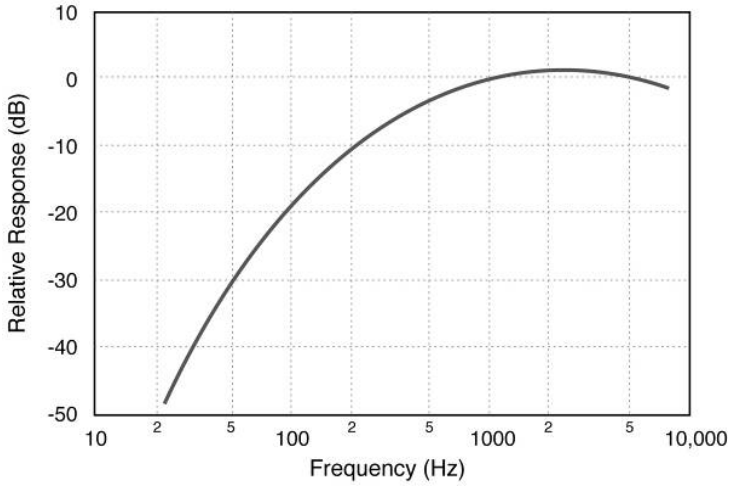

Figure A-1. A-Weighting Frequency Response

Source: Extract from Harris, Cyril M., Editor, "Handbook of Acoustical Measurements and Control," McGraw-Hill, Inc., 1991, pg. 5.13; HMMH

As the figure shows, A-weighting significantly de-emphasizes noise content at lower and higher frequencies where we do not hear as well, and has little effect, or is nearly "flat," in for mid-range frequencies between 1,000 and 5,000 Hz. All sound pressure levels presented in this document are A-weighted unless otherwise specified.

Figure A-2 shows representative A-weighted levels for many common sounds.

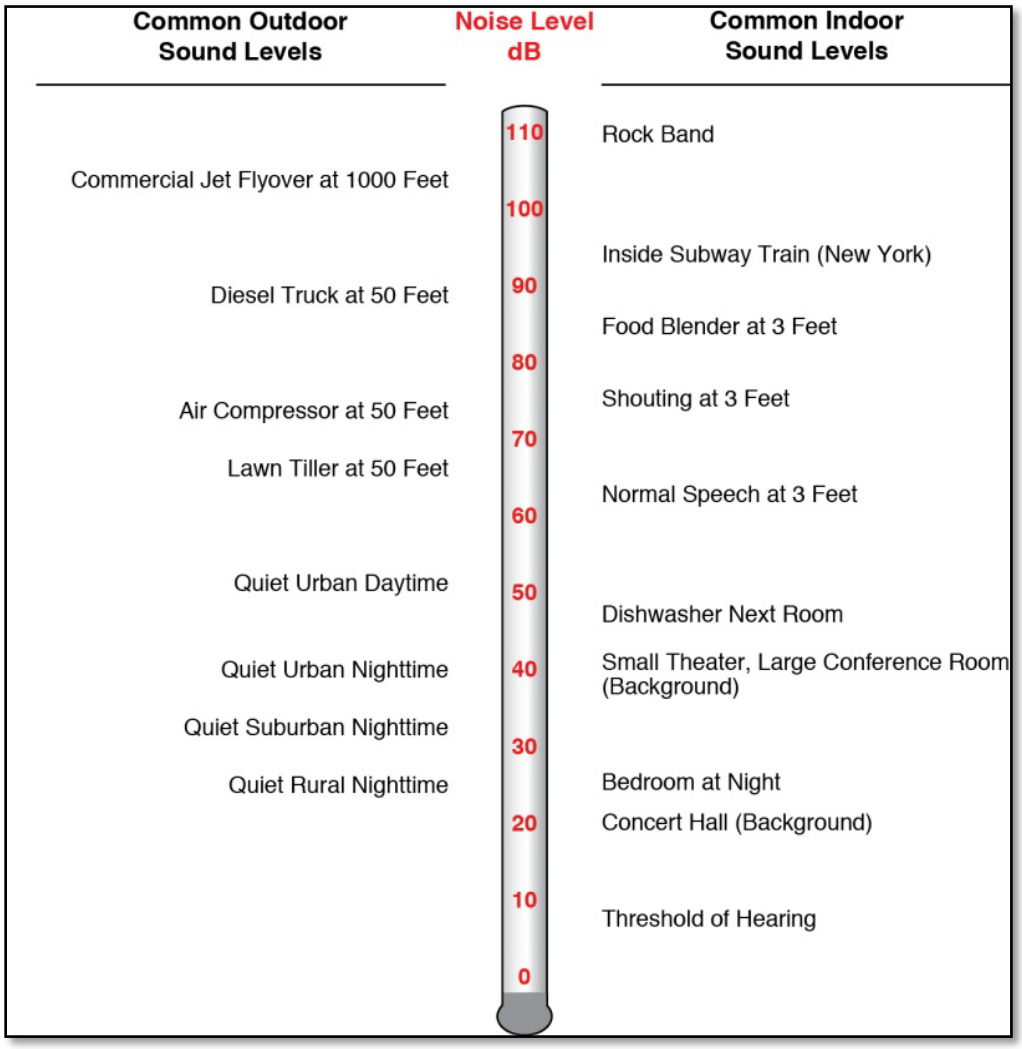

Figure A-2. A-Weighted Sound Levels for Common Sounds
Source: HMMH

A.1.4 Maximum A-Weighted Sound Level, L_{max}

An additional dimension to environmental noise is that A-weighted levels vary with time. For example, the sound level increases as a car or aircraft approaches, then falls and blends into the background as the aircraft recedes into the distance. The background or “ambient” level continues to vary in the absence of a distinctive source, for example due to birds chirping, insects buzzing, leaves rustling, etc. It is often convenient to describe a particular noise "event" (such as a vehicle passing by, a dog barking, etc.) by its maximum sound level, abbreviated as L_{max}.

Figure A-3 depicts this general concept, for a hypothetical noise event with an L_{max} of approximately 102 dB.

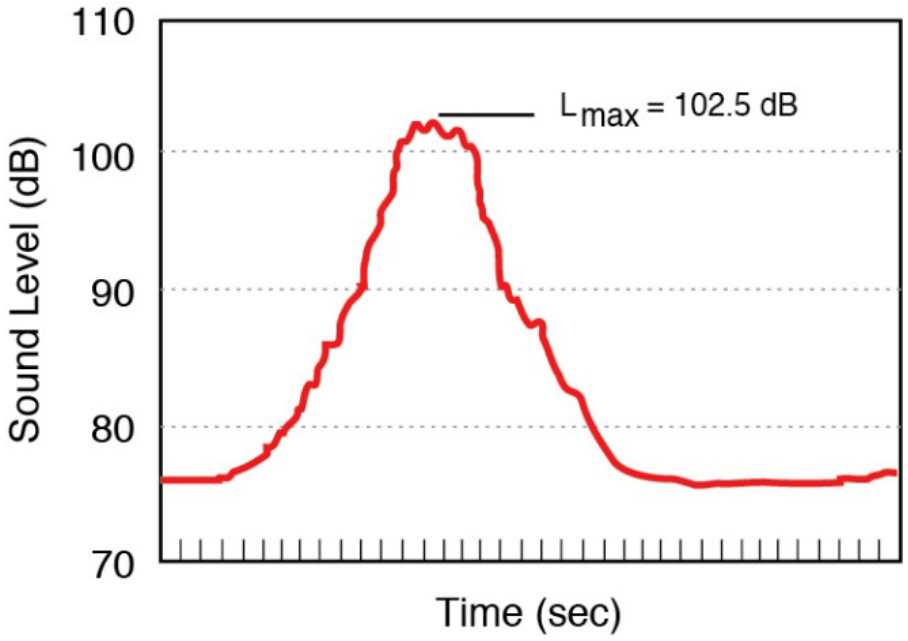

Figure A-3. Variation in A-Weighted Sound Level over Time and Maximum Noise Level

Source: HMMH

While the maximum level is easy to understand, it suffers from a serious drawback when used to describe the relative "noisiness" of an event such as an aircraft flyover; i.e., it describes only one dimension of the event and provides no information on the event's overall, or cumulative, noise exposure. In fact, two events with identical maximum levels may produce very different total exposures. One may be of very short duration, while the other may continue for an extended period and be judged much more annoying.

The next section introduces a measure that accounts for this concept of a noise "dose," or the cumulative exposure associated with an individual "noise event" such as an aircraft flyover.

A.1.5 Sound Exposure Level, SEL

The most commonly used measure of cumulative noise exposure for an individual noise event, such as an aircraft flyover, is the Sound Exposure Level, (SEL). SEL is a summation of the A-weighted sound energy over the entire duration of a noise event. SEL expresses the accumulated energy in terms of the one-second-long steady-state sound level that would contain the same amount of energy as the actual time-varying level.

SEL provides a basis for comparing noise events that generally match our impression of their overall "noisiness," including the effects of both duration and level. The higher the SEL, the more annoying a noise event is likely to be. In simple terms, SEL "compresses" the energy for the noise event into a single second. **Figure A-4** depicts this compression, for the same hypothetical event shown in **Figure A-3**. Note that the SEL is higher than the L_{max}.

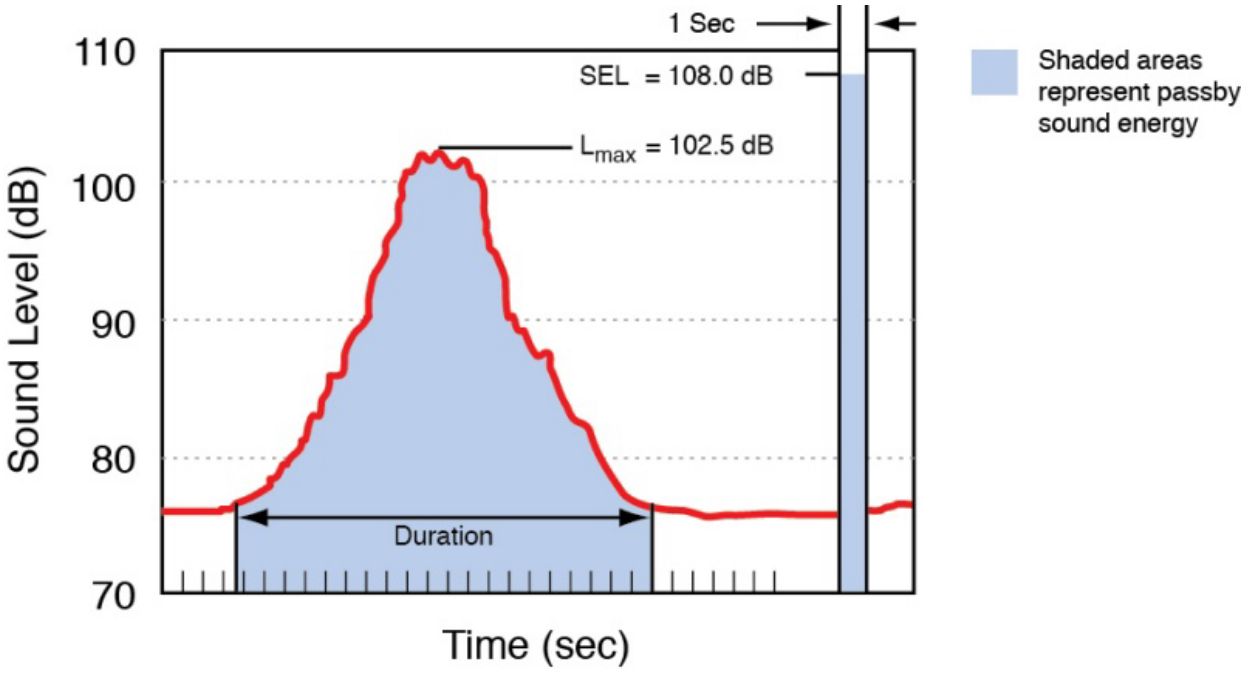

Figure A-4. Graphical Depiction of Sound Exposure Level

Source: HMMH

The "compression" of energy into one second means that a given noise event's SEL will be a higher numerical value than its L_{max} if the event lasts longer than one second. For most aircraft flyovers, SEL is roughly five to 12 dB higher than L_{max}. Adjustment for duration means that relatively slow and quiet propeller aircraft can have the same or higher SEL than faster, louder jets, which produce shorter duration events.

A.1.6 Equivalent A-Weighted Sound Level, L_{eq}

The Equivalent Sound Level, abbreviated L_{eq}, is a measure of the exposure resulting from the accumulation of sound levels over a particular period of interest; e.g., one hour, an eight-hour school day, nighttime, or a full 24-hour day. L_{eq} plots for consecutive hours can help illustrate how the noise dose rises and falls over a day or how a few loud aircraft significantly affect some hours.

L_{eq} may be thought of as the constant sound level over the period of interest that would contain as much sound energy as the actual varying level. It is a way of assigning a single number to a time-varying sound level. **Figure A-5** illustrates this concept for the same hypothetical event shown in **Figure A-3** and **Figure A-4**. Note that the L_{eq} is lower than either the L_{max} or SEL.

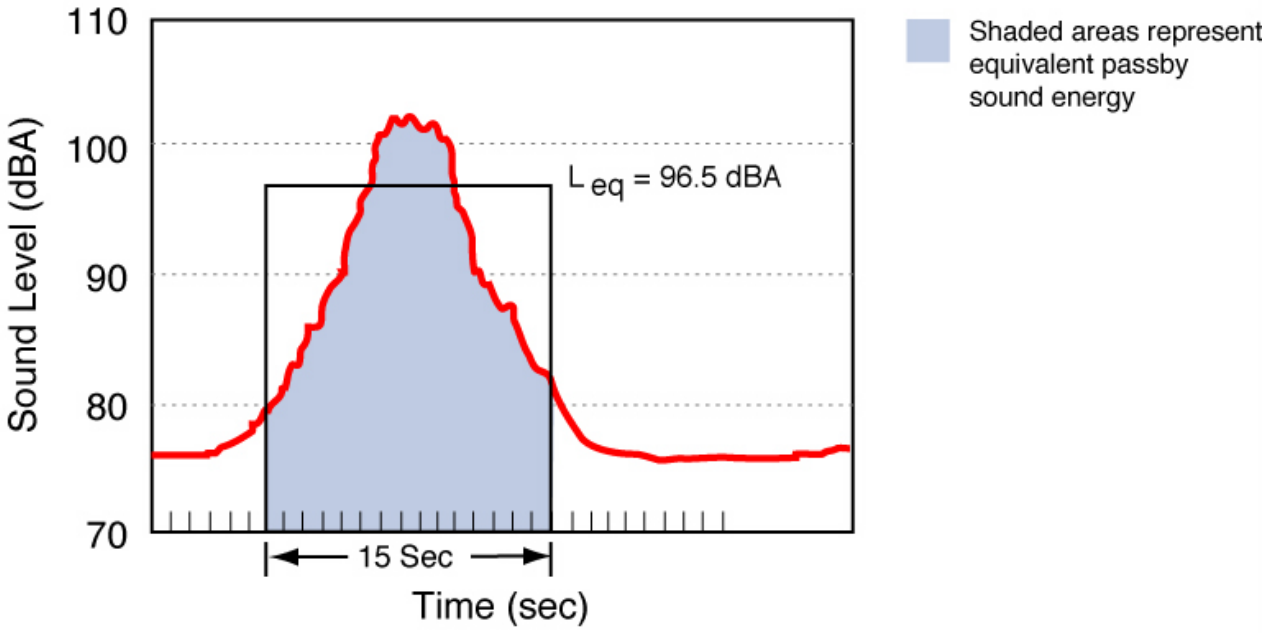

Figure A-5. Example of a 15-Second Equivalent Sound Level

Source: HMMH

A.1.7 Day-Night Average Sound Level, DNL or L_{dn}

The FAA requires that airports use a measure of noise exposure that is slightly more complicated than L_{eq} to describe cumulative noise exposure: the day-night average sound level (DNL).

The EPA identified DNL as the most appropriate means of evaluating airport noise based on the following considerations:[4]

- The measure should be applicable to the evaluation of pervasive long-term noise in various defined areas and under various conditions over long periods.
- The measure should correlate well with known effects of the noise environment and on individuals and the public.
- The measure should be simple, practical, and accurate. In principle, it should be useful for planning as well as for enforcement or monitoring purposes.
- The required measurement equipment, with standard characteristics, should be commercially available.
- The measure should be closely related to existing methods currently in use.
- The single measure of noise at a given location should be predictable, within an acceptable tolerance, from knowledge of the physical events producing the noise.

[4] "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety," U. S. EPA Report No. 550/9-74-004, March 1974.

- The measure should lend itself to small, simple monitors, which can be left unattended in public areas for long periods.

Most federal agencies dealing with noise have formally adopted DNL. The Federal Interagency Committee on Noise (FICON) reaffirmed the appropriateness of DNL in 1992. The FICON summary report stated, "There are no new descriptors or metrics of sufficient scientific standing to substitute for the present DNL cumulative noise exposure metric."

In 2015, the FAA began a multi-year effort to update the scientific evidence on the relationship between aircraft noise exposure and its effects on communities around airports.[5] This was the most comprehensive study using a single noise survey ever undertaken in the United States, polling communities surrounding 20 airports nationwide. The FAA Reauthorization Act of 2018 under Section 188 and 173, required FAA to complete the evaluation of alternative metrics to the DNL standard within one year. The Section 188 and 173 Report to Congress was delivered on April 14, 2020[6] and concluded that while no single noise metric can cover all situations, DNL provides the most comprehensive way to consider the range of factors influencing exposure to aircraft noise. In addition, use of supplemental metrics is both encouraged and supported to further disclose and aid in the public understanding of community noise impacts. The full study supporting these reports was released in January 2021. If changes are warranted in the use of DNL, which DNL level to assess or the use of supplemental metrics, FAA will propose revised policy and related guidance and regulations, subject to interagency coordination, as well as public review and comment.

In simple terms, DNL is the 24-hour L_{eq} with one adjustment; all noises occurring at night (defined as 10 p.m. through 7 a.m.) are increased by 10 dB, to reflect the added intrusiveness of nighttime noise events when background noise levels decrease. In calculating aircraft exposure, this 10 dB increase is mathematically identical to counting each nighttime aircraft noise event ten times.

DNL can be measured or estimated. Measurements are practical only for obtaining DNL values for limited numbers of points, and, in the absence of a permanently installed monitoring system, only for relatively short periods. Most airport noise studies use computer-generated DNL estimates depicted as equal-exposure noise contours (much as topographic maps have contours of equal elevation).

The annual DNL is mathematically identical to the DNL for the average annual day, i.e., a day on which the number of operations is equal to the annual total divided by 365 (366 in a leap year). **Figure A-6** graphically depicts the manner in which the nighttime adjustment applies in calculating DNL. **Figure A-7** presents representative outdoor DNL values measured at various U.S. locations.

[5] Federal Aviation Administration. Press Release – FAA To Re-Evaluate Method for Measuring Effects of Aircraft Noise. https://www.faa.gov/news/press_releases/news_story.cfm?newsId=18774

[6] Federal Aviation Administration. Report to Congress on an evaluation of alternative noise metrics. https://www.faa.gov/about/plans_reports/congress/media/Day-Night_Average_Sound_Levels_COMPLETED_report_w_letters.pdf

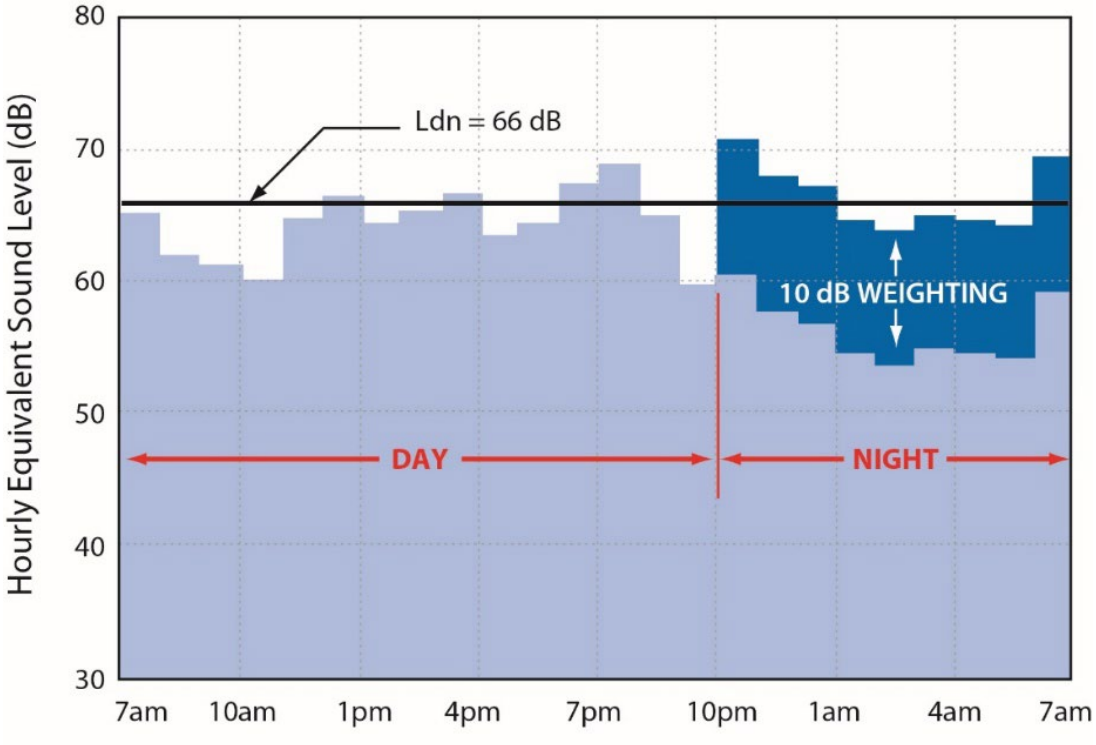

Figure A-6. Example of a Day-Night Average Sound Level Calculation

Source: HMMH

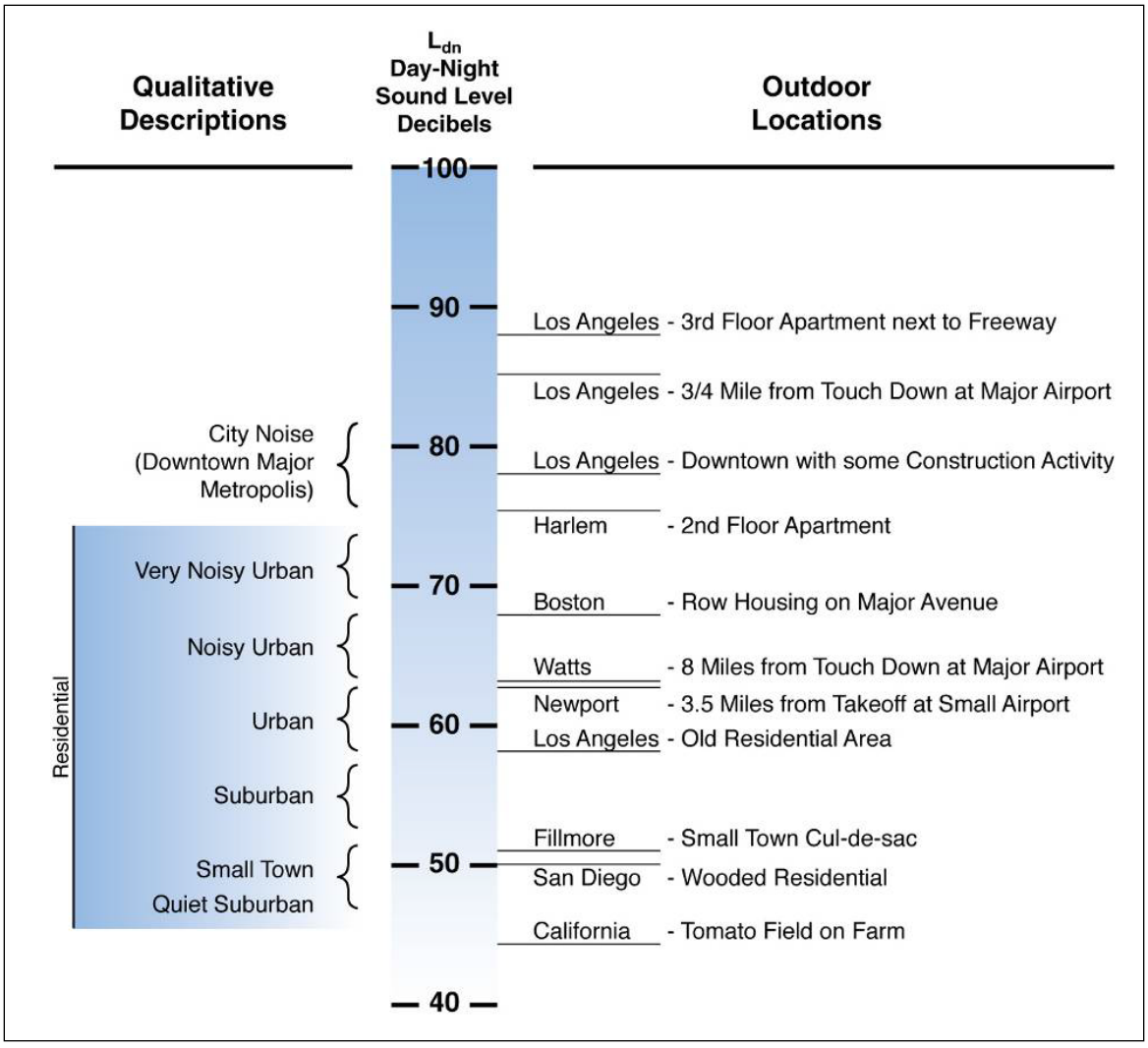

Figure A-7. Examples of Measured Day-Night Average Sound Levels, DNL

Source: U.S. Environmental Protection Agency, "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety," March 1974, p.14.

Appendix B: Existing Noise Compatibility Program Record of Approval

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Federal Aviation Administration

Memorandum

Date: June 19, 2008

From: Richard Doucette, Environmental Protection Specialist

To: LaVerne Reid, Airports Division Manager

John Donnelly, Regional Counsel's Office

Subject: Burlington International Airport, Part 150 Record of Approval

Attached is the Draft Record of Approval for the Noise Compatibility Program developed by Burlington International Airport. Only one new measure was under consideration. The prior Part 150 Noise Compatibility Program recommended acquisition of residences within the 70DNL contour. This new measure allows for land acquisition within the 65DNL contour.

No written comments were received during the FAA comment period.

In conformance with Regional and National procedures, AEE-1 has reviewed the draft Record of Approval and has no national policy concerns; and APP-400 has concurred with the draft Record of Approval. As soon as your concurrence is obtained, the Federal Register Notice on FAA's approval of the Noise Compatibility Program can be submitted.

John R. Donnelly — 6/23/08 — ✓ Concur ____ Nonconcur

John Donnelly
Regional Counsel, ANE-7

LaVerne F. Reid — 6/23/08 — ✓ Approved ____ Disapproved

LaVerne F. Reid
Airports Division Manager

RECORD OF APPROVAL

Burlington International Airport, South Burlington VT

FAR Part 150 Noise Compatibility Program

INTRODUCTION

The Burlington International Airport sponsored an Airport Noise Compatibility Planning Study under a Federal Aviation Administration (FAA) grant, in compliance with Federal Aviation Regulation, Part 150. Burlington produced a report entitled "Burlington International Airport, 14 CFR Part 150 Update, Noise Compatibility Program Update". The Noise Compatibility Program (NCP) was submitted to FAA for review and approval on April 23, 2008. The Noise Exposure Maps were determined to be in compliance in November 2006. That determination was announced in the Federal Register on November 17, 2006.

The study focused on one administrative measure to improve compatibility between airport operations and community land use. This one measure under consideration is the acquisition of homes within the 65dB DNL contour. Burlington International Airport's most recent Noise Compatibility Program (approved September 21, 1990) recommended land acquisition within the 70dB DNL noise contour. This change will allow more incompatible land use to be converted to compatible land use, through voluntary land acquisition.

The approvals listed herein include approvals of actions that the airport recommends be taken. It should be noted that these approvals indicate only that the actions would, if implemented, be consistent with the purposes of Part 150. These approvals do not constitute decisions to implement the actions. Later decisions concerning possible implementation of these actions may be subject to applicable environmental or other procedures or requirements. Approval does not constitute a commitment by the FAA to financially assist in the implementation of the program nor a determination that all measures covered by the program are eligible for grant-in-aid funding from the FAA. Eligibility for federal funding of measures that are determined in this Record of Approval to meet the approval criteria of 150.33 will be determined at the time the FAA receives an application for funding, using the criteria in the most current version of FAA Order 5100.38, Airport Improvement Program Handbook.

The program measures below summarize as closely as possible the airport operator's recommendations in the noise compatibility program and are cross-referenced to the program with page numbers that follow the title of each measure. The statements contained within the summarized program measures and before the indicated FAA approval, disapproval, or other determination, do not represent the opinions or decisions of the FAA.

EXISTING NOISE COMPATIBILITY PROGRAM

The prior NCP, developed in the original (1987-1990) Part 150 study, includes a mix of operational, implementation, and land use elements. While this update addresses only a revision to a single NCP measure, this NCP and Record of Approval provide a summary of the entire program to provide context. All measures recommended for implementation in 1989 were approved in 1990 and remain in effect, with the one revision resulting from this Program Update.

Airport Operations Measures

1. Extension of Taxiway G (pg 13)
Taxiway G would be extended from the existing intersection with Taxiway A to Taxiway C, remaining parallel with Runway 15/33 in order to reduce noise levels for residents along Airport Drive.
Status: Not yet implemented. The FAA has approved the extended Taxiway G at the planning level and it is shown on the updated 2006 Airport Layout Plan; the City has scheduled it for completion sometime after the 2011 planning horizon of the accepted NEM.

2. Terminal Power Installation and APU/GPU Restrictions (pg 13)
Installation of terminal power hookups for aircraft would reduce the need for aircraft to use internal auxiliary power units (APU) or ground power units (GPU). Following the installation, a rule prohibiting the use of APUs or GPUs between 10:00 p.m. and 7:00 a.m., would be put in place.
Status: Not fully implemented. The Airport terminal has "aircraft ground power" (referred to as "terminal power hooks" in the ROA and the 1989 NCP document) capability at nine gate locations that have passenger boarding bridges. Eight of the passenger gates - 3, 4, 5, 6, 11, 12, 14, and 15 are airport owned and available to any aircraft that uses these gates. Gate 8 has ground power that is owned and operated by United Airlines.

3. Nighttime Bi-direction Runway Use (pg 13)
To minimize late-night operations over the City of Winooski, the air traffic control tower would use Runways 15 for departure and Runway 33 for arrivals, traffic conditions permitting.
Status: Not implemented. The BTV ATCT is closed from 10:00 PM until 5:00 AM, which makes implementation of this measure infeasible during these hours. The ATCT has not implemented the procedure during the remaining "nighttime" hours, from 5:00 to 7:00 AM.

4. Noise Abatement Flight Paths for Runway 15 and 33 Departures, and 15 Arrivals (pg 14)
New procedures would have civil aircraft fly over less populated areas. Runway 33 departures would turn to a heading of 310 degrees. Runway 15 departures would turn to a heading of 180 degrees.
Status: Not fully implemented. Current procedures involve assignments that result in: (1) most west-bound Runway 15 departures making initial turns to a heading of 190, (2) most west-bound Runway 33 departures maintaining runway heading until past the City of Winooski, and (3) most east-bound Runway 33 departures initiating right hand turns over Winooski.

5. Voluntary Limits of Military C-5A Training (pg 14)
An informal agreement with the military limits C-5A operations to only necessary takeoffs and landings.
Status: Implemented. This informal agreement continues in place. BTV Operations strongly discourages C-5 training at the airport, because the runways are only 150 feet wide and wake turbulence from C-5 operations tear up the runway-edge lighting.

6. Voluntary Minimization of F-16 Multiple Aircraft Flights (pg 14)
Military personnel will schedule as many single-aircraft, as opposed to multiple-aircraft, flights as possible.
Status: Not fully implemented. Based on observations during data collection for this study, F-16s in multiple aircraft flights typically operated with some distance between individual aircraft, so that the aircraft do not produce their maximum noise levels at the same locations at the same time; while aircraft are operating close in time, they are not simultaneous in most cases.

7. Voluntary Army Guard Helicopter Training Controls (pg14)
The National Guard helicopter training operations will be conducted away from the airport when conditions permit. In terms of long range planning, the Guard should consider consolidating operations at Camp Johnson.
Status: Not implemented. The National Guard has continued training operations at BTV.

Monitoring and Review Elements

8. Ongoing Monitoring and Review of Noise Exposure Map (NEM) and Noise Compatibility Program (NCP) Status (pg 14)
This measure provides for revision of the NEM and NCP, citing three examples: changes in airport layout, unanticipated changes in the level of airport activity, and non-compliance with the NCP. This measure also included the recommendation of the Technical Advisory Committee as a Noise Abatement Committee and purchase of a permanent noise monitoring system.
Status: Not implemented. The City of Burlington updated its NEM in 1997 and 2006. This documentation represents the first NCP update.

9. Flight Track Monitoring (pg 15)
Utilize an outside firm to perform flight track analysis of radar data on a temporal sampling basis.
Status: Not implemented. Flight tracks for the 2006 NEM were developed from information provided by the Air National Guard, the 1997 NEM update, and interviews with FAA ATCT staff.

Land Use Measures

The City will use the 2006 and 2011 NEM contours to the extent that the following land use measures require definition of eligibility and implementation areas. The City will continuously monitor conditions affecting NEM validity, to determine when and if the contours require revision to reflect changes in the adequacy of the NEM contours.

10. Land Acquisition and Relocation (pg 15)
Incompatible land use includes mobile homes within the 65 dB DNL contour and residences within the 70 dB DNL contour. A purchase and relocation program would be voluntary and comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act.
Status: Implemented. There are no mobile homes within the 65 dB DNL contour. The City has purchased some, and is in the process of purchasing additional, permanent residences in the 70 dB DNL contour. The City proposes to change this element to include residences in the 65 dB DNL contour, as described at the end of this document.

11. Sound Insulation (pg 15)
Qualified compatible residential and noise sensitive land uses within the 65 and 70 dB DNL contours, and qualified compatible non-residential land uses in the 75 dB DNL contour, would be included in a sound insulation program.
Status: Not implemented. As discussed in Section 3.3.1 of the NCP document, the City has chosen to apply available funding to land acquisition.

12. Easement Acquisition Related to Soundproofing (pg15)
The City would attempt to negotiate avigation easements within the 65 dB DNL contour, in return for sound attenuation assistance.

Status: Not implemented. The City has chosen to apply available funding to land acquisition within the 70 dB DNL contour interval prior to providing treatment to homes in the 65-70 dB DNL contour interval.

13. Airport Zoning Overlay District (pg15)
Land use measures that would restrict uses which are highly sensitive to noise and could also feature construction standards for sound insulation.
Status: Not implemented. Although a formal Airport Zoning Overlay District has not been adopted, the City of South Burlington has actively worked to consider airport noise when addressing land-use decisions around the airport.

14. Easement Acquisition for New Development (pg 16)
Easements above would be obtained for new development within the 65, 70 and 75 dB DNL contours.
Status: Not implemented.

15. Real Estate Disclosure (pg 16)
A real estate disclosure policy would be developed for land uses within the 65 dB DNL contour, and implemented through revisions to zoning ordinances.
Status: Not implemented. The Airport has not actively encouraged the use of Real Estate Disclosures for properties within the 65 dB DNL contour but will be working with the City of South Burlington and the City of Winooski in that regard.

RECOMMENDED NOISE COMPATIBILITY PROGRAM REVISION

This NCP update proposes modification of one existing NCP element, as described below.

Land Acquisition and Relocation (pg 17)
The City of Burlington proposes to modify the existing Land Acquisition and Relocation Program (Land Use measure #10) to expand eligibility to the 65 dB DNL contour. This program is voluntary. Eligible property owners will be paid fair market value for their property at its highest and best rate, and provided relocation assistance in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (the "Uniform Act") and implementing Department of Transportation (DOT) regulations. The City, in coordination with the applicable jurisdiction, will conduct studies to define program boundaries and to identify options for compatible reuse of the acquired properties.

The City, and the jurisdiction within which the program is implemented, will develop a land use plan for the area surrounding the airport that is impacted by noise. This effort will follow the guidance contained in the FAA document "Management of Acquired Noise Land: Inventory Reuse Disposal" dated January 30, 2008, or later superseding documents.

FAA Action: Approved.

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RECORD OF APPROVAL

Burlington International Airport, South Burlington VT

14 CFR Part 150 Noise Compatibility Program

INTRODUCTION

The Burlington International Airport sponsored an Airport Noise Compatibility Planning Study under a Federal Aviation Administration (FAA) grant, in compliance with Federal Aviation Regulation, Part 150. Burlington produced a report entitled "Burlington International Airport, 14 CFR Part 150 Update, Noise Compatibility Program Update". The Noise Compatibility Program (NCP) was submitted to FAA for review and approval on April 6, 2020. The Noise Exposure Maps were determined to be in compliance on September 26, 2019. That determination was announced in the Federal Register on October 10, 2019.

The study focused on addressing the increased noise of the F-35 aircraft now based at BTV. The 2012 Department of Defense EIS indicated the maximum noise level generated by the F-35 aircraft (115dBA Lmax at 1,000ft AGL) is approximately 21 decibels louder than the F-16 aircraft (94dBA Lmax at 1,000ft AGL). See Table BR3.2-1, EIS dated March 2012. This considerable increase in noise will triple the number of homes located in the 65DNL noise contour, to over 2,600 homes.

To address this noise increase, the City of Burlington proposes to shift from land acquisition to sound insulation as its primary noise mitigation measure. It will also offer Purchase Assurance and Sales Assistance programs, which will help homeowners in the affected area. Sound insulation does allow the available funding to address more homes, but it does not remove the homes (and relocate the residents) from the noise-affected areas. Sound insulation is not a panacea. It is only useful when residents are indoors, with the windows closed.

After acoustical testing of homes, many of these may be eligible for sound insulation, which could be funded by the FAA. FAA grants require a local share, in this case 10% of the total cost of each grant. As a small hub airport, it will be very difficult for Burlington International Airport to generate sufficient revenue to fund a program of this size. Federal budget rules do not currently allow the Department of Defense to provide any portion of the local share for an FAA grant. Understandably, the local municipalities are resistant to funding the local share. Due to the number of homes inside the 65DNL noise contour, it could take decades for all the eligible homes to be sound insulated by the City of Burlington.

The City of Burlington and the host community South Burlington, have chosen sound insulation over acquisition as their preferred noise mitigation measure. This was done to preserve the affordable housing around the airport. This creates an unfortunate conflict between two public interests: affordable housing and compatible land use. Based on federal standards, noise levels of 65DNL are not compatible with residential land use. Installation of sound insulation technically makes the homes "compatible" with these noise levels, but it does not meet the needs of all homeowners in all situations. The FAA can assist in balancing these two interests by funding eligible noise mitigation. But this conflict can only be lessened, it cannot be eliminated. The FAA continues to recommend acquisition, as opposed to sound insulation, for noise mitigation in areas of 70DNL noise and higher.

One source of noise mitigation funding that has yet to be tapped is local aviation fuel taxes collected by South Burlington, which now total over $180,000. We recommend South Burlington and Burlington work jointly to consider an appropriate use of this ongoing source of revenue. One possible use would be to help fund the annual operating cost of a noise monitoring system, which is now under consideration. The FAA is prohibited from funding ongoing operational costs.

The approvals listed herein include approvals of actions that the airport recommends be taken. It should be noted that these approvals indicate only that the actions would, if implemented, be consistent with the purposes of Part 150. These approvals do not constitute decisions to implement the actions. Later decisions concerning possible implementation of these actions may be subject to applicable environmental or other procedures or requirements. Approval does not constitute a commitment by the FAA to financially assist in the implementation of the program nor a determination that all measures covered by the program are eligible for grant-in-aid funding from the FAA. Eligibility for federal funding of measures that are determined in this Record of Approval to meet the approval criteria of 14 CFR Part 150 will be determined at the time the FAA receives an application for funding, using the criteria in the most current version of FAA Order 5100.38, Airport Improvement Program Handbook.

The program measures below summarize as closely as possible the airport operator's recommendations in the noise compatibility program and are cross-referenced to the program with page numbers that follow the title of each measure. The statements contained within the summarized program measures and before the indicated FAA approval, disapproval, or other determination, do not represent the opinions or decisions of the FAA.

EXISTING NOISE COMPATIBILITY PROGRAM

The prior NCP was developed in the original (1987-1990) Part 150 study and revised in 2008. It includes a mix of operational, implementation, and land use elements. This NCP and Record of Approval provide a summary of the entire program to provide context. All measures previously approved remain in effect, unless specifically modified by an NCP Update and subsequently approved by a Record of Approval (ROA).

Airport Operations Measures

Ongoing Monitoring and Review of Noise Exposure Map (NEM) and Noise Compatibility Program (NCP) Status

This measure provides for revision of the NEM and NCP, citing three examples: changes in airport layout, unanticipated changes in the level of airport activity, and non-compliance with the NCP (2008 ROA measure #8).

Flight Track Monitoring

Utilization of an outside firm to perform flight track analysis of radar data on a temporal sampling basis (2008 ROA measure #9).

Land Use Measures

Most of the following land use measures rely on an accurate Noise Exposure Map. The 2023 NEM is the preferred map for land use planning, as it reflects a full complement of F-35 aircraft.

Land Acquisition and Relocation

Non-compatible land use includes residences within the 65 dB DNL contour in the 1997, 2006, and 2015 NEM. Eligible property owners will be paid fair market value for their property, and provided relocation assistance in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (the “Uniform Act”) and implementation of Department of Transportation (DOT) regulations. The City, in coordination with applicable jurisdiction, will conduct studies to define program boundaries and to identify options for compatible reuse of the acquired properties (2008 ROA measure 10).

Sound Insulation

Qualified incompatible residential and noise sensitive land uses within the 65 and 70 dB DNL contours, and qualified incompatible non-residential land uses in the 75 dB DNL contour, would be included in a sound insulation program (2008 ROA measure #11).

Easement Acquisition Related to Soundproofing

The City would attempt to negotiate avigation easements within the 65 dB DNL contour, in return for sound attenuation assistance (2008 ROA measure #12).

Airport Zoning Overlay District

Land use measure that would restrict uses which are highly sensitive to noise and could also feature construction standards for sound insulation (2008 ROA measure #13).

Easement Acquisition for New Development

Easements would be obtained for new development within the 65, 70 and 75 dB DNL contours (2008 ROA measure #14).

Real Estate Disclosure

A real estate disclosure policy would be developed for land uses within the 65 DNL contour, and implemented through revisions to zoning ordinances (2008 ROA measure #15).

RECOMMENDED NOISE COMPATIBILITY PROGRAM

This NCP update includes new mitigation measures, and modifications to existing measures. The City of Burlington, and the City of South Burlington, prefer the local surrounding residential areas to remain a source of affordable housing. This decision results in a shift in the NCP from land acquisition to sound insulation.

The approval of the 2020 NCP update by the FAA is not a commitment to fund or implement these measures. This information is provided here as a planning tool to assist in the implementation of the NCP. Implementation of the recommended measures is at the discretion of the City of Burlington and subject to available funding from both the FAA and the City.

Airport Operational Measures

1. Ongoing Monitoring and Review of Noise Exposure Map (NEM) and Noise Compatibility Program (NCP) Status

This measure provides for revision of the NEM and NCP, citing three examples: changes in airport layout, unanticipated changes in the level of airport activity, and non-compliance with the NCP. This measure also included the recommendation of the Technical Advisory Committee as a Noise Abatement Committee and purchase of a permanent noise monitoring system (2008 ROA measure #8).

Costs: The estimated cost for a future NEM/NCP update is $500,000 to $1,000,000.
Schedule: As required by existing regulations, the NEM and/or NCP documents are to be updated when necessitated by operational changes resulting in a change in noise levels. The Airport is committed with the Vermont Air National Guard to a joint NEM update 1-2 years after Full Operational Capability (FOC) of the F35A aircraft is attained. This update is anticipated to be funded in late 2021-2022.

FAA Action: Approved.

2. Noise and Flight Track Monitoring

This measure recommends the implementation of a system to perform noise monitoring and flight track analysis of radar data, on an ongoing basis. This was a measure contained in the 2008 ROA, Monitoring and Review Elements, measure #9. This measure has been updated to more clearly indicate it includes both noise monitoring and flight tracking. Previously, noise monitoring was included in measure #1. The system will be designed to make the information available to the general public.

Costs: The estimated cost for an extensive noise monitoring and flight tracking system is $500,000 to $1,000,000. A smaller system would cost less, and could be expanded over time. Annual operating costs are not eligible for FAA funding.
Schedule: The City can purchase and install the system upon approval of the measure and availability of funding.

FAA Action: Approved, as may be limited by Part 150 and FAA funding guidance.

Land Use Measures

3. Land Acquisition and Relocation

The City of Burlington, Vermont (the "City") proposes to modify the existing Land Acquisition and Relocation Program to limit the eligibility to parcels where the majority of the non-compatible parcel is located within the 75 dB DNL contour.

As with the current NCP, this program is voluntary. Eligible property owners will be paid for their property at Fair Market Value, and provided relocation assistance in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (the "Uniform Act") and implementing Department of Transportation (DOT) regulation.

The City proposes to modify the existing Land Acquisition and Relocation Program to limit eligibility to parcels where the majority of the non-compatible parcel is located within the 75 dB DNL contour. This is to preserve neighborhood continuity where terrain modeling resulted in small 75 DNL "pockets". The City recognizes that future NEM updates may shift these 75 DNL "pockets" to other areas in the neighborhood.

This will be a revision to the 2008 ROA Land Use measure #10, which included mobile homes within the 65 DNL contour and residence within the 70 DNL contour. The City, along with input from the City of South Burlington, has requested this measure be modified to apply only to the 75 DNL and higher contours.

Costs: There are 10 residential properties located within the 2023 75 DNL contour. There is an average cost of $339,000 per unit for acquisition and relocation; the total cost to implement this measure if all units participated would be $3,390,000.[1]
Schedule: This measure could be implemented upon approval and the availability of funding. It should be noted that five parcels have been included in prior phases of this program and the property owners have declined participation.

FAA Action: Approved, with the understanding that the FAA preference would be acquisition and relocation in areas experiencing noise levels 70DNL and above.

4. Sound Insulation of Residential Structures

Qualified incompatible residential land uses within the 65 and up to the 75 dB DNL contours, and residential land use located partially within the 75 dB DNL noise contours where a majority of the parcel (and all of the structure) is located outside the 75 dB DNL contour, would be included in a sound insulation program. For qualified properties, the City will provide an acoustical treatment package designed to reduce interior noise levels to 45 DNL and provide a minimum reduction of 5 dB from the existing interior noise level in accordance with FAA guidelines.[2]

This will be a revision to the 1990 ROA Land Use measure #11. The previous NCP contains an approval for "sound proofing" for residences in the 65 DNL and 70 DNL noise contour. This measure seeks to clarify that properties which touch the 75 DNL due to AEDT modeling settings would be treated as 70 DNL. The City recognizes these parcels are not contiguous to the

[1] Estimated cost is based upon the average of the 2017 property purchases by Burlington International Airport.

[2] FAA Order 5100.38D "Airport Improvement Program Handbook", Appendix R "Noise Compatibility Planning/Projects", Change 1, effective date February 26, 2019.

existing acquisition area and acquisition could create an adverse impact on the surrounding neighborhood.

Costs: There are approximately 2,627 residential units that are located within the 2023 NEM 65 and 70 DNL contours. There are 878 single family units and 1,749 multi-family units. The estimated average cost to provide sound insulation is $45,000 per unit for single family homes located in the 65 to 70 DNL and $50,000 per unit for homes located in the 70 to 75 DNL. The estimate cost for multi-family buildings is $25,000 per unit for located in the 65 to 70 DNL and $30,000 per unit for homes located in the 70 to 75 DNL. The total cost to implement this measure if all units participated would be $84,650,000.[3]
Schedule: This measure could be implemented upon approval and the availability of funding.

FAA Action: Approved, with the understanding that sound insulation is more difficult and expensive at these higher noise levels.

5. Sound Insulation of Noise Sensitive Buildings

Qualified incompatible non-residential land uses (schools, hospitals, places of worship) within the 65 and up to the 75 dB DNL contours would be included in a sound insulation program. For qualified properties, the City will provide an acoustical treatment package designed to reduce interior noise levels to 45 DNL and provide a minimum reduction of 5 dB from the existing interior noise level in accordance with FAA guidelines. This measure was included in the 1990 ROA, Land Use measure #11.

Costs: There are approximately 24 noise sensitive buildings, including places of worship, learning centers, and care centers, located within the 65 and 70 DNL contours. Costs for these parcels have not been developed.
Schedule: This measure could be implemented upon approval and the availability of funding.

FAA Action: Approved.

6. Purchase Assurance for Single Family Parcels

Qualified incompatible owner occupied single family parcels within the 65 DNL up to the 75 DNL contours would be included in a purchase assurance program. The City would acquire the home (with their own funds) in exchange for an avigation easement, provide sound insulation and resell the home on the open market for fair market value. Proceeds from the sale of the home would be utilized to fund further noise mitigation programs. This measure pertains to eligible properties within the 65 dB DNL noise level or higher for which the land use is considered non-compatible. (49 USC § 47502, as implemented by Table 1 of Appendix A in 14 CFR part 150). An avigation easement will be required.

Costs: There are 878 single family units located within the 65 DNL up to the 75 DNL contours. The estimated average cost is $341,000 per parcel. (This includes $296,000 to acquire a single family home plus $45,000 for an acoustical treatment package). The total cost to implement this measure if all units participated would be approximately $60,000,000.[4]
Schedule: This measure could be implemented upon approval and the availability of funding.

FAA Action: Approved. Income from this program would, for FAA compliance purposes, be considered "program income" and be used to offset program costs.

[3] Estimated cost is based upon 2017 costs from other New England Region sound insulation programs.

[4] Estimated cost is based upon 2017 costs from other New England Region sound insulation program.

7. Sales Assistance for Single Family Parcels

Qualified incompatible owner occupied single family parcels within the 65 DNL up to the 75 DNL contours and not eligible for sound insulation would be included in a sales assistance program. In exchange for an avigation easement, the City would provide an incentive to assure homeowners receive fair market value for the sale of their home on the open market. Land use includes eligible properties within the 65 dB DNL noise level or higher for which the land use is not considered to be compatible[5] (49 USC § 47502, as implemented by Table 1 of Appendix A in 14 CFR part 150). An avigation easement will be required.

Costs: There are 878 single family units located within the 65 and 70 DNL contours. The estimated maximum differential payment would be 5% of the average home cost for a single family home would be $14,800[6]. The total cost to implement this measure if all units participated would be $12,994,400.[7]

FAA Action: Approved, with the understanding that FAA participation is intended to help offset the difference between fair market value and the sale price of noise-affected properties on the open market. This is not expected to exceed the cost of avigation easements on eligible properties.

8. Purchase of Avigation Easement for Noise – Measure to be Removed

The acquisition of an avigation easement for new development within the 65, 70 and 75 DNL contours. This was a measure contained in the 1990 ROA, Land Use measure #14.

FAA Action: Approved for removal.

9. Noise Barrier Analysis – Measure Not Recommended for Implementation

Physical barriers can be effective means of reducing noise exposure in certain situations. Barriers are commonly used along roadways and near stationary noise sources to minimize the propagation of noise to adjacent communities.

A significant constraint limiting the effectiveness of barriers at airports is the requirement to limit the height of obstacle. This limits the ability to build a barrier both high enough and close enough to the runway that is effective in blocking takeoff roll and landing roll noise. If a barrier cannot be placed close to the noise source, its effectiveness will be greatest if it can be placed close to the receiver location. This means a high wall built adjacent to residences, providing acoustic blockage, which may result in visual or aesthetic intrusion to these residents.

In accordance with Appendix R "Noise Compatibility Planning/Projects" of the Federal Aviation Administration (FAA) Order 5100.38D Airport Improvement Program Handbook[8] (AIP Handbook), a noise barrier must be able to reduce aircraft noise levels by at least 5 dB.[9] If construction of a noise barrier is funded through the Part 150 program, any residences receiving a 5 dB reduction in DNL would be considered mitigated and would not maintain eligibility for

[5] FAA Order 5100.38D "Airport Improvement Program Handbook", Appendix R "Noise Compatibility Planning/Projects", Change 1, effective date February 26, 2019.
[6] Estimated cost is based upon the average single family residence purchased by Burlington International Airport is $296,000.
[7] Estimated cost is based upon 2017 costs from other New England Region sound insulation programs.
[8] FAA Order 5100.38D "Airport Improvement Program Handbook", Appendix R "Noise Compatibility Planning/Projects", effective date February 26, 2019.
[9] FAA Order 5100.38D Appendix R, Table R-6 "Noise Compatibility Planning/Project Requirements", m. "Noise Mitigation Measures – On-airport Noise Barriers" Paragraph (4): "The project must reduce noise to a land use noncompatible with aircraft noise by at least 5 dB."

other mitigation measures such as sound insulation or acquisition. This was a measure analyzed in the 2008 NCP Update and not recommended for implementation.

FAA Action: Approved for removal.

Julie Seltsam, Deputy Director, ANE-600
Airports Division, New England Region

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Appendix C: Noise Modeling Supporting Information

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HMMH
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TECHNICAL MEMORANDUM

To:	Diane Carter and Brianna Whiteman
	The Jones Payne Group
From:	David Crandall, Principal Consultant Kate Larson, Senior Managing Consultant
Date:	July 12, 2024
Subject:	Flight Operations Forecast for BTV Operations in Calendar Years 2024 and 2029
Reference:	HMMH Project Number 03-14010

The City of Burlington, Vermont (the City) has retained Jones Payne Group (JPG) and Harris Miller Miller & Hanson Inc. (HMMH) to prepare an update to its Noise Exposure Map (NEM) and associated documentation for Burlington International Airport (BTV) in accordance with Federal Aviation Administration regulations published at Title 14 of the Code of Federal Regulations (CFR) Part 150. This effort is referred to as the "BTV NEM Update". This memorandum presents the base year and forecast operational assumptions for review and comment.

The City plans to submit the BTV NEM Update to Federal Aviation Administration (FAA) in calendar year 2024. Therefore, the NEM year of submission will be 2024 and the forecast year NEM will be 2029.

This memorandum includes the following four appendices:

1. Appendix A provides the FAA OPSNET data (Tower Counts) for BTV from July 1, 2022 through June 30, 2023
2. Appendix B provides the most recent FAA Terminal Area Forecast (TAF) operations data for BTV, issued January 2024.
3. Appendix C presents the detailed 2024 civilian operations forecast, revised March 2024 with current airline schedules
4. Appendix D presents the detailed 2029 civilian operations forecast, revised March 2024 based on updates to 2024 forecast

1. 2024 Noise Exposure Map Forecast

The purpose of this forecast is to prepare aircraft operations for use in the NEM preparation for BTV that represent calendar year 2024 and 2029 activity levels. The forecast needs to include the full variety of aircraft types that are expected to operate in those years. HMMH identified representative aircraft types for each category from various sources for input into the Aviation Environmental Design Tool (AEDT) model. Operations must be identified as daytime (7:00 AM to 10:00 PM local time) or nighttime (10 PM to 7 AM local time) for use in calculating Day-Night Average Sound Level (DNL).

In its June 2008 document entitled "Review and Approval of Aviation Forecasts",[1] the FAA describes its guidelines for comparing locally-prepared forecasts to the FAA's TAF. For all classes of airports, forecasts for total enplanements, based aircraft, and total operations are considered consistent with the TAF if they meet the following criterion:

> *Forecasts differ by less than 10 percent in the 5-year forecast period and 15 percent in the 10-year period.*

For the BTV NEM Update, HMMH proposes to use the growth rates from the January 2024 issue of the FAA's TAF (Appendix B of this memorandum) as the basis for forecasting aircraft operational activity levels, with adjustments reflecting recent operational changes, nighttime tower closures, and FAA's practice of counting military aircraft flying in formation as a single operation. HMMH met with military personnel and representatives from Vermont

[1] https://www.faa.gov/sites/faa.gov/files/airports/planning_capacity/approval_local_forecasts_2008.pdf

Flight Academy and from Beta Technologies[2] to discuss their current aircraft fleets and projected operations levels for 2024 and 2029.

The total proposed modeled aircraft operations are presented below:

- 115,227 annual aircraft operations in 2024
  - The modeled operations correspond to 113,897 projected tower count activity levels
  - The TAF issued in January 2024 shows 104,896 operations (Appendix b)
  - Additional details are presented in **Section 2**
- 119,139 annual aircraft operations in 2029
  - The modeled operations correspond to 117,737 projected tower count activity levels
  - The TAF issued in January 2024 shows 108,165 operations (Appendix B)
  - Additional details are presented in **Section 3**

The TAF is based on historical "Tower Count" data reported by FAA OPSNET. FAA Air Traffic Controllers provide the counts to OPSNET in accordance with FAA Order 7210.3. In general, each aircraft arrival or departure is counted as a single "itinerant" operation. Practice touch-and-go operations (where the pilot practices a landing on a runway, then proceeds to take off again instead of stopping) are counted as two operations, and generally classified as "local" operations.

For reference, the TAF reports aircraft operational activity levels in one of four categories listed below.

- Air Carrier – Operations by aircraft capable of holding 60 seats or more and which use three-letter company designators. At BTV, most air carrier operations are scheduled passenger operations; about 3 percent are cargo jet aircraft operations.
- Air Taxi – Operations by aircraft with less than 60 seats and which use three-letter company designators, the prefix "T" (TANGO), or the prefix "L" (MEDEVAC). At BTV, most air taxi operations in recent years have been charter and corporate aircraft, followed by scheduled passenger operations and regular cargo operations.
- Military – All classes of military operations. At BTV, this includes operations of both the Vermont Air National Guard (VTANG) and the Vermont Army National Guard (VTARNG). Additional military operations include transient aircraft which are operated by a branch of the armed services that are traveling through the area, training with the local units, and/or carrying dignitaries.
- General Aviation (GA) – Civil (non-military) aircraft operations not otherwise classified under air carrier or air taxi. At BTV, a large number of GA operations are associated with flight training conducted by Beta Technologies and Vermont Flight Academy.

HMMH considered two particular features of OPSNET reporting when preparing the NEM forecasts. First, operations are only counted when the local air traffic control facility is staffed. At BTV, the local air traffic control facilities are closed from midnight to 5:30 AM and therefore operations during that period are not reported to OPSNET.[3] Second, multiple aircraft flying in a single formation are counted as a single operation because the aircraft traffic control facility communicates only with the lead aircraft[4]. At BTV, military aircraft frequently operate in formations of two to six aircraft, and in such cases are only counted once in OPSNET. Both of these features result in the OPSNET data somewhat under-reporting total activity levels. To compensate, HMMH estimated operations counts occurring while the tower is closed, as explained in Section 2. HMMH developed military operations data in consultation with US Air National Guard 134th Fighter Squadron personnel; FAA OPSNET military counts only provided supplementary information.

[2] HMMH discussion with Vermont Flight Academy on October 12, 2023, and Beta Technologies on October 19, 2023

[3] Aircraft operations needing air traffic control services at such times contact the Boston Center, which maintains its own separate OPSNET counts.

[4] The practice is documented in FAA Order 7210.3DD [4] FAA Order 7210.3DD, section 9-1-4a: https://www.faa.gov/air_traffic/publications/atpubs/foa_html/chap9_section_1.html

For the noise exposure map, all physical aircraft operations should be represented. Therefore, there are some differences between the proposed operations for noise model input and the tower counts that would be reported by OPSNET. The OPSNET data are more directly comparable to the TAF.

2. Existing Operations

Civilian 2024 existing conditions operations were developed from a combination of Vector Airport System (Vector) Noise and Operations Management System (NOMS) data, FAA tower counts (as reported by OPSNET), FAA forecast (TAF), and information from BTV airport staff. Flight information and radar track data for civilian aircraft operations for July 1, 2022 through June 30, 2023 were adjusted to represent annual 2024 conditions by considering recent activity, historical growth at the airport, and recent changes in commercial operations. Operations counts were also adjusted to account for the FAA Air Traffic Control Tower (ATCT) being closed midnight through 5:30 AM daily.

Table 1 presents the FAA-reported tower counts for a 12-month sample period. The adjustment for the estimated operations occurring while the tower was closed was derived from the Vector NOMS data for the same time frame.

Table 1. July 2022 to June 2023 FAA OPSNET Tower Counts and Estimated Operations During Tower Closure

FAA Aircraft Categories		FAA-Reported Tower Counts	Estimated Operations Midnight to 5:30 AM	Total Estimated Operations	Percent Difference
Itinerant	Air Carrier	17,366	654	18,020	3.63%
	Air Taxi and Commuter	6,833	72	6,905	1.04%
	General Aviation	39,458	512	39,970	1.28%
	Military	3,777	0	3,777	0.00%
Local	General Aviation	42,419	121	42,540	0.28%
	Military	725	0	725	0.00%
Totals[1]		**110,578**	**1,359**	**111,937**	**1.21%**

Sources: FAA OPSNET, 2023; BTV Vector® data, 2023; HMMH, 2023.

The 2024 forecast incorporates announced scheduled commercial service changes current as of March 2024. These changes include the elimination of jetBlue's 2 daily round-trip flights to New York's John F. Kennedy (JFK) airport starting in 2024[5], resulting in a reduction of 1,460 aircraft operations. Delta Airlines schedule changes (reducing service to JFK and New York LaGuardia Airport but adding service to Detroit and Minneapolis/St. Paul) has been taken into account as well as American Airlines alterations to their Philadelphia service and United Airlines commencement of service to Denver. Also, an increase in Breeze Airways flights to Florida has been included in the projections. In addition to the commercial airline schedule changes, HMMH incorporated the growth expected in the next few months at Beta Technologies[6] and Vermont Flight Academy, which provides pilot training services.

The proposed 2024 existing conditions modeled operations are based on the total estimated operations shown in **Table 1**, with the known modifications applied. **Table 2** presents a summary of the 2024 existing conditions

[5] jetBlue Announcement: https://vtdigger.org/2023/10/25/jetblue-to-end-burlington-new-york-route-delta-to-scale-back-flights/

[6] Beta Technologies is an aircraft design and manufacturing firm for the ALIA aircraft, which uses electric propulsion resulting in zero emissions expected from operating such aircraft.

operations proposed for modeling, provided in terms of both annual operations as well as average annual day (AAD) operations. The 2024 TAF data and calendar year 2023 operations counts are provided in the last two columns for comparison.

Table 2. Comparison of Proposed Operations for the 2024 NEM Modeling to TAF Operations and 2023 OPSNET

FAA Categories		Proposed 2024 Operations for NEM Modeling		Adjustment for tower closed hours	Expected 2024 Tower Counts[2]	FY 2024 TAF[3] Issued Jan 2024	CY 2023 OPSNET[4]
		Annual	AAD				
Itinerant	Air Carrier	16,720	42.1	-3.63%	16,113	14,172	16,887
	Air Taxi and Commuter	6,013	19.1	-1.04%	5,950	8,725	7,383
	General Aviation	41,758	114.1	-1.28%	41,223	39,314	37,279
	Military[1]	5,374	14.3	0.00%	5,374	3,620	3,424
Local	General Aviation	45,258	123.7	-0.28%	45,131	38,518	35,262
	Military	106	0.2	0.00%	106	547	366
Totals		**115,227**	**314.8**		**113,897**	**104,896**	**100,601**

Notes:

1 Military operations were developed through conversations and interviews with the VTANG and VTARNG.

2 Expected 2024 tower counts associated with the operations modeled for the 2024 NEM are comparable to OPSNET and to the TAF; they include adjustments to reflect that the tower is closed between midnight and 5:30 AM daily.

3 FAA's Terminal Area Forecast (TAF) https://taf.faa.gov/: data issued January 2024 is provided in Appendix B.

4 Calendar year 2023 OPSNET counts are presented for comparison purposes. https://aspm.faa.gov/opsnet/sys/Airport.asp

Sources: FAA, 2023, 2024; HMMH, 2023; USAF 134th Fighter Squadron, 2023; BTV Vector® data, 2023.

Applying adjustment factors to remove the operations which might be expected to occur while the tower is closed results in the expected tower counts for 2024. That total, 113,897 operations, is 8.6 percent higher than the 2024 total in the most recent TAF. The air carrier and air taxi operations in the expected 2024 tower counts and the actual 2023 tower counts (CY 2023 OPSNET) match fairly well to the most recent TAF. The primary differences come from the expected 2024 general aviation operations, which are predominantly associated with Beta Technologies and Vermont Flight Academy.

The table of proposed detailed civilian operations to be modeled for the 2024 Existing Conditions NEM is included as Appendix C.

3. Forecast Assumptions

The detailed forecast for 2029 relies on several general assumptions concerning changes to the fleet mix (the specific type and number of aircraft operating at BTV) within the forecasting period. These changes would be made relative to the 2024 fleet. **Table 3** presents a summary of the 2029 forecast operations.

Table 3. Comparison of Proposed Operations for the 2029 NEM Modeling to TAF Operations

FAA Categories		Proposed 2029 Operations for NEM Modeling		Adjustment for tower closed hours	Expected 2029 Tower Counts[2]	FY 2029 TAF[3] Issued Jan 2024
		Annual	AAD			
Itinerant	Air Carrier	18,071	49.4	-3.63%	17,415	17,036
	Air Taxi and Commuter	6,282	17.2	-1.04%	6,217	8,532
	General Aviation	43,064	117.7	-1.28%	42,513	39,709
	Military[1]	5,354	14.6	0.00%	5,354	3,620
Local	General Aviation	46,263	126.4	-0.28%	46,133	38,721
	Military	106	0.3	0.00%	106	547
Totals		**119,139**	**325.5**		**117,737**	**108,165**

Notes:

1 Military operations were developed through conversations and interviews with the VTANG and VTARNG.

2 Expected 2029 tower counts associated with the operations modeled for the 2029 NEM are comparable to the TAF; they include adjustments to reflect that the tower is closed between midnight and 5:30 AM daily.

3 FAA's Terminal Area Forecast (TAF): data issued January 2024 is provided in Appendix B.

Sources: FAA, 2023; HMMH, 2023; USAF 134th Fighter Squadron, 2023; Vector® Data, 2023.

In preparing the 2029 forecast, HMMH applied the following assumptions:

- 2024 modeled operations are scaled by the TAF average annual compound growth rate (AACGR) from 2026 through 2030 by operational category to create the 2029 forecast. Those years were chosen because the TAF echoes the significant changes in commercial operations occurring in the early 2020's due to the COVID pandemic but then settles into steady modest growth predictions. The 2026 through 2030 period encompasses the Noise Exposure Map forecast year; it portrays a reasonable AACGR of 1.57 percent for air carrier and 0.88 percent for air taxi / commuter aircraft operations.
- The day/night ratio and departure stage length distribution will remain the same as the 2024 base year for each aircraft type.
- Adjustments have been made for the following:
    - Beta Technologies expects current aircraft activity to increase five percent from 2024 to 2029.
    - Beta Technologies is operating an electric aircraft manufacturing plant which was officially opened in October 2023. At this time, we assume that in 2029 the plant will be operating at the full 300 manufactured aircraft per year capacity, producing a mix of the company's CX300 electric conventional-takeoff-and-landing and the A250 electric vertical-takeoff-and-landing (eVTOL) aircraft. These aircraft will depart BTV after assembly, go to Plattsburgh for painting, and from there be delivered to customers. These aircraft are not expected to conduct additional flight operations at BTV.

As shown in **Table 3**, the proposed operations annual total for 2029 corresponds to expected tower counts of 117,737 operations, which is 8.8 percent higher than the 2029 total in the most recent TAF. The table of detailed civilian operations to be modeled for the 2029 Forecast Conditions is included as Appendix D.

4. Existing and Future Fleet Mix

The existing and future detailed fleet mixes, with operations listed by aircraft type, by day/night time periods and by representative stage length are provided in Appendix C and Appendix D.

The existing conditions fleet mix is based on the same data used for the existing conditions aircraft operations levels discussed in Section 2. The future fleet mix is developed from the existing airline fleet mix and information regarding near term fleet changes, including the retirement of older aircraft and purchase of new aircraft as passenger demands warrant. General aviation aircraft fleet mix is usually more static, and changes occur more gradually. Military fleet mix changes based on the needs of the US military, with development and deployment of a new air frame taking many years.

The following assumptions were included in the development of the future fleet mix:

- Delta Air Lines has announced that it will retire its Boeing 717-200 by December 2025.[7] Delta is the only operator of this aircraft type in the 2024 operations. The 2029 forecast assumes that the 717-200 operations will be replaced with Boeing 737 aircraft and that Delta will replace BTV 717-200 operations on a one-for-one basis with the 737-800. Any additional Delta operations occurring due to the forecasted growth of air carrier operations at BTV assume a corresponding increase in use of the 737-800.
- Vermont Flight Academy (VFA) anticipates replacing some of its fleet with Tecnam P-Mentor aircraft, beginning in 2024 and continuing throughout the 2024-2029 time frame. As the replacement schedule is uncertain, the 2024 modeled operations assume a VFA fleet largely composed of Cessna 172 aircraft and the 2029 VFA operations would be modeled with 50 percent Tecnam P-Mentors.

[7] Securities and Exchange Commission 8-K filing 9/25/2020 under Item 2.06 Material Impairments. Available at https://www.sec.gov/ix?doc=/Archives/edgar/data/27904/000168316820003281/delta_i8k.htm

APPENDIX A. FAA TOWER COUNTS

11/6/23, 10:34 AM OPSNET Report

OPSNET : Airport Operations : Standard Report

From 07/2022 To 06/2023 | Facility=BTV

	Itinerant					Local			
Date	Air Carrier	Air Taxi	General Aviation	Military	Total	Civil	Military	Total	Total Operations
07/2022	1,638	592	3,977	368	6,575	2,820	65	2,885	9,460
08/2022	1,643	647	4,258	363	6,911	3,726	128	3,854	10,765
09/2022	1,607	534	3,847	339	6,327	3,580	47	3,627	9,954
10/2022	1,647	584	4,383	401	7,015	4,148	73	4,221	11,236
11/2022	1,409	435	2,565	327	4,736	3,150	77	3,227	7,963
12/2022	1,266	530	2,409	269	4,474	2,838	82	2,920	7,394
01/2023	1,223	638	2,110	229	4,200	3,544	52	3,596	7,796
02/2023	1,154	639	2,388	245	4,426	2,574	24	2,598	7,024
03/2023	1,284	614	2,919	342	5,159	3,589	7	3,596	8,755
04/2023	1,442	430	3,135	314	5,321	3,859	71	3,930	9,251
05/2023	1,538	567	3,886	309	6,300	4,465	63	4,528	10,828
06/2023	1,515	623	3,581	271	5,990	4,126	36	4,162	10,152
Total:	**17,366**	**6,833**	**39,458**	**3,777**	**67,434**	**42,419**	**725**	**43,144**	**110,578**

Report created on Mon Nov 6 10:34:06 EST 2023
Sources: The Operations Network (OPSNET)

APPENDIX B. FAA TERMINAL AREA FORECAST (TAF) FOR BTV ISSUED JANUARY 2024

	Itinerant Operations					Local Operations			
Fiscal Year	Air Carrier	Air Taxi & Commuter	GA	Military	Total	Civil	Military	Total	Total Ops
1990	11,616	28,379	32,630	7,401	80,026	26,792	4,734	31,526	111,552
1991	14,042	36,305	34,987	7,799	93,133	26,246	5,450	31,696	124,829
1992	12,614	36,203	32,670	7,936	89,423	25,895	5,811	31,706	121,129
1993	9,369	38,192	31,220	7,863	86,644	26,321	5,320	31,641	118,285
1994	7,909	39,505	28,553	6,474	82,441	21,215	4,613	25,828	108,269
1995	7,972	42,531	31,504	6,681	88,688	22,062	4,577	26,639	115,327
1996	7,591	44,849	26,385	7,582	86,407	17,152	7,087	24,239	110,646
1997	6,995	44,078	28,565	5,491	85,129	21,081	5,099	26,180	111,309
1998	6,991	42,954	29,228	6,219	85,392	22,733	7,023	29,756	115,148
1999	6,921	39,865	32,464	5,602	84,852	28,262	6,396	34,658	119,510
2000	6,769	37,796	30,738	5,383	80,686	31,323	5,821	37,144	117,830
2001	8,416	41,211	27,844	5,820	83,291	30,928	5,227	36,155	119,446
2002	7,806	31,123	28,694	6,616	74,239	30,985	5,551	36,536	110,775
2003	5,300	32,205	26,573	6,007	70,085	25,325	5,692	31,017	101,102
2004	5,400	35,418	26,982	6,000	73,800	27,306	5,342	32,648	106,448
2005	7,064	37,062	25,812	7,215	77,153	26,620	6,051	32,671	109,824
2006	9,819	31,523	23,609	5,002	69,953	20,862	4,297	25,159	95,112
2007	9,524	30,404	24,280	4,824	69,032	23,241	4,704	27,945	96,977
2008	12,397	25,871	22,406	5,435	66,109	24,720	4,381	29,101	95,210
2009	13,107	19,353	17,042	4,436	53,938	17,381	4,526	21,907	75,845
2010	10,771	18,581	18,156	2,854	50,362	16,299	2,638	18,937	69,299
2011	12,337	17,029	18,914	3,563	51,843	22,996	2,172	25,168	77,011
2012	13,586	14,353	19,102	4,231	51,272	23,151	2,552	25,703	76,975
2013	12,083	14,183	18,204	4,243	48,713	22,317	2,820	25,137	73,850
2014	13,541	13,239	20,948	4,441	52,169	19,382	2,523	21,905	74,074
2015	12,843	11,936	19,746	4,038	48,563	19,607	1,950	21,557	70,120
2016	11,948	14,342	21,862	4,499	52,651	20,971	1,799	22,770	75,421
2017	11,266	15,411	22,148	3,357	52,182	11,838	1,789	13,627	65,809
2018	13,135	15,182	23,351	2,882	54,550	13,614	978	14,592	69,142
2019	14,049	14,170	25,052	3,013	56,284	16,351	894	17,245	73,529
2020	9,069	9,737	23,218	3,068	45,092	13,408	1,110	14,518	59,610
2021	7,673	8,925	30,756	4,471	51,825	28,245	1,719	29,964	81,789
2022	16,205	8,108	35,845	4,031	64,189	30,524	1,254	31,778	95,967
2023*	17,121	7,153	39,236	3,620	67,130	38,477	547	39,024	106,154
2024*	14,172	8,725	39,314	3,620	65,831	38,518	547	39,065	104,896
2025*	15,446	8,670	39,393	3,620	67,129	38,558	547	39,105	106,234
2026*	16,234	8,322	39,472	3,620	67,648	38,599	547	39,146	106,794
2027*	16,542	8,358	39,551	3,620	68,071	38,639	547	39,186	107,257
2028*	16,796	8,445	39,630	3,620	68,491	38,680	547	39,227	107,718

	Itinerant Operations					Local Operations			
Fiscal Year	**Air Carrier**	**Air Taxi & Commuter**	**GA**	**Military**	**Total**	**Civil**	**Military**	**Total**	**Total Ops**
2029*	17,036	8,532	39,709	3,620	68,897	38,721	547	39,268	108,165
2030*	17,275	8,619	39,789	3,620	69,303	38,762	547	39,309	108,612
2031*	17,506	8,707	39,868	3,620	69,701	38,802	547	39,349	109,050
2032*	17,741	8,796	39,948	3,620	70,105	38,843	547	39,390	109,495
2033*	17,975	8,886	40,028	3,620	70,509	38,884	547	39,431	109,940
2034*	18,208	8,978	40,108	3,620	70,914	38,925	547	39,472	110,386
2035*	18,455	9,071	40,188	3,620	71,334	38,966	547	39,513	110,847
2036*	18,712	9,166	40,268	3,620	71,766	39,007	547	39,554	111,320
2037*	18,969	9,262	40,349	3,620	72,200	39,048	547	39,595	111,795
2038*	19,222	9,359	40,430	3,620	72,631	39,090	547	39,637	112,268
2039*	19,483	9,458	40,511	3,620	73,072	39,131	547	39,678	112,750
2040*	19,754	9,559	40,592	3,620	73,525	39,172	547	39,719	113,244
2041*	20,015	9,661	40,673	3,620	73,969	39,213	547	39,760	113,729
2042*	20,292	9,765	40,754	3,620	74,431	39,254	547	39,801	114,232
2043*	20,571	9,871	40,836	3,620	74,898	39,296	547	39,843	114,741
2044*	20,848	9,978	40,917	3,620	75,363	39,337	547	39,884	115,247
2045*	21,123	10,087	40,999	3,620	75,829	39,379	547	39,926	115,755
2046*	21,400	10,198	41,081	3,620	76,299	39,420	547	39,967	116,266
2047*	21,682	10,311	41,163	3,620	76,776	39,462	547	40,009	116,785
2048*	21,965	10,426	41,246	3,620	77,257	39,503	547	40,050	117,307
2049*	22,259	10,544	41,328	3,620	77,751	39,545	547	40,092	117,843
2050*	22,562	10,664	41,411	3,620	78,257	39,587	547	40,134	118,391

* Indicates forecast year

APO TERMINAL AREA FORECAST DETAIL REPORT
Forecast Issued January 2024
REGION:ANE STATE:VT LOCID:BTV CITY:BURLINGTON AIRPORT:BURLINGTON INTL

APPENDIX C. DETAILED 2024 OPERATIONS FOR INPUT TO AEDT

2024 BTV Civilian Operations for modeling — **109,747 Total**

Category	Market	Type	Aircrafttype	AEDT 3e Equip ID	AEDT ANP_TYPE	AEDT Airframe	AEDT Engines	ARR_DAY	ARR_ NIGHT	DEP_DAY	DEP_ NIGHT	TGO_DAY	TGO_ NIGHT	Total Ops	Average Annual Day	Number of Annual Ops by Departure Stagelength: Day 1	Day 2	Day 3	Day 4	Night 1	Night 2	Night 3	Night 4
AC	Cargo	J	B752	3917	757RR	Boeing 757-200 Series Freighter	2 RB211-535E4	160	-	155	5	-	-	321	0.9	63	92	-	-	2	3	-	-
AC	Cargo	J	B752	4089	757PW	Boeing 757-200 Series Freighter	2 PW2040	118	-	118	-	-	-	236	0.6	48	70	-	-	-	-	-	-
AC	Passenger	J	A319	957	A319-131	Airbus A319-100 Series	2 V2522-A5	328	256	283	301	-	-	1,168	3.2	283	-	-	-	290	11	-	-
AC	Passenger	J	A320	1019	A320-232	Airbus A320-200 Series	2 V2527-A5	256	-	251	5	-	-	512	1.4	6	-	245	-	-	5	-	-
AC	Passenger	J	B712	83	717200	Boeing 717-200 Series	2 BR700-715A1-30	-	257	-	257	-	-	515	1.4	-	-	-	-	-	257	-	-
AC	Passenger	J	B737	178	737700	Boeing 737-700 Series	2 CFM56-7B24	14	40	13	41			109	0.3	6	7	-	-	40	1	-	-
AC	Passenger	J	BCS3	6634	737700	Airbus A220-300	2 PW1521G	262	-	262	-			523	1.4	-	-	262	-	-	-	-	-
AC	Passenger	J	B739	2417	737800	Boeing 737-900-ER	2 CFM56-7B27E	1	70	-	71			143	0.4	-	-	-	-	70	1	-	-
AC	Passenger	J	B738	2499	737800	Boeing 737-800 Series	2 CFM56-7B26	332	118	44	407			902	2.5	-	44	-	-	-	407	-	-
AC	Passenger	J	B39M	6406	7378MAX	Boeing 737-9	2 LEAP-1B28/28B1/28B2/28B3	-	50	-	50			101	0.3	-	-	-	-	50	-	-	-
AC	Passenger	J	B38M	6472	7378MAX	Boeing 737-8	2 LEAP-1B28/28B1/28B2/28B3	51	210	-	262	-	-	524	1.4	-	-	-	-	212	49	-	-
AC	Passenger	J	CRJ7	1253	CRJ9-ER	Bombardier CRJ-700	2 CF34-8C1	748	-	701	46	-	-	1,495	4.1	701	-	-	-	46	-	-	-
AC	Passenger	J	CRJ9	2547	CRJ9-ER	Bombardier CRJ-900	2 CF34-8C5	2,016	1,435	2,210	1,241	-	-	6,903	18.9	1,965	245	-	-	875	366	-	-
AC	Passenger	J	E170	2559	EMB170	Embraer ERJ170	2 CF34-8E5	521	-	521	-	-	-	1,042	2.8	486	35	-	-	-	-	-	-
AC	Passenger	J	E75L	3071	EMB175	Embraer ERJ175-LR	2 CF34-8E5	889	-	888	1	-	-	1,778	4.9	564	324	-	-	1	-	-	-
AC	Passenger	J	E75S	3816	EMB175	Embraer ERJ175	2 CF34-8E5	221	3	217	7	-	-	449	1.2	217	-	-	-	7	-	-	-
	Air Carrier Total							**5,918**	**2,442**	**5,664**	**2,696**	**-**	**-**	**16,720**	**45.7**	**4,340**	**817**	**507**	**-**	**1,595**	**1,101**	**-**	**-**
											16,720												
AT	Other/Miscellaneous	J	C56X	6065	CNA560XL	Cessna 560 Citation Excel	2 PW530	269	-	254	15	-	-	539	1.5	151	68	35	-	9	4	2	-
AT	Other/Miscellaneous	J	C680	3047	CNA680	Cessna 680 Citation Sovereign	2 PW306B	419	29	423	25	-	-	897	2.5	341	40	43	-	20	2	2	-
AT	Other/Miscellaneous	J	CL35	5345	CL600	Bombardier Challenger 350	2 AS907-2-1A (HTF7350)	279	21	299	-	-	-	599	1.6	270	29	-	-	-	-	-	-
AT	Other/Miscellaneous	J	E55P	4917	CNA55B	Embraer Phenom 300 (EMB-505)	2 PW530	346	-	346	-	-	-	691	1.9	255	59	32	-	-	-	-	-
AT	Other/Miscellaneous	P	C172	1267	CNA172	Cessna 172 Skyhawk	1 O-320	445	11	447	9	-	-	912	2.5	447	-	-	-	9	-	-	-
AT	Other/Miscellaneous	T	BE99	3258	DHC6	Raytheon Beech 99	2 PT6A-28	361	-	361	-	-	-	723	2.0	361	-	-	-	-	-	-	-
AT	Other/Miscellaneous	T	C208	2106	CNA208	Cessna 208 Caravan	1 PT6A-114	51	142	134	59	-	-	386	1.1	134	-	-	-	59	-	-	-
AT	Other/Miscellaneous	T	DHC6	6190	DHC6	DeHavilland DHC-6-100 Twin Otter	2 PT6A-65R	301	-	301	-	-	-	602	1.6	301	-	-	-	-	-	-	-
AT	Other/Miscellaneous	T	PC12	3122	CNA208	Pilatus PC-12	1 PT6A-67	332	-	332	-	-	-	665	1.8	332	-	-	-	-	-	-	-
	Air Taxi Total							**2,804**	**203**	**2,898**	**109**	**-**	**-**	**6,013**	**16.4**	**2,592**	**196**	**110**	**-**	**98**	**6**	**5**	**-**
											6,013												
GA		HP	G2CA	4105	_NS_G2CA	R22	NON STANDARD 4105 _NS_G2CA u	1 IO-320-D1AD	1,660	19	1,646	34	7,759	180	11,299	30.9	1,646	-	-	-	34	-	-	-
GA		HT	AS50	3810	SA350D	Aerospatiale SA-350D Astar (AS-350)	1 TPE331-3	158	3	150	11	88	-	409	1.1	150	-	-	-	11	-	-	-
GA		HT	EC35	4097	EC130	Eurocopter EC-T2 (CPDS)	1 TPE331-3	634	183	640	176	60	9	1,701	4.6	640	-	-	-	176	-	-	-
GA		J	C56X	6070	CNA560XL	Cessna 560 Citation XLS	2 PW530	635	-	635	-	-	-	1,270	3.5	370	159	106	-	-	-	-	-
GA		J	E55P	4917	CNA55B	Embraer Phenom 300 (EMB-505)	2 PW530	485	47	451	81	39	9	1,112	3.0	229	184	38	-	23	58	-	-
GA		P	C150	1882	GASEPF	Cessna 150 Series	1 O-200	344	-	344	-	893	-	1,580	4.3	344	-	-	-	-	-	-	-
GA		P	C152	1882	GASEPF	Cessna 150 Series	1 O-200	267	-	267	-	1,075	-	1,608	4.4	267	-	-	-	-	-	-	-
GA		P	C172	1267	CNA172	Cessna 172 Skyhawk	1 O-320	9,007	206	8,791	422	21,982	1,023	41,430	113.2	8,791	-	-	-	422	-	-	-
GA		P	C182	1262	CNA182	Cessna 182	1 IO-360-B	1,300	-	1,300	-	293	-	2,894	7.9	1,300	-	-	-	-	-	-	-
GA		P	CH7B	6242	CNA172	American Champion Cibrata (FAS)	1 O-320	69	-	69	-	538	-	676	1.8	69	-	-	-	-	-	-	-
GA		P	DA40	6286	GASEPV	Diamond DA40	1 IO-360-B	371	-	371	-	695	-	1,436	3.9	371	-	-	-	-	-	-	-
GA		P	SIRA	1904	_NS_SIRA	GASEPV	NON STANDARD 1904 _NS_SIRA usi	1 O-360	1,135	14	1,127	23	4,376	102	6,777	18.5	1,127	-	-	-	23	-	-	-
GA		P	HUSK	1260	CNA172	Aviat Husky A1B	1 IO-360-B	732	-	732	-	1,006	-	2,470	6.7	732	-	-	-	-	-	-	-
GA		P	J3	6311	GASEPF	Piper J-3 Cub (FAS)	1 O-200	372	-	372	-	2,035	-	2,778	7.6	372	-	-	-	-	-	-	-
GA		P	P28A	1887	GASEPF	Piper PA-28 Cherokee Series	1 O-320	710	-	710	-	1,878	-	3,298	9.0	710	-	-	-	-	-	-	-
GA		P	P28R	1887	GASEPF	Piper PA-28 Cherokee Series	1 O-320	231	-	231	-	319	-	780	2.1	231	-	-	-	-	-	-	-
GA		P	PA16	6241	_NS_PA16	GASEPF	NON STANDARD 6241 _NS_PA16 us	1 O-320	130	-	130	-	420	-	680	1.9	130	-	-	-	-	-	-	-
GA		P	PIVE	6248	_NS_PIVE	GASEPF	NON STANDARD 6248 _NS_PIVE usi	1 O-320	116	-	116	-	256	-	488	1.3	116	-	-	-	-	-	-	-
GA		P	SR22	6281	COMSEP	Cirrus SR22 Turbo (FAS)	1 TIO-540-J2B2	1,054	6	1,048	11	162	-	2,281	6.2	980	69	-	-	11	-	-	-
GA		T	C208	4784	CNA208	Cessna 208 Caravan	1 TPE331-12B	170	-	170	-	16	-	356	1.0	170	-	-	-	-	-	-	-
GA		T	DHC6	6190	DHC6	DeHavilland DHC-6-100 Twin Otter	2 PT6A-65R	123	-	123	-	-	-	246	0.7	123	-	-	-	-	-	-	-
GA		T	PC12	3122	CNA208	Pilatus PC-12	1 PT6A-67	382	36	363	56	-	-	838	2.3	279	83	-	-	56	-	-	-
GA		T	TBM9	4677	CNA208	DAHER TBM 900/930	1 PT6A-66	281	-	281	-	45	-	608	1.7	220	61	-	-	-	-	-	-
	General Aviation Total							**20,365**	**514**	**20,065**	**814**	**43,936**	**1,322**	**87,015**	**237.7**	**19,365**	**556**	**144**	**-**	**756**	**58**	**-**	**-**
											41,758		**45,258**										

APPENDIX D. DETAILED 2029 OPERATIONS FOR INPUT TO AEDT

2029 BTV Civilian Operations for modeling — 113,679 Total

Category	Market	Type	Aircrafttype	AEDT 3e Equip ID	AEDT ANP_TYPE	AEDT Airframe	AEDT Engines	ARR_DAY	ARR_ NIGHT	DEP_DAY	DEP_ NIGHT	TGO_DAY	TGO_ NIGHT	Total Ops	Average Annual Day	Number of Annual Ops by Departure Stagelength: Day 1	Day 2	Day 3	Day 4	Night 1	Night 2	Night 3	Night 4
AC	Cargo	J	B752	3917	757RR	Boeing 757-200 Series Freighter	2 RB211-535E4	173	-	168	5	-	-	346	0.9	68	99	-	-	2	3	-	-
AC	Cargo	J	B752	4089	757PW	Boeing 757-200 Series Freighter	2 PW2040	128	-	128	-	-	-	255	0.7	52	76	-	-	-	-	-	-
AC	Passenger	J	A319	957	A319-131	Airbus A319-100 Series	2 V2522-A5	354	277	306	325	-	-	1,262	3.5	306	-	-	-	313	12	-	-
AC	Passenger	J	A320	1019	A320-232	Airbus A320-200 Series	2 V2527-A5	277	-	271	5	-	-	553	1.5	6	-	265	-	-	5	-	-
AC	Passenger	J	B738	2499	737800	Boeing 737-800 Series	2 CFM56-7B26	-	278	-	278	-	-	556	1.5	-	-	-	-	-	278	-	-
AC	Passenger	J	B737	178	737700	Boeing 737-700 Series	2 CFM56-7B24	15	44	14	45			118	0.3	6	8	-	-	44	1	-	-
AC	Passenger	J	BCS3	6634	737700	Airbus A220-300	2 PW1521G	283	-	283	-			566	1.5	-	-	283	-	-	-	-	-
AC	Passenger	J	B739	2417	737800	Boeing 737-900-ER	2 CFM56-7B27E	1	76	-	77			155	0.4	-	-	-	-	76	1	-	-
AC	Passenger	J	B738	2499	737800	Boeing 737-800 Series	2 CFM56-7B26	359	128	47	440			974	2.7	-	47	-	-	-	440	-	-
AC	Passenger	J	B39M	6406	7378MAX	Boeing 737-9	2 LEAP-1B28/28B1/28B2/28B3	-	55	-	55			109	0.3	-	-	-	-	55	-	-	-
AC	Passenger	J	B38M	6472	7378MAX	Boeing 737-8	2 LEAP-1B28/28B1/28B2/28B3	56	227	-	283	-	-	566	1.6	-	-	-	-	230	53	-	-
AC	Passenger	J	CRJ7	1253	CRJ9-ER	Bombardier CRJ-700	2 CF34-8C1	748	-	701	46	-	-	1,495	4.1	701	-	-	-	46	-	-	-
AC	Passenger	J	CRJ9	2547	CRJ9-ER	Bombardier CRJ-900	2 CF34-8C5	2,016	1,435	2,210	1,241	-	-	6,903	18.9	1,965	245	-	-	875	366	-	-
AC	Passenger	J	E170	2559	EMB170	Embraer ERJ170	2 CF34-8E5	521	-	521	-	-	-	1,042	2.9	486	35	-	-	-	-	-	-
AC	Passenger	J	E75L	3071	EMB175	Embraer ERJ175-LR	2 CF34-8E5	1,226	116	1,237	105	-	-	2,684	7.4	864	373	-	-	76	30	-	-
AC	Passenger	J	E75S	3816	EMB175	Embraer ERJ175	2 CF34-8E5	239	3	235	8	-	-	485	1.3	235	-	-	-	8	-	-	-
	Air Carrier Total							**6,396**	**2,639**	**6,121**	**2,914**	-	-	**18,071**	**49.5**	**4,691**	**883**	**548**	-	**1,724**	**1,190**	-	-
											18,071												
AT	Other/Miscellaneous	J	C56X	6065	CNA560XL	Cessna 560 Citation Excel	2 PW530	281	-	265	16	-	-	563	1.5	158	71	37	-	10	4	2	-
AT	Other/Miscellaneous	J	C680	3047	CNA680	Cessna 680 Citation Sovereign	2 PW306B	438	31	442	26	-	-	937	2.6	356	42	44	-	21	2	3	-
AT	Other/Miscellaneous	J	CL35	5345	CL600	Bombardier Challenger 350	2 AS907-2-1A (HTF7350)	291	22	313	-	-	-	626	1.7	282	30	-	-	-	-	-	-
AT	Other/Miscellaneous	J	E55P	4917	CNA55B	Embraer Phenom 300 (EMB-505)	2 PW530	361	-	361	-	-	-	722	2.0	266	61	34	-	-	-	-	-
AT	Other/Miscellaneous	P	C172	1267	CNA172	Cessna 172 Skyhawk	1 O-320	465	11	467	9	-	-	953	2.6	467	-	-	-	9	-	-	-
AT	Other/Miscellaneous	T	BE99	3258	DHC6	Raytheon Beech 99	2 PT6A-28	378	-	378	-	-	-	755	2.1	378	-	-	-	-	-	-	-
AT	Other/Miscellaneous	T	C208	2106	CNA208	Cessna 208 Caravan	1 PT6A-114	54	148	140	62	-	-	403	1.1	140	-	-	-	62	-	-	-
AT	Other/Miscellaneous	T	DHC6	6190	DHC6	DeHavilland DHC-6-100 Twin Otter	2 PT6A-65R	314	-	314	-	-	-	629	1.7	314	-	-	-	-	-	-	-
AT	Other/Miscellaneous	T	PC12	3122	CNA208	Pilatus PC-12	1 PT6A-67	347	-	347	-	-	-	694	1.9	347	-	-	-	-	-	-	-
	Air Taxi Total							**2,929**	**212**	**3,027**	**114**	-	-	**6,282**	**17.2**	**2,708**	**204**	**115**	-	**102**	**7**	**5**	-
											6,282												
GA		HP	G2CA	4105	_NS_G2CA	NON STANDARD 4105 _NS_G2CA us	1 IO-320-D1AD	1,744	19	1,730	34	8,147	189	11,864	32.5	1,730	-	-	-	34	-	-	-
GA		HT	AS50	3810	SA350D	Aerospatiale SA-350D Astar (AS-350)	1 TPE331-3	166	3	158	11	92	-	429	1.2	158	-	-	-	11	-	-	-
GA		HT	EC35	4097	EC130	Eurocopter EC-T2 (CPDS)	1 TPE331-3	372	56	613	158	60	9	1,268	3.5	648	-	-	-	176	-	-	-
GA	UVM flights	HT	EC35	4097	EC130	Eurocopter EC-T2 (CPDS)	1 TPE331-3	270	127	35	18			450	1.2	648	-	-	-	176	-	-	-
GA		J	C56X	6070	CNA560XL	Cessna 560 Citation XLS	2 PW530	641	-	641	-	-	-	1,282	3.5	374	160	107	-	-	-	-	-
GA		J	E55P	4917	CNA55B	Embraer Phenom 300 (EMB-505)	2 PW530	493	47	458	81	39	9	1,127	3.1	233	186	39	-	23	58	-	-
GA		P	C150	1882	GASEPF	Cessna 150 Series	1 O-200	347	-	347	-	897	-	1,592	4.4	347	-	-	-	-	-	-	-
GA		P	C152	1882	GASEPF	Cessna 150 Series	1 O-200	267	-	267	-	1,075	-	1,608	4.4	267	-	-	-	-	-	-	-
GA		P	C172	1267	CNA172	Cessna 172 Skyhawk	1 O-320	7,930	185	7,726	388	17,476	893	34,599	94.8	7,726	-	-	-	388	-	-	-
GA		P	C182	1262	CNA182	Cessna 182	1 IO-360-B	1,349	-	1,349	-	308	-	3,007	8.2	1,349	-	-	-	-	-	-	-
GA		P	CH7B	6242	CNA172	American Champion Cibrata (FAS)	1 O-320	69	-	69	-	538	-	676	1.9	69	-	-	-	-	-	-	-
GA		P	DA40	6286	GASEPV	Diamond DA40	1 IO-360-B	374	-	374	-	699	-	1,447	4.0	374	-	-	-	-	-	-	-
GA		P	SIRA	1904	_NS_SIRA	NON STANDARD 1904 _NS_SIRA usi	1 O-360	2,442	35	2,420	56	9,268	254	14,475	39.7	2,420	-	-	-	56	-	-	-
GA		P	HUSK	1260	CNA172	Aviat Husky A1B	1 IO-360-B	769	-	769	-	1,056	-	2,593	7.1	769	-	-	-	-	-	-	-
GA		P	J3	6311	GASEPF	Piper J-3 Cub (FAS)	1 O-200	390	-	390	-	2,136	-	2,917	8.0	390	-	-	-	-	-	-	-
GA		P	P28A	1887	GASEPF	Piper PA-28 Cherokee Series	1 O-320	714	-	714	-	1,880	-	3,308	9.1	714	-	-	-	-	-	-	-
GA		P	P28R	1887	GASEPF	Piper PA-28 Cherokee Series	1 O-320	231	-	231	-	319	-	780	2.1	231	-	-	-	-	-	-	-
GA		P	PA16	6241	_NS_PA16	NON STANDARD 6241 _NS_PA16 us	1 O-320	131	-	131	-	422	-	685	1.9	131	-	-	-	-	-	-	-
GA		P	PIVE	6248	_NS_PIVE	NON STANDARD 6248 _NS_PIVE usi	1 O-320	122	-	122	-	269	-	512	1.4	122	-	-	-	-	-	-	-
GA		P	SR22	6281	COMSEP	Cirrus SR22 Turbo (FAS)	1 TIO-540-J2B2	1,069	6	1,064	11	164	-	2,313	6.3	994	70	-	-	11	-	-	-
GA		T	C208	4784	CNA208	Cessna 208 Caravan	1 TPE331-12B	179	-	179	-	17	-	374	1.0	179	-	-	-	-	-	-	-
GA		T	DHC6	6190	DHC6	DeHavilland DHC-6-100 Twin Otter	2 PT6A-65R	124	-	124	-	-	-	248	0.7	124	-	-	-	-	-	-	-
GA		T	PC12	3122	CNA208	Pilatus PC-12	1 PT6A-67	392	36	373	56	-	-	858	2.3	287	86	-	-	56	-	-	-
GA		T	TBM9	4677	CNA208	DAHER TBM 900/930	1 PT6A-66	284	-	284	-	45	-	614	1.7	222	62	-	-	-	-	-	-
GA		E	ALIA	6334	_NS_ALIA	NON STANDARD 6334 _NS_ALIA usi	1 O-320	-	-	300	-	-	-	300	0.8	300							
	General Aviation Total							**20,868**	**514**	**20,868**	**814**	**44,909**	**1,354**	**89,327**	**244.7**	**20,806**	**564**	**146**	-	**932**	**58**	-	-
											43,064		**46,263**										

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TECHNICAL MEMORANDUM

To:	Cheryl Quaine, Environmental Protection Specialist, FAA
From:	David Crandall, Principal Consultant Kate Larson, Managing Consultant
Date:	June 12, 2024
Subject:	Patrick Leahy Burlington International Airport 2024/2029 Noise Exposure Map Request for Non-standard AEDT Modeling Approval
Reference:	HMMH Project Number 03-14010

The City of Burlington, Vermont has contracted Jones Payne Group (JPG) and HMMH to prepare a Noise Exposure Map (NEM) as part of the Title 14 Code of Federal Regulations (CFR) Part 150 Airport Noise Compatibility Study (Part 150) for Patrick Leahy Burlington International Airport (BTV). This Part 150 Update will include NEM documentation for 2024, the anticipated year of submission to the Federal Aviation Administration (FAA), and 2029, the fifth year from the anticipated year of submission.[1] The NEM documentation will include Day-Night Average Sound Level (DNL) contours prepared using the FAA's Aviation Environmental Design Tool (AEDT), Version 3e.[2]

As was done in the previous NEM updates for BTV, HMMH will model military operations performed by based units of the Vermont Air National Guard (VTANG) and Vermont Army National Guard (VTARNG) with the Department of Defense aircraft noise model NOISEMAP. The NOISEMAP result grids will be imported into AEDT and combined with AEDT results for civilian and transient military aircraft to generate the final DNL contours for the NEM. This memo focuses on the AEDT modeling.

This request reflects FAA's comments to earlier editions, dated March 14, 2024 and May 24, 2024.[3] It describes the need and seeks approval for the following non-standard AEDT modeling components for the BTV NEM:

1. ***Aircraft Substitutions***: During review of existing and forecasted operations at BTV, HMMH found aircraft types that are not explicitly included in the AEDT default database or pre-approved aircraft substitution list.
2. ***Aircraft Taxi Modeling***: The noise modeling methodology used for the prior BTV NEM included aircraft taxi activity, which will be included in the updated NEM for consistency.
3. ***UVM Medical Center Helicopter Operations***: Analysis of flight track data (not available at the time of the previous NEM) revealed a significant number of helicopter flights between BTV and a nearby hospital which will require customized flight profile data to accurately model these helicopter operations.

HMMH has prepared this technical memorandum in accordance with Section 5 of FAA's document titled "Guidance on Using the Aviation Environmental Design Tool (AEDT) to Conduct Environmental Modeling for FAA Actions Subject to NEPA" dated October 27, 2017.[4] This particular request falls under this Section 5.2.2 "Analysis methods/data that require AEE review and approval," which includes:

- "Aircraft that do not exist in AEDT default data."
- "User-defined aircraft profiles (including modifications to standard profiles) developed by methods other than AEDT's FAA-accepted methodology."

[1] For consistency with §150.21(a) and §150.21(a)(1)
[2] https://aedt.faa.gov/ Development of modeling inputs for this study started before the release of AEDT 3f. Our review of the AEDT 3f release notes indicates that the newer AEDT version does preclude the need for the requests presented in this memorandum.
[3] FAA's comments considered in this document were provided in various meetings between April 17, 2024 and June 7, 2024.
[4] https://aedt.faa.gov/Documents/guidance_aedt_nepa.pdf

HMMH believes that this request should be routed in accordance with Section 5.1 of that AEDT guidance document. After review at FAA headquarters, we would expect a document from the Office of Environment and Energy (AEE) responding to the methods presented in this memorandum. That AEE response will be included in the NEM's technical documentation supporting the noise analysis. This memorandum describes and requests approval for three categories of nonstandard inputs and/or techniques in the AEDT modeling for the 2024 NEM update for BTV. These categories are:

- Nonstandard aircraft noise and performance data substitutions for aircraft that do not exist in AEDT default data
- Taxiway modeling with user-defined aircraft profiles
- Helicopter user-defined profiles for short flights

1.0 Aircraft Substitutions

HMMH developed civilian baseline operations from a combination of Vector Airport System (Vector) Noise and Operations Management System (NOMS) data, FAA tower counts [as reported by FAA Operations Network (OPSNET)], FAA Terminal Area Forecast (TAF), and information from BTV airport staff. Flight track and aircraft identification data for the 12-month period from July 1, 2022 through June 30, 2023 form the basis of the inputs data, with adjustments to represent annual 2024 and 2029 civil aircraft operations conditions.

Table 1 shows aircraft type designators in the BTV operations data that do not appear in AEDT's FltActypeToUniqueEquipMap table in the AEDT 3e FLEET database.[5] FAA Approval is requested for the use of the Aircraft Noise Performance (ANP) types and AEDT equipment IDs shown in the table, based on the considerations in the following subsections.

Table 1. Summary of Requested Nonstandard AEDT Aircraft Substitutions

Aircraft Information			Proposed AEDT 3e Assignment Data				
Aircraft Designator	Aircraft Description	Engine Type	AEDT Equipment ID	AEDT Airframe	AEDT Engine Model	AEDT ANP Type	AEDT BADA_ID
G2CA	Guimbal G-2 Cabri	Helicopter, 1 piston engine	4105	Robinson R22 Mariner	IO-320-D1AD	R22	P28A
SIRA	Tecnam P-Mentor (SIRA)	Light Sport Aircraft, 1 piston engine	1904	EADS Socata TB-10 Tobago	IO-360	GASEPV	TB21
PA16	Piper 16 Clipper	Fixed wing, 1 piston engine	6241	Aeronca 15 Sedan (FAS)	O-200	GASEPF	C172
PIVE	Pipistrel Velis Electro	Fixed wing, 1 electric motor	6263	Cessna 162 (FAS)	O-200	GASEPF	C172
ALIA	Beta ALIA	Electric aircraft In development	1900	Spencer S-12 Air Car	TIO-540-J2B2	GASEPV	P28A

1.1 G2CA – Guimbal G-2 Cabri

The Guimbal G-2 Cabri (G2CA) is a two-seat helicopter powered by a single Lycoming O360 piston engine driving a 23.6-foot diameter main rotor with three blades.[6] The maximum weight is listed as 700 kilograms /1,543 pounds and landing skids (i.e. no wheels). Three of these helicopters are based at BTV and are used extensively for flight

[5] The recently released AEDT 3f also does not include noise modeling data or substitutions for any of these aircraft.
[6] https://www.guimbal.com/cabri-g2/ FAA Type Certificate Data Sheet (TCDS) R00005RD, Rev2 https://drs.faa.gov/browse/excelExternalWindow/F762C243A2A7316286258717006F2294.0001

training. As such, the aircraft depart, make multiple practice approaches and departures, and then land. Our draft existing operations and draft forecast have on the order of 11,000 to 12,000 annual operations of the G2CA.

We propose to represent the G2CA with ANP type R22 and AEDT equipment ID 4105. ANP type R22 is the only two-seat, piston powered helicopter in the AEDT 3e database. AEDT 3e equipment ID 4105 is associated with ANP type R22, airframe "Robinson R22 Mariner," an IO-320 engine, and BADA3 ID P28A. We do not expect to use AEDT equipment ID 4105 for any other reason on this project, which allows the G2CA operations to be identifiable throughout the modeling and reporting process.

1.2 SIRA – Tecnam P-Mentor

The Tecnam P-Mentor (SIRA) is a two-seat low-wing fixed-wing with a maximum take-off weight of 1,587 pounds[7]. The aircraft is powered by a single Rotax 912 engine with approximately 100 horsepower driving a constant speed MTV-21 propellor[8]. A flight school operating at BTV currently has several SIRA aircraft on order with delivery anticipated in the next few months. These aircraft are anticipated to be used for flight training, requiring arrival, departure, and touch-and-go profiles. Our draft forecast has on the order of 6,000 to 15,000 annual operations of the SIRA.

We propose to represent the SIRA with ANP type GASEPV, which represents a generic variable-pitch, single-engine aircraft, using AEDT equipment ID 1904 associated with airframe "EADS Socata TB-10 Tobago", with an IO-360 engine and BADA3 ID TB21. AEDT 3e equipment ID 1904 is not expected to represent any other operations on this project, which allows the SIRA operations to be identifiable throughout the modeling and reporting process.

1.3 PA16 – Piper 16 Clipper

The Piper 16 Clipper (PA16) is a high-wing, fixed-wing aircraft that can seat three to four people. It is powered by one Lycoming O-235 piston engine and has a maximum take-off weight in the range of 1,650 pounds to 1,738 pounds and appears to have a fixed-pitch propellor (or at least ground selectable pitch).[9] The aircraft appears to have been derived by enlarging the J-3 Cub family. Our draft existing operations and draft forecast have on the order of 700 annual operations of the PA16.

We propose to represent the PA16 with ANP type GASEPF, which represents a generic fixed-pitch, single-engine aircraft, using AEDT equipment ID 6241 associated with airframe "Aeronca 15 Sedan (FAS)," an O-200 engine, and BADA3 ID C172, which are the same characteristics for AEDT 3e's Piper J-3 Cub represented by AEDT equipment ID 6311. AEDT 3e equipment ID 6241 is not expected to represent any other operations on this project, which allows the PA16 operations to be identifiable throughout the modeling and reporting process.

1.4 PIVE – Pipistrel Velis Electro

The Pipistrel Velis Electro (PIVE) is a high-wing, single-engine electric-powered aircraft with a maximum take-off weight of 1,320 pounds.[10] The electric motor is rated at 57.6 kW MTOP, which is approximately equivalent output to 77 horsepower. The propellor is fixed pitch. Our draft existing operations and draft forecast have on the order of 500 annual operations of the PIVE.

There are no electric-powered aircraft represented directly in the AEDT database. We propose to represent the PIVE with ANP type GASEPF, which represents a generic fixed-pitch, single-engine aircraft, using AEDT equipment ID 6263 associated with airframe "Cessna 162 (FAS)," an O200 engine and BADA3 ID C172. AEDT 3e equipment ID 6263 is not expected to represent any other operations on this project, which allows the PIVE operations to be identifiable throughout the modeling and reporting process.

[7] https://tecnam.com/aircraft/pmentor/
[8] Information on the MTV-21 is available on the manufacturer's website https://www.mt-propeller.com
[9] FAA Type Certificate Data Sheet (TCDS) 1A1, Rev 13 https://drs.faa.gov
[10] https://www.pipistrel-aircraft.com/products/velis-electro/

1.5 ALIA – Beta ALIA

Beta Technologies recently completed a manufacturing building at BTV for its ALIA electric fixed-wing/conventional take-off and landing (CTOL) and vertical take-off and landing (VTOL) aircraft variants.[11] Our recent interviews with Beta indicate that aircraft manufactured at BTV will depart when completed and fly to nearby Plattsburgh for painting and preparation for passenger delivery. Therefore, we expect approximately 300 departure operations (no arrival operations) as included in the draft forecast to correspond with their published production plans.

There are no electric-powered aircraft represented directly in the AEDT database. The ALIA aircraft are forecasted to reflect a small portion of the overall flight operations although they are publicly anticipated. We are assuming all ALIA aircraft, regardless of variant, will perform their respective departures in a manner similar to conventional take-off, especially for the flight portion off-airport.

We propose to represent the ALIA with ANP type GASEPV, which represents a generic variable-pitch, single-engine aircraft, using AEDT equipment ID 1900 associated with airframe "Spencer S-12 Air Car", a TIO-540-J2B2 engine, and BADA3 ID P28A. The Spencer Air Car shares some general layout characteristics with the ALIA such as a high wing powered by a single Hartzell pusher propeller located behind the fuselage.[12] AEDT 3e equipment ID 1900 is not expected to represent any other operations on this project, which allows the ALIA operations to be identifiable throughout the modeling and reporting process.

2.0 Aircraft Taxi Modeling

BTV has expressed the desire to include aircraft taxi operations in the aircraft noise modeling for the NEM update due to the relative close proximity of the taxiways to noise-sensitive properties and in response to community interest.[13] Although aircraft taxiway operations modeling is not a built-in feature of AEDT, HMMH has developed methodology to implement taxiing activity in AEDT, consistent with the guidance outlined in the Integrated Noise Model (INM) 7.0 User's Guide, Section 9.8.7. This methodology has been used with FAA approval for previous BTV NEM updates in 2006, 2015 and 2019, as well as for the 2014 NEM for Portsmouth International Airport. HMMH requests approval of this methodology for the current study.

Taxi tracks have been constructed which connect four aircraft parking locations to the four runway ends. The four parking areas are: the ramp associated passenger terminal (labeled TF); the ramp associated with cargo operations and the fixed base operator (FBO) (labeled CF); a general aviation ramp on the west side of Runway 1/19 (labeled G1F); and general aviation ramp at the southwest corner of the airfield, just south of the Runway 33 departure end (labeled G2F). These tracks reflect the current taxiway configuration, which includes the 2020 shifting of Taxiway G 100 feet further away from residences.[14] The overall taxi track layout is shown in **Figure 1**. Section 2.3 provides more details of the various taxi paths and respective operations.

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[11] https://vtdigger.org/2023/10/02/beta-unveils-its-electric-aircraft-production-facility-in-south-burlington/
https://www.beta.team/aircraft/

[12] AEE has advised using GASEPV (variable pitch propellor) instead of GASEPF (fixed pitch), citing the ALIA take-off's weight of approximately 6,000 lb. and its use of a 5-bladed Hartzell pusher-propellor. While many of the other of characteristics listed (propellor placement or low-wing vs high-wing) are not identified in AEDT and are not used in the noise calculations, prior discussions with AEE have indicated a preference to use substitutions with a similar general layout as the actual aircraft.
https://hartzellprop.com/blog-beta-technologies-updates-hartzell/
https://www.seabee.info/spencer.htm
https://www.si.edu/object/republic-rc-3-seabee%3Anasm_A19840676000
https://en.wikipedia.org/wiki/Spencer_Air_Car

[13] Taxiway noise has been a concern at BTV since the airport's first 14 CFR Part 150 project in 1989/1990. Taxiway G, located on the northwest of the airfield between Runway 15/33 and a residential neighborhood, was mentioned specifically in FAA's 1990 Noise Compatibility Plan (NCP) Records of Approval (ROA) for BTV and FAA's 2008 NCP ROA for BTV. Both documents are available at https://www.faa.gov/airports/environmental/airport_noise/part_150/states/vt

[14] The Taxiway G reconstruction was funded by FAA grants and opened December 2020. https://vermontbiz.com/news

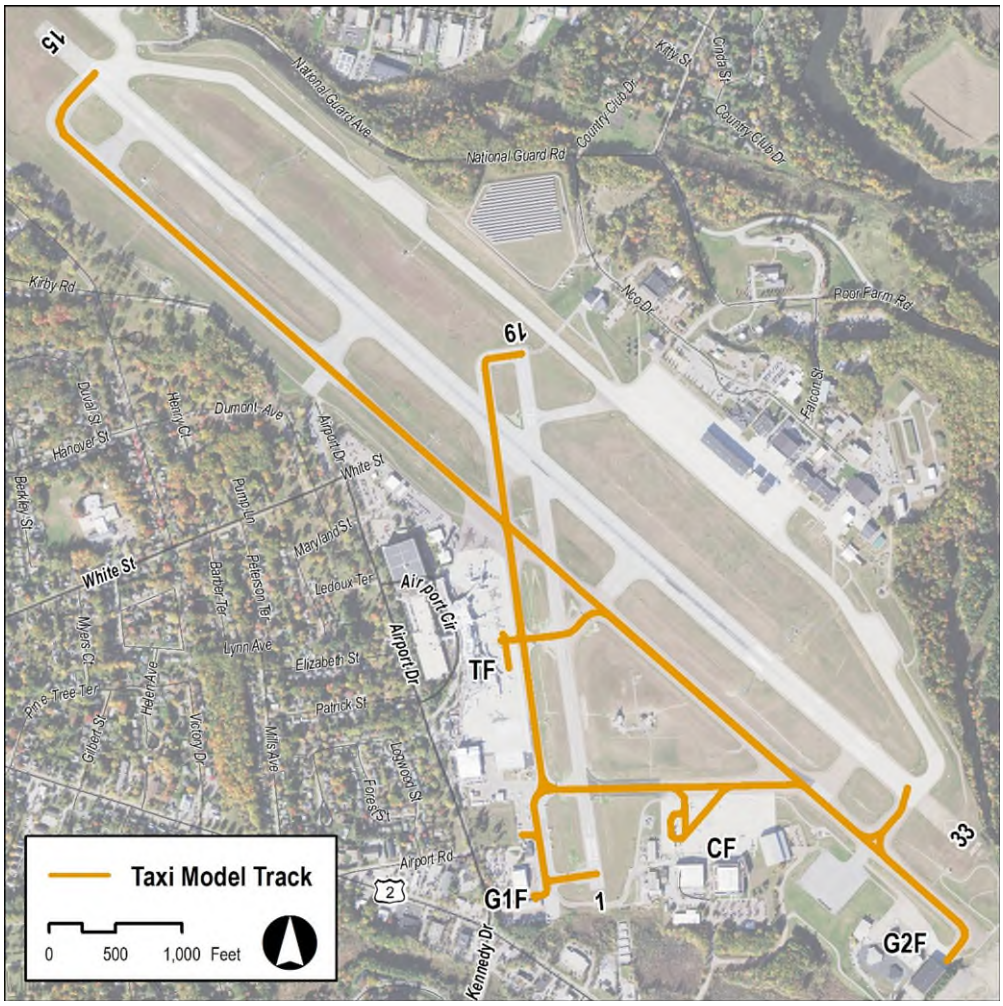

Figure 1. BTV Taxiways and Representive Taxiway Model Tracks

Several AEDT overflight profiles are used to represent the operations for the taxiways in this project, all of which are described below. These profiles include various stationary segments, where appropriate, and include the following:[15]

- Two-minute idle warm-up
- Five-and-a-half-minute taxi hold/queue based on data provided by U.S. Department of Transportation, Bureau of Transportation Statistics for 2022 and 2023, modeled near the end of the taxi-paths, typically just before hold lines.[16]
- One-minute hold for crossing Runway 1/19 (based on HMMH experience)

[15] These assumptions are consistent with the 2019 BTV NEM taxiway modeling unless otherwise noted.

[16] The database is titled "Airline On-Time Performance Data, Marketing Carrier On-Time Performance (Beginning January 2018)" (DOT On-Time) and is available at https://www.transtats.bts.gov. Interviews during the 2006 NEM preparation with airport staff and FAA indicated that aircraft turn off their engines if they queue for more than 10 minutes. Estimates indicate that without queuing, aircraft need approximately seven minutes for idle warm-up and taxi from the terminal to the departure threshold. Therefore, the analysis used individual "TaxiOut" times provided in the DOT On-Time database between seven minutes (taxi out, no queue) and seventeen minutes (taxi out, maximum duration queue with engines on) and then averaged. Data used was the 5,812 individual operations listed in the DOT On-Time data from 07/01/2022 through 06/30/2023 that did not have DepTime = NULL.

As per the INM 7.0 User's Guide, the stationary positions are modeled as slow-moving aircraft through the area. This slow movement representation is used because the AEDT overflight profiles cannot model 0 velocity profile segments, and the slow movement area represents multiple "average annual" positions at which individual aircraft may actually stop.

Each ANP aircraft type used in this study has up to 24 unique proposed overflight profiles, which correspond to the correct length and speeds of the particular taxiway ground track and the parameters for the particular aircraft (although not all ANP aircraft will use all of the profiles). Therefore, the following profile description uses variables to describe several of the parameters.

In summary, all of the taxi profiles use an overflight operation type and an altitude of 10 feet. The moving portion of the profile will be modeled at a constant speed (10 knots) at an idle power setting defined later in Section 2.1.2. The stationary positions are represented with several profile points entered in the FLT_ANP_PROFILE_POINTS table, provided in **Table 2**. The points represent the deceleration from 10 knots to "0 knots" over 50 feet, slow movement at speed "AS" over a specified distance to represent the desired stationary time and aircraft movement through that same area, and then acceleration from "0 knots" to 10 knots. The acceleration portions include segments at a higher thrust/power setting, referred to in this memorandum as "acceleration power" and abbreviated "ACL". Section 2.1 discusses the development of the ACL value for entry into AEDT. **Table 3** presents the profile points for taxi after arrival. These profiles are much simpler, with only two points. The aircraft taxi with a constant speed of 10 knots and idle thrust for the full length of the profile.

The representation of aircraft which are stopped, waiting for clearance across a runway, is done in the same manner for any arrival or departure profile that crosses a runway. In such cases, six points are added to represent the deceleration (2 points), slow taxi representing the stopped aircraft for one minute (2 points) just before the respective hold line, and then acceleration back to 10 knots (2 points). Section 2.3 provides more details of the various taxi paths and respective operations.

Table 2. Profile Points for Taxi to Departure

OP_TYPE	PROF_ID1	PROF_ID2	PT_NUM	DISTANCE (ft)	ALTITUDE (ft)	SPEED (Knots)	THR_SET	OP_MODE
V	[TX]	[TX2]	1	0	10	0.2	[IDLE]	A
V	[TX]	[TX2]	2	41	10	0.2	[IDLE]	A
V	[TX]	[TX2]	3	47	10	2.4	[ACL]	A
V	[TX]	[TX2]	4	97	10	10.0	[ACL]	A
V	[TX]	[TX2]	5	107	10	10.0	[IDLE]	A
V	[TX]	[TX2]	6	[START]-50	10	10.0	[IDLE]	A
V	[TX]	[TX2]	7	[START]	10	[AS]	[IDLE]	A
V	[TX]	[TX2]	8	[END]-10	10	[AS]	[IDLE]	A
V	[TX]	[TX2]	9	[END]	10	2.4	[ACL]	A
V	[TX]	[TX2]	10	[END]+50	10	10.0	[ACL]	A
V	[TX]	[TX2]	11	[END]+60	10	10.0	[IDLE]	A
V	[TX]	[TX2]	12	[S]	10	10.0	[IDLE]	A

Notes:
[ACL] = Accelerating thrust for taxi, 0 to 10 knots in 50 ft. Section 2.1 discusses development of this value.
[AS] = Adjust speed – speed that will provide the desired stationary time in the stationary area and the necessary time to taxi through the area.
[END] = Profile distance to end of stationary area (ft)
[IDLE] = Idle thrust setting Section 2.1 discusses development of this value.
[S] = The length of the taxiway track.
[START] = Profile distance to beginning of stationary area (ft)
[TX] = Name of the taxiway track
[TX2] = Name of the taxiway track, PROF_ID2 indicator
Settings for points (PT_NUM) 1-5 and 9 revised June 2024 in response to FAA comments. The current settings come close to the desired two-minute warm-up followed by an increase to acceleration thrust [ACL] over an approximately 3 second period, followed by acceleration to 10 knots over the course of 50 ft, and then a brief thrust reduction to idle power [IDLE].

Table 3. Profile Points for Taxi from Arrival

OP_TYPE	PROF_ID1	PROF_ID2	PT_NUM	DISTANCE (ft)	ALTITUDE (ft)	SPEED (Knots)	THR_SET	OP_MODE
V	[TX]	[TX2]	1	0	10	10.0	[IDLE]	A
V	[TX]	[TX2]	2	[S]	10	10.0	[IDLE]	A

Notes:
[IDLE] = Idle thrust setting Section 2.1 discusses development of this value.
[S] = The length of the taxiway track.
[TX] = Name of the taxiway track
[TX2] = Name of the taxiway track, PROF_ID2 indicator

2.1 Development of AEDT idle and accelerating power entries

AEDT's underlying database stores noise levels in a series of Noise-Power-Distance (NPD) curves. The "Power" of the NPD curves is usually entered in units of pounds thrust, although it can also be in units of horsepower or engine rotations-per -minute (RPMs).

2.1.1 Derivation of Taxiing Acceleration Thrust

The derivation of acceleration thrust uses basic physics and some simplifying assumptions. This analysis assumes that aerodynamic drag and wheel friction are negligible, that the aircraft is on a level surface, and the only force (thrust) required is to accelerate the mass of the aircraft to the desired speed within the desired distance. This

analysis also assumes that an aircraft's maximum static thrust is approximately 30 percent of the aircraft weight.[17] The result of the analysis is that approximately 30 percent static thrust is required to accelerate the aircraft from 0 to 10 knots (16.88 feet per second) within 50 feet.

Equation 1 represents one of the equations of motion and relates acceleration and distance to a change in velocity. **Equation 2** uses Equation 1 and expresses the acceleration required to change velocity from 0 to 10 knots (16.88 ft/s) within 50 feet. This is the desired acceleration. **Equation 3** represents the relationship between force, mass and acceleration (Newton's Second Law of Motion). **Equation 4** relates the weight of the aircraft to its mass based on Equation 3 and the acceleration of gravity (32.17 ft/s^2). **Equation 5** is based on Equation 3 and relates the desired thrust to the desired acceleration. **Equation 6** replaces the mass in Equation 5 with the relationship presented in Equation 4. **Equation 7** presents the observed relationship between the static thrust and aircraft weight, based on comparison of relevant aircraft in the AEDT fleet database. **Equation 8** replaces the weight in Equation 6 with the function of static thrust given in Equation 7, yielding the final relationship between the desired thrust and static thrust.

$$Velocity_{Final}^2 = Velocity_{Initial}^2 + 2 * Acceleration * Distance \quad (1)$$

$$Acceleration_{Desired} = (16.88\ ft/s)^2/(2 * 50\ ft) = 2.85\ ft/s^2 \quad (2)$$

$$Force = Mass * Acceleration \quad (3)$$

$$Weight = Mass * 32.17\ ft/s^2 \quad (4)$$

$$Thrust_{Desired} = Mass * Acceleration_{Desired} \quad (5)$$

$$Thrust_{Desired} = (Weight/32.17\ ft/s^2) * Acceleration_{Desired} \quad (6)$$

$$Thrust_{Static} = 0.30 * Weight \quad (7)$$

$$Thrust_{Desired} = ((Thrust_{Static}/0.30)/32.17\ ft/s^2) * Acceleration_{Desired} \quad (8)$$

$$Thrust_{Desired} = ((Thrust_{Static}/0.30)/32.17\ ft/s^2) * 2.85\ ft/s^2$$

$$Thrust_{Desired} = 0.30 * Thrust_{Static}$$

2.1.2 AEDT data entries

The AEDT power entries, listed in **Table 2** and **Table 3** in the field THR_SET, must be in the same units as the NPD curves. Therefore,

- For an AEDT ANP type with NPD curves defined in terms of thrust (`FLT_ANP_AIRPLANE_NOISE_GROUPS, THRUST_SET_TYPE = L`), the idle entry is 10% of the maximum static thrust associated with the ANP type (AEDT table FLT_ANP_AIRPLANES, field THR_STATIC). The accelerating value is entry is 30% of the maximum static thrust associated with the ANP type.
- For AEDT ANP types that have NPD curves defined in terms of engine RPMs (`FLT_ANP_AIRPLANE_NOISE_GROUPS, THRUST_SET_TYPE = X`), discussions with AEE-100 indicates that 20% of RPMs should be appropriate for idle and 40% of maximum RPMs should be appropriate for acceleration power.
- For all other AEDT ANP types (in which the NPD curves are not expressed in terms of thrust or RPMs) the highest value in the respective ANP's departure NPD curve set is assumed to be the ANP maximum power value for this method (AEDT table FLT_ANP_AIRPLANE_NPD_CURVES, field THR_SET where OP_MODE=D). The AEDT value associated with [IDLE] is 10% of the ANP maximum power value and the AEDT value associated with [ACL] 30% of the ANP maximum power value.

[17] Estimated by comparison of static thrust and maximum take-off weights for various ANP types used in this study, as provided in the AEDT fleet database.

2.2 Omission of F-35A Aircraft/other Military Aircraft from Taxiway Modeling

Aircraft noise modeling for the 2024 BTV NEM update excludes taxiway modeling for VTANG F-35A aircraft along Taxiways D and F. Taxiway modeling of the F-35A aircraft is not currently possible as AEDT 3e does not contain noise data for the F-35A aircraft. The prior NEM[18] did not include VTANG F-35A taxiway modeling for the same reason (i.e., lack of data in the AEDT 2d). In addition, there are no noise-sensitive receptors in close proximity on that side of the Airport. Other military aircraft average less than 1 operation per day, so their taxi activities are not modeled for simplicity.

2.3 Operations and Profiles

This section presents the results of combining all the individual profiles, apron use, and track use for this study using draft operations. The following figures and tables show the various taxi paths with indications if the aircraft are taxiing at 10 knots, holding, accelerating, or decelerating. The tables that follow indicate the names of the taxiway tracks within the AEDT study and the most common ANP type using the taxi path.

In most cases, there is a single taxi path between an apron and runway end or a runway end and an apron. Two taxiway profiles from each apron area have been developed to serve Runway 15 departures. One of the Runway 15 departure profiles, and the most commonly used, places the five-minute queue just before the hold line to Runway 15. The second profile, used about five percent of the time, places the five-minute queue just before the hold line associated with the Instrument Landing System (ILS) critical area, which is approximately 900 ft further southeast.[19]

Figures 2 through 9 depict the taxi path profiles. Each figure is followed by a table describing the profile(s) used on each path.

[18] Accepted by FAA in 2019, depicting 2018 and forecast 2023 conditions

[19] Interviews and observations indicate that the ILS critical area hold line is only used in adverse weather conditions. This reported use at BTV is consistent with FAA Order 7110.65AA, Section 3-7-5. The use of two profiles will allow us to adjust the use of the respective hold lines as model inputs are reviewed and refined during the course of the project. Within AEDT, PROF_ID2 = 1 is used to denote the profiles using the runway hold line while PROF_ID2 = 2 is used to denote the profiles that use the ILS hold line.

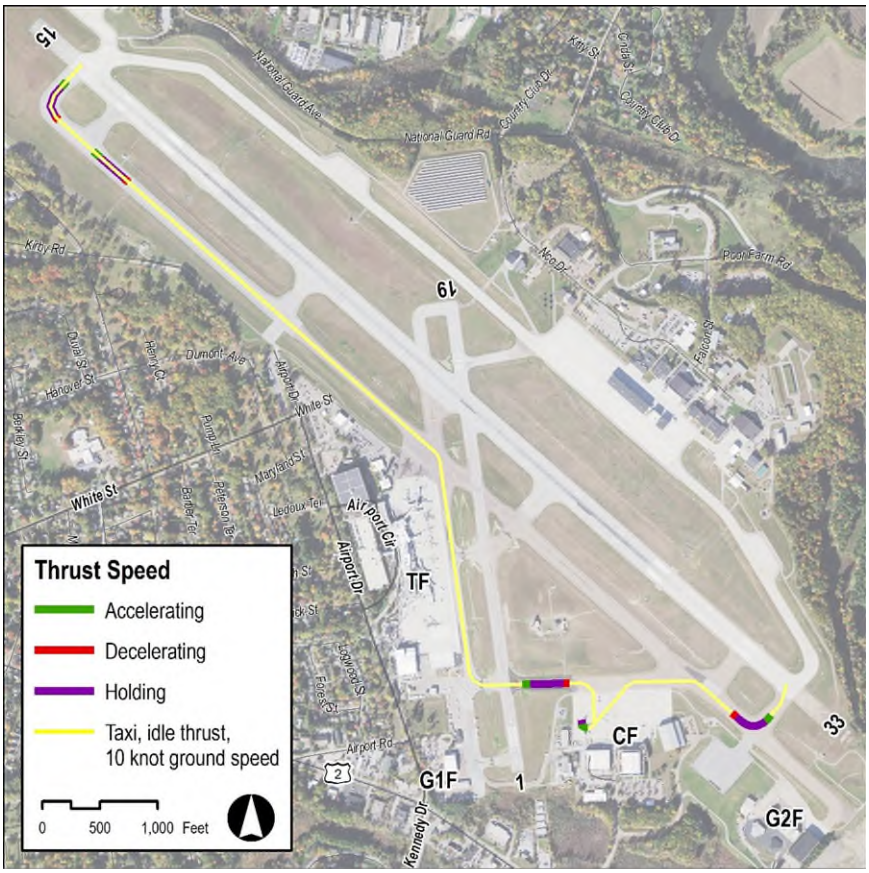

Figure 2. Taxi paths for departing aircraft from apron CF

Table 4. Taxi profiles for departing aircraft from apron CF

OP_TYPE	TRK_ID1 PROF_ID1	PROF_ID2	Taxi Path Notes	Ending at Runway	Most common ANP type
V	TD15_CF	1	Start heading west, Hold before crossing Runway 1-19 Hold at Runway 15 departure end	15	CNA208
V	TD15_CF	2	Start heading west, Hold before crossing Runway 1-19 Hold at ILS critical area (instead of at Runway 15 departure end)	15	CNA208
V	TD33_CF	1	Start heading east, then turns right to southeast Hold at Runway 33 departure end	33	CNA208

Notes:
All of the above departure entries start with a two-minute hold representing engine warm-up
All entries have TRK_ID2 = 1

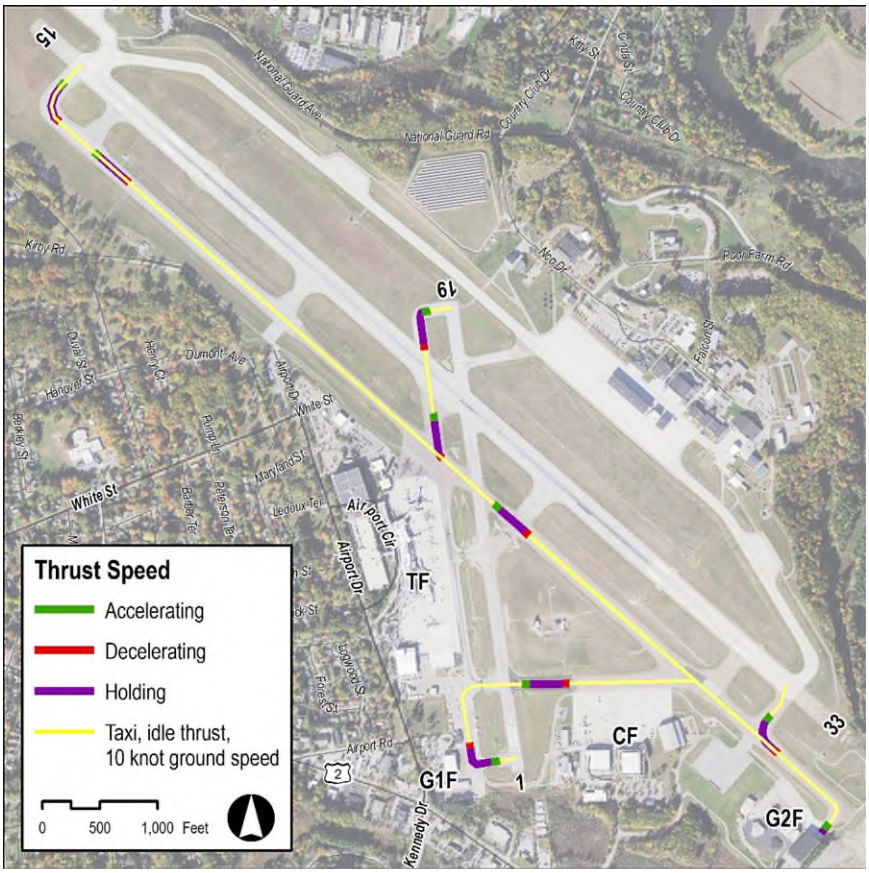

Figure 3. Taxi paths for departing aircraft from apron G2F

Table 5. Taxi profiles for departing aircraft from apron G2F

OP_TYPE	TRK_ID1 PROF_ID1	PROF_ID2	Taxi Path Notes	Ending at Runway	Most common ANP type
V	TWD01_G2	1	Start heading northwest, then turns left and pass Apron CF Hold before crossing Runway 1-19 Cross Runway and turn left, passing Apron G1F Hold at Runway 1 departure end	1	CNA172
V	TD15_G2F	1	Start heading northwest Hold before crossing Runway 1-19 Hold at Runway 15 departure end	15	CNA172
V	TD15_G2F	2	Start heading northwest, Hold before crossing Runway 1-19 Hold at ILS critical area (instead of at Runway 15 departure end)	15	CNA172
V	TWD19_G2	1	Start heading northwest Hold before crossing Runway 1-19 Turn right, Hold before crossing Runway 15-33 Hold at Runway 19 departure end	19	CNA172
V	TD33_G2F	1	Start heading northwest, then turns right Hold at Runway 33 departure end	33	CNA172

Notes:
All of the above departure entries start with a two-minute hold representing engine warm-up
All entries have TRK_ID2 = 1

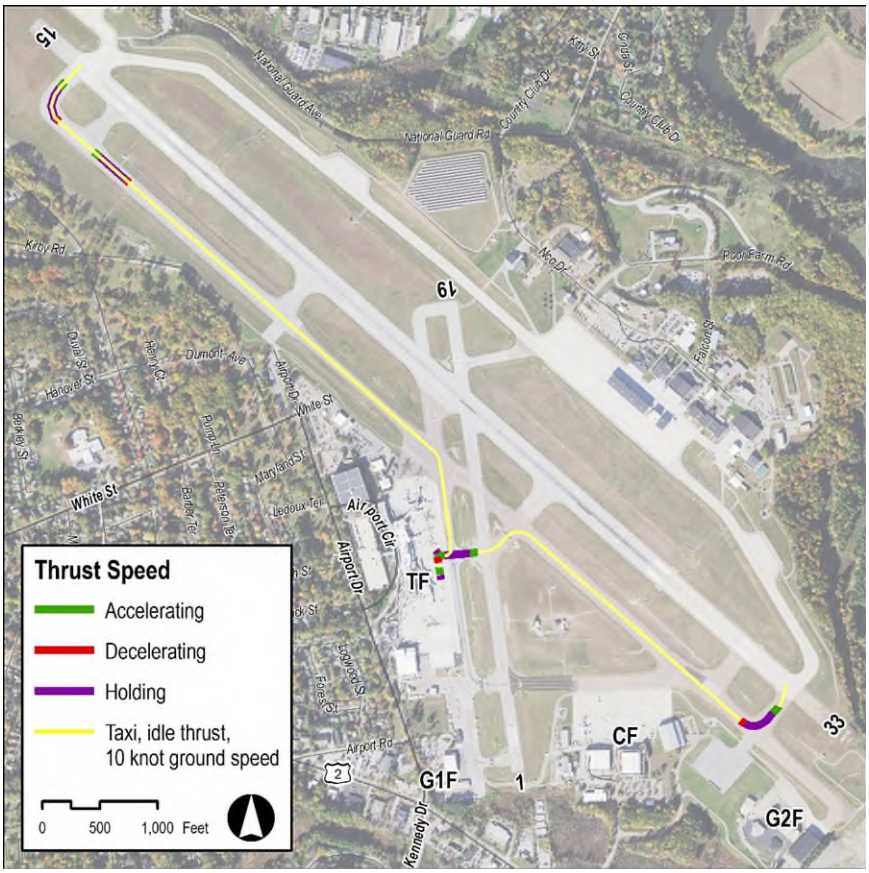

Figure 4. Taxi paths for departing aircraft from apron TF

Table 6. Taxi profiles for departing aircraft from apron TF

OP_TYPE	TRK_ID1 PROF_ID1	PROF_ID2	Taxi Path Notes	Ending at Runway	Most common ANP type
V	TD15_TF	1	Start heading north, then turn left to northwest Hold at Runway 15 departure end	15	CRJ9-ER
V	TD15_TF	2	Start heading north, then turn left to northwest Hold at ILS critical area (instead of at Runway 15 departure end)	15	CRJ9-ER
V	TD33_TF	1	Start heading east Hold before crossing Runway 1-19 cross runway, then turn right to southeast Hold at Runway 33 departure end	33	CRJ9-ER

Notes:
All of the above departure entries start with a two-minute hold representing engine warm-up.
All entries have TRK_ID2 = 1.

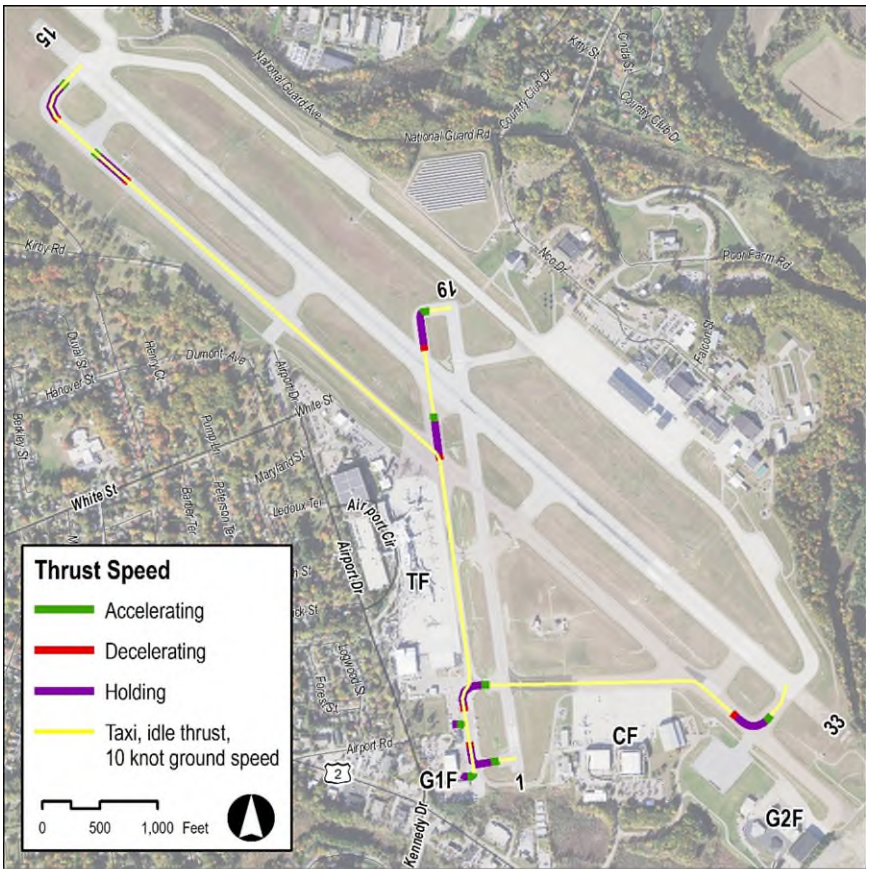

Figure 5. Taxi paths for departing aircraft from apron G1F

Table 7. Taxi profiles for departing aircraft from apron G1F

OP_TYPE	TRK_ID1 PROF_ID1	PROF_ID2	Taxi Path Notes	Ending at Runway	Most common ANP type
V	TWD01_G1	1	Hold at Runway 1 departure end	1	GASEPF
V	TWD19_G1	1	Start heading north and pass apron TF Hold before crossing Runway 15-33 Hold at Runway 19 departure end	19	GASEPF
V	TD15_G1F	1	Start heading north and pass apron TF, then turn left to northwest Hold at Runway 15 departure end	15	GASEPF
V	TD15_G1F	1	Start heading north and pass apron TF, then turn left to northwest Hold at ILS critical area (instead of at Runway 15 departure end)	15	GASEPF
V	TD33_G1F	1	Hold before crossing Runway 1-19 Cross Runway heading east, passing Apron CF then turn right to southeast Hold at Runway 33 departure end	33	GASEPF

Notes:
All of the above departure entries start with a two-minute hold representing engine warm-up
All entries have TRK_ID2 = 1.

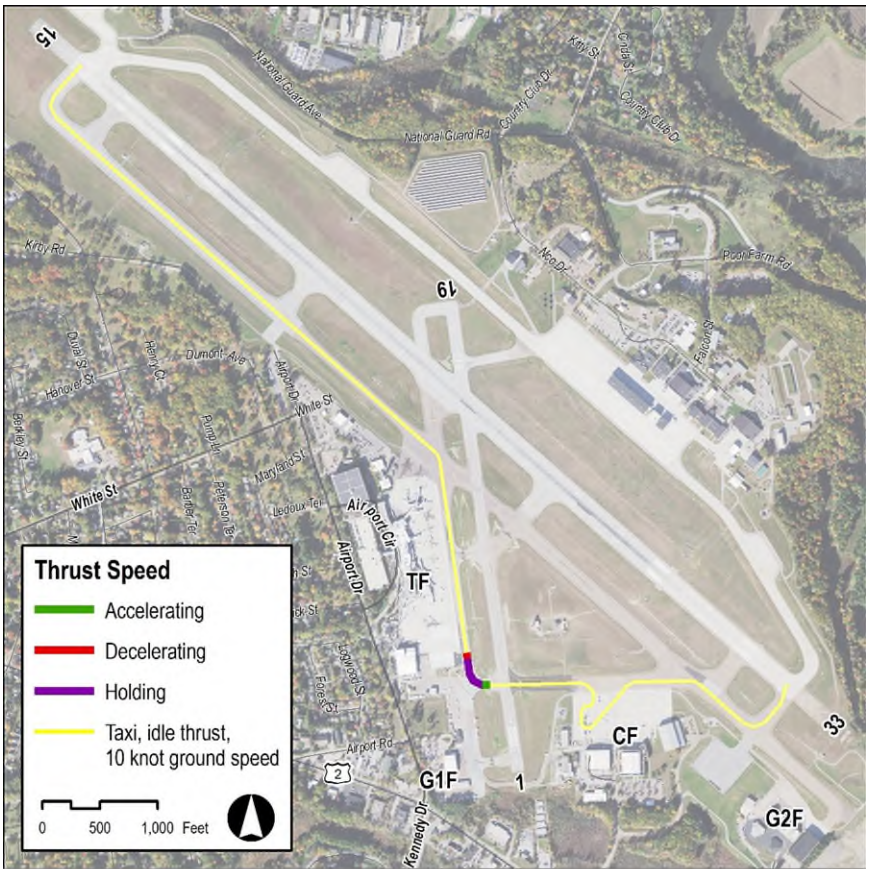

Figure 6. Taxi paths for aircraft arriving to apron CF

Table 8. Taxi profiles for aircraft arriving to apron CF

OP_TYPE	TRK_ID1 PROF_ID1	PROF_ID2	Taxi from arrival on Runway	Taxi Path Notes	Most common ANP type
V	TA15_CF	1	15	Aircraft starts at southeast end of runway, Then turns right, towards southwest, then northwest, then turns to west Taxi directly to apron	CNA208
V	TA33_CF	1	33	Aircraft starts at northwest end of runway, then turns left, towards southwest, then southeast then turns to right to south, passing Apron TF Hold before crossing Runway 1-19	CNA208

Notes:
All entries have TRK_ID2 = 1.

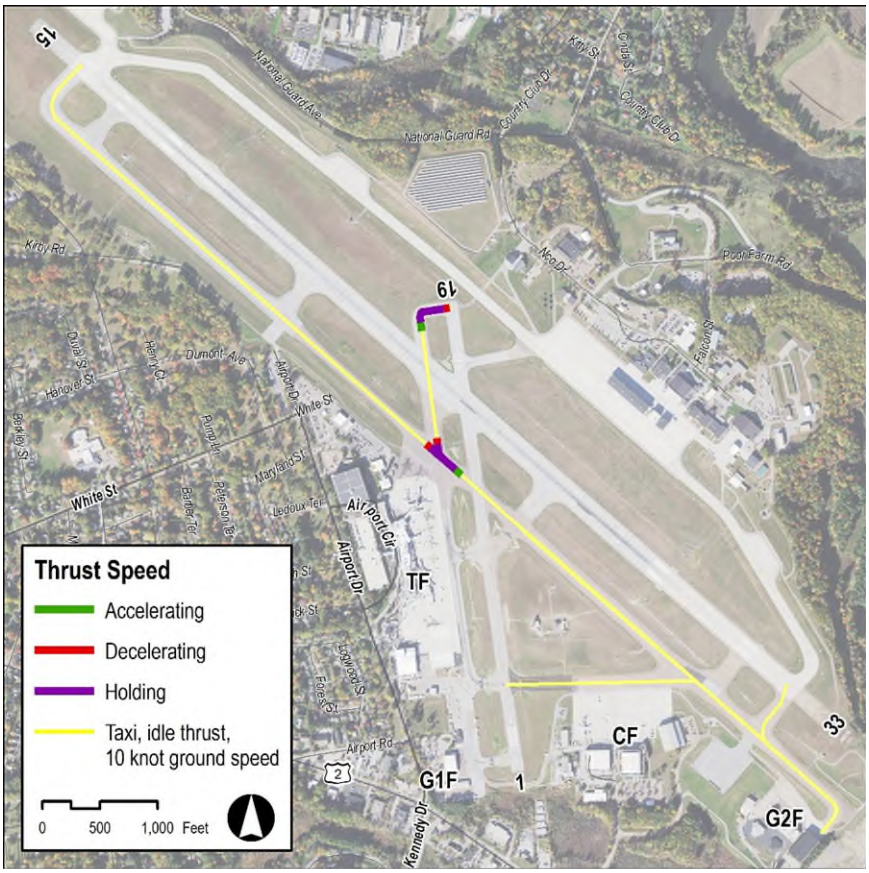

Figure 7. Taxi paths for aircraft arriving to apron G2F

Table 9. Taxi profiles for aircraft arriving to apron G2F

OP_TYPE	TRK_ID1 PROF_ID1	PROF_ID2	Taxi from arrival on Runway	Taxi Path Notes	Most common ANP type
V	TWA01_G2	1	1	Aircraft starts at north end of runway then turns left to west Hold before crossing Runway 15-33 then turns left and hold before Runway 1-19 Continue southeast to apron	CNA172
V	TA15_G2F	1	15	Aircraft starts at southeast end of runway, then turns right, towards southwest then turns left to southeast Taxi directly to apron	CNA172
V	TWA19_G2	1	19	Aircraft leaves runway before reaching southern end then turns left to east, passing Apron CF then turns right to southeast	CNA172
V	TA33_G2F	1	33	Aircraft starts at northwest end of runway, then turns left, towards southwest, then southeast Hold before crossing Runway 1-19	CNA172

Notes:
All entries have TRK_ID2 = 1.

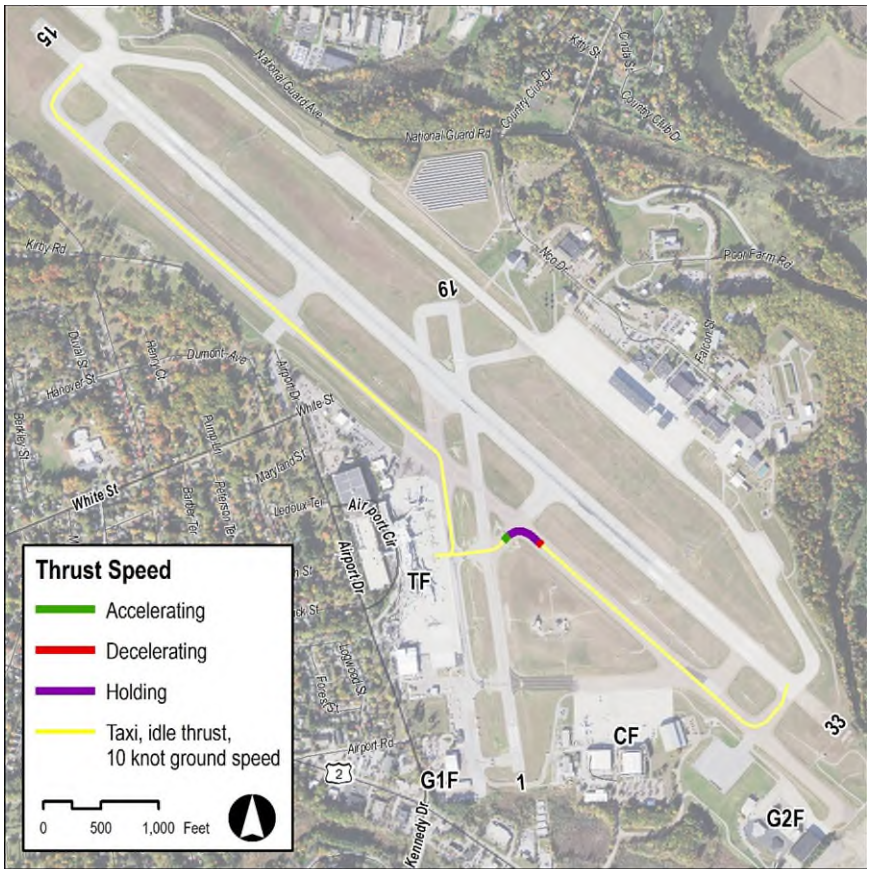

Figure 8. Taxi paths for aircraft arriving to apron TF

Table 10. Taxi profiles for aircraft arriving to apron TF

OP_TYPE	TRK_ID1 PROF_ID1	PROF_ID2	Taxi from arrival on Runway	Taxi Path Notes	Most common ANP type
V	TA15_TF	1	15	Aircraft starts at southeast end of runway, then turns right, towards southwest, then turns right northwest Hold before crossing Runway 1-19	CRJ9-ER
V	TA33_TF	1	33	Aircraft starts at northwest end of runway, then turns left, towards southwest, then turns right southeast turns to right to south	CRJ9-ER

Notes:
All entries have TRK_ID2 = 1.

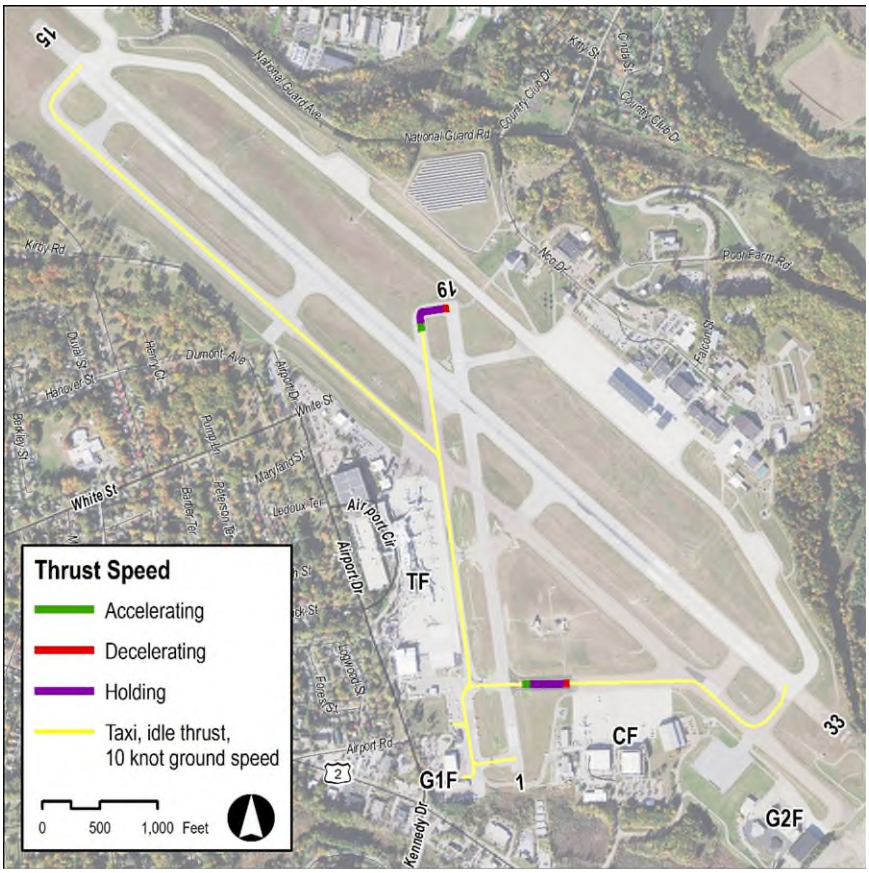

Figure 9. Taxi paths for aircraft arriving to apron G1F

Table 11. Taxi profiles for aircraft arriving to apron G1F

OP_TYPE	TRK_ID1 PROF_ID1	PROF_ID2	Taxi from arrival on Runway	Taxi Path Notes	Most common ANP type
V	TWA01_G1	1	1	Aircraft starts at north end of runway Turns left to west Hold before crossing Runway 15-33 Taxi south, passing Apron TF	GASEPF
V	TA15_G1F	1	15	Aircraft starts at southeast end of runway, Turns right, towards southwest, then northwest, turns to west passing Apron CF Hold before crossing Runway 1-19 Cross Runway and turn left to south	GASEPF
V	TWA19_G1	1	19	Aircraft starts at south end of runway Taxi directly to apron	GASEPF
V	TA33_G1F	1	33	Aircraft starts at northwest end of runway, Turns left, towards southwest, then southeast turns to right to south, passing Apron TF	GASEPF

Notes:
All entries have TRK_ID2 = 1.

The AEDT performance report for the draft operations is available in Excel format upon request. The Excel file was used in preparing the preceding figures to verify that AEDT is producing the expected results with the inputs described above. It should be noted that AEDT sub-segmented the profiles further. We reviewed and found most of the duration variations are approximately one to two seconds and the distance variations are on the order 10 feet or less. Therefore, we do not believe these adversely affect the overall results.

2.4 Draft Results in Day-Night Average Sound Level

Figure 10 presents the DNL 65 dB and DNL 70 dB contours using the draft year 2024 operations, draft runway use, the taxiway tracks presented in **Figure 1**, and the proposed taxiway profiles defined above, applied to the appropriate ANP types. The DNL 65 dB contour generated from these taxiway operations does extend slightly outside of airfield property on the northwest side. Although not shown in this memorandum, the shape and extent of the 65 dB DNL contour is similar to a prior BTV taxiway modeling submission.[20] The residential area within the DNL 65 dB contour shown in **Figure 10** has been an area of noise mitigation efforts in accordance with the airport's FAA approved Noise Compatibility Program (which is financially supported by several sources, including FAA Airport Improvement Program grants). The taxi operations around ramp areas G1F and G2F do not produce noise levels of 65 dB DNL.

[20] Document "Burlington International Airport Noise Exposure Map Update – Requested Review and Approval of Integrated Noise Model Non-Standard Inputs" prepared for Richard Doucette, FAA; Prepared by David Crandall; September 11, 2014, HMMH Job #305660. Attachment B, Page B-8, Figure 3-5.
Reviewed and approved by FAA AEE-100 via letter dated December 9, 2014 addressed to Richard Doucette, signed by Rebecca Cointin, Manager AEE/Noise Division
Both of the above documents are included in Appendix B of the BTV 2015 and 2020 Noise Exposure Maps.

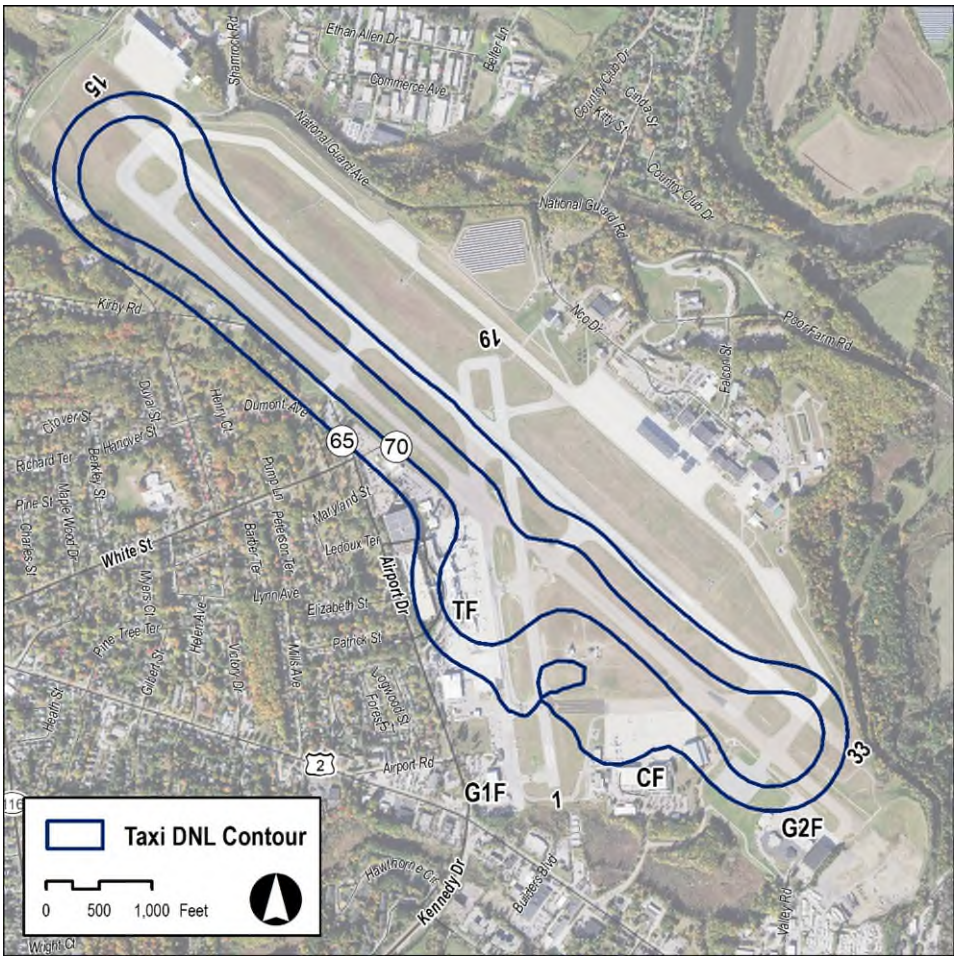

Figure 10. Draft 65 dB and 70 dB DNL Contours associated with Taxiing Aircraft

3.0 UVM Medical Center Helicopter Operations

The local hospital, University of Vermont Medical Center, has a helipad to facilitate patient transportation by helicopter. The helipad, designated in FAA's records as 67VT, is located approximately 2 miles west of BTV.[21] The helicopters, mainly Eurocopter EC 135 (modeled as AEDT ANP type EC130), are serviced, maintained, and stored at FBO facilities on the east side of BTV. The helicopters fly the 2 miles between the FBO and the helipad 67VT either over or around residential areas near BTV, within the 30,000-foot radius study area requirement in 14 CFR Part 150.[22] Our draft existing and forecast operations data have on the order of 1,700 annual EC130 operations of which approximately 450 fly between BTV and 67VT. Approximately one third of the 450 annual operations occur during the DNL metric's 10 PM to 7 AM nighttime period.

Figure 11 shows the actual flight tracks (green tracks depict arrivals to BTV and orange tracks depict departures from BTV) and the representative model tracks associated with these operations. Flight track analysis indicates that the transit time, on average, is four minutes, which results in an average ground speed of 38 knots.[23] Flight track analysis also indicates that the average altitude of the helicopters is approximately 800 feet mean sea level

[21] FAA's Airport Data and Information Portal has information at https://adip.faa.gov/agis/public/#/simpleAirportMap/67VT
[22] 14 CFR Part 150 Appendix-A-to-Part-150(b)(1)
[23] Measured between BTV Taxiway and a straight line approximating the helicopters crossing of Interstate 89.

(MSL), or 465 feet above field elevation (AFE). The representative helipad selected for these profiles was chosen with consideration of the other on-airport helipads within the model and stakeholder input (Technical Advisory Committee).

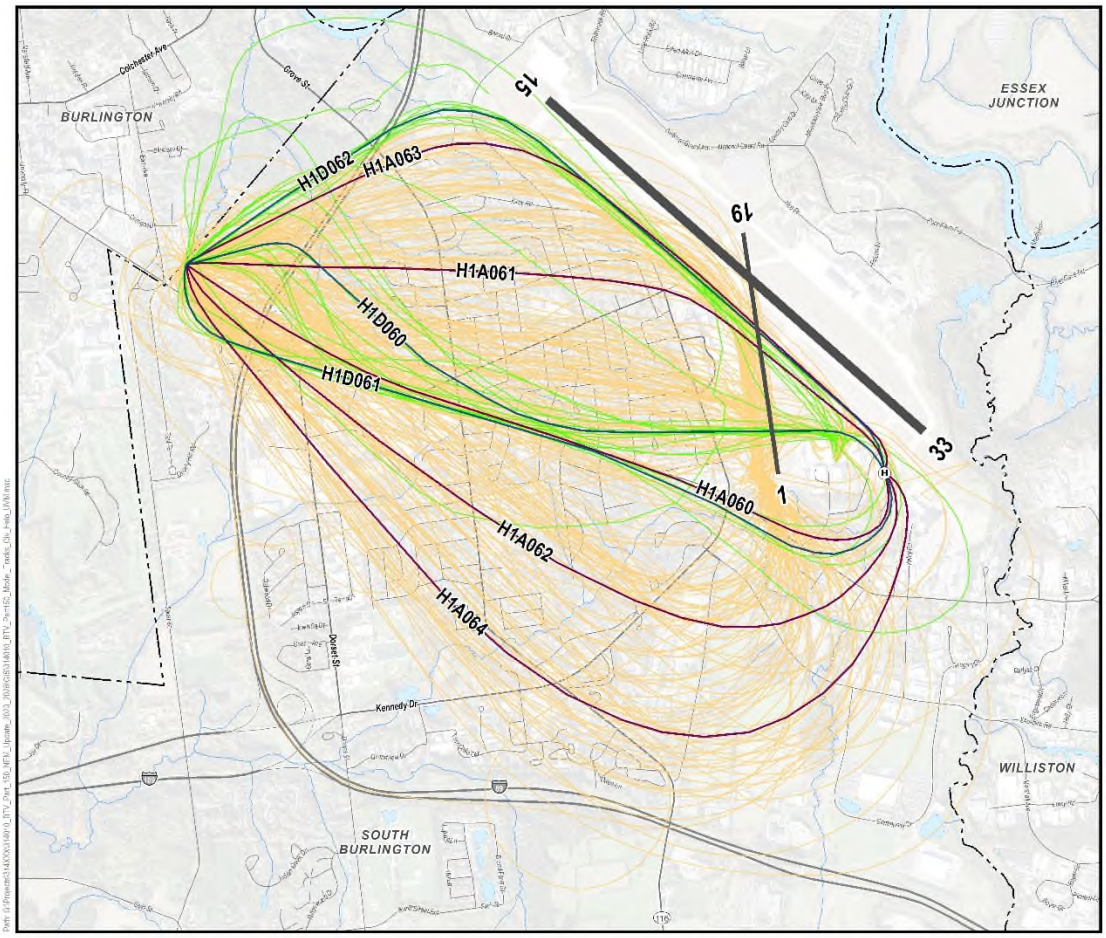

Figure 11. Actual and Representative Tracks for Proposed Profiles
Note: Green/blue = arrivals to BTV; Orange/red = departures from BTV

Figure 11 also presents the eight proposed representative model tracks. Red tracks are BTV departures, leading from the modeled helipad at the FBO on BTV property to the UVM helipad. Blue tracks are BTV arrivals, leading from UVM to the FBO. This methodology allows the operations to be modeled as arrivals/departures to/from BTV. Each departure or arrival profile is set to the respective track length.

3.1 Proposed Arrival Profiles

Table 12 presents the proposed user-defined arrival profile representing an EC130 starting in the air over helipad 67VT, flying to BTV, and landing on the BTV airfield. The profile is shown as it would be entered to AEDT's table FLT_ANP_HELICOPTER_PROCEDURES, and the step types (and interpretation of the respective duration, distance, altitude and speed values) are those defined in the AEDT 3e User Manual Appendix M and AEDT 3e Technical Manual 11.2.3.3.[24] All attributes not presented for the proposed profile are the same as the EC130 AEDT default profile.

[24] Both the User Manual and the Technical Manual were last updated May 9, 2022 and are available at https://aedt.faa.gov/3e_information.aspx

Table 12. Proposed Profile EC130 Approach U_fm_UVM_H1A061

Step Number	Step Type	DURATION (see note)	DISTANCE (feet)	ALTITUDE (feet)	SPEED (knots)	STANDARD profile attributes and notes (if different)
1	S Start altitude at constant speed	-	-	**465**	**38**	ALTITUDE =1,000; SPEED = 113.4
2	L Level flight at constant speed	-	**9,638***	-	-	DISTANCE = 87,250
3	B Approach with horizontal deceleration	-	**316**	-	**30**	DISTANCE = 5000 SPEED = 65 Maintain** deceleration
4	A Approach at constant speed	-	**624**	**400**	-	DISTANCE = 4800 ALTITUDE =500 Maintain** descent angle
5	C Approach with descending deceleration	-	**2,263**	15	0	DISTANCE = 2850 Maintain** descent angle
6	Y Vertical descent in ground effect	3	-	0	-	
7	H Flight idle	30	-	-	-	
8	G Ground idle	30	-	-	-	
	Total track distance		**12,841***			

Notes:
* These distances are adjusted in other profiles associated with other respective ground tracks.
** Distance values are selected so that the proposed profiles maintain the same descent angle and/or deceleration rate associated the respective STANDARD profile segment. In the example of Step 3, the deceleration rate is developed via a form of Equation 1 where acceleration/deceleration is equal to $(Vf^2 – Vi^2)/(2*d)$. The standard profile's deceleration rate works out to about 2.5 ft/s^2. That 2.5 ft/s^2 deceleration rate was then applied to the proposed profile's starting speed of 38 knots (Vi), and interim speed of 30 knots (Vf) to come up with the step distance of 316 feet (rounded). In the example of Step 4, the descent angle is set by the standard profile's ratio between the difference in the altitude (1,000 ft AFE – 500 ft AFE = 500 ft) and segment distance (4,800 ft) which is approximately 5.9 degrees. To match the standard profiles descent angle, Step 4 of the a proposed profile has a distance of 624 feet based on an altitude change of 465 ft AFE to 400 ft AFE (65 feet).
The DURATION, DISTANCE, ALTITUDE and SPEED fields are used only by particular Step Types. Values presented here are as entered into AEDT's FLT_ANP_HELICOPTER_PROCEDURES table with the exception that entries shown as "-" are unused parameters and actually entered into the table as 0. This proposed user-defined profile does not have any changes to the DURATION field compared to the AEDT STANDARD profile. For most step types, the actual representative segment duration can be calculated using the appropriate distance and the appropriate speed. Please see AEDT documentation for further details.

Figure 12 presents a graphical representation of the proposed profile altitude relative to the distance from the helipad (as shown in **Table 12**) compared to AEDT default "standard" profile. Steps 1 through 4 are at a lower altitude (465 ft above airfield elevation) for the proposed profile; the standard profile has the same steps between 1,000 ft AFE and 500 ft. Distances in steps 2 through 5 are adjusted based on the total track distances to maintain the same descent angle and/or deceleration rate compared to the AEDT default profile. Steps 6 through 8 are identical in both profiles and occur during the last minute of flight, representing the last 15 feet of altitude, before touching down and stopping. **Figure 13** graphs the profile's speed relative to the distance from the helipad.

Figure 14, **Figure 15**, and **Figure 16** compare the proposed arrival profile's resulting SEL contour (in red) to the AEDT standard EC130 profile's resulting SEL (in blue) on each of the five representative tracks. The five figures each display the 85 dB, 90 dB and 95 dB SEL contours associated with a single operation on the indicated track. In general, the proposed profile is about 5 dB louder than the standard profiles during the transit. Some of the difference can be accounted for by the lower altitude of the proposed profile (465 feet AFE compared to 1,000 feet

AFE). The rest of the difference is attributable to the slower speed of the proposed profile (38 knots compared to 113.4 knots).

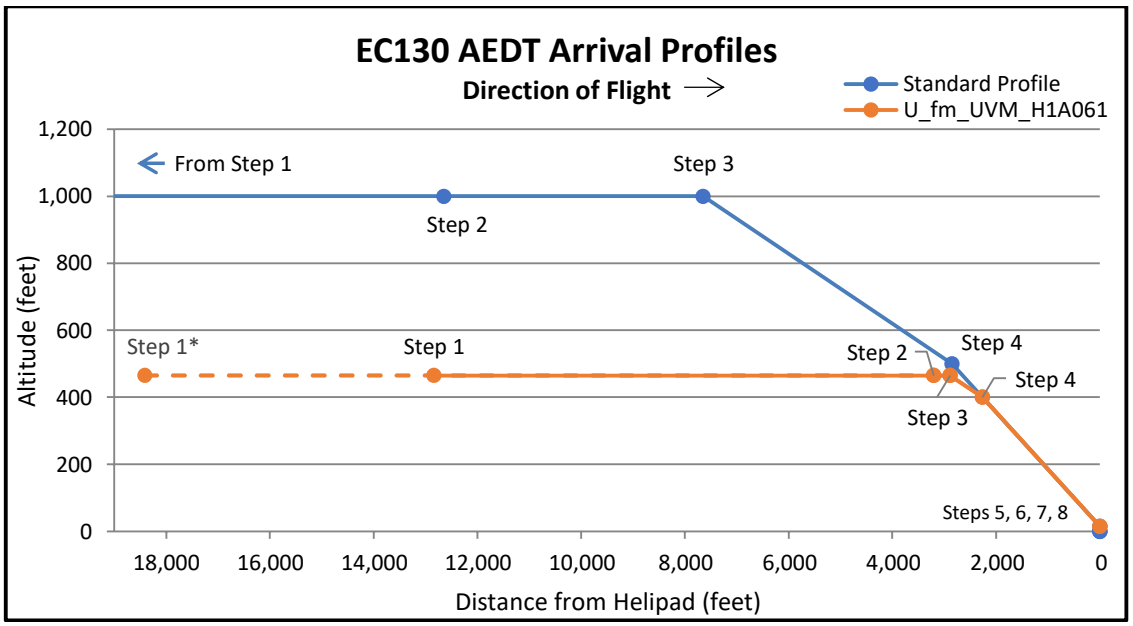

Figure 12. Comparison of EC130 AEDT Standard and Proposed Arrival Altitude versus Distance Profiles
*Note: *Total distance for the longest proposed arrival profile (U_fm_UVM_H1A064) is 18,411 feet*

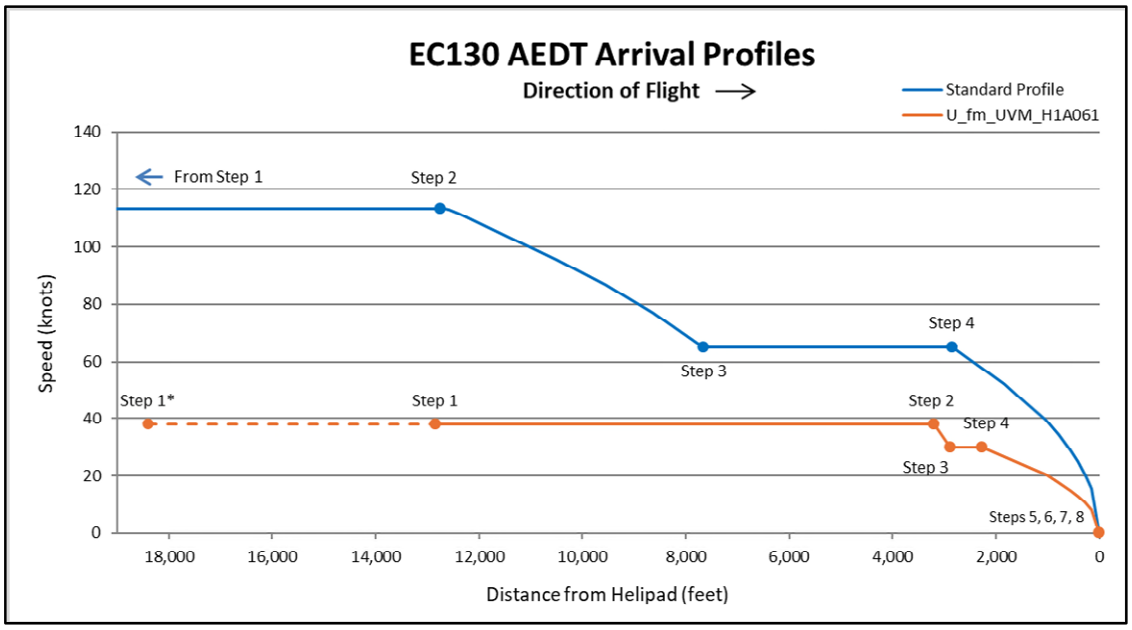

Figure 13. Comparison of EC130 AEDT Standard and Proposed Arrival Speed versus Distance Profiles
*Note: *Total distance for the longest proposed arrival profile (U_fm_UVM_H1A064) is 18,411 feet*

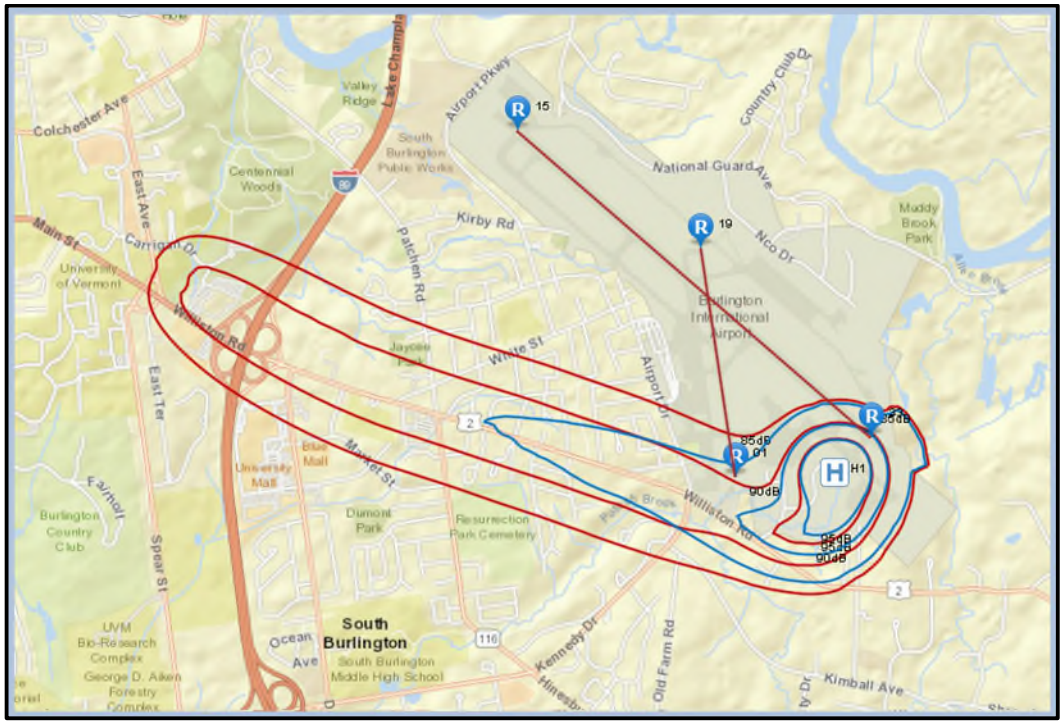

Figure 14. Comparison SEL Contours Arrival Track H1A060 from UVM (west) to AEDT Helipad (east)
H1A060 Attributes: Total distance is 13,484 feet; Step 2 distance is 10,281 feet

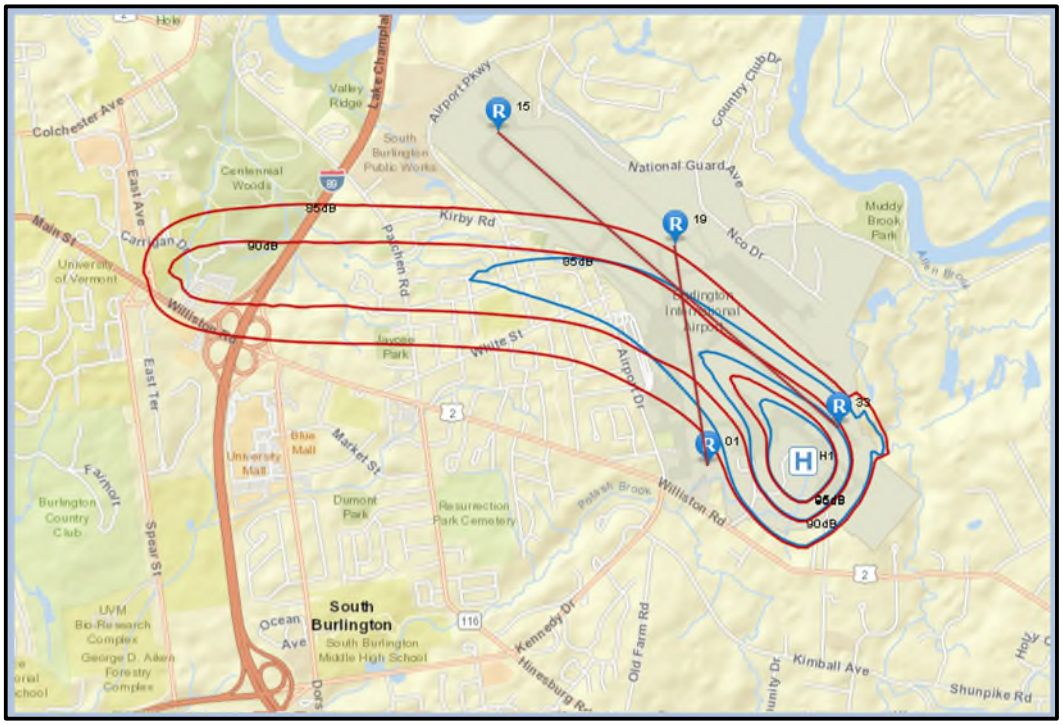

Figure 15. Comparison SEL Contours Arrival Track H1A061 from UVM (west) to AEDT Helipad (east))
H1A061 Attributes: Total distance is 12,841 feet; Step 2 distance is 9,638 feet

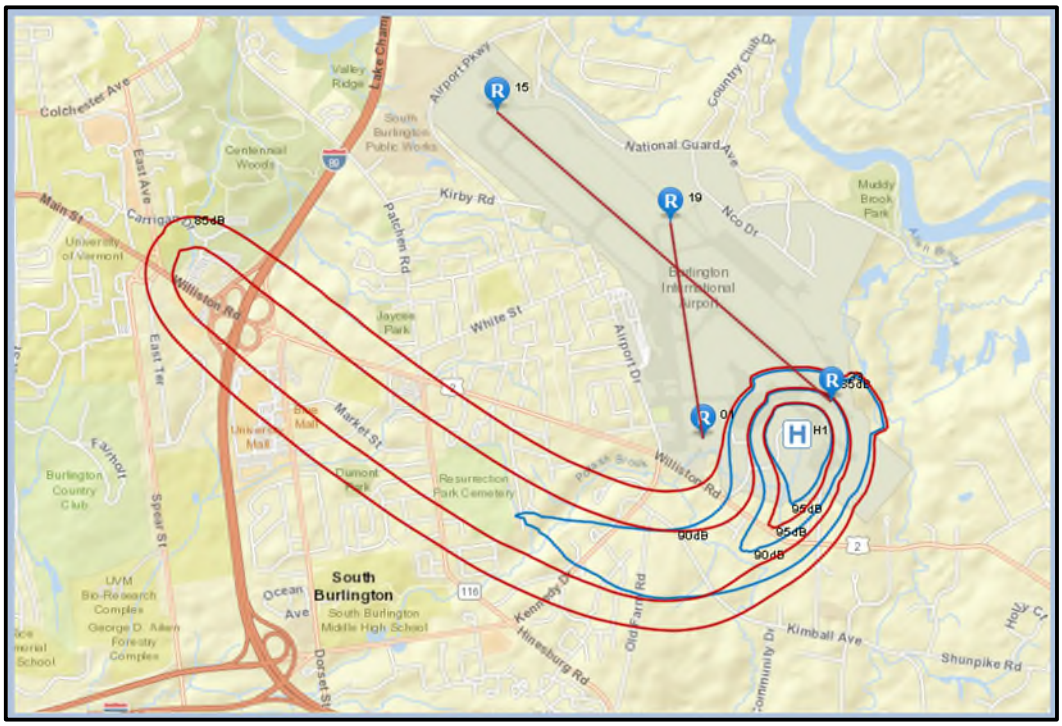

Figure 16. Comparison SEL Contours Arrival Track H1A062 from UVM (west) to AEDT Helipad (east)

H1A062 Attributes: Total distance is 15,408 feet; Step 2 distance is 12,205 feet

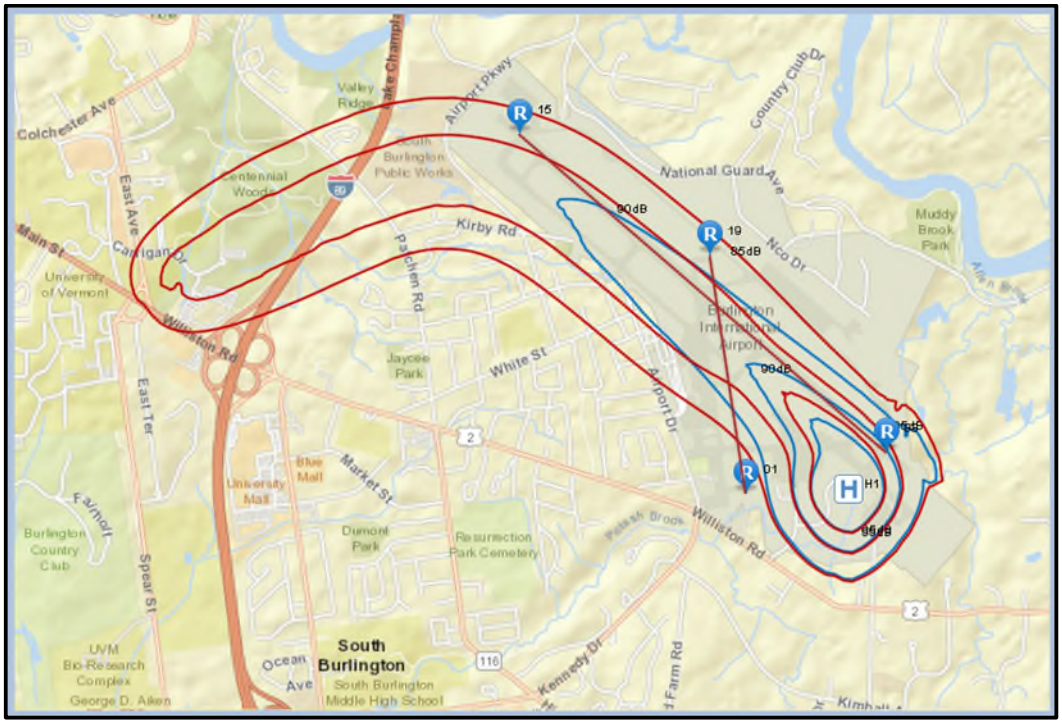

Figure 17. Comparison SEL Contours Arrival Track H1A063 from UVM (west) to AEDT Helipad (east)

H1A063 Attributes: Total distance is 14,308 feet; Step 2 distance is 11,105 feet

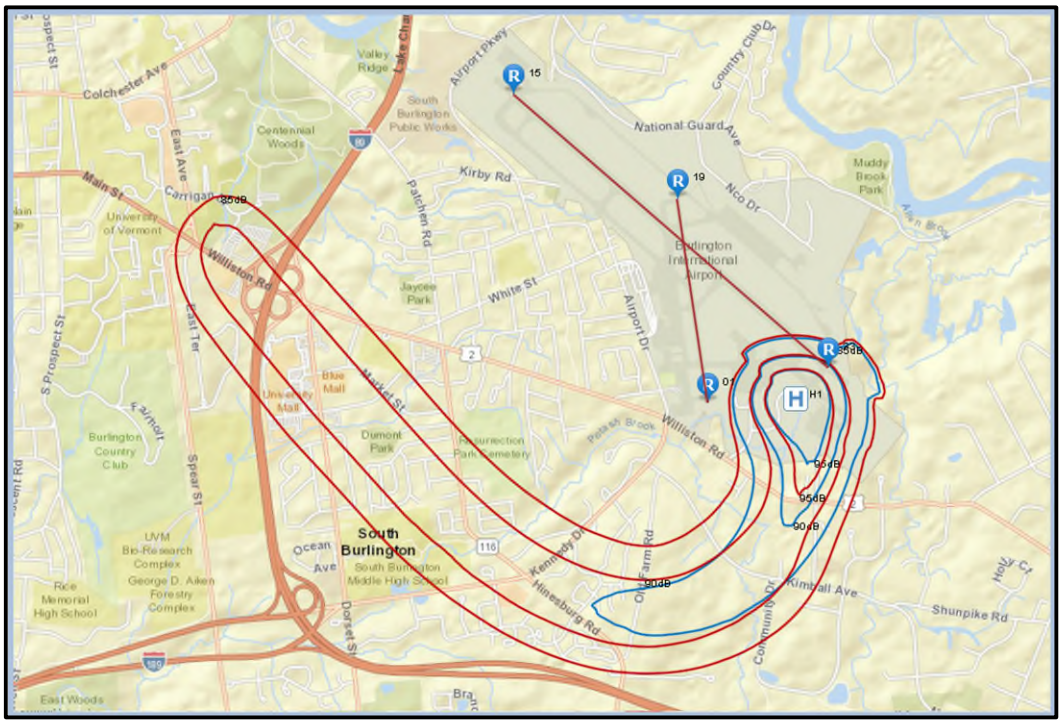

Figure 18. Comparison SEL Contours Arrival Track H1A064 from UVM (west) to AEDT Helipad (east)
H1A064 Attributes: Total distance is 18,411 feet; Step 2 distance is 15,208 feet

3.2 Proposed Departure Profile

Table 13 presents the proposed user-defined departure profile representing an EC130 departing a helipad on the BTV airfield, flying towards 67VT, and entering a level flight with the profile ending where the track ends, over 67VT. The profile is presented as it would be entered into AEDT's table FLT_ANP_HELICOPTER_PROCEDURES, and the step types (and interpretation of the respective duration, distance, altitude and speed values) are those defined in the AEDT 3e User Manual Appendix M and AEDT 3e Technical Manual 11.2.3.3. All attributes not presented for the proposed profile are the same as the EC130 AEDT default profile.

Table 13. Proposed Profile EC130 Departure U_to_UVM_H1D060

Step Number	Step Type	DURATION	DISTANCE (feet)	ALTITUDE (feet)	SPEED (knots)	STANDARD profile attributes (if different)
1	G Ground idle	30	-	-	-	
2	H Flight idle	30	-	-	-	
3	V Vertical ascent in ground effect	3	-	15	-	
4	E Depart with horizontal acceleration	-	100	-	30	
5	F Depart with climbing acceleration	-	**39**	30	**34**	DISTANCE = 500 SPEED = 65 Maintain** acceleration
6	D Departure at constant speed	-	**1,570**	**465**	-	DISTANCE = 3,500 ALTITUDE =1,000 Maintain** climb angle
7	E Depart with horizontal acceleration	-	**94**	-	**38**	DISTANCE = 2,800 SPEED = 113.4 Maintain** acceleration
8	L Level flight at constant speed	-	**11,145***	-	-	DISTANCE = 93,100
	Total track distance		**12,948***			

Notes:
* These distances are adjusted in other profiles associated with other respective ground tracks.
** Distance values are selected so that the proposed profiles maintain the same climb angle and/or acceleration rate associated the respective STANDARD profile segment. See notes to **Table 12** for further details and examples of this process.
The DURATION, DISTANCE, ALTITUDE and SPEED fields are used only by particular Step Types. Values presented here are as entered into AEDT's FLT_ANP_HELICOPTER_PROCEDURES table with the exception that entries shown as "-" are unused parameters and actually entered into the table as 0.
This proposed user-defined profile does not have any changes to the DURATION field compared to the AEDT STANDARD profile. For most step types, the actual representative segment duration can be calculated using the appropriate distance and the appropriate speed. Please see AEDT documentation for further details.

Figure 19 presents a graphical representation of the proposed profile altitude relative to the distance from the helipad (as shown in **Table 13**) compared to AEDT default "standard" profile. Steps 1 through 4 represent the start of the departure and are unchanged compared to the AEDT default profile. Steps 5, 6, and 7 are modified to represent the lower aircraft altitude and slower speed. Distances are adjusted based on the total track distances to maintain the same climb angle and/or acceleration rate compared to the AEDT default profile. Step 8 is simply shortened relative to the default profile. **Figure 20** graphs the profile's speed relative to the distance from the helipad.

Figure 21, **Figure 22**, and **Figure 23** compare the proposed departure profile's resulting SEL contour (in red) to AEDT standard profile's resulting SEL (in blue) on the three representative tracks. The three figures each display the 85 dB, 90 dB and 95 dB SEL contours associated with a single operation on the indicated track.

In general, the proposed profile is about 5 dB louder than the standard profiles during the transit. Some of this can be accounted for by the lower altitude of the proposed profile at 465 feet above field elevation (AFE) compared to the standard profile's altitude of 1,000 feet AFE. Some can be accounted for by the slower speed of the proposed profile at 38 knots compared to the standard profile's speed of 113.4 knots.

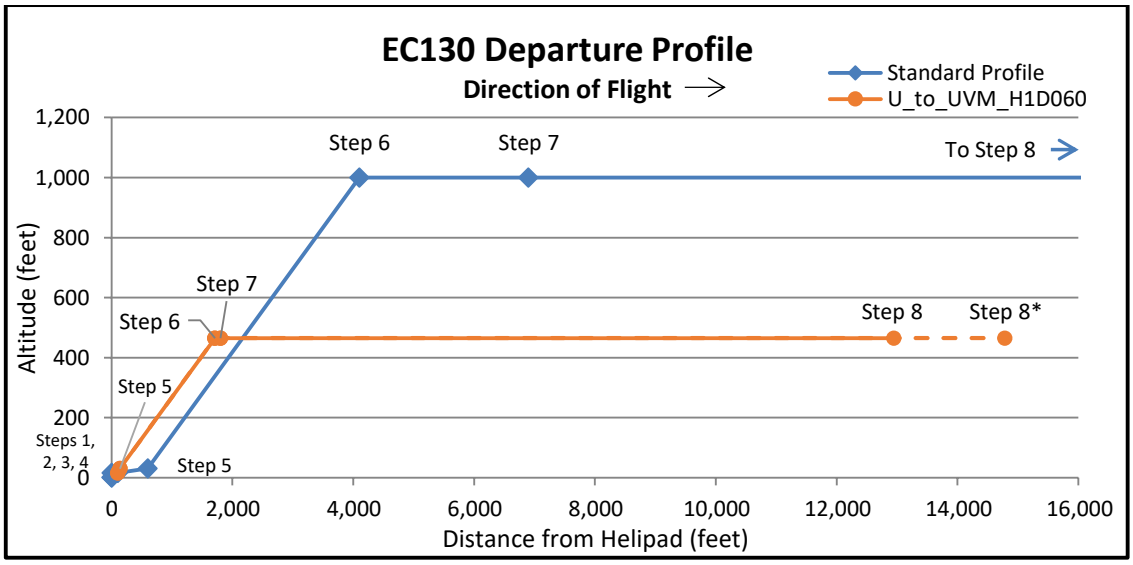

Figure 19. Comparison of EC130 AEDT Standard and Proposed Departure Altitude versus Distance Profiles

*Note: *Total distance for the longest proposed departure profile (U_to_UVM_H1D062) is 14,781 feet*

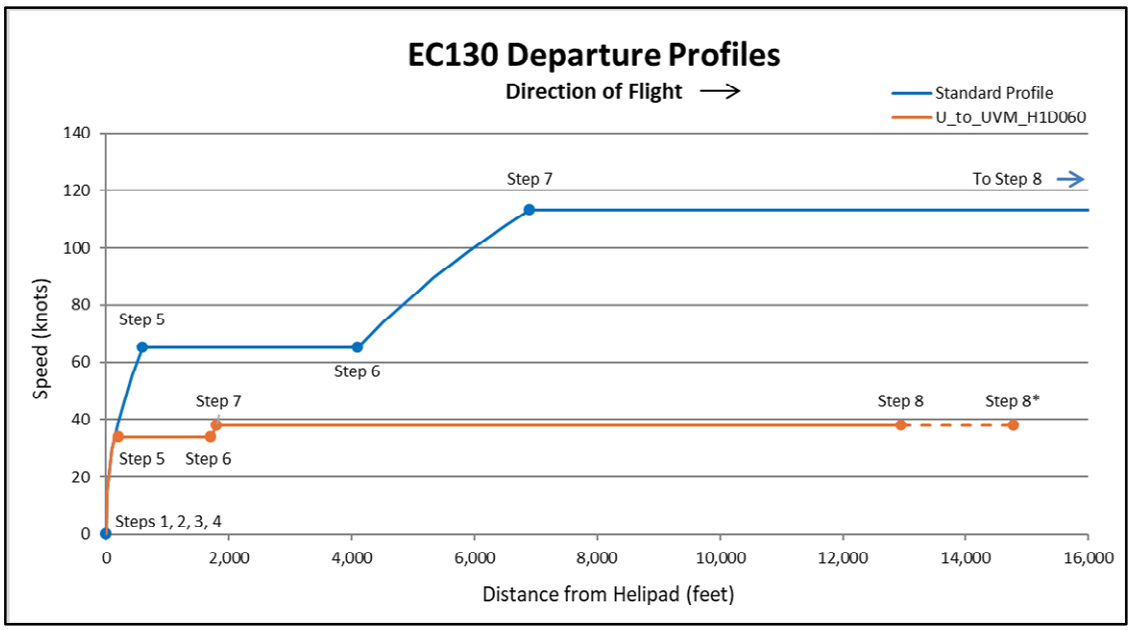

Figure 20. Comparison of EC130 AEDT Standard and Proposed Departure Speed versus Distance Profiles

*Note: *Total distance for the longest proposed departure profile (U_to_UVM_H1D062) is 14,781 feet*

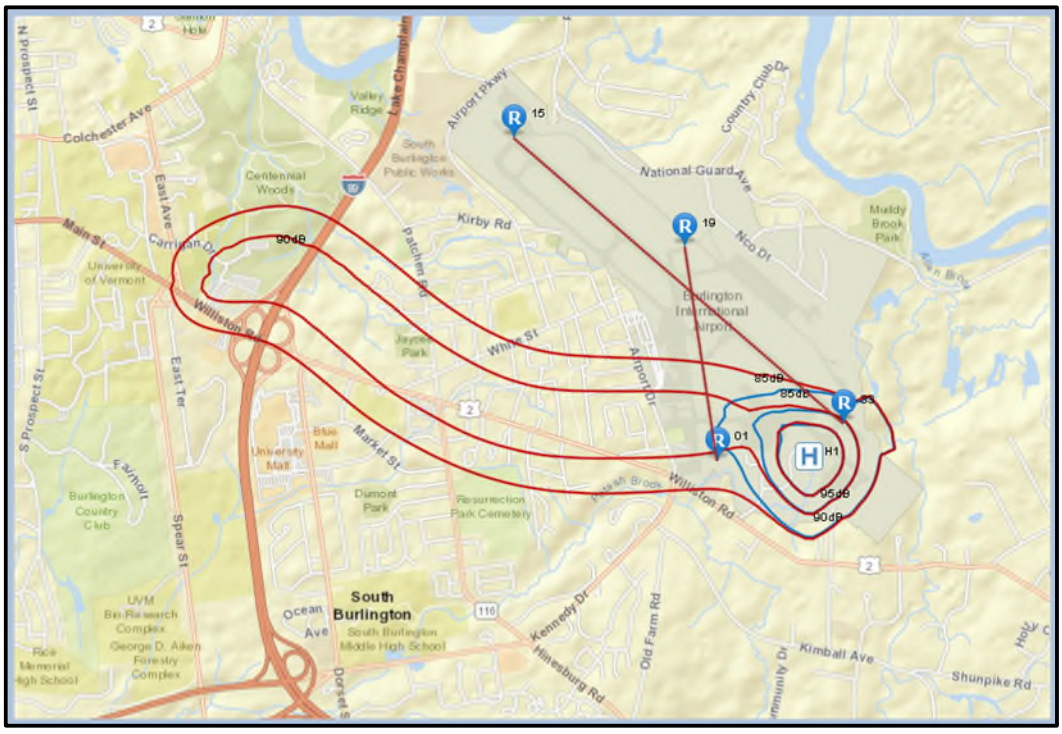

Figure 21. Comparison SEL Contours for Departure Track H1D060 from AEDT Helipad (east) to UVM (west)
H1D060 Attributes: Total distance is 12,948 feet; Step 2 distance is 11,145 feet

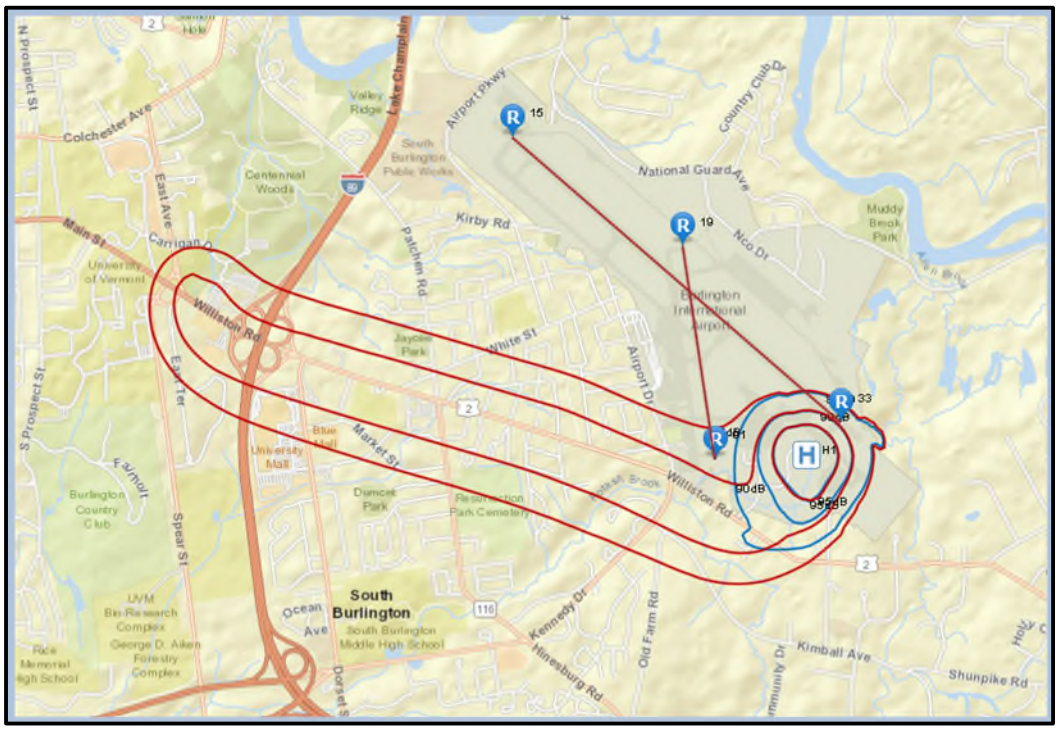

Figure 22. Comparison SEL Contours for Departure Track H1D061 from AEDT Helipad (east) to UVM (west)
H1D061 Attributes: Total distance is 14,208 feet; Step 2 distance is 12,405 feet

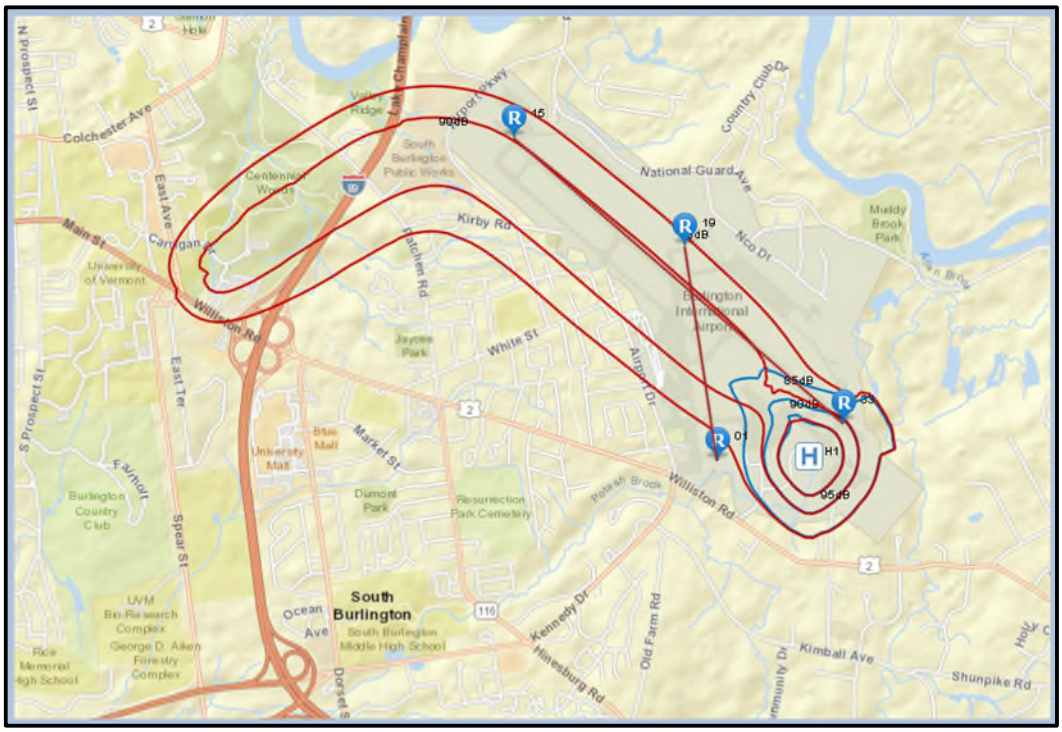

Figure 23. Comparison SEL Contours for Departure Track H1D062 from AEDT Helipad (east) to UVM (west)
H1D062 Attributes: Total distance is 14,781 feet; Step 2 distance is 12,978 feet

3.3 Discussion of Proposed EC130 Profiles with respect to Project DNL

The preceding figures presented SEL contours for individual operations. As mentioned previously, the research done so far for this project indicates that there are approximately 450 operations total between BTV and 67VT in both directions, with one-third at night. Those same operations would be approximately five equivalent average annual day operations when modeled with the DNL metric, after applying the nighttime adjustment. Therefore, at the expected level of operations, the 95 dB SEL contour would be representative of 53 dB DNL, the 90 dB SEL contour would be representative of 48 dB DNL and the 85 dB SEL contours would be representative of 43 dB DNL, absent any other aircraft activity, with the assumption that all operations fly only one of the eight tracks presented. As the figures indicate, the 95 dB SEL levels occur completely on airport property. Therefore, we do not expect the proposed profiles and associated operations by themselves to cause noticeable lobes in the overall project's 65 dB DNL contours.

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U.S. Department
of Transportation
**Federal Aviation
Administration**

Office of Environment and Energy

800 Independence Ave., S.W.
Washington, D.C. 20591

6/25/2024

Cheryl Quaine
Environmental Protection Specialist
New England Region
Federal Aviation Administration
1200 District Ave.
Burlington, MA 01803-5299

Dear Cheryl Quaine,

The Office of Environment and Energy Noise Division (AEE-100) has received the memo from HMMH dated June 12, 2024, on behalf of the City of Burlington, Vermont referencing the Title 14 CFR Part 150 Airport Noise and Land Use Compatibility Study (Part 150), Noise Exposure Map (NEM) update for the Patrick Leahy Burlington International Airport (BTV). In the memo, HMMH requested the approval of multiple non-standard AEDT aircraft and helicopter substitutions, approval of a non-standard methodology for modeling taxiway operations at BTV, and approval of a non-standard methodology to develop user-defined helicopter profiles for the modeling of Eurocopter EC-135 operations between BTV and the nearby hospital helipad at the University of Vermont Medical Center (67VT) in AEDT 3e.

Non-Standard AEDT Aircraft and Helicopter Substitutions

AEE approves the proposed substitutions for the Guimbal G2CA helicopter and Tencam SIRA, Piper PA16, Pipistrel PIVE and, Beta ALIA aircraft types as detailed in Table 1.

Table 1. Aircraft and Helicopters Not Present in the AEDT 3e Database

HMMH Proposed and FAA AEE Approved Substitutions						
Aircraft Code	**Represented Aircraft**	**AEDT EQUIP_ID**	**AEDT Airframe**	**AEDT Engine**	**AEDT ANP_ID**	**AEDT BADA_ID**
G2CA	Guimbal G-2 Cabri	4105	Robinson R22 Mariner	IO-320-D1AD	R22	P28A
SIRA	Tecnam P-Mentor (SIRA)	1904	EADS Socata TB-10 Tobago	IO-360	GASEPV	TB21
PA16	Piper 16 Clipper	6241	Aeronca 15 Sedan (FAS)	O-200	GASEPF	C172

HMMH Proposed and FAA AEE Approved Substitutions						
Aircraft Code	**Represented Aircraft**	**AEDT EQUIP_ID**	**AEDT Airframe**	**AEDT Engine**	**AEDT ANP_ID**	**AEDT BADA_ID**
PIVE	Pipistrel Velis Electro	6263	Cessna 162 (FAS)	O-200	GASEPF	C172
ALIA	Beta ALIA	1900	Spencer S-12 Air Car	TIO-540-J2B2	GASEPV	P28A

Non-Standard AEDT Taxiway Modeling Methodology

AEE approves the aircraft taxiway modeling methodology outlined in the June 12, 2024 request memo but defers to APP-400, and the New England Region ADO for a justification of need for the utilization of this methodology including the requested omission of F-35A and other military aircraft taxi noise as described in Section 2.2.

Non-Standard AEDT EC-135 User-Defined Helicopter Arrival and Departure Profiles

The standard helicopter arrival and departure profiles in AEDT 3e for the Eurocopter EC-135 do not reflect the typical cruising altitude of 465 feet above Mean Sea Level (MSL), distances, or cruise speed of 38 knots needed to reflect the profiles of helicopter operations to and from the Fixed Base Operator (FBO) helipad at BTV and hospital helipad at 67VT. Therefore, HMMH is seeking approval for adjustment of these standard helicopter profiles for the Eurocopter EC-135 to accurately reflect the typical range of cruising altitudes, distances, and speeds utilizing non-standard user-defined profiles.

The proposed revised methodology for developing non-standard user-defined helicopter profiles in AEDT 3e for the Eurocopter EC-135 between the BTV FBO helipad and 67VT helipad appear to be adequate for this analysis; therefore, AEE approves use of the methodology proposed for this project.

Please understand that these approvals are limited to this particular Part 150 NEM update for BTV and for use with AEDT 3e only. Further non-standard AEDT inputs or methodologies for additional projects at this or any other site will require separate approval.

Sincerely,

Donald Scata
Manager
AEE-100/Noise Division

cc: ARP Contacts (Susan Staehle, APP-400)

Appendix D: Model Flight Tracks (with Same Scale and Base Map as NEMs)

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BTV
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

PART 150 - NOISE EXPOSURE MAP UPDATE

Appendix D-1
Civilian Arrivals

Model Tracks
- Civilian Jet Arrival Model Tracks
- Civilian NonJet Arrival Model Tracks
- Civilian Helo Arrival Model Tracks

hmmh

jp
The Jones Payne Group, Inc.

- Town Boundary
- Airport Property Boundary
- Local Roads
- Major Roads
- Highways

2024 Land Use
- Single Family Residential (1)
- Multi Family Residential (1)
- Other Residential (1)
- Mixed Use (1)
- Public Use (1)
- Airport
- Transportation (2)
- Commercial (2)
- Manufacturing & Production (2)
- Recreational (2)
- Open Space

(1) Potentially non-compatible within 65 dB DNL contour as discussed in Section 3.4.
(2) Potentially non-compatible within 70 dB DNL contour as discussed in Section 3.4.

Data Source:
Vermont Center for Geographic Information Inc. (VCGI), United States Census Bureau, National Register of Historic Places, Burlington Internationa Airport, Harris Miller Miller & Hanson Inc.

North

2,000 0 2,000 4,000 ft

COLCHESTER
WINOOSKI
BURLINGTON
ESSEX
WILLISTON
SOUTH BURLINGTON
SHELBURNE
RICHMOND

PART 150 - NOISE EXPOSURE MAP UPDATE

Appendix D-2
Civilian Departures

Model Tracks
- Civilian Jet Departure Model Tracks
- Civilian NonJet Departure Model Tracks
- Civilian Helo Departure Model Tracks

- Town Boundary
- Airport Property Boundary
- Local Roads
- Major Roads
- Highways

2024 Land Use
- Single Family Residential (1)
- Multi Family Residential (1)
- Other Residential (1)
- Mixed Use (1)
- Public Use (1)
- Airport
- Transportation (2)
- Commercial (2)
- Manufacturing & Production (2)
- Recreational (2)
- Open Space

(1) Potentially non-compatible within 65 dB DNL contour as discussed in Section 3.4.
(2) Potentially non-compatible within 70 dB DNL contour as discussed in Section 3.4.

Data Source:
Vermont Center for Geographic Information Inc. (VCGI), United States Census Bureau, National Register of Historic Places, Burlington Internationa Airport, Harris Miller Miller & Hanson Inc.

North

2,000 0 2,000 4,000 ft

COLCHESTER
WINOOSKI
BURLINGTON
ESSEX
WILLISTON
SOUTH BURLINGTON
SHELBURNE
RICHMOND

BTV
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

PART 150 - NOISE EXPOSURE MAP UPDATE

Appendix D-3
Civilian Circuits

Including the helicopter tracks between BTV & UVM together with the Closed Patterns

Model Tracks
- Civilian NonJet Circuit Model Tracks
- Civilian Helo Circuit Model Tracks

UVM Model Tracks
- Civilian Helo UVM Model Tracks
- Civilian Helo UVM Model Tracks pt1
- Civilian Helo UVM Model Tracks pt2

hmmh

jp
The Jones Payne Group, Inc.

- Town Boundary
- Airport Property Boundary
- Local Roads
- Major Roads
- Highways

2024 Land Use
- Single Family Residential (1)
- Multi Family Residential (1)
- Other Residential (1)
- Mixed Use (1)
- Public Use (1)
- Airport
- Transportation (2)
- Commercial (2)
- Manufacturing & Production (2)
- Recreational (2)
- Open Space

(1) Potentially non-compatible within 65 dB DNL contour as discussed in Section 3.4.
(2) Potentially non-compatible within 70 dB DNL contour as discussed in Section 3.4.

Data Source:
Vermont Center for Geographic Information Inc. (VCGI), United States Census Bureau, National Register of Historic Places, Burlington Internationa Airport, Harris Miller Miller & Hanson Inc.

North

2,000 0 2,000 4,000 ft

COLCHESTER
WINOOSKI
BURLINGTON
ESSEX
WILLISTON
SOUTH BURLINGTON
SHELBURNE
RICHMOND

BTV
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

PART 150 - NOISE EXPOSURE MAP UPDATE

Appendix D-4
All Military

Model Tracks
- Military Jet Circuit Model Tracks
- Military Jet Departure Model Tracks
- Military Jet Arrival Model Tracks
- Military Helo Model Tracks

hmmh

jp
The Jones Payne Group, Inc.

- Town Boundary
- Airport Property Boundary
- Local Roads
- Major Roads
- Highways

2024 Land Use
- Single Family Residential (1)
- Multi Family Residential (1)
- Other Residential (1)
- Mixed Use (1)
- Public Use (1)
- Airport
- Transportation (2)
- Commercial (2)
- Manufacturing & Production (2)
- Recreational (2)
- Open Space

(1) Potentially non-compatible within 65 dB DNL contour as discussed in Section 3.4.
(2) Potentially non-compatible within 70 dB DNL contour as discussed in Section 3.4.

Data Source:
Vermont Center for Geographic Information Inc. (VCGI), United States Census Bureau, National Register of Historic Places, Burlington Internationa Airport, Harris Miller Miller & Hanson Inc.

North

2,000 0 2,000 4,000 ft

COLCHESTER
WINOOSKI
BURLINGTON
ESSEX
WILLISTON
SOUTH BURLINGTON
SHELBURNE
RICHMOND

Appendix E: Stakeholder Consultation

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Patrick Leahy International Airport

BTV
BURLINGTON
INTERNATIONAL AIRPORT

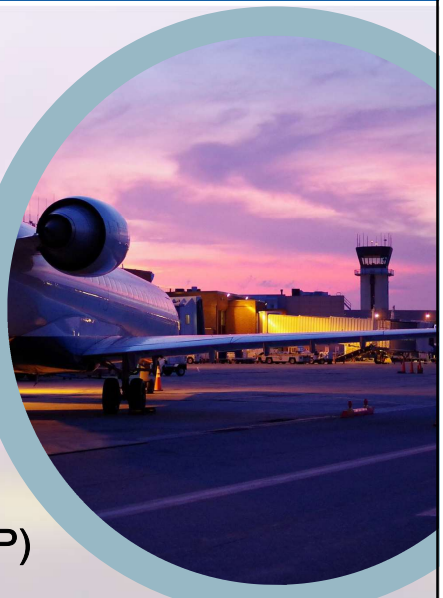
BTV Noise Exposure Map Update
Technical Advisory Committee Meeting #1

October 12, 2023

1

Agenda

- Introductions
- Public Comment
- Part 150 Overview
- Existing Noise Exposure Map (NEM)
- Land Use Compatibility Guidelines
- Existing Noise Compatibility Program (NCP)



2

Consultant Team

THE JONES PAYNE GROUP

Diane Carter | Principal-in-Charge
Brianna Whiteman | Assistant Project Manager

Responsible for:
- Overall Project Management/Client/Agency Coordination
- Community Outreach

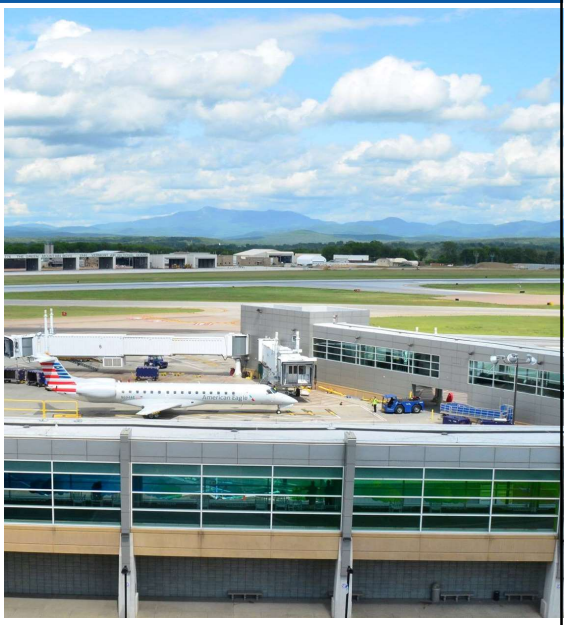
Gene Reindel | Principal-in-Charge
Kate Larson | Project Manager
Paul Krusell | Assistant Project Manager
David Crandall | Technical Advisor

Responsible for:
- Noise Modeling
- Compliance with Federal Regulations

3

TAC Membership

- **Vermont National Army Guard**
- **Burlington Airport Commission**
- **Burlington International Airport**
- **Chittenden County Regional Planning Commission (CCRPC)**
- **City of South Burlington**
- **City of Winooski**
- **Community College of Vermont**
- **FAA (Air Traffic Manager)**
- **FAA (New England Regional Office) – Advisory**
- **Heritage Aviation (FBO)**
- **South Burlington School District**
- **Town of Williston**
- **Vermont National Air Guard (VTANG)**
- **Williston School District**
- **Winooski School District**



4

Roles and Responsibilities

City of Burlington

- As airport owner and operator, the City is responsible for conducting the Noise Exposure Map (NEM) analysis and submitting the study for acceptance
- Consulting team is retained to conduct technical work and prepare documentation related to the NEM process

Federal Aviation Administration (FAA)

- Determines whether the NEM process has met Part 150 requirements and approves individual noise mitigation measures

Technical Advisory Committee (TAC)

- Provides representation for stakeholder organizations, including local jurisdictions, airlines, local business interests

5

Part 150 Overview

The Federal Aviation Administration (FAA) developed the Part 150 Program in response to the federal Aviation Safety and Noise Abatement Act of 1979 ("ASNA")

- Codified under Title 14 of the Code of Federal Regulations (CFR) Part 150
- Formal citation is "14 CFR Part 150," informal is "Part 150"
- Formal title is "Airport Noise Compatibility Planning"

Voluntary FAA-defined process for airport noise studies

- 250+ airports have participated

***Why do airports participate*? Primary reasons include:**

- Access to FAA funding of some approved measures
- Process is comprehensive, well-established, and understood

6

Part 150 Overview

Part 150 prescribes standards and systems for:

- Measuring noise
- Estimating cumulative noise exposure using computer modeling
- Describing noise exposure
- Coordinating with local land use agencies
- Documenting the analytical process
- Submitting the documentation to FAA
- FAA and public review processes
- FAA approval or disapproval process

7

Part 150 Overview

Consultation required with:

- All local, state, and federal entities with control over land use
- FAA regional officials
- Regular aeronautical users of the airport
- All parties interested in reviewing and commenting on the draft reports

Two primary elements:

- Noise Exposure Map (NEM)
  - ***Focus of this study***
- Noise Compatibility Program (NCP)
  - Current NCP approved in 2020
  - ***Not updating currently***

Detailed FAA guidance at:
www.faa.gov/airports/environmental/airport_noise/

8

Part 150 NEM Overview

FAA "accepts" NEM as compliant with Part 150 standards

NEM must include detailed description of:

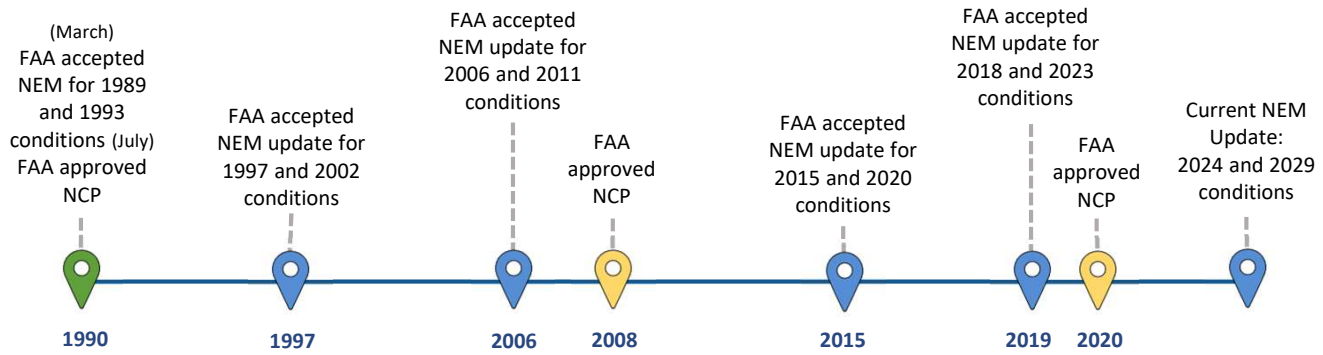
- Airport layout, aircraft operations, and other inputs to noise model
- Aircraft noise exposure in terms of Day-Night Average Sound Level (DNL)
- Land use compatibility assessment

NEM must address two calendar years

- Year of submission
- Forecast (at least five years from year of submission)

9

Prior BTV NEM Efforts



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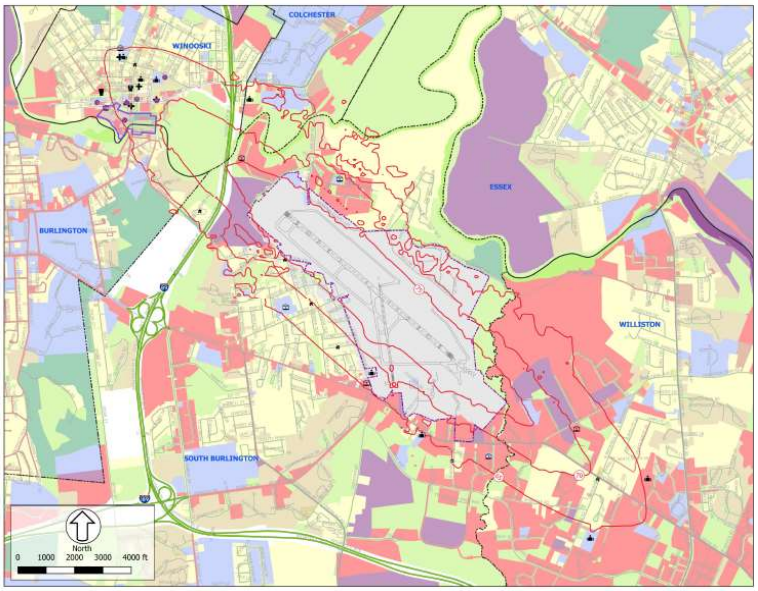
EXISTING 2023 BTV NEM



Estimated Residential Population for 2018 and 2023 Contours

Day-Night Average Sound Level (DNL) Contour Interval	Estimated Dwelling Units and Population	Burlington 2018	Burlington 2023	Colchester 2018	Colchester 2023	Essex 2018	Essex 2023	South Burlington 2018	South Burlington 2023	Williston 2018	Williston 2023	Winooski 2018	Winooski 2023	Total 2018	Total 2023
Single Family Parcels															
65-70 dB	Dwelling Units	-	51	-	9	-	-	126	356	-	105	-	260	126	781
	Population	-	118	-	21	-	-	292	826	-	244	-	603	292	1,812
70-75 dB	Dwelling Units	-	-	-	-	-	-	8	96	-	1	-	-	8	97
	Population	-	-	-	-	-	-	19	223	-	2	-	-	19	225
75 dB +	Dwelling Units	-	-	-	-	-	-	-	12	-	-	-	-	-	12
	Population	-	-	-	-	-	-	-	28	-	-	-	-	-	28
Total 65 dB +	Dwelling Units	-	51	-	9	-	-	134	464	-	106	-	260	134	890
	Population	-	118	-	21	-	-	311	1,076	-	246	-	603	311	2,065
Multi-Family & Mixed Use Parcels															
65-70 dB	Dwelling Units	-	209	-	13	-	-	30	344 [1]	-	4	-	993 [2]	30	1,563
	Population	-	485	-	30	-	-	70	798 [1]	-	9	-	2,304 [2]	70	3,626
70-75 dB	Dwelling Units	-	81 [3]	-	-	-	-	-	14	-	2	-	89 [4,5]	-	186
	Population	-	188 [3]	-	-	-	-	-	32	-	5	-	206 [4,5]	-	432
75 dB +	Dwelling Units	-	-	-	-	-	-	-	1	-	-	-	-	-	1
	Population	-	-	-	-	-	-	-	2	-	-	-	-	-	2
Total 65 dB +	Dwelling Units	-	290	-	13	-	-	30	359	-	6	-	1,082	30	1,750
	Population	-	673	-	30	-	-	70	833	-	14	-	2,510	70	4,060
Estimated Totals - All Parcel Types															
65-70 dB	Dwelling Units	-	260	-	22	-	-	156	700	-	109	-	1,253	156	2,344
	Population	-	603	-	51	-	-	362	1,624	-	253	-	2,907	362	5,438
70-75 dB	Dwelling Units	-	81	-	-	-	-	8	110	-	3	-	89	8	283
	Population	-	188	-	-	-	-	19	255	-	7	-	206	19	657
75 dB +	Dwelling Units	-	-	-	-	-	-	-	13	-	-	-	-	-	13
	Population	-	-	-	-	-	-	-	30	-	-	-	-	-	30
Total 65 dB +	Dwelling Units	-	341	-	22	-	-	164	823	-	112	-	1,342	164	2,640
	Population	-	791	-	51	-	-	380	1,909	-	260	-	3,113	380	6,125

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Land Use Compatibility Guidelines

Land Use	DNL <65 dB	DNL 65-70 dB	DNL 70-75 dB	DNL > 75 dB
Residential	Compatible	Incompatible (1)	Incompatible (1)	Incompatible
Mobile home park	Compatible	Incompatible	Incompatible	Incompatible
Transient lodgings	Compatible	Incompatible (2)	Incompatible (2)	Incompatible (2)
Schools	Compatible	Incompatible (3)	Incompatible (3)	Incompatible
Hospitals and nursing homes	Compatible	25(4)	30(4)	Incompatible
Churches, auditoriums and concert halls	Compatible	25(4)	30(4)	Incompatible

(1) Measures are required to achieve 25 to 30 dB of noise level reduction for aircraft noise from outside to inside.
(2)"Transient lodgings" include, but are not limited to, hotels and motels.
(3)Measures are required to achieve 25 to 30 dB of noise level reduction for aircraft noise from outside to inside.
(4) The measures to achieve NLR of 25 or 30 dB must be incorporated into design and construction of structure.

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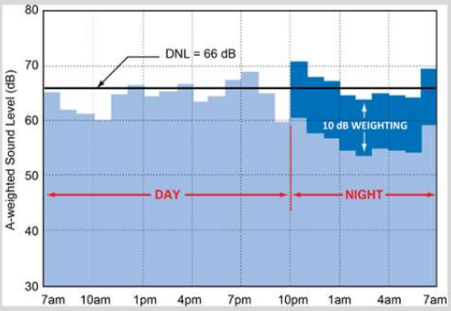
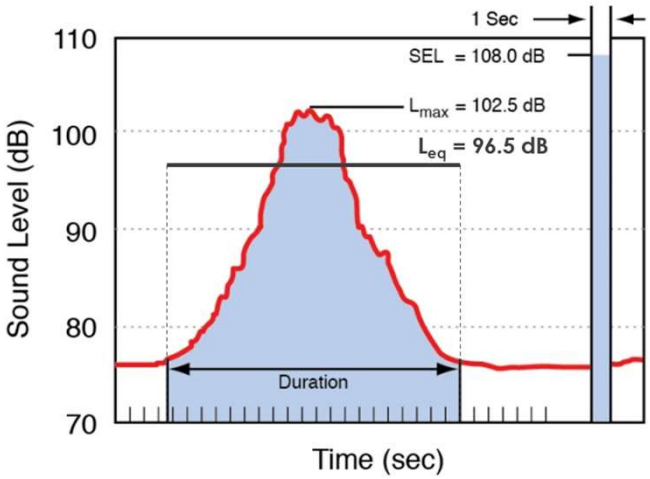
Noise Metrics

- Maximum Noise Level (L_{max})
- Sound Exposure Level (SEL)
- Equivalent Sound Level (L_{eq})
- Hourly Noise Level (HNL or L_{eq1h})
- Day Night Average Sound Level (DNL)





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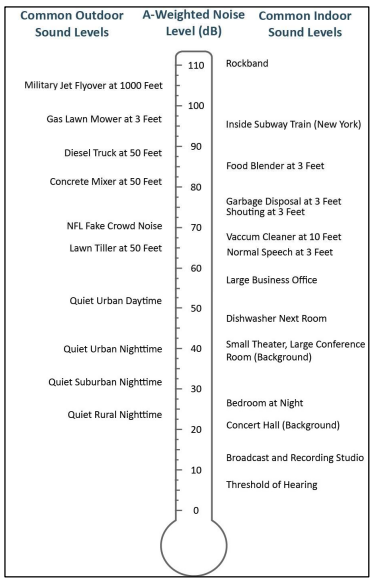
Noise Terminology

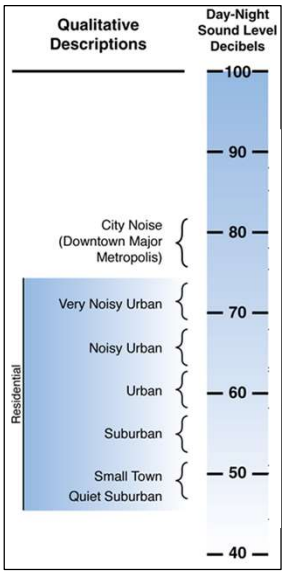


A-weighted decibel

- Reflects how we hear different pitches of sound in our normal environment
- Federal agencies have adopted use of A-weighted sound levels for environmental studies

Day–Night Average Sound Level (DNL or Ldn)

- 24-hour cumulative sound level
- Applies a 10-fold weighting to nighttime noise (from 10pm to 7am) as humans perceive sound levels at night being twice as loud as the same sound level during the day
- Part 150 requires use of DNL for land use compatibility assessments



14

Noise Modeling Overview

- FAA requires use of their Aviation Environmental Design Tool (AEDT) for civilian aircraft operations
  - Version 3e is the most current version (at study's commencement)
  - https://aedt.faa.gov
- Military aircraft operations will be modeled with the Department of Defense noise model, NOISEMAP
- Military noise model results will be combined with AEDT results of the civilian aircraft operations

AEDT requires noise model input data in three categories:

1 Aircraft Noise and Performance Data

- Aircraft performance profiles
- Noise level vs. distance curves

2 Airport Physical Inputs

- Runway end coordinates
- Ground engine runup locations
- Weather data
- Terrain data

3 Aircraft Operational Inputs

- Number of aircraft operations
- Aircraft fleet mix
- Day-night split of operations
- Runway utilization
- Flight track geometry and utilization

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NEM Update Process Summary

1. Collect data and information
2. Develop five-year forecast of aircraft operations
3. Prepare noise model inputs
4. Run the noise model and assess land use compatibility
5. Prepare draft Noise Exposure Map (NEM) documentation
6. Publish NEM documentation for public review and hold public workshop
7. Submit NEM to the FAA for review and acceptance

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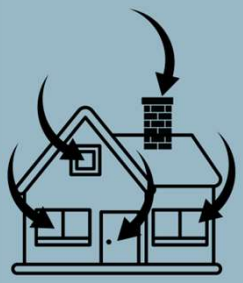
Existing BTV NCP

Airport Operations Measures

- Monitoring and Review of NEM and NCP Status
- Noise and Flight Track Monitoring



Land Use Measures:

- Land Acquisition & Relocation
- Sound Insulation of Residences
- Sound Insulation of Noise Sensitive Structures
- Purchase Assurance
- Sales Assistance

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NEM Project Schedule

	Project Phase	2023						2024								
		JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
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 meeting; public comment period															
4	Finalize and submit final NEM to FAA for approval															

Consultant Task
Stakeholder Involvement
Agency Review

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TAC Preliminary Topics and Schedule

TAC Meeting 2 — Thursday, November 30, 2023

- Forecasts, Military Operations, Noise Model Inputs

TAC Meeting 3 — Thursday, January 18, 2024

- Noise Compatibility Program Review

TAC Meeting 4 — Thursday, April 11, 2024

- Noise Modeling Results – Presentation of the Noise Exposure Maps

BW0

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TAC MEMBER DISCUSSION

Place holder for graphic

20

Patrick Leahy International Airport

PATRICK LEAHY
BURLINGTON
INTERNATIONAL AIRPORT

BTV Noise Exposure Map Update
Technical Advisory Committee Meeting #2

November 30, 2023

1

Agenda

- Introductions and Study Roles
- Part 150 Overview
- Noise Modeling Overview
- Proposed Noise Model Inputs
- Wrap up & Discussion

2

Consultant Team

Diane Carter | Principal-in-Charge
Brianna Whiteman | Assistant Project Manager

Responsible for:
- Overall Project Management/Client/Agency Coordination
- Community Outreach

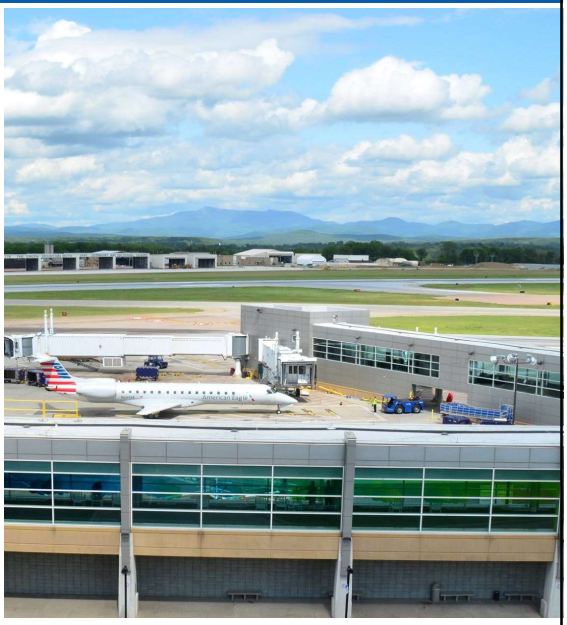
Gene Reindel | Principal-in-Charge
Kate Larson | Project Manager
Paul Krusell | Assistant Project Manager
David Crandall | Technical Advisor

Responsible for:
- Noise Modeling
- Compliance with Federal Regulations

3

TAC Membership

- **Vermont National Army Guard**
- **Burlington Airport Commission**
- **Burlington International Airport**
- **Chittenden County Regional Planning Commission (CCRPC)**
- **City of South Burlington**
- **City of Winooski**
- **Community College of Vermont**
- **FAA (Air Traffic Manager)**
- **FAA (New England Regional Office) – Advisory**
- **Heritage Aviation (FBO)**
- **South Burlington School District**
- **Town of Williston**
- **Vermont National Air Guard (VTANG)**
- **Williston School District**
- **Winooski School District**



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Roles and Responsibilities

City of Burlington

- As airport owner and operator, the City is responsible for conducting the Noise Exposure Map (NEM) analysis and submitting the study for acceptance
- Consulting team is retained to conduct technical work and prepare documentation related to the NEM process

Federal Aviation Administration (FAA)

- Determines whether the NEM process has met Part 150 requirements and approves individual noise mitigation measures

Technical Advisory Committee (TAC)

- Provides representation for stakeholder organizations, including local jurisdictions, airlines, local business interests

5

Part 150 NEM Overview

FAA "accepts" NEM as compliant with Part 150 standards

NEM must include detailed description of:

- Airport layout, aircraft operations, and other inputs to noise model
- Aircraft noise exposure in terms of Day-Night Average Sound Level (DNL)
- Land use compatibility assessment

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1 Aircraft Noise and Performance Data

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- Noise level vs. distance curves

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- Runway end coordinates
- Ground engine runup locations
- Weather data
- Terrain data

3 Aircraft Operational Inputs

- Number of aircraft operations
- Aircraft fleet mix
- Day-night split of operations
- Runway utilization
- Flight track geometry and utilization

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Proposed Noise Modeling Inputs

All materials presented on the following slides are draft and subject to:

- *TAC review*
- *Airport review, approval and/or change*
- *FAA review and approval.*

Model Input Category	Typical Data Source
Airport Layout	FAA 5010 data and airport
Aircraft noise and performance	Standard AEDT database, pilot interviews (NOISEMAP)
Aircraft operations	FAA ATADS, airport forecasts, FAA TAF, BTV NOMS, operator interviews
Aircraft runup operations	Airport staff/log
Runway use rates	BTV NOMS, ATCT personnel, Airport staff
Flight track geometry and use rates	BTV NOMS, ATCT personnel, observations
Meteorological conditions	Standard AEDT database
Terrain data	USGS National Map Viewer, National Land Cover Database

Note: "BTV NOMS" is the noise and operations monitoring system currently installed at BTV.

ATADS = Air Traffic Activity Data System

ATCT = Air Traffic Control Tower

NOMS = Noise and Operations Monitoring System

TAF = Terminal Area Forecast

USGS = United States Geological Survey

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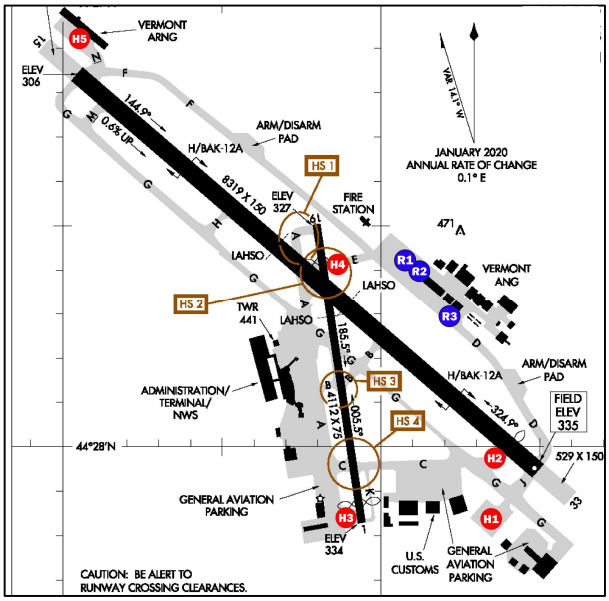
Physical Input Requirements



Sources: FAA 5010 and BTV staff

Airport layout

Runways:

- Runway 15/33 – primary
- Runway 1/19 – crosswind

Helipads:

- Civilian helipads at H1 and H3
- VTARNG uses 4 locations as helipads
  - H2, H3, H4 (taxiways E, C, and L)
  - H5 (VTARNG ramp)

Runups:

- Marked R1, R2, R3

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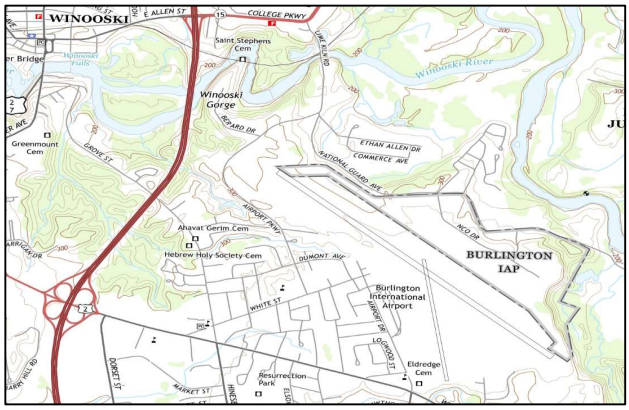
Physical Input Requirements

Airport elevation & surrounding terrain

- Data obtained from the United States Geological Survey (USGS) National Elevation Dataset

Airport weather

- The AEDT database includes recent 10-year averages:
  - Temperature* – 47.0°F
  - Station pressure* – 1002.6 mb
  - Relative humidity* – 65.9%
  - Dew point – 36.2°F
  - Wind speed – 6.7 knots
- *Applied to NOISEMAP modeling



Source: USGS; Nov 2023

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Operational Input Requirements

Annual-Average Day Operations
Existing year 2024
Forecast year 2029
Aircraft Type
Jet, Turboprop, Helicopter, Piston
AEDT or NOISEMAP Equipment Type
EMB175, CNA172, F-35A, etc.
for access to standard AEDT noise and performance database

Day-Night Split
Day: 7 AM – 10 PM
Night: 10 PM – 7 AM
Stage length
Surrogate for aircraft weight; determined by distance from departure to destination airport

Year	Air Carrier	Air Taxi	General Aviation	Military	Total
2024	15,419	6,983	87,015	5,312	114,729
2029	16,814	7,384	89,327	5,292	118,817

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Noise Modeling Process: Baseline Data Analysis

Commercial and General Aviation Operations

Based on 18 months of flight track and aircraft identification data:
January 1, 2022 through June 30, 2023

- Adjusted annual-average aircraft operations to the FAA tower counts:
  - Calculated additional nighttime operations not accounted for in the tower counts due to tower closures from midnight to 5:30 am daily
- Determined the following for each FAA category (Air Carrier, Air Taxi and GA):
  - Day-night split of operations
  - Fleet mix
- Determined the following for each aircraft type group (jets, non-jets and helicopters):
  - Model flight tracks and annual flight track use
  - Annual runway use

Data sources include: FAA ATADS, BTV NOMS, and operator interviews

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Noise Modeling Process: Baseline Data Analysis

Military Operations

Obtained from discussions with VTANG and VTARNG

- Three predominant military operators:
  - 158th Fighter Wing (VTANG): F-35A jet aircraft
  - 103rd Air Wing (VTARNG): HH-60M and UH-72 helicopters
  - Transient operators: fighter jets, freighter/tanker aircraft
- Numbers of arrival, departure, and closed pattern operations
- Flight profiles for each type of flight operation
- Runway usage
  (based on historical data)
- Flight track geometry
  (based on current operating procedures)

image source: https://www.dvidshub.net/image/6168204/vtang-maintains-f-35-readiness-during-covid-19-pandemic

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Noise Modeling Process: Input Data

Preparation of Existing (2024) and Forecast (2029) Conditions

- Commercial and general aviation operations prepared through:
  - Scaling baseline aircraft operations and updating aircraft fleet
    - Publicly available information; announce airline service changes
    - Interviews with airport tenants
  - Applying growth rates from FAA's Terminal Area Forecast (TAF)
  - Assuming no changes to flight tracks, flight track use and runway use
- Military operations obtained from VTANG and VTARNG:
  - Assuming no changes to flight tracks, flight track use and runway use

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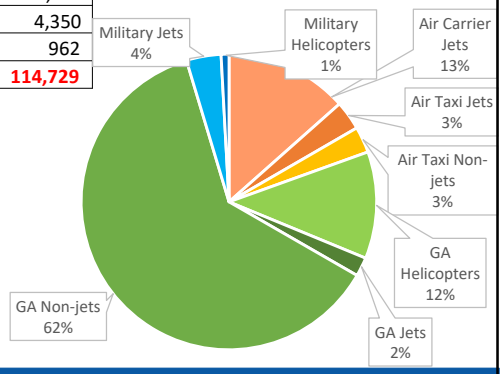
2024 Annual Aircraft Operations

2024 Existing Conditions		Arrivals		Departures		Closed Patterns		Total
Category	Type	Day	Night	Day	Night	Day	Night	Operations
Air Carrier	Jets	5,134	2,575	5,015	2,695	-	-	15,419
Air Taxi	Jets	1,711	137	1,750	98	-	-	3,696
	Non-jets	1,491	152	1,576	68	-	-	3,287
GA	Helicopters	2,452	205	2,435	221	7,907	189	13,409
	Jets	1,120	47	1,086	81	39	9	2,382
	Non-jets	16,793	262	16,543	512	35,990	1,125	71,224
Military	Jets*	2,145	-	2,145	-	60	-	4,350
	Helicopters	450	31	443	38	-	-	962
Totals		**31,296**	**3,410**	**30,992**	**3,713**	**43,996**	**1,322**	**114,729**

** Includes a small number of transient non-jet military aircraft*



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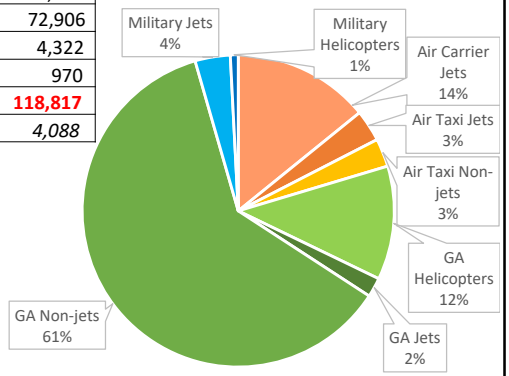
2029 Annual Aircraft Operations

2029 Forecast Conditions		Arrivals		Departures		Closed Patterns		Total
Category	Type	Day	Night	Day	Night	Day	Night	Operations
Air Carrier	Jets	5,823	2,584	5,682	2,725	-	-	16,814
Air Taxi	Jets	1,817	137	1,856	98	-	-	3,908
	Non-jets	1,586	152	1,670	68			3,476
GA	Helicopters	2,552	205	2,536	221	8,300	198	14,011
	Jets	1,134	47	1,100	81	39	9	2,410
	Non-jets*	17,182	262	17,233	512	36,570	1,148	72,906
Military	Jets **	2,131	-	2,131	-	60	-	4,322
	Helicopters	450	35	450	35	-	-	970
Totals		**32,675**	**3,422**	**32,656**	**3,741**	**44,969**	**1,354**	**118,817**
Increase from 2024		*1,379*	*12*	*1,664*	*28*	*973*	*32*	*4,088*

** Includes newly manufactured Beta electric aircraft*
*** Includes a small number of transient non-jet military aircraft*



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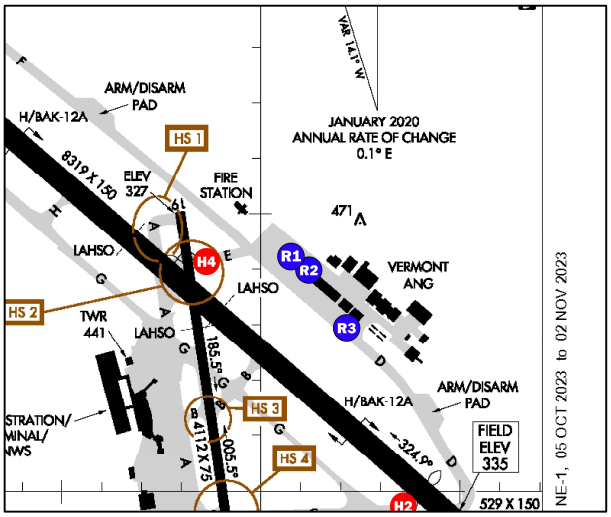
Additional Modeled Aircraft Operations

Engine Runups

Military runups on ANG Apron (restricted area)

Aircraft Type	% of Full Power	Minutes/ year	Location	Aircraft Heading	% of Time at Location
F-35A	10%	3,888	R1	192°	33%
			R2	192°	33%
			R3	90°	34%
	31%	100	R1	192°	33%
			R2	192°	33%
			R3	90°	34%



Sources: FAA 5010 and VTANG staff

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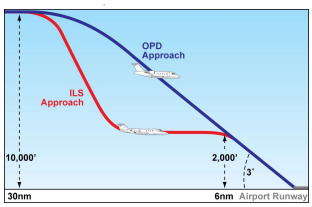
Flight Profiles

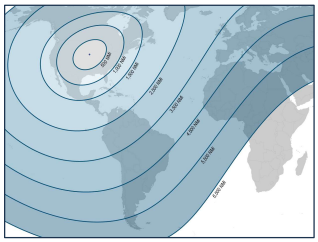
Arrivals

- AEDT database has standard arrival profiles
- NOISEMAP military aircraft flight profiles refined with VTANG input



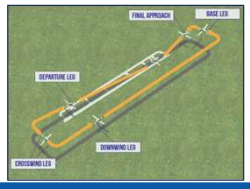
Departures

- AEDT database has departure profiles by stage length (a surrogate for weight)
  - Stage lengths determined from data city pairs; many small aircraft have a single departure profile
- NOISEMAP military aircraft flight profiles refined with VTANG/VTARNG input



Closed Pattern profiles

- Pattern width, length, and altitude derived from flight track data and VTANG input



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Runway Use

Runway Use

Time of Day	Day				Night			
Runway End	15	33	1	19	15	33	1	19
Arrivals								
Non-military Jets	53%	47%	0%	0%	61%	39%	0%	0%
Non-Jets	26%	33%	16%	25%	52%	28%	9%	10%
Military Fighters	73%	27%	0%	0%	73%	27%	0%	0%
Departures								
Non-military Jets	50%	50%	0%	0%	64%	36%	0%	0%
Non-Jets	21%	28%	18%	33%	25%	31%	19%	25%
Military Fighters	73%	27%	0%	0%	73%	27%	0%	0%
Closed Patterns								
Non-Jets	11%	25%	20%	43%	19%	24%	16%	41%

Sources: BTV NOMS, ATCT and BTV staff

Runway 15/33 – primary
- Handles all jet traffic

Runway 1/19 – crosswind
- Used only by GA propellor aircraft

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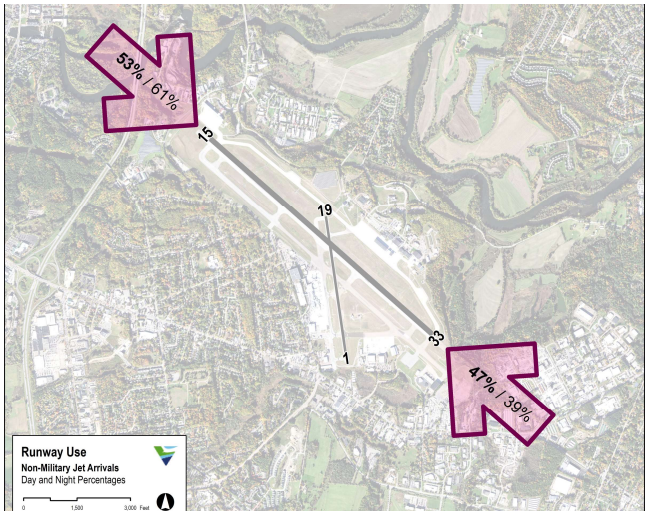
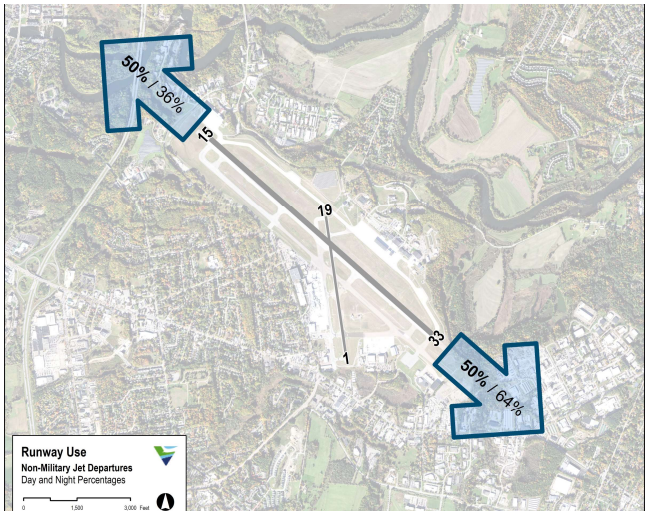
Commercial Jet Runway Use



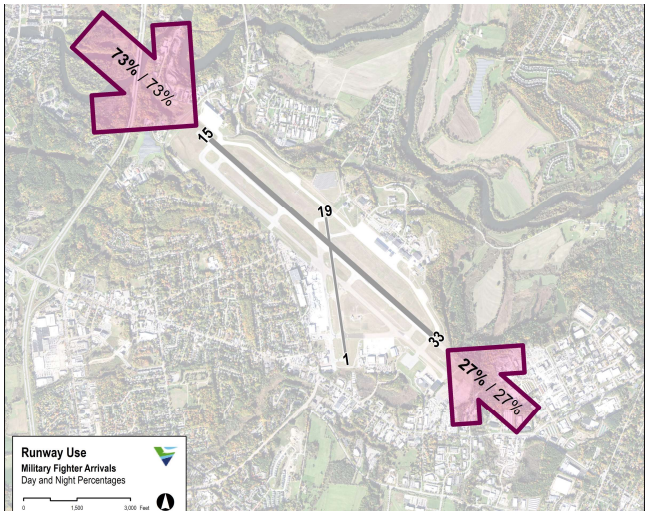
Arrivals (day% / night%)



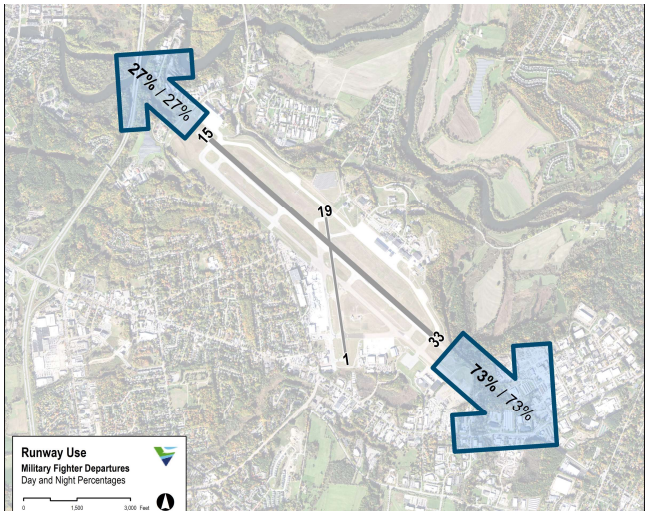
Departures (day% / night%)

20

Military Jet Runway Use



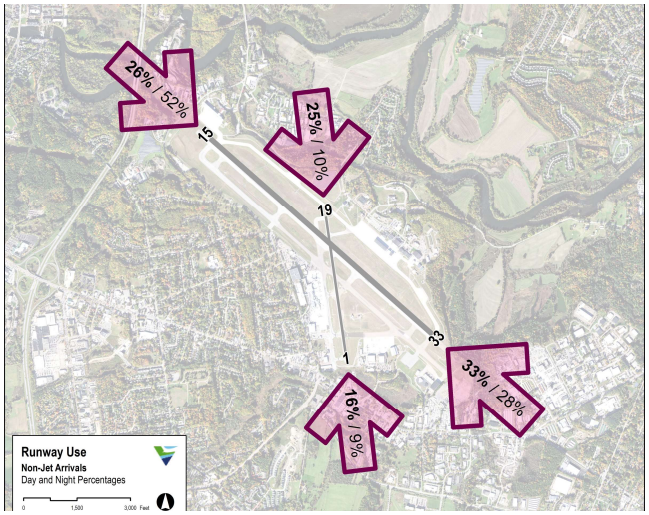
Arrivals (day% / night%)



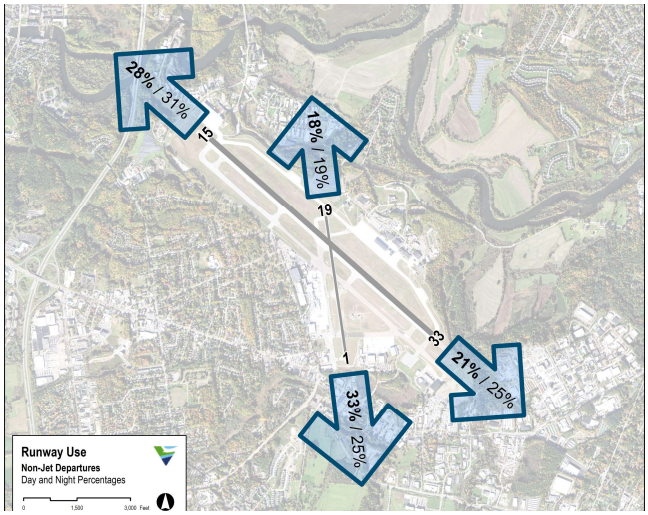
Departures (day% / night%)

21

Non-Jet Runway Use



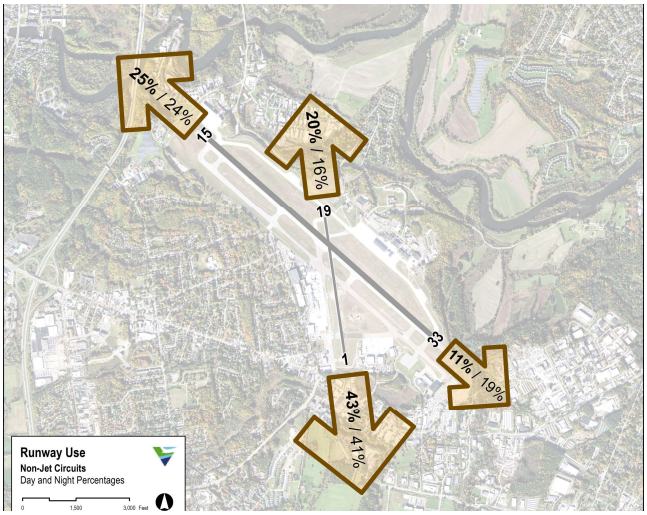
Arrivals (day% / night%)



Departures (day% / night%)

22

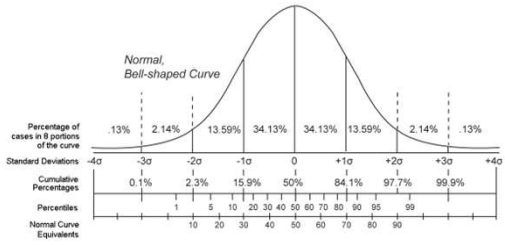
Non-Jet Runway Use

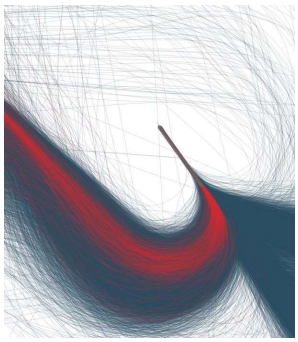


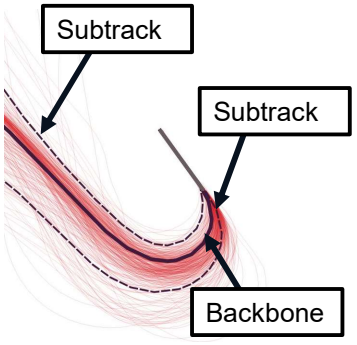
Closed Patterns (day% / night%)

23

Development of AEDT Model Flight Tracks







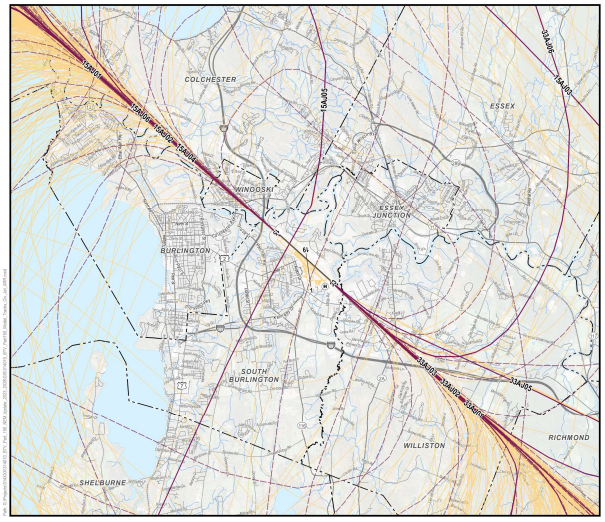
- "Backbone tracks" represent statistical center of a distinct flight path corridor (122)
- "Subtracks" represent flight dispersion across the flight path corridors (390)

	Arrivals		Departures		Circuits	
Runway	Backbones	Subtracks	Backbones	Subtracks	Backbones	Subtracks
01	9	24	7	22	2	4
15	13	52	17	64	2	0
19	10	28	8	28	2	6
33	16	46	16	68	2	4
H1	6	14	12	30	0	0
Total	54	164	60	212	8	14

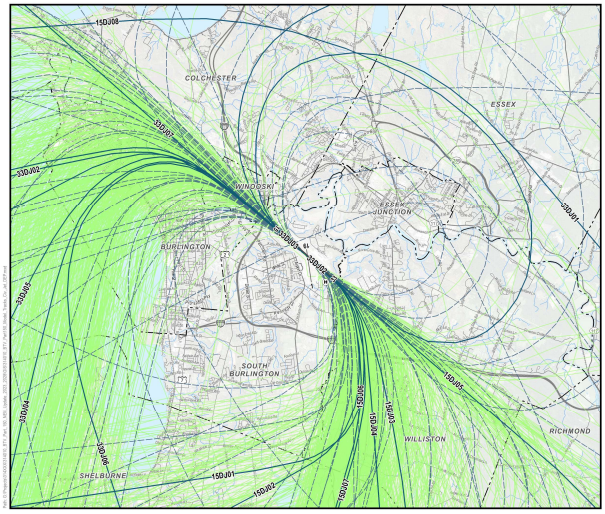
Sources: BTV NOMS, HMMH analysis

24

Flight Tracks: Commercial Jet Arrivals & Departures



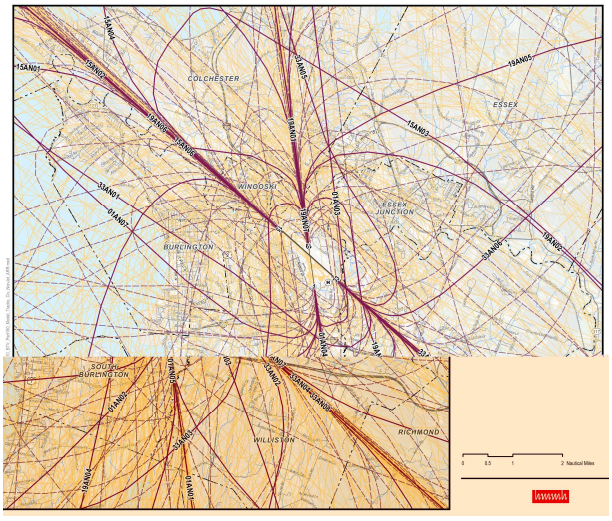
Arrivals



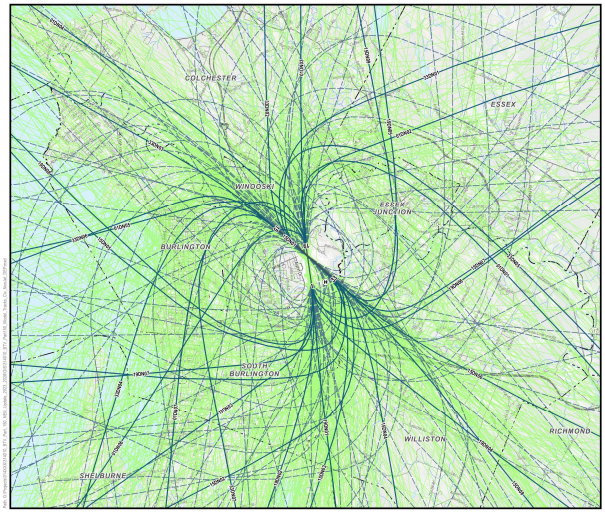
Departures

25

Flight Tracks: Commercial Non-Jet Arrivals & Departures



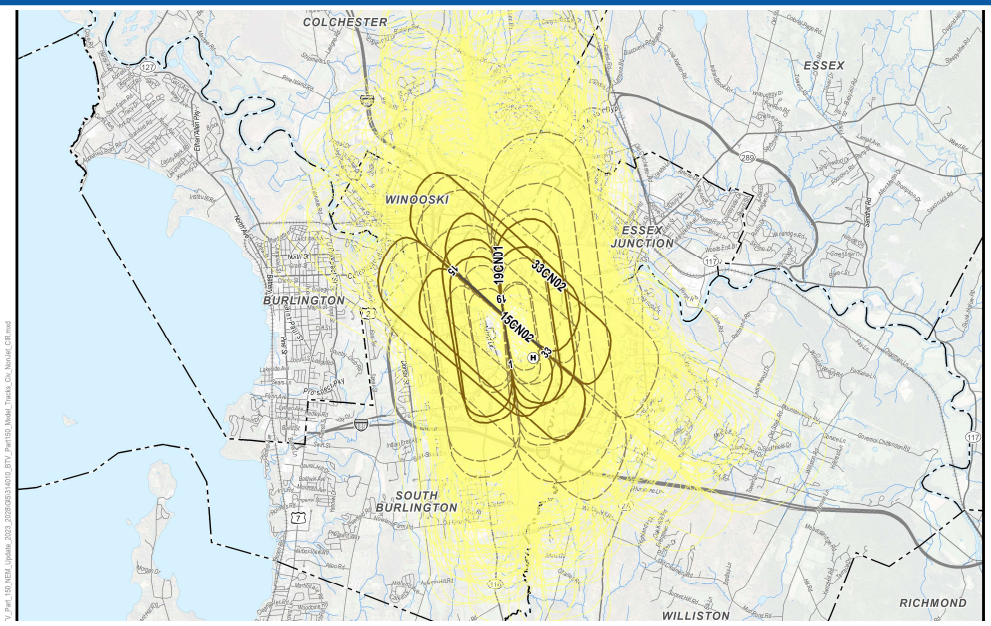
Arrivals



Departures

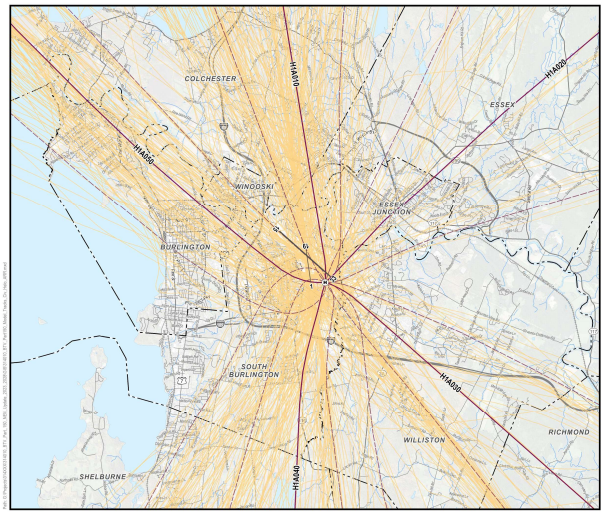
26

Flight Tracks: General Aviation Closed Patterns

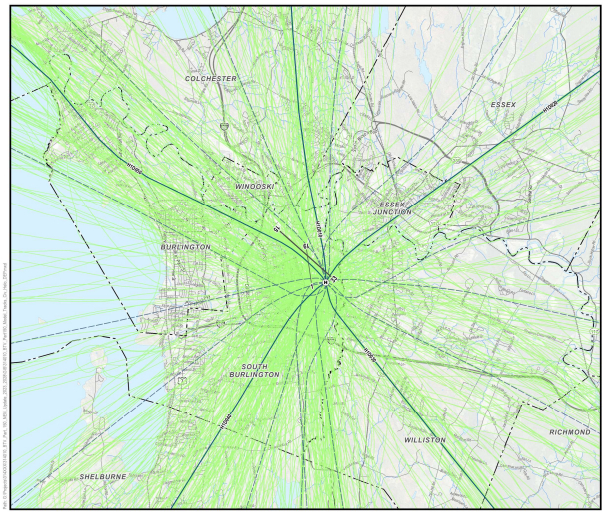


27

Flight Tracks: Helicopter Arrivals & Departures



Arrivals



Departures

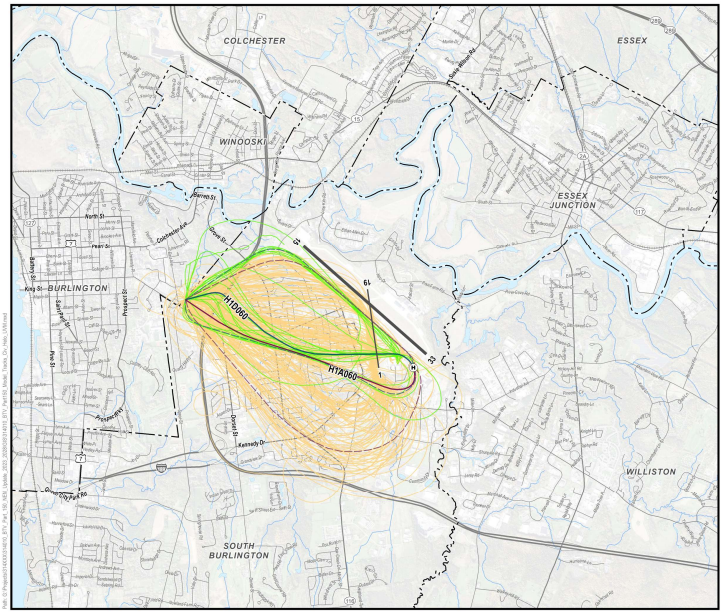
28

Flight Tracks: Helicopter Short Hops

Helicopter flights between BTV and UVM medical center

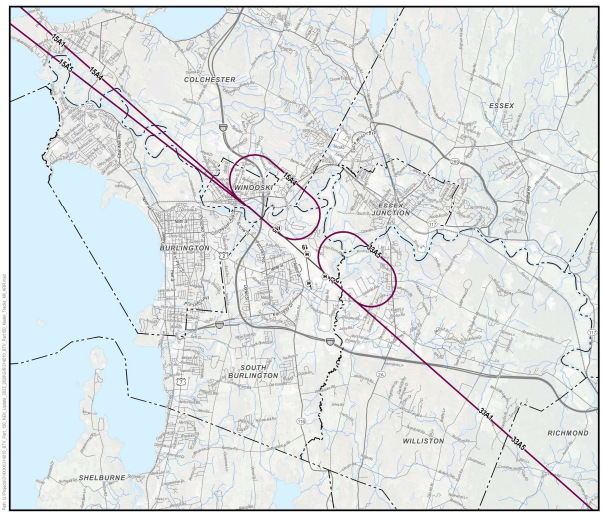
Color indicates direction:

- Green = arrivals
- Orange = departures

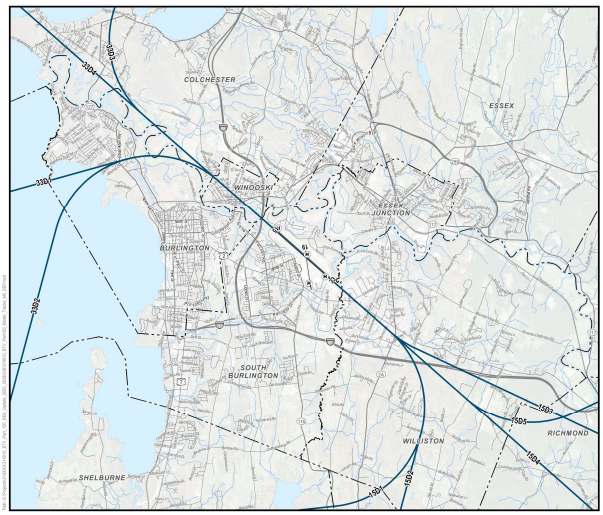


29

Flight Tracks: Military Jet Arrivals & Departures



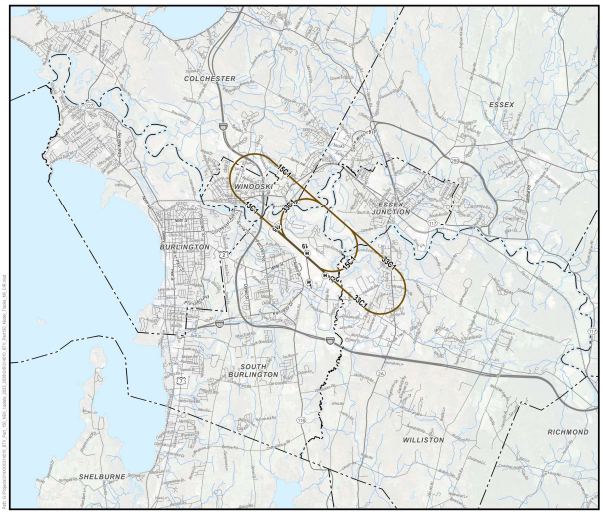
Arrivals



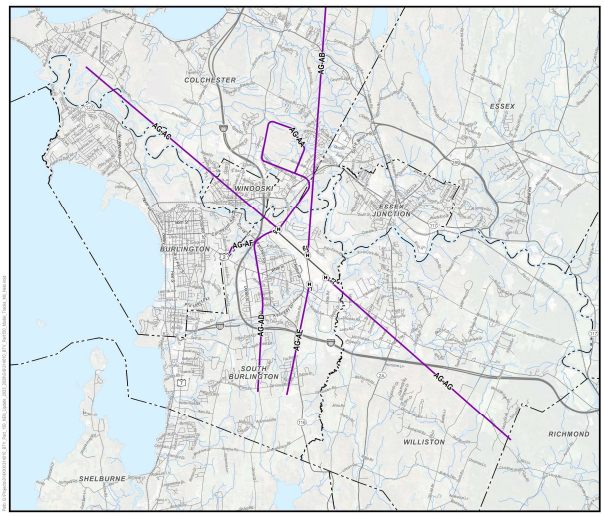
Departures

30

Flight Tracks: Military Circuits & Helicopters



Closed Patterns



Helicopters

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NEM Project Schedule

	Project Phase	2023						2024								
		JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
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 meeting; public comment period															
4	Finalize and submit final NEM to FAA for approval															

Consultant Task
Stakeholder Involvement
Agency Review

32

TAC Preliminary Topics and Schedule

TAC Meeting 2 — Thursday, November 30, 2023

- Noise Model Inputs

TAC Meeting 3 — Thursday, January 18, 2024

- Noise Compatibility Program Review

TAC Meeting 4 — Thursday, April 11, 2024

- Noise Modeling Results – Presentation of the Noise Exposure Maps

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TAC MEMBER DISCUSSION

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Patrick Leahy Burlington International Airport

BTV Noise Exposure Map Update 2024/2029
Technical Advisory Committee Meeting #3

April 11, 2024

1

Agenda

- Introductions
- Part 150 Overview
- Existing Noise Exposure Map (NEM)
- Existing Noise Compatibility Program (NCP)
- Responses to Questions from TAC Meeting #2
- Public Comment

2

INTRODUCTIONS

3

Consultant Team

THE JONES PAYNE GROUP

Diane Carter | Principal-in-Charge
Brianna Whiteman | Assistant Project Manager

Responsible for:
- Overall Project Management/Client/Agency Coordination
- Community Outreach

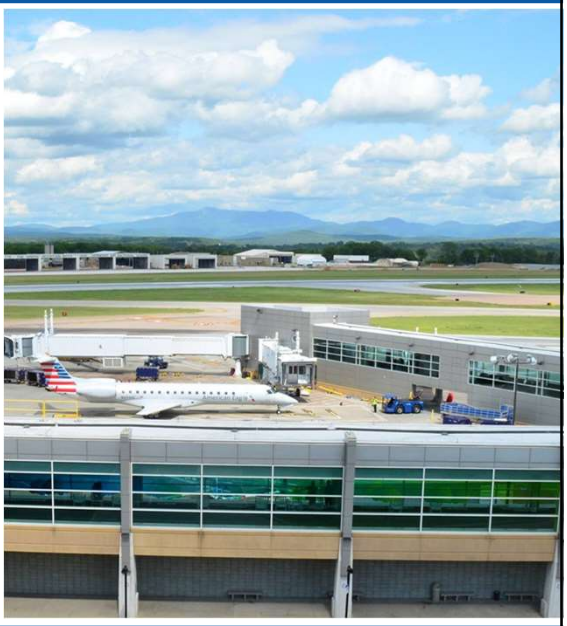
Gene Reindel | Principal-in-Charge
Kate Larson | Project Manager
Paul Krusell | Assistant Project Manager
David Crandall | Technical Advisor

Responsible for:
- Noise Modeling
- Compliance with Federal Regulations

4

TAC Membership

- Vermont National Army Guard
- Burlington Airport Commission
- Patrick Leahy Burlington International Airport
- Chittenden County Regional Planning Commission (CCRPC)
- City of South Burlington
- City of Winooski
- Community College of Vermont
- FAA (Air Traffic Manager)
- FAA (New England Regional Office) – Advisory
- Heritage Aviation (FBO)
- South Burlington School District
- Town of Williston
- Vermont National Air Guard (VTANG)
- Williston School District
- Winooski School District



5

PART 150 OVERVIEW

6

Roles and Responsibilities

City of Burlington

- As airport owner and operator, the City is responsible for conducting the Noise Exposure Map (NEM) analysis and submitting the study for acceptance
- Consulting team is retained to conduct technical work and prepare documentation related to the NEM process

Federal Aviation Administration (FAA)

- Determines whether the NEM process has met Part 150 requirements and approves individual noise mitigation measures

Technical Advisory Committee (TAC)

- Provides representation for stakeholder organizations, including local jurisdictions, airlines, local business interests

7

Part 150 NEM Overview

FAA "accepts" NEM as compliant with Part 150 standards

NEM must include detailed description of:

- Airport layout, aircraft operations, and other inputs to noise model
- Aircraft noise exposure in terms of Day-Night Average Sound Level (DNL)
- Land use compatibility assessment

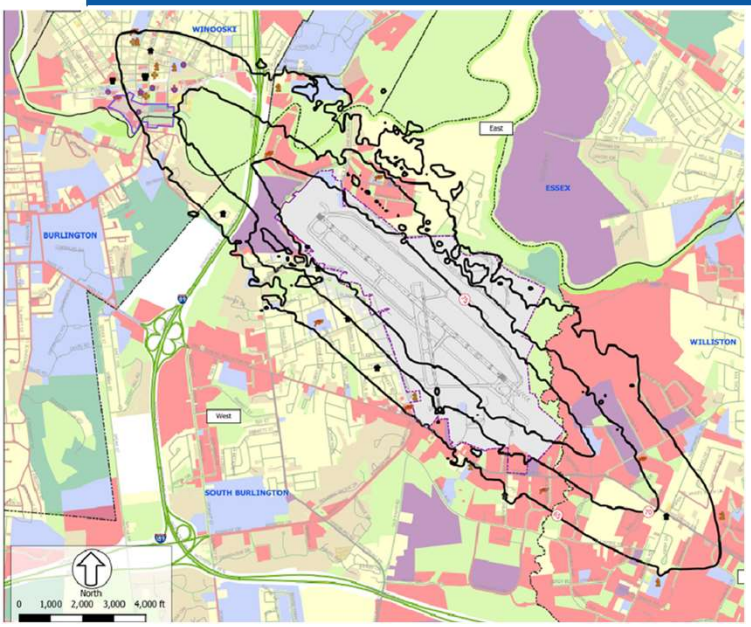
NEM must address two calendar years

- Year of submission
- Forecast year (at least five years from year of submission)

8

KL0

2023 NEM Contour



2023 NEM Est. Dwelling Units & Population

Day-Night Level (DNL)	Est. Dwelling Units and Population	Total
65-70 dB	Dwelling Units	2,344
	Population	5,438
70-75 dB	Dwelling Units	283
	Population	657
75 dB+	Dwelling Units	13
	Population	30
Total 65+ dB	Dwelling Units	2,640
	Population	6,125

Source: BTV 2018 and 2023 Noise Exposure Map, September 2019, Table 4

9

Land Use Compatibility Guidelines

Land Use	DNL <65 dB	DNL 65-70 dB	DNL 70-75 dB	DNL > 75 dB
Residential	Compatible	Incompatible (1)	Incompatible (1)	Incompatible
Mobile home park	Compatible	Incompatible	Incompatible	Incompatible
Transient lodgings	Compatible	Incompatible (2)	Incompatible (2)	Incompatible (2)
Schools	Compatible	Incompatible (3)	Incompatible (3)	Incompatible
Hospitals and nursing homes	Compatible	25(4)	30(4)	Incompatible
Churches, auditoriums and concert halls	Compatible	25(4)	30(4)	Incompatible

(1) Measures are required to achieve 25 to 30 dB of noise level reduction for aircraft noise from outside to inside.
(2) "Transient lodgings" include, but are not limited to, hotels and motels.
(3) Measures are required to achieve 25 to 30 dB of noise level reduction for aircraft noise from outside to inside.
(4) The measures to achieve NLR of 25 or 30 dB must be incorporated into design and construction of structure.

10

REVIEW OF EXISTING NCP

11

2020 NCP Measures

#	TYPE OF MEASURE	BTV IMPLEMENTATION STATUS
	Operational Measures (2008 Record of Approval)	
O-1	Extension of Taxiway G	Completed
O-2	Terminal Power Installation & APU/GPU Restrictions	Implemented
O-3	Nighttime Bi-direction Runway Use	Unable to Implement
O-4	Noise Abatement Flight Paths for Runway 15 & 33 Departures and 15 Arrivals	Implemented
O-5	Voluntary Limits on Military C-5A Training	Implemented
O-6	Voluntary Minimization of F-16 Multiple Aircraft Flights	No Longer Applicable
O-7	Voluntary Army Guard Helicopter Training Controls	Not Implemented
	Land Use Measures (2020 Record of Approval)	
L-1	Land Acquisition and Relocation	Implemented
L-2	Sound Insulation of Residential Structures	Implemented
L-3	Sound Insulation of Noise Sensitive Buildings	Implemented
L-4	Purchase Assurance for Single Family Parcels	Available for Implementation
L-5	Sales Assistance for Single Family Parcels	Available for Implementation
	Programmatic Measures (2020 Record of Approval)	
P-1	Ongoing Monitoring and Review of Noise Exposure Map (NEM) and Noise Compatibility Program (NCP) Status	Ongoing
P-2	Noise and Flight Track Monitoring	Ongoing

BW0

The Operational Measures were contained in the 2008 NCP Record of Approval (ROA). Many are outdated and no longer applicable. These measures will be reviewed during the next NCP Update.

BW1

The Land Use & Programmatic Measures were contained in the 2020 NCP ROA. All measures are voluntary.

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OPERATIONAL MEASURES

2008 Record of Approval

13

O-1: Extension of Taxiway G

Extend Taxiway G, which would be extended from the existing intersection with Taxiway A to Taxiway C, remaining parallel with Runway 15/33 in order to reduce noise levels for residents along Airport Drive.

Status: Completed

The extension of Taxiway G was completed in 2023.

14

O-2: Terminal Power Installation

Install terminal power hookups for aircraft, which would reduce the need for aircraft to use internal auxiliary power units (APU) or ground power units (GPU). Following the installation, a rule prohibiting the use of APUs or GPUs between 10:00 p.m. and 7:00 a.m. would be put in place.

Status: Implemented

The Airport terminal now has "aircraft ground power" capability at all Passenger Boarding Bridges. The City will not be implementing the GPU/APU rule between 10:00 p.m. and 7:00 a.m., as too many flights arrive/depart during those hours. However, use of ground power is required for all aircraft in proximity to an available hookup.

15

O-3: Nighttime Bi-direction Runway Use

In order to minimize late-night operations over the City of Winooski, the Air Traffic Control Tower (ATCT) would use Runway 15 for departures and Runway 33 for arrivals, traffic conditions permitting.

Implementation Status: Unable to Implement

The BTV ATCT is closed from midnight until 5:30 a.m., which makes implementation of this measure infeasible during these hours. The ATCT has not implemented the procedure during the remaining DNL "nighttime" hours, i.e., from 5:30 to 7:00 a.m.

16

O-4: Noise Abatement Flight Paths

Development of new flight procedures that would have civil aircraft fly over less populated areas. Runway 33 departures would turn to a heading of 310 degrees. Runway 15 departures would turn to a heading of 180 degrees.

Implementation Status: Implemented

17

O-5: Voluntary Limits on Military C-5A Training

Develop an informal agreement with the military that would limit C-5A operations to only necessary takeoffs and landings.

Implementation Status: Implemented

An agreement is not currently in place, however:

(1) BTV Operations strongly discourage C-5A training at the Airport, as the runways are only 150 feet wide and wake turbulence from C-5A operations tears up runway-edge lighting
(2) Historically, the military has always coordinated the arrival of a C-5A with BTV Operations because of the constraints on the airfield
(3) All transient military aircraft are limited to two practice approaches

18

O-6: Minimization of F-16 Multiple Aircraft Flights

Voluntary minimization of F-16 multiple aircraft flights. Military personnel would schedule as many single-aircraft, as opposed to multiple-aircraft, flights as possible.

Implementation Status: No Longer Applicable

The VTANG fighter wing changed from the F-16 aircraft to the F-35A in 2020.

19

O-7: Voluntary Army Guard Helicopter Training Controls

The Army National Guard helicopter training operations be conducted away from the Airport when conditions permit. In terms of long-range planning, the Guard should consider consolidating operations at Camp Johnson.

Implementation Status: Not Implemented

The Vermont Army National Guard has continued training operations at BTV.

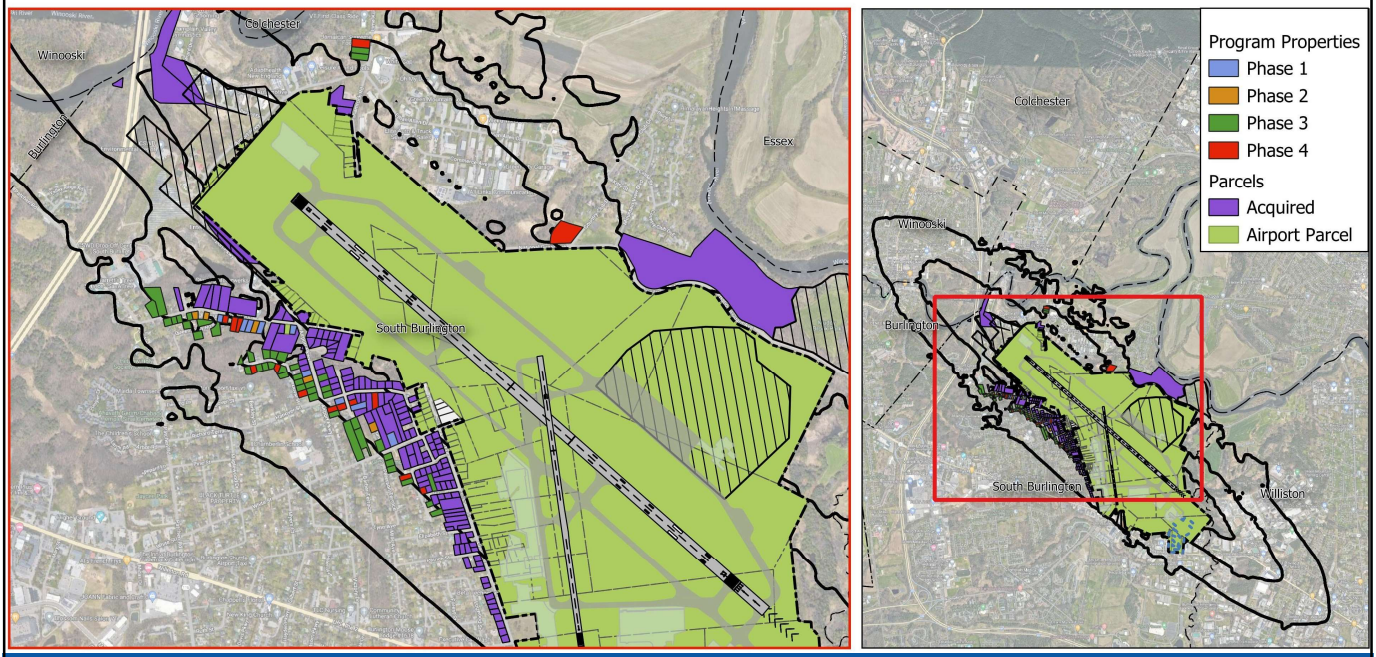
20

LAND USE MEASURES

2020 Record of Approval

21

Noise Mitigation Program Status – April 2024



22

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L-1: Land Acquisition and Relocation

Land Acquisition and Relocation of parcels where the majority of the parcel is within the 75 dB DNL contour (to preserve neighborhood continuity).

The program is voluntary for eligible owners wishing to participate. Owners are paid fair market value and provided relocation assistance.

Status: Implemented – Available for the 5 homes located in the 75 dB DNL

Eligible homes have previously declined participation in this program.

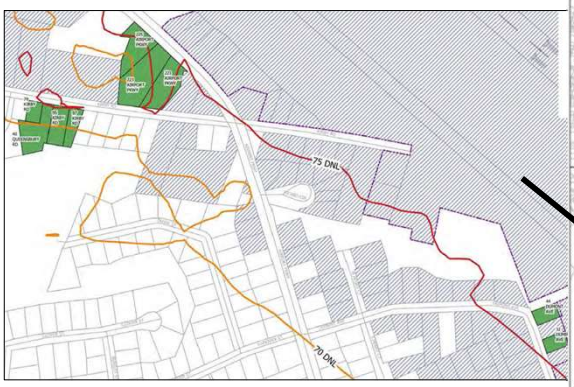
BW1

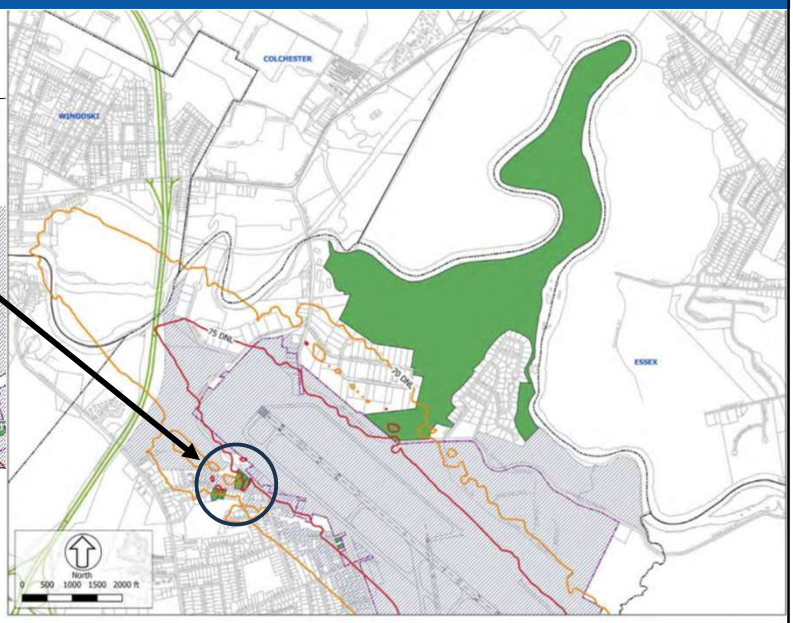
Since the start of federal Fiscal Year 2007 through September 2017, the FAA has issued 13 grants to the City of Burlington totaling approximately $48 million. BW2

23

L-1: Land Acquisition and Relocation

Chamberlin Neighborhood 75 dB DNL Homes





75 DNL Properties are shown in

24

L-2: Sound Insulation of Residential Structures

Provide sound insulation for homes within the 65 dB and 70 dB DNL contours of the approved NEM. These qualified homes would receive an acoustical treatment package, in accordance with FAA guidelines, to:

- reduce interior noise levels to 45 DNL and
- provide a minimum reduction of 5 dB from the existing interior noise level

Status: Implemented and Ongoing

The City began the program in 2021. To date, 82 homes have been designed over 4 phases and construction has been completed on 14 homes. There are an additional 23 homes currently under design. The City plans to complete 50 homes per year based on available FAA funding.

25

L-3: Sound Insulation of Noise Sensitive Buildings

Provide sound insulation of qualified non-compatible non-residential land uses (schools, hospitals, places of worship) within the 65 dB and 70 dB DNL noise contour

Status: Implemented and Ongoing

There are 24 noise sensitive buildings located in the 65 dB and 70 dB DNL contours.

The Gertrude E. Chamberlin Elementary School, located within the DNL 65 dB contour received a positive ventilation system upgrade in 2021. Acoustical testing determined the existing interior noise level was below 45 dB DNL and did not qualify for a full treatment.

Annually, the City selects potentially eligible properties for sound insulation for the FAA AIP grant program. Properties are selected by noise level contour, starting with the highest contour and working outward, for both residential and non-residential properties within the project area.

26

L-4: Purchase Assurance for Single Family Parcels

A voluntary purchase assurance program would include any qualified non-compatible owner-occupied single-family parcels within the 65 dB DNL and 70 dB DNL contours.

Status: Available for Implementation

This program has not been requested by eligible homeowners.

The City would:

- Determine if the home is eligible for sound insulation (if not, home is eligible for sales assistance)
- Acquire the home (with FAA AIP grant funds) in exchange for an avigation easement
- Provide sound insulation treatment package
- Resell the home on the open market for fair market value
- Utilize the proceeds from the sale to fund further noise mitigation programs

27

L-5: Sales Assistance for Single Family Parcels

A voluntary sales assistance program would include qualified owner-occupied single-family parcels that are not eligible for sound insulation within the 65 dB DNL and 70 dB DNL contours.

The City would provide an incentive to assure homeowners receive fair market value for the sale of their home on the open market in exchange for an avigation easement.

Status: Available for Implementation

This program has not been requested by eligible homeowners.

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PROGRAMMATIC MEASURES

2020 Record of Approval

29

BW0

P-1: Ongoing Review of NEM and NCP Status

The City will update the NEM and NCP, when the following occurs:

- Changes in airport layout
- Unanticipated changes in airport activity
- Non-compliance with NCP

Status: Ongoing

The City continues to regularly assess the Airport's noise exposure. This NEM update is to assess the noise impacts of the VTANG use of the F-35A aircraft.

This measure also created a standing noise abatement committee (Sound Committee) which meets as directed by the Airport.

30

KL1

P-2: Noise and Flight Track Monitoring

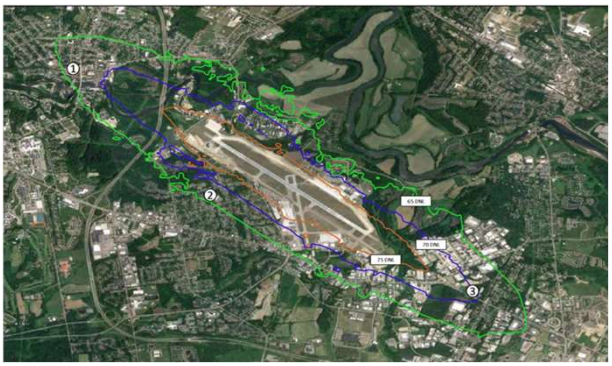
Recommends the acquisition of an aircraft noise and flight track monitoring system. The system is intended to make the information accessible to the public.

Status: Ongoing

Installed in 2021, there are 3 noise monitors and a website for the community to view flight operations and their associated noise levels, and submit any noise complaints.

BTV staff report monthly to the Airport Commission on the status of the system and any complaints received.

Noise Monitoring Terminal Locations



#1 – Winooski City Hall
#2 – Chamberlin Elementary School
#3 – Town of Williston (Chad Ln.)

KL0

31

BW0

NEM Project Schedule

	Project Phase	2023						2024													
		JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
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 meeting; public comment period																				
4	Finalize and submit final NEM to FAA for approval																				

Consultant Task — Community Input — Agency Review

32

Follow-up from TAC Meeting #2

The next three slides respond to two inquiries from the previous TAC meeting:

- Terrain data in the AEDT model
- How the 2024 and 2029 forecast aircraft operations data compares to the previous NEM Forecast Condition (for 2023)

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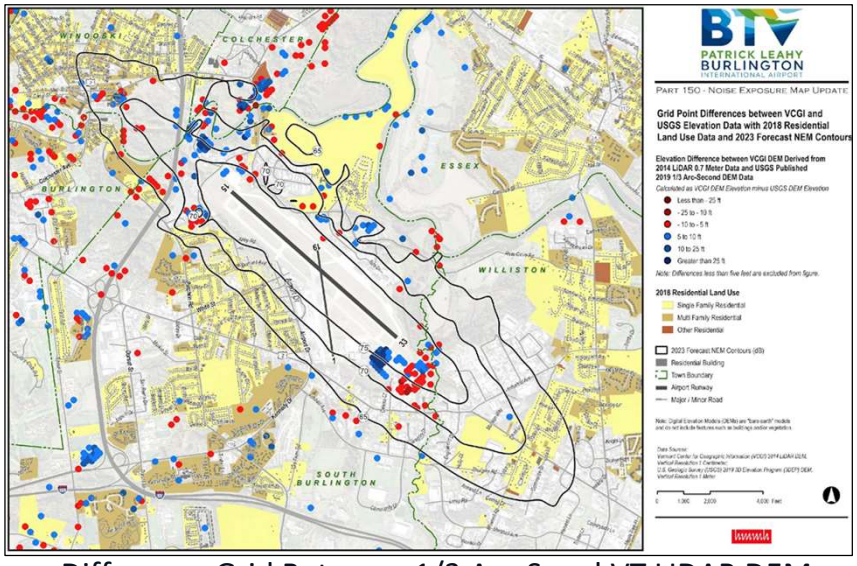
Noise Model Terrain Data Sources

- HMMH sampled the 1/3 arc-second USGS and 1m VCGI data at 100 ft intervals
- Found the elevation differences at these sampled points
  - Blue dots indicate VCGI elevation higher by 5 ft or more
  - Red dots indicate VCGI elevation lower by 5 ft or more
- Largest off-airport differences are around steep grades

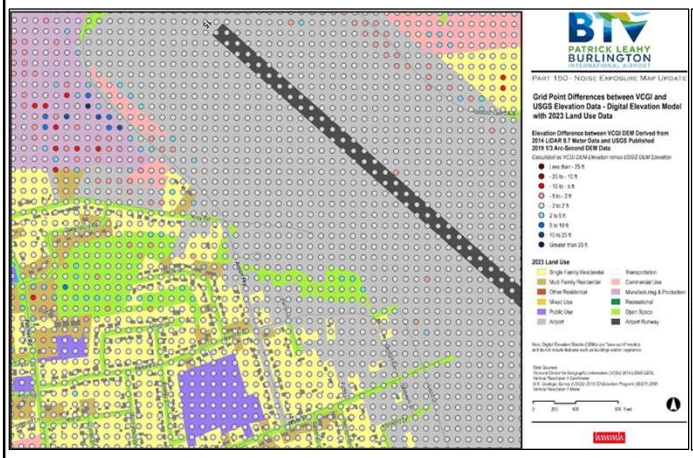


Difference Grid Between 1/3 Arc-S and VT LIDAR DEM

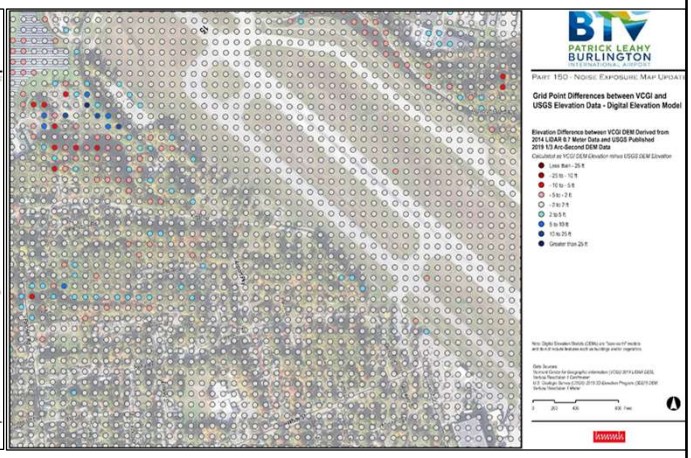
34

Noise Model Terrain Data Sources

Elevation Difference Grid Between 1/3 Arc-S and VT LIDAR DEM - Northwest of Airfield



Difference Grid with 2023 Land Use



Difference Grid with Aerial

35

Comparison of Aircraft Operations to Previous NEM

- 73% increase in total operations for Existing 2024 compared to previous forecast
- Most of the increase in operations are by GA aircraft, both local and itinerant
- Air carrier/air taxi operations together are essentially same
- Military operations are lower

Category		2023 Forecast (prior NEM)	Tower Counts CY2023	2024 Existing	% Difference between Forecast 2023 and Existing 2024	2029 Forecast
Itinerant						
Civilian	Air Carrier	17,378	16,887	16,720	-4%	18,233
	Air Taxi	5,087	7,383	6,013	18%	6,358
	GA	22,636	37,279	41,758	84%	43,064
Military		6,846	3,424	5,374	-22%	5,354
Total Itinerant		**51,947**	**64,973**	**69,864**	**34%**	**73,009**
Local						
Civilian	GA	11,138	35,262	45,258	306%	46,263
Military		3,423	366	106	-97%	106
Total Local		**14,561**	**35,628**	**45,364**	**212%**	**46,369**
Grand Total		**66,508**	**100,601**	**115,227**	**73%**	**119,377**

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TAC Preliminary Topics and Schedule

TAC Meeting 3 — Thursday, April 11, 2024

- Noise Compatibility Program Review

TAC Meeting 4 — TBD, July 2024

- Noise Modeling Results – Presentation of the Noise Exposure Maps

Public Meeting — TBD, Fall 2024

- Presentation of the draft NEM Document

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TAC MEMBER DISCUSSION

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Patrick Leahy Burlington International Airport

BTV Noise Exposure Map Update 2024/2029
Technical Advisory Committee Meeting #4

October 23, 2024

1

Agenda

- Introductions
- Part 150 Overview
- Review of Noise Modeling Process
- Updated Noise Exposure Maps
- Noise/Land Use Compatibility
- TAC Member Discussion
- Public Comment

2

INTRODUCTIONS

3

Consultant Team

THE JONES PAYNE GROUP

Diane Carter | Principal-in-Charge
Joanna Norris | Project Manager

Responsible for:
- Overall Project Management/Client/Agency Coordination
- Community Outreach

Gene Reindel | Principal-in-Charge
Kate Larson | Project Manager
Paul Krusell | Assistant Project Manager
David Crandall | Technical Advisor

Responsible for:
- Noise Modeling
- Compliance with Federal Regulations

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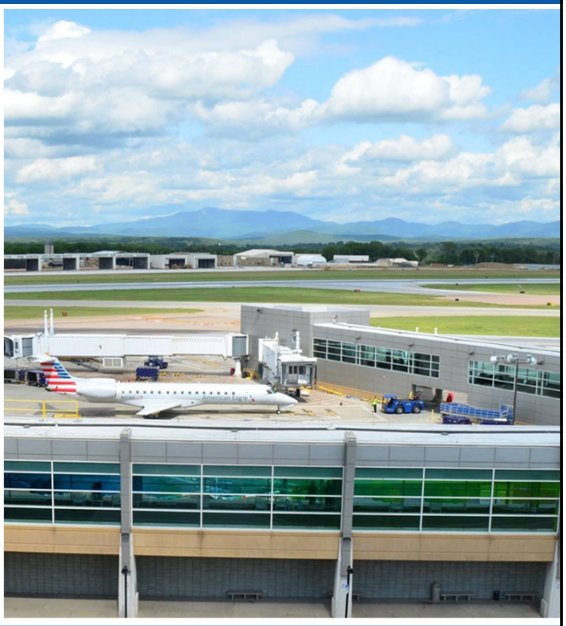
TAC Membership

- Vermont National Army Guard
- Burlington Airport Commission
- Patrick Leahy Burlington International Airport
- Chittenden County Regional Planning Commission (CCRPC)
- City of South Burlington
- City of Winooski
- Community College of Vermont
- FAA (Air Traffic Manager)
- FAA (New England Regional Office) – Advisory
- Heritage Aviation (FBO)
- South Burlington School District
- Town of Williston
- Vermont National Air Guard (VTANG)
- Williston School District
- Winooski School District



5

PART 150 OVERVIEW

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Roles and Responsibilities

City of Burlington

- As airport owner and operator, the City is responsible for conducting the Noise Exposure Map (NEM) analysis and submitting the study for acceptance
- Consulting team is retained to conduct technical work and prepare documentation related to the NEM process

Federal Aviation Administration (FAA)

- Determines whether the NEM process has met Part 150 requirements and approves individual noise mitigation measures

Technical Advisory Committee (TAC)

- Provides representation for stakeholder organizations, including local jurisdictions, airlines, local business interests

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Part 150 NEM Overview

FAA "accepts" NEM as compliant with Part 150 standards

NEM must include detailed description of:

- Airport layout, aircraft operations, and other inputs to noise model
- Aircraft noise exposure in terms of Day-Night Average Sound Level (DNL)
- Land use compatibility assessment

NEM must address two calendar years

- Year of submission
- Forecast year (at least five years from year of submission)

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Review of NOISE MODELING PROCESS

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Noise Modeling Overview

- FAA requires use of their Aviation Environmental Design Tool (AEDT) for civilian aircraft operations
  - Version 3e is the most current version (at study's commencement)
  - https://aedt.faa.gov
- Military aircraft operations will be modeled with the Department of Defense noise model, NOISEMAP Version 7.3
- Military noise model results will be combined with AEDT results of the civilian aircraft operations

AEDT requires noise model input data in three categories:

1 Aircraft Noise and Performance Data

- Aircraft performance profiles
- Noise level vs. distance curves

2 Airport Physical Inputs

- Runway end coordinates
- Ground engine runup locations
- Weather data
- Terrain data

3 Aircraft Operational Inputs

- Number of aircraft operations
- Aircraft fleet mix
- Day-night split of operations
- Runway utilization
- Flight track geometry and utilization

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Noise Modeling Inputs

Model Input Category	Typical Data Source
Airport Layout	FAA 5010 data and airport
Aircraft noise and performance	Standard AEDT database, pilot interviews (NOISEMAP)
Aircraft operations	FAA ATADS, airport forecasts, FAA TAF, BTV NOMS, operator interviews
Aircraft runup operations	Airport staff/log
Runway use rates	BTV NOMS, ATCT personnel, Airport staff
Flight track geometry and use rates	BTV NOMS, ATCT personnel, observations
Meteorological conditions	Standard AEDT database
Terrain data	USGS National Map Viewer, National Land Cover Database
Note: "BTV NOMS" is the noise and operations monitoring system currently installed at BTV.	

ATADS = Air Traffic Activity Data System
ATCT = Air Traffic Control Tower
NOMS = Noise and Operations Monitoring System
TAF = Terminal Area Forecast
USGS = United States Geological Survey

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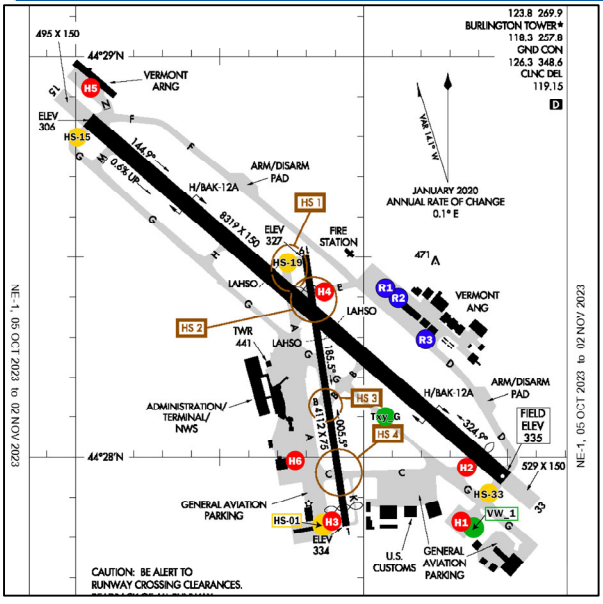
Physical Input Requirements



Sources: FAA 5010 and BTV staff

Airport layout

Runways:
- Runway 15/33 – primary
- Runway 1/19 – crosswind

Helipads:
- Civilian "helipads" at **H1, H3, H6**
- VTARNG uses 4 locations as "helipads"
  - **H2, H3, H4** (taxiways E, C, and L)
  - **H5** (VTARNG ramp)

Runups:
- Military Runup Pads at **R1, R2, R3**
- Civilian Runup Pads at **VW_1 & Txy_G**
- Pre-flight Runups (GA Props) at **HS-01, HS-15, HS-19, HS-33**

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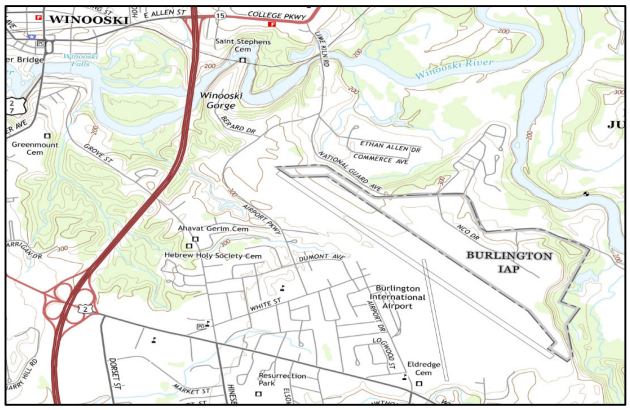
Physical Input Requirements

Airport elevation & surrounding terrain

- Data obtained from the United States Geological Survey (USGS) National Elevation Dataset

Airport weather

- The AEDT database includes recent 10-year averages:
  - Temperature* – 47.0°F
  - Station pressure* – 1002.6 mb
  - Relative humidity* – 65.9%
  - Dew point – 36.2°F
  - Wind speed – 6.7 knots
- *Applied to NOISEMAP modeling



Source: USGS; Nov 2023

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Operational Input Requirements

Annual-Average Day Operations
Existing year 2024
Forecast year 2029

Aircraft Type
Jet, Turboprop, Helicopter, Piston

AEDT or NOISEMAP Equipment Type
EMB175, CNA172, F-35A, etc.
for access to standard AEDT noise and performance database

Day-Night Split
Day: 7 AM – 10 PM
Night: 10 PM – 7 AM

Stage length
Surrogate for aircraft weight; determined by distance from departure to destination airport

Year	Air Carrier	Air Taxi	General Aviation	Military	Total
2024	16,720	6,013	87,015	5,480	115,228
2029	18,233	6,358	89,327	5,460	119,378

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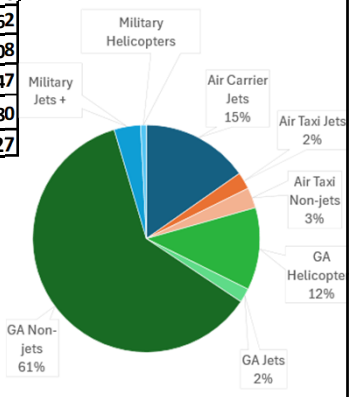
2024 Annual Aircraft Operations

Category		Itinerant Operations				Local Operations		Totals
		Arrivals		Departures		Closed Patterns		
		Day	Night	Day	Night	Day	Night	
Civilian	Air Carrier	5,918	2,442	5,664	2,696	0	0	**16,720**
	Air Taxi	2,804	203	2,898	109	0	0	**6,013**
	GA	20,365	514	20,065	814	43,936	1,322	**87,015**
Military	VTANG	2,075	0	2,075	0	60	0	**4,210**
	VTARNG	500	31	491	40	0	0	**1,062**
	Transient	81	0	81	0	46	0	**208**
Civilian Total		**29,087**	**3,158**	**28,626**	**3,619**	**43,936**	**1,322**	**109,747**
Military Total		**2,656**	**31**	**2,647**	**40**	**106**	**0**	**5,480**
Combined Totals		**31,743**	**3,189**	**31,273**	**3,659**	**44,042**	**1,322**	**115,227**

** Includes a small number of transient non-jet military aircraft*



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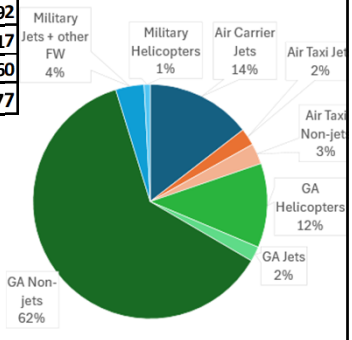
2029 Annual Aircraft Operations

Category		Itinerant Operations				Local Operations		Totals
		Arrivals		Departures		Closed Patterns		
		Day	Night	Day	Night	Day	Night	
Civilian	Air Carrier	6,453	2,663	6,177	2,940	0	0	**18,233**
	Air Taxi	2,976	203	3,070	109	0	0	**6,358**
	GA	20,868	514	20,868	814	44,909	1,354	**89,327**
Military	VTANG	2,069	0	2,069	0	60	0	**4,198**
	VTARNG	500	35	498	37	0	0	**1,070**
	Transient	73	0	73	0	46	0	**192**
Civilian Total		**30,298**	**3,379**	**30,115**	**3,862**	**44,909**	**1,354**	**113,917**
Military Total		**2,642**	**35**	**2,640**	**37**	**106**	**0**	**5,460**
Combined Totals		**32,940**	**3,414**	**32,755**	**3,899**	**45,015**	**1,354**	**119,377**

** Includes newly manufactured Beta electric aircraft*
*** Includes a small number of transient non-jet military aircraft*



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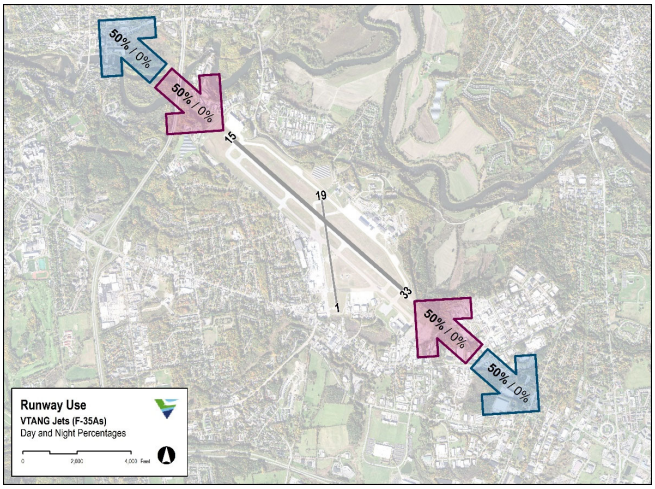
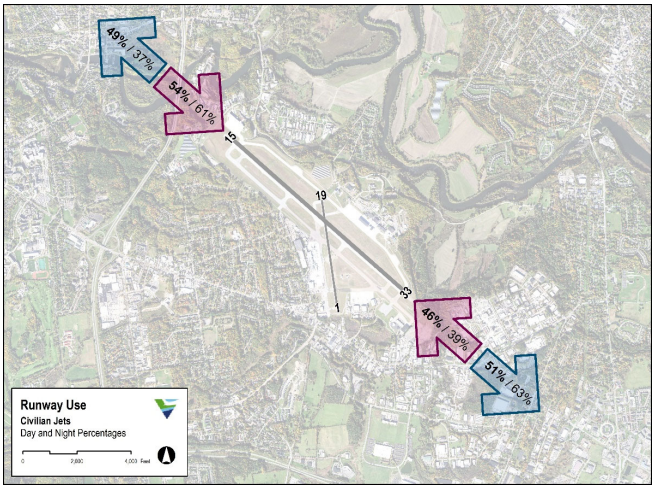
Runway Use



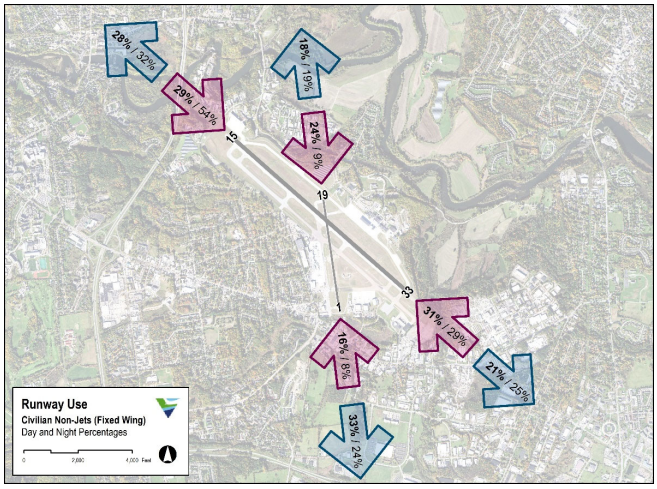
VTANG (day% / night%)



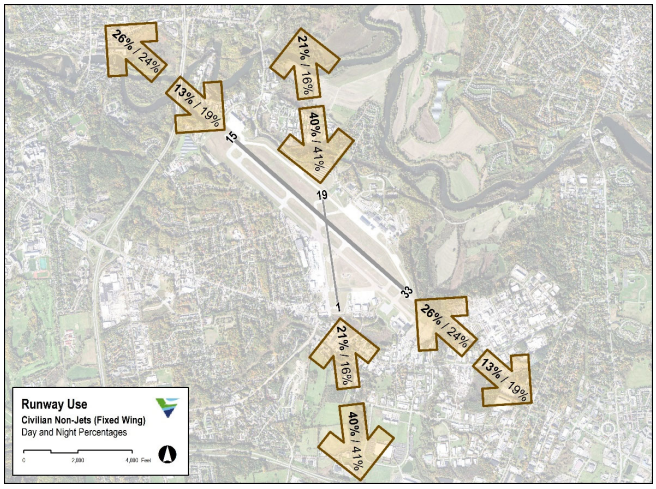
Civilian Jets (day% / night%)

17

Runway Use



Civilian Non-jet (day% / night%)



Closed Patterns (day% / night%)

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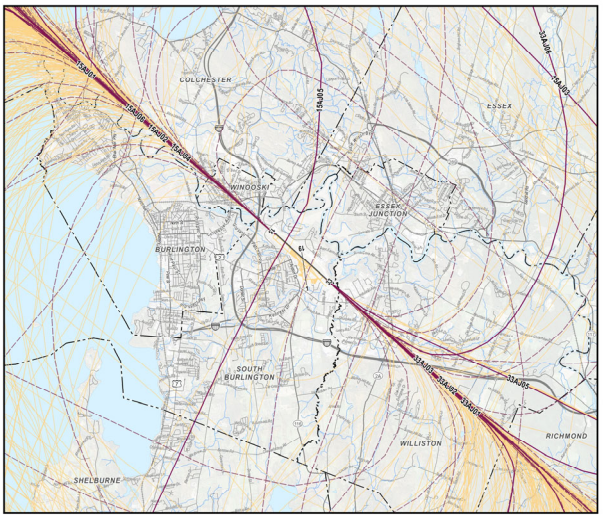
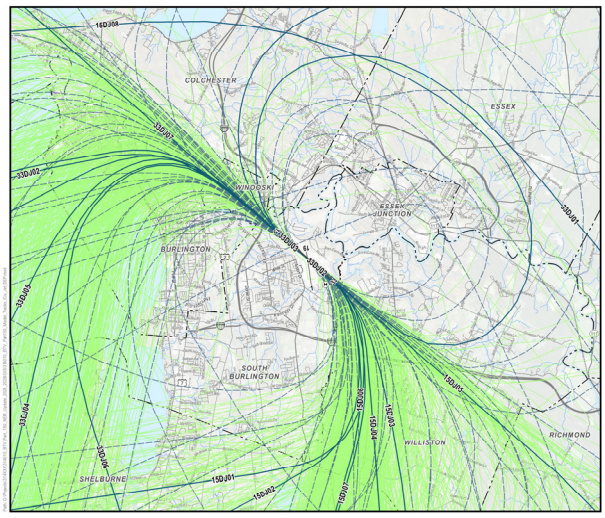
Flight Tracks: Commercial Jet Arrivals & Departures



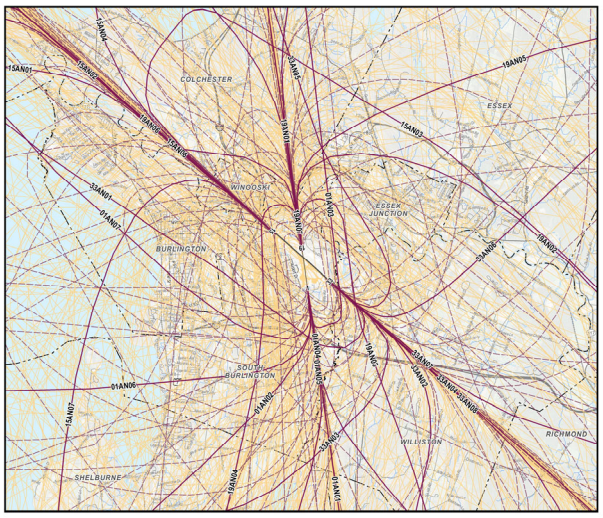
Arrivals



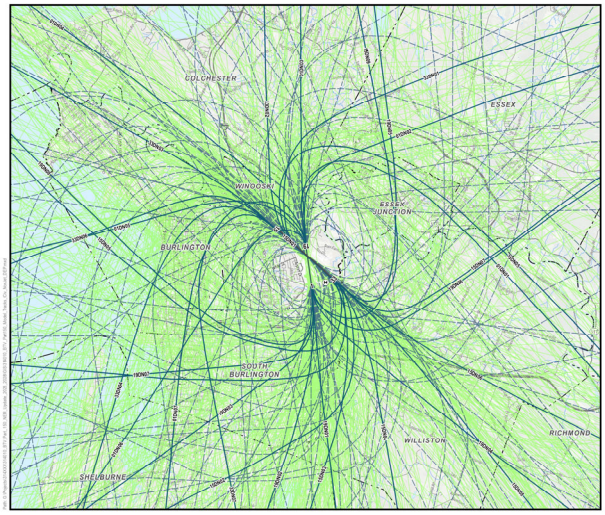
Departures

19

Flight Tracks: Commercial Non-Jet Arrivals & Departures



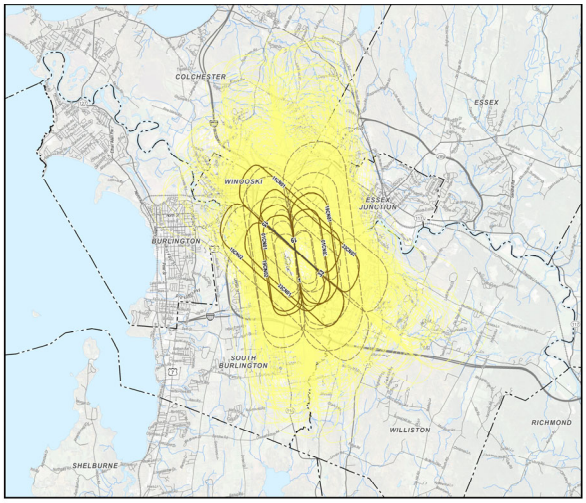
Arrivals



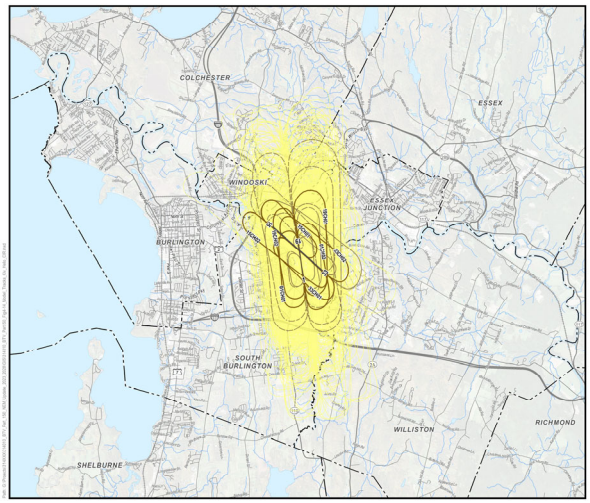
Departures

20

Flight Tracks: Closed Patterns



Fixed-wing Aircraft



Helicopters

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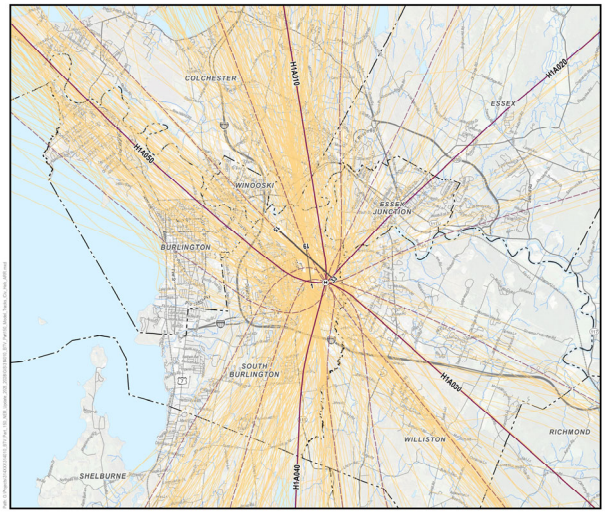
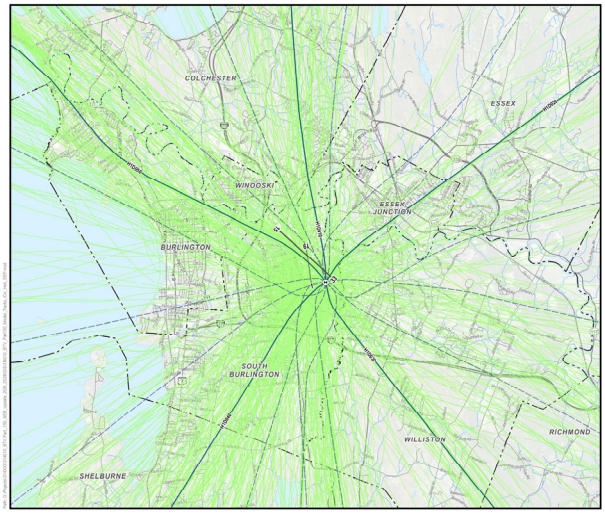
Flight Tracks: Helicopter Arrivals & Departures



Arrivals



Departures

22

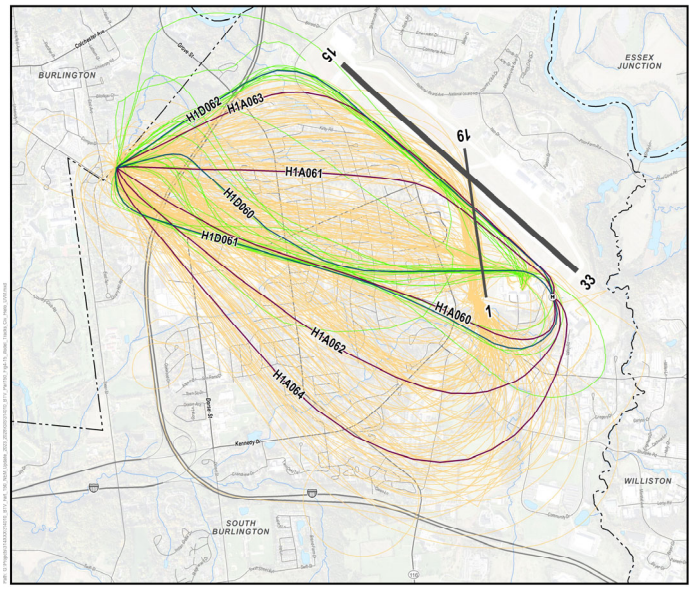
Flight Tracks: Helicopter Short Hops

Helicopter flights between BTV and UVM medical center

Color indicates direction:

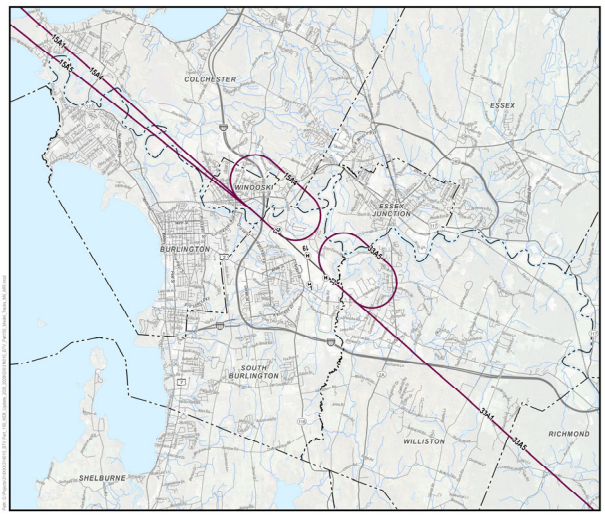
- Green = departures
- Orange = arrivals

Modeled tracks are the darker lines

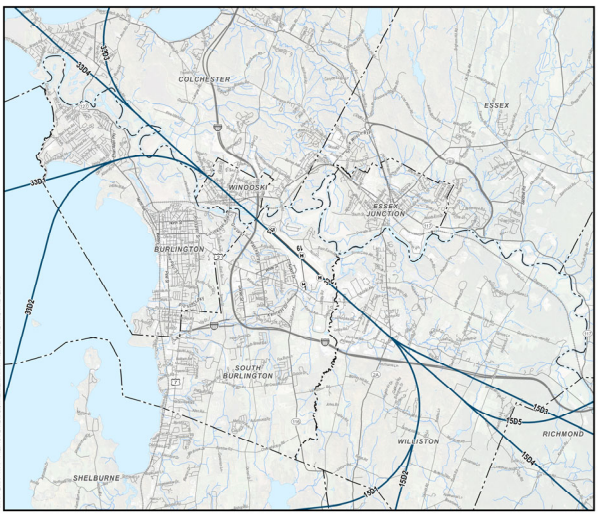


23

Flight Tracks: Military Jet Arrivals & Departures



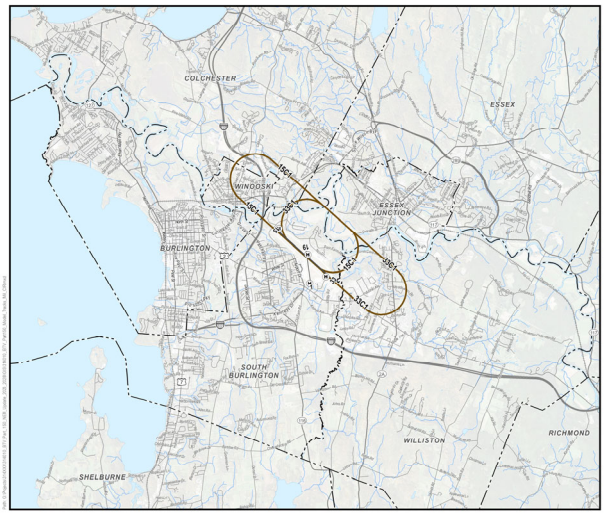
Arrivals



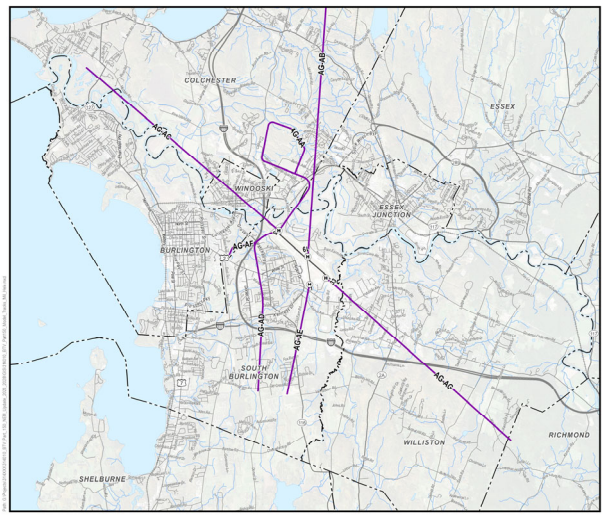
Departures

24

Flight Tracks: Military Circuits & Helicopters



Closed Patterns



Helicopters

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Updated
NOISE EXPOSURE MAPS

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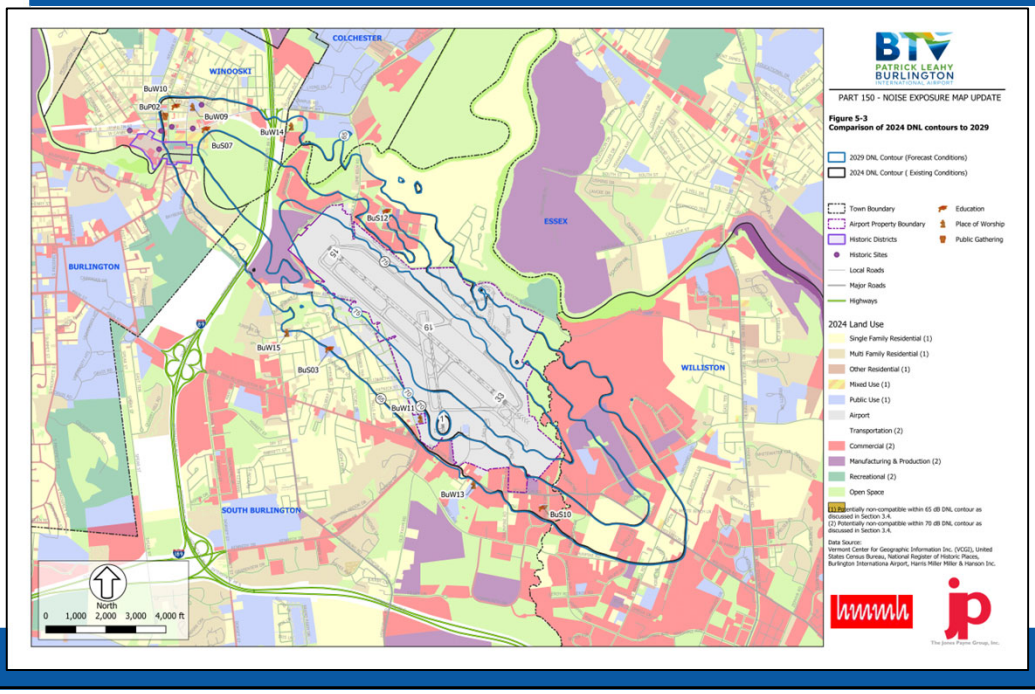
2024 Existing Conditions and 2029 Forecast Conditions



- The 2029 contours cover a slightly larger area
- Overall increase of 3.6% in operations from 2024 to 2029
- Many of the input categories do not change between the 2024 and 2029 scenarios

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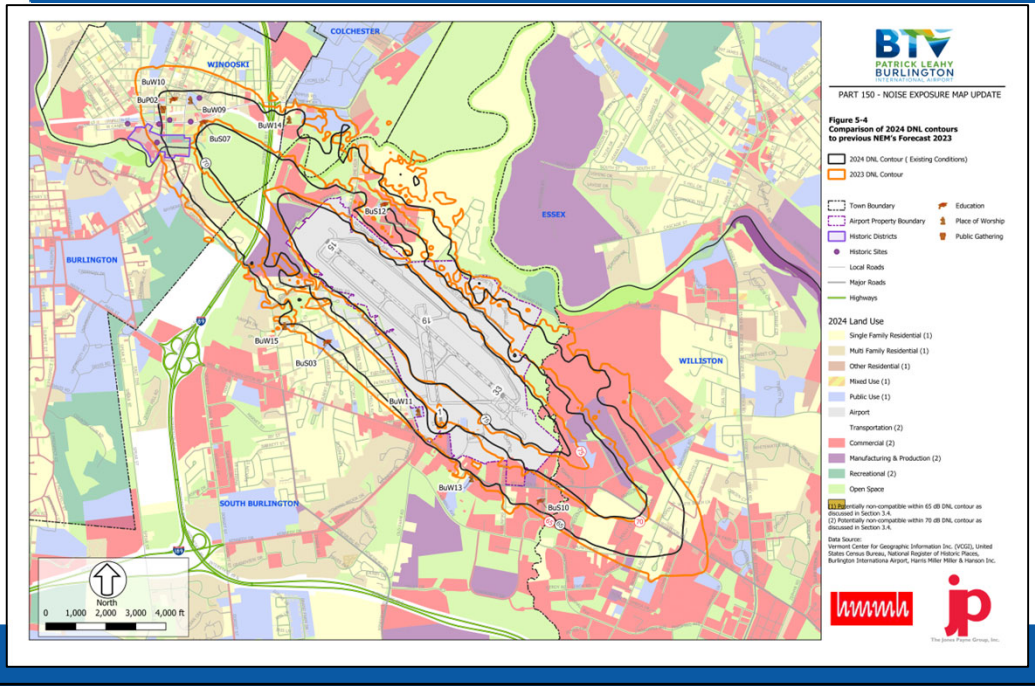
2024 Existing Conditions and Previous NEM 2023 Forecast



- The 2023 forecast contours were prepared in 2019, before arrival of F-35As
- 2024 NEM update modeling inputs reflect current VTANG flight procedures at BTV
- Fewer F-35A operations occur than had been previously forecast

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NOISE/LAND USE COMPATIBILITY

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Land Use Compatibility Guidelines

Land Use	DNL <65 dB	DNL 65-70 dB	DNL 70-75 dB	DNL > 75 dB
Residential	Compatible	Incompatible (1)	Incompatible (1)	Incompatible
Mobile home park	Compatible	Incompatible	Incompatible	Incompatible
Transient lodgings	Compatible	Incompatible (2)	Incompatible (2)	Incompatible (2)
Schools	Compatible	Incompatible (3)	Incompatible (3)	Incompatible
Hospitals and nursing homes	Compatible	25(4)	30(4)	Incompatible
Churches, auditoriums and concert halls	Compatible	25(4)	30(4)	Incompatible

(1) Measures are required to achieve 25 to 30 dB of noise level reduction for aircraft noise from outside to inside.
(2)"Transient lodgings" include, but are not limited to, hotels and motels.
(3)Measures are required to achieve 25 to 30 dB of noise level reduction for aircraft noise from outside to inside.
(4) The measures to achieve NLR of 25 or 30 dB must be incorporated into design and construction of structure.

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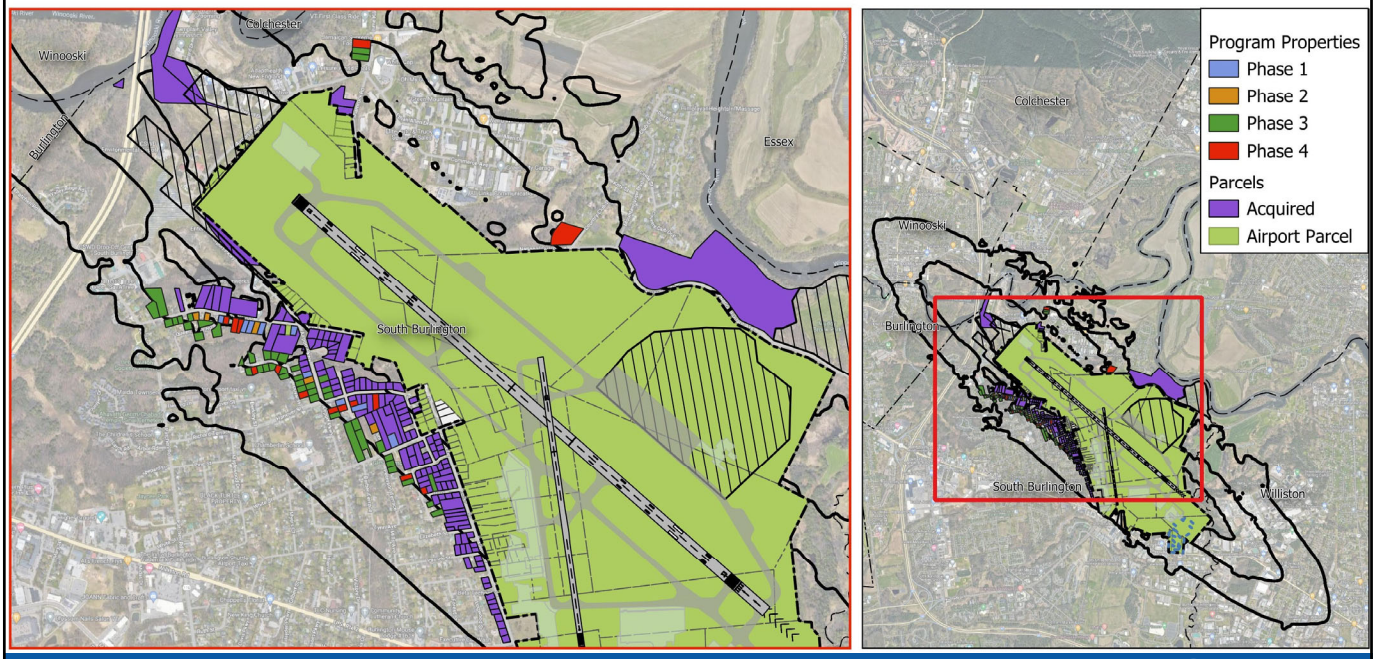
Noise Mitigation Program Status – April 2024



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Existing (2024) and Forecast (2029) Land Use Compatibility

Contour Interval	Potentially Incompatible[1]		Compatible[2]		Total	
	2024	2029	2024	2029	2024	2029
Off-Airport Acreage[3]						
65-70 DNL	249.4	261.1	0.7	0.7	250.1	261.8
70-75 DNL	317.4	317.4	3.1	3.1	320.5	320.5
>75 DNL	0.2	0.2	0	0	0.2	0.2
Total	**567**	**578.7**	**3.8**	**3.8**	**570.8**	**582.5**
Housing Units						
65-70 DNL	1,910	1,982	3	3	1,913	1,985
70-75 DNL	443	443	11	11	454	454
>75 DNL	1	1	0	0	1	1
Total	**2,354**	**2,426**	**14**	**14**	**2,368**	**2,440**
Population (Census 2020)						
65-70 DNL	4,449	4,621	7	7	4,456	4,628
70-75 DNL	1,032	1,032	25	25	1,057	1,057
>75 DNL	2	2	0	0	2	2
Total	**5,483**	**5,655**	**32**	**32**	**5,515**	**5,687**

1. "Potentially Incompatible" includes residential and other noise-sensitive land uses; compatibility can depend on the building's outdoor-to-indoor Noise Level Reduction (NLR)
2. "Compatible" quantities in this table refer to residential units made compatible by sound insulation.
3. Properties acquired by the airport for noise abatement are not counted as off-airport property.

Contour Interval	Schools		Places of Worship		Public Gathering	
	2024	2029	2024	2029	2024	2029
65-70 DNL	5	5	5	5	1	1
70-75 DNL	0	0	0	0	0	0
>75 DNL	0	0	0	0	0	0
Total	**5**	**5**	**5**	**5**	**1**	**1**

32

NEM Project Schedule

	Project Phase	2023						2024													
		JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
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 meeting; public comment period																				
4	Finalize and submit final NEM to FAA for approval																				

Consultant Task — Community Input — Agency Review

33

TAC MEMBER DISCUSSION

34

35

PATRICK LEAHY
BURLINGTON
INTERNATIONAL AIRPORT

Patrick Leahy Burlington International Airport
Noise Exposure Map Update

Public Workshop

October 23, 2024

6:30 – 8:00 p.m.

Chamberlin Elementary School

South Burlington, VT

October 24, 2024

6:30 – 8:00 p.m.

Winooski High School

Winooski, VT

BTV Airport Overview and Facilities

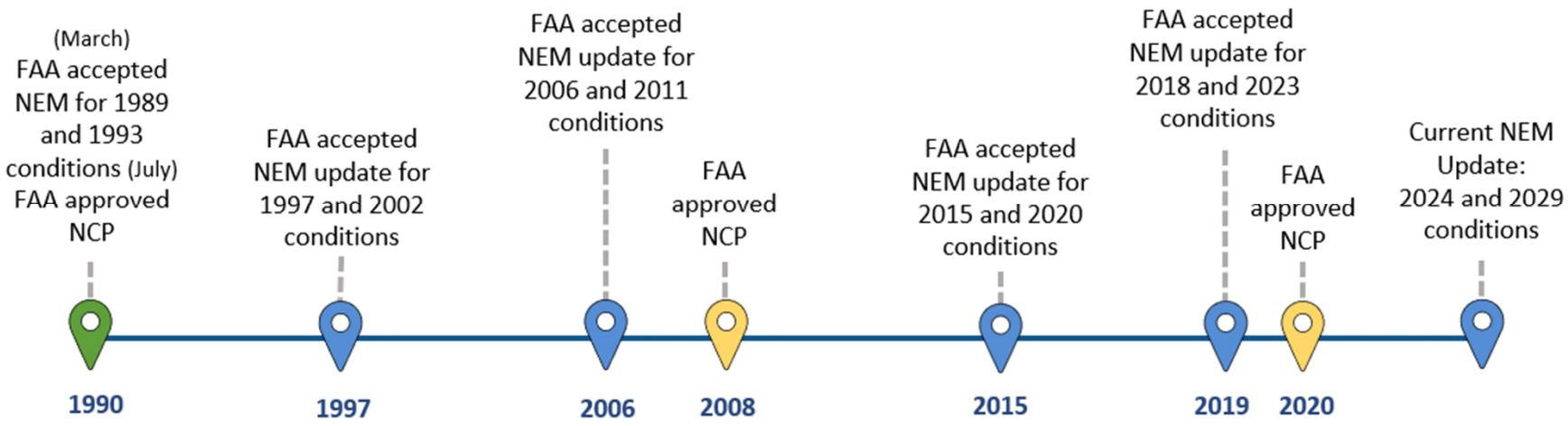
Airfield

- Main Runway 15/33
- Crosswind Runway 01/19
- Taxiways & helipads

Airport Users/ Tenants

- Commercial airlines
- Military
  - Vermont Air National Guard 158th Fighter Wing
  - Vermont Army Guard 86th Troop Command
- General Aviation
  - Beta Technologies
  - Vermont Flight Academy
  - Others

BTV Part 150 History



Roles and Responsibilities
FAA Noise Policy - 1976

BTV

- Project sponsor
- Contracts with consultant team
- Certifies the NEM is accurate and complete
- Submits NEM Update to the FAA for acceptance

FAA

- Provides federal funding for NEM Update
- Accepts NEM update
- Certifies that the documentation meets federal regulations and guidelines

Consultant Team

- Overall project management, documentation, and outreach
- Aircraft noise analysis
- Land use compatibility analysis
- Aviation forecast and airfield analysis

Technical Advisory Committee (TAC)

- Reviews study inputs, assumptions, analyses, documentation, etc.
- Provides input, advice, and guidance related to NEM development

Public

- Provides input on study during comment period
- Reviews public draft documents

Airport Operator

- Plans and implements noise compatibility measures

Aircraft Operators

- Develops noise-sensitive schedules, cockpit procedures, and fleet improvements

State & Local Government

- Compatible land use planning and control

Air Travelers & Shippers

- Bear the costs (through ticket tax)

Residents

- Seek to act in an informed manner

Airport Noise Compatibility Planning

REGULATION

"Airport Noise Compatibility Planning" in Title 14 of the Code of Federal Regulations Part 150 (14 CFR Part 150 or "Part 150")

- Voluntary FAA-defined process for airport noise studies
  - Over 250 airports have participated
- Sets national standards for analysis
- Provides access to FAA funding of some approved measures

COMPONENTS

Part 150 has two technical elements:

1. **Noise Exposure Map (NEM)**
   This project is an NEM update only.
2. **Noise Compatibility Program (NCP)**
   This project does **not** include an update to the NCP.

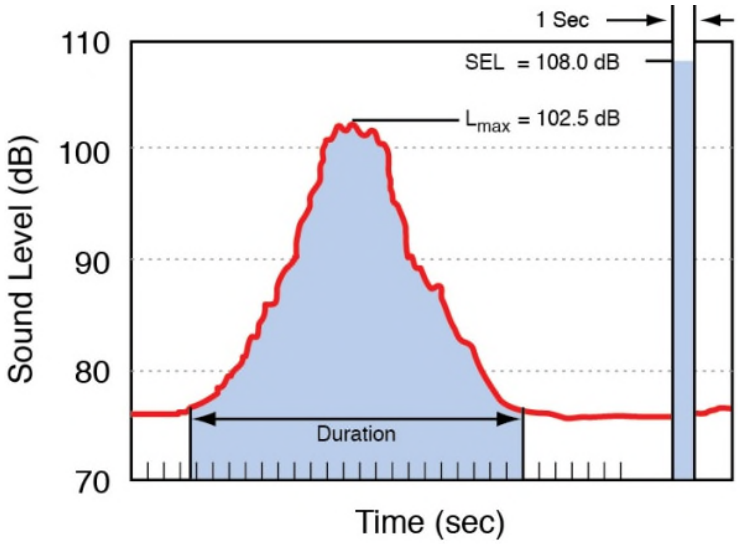
Noise Exposure Map

The NEM describes:

- Airport layout and operation
- Aircraft-related noise exposure
- Land uses in the airport environs
- Noise/land use compatibility

- An NEM must provide information for two timeframes:
  - Year of submission (2024)
  - Five-year forecast (2029)
- An FAA checklist identifies NEM requirements and documentation
- Annual average daily noise exposure (DNL) is depicted using contour lines on a map

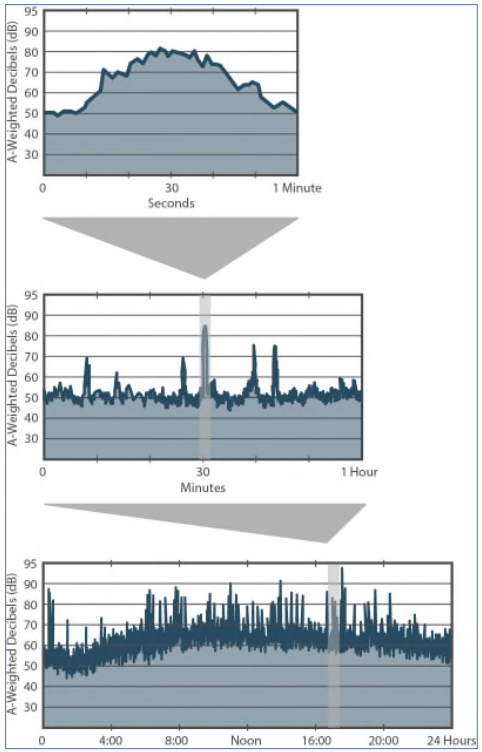
Aircraft Noise Terminology



Noise levels can be expressed in many ways, including but not limited to:

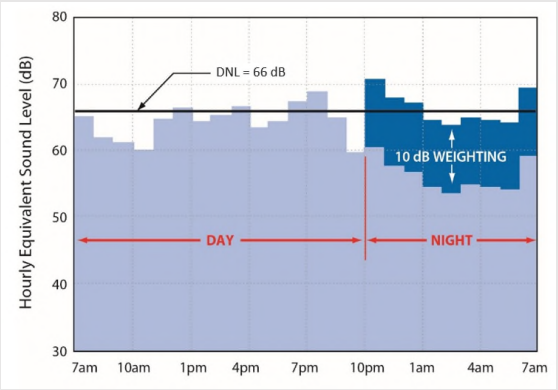
- Maximum Noise Level (L_{max})
- Sound Exposure Level (SEL)
- Day-Night Average Sound Level (DNL)

Aircraft Noise Terminology - DNL



FAA requires the use of DNL in a Part 150 study.

- DNL represents noise as it occurs over a 24-hour period, with 10 decibels (dB) added to noise events occurring at night (10 p.m. to 7 a.m.).
- Nighttime operations are weighted to represent the greater sensitivity for most people by nighttime sounds.

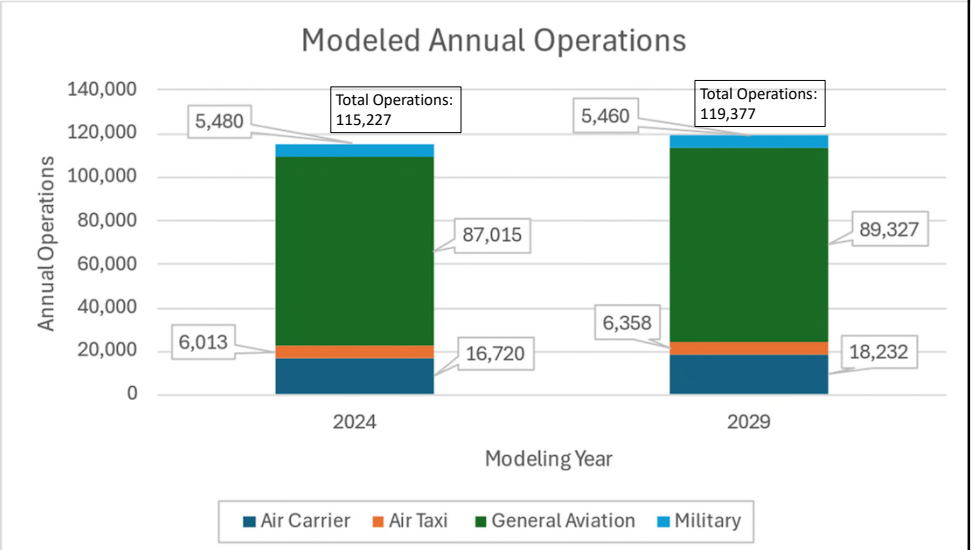


Part 150 guidelines consider all land uses below DNL 65 as compatible.

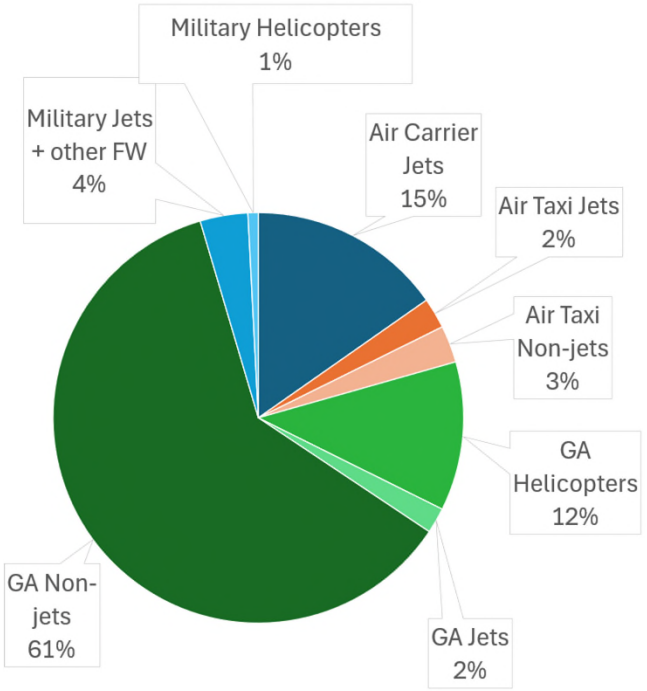
Aviation Forecast

Five-year forecast based on:

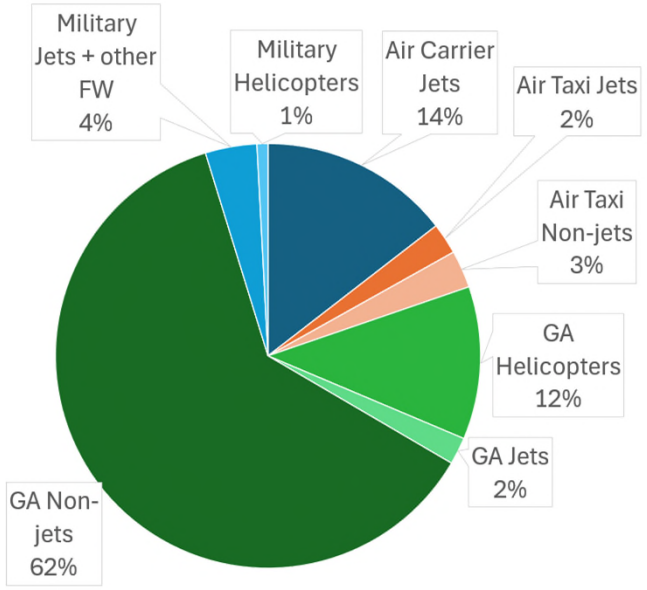
- 2022-2023 BTV Noise and Operations Monitoring System (NOMS)
- FAA data
  - Terminal Area Forecast (TAF)
  - Air Traffic Activity Data System (ATADS)
  - Traffic Flow Management System Counts (TFMSC)
- Vermont Air and Army National Guards (VTANG & VTARNG) projections
- Airline schedules
- Operator Interviews



Detailed Forecast Data



2024



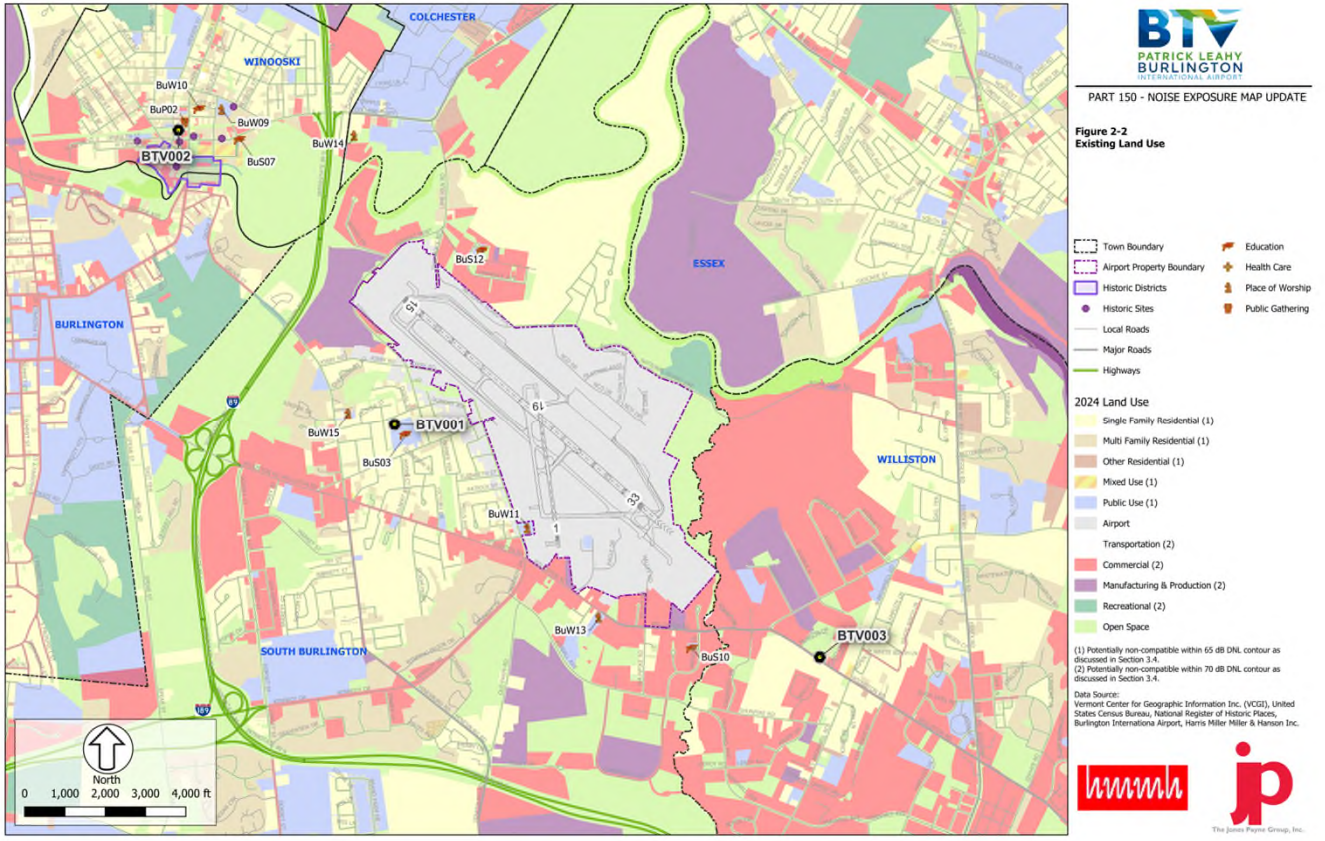
2029

Land Use

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 land use compatibility designations are contained in Part 150, Appendix A, Table 1.

All land uses with aircraft-related DNL below 65 dB are generally considered compatible by the FAA.



Noise Modeling Overview

Part 150 requires use of FAA's Aviation Environmental Design Tool (AEDT) noise modeling software.

- AEDT Version 3f was the most current version available at study's commencement (https://aedt.faa.gov)

AEDT requires noise model input data in three categories:

1 Aircraft Noise and Performance Data

- Aircraft performance profiles
- Noise level vs. distance curves

2 Airport Physical Inputs

- Runway end coordinates
- Ground engine runup locations
- Weather data
- Terrain data

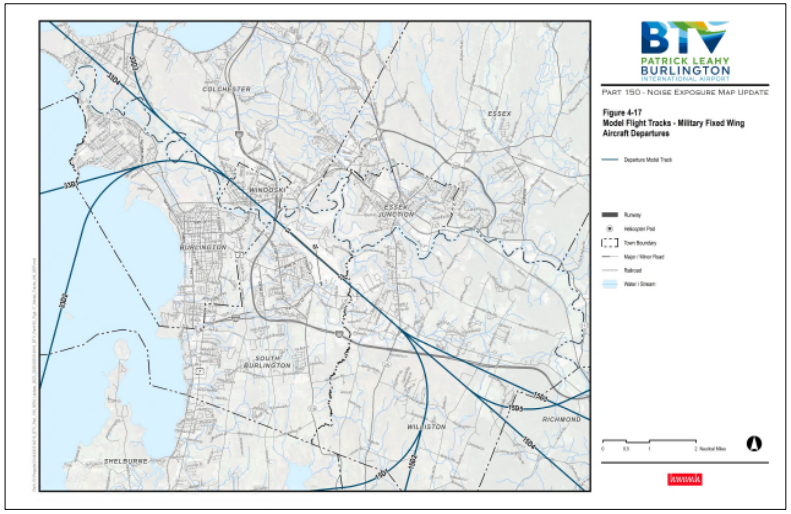
3 Aircraft Operational Inputs

- Number of aircraft operations
- Aircraft fleet mix
- Day-night split of operations
- Runway utilization
- Flight track geometry and utilization

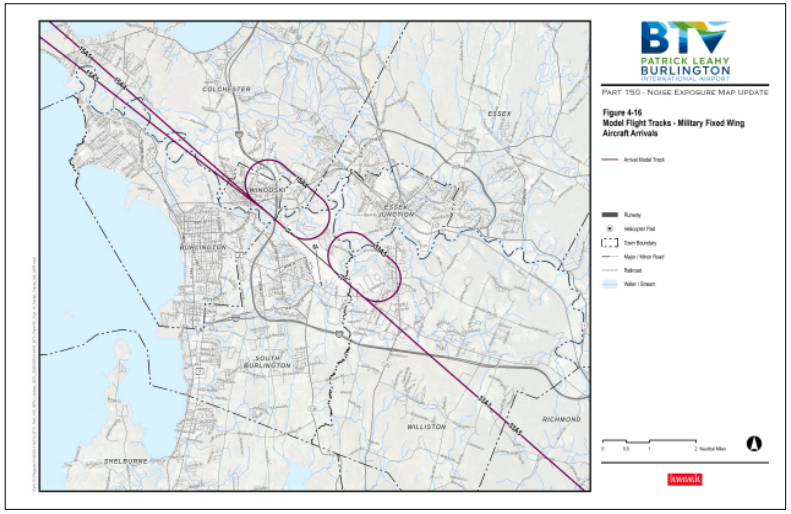
Noise Modeling Input: Runway Use

- Based on NOMS data: 7/1/2022 to 6/30/2023
- Existing year 2024 and Forecast year 2029 use the same flight track and runway use inputs

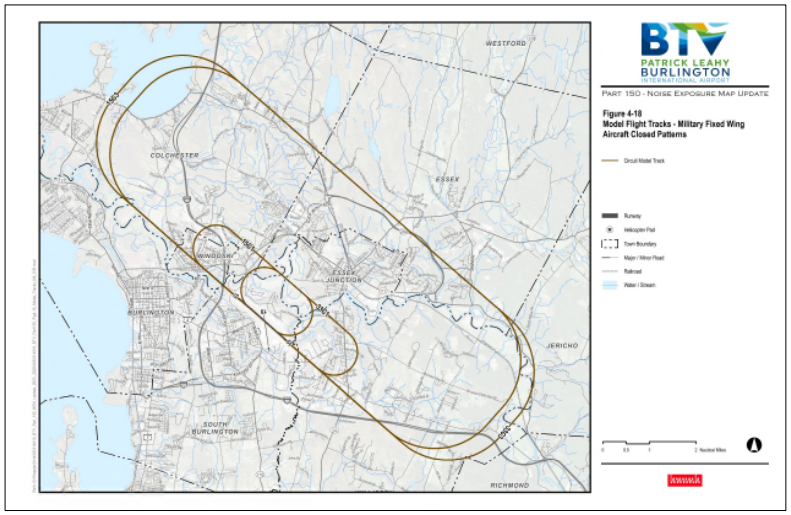
Noise Modeling Input: Military Flight Tracks



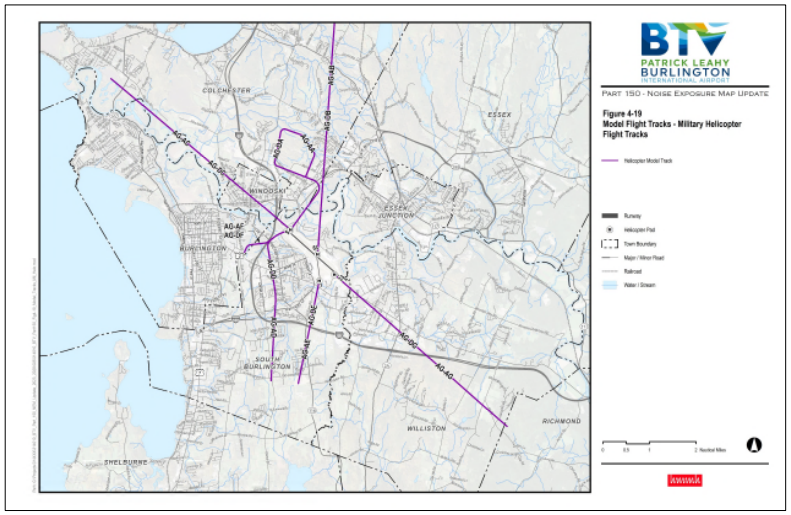
Military Departure Flight Tracks



Military Arrival Flight Tracks

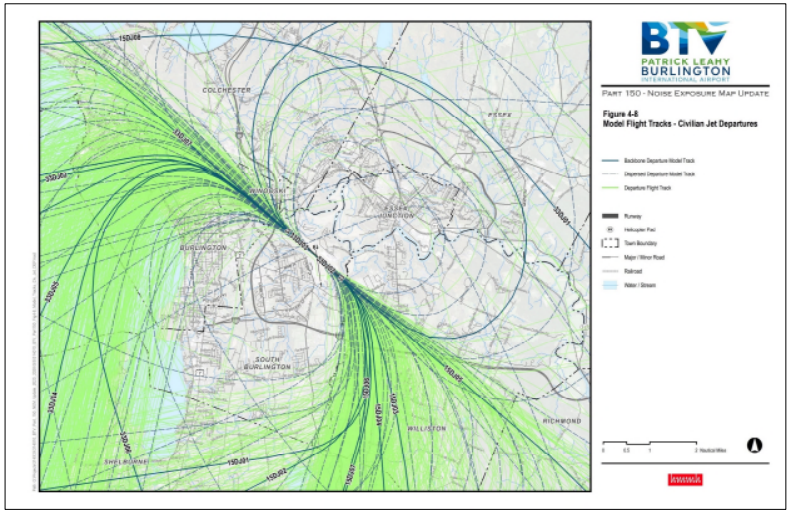


Military Circuit Flight Tracks

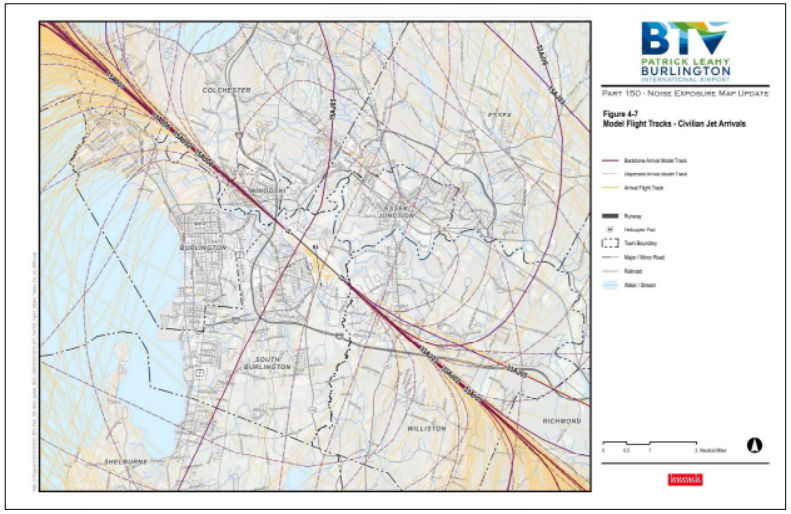


Military Helicopter Flight Tracks

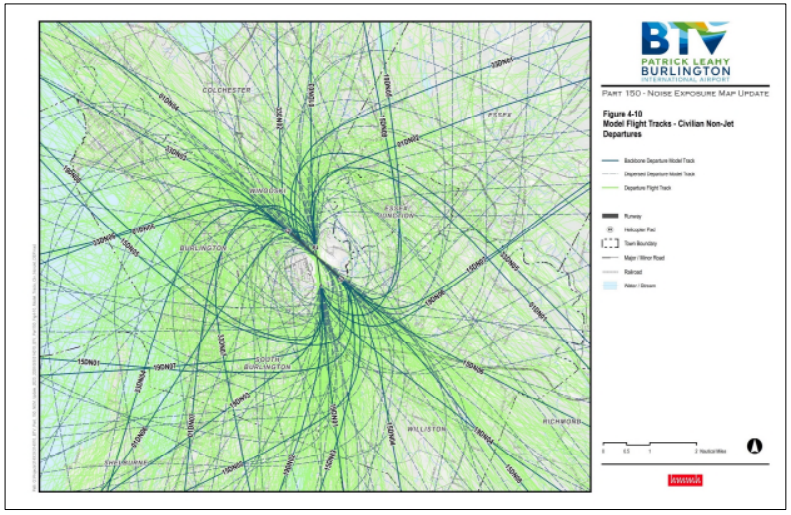
Noise Modeling Input: Civilian Flight Tracks



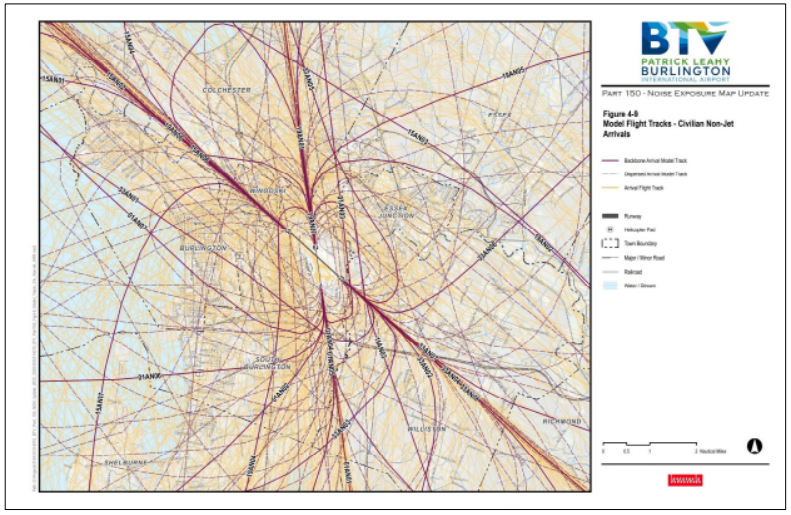
Civilian Jet Departure Flight Tracks



Civilian Jet Arrival Flight Tracks

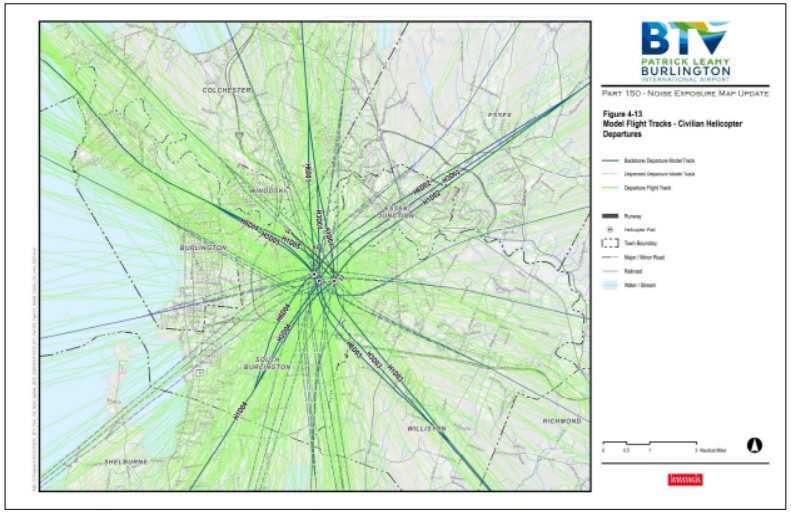


Civilian Non-jet Closed Pattern Flight Tracks

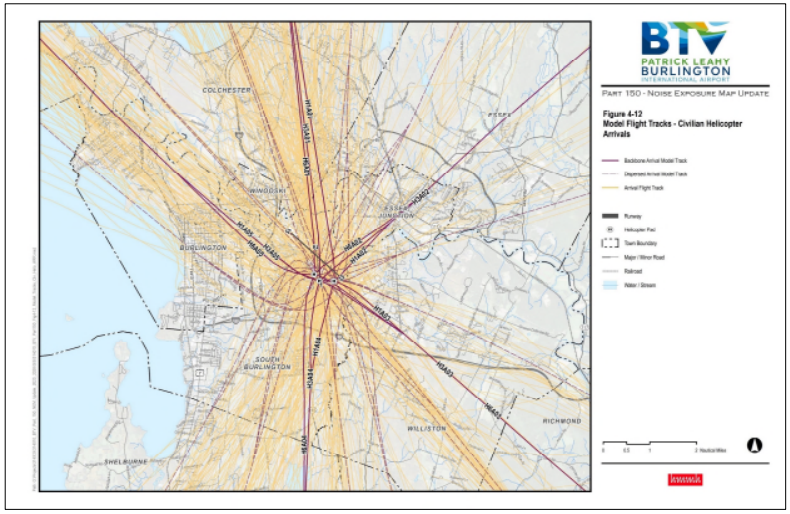


Civilian Non-jet Helicopter Flight Tracks

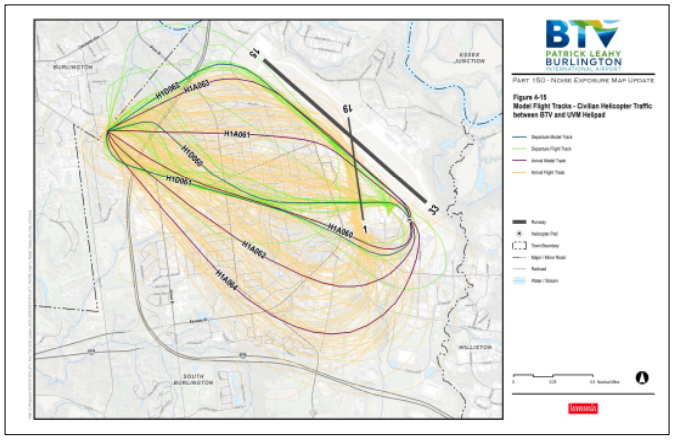
Noise Modeling Input: Civilian Flight Tracks



Civilian Helicopter Departure Flight Tracks



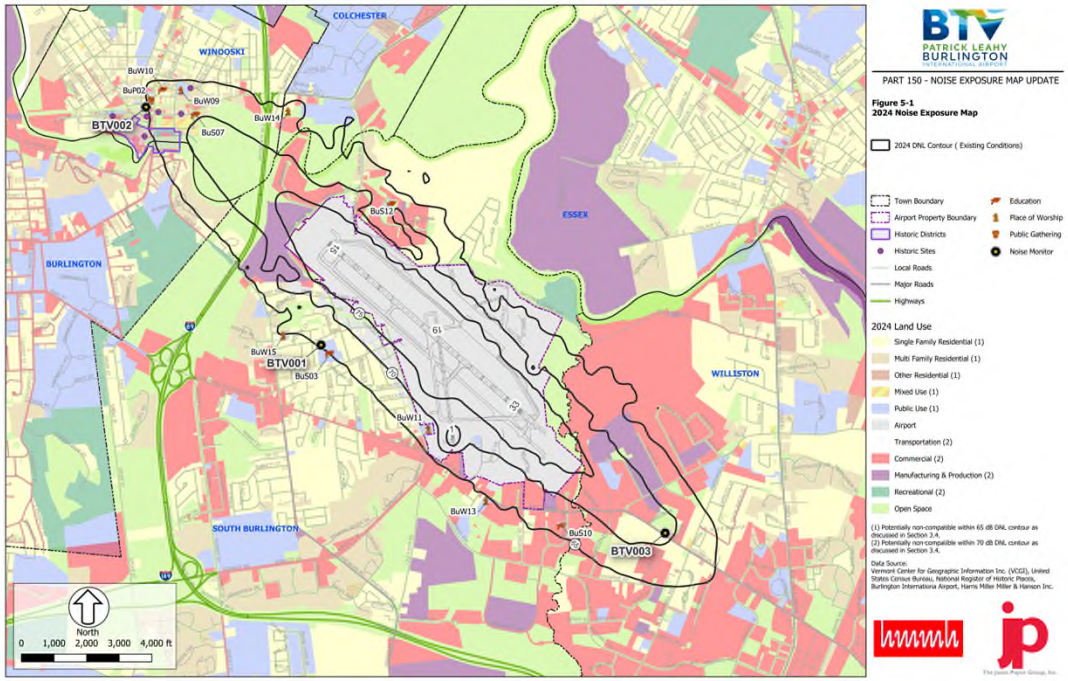
Civilian Helicopter Arrival Flight Tracks



Civilian Helicopter Flight Tracks to/from UVM

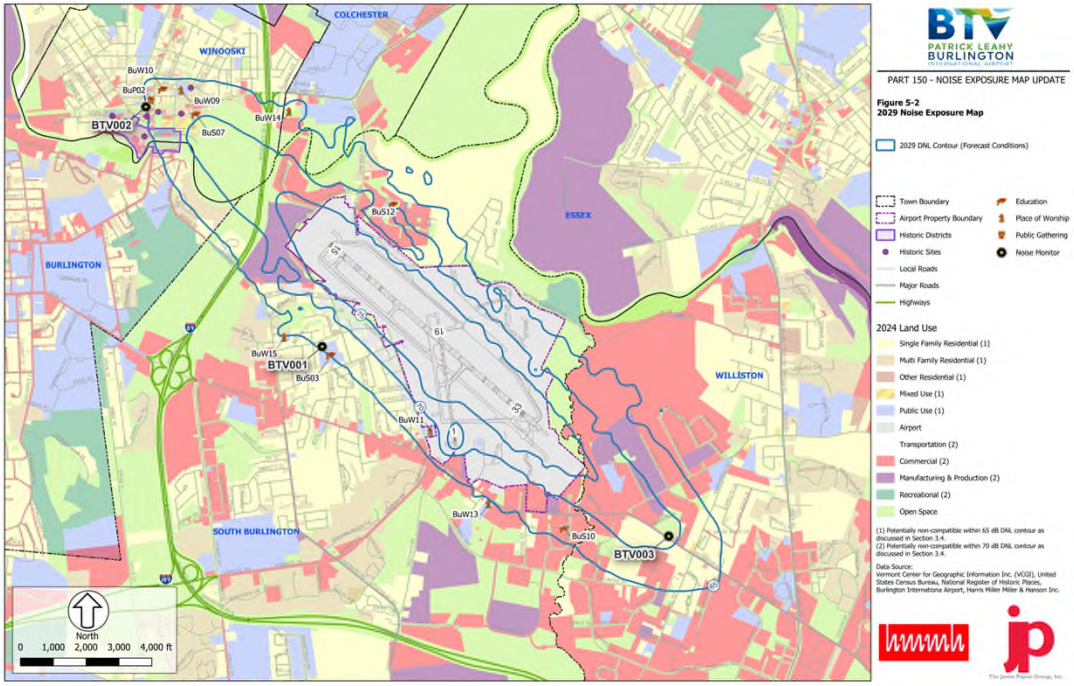
Civilian Non-jet (left) and Helicopter (right) Circuit Flight Tracks

Noise Exposure Map and Land Use Assessment for 2024 Conditions



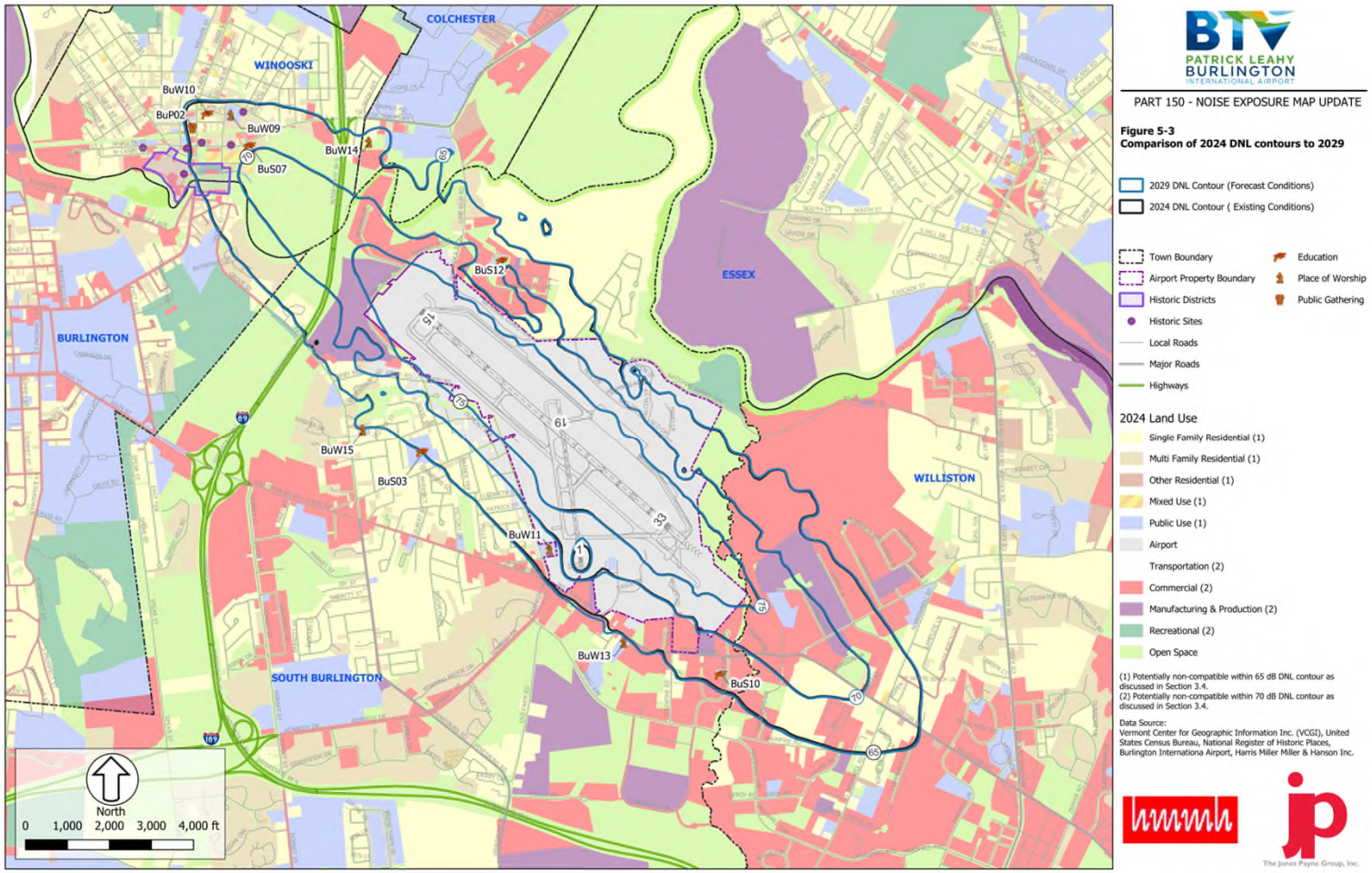
Contour Interval	2024			
	Est. Population	Est. Housing Units	Sound Insulated Housing Units	Est. Incompatible Housing Units
65-70 DNL	4,456	1,913	3	1,910
70-75 DNL	1,057	454	11	443
>75 DNL	2	1	0	1

Noise Exposure Map and Land Use Assessment for 2029 Conditions

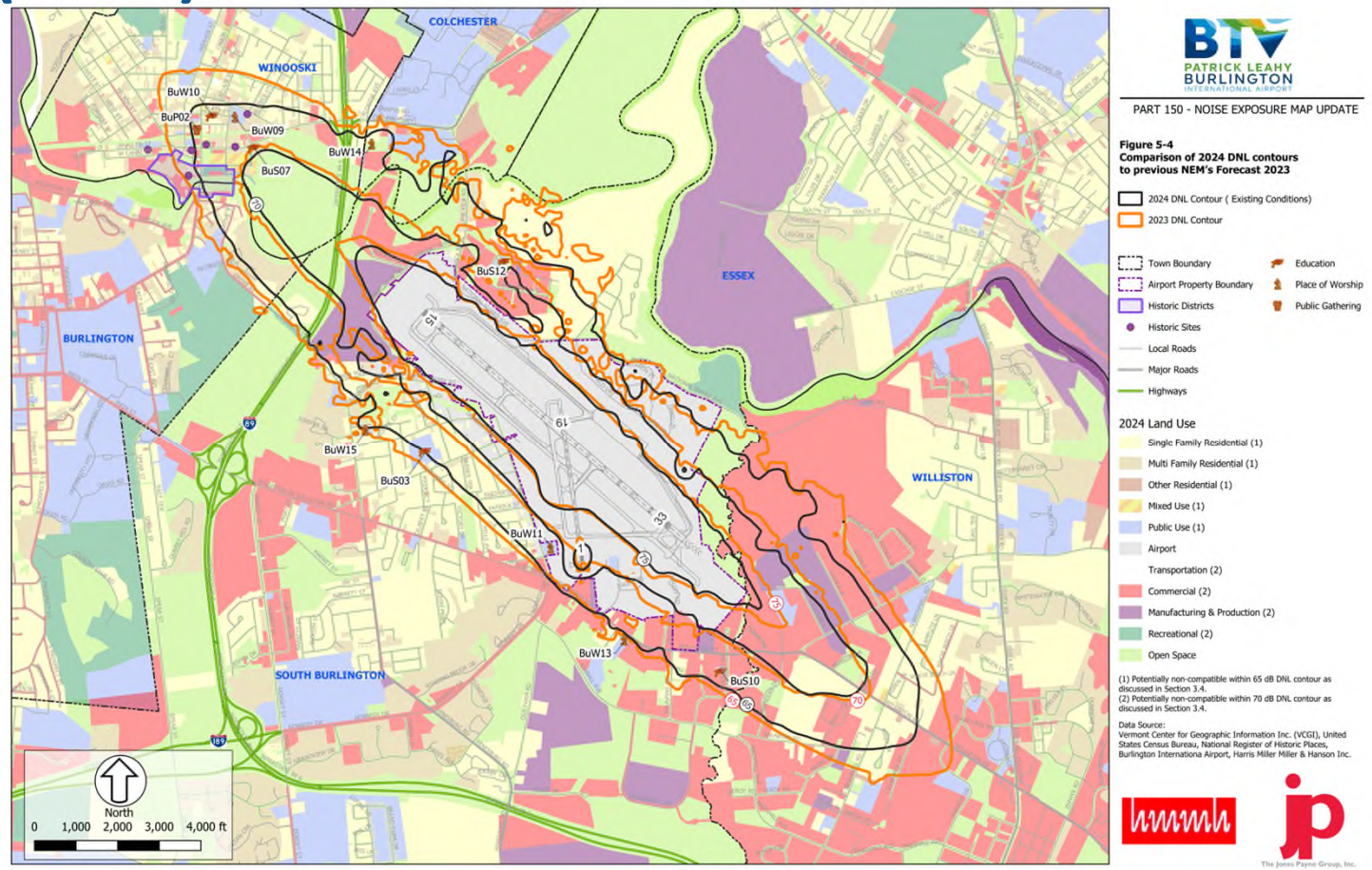


Contour Interval	2029			
	Est. Population	Est. Housing Units	Sound Insulated Housing Units	Est Incompatible Housing Units
65-70 DNL	4,628	1,985	3	1,982
70-75 DNL	1,057	454	11	443
>75 DNL	2	1	0	1

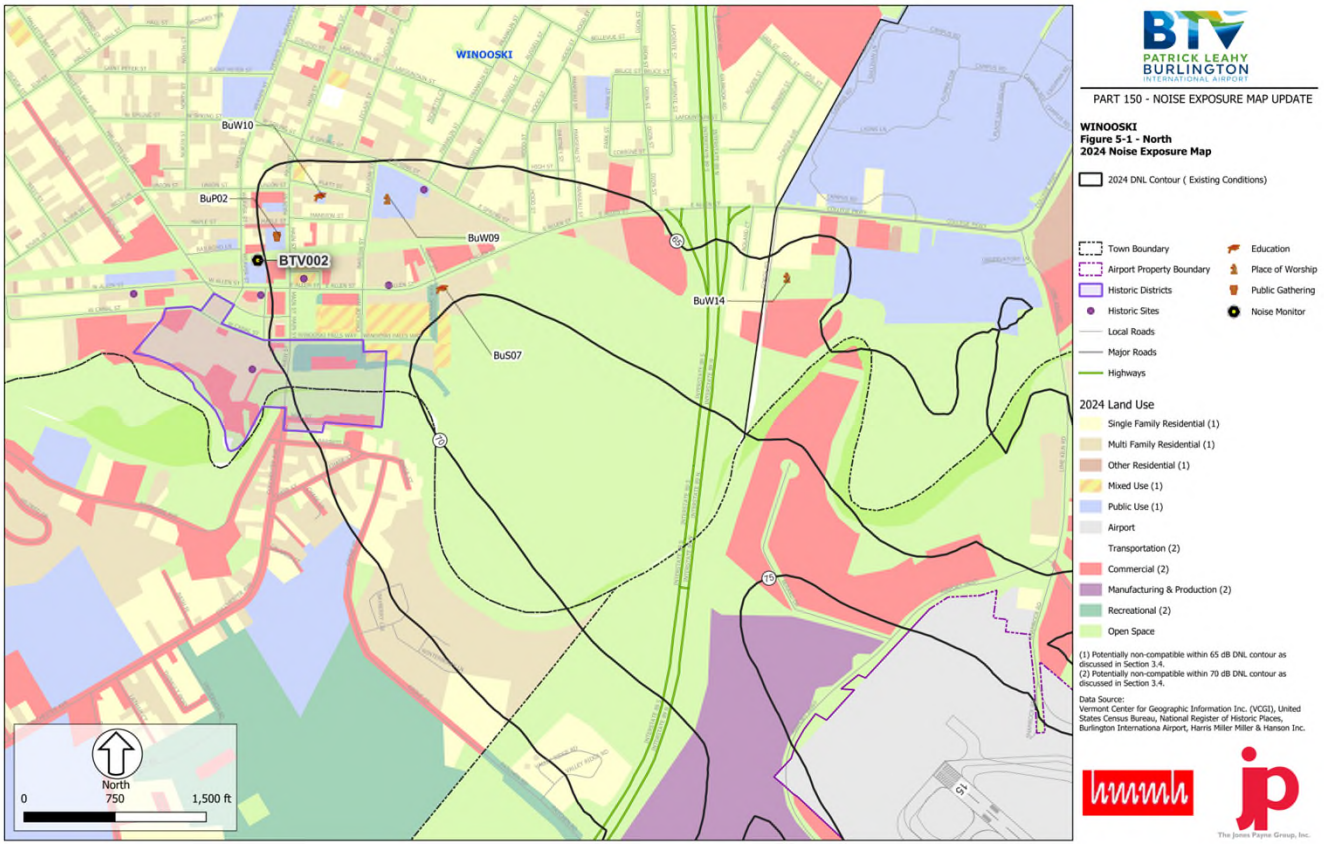
Noise Exposure Map and Land Use Assessment for 2024 & 2029 Conditions



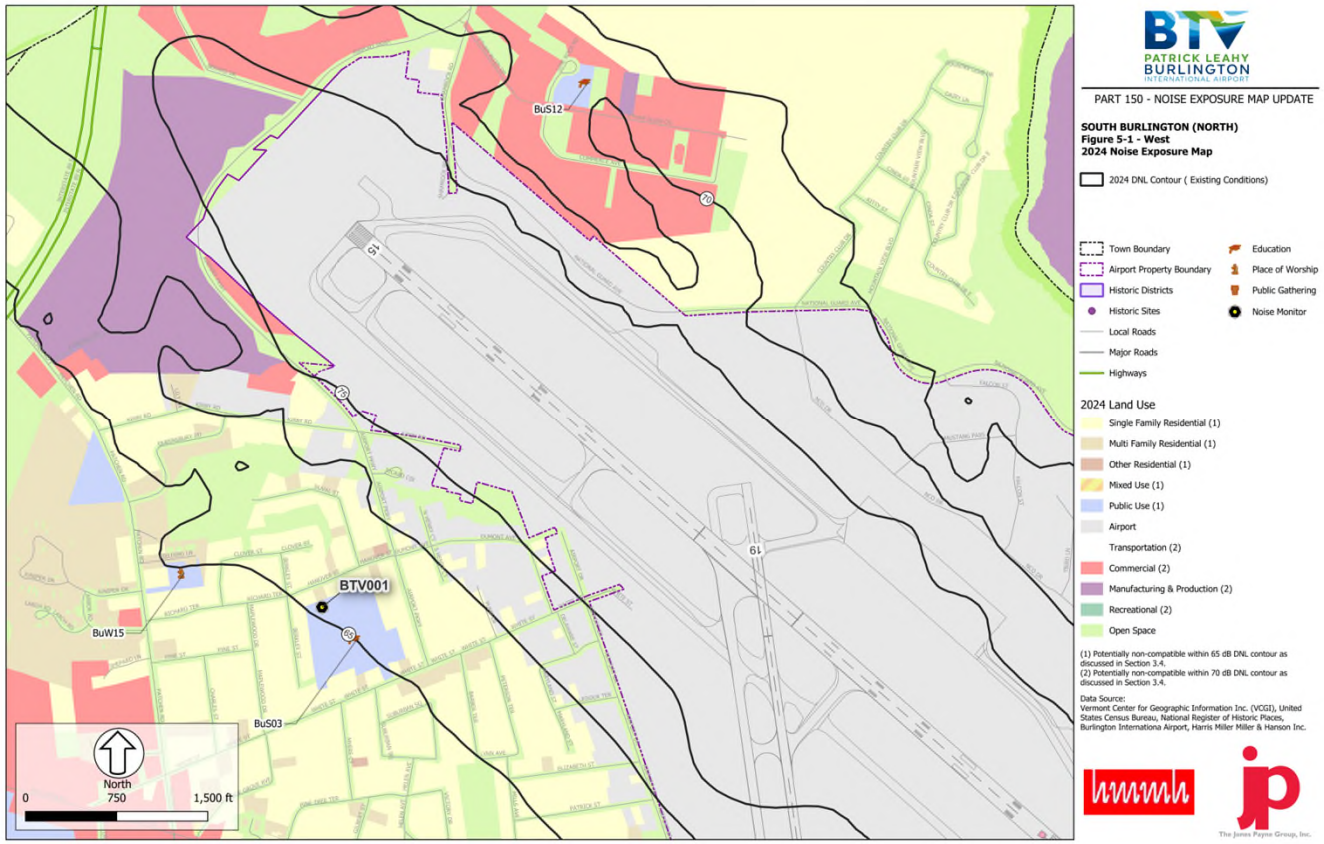
Noise Exposure Map and Land Use Assessment for Previous Forecast Case (2023) & Current 2024 Conditions



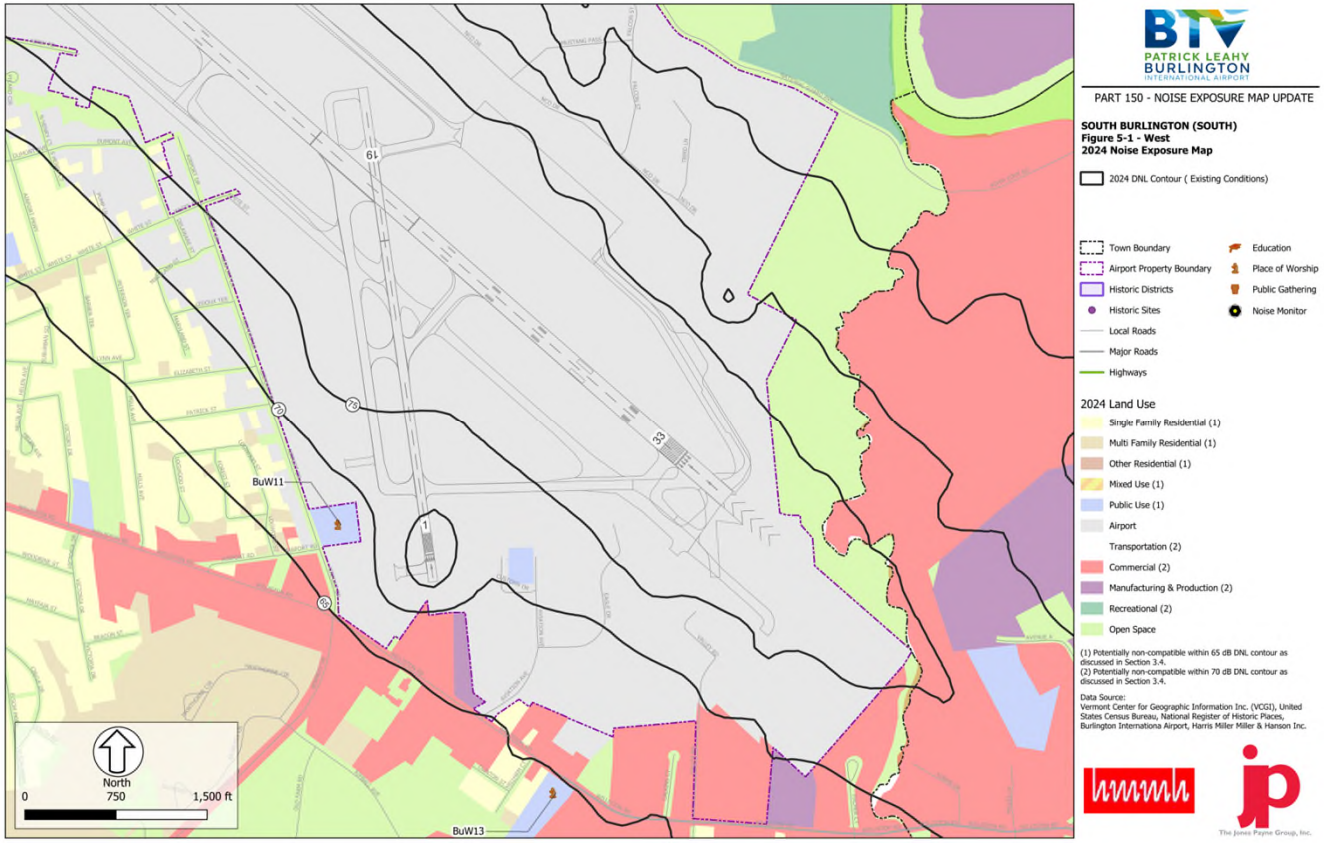
Noise Exposure Map (2029)
Winooski



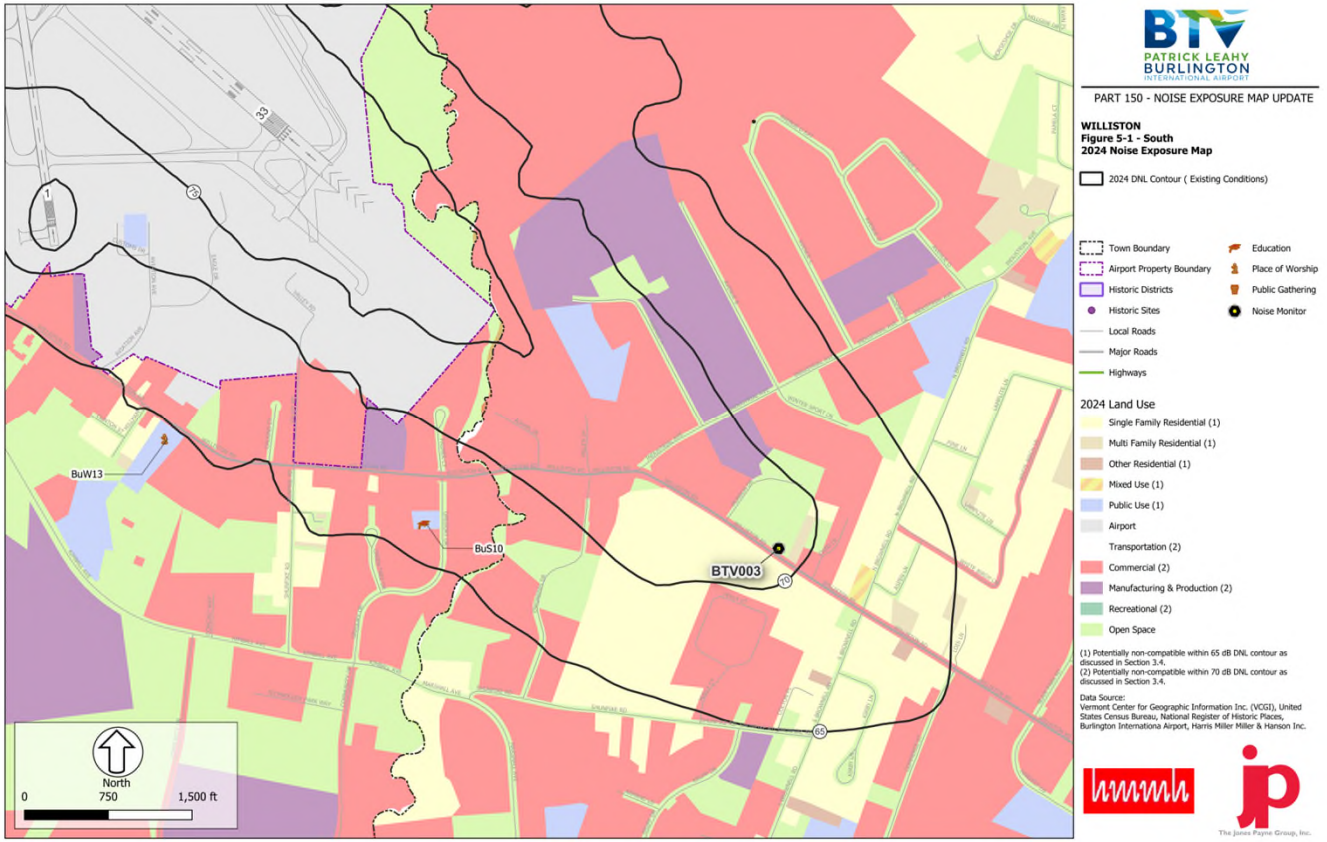
Noise Exposure Map (2029)
South Burlington (North)



Noise Exposure Map (2029)
South Burlington (South)



Noise Exposure Map (2029)
Williston



Public Comment Opportunities

NEM Review

The draft NEM is available for public review at the following locations:

- BTVSound.com
- BTV Offices

  1200 Airport Drive, #1
  South Burlington VT

Comment Submission

Public comments can be submitted throughout the comment period:

- In person at the Public Workshop, comments table
- Via email to: BTVSound@jonespayne.com

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LAMOILLE-3

Continued from Page 7

effort to curb carbon emissions, in an election where Vermont Republicans see potential to gain some ground against the Democrat's legislative supermajority.

Many Democrats have waved off Republican concerns about the heat standard, saying it's too soon to know what impact the legislation will have, noting that any new tax created by it will require legislative approval, and any major increase in fuel costs wouldn't be supported.

Boyden has largely echoed that stance in campaign materials, which state that Vermont must address the outsized impact of the heating sector on climate change while limiting the fiscal impact of any move away from fossil fuels.

According to a Public Utility Commission study released in September, the clean heat standard — final details of its costs will be presented to the Legislature in January — could cost Vermonters more than $10 billion.

Rising costs

Boyden sees the need to balance immediate relief for the Vermonters facing rising tax rates and any potential changes to how Vermont delivers public education.

Last year's property tax rate was brought down with one-time money and, as education costs continue to rise, another increase seems certain without legislative action.

"We can support Vermonters without adverse effects to our public education system," Boyden said. "I really think that we need to look at the bones of our education funding formula and consider how resources can be shared to cut back on costs, or how new ongoing services could be outsourced to reduce the cost, or even how our supervisory union districts can be adjusted for shared resources."

Sciortino said he would consider a wide range of changes to education funding, but also has some ideas on how to fix the revenue problem. He'd like to see a tax on political campaign donations, which could potentially bring a windfall to state coffers on the major contributions made to Vermont's federal delegation every four years and the increasingly expensive local races.

Sciortino has raised no funds for his campaign, and Boyden has raised $1,550, though no single donation has exceeded $300.

Both candidates agree that the Democrats, who have the power to override any legislation vetoed by Republican Gov. Phil Scott, bear responsibility for many of the challenges currently facing Vermonters.

Sciortino emphasized that he wouldn't feel any pressure to vote with any party, while Boyden voted against the Democrats' yield bill that set the property tax increase but voted to override Scott's veto of the bill.

Looking toward potentially graduating into her sophomore session as a legislator, Boyden said she'd like to see better direction from party higher-ups.

"Over the past few years, I've been a little disappointed and frustrated with the lack of leadership within the Legislature, so I'm hoping that that also improves to help expedite a lot of the issues that are interconnected, especially affordability and housing," Boyden said.

The candidates' differing backgrounds informs their policy priorities. Boyden is Vermont's youngest legislator. She's also a renter, who, like other young people, faces an often prohibitively expensive housing market. Balancing her job in residential solar panel management with the demands of the legislative session has been a challenge she has embraced.

Flood recovery and housing remain at the forefront of her legislative priorities and, if reelected, Boyden plans to focus on establishing greater legislative accountability in her position as clerk on the government operations and military affairs committee.

Sciortino recently retired from a long and varied career working primarily in pharmaceutical sales and patented a device used in soccer training — he also formerly directed the Cambridge Youth Soccer program.

He would also like to see the process of government become more direct by eliminating study committees, which are often taken up when legislators want to employ consultants or gather more information before taking action on complex issues, and asking lawmakers to "do their own homework." Both would reduce its cost and make it more effective, he said.

"Now's the time to make a decision, not to kick the can," Sciortino said. "I hate to use that expression, but it's true. You've got to have a spine and stand up to what you believe in, and if it doesn't go your way, then that's fine."

Even their methods of getting out the vote vary. Before the primary, it looked like Boyden would go unchallenged for a second term. Now she's gotten back to the strategy that won her the seat two years ago: knocking on doors and talking to Cambridge residents.

Door knocking doesn't appeal to Sciortino, who has been meeting prospective voters at small events hosted in Cambridge and Waterville homes.

"I'm not going to have much power to be appointed to x-committee or y-committee, but I get to vote on everything, and that's the only thing I can tell these constituents, is that any tax increases, I'm going to vote 'no,'" Sciortino said.

JOHNSON

Continued from Page 7

Hammond was questioned by the board along with candidates Margo Warden, Adrienne Parker, Rob Rodriguez, Charles Flaum and Charlie Gallanter. Questions and discussion ranged from the town's website to Johnson's recovery following several floods over the last two years.

Hammond said that Johnson needs to make flood resiliency its primary goal and encourage as much new housing outside of the floodplain as possible, but to also encourage a "positive sense of community."

Outgoing board member Shayne Spence has attributed his decision to leave Johnson primarily because of the lack of attainable housing in town.

Hammond said he was experienced in encouraging positive debate around important issues, and that is something he wants to help facilitate in a town he believes has too-often been bogged down by negative conflict.

"I really try to get people to listen to each other and work together on some of those challenges that we're facing," Hammond said. "The negative, confrontational kind of atmosphere that has existed here sometimes really is not in the long-term or short-term interests of the town."

BTV PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

PUBLIC MEETINGS
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

WEDNESDAY, OCTOBER 23, 2024, 6:30-8:00 P.M.
CHAMBERLIN SCHOOL, SOUTH BURLINGTON

THURSDAY, OCTOBER 24, 2024, 6:30-8:30 P.M.
WINOOSKI HIGH SCHOOL

Notice is hereby given that Public Meetings will be held on Wednesday, Oct. 23, 2024, at 6:30-8:00 p.m. (South Burlington Public Meeting) at Chamberlin School, and Thursday, Oct. 24, 2024, at 6:30-8:30 p.m. (Winooski Public Meeting) at the Winooski High School.

These meetings will provide an overview of the DRAFT NOISE EXPOSURE MAP REPORT that has been prepared on behalf of Patrick Leahy Burlington International Airport. The meetings will be workshop style with various stations for individuals to review the information and ask questions. There will be no formal presentation. Comment sheets will be available for the public to leave their comments.

The draft report can be found on the Airport's noise program website: btvsound.com. Physical copies of the draft report are also available for review at the Patrick Leahy Burlington International Airport administrative offices located at 1200 Airport Rd, South Burlington, VT, Suite 1.

Public comments can be submitted at the meetings or via email to btvsound@jonespayne.com.

The public comment period will close Friday, Nov. 15, 2024, at 5:00 p.m. Additional comments and questions regarding the noise program can be submitted at any time.

Shelburne Parks & Rec News

Shelburne Halloween

Shelburne celebrates the holiday on Sunday, Oct. 27, presented by Shelburne Parks & Recreation. Here's the schedule:

• Noon to 1:30 p.m.: Costume contest at Shelburne Town Center: Dress to impress the judges. Prizes awarded to winners in each category. Get your spooky picture taken by Studio 2N Photography with a free digital download.

• 2 p.m.: Shelburne Halloween Parade presented by Charlotte-Shelburne-Hinesburg Rotary. For questions about the parade or to register a float in the parade, contact Richard J. Fox at 802-448-0118 or rfox@foxlawvt.com.

• 2:30 to 4:30 p.m.: Trick or Treat carnival games and haunted stage in the town gym with the Shelburne Recreation Committee; free treats at the fire station; and a fun Halloween activity at Pierson Library.

Hullcrest Park notice

The Hullcrest Park playground project will begin the week of Sept. 16. Please stay out of playground and immediate area during renovation and construction.

The park will remain open for use of the field and basketball court.

The project should be finished by early October. Direct questions about the project to Shelburne Parks & Recreation 802-985-9551.

Bolton after-school program

This popular after-school program offers kids in grades five to eight a fun evening of night skiing with friends at Bolton Valley Resort.

Two sessions will be offered: session A includes: Jan. 8, 15, 22 and 29; session B includes Feb. 12, and March 5, 12 and 19.

Registration for seventh and eighth graders will open on Nov. 1 at 8 a.m. Registration for fifth and sixth graders will open on Nov. 20 for any remaining spots.

Complete program details and pricing can be found at shelburnevt.org/183/Youth-Programs

Youth basketball registration is open

This popular recreational program emphasizes the basics of the sport, along with good teamwork and sportsmanship. The program is open to youth in grades one to six.

Practices start in early December and is open to Shelburne residents only.

Grades one and two are co-ed and will practice and scrimmage on Saturday mornings only. The goal of this age group is to introduce and practice basic skills and team play concepts. The registration fee is $52.

Grades three to six have separate girls' and boys' teams. Organized practices will begin in December, and regular practices and games will start the first week of January and continue until the February break.

Practice will be held one night a week with games on Saturday against other town recreational teams from the Champlain Valley Recreation Association. Games will be played both in Shelburne and out of town. Travel is required. The fee is $63.

Volunteer coaches are needed. If interested, call the office at 802-985-9551 or indicate at the time of registration.

The registration deadline for both groups is Friday, Nov. 8.

Crossfit kids

Kids can join us right after school to improve general conditioning, including a focus on core, strength, agility, flexibility and cardiovascular fitness. Based on the principle of movement mechanics, consistency, form and then intensity, this program pushes for quality movement throughout childhood.

Sign up for one or both sessions.

Session dates are Oct. 17 to Nov. 14; registration deadline is Friday, Oct. 11. The other session is Jan. 16 to Feb. 13; registration deadline is Friday, Jan. 10. Sessions are held on Thursdays, 3:15-4:15 p.m. Fee is $95 per session, for grades five to eight, led by Nick Mead and Shelburne Field House staff.

Yoga flow for strength, flexibility

Find some calm in your body and your mind and join Jane Taylor for an accessible, fun and energizing yoga flow that builds bone strength and brings students out of their daily grind and into their true nature of goodness.

Get the heart rate up with vigor, and then wind down and relax in a balanced class designed to make you feel better than when you came in the door. All levels welcome. Participants should be comfortable sitting on and getting up from the floor. Bring your own yoga mat and whatever props you need.

Taylor has been practicing for more than 20 years and has been assisting the University of Vermont yoga teacher training for 12 years. There are two sessions — Tuesdays, Nov. 5 to Dec. 10 and Tuesdays Jan. 14 to Feb. 18 — held in the Shelburne town gym. The fee is $90.

Learn more at shelburnevt.org/160/parks-recreation.

BTV
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

PUBLIC MEETINGS
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

WEDNESDAY, OCTOBER 23, 2024, 6:30-8:00 P.M.
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WINOOSKI HIGH SCHOOL

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The public comment period will close Friday, Nov. 15, 2024, at 5:00 p.m. Additional comments and questions regarding the noise program can be submitted at any time.

TOWN OF STOWE
HOUSING TASK FORCE
MEETING AGENDA
WEDNESDAY, OCTOBER 16, 2024 | 9:00AM

Akeley Memorial Building, 67 Main Street, Stowe, VT 05672
Join the meeting in person, online or on the phone:
Link: https://stowevt.zoom.us/j/86460340483
Call in: 1-646-931-3860 Meeting ID: 864 6034 0483

1. Call to Order
2. Approve the Agenda
3. Approve Minutes
4. Guest Speaker – Harry Shepard, Stowe Public Works Director
5. Staff Report / Next Meeting Agenda
6. Public comment nonbinding
7. Adjourn

Agendas, minutes and meeting materials can be found at: **townofstowevt.org/housing-task-force**

TOWN OF STOWE
CEMETERY COMMISSION MEETING
TUESDAY, OCTOBER 15, 2024
AGENDA

A meeting of the Stowe Cemetery Commission will be held Tuesday, October 15, 2024 at 8:30 am via a hybrid/Zoom meeting.
Join meeting: https://us02web.zoom.us/j/88296115656
Dial by your location +1 646 876 9923 US (New York) Meeting ID: 882 9611 5656

8:30 a.m.
- Superintendent's Report
- Minutes, correspondence, work orders
- Treasurer's Report
- Remembrance Program Report
- Report from Parks & Rec Department regarding cemetery computer programs
- Discussion of Town Plan revisions
- Any new or old business brought before the Commission

TOWN OF STOWE
DEVELOPMENT REVIEW BOARD (DRB)
MEETING AGENDA
OCTOBER 15, 2024

All residents of the Town of Stowe are hereby notified that the following applications will be heard by the DRB on October 15, 2024, starting at 5:00 p.m. Meeting participation is available in-person in the Akeley Memorial Building (67 Main Street) or participate remotely from your computer, tablet or smartphone.

https://us02web.zoom.us/j/85788573012?pwd=SE04dGpYdTVNTVF4aGJMSjNMMjd6UT09
Meeting ID: 857 8857 3012 Passcode: 854332
Dial by your location +1 646 876 9923 US
(New York) *[Long distance charges may apply]*

1. Call to Order by the Chair
2. Approval of the Agenda
3. Development Review Public Hearings

Project #: 7450
Owner: Shaun Haviland
Tax Parcel #: 06-015.000
Location: 878 Luce Hill Rd
Project: Construction of a Garage/ADU Adjacent to Existing Dwelling & Site Improvements
Zoning: RR5/RHOD

Project #: 7436
Owner: Janet B Admas Revocable Trust trustee: Janet B Adams
Tax Parcel #: 07-048.000
Location: 893 Pucker St
Project: Final Review For 4 Lot Subdivision
Zoning: RR2

Project #: 7325 *(cont. from 6/4, 7/16, 8/6, 9/3, 9/17 & 10/1)*
Owner: Stowe Country Club LLC c/o Stowe Mountain Lodge
Tax Parcel # 06-081.000
Location : 744 Cape Cod Rd
Project: Preliminary Review for 42-Lot Subdivision/PUD including Club House, Recreational Amenities, and Residential Uses.
Zoning: RR2/RR3

4. Other Business
5. Review of Upcoming Schedule
6. Approval of Minutes (10/1/2024)
7. Deliberative Session

DRB hearings are open to the public. Additional information may be obtained at the Stowe Town Office. Pursuant to 24 VSA §§4464(a)(1)(C) and 4471(a), participation in this local proceeding is a prerequisite to the right to take any subsequent appeal. If you cannot attend the hearing, comments may be made in writing prior to the meeting and mailed to: Zoning Administrator, PO Box 730, Stowe, VT 05672 or by email at pandz@stowevt.gov. Pending DRB applications and related materials can be found at townofstowevt.org/drb. For questions about accessibility or to request accommodations, please call 253-6141.

STOWE COUNTRY CLUB

Continued from Page 1

person status due to the "adverse impacts" the development could have on their sprawling Edson Hill property that lies to the northwest of the country club and, although it overlooks it, is not directly next to it.

Christopher Roy, a property litigation lawyer with Burlington-based Downs Rachlin Martin, has represented the club in the face of its irate neighbors, and argued over interpretation of Stowe's zoning law with Reiser's lawyers.

Raised berms with vegetation were offered as potential privacy shields that could ameliorate the many problems adjacent condo neighbors have raised about the development.

At a later meeting, Robert Apple, a permitting and planning expert who has been the primary architect of other Mt. Mansfield Company projects, such as those at Spruce Peak, guided the board through the company's intent to build a community of "clustered developments" with expanded recreational opportunities.

Sam Gaines, Spruce Peak Realty president, clarified that the project would be built over five to seven years.

After Reiser's lawyers again argued that the project should be considered under rules governing planned-unit developments and brought up further concerns about setbacks, Stowe public works director Harry Shepard joined the meeting to discuss concerns about the development's ability to access town utilities.

Shepard said the Stowe Club pressure zone is "nearly maxing out the available daily demand" and that the "overall municipal water system is operating close to its functional capacity, with significant future demand expected."

He recommended that a comprehensive hydrogeologic investigation be completed to determine its potential impact on groundwater resources.

The project would also require a private sewer pump station that would need to be coordinated efficiently with other developments.

The development review board again returned to the project on Oct. 1. At this meeting, Erica Wygonik, a senior engineer at Resource Systems Group, offered testimony about a traffic study conducted for the development.

She identified evenings and midday Saturday as peak traffic times near the intersection of Cape Cod Road and Sinclair Drive.

The board will take testimony on the country club development into December, according to Stowe zoning director Sarah McShane.

The country club also seeks an update to the town map, which identifies areas for potential infrastructure projects and outlines a road connecting Cottage Club and Cape Cod roads that would run straight through the proposed new development.

McShane said that most planning commission members are in no hurry to make such a change and will likely seek advice from Shepard or others before making any decision.

BTV
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

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www.valleyreporter.com

STATE OF VERMONT

SUPERIOR COURT Washington Unit
PROBATE DIVISION Docket No.: 23-PR-06986

In re ESTATE of : JOHN ROBERT PORTER

NOTICE TO CREDITORS

To the Creditors of: JOHN ROBERT CAMBER PORTER aka JOHN ROBERT PORTER (Decedent),
late of Duxbury, Vermont (Decedent's Town of Residence).

I have been appointed to administer this estate. All creditors having claims against the decedent or the estate must present their claims in writing within four (4) months of the first publication of this notice. **The claim must be presented to me at the address listed below with a copy sent to the Court. The claim may be barred forever if it is not presented within the four (4) month period.**

Dated: 10/2/2024

Signature of Fiduciary
/s/ Brian Padgett, Co-Executor
/s/ Alison Sherman, Esq., Co-Executor

Executor/Administrator		Mailing Address
Brian Padgett and Alison Sherman, Esq., Co-Executors		c/o Downs Rachlin Martin PLLC, P.O. Box 99
Phone Number	Email	City, State, Zip
802-748-8324		St. Johnsbury, VT 05819

Name of Publication: Valley Reporter
Publication Date:

Name of Probate Court: Vermont Superior Court - Probate Division - Washington Unit
Address of Probate Court: 65 State Street, Montpelier, VT 05602

Town of Warren
Public Notice of Hearing
Planning Commission

On **Monday October 28, 2024 at 7:00 pm**, the Warren Planning Commission will be holding a Public Hearing at the Municipal Building to receive comments on the final draft of the revisions of the Warren Land Use and Development Regulations [LUDRs].

The LUDRs in their current form were initially adopted in 2001. The town has made a series of minor amendments to the LUDRs over the past 20 years. The 2019 Warren Town Plan recognized that it was time for a comprehensive review and amendment of the LUDRs. The Town Plan identified a need to realign the LUDRs with the town's planning policies and to address inconsistencies resulting from the many changes that have been made to state statute and programs over the past two decades. There was also a commitment from the PC to improving the clarity of the LUDRs and the town's development review and permitting processes.

This revision will affect the entire Town in that the existing zoning districts have been renamed and the boundaries redrawn. There are currently 12 Zoning Districts and this revision has ten. There are additionally two Overlay Districts.

The document contains six chapters:

1-General
2-Zoning districts
3-Development Standards
4-Administration and Enforcement
5-Definitions
6-Maps

The full text of the revised LUDRs and the Planning Commission's report can be viewed at http://planning.warrenvt.org.
If interested in attending remotely, the ZOOM information will be published with the agenda on Friday October 25,2024, on the Town's website: Planning Commission | Town of Warren Vermont (warrenvt.org)

CLASSIFIEDS

EMPLOYMENT OPPORTUNITIES

southburlington
VERMONT

FINANCE AND TAXATION OFFICER

JOIN OUR TEAM: The City of South Burlington is seeking a dedicated and detail-oriented Finance and Taxation Officer to join our dynamic team. If you're passionate about public service and have a talent for finance and numbers, this is the perfect opportunity for you to make a meaningful impact in our vibrant community!

WHAT YOU WILL DO: You will play a crucial role in ensuring compliance with taxation regulations, assisting with managing the City's financial operations, and contributing to our community's economic health. Your responsibilities will include overseeing tax assessments, property valuation, collections, and compliance activities and collaborating with the Finance Director to manage the City's financial operations including developing budgets and forecasts.

MINIMUM QUALIFICATIONS: Bachelor's degree in business administration, finance, accounting or a related field, plus 5 years relevant work experience in property assessment, or tax collection, accounts payable/receivables, and reporting, required; equivalency considered. Municipal government accounting experience preferred.

SALARY RANGE: $85,000-$90,000 (annually)

APPLY NOW: Review of on-line applications will begin November 4, 2024. To apply, learn more about the position and see a complete job description, please visit: governmentjobs.com/careers/southburlington. The City of South Burlington is an Equal Opportunity Employer.

YARD SALE

WINDRIDGE — Oct.19 and 20, 9 a.m. - 1 p.m. 147 Windridge in Williston. Assorted quality clothing, oodles of girls' toys, large collection of Disneyana books, big free pile, and plenty of odds and ends. Come see our treasures.

To place an employment or classified ad, email rick@willistonobserver.com or call 802-373-2136

Deadline for classifieds is Monday.

TOWN OF ST. GEORGE

TOWN CLERK/TOWN ADMINISTRATOR

The combined Town Clerk/Administrator is a new position for St. George, Vermont's smallest town. The Town Clerk/Administrator will be a key player in administrative consistency and continuity, with responsibility in three primary areas: 1. Executing the statutory duties of the Town Clerk. 2. In collaboration with the Selectboard, exercise discretion and autonomy in acting upon the policies and decisions of the Selectboard. 3. General oversight and maintenance of the Town facilities.

This position is expected to be on-site at the Town Office and will involve significant contact and communication with local and State agencies and the public, including residents, contractors, and external organizations. The position is offered at $30.00 per hour, 30+ hours per week. The position is open until filled. Please visit the Posted Jobs page at www.stgeorgevt.com for the full job description.

To apply, send letter of interest and resume to:

Email: Justin Mason, Assistant to the Boards - Boards@stgeorgevt.com
Mail: Town of St. George Selectboard, 21 Barber Road, St. George, Vermont, 05495 Attn: Justin Mason, Assistant to the Boards

THE TOWN OF ST. GEORGE IS AN EQUAL OPPORTUNITY EMPLOYER.

BTV
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

PUBLIC MEETINGS
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

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POLICE
continued from page 1

need, and we put together what we could to meet that immediate need," town manager Todd Odit said.

However, there was always a desire among selectboard members to codify the relationship, which was described as mutually beneficial, by creating a regional municipal service district.

There was money to be saved for both towns and efficiencies to be gained through recruitment, administration and union representation. It would have been the first department of its kind in Vermont.

During a meeting earlier this month, Odit suggested that might not happen after all.

Odit told the board that Richmond intends to rebuild its police department by hiring three more officers by 2026. It is possible that Cambridge will continue serving both towns as police chief, said Odit, but he added that nothing has been finalized.

"As far as I'm concerned, the goal was always to be fully staffed at both departments," said Cambridge. "It's never a good situation to be doing more with less. That doesn't mean we still can't work together."

If Richmond decides to hire four new officers, Hinesburg will probably scale back its police presence in the town, which could significantly impact Hinesburg's budget in fiscal year 2026.

Through the inter-municipal agreement, Richmond is paying Hinesburg a significant amount for coverage, which went into the town's general fund and police budget. If the arrangement dies, Odit is projecting a $156,000 loss in revenue in 2026.

"That could be a major hit for us in Hinesburg," said Cambridge.

Odit, Lovell and Cambridge are all hopeful that the towns can continue to work together on law enforcement, even if it's not through a regional municipal district, which can also be expensive and complicated to establish.

"Every small Vermont town is struggling with law enforcement right now," said Lovell. "We need to be creative about how we make this work."

CLASSIFIEDS

Letters

Continued from Page 6

ing emergency services in our communities.

Sims is everywhere, tirelessly working to address issues. When you reach out to her, she will not only take the time to listen and understand your concerns, but she will also then follow up with what she is doing to address the issue. This means a lot to me in a candidate, someone who is committed to showing up and following through.

Tim Nisbet
Greensboro

Outgoing rep clarifies Affordable Heat Act

To the Editor:

Residents of the Lamoille-Washington House District recently received a mailing on behalf of Republican candidates for the two seats representing the district. Much of the content dealt with The Affordable Heat Act that passed in 2023, and the so-called carbon tax, which opponents have continued to claim the bill would put in place if the next Legislature voted for it.

Although I am not seeking reelection, I did serve on the House committees dealing with energy matters in my last three terms and want to address the continuing misunderstandings about what the act would and wouldn't do. In any event, nothing in it will take effect unless the next Legislature votes to go forward, along with any changes.

First, there is no tax proposed on the retail purchasers of heating fuels. As passed and subject to further change and approval, companies importing fossil fuels for heating into Vermont would need to take direct steps to reduce the amount of fuel their customers use by helping them move to cleaner and more predictably priced heat sources, or to use less energy from any source through weatherization.

Companies doing this would get credit toward meeting that responsibility. As an alternative, companies could pay into a statewide fund for such purposes. It would not force customers to make changes but would help them when they have the opportunity or the need to.

The cost estimates cited in the mailing were wild guesses made very early on in the process by state officials who conceded that at the time. More recent estimates are a fraction of what was cited in the mailing people received. In addition, cost savings estimates may show a possible net gain for Vermonters. Final estimates will be presented to the Legislature in 2025, and those are the numbers their decisions will be based on.

And as reported very recently, the Public Utilities Commission, whose three members are appointed by the governor, has stated that they will be proposing to the Legislature an alternative to what's laid out in the Affordable Heat Act. Instead of the system of credits and other options I've described for fuel sellers meeting the requirements, the commission will be proposing instead that a tax simply be imposed on all of them.

It is a complicated issue. There can be disagreements with the Affordable Heat Act as enacted, or now with the commission's recent statement.

Rep. Avram Patt
Worcester

Morrison will find workable solutions

To the Editor:

I've had the pleasure to know Sabrina Morrison as a mother, school board member and small business owner. She is running to be representative for Hardwick, Walden and Stannard in the Legislature.

Morrison lives in her childhood home in East Hardwick and serves on the Hazen Union High School where she herself went to school.

I spent a day with her visiting voters and listening to their concerns. She hears people talk about essentials they can no longer afford, especially property taxes, health insurance and housing. She understands these concerns because she and her family face these affordability issues themselves. She's running for state representative to do something about what voters see as fundamental to their livelihoods.

I'm glad she is, because Morrison doesn't settle for simplistic solutions that sound good but don't work. She puts in the effort to understand the issues so she can work on developing real solutions. Not only is she concerned about the above issues, but she is also committed to a women's right to make her own health care decisions.

We need our representatives in Montpelier to address affordability and the concerns of all Vermonters in these confusing times.

Marie LaPre' Grabon
Hardwick

Rodgers deserves a look from moderates, Dems

To the Editor:

Vermonters should vote for John Rodgers for lieutenant governor. For many of us, the race is the only place our vote will make a difference this fall. Unfortunately, it is the only seriously contested statewide race as we know who is going to get Vermont's three presidential electoral votes.

And in too many districts there aren't even local contests, although the contested districts certainly deserve voter scrutiny.

Like Phil Scott, Rodgers is a reasonable moderate Republican. Unlike Scott, he was a Democrat when he was in the Legislature. "The Democratic Party, when I first entered politics in 2003, looked after the working class and poor people," Rodgers said. "They don't do that anymore."

Many of us who usually vote Republican feel that the national party has also moved away from us, especially at the presidential level. In the Republican primary this summer, Rodgers ran against Gregory Thayer, who told VTDigger that he was "proud" to have attended the Stop the Steal rally in Washington, D.C., that preceded the storming of the U.S. Capitol on Jan. 6, 2021. He has maintained that he did not, however, enter the Capitol building during the riot.

Rodgers said: "I would never vote for Trump." Rogers won the Republican primary and helped set the future of both parties in Vermont with 56 percent of the vote.

Did people who usually vote in the Democratic primary crossover and vote for Rodgers? Almost certainly. Is that a bad thing? Hell, no. I hope those crossovers will stay Republican and, along with Scott and Rodgers, help rebuild a two-party system in Vermont. Notably, although more moderate people ran in some of the local Democratic primaries, they failed in unseating even the most extreme progressives. Hopefully, their supporters will vote for Rodgers and for moderate candidates in those local races that are contested.

Rodgers says he will strongly advocate for policies that will stem unsustainable government spending and fight against the unnecessary increases in property taxes, home heating costs, electricity rates, transportation fees and health insurance premiums.

A vote for Rodgers is not only a vote for some sanity in Montpelier, but it is also a vote against the extreme partisans on both sides of the aisle who serve us so poorly.

Tom Evslin
Stowe

ELMORE-MORRISTOWN UNIFIED UNION BOARD OF DIRECTORS
REGULAR BOARD MEETING
MORRISTOWN ELEMENTARY SCHOOL
OCTOBER 21, 2024 – 5:30 P.M.
AGENDA

To join via zoom:
https://us02web.zoom.us/j/85267310287?pwd=xsTS9rN8YirzWtv9ArMCoDX1jTuPGJ.1
Meeting ID: 852 6731 0287 Passcode: Njur0y

I. CALL TO ORDER
II. ADJUST/REVIEW AGENDA
III. REVIEW AND APPROVE MINUTES OF SEPTEMBER 23, 2024
IV. OLD BUSINESS
  1. Policy review – Federal Child Nutrition Act Wellness Policy
V. PUBLIC COMMENT
VI. REPORTS OF ADMINISTRATION
  1. Superintendent update
  2. Safety presentation
  3. MES Principal update
VII. REPORTS OF BOARD MEMBERS
VIII. SIGN SALARY AND NON SALARY ORDERS
IX. NEW BUSINESS
  1. Overnight Field Trip Approval – Music Department to NYC, April 11-13, 2025
  2. Wood pellet bid acceptance
  3. Review and sign December 3 Warning
  4. Early release day on December 5
X. ANY OTHER BUSINESS TO COME BEFORE THE MEETING
XI. COMMUNICATION
XII. EXECUTIVE SESSION
  Discussion of item(s) excepted from open meeting per 1 VSA§313(a)(1)(e), pending or probable civil litigation or a prosecution, to which the public body is or may be a party – discussion of possible Act 127 litigation.
XIII. ADJOURNMENT

BTV
PATRICK LEAHY BURLINGTON
INTERNATIONAL AIRPORT

PUBLIC MEETINGS
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

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Final days

PHOTO BY MIKE DEAN

A lone sailor enjoys the final days of fall on Shelburne Bay near Red Rocks Park.

CANDIDATES
continued from page 16

that I hope to push for, is a good process where things are as transparent as possible, and whatever the formula ends up being, or however we fund it, that voters are very, very clear about what they're voting on and what control they actually have and what they don't and what the state is doing, because I think that can build more trust among all the parties involved," she said.

In her opinion, most people care about Vermont's kids and the future of education, but it's clear that they also want to be able to have a quality and standard of life that works for them.

"It's not going to ever be inexpensive to educate children, but it's a high priority," she said. "I think everyone recognizes that it is important. I think we need to be generous."

With some massive changes on the horizon, she said she anticipates that the committee will look for ways to make serving in the Legislature more affordable for people.

"I think there's a ton of really amazingly talented people that are in Vermont and that's one reason why I think we should keep looking at how we can make serving in the Legislature more affordable for people, because it's not really possible unless you can jigsaw your life for those four and a half months. That is something our committee worked on the first year that I hope to see it come back in some way next biennium."

BTV
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

PUBLIC MEETINGS
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

WEDNESDAY, OCTOBER 23, 2024, 6:30-8:00 P.M.
CHAMBERLIN SCHOOL, SOUTH BURLINGTON

THURSDAY, OCTOBER 24, 2024, 6:30-8:30 P.M.
WINOOSKI HIGH SCHOOL

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These meetings will provide an overview of the DRAFT NOISE EXPOSURE MAP REPORT that has been prepared on behalf of Patrick Leahy Burlington International Airport. The meetings will be workshop style with various stations for individuals to review the information and ask questions. There will be no formal presentation. Comment sheets will be available for the public to leave their comments.

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Public comments can be submitted at the meetings or via email to btvsound@jonespayne.com.

The public comment period will close Friday, Nov. 15, 2024, at 5:00 p.m. Additional comments and questions regarding the noise program can be submitted at any time.

MORRISTOWN POLICE
NOW HIRING VT-CERTIFIED
PATROL OFFICER
$15,000 SIGN-ON BONUS FOR LEVEL III CERTIFIED OFFICERS
• PAY RANGE $29.87 - $42.71/HOUR
• SPECIALIZED UNIT AND ASSIGNMENT OPPORTUNITIES
• SHIFT DIFFERENTIALS
• 12 PAID HOLIDAYS
• PAID SICK, VACATION, & PERSONAL TIME
• EARLY RETIREMENT OPTION
• FULLTIME POSITION WITH FLEXIBLE SCHEDULE
• COMPREHENSIVE BENEFIT PACKAGE
• DEADLINE TO APPLY: OCTOBER 25
• FIND OUT MORE: WWW.MORRISTOWNVT.GOV/JOBS
POLICE MORRISTOWN

BTV
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TOWN OF STOWE
EDUCATION SUBCOMMITEE
MEETING AGENDA
FRIDAY OCTOBER 18, 2024

All residents of the Town of Stowe are hereby notified of a meeting of the Education Subcommittee of the Planning Commission to be held on Friday October 18, 2024, starting at 9:00 a.m. Meeting participation is available in-person in the Akeley Memorial Building (67 Main Street) or participate remotely from your computer, tablet or smartphone.

https://us02web.zoom.us/j/83440738177?pwd=aE9od3ZFbDBFbGxKR3MwczgSK2Mxdz09
Meeting ID: 834 4073 8177; Passcode: 441539
Dial by your location +1 646 876 9923 US (New York) (Long distance charges may apply)

1. Call to Order
2. Adjustments to the Agenda & Public Comments
3. Introductions/Discuss Goals of the Subcommittee
4. Overview of Existing Stowe Town Plan
5. Discuss Education Goal(s)
6. Decide Meeting Schedule
7. Adjourn

Planning Commission meetings are open to the public. For questions about accessibility or to request accommodations please call 253-2705.

DEVELOPMENT REVIEW BOARD
TOWN OF STOWE – MEETING WARNING

All residents of the Town of Stowe are hereby notified that the following applications will be heard by DRB on November 5, 2024, starting at 5:00 pm. Meeting participation is available in-person in the Akeley Memorial Building (67 Main Street) or participate remotely via zoom.

Project #: 7431
Owner: Extra Mile LLC
Tax Parcel #:06-024.000
Location: 14 Barrows Rd
Project: Convert Two Cottage Buildings to Single Family Dwellings
Zoning: RR2/5

Project #:7464
Owner: Richard & Bethany Gibbs
Tax Parcel #: 07-126.010
Location: 721 Birch Hill Rd
Project: Construct 2 Car Garage in Rhod
Zoning: RR3/RHOD

DRB hearings are open to the public. Additional information may be obtained at the Stowe Town Office. Pursuant to 24 VSA §§4464(a)(1)(C) and 4471(a), participation in this local proceeding is a prerequisite to the right to take any subsequent appeal. If you cannot attend the hearing, comments may be made in writing prior to the

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FILE PHOTO

Historic Stowe Community Church steeple to be rebuilt

The Stowe Community Church steeple will be removed for the first time in its history.

On Oct. 22, the iconic spire atop the church, which has proudly crowned Stowe's town's skyline since 1863, will come down. It will subsequently be rebuilt and then returned to its place atop the church building.

The spire will rest on the grounds in front of the church for several weeks.

"During this time, we encourage everyone to come and see this symbol of our history, and to reflect on the importance of preserving it for future generations," Nancy Jeffries Dwyer, co-chair of the capital campaign for the Stowe Steeple Society, said.

The group still needs to raise $300,000 in its capital campaign to not only fully restore the spire, but to also support the completion of 14 other renovation projects that will preserve the church for many years to come.

To learn more, visit stowecommunitychurch.org/steeplepublic.

Religion

Continued from Page 11

always bringing it back to scripture.

His message of repentance cut them to the heart and over 3,000 people repented and were saved that very day. That is what the power of the Holy Spirit can do.

Join us Sunday at 10:30 a.m. as we dig in and see more of what happens when we let the Holy Spirit take the wheel.

— Jennifer Shaw

Blessed Sacrament Church

Rice Memorial High School wreath sale continues through Nov. 4. A classic 22-inch balsam wreath, decorated with a waterproof red velvet bow offset by a sweep of cones and berries is $32. All proceeds benefit Rice music, arts and theater programs. The pickup will be at the church on Dec. 1, 4-5 p.m. Contact the office to order at bscstowemusic@gmail.com.

Paper forms are available at the back of the church. Order online at rmhsvt.org and enter Emma McAlarney or Gabe McAlarney as the name of the student.

The Challengers for the Catholic Faith presents "The Catholic Variety Show" on Thursday, Nov. 7, at 7 p.m., in the McCarthy Arts Center at St. Michael's College. It's a family-friendly evening of performances by our own Diocesan priests with a special guest — the new bishop — and features juggling and comedy to Mozart. Get tickets early at vtchallengers.org.

Please donate to the Lamoille County Food Share basket in the back of the church, being mindful of the expiration dates.

— Elisabeth Ortiz, music director

Obituary

Continued from Page 11

will be held at the Waterbury Congregational Church on Saturday, Nov. 2, 2024, at 2 p.m. All are welcome.

In lieu of flowers or gifts, the family requests contributions in memory of Evelyn Minter be made to Friends of the Waterbury Public Library, Central Vermont Home Health and Hospice and Planned Parenthood of Northern New England.

Condolences may be made online at perkinsparker.com.

Business News

Signup to volunteer at Rotary meal packaging event

The Mad River Valley Rotary is hosting a meal packaging event on Saturday, November 16, at 10 a.m. in the Harwood Union Middle and High School cafeteria. Eighty community volunteers will assemble 14,000 rice-based meals to be sent to school programs and orphanages in the developing world. Local Rotarians are organizing the event along with Waterbury Rotarians and Rise Against Hunger.

Food insecurity has been one of the club's primary areas of focus this year both in The Valley and beyond. Besides helping hungry people eat, meals delivered to schools provide strong incentives for families to send their children to school, where the meal there may be their only meal. Encouraging school attendance helps lift the literacy rate, a key requirement for breaking the cycle of poverty.

All volunteers must preregister. To learn more and sign up as a volunteer, visit www.mrvrotary.org. For questions or to learn about other ways to help or donate, contact Pete Colgan at mrvrotary@gmail.com.

STATE OF VERMONT

SUPERIOR COURT
WASHINGTON UNIT

PROBATE DIVISION
CASE NO. 24-PR-05308

In re ESTATE of: WENDELL M. KATHAN

NOTICE TO CREDITORS

TO THE CREDITORS OF THE ESTATE OF WENDELL M. KATHAN, LATE OF WARREN, VERMONT

I have been appointed as executor of this estate. All creditors having claims against the decedent or the estate must present their claims in writing within four (4) months of the date of the first publication of this notice. **The claim must be presented to me at the address listed below with a copy sent to the Court. The claim may be barred forever if it is not presented as described above within the four (4) month period.**

DATED: October 8, 2024

/S/ Jennifer E. Faillace, Esq. for Executor Christopher Kathan
Address: Faillace & Reis, PLLC
PO Box 285, Waitsfield, VT 05673
Telephone: (802) 496-6763
faillace@gmavt.net

Name of Publication: The Valley Reporter
Publication Date: October 17, 2024

Name and Address of Probate Court:
VERMONT SUPERIOR COURT
WASHINGTON UNIT, PROBATE DIVISION
65 STATE STREET
MONTPELIER, VT 05602

VASS seeks volunteer instructors

Vermont Adaptive Ski and Sports, (VASS)is looking for winter volunteer-instructors who have a dedicated passion for sports and who want to share that passion with others at Sugarbush, Killington and other locations.

Winter volunteers will be trained with Vermont Adaptive trainers to help teach and lead the organization's popular winter programs that "enable people with disabilities to get outside and enjoy all that Vermont has to offer," said Felicia Fowler, program director for the organization. Winter activities include alpine and Nordic skiing, snowboarding, snowshoeing, indoor rock climbing, veterans' retreats, wellness programs, and more.

Volunteers complete online training modules in November and then two days of on-snow training in December. Volunteers learn about different types of disabilities and how to adapt equipment and teaching techniques within winter sports to each individual person. Once volunteers attend trainings, they can help at any Vermont Adaptive location in the winter throughout the state. Winter programs are offered at Pico Mountain/Killington Resort, Sugarbush Resort, Bolton Valley, and Saskedena Six.

Winter volunteers should be an advanced intermediate level skier or snowboarder and at least 16-years-old. Volunteer benefits include free skiing and riding, discounts and pro deals, professional development, and academic and community service credit.

All new and returning volunteers must fill out an annual application form online to get started. For more information or to sign up to volunteer, complete the application at vermontadaptive.org/volunteers.

Officers, directors elected at MRVHC annual meeting

The Mad River Valley Health Center (MRVHV) elected directors and officers at its annual meeting on September 17. Officers and directors elected for the coming year are Don Murray, president (Fayston); Polly Bednash, vice president (Waitsfield); Rosemarie White, treasurer (Warren); and Steve Fried, secretary (Waitsfield). Don Murray, Bill Zekas (Moretown), and Danielle Hampton (Fayston) were all elected to additional two-year terms. The other current members of the board include Judy Phelon (Warren) and Mike Curtin (Fayston). The board thanked Mike Kelley for his service as he steps down from the board.

The primary mission of the health center board is to maintain a quality facility that ensures the availability of local health care. Current providers at the Health Center are: CVMC Family Medicine – Mad River, Hannah's House, Three Moons Wellness, and Dr Richard Davis Ph.D.

BTV PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

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Savvy

CONTINUED FROM PAGE 18

Side effects of these vaccines tend to be mild, but may include feeling achy and tired as well as redness, swelling and soreness where the injection was given.

You'll also be happy to know that Medicare Part B covers both single dose and two-dose pneumococcal shots, and you only need to get it once. Unlike the flu shot, which is given annually.

Most local pharmacies and community health clinics offer pneumococcal vaccines, but you may want to call ahead just to be sure.

For more information, visit the CDC's Pneumococcal Vaccination webpage at CDC.gov/vaccines/vpd/pneumo/index.html.

OTHER VACCINES

To avoid getting pneumonia as a consequence of a viral infection, you should also consider getting a flu shot, RSV shot and a Covid-19 booster this fall.

While vaccines cannot prevent every case of pneumonia (or other conditions they're given for), those who get them usually have milder infections, a shorter course of illness and fewer serious complications than people who don't get vaccinated.

The flu shot and Covid booster are both covered by Medicare Part B, while the RSV vaccine (which is recommended every other year) is covered under Medicare (Part D) prescription drug plans. All three shots can also be given simultaneously.

Send your senior questions to: Savvy Senior, P.O. Box 5443, Norman, OK 73070, or visit SavvySenior.org. Jim Miller is a contributor to the NBC Today show and author of "The Savvy Senior" book.

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CLASSIFIEDS

CHARLOTTE DEVELOPMENT REVIEW BOARD

Will hold a public hearing at Town Hall, 159 Ferry Rd., Charlotte, VT on the following application during its regular meeting of **Wednesday, November 20, 2024.**

7:25 PM DRB 24-162-CU Charlotte Village Partners – Conditional Use review for proposed office space greater than 3,500 sq. ft. in existing building at 251 Ferry Rd

For more information, contact the Planning & Zoning Office at 802.425.3533 ext. 208, or by email at: pza@townofcharlotte.com.

BTV
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Hinesburg
VERMONT

SPECIAL TOWN MEETING WARNING
Informational Meeting
November 4, 2024
Special Town Meeting
November 5, 2024
Town of Hinesburg, Vermont

Informational Meeting November 4, 2024 In-person and via Remote Access
The legal voters of the Town of Hinesburg, Vermont are hereby warned and notified to meet in-person and remotely in said Town of Hinesburg, on Monday November 4, 2024 at 7:00 P.M. at the Hinesburg Town Hall, 10632 Route 116, Hinesburg, VT 05461, for an informational meeting on the articles to be voted upon by Australian Ballot on Tuesday November 5, 2024.

Join Zoom Meeting:
https://us06web.zoom.us/j/83887670461?pwd=mT6WvgwmYFxrnqJSbnwRp-K4RklQU9G.1
Meeting ID: 838 8767 0461 Passcode: 317326

This Informational Meeting will be held in-person and remotely. Available options to watch or join the meeting:
• Attend in-person in at the Hinesburg Town Hall.
• Join the meeting via Zoom using the log-in information above.
• For the purpose of recording minutes, you will be asked to provide your first and last name.
• **HOW TO REGISTER TO VOTE:** There is no deadline to register to vote. You can register by going to olvr.vermont.gov to register on-line, by going to the town clerk's office and filling out a paper registration form, or on election day at the polls.
• **EARLY BALLOTS:** The State is automatically mailing ballots to all voters the week of September 23rd. You can check the status of your ballot request on your My Voter Page at mvp.vermont.gov. If you don't receive a ballot and believe that you should have, please contact the Town Clerk's office by phone, in person or via email at hroberts@hinesburg.org or kfrazier@hinesburg.org.

Special Town Meeting Tuesday, November 5, 2024 via Australian Ballot
The legal voters of the Town of Hinesburg, Vermont are hereby warned and notified to meet at the Town Hall at 10632 Vermont Route 116 in Hinesburg, on Tuesday, November 5, 2024 to transact the following business by Australian ballot. Said voting by Australian ballot will begin with the polls opening at 7:00 A.M. and closing at 7:00 P.M.

ARTICLE I: Shall the Town assess a one percent (1%) tax on sales pursuant to 24 V.S.A. §138(b)?

ARTICLE II: Shall the Town assess a one percent (1%) tax on rooms pursuant to 24 V.S.A. §138(b)?

ARTICLE III: Shall the Town assess a one percent (1%) tax on meals & alcohol pursuant to 24 V.S.A. §138(b)?

Signed and dated this 1st day of October 2024, and as attested to by:

Merrily Lovell, Chair
Maggie Gordon, Vice-chair
Michael Loner
Dennis Place
Paul Lamberson
Attest: Heather Roberts, Town Clerk

SERVICE DIRECTORY

To advertise in the service directory email: advertising@thecitizenvt.com or call 985-3091

Antiques

Collectibles

Green Mountain Transit will start bus service cuts in December

KLARA BAUTERS
VTDIGGER

The Green Mountain Transit Board of Commissioners approved a slate of changes to the bus service last week that will go into effect Dec. 2. The decision will eliminate a commuter route between Jeffersonville and Burlington and reduce or eliminate weekend service, with additional significant service cuts likely still to come.

The board was following through on a proposal made by the transit provider's management at its August 2024 meeting to cut at least 25 percent of its local and regional bus services. GMT aims to save up to $3 million, which it said would help close a projected gap in its operating budget.

GMT surveyed riders earlier this summer, which is still available online for riders to complete, on what service they want to preserve and what service would potentially be more acceptable for reduction.

"What we heard was that there would be a preference for weekday service over weekend service and a preference for local service over commuter service," said Clayton Clark, the general manager of Green Mountain Transit.

The first phase of service reductions includes the elimination of all four runs of the #36 Jeffersonville Commuter, a route that runs between Jeffersonville and Burlington. According to Green Mountain Transit, the Jeffersonville Commuter route has the highest cost per passenger of all routes in the service area, with each trip costing $63.18.

GMT officials explored options to reduce expenses for the route, halving the daily trips from four to two. That approach was determined to be too costly, however, according to Clark. He said members of the Vermont Agency of Transportation will be riding the Jeffersonville commuter to talk to the people that currently use the route, starting tomorrow.

"They'll be talking to the riders about different transit options that they support, which includes vanpools and carpools," Clark said.

The remaining service changes focus on Saturday operations, aiming to cut costs by cutting down on weekend overtime for drivers.

"A higher proportion of the drivers are working overtime on Saturday than during other days so our labor cost on Saturday is higher," said Clark. "So, in addition to it being lower ridership, it's also higher cost."

At the Tuesday meeting, the board also approved an increase to the Americans with Disabilities Act (ADA) fares in Chittenden County. The fares will rise from $3.00 to $4.00, with the change slated to take effect on Jan. 1, 2025. Local transit officials estimate that a proposed fare increase for Americans with Disabilities Act (ADA) services could generate an additional $40,000 in revenue, assuming ridership demand remains.

During the next two meetings, held on the third Tuesday every month, the board will decide on possible service reductions regarding the link between Montpelier and Burlington.

"I anticipate that there will be a reduction in the number of runs between Montpelier and Burlington that will be effective in late February or March," said Clark.

Reductions

- Reduction of the #5 Pine Street on Saturdays to service every 60 minutes
- Reduction of the #8 City Loop on Saturdays to service every 60 minutes. This includes an adjustment to serve both McAuley Square and Fern Hill Bus Stops on the Saturday runs.

Eliminations

- Elimination of all 4 runs of the #36 Jeffersonville Commuter
- Elimination of Saturday Service on the #10 Williston/ Essex
- Elimination of the #3 Lakeside Commuter that is replaced with an additional morning inbound run on the #5 Pine Street that allows passengers to connect with service that departs the Downtown Transit Center at 6:20 a.m.
- Eliminate the following runs that depart the Downtown Transit Center on the #6 Shelburne on Saturdays: 6:30 p.m., 9:15 p.m. and 10:30 p.m.
- Eliminate the following runs that depart the Downtown Transit Center on the #7 North Ave on Saturdays: 6:30 p.m., 9:15 p.m. and 10:30 p.m.
- Eliminate the following runs that depart the Downtown Transit Center on the #9 Winooski: 6:00 a.m., 7:00 a.m., 9:15 p.m. and 10:30 p.m.
- Eliminate the following runs that depart the Downtown Transit Center on the #11 Airport: 6:45 p.m., 7:30 p.m., 8 p.m., 9:15 p.m. and 10:30 p.m.

Public Notices

BTV
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

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State of Vermont — Chartered in 1781
MORRISTOWN

WARNING
TOWN OF MORRISTOWN
SPECIAL TOWN MEETING NOVEMBER 5, 2024
PUBLIC INFORMATIONAL HEARING OCTOBER 28, 2024

The legal voters of the Town of Morristown are hereby notified and warned to meet at the Morristown Municipal Building, 43 Portland Street, in said Town, on November 5, 2024, to vote by Australian ballot beginning at seven o'clock in the forenoon and closing at seven o'clock in the afternoon on the following Articles.

Article 1: Shall the voters approve, and submit to the Vermont General Assembly for adoption, the following municipal charter provisions:

§ 1. Corporate existence retained
The inhabitants of the Town of Morristown, within the corporate limits now established, shall continue to be a municipal corporation by the name of the Town of Morristown.
( ) Yes ( ) No (ballot only)

§ 2. General law; application
Except when changed or modified by this charter, or by any lawful regulation or ordinance of the Town of Morristown, all of the statutes of the State relating to municipalities shall apply to the Town of Morristown.
( ) Yes ( ) No (ballot only)

§ 3. Town Manager
(a) The Town Manager shall be the chief executive officer and the head of the administrative branch of the Town government and shall be responsible to the Selectboard for the efficient administration of the municipal affairs of the Town.

(b) The Town Manager shall have authority to hire, appoint, discipline, and remove all Town employees, subject to the provisions of personnel rules approved by the Selectboard. The Town Manager may authorize a department head to hire, appoint, discipline, or remove an employee, subject to the Manager's discretion and supervision.
( ) Yes ( ) No (ballot only)

Article 2: Shall the voters, pursuant to 24 V.S.A. § 3254, levy a special assessment not to exceed $200,000 for the purpose of constructing stormwater improvements to benefit 64 parcels. 63 parcels having frontages on Foss Street, Jersey Court, Jersey Way and Sterling Court, and one parcel with frontage on Cottage Street, said 64 parcels being designated as the "Jersey Heights Special Assessment District" with said special assessment being apportioned among these 64 parcels based on the impervious surface present on each parcel and the assessment being payable over a period not to exceed twenty (20) years in semiannual installments.

(NOTE: Only the 64 parcels comprising the Jersey Heights Special Assessment District will be assessed for these costs. A complete list of the parcels to be assessed, identified by their respective street addresses, and the taxes proposed to be assessed to each parcel is available for review at the Town Clerk's office during normal business hours).
( ) Yes ( ) No (ballot only)

Article 3: Shall the voters of the Town of Morristown authorize borrowing an amount not to exceed $200,000, to be financed over a period not to exceed twenty (20) years, to pay for State-required stormwater infrastructure improvements in the Jersey Heights Special Assessment District?
( ) Yes ( ) No (ballot only)

The legal voters of the Town of Morristown are also hereby notified and warned to meet at Morristown Municipal Building, 43 Portland Street, in said Town, on October 28, 2024, at 5:30 P.M. for a public informational hearing on these Articles.

Dated at Morristown, Vermont this 30 day of September 2024.

By the Selectboard members of the Town of Morristown:

Donald McDowell, Chair
Christopher Palermo, Vice Chair
Laura Streets
Richard Craig
George Cormier

Received and recorded this 1st day of October 2024.

Sara Allyn Haskins, Town Clerk

PHOTO BY GORDON MILLER

Two weeks ago, Migrant Justice protested outside the Hannaford in Morritown.

MIGRANT JUSTICE
continued from page 18

"Hannaford has a long history of success as a leader in solving complex supply chain issues — and we have done so with partners who are respectfully and collaboratively engaged in problem-solving. Unfortunately, from our perspective, this is not the approach that Migrant Justice has taken with us."

In a written statement in 2023, the company said that it had implemented the National Dairy Farmers Assuring Responsible Management tool, a comprehensive program to support farmers in building safe work environments and is currently being utilized by more than 3,000 farms across the country. The company requires its private label suppliers to deploy the FARM assessment and the FARM Workforce Development Evaluation Tool, which includes environmental practices, animal welfare housing and workforce conditions.

"Utilizing the tool, our suppliers have assessed working conditions at 70 of Hannaford's private label milk suppliers across our marketplace," the company wrote. "While this work is ongoing, to date these assessments have covered more than 500 farm workers. Any findings are addressed with farmers in real-time."

Other efforts by the company like implementing a complaint hotline, standards of engagement and farmer self-assessments are what Migrant Justice refers to as "knock-off Milk with Dignity programs" that offer no real positive changes for workers.

"There have been all these responses from the company basically to try to trick consumers into thinking that Hannaford actually is taking action to protect workers," Lambeck said. "But the base reality, the experience of farm workers, has remained unchanged through all these years."

BTV
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

PUBLIC MEETINGS
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

WEDNESDAY, OCTOBER 23, 2024, 6:30-8:00 P.M.
CHAMBERLIN SCHOOL, SOUTH BURLINGTON

THURSDAY, OCTOBER 24, 2024, 6:30-8:30 P.M.
WINOOSKI HIGH SCHOOL

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These meetings will provide an overview of the DRAFT NOISE EXPOSURE MAP REPORT that has been prepared on behalf of Patrick Leahy Burlington International Airport. The meetings will be workshop style with various stations for individuals to review the information and ask questions. There will be no formal presentation. Comment sheets will be available for the public to leave their comments.

The draft report can be found on the Airport's noise program website: btvsound.com. Physical copies of the draft report are also available for review at the Patrick Leahy Burlington International Airport administrative offices located at 1200 Airport Rd, South Burlington, VT, Suite 1.

Public comments can be submitted at the meetings or via email to btvsound@jonespayne.com.

The public comment period will close Friday, Nov. 15, 2024, at 5:00 p.m. Additional comments and questions regarding the noise program can be submitted at any time.

CLASSIFIEDS

TOWN OF SHELBURNE, VERMONT
NOTICE & WARNING OF VOTE TO INCUR A BONDED DEBT

The legal voters of the Town of Shelburne, Vermont are hereby notified and warned to come and vote at a Special Town Meeting on

Tuesday, the 5th day of November, 2024

between 7:00 a.m. and 7:00 p.m., at the voting place hereinafter named, for the following purpose:

To vote upon one bonding article placed on the ballot by request of the Selectboard by a resolution duly adopted and approved, said special article being as follows:

WASTEWATER TREATMENT PLANT CONSOLIDATION

"Shall general obligation notes or bonds of the Town of Shelburne in an amount not to exceed Thirty-Eight Million Dollars ($38,000,000), subject to reduction by available grants-in-aid or other funding sources, be issued to finance the cost of consolidating two aging wastewater treatment plants with one renovated treatment plant, and installing a connecting force main, a Lake Champlain outfall, and other system improvements (the "Project")?

The following is designated as the polling place:

Town Center Gym, 5420 Shelburne Road

The polls open at 7:00 a.m. and close at 7:00 p.m.

Publication Dates: October 17, October 24, October 31 Shelburne, Vermont.
Ordered printed:
Diana Vachon, Town Clerk

BTV
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

PUBLIC MEETINGS
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

WEDNESDAY, OCTOBER 23, 2024, 6:30-8:00 P.M.
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shelburne news service directory

advertise your service here! call 985-3091 for rates
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Antiques

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Collectibles

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Bob & Jessica Trautwine
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Hyperreliccards@gmail.com • hyperrelic.com

Construction

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• Exterior siding • Painting
• Rot replacement • Decking
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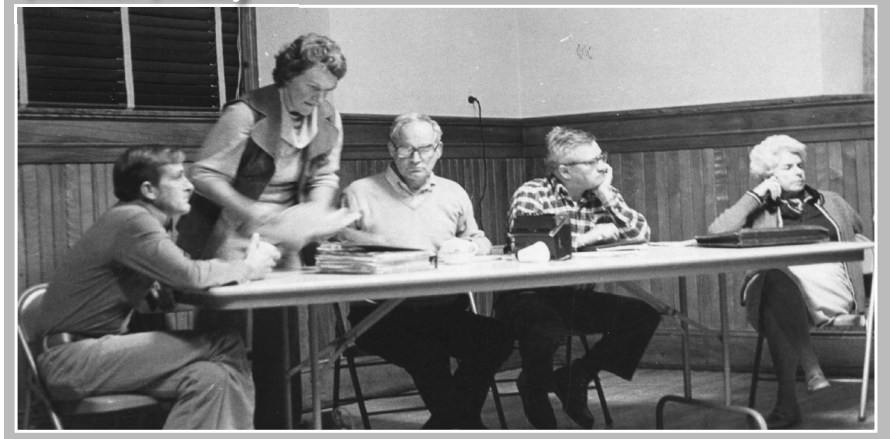
• Interior painting services
• Tile and hardwood flooring
29 years experience
802-343-2708
tfortin1007@gmail.com

Throwback Thursday



FILE PHOTO

David Demeritt, Dottie Rogers, Don Moore, Harry Walker and Dr. Mary (Betty) Heath listen to testimony at what appears to be a Stowe planning or zoning board meeting, circa early 1980s.

TOWN OF STOWE
CONSERVATION COMMISSION
MONDAY OCTOBER 28, 2024
MEETING AGENDA

All residents of the Town of Stowe are hereby notified of a meeting of the Conservation Commission to be held on Monday October 28, 2024, starting at 5:30 p.m. A public meeting space will be available at the Akeley Memorial Building (67 Main Street). Remote participation is available from your computer, tablet or smartphone.
https://us02web.zoom.us/j/88153087792?pwd=UnFMbnJFcHMwODA3cUlaTW9xUmJnUT09
Meeting ID: 881 5308 7792 Passcode: 200643
+1 646 876 9923 US (New York) [Long distance charges may apply]

1. Call to Order
2. Public Comments & Adjustments to the Agenda
3. Review Meeting Minutes [09/23/2024]
4. Update from Stowe Trails Partnership (STP)
5. Sterling Forest Management Plan – Review & Finalize Recommended Edits
6. Review Mayo Farm Agricultural Lease Possible Amendments
7. General Reports & Updates
   - Student Representative for Upcoming School Year
   - Vacant CC Seat
8. Other Business
   - Correspondence
   - Next Meeting Date- 11/25/2024
9. Adjourn

Conservation Commission meetings are open to the public.
For questions about accessibility or to request accommodations please call 253-2705.

WHY PUBLIC NOTICES ARE IMPORTANT

Public notices allow citizens to see what their government is doing, and judge whether it's in their best interests. By publishing public notices, newspapers provide an independent, archived record of government activity – the kind of transparency that is critical to the trust citizens need to have in their governments. Newspapers have filled this public-notice role since the Revolutionary War – an established, trustworthy, neutral way to deliver government information to the people.

BTV
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

PUBLIC MEETINGS
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

WEDNESDAY, OCTOBER 23, 2024, 6:30-8:00 P.M.
CHAMBERLIN SCHOOL, SOUTH BURLINGTON

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WINOOSKI HIGH SCHOOL

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Public comments can be submitted at the meetings or via email to btvsound@jonespayne.com.

The public comment period will close Friday, Nov. 15, 2024, at 5:00 p.m. Additional comments and questions regarding the noise program can be submitted at any time.

VSP arrests suspects in Waterbury shooting

Vermont State Police has arrested Fabrice Rumama, 20, of Springfield, Massachusetts, in connection with the shooting and killing of Shawn Spiker at a home in the Kneeland Flats Trailer Park in Waterbury on October 14, 2024.

Rumama is charged with second degree murder. A judge ordered Rumama jailed without bail pending arraignment which was expected to occur Monday, October 21, at 1 p.m., in Vermont Superior Court Washington Criminal Division in Barre.

No one has been charged with the shooting of Michael Perry at this time. Perry was the second victim of the shooting and was left with critical injuries.

The investigation is ongoing.

The investigation began at about 12:45 a.m. Monday, October 14, 2024, when the state police received a call reporting a shooting at a home in the Kneeland Flats Trailer Park. Responding troopers located the victims on scene. The man with critical injuries was brought by ambulance to the University of Vermont Medical Center in Burlington for treatment.

Preliminary investigation by detectives indicates this shooting was an isolated, targeted event.

This investigation involves members of the Vermont State Police Major Crime Unit, Bureau of Criminal Investigations, Crime Scene Search Team, Field Force Division and Victim Services Unit.

Following processing of the scene by CSST, the victim's body was brought to the Chief Medical Examiner's Office in Burlington for an autopsy to determine the cause and manner of death and provide confirmation of identity.

Anyone with information that could assist investigators in this case should call the Vermont State Police in Berlin at 802-229-9191 or submit an anonymous tip online at https://vsp.vermont.gov/tipsubmit.

The state police will provide updates as the investigation continues.

UPDATE

A Springfield, Massachusetts, man is scheduled to appear in court Wednesday, October 23, 2024, as The Valley Reporter goes to press to answer a charge of being an accessory to a fatal shooting last week in Waterbury.

Samuel Niyonsenga, 18, is due for arraignment at 12:30 p.m. Wednesday in the Criminal Division of Vermont Superior Court in Barre on a charge of accessory to second-degree murder. He is accused of participating in the incident at the Kneeland Flats Trailer Park during which Shawn Spiker, 34, of Croydon, New Hampshire, was fatally shot, and Michael S. Perry, 57, of Waterbury was wounded.

Niyonsenga was ordered held without bail pending arraignment. He is currently incarcerated at the Northeast Correctional Complex in St. Johnsbury.

Additional information is contained in the affidavit of probable cause, which will be filed with the court and made public following arraignment.

Town of Warren
Public Notice of Hearing
Planning Commission

The Warren Planning Commission previously warned a Public Hearing for the current draft of the updated Land Use & Development Regulations for Monday October 28, 2024 at 7:00pm

That hearing is being postponed to a future date yet to be determined. The Planning Commission will be having a regular meeting on the 28th.

The full text of the revised LUDRs and the Planning Commission's report can be viewed at http://planning.warrenvt.org.

Town of Waitsfield
DEVELOPMENT REVIEW BOARD
PUBLIC HEARING NOTICE
Tuesday November 12, 2024 7:00 p.m.

Meeting will be held in the Waitsfield Town Offices, (4144 Main Street) and via Zoom.

https://us02web.zoom.us/j/9190265312
Meeting ID: 919 026 5312

4203-CU by 4429 Main LLC/Kellee Mazer at 4429 Main St., Waitsfield, VT. Applicant requests conditional use approval for a change in use in one a portion of the building from a school to retail. The parcel is identified as #99108.300 in the Village Business District.

The above applications are available digitally upon request from the Planning & Zoning Administrator (pza@gmavt.net). Reasonable accommodations shall be provided upon request to ensure that this meeting is accessible to all individuals, regardless of disability. Please contact the Planning & Zoning Administrator at 496-2218 for additional information.

If you cannot attend the hearing and wish to comment on an application, you may send your comments in writing to the Waitsfield Development Review Board at 4144 Main St. Waitsfield, 05673.

Pursuant to 24 V.S.A. §§ 4464(a)(1)(C) and 4471(a), participation in this local proceeding is a prerequisite to the right to take any subsequent appeal

BTV
PATRICK LEAHY BURLINGTON
INTERNATIONAL AIRPORT

PUBLIC MEETINGS
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

WEDNESDAY, OCTOBER 23, 2024, 6:30-8:00 P.M.
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LETTERS TO THE EDITOR

Examining library's expansion

As DAML Schematic Design Advisory Committee Chair and Library Trustee, and on behalf of fellow committee members, I am pleased to share an update on the Library Expansion and Renovation Project.

From the beginning, the committee has looked to provide a library expansion that continues the harmonious relationship between the library, Williston Central School and the Town Green. A two-story, "split-level" addition at the rear of the library was chosen because it reduces the overall height and minimizes the impact on the green and the existing courtyard. The current head-in parking will be removed in favor of a flat, paved parking lot between the library and WCS. The new lot will improve accessibility for those with mobility issues and young children. The new entrance will be closer to the school and there will be an entrance into the lobby from Library Lane. We've worked with traffic engineers to address safety and shared plans with school administrators.

The proposed configuration has a minimal effect on the view of the green, as the parking and expansion will be hidden from the road. Some trees will be removed, many of them near the end of their life, and new trees will be planted. There will still be plenty of green space adjacent to the library.

The Town Band was also engaged in the process. In response to their feedback, a place for a performance area that will minimize noise from Route 2 is being considered. A landscape architect has designed creative landscaping and gathering areas to enhance the Town Green. The Williston Historical Society will stay in the library and the Schoolhouse will remain on the green.

Our library is special. This expansion will add community meeting spaces and provide for current and future needs as Williston continues to grow, while also continuing the programs and services our patrons have always enjoyed.

The design and cost estimate will be finalized in early winter. Discussion on project next steps is planned for early 2025.

Karla Karstens
Library Trustee
Williston

Unhappy with Vermont becoming unaffordable?

If you are not happy with paying higher property taxes, 14 percent or more.

If you are not happy with the Affordable Heat Act that may cost Vermonters over $10 billion over 10 years, and about $1.70 per gallon more in heating oil.

If you are not happy with having the Legislature trying year after year to take control of the Fish and Wildlife Board and making decisions without using sound biological science.

If you are not happy with paying DMV fees that are 20% higher.

If you are not happy with the above-mentioned issues, then vote for Bruce Roy for the Vermont State Senate and John Rodgers for Vermont Lieutenant Governor. They, along with other Republicans, will work with and not against Governor Scott to keep Vermont affordable.

Rick and Bonnie Joyal
Derby

Copeland Hanzas

CONTINUED FROM PAGE 8

has long advocated for eliminating unnecessary barriers to voting because we have seen over the decades that the number of eligible voters who have been denied the right to cast a ballot vastly exceeds attempts of voter fraud.

We allow same-day voter registration, eliminating the arbitrary deadline of registering days or weeks ahead of the election. This change is an important way of welcoming new community members and is an important fail-safe, in case someone is mistakenly removed from the voter rolls.

We have automatic voter registration, so as a new Vermonter, you don't need to carve time out of your unpacking to register to vote. You can choose to do it automatically when you get your Vermont driver's license, and your clerk will be notified of your registration.

Policymakers heard from Vermonters about the popularity of universal vote by mail in 2020, so state law now ensures the automatic mailing of ballots to active registered voters every November election.

We are continuing to improve access for voters. I hear from voters the frustration about a lack of information about the candidates running for office. That's why we created a universal online voter guide that is based on your ballot and available on your My Voter Page (mvp.vermont.gov). This tool empowers every Vermonter to find the candidates whose values match their own.

Vermonters, our office has mailed you a ballot, your clerk stands ready to receive your ballot, our BCAs are ready to tally the votes, and candidates' contact information and policy positions are in your voter guide.

If you have not registered to vote, it is easy to do, please visit your town clerk or my office's Online Voter Registration System (olvr.vermont.gov).

Democracy relies on all of us. Go vote, Vermont!

Sarah Copeland Hanzas is Vermont's 39th Secretary of State. She was an 18-year member of the Vermont House before being elected as Secretary of State in 2022.

Election-related Letters and Guest Column Policy

The Williston Observer welcomes election-related Guest Columns and Letters to the Editor submissions leading up to local, state and national elections. We refrain from publishing election-related material in the issue immediately preceding an election.

BTV
PATRICK LEAHY BURLINGTON
INTERNATIONAL AIRPORT

PUBLIC MEETINGS
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

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documents/party-statuspetition-form, and email it to the District 4 Office at: NRB.Act250Essex@vermont.gov. Findings of Fact and Conclusions of Law may not be prepared unless the Commission holds a public hearing.

For more information contact Kaitlin Hayes at the address or telephone number below.
Dated this October 8, 2024.
By: /s/ Kaitlin Hayes
Kaitlin Hayes
District Coordinator
111 West Street
Essex Junction, VT 05452
(802) 622-4084
kaitlin.hayes@vermont.gov

STATE OF VERMONT SUPERIOR COURT
PROBATE DIVISION CHITTENDEN UNIT
DOCKET NO.: 24-PR-04567

In re ESTATE of Amanda Devino

NOTICE TO CREDITORS

To the creditors of: Amanda Devino, late of Colchester, Vermont

I have been appointed to administer this estate. All creditors having claims against the decedent or the estate must present their claims in writing within four (4) months of the date of the first publication of this notice. The claim must be presented to me at the address listed below with a copy sent to the Court. The claim may be barred forever if it is not presented within the four (4) month period.

Dated: October 08, 2024
Signature of Fiduciary: /s/ John J. Mahoney

Executor/Administrator: John J. Mahoney,
Norman C. Smith, PC, 76 Lincoln St., PO Box 24,
Essex Junction, VT 05453
phone: 802-288-9088
email: john@normansmithlaw.com

Name of Publication: Seven Days
Publication Date: 10/16/2024

Name of Probate Court: State of Vermont - Chittenden Probate Division
Address of Probate Court: 175 Main Street, Burlington, VT 05401

NOTICE OF PUBLIC HEARING

The Burlington Housing Authority has made some proposed changes to its Section 8 Administrative Plan effective October 29, 2024.

The Burlington Housing Authority has also made the proposed changes to the Section 8 Administrative Plan to comply with PHI Notice 2024-30 fully

A public hearing to obtain comments regarding the proposed Administrative Plan revision will be held on Thursday, October 31, 2024, at 2:00 pm at 65 Main Street. Details will be available at www.burlingtonhousing.org

Written comments should be sent to:

Steven Murray, Executive Director
Burlington Housing Authority
65 Main Street
Burlington, Vermont 05401

Copies of the proposed edits will be available at BHA's 65 Main Street Administrative offices as of October 8, 2024.

Equal Housing Opportunity

STATE OF VERMONT SUPERIOR COURT
PROBATE DIVISION CALEDONIA UNIT
DOCKET NO.: 24-PR-05245

In re ESTATE of Kenneth Norton Mills, Jr.

NOTICE TO CREDITORS

To the creditors of: Kenneth Norton Mills, Jr., late of South Ryegate, Vermont

I have been appointed to administer this estate. All creditors having claims against the decedent or the estate must present their claims in writing within four (4) months of the date of the first publication of this notice. The claim must be presented to me at the address listed below with a copy sent to the Court. The claim may be barred forever if it is not presented within the four (4) month period.

Dated: October 8, 2024
Signature of Fiduciary: /s/ Leslie Ornstein, Executrix

Executor/Administrator: Leslie Ornstein,
Stackpole & French Law Offices,
PO Box 819, Stowe, VT 05672
phone: 802-253-7339
email: lornstein2@gmail.com and marlene@stackpolefrench.com

Name of Publication: Seven Days
Publication Date: 10/16/2024

Name of Probate Court: Vermont Superior Court, Probate Division, Caledonia Unit
Address of Probate Court: 1126 Main Street, Suite 1, St. Johnsbury, VT 05819

STATE OF VERMONT SUPERIOR COURT
CHITTENDEN UNIT CIVIL DIVISION
DOCKET NO.: 22-CV-00510

Mongeon Bay Properties, LLC
Plaintiff,
v.
Town of Colchester,
Defendant.

PETITION FOR HEARING TO DETERMINE NECESSITY

NOW COMES the Town of Colchester ("Town"), by and through its counsel, Monaghan Safar Ducham PLLC, and pursuant to Title 24, Chapter 97 and Chapter 101, hereby submits the following petition ("Petition") on behalf of the Town Board of Sewage System Commissioners and the Town Board of Sewage Disposal Commissioners for a hearing to determine the necessity of taking certain land at 885 East Lakeshore Drive. See 24 V.S.A. §§ 3508, 3604. In support of this Petition, the Town, through its Boards, proposes taking land for the purpose of constructing, maintaining, operating, and repairing a stormwater treatment facility to replace an existing 24" stormwater outflow located at 885 East Lakeshore Drive. The outfall is one of the largest on East Lakeshore Drive and discharges 3.7 million gallons of untreated stormwater into Malletts Bay annually. The proposed stormwater treatment facility will provide three levels of treatment prior to stormwater discharge into Malletts Bay. The Town cannot construct or operate the stormwater treatment facility without taking the entire parcel and removing the existing building at 885 East Lakeshore Drive.
The land to be taken, purchased, or acquired is particularly described in the October 26, 2021 survey, "Stormwater Improvements 885 East Lakeshore Drive — Proposed Taking Limits," by Donald L. Hamlin Consulting Engineers, Inc. The survey is on file in the Town Clerk's Office, and is annexed and incorporated by reference into this petition as if set forth fully herein.
WHEREFORE, the Town respectfully requests that this Honorable Court fix a time and place when it will hear all parties concerned and determine whether such taking is necessary.
Dated this 14th day of November, 2022.

MONAGHAN SAFAR DUCHAM PLLC

Brian P. Monaghan, Esq.
Kristen E. Shamis, Esq.
Monaghan Safar Ducham PLLC
156 Battery Street
Burlington, VT 05401
bmonaghan@msdvt.com
(802) 660-4735
Attorneys for the Town of Colchester

VERMONT SUPERIOR COURT
Chittenden Unit
175 Main Street, PO Box 187
Burlington, VT
05402
802-863-3467
www.vermontjudiciary.org

CITY OF BURLINGTON

BTV
PATRICK LEAHY
BURLINGTON
INTERNATIONAL AIRPORT

Notice is hereby given that a meeting will be held on Wednesday, October 23, 2024, at 6:30–8:00 pm in South Burlington at the Chamberlin School and Thursday, October 24, 2024, at 6:30 pm – 8:30 pm in Winooski at the Winooski High School.

This meeting will provide an overview of the draft Noise Exposure Map report that has been prepared on behalf of Patrick Leahy Burlington International Airport. The meeting will be workshop style with various stations for individuals to review the information and ask questions. There will be no formal presentation. Comment sheets will be available for the public to leave their comments.

The draft report can be found on the Airport's noise program website: btvsound.com. Physical copies of the draft report are also available for review at the Patrick Leahy Burlington International Airport administrative offices located at 1200 Airport Rd, South Burlington VT, Suite 1.

Public comments can be submitted at the hearing or via email to BTVSound@jonespayne.com. The public comment will close Friday, November 15th at 5 pm. Additional comments and questions regarding the noise program can be submitted at any time.

CIVIL DIVISION
Case No. 22-CV-00510

Date: May 17, 2024

NOTICE OF HEARING

Mongeon Bay Properties, LLC v. Town of Colchester

This is the notify to appear at the Court named above in connection with the above-named case on:

DATE:
October 21, 2024
TIME:
8:30 AM
DURATION:
8 Hours

DATE:
October 22, 2024
TIME:
8:30 AM
DURATION:
8 Hours

DATE:
October 23, 2024
TIME:
8:30 AM
DURATION:
8 Hours

HEARING RE: Bench Trial

IMPORTANT NOTE FROM THE CLERK: Please exchange your lists of pre-marked exhibits prior to the trial/hearing. Please include an Exhibit List, providing a title for each exhibit. Thank you.

YOU MUST ATTEND THIS HEARING IN PERSON AT THE COURTHOUSE UNLESS YOU RECEIVE ADVANCE PERMISSION FROM THE COURT TO ATTEND REMOTELY (BY PHONE OR VIDEO).

Electronically signed on Friday, May 17, 2024 @10:27 AM, pursuant to V.R.E.F. 9 (d)

Evelyn Nimmo (She/Her)
Judicial Assistant

Any individual with a disability requiring assistance accessing the services, programs, and/or activities at the Courthouse should contact the Clerk's office at the above address for further assistance.

TOWN OF WESTFORD REQUEST FOR BIDS (RFB) PLOWING & SANDING, 2024-2025 SEASON

The Town of Westford is accepting bids for plowing and sanding of certain gravel town roads and properties for the 2024-2025 winter season. Bids will be accepted for both sides of town, or just one.
• East: Bill Cook Rd, Seymour Rd, Cowie Rd
• West: Common Rd & 2 parking areas, Rubaud Rd, Town Office & Library Parking areas

Work shall commence with the first snowfall of 2 inches or more, and end on April 15, 2025 or the last snowfall of 2 inches or more, whichever occurs fi st.

Bidders must carry and maintain Workers Comp, General Liability and Commercial Auto Liability insurances at their own expense.
BID SUBMISSION INSTRUCTIONS:
Bids shall be made on the bid form available online at https://westfordvt.us/wp-content/uploads/2024/09/RFB-for-Plowing-Sanding-2024-2025.pdf or at the Westford Town Office or by request. Bids addressed to the Town of Westford shall be submitted using one of the following methods:

manner with respect to such actions of the police chief. The time of filing an appeal and the nature of the appellate process shall be as determined by such board of regulation. Following its consideration of any such appeal, the board may affirm, modify, or vacate the decision made by the police chief.
(b) Whenever it shall appear to the mayor that the chief has become incompetent, inefficient, or incapable from any cause, or has been negligent or derelict in ~~his or her~~ their official duty, or is guilty of any misconduct in ~~his or her~~ the chief's private or official life, or whenever any well-grounded complaints or charges to such effect are made in writing to the mayor by a responsible person, the mayor may suspend the chief of police from duty pending a hearing thereon by the city council. The city council shall forth with notify the chief of police of the charges preferred by them, or of the complaints or charges presented by such responsible person in writing, and shall thereupon proceed to consider and investigate the same. It shall appoint a time and place for the hearing of such complaints and charges so made, shall give the chief of police reasonable notice of the same, not less than 48 hours, and the city council shall have the power to subpoena documents and witnesses and to administer the oath to such witnesses. Such a subpoena will be subject to enforcement or modification in conformity with the procedures set forth in 3 V.S.A. §§ 809a and 809b.
(c) If, upon hearing, the city council shall find such complaints or charges to be well founded, it may dismiss the chief of police from the ~~force~~ police department, demote ~~him or her~~ such chief in rank, or suspend ~~him or her~~ such chief without pay for a period not to exceed 60 days. The procedures outlined in this section shall control in the event of any conflict with section 129 of this Charter as pertains to the removal of the chief of police.
(d) The chief of police may, without notice or hearing for any infraction, violation, or disobedience of any of the rules and regulations of the police department that may seem to the chief of police sufficient, suspend from duty without pay any member of the police ~~force~~ department for a period not to exceed 14 days."

* Material underlined added
** Material struck out deleted

Emma Mulvaney-Stanak, Mayor
Dated this day of, 2024

NOTICE TO VOTERS
FOR NOVEMBER 5TH, 2024 ELECTION
BURLINGTON, VT

BEFORE ELECTION DAY:

CHECKLIST POSTED at Clerk's Office by Sunday, October 6th, 2024. If your name is not in the checklist, then you must register to vote. You may also check your voter registration status at https://mvp.vermont.gov. SAMPLE BALLOTS will be posted by Saturday, October 26th, 2024.

HOW TO REGISTER TO VOTE: There is no deadline to register to vote. You will be able to register to vote on the day of the election. You can register prior by visiting the City Clerk's office or going online to olvr.vermont.gov.

EARLY or ABSENTEE BALLOTS: All registered Burlington voters will be automatically mailed absentee ballots for this election. The latest you can request ballots to be mailed for the November 5, 2024 Election is by the close of the City Clerk's office at 4:30 p.m. on Friday, November 1, 2024. Ballots can be requested in-person at the City Clerk's office until 1:00 p.m. on Monday, November 4, 2024.

WAYS TO VOTE YOUR EARLY BALLOT:
• Mail or deliver the ballot mailed to you back to the City Clerk's Office before Election Day, drop off at one of the City's five Drop Boxes, or return it to your polling place before 7:00 p.m. on Election Day.
• Please contact the City Clerk's Office if you have not received your ballot in the mail by October 8th, 2024.
• If you are sick or disabled before Election Day, ask the City Clerk to have two Justices of the Peace bring a ballot to you at your home. (Ballots can be delivered on any of the eight days preceding the day of the election or on the day of the election.)

ON ELECTION DAY:

If your name was dropped from the checklist in error, or has not been added even though you submitted a timely application for addition to the checklist, you can fill out a new registration form.
• If the Clerk or Board for Registration of Voters does not add your name, you can appeal the decision to a Superior Court Judge, who will settle the matter on Election Day. Call the Secretary of State's Office at 1-800-439-VOTE (439-8683) for more information.

If you are a first time voter who submitted your application to the checklist individually by mail and did not submit the required document, you must provide a current and valid photo identification, OR a bank statement, utility bill, or government document that contains your name and current address.

If you have physical disabilities, are visually impaired or can't read, you may have assistance from any person of your choice. If any voters you know have disabilities, let them know they can have assistance from any person of their choice. You may also use the accessible voting system to mark your ballot. If you want to use the accessible voting system tell the entrance checklist official. An election official will take you to the accessible ballot marking device, enter a security code, and then leave you to mark and print your ballot privately. More details about our accessible ballot marking device are available at https://sos.vermont.gov/elections/voters/accessible-voting/

If you know voters who cannot get from the car into the polling place let them know that ballot(s) may be brought to their car by two election officials.

If you have any questions or need assistance while voting, ask your City Clerk or any election official for help.

NO PERSON SHALL:
• Vote more than once per election, either in the same town or in different towns.
• Mislead the Board for Registration of Voters about your own or another person's true residency or other eligibility to vote.
• Hinder or impede a voter going into or from the polling place.
• Socialize in a manner that could disturb other voters in the polling place.
• Offer, bribe, threaten or exercise undue influence to dictate or control the vote of another person.

FOR HELP OR INFORMATION: Call the Secretary of State's Office at 1-800-439-VOTE (439-8683). (Accessible by TDD)

If you believe that any of your voting rights have been violated, you may file an Administrative Complaint with the Secretary of State's Office, 128 State Street, Montpelier, VT 05633.

If you believe you have witnessed efforts to commit any kind of fraud or corruption in the voting process, you may report this to your local United States Attorney's Office.

If you have witnessed actual or attempted acts of discrimination or intimidation in the voting process, you may report this to the Civil Rights Division of the United States Department of Justice at (800) 253-3931.

INSTRUCTIONS FOR VOTERS using Vote Tabulator Ballots

CHECK-IN AND RECEIVE BALLOTS:
• Go to the entrance checklist table.
• Give name and, if asked, street address to the election official in a loud voice.
• Wait until your name is repeated and checked off by the official.

CITY OF BURLINGTON

BTV
PATRICK LEAHY
BURLINGTON
INTERNATIONAL AIRPORT

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The draft report can be found on the Airport's noise program website: btvsound.com. Physical copies of the draft report are also available for review at the Patrick Leahy Burlington International Airport administrative offices located at 1200 Airport Rd, South Burlington VT, Suite 1.

Public comments can be submitted at the hearing or via email to BTVSound@jonespayne.com. The public comment will close Friday, November 15th at 5 pm. Additional comments and questions regarding the noise program can be submitted at any time.

Public Utility Commission

Notice Of Public Hearing

RE: TARIFF FILING OF CITY OF BURLINGTON ELECTRIC DEPARTMENT REQUESTING A 5.5% RATE INCREASE EFFECTIVE WITH SERVICE RENDERED ON AND AFTER AUGUST 1, 2024

PUC CASE NO. 24-1848-TF

The Public Utility Commission will hold a public hearing to receive input concerning the tariff filing of the City of Burlington Electric Department requesting an overall rate increase of 5.5% effective with service rendered on or after August 1, 2024.

The virtual public hearing will be held on Thursday, October 24, 2024, commencing at 7:00 P.M., utilizing GoToMeeting video conference with a telephone call-in option. The Public Hearing will commence at 7:00 P.M., or immediately following a presentation at 6:30 P.M. hosted by the Vermont Department of Public Service where the City of Burlington Electric Department will describe the rate increase and be available to answer questions.

Participants and members of the public may access the public hearing online at https://meet.goto.com/783355557, or call in by telephone using the following information: phone number: +1 (571) 317-3116; access code: 783-355-557. Participants may wish to download the GoToMeeting software application in advance of the hearing at https://meet.goto.com/install. Guidance on how to join the meeting and system requirements may be found at https://www.gotomeeting.com/meeting/online-meeting-support.

SELECTBOARD

Continued from page 3

The board unanimously supported the purchase, which will improve snow removal efficiency in the coming winter.

2. **Board accepts grant money for police department**: Milton Police Chief Steve Laroche presented an update on the town's Governor's Highway Safety 2025 Education Grant, which was awarded to the police department for $31,200.

Laroche detailed how the funds will be allocated, with $16,000 set aside for officer salaries, $4,500 for travel and $10,700 for equipment.

He highlighted the importance of this funding in supporting community outreach programs like National Night Out, bus safety events and driver's education programs.

The board unanimously accepted the grant.

3. **Plans for recreation expansion continue**: Milton planning and zoning director Cymone Bedford outlined the town's allocation of $41,400 in Vermont Outdoor Recreation Economic Collaborative grant funds.

The board agreed to allocate $30,000 toward the design of trails in Bombardier Park, $5,000 for the design of a viewing platform in the Milton Town Forest and $6,400 for marketing and outreach efforts.

Bedford also discussed amendments to the original grant scope, including adjustments to diversity, equity, and inclusion programming. Instead of five smaller DEI programs, the town will focus on one large event, the Milton Inclusion Festival.

Additionally, she highlighted plans to design an ADA-compliant viewing platform in the Milton Town Forest, complete with educational signage in multiple languages.

The platform will include a wheelchair-accessible picnic table and aim to foster inclusivity in outdoor recreation spaces.

4. **Public hearing for stormwater ordinance set**: Corey Parent, local stormwater consultant, presented a comprehensive overview of the town's proposed stormwater ordinance.

The ordinance is designed to create a stormwater management system and a funding mechanism for its upkeep.

Parent said a stormwater utility would generate a stable revenue stream through a user fee, which could help ease the burden on property taxpayers.

The ordinance also outlines the creation of a stormwater reserve fund and introduces permitting requirements for new developments to manage their own runoff.

A public hearing on the proposed stormwater ordinance will take place on Oct. 21 at the Milton Municipal Building, giving residents the opportunity to provide feedback before any decisions are made.

»Continued from previous page

employees or contract staff to operate the shelters.

I recognize there's not a simple solution here. If there was, we would have passed it years ago. Increasing access to housing in all 14 counties — whether it's for shelters or for low- and middle-income Vermonters — has been and continues to be a priority for the legislature. Our response must be as comprehensive as it is compassionate.

I know many are frustrated with the Governor's lack of action, but he still has the ability to right the ship and get a roof over these Vermonters' heads. I urge all Vermonters to call his office and ask what his plan is to take action and do the right thing.

The Governor cannot be a bystander in this moment. He must not look away

Lonnie Poland will drive Milton forward

This letter is from Rebecca Bessette, a resident of Milton.

Dear Editor: Nov. 5 is quickly approaching and is poised to be one of the most consequential elections of our time, both nationally and locally. Now, more than ever, Milton needs strong and unwavering representation that gives a voice to all its residents, including those underserved and under valued.

Milton needs representation that is practical and productive, focusing on health, safety, and affordability. I believe Lonnie Poland is the candidate that will help drive Milton forward.

Lonnie is capable and policy focused. She has strong ties to Milton with almost 40 years of community involvement, both as a long time resident and small business owner. Like myself, Lonnie believes in affordable access to health care. Having spent 25 years at UVM Medical Center, she knows first hand the struggles Vermont families are facing, including increased insurance costs.

Lonnie knows the value of public school reform and understands its impacts on our taxes. She is committed to finding a balance between meeting the needs of our public schools and easing the burden on taxpayers.

I'm proud to endorse Lonnie Poland for State Representative. I encourage you to reach out to her, ask the tough questions, and go to the polls this November ready for change in Milton.

Letters to the editor are opinion pieces contributed by readers and community leaders. The Independent strives to publish a variety of views from a broad range of Vermonters. Submit your letter at www.miltonindependent.com/site/forms/online_services/letter_editor.

Appendix F: Public Comments

Table of Contents

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Patrick Leahy Burlington International Airport (BTV)
2024 Noise Exposure Map Update
Public Comments and Responses

Comment Topic(s)	Summary of Comment	Response to Comment
COMMENT 1 | Commenter: Pike Porter | City: Burlington | Medium: email		
Noise Exposure Map Methodology	The study should have used actual noise measurements.	FAA guidance requires the use of modeled data and not actual noise measurements. The Airport did install three noise monitors to assist in responding to noise levels associated with individual aircraft.
F-35 Noise Measurement and Impact	The study team relied on VTANG pilot interviews, not monitored sound data, to determine military operations. This process does not provide trust the noise contours are accurate, nor does it verify that the existing assumptions about F-35 noise are accurate.	The process utilized to model the military aircraft operations was reviewed and approved by the Federal Aviation Administration and is consistent with noise modeling methodology used for Part 150 noise studies.
F-35 Noise Measurement and Impact	The public and members of the Burlington City Council Transportation Energy and Utilities Committee specifically asked to a noise contour maps that would compare and contrast the noise contours with and without the F-35 jets so the public can clearly understand the extent of the F-35 operations.	The FAA requires that the Noise Exposure Map (NEM) reflect all operations.
Noise Exposure Map Methodology	The DNL 75 contour near 221-223 Airport Parkway on the executive summary map on page vii is a very different contour than that found on 3-13	Refinements to the maps have been made and are reflected in the final submission.
Noise Exposure Map Methodology	Section 1.2.2 claims that *the Airport makes a significant contribution to the local economy.* However, no analysis of the economic harms due to airport noise has been done.	The purpose of this study is to assess impacts to land use.
Noise Exposure testing	Section 1.3.2 does not advise that VTANG refused to provide radar flight data, or that the NEM is based only on pilot interviews without any corroborating evidence.	Flight data for military operations is not available for use in this study.
Noise Exposure Map Methodology	Section 3.2.1 provides this misleading statement, at least with respect to the two residential properties we own within the 75 DNL contour: *five of the properties were included in a 2016 AIP grant for land acquisition and each owner rejected the City's offer to purchase.* The airport provided us a lowball, non-standard appraisal that included comparable property sales over a year old and in other towns.	The land acquisition program was voluntary. The Airport made offers to the owners of the residential properties following federal regulations.
Noise Exposure Map Methodology	Table 4-5 is incorrect at least for South Burlington multifamily properties and population subjected to harmful noise.	Updates to the land use, housing units and population have been made to the document.

Comment Topic(s)	Summary of Comment	Response to Comment
Noise Exposure Map Methodology	Future sound studies should measure and record low frequency sound energy to help us better understand the harmful effects on building structures.	Part 150 requires the use of the A-weighted decibel.
F-35 Noise Measurement and Impact	C 2.2 Omission of F-35A Aircraft/other Military Aircraft from Taxiway Modeling Given that taxiway sound impacts some residential properties including our rental properties, some effort should be made to include taxiway noise modeling for the F-35s. The omission of this F-35 taxiway noise under estimates the full harmful effects of airport noise.	Comment noted.
F-35 Noise Measurement and Impact	**E 13** Please note that the F-35 modeling is modeled on interviews with pilots, *not actual sound monitoring or radar data*.	Comment noted.
F-35 Noise Measurement and Impact	**E 36** Why are there no listed measures for the F-35? Why is the airport not updating the NCP measures in response to the F-35s? The fact that the airport has not implemented O-3, even for hours in which the ATCC is staffed, demonstrates the disregard for the toll the airport has on Winooski residents.	The purpose of this study is to update the current and anticipated noise exposure. An update for the Noise Compatibility Program was not a part of this study. However, the measures were recently updated in 2020 and include an accurate response. During the hours when the air traffic control tower is operational, the active runway in use is primarily a factor of weather conditions, which is not an Air Traffic Control decision.
COMMENT 2 | Commenter: Meaghan Emery | City: South Burlington | Medium: email		
Noise Mitigation	Please provide the actual number of homes that will be sound proofed going forward based on the FAA funds that have been secured for this purpose?	The Airport applies for federal funding on an annual basis. The current program is to seek funding for the sound insulation of 50 homes per year based on FAA availability of funding.
Noise Mitigation	Can you provide more detailed maps showing the additional nearly 200 homes that fall within the incompatible DNL noise contours and that could potentially be eligible for sound proofing?	Detailed maps are provided in Appendix G.
COMMENT 3 | Commenter: Pike Porter | City: Burlington | Medium: Written form		
Noise Mitigation	The study should have used actual noise measurements.	FAA guidance requires the use of modeled data and not actual noise measurements. The Airport did install three noise monitors to assist in responding to noise levels associated with individual aircraft.
COMMENT 4 | Commenter: Sylvana Lane | City: Williston| Medium: Written form		
Noise Exposure Map Methodology	What instigated the development of this 2023 map and how is it different from the 2024 NEM?	The 2023 future condition map was developed during the 2018 Noise Exposure Map update. The map reflected the anticipated noise exposure for 2023. The 2024 existing conditions map reflects the noise exposure based on actual operations that occurred at the Airport.

Comment Topic(s)	Summary of Comment	Response to Comment
COMMENT 5 | Commenter: Sharon Guotwin | City: Unknown | Medium: Written form		
Noise Exposure Map Methodology	I am disappointed that the sound map on focuses on average sound – not intensity. It is intensity that affects people, not average. Williston Taft Corners should be recognized as impacted by the F35 noise. I have measured over 100 decibels at times and in the 90 decibel range typically.	Part 150 requires the use of the Day-Night Average Sound Level (DNL) metric.
COMMENT 6 | Commenter: Kelly McDonald | City: Winooski | Medium: Written form		
Noise Exposure Map Methodology	Noise maps ALWAYS leaves out the area of Winooski MOST impacted by airport noise – a real need for a noise-monitor in the Richardson Park area. Planes come in over the housing in this area. But my chief complaint is the departures in the middle of the night. Helicopters recently have had an uptick.	Comment noted.
COMMENT 7 | Commenter: Nicole Schubert | City: Winooski | Medium: Written form		
Noise Mitigation	Would love some sound insulation and windows that helped with the noise on Saint Peter St./North St. But certainly appreciate the efforts to limit the noise as much as possible. The planes are directly overhead the house. Thanks for flying as high as possible. My tinnitus has gotten a lot worse since moving here in 2020, and I'm only 44 years old.	Comment noted.

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Public Information Workshop
Sign-in Sheet

Date/ Time: Wednesday, October 23, 2024; 6:30-8:30 p.m.
Location: Chamberlin Elementary School, South Burlington VT

Name	Email Address	Address/ Affiliation (optional)
judith & donald Zwyer	jKahnzwyer@gmail.com	70 Woodthrush Circle, South Bur
Sharon Gadhoun	sbgadhoun@gmail.com	157 Giovanna Williston VT 05495
Tim Barritt	tbarritt@sbvt.com	162 Regal Dr.
Elizabeth Fitzgerald	fitzgerald33@msn.com	148 Park Rd
Barb Sirvis	barb.sirvis@gmail.com	24 Arba
Emily Randall-Goodwin Brian Goetts	erandallgoodwin@gmail.com	2 Dural Street
Jeff Lurie	smedleyok@gmail.com	139 Blackberry Rdg. Williston
Mike SCALLAN	mikescallan@hotmail.com	1 Cupin Cs South Burlington 05403

Public Information Workshop
Sign-in Sheet

Date/ Time: Wednesday, October 23, 2024; 6:30-8:30 p.m.
Location: Chamberlin Elementary School, South Burlington VT

Name	Email Address	Address/ Affiliation (optional)
Meaghan Emery	meaghanee@yahoo.com	27 Myers Ct. South Burlington
Sylvana Lane	Sylvana.Lane@gmail.com	1730 Essex Rd Williston, VT
Mike Backland	cmcMike1@comcast.net	16 DuVal
Kelly McDonald	kellymcdonald500@hotmail.com	10 Laporte St Winooski, VT 05404
James Lees	Jollyjee@gmail.com	37 Potter Dr.
Brad Forbes	bfortland14@gmail.com	St Albans, VT
Paul Conner	pconner@southburlingtonvt.gov	

Public Information Workshop
Sign-in Sheet

Date/ Time: Wednesday, October 23, 2024; 6:30-8:30 p.m.
Location: Chamberlin Elementary School, South Burlington VT

Name	Email Address	Address/ Affiliation (optional)
Monique Trono	tronofamily4@comcast.net	22 Pinetree Terrace S. BTV
Stephan Savoy	castense@comcast.net	22 Duval Street So. Burlington
Corey McDonald	cmcdonald@vtdigger.org	—
Erin Jacobsen	ejacobsen@burlingtonvt.gov	City Hall, Mayor's office
Pike Porter	pikeporter@gmail.com	
Susi Taylor	staylor1776@aol.com	Burlington VT
Laura Ullman	laura.ullman@wcax.com	WCAX

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Public Information Workshop
Sign-in Sheet

Date/ Time: Thursday, October 24 2024; 6:30-8:30 p.m.
Location: Winooski High School, Winooski, VT

Name	Email Address	Address/ Affiliation (optional)
Connor Daley	cddaley2013@gmail.com	Airport Commissioner
Joe Touchette	jtouchette.vt@gmail.com	
terry Zigmond		Winooski
Jason Weinstein	weinsteinhomeservices@gmail.com	Winooski
Cynthia Rorison	cyn.rorison@gmail.com	Winooski
Mary + Woodie Quinn mary&woodie	woodiec@comcast.net.	21 Berard Dr S Burl.
Ann Goering	agoering@burlington telecom.net	99 Chase St. Burlington
Loretta Marriott		Mills Ave. South Burlington

Public Information Workshop
Sign-in Sheet

Date/ Time: Thursday, October 24 2024; 6:30-8:30 p.m.
Location: Winooski High School, Winooski, VT

Name	Email Address	Address/ Affiliation (optional)
Barb Sirvis	barb.sirvis@gmail.com	
Gail Ireland	gailire77@gmail.com	102 St. Peter St., Winooski
Janice Worrell	janicaworrell@gmail.com	277 E. Allen St. Apt 107 Winooski
Stewart Ledbetter	SMLEDPETTER@HOTMAIL.COM	33 Orchard Terrace Winooski, Vt.
Nicole Schubert	nschubert@maplervn.org	106 Saint Peter St Winooski
Sharon HOPPER	shopper@burlingtontelecom.net	94 Chase St BTV 05401
Steve MARRIOTT	gmarriot@uvm.edu	13 Mills SB
meaghan Emery	meaghaneea@yahoo.com	27 myers ct. South Burlington

Comment #1

Diane Carter <dcarter@jonespayne.com>

[BTVsound] Comment on the Noise Exposure Map

1 message

Pike Porter <pikeporter@gmail.com> Thu, Oct 24, 2024 at 4:00 PM
To: BTVSound@jonespayne.com, Nicolas Longo <nlongo@btv.aero>, Gene Bergman <gbergman@burlingtonvt.gov>, Mark Barlow <mbarlow@burlingtonvt.gov>, Marek Broderick <mbroderick@burlingtonvt.gov>

F-35 flights have a significant impact on the airport noise contour as demonstrated in this paragraph in the executive summary:

> The 2024 and 2029 noise exposure contours cover less area than the Forecast Conditions (2023) DNL contours accepted by FAA on September 26, 2019. This is primarily because the local Vermont Air National Guard unit has been operating fewer F-35A operations than the volume that was previously forecasted and modeled. Section 5.3 provides a comparison of the updated NEM contours to the 2023 DNL contours.

The purpose of the study is to "[d}evelop an accurate Noise Exposure Map (NEM) that reflects current and future airport operations, including the Vermont Air National Guard (VTANG) operation of F-35A Lightning II aircraft" (**1-1**). The public was led to believe that the 2024 NEM would represent actual monitored noise levels from the F-35 and other airport noise. It does not. While there is noise monitoring equipment in place in three locations, the study team relied on VTANG pilot interviews and previous noise modelling assumptions (that were to be verified in this current NEM) to map the current and 2029 noise contours. We don't know how accurate the previous modelling assumptions are because they have not been verified with actual sound monitoring equipment. The continuation of unverified assumptions is a breach of promises to the public and breach of public trust.

The NEM states that:

> [t]he Study Team consulted with the 158th Fighter Wing to understand their procedures for operation of F-35A aircraft and to obtain flight track and flight profile information for noise modeling. Personnel from the 158th Fighter Wing reviewed the developed data for military noise model inputs and provided concurrence on data accuracy.

In short, the study team relied on VTANG pilot interviews, not monitored sound data, to glean the current and projected noise contours, which were then verified by unidentified VTANG personnel with who-knows-what kind of noise modeling experience. This process does not provide trust that the noise contours are accurate, nor does it verify that the existing assumptions about F-35 noise are accurate.

Page **1-5** describes the F-35 data used in this NEM:

> The Study Team consulted with the 158th Fighter Wing to understand their procedures for operation of F-35A aircraft and to obtain flight track and flight profile information for noise modeling. Personnel from the 158th Fighter Wing reviewed the developed data for military noise model inputs and provided concurrence on data accuracy.

This NEM must include a clear comparison between the sound levels as recorded by the sound monitoring equipment and the modelled noise gleaned from VTANG pilot interviews. Where those differ, the NEM must explain the difference. The public and members of the Burlington City Council Transportation Energy and Utilities Committee specifically asked to a noise contour maps that would compare and contrast the noise contours with and without the F-35 jets so the public can clearly understand the extent that the F-35 are responsible for the lack of housing on 44 acres in the Chamberlin neighborhood of South Burington. This NEM should provide such comparative maps.

The DNL 75 contour near 221-223 Airport Parkway on the executive summary map on page **vii** is a very different contour than that found on **3-13**: one shows the parcels outside of the 75 DNL contour while the other shows the parcels inside the 75 DNL contour. The difference is significant to the residents who live at these properties; if they are inside the 75 DNL contour, it is my understanding that they are ineligible for noise remediation, but if they are outside, the 75 DNL contour they may be eligible.

Section 1.2.2 claims that *the Airport makes a significant contribution to the local economy.* However, no analysis of the economic harms due to airport noise has been done. Vermont, and Chittenden County particularly, is in desperate need of housing, but airport noise, primarily from the F-35, disallows housing on 44 acres of residential land in the Chamberlin neighborhood. The lack of sufficient workforce housing limits regional economic growth. The 44 acres in the Chamberlin neighborhood could support thousands of homes and create many millions of dollars in annual economic activity. An

analysis must be done to see how much economic loss is created by basing the F-35 at the airport. Until such analysis is done, the airport should refrain from making statements such as *the Airport makes a significant contribution to the local economy.*

Section 1.3.2 does not advise that VTANG refused to provide radar flight data, or that the NEM is based only on pilot interviews without any corroborating evidence.

Section 3.2.1 provides this misleading statement, at least with respect to the two residential properties we own within the 75 DNL contour: *five of the properties were included in a 2016 AIP grant for land acquisition and each owner rejected the City's offer to purchase.* The airport provided us a lowball, non-standard appraisal that included comparable property sales over a year old and in other towns. The airport did not consider highest and best use as required by the FAR Part 150 Noise Compatibility Program (see page B-7 of the NEM report: *Eligible property owners will be paid fair market value for their property at its highest and best rate*....), or agree to consider this a public land taking for IRS 1033 purposes. **So, yes, we rejected the offer, which did not recognize the actual highest and best value of the property and prevented a fair IRS 1033 conversion.**

Diagrams on **4-12 and 4-13** provide no explanation for the colored arrows or the percentages.

Table 4-5 is incorrect at least for South Burlington multifamily properties and population subjected to harmful noise. We own two 2-unit properties housing eight people that fall within the 70 DNL contour. Additionally, a 4-unit owned by another abuts our property. These properties are not represented in **Table 4-5**. I see no excuse for this error. I had previously made the airport, the city council, and the FAA aware that multi-unit properties existed on these parcels when the airport identified the parcels as a noise buffer zone owned and to be retained by the airport on the airport layout plan (ALP) several years ago. **Section 2.3** details the work the study team perform to verify land use data:

> **2.3 Land Use Data Collection and Verification** The Study Team collected detailed land use information from municipalities throughout the study area. Land use data collection and verification focused on the area expected to be within the DNL 65 dB contour, based on prior NEM contours. The jurisdictions determined to potentially have land within the DNL 65 or higher aircraft noise exposure areas were consulted to verify existing land uses, and to discuss local land use controls and/or policies.

If the study team spent extra time and effort to verify the land use within the DNL 65, and still got these parcels wrong, it really makes one wonder what else is incorrect in the report.

A.1.3 A-Weighted Decibel Our buildings in Winooski and South Burlington shake when the F-35s fly. The F-35 creates considerable low frequency sound energy below 20 Hz. Low frequency noise from the F-35 has shaken plaster loose from the ceiling of a property we own in Winooski, and our tenants in South Burlington cannot place anything breakable on shelves because the entire house shakes and objects rattle off and break when the F-35s fly over. Future sound studies should measure and record low frequency sound energy to help us better understand the harmful effects on building structures. The city is welcome to install low frequency sound monitoring equipment at our properties in Winooski and South Burlington.

C-14: was this page unintentionally left blank?

C 2.2 Omission of F-35A Aircraft/other Military Aircraft from Taxiway Modeling Given that taxiway sound impacts some residential properties including our rental properties, some effort should be made to include taxiway noise modeling for the F-35s. The omission of this F-35 taxiway noise under estimates the full harmful effects of airport noise.

E 13 Please note that the F-35 modeling is modeled on interviews with pilots, *not actual sound monitoring or radar data*. As previously noted, it also excludes military taxiway noise.

E 36 Why are there no listed measures for the F-35? Why is the airport not updating the NCP measures in response to the F-35s? The fact that the airport has not implemented O-3, even for hours in which the ATCC is staffed, demonstrates the disregard for the toll the airport has on Winooski residents.

Pike Porter

Comment #2 **Diane Carter <dcarter@jonespayne.com>**

[BTVsound] Questions and faulty link on btvsound.com

1 message

'Meaghan Emery' via BTVsound <btvsound@jonespayne.com> Thu, Oct 24, 2024 at 6:55 AM
Reply-To: Meaghan Emery <meaghanee@yahoo.com>
To: "btvsound@jonespayne.com" <btvsound@jonespayne.com>

Hello,

Thank you for preparing last night's workshop. I wish to know a few more details that were not available last night:
1) the actual number of homes that will be sound proofed going forward based on what FAA funds have been secured for this purpose
2) more detailed maps showing the additional nearly 200 homes that fall within the incompatible DNL noise contours and that could potentially be eligible for sound proofing

The documents online show the 2023 NEM, which wasn't displayed at last night's workshop. What instigated the development of this 2023 map and how is it different from the the 2024 NEM?

Also, the link to the 2015 Noise Exposure Maps is not working and needs to be repaired.

Thank you very much,
Meaghan Emery
27 Myers Ct., South Burlington

Comment #3

Patrick Leahy Burlington International Airport
NEM Update 2024
Comment Form

Please use the space below to provide your questions and comments regarding the 14 CFR Part 150 Noise Exposure Map Update for Patrick Leahy Burlington International Airport. Your comments will be included in the Noise Exposure Map documentation submitted to FAA. Your participation in the process is appreciated.

Given that the military noise modeling is based on interviews, please ensure that there is a clear comparison between the actual noise recorded from the noise monitors and the modeling that relies on pilot interviews.

Name: Pike Porter		Organization:	
Street Address:	City: Burlington	State: VT	Zip: 05401
Tel:	Email: pikeporterca gmail.com		

Please email completed comment forms to:
BTVSound@jonespayne.com
or
Mail comments to:
1200 Airport Drive, #1 South Burlington VT 05403
The Jones Payne Group

All comments received will be included in the final draft of the Noise Exposure Map documentation which will be submitted to the Federal Aviation Administration.

THANK YOU FOR YOUR PARTICIPATION

Comment #4

Patrick Leahy Burlington International Airport
NEM Update 2024
Comment Form

Please use the space below to provide your questions and comments regarding the 14 CFR Part 150 Noise Exposure Map Update for Patrick Leahy Burlington International Airport. Your comments will be included in the Noise Exposure Map documentation submitted to FAA. Your participation in the process is appreciated.

I appreciate the work put into this study - unfortunately it doesn't address the high decibel F35 jet noise which is incredibly disruptive. I hope in the future a study can take place that measures this specific noise damage? I imagine most public complaints around airport noise are in regards to this specific problem. What can we of the public do to make a study measuring the noise impact from the jets specifically happen? (F35 Jet flight patterns directly over the states largest pop. centers was a bad idea ☹)

Name: Sylvana Lane Organization:

Street Address: 1730 E Essex Rd City: Williston State: VT Zip: 05495

Tel: (802)922-3572 Email: sylvana.lane@gmail.com

Please email completed comment forms to:
BTVSound@jonespayne.com
or
Mail comments to:
1200 Airport Drive, #1 South Burlington VT 05403
The Jones Payne Group

All comments received will be included in the final draft of the Noise Exposure Map documentation which will be submitted to the Federal Aviation Administration.

THANK YOU FOR YOUR PARTICIPATION

Comment #5

Patrick Leahy Burlington International Airport
NEM Update 2024
Comment Form

Please use the space below to provide your questions and comments regarding the 14 CFR Part 150 Noise Exposure Map Update for Patrick Leahy Burlington International Airport. Your comments will be included in the Noise Exposure Map documentation submitted to FAA. Your participation in the process is appreciated.

I am disappointed that the sound map only focuses on average sound - not intensity. It is intensity that affects people, not an average.

And Williston Taft Corners should be recognized as impacted by the F35 noise. I have measured over 100 decibels at times and in the 90 decibel range typically.

Name: Sharon Gutwin		Organization:	
Street Address:	City:	State:	Zip:
Tel: 802 238-8087	Email: sbgutwin@gmail.com		

Please email completed comment forms to:
BTVSound@jonespayne.com
or
Mail comments to:
1200 Airport Drive, #1 South Burlington VT 05403
The Jones Payne Group

All comments received will be included in the final draft of the Noise Exposure Map documentation which will be submitted to the Federal Aviation Administration.

THANK YOU FOR YOUR PARTICIPATION

BTV PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

Comment #6

Please use the space below to provide your questions and comments regarding the 14 CFR Part 150 Noise Exposure Map Update for Patrick Leahy Burlington International Airport. Your comments will be included in the Noise Exposure Map documentation submitted to FAA. Your participation in the process is appreciated.

Noise map ALWAYS leaves out the area of Winooski
MOST impacted by airport Noise - a real need for a
Noise Monitor in the Richardson Park area. Planes
come in over the housing in this area. But MY chief
Complaint is the departures in the middle of the night.
Used to be in the 6 AM hour (still are!!), but now
more depart in the 5 AM hour. — arrivals after mid-
night have increased - and there's even Traffic at 2 or
3 AM. Can't sleep. Affects health in so many ways.
Add the F-35's (9-9:30 AM Take off + 1-1:30 takeoffs)
Circling "Practice" flights have - so far - been better.
But the helicopters recently have had an uptick.
Planes fly low, are loud, WAY too frequent. Intolerable →

Name: Kelley McDonald
Organization:
Street Address: 10 Lapointe St
City: Winooski
State: VT
Zip: 05404
Tel:
Email:

Please email completed comment forms to:
BTVSound@jonespayne.com
or
Mail comments to:
1200 Airport Drive, #1 South Burlington VT 05403
The Jones Payne Group

All comments received will be included in the final draft of the Noise Exposure Map documentation which will be submitted to the Federal Aviation Administration.

THANK YOU FOR YOUR PARTICIPATION

But I bought my house in 1996 - Love it. Hate the location. Complain - but - no one listens b/c NOTHING gets better - only gets worse - Earlier flights + later flights. Might as well have OVER Winooski - Nice parking lot for Burlington. Even complaints to FAA have NOT helped with planes now leaving earlier still, yet, again - Close to 5 Am. Not a lot of time to sleep between 2 Am and 5 Am. Frankly, I try NOT to use the air-port (BTV). Ripped off by taxi drivers even for a 10-15 minute ride. The whole seems to benefit the AIRPORTS coffers - but not one regard for people living here and their lives.

Comment # 7

Patrick Leahy Burlington International Airport
NEM Update 2024
Comment Form

Please use the space below to provide your questions and comments regarding the 14 CFR Part 150 Noise Exposure Map Update for Patrick Leahy Burlington International Airport. Your comments will be included in the Noise Exposure Map documentation submitted to FAA. Your participation in the process is appreciated.

Would love some sound insulation + windows that helped with the noise on Saint Peter st/North St.

But certainly appreciate the efforts to limit the noise As much as possible.

The planes are directly overhead the house. Thanks for flying as high as possible.

My tinnitus has gotten a lot worse since Moving here in 2020, and I'm only 44 y.o.

Name: Nicole Schubert Organization:

Street Address: 106 Saint Peter St City: Winooski State: VT Zip: 05404

Tel: Email: nicole.j.schubert@gmail.com

Please email completed comment forms to:
BTVSound@jonespayne.com
or
Mail comments to:
1200 Airport Drive, #1 South Burlington VT 05403
The Jones Payne Group

All comments received will be included in the final draft of the Noise Exposure Map documentation which will be submitted to the Federal Aviation Administration.

THANK YOU FOR YOUR PARTICIPATION

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Appendix G: Noise Exposure Map Figures, Detailed View

Table of Contents

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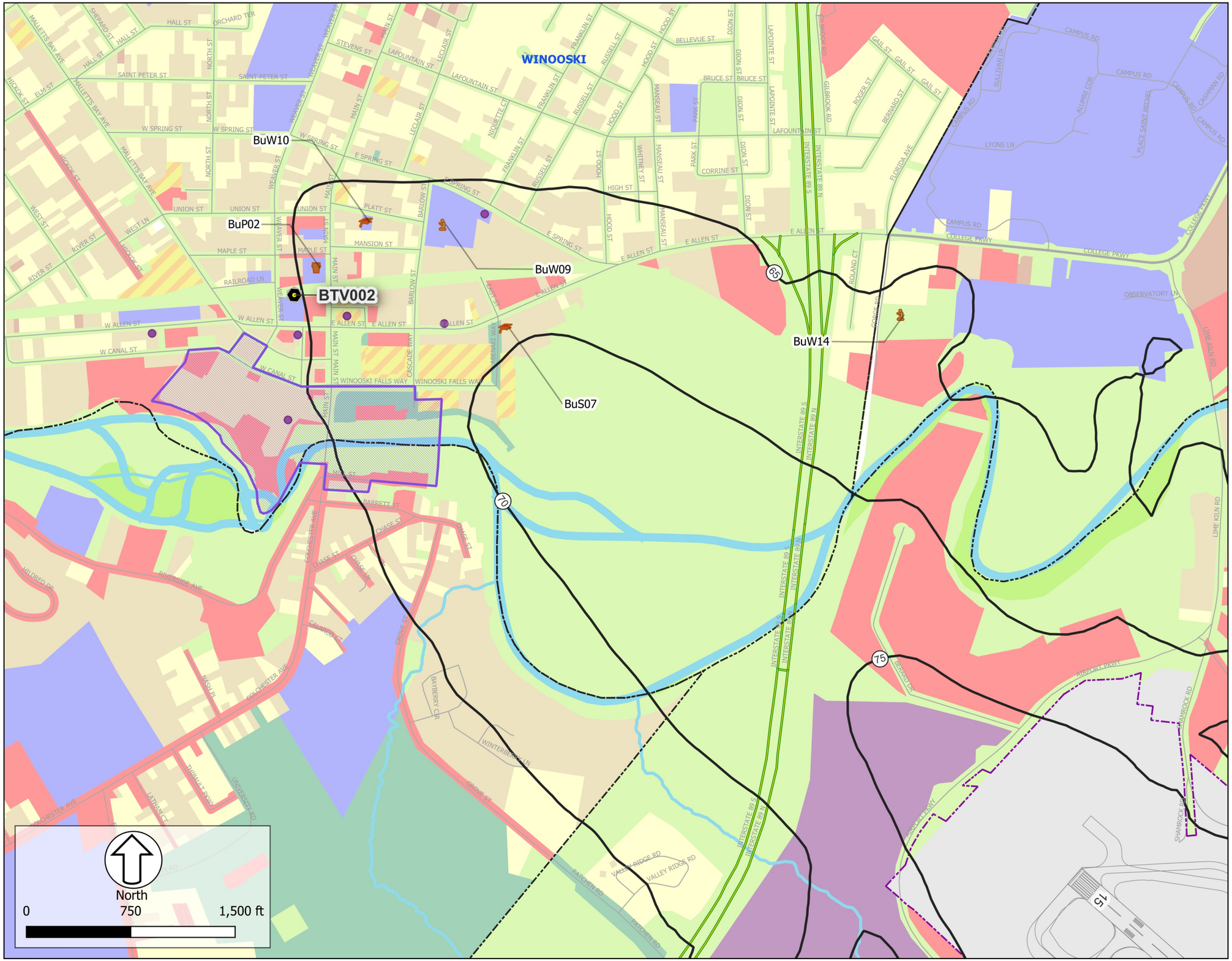
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

PART 150 - NOISE EXPOSURE MAP UPDATE

WINOOSKI
Figure 5-1 - North
2024 Noise Exposure Map



2024 DNL Contour (Existing Conditions)

- Town Boundary
- Airport Property Boundary
- Historic Districts
- Historic Sites
- Local Roads
- Major Roads
- Highways
- Education
- Place of Worship
- Public Gathering
- Noise Monitor
- Rivers & Streams
- Sound Insulated

2024 Land Use

- Single Family Residential (1)
- Multi Family Residential (1)
- Other Residential (1)
- Mixed Use (1)
- Public Use (1)
- Airport
- Commercial (2)
- Manufacturing & Production (2)
- Recreational (2)
- Open Space

(1) Potentially non-compatible within 65 dB DNL contour as discussed in Section 2.1.
(2) Potentially non-compatible within 70 dB DNL contour as discussed in Section 2.1.

Data Source:
Vermont Center for Geographic Information Inc. (VCGI), United States Census Bureau, National Register of Historic Places, Burlington Internationa Airport, Harris Miller Miller & Hanson Inc.

December 6, 2024

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PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

PART 150 - NOISE EXPOSURE MAP UPDATE

SOUTH BURLINGTON (NORTH)
Figure 5-1 - West
2024 Noise Exposure Map

2024 DNL Contour (Existing Conditions)

- Town Boundary
- Airport Property Boundary
- Historic Districts
- Historic Sites
- Local Roads
- Major Roads
- Highways
- Education
- Place of Worship
- Public Gathering
- Noise Monitor
- Rivers & Streams
- Sound Insulated

2024 Land Use

- Single Family Residential (1)
- Multi Family Residential (1)
- Other Residential (1)
- Mixed Use (1)
- Public Use (1)
- Airport
- Commercial (2)
- Manufacturing & Production (2)
- Recreational (2)
- Open Space

(1) Potentially non-compatible within 65 dB DNL contour as discussed in Section 2.1.
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North
0 750 1,500 ft

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PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

PART 150 - NOISE EXPOSURE MAP UPDATE

SOUTH BURLINGTON (SOUTH)
Figure 5-1 - West
2024 Noise Exposure Map

2024 DNL Contour (Existing Conditions)

Town Boundary
Airport Property Boundary
Historic Districts
Historic Sites
Local Roads
Major Roads
Highways
Education
Place of Worship
Public Gathering
Noise Monitor
Rivers & Streams
Sound Insulated

2024 Land Use

Single Family Residential (1)
Multi Family Residential (1)
Other Residential (1)
Mixed Use (1)
Public Use (1)
Airport
Commercial (2)
Manufacturing & Production (2)
Recreational (2)
Open Space

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North
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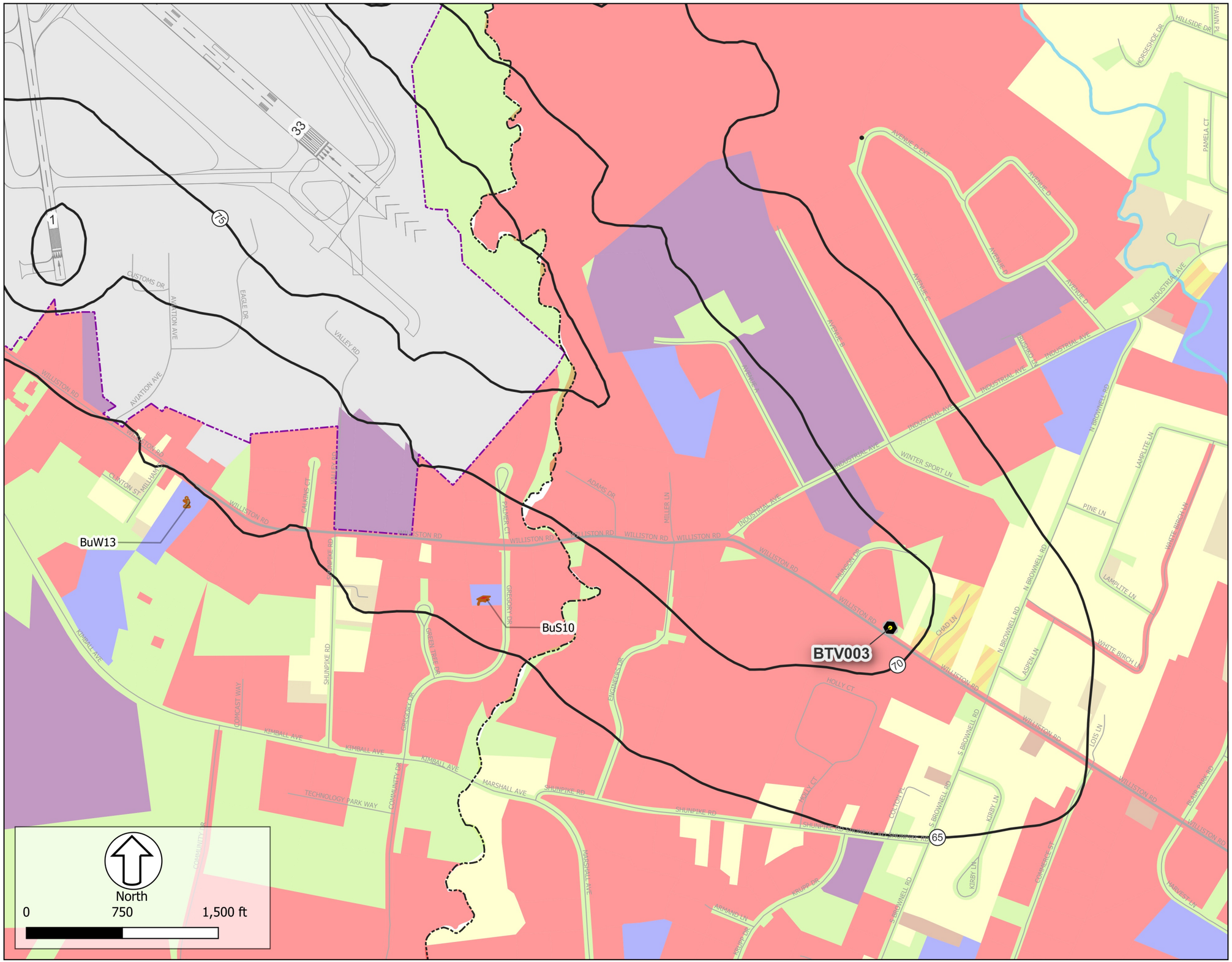

PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

PART 150 - NOISE EXPOSURE MAP UPDATE

WILLISTON
Figure 5-1 - South
2024 Noise Exposure Map

2024 DNL Contour (Existing Conditions)

- Town Boundary
- Airport Property Boundary
- Historic Districts
- Historic Sites
- Local Roads
- Major Roads
- Highways
- Education
- Place of Worship
- Public Gathering
- Noise Monitor
- Rivers & Streams
- Sound Insulated

2024 Land Use

- Single Family Residential (1)
- Multi Family Residential (1)
- Other Residential (1)
- Mixed Use (1)
- Public Use (1)
- Airport
- Commercial (2)
- Manufacturing & Production (2)
- Recreational (2)
- Open Space

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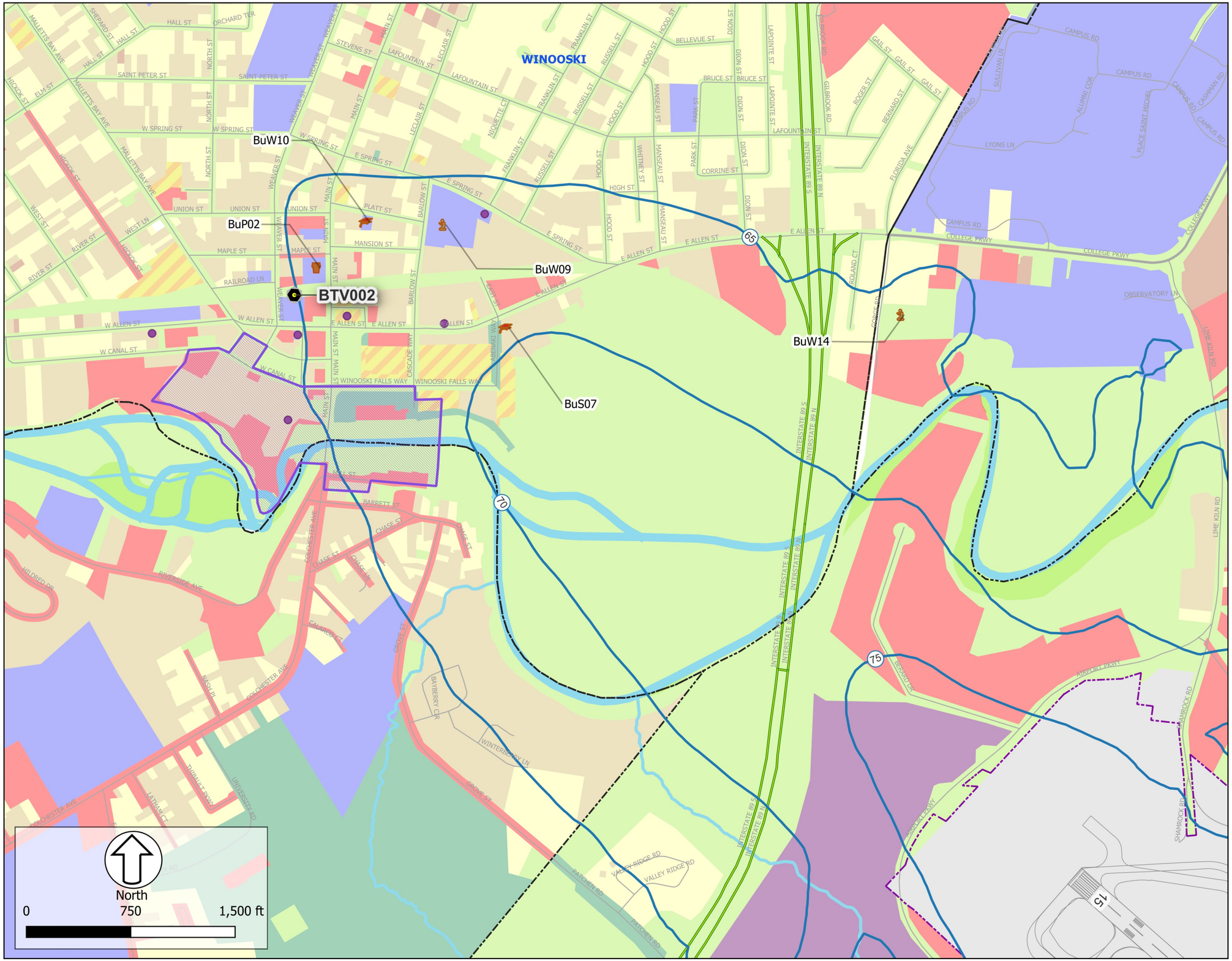
PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

PART 150 - NOISE EXPOSURE MAP UPDATE

WINOOSKI
Figure 5-2 - North
2029 Noise Exposure Map



2029 DNL Contour (Forecast Conditions)

- Town Boundary
- Airport Property Boundary
- Historic Districts
- Historic Sites
- Local Roads
- Major Roads
- Highways
- Education
- Place of Worship
- Public Gathering
- Noise Monitor
- Rivers & Streams
- Sound Insulated

2024 Land Use

- Single Family Residential (1)
- Multi Family Residential (1)
- Other Residential (1)
- Mixed Use (1)
- Public Use (1)
- Airport
- Commercial (2)
- Manufacturing & Production (2)
- Recreational (2)
- Open Space

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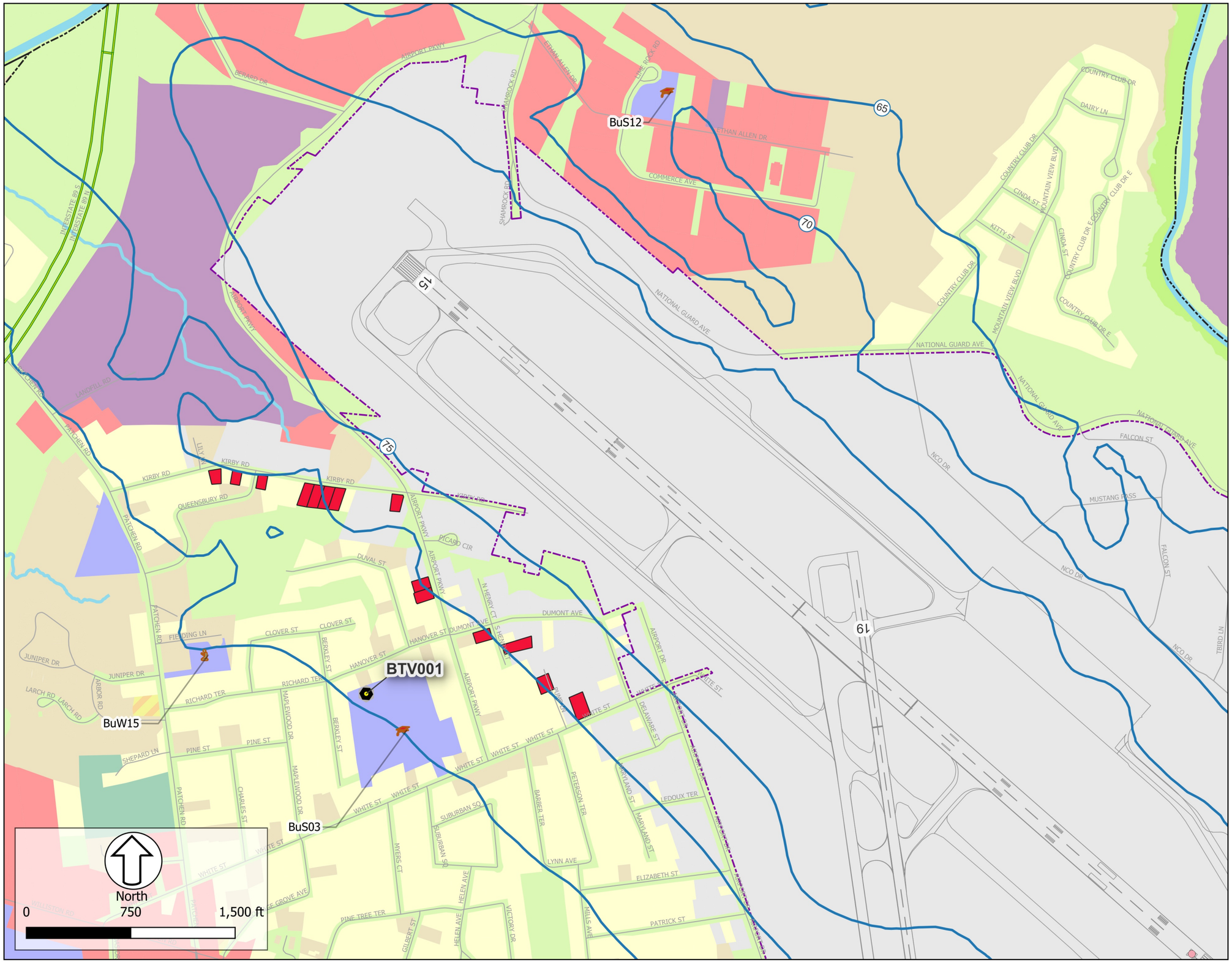

PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

PART 150 - NOISE EXPOSURE MAP UPDATE

SOUTH BURLINGTON (NORTH)
Figure 5-2 - West
2029 Noise Exposure Map

2029 DNL Contour (Forecast Conditions)

- Town Boundary
- Airport Property Boundary
- Historic Districts
- Historic Sites
- Local Roads
- Major Roads
- Highways
- Education
- Place of Worship
- Public Gathering
- Noise Monitor
- Rivers & Streams
- Sound Insulated

2024 Land Use

- Single Family Residential (1)
- Multi Family Residential (1)
- Other Residential (1)
- Mixed Use (1)
- Public Use (1)
- Airport
- Commercial (2)
- Manufacturing & Production (2)
- Recreational (2)
- Open Space

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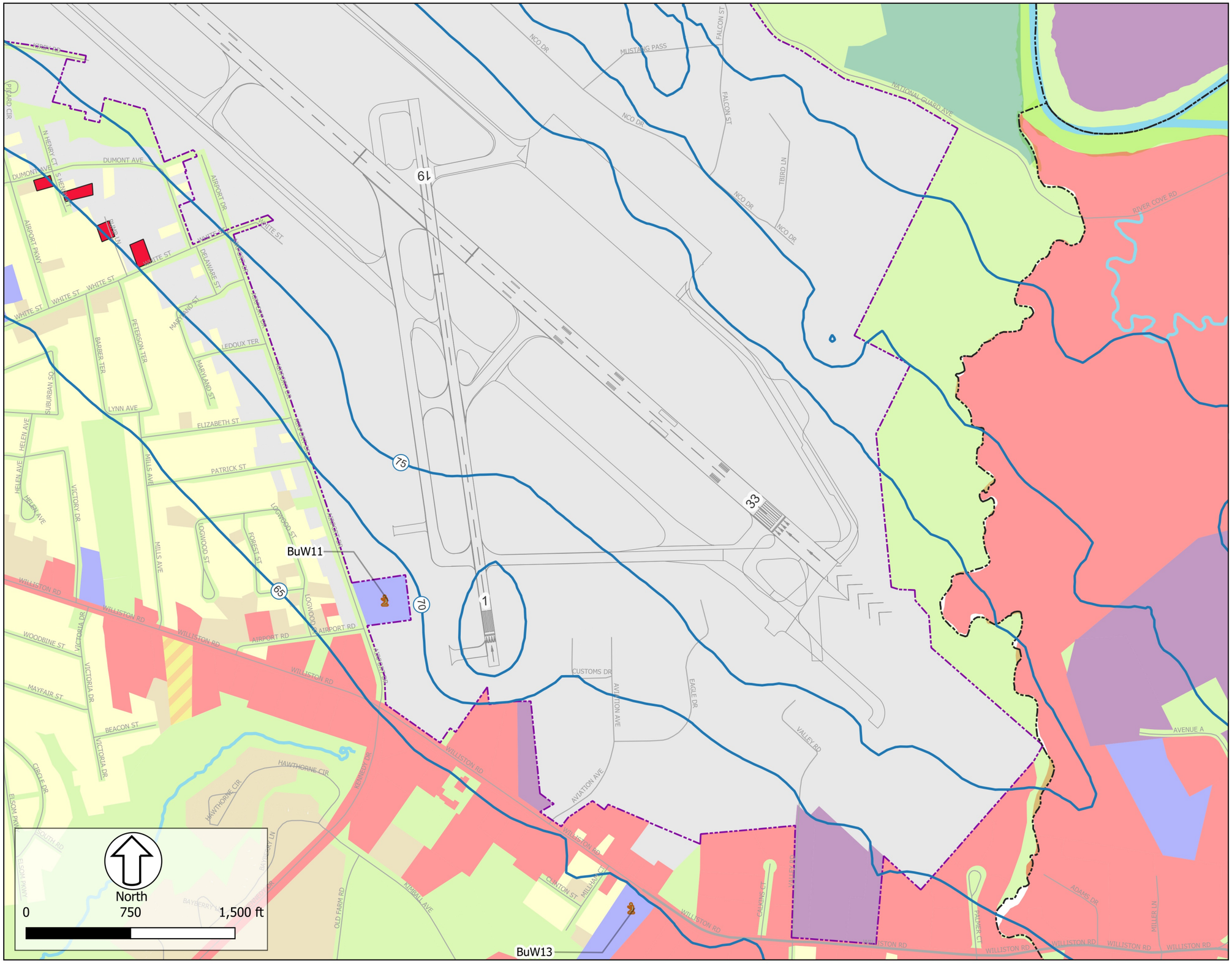

PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

PART 150 - NOISE EXPOSURE MAP UPDATE

SOUTH BURLINGTON (SOUTH)
Figure 5-2 - West
2029 Noise Exposure Map

2029 DNL Contour (Forecast Conditions)

- Town Boundary
- Airport Property Boundary
- Historic Districts
- Historic Sites
- Local Roads
- Major Roads
- Highways
- Education
- Place of Worship
- Public Gathering
- Noise Monitor
- Rivers & Streams
- Sound Insulated

2024 Land Use

- Single Family Residential (1)
- Multi Family Residential (1)
- Other Residential (1)
- Mixed Use (1)
- Public Use (1)
- Airport
- Commercial (2)
- Manufacturing & Production (2)
- Recreational (2)
- Open Space

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PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

PART 150 - NOISE EXPOSURE MAP UPDATE

WILLISTON
Figure 5-2 - South
2029 Noise Exposure Map

2029 DNL Contour (Forecast Conditions)

- Town Boundary
- Airport Property Boundary
- Historic Districts
- Historic Sites
- Local Roads
- Major Roads
- Highways
- Education
- Place of Worship
- Public Gathering
- Noise Monitor
- Rivers & Streams
- Sound Insulated

2024 Land Use

- Single Family Residential (1)
- Multi Family Residential (1)
- Other Residential (1)
- Mixed Use (1)
- Public Use (1)
- Airport
- Commercial (2)
- Manufacturing & Production (2)
- Recreational (2)
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December 6, 2024

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North
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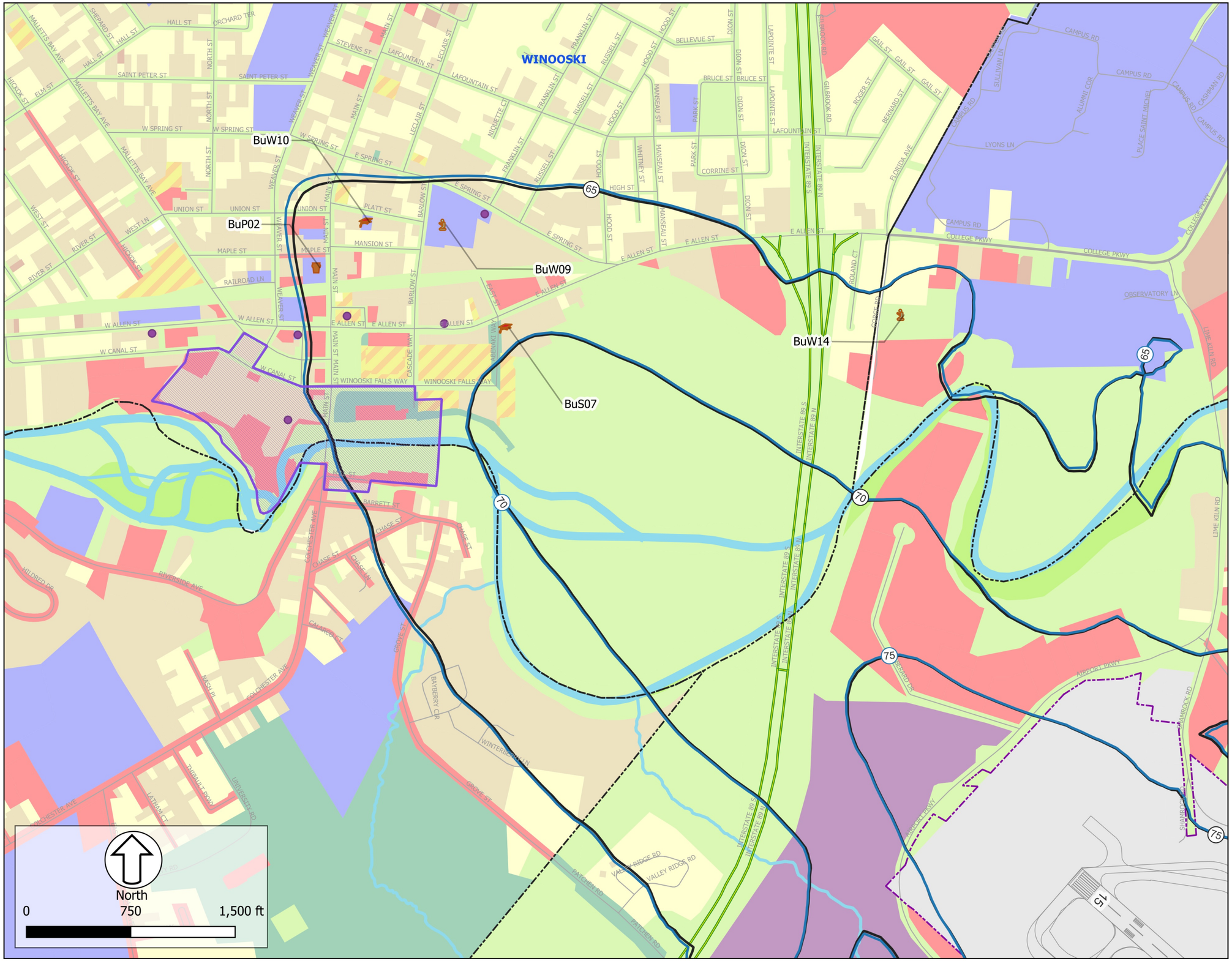

PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

PART 150 - NOISE EXPOSURE MAP UPDATE

WINOOSKI
Figure 5-3 - North
Comparison of 2024 DNL contours to 2029

- 2029 DNL Contour (Forecast Conditions)
- 2024 DNL Contour (Existing Conditions)

- Town Boundary
- Airport Property Boundary
- Historic Districts
- Historic Sites
- Local Roads
- Major Roads
- Highways
- Education
- Place of Worship
- Public Gathering
- Rivers & Streams

2024 Land Use

- Single Family Residential (1)
- Multi Family Residential (1)
- Other Residential (1)
- Mixed Use (1)
- Public Use (1)
- Airport
- Commercial (2)
- Manufacturing & Production (2)
- Recreational (2)
- Open Space

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PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

PART 150 - NOISE EXPOSURE MAP UPDATE

WINOOSKISOUTH BURLINGTON (NORTH)
Figure 5-3 - West
Comparison of 2024 DNL contours to 2029

- 2029 DNL Contour (Forecast Conditions)
- 2024 DNL Contour (Existing Conditions)

- Town Boundary
- Airport Property Boundary
- Historic Districts
- Historic Sites
- Local Roads
- Major Roads
- Highways
- Education
- Place of Worship
- Public Gathering
- Rivers & Streams

2024 Land Use

- Single Family Residential (1)
- Multi Family Residential (1)
- Other Residential (1)
- Mixed Use (1)
- Public Use (1)
- Airport
- Commercial (2)
- Manufacturing & Production (2)
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December 6, 2024

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North
0 750 1,500 ft

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PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

PART 150 - NOISE EXPOSURE MAP UPDATE

SOUTH BURLINGTON (SOUTH)
Figure 5-3 - West
Comparison of 2024 DNL contours to 2029

- 2029 DNL Contour (Forecast Conditions)
- 2024 DNL Contour (Existing Conditions)

- Town Boundary
- Airport Property Boundary
- Historic Districts
- Historic Sites
- Local Roads
- Major Roads
- Highways
- Education
- Place of Worship
- Public Gathering
- Rivers & Streams

2024 Land Use

- Single Family Residential (1)
- Multi Family Residential (1)
- Other Residential (1)
- Mixed Use (1)
- Public Use (1)
- Airport
- Commercial (2)
- Manufacturing & Production (2)
- Recreational (2)
- Open Space

(1) Potentially non-compatible within 65 dB DNL contour as discussed in Section 2.1.
(2) Potentially non-compatible within 70 dB DNL contour as discussed in Section 2.1.

Data Source:
Vermont Center for Geographic Information Inc. (VCGI), United States Census Bureau, National Register of Historic Places, Burlington Internationa Airport, Harris Miller Miller & Hanson Inc.

December 6, 2024

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North
0 750 1,500 ft

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PATRICK LEAHY BURLINGTON INTERNATIONAL AIRPORT

PART 150 - NOISE EXPOSURE MAP UPDATE

WILLISTON
Figure 5-3 - South
Comparison of 2024 DNL contours to 2029

2029 DNL Contour (Forecast Conditions)
2024 DNL Contour (Existing Conditions)

Town Boundary
Airport Property Boundary
Historic Districts
Historic Sites
Local Roads
Major Roads
Highways
Education
Place of Worship
Public Gathering
Rivers & Streams

2024 Land Use

Single Family Residential (1)
Multi Family Residential (1)
Other Residential (1)
Mixed Use (1)
Public Use (1)
Airport
Commercial (2)
Manufacturing & Production (2)
Recreational (2)
Open Space

(1) Potentially non-compatible within 65 dB DNL contour as discussed in Section 2.1.
(2) Potentially non-compatible within 70 dB DNL contour as discussed in Section 2.1.

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0 750 1,500 ft

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