



BTV Noise Compatibility Program Update – Technical Advisory Committee

December 5, 2017

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



HARRIS MILLER MILLER & HANSON INC.

Purpose of TAC

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



Agenda

Public forum and comment period

Chapter 2 – Land use update for NCP

Chapter 3 – Existing NCP

Avigation easements

TAC questions and comments period



Public Forum and Comment Period



NCP Document – Draft outline

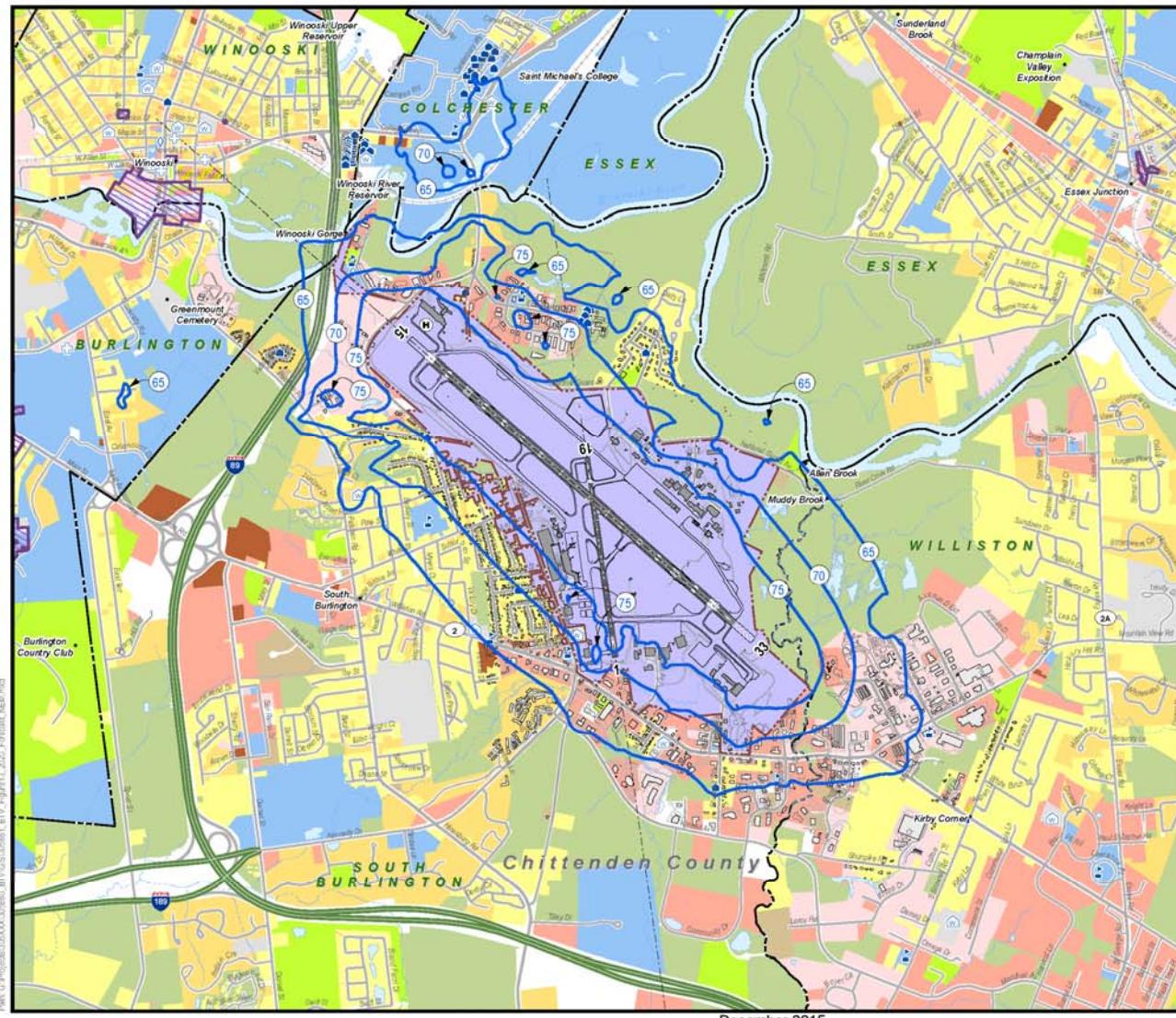
- Chapter 1
 - introduces the purpose of the Part 150 NCP Update and provides an overview (discussed at October meeting)
- Chapter 2
 - accepted Noise Exposure Maps (NEMs) and land use information
- Chapter 3
 - describes the existing NCP and approved measures
- Chapter 4
 - presents the new recommended measures to the BTV NCP
- Chapter 5
 - presents the analysis of NCP measures
- Chapter 6
 - describes public consultation

Chapter 2 – Accepted Noise Exposure Maps

Chapter 2 will include:

- Reference to the FAA-accepted Noise Exposure Maps (NEM)
- Dates of NEM
- NEM Public Consultation Summary
- Noise/Land Use Compatibility Guidelines
- Land Uses with NEM (including an update for 2018)

2020 Forecast Conditions NEM



PART 150 - NOISE EXPOSURE MAP UPDATE

Figure 13
2020 Forecast Conditions Noise Exposure Map

- 2020 DNL Contours
- Airport Property Boundary
- Town Boundary
- Helicopter Pad
- Highways
- Major Roads
- Local Roads
- Education
- Place of Worship
- Health Care
- Public Gathering
- National Register Historic District
- National Register Historic Site
- Single Family Residential (1)
- Multi Family Residential (1)
- Residence or Accommodation Functions (1)
- General Sales or Services (2)
- Mixed Use (1)
- Manufacturing and Wholesale Trade (2)
- Education, Public Admin., Health Care (1)
- Religious Institutions (1)
- Arts, Entertainment, and Recreation (1)
- Agriculture, Forestry, Fishing and Hunting (1)
- Mining and Extraction Establishments
- Construction-Related Businesses
- Transportation, Communication, and Utilities (2)
- Open Water
- Streams

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

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

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

0 1,000 2,000 4,000 Feet



CAMPBELL AND PARIS ENGINEERS, P.C.

Chapter 2 – Land Use Update

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

Chapter 2 - Land Use Update

- Land use data updates (for NCP update)
 - Updates provided to reflect:
 - Acquired properties from Voluntary Land Acquisition Program
 - Zoning changes at jurisdiction level
 - Updates to non-residential noise sensitive locations

2020 NEM Land Use Analysis Summary

(updated from 2015 NEM submission)

Residential dwellings and population within the 2020 65 dB DNL noise contours

571* single family houses

341* multi-family (individual apartments/condominium units)

2,119* estimated population

In addition: St. Michael's College: 2 dormitories; approx. 136 student residents

List of non-residential noise sensitive locations

6 education facilities

Only public is Chamberlain Elementary School

8 places of worship (3 churches, 5 cemeteries)

1 public gathering place

*numbers have been updated from 2015 NEM and will be finalized for the NCP submittal based on current land acquisition program participation



2020 NEM Land Use Analysis Summary

(updated from 2015 NEM submission)

City of South Burlington

Estimated dwelling units within 65 dB or greater DNL: 888

608 dwelling units are south of the airport and west of Kennedy Dr.

38 dwelling units are south of the airport and east of Kennedy Dr.

242 dwelling units are north of the airport

Town of Williston

None, although there are two parcels zoned as residential

City of Burlington

Estimated dwelling units within 65 dB or greater DNL: 9

7 are single-family units along Bilodeau Ct.

2 are multi-family units in a complex along East Ave.

City of Winooski

Estimated dwelling units within 65 dB or greater DNL: 11

All of these are single-family units on the southern end of Roland Ct.

Town of Colchester

Estimated dwelling units within 65 dB or greater DNL: 8 plus 3 dormitories

This includes a four unit building along College Ave and 4 individual houses on Gorge Rd.



Chapter 3 – Existing Noise Compatibility Program

- The existing 2008 NCP includes 15 FAA-approved measures with a mix of operational, implementation, and land use elements
- The 2008 NCP, and associated Record of Approval (ROA), revised a single measure
 - Eligibility for the Land Acquisition and Relocation Program expanded from the 70 dB DNL contour the 65 dB DNL contour for permanent residences
- The following summary is organized in the same order as the measures were discussed in the FAA's ROA for the 2008 NCP

Chapter 3 – Existing Noise Compatibility Program

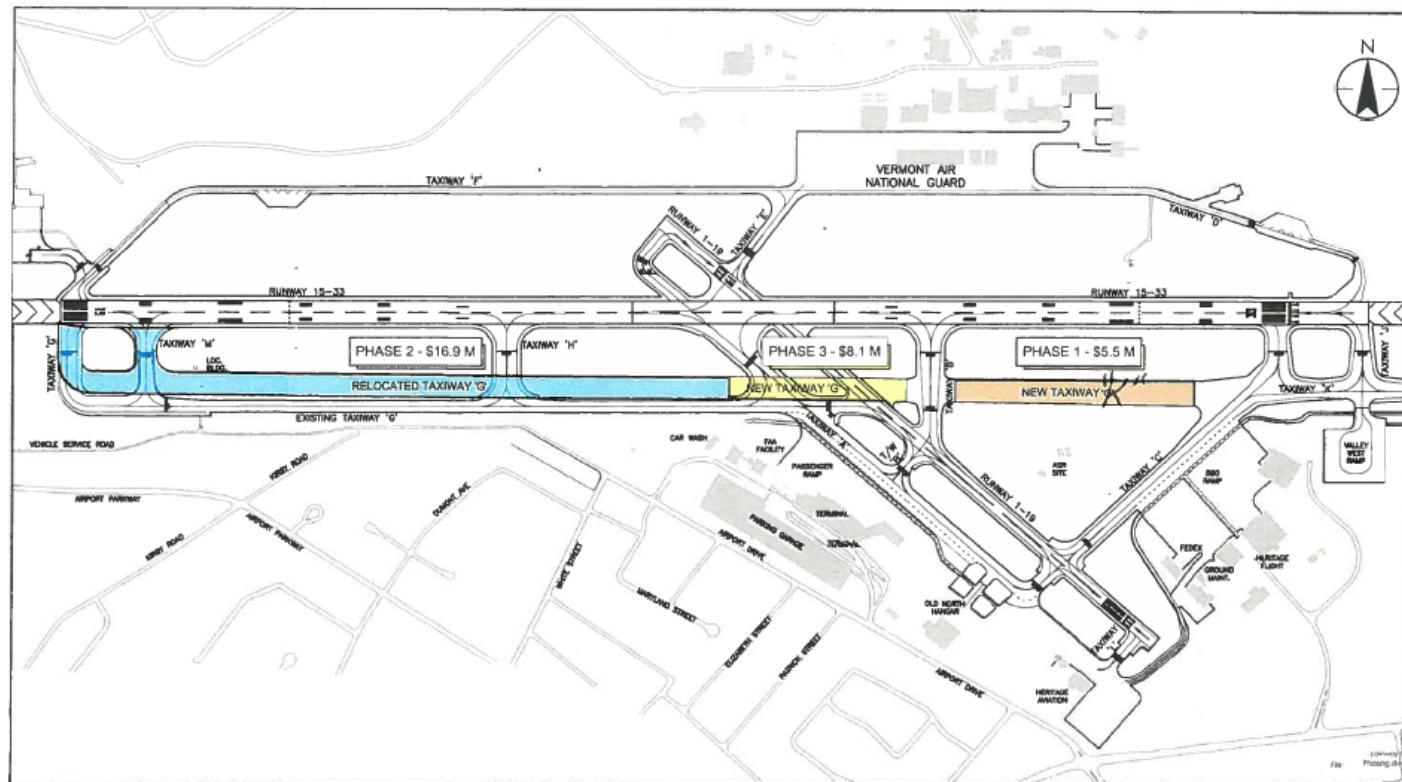
Airport Operations Measures

Extension of Taxiway G

- Taxiway G would be extended from the existing intersection with Taxiways A & C, remaining parallel with Runway 15/33 in order to reduce noise levels for residents along Airport Drive
- **Status:** In progress. The FAA approved the extension at the planning level; it is shown on the updated 2012 Airport Layout Plan
 - 1) Phase 1 of the construction, started Nov. 2015 and was completed in July 2016
 - 2) Phase 2 started October 2016 and is schedule to be completed by the end of calendar year 2018
 - 3) Phase 3 is schedule to be completed by 2020, and would complete the connection

Chapter 3 – Existing Noise Compatibility Program

Airport Operations Measures Extension of Taxiway G



55 Green Mountain Drive
South Burlington, VT 05403

Legend TAXIWAY G CONSTRUCTION

- PHASE 1
- PHASE 2
- PHASE 3



Chapter 3 – Existing Noise Compatibility Program

Airport Operations Measures

Terminal Power Installation and APU/GPU Restrictions

- Installation reduces 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. There are 11 gates in total.

Chapter 3 – Existing Noise Compatibility Program

Airport Operations Measures

Nighttime Bi-direction Runway Use

- To minimize late-night operations over the City of Winooski, the air traffic control tower would use Runway 15 for departure and Runway 33 for arrivals, traffic conditions permitting.
- **Status:** 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 DNL “nighttime” hours (i.e., from 5:00 AM to 7:00 AM).

Chapter 3 – Existing Noise Compatibility Program

Airport Operations Measures

Noise Abatement Flight Paths for Runway 15 and 33 Departures, and 15 Arrivals

- 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.

Chapter 3 – Existing Noise Compatibility Program

Airport Operations Measures

Voluntary Limits of Military C-5A Training

- An informal agreement with the military limits C-5A operations to only necessary takeoffs and landings.
- **Status:** Not fully implemented. An agreement is not currently in place. However...
 - 1) BTV Operations strongly discourage 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.
 - 2) Historically, the military has always coordinated the arrival of a C-5 with BTV Operations because of the constraints on the airfield.
 - 3) All transient military aircraft are limited to two practice approaches.

Chapter 3 – Existing Noise Compatibility Program

Airport Operations Measures:

Voluntary Minimization of F-16 Multiple Aircraft Flights

- Military personnel will schedule as many single-aircraft, as opposed to multiple-aircraft, flights as possible.
- **Status:** Not fully implemented. Most F-16 flights require between 2 and 4 aircraft, depending on mission and tactical scenario.
 - F-16s in multiple aircraft flights typically operate 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.

Chapter 3 – Existing Noise Compatibility Program

Airport Operations Measures:

Voluntary Army Guard Helicopter Training Controls

- 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.

Chapter 3 – Existing Noise Compatibility Program

Monitoring and Review Elements:

Ongoing Monitoring and Review of NEM and NCP Status

- The measure provides for revision of the NEM/NCP, citing three examples:
 - 1) Changes in airport layout,
 - 2) Unanticipated changes in the level of airport activity, and
 - 3) Non-compliance with the NCP
- The measure also included the recommendation of the TAC as a Noise Abatement Committee and purchase of a permanent noise monitoring system.
- **Status:** Not fully implemented. The City updated the NEM in 1997, 2006 and 2015, and the NCP in 2008. The City is also planning to prepare an NEM update in the next one to two years.

Chapter 3 – Existing Noise Compatibility Program

Monitoring and Review Elements:

Flight Track Monitoring

- Utilization of an outside firm to perform flight track analysis of radar data on a temporal sampling basis
- **Status:** Not fully implemented. Flight tracks for 2015 NEM were developed from calendar year 2012 radar data samples provided by the FAA. City is moving forward with perspective companies that analyze flight track data in the next 6 months.

Chapter 3 – Existing Noise Compatibility Program

Land Use Measures:

Land Acquisition and Relocation

- A Voluntary program for residences within the 65 dB DNL contour. Eligible property owners will be paid fair market value for their property at the 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 implementation of Department of Transportation (DOT) regulations.
- The City, and applicable jurisdiction, will conduct studies to define program boundaries and to identify options for compatible reuse.
- The City, and applicable jurisdiction, 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.



Chapter 3 – Existing Noise Compatibility Program

Land Use Measures:

Land Acquisition and Relocation

- **Status:** Implemented. The City has purchased some, and is in the process of purchasing additional, permanent residences in the 65 dB DNL contour.
 - Since the start of federal Fiscal Year 2007 (started October 1, 2006) through September 2015, the FAA has issued 12 grants to the City of Burlington totaling approximately \$32.6 million.
 - The FAA does have additional eligibility requirements aside from the property being within the 65 dB DNL NEM contour.
 - FAA's eligibility requirements are best described in FAA's Airport Improvement Program (AIP) Handbook.
 - Both the City of Burlington and other local municipalities have expressed an interest in ending the voluntary acquisition program and transitioning to other mitigation options. The City's recommendation regarding future of the Land Acquisition and Relocation measure will be discussed in a later chapter of the document.

Chapter 3 – Existing Noise Compatibility Program

Land Use Measures:

Sound Insulation

- 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. To date, the City and FAA have chosen to apply available funding to land acquisition. The City's recommendation regarding future sound insulation around BTV will be discussed later in the document.

Chapter 3 – Existing Noise Compatibility Program

Land Use Measures:

Easement Acquisition Related to Soundproofing

- The City would attempt to negotiate aviation easements within the 65 dB DNL contour, in return for sound attenuation assistance.
- **Status:** Not implemented. To date, the City has chosen to apply available funding to land acquisition. The City's recommendation regarding future sound insulation around BTV will be discussed later the document.

Chapter 3 – Existing Noise Compatibility Program

Land Use Measures:

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.
- **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. The City's recommendation regarding an Airport Zoning Overlay District around BTV will be discussed later in the document.

Chapter 3 – Existing Noise Compatibility Program

Land Use Measures:

Easement Acquisition for New Development

- Easements would be obtained for new development within the 65, 70 and 75 dB DNL contours.
- **Status:** Not implemented. The City's recommendation regarding easements around BTV will be discussed later in the document.

Chapter 3 – Existing Noise Compatibility Program

Land Use Measures:

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.
- **Status:** Not implemented. The airport has not actively encouraged the use of Real Estate Disclosures for properties within the 65 dB DNL contour.
 - However, outside of the Part 150 process, a disclosure of airport noise, particularly related to anticipated changes of Vermont Air National Guard Aircraft, has been included in many real estate transactions.
 - The City's recommendation regarding future real estate disclosures around BTV will be discussed later in the document.

Avigation Easements

- Avigation Easements are a legal document between the owner and the Airport Sponsor that is conveyed in exchange for something of value.
- Easements acknowledge:
 - The right of aircraft flight over or near a property
 - May also include the light, emissions and other items
 - May also include prohibition of obstructions (trees, towers)
- Can be given in exchange for noise mitigation such as:
 - Sound Insulation
 - Land Acquisition
- Can be in exchange for a monetary sum which is determined by:
 - Previously determined lump sum or
 - Percent of appraised fair market value
 - Method and or value must be approved by FAA

Avigation Easements

- Easements are attached to the property and continue with the land after the sale of a home
- Easements deem the property as a compatible land use under Part 150
- Provides disclosure to future owners

EASEMENT

THIS EASEMENT made this _____ day of _____, 2016, by and between _____ of New Haven/East Haven, Connecticut, and their successors or assigns hereinafter referred to as the "Grantor(s)", and Tweed-New Haven Airport Authority, a public instrumentality and political subdivision of the State of Connecticut created under Connecticut General Statutes Sec. 15-120g et seq., as amended, hereinafter referred to as the "Grantee".

WITNESSETH:

WHEREAS, Grantee is charged with the management and operation of Tweed New Haven Airport; and

WHEREAS, certain real property is owned by Grantor(s), in fee simple, commonly known as **Address, City**, Connecticut and more particularly described in Exhibit A attached hereto and made a part hereof, and referred to as the "Property";

WHEREAS, the Property meets certain interior noise level criteria and lies within certain noise zones commonly referred to as those areas above Day Night Average Sound Level of 65 decibels, as depicted on the Official Noise Contour Map of the Airport ("2017 Future DNL Contour") dated November, 2012 and available for review and inspection at the Airport's administrative offices, 155 Burr Street, New Haven, CT 06512; and

WHEREAS, Grantee is offering a residential sound insulation program for the Property to reduce aircraft noise experienced by Grantor(s) in the interior of the structure located on the Property; and

WHEREAS, Grantor(s) have elected to receive, and Grantee has agreed to provide, sound insulation on the Property, more particularly described in Schedule 1 attached hereto and made a part hereof; and

NOW THEREFORE, for valuable consideration, receipt of which is hereby acknowledged by Grantor(s), Grantor(s) hereby grant and convey and assign to Grantee, a perpetual easement more particularly described as follows:

1) The real property subject to the grant of easement hereinafter described is an airspace parcel ("Airspace Parcel") above the surface of the Property having the same boundaries as the Property and extending from the surface upwards to the limits of the atmosphere.



TAC Preliminary Topics and Schedule

TAC Meeting 3

January 23, 2018

NCP Ch. 4 – Part 1

- Airport operation measures
- Monitoring and review elements
- Land use measures – sound insulation

Discussion and feedback from TAC 4

TAC Meeting 4

March 13, 2018

NCP Ch. 4 – Part 2

- Land use measures – sound barriers/buffers
- Land use measures – sales assistance / purchase assurance
- Land use measures – real estate disclosure
- Land use measures – land acquisition and relocation
- Land use measures – easement acquisition

Discussion and feedback from TAC 3

TAC Preliminary Topics and Schedule

TAC Meeting 5

May 2018

Discussion and feedback from TAC 4

Public Hearing and Comment Period

estimated August – September 2018



TAC questions and comments

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