



BVY AIRPORT MASTER PLAN

Airport Planning Committee Meeting

April 26, 2021

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A WOOLPERT COMPANY

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AIRPORT SOLUTIONS GROUP, LLC
Innovation by Design


**BEVERLY
REGIONAL
AIRPORT**



MEETING OBJECTIVES

Today we will leave with:

- As awareness of the public comments received to-date
- An understanding of steps undertaken by the Airport regarding noise issues
- Knowledge of the updated noise study and findings
- A review of the implementation elements of the Master Plan
- An awareness of next steps
- An understanding of comments, questions, concerns

VIRTUAL MEETING

- There will be a presentation with 3 intermittent Q&A sessions during the presentation *for clarifying questions*
- There will be a general Q&A and open comment session at the conclusion of the presentation
- The meeting will be recorded and posted to the project website
- Please mute your microphone when you are not speaking
- Please use the “Raise Your Hand” function at the bottom of the screen if you wish to speak during the Q&A sessions
- Please don’t use the Chat for public comment
- We appreciate everyone’s patience!



WE HEARD FROM CITIZENS!

- We appreciate all the comments and input that we have received to-date
- We heard from **54** citizens and the Danvers Board of Selectmen
- The project communication log includes comments heard during our community meetings in January and comments we received via email
- The communication log will be published tomorrow at www.beverlyairport.com (see the Master Plan tab)
- We have removed names and addresses for privacy purposes



PUBLIC COMMENT - THEMES

COMMUNITY COMMUNICATION

- Request for advance notification of anticipated events
- Request for routine communication to all surrounding communities about airport activities

ECONOMIC BENEFIT/PROPERTY VALUES

- Lack of economic benefit to all the communities
- Lack of economic benefit to communities other than Beverly
- Concern about property valuations decreasing due to airport activities



PUBLIC COMMENTS - THEMES

NOISE

- ***Overwhelming number of comments pertained to existing noise issues***
- Additional comments expressed concern of increased noise related to proposed runway extension

SAFETY

- Concern of jet fuel odors
- Concerns regarding aircraft accidents
- Impact of LED lighting



AIRPORT ACTIONS - NOISE

- Formation of Airport Commission Noise Subcommittee
 - Routine review of complaints
 - Meet with airport operators
 - Provide updated voluntary noise abatement procedures for locally based pilots and transient pilots
 - Provide routine update at Airport Commission meetings
 - Enhance internal process for reviewing noise complaints
 - Requested municipalities to designate participants
- Significantly enhanced noise and safety webpage:
 - Voluntary Noise Abatement Procedures
 - FAA Noise Guidance link, FAA Noise Basics link and other resource links
 - FAA Noise Ombudsman contact information
 - [Airport Noise and Safety Information | Beverly Regional Airport \(beverlyairport.com\)](https://www.beverlyairport.com/noise-safety)
- Ongoing discussions with FAA Air Traffic Control Tower, Flight Schools, and major operators
- Review of 2020 operation increase was likely related to the 3-month closure of all flight schools resulting in a pent-up training demand during a flight compressed season



AVIER FLIGHT SCHOOL

Newly introduced **Good Neighbor Policy**

- *We encourage full length departures, at BVY which maximizes elevation when crossing the airport boundary.*
- *Patterns are flown at reduced RPM (within operational limits) once pattern altitude is achieved.*
- *Departures from the area will maintain Vy for as long as operationally feasible, to at least 2,000 feet.*
- *Touch and Go landings are only used rarely at our school. We favor full stop landings with taxi back for quality of training; but the additional benefit is that we are not departing from mid-field.*
- *We have implemented a curriculum that favors cross country scenario-based training which, in addition to the educational benefit, also serves to dilute our local operations.*
- *We have begun development of a carbon reduction initiative that is resulting in education of our clients in the area of reduced power settings and improved fuel leaning procedures. This reduction in power also results in a reduction of sound.*



OTHER AIRPORT ACTIONS

- The Airport will continue to communicate operational issues to the FAA Air Traffic Control Tower
- The Airport will continue to meet all federal and state safety requirements
- The Airport's will ensure that the future airfield LED lighting project matches the existing airfield lighting brightness
- The Airport will work with Commission representatives to ensure routine communications with elected officials and municipalities
- The Airport will continue to post activities on their website and Facebook page and will develop a semi-annual community newsletter about airport activities
- The Airport will explore establishing a communication system to advise citizens of airport events
- The Airport has posted MassDOT Aeronautics Economic Impact Study to the airport's website for further information

CLARIFYING QUESTIONS - SESSION #1



- Please use the “Raise Your Hand” function at the bottom of the screen when you want to speak
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NOISE STUDY



Photo Credit: gbouillon

FAA LAND USE COMPATIBILITY GUIDELINES

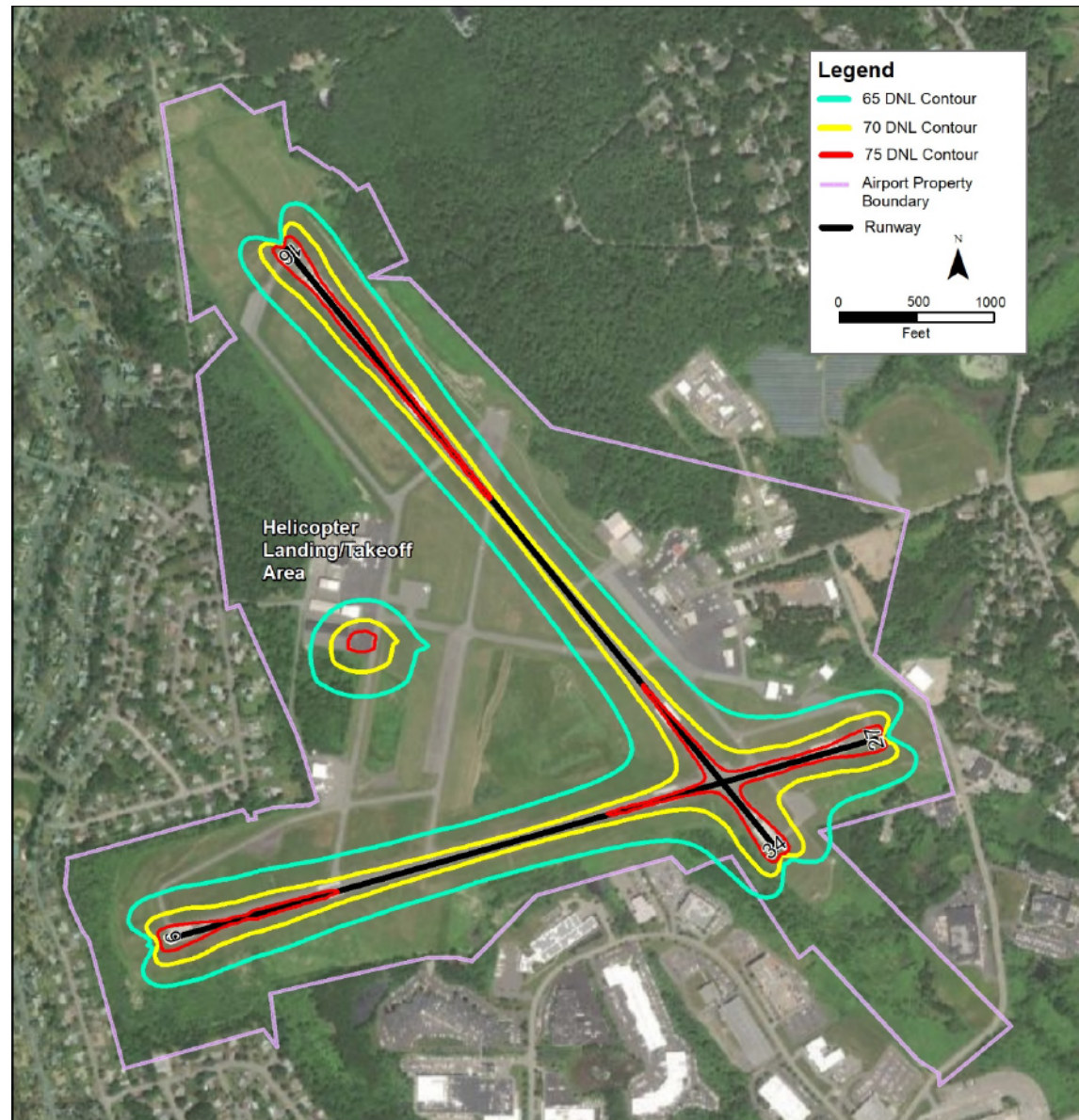
- FAA guidance identifies uses within designated noise contours based on **Yearly Day-Night Levels (DNL)** decibels
 - The FAA methodology annualizes single noise events
- Identified land uses include:
 - Residential
 - Public Use (schools, churches, etc.)
 - Commercial Use
 - Manufacturing and Production
 - Recreational
- ***In most instances, residential in areas of 65 DNL and up should be prohibited***
- ***Residential in areas below 65 DNL are compatible uses***
- The complete noise study will be posted at www.beverlyairport.com (see Master Plan tab)

Table 1—Land Use Compatibility* With Yearly Day-Night Average Sound Levels

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

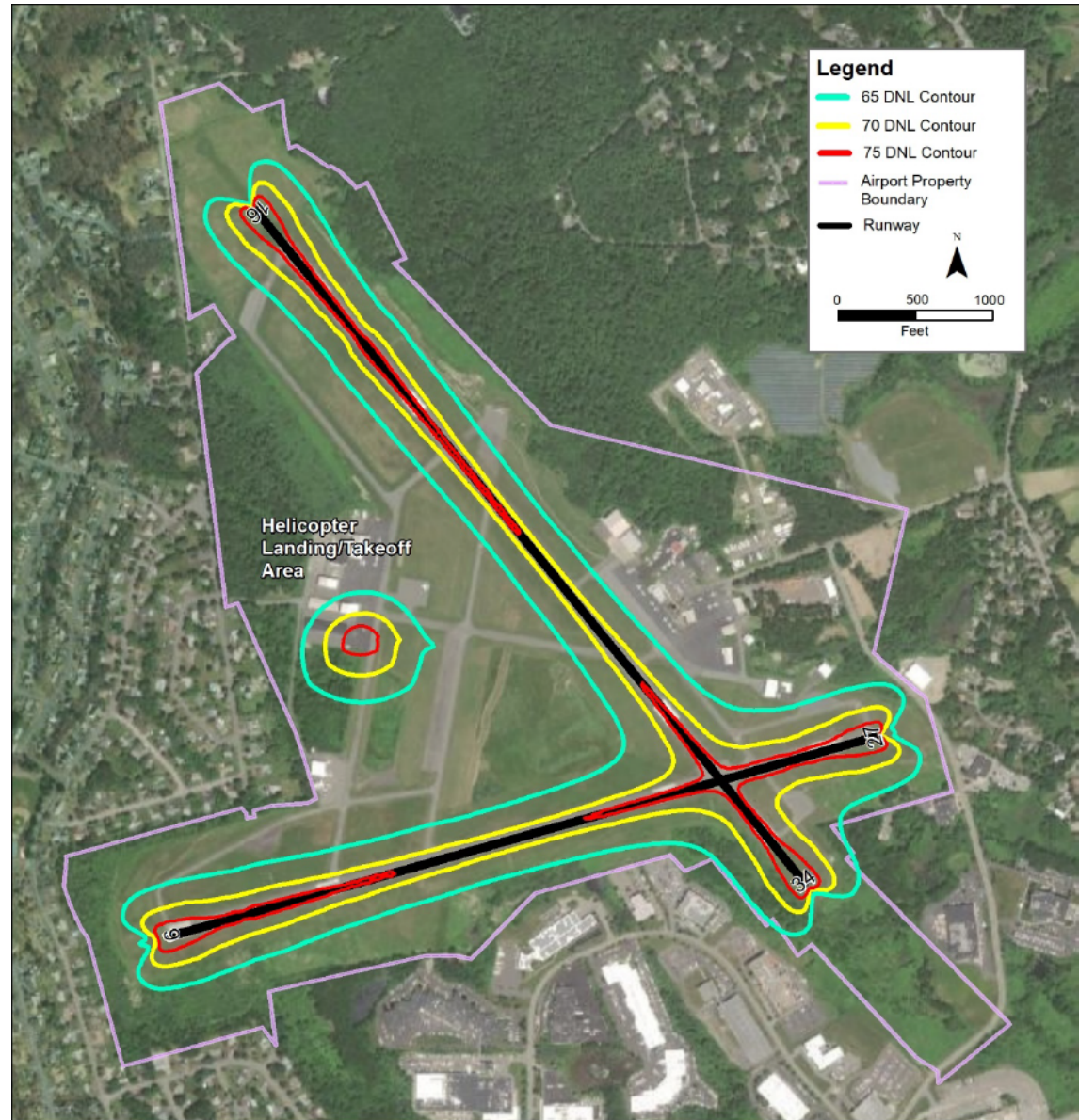
Numbers in parenthesis refer to notes.

2019 DNL CONTOUR Existing Airfield



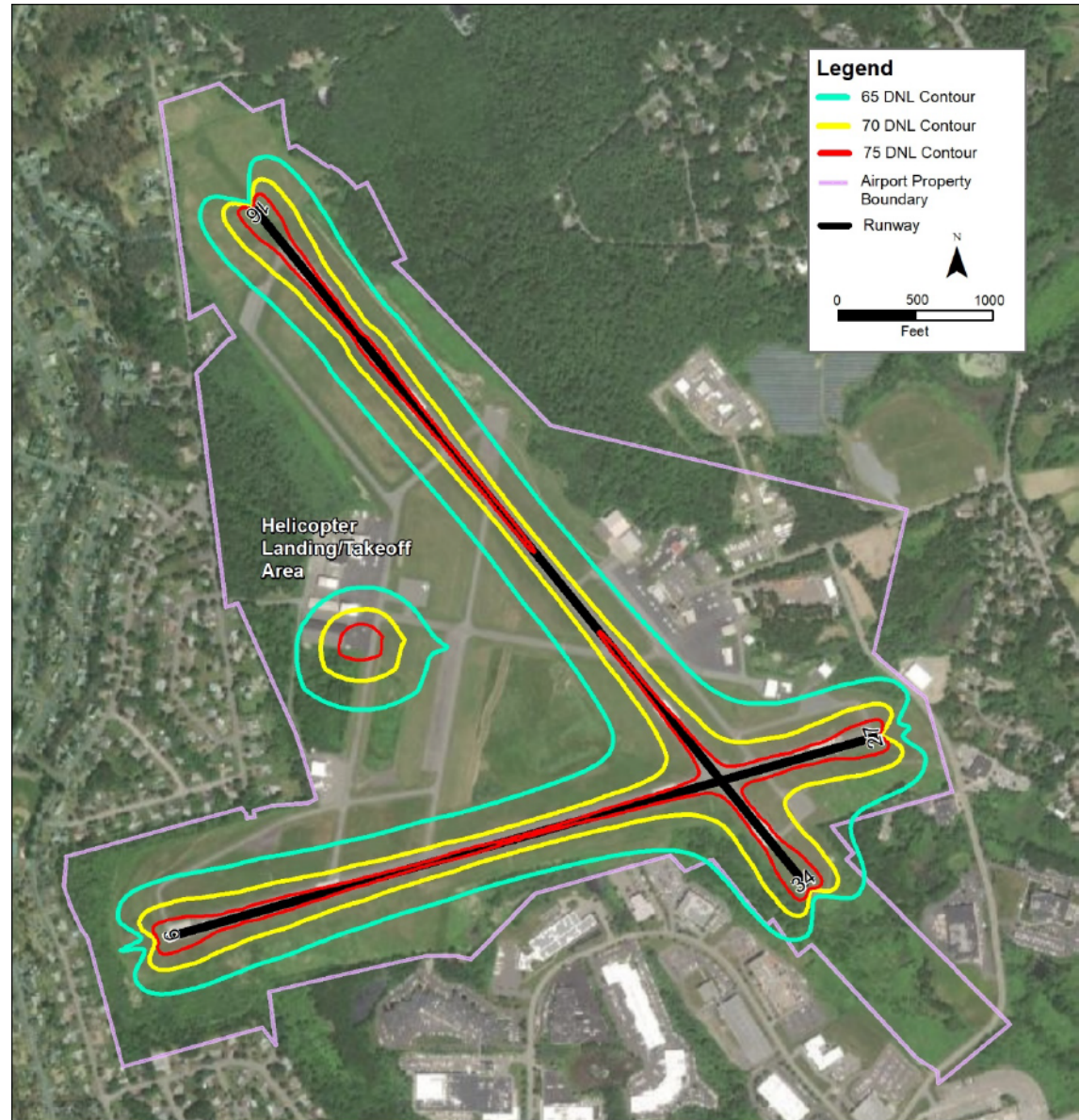
2029 DNL CONTOUR

Includes Runway
16/34 Extension



2039 DNL CONTOUR

Includes Runway
16/34 Extension



CLARIFYING QUESTIONS - SESSION #2



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MASTER PLAN PROCESS



Photo Credit: gbouillon



WHY DO WE MASTER PLAN AIRPORTS?

The Master Plan is a **20-year plan** to understand the needs of current and future users of the airport. It is important to ensure:

- *safe and orderly development*
- *reflective of the community's values and goals*
- *through a purposeful, inclusive, and educational process*

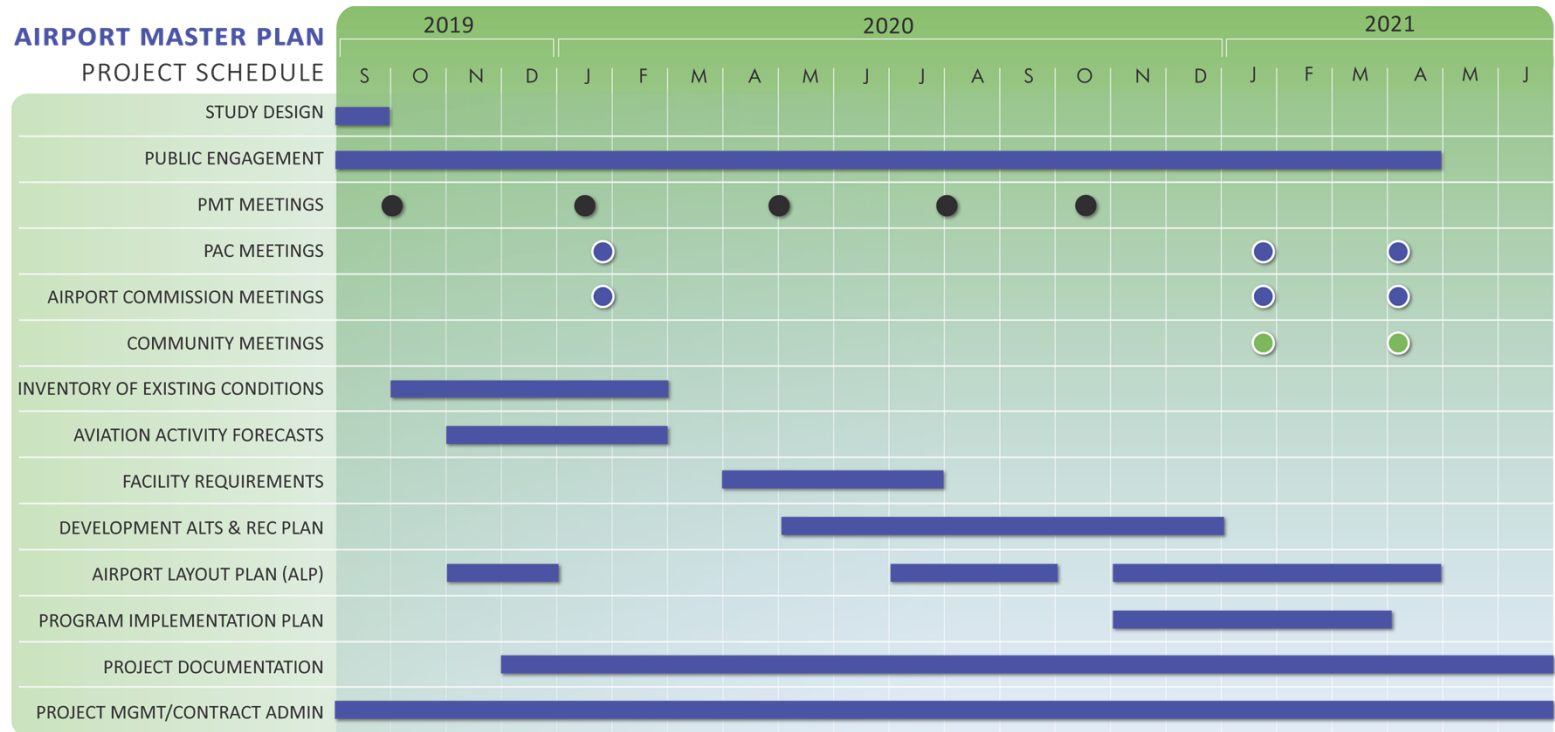
The Plan must be based on current conditions, community input, and forecasts

- The Master Plan process cannot have a pre-determined outcome



AIRPORT MASTER PLAN

PROJECT SCHEDULE



IMPLEMENTATION PLAN



Photo Credit: gbouillon



CONSIDERATIONS FOR RECOMMENDATIONS

- **Goals**

- Meet FAA/MassDOT airport design safety standards which are based on upon the weight, size and frequency of aircraft that typically use BVY
- Support or enhance BVY's existing operational safety and efficiency
- Address needs of aircraft operators and tenants
- Maximize airport business development opportunities
- Minimize impacts to neighbors and environment



Forecast	2019*	2020**	2024	2029	2039
Based Aircraft	100	105	106	112	125
Aircraft Operations	66,949	69,117	70,765	74,800	83,571

* Forecast Base Year

** Actual

AVIATION DEMAND FORECASTS

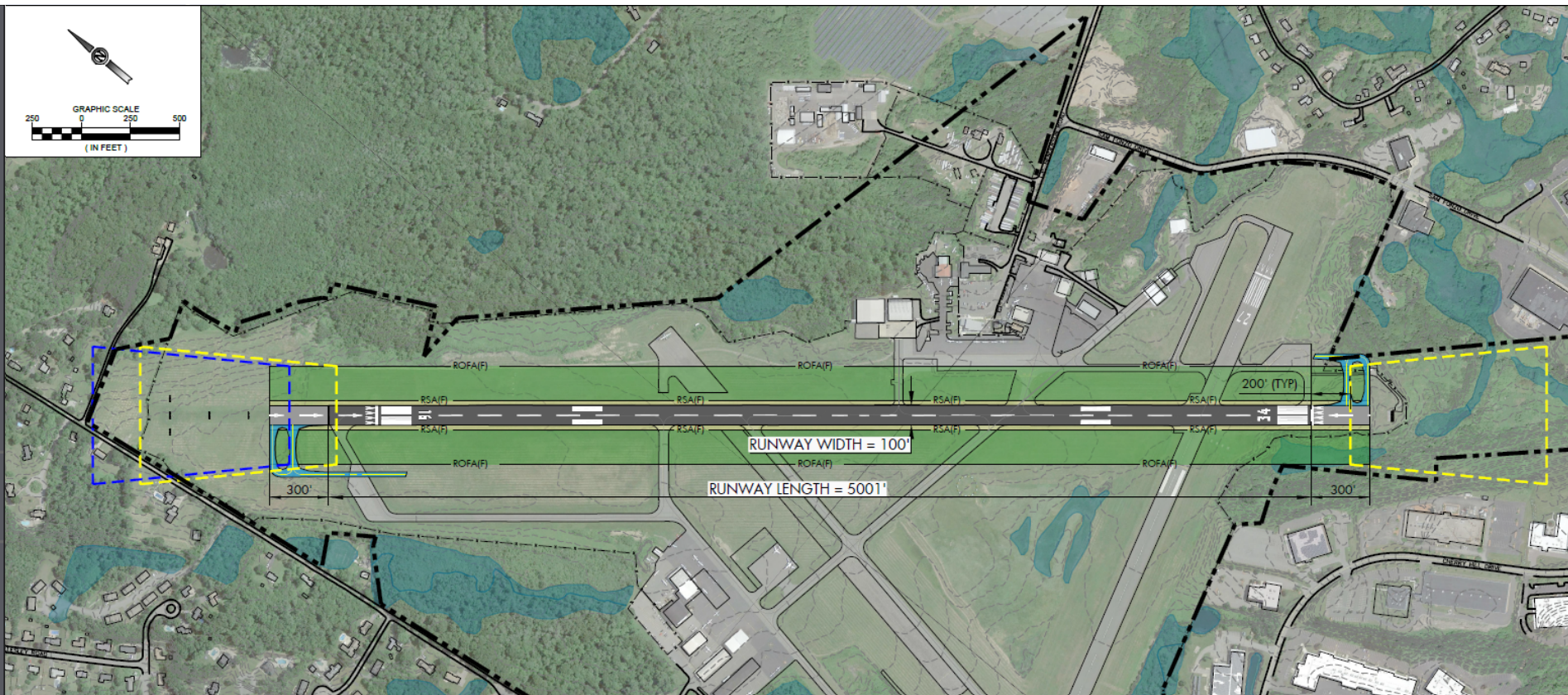
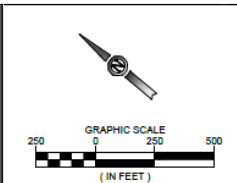
At BVY, B-II remains the current airport reference code represented by the Cessna Citation Latitude



PROPOSED AIRPORT PROJECTS

Key	Key Points
Increased RWY 16-34 Length for Departures	<ul style="list-style-type: none">• Enhances aircraft operational safety factors• Promotes effectiveness and benefits of newer GA aircraft
Narrowing width for RWY 9-27	<ul style="list-style-type: none">• Reduce pavement width per FAA design standards
Taxiway Realignments	<ul style="list-style-type: none">• Increases operational safety and efficiency for aircraft
Impervious Surfaces (Includes Vehicle Service Road)	<ul style="list-style-type: none">• Existing airfield pavement to be removed: 701,835 s.f.• Future airfield pavement to be added: 782,533 s.f.
Landside Development	<ul style="list-style-type: none">• Maximizes financial sustainability for BVY and development potential for area businesses• Constructed only if and when demand occurs
Vehicle Service Road	<ul style="list-style-type: none">• Enhanced operational safety and security as well as increased efficiency• Utilization of recycled mill material from runway project
Environmental	<ul style="list-style-type: none">• Wetlands: Minimal impacts• Noise: No significant change anticipated; study underway• Lighting: Progressive upgrade to LEDs (incl. RWs & TWs)• Waste: Recycling/reuse program

RW 16-34 Recommended Plan



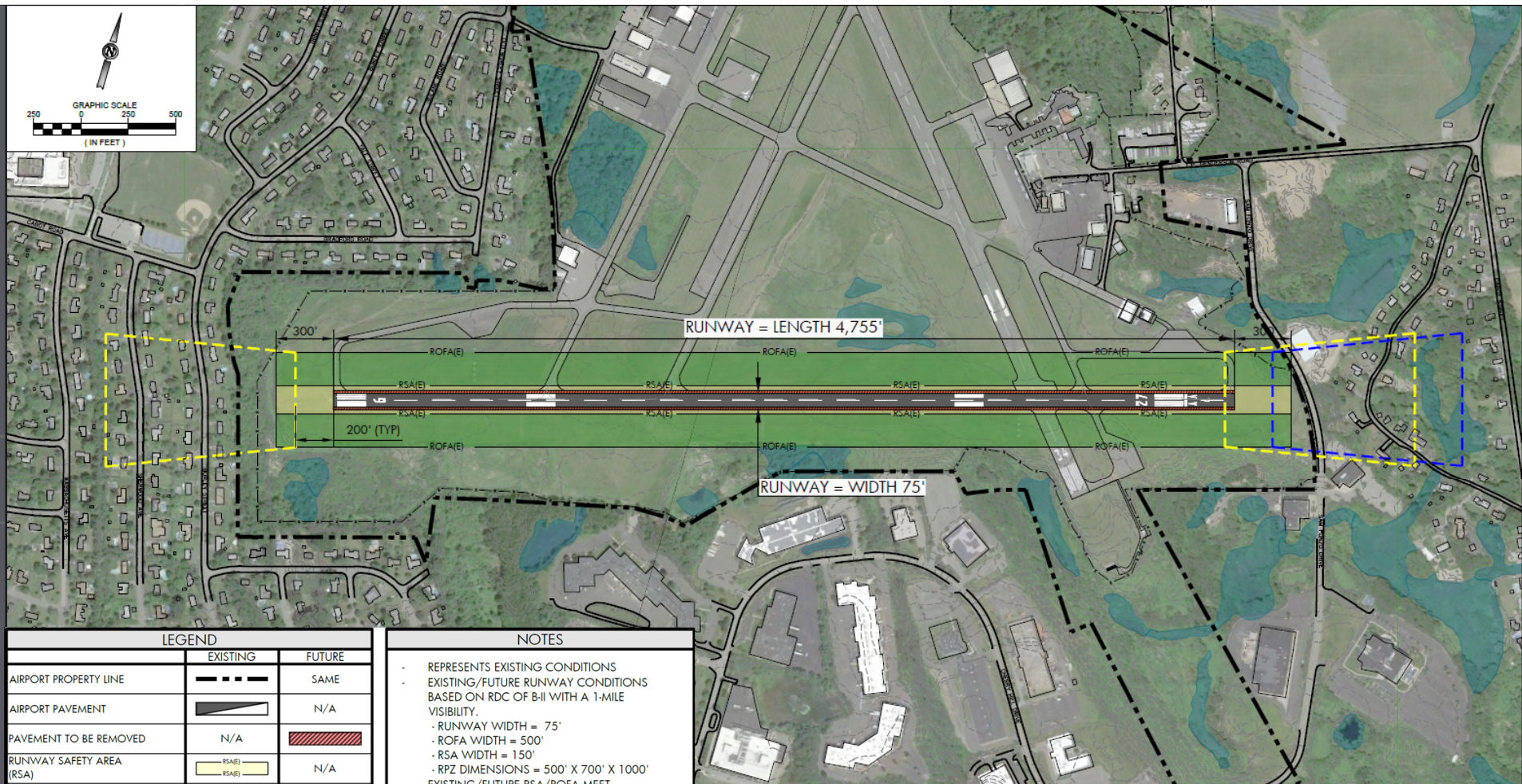
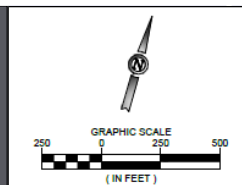
LEGEND		
	EXISTING	FUTURE
AIRPORT PROPERTY LINE	---	SAME
AIRPORT PAVEMENT *		
RUNWAY SAFETY AREA (RSA)	N/A	RSA(F)
RUNWAY OBJECT FREE AREA (ROFA)	N/A	ROFA(F)
1 - MILE VISIBILITY APPROACH RUNWAY PROTECTION ZONE (RPZ)		N/A
1 - MILE VISIBILITY DEPARTURE RUNWAY PROTECTION ZONE (RPZ)	N/A	
WETLANDS		SAME
2-FOOT CONTOURS	---	SAME

NOTES

- MAINTAINS EXISTING RUNWAY, BUT PAVES RSAS (300') ON BOTH ENDS USABLE FOR DEPARTURE ONLY.
- EXISTING/FUTURE RUNWAY CONDITIONS BASED ON RDC OF BII WITH A 1-MILE VISIBILITY.
 - ROFA WIDTH = 500'
 - RSA WIDTH = 150'
 - RPZ DIMENSIONS = 500' X 700' X 1000'
- EXISTING/FUTURE RSA/ROFA MEET STANDARDS
- EXISTING/FUTURE RPZS HAVE SOME NONCOMPLIANT CONDITIONS (E.G., ROAD, RESIDENCE). PER FAA INTERIM GUIDANCE, CONDITIONS ARE CURRENTLY ACCEPTABLE.
- RUNWAY WIDTH = 100' (BASED ON ULTIMATE RDC OF C-II)

- Runway 16-34 maintains existing status as a B-II runway
- Runway Safety Areas are paved (300' each end), enhancing operational safety margins; operational benefits only for departing aircraft
- Maintain existing Runway 16-34 width of 100'
- Supported by FAA and MassDOT with accompanying grant offers

RW 9-27 Recommended Plan

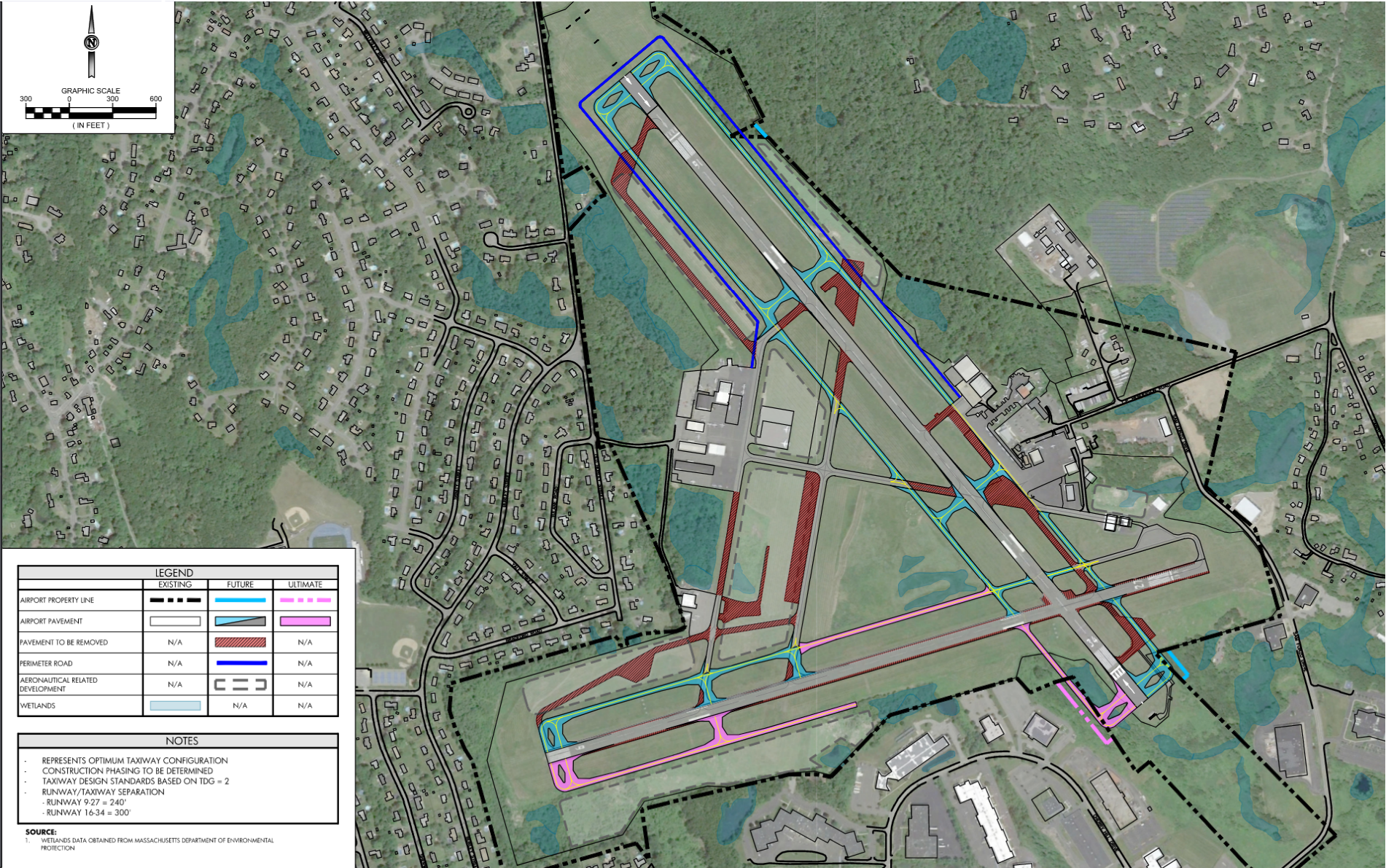
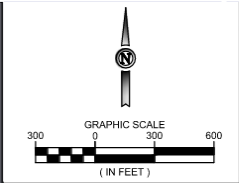


LEGEND		
	EXISTING	FUTURE
AIRPORT PROPERTY LINE	---	SAME
AIRPORT PAVEMENT	▬	N/A
PAVEMENT TO BE REMOVED	N/A	▨
RUNWAY SAFETY AREA (RSA)	■ (RSA(E))	N/A
RUNWAY OBJECT FREE AREA (ROFA)	■ (ROFA(E))	N/A
1 - MILE VISIBILITY APPROACH RUNWAY PROTECTION ZONE (RPZ)	▭ (RPZ(E))	N/A
1 - MILE VISIBILITY DEPARTURE RUNWAY PROTECTION ZONE (RPZ)	▭ (RPZ(E))	N/A
WETLANDS	■	SAME
2-FOOT CONTOURS	---	SAME

NOTES	
<ul style="list-style-type: none"> REPRESENTS EXISTING CONDITIONS EXISTING/FUTURE RUNWAY CONDITIONS BASED ON RDC OF B-II WITH A 1-MILE VISIBILITY. <ul style="list-style-type: none"> RUNWAY WIDTH = 75' ROFA WIDTH = 500' RSA WIDTH = 150' RPZ DIMENSIONS = 500' X 700' X 1000' EXISTING/FUTURE RSA/ROFA MEET STANDARDS NOTE THAT ROFA OVERRIDES SAM FONZO ROAD; HOWEVER, ELEVATION DIFFERENCES ARE SUCH THAT THERE IS APPROXIMATELY 18' OF CLEARANCE BETWEEN THE ROFA AND THE ROAD (WHERE 15' IS REQUIRED). EXISTING/FUTURE RPZS HAVE SOME NONCOMPLIANT CONDITIONS (E.G., ROAD, RESIDENCE). PER FAA INTERIM GUIDANCE, CONDITIONS ARE CURRENTLY ACCEPTABLE. 	

- Runway 9-27 maintains existing status as a B-II runway
- Runway maintains existing length of 4,755'
- Runway width is reduced to 75' in conformance with FAA minimum width requirements

Recommended Future Airfield (Runways & Taxiways)



	LEGEND		
	EXISTING	FUTURE	ULTIMATE
AIRPORT PROPERTY LINE	---	---	---
AIRPORT PAVEMENT	---	---	---
PAVEMENT TO BE REMOVED	N/A	---	N/A
PERIMETER ROAD	N/A	---	N/A
AERONAUTICAL RELATED DEVELOPMENT	N/A	---	N/A
WETLANDS	---	N/A	N/A

NOTES

- REPRESENTS OPTIMUM TAXIWAY CONFIGURATION
- CONSTRUCTION PHASING TO BE DETERMINED
- TAXIWAY DESIGN STANDARDS BASED ON TDG = 2
- RUNWAY/TAXIWAY SEPARATION
 - RUNWAY 9-27 = 240'
 - RUNWAY 16-34 = 300'

SOURCE:

- WETLANDS DATA OBTAINED FROM MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION



IMPLEMENTATION PLAN

- Identifies phased plan for implementation of recommended projects over a 20-year period
 - Phase I – first 5 years
 - Phase II – second 5 years
 - Phase III – last 10 years
- Identifies potential funding sources for projects
 - Federal – FAA
 - State - MassDOT
 - Local – Airport



OVERALL FINANCIAL REVIEW

- Reviewed key Airport documents
- Interviewed Airport management
- Analyzed historical and current operating revenues and expenses
- Reviewed Capital Improvement Plan (CIP), cost opinions, and development schedule
- Analyzed sources and timing of capital funding
- Reviewed rates and charges
- Provided revenue enhancement recommendations



FAA AIRPORT IMPROVEMENT PROGRAM (AIP) FUNDING

- The FAA generally provides 90% funding of AIP eligible projects
- Revenue for the AIP is the Airport and Airway Trust Fund (AATF)
- The AATF collects its revenue from the following sources:

Domestic passenger ticket tax	Domestic commercial fuel tax
Domestic flight segment tax (excluding flights to/from rural airports)	Domestic general aviation gasoline tax
Tax on flight between continental United States and Alaska or Hawaii	Domestic general aviation jet fuel tax
International arrival/departure tax	Tax on domestic cargo or mail
Frequent flyer tax	



MASSDOT AERONAUTICS FUNDING

- MassDOT typically provides 5% matching grants for AIP eligible projects
- MassDOT also provided funding for non-eligible AIP projects through the Airport Safety and Maintenance Program (ASMP)
- MassDOT funding is from the following sources:

Aircraft registration fees	Aviation gasoline tax
Fees for air transportation charged to other state agencies	Biennial Transportation Bond



BVY FUNDING

- Beverly Regional Airport provides 5% of funding for AIP eligible projects
- Non-eligible AIP projects are funded through additional MassDOT funding or airport revenues
- The airport is an enterprise fund and receives no funding from the City of Beverly or any other municipality
- BVY collects its revenue from the following sources:

Fuel flowage fees	Landing fees
Land leases	Aircraft tie-down and other user fees

PHASE I: 2021-2025

CIP ID	PROJECT	PRIMARY FUNDING SOURCE	ESTIMATED CAPITAL COSTS*	FUNDING SOURCES			
				FEDERAL	STATE	LOCAL	OTHER/ PRIVATE
A	Update SWPPP & SPCC	FAA	\$75,000	\$67,500	\$3,750	\$3,750	\$0
B	Preliminary Design/EA/ENF/Permitting for Reconstruction of RW 16-34 (Ph 1)	FAA	\$144,200	\$129,780	\$7,210	\$7,210	\$0
C	Construct Hangar Building(s)/Apron	Other	\$1,000,000	\$0	\$0	\$0	\$1,000,000
D	EA/ENF/Permitting for Reconstruction of RW 16-34 (Ph 2)	FAA	\$341,555	\$307,400	\$17,077	\$17,078	\$0
E	Design, Reconstruct, Mark, Light, Groove, and Pave RSAs for RW 16-34	FAA	\$16,350,000	\$14,715,000	\$817,500	\$817,500	\$0
F	Construct Hangar Building(s)/Apron	Other	\$1,000,000	\$0	\$0	\$0	\$1,000,000
G	Purchase Front End Loader	State	\$672,000	\$0	\$537,600	\$134,400	\$0
PHASE I PROGRAM TOTALS			\$19,582,755	\$15,219,680	\$1,383,137	\$979,938	\$2,000,000

PHASE II: 2026-2030

CIP ID	PROJECT	PRIMARY FUNDING SOURCE	ESTIMATED CAPITAL COSTS*	FUNDING SOURCES			
				FEDERAL	STATE	LOCAL	OTHER/ PRIVATE
H	Preliminary Design/EA/ENF/Permitting for TW E Extension, TW B Relocation, & Perimeter Road	FAA	\$575,000	\$517,500	\$28,750	\$28,750	\$0
I	Construct Hangar Building(s)/Apron	Other	\$1,000,000	\$0	\$0	\$0	\$1,000,000
J	Extend TW E (North) & Construct Perimeter Road (Ph 1)	FAA	\$7,375,000	\$6,637,500	\$368,750	\$368,750	\$0
K	Construct Hangar Building(s)/Apron	Other	\$1,000,000	\$0	\$0	\$0	\$1,000,000
L	Relocate TW B & Construct Perimeter Road (Ph 2)	FAA	\$9,610,000	\$8,649,000	\$480,500	\$480,500	\$0
M	Airport Master Plan	FAA	\$508,000	\$457,200	\$25,400	\$25,400	\$0
N	Construct Hangar Building(s)/Apron	Other	\$1,000,000	\$0	\$0	\$0	\$1,000,000
PHASE II PROGRAM TOTALS			\$21,068,000	\$16,261,200	\$903,400	\$903,400	\$3,000,000

PHASE III: 2031-2040

CIP ID	Project	Primary Funding Source	Estimated Capital Costs*	Funding Sources			
				Federal	State	Local	Other/Private
O	Preliminary Design/EA/ENF/Permitting for TW E Extension & Reconstruct RW 9-27	FAA	\$520,000	\$468,000	\$26,000	\$26,000	\$0
P	Extend TW E - South	FAA	\$4,655,000	\$4,189,500	\$232,750	\$232,750	\$0
Q	Construct Hangar Building(s)/Apron	Other	\$1,000,000	\$0	\$0	\$0	\$1,000,000
R	Reconstruct RW 9-27	FAA	\$11,120,000	\$10,008,000	\$556,000	\$556,000	\$0
S	Construct Hangar Building(s)/Apron	Other	\$1,000,000	\$0	\$0	\$0	\$1,000,000
T	Preliminary Design/EA/ENF/Permitting for TW D Relocation & Construct TW J	FAA	\$740,000	\$450,000	\$37,000	\$253,000	\$0
U	Relocate TW D	FAA	\$6,191,000	\$5,571,900	\$309,550	\$309,550	\$0
V	Construct Hangar Building(s)/Apron	Other	\$1,000,000	\$0	\$0	\$0	\$1,000,000
W	Construct TW J	FAA	\$5,495,000	\$4,945,500	\$274,750	\$274,750	\$0
X	Construct Hangar Building(s)/Apron	Other	\$1,000,000	\$0	\$0	\$0	\$1,000,000
PHASE III PROGRAM TOTALS			\$32,721,000	\$25,632,900	\$1,463,050	\$1,652,050	\$4,000,000

CLARIFYING QUESTIONS - SESSION #3



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NEXT STEPS



Photo Credit: gbouillon



PUBLIC COMMENTS FOR
PHASE 4 MAY BE SUBMITTED TO
JIM.MIKLAS@WOOLPERT.COM OR AT
BEVERLYAIRPORT.COM/MASTERPLAN
PLEASE SUBMIT COMMENTS BY **05.28.2021**

TO BE DETERMINED
MONITOR BVY WEBSITE FOR AIRPORT
COMMISSION MEETING TO REVIEW
AND CONSIDER ADOPTION OF MASTER PLAN



NEXT STEPS

- Presentation and draft implementation chapter will be available tomorrow online at www.beverlyairport.com (see Master Plan tab)
- Virtual Community Meetings 6-8pm: Danvers (4/27), Wenham (4/28), and Beverly (4/29) – *see website for meeting links*
- Review and comment by FAA of Airport Layout Plan (ALP)
- Production of Final Report
- Presentation of Master Plan to Airport Commission for consideration of approval and adoption

Please submit comments by **May 28, 2021**

Email: jim.miklas@woolpert.com

Mail: Beverly Regional Airport Administration, 50 L.P. Henderson Road,
Beverly, MA 01915

QUESTION & ANSWER SESSION



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Thank You!

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