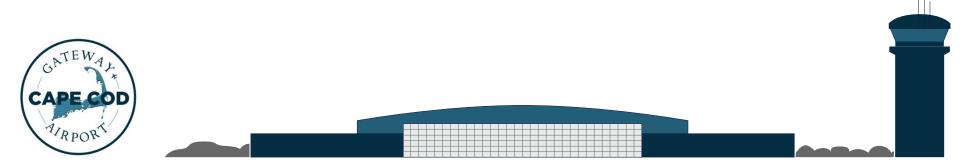
CAPE COD GATEWAY AIRPORT IMPROVEMENT PROJECTS PUBLIC MEETING 3 (EEA#16640)



DATE: Wednesday, June 21, 2023 TIME: 2:00 PM (virtual via Zoom), 6:00 PM (in-person)



ZOOM MEETING CONTROLS

- →Listen in Portuguese
- $\mathbf{I}_{\mathbf{A}}$ \mathbf{A} Drop down menu to check microphone and speakers
 - \rightarrow Ask a question and share comments
 - → Raise your hand



If you have trouble with the meeting technology during the presentation, please call: 1-888-799-9666

→If you are unable to access the internet or are having technical problems, please call into the meeting at 1 312 626 6799, Webinar ID: 862 6585 5213, Passcode: 392019

Closed captioning automatically generated by Zoom

CONTROLES DE REUNIÃO DE ZOOM

- ⊕ →Escute em Português
- - →Faça uma pergunta e partilhe comentários
 - →Levante a mão



Se tem problemas com a tecnologia da reunião durante a apresentação, por favor ligue para: 1-888-799-9666

Se não pode ter acesso pela internet ou está com problemas técnicos, por favor ligue para a reunião pelo número 1 312 626 6799, Meeting ID: 862 6585 5123, Passcode: 392019



MEETING GUIDELINES

→ The speakers will cover topics listed in the agenda

After the presentation, time will be provided for Questions and Answers

- Please state your name and your relationship to the project before your question.
- Please share only <u>one</u> question or comment at a time, to allow others to participate.

 All questions and comments are welcome and appreciated. However, we do request that you refrain from any disrespectful comments.



SHARE YOUR QUESTIONS AND COMMENTS





HELLO

- → "Raise your hand" to be unmuted for verbal questions
 → Please state your name before your question
- $\begin{bmatrix} 1 \end{bmatrix}$
- →Please share only 1 question or comment at a time, limited to 2 minutes, to allow others to participate.
- *9
- →To ask a question via phone, dial *9 and the moderator will call out the last 4-digits of your phone number and unmute your audio when it is your turn.



Please be advised that all Q&A and comments are subject to disclosure for public records, therefore use these functions for project-related business only.

PARTILHE AS SUAS PERGUNTAS E COMENTÁRIOS



- →"Levante a mão" para ser ativado para perguntas verbais
- →Por favor dê o seu nome antes de fazer a pergunta
- Por favor, partilhe apenas 1 pergunta ou comentário de cada vez, limitado a 2 minutos, para permitir que outras pessoas participem.
- *9 → Para fazer uma pergunta por telefone, disque *9 e o moderador chamará os últimos 4 dígitos do seu número de telefone e ativará o áudio quando for a sua vez.



Informamos que todas as P&R e comentários estão sujeitos a divulgação para registos públicos, portanto, use essas funções apenas para assuntos relacionados ao projeto.

AGENDA

→Introduction

→Current Project Environmental Review Status and Where We Are Going

Additional Impact Analysis and Alternatives

- Taxiway D/Upper Gate Pond Impact Analysis
 Additional Runway Extension Alternatives
 Noise Analysis
- →Project and Meeting Timelines
 →Questions



INTRODUCTION



PROJECT TEAM

+Cape Cod Gateway Airport Management Team

• Katie Servis, Airport Manager

 \circ Matt Elia, Assistant Airport Manager

→Environmental Consultant Team

Epsilon Associates

- Alyssa Jacobs, Project Manager
- Nate Rawding, Senior Scientist
- Hiromi Hashimoto, Project Scientist
- o Airport Solutions Group
 - Bob Mallard, Airport Engineer
 - Jim Miklas, Airport Planner, Jviation

o Howard Stein Hudson

- Erin Reed, Public Outreach Coordinator
- Ashley Pierre-Louis, Community Engagement Specialist

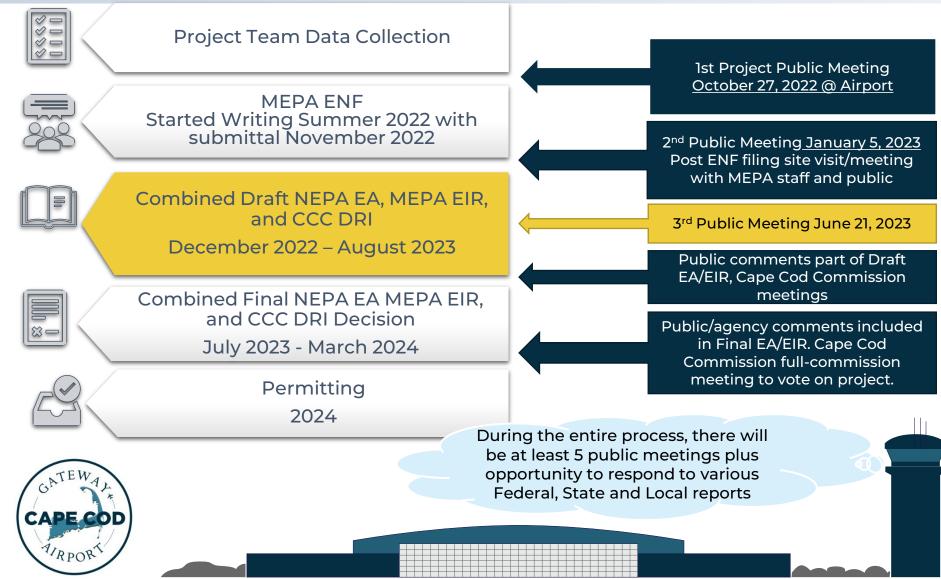


enviroHYA@epsilonassociates.com

CURRENT PROJECT ENVIRONMENTAL REVIEW STATUS Where have we been and where are we going?



ENVIRONMENTAL REVIEW TIMELINE enviroHYA@epsilonassociates.com



ENVIRONMENTAL REVIEW TIMELINE (Cont.)

The upcoming Draft EIR/EA will address all comments received and regulatory requirements of MEPA, NEPA and the Cape Cod Commission

Today's meeting will focus on the Additional Impact Analysis and Alternatives for projects and areas of concern that received the majority of the comments

- Taxiway D /Upper Gate Pond Impact
- Additional Runway 15-33 Extension Alternatives
- Noise Analysis

All other comments will be responded to within the written Draft EA/EIR

(estimated August/September 2023)

The 2nd Public Meeting was held on January 5, 2023 (post ENF filing) site visit/meeting with MEPA staff and public.

We received <u>21 written comments by</u> <u>stakeholders regarding the proposed projects,</u> <u>4 of which were public agencies.</u>

- Of those 21 comments, further analysis was requested in the following topic areas:
- Aircraft Noise
- Land/Land Use Impacts
- Environmental Justice
- Water Quality
 including Groundwater
 and Stormwater
 Management
- Wetlands
- Climate Change
- Air Quality
- Hazardous Waste
- Construction Period

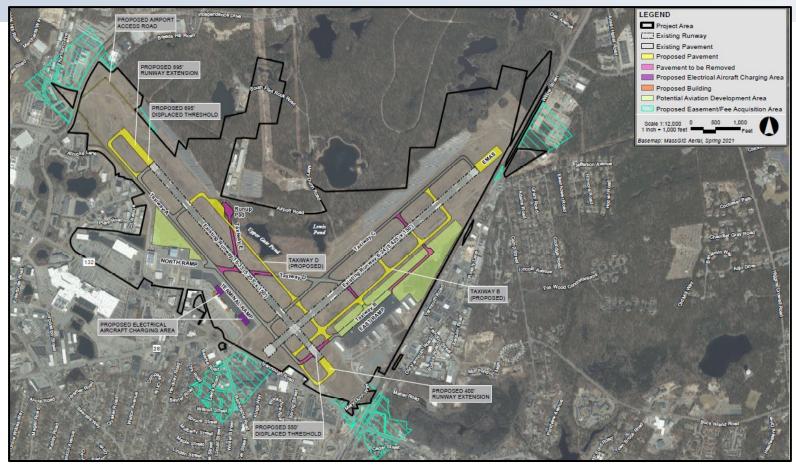


PROPOSED IMPROVEMENTS

GATEWA

CAPE COD

AIRPOR



The above proposed improvements are the results of the Airport Master Plan process, concluded in May 2022, and approved for further environmental evaluation by the Federal Aviation Administration (FAA)

SUMMARY OF IMPROVEMENT PROJECTS

Phase I: 2024-2028 Construct Snow Removal Equipment (SRE) facility Relocate and Extend Taxiway B Acquire Easements for future Runway Extension

Phase II: 2028-2032 Relocate Taxiway D and Runup Pad Extend Runway 15-33, Taxiway A extension Install Runway 15 PAPI Parcel Easement/Fee ongoing for existing conditions Terminal Improvements

Phase III: 2032-2044 Install Runway 24 EMAS Enhance Land Use Control (Easement/Fee)

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Purpose and Need

The Proposed Projects - Purpose and Need Statement:

The proposed Projects will improve overall operational safety and efficiency at the Cape Cod Gateway Airport by:

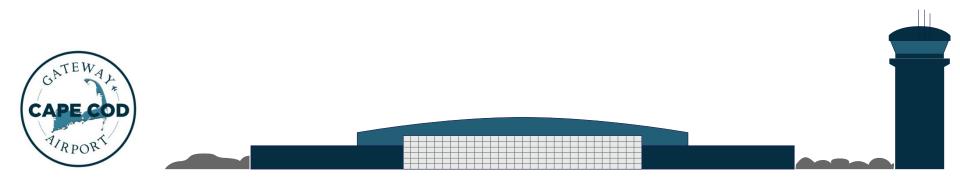
- Eliminating nonstandard taxiway designs and geometries including direct taxiway connections from apron areas to runways and non-standard taxiway intersections;
- Providing a reasonable and balanced approach in meeting runway length requirements of existing and future aircraft families using the Airport; and

Meeting FAA updated mandatory design standards.



Purpose and Need (Cont.)

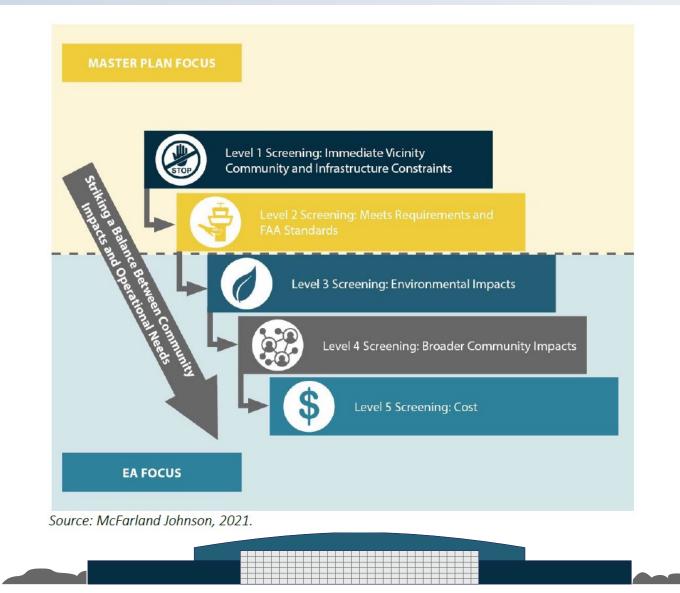
- →The proposed Projects will enhance and maintain safe and efficient landside facilities that are compliant with FAA and MassDOT airport standards.
- →The proposed Projects will develop opportunities to promote financial self-sufficiency for the airport, economic growth for the community, and energy sustainability at Cape Cod Gateway Airport.



ADDITIONAL IMPACT ANALYSES AND ALTERNATIVES



Alternatives Analysis Process: From Master Plan to Environmental Assessment





SUMMARY OF IMPROVEMENT PROJECTS

Phase I: 2024-2028 Construct Snow Removal Equipment (SRE) facility Relocate and Extend Taxiway B Acquire Easements for future Runway Extension

Phase II: 2028-2032 Relocate Taxiway D and Runup Pad Extend Runway 15-33, Taxiway A extension Install Runway 15 PAPI Parcel Easement/Fee ongoing for existing conditions Terminal Improvements

Phase III: 2032-2044 Install Runway 24 EMAS Enhance Land Use Control (Easement/Fee)

ATEN

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Regulatory Impact Categories

- Air Quality (including Greenhouse Gas Emissions)
- → Biological Resources
- → Climate Change and Resiliency
- → Coastal Resources
- → DOT Act, Section 4(f)
- → Farmlands
- Hazardous Materials,
 Solid Waste, and
 Pollution Prevention
- → Historical, Architectural, Archeological, and Cultural Resources



- → Natural Resources and Energy Supply
- → Noise and Noise-Compatible Land Use
- Socioeconomics,
 Environmental Justice,
 and Children's
 Environmental Health
 and Safety Risks
- → Visual Effects
- → Water Resources including Water Quality
- → Cumulative Impacts
- → Irreversible and
 Irretrievable
 Commitment of
 Resources

MEPA Review Thresholds

- 11.03(1)a(2) Creation of ten or more acres of impervious area. All Projects - cumulative
- 11.03(1)(a)(1) Alteration of 50 or more acres of land All projects - cumulative
- 11.03(3)(b)(1)(f) Alteration of 1/2 acre of other wetlands Taxiway D
- 11.03(6)b(iii) Expansion of an existing runway at an airport Runway Extension
- 11.03(6)b(iv) Construction of a New taxiway at an airport Taxiways B and D

ENVIRONMENTAL ASSESSMENT REFINED ALTERNATIVES

- Taxiway D
- Runway 15/33 Extension



ENVIRONMENTAL ASSESSMENT REFINED

TAXIWAY D ALTERNATIVES



TAXIWAY D REALIGNMENT IMPACT ASSESSMENT

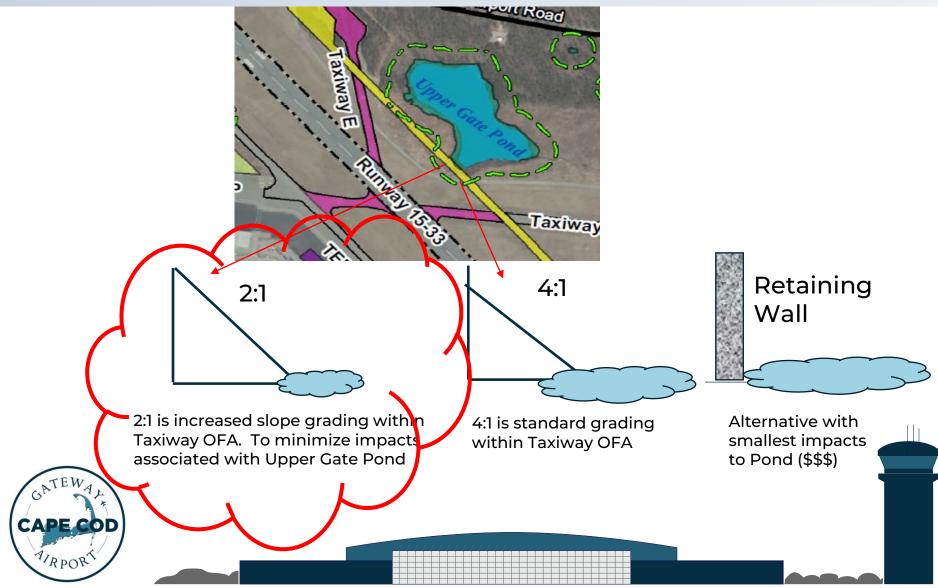
→To reduce wetland impacts the following were evaluated:

- Evaluated additional side slope designs and taxiway layouts that meet purpose and need;
 - Eliminate direct access from the ramp to the runway
 - Remove non-standard runway intersection geometries
- Completed Wetland Delineation of Upper Gate Pond and wetlands;
- Completed a Bathymetric survey to determine pond bottom elevations;
- Investigated existing sediment characteristics of the pond to inform geotechnical design; and

 $_{\odot}$ Conceptual design of Taxiway to determine impacts.



Taxiway D Slope Alternatives to Minimize Impacts to Pond



ENVIRONMENTAL ASSESSMENT REFINED

RUNWAY EXTENSION ALTERNATIVES



2023 Runway Length Analysis

→Purpose and need for the runway extension:

To provide a reasonable and balanced approach in meeting runway length requirements of existing and future aircraft families using the Airport

Project team reviewed additional operations data from 2018-2022 to validate and further refine the Master Plan runway length analysis

→Current Runway Lengths: ○ 15/33: 5,253 feet ○ 6/24: 5,245 feet



Critical Aircraft Determination

Minimum 500 operations for FAA critical operational threshold for largest existing and future use aircraft

Runway Design Criteria = C/D-III

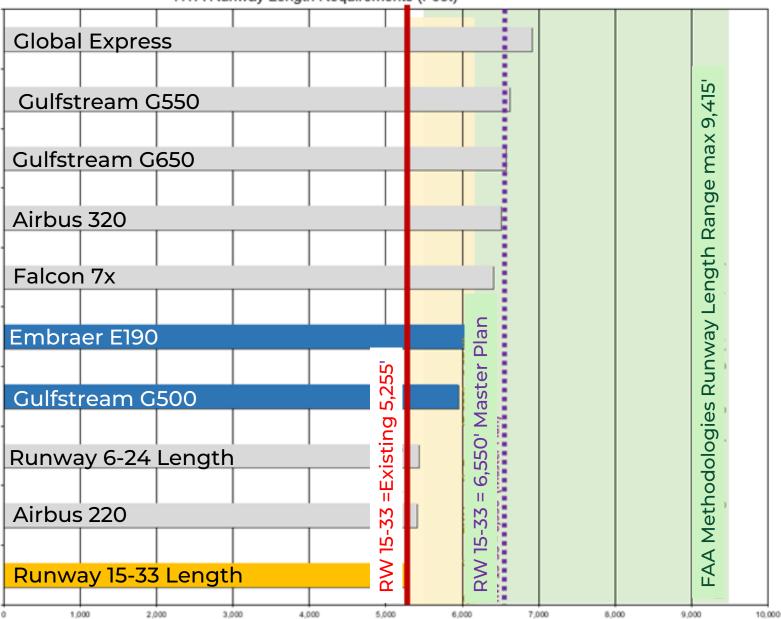




Runway Length Analysis - Current Length: 5,253 feet

	Airport Master Plan Analysis	Environmental Assessment Validation
Aircraft Type	Runway Length Requirement - Standard Analysis at MTOW (feet)	Runway Length Requirement - HYA Adjusted Analysis (feet, assumptions)
Embraer E190 (Existing Commercial)	6,115 – 8,915	5,290 (HYA-JFK)
Gulfstream V/G500 (Existing GA)	6,585 – 6,585	6,054 (1,500 NM)
Bombardier Global Express (Existing GA)	5,540 – 6,540	5,958 (1,500 NM)
A220 (Future Commercial)	6,200 – 9,415	5,865 (HYA-JFK)
A320 (Future Commercial)	5,515 – 7,515	6,000 (HYA-JFK)

RPOR



HYA Runway Length Requirements (Feet)

* Runway Requirements are approximations only from manufacturer Balanced Field Length or Take Off Field Length adjusted for mean max temp. (32*c) and field elevation (3m estimate) assuming a flat runway grade.



jetBlue[®]

27-01 Queens Plaza North Long Island City, NY 11101 **T:** 1-800-JETBLUE **jetblue.com**

May 2, 2023

To Whom It May Concern,

Subject: JetBlue E190 Retirement

This is letter is meant to reiterate JetBlue's current plan to retire its fleet of 60 E190s by 2026. In 2018, we announced our initial order of 60 A220s and the option for 60 additional aircraft. We converted 10 of 60 options to firm orders in 2019 and 30 additional options in 2022. With these transactions combined, we have 100 firm orders for A220s, all of which are expected to deliver by the end of 2026.

Our 2022 transaction with Airbus enabled the accelerated retirement of the Embraer E190 fleet, of which, we have already retired 12 aircraft. We will continue to steadily wind down the E190 fleet with the last aircraft exiting in 2026.

JetBlue's A220 fleet is outfitted with 140 seats compared with 100 on the E190s that these aircraft are replacing. This 40% jump in seat count allows JetBlue to keep costs low while continuing to grow service in the cities that we serve.

We are excited for the many Customer and economic benefits that this fleet transition enables over the next few years.

Master Plan Alternatives Summary – Runway 15-33

Alternative 2: 6,950 feet 1,295 ft/400 ft

Alternative 3: 6,913 feet 1,058 ft/ 400ft





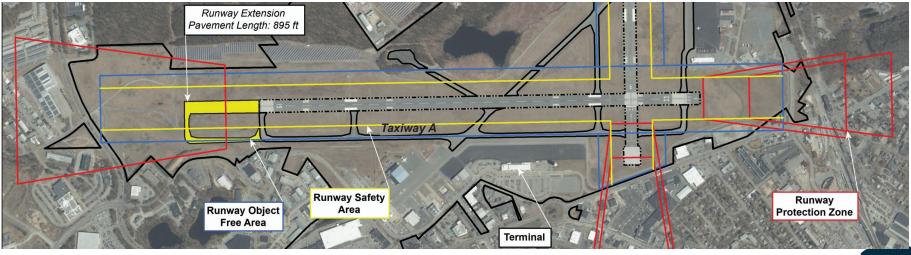
Alternative 4 (Master Plan Preferred Alt): 6,550 feet 895 feet/400 ft

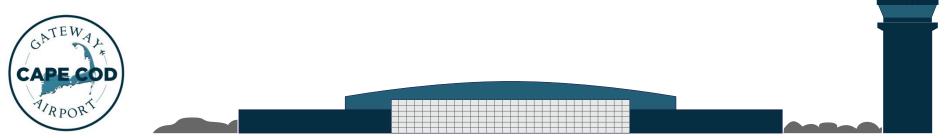


Source: McFarland Johnson, 2022

EA REFINED ALTERNATIVES – Modify Alternative 4: 4A

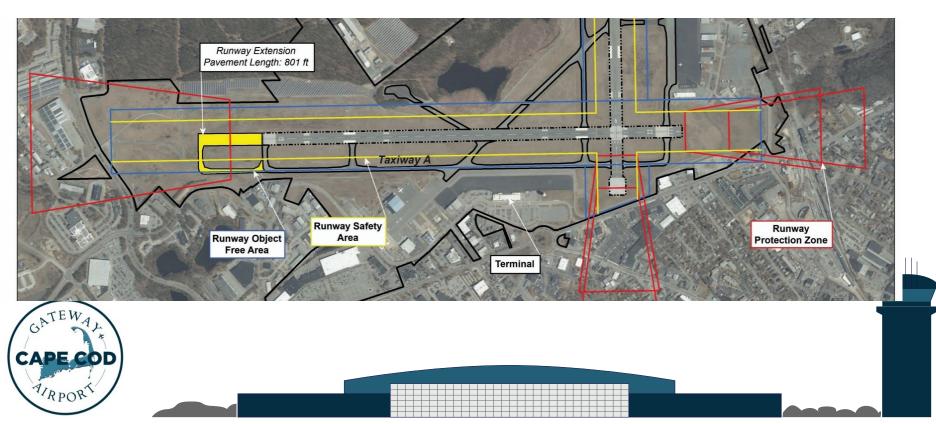
- 801-foot Extension on RW 15 End
- No extension on 33 end
- 601-foot Displaced threshold on 15 end
- Total Length: 6,054 feet



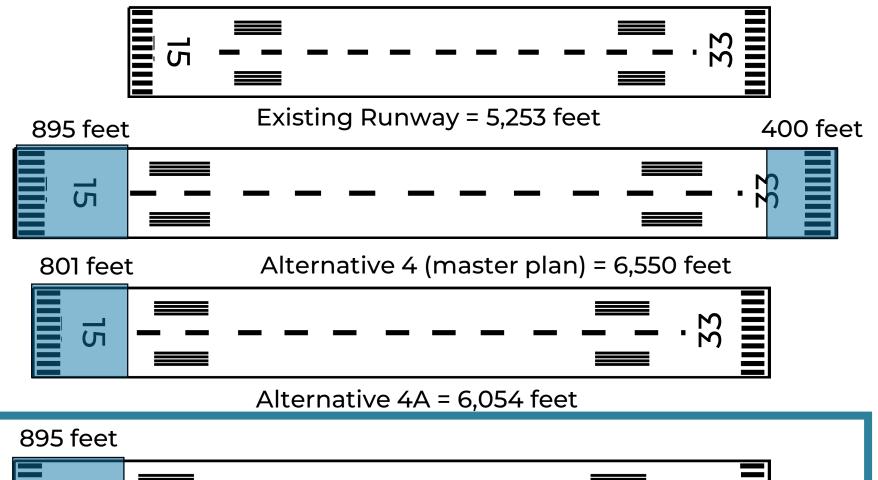


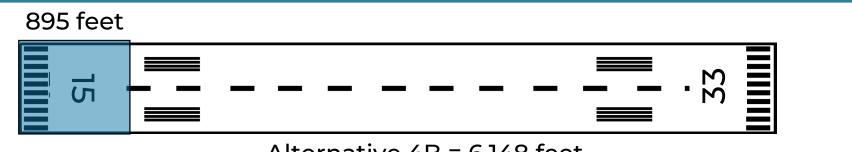
EA REFINED ALTERNATIVES – Modify Alternative 4: 4B

- 895-foot Extension on RW 15 End,
- no extension on 33 end,
- 695-foot Displaced threshold on 15 end
- Total Length: 6,148 feet



ALTERNATIVE COMPARISON





Alternative 4B = 6,148 feet

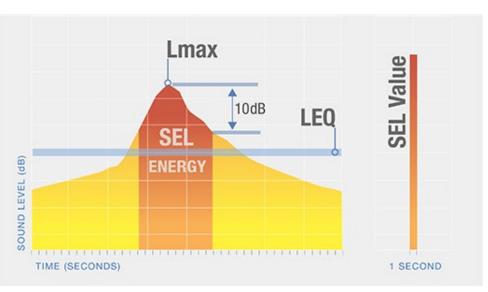
NOISE ANALYSIS: Response to Community Concerns



COMMON OUTDOOR SOUND LEVELS	COMMON INDOOR B(A) SOUND LEVELS
Car Horn at 3 ft.	110 Rock Band
	100 Inside Subway Train (New York)
Gas Lawn Mower at 3 ft. Diesel Truck at 150 ft.	90 Food Blender at 3 ft.
Noisy Urban	Garbage Disposal at 3 ft. 80 Shouting at 3 ft.
Busy Highway at 50 ft.	70 Vacuum Cleaner at 10 ft.
Commercial Area Quiet Urban	Normal Speech at 3 ft. 60 Large Business Office Dishwasher Next Boom
Quiet Rural	50 Small Theatre, Large Conference Room (Background)
	30 Library Bedroom at Night Concert Hall (Background)
	20 Broadcast & Recording Studio
	10 Threshold of Hearing
	0



Sound Exposure Level

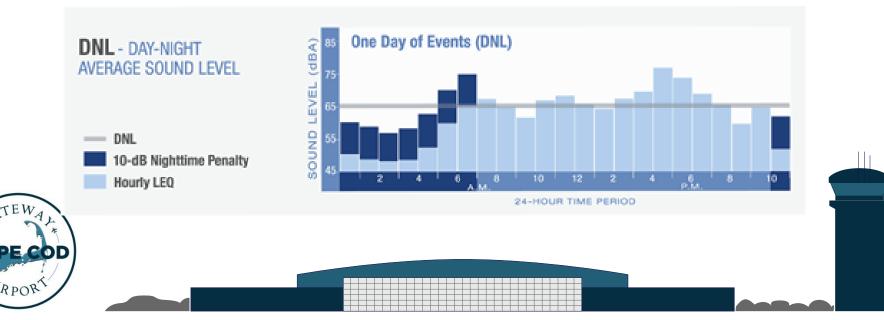


- The Sound Exposure Level (SEL) metric represents all the acoustic energy (a.k.a. sound pressure) of an individual noise event as if that event had occurred within a onesecond time period.
- SEL captures both the level (magnitude) and the duration of a sound event in a single numerical quantity, by "squeezing" all the noise energy from an event into one second.
- This provides a uniform way to make comparisons among noise events of various durations.



FAA Part 150 Noise Requirements: day-night average sound level (DNL) noise

- Hetric used to reflect a person's cumulative exposure to sound over a 24hour period, expressed as the noise level for the average day of the year on the basis of annual aircraft operations.
- → Provides a mechanism to describe the effects of environmental noise in a simple and uniform way.
- DNL is the standard noise metric used for all FAA studies of aviation noise exposure in airport communities.



Part 150 – Noise Analysis Title 14 Chapter I Subchapter I Part 150

Noise Analysis completed by Epsilon is consistent with what FAA requires in a Part 150 Noise Analysis, including the use of FAAapproved noise modeling software

- A Part 150 Study includes Noise Exposure Maps that define the existing and future aircraft noise exposure boundaries surrounding the airport and a Noise Compatibility Plan to identify mitigation measures that could correct surrounding non-compatible land uses.
- Measures current and future aircraft noise levels and their associated effects on the surrounding communities.
- Outlines actions that will reduce or minimize aircraft noise over sensitive areas.
- Establishes land use guidelines to address compatibility between the airport and its surrounding communities.
- Identifies areas where aircraft noise is present and encourages land uses that are compatible.
- Develops a comprehensive Noise Compatibility Program for the airport.



Single **Exposure Level Data** (dBA)





Hyannis Park Barnstable Village

Hyannis Park Barnstable Village



Hyannis Park Barnstable Village

Hyanni

Barnst

Villa

Embraer 190 (Commercial Jet)

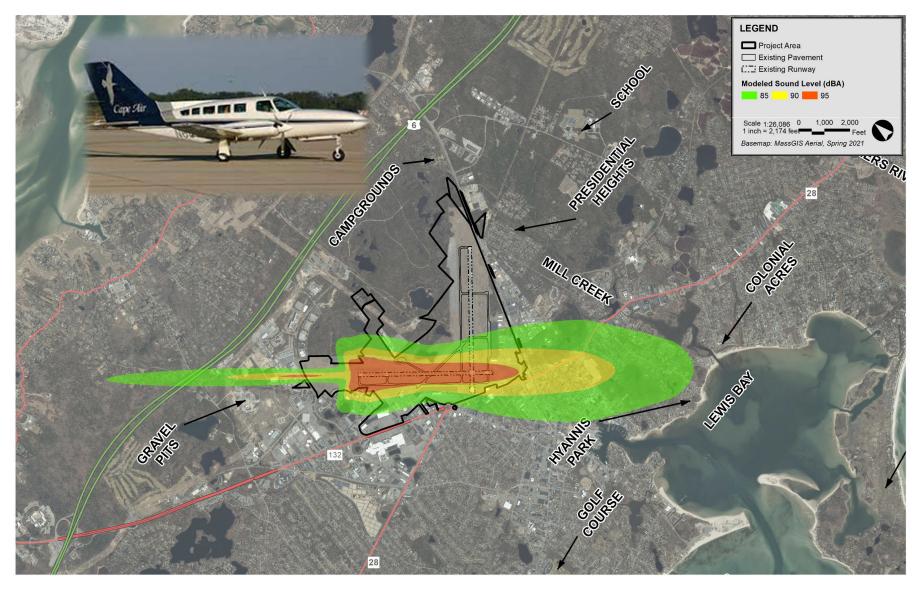
Runway 15	Runway 33	Runway 6	Runway 24
85	77	68	73
71	82	68	67

Challenger 600 (Turbo Jet)					
Runway 15	Runway 33	Runway 6	Runway 24		
83	68	63	65		
64	78	60	61		

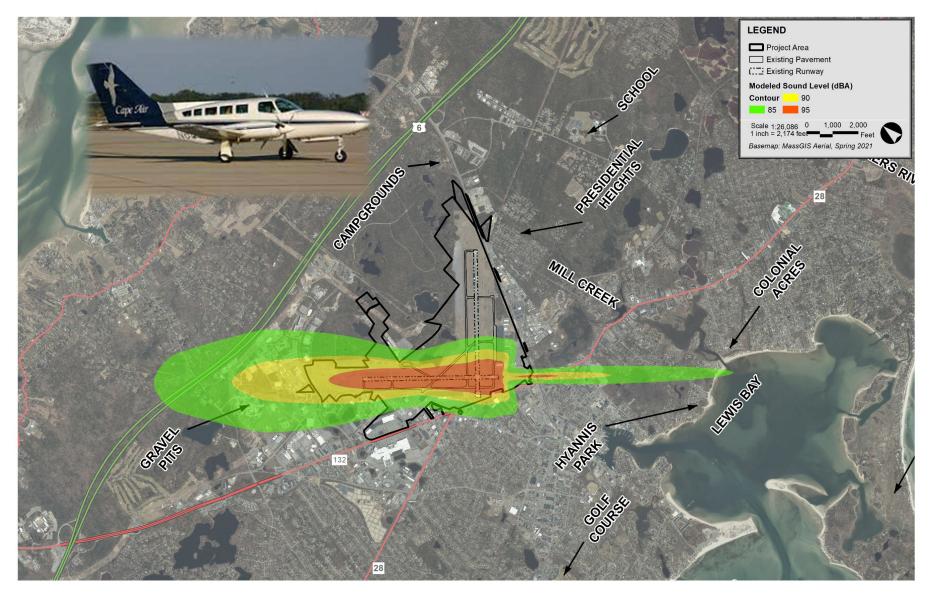
Cirrus SR22 (Single Engine)					
Runway 15	Runway 33	Runway 6	Runway 24		
77	68	60	64		
62	74	59	59		

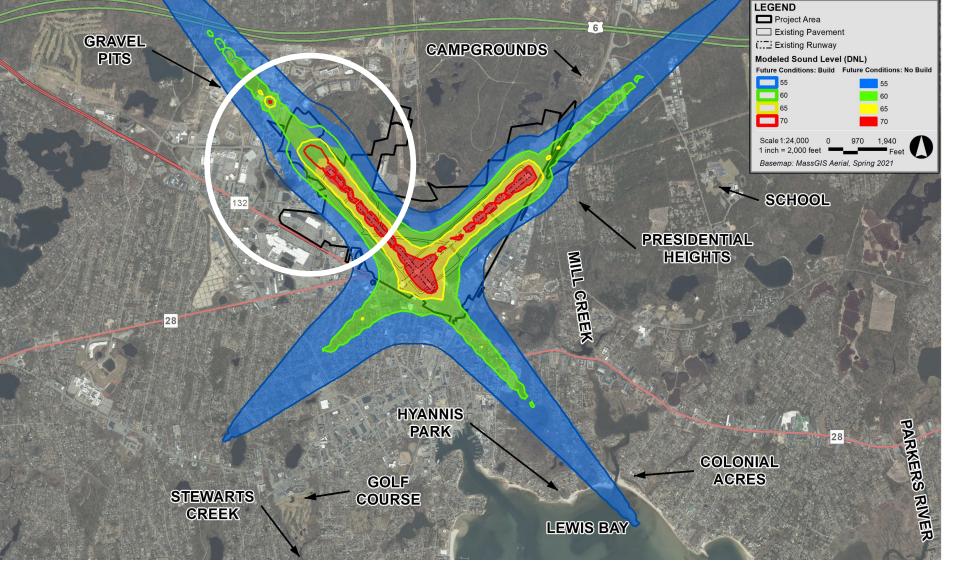
	Cessna 402 (Piston)				
.	Runway 15	Runway 33	Runway 6	Runway 24	
is Park	82	73	67	71	
stable age	68	79	66	66	

Cessna 402 Runway 15 Takeoff SEL

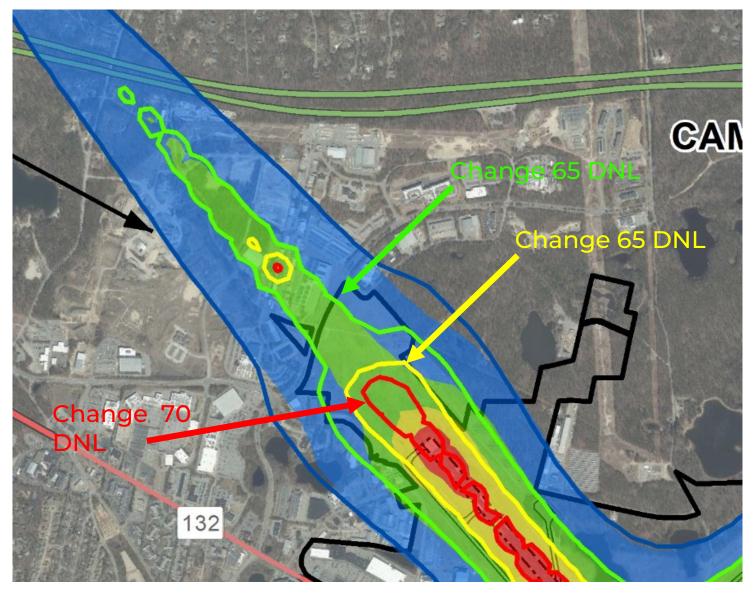


Cessna 402 Runway 33 Takeoff SEL





Build vs. No Build Condition (2040)



Build vs. No Build Condition (2040)

Flight Path Animation Notes

- The aircraft depicted herein represent the four noisiest / loudest aircraft (per FAA*) chosen from a list of the top 20 aircraft using the Cape Cod Gateway Airport per data from the airport's recent master plan project. (*<u>https://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/aircraft_n</u> oise_levels/)
- 2. Aircraft depicted herein include Embraer E190, Challenger 600, Cessna C402, Cirrus SR22.
- 3. Aircraft flight information & animations depicted herein are based on actual flight data taken from the airport's Vector Airport Systems (Vector) flight tracking database and represent the actual flight path based on "radar hits" reported by Vector, most of which occurred in 2023.
- 4. Please note, flight track animations depicting the location and elevation of aircraft are based on actual data, but it does not mean to imply that every pilot flying the same aircraft under similar flight conditions will fly the exact same route. The pilot-in-command is in direct control of the aircraft and his/her flight path may alter from what is shown herein for various reasons.
- 5. Please note, flight track animations depicting the rotation point on the runway are based on actual flight data, but it does not mean to imply that every pilot flying the same aircraft will rotate at the exact same point on the runway from what is shown herein. The pilot-incommand's decision to rotate is based on many factors including, but not limited to, aircraft performance, outside air temperature, barometric pressure, runway contamination, etc.



Flight Path Animations

ナ<u>1</u>。 ナ<u>2</u>。 ナ<u>3</u>。 ナ<u>4</u>。





Conclusions for Runway Analysis (change over existing conditions)

	Meets Length Requirement	RPZ Easement Acquisition for Extension	Has Significant Obstructions	Noise Level Change	Construction Cost
Alternative 4: 6,550 feet total 895 ft/400 ft					
extensions					
Alternative 4A: 6,054 feet Total 801 ft extension					
4B: 6,148 feet					
total 895 ft extension					
CAPE COD	Yes/Negat Impact		⁄es/Off Airport Changes	Yes/No Increas Impac	sed
YIRPORT					

Alternatives Analysis Summary

- Taxiway D will use a 2:1 side slope
 - o Meets purpose and need
 - Minimizes pond impacts
 - Decreases land alteration over FAA preferred 4:1 slope
- → Runway 15-33 Extension reduced by 400 feet to 6,158 feet (15 end extension only)
 - Meets purpose and need
 - Decreases impervious surface addition by 2.5 acres
 - Decreases land alterations by ~ 20 acres
 - Decreases change in dNL noise contours at the 33 end
 - Minimizes obstruction removal to existing requirements at 33 end
 - Eliminates need for easement acquisition at 33 end

- →The Draft EIR/EA will address the other comments received as well as regulatory requirements of the MEPA Certificate, NEPA and the Cape Cod Commission
- All comments will be responded to in writing in the next document submittal (estimated August 2023)



NEXT STEPS

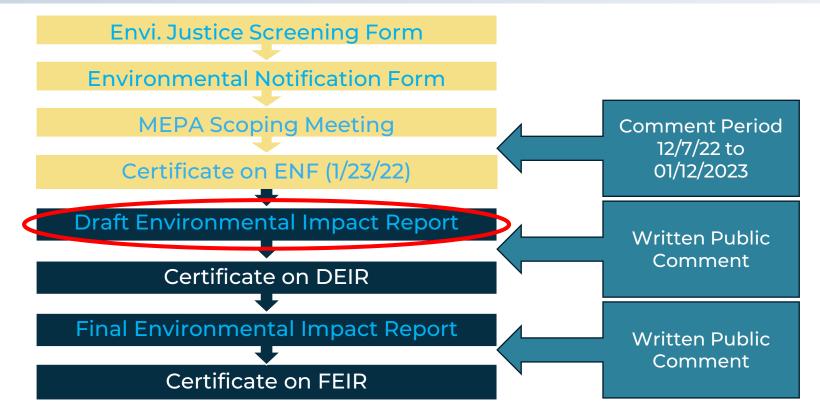
- →Evaluate Environmental Impacts associated with Updated Alternatives presented here (Taxiway D and Runway Extension) and other Master Plan Projects
- →Consider Mitigation Measures to these impacts
- → Prepare Draft EIR/EA Document and Technical Reports that include the EA refined alternatives and respond to other comments received during the ENF process
- →Coordinate as required with Local, State and Federal Agencies
- →Submit the Draft EIR/EA

ATEW

RDOR

- \circ Publish notifications of submittal
- Make documents publicly available (website)

MEPA ENVIRONMENTAL REVIEW TIMELINE



Please note that Local, State and Federal Agencies require that written comments be received for incorporation into reporting documents – see next page.



This is NOT an Airport requirement but an agency requirement



Search Mass.gov

SEARCH \mathbf{Q}

Hide

A OFFERED BY Massachusetts Environmental Policy Act Office

Submitting Comments

Comments may be submitted through the Public Comment Portal, by e-mail

or by mail.

\land Notices & Alerts

- The MEPA Office has amended regulations for promulgation on January 6, 2023. * | Updated Dec. 23, 2022, 03:41 pm
- The EEA EJ Maps Viewer has been updated and will apply to MEPA filings starting January 4, 2023.

Any agency or person may comment on projects undergoing MEPA review. The public comment period for a project is identified in the **Environmental Monitor**. The public comment deadlines identified in the Environmental Monitor are updated in real time and reflect any extensions of the public comment period.

Please be advised that comments submitted to the MEPA Office are considered public records.

MEPA Public Comment Portal

The most efficient way to submit comments on MEPA projects is through the **Public Comment Portal**. You may register and create an account or submit comments anonymously as a guest.

Submit Comments by e-mail

Comments can be e-mailed directly to the MEPA Analyst assigned to review the project, as identified in the **Environmental Monitor**. Please reference the project name and EEA# in the subject line of the e-mail. The EEA# and Environmental Analyst assigned to the project can be found in the Environmental Monitor.

Submit Comments by Mail or Hand Delivery

CONTACT

MEPA Office

Address

MEPA Office 100 Cambridge St., Suite 900, Boston, MA 02114 Directions >

Phone

File Review and Pre-filing Meetings (617) 626-1031

more contact info >

RELATED

The Environmental Monitor +

MEPA Staff Contact Information +



How to

Submit

Comments

MEPA

Public Comment Period Reminders

→Regulatory Requirement after submittal of Draft EIR/EA

Written comments only entered into the public record MEPA: See 301 CMR 11.08 (4)

11.08 EIR Review and Decision

informational meeting prior to or during review of the EIR, and may, in the Scope, require the Proponent to hold an informational meeting.

(4) Public Comment Period, Extensions, Late Comments. After receiving the EIR, the Secretary shall receive into the record written comments from any Agency or Person, concerning the Project, its alternatives, its potential environmental impacts, mitigation measures and the adequacy of the EIR, provided that the subject matter of the comment is within the Scope. Comments on the EIR shall be filed with the Secretary within 30 Days of the publication of the notice of the availability of the EIR in the *Environmental Monitor*, unless the public comment period is extended by the Secretary on account of the Proponent's failure to meet circulation or Public Notice requirements, with the consent of the Proponent for a draft EIR or as a part of a Special Review Procedure. An extension shall not ordinarily exceed 30 Days. The Secretary may accept a late comment, provided that it is received prior to the Secretary's decision on the EIR.



QUESTIONS? COMMENTS?

Please state your name and your relationship to the project before your question.

- →Please share only <u>one</u> question or comment at a time, to allow others to participate.
- All questions and comments are welcome and appreciated, however, we do request that you refrain from any disrespectful comments.



WANT TO STAY INFORMED?

Public meetings ahead of major milestones

 All public meetings will be noticed on the project website and in local newspapers

→Project website

ohttps://flyhya.com/environmental-assessment/

Stakeholder Mailings Subscribe to receive email updates

 Reach out to the project email to be added to the project email list

→Project email

oenvirohya@epsilonassociates.com



PROJECT CONTACTS

<u>Airport</u>

Katie Servis Airport Manager <u>kservis@flyhya.com</u> 508-775-2020

Matt Elia Assistant Airport Manager <u>melia@flyhya.com</u> 508-775-2020

Project Team

Alyssa Jacobs Project Manager Epsilon Associates, Inc. 978-897-7100

Website (project documents available)

https://flyhya.com/environmental-assessment/

Project Email envirohya@epsilonassociates.com



THANK YOU

