Memorandum

To: Sean Scanlon, Tweed Airport **Date:** February 24, 2020

From: Laura Canham, McFarland Johnson (MJ)
Subject: **Tweed Master Plan Update Technical Advisory Committee Meeting #1 Summary of 2/13/2020 Meeting**

The first Technical Advisory Committee (TAC) meeting for the Tweed-New Haven Airport (HVN) Master Plan Update was conducted from 3pm to 5pm in the Airport Administration Building conference room. Sean Scanlon welcomed TAC members, the consultant team conducted a presentation, followed-up by questions and discussion with TAC members.

The TAC Meeting was attended by 12 TAC members of the community along with several members of the project team and Tweed Airport staff.

Jeff Wood of McFarland Johnson (MJ), the project manager for the Master Plan Update, explained what an airport Master Plan is, the need for the Master Plan, the Master Planning process, the project schedule, and key issues and goals. He explained the public outreach plan for the project. He explained the role of the TAC, which is to assist the project team with technical expertise, provide feedback on project team work, act as a "sounding board" for development and analysis of alternatives later in the process, and assist in distribution of information to constituent organizations/agencies. There will be four TAC meetings held at key milestones of the Master Plan process.

Laura Canham of MJ presented on the airport inventory of existing facilities, including runways, taxiways, aprons, hangars, terminal building and support facilities. Jeff Wood of MJ presented on existing environmental resources on and adjacent to the airport property, including historic, Section 6(f), coastal resources, wetlands, floodplains, and federal and state threatened and endangered species. Rick Lucas of MJ presented on forecast information and the design aircraft for both general aviation and commercial aircraft, including the service area, trends, and operations.

Next steps in the Master Plan process include discussion of the forecast with the Federal Aviation Administration (FAA) and FAA approval, review of facility requirements by the project team, development of alternatives, followed by preparation of the Airport Layout Plan (ALP) for FAA review and approval. TAC meetings will be held at each of these key milestones.

After the presentation was completed, the attendees were asked if there were questions or comments. The following is a summary of the issues raised by TAC members and key discussion points.

- Louder, older aircraft are aging out of the market as are 50 seat regional jet aircraft.

- The new engines are touting significant noise and fuel usage improvements; these engines are continually improving incrementally and becoming more fuel efficient and as a result of that, quieter.
- Electric aircraft are going to be a game changer when they enter the mainstream market for short hops and flight training. Cape Air is capitalizing on getting electric aircraft early in hopes of cutting down the fuel costs, which is one of an airline's biggest operating costs.
- The Master Plan will look at both the existing and the future critical aircraft for runway length. Additionally, aircraft that use the airport more than 500 times will be reviewed.
- The Master Plan forecast shows that in 2040 general aviation operations will be about half of what they were at the peak in the 1990s.
- The facility requirements will look at roadway access and parking needs of the airport for the 20-year planning period.
- Most aircraft curfews are voluntary in nature and are hard to enforce. Restrictions beyond voluntary are against FAA regulations.
- The focus of this master plan is on the local service area and capturing the immediate local market, which is located south and west of the airport (coastal Connecticut) and from the east. The biggest market capture would be from people who are currently using New York City airports.
- The current airline schedule is not easy/good for work travel. There is an economic impact study being finalized in a few months that should be able to provide some answers on the impact of the airport on the state economy and how changes in airline schedules may impact state economics.
- A suggestion was made about fees for louder aircraft.

Attendees:

- Sean Scanlon, HVN
- Jeremy Nielson, HVN/Avports
- Johnson Chang-Fong, HVN/Avports
- Felipe Suriel, HVN/Avports
- Rasmus Agerskov, HVN/Avports (on the phone)
- Eliot Jameson, HVN (on the phone)
- Lisa Lesperance, FAA (on the phone)
- Andy Romano, FAA TechOps
- Charles Skelton, Yale Aviation
- John Olson, FAA ATCT
- Scott Luzzi, Yale
- Jim Yeske, HVN Board of Directors
- Bob Bruno, CAA
- Don Relihan, Yale
- Giovanni Zinn, City of New Haven
- Eric Atkins, Shoreline Aviation/Cape Air
- Evan Warren, Robinson Aviation
- Rick Wies, Gregg Wies & Gardner Architects, LLC
- Kevin White, Town of East Haven
- Diane Stetson, Piedmont /dba American Airlines (on the phone)
- Doug Hausladen, City of New Haven
- Laurel Stegina, FHI
- Jeff Wood, McFarland Johnson
- Rick Lucas, McFarland Johnson
- Laura Canham, McFarland Johnson

MASTER PLAN UPDATE

Tweed-New Haven Airport Authority

TAC Meeting February 13, 2019

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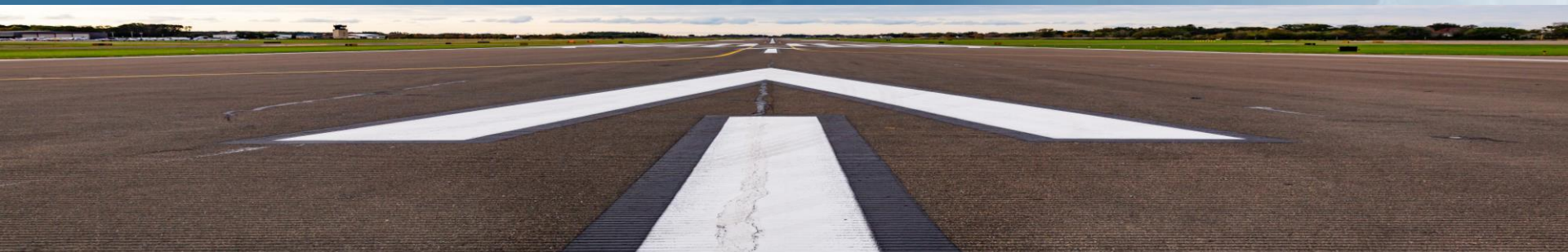
Agenda

- Introductions
- Master Plan Process
- What is the Master Plan?
- Schedule
- Public Outreach
- Role of Advisory Committees
- Key Issues and Goals
- Inventory
- Environmental Overview
- Draft Forecast (as presented to FAA)
- Design Aircraft
- Next Steps



Introductions

- Sean Scanlon, Executive Director
- Jeremy Nielson, Airport Manager
- Consulting Team:
  - McFarland Johnson
  - Fitzgerald Halliday, Inc.
  - ASM Americas
  - Harris Miller Miller & Hanson, Inc.
  - Woolpert
- TAC Members

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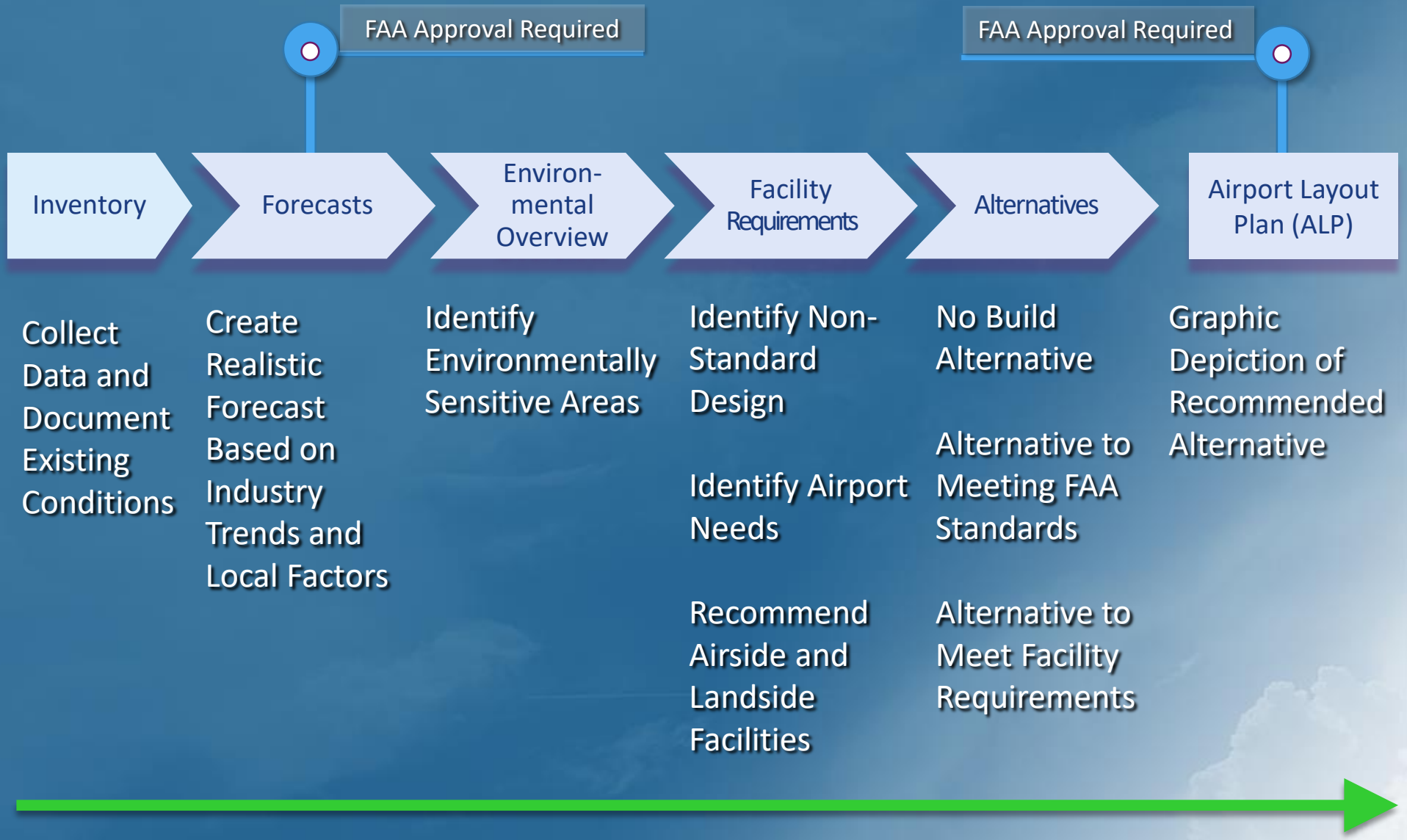
Master Plan Process



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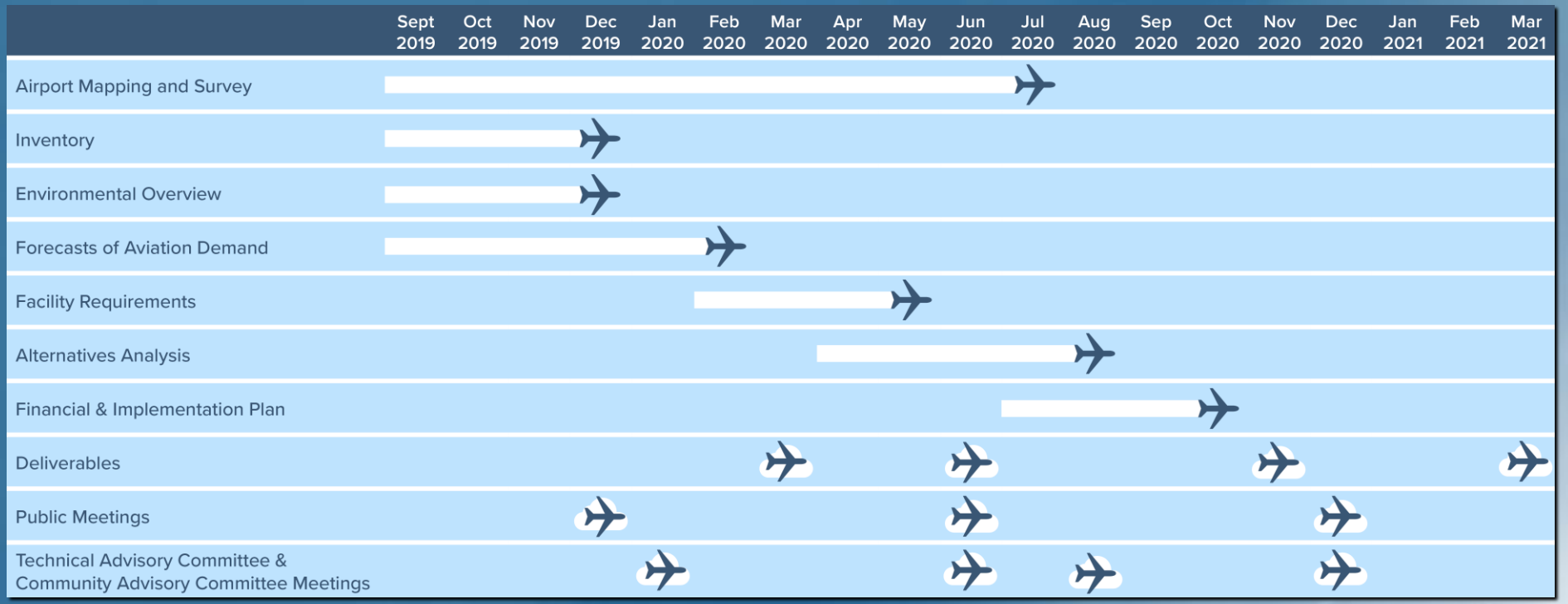
What is the Master Plan?

- The official planning document for the airport
- Last completed in 2002 (18 years ago)
- A comprehensive study for short-, medium-, and long-term development
- Graphically shows the Airport's long-term development plan
- Justifies and validates proposed development
- Establishes an implementation plan
- Prepared per FAA AC 150/5070-6B, *Airport Master Plans*

Schedule



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Public Outreach

- Four (4) public meetings
  - Two (2) listening sessions
    - New Haven
    - East Haven
  - Two (2) community informational workshops
- Project Website
- Social Media Support
- Project Newsletter
- Public Participation Plan
  - Outreach milestones
  - Methods of communicating with the public

http://mediaschool.ohio.edu/using-social-media-for-social-support

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Committee Roles

- Community Advisory Committee (CAC)
  - Act as vehicle for communications about study to stakeholder constituents
  - Provide feedback on project team work
  - Act as ‘sounding board’ for development and analysis of various alternatives
  - Four (4) meetings

Committee Roles

- Technical Advisory Committee (TAC)
  - Assist project team with technical expertise
  - Provide oversight and technical review of work
  - Act as ‘sounding board’ for development and analysis of various alternatives
  - Assist in distribution of information to constituent organizations/agencies
  - Four (4) meetings

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Key Issues and Goals

- Identify Runway 2-20 ultimate length (1)
- Determine terminal area improvements to meet demand (2)
- Future of Runway 14-32 (3)
- Identify opportunities for economic sustainability
- Determine phasing and implementation plan for recommended improvements
- Engage the public throughout the process
- Maintain planning flexibility for future aviation industry changes

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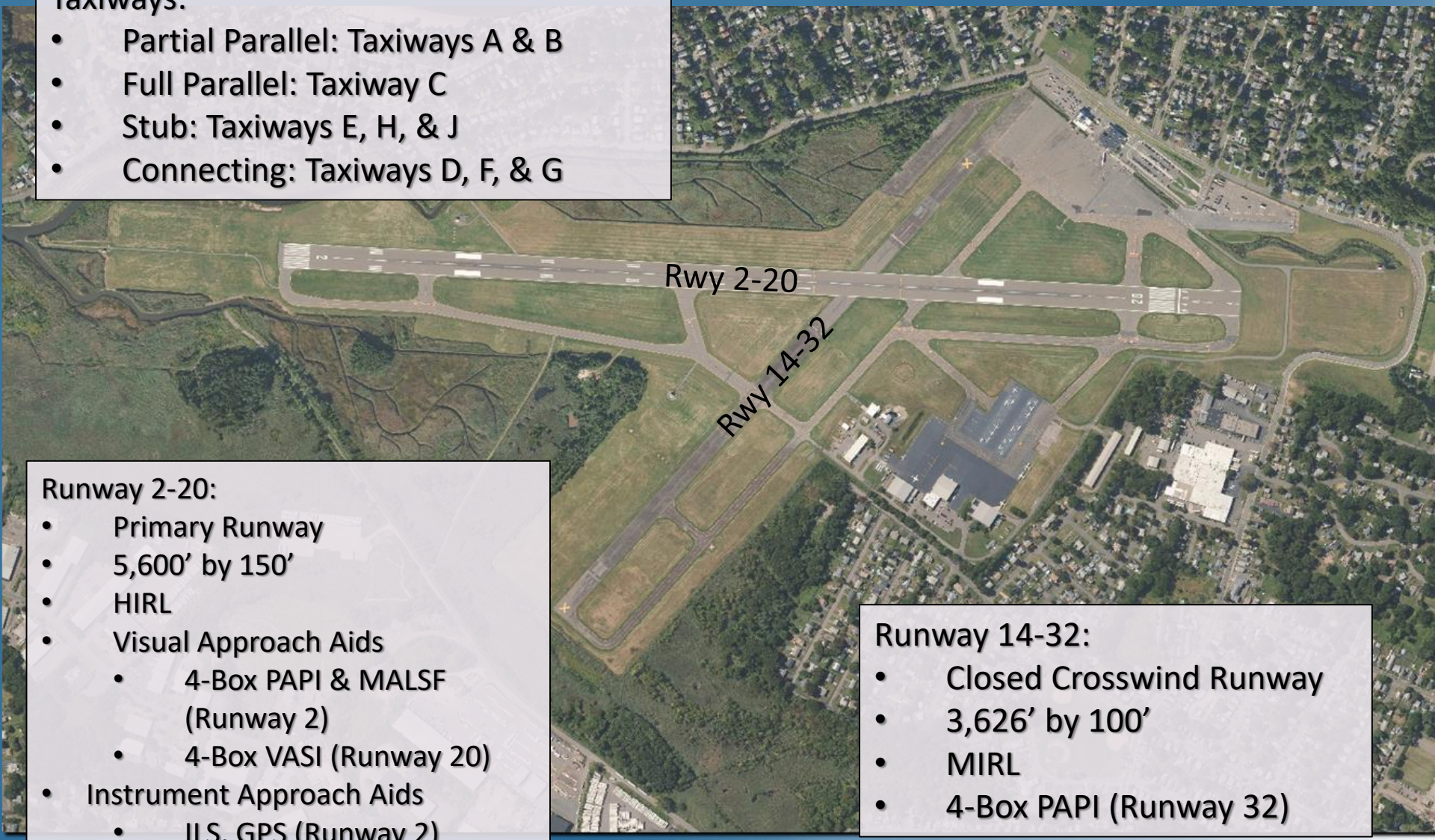
Inventory

Inventory | Forecasts | Environ-mental Overview | Facility Requirements | Alternatives | Airport Layout Plan (ALP)

- Goal: Identify Existing Facilities and Conditions
  - Runways
  - Taxiways
  - Aprons
  - Hangars
  - Terminal Building
  - Support Facilities

Airside Facilities

Taxiways:
- Partial Parallel: Taxiways A & B
- Full Parallel: Taxiway C
- Stub: Taxiways E, H, & J
- Connecting: Taxiways D, F, & G



Runway 2-20:
- Primary Runway
- 5,600’ by 150’
- HIRL
- Visual Approach Aids
  - 4-Box PAPI & MALSF (Runway 2)
  - 4-Box VASI (Runway 20)
- Instrument Approach Aids
  - ILS, GPS (Runway 2)
  - GPS (Runway 20)

Runway 14-32:
- Closed Crosswind Runway
- 3,626’ by 100’
- MIRL
- 4-Box PAPI (Runway 32)

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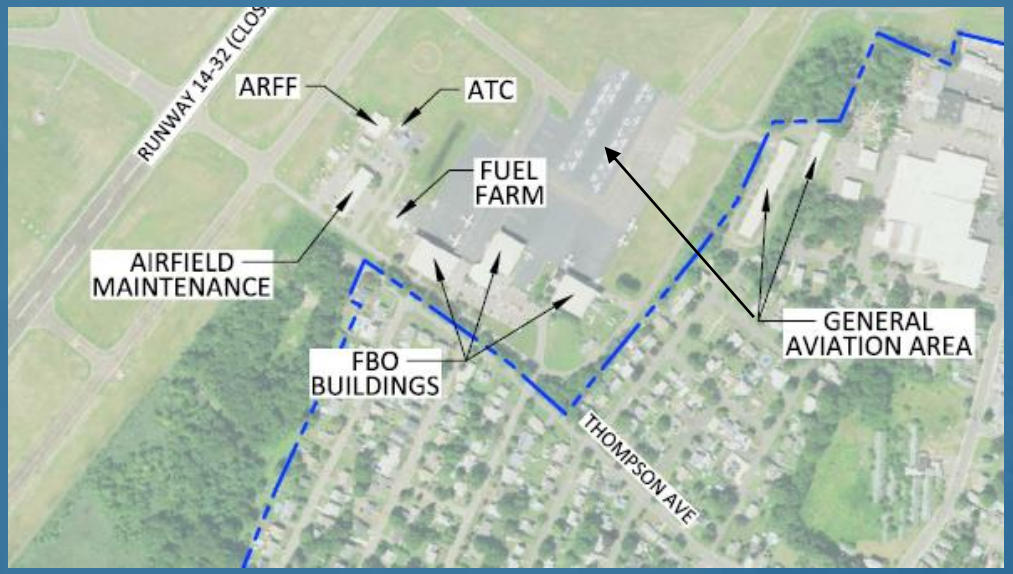
Landside Activities



GA / East Ramp:

- Services 3 Corporate Hangars
- 42,000 SY
- 43 Marked Tie Downs
- Fuel Farm Adjacent to Ramp
- Provides Access to T-Hangars via Taxilane

Terminal / West Ramp

- Services Terminal Building
- Deicing Pad
- 25,000 Square Yards (SY)

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Landside Activities – Hangars

Conventional Hangars:

- Hangar 1 – Aircraft Storage
- Hangar 2 – Aircraft Maintenance
- Hangar 3 – Aircraft Storage

T-Hangars

- Two Structures
  - 16 Units
  - 4 Units
- Through-The-Fence Agreements with FAA

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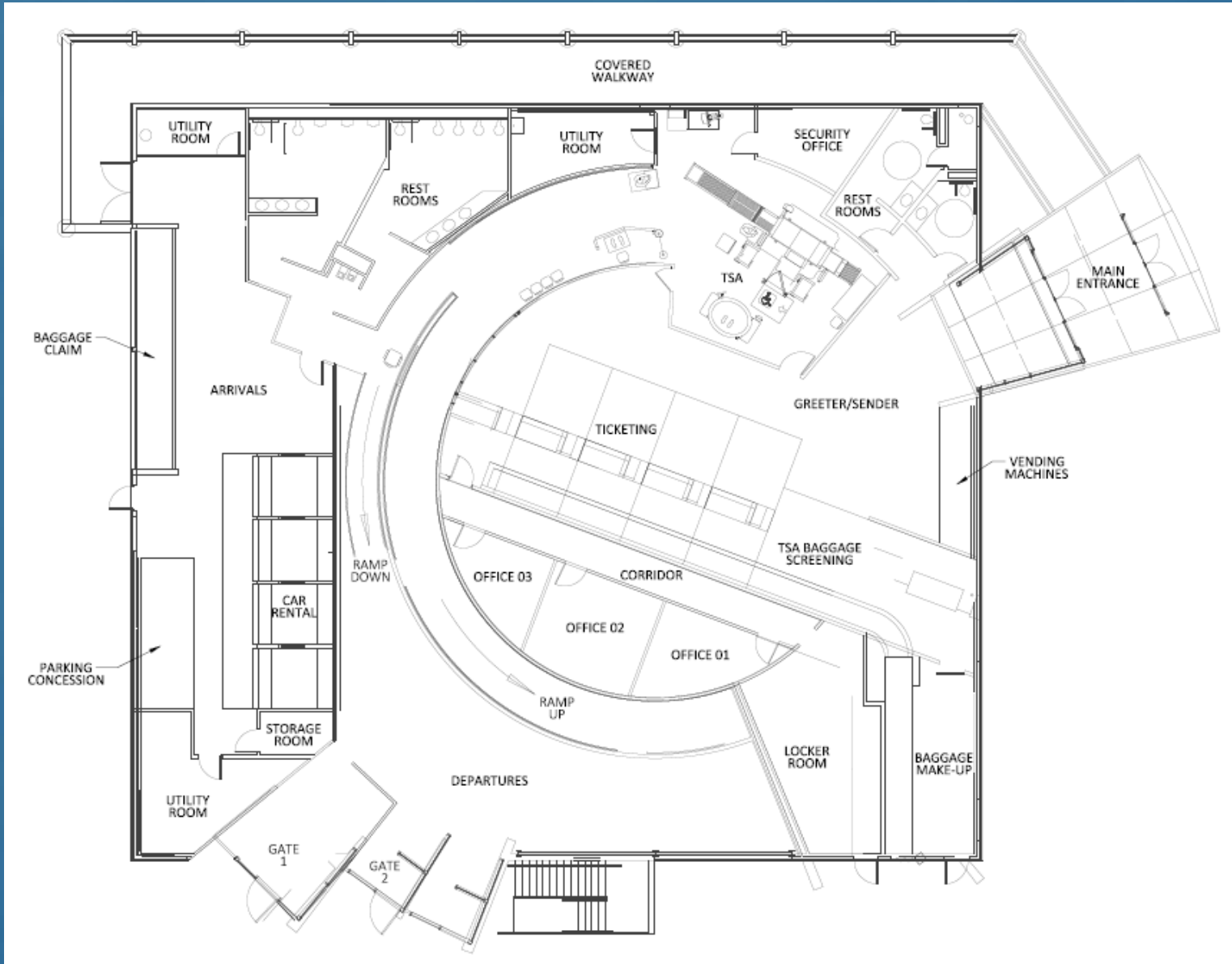
Terminal Building – First Floor



Key Areas:

- TSA Space Constraints
- Passenger Flow at Ticketing Counter
- Curbside Traffic

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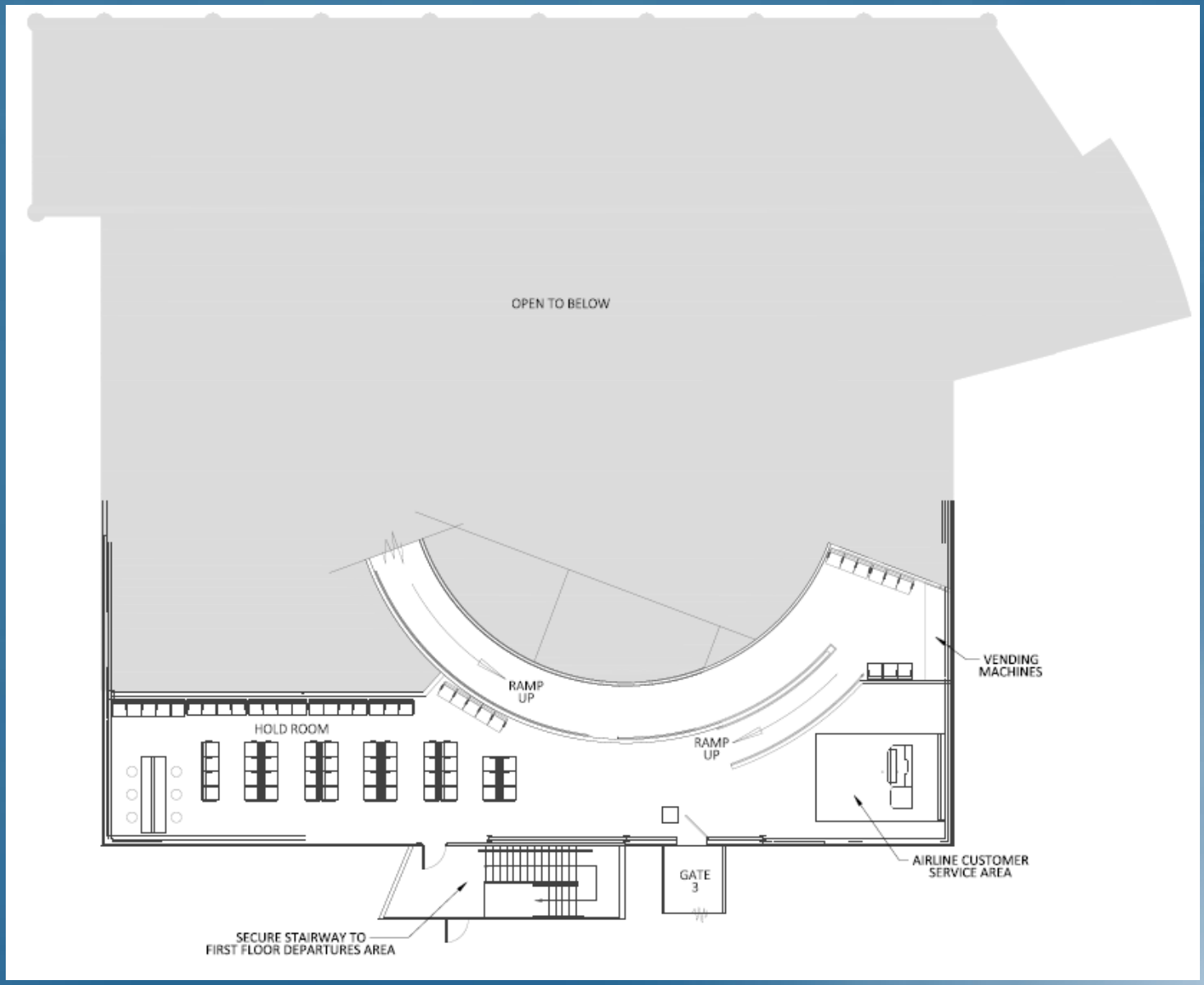
Terminal Building – Second Floor



Key Area:
Passenger Flow
Near Gate 3

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Environmental

Inventory | Forecasts | Environ-mental Overview | Facility Requirements | Alternatives | Airport Layout Plan (ALP)

- Goal: early identification of constraints to minimize environmental impacts

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Environmental Topics Studied

- Land Use
- Zoning
- Historic/Cultural
- Section 6(f) Resources
- Farmlands
- Threatened & Endangered Species
- Coastal Resources
- Floodplains
- Wetlands
- Water Quality
- Hazardous Materials & Solid Waste
- Energy Consumption
- Socioeconomics
- Environmental Justice
- Visual Effects
- Air Quality

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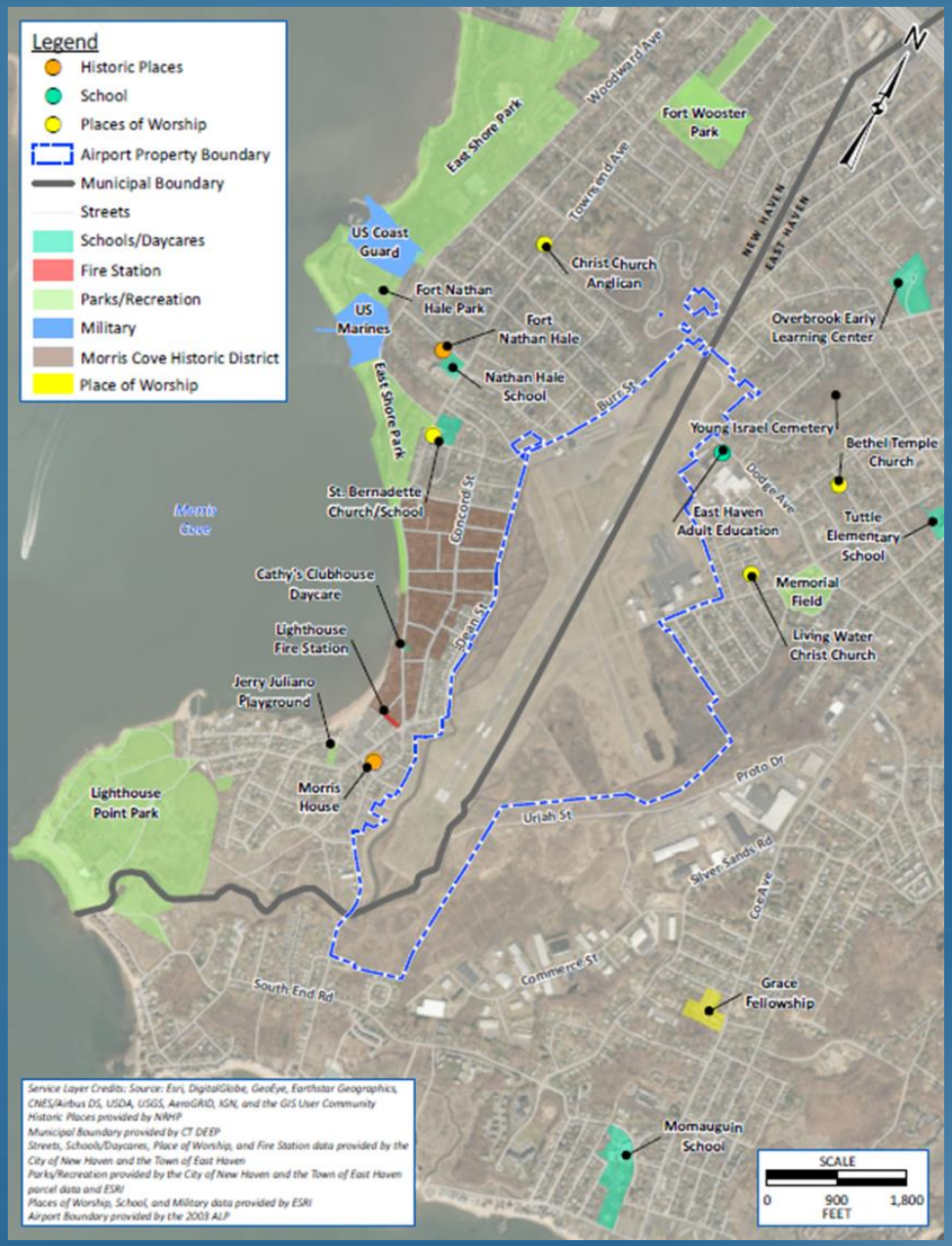
Historic Resources, Section 4(f)



- National Register Historic Places Properties
  - Five Mile Point Lighthouse
  - Lighthouse Point Carousel
  - Fort Nathan Hale
  - Morris Cove District
  - Morris House
  - Raynham Estate

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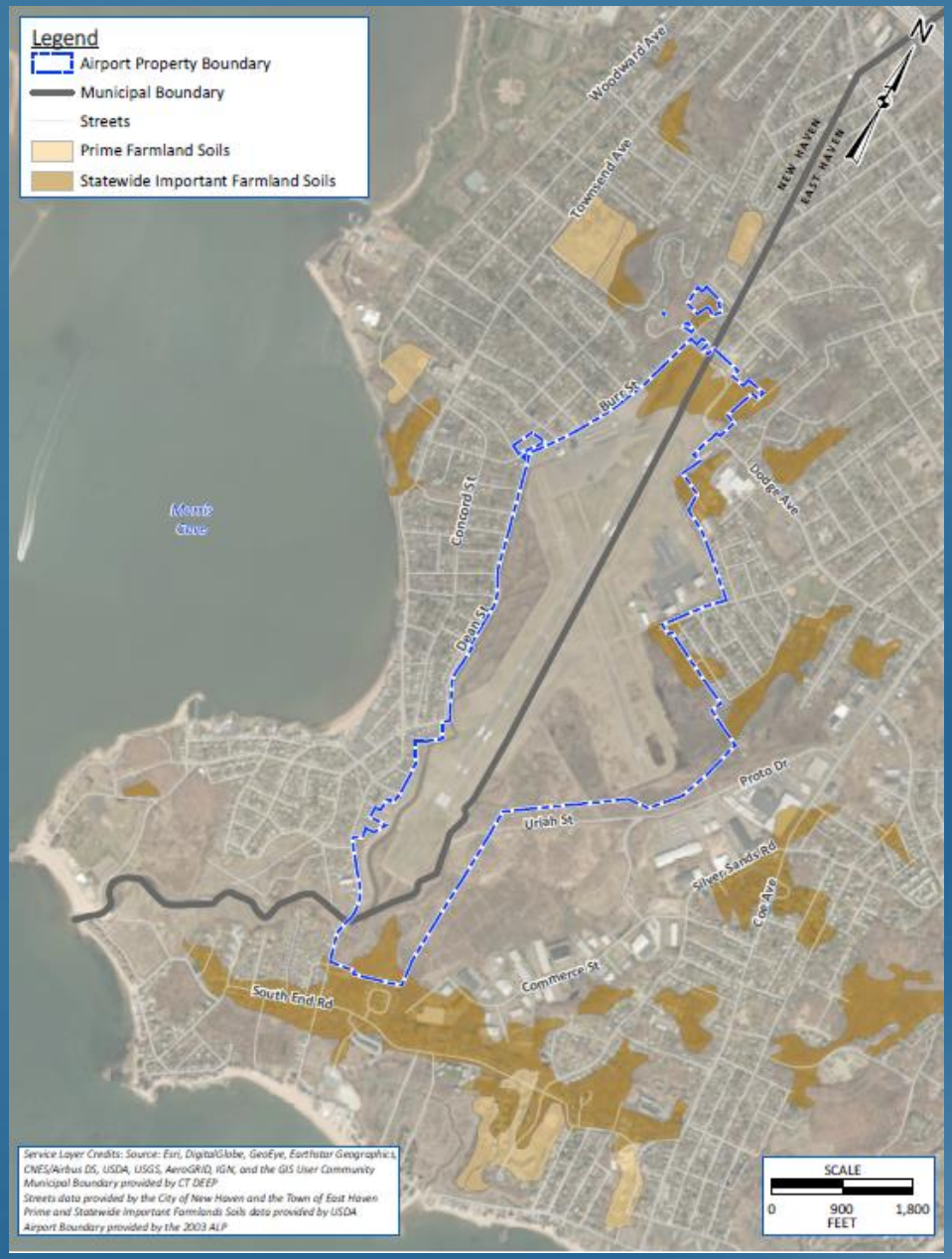
Section 6(f) Properties



- U.S. Land & Water Conservation Fund Act Properties
  - East Shore Park
  - Lighthouse Park

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Floodplains

- Federal Emergency Management Agency
- Zone AE
  - 100-year flood plain
  - Entire airport property, except northwestern most corner

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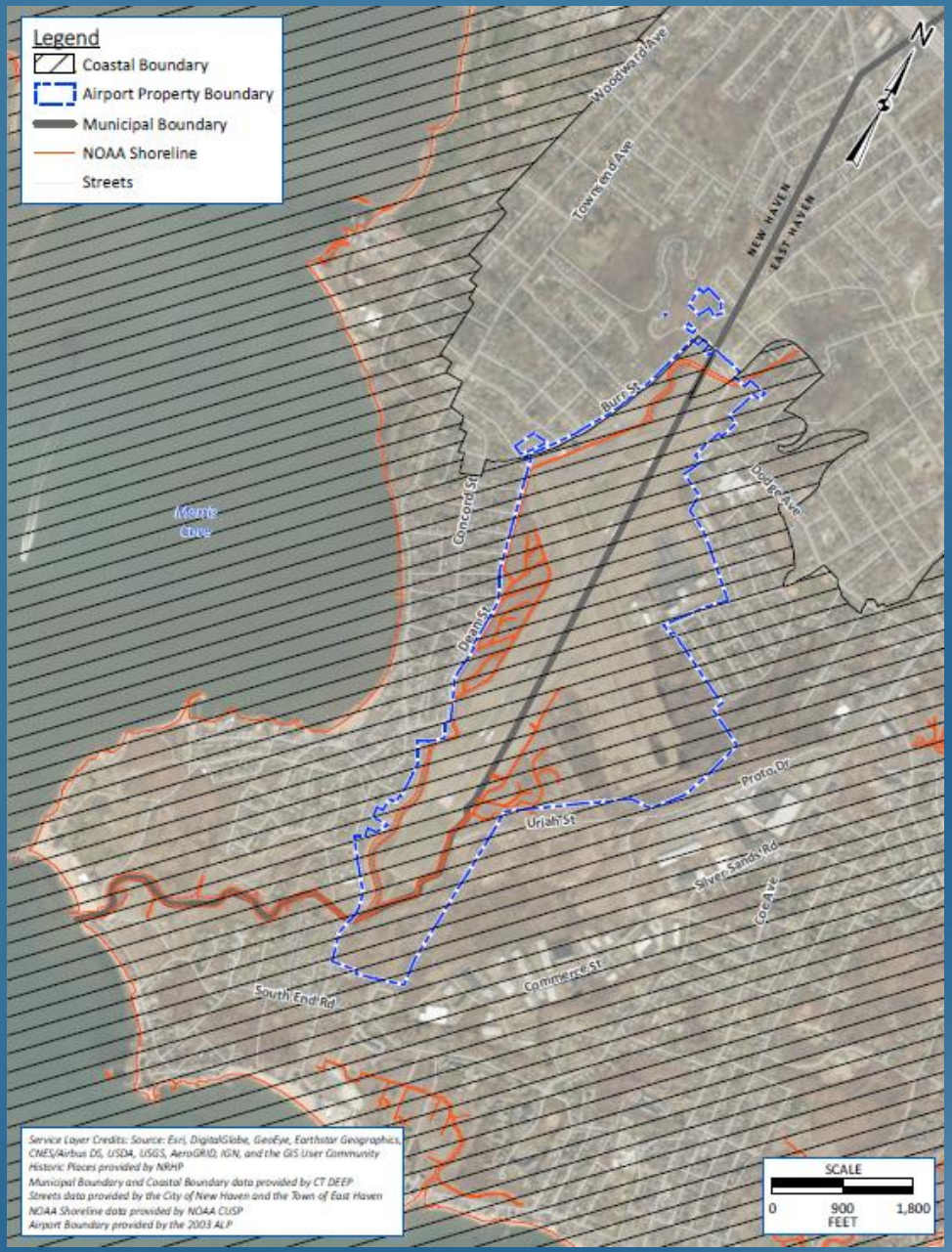
Coastal Resources



- Connecticut Coastal Management Act
  - CT Coastal Boundary
  - Coastal Flood Hazard Area
  - Shoreland
  - Tidal Wetlands
  - Inland Wetlands

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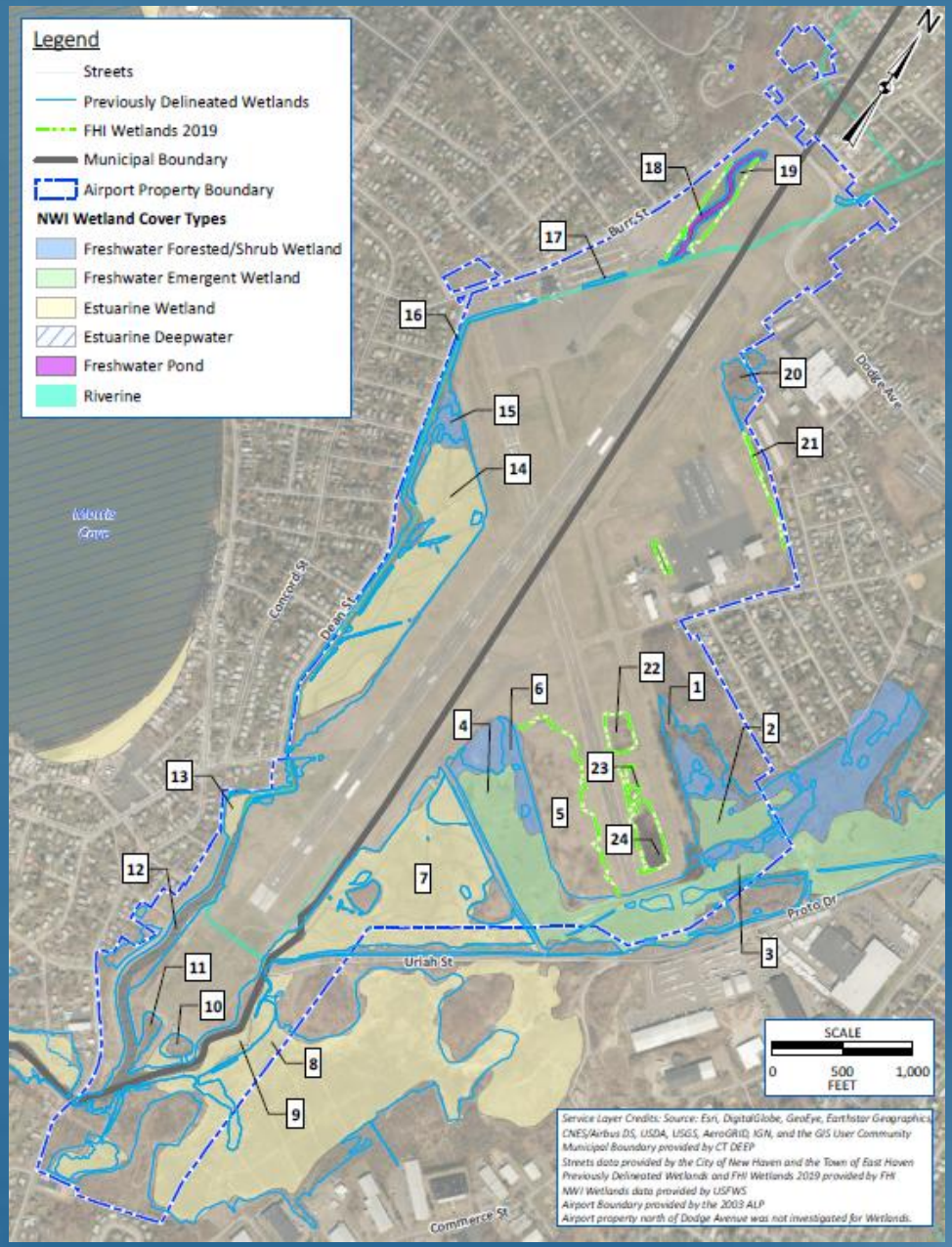
Tidal and Inland Wetlands



- Field verified 24 wetland areas
  - 13 inland
  - 8 tidal
  - 3 riverine/ponded

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Threatened & Endangered Species

- Connecticut Department of Energy & Environmental Protection Natural Diversity Database
  - Grassland Bird
  - Shorebirds
  - Turtle/Aquatic Species

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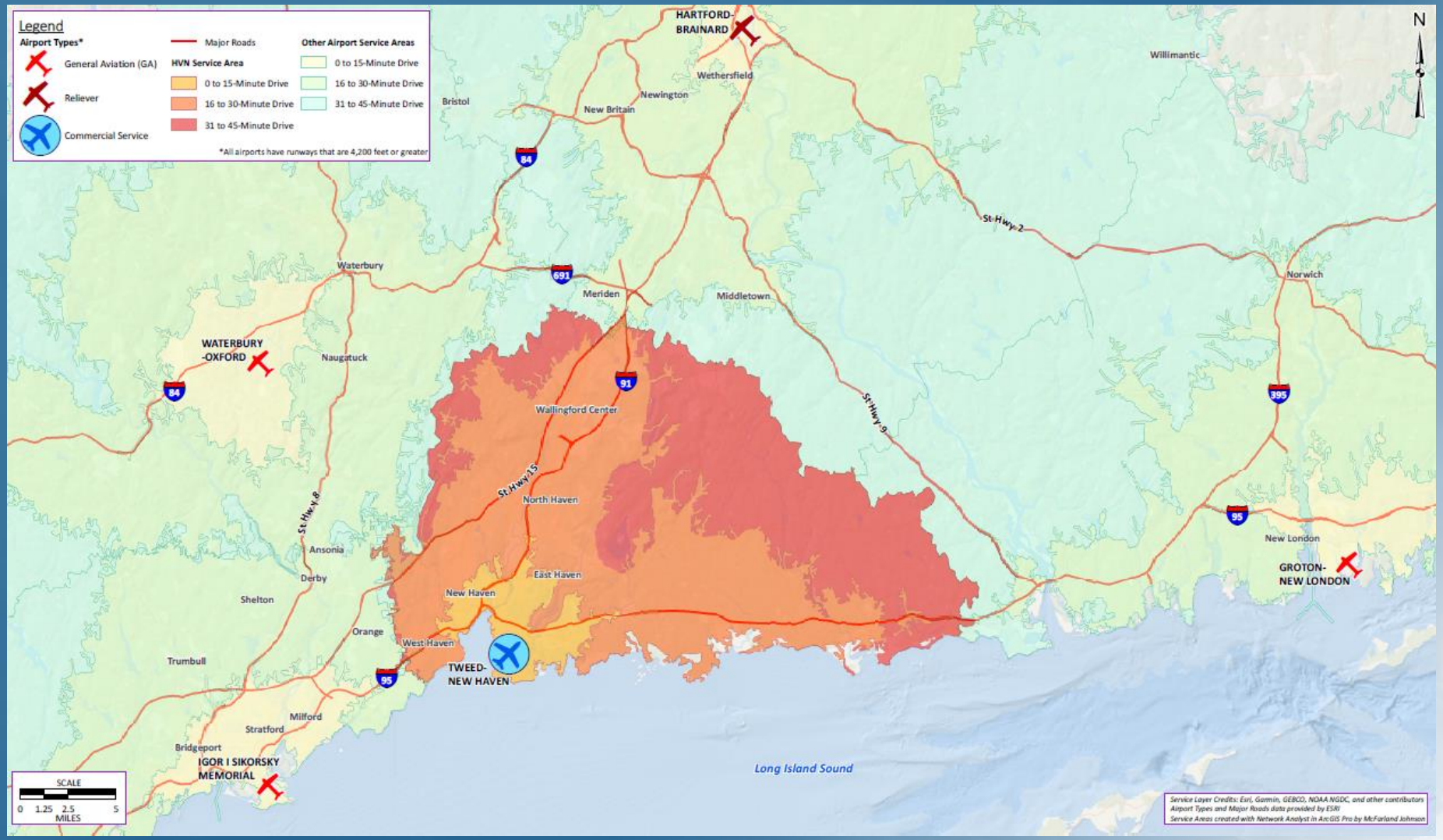
Forecasts

Inventory | **Forecasts** | Environ-mental Overview | Facility Requirements | Alternatives | Airport Layout Plan (ALP)

- Goal: Devise a Realistic Forecast
  - General Aviation (GA)
    - Service Area
    - Trends
    - Historic and Forecast Operations
    - Historic and Forecast Based Aircraft
  - Commercial Aviation
    - Catchment Area
    - Trends
    - Historic and Forecast Enplanements
    - Historic and Forecast Operations
  - Existing and Future Design Aircraft

General Aviation Service Area



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General Aviation Trends

- Growth in Jet and Turbo Prop Aircraft
- Decline in Single and Multi-Engine Piston Aircraft
- Increase in Business GA Activity
- Decrease in Recreational GA Activity
- Increase in Fuel Prices
- Fractional Ownership

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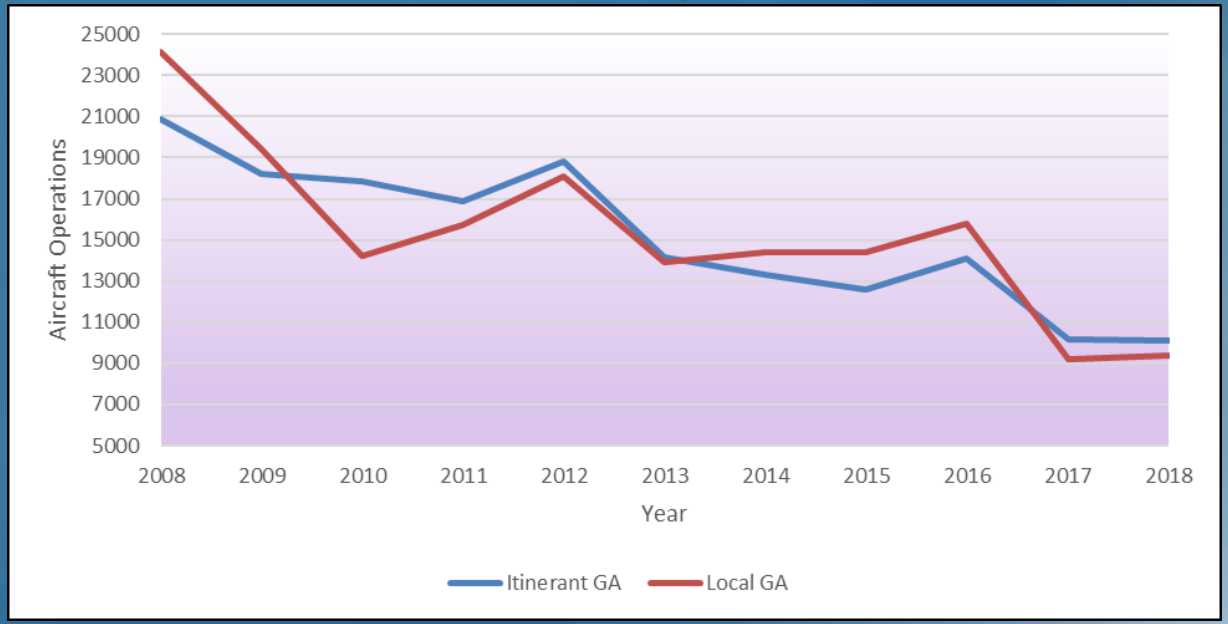
General Aviation Operations

Methodology:

FAA National Aerospace Forecast

Historical Trends Not Indicative of Future Performance, 2008-2010 Recession Key Contributor for Decline

Historical GA Operations



GA Operations Forecast By Type

	Itinerant GA	Local GA	Total GA Operations
2020	10,145	9,468	19,612
2025	10,298	9,610	19,908
2030	10,453	9,755	20,209
2035	10,611	9,903	20,513
2040	10,771	10,052	20,823

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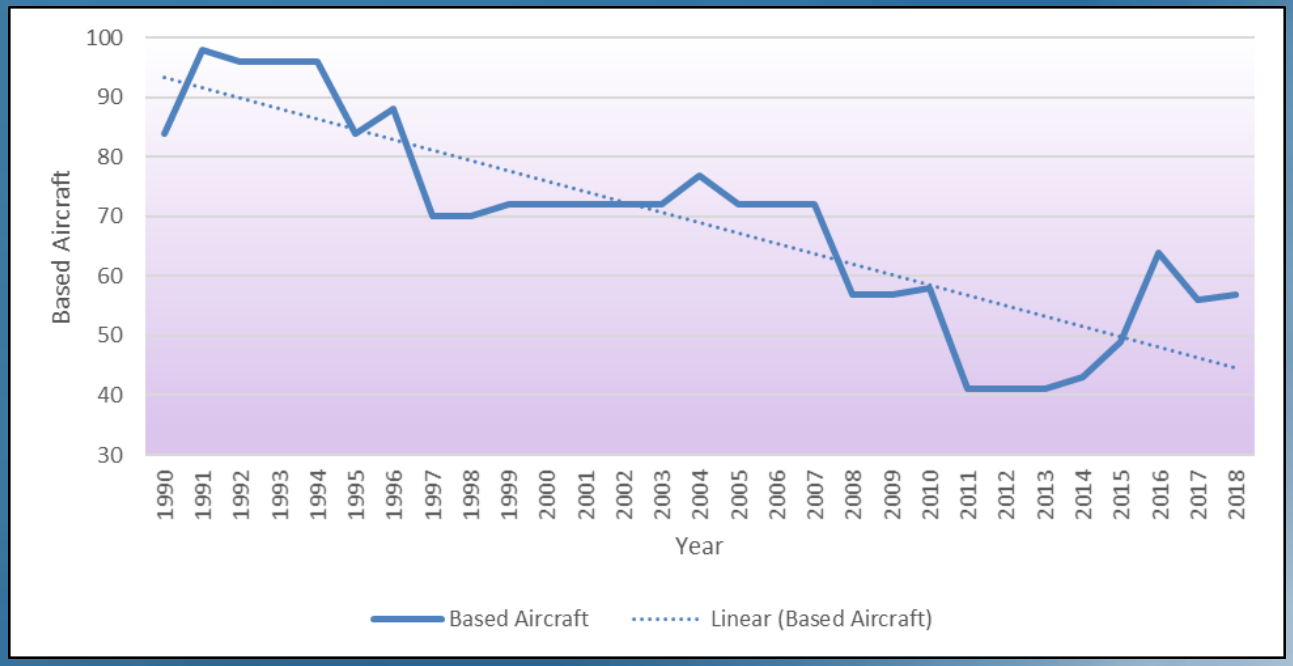
Based Aircraft

Methodology: FAA National Aerospace Forecast for General Aviation Fleet

Single Engine Piston Aircraft: Decline in Traditional Single Engine, Offset by Growth in Light/Sport Aircraft

Multi/Turbo, Stable, Strongest Growth in Jet Aircraft

Historical Based Aircraft



Based Aircraft Forecast By Type

Year	Single	Multi	Turboprop	Jet	Total
2019	42	3	2	3	50
2025	42	3	2	3	50
2030	44	3	2	4	53
2040	45	3	3	5	56

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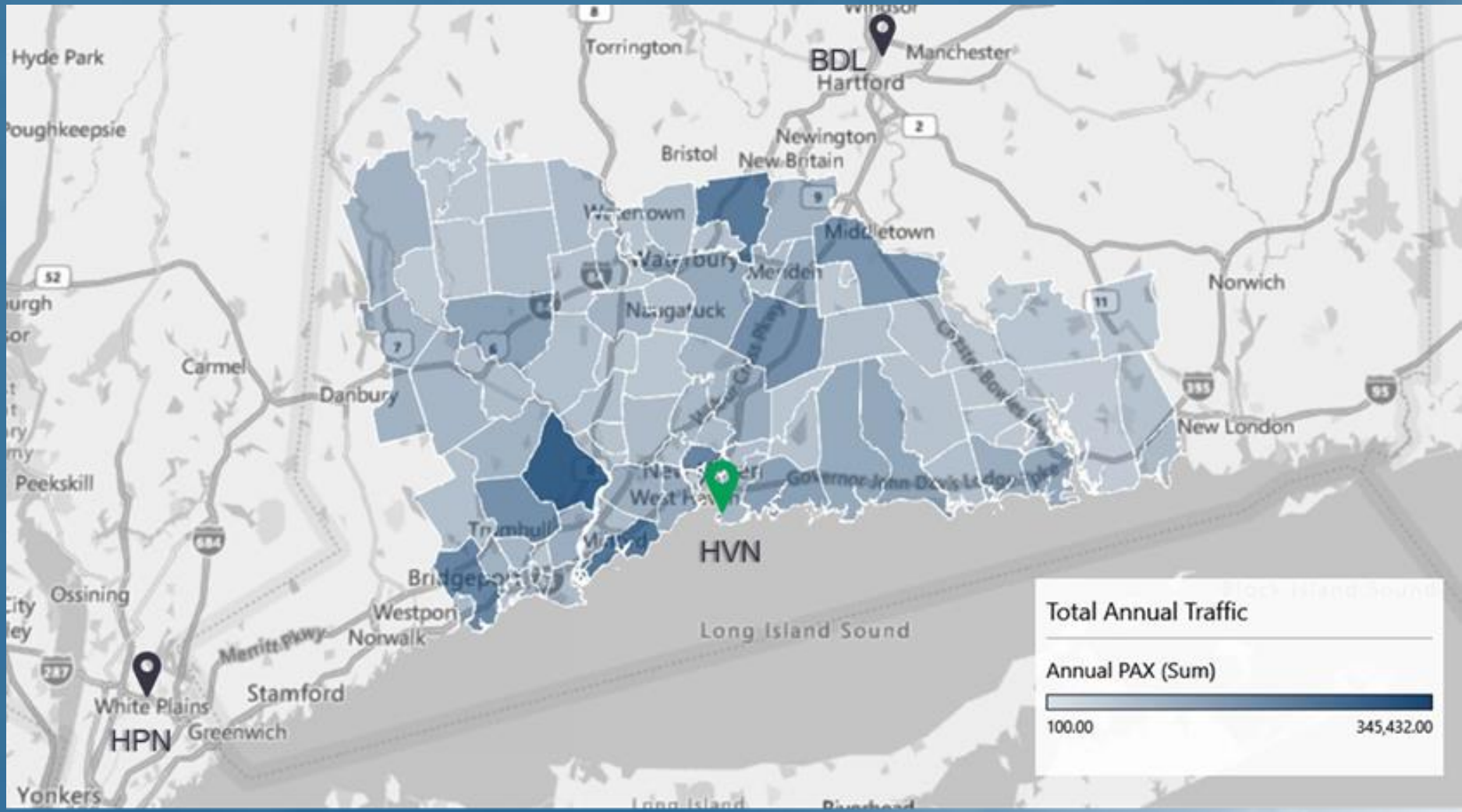
Commercial Service Area



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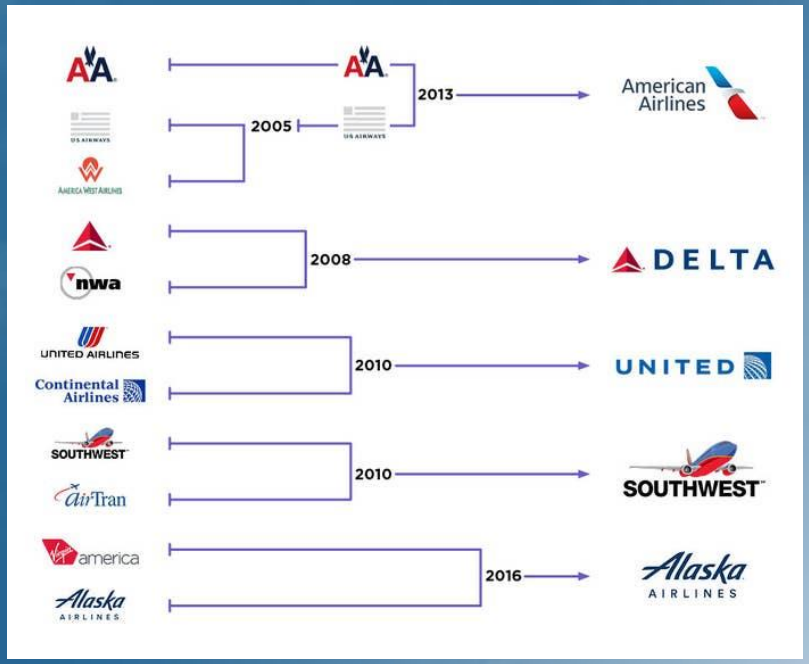
Commercial Service Trends

- Reduction/Removal of Turboprop Aircraft
- Up-Gauging to Larger Aircraft
- Decreasing Frequency
- Increased Congestion at Hub Airports
- ULCC and LCC Presence at Smaller Airports

- Causes: Pilot Supply, Fuel Prices, Competition, Airport Capacity and Costs (Hubs)



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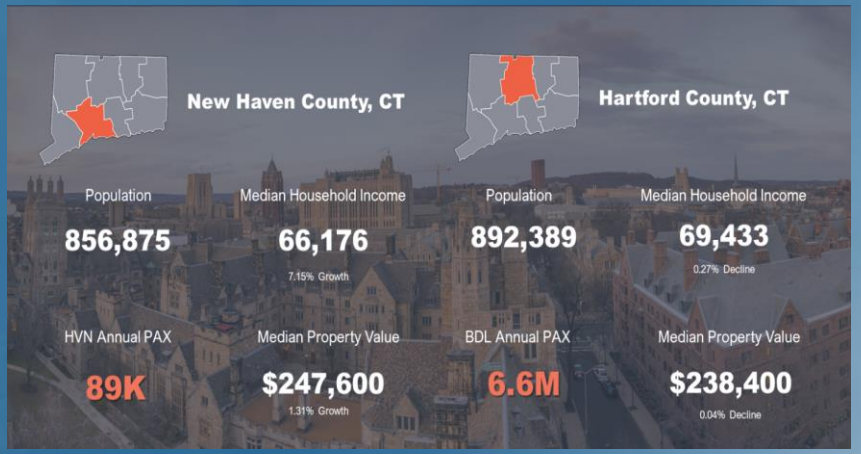
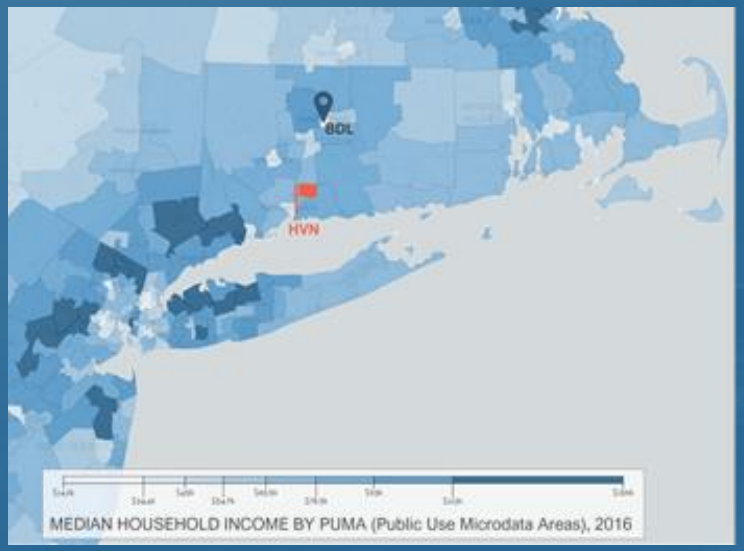
Socioeconomic Highlights

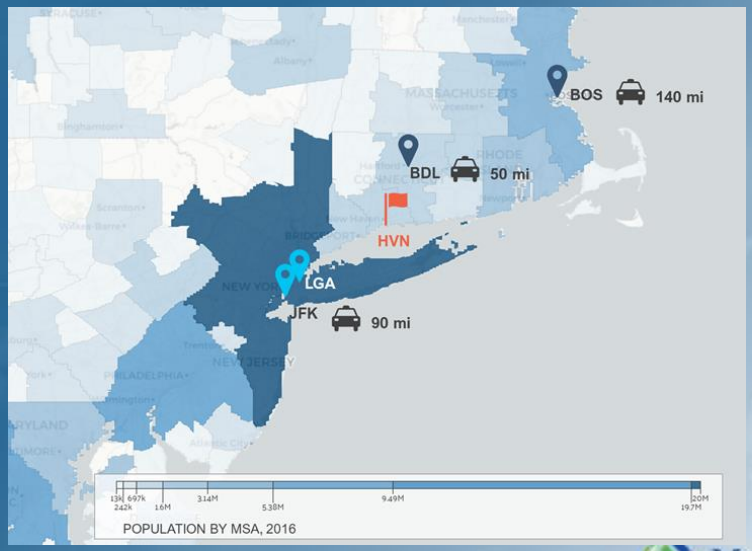
- Strong Socioeconomic Characteristics Favor Enplanement Growth
- 2nd Largest Bioscience Cluster in New England
- Yale Employs 14,000 People and Undergoing $1 Billion Expansion



Median Household Income, $14k-$156k



Population by MSA, 13k-20M



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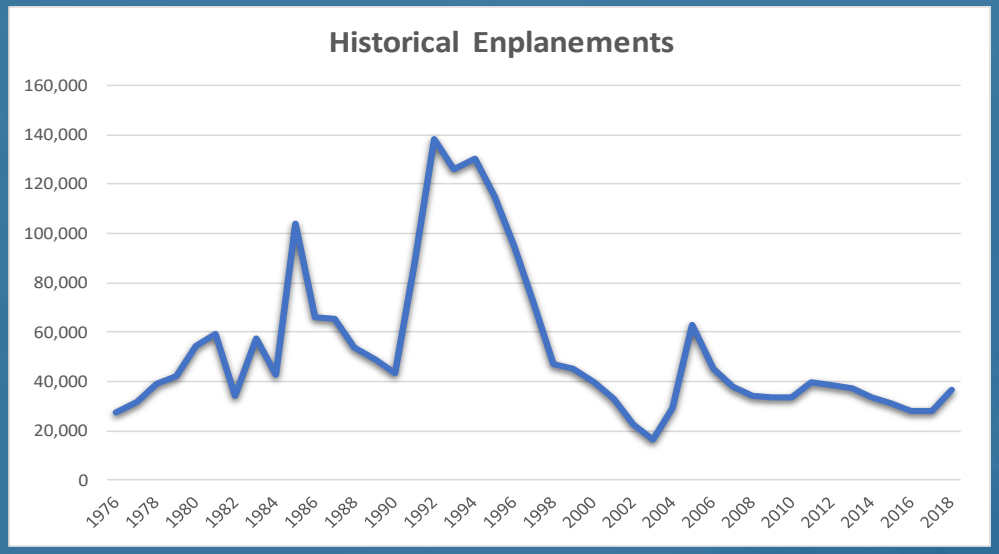
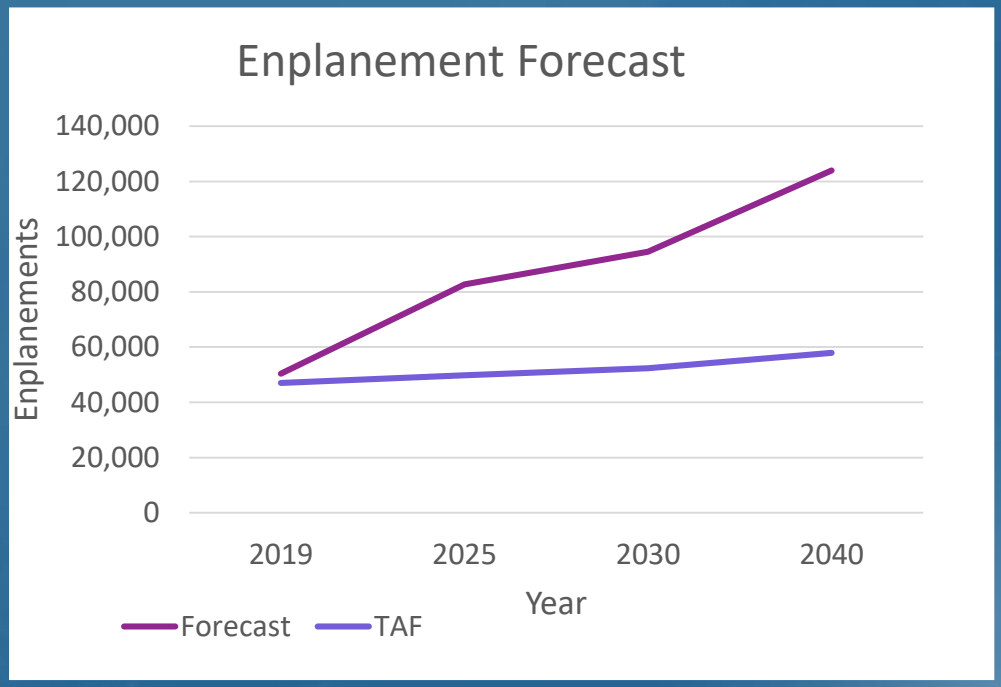
Commercial Enplanements





- Consolidation and Profits Have Stabilized Airline Industry
- New Aircraft and Service Models Create Opportunity for HVN
- Socioeconomic Profile Highlights Opportunity

Year	Forecast	TAF	% Difference
2019	50,355	46,953	7.2%
2025	82,723	49,836	66.0%
2030	94,531	52,380	80.5%
2040	123,999	57,861	114.3%

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Forecast Overview/TAF Comparison

	Baseline	Forecasts			
	2019	2025	2030	2040	CAGR
FAA TAF (2019)					
Enplanements	46,953	49,836	52,380	57,861	1.05%
Total Operations	26,255	26,162	26,394	26,895	0.12%
Based Aircraft	59	65	70	80	1.53%
Master Plan Forecast					
Enplanements	50,355	82,723	94,531	123,999	3.40%
Total Operations	25,219	25,923	26,476	27,631	0.46%
Based Aircraft	50	51	53	56	0.57%
Percent Difference From TAF					
Enplanements	7.2%	66.0%	80.5%	114.3%	
Total Operations	-3.95%	-0.91%	0.31%	2.74%	
Based Aircraft	-15.25%	-21.54%	-24.29%	-30.00%	

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Existing/Future Design Aircraft

Existing - Embraer 175

Existing - Gulfstream V/550

Future - Airbus 319/320

AAC/ADG	III	Total
C	1,036	2,777
D	166	429
Total	1,224	

No Change in Design Criteria (C/D-III)

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Next Steps

- Forecasts – FAA Approval
- Facility Requirements
- Alternatives
- Airport Layout Plan – FAA Approval

After the Master Plan

- National Environmental Policy Act (NEPA) process
- Final Design and Permitting
- Begin Implementation

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Conclusion / Questions

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