A.2.2 PUBLIC MEETING BOARDS

TRENTON-MERCER AIRPORT

Airport Master Plan Public Meeting #2

May 24, 2017

URBAN ENGINEERS
Formulating Excellence

McFarland Johnson

Welcome

Airport Master Plan Update

Trenton Mercer Airport –Master Plan Update
Public Information Meeting

Welcome, and thank you for joining us for the Trenton Mercer Airport Master Plan Public Information Meeting. The information presented tonight takes you through the first phase of the Master Planning Process. You will learn:

- What a Master Plan is and its purpose
- What information is collected and how it is used for the project;
- Demand projections and future airport facility needs
- Development Alternatives
- Recommended Development Plan.

Room Format

The layout of the room consists of ordered stations that represent the steps of an airport master plan. Staff from McFarland Johnson, Urban Engineers, and the airport will be present at these stations to better describe the planning process to you and answer any questions you may have. After visiting the stations we invite you for refreshments and offer you an opportunity to provide us with additional thoughts or comments via the comment sheet on the back of this handout. Again, we thank you for joining us this evening and look forward to speaking with you.

Master Plan Stations

Inventory and Forecasts: The Inventory documents and reviews all existing facilities and conditions on the airport which serves as the baseline going forward. The Forecast assesses operational data and industry trends to create projections of future aviation demand, this effort also includes the identification of the future design aircraft.

Facility Requirements: Facility Requirements compares the existing conditions with projected aviation demand to determine the requirements for the various elements of the airport. These elements are grouped into airside, terminal, and general aviation/support facilities.

Environmental Overview: Environmental conditions were identified early in the process with the goal of minimizing the environmental effects of the Airport's operation and growth on the surrounding environment and community.

Alternatives: Alternatives were identified to meet the future needs of the airport as outlined in the facility requirements analysis

Recommended Plan/Next Steps: The recommended plan reflects the preferred development for airport facilities based on the master plan analysis. This station will discuss the next steps that will be taken prior to any development occurring.

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What is a Master Plan?

Airport Master Plan Update

What is a Master Plan?

- Official FAA Planning Document
- Reflects Mercer County Goals for the Airport
- Depicts Future Airport Development Covering 20 Years

What Generated the Need for the Master Plan Update?

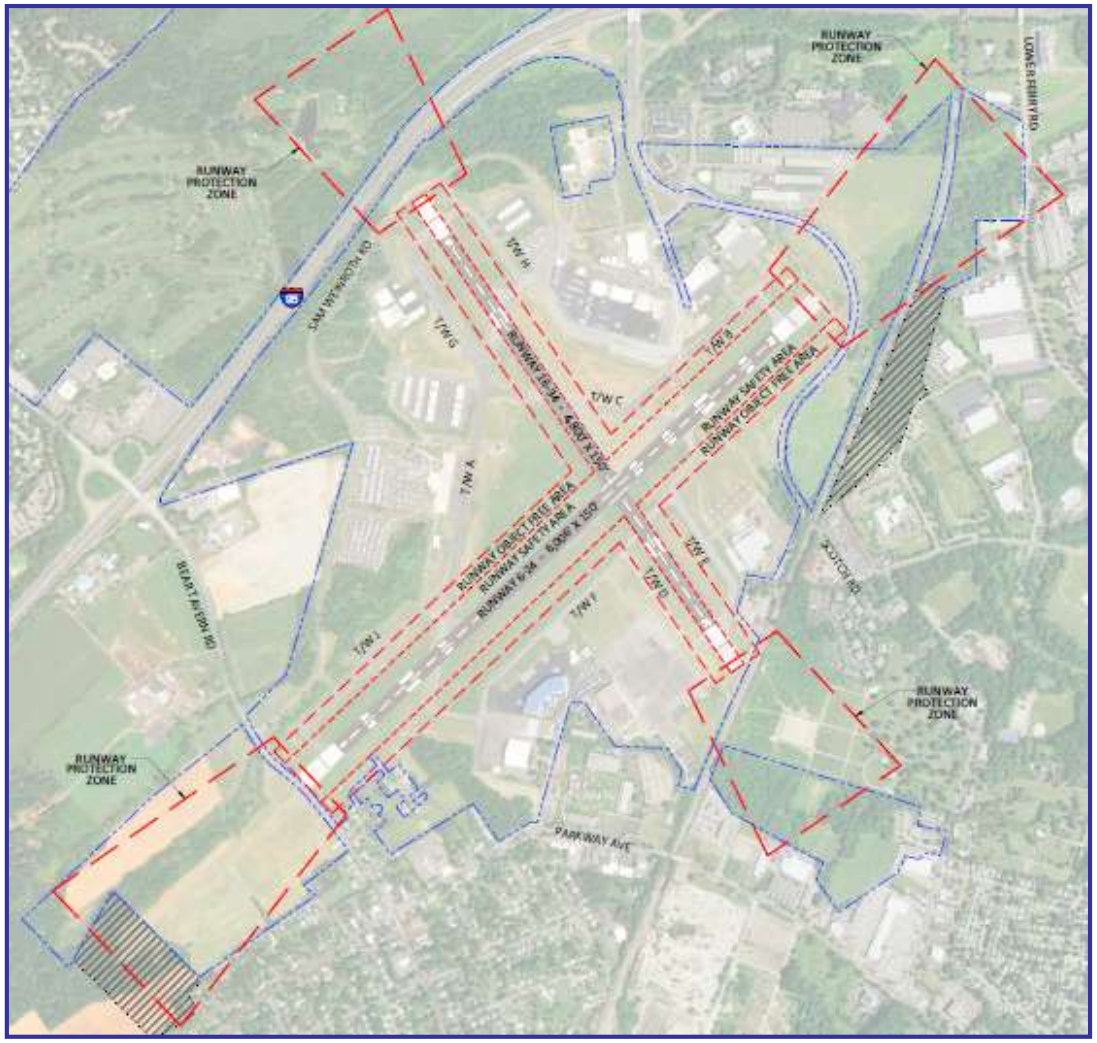
- FAA Airport Design Standard Changes
- Changes in Activity and Facility Needs Since Last Master Plan

Master Plan Goals

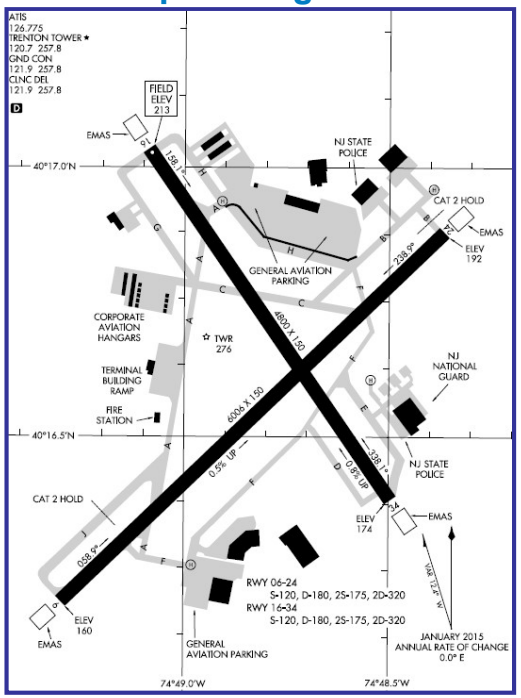
- Balance Community, Environmental, Development and Safety Needs of the Airport
- Provide Acceptable Customer Experience for Airport Users
- Enhance the Airport's Role in Regional Economic Development

Airport Facilities and Services

Airport Master Plan Update



Airport Diagram



- 48 Individual/T-hangars
- 205,700 SF Conventional Hangars
- Services: Fuel (100LL/Jet-A), Aircraft/Avionics Repairs, Charters, Rental, Sales, Flight Training
- Based Aircraft (2015) – 133
  - 13 Multi Engine, 16 Jets

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Airport Service Area

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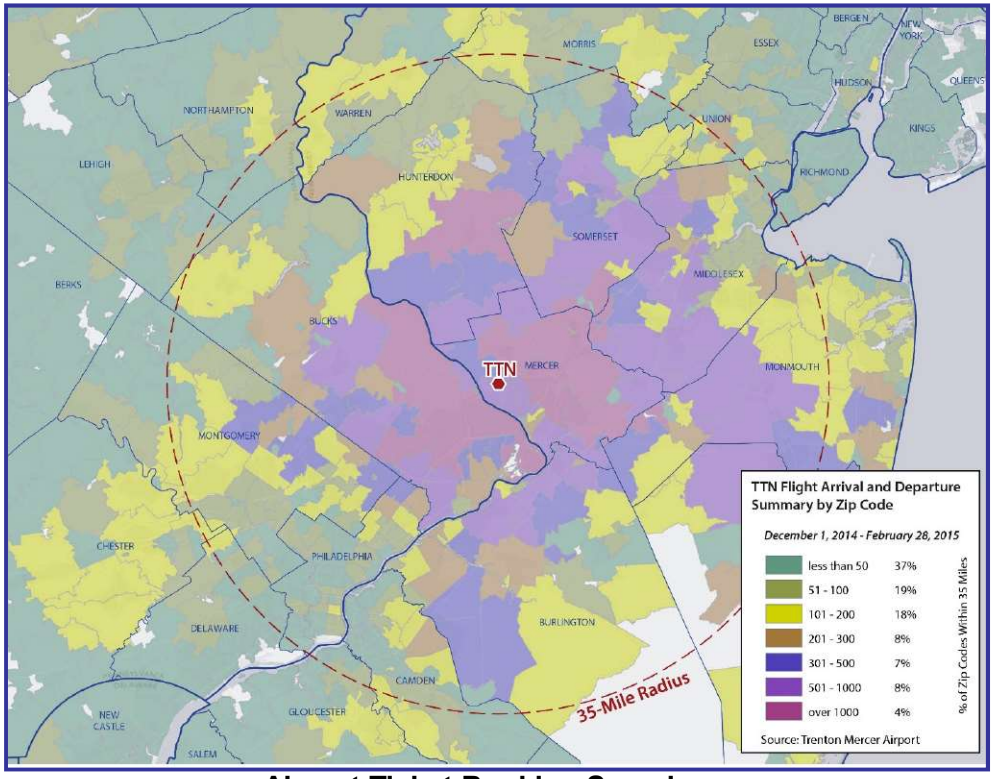
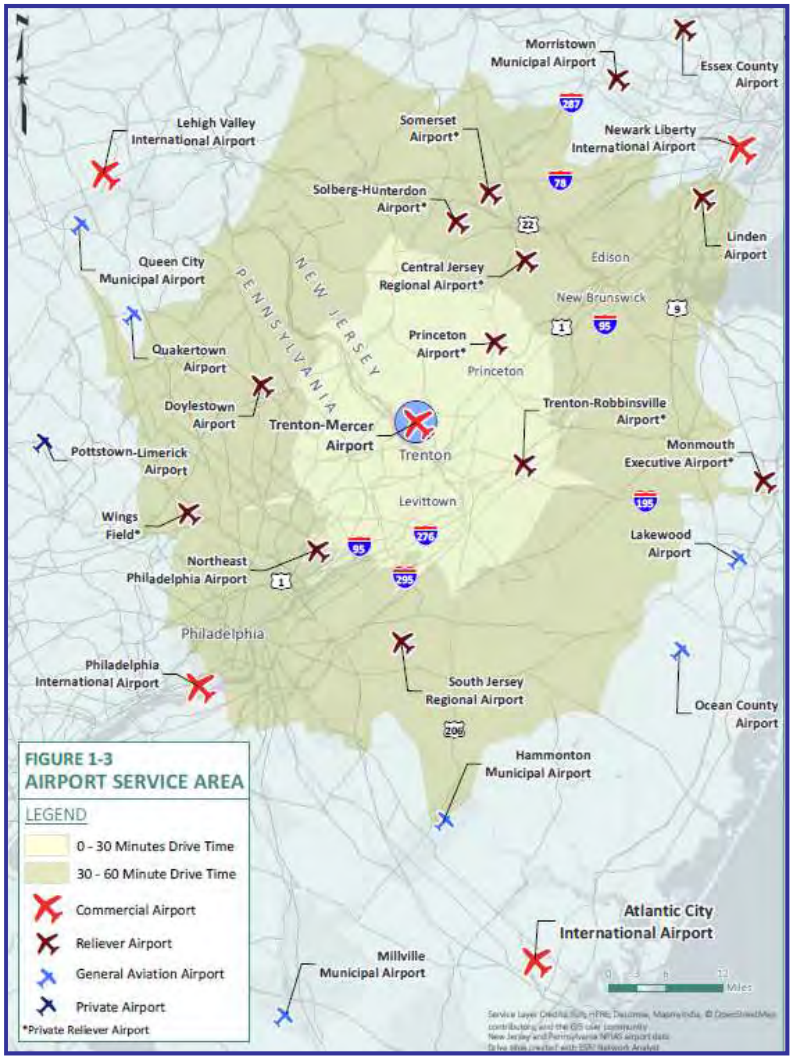
Who is Using TTN?

- Highest Users: Mercer, Somerset (NJ) and Bucks (PA) Counties
- TTN one of Few Airports in the Region Capable of Serving Medium and Large Sized Business Jets (General Aviation)



Airport Ticket Booking Sample



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Forecasts

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	Actual 2015	FORECAST		
		2020	2025	2035
ENPLANEMENTS				
Airline	382,172	358,728	396,358	476,507
Peak Hour	276	345	414	490
AIRCRAFT OPERATIONS				
Air Carrier/ Air Taxi	9,599	10,239	10,895	12,364
General Aviation				
GA Itinerant	37,157	39,200	40,984	46,101
GA Local	29,716	30,961	32,264	35,019
Military	1,791	1,791	1,791	1,791
Total Operations	78,263	82,191	85,934	95,275

476,507 Annual Enplanements Equates to 1,305 Per Day, averaging 108 every hour (6a-6p)

12,364 Annual Airline Operations Equates to 17 Takeoffs Per Day, Approximately 1 every 45 minutes (6a-6p)

95,275 Annual total Operations Equates to 131 Takeoffs Per Day, Approximately 1 1 every hour (6a-6p)

Forecasts

Airport Master Plan Update

Passenger Enplanements

- Sharp Growth Accompanied New Airline Service Model
- Rapid Growth and Frequent Changes to Schedule Patterns
- Frontier Operations Stabilizing and Optimizing for Long Term Profitability
- Forecast Still Valid/Consistent with Allegiant Introduction
- Peak Hour Drives Facility Requirements

Operations

- Consistent with National Regional Trends
- Higher Degree of Itinerant Operations Compared to Nearby Airports

External Demand Factors

- Pilot Shortage
- Fuel Prices
- Mergers/ Acquisitions
- Competition at Nearby Airports

Based Aircraft

- Higher Growth For Jet Aircraft Due to Runway Length and Superior Support Facilities
- General Aviation Facilities Represent Private Investment
- Private Investment will Drive GA Growth

	Actual 2015	FORECAST		
		2020	2025	2035
GENERAL AVIATION				
Airport Based Aircraft	133	139	147	156
Single	74	74	75	75
Multi	13	13	15	17
Jet	16	19	22	26
Rotor	30	33	35	38

Future Design Aircraft

Airport Master Plan Update

Existing:

Airbus 320

- 168-186 Seats
- Similar Engine to 319

Future:

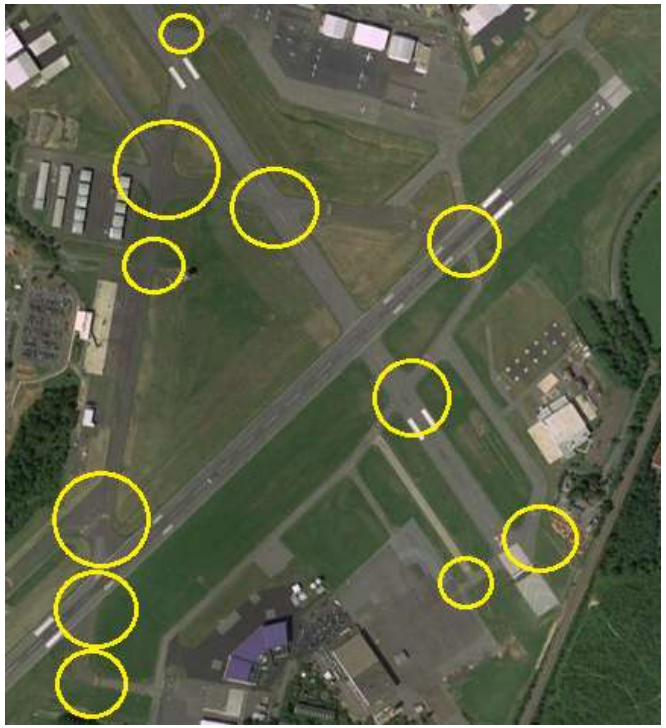
Airbus 320NEO

- 168-186 Seats
- Quieter Engines
- Improved Emissions

A320 Share the Same Design Standards with Largest Corporate Jets Currently Based at TTN

Airside Requirements

Airport Master Plan Update



No Changes to Runway Dimensions Proposed

Non Standard Airfield Geometry

- Confusing Taxiway/Runway Intersection Geometry
- Direct Taxiway Access to Runway
- Multiple Taxiway Crossings Near Runway

Solutions Can be Operational in Some Cases

Item/Facility	Existing Facility or Capacity	Ultimate Requirement	Deficit
Runway Length	Runway 6-24 – 6,006' Runway 16-34 – 4,800'	Runway 6-24 – 6,006' Runway 16-34 – 4,800'	None
Runway Width	Runway 6-24 – 150' Runway 16-34 – 150'	Runway 6-24 – 150' Runway 16-34 – 150'	None
Runway Safety Areas	Standard on Runway 6-24 through EMAS Standard on Runway 16-34 through EMAS	Provide Standard RSA on all Runways	None
Runway Object Free Area	Standard on Runway 6-24 through EMAS Standard on Runway 16-34 through EMAS, except road corner	Provide Standard on all Runways	Control of all ROFA through Ownership or Easements
Runway Protection Zone	Partially Under Airport Control through Ownership	Under Airport Control through Ownership or Avigation Easements	Control of all RPZs through Ownership or Easements
Runway Lighting	Runway 6-24 – HIRLs Runway 16-34 – HIRLs	Runway 6-24 – HIRLs Runway 16-34 – HIRLs	None
Taxiways	Runway 6-24 – Partial Parallel; 400 feet Runway 16-34 – Partial Parallel; 350 feet	Runway 6-24 –Full Parallel; 400 feet Runway 16-34 –Full Parallel; 400 feet	Address Airfield Geometry Concerns and Meet FAA Standards
Taxiway Width	50 – 80 feet	50 feet	None

General Aviation Requirements

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General Aviation Requirements

- Apron Parking Sufficient
- FBO GA Terminal Facilities – Private Investment
- Fuel Storage: good, no recommendation
- Alternatives will Identify Development Areas

The Gulfstream V is the Design Aircraft for the Crosswind Runway

Private Investment Will Influence Future General Aviation Demand and Determine Ultimate Facility Requirements

Support Facility Requirements

- Air Traffic Control Tower (ATCT)
  - Line of Sight Conflict - Runway 6 Threshold
  - Vehicles Crossing Taxiway A
- Aircraft Rescue and Fire Fighting
  - Located Adjacent to Growing Terminal
- Airport Ops/Maintenance
  - New Consolidated Airfield MX/SRE Facility
- Land/Easement Acquisition
  - Acquire Runway Protection Zone for safety
- Utilities: ATCT connect to water line

Terminal Facility Requirements

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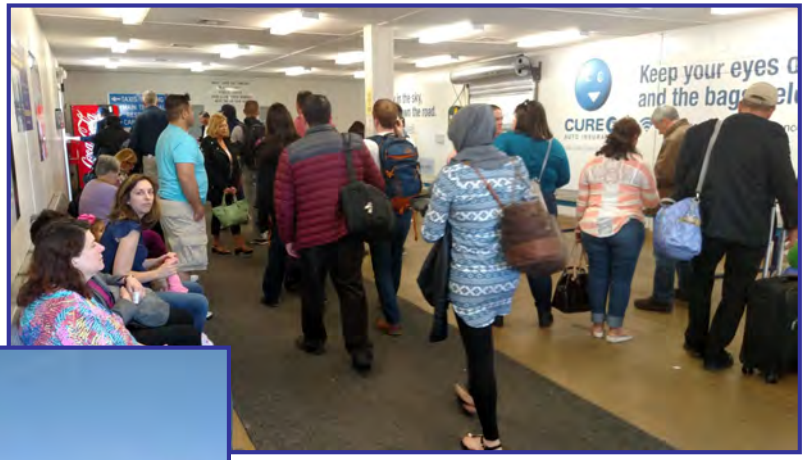
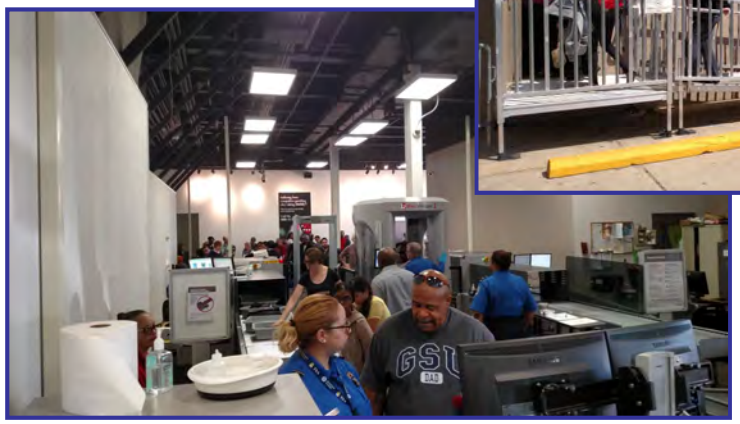
Terminal Facility Requirements	Existing			Proposed		
	Actual 2014 (1)	Required 2014 (2)	Deficit	Required 2014 (2)	Proposed (3)	Deficit
Annual Enplanements	377,554	377,554		377,554	476,507	
Peak Design Hour Enplaned	276	276		276	490	
Ticketing						
Counter Positions (#)	9	10	1	10	14	4
Counter Area (SF)	290	450	160	450	700	250
Check-in /Queuing Area (SF)	450	1,810	1,360	1,810	2,820	1,010
Airline Office (SF)	2,750	1,550	-425	1,550	2,415	865
Baggage Make Up/Operations (SF)	100	3,885	3,785	3,885	5,035	2.150
Hold Rooms						
Gates (#)	4	4	0	4	4	0
Hold Room Waiting (SF)	3,420	8,420	5,000	8,420	12,120	3700
Baggage Claim						
Claim Lobby Area (SF)	1,655	6,755	5,555	6,755	9,775	3,020
Baggage Drop Off (SF)	1,200	5,405	4,205	5,405	7,820	2,415
Rental Cars						
Agencies (#)	1	3	2	3	5	2
Counter Area (SF)	80	240	160	240	400	160
Queuing Area (SF)	50	450	400	450	750	300
Office/Storage (SF)	0	450	450	450	750	300

Terminal Facility Requirements	Existing			Proposed		
	Actual 2014 (1)	Required 2014 (2)	Deficit	Required 2014 (2)	Proposed (3)	Deficit
Concessions						
Food/Gifts (SF)	1,750	4,600	2,850	4,600	7,475	2,875
Public Restrooms						
Total (SF)	1,030	2,380	1,350	2,380	3,880	1,500
Public Lobby (Seating)						
Total (SF)	1,550	2,875	1,325	2,875	7,530	4,655
Meeter/Greeter Waiting (SF)	0	830	830	830	1,550	720
Security						
Screening Lanes (#)	2	2	0	2	3	1
Passenger Screening (SF)	1,720	3,460	1,730	3,450	5,175	1,725
Security Queuing (SF)	630	600	-30	600	900	300
TSA Office Support (SF)	300	1,000	700	1,000	2,000	1,000
Baggage Screening (SF)	200	2,000	1,800	2,000	3,450	1,450
Administration						
Office/Conference/ Support (SF)	(4) 960	3,775	2,815	3,775	5,550	1,775
Circulation/Support/ Structural Etc. (SF)	6,645				34,000-44,000	
Gross Terminal Area (SF)	24,780				115,000 - 125,000	

Terminal Existing Conditions

- Existing 24,780 SF versus 45,000-60,000 SF required today
- Future required: 115,000-125,000 SF
- Temporary Solutions in Progress for:
  - Restrooms for Arriving Passengers
  - Arriving Passengers Uncovered Walk to Parking
  - Boarding/Deplaning Process Exposed to Weather
  - Handicapped Accessibility





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Peer Airport Terminal Comparison

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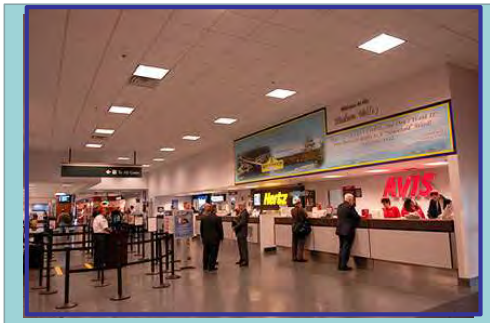

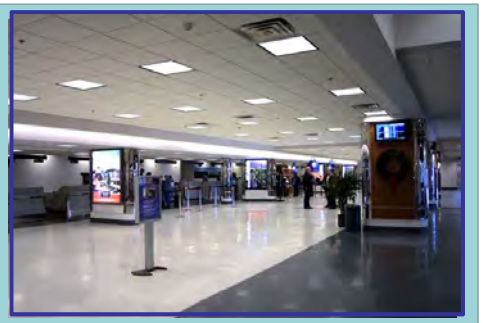

Stewart International Airport (SWF) 2015 Enplanements: 143,603

Islip/Long Island
Macarthur Airport (ISP)
2015 Enplanements: 603,641

Wilkes-Barre Scranton
International Airport (AVP)
2015 Enplanements: 219,796

Worcester Regional
Airport (ORH)
2015 Enplanements:
59,619

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Alternatives

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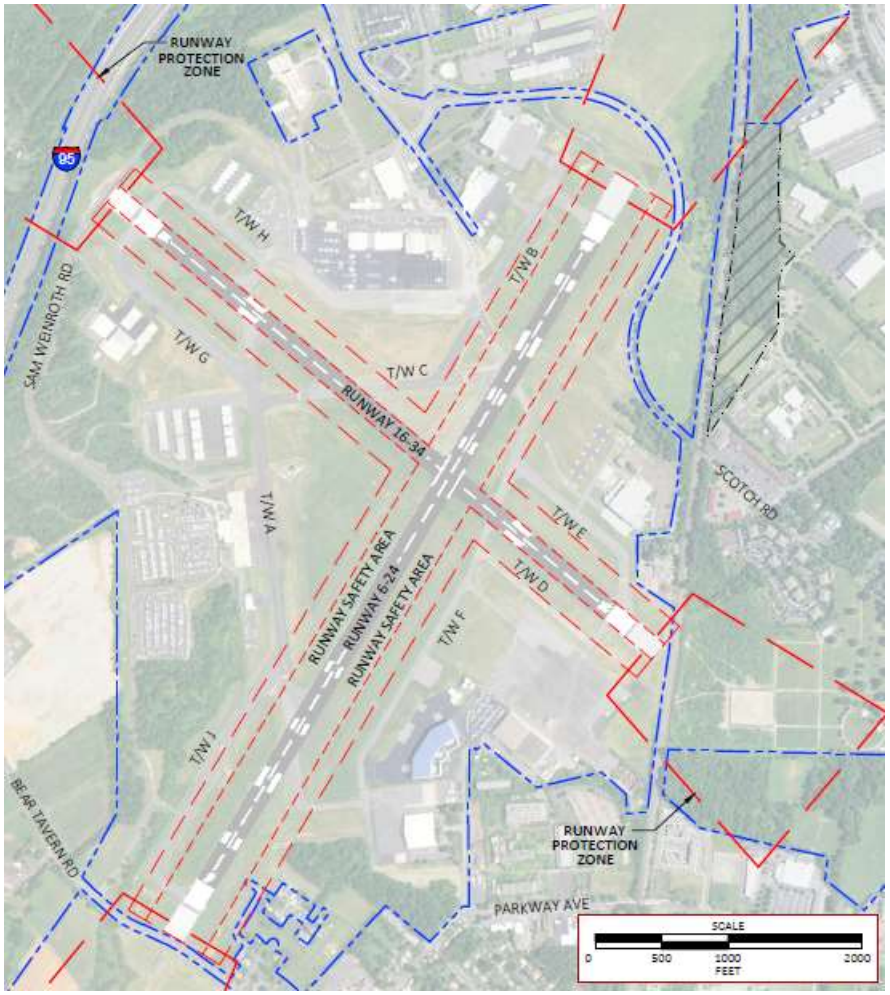
No Build Alternative - Airside/Landside



No Build Alternative - Terminal

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Airside Alternatives 2 and 3

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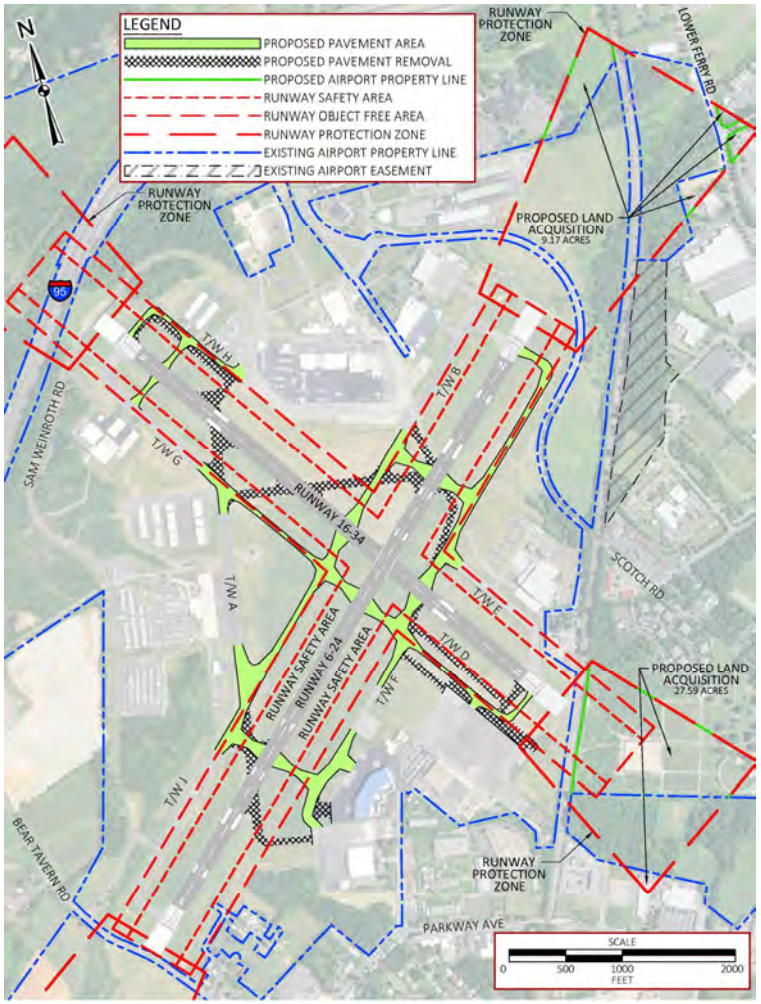
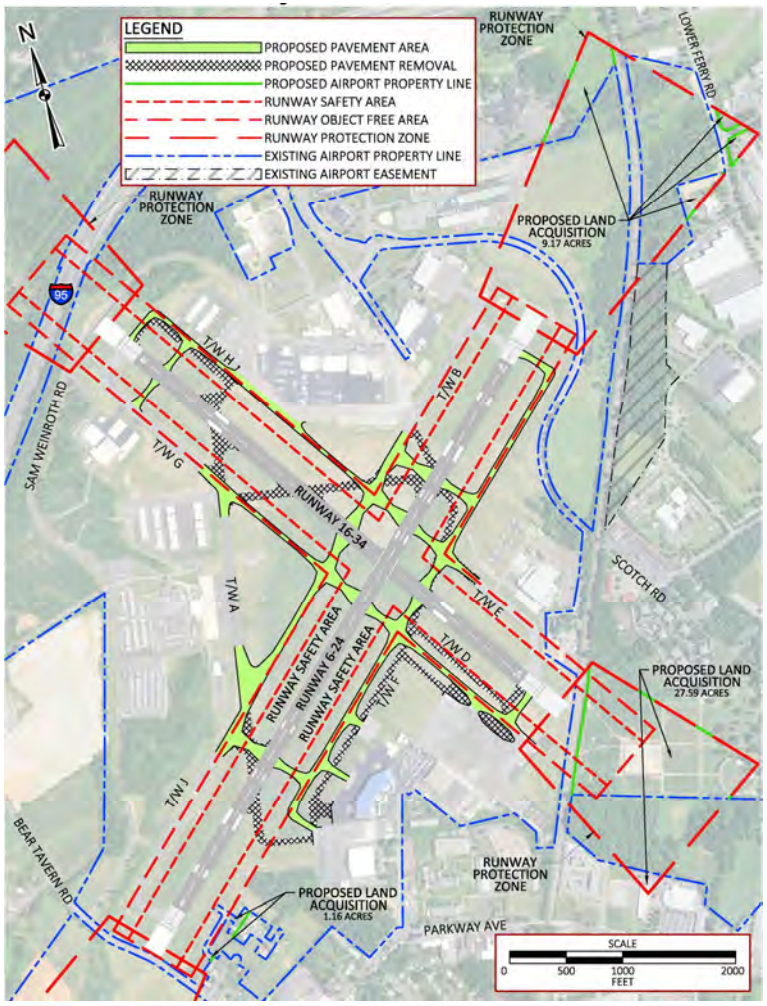
Airside Alternative 2



Airside Alternative 3



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Landside Alternatives

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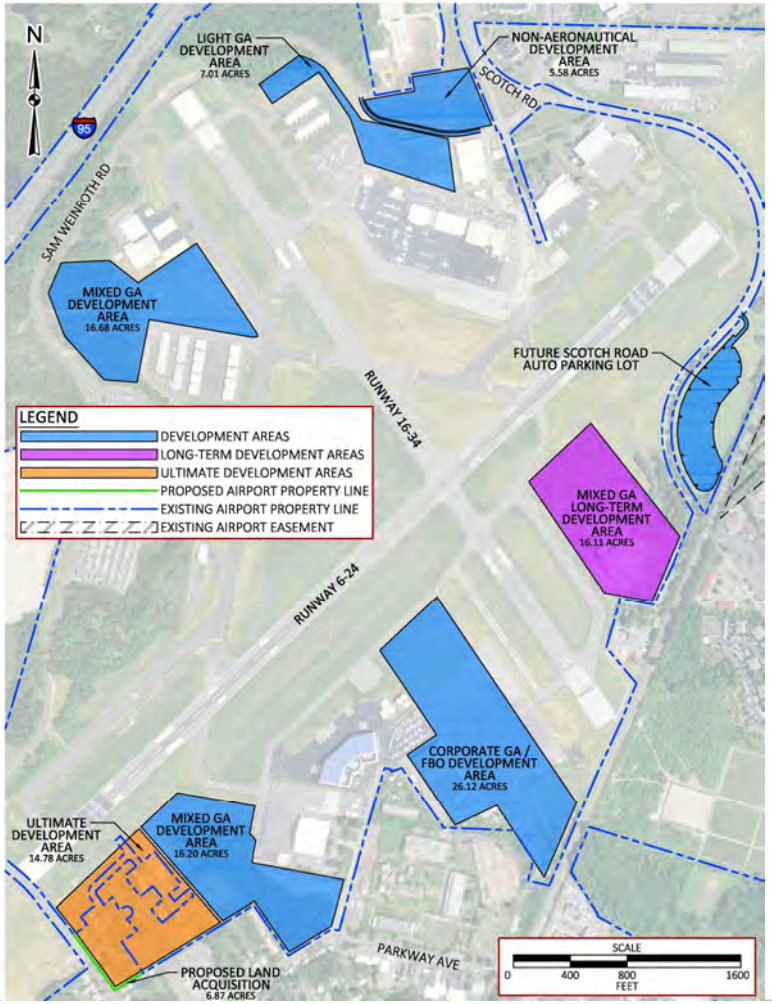
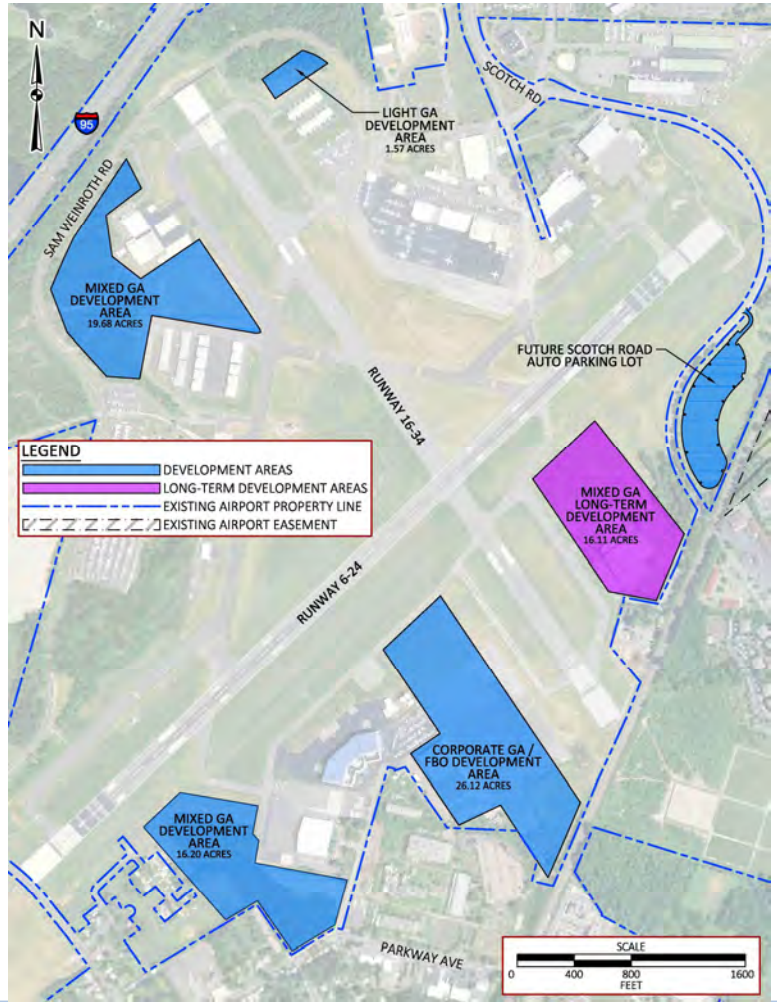
Landside Alternative 2



Landside Alternative 3



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Terminal Area Alternatives

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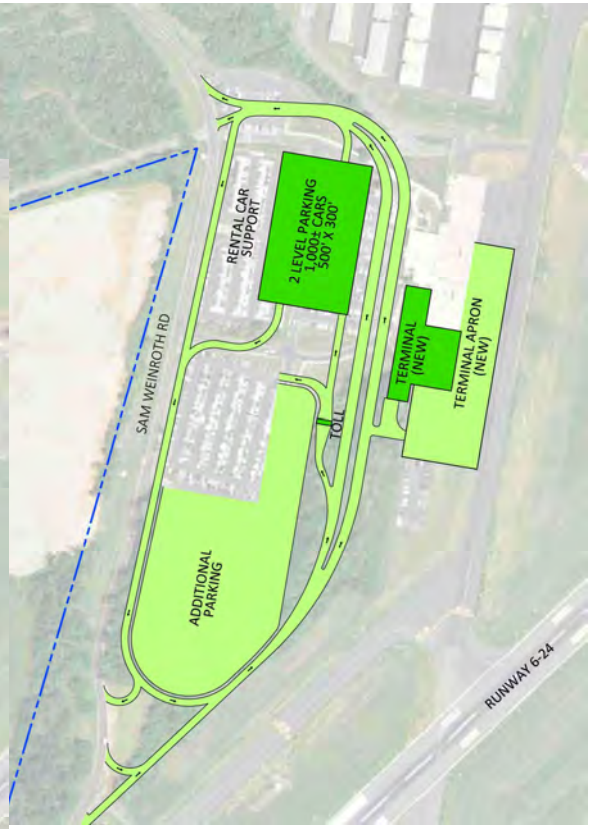
Terminal Area Alternative 1 – No Build

Terminal Area Alternative 2

Terminal Area Alternative 3



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Terminal Building Alternatives

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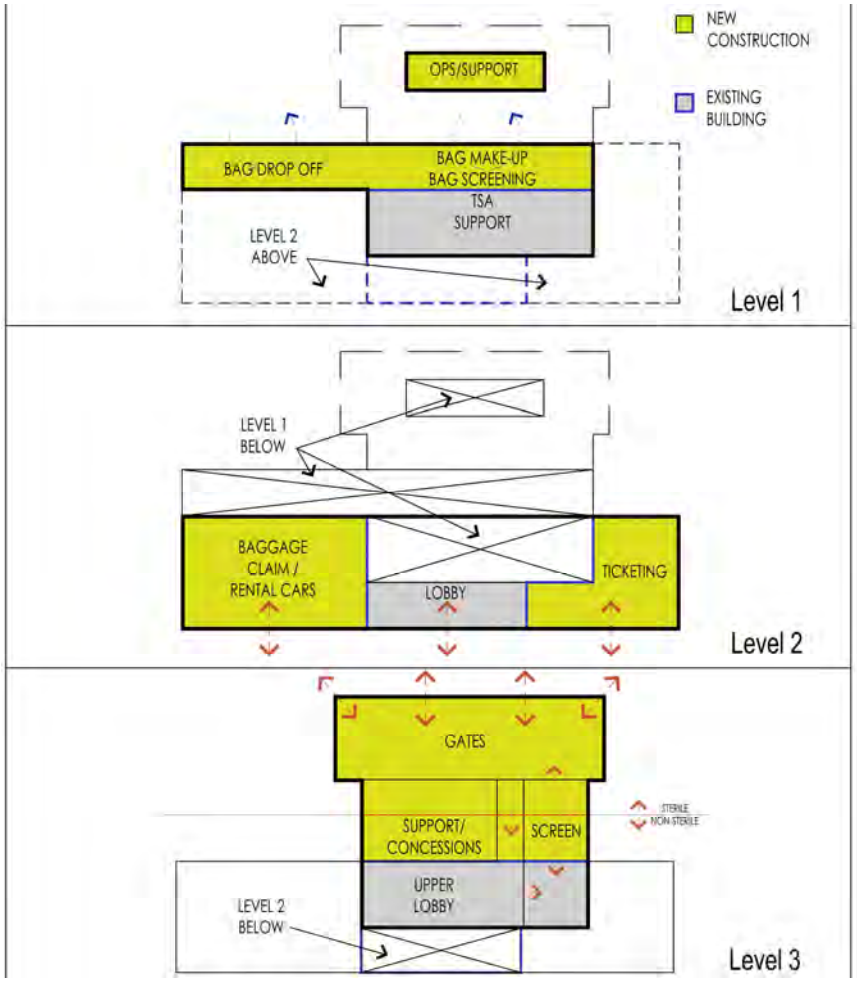
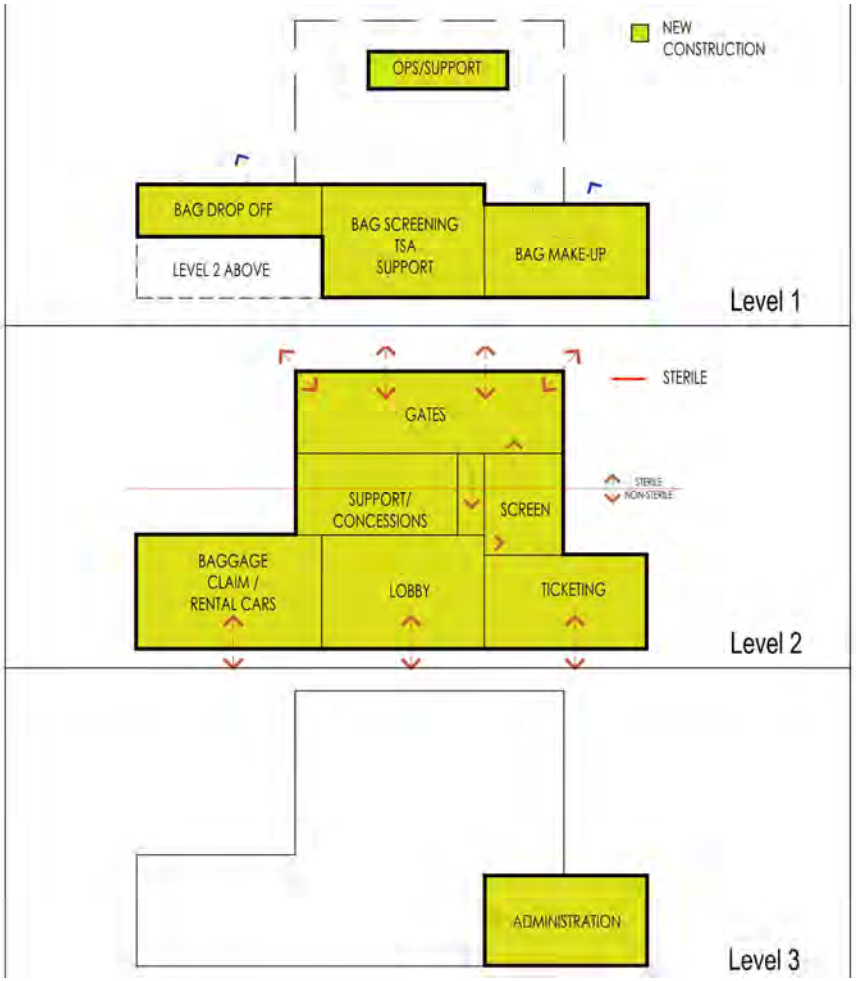
Terminal Area Alternative 2 - Renovate



Terminal Area Alternative 3 - Replace



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Recommended Plan

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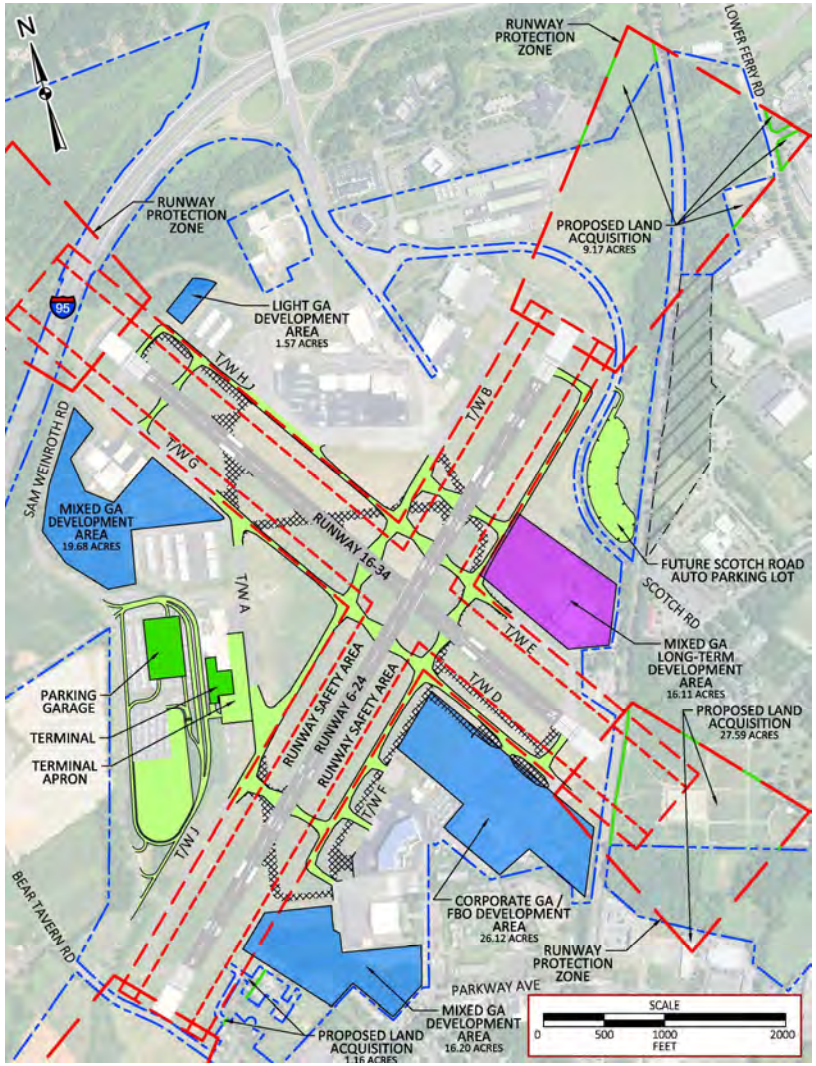


Recommendations Contained in Previous Studies

- No Runway Extensions
- Parallel Taxiways
- Land/Easement Acquisition Proposed is for Safety/Standards Purposes Only (not for Expansion)
- Optimizes On-Airport General Aviation Opportunities

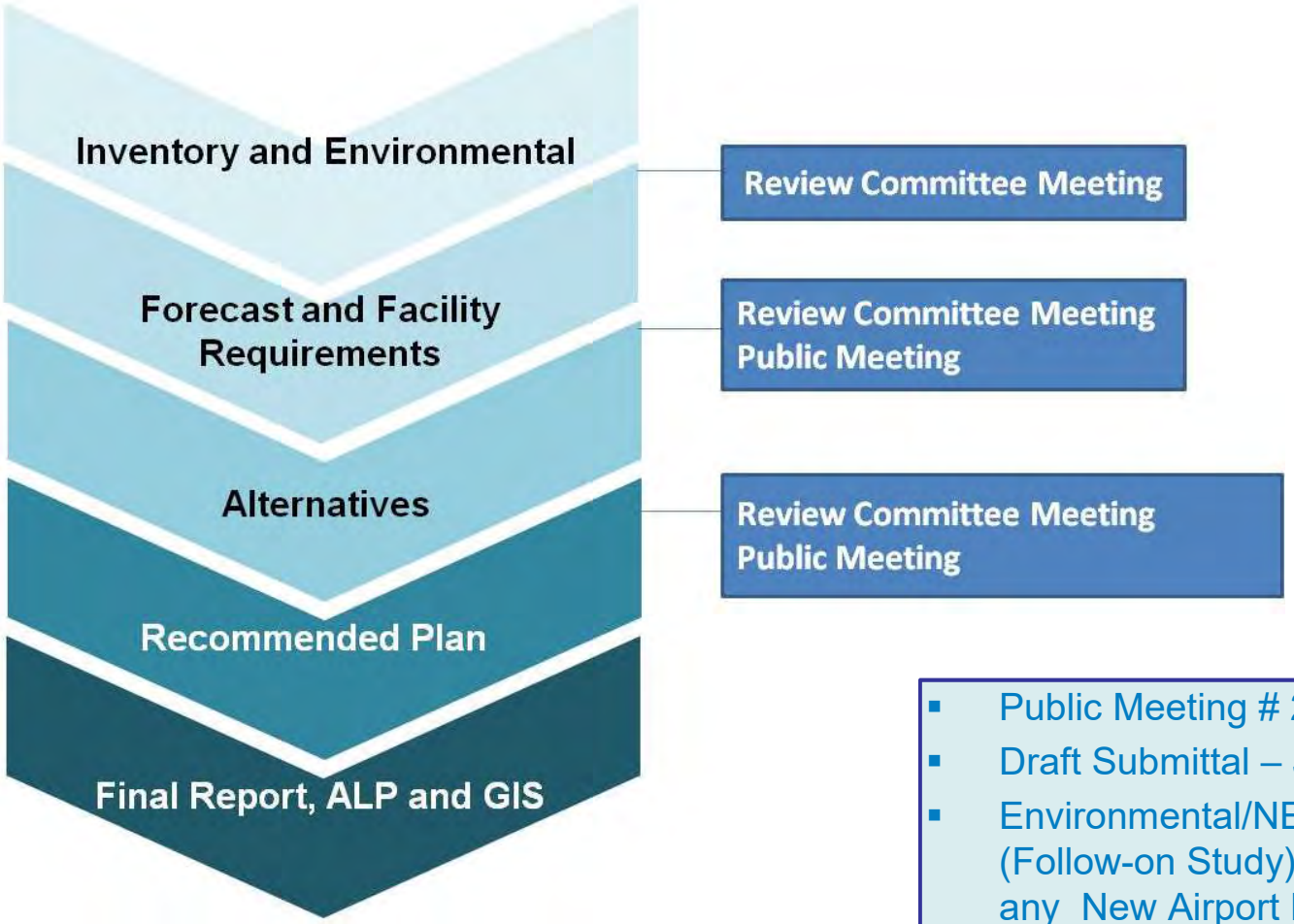
Modified Recommendations from Previous Studies

- New 4-Gate Passenger Terminal
- Expanded Passenger Auto Parking
- Internal Terminal Circulation Road
- Addresses Aeronautical vs. Non Aeronautical Use

New Recommendations

- Standard Taxiway Geometry (New Requirements)
- Relocate Air Traffic Control Tower
- New Consolidated Airfield Maintenance Facility
- Remote Parking Lot

Schedule



- Public Meeting # 2 – Tonight
- Draft Submittal – June/July
- Environmental/NEPA Process (Follow-on Study) to Precede any New Airport Development

Noise - Existing

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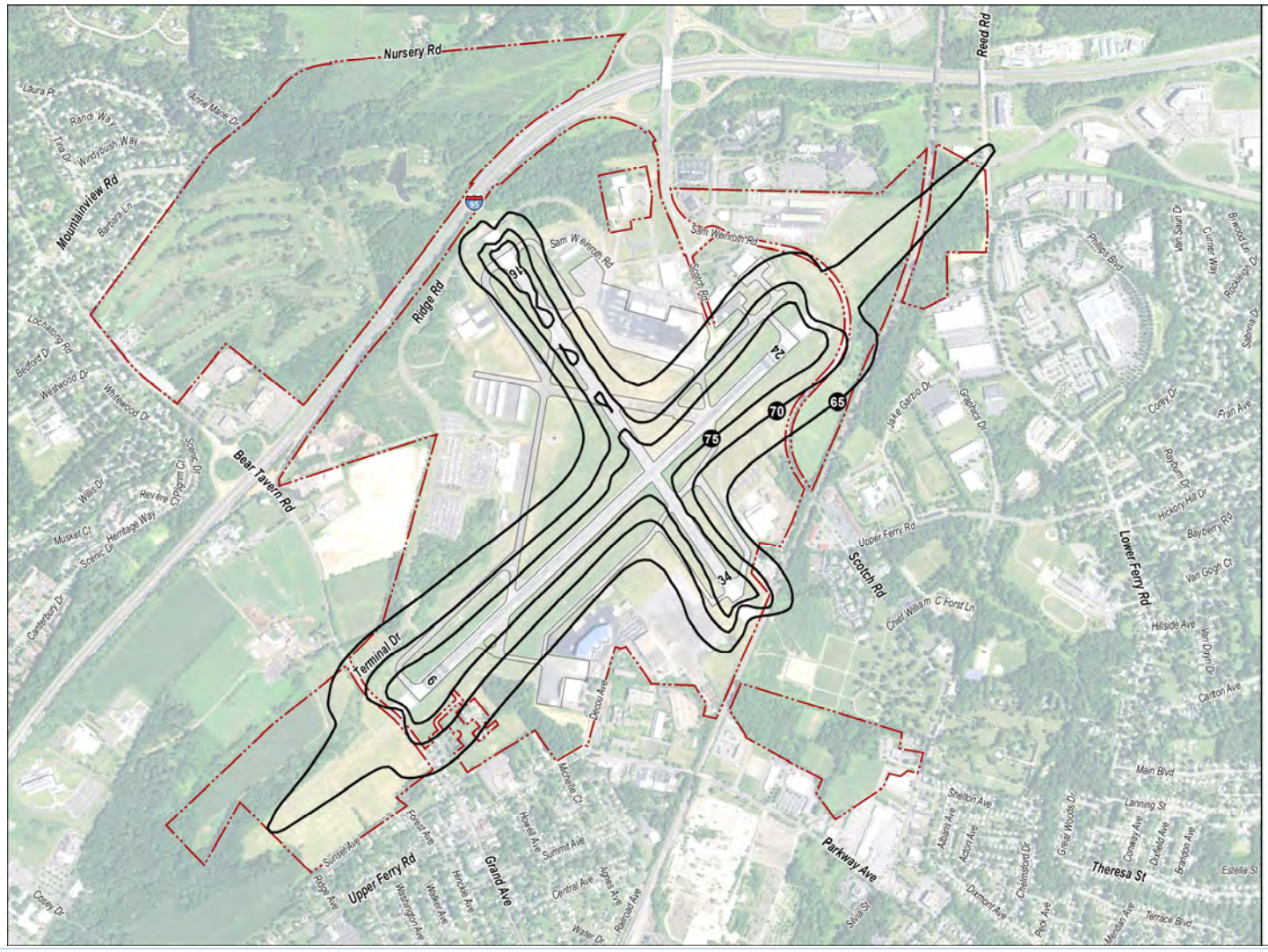

Trenton-Mercer Airport

Preliminary Draft 2015 Day-Night Average Sound Level (DNL) Contours

2015 DNL Noise Contours

Airport Property Boundary

0 1,200 2,400 Ft

Data Sources: FAA Form 5010 runway layout, FAA ATCT runway use, McFarland Johnson 2015 operations, FAA TFMSC fleet mix, FAA AEDT 2c SP2 noise model

Environmental Overview

Airport Master Plan Update

Goals

- Early Identification of Environmental Constraints
- Incorporate Findings into Alternatives Analysis
  - Avoid/Minimize Impacts
  - Consider Mitigation Requirements
  - Informed Decision Making
- Basis for Future NEPA and Permit Process

Environmental Inventory

- Air Quality
- Coastal Barriers
- Compatible Land Use
- Construction Impacts
- Section 4(f)
- Farmlands
- Floodplains
- Fish, Wildlife and Plants
- Historical, Architectural, Archaeological, & Cultural Resources
- Light Emissions & Visual Effects
- Hazardous Materials
- Natural Resources & Energy Supply
- Noise
- Socioeconomic, Environmental Justice & Children's Health and Safety Risks
- Solid Waste
- Water Quality
- Wetlands
- Wild & Scenic Rivers

* As Identified in FAA orders 1050-1F and 5050.4B

Public Comments

Airport Master Plan Update

We'd Like to Hear From You!

Please Send Your Comments by **June 10, 2017** in one of three ways:

(1)By e-mail: Trenton@mjinc.com

(2) Leave Comment Form in the Comments Box

(3) Mail Comment Form to:

Urban Engineers
530 Walnut St.
Philadelphia, PA 19106
Attn: Dale Russell
Trenton Master Plan