2022 L.G. HANSCOM FIELD

Environmental Status & Planning Report

Public Information Session 1

June 10, 2024

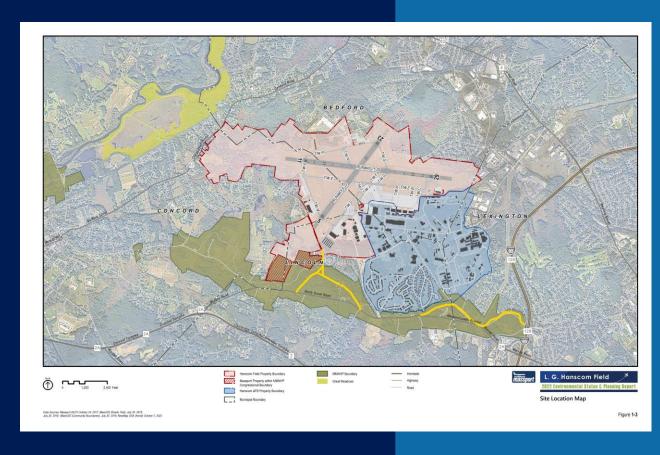
AGENDA

- Introductions
- Hanscom Field Overview
- ESPR Purpose, Scope and Process
- Chapter Findings, chapters 2 6
- Question and Answer Session
 - Type your question into the chat box
 - Questions will be answered at the conclusion of the presentation



L.G. HANSCOM FIELD

- New England's premier, full service general aviation (GA) airport
- 1,300 acres of land
- Located within Bedford, Concord, Lexington, and Lincoln and abuts Minute Man National Historical Park and Hanscom Air Force Base
- Historic context:
 - 1956 Massport acquired
 - 1974 Massport assumed operational control after Air Force
 - 1978 Master Plan
 - 1980 Regulations and Noise Rules





HANCOM FIELD'S ROLE IN REGIONAL TRANSPORTATION

- Serves as GA reliever for Boston Logan International Airport
- Leads the region in terms of overall GA activity
- Role is consistent with that defined in the 1978 Master Plan which limits commercial airline service at the airport
- No scheduled commercial passenger service since 2012



Figure 5-2. New England Airport System Plan (NERASP) Airports Sources: NERASP and McFarland Johnson



AIRCRAFT OPERATIONS AT HANSCOM FIELD

250 (Thousands) 200 150 **Growth Rates** Number of Operations 1990-1995 -18.2% 100 11.6% 1995-2000 -20.0% 2000-2005 -1.2% 2005-2012 50 2012-2017 -22.1% 2017-2022 -4.4% 1990 1995 2000 2005 2012 2017 2022 Year

Figure 8-5. Annual Operations at Hanscom Field Over Time

Source: Massport operations data and HMMH, 2024



PURPOSE OF ESPR

- Provides a status report on current activity levels and environmental conditions
- Presents and evaluates potential future cumulative environmental conditions and activity levels
- Serves as planning tool for assessing and reviewing changes at the airport
- Does not propose new projects or replace need for individual project reviews



SCOPE OF ESPR

Secretary issued Scope Certificate on December 16, 2022

Reports on 2022 current conditions and compares to historical data from prior ESPRs Evaluates and assesses cumulative environmental effects of future scenarios for planning years 2030 and 2040 based on forecasts of airport activity levels

2030 and 2040 scenarios represent estimates of what *could* occur (not necessarily what will occur) in the future using certain planning assumptions



PROCESS OF ESPR

October 2022

Massport filed proposed scope with MEPA. Start of 45-day comment period; scoping meeting

December 2022

Secretary issued the Scope for the 2022 ESPR in its Certificate

2023

Compiled data, met with stakeholders, developed planning concepts, established current conditions, etc.

May 2024

Massport filed 2022 ESPR. Start of public comment period.

June 2024

Technical
Workshops and
Public Information
Meeting



ORGANIZATION OF ESPR

Chapter 1:

Executive Summary

Chapter 2:

Facilities & Infrastructure

Chapter 3:

Airport Activity
Levels

Chapter 4:

Airport Planning

Chapter 5:

Regional Transportation

Chapter 6:

Ground Transportation

Chapter 7:

Noise

Chapter 8:

Air Quality

Chapter 9:

Wetlands, Wildlife & Water Resources

Chapter 10:

Cultural and Historic Resources

Chapter 11:

Sustainability,
Resiliency &
Environmental Justice

Appendices





CHAPTER 2 Facilities and Infrastructure



CHAPTER 2

Facilities and Infrastructure

- Describes the airfield and its supporting infrastructure
- Provides an assessment of facilities
- Provides information about hazardous material storage and spill prevention efforts





Facilities and Infrastructure KEY FINDINGS

- Primary runway rehabilitated (2017)
- Hanscom Field terminal rehabilitated (2017)
- Vegetation Management Plan (2019-2023)
- New ARFF facility, replacement of south t-hangars, and CBP facility were completed (2019)
- Boston MedFlight, Signature, and Atlantic started or completed projects (since 2017)
- Full Geometry Study completed (2021)
- Massport continues pavement rehabilitation (since 2017)





2,000 Feet



2022 Environmental Status & Planning Report

Figure 2-3 Hanscom Field Facilities

INFRASTRUCTURE INVENTORY

- Automobile parking declined
- Utility data and supply/distribution systems were reviewed
- Stormwater management and drainage were documented
- Massport has a Spill Prevention Control Counter measures (SPCC) plan for hazardous materials
- Massport continues to monitor the age and condition of all of its storage tanks





CHAPTER 3 Airport Activity Levels



CHAPTER 3

Airport Activity Levels

- Overview of national General Aviation (GA) trends
- Aircraft operations at Hanscom Field in 2022 compared to previous years, and operations at other regional airports
- 2022 data compared to 2017 ESPR forecasts
- 2030 and 2040 forecast aircraft operation and air passengers
- Nighttime aircraft operations





Airport Activity Levels KEY FINDINGS

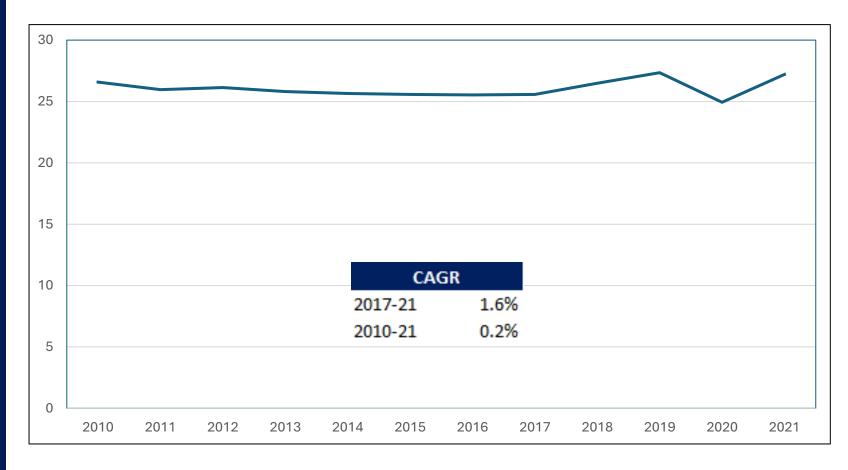
- Hanscom Field total aircraft operations have declined by a compound annual growth rate (CAGR) of 1 percent
- GA activity has decreased nationally, but not to the same extent that Hanscom Field has experienced
- Business aviation at Hanscom Field has increased at a CAGR of 4.3 percent
- 2017 ESPR forecasts align with the 2022 ESPR forecasts
- Forecast includes potential future commercial airline service



NATIONAL AVIATION OPERATIONS

- GA operations have remained consistent
- Decrease in 2020 due to COVID-19
- GA activity includes all operations except for scheduled commercial and military

Figure 3-2. U.S. General Aviation Operations 2010-2021 (Millions)



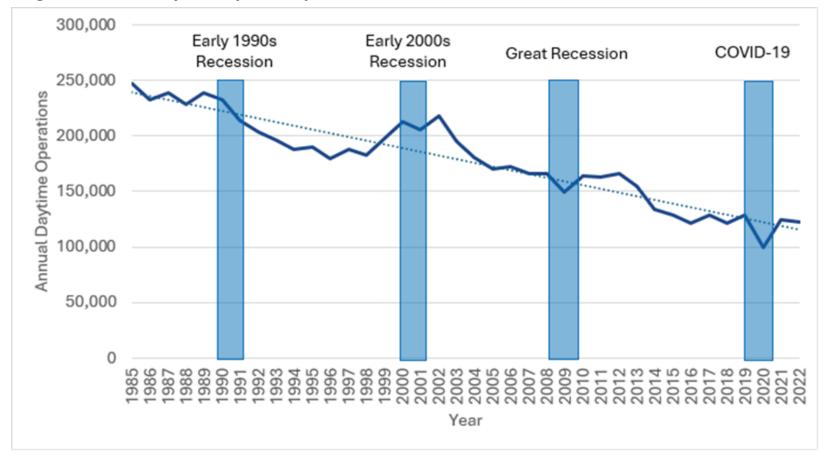
Source: FAA Aerospace Forecasts Fiscal Years 2022–2042



HANSCOM FIELD OPERATIONS

- 122,000 daytime operations in 2022
- Operations have declined:
 - 3% per year average since 2012
 - 1% per year average since 2017

Figure 3-4. History of Daytime Operations at Hanscom Field



Note: Operations are between 7:00 a.m. and 11:00 p.m., the hours that the air traffic control tower is open.

Sources: Massport Annual Noise Report 2021, Massport NOMS data



FORECAST OPERATIONS

2022 to 2040:

- GA operations forecasted to modestly increase in United States
- Hanscom Field GA operations forecasted to increase 0.9%

Table 3-5. Forecast of Daytime Operations at Hanscom

Daytime	Actual		Forecast		Compound Annual Growth Rate			
Activity	2017	2022	2030	2040	2017-22	2022-30	2030-40	2022-40
Training SEP	46,014	36,370	39,383	41,236	-4.60%	1.00%	0.46%	0.70%
Personal SEP	33,040	25,336	27,435	28,726	-5.17%	1.00%	0.46%	0.70%
Business MEP	3,015	4,890	5,212	5,446	10.16%	0.80%	0.44%	0.60%
Business Turboprop	7,831	7,351	7,835	8,187	-1.26%	0.80%	0.44%	0.60%
Business Jet	29,862	36,808*	41,030	45,624	4.27%	1.37%	1.07%	1.20%
Helicopter	8,256	9,760	10,569	11,066	3.40%	1.00%	0.46%	0.70%
Military	759	1,701	1,701	1,701	17.51%	0.00%	0.00%	0.00%
Scheduled Commercial Airline	0	0	1,019	1,783	0.00%	N/A	5.75%	N/A
Total	128,777	122,216	134,185	143,767	-1.04%	1.17%	0.69%	0.91%

^{* 2022} may be an anomalous year. Annualized total 2023 business jet operations (based on January through April TFMSC data) is anticipated to be 33,876. This results in a 2023-2040 CAGR of 1.77 percent.

Sources: 2017 ESPR for Hanscom Field, Massport NOMS data, McFarland Johnson for forecast years

CAGR
2010-21 -3.9%
2021-22 6.9%
2022-32 0.4%
2022-42 0.7%

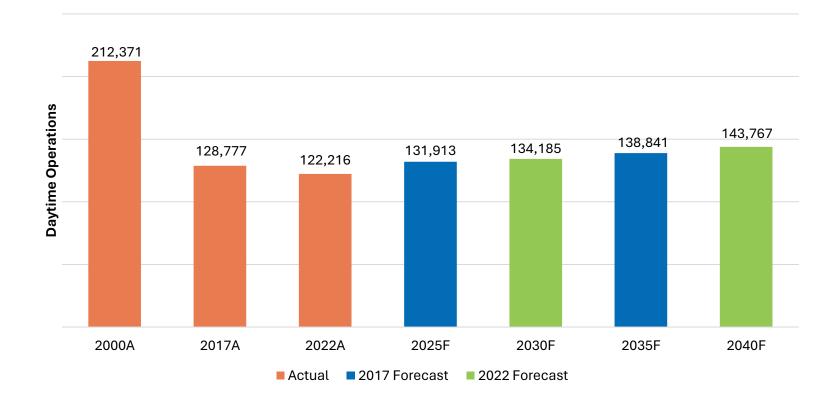




FORECAST OPERATIONS

- Daytime operations forecasts are aligned with previous ESPR
- GA operations for the U.S. and Hanscom Field are forecast to grow modestly
- Main source of growth will be in business operations (turboprop and jet aircraft)

Figure 3-1. Summary of Actual and Forecast Daytime Activity at Hanscom Field



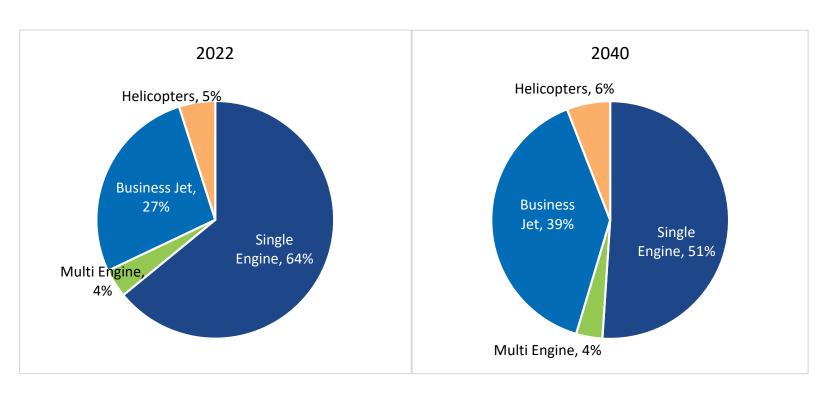
Note: Operations are between 7:00 a.m. and 11:00 p.m., the hours that the air traffic control tower is open. Sources: 2017 ESPR for Hanscom Field, Massport Noise and Operations Monitoring System (NOMS) data, FAA Aerospace Forecast FY22-42, Woods & Poole Massachusetts Gross Regional Product forecast, McFarland Johnson analysis



BASED AIRCRAFT FORECAST

- Number of aircraft based at Hanscom Field forecasted to increase from 284 (2022) to 310 (2040)
- Hanscom Field had 350 based aircraft in 2017
- Based business jet growth reflects nationwide trends
- Hangar space at all three FBOs are reported to be sold out

Figure 3-9. Hanscom Field Based Aircraft by Type, 2022 and Forecast 2040



Sources: Massport, FAA Aerospace Forecast 2022-2042, McFarland Johnson analysis



COMMERCIAL ACTIVITY FORECAST OPERATIONS

Table 3-7. Forecast Scheduled Commercial Passenger Activity at Hanscom Field

Activity	Act	ual	2017 ESPR Forecast		2022 ESPR Forecast	
	2005	2012	2025	2035	2030	2040
Aircraft Operations	3,627	635	1,019	2,038	1,019	2,038
Passengers	17,457	8,609	21,403	44,335	35,672	73,892
Passengers per Operation	4.8	13.6	21	21.8	35.0	36.3

Sources: 2017 ESPR and McFarland Johnson analysis for forecast years

Table 3-6. Summary of Forecast Scheduled Commercial Passenger Service Assumptions, 2030 and 2040

Aircraft Type:	Turboprop with ~50 seats, e.g., De Haviland Dash 8-300 (Q300)				
Number of Nonstop Markets:	One in 2030 Two in 2040				
Types of Markets:	Business/leisure destination in the northeast				
Service Frequency:	Two roundtrips per market, five days a week				
Average Load Factor:	70.0% in 2030 72.5% in 2040				
Completion Factor:	0.98				

Sources: Massport and McFarland Johnson analysis





CHAPTER 4 Airport Planning



CHAPTER 4

Airport Planning

- Describes the status of planning initiatives and projects for the five planning areas
- Evaluates the potential effects of the 2030 and 2040 scenarios
- Presents the relationship between the 2022 ESPR and FAA regulations and guidance related to airport planning
- Describes projects in the five-year capital improvement program and identifies which projects may require individual MEPA or NEPA review



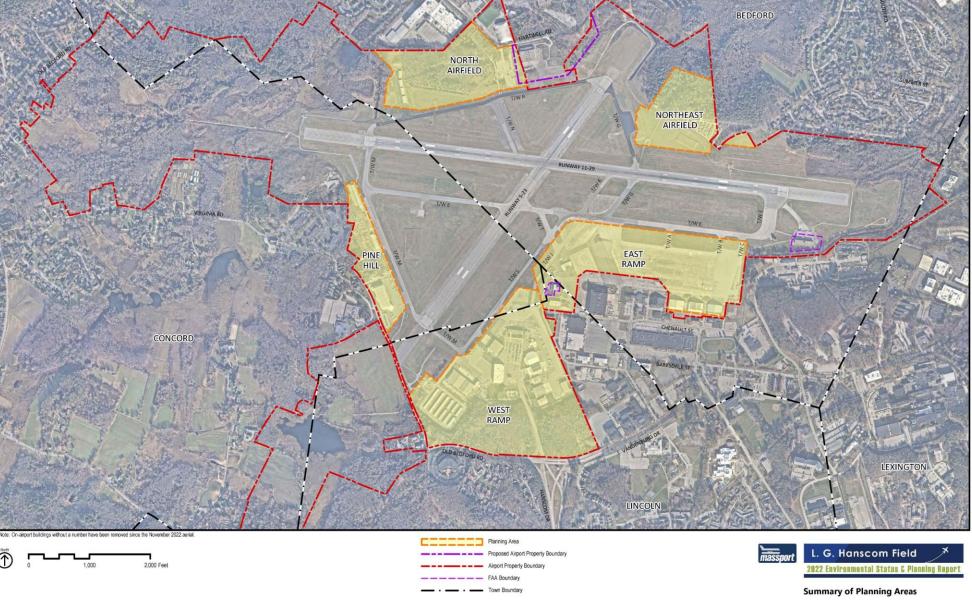


PLANNING METHODOLOGY

- The planning framework in each ESPR reflects the requirements outlined in the 1978 Hanscom Field Master Plan and Massport's 1980 regulations
- Massport utilizes a scenario-based approach to planning
- Projects are based on forecasts that are subject to actual demand
- Hanscom Field was split into 5 planning areas (geographically):
 - North Airfield
 - Northeast Airfield
 - East Ramp
 - West Ramp
 - Pine Hill



Summary of Planning Areas





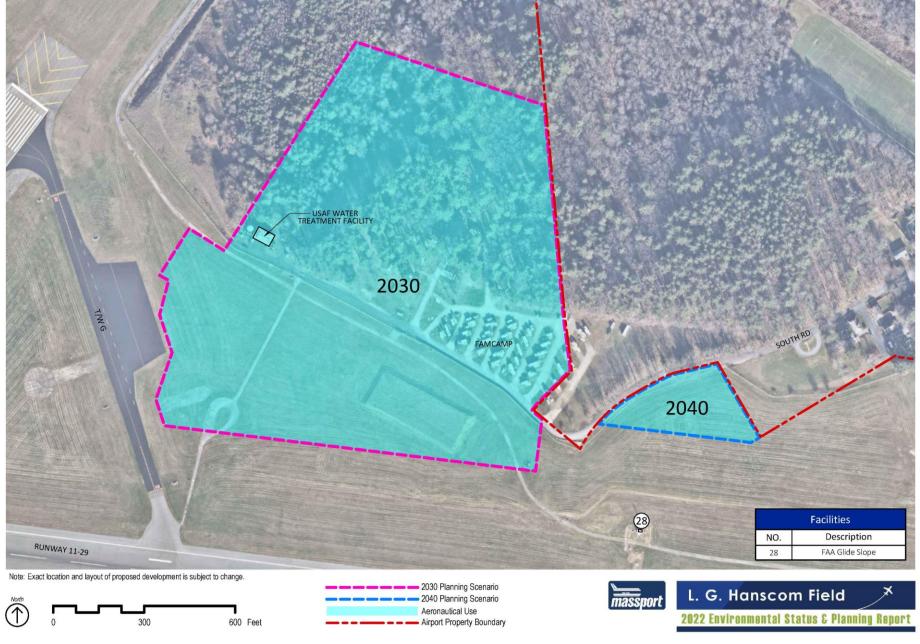
North Airfield Planning Concepts



25

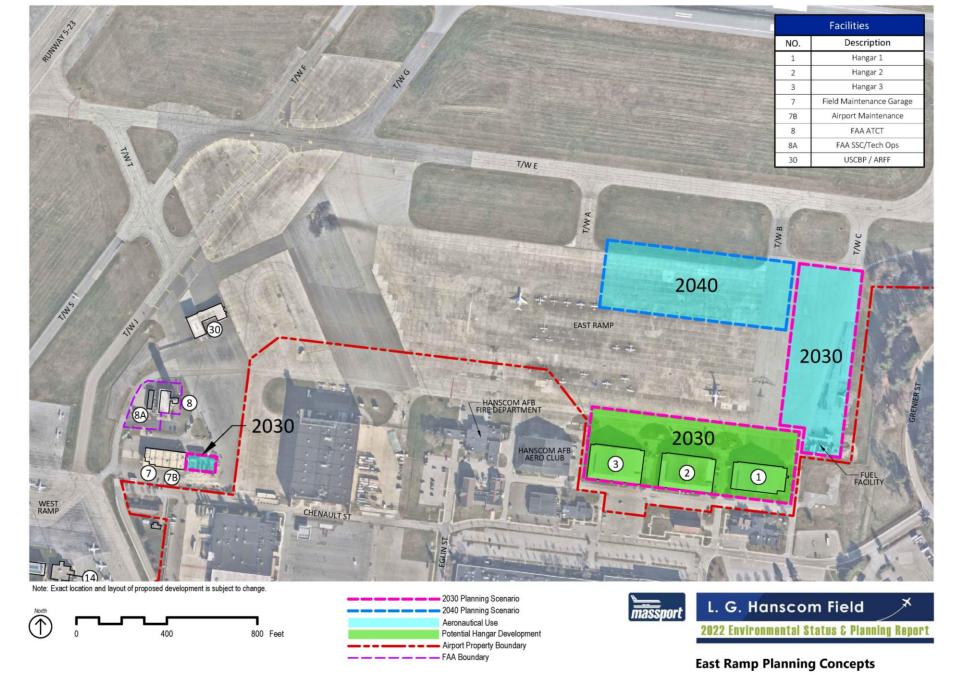
North Airfield Planning Concepts

Northeast Airfield Planning Concepts

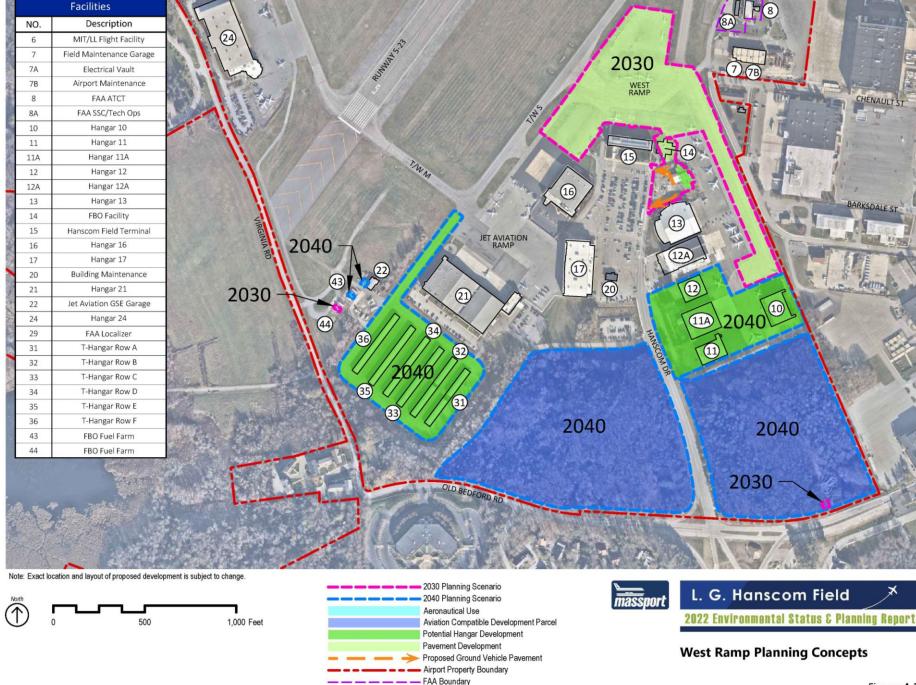


Northeast Airfield Planning Concepts

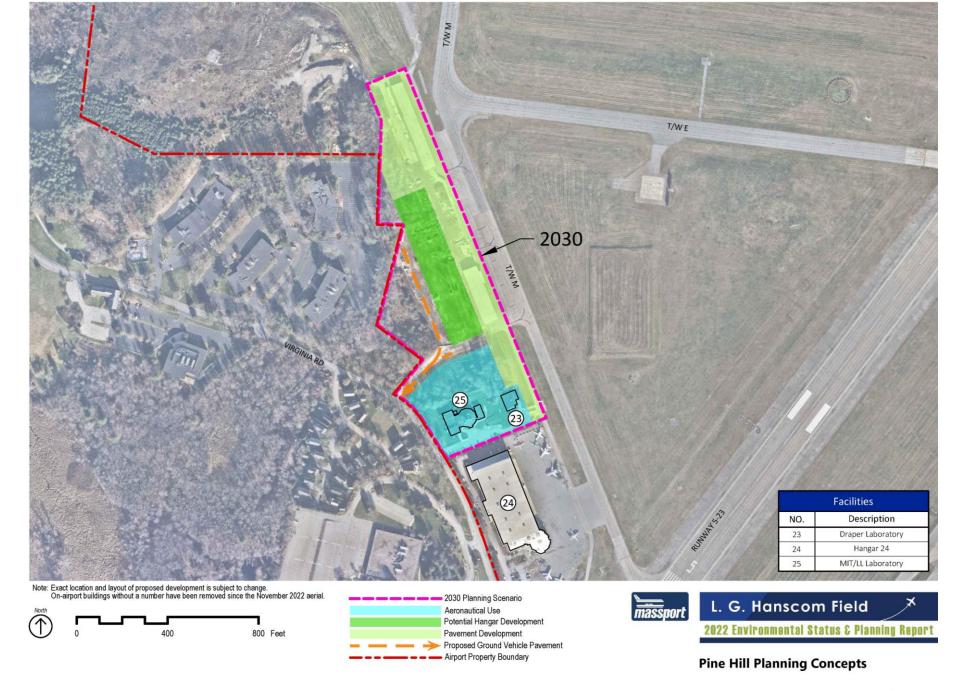
East Ramp Planning Concepts



West Ramp Planning Concepts



Pine Hill Planning Concepts





CHAPTER 5 Regional Transportation



CHAPTER 5

Regional Transportation

- Describes the role of Hanscom Field and regional airports in the overall regional transportation system
- Overviews planned improvements at the region's airports
- Provides an overview of New England's major transportation initiatives underway or recently completed
- Summarizes the economic impact of the region's airports





Regional Transportation KEY FINDINGS

- Across the region, scheduled commercial airline operations were 10 percent lower in 2022 than in 2017
- Logan Airport continues to lead the passenger counts with over 70 percent of the regional share
- Hanscom Field remains the leading GA airport in the region for overall GA activity

• COVID-19 Impact:

- In 2020, over 90 percent of scheduled commercial operations nationwide were suspended, and travel patterns changed when operations resumed
- o General aviation was not as impacted by COVID-19; showed an increase at some airports



New England Regional Airport System Plan Airports





PASSENGER ACTIVITY

2017 to 2022:

- COVID-19 cut into all trends, and no airport was immune from huge passenger losses
- There has not been scheduled passenger service at Hanscom since 2012

Table 5-1. Passenger Activity at Airports in the NERASP

		Annual Passengers				
		(millions)		CAGR	2017	2022
	Airport			2017-	Passenger	Passenger
Airport	Code	2017	2022	2022	Share	Share
Logan Airport, MA	BOS	38.41	36.09	-1.24%	70.1%	70.4%
Bradley International, CT	BDL	6.44	5.80	-2.08%	11.8%	11.3%
T. F. Green International, RI	PVD	3.94	3.17	-4.24%	7.2%	6.2%
Portland International Jetport, ME	PWM	1.86	1.99	1.32%	3.4%	3.9%
Manchester-Boston, NH	MHT	1.93	1.29	-7.63%	3.5%	2.5%
Burlington International, VT	BTV	1.18	1.20	0.38%	2.2%	2.3%
Tweed-New Haven, CT	HVN	0.06	0.70	63.63%	0.1%	1.4%
Bangor International, ME	BGR	0.60	0.69	2.75%	1.1%	1.3%
Worcester Regional, MA	ORH	0.11	0.16	7.87%	0.2%	0.3%
Portsmouth International, NH	PSM	0.21	0.13	-9.34%	0.4%	0.3%
Hanscom Field, MA	BED	0.02	0.03	2.68%	0.0%	0.0%
Subtotal Regional	Airports	16.33	15.13	-1.51%	29.9%	29.6%
	Total	54.74	51.22	-1.32%	100.0%	100.0%

Sources:

- For 2017 Data: Massport (BOS), Connecticut Airport Authority (BDL), Rhode Island Airport Commission (PVD), City of Manchester (MHT), City of Portland (PWM), City of Burlington (BTV), 2017 ACAIS (HVN, BGR, ORH, PSM, and BED).
- For 2022 Data: Massport (BOS, ORH), Connecticut Airport Authority (BDL), Rhode Island Airport Commission (PVD), City of Manchester (MHT), City of Portland (PWM), City of Burlington (BTV), 2022 ACAIS (HVN, BGR, PSM, and BED).
- Calculations done by McFarland Johnson, 2023.





CHAPTER 6 Ground Transportation



CHAPTER 6

Ground Transportation

- Current conditions
- Traffic conditions under the 2030 and 2040 forecast scenarios
- Other transportation-related projects/activities undertaken
- Transportation demand management (TDM) activities
- Commuting patterns by Hanscom Field employees
- Alternative modes of transportation





Ground Transportation KEY FINDINGS

- The majority of traffic to/from Hanscom Field continues to occur outside the morning and afternoon peak traffic hours
- Hanscom Field-related traffic accounts for 3% of all traffic on Route 2A
- Average daily traffic volumes on Hanscom Drive decreased from 1,700 vehicles per day (VPD) in 2018 to 1,500 in 2022 (likely impacted by COVID-19).
 - Aligns with long-term trend: 2,600 VPD in 2005 to 1,500 VPD in 2022.
- The 2030 and 2040 forecast scenarios include an increase in aviation activity and peak hour vehicle trips are anticipated to modestly increase.

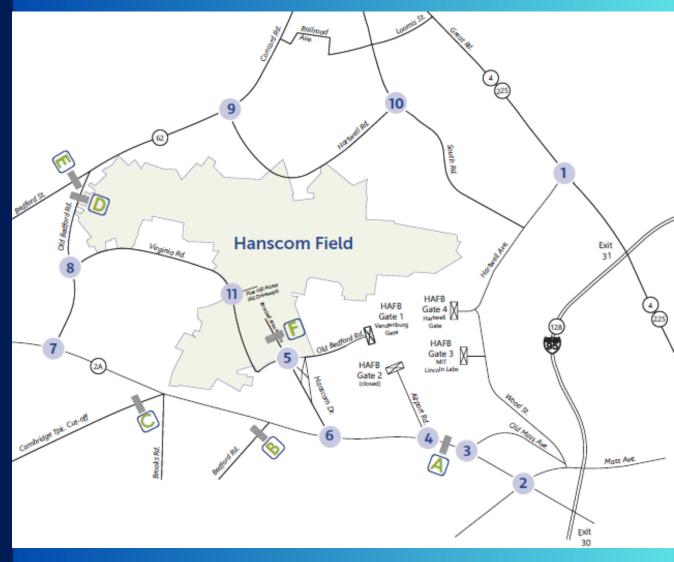


TRAFFIC COUNT LOCATION MAP

Study Intersections

- 1. Route 4/225 & Hartwell Avenue (signalized), Lexington
- 2. Massachusetts Avenue & Route 2A (signalized), Lexington
- 3. Old Massachusetts Avenue & Route 2A, Lexington
- 4. Airport Road & Route 2A, Lexington
- 5. Hanscom Drive & Old Bedford Road (main Hanscom Field entrance), Lexington
- 6. Hanscom Drive & Route 2A, Lincoln
- 7. Old Bedford Road & Lexington Road (Route 2A), Concord
- 8. Old Bedford Road & Virginia Road, Concord
- 9. Hartwell Road & Route 62, Bedford
- 10. Hartwell Road & South Road, Bedford
- 11. Virginia Road & Atlantic Aviation, Concord

Figure 6-3. Traffic Study Area Count Locations



Source: McFarland Johnson, 2023.



Hanscom Field Traffic

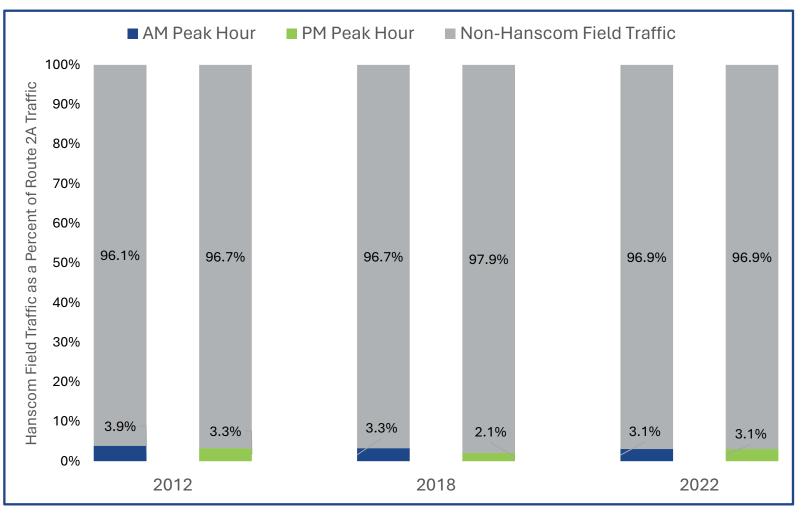


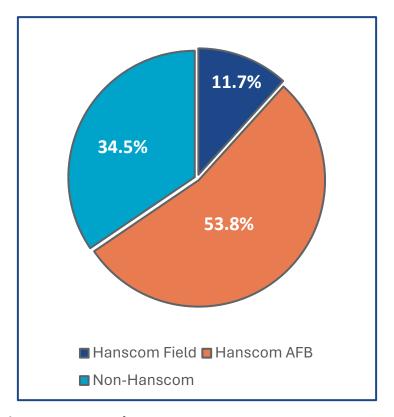
Figure 6-1. Percent of Hanscom Field Traffic on Route 2A

Source: McFarland Johnson, 2023



Hanscom Drive Traffic Volumes

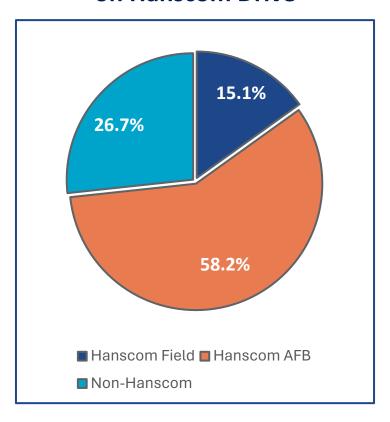
2022 Morning Peak Hour Traffic on Hanscom Drive



Figures 6-11 and 6-12

Source: McFarland Johnson, 2023

2022 Afternoon Peak Hour Traffic on Hanscom Drive





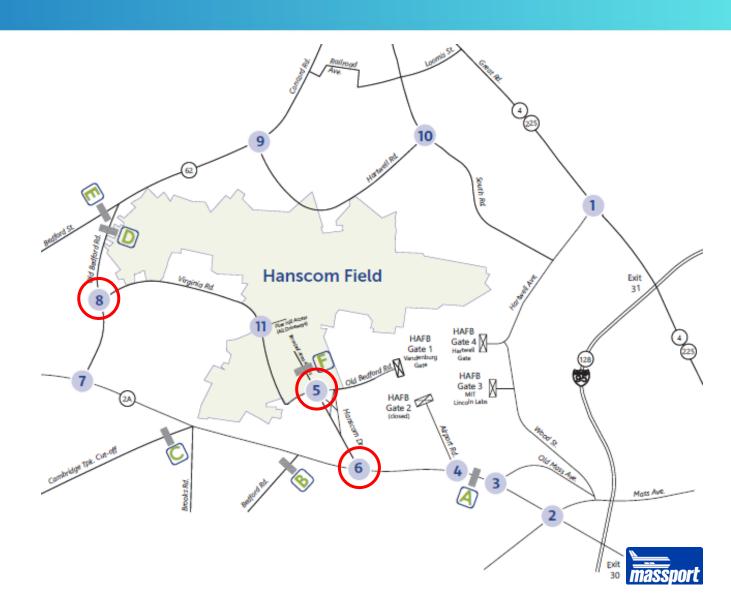
Current Conditions MEPA THRESHOLD

Table 6-5. Intersections Exceeding 10 Percent MEPA Threshold

		Analysis Years					
Intersection	Peak Hour	2002	2005	2012	2018	2022	
#5 Hanscom	Morning	Χ	Χ	X	Х	Х	
Drive/ Old Bedford Road (Lincoln)	Afternoon	Х	х	х	Х	х	
#6 Hanscom	Morning	Х	Х	Х	Х	Х	
Drive/ Route 2A (Lincoln)	Afternoon	Х	Х	Х	Х	Х	
#8 Old Bedford	Morning	Χ	Х		Х	Х	
Road/Virginia Road (Concord)	Afternoon	Х	Х	х	Х	х	
#12 Old	Morning						
Bedford Road/Route 62 (Concord)	Afternoon		Х				

Note: "X" denotes intersection with turning movement exceeding 10 percent MEPA threshold.

Sources: 2017 ESPR and McFarland Johnson, 2023



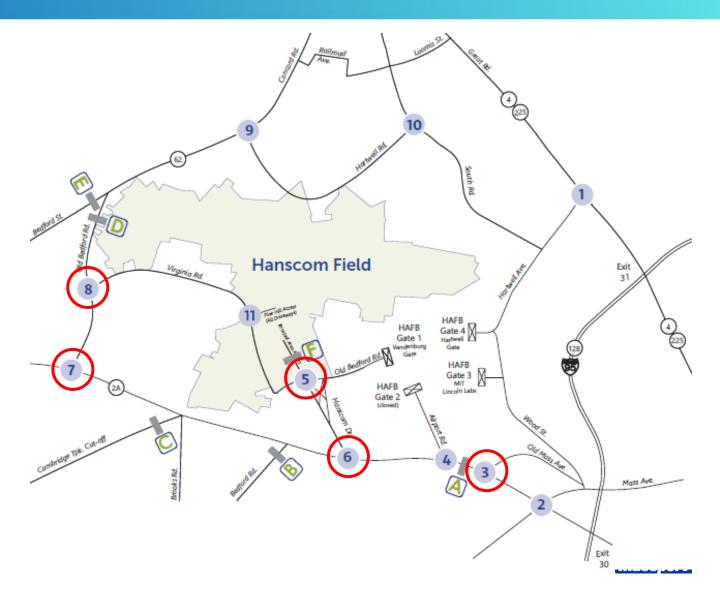
Forecast Conditions MEPA THRESHOLD

Table 6-16. Intersections Exceeding 10 Percent MEPA Threshold

		Analysis Years				
		2018	2022	2030	2035	
Intersection	Peak Hour	Existing	Existing	Forecast	Forecast	
#3 Route 2A /	Morning	Unknown		Χ	Х	
Old						
Massachusetts	Afternoon	Unknown				
Avenue						
#5 Hanscom	Morning	X	X	Χ	X	
Drive/ Old						
Bedford Road	Afternoon	X	Х	X	X	
(Lincoln)						
#6 Hanscom	Morning	X	Х	Χ	X	
Drive/ Route	Afternoon	Х	Х	Х	Х	
2A (Lincoln)	Arternoon	^	^		^	
#7 Lexington	Morning	Unknown			Х	
Road / Old	Afternoon	Unknown				
Bedford Road	Arternoon	OTIKITOWIT				
#8 Old Bedford	Morning	X	Х	Χ	X	
Road/Virginia	Afternoon	Х	Х	Х	Х	
Road (Concord)	Aiternoon	^	^	^	^	

Note: "X" denotes intersection with turning movement exceeding 10 percent MEPA threshold

Sources: 2017 ESPR and McFarland Johnson, 2023



Hanscom Field Traffic HANSCOM DRIVE

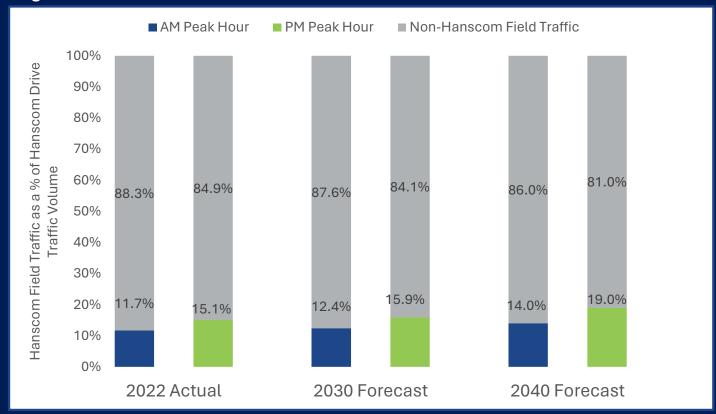
2030 Forecast:

 Traffic volume projected to increase by 1%

2040 Forecast:

 Traffic volume projected to increase by 2%

Figure 6-29. Hanscom Field 2030 and 2040 Peak Hour Traffic Volumes – Hanscom Drive



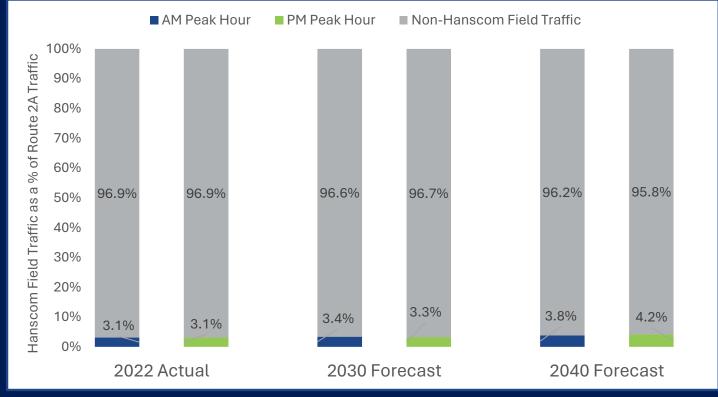
Source: McFarland Johnson, 2023



Hanscom Field Traffic ROUTE 2A

- Hanscom Field traffic is forecasted to increase slightly faster than total traffic
- The roadway network surrounding Hanscom Field can handle the relatively minor amount of traffic

Figure 6-30. Hanscom Field 2030 and 2040 Peak Hour Traffic Volumes – Route 2A



Source: McFarland Johnson, 2023



HOW TO PROVIDE FEEDBACK

Electronic Version of Document:

http://www.massport.com/massport/abo ut-massport/project-environmentalfilings/hanscom-field/

Second Public Information Session:

• Tuesday, June 11, 6:00 p.m. to present Chapters 7 through 11

Public Comment Period

- Open until August 13, 2024
- Submit comments electronically at:
 - https://eeaonline.eea.state.ma.us/EEA/Public
 Comment/Landing
- Submit comments by email to:
 - Alex Strysky at alexander.strysky@mass.gov
- Submit written comments to:

Secretary Rebecca Tepper
Executive Office of Energy & Environmental Affairs
Attention: MEPA Office
EEA No. 5484/8696
100 Cambridge Street, 10th Floor
Boston, MA 02114





