The State of Hanscom

Presented to the
Hanscom Field Advisory Commission

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THE STATE OF HANSCOM

MASSACHUSETTS PORT AUTHORITY

The Massachusetts Port Authority (Massport) is the owner and operator of Laurence G. Hanscom Field. Massport also operates Boston Logan International Airport, Worcester Regional Airport and the Port of Boston's Conley Container Terminal and Black Falcon Cruise Ship Terminal. These facilities provide safe, secure, and efficient transportation resources for travelers and businesses and enable Massachusetts and New England to compete successfully in the global marketplace. Massport receives no state tax funding and is governed by a seven member Board appointed by the Governor.

Massport's facilities are essential to the citizens of the Commonwealth and provide economic benefits throughout the region. At the same time, Massport strives to minimize the impact of its operations on surrounding communities. Massport is diligent in abiding by all environmental regulations and is a leader in promoting voluntary environmental initiatives. Massport implements and participates in outreach programs that encourage an open and timely exchange of information and ideas. It is Massport's goal to understand and integrate the concerns of the community into its projects and plans whenever and wherever possible.

HANSCOM FIELD BACKGROUND

In 1941, the Commonwealth of Massachusetts purchased land northwest of Boston to build an airport, and the State Senate and House of Representatives passed resolutions "…relative to the designation of the proposed Boston Auxiliary Airport as Laurence G. Hanscom Field, Boston Auxiliary Airport at Bedford". Control of Hanscom passed to a number of different agencies until 1956, when the legislature placed Hanscom Field under Massport's jurisdiction. Although the land was always controlled by the state, the airfield was leased and maintained by the military until 1974.

Today, Hanscom Field is the region's premier full-service general aviation airport, and it plays a critical role in New England's regional aviation system as a corporate reliever for Logan International Airport. Aircraft operations at Hanscom have traditionally included commuter, business, charter, light cargo, personal aircraft, air taxi, medical, military and flight school activity. Hanscom Field serves the diverse flying needs of the region's high technology corporations and educational institutions and is an important resource for Hanscom Air Force Base (HAFB), a research and development facility abutting the airfield.

The State of Hanscom is presented annually to the Hanscom Field Advisory Commission (HFAC), a legislatively created body comprised of representatives from the surrounding residential communities, the aviation community, and area-wide organizations. State elected officials, and representatives from HAFB, the Federal Aviation Administration, Minute Man National Historical Park, and Massport serve as resources to the commission.

In presenting *The State of Hanscom,* Massport provides an opportunity for a wide range of interested parties to discuss the airport's role in the regional transportation system and to discuss Massport's objectives for the facility. *The State of Hanscom* presents the airport's operational activity, financial performance, and economic benefits. It discusses Massport's 2016 accomplishments at Hanscom, as well as plans for 2017.

SECTION I - AIRCRAFT ACTIVITY

Table 1 shows total aircraft activity levels at Hanscom Field for 7 a.m. to 11 p.m. operations in 2015 and 2016 based on Federal Aviation Administration (FAA) tower counts, fleet mix data, and estimates. The 2016 data are preliminary and will be thoroughly reviewed before publication of the 2016 noise report.

TABLE 1
Hanscom Field Aircraft Activity
2015
FROM FAA TOWER REPORTS & ESTIMATES (7 A.M.-11 P.M)

	CIVILIAN						MILITARY	TOTAL
	LOCAL	SINGLES	TWIN PISTON	TURBO	JET	HELI		
January	2786	1356	197	463	2120	619	44	7,585
February	2076	603	176	511	2305	550	18	6,239
March	2634	1544	240	557	2608	616	42	8,241
April	3769	2820	264	632	2452	602	48	10,587
May	4868	4013	257	620	2461	664	72	12,955
June	4742	3725	227	638	2386	664	82	12,464
July	5869	3818	260	747	2130	691	27	13,542
August	6092	3896	300	730	2075	722	37	13,852
September	4282	3234	318	756	2376	700	46	11,712
October	3939	3517	254	625	2526	691	53	11,605
November	3631	2848	225	502	2521	645	30	10,402
December	3369	2221	166	426	2258	629	26	9,095
TOTAL	48,057	33,595	2,884	7,207	28,218	7,793	525	128,279

2016
FROM FAA TOWER REPORTS & ESTIMATES (7 A.M.-11 P.M)

	CIVILIAN						MILITARY	
	LOCAL	SINGLES	TWIN PISTON	TURBO	JET	HELI		TOTAL
January	2945	2207	179	346	2097	629	26	8,429
February	2466	1938	160	319	2063	582	33	7,561
March	3053	2882	198	436	2001	680	35	9,285
April	3534	3286	191	485	2346	630	81	10,553
May	4230	3675	250	529	2260	632	38	11,614
June	4146	4274	247	554	2214	640	86	12,161
July	4102	4397	272	538	1781	642	44	11,776
August	4189	4268	265	626	1890	680	76	11,994
September	3570	3349	251	651	2429	615	34	10,899
October	3175	3448	220	611	2521	650	76	10,701
November	2595	2647	192	518	2409	649	26	9,036
December	2561	2134	198	358	2108	629	30	8,018
TOTAL	40,566	38,505	2,623	5,971	26,119	7,658	585	122,027

Note: The 2016 figures are preliminary. All 2016 data will be reviewed before publication of the 2016 annual noise report.

The FAA tower counts are traditionally used to report the official number of operations for an airport; at Hanscom they do not include nighttime operations between 11 p.m. and 7 a.m. when the FAA Tower is closed. In addition to the 7 a.m. to 11 p.m. aircraft activity, there were 2,041 nighttime operations in 2016, a slight decrease from 2,058 in 2015.

The airport's activity levels have historically been closely aligned with the economic health of Massachusetts' high technology industry in the Routes 128/95 and 495 areas and have generally mirrored national trends.

The data in Table 1 show 122,027 operations for 2016. This indicates a 4.9% decrease as compared to 2015. Although total operations have been below 200,000 in 21 out of the past 23 years, they were well above 200,000 for the 30 years prior to 1993, and they exceeded 300,000 in 1970.

Consistent with activity for the past thirty years, the civilian portion of the 2016 aircraft operations comprised approximately 99% of the total aviation activity. The largest component of the total activity, 64.8%, consisted of single engine piston (SEP) operations ("Local" plus "Singles" in Table 1). The 79,071 estimated SEP flights indicate that their activity decreased 3.2% as compared to 2015. This included a 15.6% decrease in touch and go/local traffic and a 14.6% increase in non-touch-and-go/local operations by SEPs.

Touch-and-go/local activity comprised 51% of the SEP operations. Each touch-and-go consists of a practice landing and take-off and is counted as two operations. Touch-and-goes are not allowed in aircraft over 12,500 pounds at Hanscom; they are most commonly conducted by flight schools using SEP aircraft.

The 2,623 estimated twin engine piston operations indicate a decrease of 9% as compared to 2015. They represented 2.1 % of the 2016 operations. The 7,658 estimated helicopter operations indicate a 1.7% decrease as compared to 2015, and they represented 6.3 % of the total. Estimated turboprop aircraft activity, representing 4.9 % of the 2016 total activity, decreased 17.2%.

The 26,119 civilian jet operations that were conducted in 2016 represented 21.4 % of the total activity and indicate a 7.4% decrease, as compared to 2015. Business jet activity peaked at 34,522 operations in 2007.

All of the 2016 data used to create Table 1 will be reviewed for the 2016 annual noise report, which will be prepared later in the year and presented to HFAC. The noise report will include a more detailed analysis of operations and trends as well as a full analysis of noise exposure using EXP, a metric developed to track changes in Hanscom's noise environment.

SECTION II - FINANCIAL RESULTS FOR FISCAL YEAR 2016

Massport continues its commitment to operating a first class facility while striving to improve Hanscom's financial performance. Massport's fiscal year (FY) begins on July 1 and ends on June 30.

Table 2 demonstrates the fluctuations in revenues and expenses over the last five years. Comparing FY16 to FY15, operating revenues increased 1.2 % and expenses increased 21 %, leaving Hanscom with an operating surplus of $42 thousand. Amortization decreased from $3.4 million to $3.1 million, resulting in a $3.1 million deficit in FY16.

Projections for FY17, made in 2016, included a slight decrease in revenues, an increase in expenses and amortization increasing to $3.4 million. The projected deficit for FY17 is $4.1 million. Increased expenses include continued development of the Massport Airport Rescue & Fire Fighting (ARFF) department facilities, apparatus and personnel, and design of a new Customs and Border Protection Facility.

Massport recognizes that controlling Hanscom's deficit requires an aggressive multi-faceted approach. On the cost side, every expenditure and project is carefully scrutinized for its financial implications, and cost-saving measures continue to be explored. On the revenue side, a regular review of rates and charges, followed by appropriate adjustments, has been adopted. Expanding sources of revenue through development, as discussed later in this report, is another avenue for controlling the deficit. Massport also recognizes that commercial and/or air taxi services generate revenue and are allowed activities under federal law. While Massport may not actively solicit scheduled air service, it will accept and appropriately process applications for such service from entities that may seek to operate such air service at Hanscom Field.

TABLE 2
Hanscom Five Year Financial Summary
Fiscal Years (FY) FY13 -FY17

YEAR	FY13	FY14	FY15	FY16	Budgeted FY17
RENTALS					
Terminal	334,582	321,403	348,763	298,327	296,736
Non-Terminal	2,224,688	2,333,113	2,433,381	2,426,818	2,396,748
Ground	2,385,145	2,436,111	3,267,246	3,497,221	3,597,915
Utilities	141,344	105,219	128,354	136,247	138,765
SUBTOTAL	5,085,760	5,195,845	6,177,743	6,358,613	6,430,164
FEES					
Landing Fees	829,302	872,732	910,310	915,194	929,806
Customs Fees	604,681	736,012	647,324	639,480	666,738
Night Field Use Fees	536,293	696,080	711,003	622,298	721,699
Parking Fees	187,920	151,858	141,720	157,601	98,560
Other	730,001	665,131	739,376	816,274	721,952
SUBTOTAL	2,888,197	3,121,814	3,149,733	3,150,846	3,138,755
COMMISSIONS					
Rental Cars	179,747	174,540	169,152	169,529	173,343
Flight Schools	27,578	28,305	27,204	34,227	29,112
Ground Servicing	175,579	141,652	153,073	137,294	133,488
Fuel Flowage	1,339,209	1,389,236	1,663,855	1,599,670	1,573,308
Other	599,589	644,737	742,746	781,346	723,082
SUBTOTAL	2,321,702	2,378,470	2,756,030	2,722,067	2,632,333
TOTAL REVENUES	**10,295,658**	**10,696,129**	**12,083,506**	**12,231,526**	**12,201,252**
OPERATING EXPENSES					
Admin, Maint., Security Staff	3,870,174	4,127,811	4,127,765	6,219,379	6,513,172
Supplies & Materials	302,881	430,153	325,023	460,890	498,545
Repairs	469,014	596,145	550,729	570,901	649,471
Services	2,248,827	2,841,291	2,638,165	2,294,475	2,589,064
Utilities	349,835	358,832	301,072	256,992	328,623
Insurance	222,969	190,459	196,175	185,584	213,675
Miscellaneous	745,449	831,091	816,154	1,055,860	875,656
General & Administration	945,189	1,076,122	1,105,988	1,144,729	1,211,502
TOTAL OPERATING EXPENSES	**9,154,337**	**10,451,904**	**10,061,070**	**12,188,811**	**12,879,708**
OPERATING SURPLUS/DEFICIT	**1,141,320**	**244,225**	**2,022,436**	**42,715**	**(678,456)**
AMORTIZATION	**3,808,416**	**3,901,332**	**3,433,408**	**3,158,412**	**3,457,578**
Total Costs (oper + Amort.)	**12,962,753**	**14,353,236**	**13,494,479**	**15,347,222**	**16,337,286**
SURPLUS/DEFICIT	**(2,667,096)**	**(3,657,107)**	**(1,410,973)**	**(3,115,697)**	**(4,136,034)**

SECTION III - ECONOMIC BENEFITS OF HANSCOM ACTIVITY

Massport's facilities enable the region's residents and leading industries to make connections with new markets, products, customers, family, and friends. In just about every aspect of life in Massachusetts, Massport is helping the economy grow.

Located off Route 128/95, Hanscom Field has been a vital link to domestic and international destinations for individual pilots, commuter airlines and local employers, including high technology corporations, research and development firms, and educational institutions. Businesses look for accessible air travel when deciding where to locate, and Hanscom provides local businesses with easy access to corporate travel opportunities.

In FY16, Massport invested $6.5 million in airfield, terminal, equipment and other facility improvements required to maintain the airport. Past and future investments ensure that Hanscom will continue to be prepared to support future economic growth by serving the diverse needs of users who operate a wide variety of aircraft.

Periodically, there is an examination of the economic impacts of Massport's facilities. The Massachusetts Department of Transportation/Aeronautics Division conducted an airport economic impact study in 2014. It was determined that there were 1,745 full-time equivalent jobs related to Hanscom Airfield activity. Annual wages for those workers whose employment is directly related to airport activity are nearly $100 million. Hanscom generated estimated economic benefits of $348 million when all the direct, indirect and induced economic benefits of the airport were considered. Estimated economic benefits described above do not include economic benefits generated by Hanscom Air Force Base.

SECTION IV - 2016 ACCOMPLISHMENTS AND 2017 OBJECTIVES

Massport's primary responsibility at Hanscom Field is to maintain a safe, secure, and efficient regional airport while minimizing the environmental impact of its operations. Improvements are made in accordance with these guiding principles. While Massport is committed to maintaining Hanscom as a first class, full service airport, maintenance and improvements at the airport are consistently coupled with a variety of environmental initiatives, programs, and policies.

Maintain and Improve Airfield—Annual Airfield Improvement Program

Most projects at Hanscom are part of maintaining a safe and efficient airfield, and these may be eligible for full or partial federal funding under the FAA's Airport Improvement Program (AIP). In 2016, there was one AIP eligible project completed at Hanscom.

Airfield Pavement Maintenance: There is an on-going program for reconstructing pavement on the airfield.

In 2016: Massport rehabilitated the Runway 23 safety area beyond the runway end and a portion of Taxiway Juliet, south of Taxiway Tango.

In 2017: Massport will rehabilitate the pavement on Runway 11/29. This will require a thirday day closure of Runway 11/29, as well as a weekend airport closure to accommodate construction at the intersection of both runways.

Safety and Security on and off the Airfield

Safety and security are the two most critical components of operating an airport, and there is a continual multi-level emphasis on both at Hanscom. Massport's commitment to operating a safe and secure airport helps safeguard its host communities as well as those who use the airport.

1. **Obstruction Removal:** A high priority for Massport is maintaining compliance with FAA certification and safety requirements regarding obstructions within runway approach and departure surfaces. Massport uses aerial photogrammetric mapping of those surfaces to identify vegetation that is penetrating, or close to penetrating, these surfaces. The state identified vegetation removal guidelines in the *Generic Environmental Impact Report (GEIR) for Vegetation Removal at Public Use Airports* and the *1999 GEIR/Generic Environmental Notification Form Update*. Historically, a vegetation removal project has been required every five years at Hanscom.

   - ***Hanscom's Previous Five Year Vegetation Management Plans (VMP's) Using the State's GEIR Guidelines:***

     - The first Five Year VMP (2002-2006) had minimized the need for additional vegetation removal in the areas that were cut in 2004.
     - Vegetation removal was required in areas that were not part of the first five year VMP.
     - Using the FAA-approved 20:1 approach surfaces for Runway 23, there were obstructions in Bedford's Jordan Conservation Area (JCA); there were no obstructions in the Bedford Hartwell Town Forest.
     - The second Five Year VMP was based on a 2007 Airspace Analysis, and identified obstructions in Bedford's Jordan Conservation Area (JCA), as well as some obstructions located in Concord. An Order of Conditions for the JCA was issued by the Bedford Conservation Commission in January of 2010. In 2010, the Bedford Conservation Commission, Massport and the Bedford Selectmen signed a Memorandum of Agreement (MOA) that allows Massport to periodically access the JCA for this and future such projects, subject to the Commission's review under the state Wetlands Protection Act. The term of the MOA is 50 years, which shall renew automatically for an additional 50 years at the conclusion of the first 50 year period, subject to the provisions of the MOA.
     - In February 2011, Massport received confirmation from its consultant that all obstructions identified in the 2007 Hanscom Airspace Analysis had been removed.
     - As part of the MOA with the town of Bedford, Massport worked with the towns of Bedford and Concord to develop access to a trail system on two Massport-owned parcels. A trail connection between Bedford conservation land and Concord open space parcels was also completed. Massport officially opened the trails in September, 2011.

   Massport has continued maintenance of the vegetation removal areas and the trail system throughout 2012, and performed aerial photogrammetric mapping of the airport as part of its next five year VMP update. In 2013, Massport began development of the 2014-2018 VMP

Update based on analysis of the findings from the most recent aerial photogrammetric mapping of the airport. In 2014, the third VMP update was submitted to the four towns' Conservation Commissions along with Notices of Intent for the required vegetation removal in wetland areas, and received Orders of Conditions for vegetation removal in wetland areas from all four towns' Conservation Commissions.

In 2016: Massport removed obstructions on all four runway ends using recommendations in the 2014-2018 VMP update, and surveyed the results.

In 2017: Massport will continue to mitigate obstructions using the recommendations in the 2014-2018 VMP update. Massport will also begin preparations for the 2019-2023 VMP Update, including updated aerial mapping.

2. **Annual Emergency Exercise:** One of Hanscom's FAA Part 139 certification requirements is to conduct an annual exercise to ensure an effective response in the event of an aircraft emergency. A table-top exercise is conducted two out of every three years. On the third year, a simulated emergency is conducted on the airport.

   In 2016: Massport conducted a table top exercise in May that focused on unified command, communications protocols and interoperability. In the fall, Massport conducted a full scale exercise that included participation from over 50 Federal, State and Local partners.

   In 2017: Massport will conduct a table top exercise in the fall, focusing on mutual aid, interoperability, communications and response protocols.

3. **Airport Rescue and Fire Fighting (ARFF) Facilities:** Massport has been standardizing ARFF procedures across all three Massport-owned airports in order to enhance safety and coordination efforts. This allows Massport Fire-Rescue to leverage additional resources from across the state for use at Hanscom Field. Massport Fire-Rescue began operations in November 2015.

   In 2016: The temporary ARFF vehicle bay addition to the Massport maintenance garage was completed.

   In 2017: Design of the permanent facility will continue. Construction is scheduled to begin in 2019.

4. **Wildlife Control:** Wildlife on an airfield can be a serious safety hazard for aircraft. The U.S. Department of Agriculture (USDA) regularly conducts field visits at Hanscom to monitor and evaluate wildlife on the airfield, with a particular focus on assisting Massport in minimizing wildlife strike hazards.

   In 2016: Massport continued to implement all aspects of its Wildlife Hazard Management Plan.

   In 2017: Massport will continue to implement all aspects of its Wildlife Hazard Management Plan, including upgrades to airfield fencing.

5. **Security:** There was an increased emphasis placed on security after the events of September 11, 2001. Before the end of 2002, installation of enhanced security fencing was initiated and an ID

badging program was developed. Today, anyone requiring unescorted access to the airfield must undergo a background security check in order to obtain a badge, and badges must be displayed at all times on the airfield. A variety of other measures have been adopted as the result of an on-going process of evaluating and implementing new security programs, as appropriate. In 2016, Massport replaced portions of the perimeter security fencing that were nearing the end of useful lifespan.

In 2017: Massport will implement the SAFE e-badging program for all three airports. The system is more streamlined and standardized across all airports. This will make it easier for badge holders to renew and train, while concurrently making the process more secure. In addition, Massport will expand the badge office, adding two new badge training stations as well as updated software and training videos.

Safety Inspections and Meetings: In addition to the FAA's annual inspection, Massport's Safety Office staff conducts regular safety inspections, and monthly safety meetings are held with tenants and the FAA tower personnel to facilitate the identification of safety concerns. Every year, Massport reviews its snow removal plan with the FAA tower staff and Hanscom tenants to ensure effective communication and coordination during snow removal operations.

Maintain and Improve Facilities

Hanscom's critical role in the regional transportation system demands appropriate maintenance programs and responsible development of airport facilities. Anticipating future needs and meeting the needs of existing users of Hanscom Field create challenges that require careful analysis and flexibility. Massport makes adjustments to its projects based on local demand and changes in the aviation industry.

1. **Massport Controlled Facilities:** In addition to the airfield, Massport owns and manages the Civil Air Terminal, a number of corporate hangars that are leased, t-hangars and tie-down spots for owners of small aircraft, the central parking lot, and the entrance areas to the airfield. There is a continual process of maintaining and upgrading these facilities and areas. The Civil Air Terminal is home to a number of aviation businesses, including Hanscom's flight schools.

   In 2016: Massport rehabilitated sections of the landside roadways and rehabilitated T-hangars that were damaged during the winter of 2014-2015.

   In 2017: Massport will upgrade aging electrical and fire protection infrastructure at various locations across the airfield. Massport will also move all administrative offices to the vacant office space on the 2nd floor of the Civil Air Terminal, consolidating resources and utilizing a smaller footprint. T-Hangar Rows A-C have reached the end of their useful life and will be replaced. In addition, Massport will construct a salt storage shed in a new landside location away from wetlands.

2. **Third Party Development:** Based on demand, Massport responds to and solicits third party development and management for new aviation-related facilities that support Hanscom's role in the regional transportation system as a full service general aviation airport. Most of Hanscom's hangars, with associated office space, are owned or leased by tenants who are responsible for

maintaining the facilities.

Potential development sites are identified and analyzed in Hanscom's Environmental Status and Planning Reports (ESPRs), which serve as planning tools when considering future development at Hanscom.

- ***East Ramp:*** The East Ramp, located on the southeast side of the airfield, was identified in the 2005 and 2012 ESPRs as a potential site for corporate hangars. The ramp area is an impervious surface that is used for storage and movement of aircraft.

  In 2016: The electrical feeders for hangars 1 and 2 were evaluated for replacement.

  In 2017: Massport will continue to update aging infrastructure and explore third party development on the East Ramp.

- ***Pine Hill Site:*** The Pine Hill site is located on the southwest side of the airfield and currently houses t-hangars. The parcel can support additional hangar facilities.

  In 2017: Massport will continue to explore third party development proposals for the Pine Hill Site.

3. **Property North of the Airfield:** There are two parcels of land north of Runway 05/23 in Bedford that abut the airfield. One of these parcels is owned by the U.S. Navy and was used by Raytheon until 2000. The Navy facilities include a hangar, supporting structures, and a ramp area that abuts the airfield as well as an office building on a hill overlooking the airport. Massport's interest is in the future disposition and redevelopment of the hangar area, which is approximately 17 acres. In 2012, Massport filed an application with the GSA and FAA for acquisition of the Navy parcel, formerly occupied by Raytheon. Since that time, Massport has continued to work with the GSA and the Navy on the transfer process. The other parcel is owned by Massport but, until 2011, was leased by the U.S. Air Force. The area is west of the Navy parcel and comprises approximately 22 acres of partially developed land. Contained within the property is a system of roads and concrete pads that were used for a trailer park by the Air Force until 2011.

   In 2016: Massport continued to work with the GSA to acquire the Navy property.

   In 2017: Massport will continue to work with the GSA to acquire the Navy property. Massport will continue to explore third party development proposals for both parcels, including a Request For Proposal that will be developed by Massport and released to the public seeking proposals to develop the property west of the Navy Hangar.

4. **Jet Aviation:** In 2011, Jet Aviation submitted a proposal to replace Hangar 17 with a modern hangar and associated ramp to accommodate the size and needs of the future business jet fleet.

   In 2016: Jet Aviation completed phase 1 of construction by paving the access road and lots. Phase two began shortly afterward, and includes construction of a new hangar and FBO facility.

In 2017: Jet Aviation will complete construction of the hangar, FBO and Ramp.

5. **Boston MedFlight:** In 2015, the lease for Hangar 12A expired. Massport issued an RFP for re-development of the parcel, and, in 2016, accepted a proposal from Boston MedFlight.

   In 2017: Boston MedFlight will begin construction activities to re-develop Hangar 12A in the spring of 2017.

Monitor and Respond to Environmental Issues

Massport has consistently maintained high environmental standards while complying with state and federal environmental regulations. In addition to complying with mandated requirements, Massport has elected to participate in programs that use environmentally friendly technologies and innovations to minimize operational impacts. There is a continual effort to extend and improve Hanscom's environmental performance.

1. **Environmental Programs and Audits:** In 2001, Massport brought its environmental commitment to a new level when Hanscom Field became the first U.S. airport to attain ISO 14001 certification. To become certified, Massport developed and implemented an Environmental Management System (EMS) that meets international performance standards. The EMS provides a framework that fosters the use of environmentally sustainable practices for operating the field and creates an auditable system for tracking, managing, and improving environmental performance. The EMS facilitates environmental compliance, encourages strategic environmental thinking during business and planning processes, and promotes environmental awareness.

   Massport meets its environmental commitments using a series of programs that include monitoring and auditing activities at Hanscom to ensure compliance with environmental regulations and the use of pollution prevention practices. Ongoing practices include:

   - Using the EMS to track, manage and improve environmental compliance and performance; updating targets as target dates are reached or when opportunities arise for improving the EMS framework;
   - Participating in the Massachusetts State Sustainability Program (Executive Order No. 438) to promote environmentally sustainable practices and in the Massachusetts' Leading By Example Program – Clean Energy and Efficient Buildings (Executive Order No. 484);
   - Inspecting Massport and tenant facilities to ensure environmental compliance;
   - Reviewing and updating the Spill Prevention Control and Countermeasure (SPCC) Plan, which outlines steps to be taken by Massport employees in the event of a spill of fuel or other hazardous materials;
   - Conducting monthly inspections of materials in the Field Maintenance garage that are used to control spills of fuel or other hazardous materials;
   - Implementing and encouraging tenants to utilize Best Management Practices (BMPs) as discussed in the National Pollutant Discharge Elimination System (NPDES) multi-sector permit for stormwater discharges at Hanscom Field;
   - Conducting periodic water quality inspections at Massport's stormwater outfall locations;
   - Participating in an aggressive recycling program for tenant and Massport offices.

- Identifying opportunities during Massport capital program project design development to reduce stormwater runoff and peak flows;
- Identifying opportunities for development projects to control stormwater runoff. For example, if a project results in an increase in impervious surface, Massport requires compensatory storage for stormwater in order to avoid increasing peak stormwater run-off rates. This policy is incorporated into all Hanscom Field development.
- Utilizing Massport's Sustainable Design Guidelines and Standards for use by architects, engineers, and planners when working on capital projects at any Massport facility.
- Regular updating and training for Hanscom's Stormwater Pollution Prevention Plan (SWPPP) to include best management practices for stormwater management and snow removal.

  In 2016: ISO auditors conducted the audit for ISO re-certification in April, with zero non-conformance items found. Massport also conducted a successful hazardous waste collection event in celebration of Earth Day 2016. 2016 was the 15 year anniversary of Hanscom Field's first ISO certification in 2001.

  In 2017: ISO auditors will conduct the annual surveillance audit for ISO certification in May.

2. **DEP Shawsheen Watershed Initiative:** Massport has been working cooperatively with the Massachusetts Department of Environmental Protection (DEP), the U.S. Environmental Protection Agency, and the United States Air Force to improve the flow characteristics and profile of stormwater discharges into the Shawsheen River. Massport has removed pavement to decrease impermeable areas on the airfield and has incorporated water quality and water quantity improvements into ongoing projects using Low Impact Development technologies. In 2012, The DEP approved proposed modeling methods to study flow characteristics and stormwater discharges. In 2013, Massport completed hydrologic modeling of the upper Shawsheen River watershed to determine the impact of existing stormwater controls and Best Management Practices (BMPs) on the river flow characteristics and to evaluate proposed BMPs. Massport has continued to evaluate proposed stormwater controls and BMPs that may be implemented to achieve a reduction in the peak rate of stormwater runoff and an increase in stormwater infiltration.

   In 2016: Massport monitored stormwater runoff and maintained an effective stormwater management and employee training plan.

   In 2017: Massport will continue to monitor stormwater runoff and maintain an effective stormwater management plan.

3. **Protection of Rare and Endangered Species:** Two grassland bird species protected under the Massachusetts Endangered Species Act (MESA) have been observed at Hanscom Field: the Upland Sandpiper and the Grasshopper Sparrow. In cooperation with the Massachusetts Audubon Society, Massport has traditionally managed airfield vegetation in a manner that maintains aviation safety while protecting the grassland nesting areas of these species. As part of this effort, Massport minimizes mowing activities in some areas during the critical nesting season of these birds. At the same time, Massport must ensure that wildlife at Hanscom does not pose a wildlife strike hazard. As mentioned earlier in this document, the USDA assists Massport in this endeavor.

4. **Environmental Status and Planning Reports (ESPRs):** In 1978, Massport prepared the Hanscom Field Master Plan and Environmental Impact Statement, which triggered the adoption of General Rules and Regulations for Laurence G. Hanscom Field, effective July 31, 1980. Since 1985, Massport has prepared a series of increasingly comprehensive environmental assessments for Hanscom Field that identify the environmental effects of current conditions and activity at the airport, compare these conditions to historical data, and present and evaluate the potential cumulative environmental effects of several future scenarios. These studies serve as planning tools for future development.

   The latest ESPR is based on 2012 activity. In 2013, Massport completed and filed the 2012 ESPR with MEPA. Massport will continue to utilize the 2012 ESPR as a comprehensive resource for background information on the airport and for evaluations of Hanscom's current and potential future environmental effects. Data collection for the next ESPR will take place during 2017-2018 and will be based on 2017 activity. Massport anticipates publishing the 2017 ESPR in 2018.

Community Outreach

Massport strives to build positive community relations and public confidence by maintaining open communications and by supporting programs that assist in addressing the concerns of Hanscom's stakeholders and host communities.

1. **Community Meetings:** Massport staff regularly attends monthly community meetings to inform the public of airport planning and policy developments. Massport also sponsors informational meetings with the communities and other interested parties when appropriate. Massport staff regularly attend the following monthly meetings:

   - *The Hanscom Field Advisory Commission (HFAC)*: The HFAC was established by the legislature in 1980 to review Massport decisions regarding its goals, policies and plans for the airport. It includes representatives from the aviation and residential communities as well as advisory members who represent the Minute Man National Historical Park, Hanscom Air Force Base, the FAA, and Massport. Massport staff members provide HFAC with information regarding Massport's goals, policies and plans for the airport. Additionally, staff members prepare and present monthly aircraft activity and noise reports, capital program and third party development status reports, as well as the annual State of Hanscom report and the annual Noise Report.

   - *The Hanscom Area Towns Committee (HATS):* HATS was created to consider matters of common interest to the four towns that are contiguous to Hanscom Field and Hanscom Air Force Base. One selectman from each town serves on HATS along with planning board representatives and at-large members from the towns. HATS representatives consider regional traffic, planning, land use and other issues. Massport staff members attend the HATS meetings to address Massport-related agenda items, participate in discussions, and respond to questions relating to Hanscom Field and Massport.

2. **Noise Metrics and Noise Abatement/Mitigation:** Aircraft noise is a concern for many Hanscom area residents and the Minute Man National Historical Park. Massport recognizes the importance

of pro-actively addressing this issue and is committed to continuing its current noise-related programs while exploring appropriate new initiatives.

In response to the residential community's aircraft noise and operational concerns, Massport adopted regulations (Part F of the General Rules and Regulations for Laurence G. Hanscom Field) in 1980. Most of these programs could not be duplicated or changed under current federal law. They include:

- A nighttime field use fee to help discourage activity between 11 p.m. and 7 a.m.
- A restriction on scheduled commercial air carrier service to aircraft with no more than 60 seats.
- Restrictions on touch-and-go activity by weight of aircraft and time of day. Touch-and-Go's are aircraft operations conducted to practice landing and departing techniques.
- Limitations on Auxiliary Power Unit (APU) and Ground Power Unit (GPU) use.

Although Massport began supporting the use of the National Business Aviation Association's (NBAA's) noise abatement procedures for jet aircraft in the mid-1980s, the Fly Friendly program at Hanscom provided an opportunity to broaden such efforts. Massport expanded its support of quiet arrival and departure techniques by publicizing the Aircraft Owners and Pilot Association's (AOPA's) noise abatement procedures for piston aircraft and by developing and publicizing quiet flying procedures for helicopters. Part of this effort included the development of a multi-faceted publicity program that results in pilots being exposed and re-exposed to the importance and understanding of the quiet-flying techniques, as follows:

- Inserts for pilot manuals outlining the procedures are distributed at the FBOs, the flight schools, and in Massport's Hanscom offices.
- Framed posters describing noise abatement procedures are located in the flight schools' offices, Massport's offices, and the fixed base operators' facilities.
- Videos describing the techniques for both jet and piston aircraft are incorporated into the training required to qualify for a Hanscom security badge.
- Descriptions of these quiet flying procedures are posted on Massport's website.
- Signage on the airfield provides a last minute reminder to departing pilots to use quiet flying techniques.
- Signage on the airport reminds pilots to limit their use of APUs and GPUs.

In late 2009, Massport staff began using flight track data created by the new noise monitoring system to identify potential opportunities for reducing touch-and-go traffic over the Hartwell Tavern area in the Minute Man National Historical Park. Massport also initiated communications with the FAA and the Hanscom flight schools to identify practical recommendations and help create an implementation program. By working together, touch-and-go patterns for each runway were devised to safely increase the number of flights that fly over the airport, which inherently minimizes aircraft noise for the park's visitors. An aggressive publicity program was implemented, including the display of framed posters, mailings, and meetings with pilots and flight instructors, as well as local press coverage. Massport staff has since continued to work with local pilots and the FAA to reduce the number of flights over the MMNHP. Flight track data is reported quarterly. Results of the touch and go program are shared with pilots, certified flight instructors, the FAA and MMNHP staff. Massport also communicates MMNHP special events to local pilots

and encourages the flying community to review Hanscom's Fly Friendly recommendations. The result is an average of 21% fewer flights over the Park since the inception of the program in 2009.

In 2017: Massport will continue to track and share touch and go data as well as continue proactive outreach efforts to maintain the success of the program.

3. **Sound Initiative:** The Airport Noise and Capacity Act of 1990 required the phase out of noisier Stage 1 and 2 aircraft[1] weighing over 75,000 pounds. In 2005, Massport joined Sound Initiative, a coalition that was formed to encourage the extension the 1990 Airport Noise and Capacity Act to phase out Stage 1 and 2 aircraft weighing 75,000 pounds or less that were exempt from the original Act. The effort was promoted by a group of airport managers and neighbors at corporate airports where older aircraft accounted for an inordinate number of noise complaints. In 2012, Congress passed the FAA Modernization and Reform Act, which included the phase out of all non-stage 3 aircraft by December 31, 2015. Section 506 of the Act prohibits the operation, within the 48 contiguous states, of jets weighing 75,000 pounds or less that do not comply with Stage 3 noise levels.

4. **Noise Monitoring System:** To facilitate the understanding of noise impacts on the communities neighboring Hanscom, Massport installed a noise monitoring system at Hanscom in the early 1990s. The system includes six microphones—one off each of the runway ends in each of the four contiguous towns and two others on the airfield at the ends of Runway 11/29. Data from the system are shared with the communities on a monthly basis.

5. **Airport Activity Monitor:** Massport staff worked with ITT - Exelis to implement a user-friendly, interactive website that can be used to research a noise event or flight, log a noise disturbance, and track correspondence related to a logged noise disturbance. The "Airport Activity Monitor" was launched in December 2012 on the Massport website. In 2013, Massport signed a new 5 year agreement with ITT – Exelis to continue use of the Noise Monitoring System and the Airport Activity Monitor website. ITT – Exelis also provides Noise and Operations Monitoring System (NOMS) coverage to Logan Airport, which has switched from Multi-Lateration (MLAT) coverage to NextGen data feeds. In 2015, Massport and ITT – Exelis continued to optimize the MLAT system and re-calibrated to perform for Hanscom activity alone. Exelis also began upgrading the current Airport Activity Monitor website to the new "PublicVue Portal" product, which will contain all the current options that exist on Airport Activity Monitor. In addition, it will run more efficiently on a number of different browsers and electronic devices, enable users to filter arrivals or departures and see more detailed flight information on upgraded maps and graphics. ITT-Exelis was purchased by Harris Corporation in 2015, however, the product provided remained the same, with upgrade plans moving forward as expected.

   In 2016: Massport and Harris completed testing of the new PublicVue Portal product and released it for public use. The software is more easily adapted for use across multiple platforms and devices.

   In 2017: Massport will continue its relationship with Harris and continue to support the new PublicVue Portal product.

[1] Stage 1 and 2 aircraft were manufactured before today's stringent noise standards were adopted for new airplanes. The use of Stage 1 and 2 aircraft weighing over 75,000 pounds was phased out nationally by 2000, but most of Hanscom's jets weigh less than 75,000 pounds.

6. **Community Contributions:** Massport's Charitable Contribution, Scholarship, Summer Internship and Community Summer Jobs Programs benefit organizations located in communities that host its facilities. The organizations serve a diverse constituency and a variety of worthwhile purposes.

   In 2016: Massport contributed over $7,000 to educational, scholarship, and youth programs in the Hanscom area. Additionally, Massport provided approximately $6,400 to sponsor summer internship positions at various municipal departments in the four Hanscom towns and over $13,000 for the salaries of local college students that worked directly for Massport.

SECTION V – CAPITAL PROJECTS FOR FY17 THROUGH FY21

Each year, capital projects for Hanscom Field are evaluated for funding. Table 3 outlines the projects that have been identified for FY17 through FY21. The list does not include projects that have already been completed in FY17. Most of the projects focus on safety, security and maintenance. Estimated project costs are included.

The capital programs list is fluid and is adjusted periodically. Circumstances may change the year in which a project is started or completed, the estimated amount to be expended, or whether a project is ultimately implemented.

TABLE 3
Hanscom Field FY17 to FY21 Capital Projects

PROJECTS - Funded and Proposed	Current Funding Years	Cost FY17 - FY21 (in 000s)
Replace CAT Drainage	FY16-FY17	$150
ARFF & CBP Facility	FY16-FY19	$12,000
Replace Electrical Infrastructure	FY16-FY19	$1,000
Replace Hangars 1-3 Electrical Distribution System	FY17	$325
Runway Geometry Study	FY17	$100
Replace T-Hangar Rows A-C	FY17-18	$1,500
Replace Airfield Lighting Control System	FY17-FY18	$400
Replace Salt Storage Enclosure	FY17-FY18	$750
Runway 11/29 Mill and Overlay	FY17-FY19	$12,250
Replace Fire Protection Infrastructure	FY17-FY20	$7,800
Replace Airfield Snow Equipment	FY17-FY21	$2,900
Renovate IT Data Center Room	FY19	$300
Rehabilitate Taxiway Romeo	FY19-FY20	$3,700
East Ramp Joint Repair	FY20-FY21	$2,500
	TOTAL	**$45,675**