Overview

- Massachusetts airports support approximately 199,200 jobs and $24.7 billion in output
- Employment and output have grown 23 percent and 49 percent, respectively, since the 2014 study
- Aviation helps to facilitate intrastate, national, and international travel and commerce
- Aviation is a critical catalyst for local and regional economies
- By investing in Massachusetts’ airports, the significant economic contributions identified in this study will continue to expand
Study Approach

- Quantified the economic contribution of 39 public-use airports
- 10-month study, began April 2018
- Used FAA-approved methodology
- Included extensive survey effort
- Conducted targeted analyses
  - Airport stories
  - Tax impacts
  - Case studies
    - Unmanned Aircraft Systems (UAS)
    - Airport-business synergies
Overall Importance of Aviation in Massachusetts

- Helps to sustain, lead, and diversify the Commonwealth’s economy
- Contributes to the quality of life for Massachusetts’ businesses, residents, and visitors
- Provides connectivity to worldwide markets and destinations
- Supports the Commonwealth’s rapidly expanding business community and world-renowned tourist destinations
Total Massachusetts Economic Impacts

- **199,237 Jobs**
  - Employment

- **$7.2 Billion**
  - Payroll

- **$24.7 Billion**
  - Economic Output

3/19/2019
Tax Impact of Public-Use Airports in MA

- Visitor Sales Taxes: $614.0 Million (61%)
- Airport Tenant Sales Taxes: $109.0 Million (11%)
- Fuel Taxes: $19.5 Million (2%)
- Employee Sales Taxes: $55.9 Million (5%)
- Income Taxes: $209.7 Million (21%)

Total Tax Revenue: $1 Billion
Categories of Economic Impact

- Airport Businesses
- Government Agencies
- Capital Improvement Impacts
- Military Aviation
- Visitors
Commercial Service Visitor Impacts Example

Martha’s Vineyard Airport (MVY)

70% of enplanements were visitors in 2017

49,767 enplanements \times 70\% \text{ visitors} = 34,840 \text{ annual visitors}

34,840 \text{ annual visitors} \times \$1,240/\text{visitor/trip} = \$43.2 \text{ million in annual expenditures}
## Boston Logan International Airport
### Total Economic Impacts

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2017</th>
<th>Percent Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Employment</td>
<td>131,991</td>
<td>162,266</td>
<td>23%</td>
</tr>
<tr>
<td>Total Payroll</td>
<td>$4.3 Billion</td>
<td>$6.0 Billion</td>
<td>39%</td>
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<tr>
<td>Total Output</td>
<td>$13.4 Billion</td>
<td>$16.3 Billion</td>
<td>22%</td>
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</table>
Economic Impact of Massport Airports

$23.1 Billion
TOTAL ECONOMIC IMPACT
Total Statewide Economic Impacts

<table>
<thead>
<tr>
<th>Airports</th>
<th>Total Employment</th>
<th>Total Payroll</th>
<th>Total Output</th>
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<tbody>
<tr>
<td>MassDOT-Supported Airports</td>
<td>16,797</td>
<td>$711,142,000</td>
<td>$1,561,351,000</td>
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<tr>
<td>Massport Airports</td>
<td>182,440</td>
<td>$6,532,027,000</td>
<td>$23,131,234,000</td>
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<tr>
<td>All Airports Total</td>
<td>199,237</td>
<td>$7,243,169,000</td>
<td>$24,692,585,000</td>
</tr>
</tbody>
</table>

Note: Total impacts include on-airport, military, visitor-related, capital improvement projects, and all associated multiplier impacts.
## Total Statewide Economic Impacts
Comparison of 2019 and 2014 Studies

<table>
<thead>
<tr>
<th>Airports</th>
<th>2019 Study</th>
<th></th>
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<td>$24.7 Billion</td>
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</table>

<table>
<thead>
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<th>2014 Study</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Total Employment</td>
<td>Total Payroll</td>
<td>Total Output</td>
<td></td>
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<tr>
<td>MassDOT-Supported Airports</td>
<td>17,552</td>
<td>$626.3 Million</td>
<td>$1.5 Billion</td>
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<td>Massport Airports</td>
<td>144,704</td>
<td>$5.5 Billion</td>
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<td>All Airports Total</td>
<td>162,256</td>
<td>$6.1 Billion</td>
<td>$16.5 Billion</td>
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<tr>
<td>All Airports Total - Percent Growth</td>
<td>23%</td>
<td>19%</td>
<td>49%</td>
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</tbody>
</table>
Airport Stories

- Westfield-Barnes – Public Private Partnerships Stimulate Workforce Development:
  - Recognizing workforce development challenges, the City of Westfield and Westfield Technical Academy (WTA) set out to establish an FAA-approved Aircraft Maintenance Technician (AMT) Program for high school students.
  - WTA achieved the rigorous FAA Part-147 AMT certification (which stands as one of only three high schools in the country) offering the curriculum with the aid of Gulfstream and Bombardier.
  - AMT students who pass their FAA exams can begin their careers upon graduation as highly skilled aircraft mechanics or apply those skills to continuing education. The first AMT class is set to graduate in June 2019.
Case Study
Unmanned Aircraft Systems (UAS)

UAS Regulatory Environment

- 14 CFR Part 107 – Expanded FAA’s governing of NAS to include UAS activity for drones weighing between 0.55 pounds and 55 pounds
- Section 333 Certificate of Waiver or Authorization
- FAA Reauthorization Act of 2018 – Repealed the Special Rule for Model Aircraft
- Where and When to Fly
  - Know Before You Fly
  - No Drone Zone
Case Study
Unmanned Aircraft Systems (UAS), Cont.

Common Uses for UAS

- **Research**
  - Aerial 3D Mapping
  - Remote Site Research
  - Aerial Photography
  - Storm Research
  - Volcanic Research
  - Wildlife Monitoring

- **Aerial Inspections**
  - Transportation Infrastructure
  - Airport Pavement
  - Pipelines
  - Power Lines
  - Asset Monitoring
  - Real Estate

- **Communications & Media**
  - Broadcasting
  - Filmmaking
  - News Reporting

- **Security**
  - Border Patrol
  - Event Security
  - Port Security
  - Crowd Control

- **Emergency & Law Enforcement**
  - Firefighting
  - Flood Monitoring
  - Pollution Monitoring
  - HAZMAT Detection
  - Search & Rescue
  - Damage Assessment
  - Forensic Photography
  - Accident Response

- **Industry & Agriculture**
  - Precision Agriculture
  - Cargo Handling
  - Crop Dusting
  - Construction
  - Stockpile Volume Measurements
Case Study
Unmanned Aircraft Systems (UAS), Cont.

UAS in Massachusetts

- Massachusetts at the forefront of UAS innovation
- Drone Pilot Program – initiated by MassDOT
  - Test and improve UAS use for MassDOT operations (e.g., inspections, traffic studies, and emergency response)
  - Supported by research and coordination between 17 entities (e.g., MassDOT Aeronautics, Massport, FAA, and Umass Amherst)
  - Best management practices and lessons learned – share with other state agencies
- Commonwealth UAS Integration Program (CUIP)
  - Led by MassDOT Aeronautics
  - Focused on making Massachusetts a center of leadership and innovation in the future of UAS
  - Broader collection of organizations – government, industry companies, academia, community development organizations, and funders
Case Study
Business – Airport Synergies

- Minute Man Airfield – Community partner and asset
  - State investment for infrastructure prompted tenants and private sector to invest monies that have brought in more tenants and funded new and renovated hangar facilities.
  - Airport tenants include the National Aviation Academy – offering FAA approved AMT training to over 100 students and Nancy’s Airfield Café which offers acclaimed “farm to table” dining.
Questions?

Thank You!
Backups
Measures of Economic Impact

- Employment
- Payroll
- Output
Direct On-Airport Impacts

- On-airport businesses and government agencies
  - Aviation – FBOs, flight schools, airlines, charter operators, corporate flight departments, etc.
  - Concessions – Restaurants, retail, rental car, etc.
  - Government – Airport sponsors, FAA, TSA, etc.

- Capital improvement projects (CIP)
  - FAA, MassDOT, Massport, and local investment
  - CIP impacts averaged for 2015-2017

- Military air facilities
  - Hanscom AFB, Westover ARB, Barnes ANGB, Joint Base Cape Cod
Direct Visitor Impacts

- Impacts generated off-airport by commercial service and general aviation visitor spending
- Visitor spending = annual output
  - $1 million in visitor spending supports 12-15 jobs
  - Jobs supported by visitor spending are primarily in the hospitality industry (e.g., restaurants, hotels, retail stores, etc.)
General Aviation Visitor Impacts Example

Lawrence Municipal Airport (LWM)

37,291 total aircraft operations at LWM in 2017

21,911 itinerant operations ÷ 2 = 10,956 itinerant arrivals

10,956 itinerant arrivals x 33% = 3,615 true transient arrivals

3,615 true transient arrivals x 2.5 persons per aircraft = 9,038 annual visitors

9,038 annual visitors x $330/person/trip = $3.0 million annual visitor expenditures (output)
General Aviation Visitor-Supported Jobs Example

Lawrence Municipal Airport (LWM)

$3.0 million in visitor expenditures

IMPLAN multipliers: $1.0 million = 15.1 jobs

$3.0 million \times 15.1\text{ jobs} / $1.0 million = 45 visitor-supported jobs

Average Massachusetts hospitality industry salary = $27,500

45 visitor-supported jobs \times $27,500 = $1.2 million visitor-supported payroll
Multiplier Impacts

- Massachusetts-specific IMPLAN multipliers used to measure economic cycle that starts with airports/visitors
  - Induced: re-circulation of employee payroll
  - Indirect: re-circulation of local expenditures by on-airport business/government tenants
- Used same multipliers as 2014 study
Aviation Expenditures Ripple Through the Economy

John  
Cape Air Employee

Sarah  
Child Care Provider

Sam  
Grocer

Bob  
Pharmacy

Betty  
Music Lessons

Joan  
Physician

Greg  
Hardware Store
Airport Stories, Cont.

- Provincetown Municipal Airport – Whale watching aircraft tracking migration patterns
- Laurence G. Hanscom Field – Professional and college sporting events aircraft charters
- Turners Falls Airport – Partnership with Franklin Technical Academy
Case Study
Business – Airport Synergies, Cont.

- Marshfield Municipal Airport-George Harlow Field – Partnership with public safety agencies on local, state, and federal levels

- Southbridge Municipal Airport – Hyde Tools, Inc. based on-airport and facilitates airport by purchasing airfield equipment and performing maintenance activities
Airport Economic Impact Videos

- **Video I**
  - General overview
  - Plymouth’s 400th anniversary and importance of Plymouth Municipal Airport as a gateway for tourism
  - Westfield-Barnes Regional Airport/Gulfstream/City partnerships
  - UAS use and benefits

- **Video II**
  - Aviation and workforce development

- **Video III**
  - Aviation and State partnerships