

Vermont Airport System Plan Update

Plan Update Overview & Process

COSTA PAPPIS, POLICY & PLANNING SECTION

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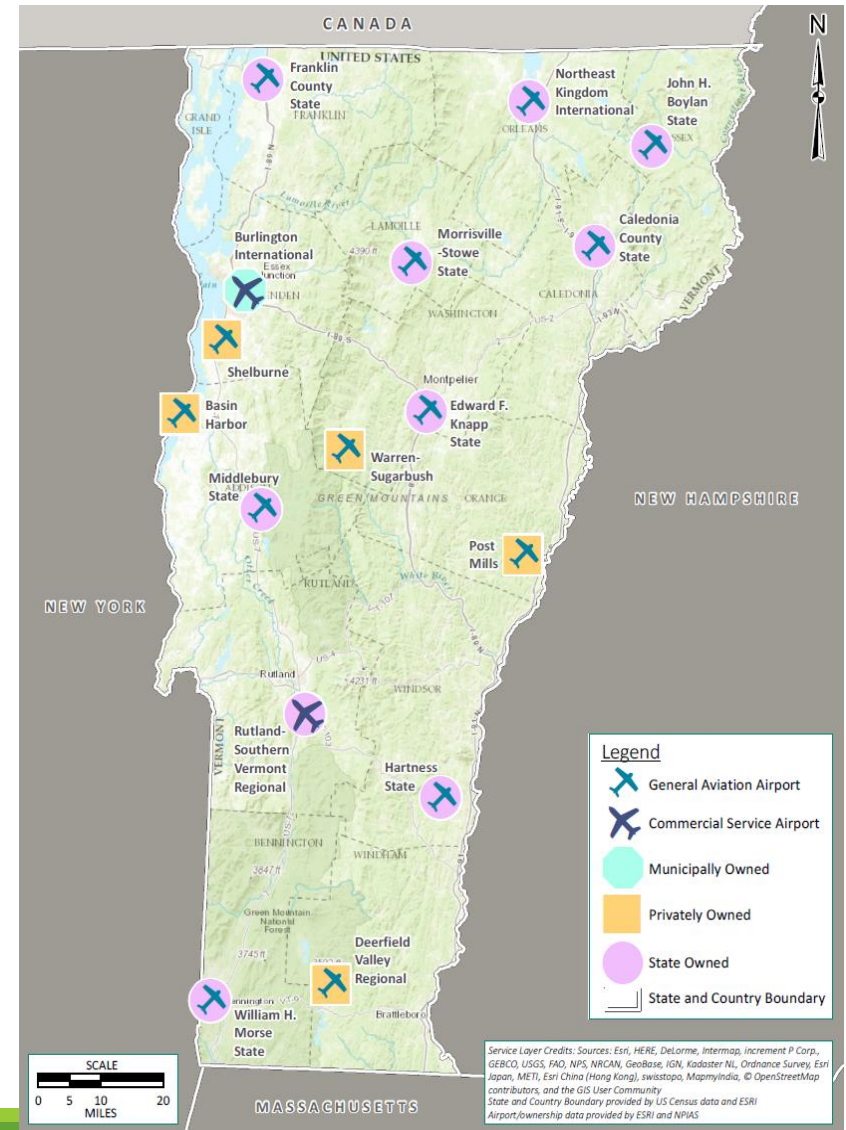
What is the Aviation System Plan?

A long-range 20-year plan to manage the development and operations of Vermont's public-use airports



16 Airports in Vermont are classified as public-use:

- 10 state-owned
- 1 municipal
- 5 private



Why Do We Need this Plan?

- To meet federal aviation requirements. States must maintain a Plan to be eligible for certain types of aviation funding.
- The current Plan is over 10 years old and may no longer reflect current system needs and priorities.



How Will We Develop the Plan?

- Evaluate the adequacy and performance of the State's public use airports
- Develop a vision
- Assess needs
- Develop goals and recommendations to support airport development

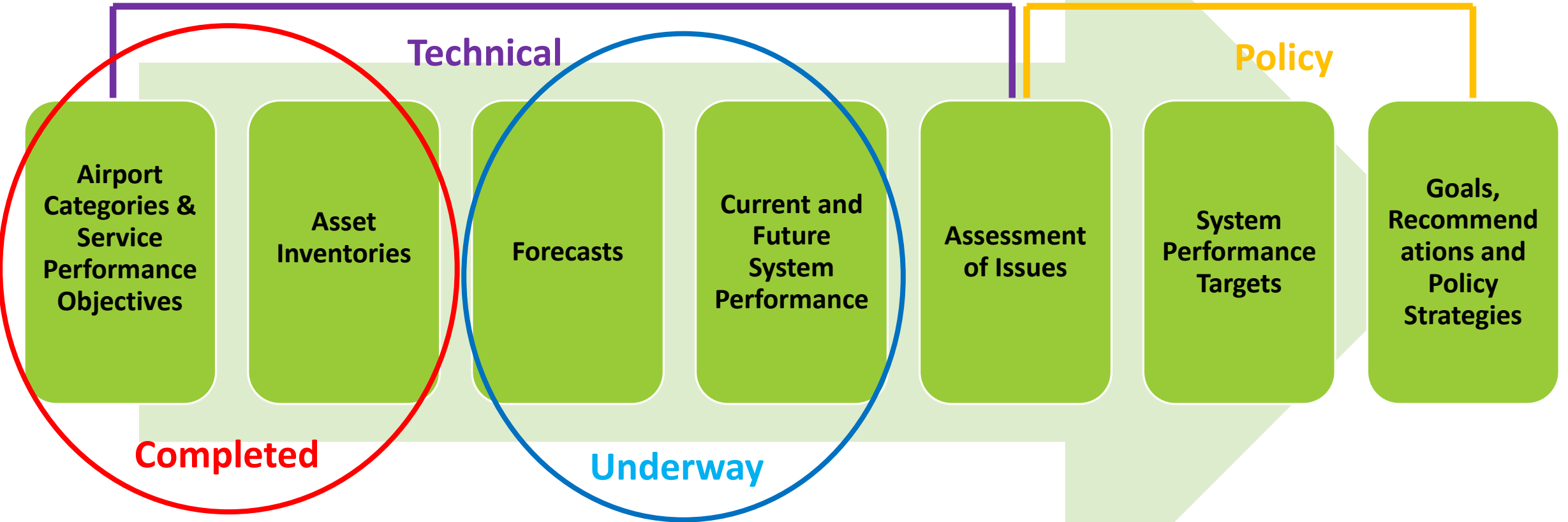


- Aviation Advisory Council
- FBOs / stakeholders
- Public comments

What's Changed Since 2007

- Federal aviation policies and funding
- New FAA standards and guidelines, including updated Advisory Circular on systems planning
- Rapidly evolving aviation technology
- Updated State Long Range Transportation Plan

Plan Development Process



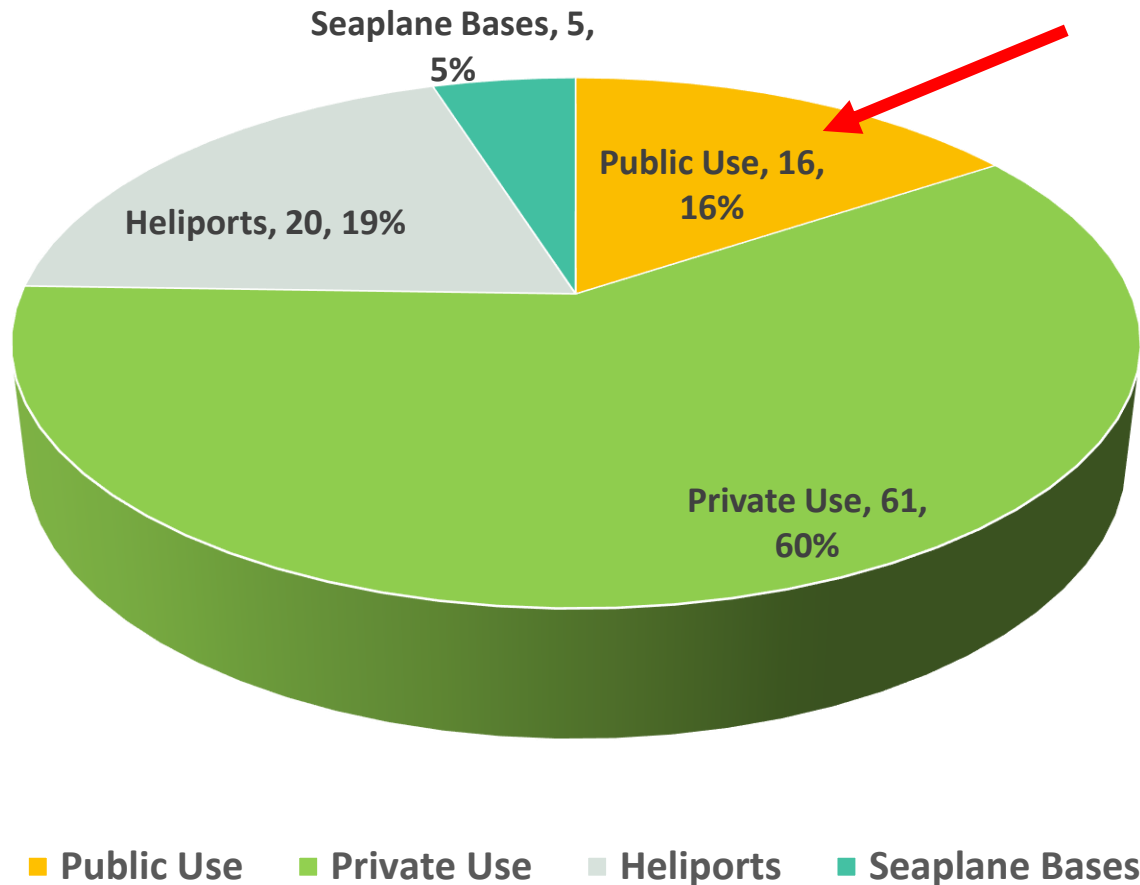
H.620 Marketing of State Airports

Requires that the Agency of Commerce and Community Development:

1. Update the State's Economic Development Marketing Plan to incorporate the marketing of State-owned airports.
 - A. shall consider the State Aviation Systems Plan
 - B. shall address economic development opportunities with respect to each State-owned airport, including the recruitment and expansion of businesses involved in the development and commercialization of next-generation aeronautics technologies
2. Evaluate the feasibility of:
 - A. the installation of electric vehicle charging stations at the airport;
 - B. the installation of electric aircraft charging stations at the airport; and
 - C. the siting of one or more renewable energy generating plants at the airports.

Vermont Airports Profile

Total Airports, Airstrips & Air Bases in Vermont



Economic Impact of Vermont's Public-Use Airports Study (currently underway)

- Will update the 2003 Economic Impact Study:
 - Quantify direct, indirect, and induced jobs and wages.
 - Determine what economic sectors are represented among on-airport businesses.

Middlebury State Airport



Recent Improvements

- Full runway reconstruction
- 700 ft runway extension
- New parallel taxiway

Identified Needs

- Terminal building
- Hangar development
- Investigate navigational aids

Airport Operations (2017)

| Airport Name | Air Carrier | Air Taxi | GA Local | GA Itinerant | Military | Total |
|-------------------------------------|---------------|---------------|----------------|---------------|---------------|----------------|
| Basin Harbor | - | - | - | 2,120 | 62 | 2,182 |
| Burlington International | 12,972 | 12,131 | 19,720 | 19,736 | 6,241 | 70,800 |
| Caledonia County State | - | - | 5,800 | 1,280 | 300 | 7,380 |
| Deerfield Valley Regional | - | - | 1,800 | 1,300 | - | 3,100 |
| Edward F. Knapp State | - | 625 | 14,500 | 8,000 | 1,000 | 24,125 |
| Franklin County State | - | - | 5,780 | 2,815 | 1,500 | 10,095 |
| Hartness State | - | 222 | 3,752 | 2,487 | 150 | 6,611 |
| John H Boylan State | - | - | 127 | 264 | 12 | 403 |
| Middlebury State | - | - | 7,200 | 2,900 | 800 | 10,900 |
| Morrisville- Stowe State | - | 127 | 5,023 | 954 | 254 | 6,358 |
| Northeast Kingdom International | - | - | 7,234 | 1,980 | 238 | 9,452 |
| Post Mills | - | 10 | 2,920 | 1,400 | - | 4,330 |
| Rutland - Southern Vermont Regional | - | 1,104 | 6,187 | 5,061 | 30 | 12,382 |
| Shelburne | - | - | 3,820 | 416 | - | 4,236 |
| Warren-Sugarbush | - | - | 16,520 | 1,100 | - | 17,620 |
| William H. Morse State | - | - | 5,625 | 8,627 | 125 | 14,377 |
| Total | 12,972 | 14,219 | 106,008 | 60,440 | 10,712 | 204,351 |

Runway, Taxiway Facilities & Approach Facilities

| Airport Name | Primary Runway | | Runway Lighting | Taxiway Type / Lighting (Type/N) | Best Approach |
|-------------------------------------|----------------|-------|-----------------|----------------------------------|---------------|
| | Length | Width | | | |
| Basin Harbor | 3,000 | 90 | N/A | N / N | Visual |
| Burlington International | 8,319 | 150 | HIGH / ALS | Full Parallel (Dual) / MITL | Precision |
| Caledonia County State | 3,300 | 60 | MED / REIL | Partial, Stubs / N | Non-Precision |
| Deerfield Valley Regional | 2,650 | 75 | MED | Stubs / N | Visual |
| Edward F. Knapp State | 5,002 | 100 | MED / REIL | Full Parallel / | Precision |
| Franklin County State | 3,000 | 60 | MED / REIL | Partial, Stubs, Turnaround / N | Non-Precision |
| Hartness State | 5,501 | 100 | MED / REIL | Stubs, Turnaround / N | Non-Precision |
| John H Boylan State | 2,650 | 120 | N/A | N / N | Visual |
| Middlebury State | 2,500 | 50 | N/A | Full Parallel / N | Visual |
| Morrisville- Stowe State | 3,700 | 75 | MED / REIL | Turnaround / N | Non-Precision |
| Northeast Kingdom International | 5,000 | 100 | MED / REIL | Partial, Turnaround / N | Non-Precision |
| Post Mills | 2,900 | 80 | N/A | N / N | Visual |
| Rutland - Southern Vermont Regional | 5,003 | 100 | MED / REIL | Partial / MITL | Precision |
| Shelburne | 3,077 | 60 | N/A | N / N | Visual |
| Warren-Sugarbush | 2,575 | 30 | N/A | Turnaround / N | Visual |
| William H. Morse State | 3,704 | 75 | MED / REIL | Stubs / N | Non-Precision |

Based Aircraft by Type

| Airport Name | Single Engine | Multi-Engine | Jet | Helo | Other | Military | Total |
|---|---------------|--------------|-----------|-----------|-----------|-----------|------------|
| Basin Harbor | - | - | - | - | - | - | 0 |
| Burlington International | 62 | 3 | 14 | 1 | - | 28 | 79 |
| Caledonia County State | 18 | - | - | - | - | - | 18 |
| Deerfield Valley Regional | 5 | 2 | - | 7 | - | - | 7 |
| Edward F. Knapp State | 50 | 2 | - | 1 | - | - | 52 |
| Franklin County State | 68 | 1 | - | - | 5 | - | 69 |
| Hartness State | 19 | - | - | - | 8 | - | 19 |
| John H Boylan State | 3 | - | - | - | 2 | - | 3 |
| Middlebury State | 32 | 1 | 1 | 1 | 1 | - | 34 |
| Morrisville- Stowe State | 18 | 1 | - | - | 8 | - | 19 |
| Northeast Kingdom International | 19 | 1 | - | - | - | - | 20 |
| Post Mills | - | - | - | - | 9 | - | 0 |
| Rutland - Southern Vermont Regional | 29 | - | - | - | 1 | - | 29 |
| Shelburne | 53 | - | - | - | 4 | - | 53 |
| Warren-Sugarbush | - | - | - | - | 50 | - | 0 |
| William H. Morse State | 23 | 2 | - | 1 | 6 | - | 25 |
| Total – VTSASP Airports | 399 | 13 | 15 | 11 | 94 | 28 | 427 |
| Additional – Non-VTSASP Airports | - | - | - | - | - | - | 68 |

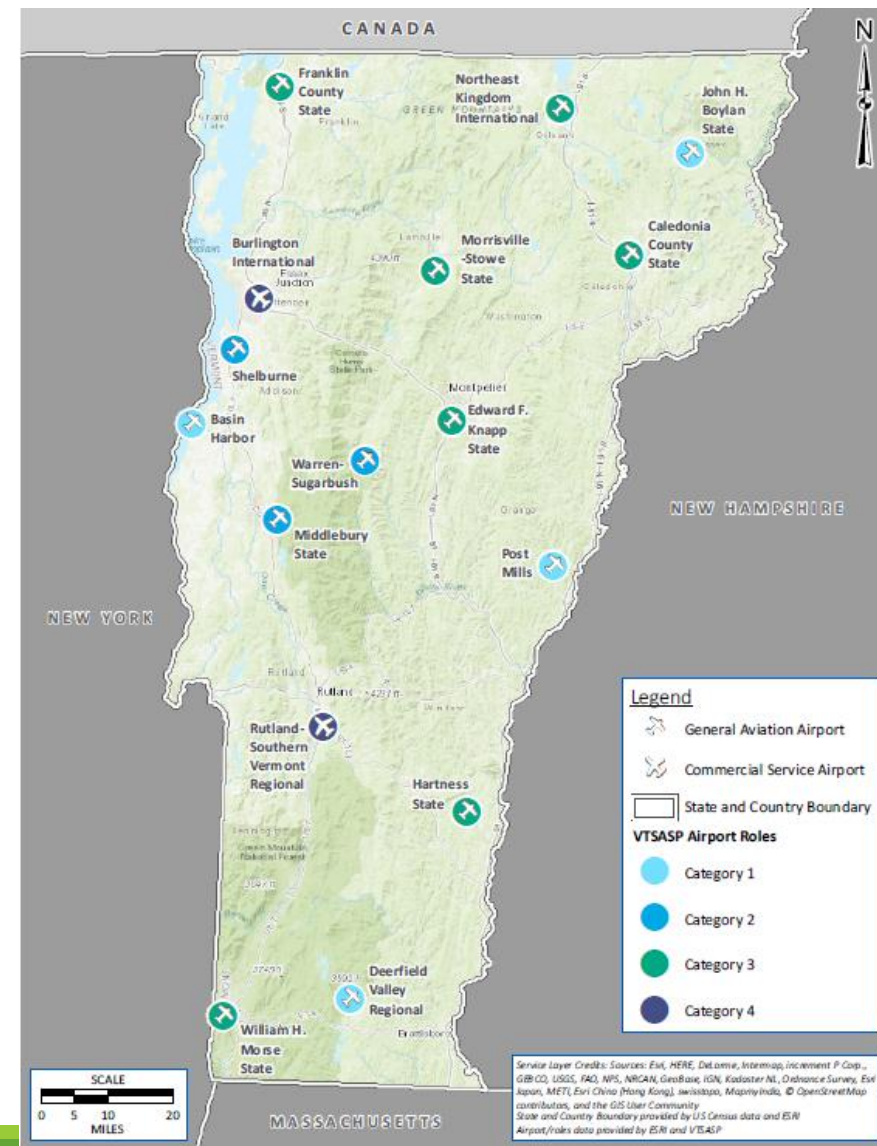
Airport Categories

Category 1 Airports - provide a *basic level of facilities and services* that are best suited to serve single engine piston and light twin engine aircraft.

Category 2 Airports: Category 2 Airports are facilities that *offer a higher level of facilities and services* than Category 1 Airports. Typically have equipment that enhances safety of use during inclement weather, and complimentary facilities and services that may be able to accommodate smaller jet aircraft during favorable conditions.

Category 3 Airports - can *accommodate jet activity* during a broader range of weather conditions, and serve as regional gateways for activities such as corporate aviation, charter services and small cargo-feeder operations.

Category 4 Airports - Facilities with *the most robust compliment of facilities, equipment, and services* that can accommodate the full-range of aircraft in the active fleet – from small, single engine piston aircraft to passenger aircraft and airlines that operate them.



Proposed Facility & Service Standards by Airport Categories: Consultant Recommendations

Category 1

| Minimum Facility & Service Standard | Recommended Facilities & Services |
|---|--|
| Primary Runway Length ($\leq 2,500'$) - Paved or Turf | Primary Runway ($\geq 4,000'$) - Paved |
| Part-Time Airport Manager on Site (Seasonal OK) | Full-Time Airport Manager on Site (Seasonal OK) |
| Mogas or 100LL Fuel on Site | 100LL Self-Service Aviation Fuel on Site |
| Basic Terminal Building/Shelter | Part-time Operations Staff on Site or Contracted |
| | Single-Service SASO or Full-service FBO on Site at Least Part-Time |
| | Lighted Windsock |
| | GPS Instrument Approach Procedure |

Proposed Facility & Service Standards by Airport Categories: Consultant Recommendations

Category 2

| Minimum Facility & Service Standard | Recommended Facilities & Services |
|--|--|
| Primary Runway (≥4,000') – Paved | Primary Runway (≥5,000') |
| 100LL Self-Service Aviation Fuel on Site | 100LL AND Jet-A Self-Service Aviation Fuel on Site |
| Full-Time Airport Manager on Site (Seasonal OK) | Full-Time Airport Manager on Site |
| Part-time Operations Staff on Site or Contracted | Full-Time Operations Staff on Site |
| Single-Service SASO or Full-service FBO on Site at Least Part-Time | One Full-Service FBO on Site Full-Time |
| Lighted Windsock | Runway and Taxiway Edge Lights |
| GPS Instrument Approach Procedure | GPS Instrument Approach Procedure with Vertical Guidance |
| | Terminal Building with Pilot and Visitor Amenities |
| | Own/Operate Snow-Removal Equipment |
| | Aircraft/Avionics Maintenance Services on Site |
| | Rotating Airport Beacon |

Proposed Facility & Service Standards by Airport Categories: Consultant Recommendations

Category 3

| Minimum Facility & Service Standard | Recommended Facilities & Services |
|--|--|
| Primary Runway (≥5,000') | On Site Concessions or Restaurant |
| Full-Time Airport Manager on Site | Precision Instrument Approach (ILS /CAT I) |
| Full-Time Operations Staff on Site | Rental Cars |
| Terminal Building with Pilot and Visitor Amenities | No recommended Facilities & Service Objectives related to Scheduled Passenger Service. |
| 100LL AND Jet-A Self-Service Aviation Fuel on Site | |
| One Full-Service FBO on Site Full-Time | |
| Runway and Taxiway Edge Lights | |
| Rotating Airport Beacon | |
| Own/Operate Snow-Removal Equipment | |
| Aircraft/Avionics Maintenance Services on Site | |
| GPS Instrument Approach Procedure with Vertical Guidance | |

Proposed Facility & Service Standards by Airport Categories: Consultant Recommendations

Category 4

| Minimum Facility & Service Standard | Recommended Facilities & Services |
|---|---|
| Terminal Building - Full-Time Passenger and/or Cargo Handling Capabilities (TSA, Customs, etc.) | <p>There are no recommended Facilities & Service Objectives for Category 4 Airports. Most appropriate for Airport Master Plans to address requirements based on passenger service demand.</p> |
| Scheduled Air Passenger/Cargo Service | |
| Intermodal Transportation Connections at/near Site | |
| On Site Concessions or Restaurant | |
| Airport Security Measures (SIDA, Badging, Staff etc.) | |
| Aircraft Rescue and Firefighting (ARFF) | |
| Precision Instrument Approach (ILS/CAT I) | |
| Aircraft/Avionics Maintenance Services on Site | |
| Rental Cars | |

Next Steps - Forecasts & Needs Identification

- What is a likely growth scenario for public-use airports?
- What types of facilities and services will airports require to meet current and future demand?
- What recommendations and strategies will we need to implement identified needs.

Next Steps - Policy Issues

Aviation's Integration with Other Transportation Modes

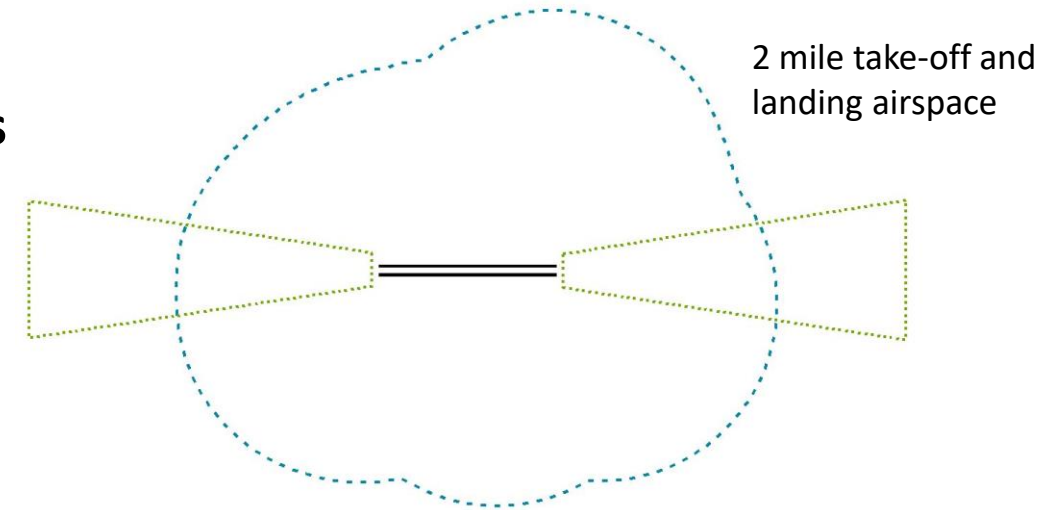
- Passenger connections and interlining
- Freight needs

Land Use-Built Environment Linkages

- Growth of airports and impacts to surrounding communities and environments
- Protecting airports from encroachment

Economic Development

- Economic impacts of airports on local and regional economies, and the state's economy.
- Airport development opportunities



What Comes Next? Policy Issues

Financial Sustainability

- Funding for aviation projects
- Private sector involvement in financing airport improvements

Project Prioritization

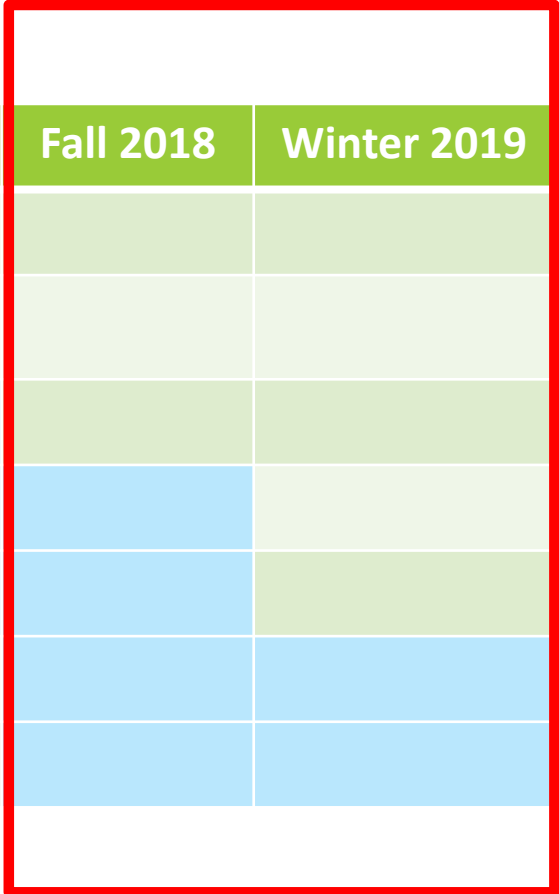
- Addressing FAA priorities and requirements with other priorities, such as economic development.

Technological Developments

- Preparing for evolving technologies such as Next Generation Aircraft System (NextGen)
- Support for emerging technologies

Plan Update Timeline

| Task | Spring 2018 | Summer 2018 | Fall 2018 | Winter 2019 |
|---|-------------|-------------|-----------|-------------|
| | | | | |
| Airport Categories & Service / Performance Objectives | | | | |
| Asset Inventories | | | | |
| Forecasts | | | | |
| Current & Future System Performance | | | | |
| Policy Issues Review | | | | |
| Goals, Recommendations, and Strategies | | | | |



Questions / Comments?

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Project website - <http://vtrans.vermont.gov/aviation/vermont-airport-system-plan>