

# Vermont Airport System Plan Update

## Plan Update Overview & Process

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COSTA PAPPIS, POLICY & PLANNING SECTION

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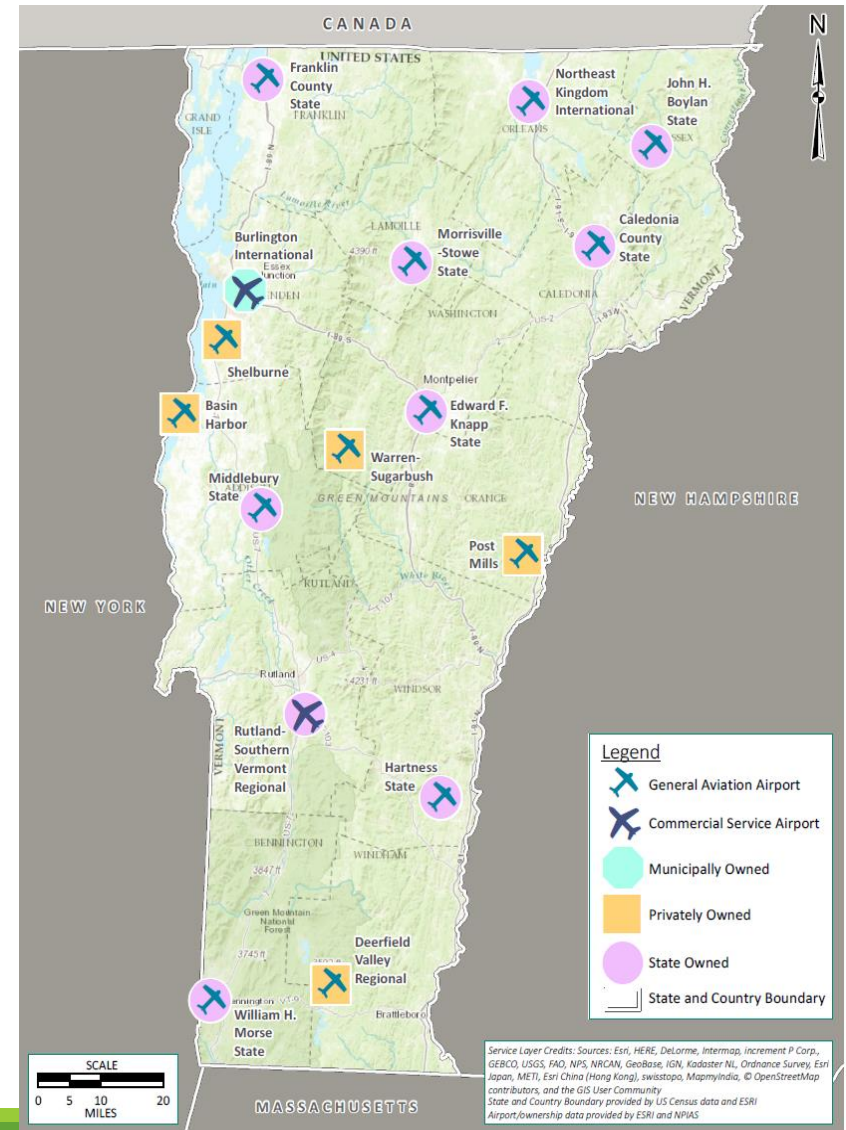
# What is the Aviation System Plan?

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

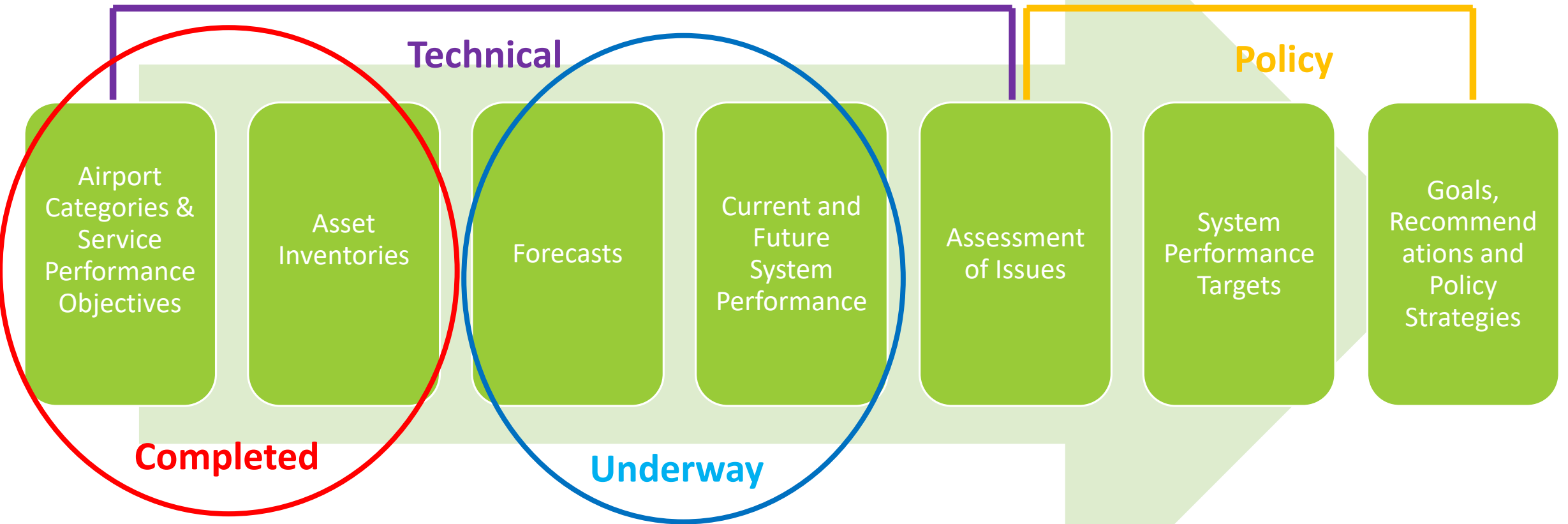


- Aviation Advisory Council
- FBOs / stakeholders
- Public comments

# 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



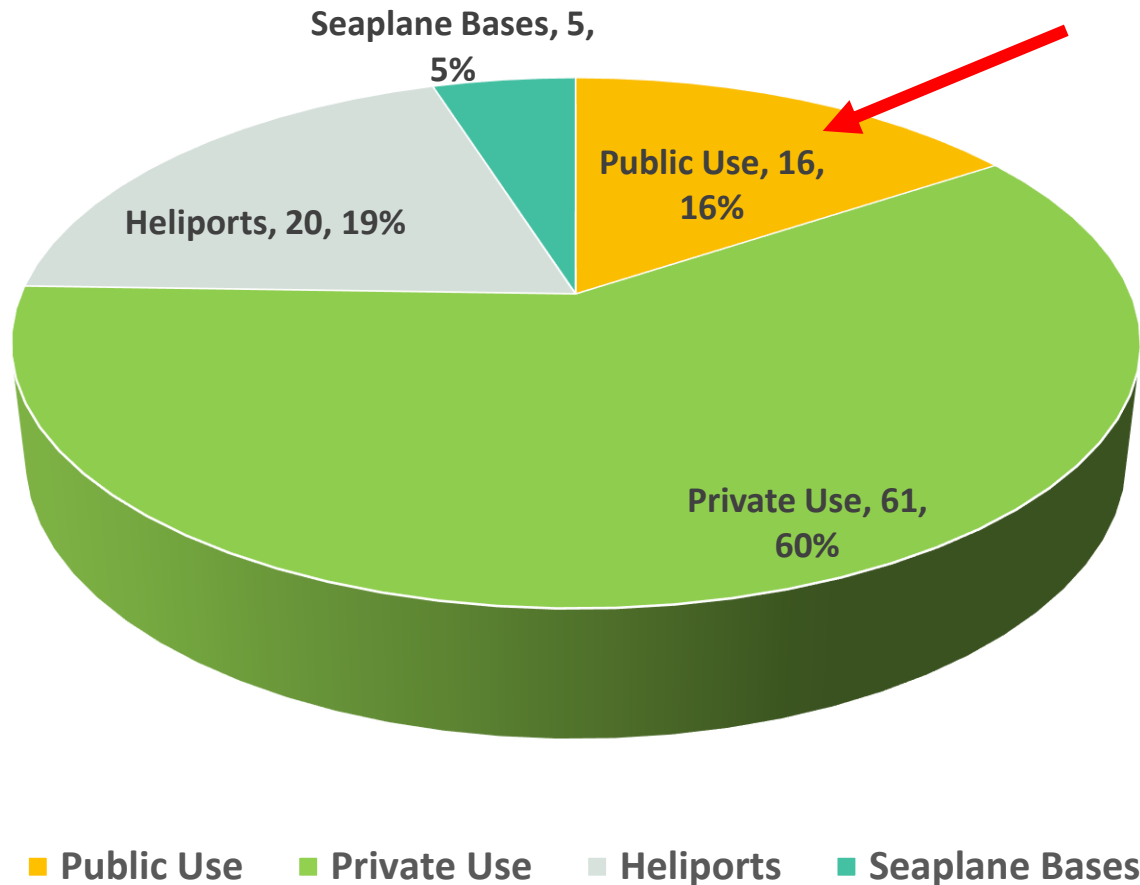
# H.620 Marketing of State Airports

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.



# Morrisville-Stowe State Airport



## Recent Improvements

- Repaved runway
- Design for safety project (250ft of buffer on each end)



## Identified Needs

- Terminal building
- Parallel taxiway
- Expanded apron
- New fuel farm

Source: Vermont Agency of Transportation

# 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         |
| <b>Total</b>                        | <b>12,972</b> | <b>14,219</b> | <b>106,008</b> | <b>60,440</b> | <b>10,712</b> | <b>204,351</b> |

# 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 <sup>1/</sup> |
|--|---------------|--------------|-----------|-----------|-----------|-----------|---------------------|
| 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                  |
| <b>Total – VTSASP Airports</b>                       | <b>399</b>    | <b>13</b>    | <b>15</b> | <b>11</b> | <b>94</b> | <b>28</b> | <b>427</b>          |
| <b>Additional – Non-VTSASP Airports<sup>2/</sup></b> | <b>-</b>      | <b>-</b>     | <b>-</b>  | <b>-</b>  | <b>-</b>  | <b>-</b>  | <b>68</b>           |

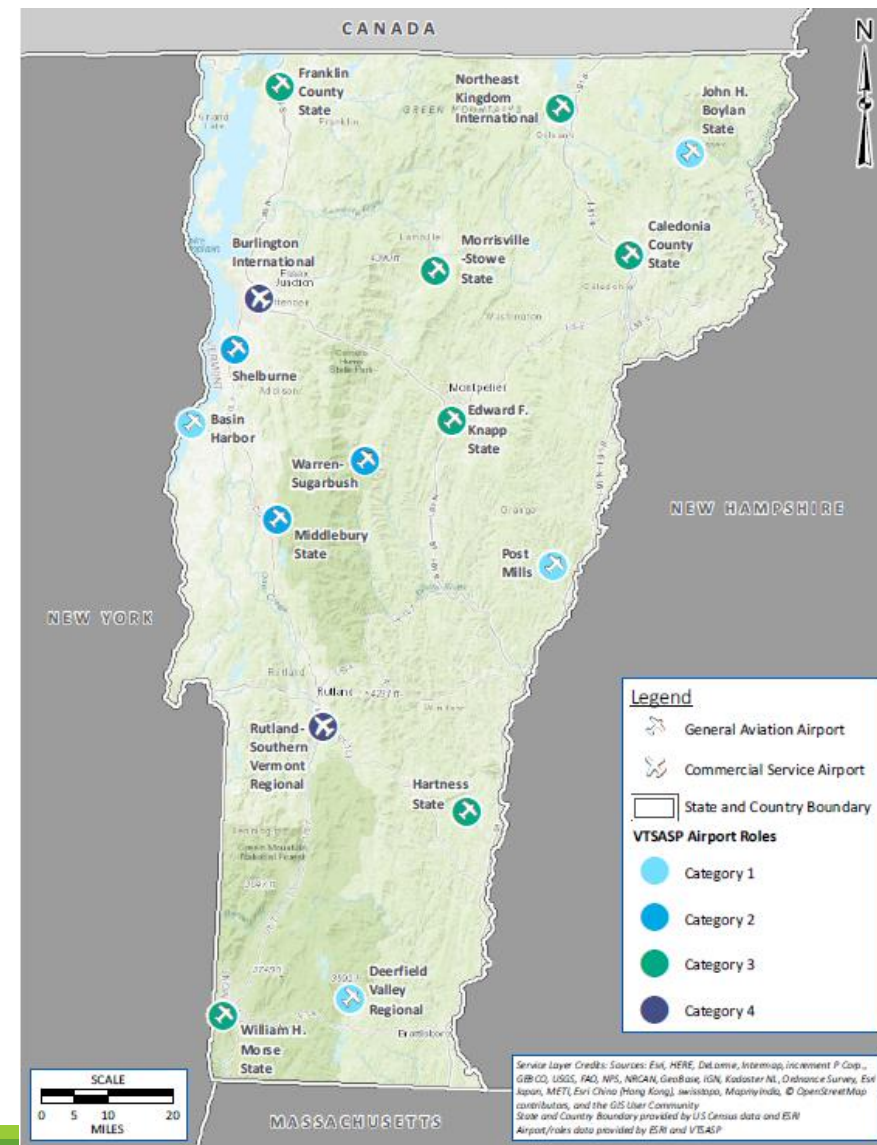
# Airport Categories

**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 &amp; 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

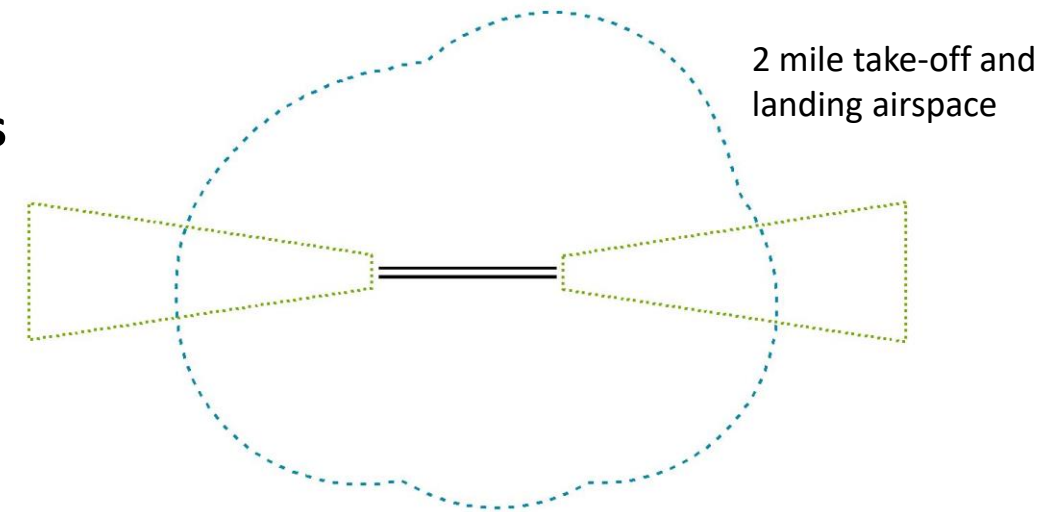
- Passenger connections and interlining
- Freight needs

## 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**

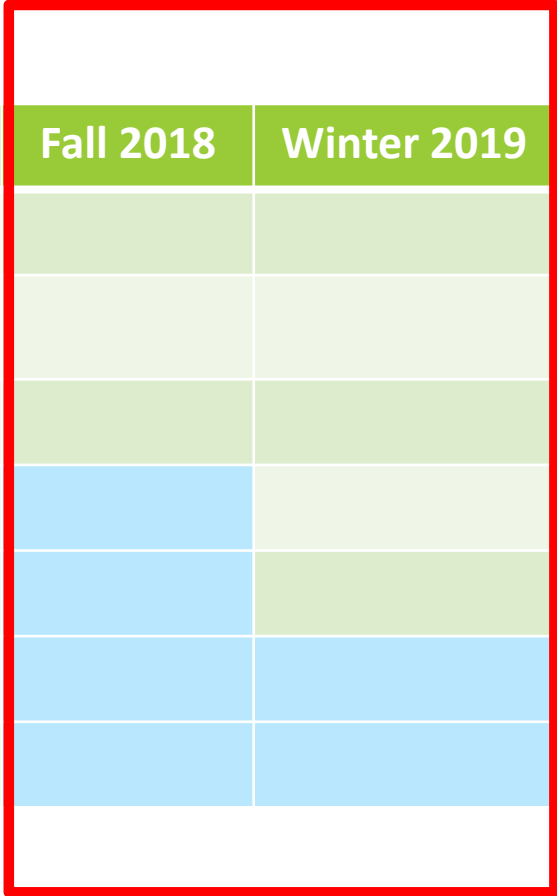
- Addressing FAA priorities and requirements with other priorities, such as economic development.

## **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?

## Contacts

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