

Chapter 6 - The State of the Airport System in Connecticut

6.1 Status of Connecticut's Airport System

This chapter discusses how the aviation system in Connecticut currently operates, as well as how the system would react to different scenarios that have the potential to burden Connecticut's system. While the effect of the projected increases in aviation demand have been made for individual airports; the aviation system operates as a whole and needs to be analyzed as such. Items reviewed include the ability of the airports in Connecticut to handle the projected commercial passenger enplanements and the system's ability to handle the projected number of based aircraft and aircraft operations. Also reviewed is the geographic coverage provided by public use airports in Connecticut.

As part of this analysis, different scenarios are considered to determine how they may affect the aviation system in Connecticut. These scenarios will look at a variety of topics, including: the closing of an airport, the cessation or dramatic increase of scheduled commercial service at a regional airport, changes in operating procedures at an airport and modifications to aviation policy.

6.1.1 Air Carrier Status

Forecasted projections indicate that the individual airports can handle the projected growth in the 20-year study term. The numbers of passengers that will flow through the terminals at Connecticut's commercial service airports are approximately double the numbers of enplanements expected for the study period. This means that Bradley International Airport (BDL) is expected to service 14.6 million passengers and Tweed-New Haven Regional Airport (HVN) is projected to handle 540,000 passengers in the year 2025.

As discussed in the Forecasts chapter in this plan, commercial service enplanement numbers are projected to increase during the study timeframe. This is especially true for BDL, the major air carrier in the State, as the levels of enplanements are expected to rise from 3.4 million in 2000 to 7.3 million in the year 2025. The State's Regional Airport offering commercial service, HVN, is projected to see enplanements increase from 40,660 to 269,000 in the year 2025.

With their current terminal configuration, BDL can accommodate approximately 1700 and HVN 180 enplanements per hour in the peak hour. This capacity was determined from individual airport master plans and checked with Advisory Circulars 150/5360-13¹ and AC 150-5360-9² for the Planning and Design of Airport Terminal Facilities. In this plan, the projected numbers for the enplanements in the state in 2025 is 7.6 million. This

¹ AC 150/5360-13 "Planning and Design Guidelines for Airport Terminal Facilities"

² AC 150/5360-9 "Planning and Design Guidelines of Airport Terminal Building Facilities at NonHub Locations"

accounts for 15.2 million passengers that the airports will need to be able to accommodate in the design year.

Both BDL and HVN are expected to need improvements to the terminals to handle the projected passenger traffic in 2025. BDL is addressing this issue in their ongoing airport master plan update. The updated master plan for HVN recognizes this issue and realizes that if this growth is seen, a terminal study will need to be undertaken. HVN is presently undertaking a Terminal Planning Study to address this issue. Therefore for the near term (10 years), the commercial airports in Connecticut will be able to handle the capacity expected for the State. For the full study timeframe, the infrastructure is projected to need improvements to handle the forecasted enplanement growth.

6.1.2 Operational Status

Each airport in the system is expected to be able to handle the projected operations for that airport. BDL and DXR are expected to approach 80 percent of their operational capacity by 2025. Three other airports will be approaching or above 60 percent of their capacity by 2025. These are Groton-New London (GON) at 50%⁴, Hartford-Brainard (HFD) at 60%⁵ and Bridgeport-Sikorsky (BDR) at 55%⁶. FAA recommends additional planning be conducted once an airport reaches 60 percent capacity; therefore future master plans should take this into account when considering needed improvements for the airport. Since BDL and DXR are both forecasted to reach 80% of their operational capacity by 2025, they should address this issue in upcoming planning studies. BDL has reviewed this item in their recent airport master plan (being completed). DXR should look at this in their next airport master plan update. FAA recommends additional planning be conducted when an airport reaches 60 percent of its theoretical capacity. When 80 percent theoretical capacity is reached, new airfield facilities should be constructed or demand management strategies be implemented. Frequently with minor facility improvements, additional taxiways or ramps, and with demand management strategies, airports can operate at or above their theoretical capacity.

6.1.3 Based Aircraft Status

The capacity to store based aircraft may be an issue at several airports during the later years in the study timeframe. The airports that are projected to experience an increase of 25 or more based aircraft are HFD, 5B3 and BDR with OXC and GON forecasted to see an increase of over 40 aircraft. The other system airports, while expecting an increase in based aircraft, are not expected to experience an increase that would be difficult for them to accommodate. The airports that are projected to have a large increase in based aircraft will have to determine if they have suitable land available to provide storage for this increase. The next update of the airport master plan for each of these airports should

³ Chapter 4, Table 4-4

⁴ Ibid

⁵ Ibid

⁶ Ibid

investigate this issue to determine if there is available land at the airport to accommodate the expected growth in aircraft.

If an airport cannot accommodate the projected based aircraft, the aircraft may have to be located at surrounding airports. This can have an effect on the aviation system by increasing congestion at other airports where these planes would relocate to. While the distribution of aircraft to airports throughout the state can be beneficial, it can cause a burden to some airports. This can be a burden, because the relocation of these aircraft will require additional financial backing to update and expand the facilities to accommodate these aircraft.

6.1.4 Location and Coverage of Airports in the System

Connecticut is geographically a small state when compared to many States throughout the U.S. (it is the 48th smallest state, with 4,845 square miles of land, Alaska is the largest with 570,374 square miles.) Because Connecticut is geographically small, the services provided by general aviation and commercial service airports are essentially adequate throughout the State. The general aviation service areas for the State and Municipal airports were combined and the private open to the public airports are estimated to have a service area within a 20 mile radius of the airport. This created an area of general aviation coverage that encompasses most of the State as can be seen in Figure 6.1. When determining this coverage, airports in surrounding States were also reviewed since aviation traffic does not adhere to political boundaries. The northwest corner of Connecticut lacks public use general aviation airports; however, Sky Acres Airport in New York and Great Barrington Airport in Massachusetts provides coverage for this area. As can be seen in Figure 6.1 the general aviation coverage in Connecticut is essentially complete because of general aviation airports in Connecticut and surrounding states.

To determine the coverage for commercial service, the service areas for BDL and HVN were combined to show which areas of the state were covered. For commercial service, the coverage envelops the entire state except for the southwestern portion and the eastern edge of the State, as can be seen in Figure 6.2. While these areas do not fall within Connecticut's commercial service area, this does not mean that this service does not exist. The New York and Rhode Island airports provide commercial service to these areas due to their proximity to the users and their depth of service options. These airports include John F. Kennedy, LaGuardia and Westchester County Airports in New York and T.F. Green Airport in Rhode Island.

6.2 Scenarios that may impact the system

It can be deduced that the Connecticut airport system is presently and will continue to operate at acceptable levels through this study timeframe. However, it is helpful and important to consider scenarios that could strain the aviation system in the State. Several scenarios were looked at to try to determine what effect they could have on the aviation

system if they were to transpire. These scenarios range from the closure of a public use airport to the termination of commercial service at one of the regional airports. *It should be noted that while these scenarios are hypothetical they are intended to identify issues should they come to fruition.*

6.2.1 Airport Closures

A major concern of any aviation system, is the closure of an airport and what affect that would have on the system. When an airport closes the aircraft and operations from that airport will redistribute throughout the aviation system. This could cause issues for surrounding airports if they are unable to handle the influx of based aircraft or aircraft operations that the closure causes. A good example of this is the potential closure of any privately owned public use airport. These airports operate on a very limited budget and do not have large financial support for improvements and maintenance. Privately owned airports tend to have a greater chance of closing because operating costs may exceed income. If airports are sold, new owners may decide that the property is more valuable as a different use, e.g. commercial use. State and Municipal airports are eligible for grants in aid for some improvements. However, privately owned airports often are not eligible for these monies or do not want the monies because of the stipulations required. To receive FAA funds, FAA requires airport owners to agree to terms and conditions, among them is to remain operational for a specific timeframe, usually 20 years. An example of an airport that has closed, during the preparation of this plan, is Mountain Meadow Airport in the Towns of Burlington and Harwinton. Because Mountain Meadow was a small airport with only 23 based aircraft and a low number of operations (13,060), the based aircraft and operations have been redistributed without much difficulty. However, there are other privately owned airports, which if they were to close would likely burden the system. Examples of these are Robertson Field, Skylark Airpark and Chester Airport, which have 110, 71 and 110 based aircraft respectively.⁷ If an airport is being sold, Municipalities may consider establishing an airport by purchasing the property. The municipalities would then have access to funds for airport improvements. This situation was reviewed for Mountain Meadow Airport and a Town referendum was held. This referendum was undertaken as part of a public participation process to determine two items. If the Town should perform a study to determine the benefits and disadvantages of owning and operating an airport and whether the Town should take the airport property by eminent domain. The townspeople voted negative on both counts of the referendum, thus sealing the fate of Mountain Meadow.

6.2.2 Modification of Operations at an Airport

If an airport were to realize changes that modified its operating characteristics, this could have a substantial effect on the aircraft that operate at the airport. Examples of these changes could be reduced runway length through displaced thresholds or a change in

⁷ These airports are identified due to their number of based aircraft or operations and the burden this may put on the system, not because it is felt they may be closing.

approach minimums. This could mean that the type and size of aircraft that would typically utilize the airport might choose not to. If this were to happen, the question is, where would these aircraft relocate?

A change of this nature has the potential to cause aircraft to utilize a different airport and therefore redistribute the operational needs of the state. This is an acceptable outcome as long as the airport(s) that these aircraft distribute to, have the ability to accommodate them. An issue that has the potential to occur is the reduction or loss of flight minimums due to intrusions in the approaches of an airport. These intrusions typically are trees on and around airport property that have not been maintained (e.g. trimmed, removed) and are intruding in the FAR 77 surface. This is an issue at all airports, whether State, Municipally or privately owned. It is a very difficult and sensitive issue to be able to manage trees due to environmental and social considerations (trying to manage trees off airport property). Many airports in Connecticut presently are dealing with intrusions into the FAR 77 surface, such as Hartford-Brainard, Danielson, Danbury and Tweed-New Haven airports, among others. This is an ongoing problem at airports throughout Connecticut.

Another issue that has the potential to change the characteristics of an airport are displacing thresholds in order to create Federally required runway safety areas (RSA). FAA requires that airports have a standard area at the end of runways in which an aircraft that were to land short or run-off the runway it would have a safe area to do so. It has been shown that approximately ninety percent of aircraft incidents occur within 1000 feet of the runway ends. Therefore creating RSA's helps ensure the safety of aircraft in these scenarios. FAA has a strong commitment to providing standard RSA's to the maximum extent practicable. This could mean that if the required RSA cannot be created, FAA may require that the runway ends be displaced (the runway shortened) so the proper RSA dimensions could be obtained. This could drastically change the operating characteristics of an airport. By shortening an airports runway it could cause aircraft to have no choice but to relocate to another airport because that aircraft cannot physically operate at the airport. This creates a burden for the airports where these aircraft relocate, as well as lost income for the airport losing the aircraft. This is an issue seen throughout the State at mainly State and Municipal airports. Some examples of airports with substandard RSA's are Hartford-Brainard, Groton-New London, Tweed-New Haven and Windham airports.

These are examples of the potential that exists at all airports to encounter a change that may cause aircraft to relocate to a different airport. Aircraft would likely relocate to the nearest airport that had the facilities that they require (e.g. fuel, adequate runway length, hangers, etc.). While Connecticut would likely be able to handle these scenarios, it is good planning practice to keep a continual watch on the activities at airports throughout the state. This would allow avoidance and prepared responses to scenarios that may burden the aviation system in Connecticut.

6.2.3 Major Change in Scheduled Commercial Service

Another scenario that has a profound National effect is the increasing cost for airlines to maintain services at airports that provide commercial service operations, especially at Connecticut's regional airports. This cost could cause the cessation of these services at the regional airports, which will have an effect on Connecticut's aviation system as well as the National system. Airlines are continually reassessing their role in the industry to determine where to operate from to have the largest profit margin. Because of this, scheduled service at these airports is connected to the strength of the airline industry. Similar to BDR and GON, which have lost scheduled commercial service, regional airports could lose this service if the airlines no longer determine it to be profitable. This is especially true as the airline industry reinvents itself to create profits by creating leaner businesses. Many airlines are aggressively modifying the way that they do business, which means routes are continually being stopped and started at airports. Because of these factors scheduled commercial service could be suspended. If this scenario were to happen, where would these users go and would Connecticut lose them as travelers?

If a regional airport were to see the cessation of scheduled commercial service, it would impact Connecticut's other commercial service airport's. The users of this service would have to redistribute through the system in Connecticut and surrounding State's to find these services. The largest impact would be to local businesses that may utilize this service. Many local businesses have come to rely upon this service because of its convenience for employee travel. Without it, businesses may not be as willing to remain in the region or may relocate to be closer to an airport that is able to provide this service. Similar to the cessation of service, another scenario would be if a regional airport were to see a large increase in the number of enplanements occurring at the airport. Would this have an affect on other commercial service airports in the State? This scenario would likely not have a large effect on Connecticut's other commercial service airports in the state. This is because if a regional airport were to see a dramatic increase in enplanements, it would likely compliment the other services in the state.

Another scenario that should be reviewed is the potential for an airport from a surrounding state to either, see a substantial gain or loss of commercial service enplanements. For example the New York area airports, LaGuardia and Kennedy, are extremely busy airports and consistently rank among the worst in passenger delay⁸. As this delay increases, travelers from the southwestern area of Connecticut that typically would fly from New York may decide to utilize Connecticut's airports instead, causing an influx of new enplanements. Just as travelers from Boston are willing to travel to T.F. Green in Rhode Island to avoid delays.

Similar to the cessation of scheduled commercial service at an airport, what if an airport in a surrounding State were to see a large increase in this service? For instance, Stewart International Airport (SWF) in New York has the potential to see a large increase in commercial service. The airport has a main runway of 11,800' that will allow aircraft to

⁸ "Pocket Guide to Transportation 2005" – USDOT Bureau of Transportation Statistics

fly both domestic and international routes and has excellent Interstate access for travelers. In the last several years, the airport has seen growth in the number of airlines operating and the flights offered at the airport. If SWF were to continue this growth, it is likely that its service area will increase.

SWF could also see a large increase in their cargo service. The airports infrastructure makes it attractive to cargo carriers. These items are access from the Interstate highway system, the large amount of land available for development at the airport and a runway length of 11,800', which is essential for cargo carriers. Realizing this potential, SWF's most recent master plan identifies areas on the airport layout plan (ALP) for cargo facilities. This scenario would likely not affect the existing cargo infrastructure that is presently located at BDL; however, it could prohibit more growth at BDL if, for the reasons previously stated, SWF is seen as a more attractive airport.

6.2.4 Changes in Policy

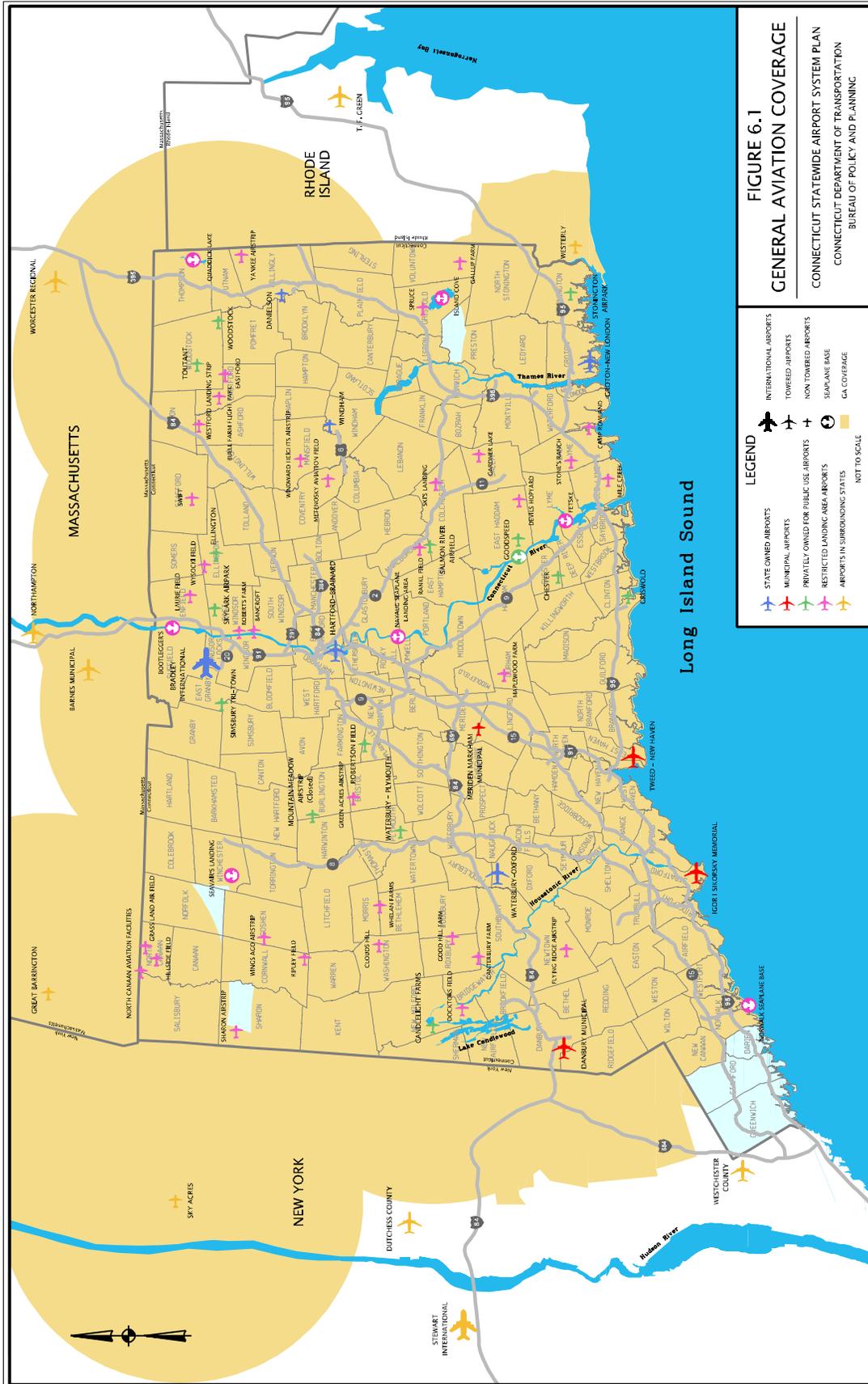
Changes in aviation policy can have a drastic and unintended affect on an airports operation. An example of this could be Federal security mandates for both commercial and general aviation airports.

Since the acts of terrorism of September 11, 2001 (which continue to threaten the world) and its devastating affect on the airline industry, security at airports has been in a state of flux. New policies enhancing security are continually being added to ensure the safety of the travelling public. With these new safeguards come different needs for airports and airlines to keep up with. Shortly after September 11, 2001 a large number of security mandates were established that were not funded. In other words, airports had to follow these mandates; however, they had to do so within their present budgets. This placed strain on airports to adhere to these mandates and in many instances pushed the timeframe of other projects back because funding was needed for these mandates. For airports that can receive federal funding to offset the cost burden of these policies this has not been an insurmountable item, however, for smaller airports it could be devastating. The Transportation Security Administration (TSA) has published security guidelines for general aviation (GA) airports. While these guidelines aren't cost intensive, they could change. In the months immediately following September 11, 2001 there was discussion that all GA airports should have perimeter fencing to deter the ability of a person from being able to have easy access to airplanes. If this type of mandate were to have gone through and no funding allocated, it likely may have forced several smaller airports to close because they would not be able to raise the capital to fund the project.

Most aviation policy solicits input from the State's, however it is a Federal decision as to what policy will be enacted. Because of their importance, a close watch should be kept on Federal policy decisions to see how they may affect the State's system and how to handle this affect. It should also serve as a guide that any changes in State policy, that may affect the aviation system, should be reviewed thoroughly to determine all the potential affects that the policy may have. It is incumbent on all parties involved to be

vigilant of proposed regulations to see if and how they may effect the aviation system in Connecticut.

Connecticut Statewide Airport System Plan



Connecticut Statewide Airport System Plan

