FORECAST OF AVIATION DEMAND

THIS CHAPTER DESCRIBES THE FORECAST OF AVIATION demand for general aviation and military aircraft activity in Delaware. The purpose of this work is to create a planning foundation for study recommendations through the year 2040. Because the number of active aircraft in the U.S. has been declining overall in recent years, forecasts of activity will focus on shifts in the types and characteristics of aircraft that are being introduced into the market. This includes the high-end business jets, experimental aircraft, turboprop aircraft, new single engine aircraft with glass cockpits, as well as rotorcraft, ultralights, and gliders.

With changing fleet mixes at airports, the annual operational capacity may not be as much an issue as are compliance with FAA safety standards, larger critical aircraft usage, runway pavement strengths, and capabilities for improved visibility minimums. In addition, environmental conditions assessments and financial feasibility plans require accurate aviation activity forecasts.

Delaware Airpark Based Aircraft

Major sections of this chapter include:

- Aviation Demand Elements
- Forecast Framework
- Role of the FAA's Terminal Area Forecasts
- Forecasts of General Aviation Activity
- Forecasts of Military Demand
- Forecasts of Potential Scheduled Air Service
- Summary of Aviation Demand Forecasts

1. AVIATION DEMAND ELEMENTS

Forecasts of aviation demand can be developed for a variety of activity indicators. In the case of Delaware airports, demand elements revolve primarily around existing and future general aviation activity. Basic activity indicators include the type and number of aircraft operations, along with the number of aircraft based at each airport. Military operations forecasts were also developed for New Castle Airport, Delaware Coastal Airport, and Summit Airport. Other important elements are derived from these basic indicators. Specifically, aviation activity forecasts were prepared for the following aviation elements:

- **Based Aircraft:** Defined as a general aviation aircraft which is stationed at an airport on a permanent basis.
  - Based Aircraft Fleet Mix
- **General Aviation Aircraft Operations:** This type of operation is either a takeoff or a landing of a general aviation aircraft.
  - Annual Operations
  - Local Versus Itinerant
  - Fleet Mix Forecast
  - Peak Period Operations (Monthly, Daily, Hourly)
- **General Aviation Enplaned Passengers:** Defined as air travelers who have boarded departing general aviation aircraft.
- **Military Aircraft Operations:** This type of operation is either a takeoff or a landing of a military aircraft.
- **Potential Airline Service:** A recent announcement of new airline service at New Castle Airport will be addressed in this forecast, along with potential airline passenger generation from Kent and Sussex Counties.

2. FORECAST FRAMEWORK

Aircraft Modification Work at Delaware Coastal Airport

THE FRAMEWORK FOR THIS FORECAST WAS BASED upon the development of a consensus or likely set of projections of demand, accompanied by potential adjustments (up or down) resulting from changes to basic assumptions of the likely forecast. Because the future is uncertain, a number of projections were developed that used different methods of prediction. Some methods were based upon local socioeconomic factors, others were based on national forecasts, while others used historical trends. The benefit of using a variety of projection methods occurs when the results show a forecast consensus. That is, if a number of projections all point in the same direction, even though they were generated using different data and methods, greater confidence is gained in the resulting forecast.

To achieve a forecasting consensus, all projection methods employed traditional means of extrapolating historical aviation trends at each airport or in an airport's service area into future time frames. For this forecasting effort, individual forecasts were created for the Delaware's four NIPIAS airports (Delaware Airpark, Delaware Coastal Airport, New Castle Airport, Summit Airport), along with a private airport (Chorman). Chorman Airport was included in the individual forecasts because of recent infrastructure development and the doubling of based aircraft. Due to lack of growth in based aircraft and operations at other privately owned, public-use airports in Delaware,

an aggregate forecast of based aircraft was created for Chandelle Estates Airport, Jenkins Airport, Laurel Airport, and Smyrna Airport. Totals were then allocated to each airport. Because there can be no based aircraft at the Civil Air Terminal, only operations were forecast for that facility.

Delaware Coastal Airport Terminal Area

Market Share Projection

Market share projections are developed by calculating historical shares of national or regional activity measures and projecting these respective shares into future time frames. This method of projection reflects demand based upon trends occurring in the entire U.S. It is essentially a "top-down" method of forecasting where other forecasts of activity for larger areas are used as drivers of the local share of that demand. Socioeconomic projections, on the other hand, are considered "bottom-up" methodologies and are based upon local factors. Market share projections reflect historical trends and may include increasing, constant, or decreasing future market shares.

Socioeconomic Regression Analysis

The socioeconomic regression projection is based upon an assumed causal relationship between population, income, or employment and the aviation activity in a particular area. This projection of demand is obtained by relating socioeconomic data via regression analysis to aviation activity. The resulting set of regression equations produces a projection of aviation activity when they are coupled with independent projections of future socioeconomic data.

This forecast utilized population, income (in the form of Per Capita Personal Income or PCPI), and employment statistics as the independent socioeconomic variables. These statistics were obtained from the U.S. Department of Commerce, Bureau of Economic Analysis. Projections of population and employment were collected from the latest Delaware Population Consortium report.[1] These projections are officially recognized by the Delaware State Planning Office and the U.S. Department of Housing and Urban Development. Projections for PCPI were obtained from Woods & Poole Complete Economic and Demographic Data Source (CEDDS) 2019.

Trend Analysis

Trend projections use historical data to formulate predictions of future activity. For this study, two trend analysis methods were used to project baseline aviation activity: double exponential

[1] Delaware Population Consortium Annual Population Projections, November 11, 2018, Version 2018.0

smoothing and least squares linear trending.

The double exponential smoothing process produces projections by combining the forecast for the previous period with an adjustment for past errors. It is desirable to correct for past errors when the error has resulted from changes in the trend. In this case, correcting for past errors will put the forecast back on track. Double exponential smoothing is appropriate when the time series contains a linear trend. It acts by calculating two smoothed series - a single and a double smoothed value. Both will lag behind any trend. However, the difference between them indicates the size of the trend. This difference is used to adjust the forecast for the trend.

The second trend method used was least squares linear trend. This method uses aviation activity regressed against time to produce a projection. No assumptions about the causes of trends are included in the trending methodologies.

3. ROLE OF THE FAA'S TERMINAL AREA FORECASTS

THE TERMINAL AREA FORECAST SYSTEM (TAF) IS the official FAA forecast of aviation activity at U.S. airports. These forecasts are prepared annually to meet the budget and planning needs of FAA and provide information for use by state and local authorities, the aviation industry, and the public. The TAF includes forecasts for active airports in the National Plan of Integrated Airport System (NPIAS). In all, there are currently 3,328 airports included in the forecasting database. Privately owned, non-NPIAS airports in Delaware are not included in the TAF.

Guidance from the FAA indicates that independent forecasts such as those generated by this System Plan must conform to the TAF in order to be approved for FAA funded projects. Locally developed forecasts for operations, based aircraft, and enplanements are considered consistent with the FAA's Terminal Area Forecasts if the meet the following criteria:

- All NPIAS Airports:
  - The forecast must differ by less than 10 percent in the 5-year forecast period and by 15 percent within the 10-year forecast period.
  - Forecast activity levels do not affect the timing or scale of an airport project.
- Commercial Service Airports other than Large, Medium, and Small Hub facilities, and General Aviation and Reliever Airports:
  - The forecast activity levels do not affect the role of the airport as defined in the NPIAS
- General Aviation and Reliever Airports:
  - Airports with under 100,000 annual operations or with less than 100 based aircraft are exempt from the 10 and 15 percent conformance rules.

Only one Delaware airport is impacted by these guidelines (New Castle Airport), since all others have or are forecast to have less than 100,000 annual operations and less than 100 based aircraft

within the forecast period. Forecasts generated by this System Plan have included consideration of the TAF and are consistent with the guidelines listed above.

4. GENERAL AVIATION DEMAND FORECASTS

GENERAL AVIATION ACTIVITY IS DEFINED AS CIVIL aviation aircraft takeoffs and landings not classified as airline passenger or military. Forecasts of aviation demand can be developed for a variety of activity indicators. With the current lack of airline service in the State (as of 9/19), all demand for airports, airport facilities, and airport services stems from general aviation. A recent announcement of new airline service at New Castle Airport will be addressed in a different section of this Chapter.

Delaware State Flight Training Aircraft

Basic activity indicators include the type and number of aircraft operations, along with the number of aircraft based at each airport in the system. Other important elements are derived from these basic indicators. These different elements include:

- Based Aircraft Forecast
  - Based Aircraft Fleet Mix
- General Aviation Aircraft
  - Annual Operations
  - Local Versus Itinerant
  - Fleet Mix Forecast
  - Peak Period Operations (Monthly, Daily, Hourly)
- General Aviation Enplaned Passengers

4.1 BASED AIRCRAFT FORECAST

By definition, a based aircraft is an aircraft that is operational, air worthy, and based at the facility for a majority of the year. Forecasting based aircraft at Delaware airports proceeded through an analysis of historical data followed by forecasting into future years. For this study, existing and historical based aircraft information was taken from the FAA's Form 5010-1, supplemented by input from airport managers and the FAA's Terminal Area Forecasts.

Historical Based Aircraft Trends

Figure 3-1 presents a graphic illustration of the based aircraft growth trends since 2008. Historical based aircraft data obtained from historical documents, 5010, and Airport management has fluctuated in the past 8 years with little overall growth. **Table 3-1** shows the individual airport totals of based aircraft that make up the graph.

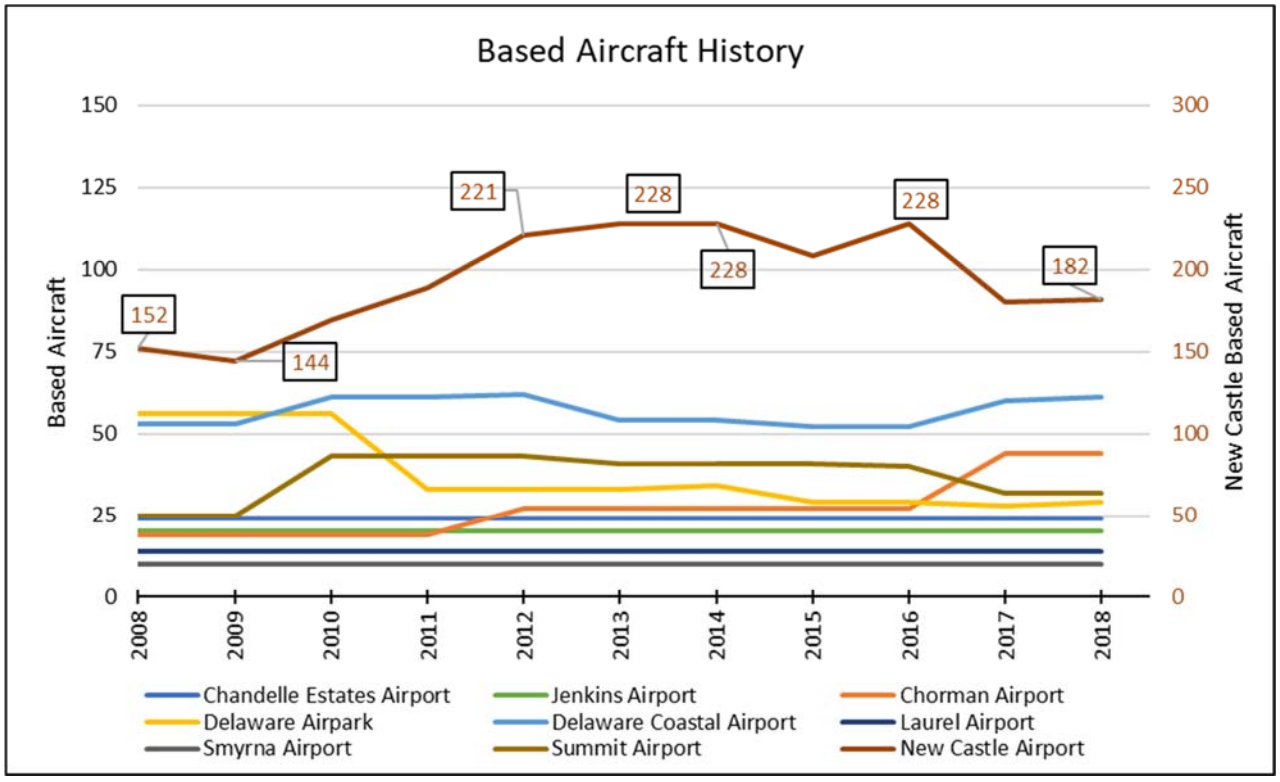

Figure 3-1: Based Aircraft History

Table 3-1 Based Aircraft History

Airport	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Chandelle Estates Airport	24	24	24	24	24	24	24	24	24	24	24
Chorman Airport	19	19	19	19	27	27	27	27	27	44	44
Civil Air Terminal, Dover AFB											0
Delaware Airpark	56	56	56	33	33	33	34	29	29	28	29
Delaware Coastal Airport	53	53	61	61	62	54	54	52	52	60	61
Jenkins Airport	20	20	20	20	20	20	20	20	20	20	20
Laurel Airport	14	14	14	14	14	14	14	14	14	14	14
New Castle Airport	152	144	169	189	221	228	228	208	228	180	182
Smyrna Airport	10	10	10	10	10	10	10	10	10	10	10
Summit Airport	25	25	43	43	43	41	41	41	40	32	32
Total	**373**	**365**	**416**	**413**	**454**	**451**	**452**	**425**	**444**	**412**	**416**

Forecast Projections of Based Aircraft

To forecast based aircraft at the NPIAS airports and Chorman Airport, a total of 10 projections were developed for analysis. Projection methods included Market Share, Socioeconomic Regression, Trend Analysis, and others. The TAF was used as one projection and two others were derived projections (High-Low Average, Multi-Average).

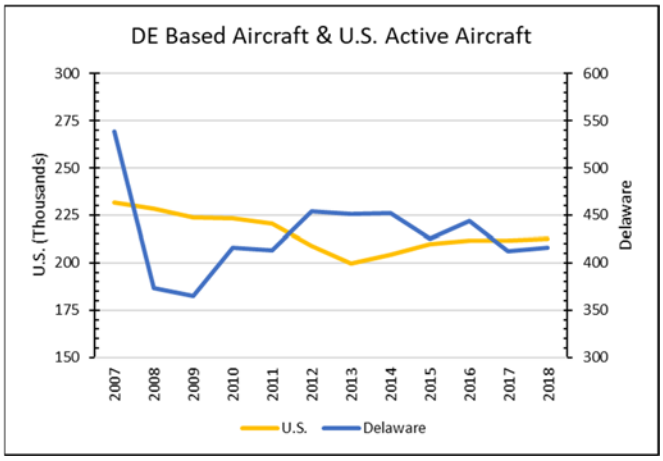

Figure 3-2 – Delaware & US Aircraft Comparison

The Market Share Projections of demand predict the number of based aircraft for both Constant and Dynamic growth scenarios. For the Constant scenario, the projection shows the results, assuming the service area keeps pace with national growth trends. Given the lack of forecast growth of active aircraft in the U.S., the Constant Market Share Projection yields little or no growth over the period. **Figure 3-2** shows the relationship between Delaware based aircraft and the U.S. active aircraft fleet since 2007.

The Dynamic Market Share Projection of demand examines historical market shares and incorporates other factors that may affect growth of the based aircraft. For example, these factors included information about aircraft purchases at Delaware State University. Planned development at other airports, the increase of flight school training, and runway length improvements also impact the dynamic market share projections.

The Socioeconomic Regression Projections used historical population, employment, and income statistics from Delaware. These projections resulted from the regression analyses between each indicator and based aircraft at each airport for their respective historical periods.

The Trend Analysis Projection, like the Socioeconomic Regression Projections, examined the historical trend of based aircraft growth using Linear Trend Analysis (least squares) and Double Exponential Smoothing Analysis. Both the linear trend projection and the exponential smoothing projection will reflect the historical trend, either upward or downward.

The FAA's Terminal Area Forecasts reflect the FAA's official position on aviation activity growth at NPIAS airports. Therefore, TAF forecasts were included for each NPIAS airport. For non-NPIAS airports the TAF growth rates for Delaware were used.

The Derived Projections are simply derivatives of the other existing projections. For example, the High/Low Average is the average of the highest and lowest viable projections. The Multiple Average is the average of all viable projections.

Chorman Airport

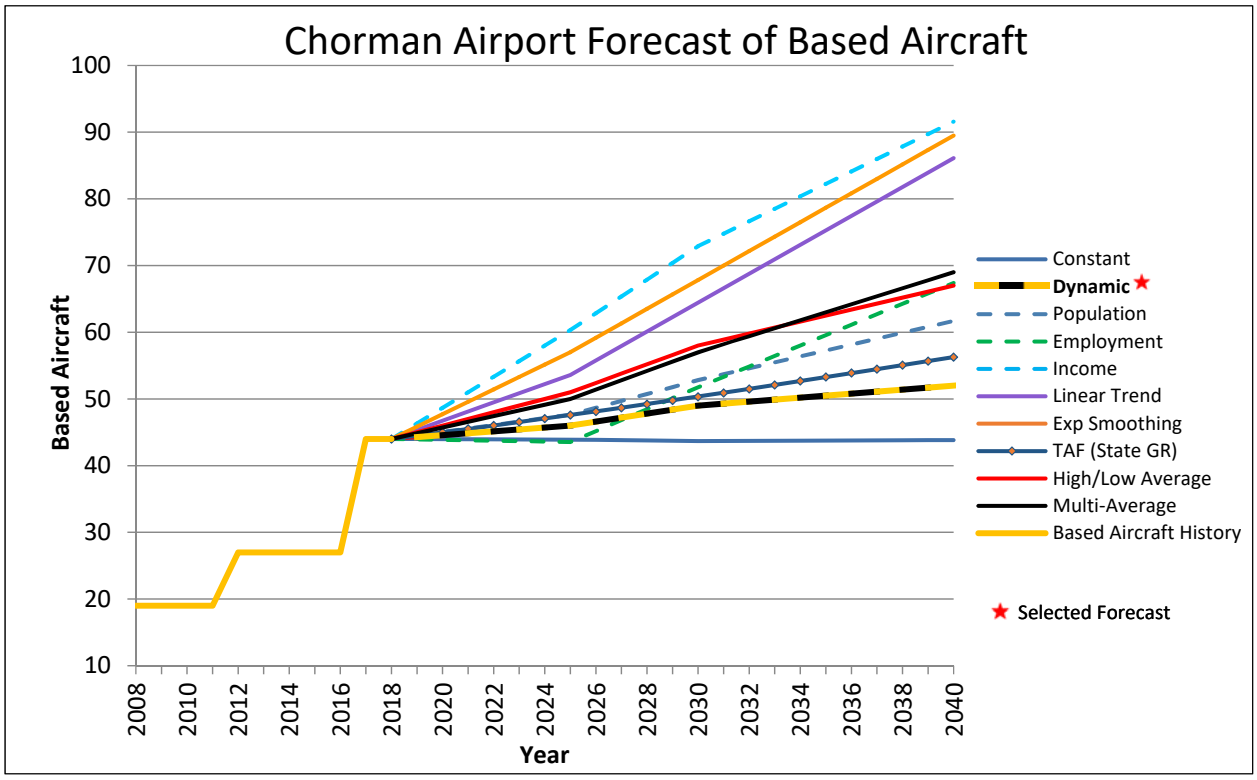

Figure 3-3: Chorman Airport Forecast of Based Aircraft

As shown in **Figure 3-3**, a total of 10 projections of based aircraft demand were developed for Chorman Airport. These projections range from a no growth (TAF projection) to high growth (PCPI regression projection). Because of the recent development at the airport and the increase of 17 aircraft in 2017, aircraft historical trends and the socioeconomic regressions show high growth over the period. As a result, the history shows a stair-step growth pattern. These patterns correspond to the development of new aircraft storage facility space. However, for the future, growth is not anticipated to be as dramatic. Thus, for Chorman Airport, the Dynamic Forecast was chosen and is contingent on some future development at the Airport. The forecast assumes an additional 8-unit T-hangar or similar storage space will be provided by 2040.

Delaware Airpark

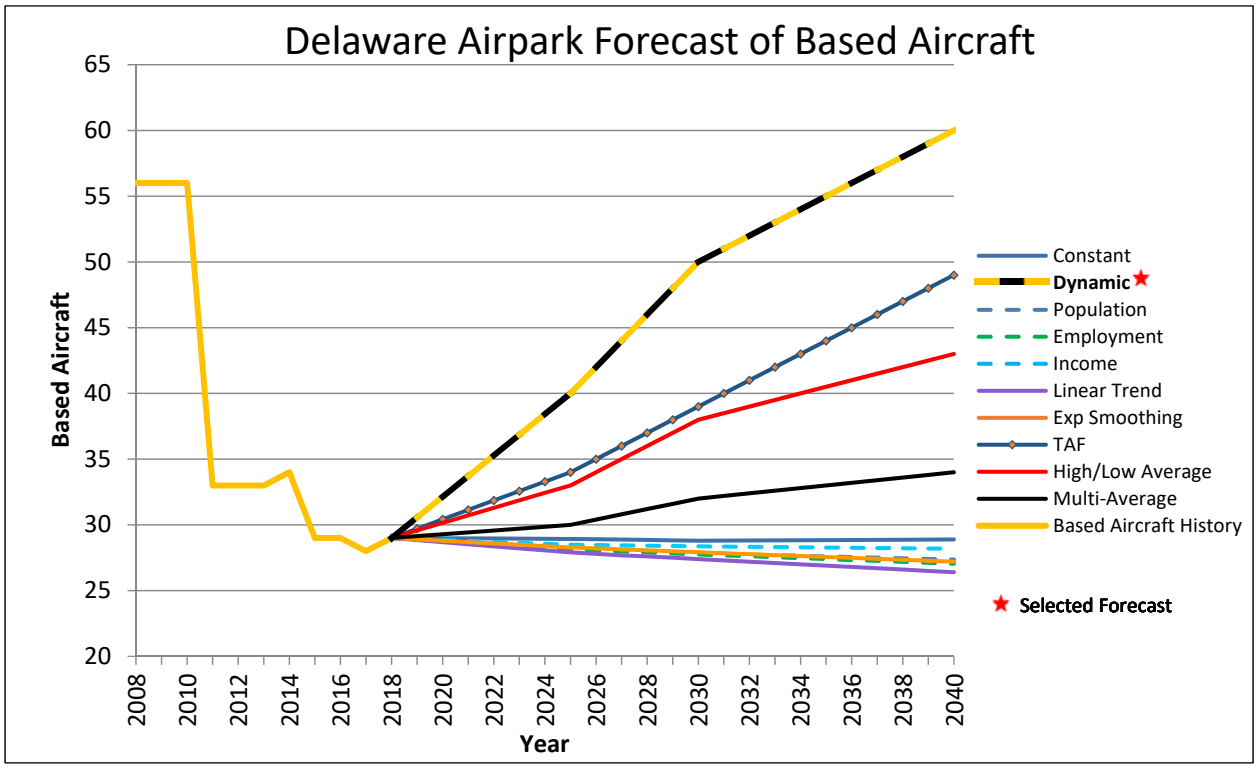

Figure 3-4: Delaware Airpark Forecast of Based Aircraft

Figure 3-4 shows the various projections of based aircraft demand for Delaware Airpark. These projections show a consensus of no growth, except for the Dynamic, TAF, and derived projections influenced by these two higher projections. The forecast selection process included consideration of a number of factors, including some non-market activities that are highly important.

The historical trends have been down, particularly when construction activities associated with the new runway at the airport drove some of the based aircraft owners to other facilities in Delaware. During that time, old T-hangars had to be torn down and new ones constructed across the runway. Because of the loss of based aircraft, historical trends and the socioeconomic regressions show negative growth over the period.

On the positive side, the TAF shows the based aircraft growth of 2.4 percent per year over the period with 20 additional aircraft by 2040. The non-market information that caused the creation of the Dynamic Market Share projection involved the announcement that Delaware State University is increasing their fleet by 11 aircraft by 2020. The ultimate plan for the University in 10 to 15 years is to have 50 aircraft and 500 students. There are currently plans to build an additional 20,000 square foot hangar for the Delaware State flight program at the Delaware Airpark. Given

these significant growth plans, the Dynamic Market Share Projection of based aircraft was selected as the preferred forecast of Delaware Airpark.

Delaware Coastal Airport

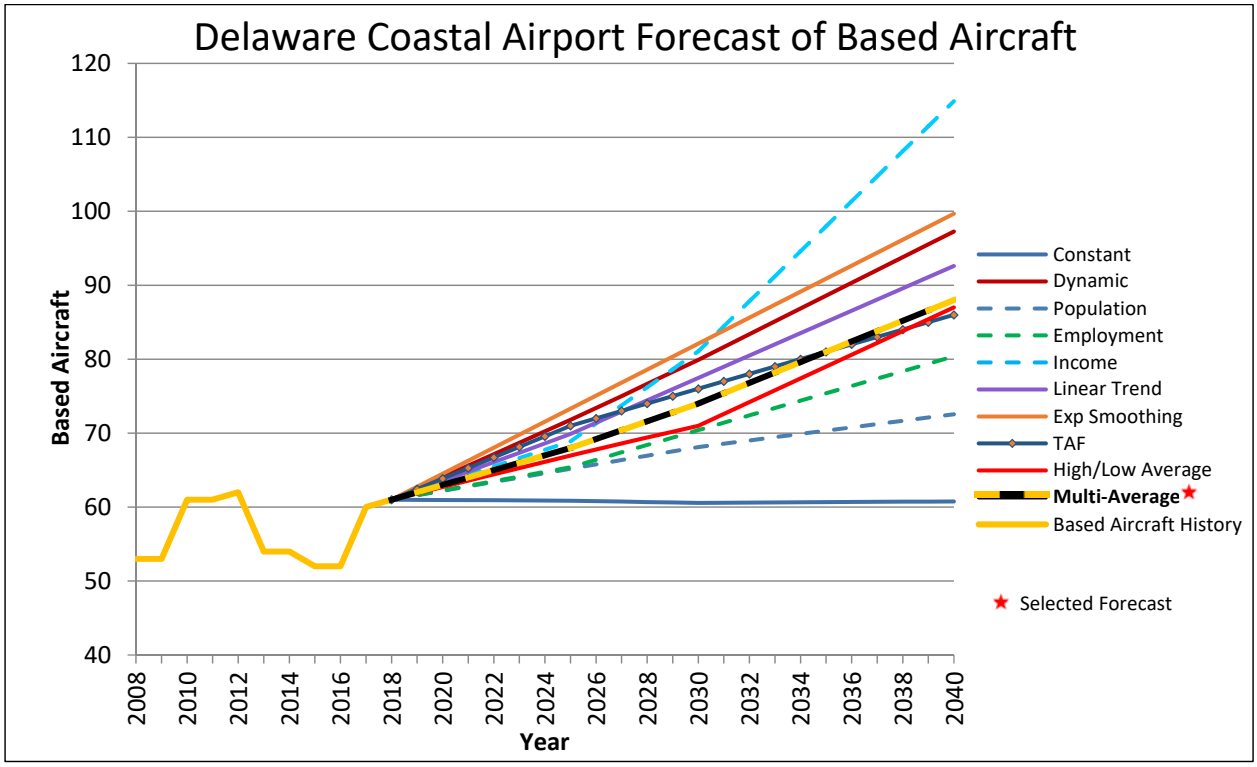

Figure 3-5: Delaware Coastal Airport Forecast of Based Aircraft

Figure 3-5 presents a summary of the projections of based aircraft demand for Delaware Coastal Airport. As shown, there are significant differences between the high (PCPI regression) and low (Constant Market Share) projections. Factors impacting the forecast selection process included the consideration of the County's plans to lengthen the runway by 500 feet to a total length of 6,000 feet. Airport management indicated that when the runway was increased from 5,000 feet to 5,500 feet, the number of annual jet operations doubled. In fact, a new Gulfstream G-4 has based at the airport in 2019.

Airport management anticipates future growth to be concentrated in business class aircraft. Because the airport is used by beach tourists and second-home owners, it will continue to have a large itinerant operation base. Given these growth factors, a mid-range projection was considered most realistic. The Multi Average Projection of based aircraft is the most mid-range projection possible and thus was selected as the preferred forecast. It's interesting that the Multi Average Projection shadows the FAA's TAF throughout the planning period. The agreement between these two forecasts provides greater confidence in the selection of the preferred forecast.

New Castle

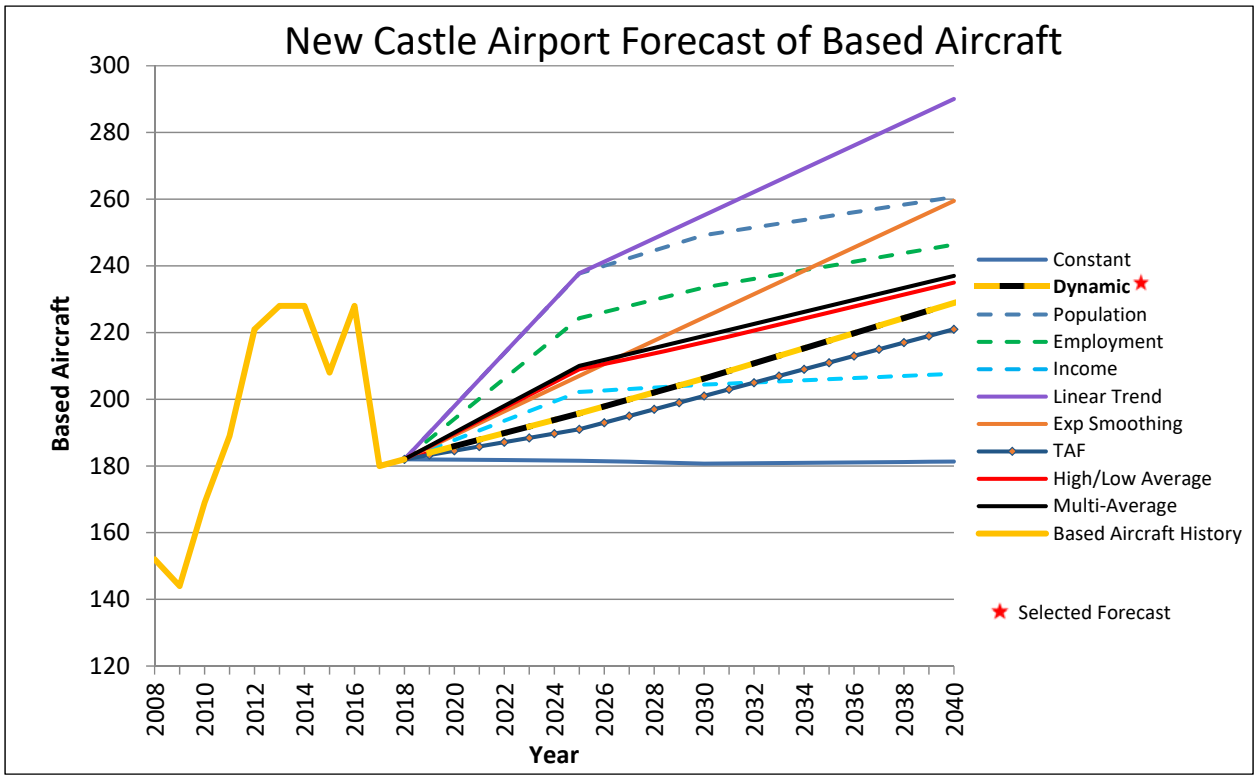

Figure 3-6: New Castle Airport Forecast of Based Aircraft

Figure 3-6 presents a graphic summary of the based aircraft projections for New Castle Airport. As shown, there is a wide range between high and low projections. The history of based aircraft demand shows a fluctuating pattern, with a significant decline of 48 based aircraft in 2017. Airport management indicates that this loss was more related to FAA accounting practices than to actual losses of based aircraft on the airport.

Even with a fluctuating history of based aircraft levels, airport management believes that continued growth will occur at the airport, stemming from greater use by business aviation and an increasing flight training presence. The Dynamic Market Share Projection shows growth at 1.05 percent per year. The TAF shows growth of 0.89 percent per year while the Dynamic Market Share Projection shows a growth of 1.05 percent per year. It should also be noted that the 2016 Airport Master Plan showed a growth of 0.75 percent per year, however, the starting level of based aircraft was 228 in 2016 rather than 182 in 2018. This created a much higher level of based aircraft than the System Plan forecasts.

Considering these factors, the Dynamic Market Share Projection was selected as the preferred forecast. It is within 3 percent of the TAF forecast by the year 2040, and thus meets FAA forecast approval criteria for compliance.

Summit Airport

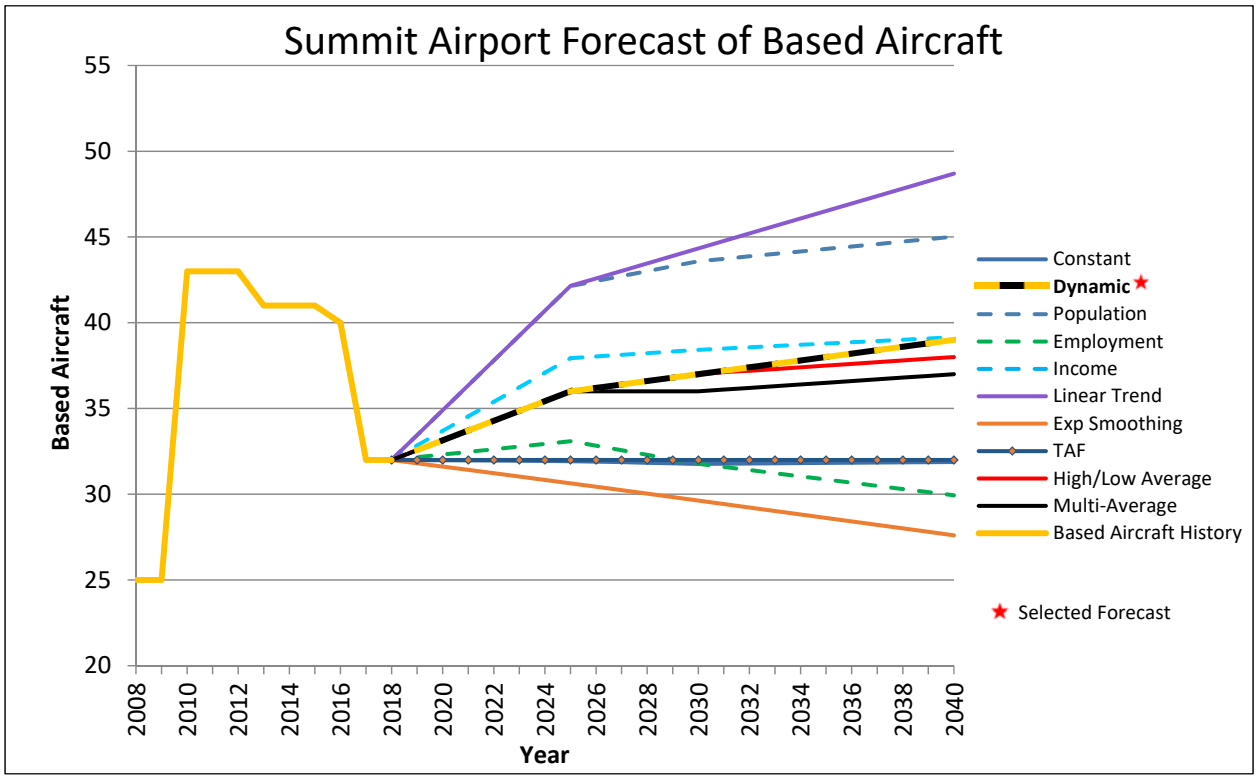

Figure 3-7: Summit Airport Forecast of Based Aircraft

Discussions with Summit Airport management representatives indicate that their business model does include modest growth. The airport has sufficient T-hangar space to accommodate more aircraft, however, in recent years, demand has been shrinking. Management is not sure why demand has contracted but are ready to welcome new based aircraft owners.

The TAF for Summit Airport shows no growth. Typically, a flat line forecast in the TAF means that FAA has either not looked at the airport yet, or, has concluded there is no growth potential. The TAF will not show negative growth, even if FAA models predict it. Because the history has been negative, forecasting models that use only historical data will show negative or no growth projections.

The Dynamic Market Share Projection was selected as the preferred forecast for Summit Airport. It shows a slight growth from 32 based aircraft in 2018 to 39 based aircraft by the year 2040.

Other Airports

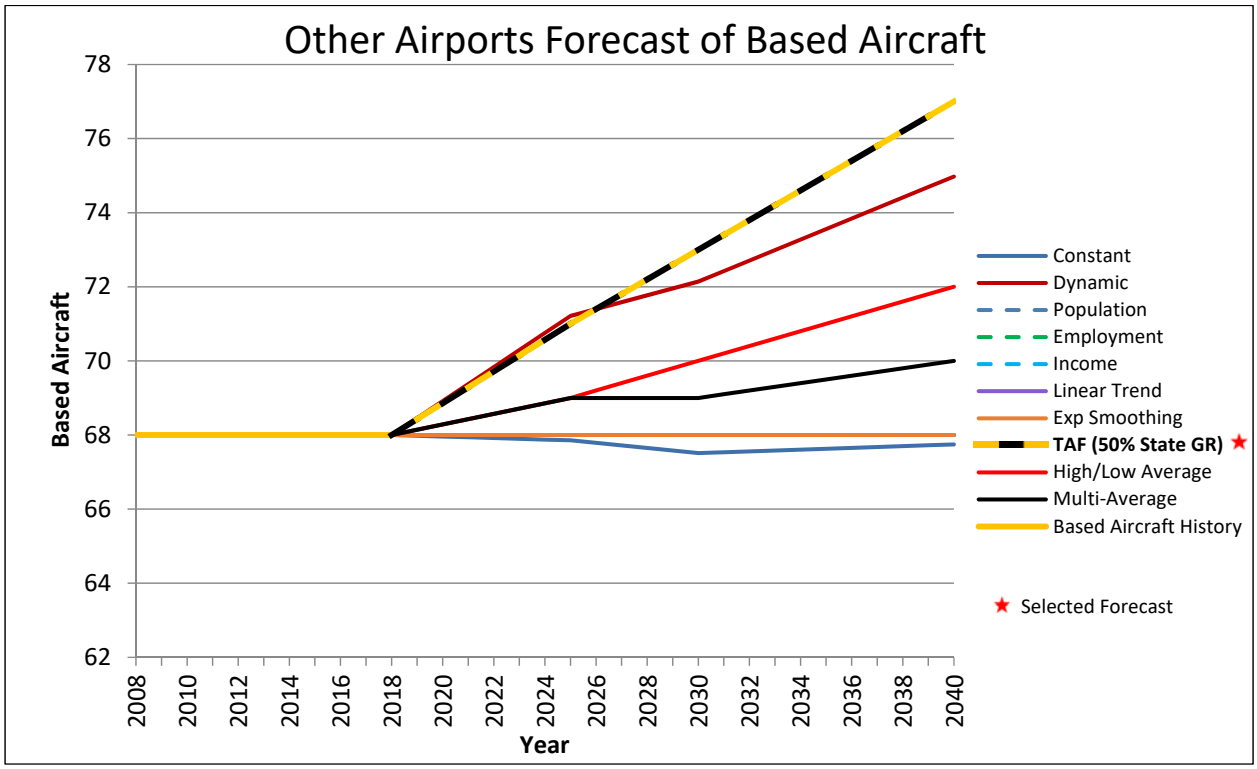

Figure 3-8: Other Airports Forecast of Based Aircraft

In 2018, there were 68 aircraft based at four privately owned, public use airports in Delaware. If the full TAF growth rate for Delaware were applied to these airports, there would be a total of 19 based aircraft increase over the forecast period. However, because these airports have had little or no growth for many years, that growth rate was cut in half and applied to the aggregate total based aircraft forecast. The resulting increases were allocated to each airport based upon their potential to grow. **Table 3-2** shows the distribution of forecast based aircraft to these four privately owned, public-use airports.

Table 3-2 Private Airport Based Aircraft

Airport	2018	2025	2030	2040	Change in A/C	Average GR
Chandelle Estates Airport	24	25	25	26	2	0.36%
Jenkins Airport	20	20	21	21	1	0.22%
Laurel Airport	14	16	17	19	5	1.40%
Smyrna Airport	10	10	10	11	1	0.43%
Total	**68**	**71**	**73**	**77**	**9**	**0.57%**

Table 3-3 presents the forecasts of based aircraft for all public-use airports in Delaware. The Selected Forecast considered each of the projections as a possible forecast for the based aircraft at each airport. The rationale for forecast selection has been presented on the previous pages.

Table 3-3 - Selected Based Aircraft Forecast					
Airport	**2018**	**2025**	**2030**	**2040**	**CAGR**
Chandelle Estates Airport	24	25	25	26	0.4%
Chorman Airport	44	46	49	52	0.8%
Civil Air Terminal, Dover AFB	0	0	0	0	0.0%
Delaware Airpark	29	40	50	60	3.4%
Delaware Coastal Airport	61	68	74	88	1.7%
Jenkins Airport	20	20	21	21	0.2%
Laurel Airport	14	16	17	19	1.4%
New Castle Airport	182	196	206	229	1.0%
Smyrna Airport	10	10	10	11	0.4%
Summit Airport	32	36	37	39	0.9%
Delaware Total	**416**	**457**	**489**	**545**	**1.2%**

As shown, the numbers of based aircraft in the State are forecast to increase from 416 in the first period to 545 by the year 2040 – a net gain of 129 aircraft (31 percent growth over the period- 1.2% per year). This growth is higher than the national average of -0.0374 percent growth of active aircraft over the same period. However, the national average growth in aircraft other than single and multi-engine piston aircraft are forecast to grow by 1.445% per year (37 percent) over the period.

Based Aircraft Fleet Mix

An aircraft fleet mix refers to the characteristics of a population of aircraft. General aviation aircraft are classified by specific physical traits such as aircraft type (whether fixed wing or rotorcraft), their weight, and number and type of engines. Aircraft having dissimilar physical and operating traits require varying types and amounts of airport facilities. For this reason, it is important to estimate the type of aircraft that will be operating and based at Delaware airports.

Table 3-4- Delaware Fleet Mix 2018							
Airport	**Single Engine**	**Multi Engine**	**Jet**	**Rotor**	**Other**	**Total**	**Market Share**
Chandelle Estates Airport	22	2	0	0	0	24	5.8%
Chorman Airport	40	2	0	2	0	44	10.6%
Civil Air Terminal, Dover AFB	0	0	0	0	0	0	0.0%
Delaware Airpark	25	4	0	0	0	29	7.0%
Delaware Coastal Airport	40	11	3	6	1	61	14.7%
Jenkins Airport	18	1	0	0	1	20	4.8%
Laurel Airport	13	1	0	0	0	14	3.4%
New Castle Airport	72	20	66	4	20	182	43.8%
Smyrna Airport	8	0	0	0	2	10	2.4%

Table 3-4- Delaware Fleet Mix 2018							
Airport	**Single Engine**	**Multi Engine**	**Jet**	**Rotor**	**Other**	**Total**	**Market Share**
Summit Airport	29	0	0	3	0	32	7.7%
Total	**267**	**41**	**69**	**15**	**24**	**416**	**100%**
Percent of Total	**64.2%**	**9.9%**	**16.6%**	**3.6%**	**5.8%**		

In the forecasting process, the based aircraft fleet mix is used as one component to help determine operational fleet mix forecasts. It is also used to determine the future design category each public-use airport. Fleet mix categories included: single engine, multi-engine, turbojet, rotorcraft, and "other." This information was available from the most recent FAA Form 5010-1, Airport Master Record.

Projection of the fleet mix involved the consideration of the effects of the national trends in aircraft manufacturing, and the based aircraft fleet mix. **Figure 3-9** shows the projected national fleet mix for general aviation aircraft. **Table 3-5** shows the forecast in tabular form for the forecast period. As shown, there is negative growth for single engine aircraft and relatively flat growth for multi-engine aircraft. The majority of the growth occurs in the jet and rotorcraft categories.

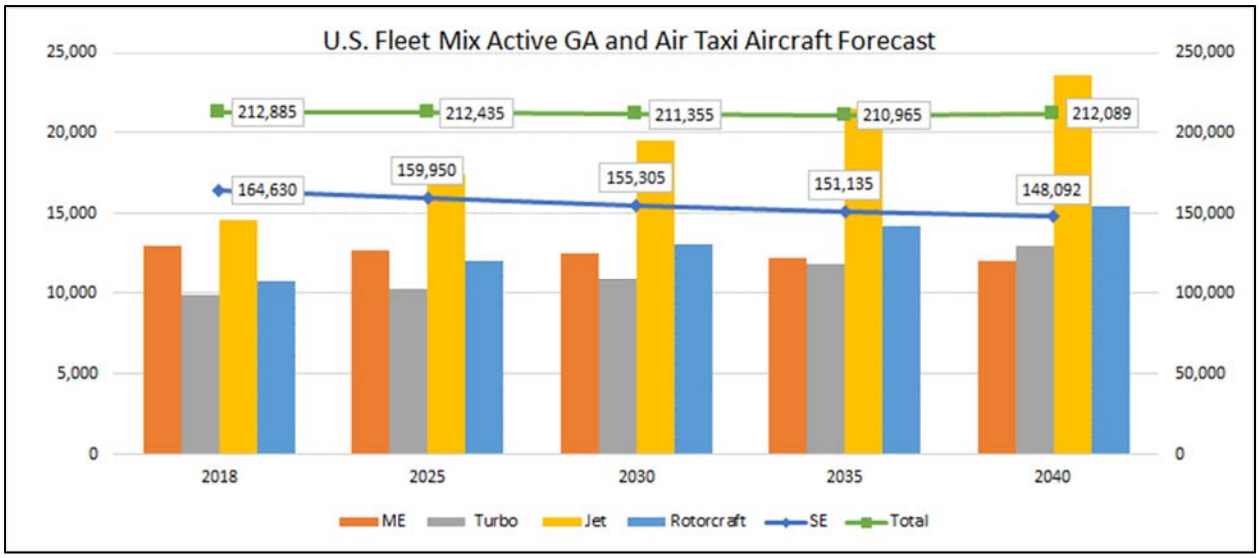

Figure 3-9 - US Fleet Mix Active GA and Air Taxi Aircraft Forecast

Table 3-5 – U.S. Fleet Mix Forecast						
Year	**SE**	**ME**	**Jet**	**Rotorcraft**	**Other**	**Total**
2016	164,605	17,876	13,751	10,577	4,986	211,794
2017	164,280	18,058	14,217	10,511	4,692	211,757
2018	164,878	18,003	14,585	10,705	4,715	212,885
Forecast						

Table 3-5 – U.S. Fleet Mix Forecast						
Year	**SE**	**ME**	**Jet**	**Rotorcraft**	**Other**	**Total**
2025	160,230	17,880	17,445	12,045	4,835	212,435
2030	155,905	18,000	19,520	13,060	4,870	211,355
2040	149,682	18,528	23,553	15,429	4,897	212,089
CAGR[1]	**-0.44%**	**0.13%**	**2.20%**	**1.68%**	**0.17%**	**-0.02%**

Source: FAA Aerospace Forecasts for Fiscal Years 2019-2039, year 2040 extrapolated by consultant
Legend: AC = Air Carrier; AT = Air Taxi; GA = General Aviation
[1] CAGR: Compound Annual Growth Rate (2018-2040)

Because the total number of based aircraft in Delaware is expected to grow moderately over the forecast period, fleet mix changes will occur as a result of new aircraft being based at system airports. The decline in single engine aircraft nationally will be reflected more by the larger airports such as ILG and GED with slower or negative growth in that aircraft type. Although the total number of aircraft will be significant, the based fleet will be moving toward a more sophisticated, larger, business-type aircraft mix at the larger airports.

Table 3-6 presents the forecast of based aircraft fleet mix anticipated for each public-use airport in Delaware. As shown, the single engine aircraft totals are anticipated to increase from the existing 267 to 327 by 2040. The most significant percentage growth is anticipated to occur in the jet aircraft category, with an additional 32 jets in 22 years – growing from 69 to 101 over the period.

Table 3-6 - Forecast of Based Aircraft Fleet Mix by Airport						
Airport Name	**Single Engine**	**Multi Engine**	**Jet**	**Rotor**	**Other**	**Total**
Chandelle Estates Airport						
2018	22	2	0	0	0	24
2025	23	2	0	0	0	25
2030	23	2	0	0	0	25
2040	24	2	0	0	0	26
Chorman Airport						
2018	40	2	0	2	0	44
2025	42	2	0	2	0	46
2030	42	4	0	3	0	49
2040	44	5	0	3	0	52
Delaware Airpark						
2018	25	4	0	0	0	29
2025	34	6	0	0	0	40
2030	43	7	0	0	0	50
2040	52	8	0	0	0	60
Delaware Coastal Airport						

Table 3-6 - Forecast of Based Aircraft Fleet Mix by Airport						
Airport Name	**Single Engine**	**Multi Engine**	**Jet**	**Rotor**	**Other**	**Total**
2018	40	11	3	6	1	61
2025	43	12	5	7	1	68
2030	45	13	7	8	1	74
2040	52	15	11	9	1	88
Jenkins Airport						
2018	18	1	0	0	1	20
2025	18	1	0	0	1	20
2030	18	1	0	0	2	21
2040	18	1	0	0	2	21
Laurel Airport						
2018	13	1	0	0	0	14
2025	15	1	0	0	0	16
2030	16	1	0	0	0	17
2040	18	1	0	0	0	19
New Castle Airport						
2018	72	20	66	4	20	182
2025	76	22	72	5	21	196
2030	76	25	78	5	22	206
2040	80	27	90	7	25	229
Smyrna Airport						
2018	8	0	0	0	2	10
2025	8	0	0	0	2	10
2030	8	0	0	0	2	10
2040	9	0	0	0	2	11
Summit Airport						
2018	29	0	0	3	0	32
2025	31	1	0	4	0	36
2030	30	2	0	5	0	37
2040	30	3	0	6	0	39
STATEWIDE TOTALS						
2018	**267**	**41**	**69**	**15**	**24**	**416**
2025	**290**	**47**	**77**	**18**	**25**	**457**
2030	**301**	**55**	**85**	**21**	**27**	**489**
2040	**327**	**62**	**101**	**25**	**30**	**545**

4.2 GENERAL AIRCRAFT OPERATIONS FORECAST

An aircraft operation is defined as either a takeoff or a landing. A takeoff and landing are considered two operations. General aviation operations forecasts were prepared for each public-use airport in Delaware for a number of activity measures. In this regard, the following operational elements were forecast:

Delaware Coastal Airport - Runway 4 (and 10)

- Total Annual Operations
  - Local versus Itinerant
  - Fleet Mix Forecast
- Peak Period Operations (Monthly, Daily, Hourly)

The general aviation annual operations forecast (**Table 3-7**) was derived for both local and itinerant operations using an operations-per-based-aircraft (OPBA) ratio. The OPBA's are ratios of total general aviation operations at an airport divided by the corresponding number of based aircraft. These OPBA ratios were further subdivided into local and itinerant OPBA ratios. By definition, local operations are performed by aircraft that operate within the local traffic pattern or within site of the airport. They can also be assigned to aircraft arriving or departing from local practice areas within 20 miles of the airport. In general, local operations are associated with pilot training. Itinerant operations, on the other hand, are all other aircraft operations other than local operations. **Table 3-7** presents the forecast of local and itinerant general aviation operations for each Delaware public-use airport.

Table 3-7 – Forecast of General Aviation Operations												
Airport Name	**2018**			**2025**			**2030**			**2040**		
	Local	**Itinerant**	**Total**	**Local**	**Itinerant**	**Total**	**Local**	**Itinerant**	**Total**	**Local**	**Itinerant**	**Total**
Chandelle Estates Airport	900	200	1,100	1,000	200	1,200	1,000	200	1,200	1,000	200	1,200
Chorman Airport	1,400	12,100	13,500	1,500	12,700	14,200	1,500	13,500	15,000	1,600	14,300	15,900
Civil Air Terminal, Dover AFB	0	200	200	0	800	800	0	1,000	1,000	0	1,400	1,400
Delaware Airpark	19,400	4,200	23,600	26,800	5,800	32,600	33,500	7,200	40,700	40,200	8,700	48,900
Delaware Coastal Airport	27,500	6,900	34,400	30,600	7,700	38,300	33,300	8,400	41,700	39,600	10,000	49,600
Jenkins Airport	400	100	500	400	100	500	500	100	600	500	100	600
Laurel Airport	6,100	1,400	7,500	6,900	1,600	8,500	7,400	1,700	9,100	8,200	1,900	10,100
New Castle Airport	14,000	23,100	37,100	15,000	24,900	39,900	15,800	26,200	42,000	17,600	29,100	46,700
Smyrna Airport	1,500	200	1,700	1,500	200	1,700	1,500	200	1,700	1,600	200	1,800
Summit Airport	18,900	13,000	31,900	21,300	14,600	35,900	21,900	15,000	36,900	23,100	15,800	38,900
Delaware Total	**90,100**	**61,400**	**151,500**	**105,000**	**68,600**	**173,600**	**116,400**	**73,500**	**189,900**	**133,400**	**81,700**	**215,100**

Operational Fleet Mix Forecast

The operational fleet mix forecast was derived directly from based aircraft fleet mix unless other specific information concerning operational use was available. The process involved multiplying the operations per based aircraft (OPBA) utilization rate times the number of aircraft in each category. **Table 3-8** presents the forecast of operational fleet mix for each public-use airport in Delaware.

Table 3-8 – Forecast of Operational Fleet Mix

Airport Name	Single Engine	Multi Engine	Jet	Rotor	Other	Total
Chandelle Estates Airport						
2018	1,008	92	0	0	0	1,100
2025	1,104	96	0	0	0	1,200
2030	1,104	96	0	0	0	1,200
2040	1,108	92	0	0	0	1,200
Chorman Airport						
2018	12,273	614	0	614	0	13,500
2025	12,965	617	0	617	0	14,200
2030	12,857	1,224	0	918	0	15,000
2040	13,454	1,529	0	917	0	15,900
Civil Air Terminal						
2018	0	91	429	80	0	600
2025	0	158	536	106	0	800
2030	0	197	670	133	0	1,000
2040	0	276	938	186	0	1,400
Delaware Airpark						
2018	20,345	3,255	0	0	0	23,600
2025	27,710	4,890	0	0	0	32,600
2030	35,002	5,698	0	0	0	40,700
2040	42,380	6,520	0	0	0	48,900
Delaware Coastal Airport						
2018	22,557	6,203	1,692	3,384	564	34,400
2025	24,219	6,759	2,816	3,943	563	38,300
2030	25,358	7,326	3,945	4,508	564	41,700
2040	29,309	8,455	6,200	5,073	564	49,600
Jenkins Airport						
2018	450	25	0	0	25	500
2025	450	25	0	0	25	500
2030	514	29	0	0	57	600
2040	514	29	0	0	57	600

Table 3-8 – Forecast of Operational Fleet Mix						
Airport Name	**Single Engine**	**Multi Engine**	**Jet**	**Rotor**	**Other**	**Total**
Laurel Airport						
2018	6,964	536	0	0	0	7,500
2025	7,969	531	0	0	0	8,500
2030	8,565	535	0	0	0	9,100
2040	9,568	532	0	0	0	10,100
New Castle Airport						
2018	16,489	4,580	15,115	916	0	37,100
2025	17,230	4,988	16,323	1,134	0	39,900
2030	17,161	5,645	17,613	1,129	0	42,000
2040	17,876	6,033	20,110	1,564	0	46,700
Smyrna Airport						
2018	1,360	0	0	0	340	1,700
2025	1,360	0	0	0	340	1,700
2030	1,360	0	0	0	340	1,700
2040	1,473	0	0	0	327	1,800
Summit Airport						
2018	6,380	0	0	25,520	0	31,900
2025	8,695	280	0	26,925	0	35,900
2030	9,340	623	0	26,937	0	36,900
2040	10,609	1,061	0	27,230	0	38,900
STATEWIDE TOTALS						
2018	**87,826**	**15,396**	**17,235**	**30,513**	**929**	**151,900**
2025	**101,701**	**18,344**	**19,675**	**32,725**	**928**	**173,600**
2030	**111,262**	**21,373**	**22,227**	**33,626**	**961**	**189,900**
2040	**126,291**	**24,526**	**27,248**	**34,970**	**948**	**215,100**

It should be noted that at Summit Airport, 80 percent of current operations are from helicopters. The forecast showed a decline to 70 percent of total operations by the end of the period. Also, there are no single engine aircraft operations shown for the Civil Air Terminal because civil aviation training activity is prohibited, and the landing fees work to shift those operations to Delaware Airpark where there are no fees.

Peak Period Operations

Since many general aviation landside and airfield facility needs are related to the levels of activity during peak periods, forecasts were developed for peak month, design day, and peak hour general aviation operations at Delaware public-use airports. Typically, non-towered general aviation airports do not keep accurate records of peak period activity. Thus, an industry-accepted method of estimation was used to predict peak period activity that does not require a census of hourly

operations totals. The approach used in developing the peak period operations forecasts is outlined as follows:

- ***Peak Month GA Operations:*** This level of activity is defined as the calendar month when peak aircraft operations occur. Peak Month percentages at Delaware Airports were estimated using the assumption that peak month operations are 10 percent greater than average month operations. The only exception to this rule was for New Castle Airport, where actual FAA Air Traffic Control Tower statistics were used to establish general aviation peak month operations.

- ***Design Day Operations:*** This level of operations is defined as the average day within the peak month. This indicator can be developed by dividing peak month operations by 30 or 31. For conservative forecasting purposes, a 30-day month was selected rather than a 31-day month.

- ***Peak Hour Operations:*** This level of operations is defined as the peak hour within the design day. For airports with between 50 and 300 design day operations, general aviation peak hour operations tend to be 20 percent of those design day operations. As the design day operations decrease, the peak hour percentage increases and vice versa.

Table 3-9 – Forecast of Peak Operations

Airport Name	GA Operations	Peak Month	Design Day	Peak Hour
Chandelle Estates Airport				
2018	1,100	101	3	3
2025	1,200	110	4	4
2030	1,200	110	4	4
2040	1,200	110	4	4
Chorman Airport				
2018	13,500	1,238	41	8
2025	14,200	1,302	43	9
2030	15,000	1,375	46	9
2040	15,900	1,458	49	10
Civil Air Terminal				
2018	600	300	120	24
2025	800	400	160	32
2030	1,000	500	200	40
2040	1,400	700	280	56
Delaware Airpark*				
2018	23,600	2,163	72	18
2025	32,600	2,988	100	25
2030	40,700	3,731	124	31

Table 3-9 – Forecast of Peak Operations				
Airport Name	**GA Operations**	**Peak Month**	**Design Day**	**Peak Hour**
2040	48,900	4,483	149	37
Delaware Coastal Airport				
2018	34,400	3,153	105	21
2025	38,300	3,511	117	23
2030	41,700	3,823	127	25
2040	49,600	4,547	152	30
Jenkins Airport				
2018	500	46	2	2
2025	500	46	2	2
2030	600	55	2	2
2040	600	55	2	2
Laurel Airport				
2018	7,500	688	23	7
2025	8,500	779	26	7
2030	9,100	834	28	8
2040	10,100	926	31	9
New Castle Airport**				
2018	37,100	3,910	414	62
2025	39,900	4,221	447	67
2030	42,000	4,444	470	71
2040	46,700	4,941	523	78
Smyrna Airport				
2018	1,700	156	5	4
2025	1,700	156	5	4
2030	1,700	156	5	4
2040	1,800	165	6	4
Summit Airport				
2018	31,900	2,924	97	19
2025	35,900	3,291	110	22
2030	36,900	3,383	113	23
2040	38,900	3,566	119	24

Delaware Airpark's peak hour percentage was increased to 25 percent of design day operations due to the high volume of training flights by Delaware State University students.
** New Castle's design day is actual peak day taken from Air Traffic Control Tower data. Peak hour percentage used was 15 percent of design day operations.

4.3 GENERAL AVIATION ENPLANEMENTS

Forecasts of annual general aviation enplaned passengers play an important role in determining such landside facilities as access roads, general aviation terminal building sizes, and the amount of automobile parking areas. This activity indicator is often ignored due to the lack of historical data.

To forecast general aviation enplaned passengers, an aircraft occupancy rate was multiplied by the number of itinerant general aviation departures from the Airport. A number, long used by the FAA and the Aircraft Owners and Pilots Association (AOPA), estimated that an average of 2.5 passengers per general aviation itinerant departure was a reasonable estimate of aircraft occupancy. For this study, this factor was applied to all forecast itinerant departures and 10 percent of local departures (except for the Civil Air Terminal which used a much higher ratio because of the high number of passengers per aircraft using the facility during NASCAR races). Local departures are considered training operations and do not add to the landside facility use. Therefore, only a fraction of those operations were counted as contributing passengers to the landside facility use.

Table 3-10- Forecast of Aviation Enplanements

Airport Name	2018	2025	2030	2040
Chandelle Estates Airport	400	400	400	400
Chorman Airport	15,300	16,100	17,100	18,100
Civil Air Terminal, Dover AFB	5,000	5,500	6,000	7,000
Delaware Airpark	7,700	10,600	13,200	15,900
Delaware Coastal Airport	12,100	13,500	14,700	17,500
Jenkins Airport	200	200	200	200
Laurel Airport	2,500	2,900	3,100	3,400
New Castle Airport	30,600	33,000	34,700	38,600
Smyrna Airport	400	400	400	500
Summit Airport	18,600	20,900	21,500	22,600
Delaware Total	**92,800**	**103,500**	**111,300**	**124,200**

It can be argued that this methodology ignores 90 percent of the local operations component, which is true. However, local operations are primarily training and are typically made up of repeated takeoffs and landings. Pilots in training do not add significantly to the passenger through-put of the airport facilities and thus their total inclusion would unduly raise the projected demand levels, which in turn, would suggest unnecessary facilities.

5. MILITARY FORECASTS

Dover Air Force Base Tarmac

Military activity shows little or no correlation to community socioeconomic data or other recognized air traffic indicators. The level of military operations is a function of Department of Defense Policy and Congressional funding. Therefore, it is difficult to accurately predict the level of activity for Delaware airports. **Table 3-11** presents the existing and forecast military activity for each Delaware public-use airport with existing military operations. To develop a forecast, the most recent historical level of activity was simply held constant throughout the planning period. In addition to the annual operations forecast, a projection of peak hour operations was included in **Table 3-11.** The New Castle Airport peak hour military operations were taken from FAA Control Tower records.

Table 3-11- Forecast of Military Operations

Airport	2018	2025	2030	2040
Delaware Coastal Airport	100	100	100	100
Peak Hour	4	4	4	4
New Castle Airport	4,982	5,000	5,000	5,000
Peak Hour	16	16	16	16
Summit Airport	100	100	100	100
Peak Hour	4	4	4	4

6. FORECASTS OF POTENTIAL SCHEDULED AIR SERVICE

THIS SECTION OF THE FORECAST IS ORGANIZED to examine the following topics concerning scheduled airline service in Delaware:

- Airline History in Delaware
- Airline Passenger Generation by County
- Potential Airline Service Capture of Demand

6.1 AIRLINE HISTORY IN DELAWARE

The history of airline service in Delaware has been on and off over the years. In recent history, the only airline service point has been from New Castle Airport. Although air service feasibility studies have been conducted for Dover, there have been no airline offers of service. Thus, the primary airline study point for the system plan is New Castle Airport.

In times when airline service was not available in the State, passenger demand was distributed primarily between Philadelphia International and BWI airports. Although Salisbury, MD and Trenton, NJ offer airline service, these are relatively minor players for Delaware passengers compared with the two major hubs.

Table 3-12 presents a summary of the four most recent airline service periods and the airline providers. Prior to Shuttle America, there was no airline service at ILG from 1993 to 1998. As shown, the greatest success in terms of passenger enplanements was with Frontier Airlines: 168,100 during their service period. For a single calendar year, Frontier enplaned 114,600 passengers (2014).

Table 3-12 - Recent History of Airline Service in Delaware (ILG)

Airline	Beginning Date	Ending Date	Enplanements
Shuttle America	11/1998	2/2000	52,800
Delta Connection	6/2006	9/2007	19,300
Skybus Airlines	3/2008	4/2008	1,650
Frontier Airlines	7/2013	6/2015	168,100

At the time of this writing, it was recently announced that Frontier Airlines will re-enter the Wilmington market at New Castle Airport.

6.2 AIRLINE PASSENGER GENERATION BY COUNTY

The first step in forecasting potential airline demand is to estimate the number of airline travelers that originate in Delaware. In periods of no airline service, all these passengers use out-of-state airports for their airline trips. Even when New Castle Airport had airline service, the bulk of Delaware air travelers used other out-of-state airports to begin the air portion of their trips. Therefore, the purpose of this section is to estimate the number of airline trips made by Delaware citizens over the course of a one-year period.

Commercial airline service available to air travelers from Delaware is located primarily at three airports.

Airport	Number of Enplanements (2018)[2]
▶ Philadelphia International	15,285,948
▶ Baltimore/Washington International	13,373,773
▶ Salisbury-Ocean City Wicomico Regional	64,393

Large airports in Philadelphia and Baltimore attract the majority of northern and central Delaware air travelers due to their close proximity to the region and their numerous air service offerings. Depending on the location in Delaware, these airports can be reached within a one to two-hour drive. Furthermore, air travelers from southern Delaware can access scheduled air service by driving to airports in Salisbury, Maryland and the Washington, D.C. area.

One way to estimate or project the total number of air passengers in Delaware is to base the number of enplanements on the average propensity of U.S. residents to use airline transportation. Applying these averages to the population of the State of Delaware should yield the total number of generated air travelers, assuming that Delaware conformed to national averages.

In 2018 there were an estimated 778.0 million domestic air passenger enplanements in the United States. The population in the United States in 2018 was approximately 327.2 million, which results in an average of 2.38 enplanements per U.S. resident. The FAA provides data that can be used to analyze the number of transfer passengers at the nation's hub airports. In this regard, it is estimated that about one-third of passenger enplanements are double counted because they travel through a hub airport and must change planes to reach their final destination. Thus, they are counted as an enplanement at their originating airport and again at the hub airport. Thus, the connections represent about 33 percent of total enplanements.

Using this information, the enplanement ratio of 2.38 enplanements per U.S. resident overstates the generation of new passengers by 33 percent. Reducing the ratio by that amount reveals that there is an actual average of 1.59 enplanements per U.S. resident. Using this ratio, the number of potential enplanements in Delaware is shown in **Table 3-13**.

Table 3-13 - Potential Delaware Domestic Enplaned Passengers

Catchment Area	2018 Population*	U.S. passenger ratio	Enplanements
New Castle County	559,335	1.59	889,300
Sussex County	229,286	1.59	364,600
Kent County	178,550	1.59	283,900
Delaware Total	**967,171**	**1.59**	**1,537,800**

* Population from census.gov

[2] T-100 Domestic Market (U.S. Carriers), Origin Airport

Under these assumptions, there are an estimated 1.54 million passenger enplanements that originate in Delaware each year. The question that airlines must answer before providing service at Delaware airports is: how many of these air travelers can be captured at a local airport for their air trips?

6.3 POTENTIAL AIRLINE SERVICE CAPTURE OF DEMAND

When there is no reliable track record of airline service, it is often beneficial to develop a comparable market analysis. In this regard, a model developed for this study compared 93 cities with existing airline service to determine enplanement levels, population, drive time distance from the nearest hub airport, and the type of airline service offered. These airports were mostly located in small markets with varying levels of passenger enplanements. Similarly, the population centers were smaller, averaging about 263,400.

To approximate the potential airline service in Delaware, it was assumed that Wilmington was the strongest candidate for realized airline service. This is not to say it would be impossible for Kent or Sussex Counties to attract service, however, the obstacles to that service are formidable. This includes lack of adequate facilities at the Civil Air Terminal and the lack of runway length and FAR Part 139 certification at Delaware Coastal Airport.

Focusing on New Castle Airport, the recent announcement of airline service to be performed by Frontier Airlines has reignited the desire for commercial service to succeed in Wilmington. Using our comparative model, cities with either Frontier Airline or Allegiant Air service (or both) were identified and statistics were generated. The resulting linear formula (in the form of Y=m*X + B) showed the following:

$$Y=40*0.017471+(-0.19569) \text{ or } Y= 0.50315$$

Where: Y= Per Capita Airline Passenger Enplanements; m= Drive Time Distance to Nearest Hub – 40 Minutes to Philadelphia International

Using the population of New Castle County (service area) times the per capita factor yields an estimate of potential passengers that could be captured at New Castle Airport. With a population of 559,300 times the per capita factor of 0.50315 results in 281,400 potential enplanements. This amount is significantly less than the total airline passenger generation of the County (889,300), but it is similar to the potential capture rate of airports with comparable profiles. For example, Trenton NJ is 43 minutes' drive time from Philadelphia International. It is served primarily by Frontier Airlines and in 2018, the airport enplaned more than 405,500 passengers. Mercer County (NJ) population is only 375,700, compared to 559,300 for New Castle County. The point of this is to show the reasonableness of capturing more than 280,000 passenger enplanements at New Castle Airport.

Using the same formula and assuming the same type of airline service for Kent County and assuming travel time to Philadelphia International of 68 minutes, there is a potential for 177,200 passengers in Dover. Sussex County, on the other hand, is limited to the potential use of Delaware Coastal Airport, which currently has 5,500 feet of runway length. Discussions with airport management indicate the best that could be accommodated would likely be a small carrier like Cape Air, with only 9 passenger seats per aircraft. This type of service rarely generates more than 10,000 passengers and must be subsidized to achieve feasibility for the carrier.

Given this comparative analysis, **Table 3-14** presents a summary of the airline passenger generating potential for each Delaware County, along with the best probable capture estimate.

Table 3-14 - Delaware Airline Passenger Potentials

Catchment Area	Total Potential	Capture Potential
New Castle County	889,300	281,400
Sussex County	364,600	Under 10,000
Kent County	283,900	177,200
Delaware Total	**1,537,800**	**468,000**

7. SUMMARY OF AVIATION DEMAND FORECASTS

TABLE 3-15 PRESENTS A SUMMARY OF THE aviation demand forecasts for each system airport. Included in summary are airport-specific based aircraft and operations numbers, along with enplanement and peak period statistics. It should be noted that peak hour components were added to project the highest potential peak period operations for each airport. While rare, all the types of activity could potentially occur during the same hour.

Table 3-15 - Summary of Aviation Demand Forecasts

Airport Name	2018	2025	2030	2040
Chandelle Estates				
Based Aircraft	24	25	25	26
Operations	1,100	1,200	1,200	1,200
Peak Hour Operations	3	4	4	4
Enplanements - GA	400	400	400	400
Chorman				
Based Aircraft	44	46	49	52
Operations	13,500	14,200	15,000	15,900
Peak Hour Operations	8	9	9	10
Enplanements - GA	15,300	16,100	17,100	18,100

Table 3-15 - Summary of Aviation Demand Forecasts				
Airport Name	**2018**	**2025**	**2030**	**2040**
Civil Air Terminal				
Based Aircraft	0	0	0	0
Operations	200	800	1,000	1,400
Peak Hour Operations	24	32	40	56
Enplanements - GA	5,000	5,500	6,000	7,000
Delaware Airpark				
Based Aircraft	29	40	50	60
Operations	23,600	32,600	40,700	48,900
Peak Hour Operations	18	25	31	37
Enplanements - GA	7,700	10,600	13,200	15,900
Delaware Coastal Airport				
Based Aircraft	61	68	74	88
Operations- Total	34,500	38,400	41,800	49,700
General Aviation	34,400	38,300	41,700	49,600
Military	100	100	100	100
Peak Hour Operations- Total	25	27	29	34
General Aviation	21	23	25	30
Military	4	4	4	4
Enplanements - GA	12,100	13,500	14,700	17,500
Jenkins				
Based Aircraft	20	20	21	21
Operations	500	500	600	600
Peak Hour Operations	2	2	2	2
Enplanements - GA	200	200	200	200
Laurel				
Based Aircraft	14	16	17	19
Operations	7,500	8,500	9,100	10,100
Peak Hour Operations	7	7	8	9
Enplanements - GA	2,500	2,900	3,100	3,400
New Castle Airport				
Based Aircraft	182	196	206	229
Operations- Total	42,082	44,900	47,000	51,700
General Aviation	37,100	39,900	42,000	46,700
Military	4,982	5,000	5,000	5,000
Peak Hour Operations- Total	78	83	87	94
General Aviation	62	67	71	78
Military	16	16	16	16
Enplanements - GA	30,600	33,000	34,700	38,600

Table 3-15 - Summary of Aviation Demand Forecasts				
Airport Name	**2018**	**2025**	**2030**	**2040**
Smyrna				
Based Aircraft	10	10	10	11
Operations	1,700	1,700	1,700	1,800
Peak Hour Operations	4	4	4	4
Enplanements - GA	400	400	400	500
Summit				
Based Aircraft	32	36	37	39
Operations- Total	32,000	36,000	37,000	39,000
General Aviation	31,900	35,900	36,900	38,900
Military	100	100	100	100
Peak Hour Operations- Total	23	26	27	28
General Aviation	19	22	23	24
Military	4	4	4	4
Enplanements - GA	18,600	20,900	21,500	22,600
STATEWIDE TOTALS				
Based Aircraft	**416**	**457**	**489**	**545**
Operations- Total	**156,682**	**178,800**	**195,100**	**220,300**
General Aviation	**151,500**	**173,600**	**189,900**	**215,100**
Military	**5,182**	**5,200**	**5,200**	**5,200**
Peak Hour Operations- Total	**193**	**219**	**241**	**279**
Enplanements - GA	**92,800**	**103,500**	**111,300**	**124,200**