
CHAPTER 3: AVIATION ACTIVITY FORECASTS

Federal Aviation Administration COVID-19 Disclaimer

This forecast was prepared at the same time as the evolving impacts of the COVID-19 public health emergency. Forecast approval is based on the methodology, data, and conclusions at the time the document was prepared. However, consideration of the impacts of the COVID-19 public health emergency on aviation activity is warranted to acknowledge the reduced confidence in growth projections using currently-available data.

Accordingly, FAA approval of this forecast does not constitute justification for future projects. Justification for future projects will be made based on activity levels at the time the project is requested for development. Documentation of actual activity levels meeting planning activity levels will be necessary to justify AIP funding for eligible projects.

Introduction

The Aviation Activity Forecasts chapter of the Airport Master Plan analyzes current and future airport activity at the Rapid City Regional Airport (RAP). Forecasting provides an airport with a general idea of the magnitude of growth, as well as fluctuations in activity anticipated over the forecast period. They assist the Airport in determining existing and planned future facility needs based on airport activity level estimates and projections. Forecasts attempt to develop a realistic estimate of future changes.

Forecasting efforts are based on a “snapshot” of existing aviation trends and socioeconomic climate. As such, forecasting tends to be a dynamic element of airport master planning. When conditions change dramatically, forecasts should be reviewed and updated accordingly to reflect the changed environment.

An update of the master plan was needed because by 2019, RAP had already surpassed year 2033 forecasts from the 2014 Airport Master Plan. This chapter includes aviation activity forecasts for the following primary elements:

- Passenger Enplanements
- Based Aircraft
- Airport Operations
- Critical Design Aircraft
- Peak Activity

Forecast Rationale

Forecasting the demand for airport use is a critical step in airport development. It allows an airport to examine its ability to satisfy the needs of the aircraft and people it serves, and to determine the approximate timing of necessary improvements by projecting airport user activity levels.

Forecasts developed for airport master plans and/or federal grants must be approved by the Federal Aviation Administration (FAA). It is the FAA’s policy (ref. FAA AC 150/5070-6B, *Airport Master Plans*) that FAA approval of forecasts should be consistent with the Terminal Area Forecasts (TAF). Master Plan

forecasts for operations and based aircraft are consistent with the TAF if they meet the following criteria:

- Forecasts differ by less than 10 percent in the five-year forecast and 15 percent in the 10-year period, or
- Forecasts do not affect the timing or scale of an airport project, or
- Forecasts do not affect the role of the airport as defined in the current version of FAA Order 5090.5, *Formulation of the NPIAS and AICP*.

Forecasts that are inconsistent with the TAF require additional FAA review to confirm the planning assumptions and appropriate methodologies are used. The TAF model used for this report is from the 2019 FAA TAF published in January 2020. This is latest data available when the forecasting effort began for this study.

Factors Affecting Forecasts

FAA provides general guidance in evaluating factors that affect aviation activity. FAA AC 150-5070-6B states:

“Planners preparing forecasts of demand or updating existing forecasts should consider socioeconomic data, demographics, disposable income, geographic attributes, and external factors such as fuel costs and local attitudes towards aviation.”

For purposes of this forecast, the following defining factors have been used to develop the forecast:

- Based on availability of data when the project began (January 2020), Federal fiscal year 2018 (October 1, 2017 through September 30, 2018) has been used as the baseline year.
- FAA data from 2019 (where available) has been used to validate forecast assumptions and update the forecast baseline.
- The forecast period is 20 years encompassing years 2020 through 2039.
- The core airport service area is considered the Rapid City, SD Metropolitan Statistical Area (MSA) for this forecasting effort. The MSA includes Pennington, Meade, Lawrence and Custer counties.

COVID-19 has significantly impacted the aviation industry, including reduced operations and enplanements. The aviation industry experienced a major loss of revenue, resulting in airlines and general aviation companies laying off employees, canceling flights or even shutting down. It’s difficult to predict how coronavirus will alter travel patterns in the short and long-term.

The forecasts prepared for the airport assume an unconstrained scenario where facilities are available for use to meet demand. Any constrained forecasts prepared will be noted throughout the document. Time periods include short-term (5-year), mid-term (10-year) and long-term (20-year) resulting in forecasts for year 2024, 2029, 2034, and 2039. Forecasts may be developed using a composite of methodologies over the planning period.

Socioeconomic Data

Socioeconomic information within the airport service area can provide insight into factors that affect aviation activity at an airport. Commonly evaluated metrics include population, income, and gross regional product. Historic trends, current data and forecast estimates are evaluated in this section to identify socioeconomic trends that may affect aviation activity forecasts at RAP. Growth rates are used as a method to compare the airport service area to other regional, statewide, and national trends.

For purposes of this study analysis, the Rapid City area has been determined to represent the core local airport service area, while the MSA includes the Rapid City area along with the City of Spearfish area.

Population

Population is a basic indicator of the number of people who may utilize the airport. A comparison of population data for the county, the MSA, the state, and the US is shown in **Table 3-1 Population/Demographic Summary** with the Historic and Forecast Annual Growth Rate (AGR).

Table 3-1 – Population

| Year | Pennington County, SD ¹ | MSA | South Dakota | United States |
|--------------|------------------------------------|---------|--------------|---------------|
| 1990 | 103,659 | 127,507 | 697,101 | 249,622,802 |
| 2000 | 113,124 | 136,062 | 755,844 | 282,162,374 |
| 2010 | 126,728 | 152,211 | 816,227 | 309,338,364 |
| 2019 (est.) | 140,391 | 167,409 | 880,887 | 330,393,265 |
| Historic AGR | 1.06% | 0.95% | 0.82% | 0.98% |
| 2024 | 145,830 | 173,618 | 908,413 | 341,996,829 |
| 2029 | 151,049 | 179,488 | 935,122 | 353,468,845 |
| 2034 | 155,846 | 184,824 | 959,999 | 364,431,014 |
| 2039 | 160,122 | 189,535 | 982,529 | 374,692,158 |
| Forecast AGR | 0.66% | 0.62% | 0.55% | 0.63% |

Source: Woods & Poole Economics

Income

Per Capita Personal Income (PCPI) was also considered as a factor affecting aviation activity. Those who have more disposable income may have a higher propensity to utilize the time savings of aviation, or simply more disposable income for leisure.

¹ Pennington County is the smallest jurisdiction reported, inclusive of Rapid City, from the Woods & Poole data.

Table 3-2 – Per Capita Personal Income (current dollars)

| Year | Pennington County, SD | MSA | South Dakota | United States |
|---------------------|-----------------------|----------------|----------------|----------------|
| 1990 | 17,035 | 16,869 | 16,475 | 19,621 |
| 2000 | 26,710 | 26,195 | 26,890 | 30,657 |
| 2010 | 39,833 | 39,436 | 41,058 | 40,545 |
| 2019 (est.) | 50,886 | 50,761 | 52,722 | 55,672 |
| <i>Historic AGR</i> | <i>3.84%</i> | <i>3.87%</i> | <i>4.10%</i> | <i>3.65%</i> |
| <i>2024</i> | <i>62,671</i> | <i>62,452</i> | <i>65,330</i> | <i>68,922</i> |
| <i>2029</i> | <i>79,430</i> | <i>79,060</i> | <i>83,287</i> | <i>87,836</i> |
| <i>2034</i> | <i>100,794</i> | <i>100,213</i> | <i>106,461</i> | <i>112,185</i> |
| <i>2039</i> | <i>127,450</i> | <i>126,582</i> | <i>135,657</i> | <i>142,891</i> |
| <i>Forecast AGR</i> | <i>4.70%</i> | <i>4.67%</i> | <i>4.84%</i> | <i>4.83%</i> |

Source: Woods & Poole Economics, U.S. Census Bureau

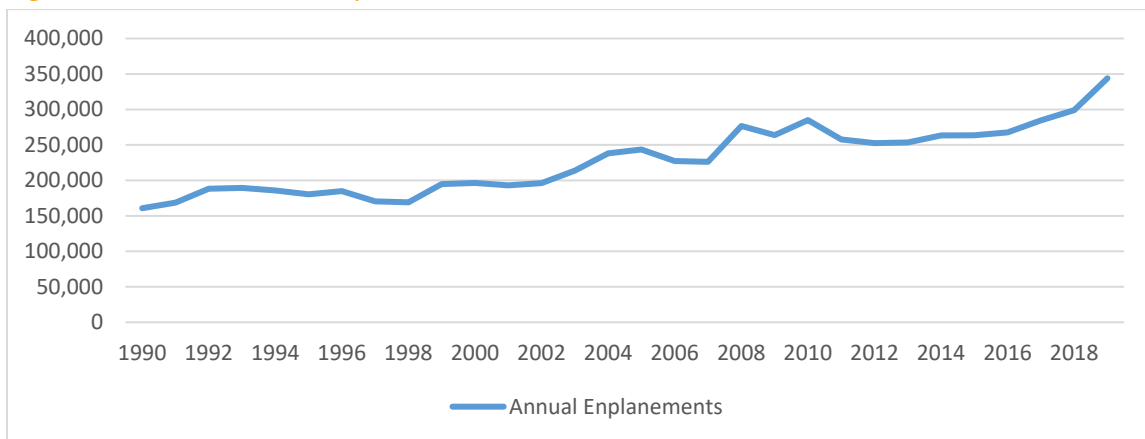
Passenger Enplanements

Passenger airline enplanements represent the number of revenue passengers boarding commercial service aircraft that depart an airport. Enplanement figures are vital for project planning at commercial service airports because the numbers help determine size and space requirements for the terminal building, as well as validate the airport’s FAA classification and funding.

Passenger Demand

On average since 1990, passenger enplanements at Rapid City have been increasing, but there have been fluctuations which are likely attributed to economic conditions such as the recession of 2009. Population and income since 2000 has increased at a steady rate. Rapid City’s location has allowed it to typically capture most of the travel within its catchment area with some leakage to Denver and Sioux Falls which are both approximately six hours away. As mentioned above, the fluctuation in enplanements is primarily from changes in the national economy which impacts the tourism element. While tourism will remain a major part of the Rapid City’s economy, the area is diversifying, which will help if another national economic downturn occurs.

Figure 3-1 – RAP Historic Enplanements



Source: FAA Annual Enplanements

Table 3-3 – RAP Historic Passenger Data

| Year | Enplanements | Load Factor |
|------|--------------|-------------|
| 2015 | 266,979 | 79.79% |
| 2016 | 276,684 | 82.31% |
| 2017 | 288,384 | 77.33% |
| 2018 | 306,419 | 83.29% |
| 2019 | 345,155 | 81.98% |
| CAGR | 5.27% | |

Source: U.S. DOT T-100 Summary Report (January 2015-December 2019)

Forecasts

A forecast of enplaned passengers has been prepared using existing data and the best available information regarding airline industry trends to serve the Rapid City market for both tourism and local demand. The market has seen annualized growth of 2.24% over the past 20 years, but has seen annualized growth of 6.87% over the past four years, rising to 343,926 enplaned passengers in 2019. There were a number of items considered in generating this Master Plan forecast which include:

- The local Rapid City economy will remain strong and resilient. Population, and income growth will generally follow projections.
- Rapid City Regional Airport will continue air service development efforts.
- Airline consolidations were completed in 2010 for Delta (merging with Northwest), in 2012 for United (merging with Continental) and in 2015 for American (merging with US Airways). The networks established by these carriers are beginning to incorporate the Rapid City market to multiple destinations. This expansion to other destinations will continue.
- Enplanement demand will be met by the airlines through adding flight frequency, aircraft capacity and airline destinations to meet the need at existing hub airports.
- ‘Niche’ airlines are expected to begin serving Rapid City during the planning period which will add capacity and destinations.
- The impact of COVID-19, starting in the spring of 2020, was considered by lowering enplanements through 2022, before returning to existing levels by 2023.

The airport’s airline passenger service consultant, Mead & Hunt, provided projections at a Normal and High forecast level through 2029. This information is provided in **Tables 3-4** and **3-5**.

For the preferred forecast, the Mead & Hunt Normal forecast was used for the first 10 years (through 2029) at 4.11% CAGR. For the remaining portion of the 20-year period, a lower growth rate was used, resulting in a 2.98% CAGR over the full 20-year period. The preferred forecast is listed in **Table 3-6 RAP Long Range Passenger Enplanement Forecast** as the Normal/Level forecast.

Table 3-4 – RAP Passenger Enplanement (Normal Forecast)

| Month | 2019 | 2021 | 2023 | 2025 | 2027 | 2029 | CAGR |
|-------------|---------|---------|---------|---------|---------|---------|--------|
| January | 19,142 | 11,318 | 14,189 | 17,036 | 17,036 | 20,501 | 0.69% |
| February | 17,594 | 12,124 | 14,521 | 17,363 | 17,923 | 23,322 | 2.92% |
| March | 19,956 | 16,911 | 20,566 | 22,523 | 24,022 | 26,387 | 2.83% |
| April | 20,778 | 18,470 | 22,077 | 24,063 | 24,980 | 30,188 | 3.81% |
| May | 27,778 | 20,224 | 25,353 | 32,921 | 33,422 | 42,055 | 4.20% |
| June | 37,764 | 33,168 | 49,848 | 56,956 | 63,154 | 73,156 | 6.84% |
| July | 43,259 | 39,845 | 58,214 | 65,398 | 73,195 | 79,248 | 6.24% |
| August | 41,062 | 38,118 | 56,185 | 63,369 | 70,315 | 76,944 | 6.48% |
| September | 37,732 | 28,494 | 38,805 | 46,641 | 48,072 | 56,655 | 4.15% |
| October | 30,379 | 23,785 | 30,025 | 32,114 | 35,186 | 36,265 | 1.79% |
| November | 21,515 | 16,007 | 22,448 | 22,448 | 22,448 | 23,494 | 0.88% |
| December | 26,964 | 19,184 | 23,675 | 24,439 | 25,203 | 26,282 | -0.26% |
| Total | 343,926 | 277,647 | 375,906 | 425,272 | 454,956 | 514,497 | 4.11% |
| Load Factor | 81.69% | 74.23% | 81.39% | 82.52% | 82.87% | 82.81% | |

Source: Mead & Hunt

Table 3-5 – RAP Passenger Enplanement (High Forecast)

| Month | 2019 | 2021 | 2023 | 2025 | 2027 | 2029 | CAGR |
|-------------|---------|---------|---------|---------|---------|---------|--------|
| January | 19,142 | 11,318 | 14,189 | 17,036 | 18,791 | 20,501 | 0.69% |
| February | 17,594 | 12,124 | 14,521 | 17,363 | 19,795 | 23,322 | 2.92% |
| March | 19,956 | 16,911 | 20,566 | 23,645 | 26,387 | 27,534 | 3.27% |
| April | 20,778 | 18,470 | 22,077 | 25,191 | 27,385 | 31,335 | 4.19% |
| May | 27,778 | 20,224 | 26,486 | 36,420 | 38,793 | 46,728 | 5.30% |
| June | 37,764 | 33,168 | 52,477 | 62,213 | 71,606 | 82,356 | 8.11% |
| July | 43,259 | 39,845 | 60,911 | 70,814 | 82,072 | 88,838 | 7.46% |
| August | 41,062 | 38,118 | 58,893 | 68,785 | 79,088 | 86,422 | 7.73% |
| September | 37,732 | 28,494 | 39,973 | 49,048 | 54,991 | 61,412 | 4.99% |
| October | 30,379 | 23,785 | 30,025 | 32,114 | 36,516 | 37,434 | 2.11% |
| November | 21,515 | 16,007 | 22,448 | 22,448 | 23,738 | 23,494 | 0.88% |
| December | 26,964 | 19,184 | 23,674 | 24,439 | 26,533 | 26,282 | -0.26% |
| Total | 343,926 | 277,647 | 386,251 | 449,518 | 505,695 | 555,657 | 4.91% |
| Load Factor | 81.69% | 74.23% | 81.44% | 82.59% | 82.90% | 82.90% | |

Source: Mead & Hunt

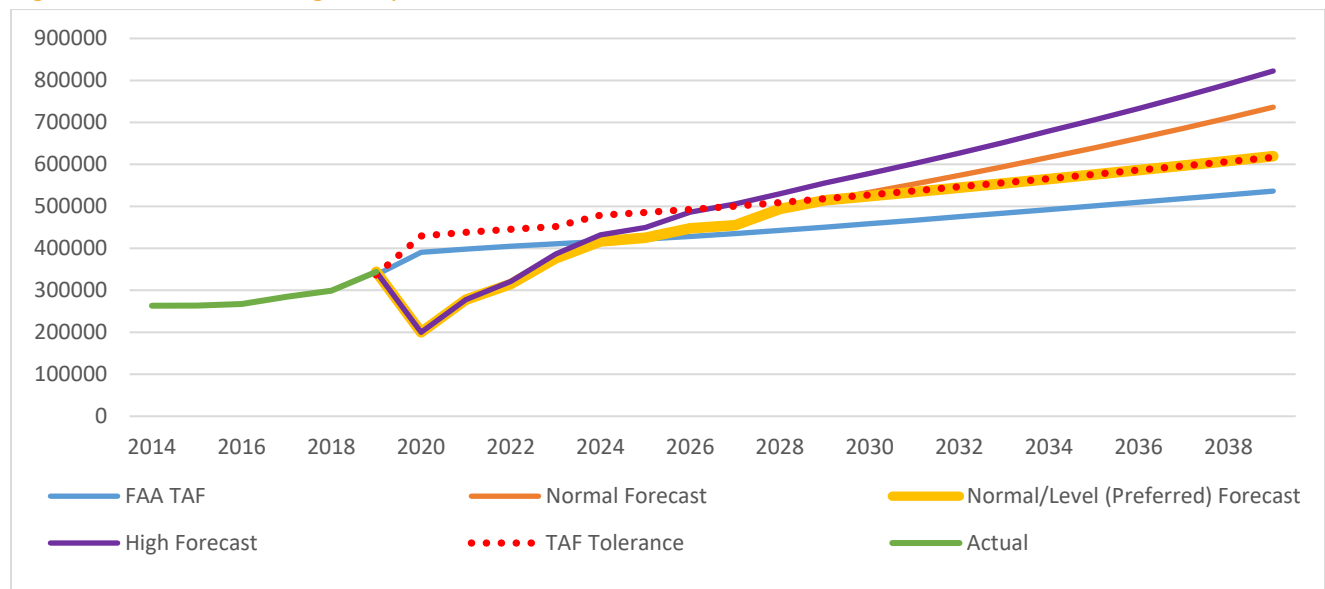
Table 3-6 – RAP Long Range Passenger Enplanement Forecast

| Forecast | 2019 | 2024 | 2029 | 2034 | 2039 | 2019 to 2029 CAGR | 2019 to 2039 CAGR |
|------------------------|---------|---------|---------|---------|---------|-------------------|-------------------|
| Normal | 343,926 | 416,470 | 514,497 | 616,987 | 736,334 | 4.11% | 3.88% |
| Normal/Level | 343,926 | 416,470 | 514,497 | 565,267 | 619,525 | 4.11% | 2.98% |
| High | 343,926 | 432,095 | 555,657 | 679,299 | 822,505 | 4.91% | 4.46% |
| Preferred Normal/Level | 343,926 | 416,470 | 514,497 | 565,267 | 619,525 | 4.11% | 2.98% |
| FAA TAF | 336,697 | 416,334 | 450,458 | 492,201 | 536,341 | 2.95% | 2.36% |

Source: KLJ Analysis and Projection of Mead & Hunt data

The FAA Terminal Area Forecast (TAF) projects 536,341 enplanements by 2039 which is based on an annual growth rate of 2.36%. In **Figure 3-2 RAP Enplanement Forecast**, the TAF is provided in comparison to the normal and high forecast.

Figure 3-2 – RAP Passenger Enplanement Forecasts



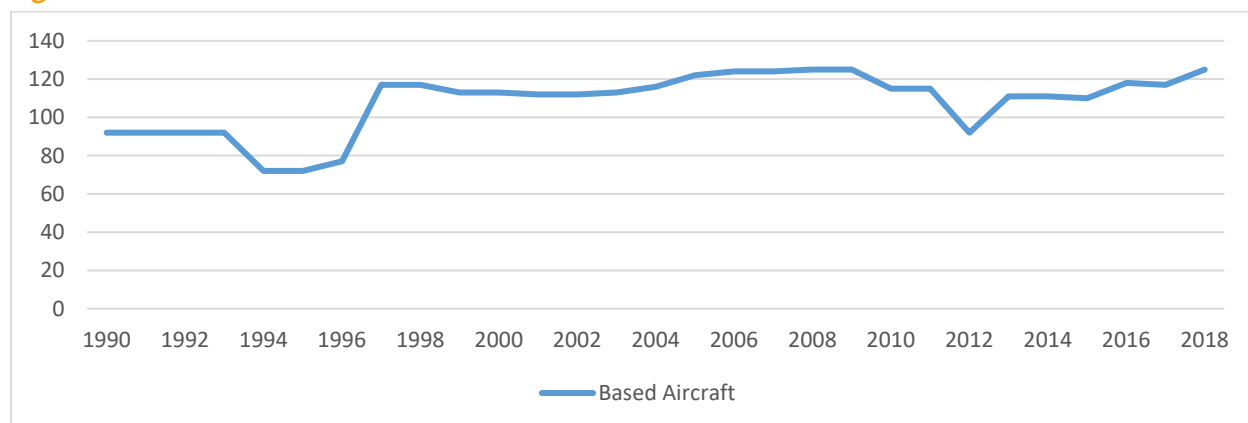
Source: FAA Terminal Area Forecast (January 2020), Mead & Hunt Projections, KLJ Analysis

Based Aircraft

A based aircraft is an operational and airworthy aircraft claiming an airport as its home for most of the year. Civil (non-military) based aircraft at Rapid City are used for general aviation (GA) and some Air Taxi (AT) operations. National forecasts show a modest growth rate of 0.80 percent annually over the next 20 years. Based aircraft had been increasing steadily with decreased growth during economic downturns. Events affecting the number of aircraft include increased security regulations since 9/11, increased cost of aircraft ownership and economic conditions. Aircraft types are evolving to include more turboprop and turbojet aircraft and fewer multi-engine piston aircraft.

The historic TAF for Rapid City showed a downturn of based aircraft in 2011 to 2012 from 115 down to 92 aircraft. In discussions with Rapid City airport staff it was learned that the based aircraft information for 2012 was gathered by sending mailings to all aircraft known to be based at the airport. The 2012 based aircraft numbers were recorded as a result of those aircraft owners' responding. If an aircraft owner did not respond or was otherwise not known to airport, it was not recorded as a based aircraft in 2012. As a result, the 2012 based aircraft number of 92 aircraft appears to be an error in data collection and not a correct representation of the aircraft at the airport in that year. Rapid City reported 125 based aircraft in 2020 which are detailed by aircraft type in **Table 3-7**.

Figure 3-3 – Historic FAA Recorded Based Aircraft



Source: FAA Terminal Area Forecast (January 2020)

Table 3-7 – Based Aircraft Fleet Mix

| Aircraft Type | Based Aircraft | Percent of Total |
|-----------------------------|----------------|------------------|
| Single-Engine | 94 | 75.2% |
| Multi-Engine | 21 | 16.8% |
| Jet | 4 | 3.2% |
| Helicopter | 5 | 4.0% |
| Ultralight/Other | 1 | 0.8% |
| Total Based Aircraft | 125 | 100.0% |

Source: FAA 5010 Rapid City Regional Airport 2020

Forecast

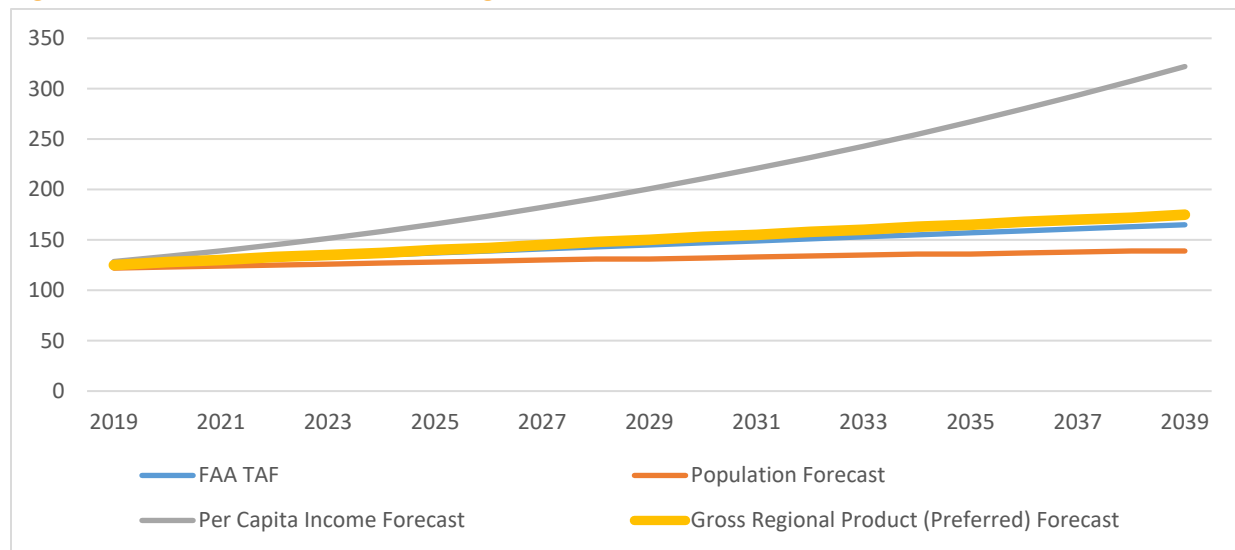
An important local and regional consideration is the stagnant level of based aircraft at Rapid City in comparison to the multi-county area. Increases occurred in the region in 1998, 2001 and 2007 but did not occur at Rapid City. This has resulted in based aircraft locating at surrounding airports other than Rapid City. This will have an effect on the forecast of based aircraft at Rapid City. There were three airports mentioned most in discussions about where pilots are basing their aircraft.

- Black Hills Airport (SPF): SPF is in Spearfish, SD [41 nautical miles northwest of RAP]. This facility has a 6,401-foot runway with two non-precision GPS approaches. According to the FAA TAF, based aircraft at SPF have increased rapidly from 43 to 73 over the past 20 years for an average growth rate of 2.7 percent annually. From Rapid City it is a 45-mile (47 minute) drive.
- Sturgis Municipal Airport (49B): 49B is in Sturgis, SD [26 nautical miles northwest of RAP]. This facility has a 5,100-foot runway and 42 based aircraft with two non-precision GPS approaches. According to the FAA TAF, based aircraft at 49B have increased from 30 to 42 over the past 20 years for an average growth rate of 1.7 percent. From Rapid City it is a 35-mile (38 minute) drive.
- Hot Springs Airport (HSR): HSR is in Hot Springs, SD [42 nautical miles south of RAP]. This facility has a 4,506-foot runway and 30 based aircraft with two non-precision GPS approaches. According to the FAA TAF, based aircraft at HSR have increased rapidly from 10 to 30 over the past 20 years for an average annual growth rate of 4.3 percent. From Rapid City it is a 54-mile (54 minute) drive.
- In comparison, Rapid City Regional Airport is east of the city. It is a 10-mile (15 minute) drive to Rapid City Regional Airport from the central business area. The airport has grown from 113 to 125 aircraft in the same time period for a 0.5 percent annual growth.

There are two factors which are believed to have limited based aircraft growth at Rapid City. These are first the lack of space to develop, since the airport is on a low plateau with additional cost to fill and level land for hangar development. Second is the airport is now within City of Rapid City limits and as of 2005, was required to abide by City building codes. If these factors are addressed, it is believed that additional based aircraft will be added.

It is estimated Rapid City based aircraft will grow at a marginal growth rate for the short-term following historical trends. New based aircraft will include a variety of aircraft types. Rapid City based aircraft is forecast to grow from 125 currently to 175 at the end of the forecast period for an average annual growth rate of 1.78 percent.

Figure 3-4 – Based Aircraft Forecasting Methods



Source: FAA TAF issued January 2020, Woods & Poole, KLJ Analysis

The preferred based aircraft forecast, which was based on the Gross Regional Product, was expanded to distribute across different aircraft types. **Table 3-8 – Based Aircraft Forecast** shows the total based aircraft forecast and the distribution by aircraft type. Turboprop, Jet aircraft and Helicopters are expected to see higher growth than Piston aircraft. Piston aircraft make up the majority of the RAP Single-Engine aircraft and a few of the Multi-Engine aircraft.

Table 3-8 – Based Aircraft Forecast

| Metric | 2019 | 2024 | 2029 | 2034 | 2039 | CAGR |
|-----------------------------|------------|------------|------------|------------|------------|--------------|
| Single-Engine* | 94 | 99 | 104 | 108 | 112 | 0.93% |
| Multi-Engine* | 21 | 25 | 30 | 35 | 41 | 3.58% |
| Jet | 4 | 5 | 7 | 9 | 12 | 5.95% |
| Helicopter | 5 | 6 | 7 | 8 | 9 | 3.14% |
| Ultralight/Other | 1 | 1 | 1 | 1 | 1 | |
| Total Based Aircraft | 125 | 136 | 149 | 161 | 175 | 1.79% |

Source: KLJ Analysis. CAGR = Compounded Annual Growth Rate

* Single and Multi Engine aircraft include both piston and turboprop aircraft.

Aircraft Operations

Commercial

Commercial aviation consists of civil aviation that involves operating an aircraft for hire to transport passengers or cargo. These operations are scheduled or unscheduled. The commercial operations forecasts for RAP listed in **Table 3-9** and **Table 3-10** consider both new airline service anticipated as well as changes in the industry aircraft fleet mix.

Table 3-9 – RAP Passenger Aircraft Operations (Normal Forecast)

| Month | 2019 | 2021 | 2023 | 2025 | 2027 | 2029 | CAGR |
|-----------|--------|-------|--------|--------|--------|--------|--------|
| January | 670 | 520 | 528 | 608 | 608 | 668 | -0.03% |
| February | 586 | 514 | 522 | 598 | 598 | 714 | 2.00% |
| March | 694 | 664 | 726 | 744 | 806 | 798 | 1.41% |
| April | 756 | 738 | 798 | 816 | 836 | 880 | 1.53% |
| May | 976 | 770 | 874 | 1,046 | 1,062 | 1,292 | 2.84% |
| June | 1,406 | 1,120 | 1,450 | 1,610 | 1,694 | 1,814 | 2.58% |
| July | 1,568 | 1,294 | 1,612 | 1,776 | 1,860 | 1,960 | 2.26% |
| August | 1,478 | 1,260 | 1,572 | 1,736 | 1,820 | 1,940 | 2.76% |
| September | 1,274 | 1,002 | 1,200 | 1,360 | 1,422 | 1,602 | 2.32% |
| October | 1,136 | 842 | 946 | 988 | 1,086 | 1,086 | -0.45% |
| November | 810 | 588 | 726 | 726 | 726 | 726 | -1.09% |
| December | 936 | 672 | 752 | 752 | 752 | 752 | -2.17% |
| Total | 12,290 | 9,984 | 11,706 | 12,760 | 13,270 | 14,232 | 1.48% |

Source: Mead & Hunt

Table 3-10 – RAP Passenger Aircraft Operations (High Forecast)

| Month | 2019 | 2021 | 2023 | 2025 | 2027 | 2029 | CAGR |
|-----------|--------|-------|--------|--------|--------|--------|--------|
| January | 670 | 520 | 528 | 608 | 608 | 668 | -0.03% |
| February | 586 | 514 | 522 | 598 | 598 | 714 | 2.00% |
| March | 694 | 664 | 726 | 736 | 798 | 814 | 1.61% |
| April | 756 | 738 | 798 | 810 | 830 | 896 | 1.71% |
| May | 976 | 770 | 890 | 1,072 | 1,096 | 1,356 | 3.34% |
| June | 1,406 | 1,120 | 1,486 | 1,682 | 1,844 | 1,940 | 3.27% |
| July | 1,568 | 1,294 | 1,648 | 1,848 | 2,010 | 2,086 | 2.90% |
| August | 1,478 | 1,260 | 1,608 | 1,808 | 1,970 | 2,066 | 3.41% |
| September | 1,274 | 1,002 | 1,216 | 1,392 | 1,522 | 1,666 | 2.72% |
| October | 1,136 | 842 | 946 | 988 | 1,086 | 1,102 | -0.30% |
| November | 810 | 588 | 726 | 726 | 726 | 726 | -1.09% |
| December | 936 | 672 | 752 | 752 | 752 | 752 | -2.17% |
| Total | 12,290 | 9,984 | 11,846 | 13,020 | 13,840 | 14,786 | 1.87% |

Source: Mead & Hunt

As with the enplanement forecast, the preferred operations forecast also used the Mead & Hunt Normal forecast for the first 10 years through 2029 at 1.48% CAGR. For the remaining portion of the 20-year period a lower growth rate was used resulting in a 1.49% CAGR over the full 20-year period. The preferred forecast is listed in **Table 3-11**.

Table 3-11 – RAP Long Range Passenger Aircraft Operations Forecast

| Forecast | 2019 | 2024 | 2029 | 2034 | 2039 | 2019 to 2029 CAGR | 2019 to 2039 CAGR |
|------------------------------------------------|--------|--------|--------|--------|--------|-------------------|-------------------|
| Normal ¹ | 11,290 | 11,387 | 13,074 | 14,435 | 15,550 | 1.48% | 1.61% |
| Normal/Level ¹ | 11,290 | 11,387 | 13,074 | 14,224 | 15,173 | 1.48% | 1.49% |
| High ¹ | 11,290 | 11,580 | 13,583 | 14,997 | 16,156 | 1.87% | 1.81% |
| Cargo | 2,200 | 2,200 | 2,300 | 2,400 | 2,500 | 0.80% | 0.64% |
| Preferred (Normal/Level +Cargo) | 13,490 | 13,587 | 15,374 | 16,624 | 17,673 | 1.31% | 1.36% |
| FAA TAF ² | 15,587 | 14,432 | 15,476 | 16,697 | 17,989 | -0.07% | 0.72% |

Source: KLJ Analysis and Projection of Mead & Hunt data

General Aviation

General Aviation (GA) is non-commercial aviation activity not classified in another category. At airports with a local Air Traffic Control Tower (ATCT) like RAP, takeoffs and landings (operations) are counted and classified as civil local or itinerant. Local operations are performed by aircraft that remain in the local traffic pattern and stay within a 20-mile radius. These operations typically include practice landings, touch-and-go operations, practice approaches and maneuvering within the local area in non-military aircraft. Local operations are usually performed by recreational and flight training aircraft. Itinerant

¹ All airline passenger aircraft operations including those classified as Air Carrier and Air Taxi/Commuter.

² Air Carrier and Air Taxi/Commuter Operations which includes cargo and also some unscheduled operations.

operations are performed by a landing aircraft arriving from outside the airport area (20 miles) or a departing aircraft that leaves the airport area. Itinerant operations are conducted in all types of aircraft including airlines, general aviation and military.

From a national perspective, the trend of strong growth in corporate aircraft and steady or decreased use of piston aircraft is expected to continue over the planning period. This national forecast may fluctuate with new unleaded fuel engines potentially reducing the cost of flying. The number of fixed wing turbojet aircraft is expected to increase 1.84 percent annually with hours flown increasing at a 2.39 percent rate. Fixed wing piston aircraft are expected to decrease at a rate of 0.96 percent annually with activity decreasing at a 1.08 percent annual rate. Overall GA operations at RAP are expected to increase at a consistent rate through 2039.

Military Operations

Military missions are difficult to predict but the local SDANG base is expected to remain at RAP for the foreseeable future. Total, local and itinerant military operations were forecast to remain steady and follow average figures from the last 10 years assuming the same type of mission will occur at RAP. Total operations are forecast to remain at 3,178 for the planning period. Itinerant operations make up about 69 percent of the total with local operations at 31 percent based on historical trends.

The preferred forecast for military operations is consistent with the 2019 FAA TAF.

Operations Summary

The total annual operations forecast for RAP is summarized in the following table, including a breakdown between operations types.

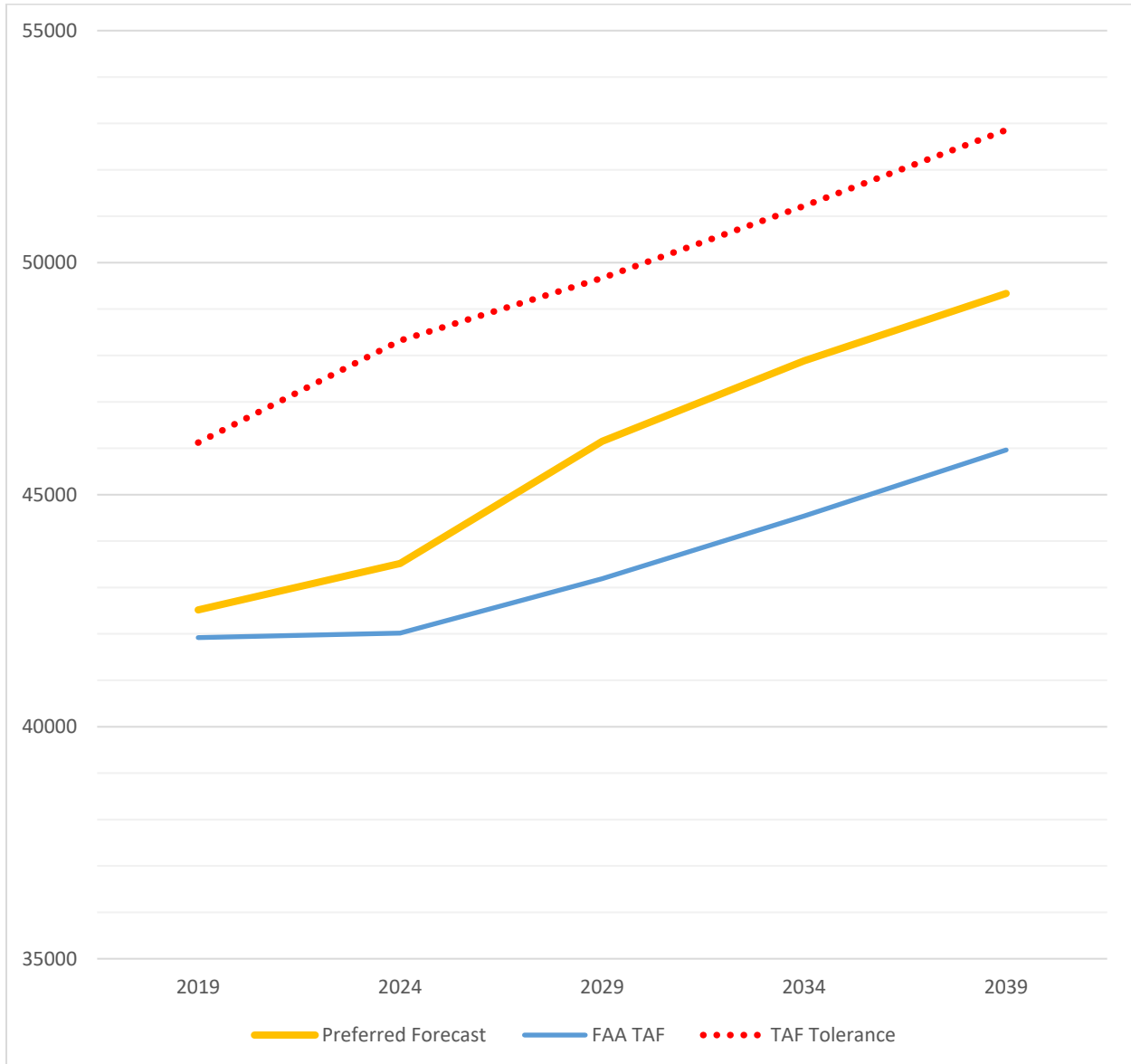
Table 3-12 – Total Operations Forecast Summary

| Metric | 2019 | 2024 | 2029 | 2034 | 2039 | CAGR |
|----------------------------------|---------------|---------------|---------------|---------------|---------------|--------------|
| Commercial | 13,490 | 13,587 | 15,374 | 16,624 | 17,673 | 1.36% |
| GA Itinerant | 17,083 | 17,571 | 17,912 | 18,026 | 18,180 | 0.31% |
| GA Local | 8,767 | 9,171 | 9,528 | 9,797 | 9,961 | 0.64% |
| Military | 3,178 | 3,178 | 3,178 | 3,178 | 3,178 | 0.00% |
| Total Forecast Operations | 42,517 | 43,508 | 45,992 | 47,625 | 48,992 | 0.71% |
| FAA TAF Operations | | | | | | |
| Air Carrier | 5,174 | 8,706 | 9,413 | 10,277 | 11,189 | 3.93% |
| Air Taxi/Commuter | 10,413 | 5,726 | 6,063 | 6,420 | 6,800 | -2.11% |
| GA Itinerant | 14,706 | 14,865 | 14,870 | 14,875 | 14,880 | 0.05% |
| GA Local | 9,411 | 10,504 | 9,667 | 9,792 | 9,917 | 0.26% |
| Military | 3,178 | 3,178 | 3,178 | 3,178 | 3,178 | 0.00% |
| Total TAF Operations | 41,920 | 42,017 | 43,191 | 44,542 | 45,964 | 0.46% |

Source: KLJ Analysis, CAGR = Compounded Annual Growth Rate

Note: Some numbers may not add up due to rounding

Figure 3-5 – Total Operations Forecast



Fleet Mix

The fleet mix for passenger airline and cargo airline operations are turbojet and turboprop respectively. Average annual passenger airline operations were 9,490 from 2014 through the 3rd quarter of 2019 and average annual cargo airline operations were 1,980 for this same period. This type of fleet mix is expected to continue through the planning period.

For Rapid City, the largest variety of aircraft come from general aviation operations. TFMS data was gathered from years 2014 through the 3rd Quarter of 2019. The fleet mix of aircraft identified in the following table is used for itinerant flights conducted under IFR. An aggregate of 2014-2019 aircraft types were ranked and the top 20 moved forward to help establish an overall IFR fleet mix. It is estimated about 35 percent of all general aviation operations at RAP are recorded in the TFMS.

Table 3-13 – TFMS Data Fleet Mix (2014 to 3rd Quarter 2019)

| Aircraft ID | Make/Model | Type | Total Period Operations | Annual Baseline GA Operations |
|----------------------------------------------------------|--------------------------|---------------------|-------------------------|--------------------------------------------------------------------------------|
| BE9L | Beechcraft King Air C-90 | Turboprop | 12,788 | Historic Annual General Aviation Operations with IFR (11,930) and VFR (16,370) |
| PC12 | Pilatus PC-12 | Turboprop (Single) | 10,320 | |
| BE20 | Beechcraft King Air 200 | Turboprop | 3,916 | |
| LJ45 | Learjet 45 | Turbojet | 1,189 | |
| C525 | Cessna Citation CJ1 | Turbojet | 1,588 | |
| C310 | Cessna 310 | Multi-Engine Piston | 1,522 | |
| EA50 | Eclipse 500 | Turbojet | 1,771 | |
| C441 | Cessna Conquest | Turboprop | 827 | |
| C56X | Cessna Excel | Turbojet | 1,187 | |
| SR22 | Cirrus SR-22 | Singe Engine Piston | 1,414 | |
| P46T | Piper Meridian | Turboprop (Single) | 709 | |
| E55P | Embraer Phenom 300 | Turbojet | 532 | |
| C560 | Cessna Citation Ultra | Turbojet | 1,436 | |
| C25A | Cessna Citation CJ2 | Turbojet | 925 | |
| C550 | Cessna Citation II | Turbojet | 944 | |
| C172 | Cessna 172 Skyhawk | Singe Engine Piston | 817 | |
| TBM8 | Socata TBM-850 | Turboprop (Single) | 395 | |
| BE40 | Beechcraft Beechjet 400 | Turbojet | 1,130 | |
| C750 | Cessna Citation 10 | Turbojet | 759 | |
| BE36 | Beechcraft Bonanza 36 | Singe Engine Piston | 485 | |
| Total Top 20 Sample (80.2%) | | | 51,435 | |
| Total TFMS Recorded Operations | | | 68,603 | |
| Turboprop (52.3%) | | | 35,882 | 7,890 |
| Turbojet (27.3%) | | | 18,700 | 3,300 |
| Piston (19.8%) | | | 13,623 | 17,110 |
| Total Baseline Annual General Aviation Operations | | | | 28,300 |

Source: FAA Traffic Flow Management System (TFMS), KLJ Analysis

The data table above is a sample of IFR operations and the remaining 65 percent is with VFR operations which are primarily single-engine piston aircraft. Estimated fleet mix percentages are then identified for general aviation operations conducted under IFR and VFR. Of the 16,370 VFR operations, 90% were allocated to piston aircraft and 10% were allocated to turboprop aircraft. The overall estimated fleet

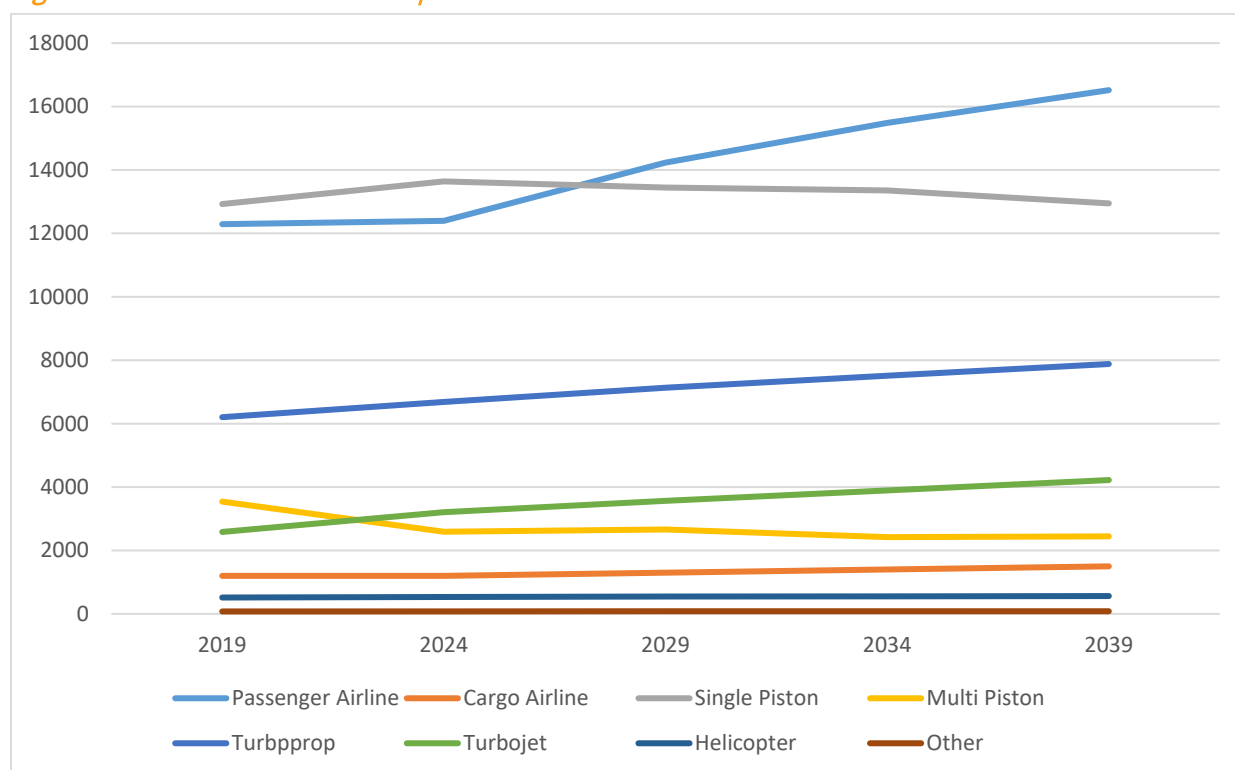
mix share breakdown is identified in **Table 3-13**. The total annual operations are prorated by the estimated fleet mix share percentage to yield a fleet mix operational forecast in **Table 3-14**.

Table 3-14 – Commercial & GA Operations Fleet Mix Forecast

| Metric | 2019 | 2024 | 2029 | 2034 | 2039 | CAGR |
|---------------------------------|---------------|---------------|---------------|---------------|---------------|--------------|
| Passenger/Cargo Airlines | | | | | | |
| Passenger Airline (Turbofan) | 11,290 | 11,387 | 13,074 | 14,224 | 15,173 | 1.49% |
| Cargo Airline (Turboprop) | 2,200 | 2,200 | 2,300 | 2,400 | 2,500 | 0.64% |
| Total Airline Operations | 13,490 | 13,587 | 15,374 | 16,624 | 17,673 | 1.36% |
| General Aviation | | | | | | |
| Single-Engine Piston | 12,925 | 13,639 | 13,446 | 13,355 | 12,945 | 0.01% |
| Multi-Engine Piston | 3,541 | 2,594 | 2,662 | 2,421 | 2,448 | -1.83% |
| Turboprop | 6,204 | 6,686 | 7,134 | 7,512 | 7,880 | 1.20% |
| Turbojet | 2,585 | 3,209 | 3,567 | 3,895 | 4,221 | 2.48% |
| Helicopter | 517 | 535 | 549 | 556 | 563 | 0.43% |
| Ultralight/Other | 78 | 80 | 82 | 83 | 84 | 0.43% |
| Total GA Operations | 25,849 | 26,742 | 27,440 | 27,823 | 28,141 | 0.43% |

Source: KLJ Analysis

Figure 3-6 – Commercial & GA Operations Fleet Mix Forecast



Critical Design Aircraft (Airlines)

The critical design aircraft is defined as the most demanding aircraft or family of aircraft to regularly use the airport. A critical design aircraft type or family must operate at least 500 annual operations at the airport to be considered “regular” use by FAA for improvements to be justified for FAA funding. The methodology identified in FAA AC 150/5000-17, Critical Aircraft and Regular Use Determination was used for this analysis. For Rapid City, the analysis of critical aircraft only focused on the airline activity since these aircraft have the highest design standards.

Existing

Table 3-15 – Existing Critical Design Aircraft

| Aircraft Type (Operator) | 2018 Operations | AAC | ADG | TDG |
|----------------------------------------|-----------------|-----|-----|-----|
| Airbus A319 (Allegiant) | 295 | C | III | 3 |
| Airbus A320 (Allegiant) | 320 | C | III | 3 |
| Boeing 737-800, 900 (United, Charters) | 94 | D | III | 3 |
| Boeing 737-400, 700 (Charters) | 26 | C | III | 3 |
| CRJ-200 (Delta, United) | 5,071 | C | II | 1-B |
| CRJ-700 (Delta, United) | 1,040 | C | III | 2 |
| CRJ-900 (American, Delta) | 1,739 | C | III | 2 |
| Embraer 135/145 (United, Charters) | 2,386 | C | II | 2 |
| Embraer 170/175 (United) | 170 | C | III | 3 |
| Total AAC-C | 11,141 | | | |
| Total ADG-III | 3,684 | | | |
| Total TDG-3 | 879 | | | |

Source: KLJ Analysis, FAA Traffic Flow Management System Counts (TFMSC) Data at RAP (2018). AAC = Aircraft Approach Category, ADG = Airplane Design Group, TDG = Taxiway Design Group, MTOW = Maximum Takeoff Weight (pounds); Total Critical Aircraft operations exceeding the FAA regular use threshold are shown in **Green**

Figure 3-7 – Existing Critical Design Aircraft Family

Airbus A320 (ARC C-III)



Photography Source: Airlinesfleet.com

CRJ-900 (ARC C-III)



Future

Table 3-16 – Future Critical Aircraft Operations Breakdown

| Representative Aircraft | AAC-ADG | 2019 | 2024 | 2029 | 2034 | 2039 |
|--------------------------------------|---------|--------|--------|--------|--------|--------|
| Airbus A220 (Delta, Jet Blue) | C-III | - | 171 | 353 | 427 | 455 |
| Airbus A319 (Allegiant, DL, UA) | C-III | 406 | 1,765 | 3,726 | 4,054 | 4,324 |
| Airbus A320 (Allegiant) | C-III | 395 | 285 | 183 | 213 | 228 |
| Boeing 737-400, 700, 800 & 900 (UA) | C/D-III | 248 | 57 | 65 | 71 | 76 |
| CRJ-200 (Delta) | C-II | 4,516 | 1,879 | 327 | 284 | 303 |
| CRJ-700 (Delta) | C-III | 1,806 | 854 | - | - | - |
| CRJ-900 (Delta) | C-III | 2,043 | 1,651 | 1,673 | 1,849 | 1,927 |
| Embraer 135/145 (UA) | C-II | 1,660 | 1,196 | - | - | - |
| Embraer 170/175 (Alaska, AA, DL, UA) | C-III | 215 | 3,530 | 6,746 | 7,325 | 7,814 |
| Total | | 11,290 | 11,387 | 13,074 | 14,224 | 15,173 |
| Total C-III | | 5,114 | 8,370 | 12,812 | 14,010 | 14,945 |

Source: KLJ Analysis and Projection of Mead & Hunt data. AAC = Aircraft Approach Category; ADG=Airplane Design Group

The design aircraft identified is the most critical family of aircraft to utilize the airport, however particular portions of the airport may be limited to smaller design aircraft. **The critical design aircraft will remain the C-III design group.**

Figure 3-8 – Future Critical Design Aircraft Family

Airbus A319 (ARC C-III)



Embraer-175 (ARC C-III)



Boeing 737 (ARC C/D-III)



Airbus A220 (ARC C-III)



Photography Source: Airlinesfleet.com

Peak Activity

Peak demand periods help quantify aviation activity during busy periods. Time periods evaluated include the peak month, design day and design hour characteristics for airport operations. Peak periods are defined in FAA AC 150/5060-5, *Airport Capacity and Delay*. Peak activity is important when planning the size of facilities with fixed capacities. Peak periods evaluated include the peak month, busy day and design hour characteristics for passenger enplanements and airport operations. The results of the peak activity forecasts will be used to determine the airport facility requirements.

Passenger Airline Activity

This analysis provides an estimate of peak passenger activity for planning purposes. Actual airline flight scheduling is based on passenger demand and individual airline requirements. A detailed projection of airline activity was used to identify the busy day and peak hour activity. Per **Figure 3-9**, the busy day for RAP is on Saturdays in July with peak hour periods in the late morning and early afternoon. The peak time projected for 2029 results in 1,320 total passengers in a one-hour time period spread across 16 aircraft operations (9 departures).

Table 3-17 – Peak Month, Design Day Passenger Airline Activity Forecast

| Metric | 2019 | 2024 | 2029 | 2034 | 2039 |
|---------------------------------------|---------|---------|---------|---------|---------|
| Passenger Airline Enplanements | | | | | |
| Annual | 343,926 | 416,470 | 514,497 | 565,267 | 619,525 |
| Peak Month (15.98%) | 54,959 | 66,552 | 82,217 | 90,330 | 99,000 |
| Busy Day (3.85%) | 2,116 | 2,562 | 3,165 | 3,478 | 3,812 |
| Passenger Airline Operations | | | | | |
| Annual | 11,290 | 11,387 | 13,074 | 14,224 | 15,173 |
| Peak Month (14.10%) | 1,592 | 1,606 | 1,843 | 2,006 | 2,139 |
| Busy Day (3.90%) | 62 | 63 | 72 | 78 | 83 |

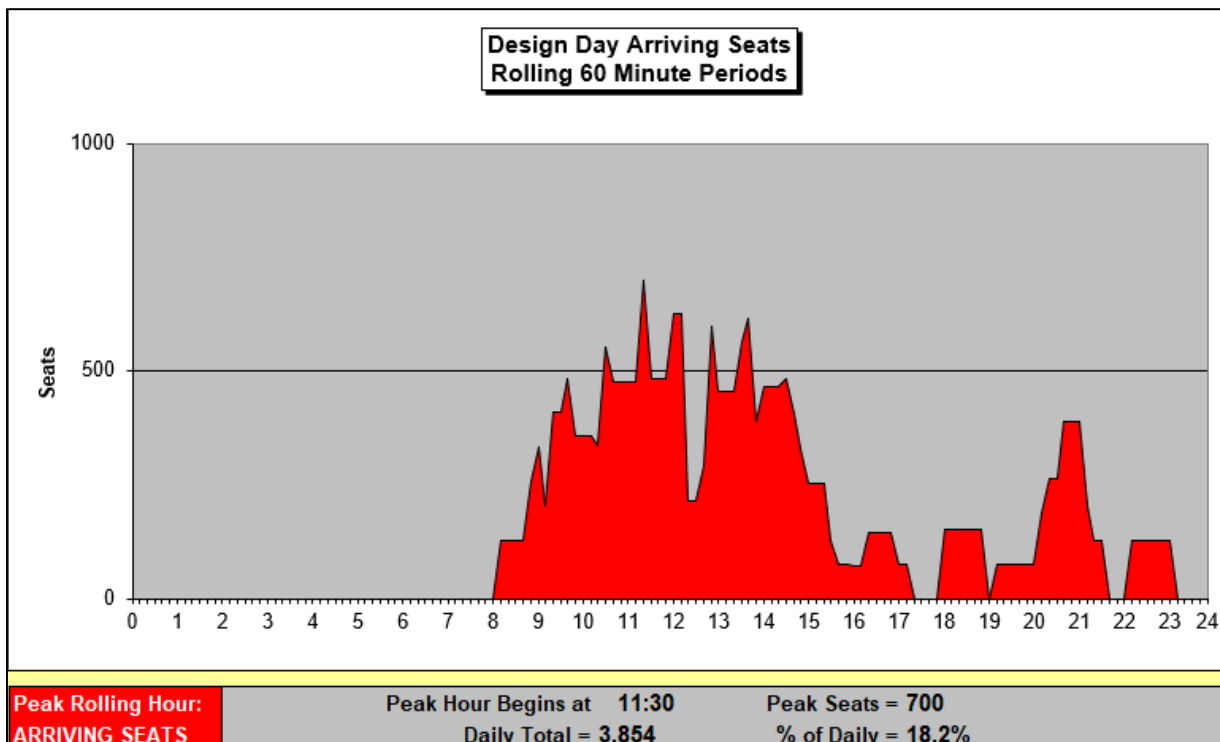
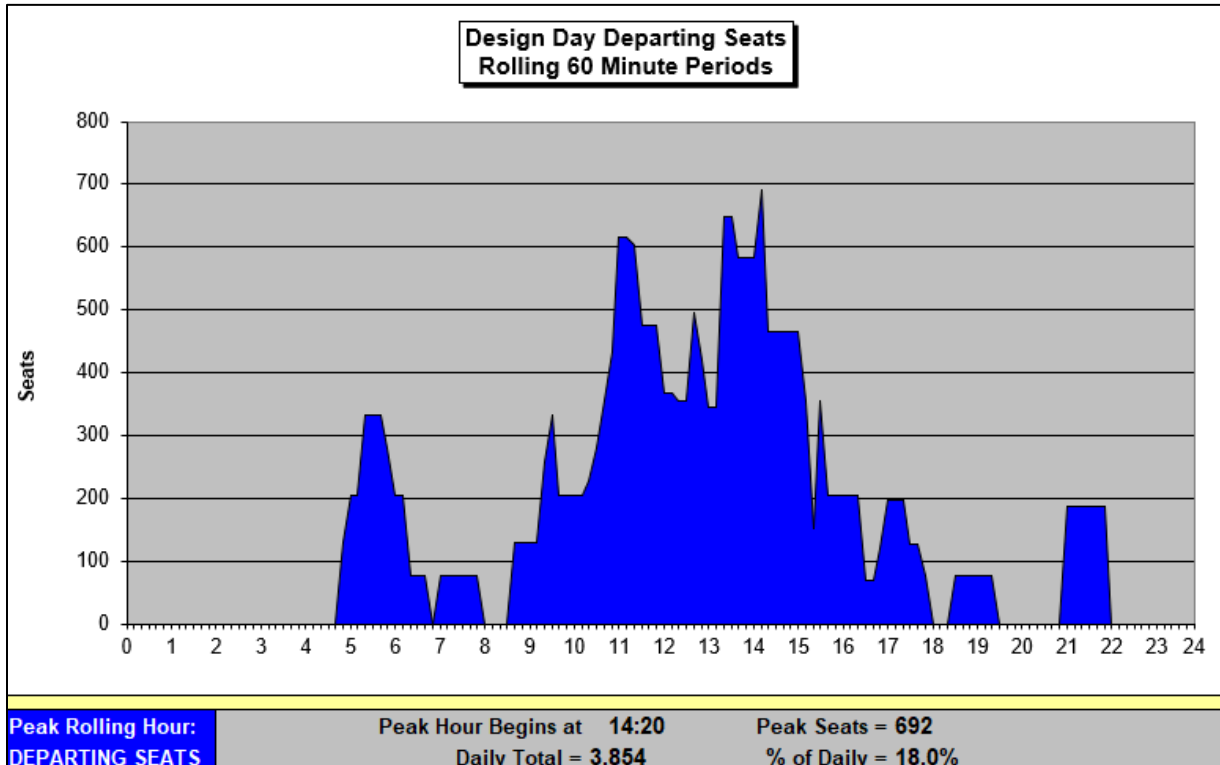
Source: KLJ Analysis

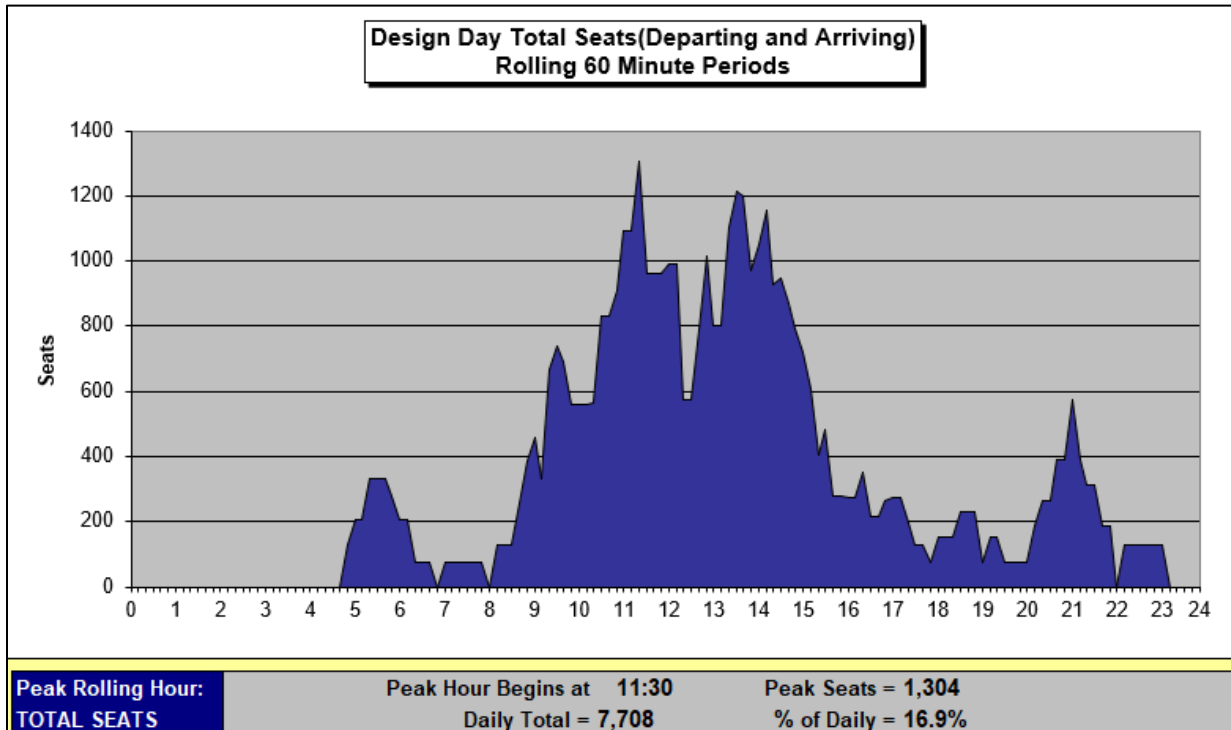
Table 3-18 – Design Day Passenger Airline Activity Forecast

| Metric | 2019 | 2024 | 2029 | 2034 | 2039 |
|-------------------------------------|-------|-------|-------|-------|-------|
| Passenger Airline Passengers | | | | | |
| Busy Day Enplanements | 2,116 | 2,562 | 3,165 | 3,478 | 3,812 |
| Design Hour Enplanements (21.0%) | 444 | 538 | 665 | 730 | 800 |
| Design Hour Deplanements (21.0%) | 444 | 538 | 665 | 730 | 800 |
| Design Hour Passengers (21.0%) | 888 | 1,076 | 1,320 | 1,460 | 1,600 |
| Passenger Airline Operations | | | | | |
| Busy Day | 62 | 63 | 72 | 78 | 83 |
| Design Hour (21.0%) | 13 | 13 | 15 | 16 | 18 |

Source: KLJ Analysis

Figure 3-9 – Busy Day Activity





Airport Operations

Using TFMS and Air Traffic Control Tower data, 1) peak month of July, 2) busy weekend day, and 3) design hour were examined. The busy day is considered to be 3.80% of the peak month and the design hour is considered to be 15% of the busy day.

Table 3-19 – Airport Operations Peak Forecast

| Metric | 2019 | 2024 | 2029 | 2034 | 2039 | CAGR |
|---------------------|--------|--------|--------|--------|--------|-------|
| Annual Operations | 42,517 | 43,508 | 45,992 | 47,625 | 48,992 | 0.71% |
| Peak Month (13.00%) | 5,527 | 5,656 | 5,979 | 6,191 | 6,369 | 0.71% |
| Busy Day (3.80%) | 210 | 215 | 227 | 235 | 242 | 0.71% |
| Design Hour (15.0%) | 32 | 32 | 34 | 35 | 36 | 0.71% |

Source: FAA Operations Network (OPSNET), KLJ Analysis, CAGR = Compounded Annual Growth Rate

Forecast Summary

A summary of the forecast is provided below in **Figure 3-20**.

Figure 3-20 – Aviation Activity Forecast Summary

| Forecast Levels | Activity Levels | | | | | Average Annual Compound Growth Rates | | | |
|-----------------------------------------|-----------------|-------------|-------------|-------------|-------------|--------------------------------------|------------|------------|------------|
| | 2019 | 2024 | 2029 | 2034 | 2039 | 0-5 Years | 0-10 Years | 0-15 Years | 0-20 Years |
| Passenger Enplanements | | | | | | | | | |
| Air Carrier & Commuter | 343,926 | 416,470 | 514,497 | 565,267 | 619,525 | - | - | - | - |
| TOTAL ENPLANEMENTS | 343,926 | 416,470 | 514,497 | 565,267 | 619,525 | 3.90% | 4.11% | 3.37% | 2.99% |
| Operations | | | | | | | | | |
| <u>Itinerant</u> | | | | | | | | | |
| Air Carrier & Commuter | 13,490 | 13,587 | 15,374 | 16,624 | 17,673 | - | - | - | - |
| Total Commercial | 13,490 | 13,587 | 15,374 | 16,624 | 17,673 | 0.14% | 1.32% | 1.40% | 1.36% |
| General Aviation | 17,083 | 17,571 | 17,912 | 18,026 | 18,180 | 0.57% | 0.47% | 0.36% | 0.31% |
| Military | 2,216 | 2,216 | 2,216 | 2,216 | 2,216 | - | - | - | - |
| Total Itinerant | 32,789 | 33,374 | 35,502 | 36,865 | 38,069 | 0.35% | 0.80% | 0.78% | 0.75% |
| <u>Local</u> | | | | | | | | | |
| Civil | 8,767 | 9,171 | 9,528 | 9,797 | 9,961 | 0.91% | 0.84% | 0.74% | 0.64% |
| Military | 962 | 962 | 962 | 962 | 962 | - | - | - | - |
| Total Local Operations | 9,729 | 10,133 | 10,490 | 10,759 | 10,923 | 0.82% | 0.76% | 0.67% | 0.58% |
| TOTAL OPERATIONS | 42,517 | 43,508 | 45,992 | 47,625 | 48,992 | 0.46% | 0.79% | 0.76% | 0.71% |
| Annual Instrument Approaches | 752 | 766 | 843 | 897 | 943 | 0.36% | 1.15% | 1.18% | 1.14% |
| Peak Hour Operations | 31.5 | 32.2 | 34.1 | 35.3 | 36.3 | 0.46% | 0.79% | 0.76% | 0.71% |
| Based Aircraft | | | | | | | | | |
| Single Engine | 94 | 99 | 104 | 108 | 112 | 1.04% | 1.02% | 0.93% | 0.88% |
| Multi Engine | 21 | 25 | 30 | 35 | 41 | 3.55% | 3.63% | 3.46% | 3.40% |
| Turbojet | 4 | 5 | 7 | 9 | 12 | 4.56% | 5.76% | 5.56% | 5.65% |
| Helicopter | 5 | 6 | 7 | 8 | 9 | - | - | - | - |
| Other | 1 | 1 | 1 | 1 | 1 | - | - | - | - |
| TOTAL BASED AIRCRAFT | 125 | 136 | 149 | 161 | 175 | 1.70% | 1.77% | 1.70% | 1.70% |
| Operational Factors | 2019 | 2024 | 2029 | 2034 | 2039 | | | | |
| GA Operations per Based Aircraft | 208 | 198 | 185 | 174 | 162 | -1.02% | -1.17% | -1.20% | -1.26% |

Source: KLJ Analysis. Note: Some figures are rounded

Forecast Comparison with FAA TAF

Proposed aviation activity forecasts must be reviewed and approved by the FAA. A forecast is consistent with the FAA TAF if the proposed activity is within a certain tolerance of the official TAF forecast. If the proposed forecast is inconsistent with the TAF, then differences must be resolved for the forecast to be adopted by the FAA. Key activity measures that are reviewed include passenger enplanements, based aircraft and total operations. The 2019 FAA TAF issued January 2020 is used for comparison.

PASSENGER ENPLANEMENTS

The airport's proposed forecast of enplanements is **consistent** with the FAA TAF for the 10-year forecast horizon.

Table 3-21 – Passenger Enplanements vs. FAA TAF

| Metric | 2019 | 2024 | 2029 | 2034 | 2039 | CAGR |
|--------------------------|---------|---------|---------|---------|---------|-------|
| RAP Enplanement Forecast | 343,926 | 416,470 | 514,497 | 565,267 | 619,525 | 2.99% |
| 2019 FAA TAF | 336,697 | 416,334 | 450,458 | 492,201 | 536,341 | 2.36% |
| Difference | 2.15% | 0.03% | 14.22% | 14.84% | 15.51% | - |
| Allowable Difference | - | 10.0% | 15.0% | - | - | - |
| Consistent with FAA TAF? | - | YES | YES | - | - | - |

Source: KLJ Analysis, FAA Terminal Area Forecast (January 2016), CAGR = Compounded Annual Growth Rate

BASED AIRCRAFT

The airport’s proposed forecast of constrained based aircraft is **consistent** with the FAA TAF for the 10-year forecast horizon. The unconstrained forecast for facility planning purposes yields 187 based aircraft, 4.4 percent greater than the FAA TAF at the end of the planning period.

Table 3-22 – Based Aircraft vs. FAA TAF

| Metric | 2019 | 2024 | 2029 | 2034 | 2039 | CAGR |
|-----------------------------|--------|-------|-------|-------|-------|-------|
| RAP Based Aircraft Forecast | 125 | 136 | 149 | 161 | 175 | 1.71% |
| 2019 FAA TAF | 127 | 135 | 145 | 155 | 165 | - |
| Difference | -2.36% | 0.0% | 2.07% | 3.23% | 5.45% | - |
| Allowable Difference | - | 10.0% | 15.0% | - | - | - |
| Consistent with FAA TAF? | - | YES | YES | - | - | - |

Source: KLJ Analysis, FAA Terminal Area Forecast (January 2020), CAGR = Compounded Annual Growth Rate

TOTAL OPERATIONS

The airport’s proposed forecast of constrained total operations is **consistent** with the FAA TAF for the 10-year forecast horizon. The unconstrained forecast for facility planning purposes yields 383,120 operations, 4.8 percent greater than the FAA TAF at the end of the planning period.

Table 3-23 – Total Operations vs. FAA TAF

| Metric | 2019 | 2024 | 2029 | 2034 | 2039 | CAGR |
|--------------------------|--------|--------|--------|--------|--------|-------|
| RAP Operations Forecast | 42,517 | 43,508 | 45,992 | 47,625 | 48,992 | 0.71% |
| 2019 FAA TAF | 41,920 | 42,017 | 43,191 | 44,542 | 45,964 | 0.46% |
| Difference | 1.43% | 3.55% | 6.48% | 6.92% | 6.59% | - |
| Allowable Difference | - | 10.0% | 15.0% | - | - | - |
| Consistent with FAA TAF? | - | YES | YES | - | - | - |

Source: KLJ Analysis, FAA Terminal Area Forecast (January 2020), CAGR = Compounded Annual Growth Rate

Forecast Approval

The FAA approved the aviation forecasts prepared in this chapter on **xx/xx/xx** for use in this master planning effort.